



LIC: AR94778

## **Addendum No. 1**

**Date:** July 24, 2024

**Project:** Hillsborough County Sheriff's Office Regional Canine Training Facility

**Owner:** Hillsborough County Sheriff's Office  
2214 North Falkenburg Road  
Tampa, FL 33619

**Architect:** The Lunz Group  
58 Lake Morton Drive  
Lakeland, Florida 33801-5344

**Architect's Project Number:** 23164.01

The purpose of this addendum is to advise all interested parties of the following revisions and/or clarifications and to transmit the information as noted below. The addendum constitutes a part of the Contract Documents. Acknowledge receipt of this addendum on the Bid Proposal Form.

### **PART 1 GENERAL:**

1. Please reference the attached bid RFI responses numbered 1-75 (Q&A list).

Enclosures:  
Q&A List 07.18.24  
Geotechnical Study 12.20.23  
Geotechnical Study Addendum 01.30.23  
Landscape Drawings  
Split-Face Block Locations  
Flagpole Specification

End of Addendum No. 1

#	Relevant Specification	Questions	Answers
1		Can you please provide the Geotechnical Report for the project? I cannot seem to locate it in the Bid Documents provided.	Please reference attached geotechnical report dated 12.20.23 and geotech addendum dated 01.30.23
2		Can you please provide a specification for the exterior and interior building signage?	ADA signage to be equivalent as specified. Provide IDVILLE 8.5"x8.5" Clear look wall mount w/ standoffs #43512MA. Drawings to follow indicating locations.
3		Can you please provide a specification for the flagpole?	See attached specification
4	Restroom?	This is showing no wall tile at 4' height in the mens wet wall, but I would assume to match the women's RR and the other walls in this RR that there would be. Can you confirm this is suppose to be a 4' height?	Wall tile in restrooms to be at 48" a.f.f. wainscot height on all walls. Shower areas to have tile to plus/minus 6'-0" (above partition height such that mounting brackets are within the tile, other shower areas to receive 48" a.f.f. wainscot height.
5		Also FT is called out on the Finish Legend in the restroom floors, however, since there is no FT I would assume this is CT1. Can you confirm?	All restrooms and shower areas are to receive floor tile provided and installed by G.C. All remaining flooring and base in the office area are to be provided and installed by owner. Dog kennel flooring shall receive urine resistant epoxy coating with epoxy coating on walls up to 76" a.f.f. - remainder of kennels walls to receive satin laytex. All areas indicated as sealed concrete shall be provided and installed by g.c.
6		Can you also confirm that CT2 is the majority of the walls in the RR's/Showers and CT3 is the accent wall on the back side of the shower?	All colors are to be selected by architect/owner during shop drawing phase. Distinction of tile locations shall be indicated on updated drawings.
7		The plans call for a front set curtainwall system but....there is no need for curtainwall as the height is only 9'. Are they dead set on it being front set? If so...I will have to quote in curtainwall which is way more expensive than doing standard impact center set glass.	Provide storefront system meeting large missile impact, 1" insulated tinted glazing equivalent to YKK system. Updated drawings to be provided at a later date.
8	Sheet A-900	Sheet A-900 has PA - polyurea polyaspartic concrete listed as the floor finish for the kennels. However, there is no manufacturer or product listed.	Provide epoxy finish in kennels at indicated in item no. 5 above.
9		I think there is a missing drawing for landscape. There is none in the attachment 1 folder, and my landscape guy couldn't find it in the civil package.	See attached Lanscape plans.
10	Sheet 4.2B, notes 11 & 14	Please provide structural drawings for the Dumpster Enclosure and the Recycling Enclosure foundations, slab-on-grade, and CMU	Dumpster enclosure to be of split-face block to 7'-4" above finish grade with double 6'-0" high galvanized swing gates with privacy slats. Drawings to be provided at a later date.
11	Sheet S-001, subsection, FD Foundations	note 9 states to use 10 mil vapor retarders. Spec Section 032900 Under-Slab Vapor Barrier/Retarder calls for 15 mil in the Products/Materials subsection. Please clarify which to use	Provide 15 mil under-slab vapor retarders.
12	Sheet G-500 shows Roof Type R1	The assembly shows a " 5/8" Underlayment". What is this? Is it plywood? Spec Section 077100 Roof Specialties calls for 30 to 40 mil thick self-adhering underlayment, but it is not 5/8" thick. Please provide specifications.	Roof assembly is revised to be 6 mil (min.) TPO membrane over 5/8" thick dens-dek, over R-25 rigid polyiso board insulation mounted to metal roof deck. Provide thickened TPO walk pads to and around major roof top hvac components. Updated drawings to be provided at a later date.
13	Sheet G-500 shows Roof Type R1	The assembly shows "Vapor Barrier", please provide specifications on product to be used. Only specification provided is for "Under-Slab Vapor Barrier/Retarder", not sure if this is a roof application. Are we to use the underlayment as described in Spec Section 077100 Roof Specialties?	See response to item no. 12 above.
14	Sheet G-500 shows Roof Type R1	The assembly shows " 1/4" Coverboard on Walkway Path". Does this indicate to ONLY apply the 1/4" coverboard at the Walkway Path or the entire roof area?	See response to item no. 12 above.
15	Spec Section 077600	Spec Section 077600 Roof Pavers and Pedestals calls for 20" x 20" x 2" concrete Stamp-Tech Series Paver by Tile Tech on an adjustable pedestal	Not applicable. See reponse to item no. 12 above.
16	Sheet G-500	Sheet G-500 shows the insulation of the Wall Types and Roof Type. Wall Type B2 (Exterior walls as shown on A-110) indicates Split Face CMU Walls with furring and rigid insulation, as specified in Spec Section 072100 Thermal Insulation. Roof Type 1 indicates 6-3/8" rigid polyiso insulation, as indicated in Spec Section 075423 Thermoplastic Polyolefin (TPO) Roofing, above the metal roof deck. The building envelop seems to be insulated with rigid insulation. Specification Manual has a Spec Section 072119 Foamed-in-Place Insulation for Closed-Cell Spray Polyurethane Foam, I cannot locate this item on the drawings, please clarify where we are to apply the Closed-Cell Spray Polyurethane Foam	Exterior framing has been replaced with full height masonry. All wall sections are currently being updated and submitted at a later date. The intent is to provide 2 1/2" metal furring at masonry walls of conditioned office space with 2 1/2" insulation w/ 5/8" gypsum board. Split-face block locations are indicated on the building elevations. There will not be any split-face block on the interior of the building.
17	Architectural Sheets A-112, A-351 & A-353	Architectural Sheets A-112, A-351 & A-353 indicate the split face CMU wall in the Kennel building as "C8". Please provide a detailed Wall Type, like the ones shown on G-500, to clarify the assembly.	See response to item no. 16 above.
18		Where does the following specification apply on the drawings? I cannot locate these items on the drawings.	These sections do not apply although a roof access ladder will be added to the scope equivalent of O'Keefe's, Inc. heavy duty tubular aluminum cage ladder with roof over rail extensions model 532.
19		Spec Section 071326 Self-Adhering Sheet Waterproofing. Subsection 3.5 Schedule, states to install at elevator pits and outside of walls of useable or habitable spaces with finish floors below finish grade. I cannot find these conditions on the drawings.	Specification 071326 does not apply in this particular project. Soffit panels with florida product approval shall be required at clerestory soffit area.
20	A-900 Room Finish Schedule, A-900 Material Key, A-910 Finish Floor Plan, A-402 Elevations, 403 Elevations, and Spec Section 093000 Tiling	There are some discrepancies between A-900 Room Finish Schedule, A-900 Material Key, A-910 Finish Floor Plan, A-402 Elevations, 403 Elevations, and Spec Section 093000 Tiling, so I wanted to ask you if you could help me with the following questions:  Spec Section 093000 Tiling indicates Porcelain Tile for walls and floor with certain tile sizes that do not match with the A-900 Material Key Schedule. Which should we follow?	Finishes and product lines are to be clarified on updated drawings soon to updated. Tile in restrooms and restroom vestibules to 12"x12" porcelain with integral porcelain base. Shower floors are to 2"x2" glazed porcelain tile. Restroom and shower wall tile to be 4"x4" standard bright glaze tile.
21		I do not see any reference about the layout of the IT Closet in the Documents. Are we to provide a Rack or Cabinet? Please provide specifications on the PoE switches.	Electrical provisions have been provided for the IT MDF room 117, HCSO has a separate IT system vendor who are responsible for designing the telecom and security systems. G.C. to coordinate.
22	Spec Section 042000 Unit Masonry, subsection 2.2.D.5, Colors:	Spec Section 042000 Unit Masonry, subsection 2.2.D.5, Colors: Match exposed block color of the existing concession/restroom building. Please clarify if the Split Face CMU is integral colored (if so, what color), or if it is painted per Spec Section 099113 Exterior Painting and Spec Section 099123 Interior Painting.	Split-faced CMU shall have an integral color (not painted). Color shall be selected by architect/owner from the manufacturer's standard colors during the shop drawing phase.
23	Door & Hardware Schedule	The Hardware Schedule does not appear to match the door numbers on the Door Schedule. Please advise.	Door hardware is currently being revised and shall be submitted at a later date. Please note that doors 100, 110A, 107, 109, 117, 100E, 204B, 207A,100G, 102B and 101B. G.C. to receive security readers. G.C. to provide junction boxes and conduits terminating above ceilings with pull strings.
24	Sheet E-001 (Site Lighting), Sheet E-002 (Photometric Plan)	Sheet E-001 (Site Lighting) shows (2) S1 fixtures and (5) S2 fixtures. Sheet E-002 (Photometric Plan) shows (2) S1 fixtures and (6) S2 fixtures. Which one is correct?	Sheet E-001 has a total of (2) S1 and (5) S2 fixtures. Sheet E-002 also has (2) S1 and (5) S2 fixtures. Matchline A-B has only (1) S2 fixture in that location.
25	Sheet E-001 (Site Lighting), Sheet E-002 (Photometric Plan)	Sheet E-101 (Lighting) shows (5) W fixtures and (7) WE fixtures. Sheet E-002 (Photometric Plan) shows (7) W fixtures, (4) WE fixtures, (3) W1 fixtures and (3) W1E fixtures. Which one is correct?	Fixtures W1 (W) and W1E (WE) ae the same as W and WE on fixture schedule E-702. Refer to sheet E-101 for additional information for W and WE placement. Total W (W1) fixtures are 5 and total WE (W1E) fixtures are 7.
26	(sheet E-702), (sheet E-002)	Fixtures W1 and W1E are not listed on the lighting schedule (sheet E-702). They are listed in the schedule on the photometric plan (sheet E-002) but vague	Fixtures W1 (W) and W1E (WE) ae the same as W and WE on fixture schedule E-702. Refer to sheet E-101 for additional information for W and WE placement.

27	Sheet E-001	Sheet E-001 KN#2 calls for a pull box /vault for communications. Please provide a spec.	Electrical contractor shall coordinate with the service provider/s to ensure proper requirements are met for service to the building.
28	Sheet E-201	Sheet E-201 shows several quadruplex floor outlets. Please provide a spec for these floor boxes and finishes for the covers.	Please refer to keynote #8 on sheet E-201. Basis of Design is the Legrand Evolution Series Eight gang floor box. This can include 4 gang for power and 4 gang for data. Finishes shall be coordinated with the architect/owner.
29	sheet E-301, sheet E-201	Data floor boxes are shown on sheet E-301, but do not match up with the locations of the quadruplex floor boxes on sheet E-201.	HCSO facility prefer to have both power and data for each floor box. Sheet E-301 will be revised to reflect additional data floor boxes and match locations.
30	Masonry	Wall Line E & B 1-6. B line calls for split face from top of footer to top of wall. E line calls for split face from footer to 9' AFF and stucco above. Window heads are at 8' AFF.	This wall extends up to roof deck which consists of split-face block. Block not visible from the exterior of the building is not required to be split-face. Block that is not split face but visible from the interior of the building shall be painted to match the color of the split-face. See response to item no. 16 above.
31	Structural drawings	Structural drawings call for a 16" tie beam at joist bearing, which will be visible in the split face wall on B. The S drawings also call for a form and pour beam above openings greater than 10', which will include all the large openings on E&B and for a Cast Crete Lintel over the openings less than 10'.	Steel perimeter beams and cold form metal stud framing have been eliminated from the parapets since the wall is now entirely masonry. Tie beams at split-face block are to be split-faced lintel block with knock-out blocks above, reinforced and filled with concrete. Drawings to follow.
32	Masonry	Wall Type C8 is shown at masonry columns on A-110, and all masonry on A-112. Wall type C8 is not	See previous response number no. 16 as well as any associated split-face responses.
33	A-201	Please provide details of the stone veneer shown on 1+2/A-201. It is shown on the elevation, but there are no wall sections/details for it, and it is not mentioned on the specs.	The stone face veneer has not been specified - provide an appropriate allowance. Veneer shall be mortar applied with appropriate brick ties and installed per manufacturer's recommendations.
34	Section 2.2 Section D, number 5 on page 042000-04	Section 2.2 Section D, number 5 on page 042000-04 of the specs says the block color is to match existing concession/restroom building. Please provide color of that building.	Disregard that note. Provide per item no. 16 above and any additional responses regarding split-face block.
35		Please identify the location of the split face block vs regular blocks?	Refer to attached building elevations. Split-face block locations are indicated with a green hatch.
36	C-4.2B note 14	Please provide details for dumpster enclosure ( blocks type, foundation) on page C-4.2B note 14	Dumpster enclosure to be of split-face block to 7'-4" above finish grade with double 6'-0" high galvanized swing gates with privacy slats. Drawings to be provided at a later date.
37		Please provide specs for the precast architectural concrete 34.500 in the specs.	Not applicable. See reponse to item no. 12 above.
38		Please confirm the countertop material in room 201 and room 108 (Bite-suit & Food Storage and Copy Room).	Provide solid surfacing counter tops. See item no. 73 below. Updated documents to soon follow.
39	P-601, P-401 and P-201	Plan page P-601 shows the water closet to be flush valve type. These require a 1" water line. Plan pages P-401 and P-201 show pipe sizing to all the water closets to be 1/2". Please clarify. If flush valve water closets are to be used, please provide new drawings showing the increase in all pipe	The stone face veneer has not been specified - provide an appropriate allowance. Veneer shall be mortar applied with appropriate brick ties and installed per manufacturer's recommendations.
40	M-101	Please clarify on page M-101 key note 10 states condensate piping for AHU 1&2 be installed under slab but the plumbing plans are showing a floor drain in this room.	The condensate should be routed as indicated in key note 10. Condensate cannot be routed to the floor drain.
41		There are missing elevations for rooms 201 & 108 and windowsill details. Please advise.	Revised drawings to follow at a later date.
42		Please confirm if there is wall base for the polyspartic flooring in the canine kennels, if there is please provide specs for it.	Reference previous item no. 5.
43		Please provide landscape drawings.	See attached.
44	Page E-301	On Page E-301, please clarify general notes B, G, J, L, M, P and keynotes 2.	The intent is for the Electrician to provide all the back boxes and conduits with pull strings for all low voltage devices that includes telecom/security. All locations are to be finalized with the owner and low voltage vendor drawings.
45		Please provide details for the MDF as in number of data racks, ladder racking, etc.	HCSO has a separate IT system vendor who are responsible fo designing the data and security systems.
46		Please provide low voltage spec information for div 27, right now it only has pathways.	Low voltage pathways, grounding/bonding, and hangers/supports are intended for the electrical's scope of work. All other low voltage specs, racks, switches, UPS, etc. are by the low voltage vendor.
47		Please provide security, access control or CCTV spec info for div 28, right now it only has fire alarm.	Equipment racks and cable trays shall be provided and installed by owner. G.C. to provide conduit w/pull strings where required. HCSO has a separate IT/security system vendor who are responsible for designing the security system including providing specifications.
48	Civil drawing C-1	Civil drawing C-1 has Dark Moss LLC listed as Landscape Architect. However, no landscape plans	See attached.
49	A-110	Please clarify on A-110 wall type P6 (chase - drywall one side) at Restrooms (#113A and #114A) - should this be wall type M6 (drywall both sides)?	Provide 6" metal studs at 16" o.c. max with 5/8" GWB each side. Please note that moisture resistant GWB shall be required on the "restroom side of the wall". Provide 6" batt insulation for sound control.
50	A-112	Please clarify on sheet A-112 (Kennel floor plan), there is a wall type 'C' that is not on the wall type schedule. Would like to know what wall type 'C'	Wall type C8 is 8" CMU. See previous responses for finishes in kennel areas.
51		Please provide the specs for the exterior framing (cold form metal framing CFMF).	Cold form metal framing has been eliminated and replaced with masonry except as required at clerestory soffits. Cold form metal framing is a 3rd party designated engineer provided by the G.C.
52		Please provide the specs for 072100 (Thermal Insulation): for the 2 ½" rigid insulation on this project (see wall types B2 and B3 on G-500)	Reference specification section 072100, paragraph 2.1 for glass-fiber board insulation. Provide 2 1/2" thick.
53		Please clarify "Door frames #113A, 113B, 114A and 114B" because they are not in the door schedule. Is the architect want HMDF cased opening? Please advise.	These locations are framed openings wrapped in painted gypsum board. Provide stainless steel corner guards at "outside corners".
54		Please clarify wall section 1/A352 indicates my perimeter assembly (2 ½" rigid insulation, metal framing and drywall) goes to 9'-0" yet in wall section 2/A-352 indicates this exact wall assembly (insul, MS,DW) but goes to deck. Please advise.	The intention is to create a complete insulated building envelope at conditioned spaces so the 2 1/2" rigid insulation must continue up to the roof deck to complete the envelope. Updated wall sections to follow at a later date. No rigid insulation will be required on the mass masonry walls at the dog kennel walls that extend to upward to create the clerestory space.
55	S-102	Please clarify on page S-102 (roof framing plan) wall section 6/S-202 (below) indicates concrete tie beam yet the roof plan (see below) indicates a	See response to previous item no. 31.
56		Please clarify the needs for "wood cap" details at the exterior framed "mansard". Please advise	The framed mansard/parapet is now masonry. Provide pressure treated wood nailers as required for roof membrane/flashing attachments. Note: all exposed flashing to be pre-finished kynar 500. Colors to be selected from manufacturer's standard color selections by owner/architect. Updated wall sections to be provided at a later date.
57		Please clarify on the door schedule, door mark 202A indicates it is door type C (which is a single on the door legend), but the door schedule shows it to be a pair. The door schedule also doesn't indicate the material for this opening. Please advise.	Door 202 shall be a hollow metal double door with hollow metal frames. Updated drawings to follow at a later date.
58		Please clarify opening 103 does not indicate any door type. Please advise.	Door 103 shall have a standard hollow metal frame and a prefinished solid core wood door. Please note that all interior doors within the conditioned office area shall have hollow metal frames with prefinished solid core wood doors. Remaining doors shall have standard hollow metal frames with hollow metal doors. Updated drawings to follow at a later date.
59		Please provide specs and design for interior and exterior signage scope.	Refer to previous item no. 2 regarding interior signage. Please allow budget for exterior signage which will require owner approval. Updated drawings to follow at a later date.

60		Who is the preferred manufacture for the guillotine doors. Please advise?	Provide equivalent to Security Boss, Kennel Clad Premium Insulated Guillotine Kennel Door (extra large 17" w x 34" wide, 18 ga. aluminum clad each side, 1" thick high density foam core insulation with weather stripping and mounting hardware. Provide control cable length as required.
61		Who is the preferred manufacture for the canine kennels. Please advise?	Provide equivalent to "Extreme Kennel System" by Direct Animal Products. Provide Extreme Cross Ventilation Panels on each side of kennels mounted on top of 48" a.f.f. low masonry wall for a total height of 75 1/2". Provide 32" wide x 72" high kennel doors with positive lock latch side panel. System to be manufactured of stainless steel fully welded components, 3/16" vertical rods, 3/16" cross bracing, 1" frames. Provide rotating food/water bowl in door. Fabricate panels to accommodate actual dimensions
62	Spec Section 083310 Overhead Coiling Shutters	Spec Section 083310 Overhead Coiling Shutters calls for crank operated overhead coiling shutters, operators, and accessories at the men & women toilet rooms. No Overhead Coiling Shutters are found on the drawings. Please clarify.	Delete specification section since it does not apply. Allow budget for standard toilet accessories which shall be indicated on updated drawings at a later date.
63	Spec Section 083323 Overhead Coiling Doors	Spec Section 083323 Overhead Coiling Doors calls for Coiling Services door at Ice/Storage Building. Not found on the drawings. Please clarify.	This does not apply to this project.
64	Spec Section 087100 Door Hardware	Spec Section 087100 Door Hardware. Door numbers on the hardware sets listed in the specifications do not match the door numbers listed on sheet A-800. Please clarify which hardware sets go with the listed doors.	Door hardware schedule is to be modified at a later date.
65	Spec Section 095113 Acoustical Panel Ceilings	Spec Section 095113 Acoustical Panel Ceilings calls for Armstrong Optima Vector Fine ceiling panels. Sheet A-900 calls for Armstrong Cortega. Please clarify which product you want.	Provide Armstrong Optima Vector Fine Ceiling Panels (24"x24").
66	Spec Section 101400 Interior Signage	Spec Section 101400 Interior Signage, subsection 3.4.A. Schedule: Refer to signage schedule and Drawings for sizes, locations, and layout of signage types, sign text copy, and graphics. Sign schedule not found on Drawings, please provide.	Refer to previous item no. 2 regarding interior signage. Please allow budget for exterior signage which will require owner approval. Updated drawings to follow at a later date.
67	sheet A-201	Please provide details for the exterior signage referenced on sheet A-201.	Refer to previous item no. 2 regarding interior signage. Please allow budget for exterior signage which will require owner approval. Updated drawings to follow at a later date.
68	Spec Section 111210 Barrier Cable System	Spec Section 111210 Barrier Cable System is provided in the Specification Manual, however not found on the drawings. Please clarify.	This does not apply to this project.
69	Spec Section 113013 Appliances	Spec Section 113013 Appliances is found in the Table of Contents; however, the section is not found in the Specifications Manual. Please provide	Appliances are supplied and installed by owner. G.C. to coordinate with owner
70	Sheet A-110, Spec Section 104416	Sheet A-110 calls for 10lb fire extinguishers, Spec Section 104416 Fire Extinguisher calls for 5lb. Please clarify	Provide 10 lb fire extinguishers in wall mounted semi-recessed cabinets in office areas and standard wall mounting brackets in the kennel areas.
71	Sheet A-352 & A-910	Sheet A-352 & A-910 shows Roll down blinds at exterior windows, please provide specifications.	Provide equivalent to Levelor white vertical blinds
72	Spec Section 123500 Specialty Casework	Spec Section 123500 Specialty Casework is provided in the Specification Manual, however not found on the drawings. Please clarify.	Delete Specification Section since it does not apply to this project.
73	Spec Section 123661.16 Solid Surface Countertops	Spec Section 123661.16 Solid Surface Countertops is found in the Table of Contents; however, the section is not found in the Specifications Manual. Please provide.	Reference specification section 064023 for solid surfacing for countertops and window sills. Color to be selected by owner/architect during shop drawing phase of project.
74	Sheet A-110, Spec Section 113013	Sheet A-110 note 9 states "Refrigerator and associated kitchen components shall be provided and installed by the contractor." Spec Section 113013 Appliances cannot be found in the Specification Manual. Please provide specifications.	Appliances are supplied and installed by owner. G.C. to coordinate with owner
75	Sheet A-110	Sheet A-110, it appears there are cabinets Bite-Suit & Food Storage 201 and Copy Room 108, like the cabinets shown in Breakroom 102. Please	Updated millwork drawings shall be provided at a later date.
		Re	



# **GEOTECHNICAL ENGINEERING SERVICES REPORT**

For

**Proposed Hillsborough County Sheriff K9 Facility  
2100 North Falkenburg Road  
Tampa, Florida 33619**

Prepared for

**High Point Engineering, Inc  
5005 West Laurel Street, Suite 201  
Tampa, Florida 33607**

Prepared by

**PROFESSIONAL SERVICE INDUSTRIES, INC.  
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**PSI PROJECT NO. 0775-3584**

**December 20, 2023**



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intertek.com/building  
psiusa.com  
Engineering Certificate of Authorization 3684

December 20, 2023

**High Point Engineering, Inc.**  
5005 West Laurel Street, Suite 201  
Tampa, Florida 33607

Attn: Mr. Braulio Grajales

Re: Geotechnical Exploration Report  
**Proposed Hillsborough County Sheriff K9 Facility**  
2100 North Falkenburg Road  
Tampa, Florida 33619  
PSI Project No.: 0775-3584

Dear Mr. Grajales:

**Professional Service Industries, Inc. (PSI), an Intertek Company**, is pleased to submit our geotechnical engineering services report for the proposed Hillsborough County Sheriff K9 Facility project to be located at 2100 North Falkenburg Road in Tampa, Hillsborough County, Florida.

This report presents the results of our field exploration program and includes geotechnical engineering recommendations to guide design and construction of the project.

Should there be any questions, please do not hesitate to contact our office at (813) 886-1075. PSI would be pleased to continue providing geotechnical services and construction materials testing throughout the implementation of the project. We look forward to working with you and your organization on this and future projects.

Respectfully submitted,  
**PROFESSIONAL SERVICE INDUSTRIES, INC.**

Rachell Barrios  
Project Manager

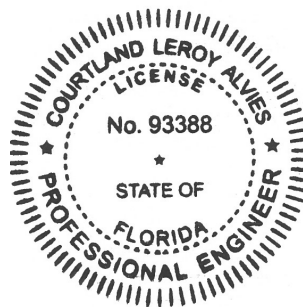
*THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY:*

Lloyd T. Lasher, Jr., P.E.  
Principal Consultant  
Florida License No. 56794

ON THE DATE ADJACENT TO THE SEAL

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED. THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES

PROFESSIONAL SERVICE INDUSTRIES, INC.  
5801 BENJAMIN CENTER DRIVE, SUITE 112, TAMPA, FL 33634  
CERTIFICATE OF AUTHORIZATION 3684  
COURTLAND ALVIES, P.E. NO. 93388



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### APPENDIX

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## 1.0 PROJECT INFORMATION

### 1.1 PROJECT AUTHORIZATION

**Professional Service Industries, Inc. (PSI), an Intertek Company**, has completed a geotechnical exploration for the proposed Hillsborough County Sheriff K9 Facility project to be located at 2100 North Falkenburg Road in Tampa, Florida 33619. This study has been performed in general accordance with our Geotechnical Engineering Services Proposal No. 0775-408630.

### 1.2 PROJECT DESCRIPTION

Based on the provided project information, we understand the project involves the design and construction of two new, 1- story buildings with associated parking and driving pavements to the east of the proposed buildings and a proposed stormwater management facility. The proposed project site is in the western portion of the existing Hillsborough County Sheriffs Facility located at 2100 North Falkenburg Road in Tampa, Florida. The proposed development area appears to be mostly undeveloped with groundcover consisting of primarily of grass, with some trees in the eastern portion and a relatively small structure in the northwestern corner. The site is bordered to the north and east by the rest of the overall facility, to the south by apparent wetland, and to the west by a continuation of the undeveloped area and the further west by Regional Water Lane, as well as flat topography.

Proposed grading and anticipated structural loads were not provided. Based on past experiences with similar developments, we anticipate maximum individual column and wall loads on the order of 150 kips and 4 kips per lineal foot respectively with maximum cuts and/or fills on the order of up to 2 feet or less within proposed pavement and structure areas.

Should any of the above information described above be inconsistent with the planned construction, we request that you contact us promptly to allow us to make any necessary modifications to the recommendations in this report.

### 1.3 PURPOSE AND SCOPE OF SERVICES

The purpose of this study has been to obtain information on the subsurface soil and groundwater conditions within the proposed development. **Table 1** summarizes the completed subsurface exploration program.

**Table 1 – Completed Subsurface Exploration Program**

General Location	Exploration Type	Number of Tests	Boring Depth/Test (feet)
Proposed Building Structure	Standard Penetration Test (SPT)	4	20
Paved Parking/Driveways	Hand Auger	6	5
Proposed Stormwater Management Facility	Standard Penetration Test (SPT)	3	20
Infiltration Testing	DRI Test (Double Ring Infiltration)	3	3





The borings were located in the field by estimating distances from existing features identified from the schematic site plan provided for this project, therefore; the Boring Location Plan presented on **Sheet 1** should be considered approximate.

The SPT borings were advanced using mud rotary drilling methods. In the SPT borings, samples were collected and SPT resistances were measured virtually continuously from 4 to 10 feet and on intervals of 5 feet thereafter to boring termination depths. The top 4 feet of the SPT borings were manually augured to confirm clearance for underground private utilities. Drilling and sampling techniques were accomplished in general accordance with ASTM standards. As called for by local regulations, the SPT borings were grouted upon completion.

Representative portions of each sample were returned to our Tampa, Florida office where they were visually classified by a geotechnical engineer. Classifications were performed in general accordance with the Unified Soil Classification System (USCS). Soil profiles were prepared for the boreholes indicating lithological materials encountered and any additional pertinent information.

At the conclusion of our field and laboratory work, the data was evaluated by an experienced geotechnical engineer to develop appropriate engineering recommendations.

## **2.0 SITE AND SUBSURFACE CONDITIONS**

### **2.1 SITE LOCATION AND DESCRIPTION**

The subject site is in the western portion of 2100 North Falkenburg Road in Tampa, Florida. During our fieldwork activities, the subject site was observed to be relatively flat and undeveloped with a grassy field and some trees in the eastern portion and a relatively small structure located in the northwestern corner of the site. The site is bordered to the north and east by the rest of the overall facility, to the south by apparent wetland, and to the west by a continuation of the undeveloped area and further west by Regional Water Lane.

### **2.2 SUBSURFACE CONDITIONS**

Generally, the subsurface materials encountered in the borings consisted of loose to medium dense relatively clean to slightly silty sands (SP and SP-SM) underlain by clayey sands (SC) to high plastic clay (CH) extending to boring termination depths. The subsurface materials generally transitioned to clayey sand (SC) or high plastic clay at an approximate depth of 13 feet below current grade at the boring locations. Some of the shallow or surficial materials were interpreted to be disturbed or previously placed fill as varying amounts of limerock fragments or shell were observed in the recovered samples. Overall Standard Penetration resistances (N-Values) ranged from 5 to 17 blows per foot (bpf) and were generally found to increase with depth.

The soil profiles presented on **Sheet 2** include soil descriptions and stratifications. Variations may occur and should be expected between the widely spaced boring locations. The stratifications represent the approximate boundary between subsurface materials and the actual transition may be gradual.



**2.3 GROUNDWATER INFORMATION**

The groundwater table was observed approximately at 4 to 6 feet below the existing ground surface during drilling operations. The SPT borings were advanced by means of mud-rotary drilling techniques. Mud-rotary drilling involves the introduction of a slurry compound consisting of bentonite and water as the boring is advanced through the soil column in order to maintain borehole stability and prevent collapse. Once implemented, mud-rotary drilling can obscure groundwater levels (i.e. rendering them not apparent) at the time of drilling operations.

It should be noted that groundwater levels tend to fluctuate during periods of prolonged drought and extended rainfall and may be affected by man-made influences. In addition, a seasonal effect will also occur in which higher groundwater levels are normally recorded during the rainy season.

Based on the results of our soil borings and our review of the publicly available USDA soil survey of Hillsborough County, we estimate the normal seasonal high groundwater table (SHWT) will occur approximately 3 feet below the existing ground surface at the boring locations.

In general, the normal seasonal high groundwater level is not intended to define a limit or ensure that future seasonal fluctuations in groundwater levels will not exceed the estimated levels. Groundwater conditions will vary with environmental changes and seasonal conditions, such as the frequency and magnitude of rainfall patterns, as well as man-made influences, such as swales, drainage ponds, underdrains, and areas of covered soil (buildings, paved parking lots, sidewalks, etc.).

**2.4 HYDRAULIC CONDUCTIVITY & GEOTECHNICAL SOIL PARAMETERS RELATED TO PONDS**

To support stormwater design, PSI carried out testing to evaluate infiltration characteristics of the near surface sandy soils. Three (3) Double Ring Infiltrometer (DRI) infiltration tests were conducted within the proposed pond. The DRI tests were performed in general accordance with applicable ASTM standards. The following table provides the results of PSI’s infiltration testing program.

Location	Test Depth (feet)	Soil Description (USCS)	Observed Groundwater Depth (feet)	Measured Infiltration Rate (in/hour)	Estimated Vertical Permeability (feet/day)	Estimated Horizontal Conductivity (feet/day)
DRI-1	3	SP/SP-SM	5	7	14	18.75
DRI-2	3	SP/SP-SM	5	4 ¼	8.5	11.5
DRI-3	3	SP/SP-SM	5	3 ½	7	9.5

At the request of the project Civil Engineer, High Point Engineering, we recommend the following soil parameters be considered as part of the design of stormwater management facilities for this project.

- Average (Unfactored) Vertical Infiltration Rate: 8 feet per day
- Estimated (Unfactored) Horizontal Conductivity: 10.5 feet per day
- Estimated Fillable Porosity of Shallow Sands (13 feet or less deep): 25%
- Approximate Confining Layer Depth: 13 feet (based on borings P-1 through P-3)



The recovery of a given stormwater system is dependent on the soil permeability as well as the groundwater table, system bottom elevation, system geometry, confining layer and water level in the system. We recommend a commercially available computer program such as POND5 or MODRET be used by an engineer experienced in groundwater modeling to evaluate the proposed stormwater system. The system should be designed and constructed in accordance with Water Management District requirements. The estimated rates provided above should be considered ultimate permeability rates. We recommend an appropriate safety factor be applied to the stormwater modeling.

### **3.0 EVALUATIONS AND RECOMMENDATIONS**

#### **3.1 GENERAL**

The proposed development is located within the existing Hillsborough County Sheriffs Facility. Several of the borings encountered materials interpreted to be previously placed fill due to the presence of varying amounts of limerock fragments and shell. The apparent fill materials were generally found within the upper 2 to 4 feet of the soil borings. Documentation regarding previous earthwork or fill placement at the site were not provided. There is an inherent risk of supporting new construction on undocumented fill materials. Other deleterious or unsuitable materials were not observed in our widely spaced borings. Based on our current project understanding, the relatively thin amount of undocumented fill materials observed, the relatively light structural loads anticipated for the new construction and the results of the soil borings performed we assess the risk of undocumented fill materials adversely impacting the proposed development as low. We do recommend a contingency be held in the budget for the undercutting and removal of unsuitable materials, should they be encountered during construction.

The following recommendations have been developed on the basis of the previously described project characteristics and subsurface conditions encountered. If there is any change in the project criteria, including the location or orientation of the structure, PSI should be allowed to review the plan to determine if additional fieldwork and/or any modifications to our recommendations will be required. Once final design plans and specifications are available, a general review by PSI is strongly recommended as a means to check that the evaluations made in preparation of this report are correct and that earthwork and foundation recommendations are properly interpreted and implemented.

#### **3.2 SITE PREPARATION**

1. Any vegetation, root mat, topsoil, shallow buried wood, and any other soft or unsuitable material in proposed construction areas should be removed. At a minimum, it is recommended that the clearing/stripping operations extend at least 10 feet beyond the proposed development perimeter, where possible.

Material generated during stripping operations should be disposed of off-site in a proper manner. Initial site clearing and preparation work should be carried out under the observation of a representative of PSI's geotechnical engineer.

2. Following the clearing/stripping and rough grading operations, the exposed subgrade should be evaluated by a representative of PSI. The exposed subgrade soils should be compacted to at least 95 percent of the maximum dry density in accordance with ASTM D-1557, modified Proctor method. Any soft or unsuitable materials identified during the initial compaction should be removed and replaced with approved engineered fill.



3. Following subgrade preparation, development areas may be brought up to finished subgrade levels, if needed, using engineered fill. The existing on-site clean to slightly silty sand (SP and SP-SM materials) can be used for engineered fill provided it is free of organic or deleterious materials. Fill soils should be tested and approved by PSI prior to import and placement. Imported fill should consist of sand with less than 12 percent passing the No. 200 sieve, free of significant rocks/rubble, organics, clay, debris and other unsuitable material. Approved engineered fill should be placed in loose lifts not exceeding 12 inches in thickness and should be compacted to at least 95 percent of the maximum dry density in accordance with ASTM D-1557, Modified Proctor method. Density tests to confirm compaction should be performed in each fill lift before the next lift is placed.
4. Prior to beginning compaction, soil moisture contents may need to be controlled in order to facilitate proper compaction. If additional moisture is necessary to achieve compaction objectives, then water should be applied in such a way that it will not cause erosion of the subgrade soils. A moisture content within the percentage range needed to achieve compaction (typically +/- 3 percent) is recommended prior to compaction of the natural ground and engineered fill.

A representative of PSI should be retained to provide full time, on-site observation of earthwork and excavation activities. It is important that PSI be retained to observe that the subsurface conditions are as we have discussed herein, and that fill placement is in accordance with our recommendations.

### **3.3 SHALLOW FOUNDATION RECOMMENDATIONS**

With proper subgrade preparation, column footings and continuous wall foundations can be designed for a net allowable soil bearing capacity of 2,500 pounds per square foot, based on dead load plus design live load. Minimum dimensions of 36 inches for column footings and 18 inches for continuous footings should be used in foundation design to account for variable subsurface conditions which may be present, regardless of whether the maximum allowable foundation bearing pressures have been fully developed. Footings should bear at a depth of at least 18 inches below the final exterior grade. The embedment depth reduces the potential that adjacent excavations or erosion may undermine the exterior footings.

The foundation excavations should be observed by a representative of PSI prior to steel or concrete placement to confirm that the compacted materials are capable of supporting the design loads and are consistent with the materials discussed in this report. If the foundation excavations appear suitable as load bearing materials, the bottom of the foundation excavations should be compacted to at least 95 percent of the maximum dry density in accordance with ASTM D-1557, Modified Proctor method, for a minimum depth of one foot below the bottom of the footing depth, as determined by field density compaction tests. Soft or loose soil zones encountered at the bottom of the footing excavations should be removed and replaced with fill soils (as directed above), lean concrete, or dense graded compacted crushed stone (FDOT No. 57).

After opening, footing excavations should be observed and concrete placed as quickly as possible to avoid exposure of the footing bottoms to wetting and drying. Surface run-off water should be drained away from the excavations and not be allowed to pond. The foundation concrete should be placed promptly after the excavation is made.



### **3.4 SETTLEMENT**

The settlement of shallow foundations supported on compacted native sand or engineered fill should occur rapidly after loading. Thus, the expected settlement should occur during construction as structural loads are imposed. Provided the recommended site preparation operations are properly performed, the total settlement of wall and isolated column footings from the applied loads is expected to be on the order of an inch or less. Maximum differential settlement across approximately 25 feet of continuous footing length is expected to be on the order of half the total settlement. Settlement of this magnitude is usually considered tolerable for most structures; however, the tolerance of the proposed structure to the predicted total and differential settlement should be confirmed by the project structural engineer.

### **3.5 FLOOR SLAB RECOMMENDATIONS**

Slab-on-grade construction should be supported on soils compacted to at least 95 percent of the maximum dry density in accordance with ASTM D-1557, Modified Proctor method. We have assumed no extraordinary floor slab performance requirements such as very low allowable deflections or smoothness requirements are necessary. Any cuts that are made in the building pad for utility installation should be backfilled with clean granular materials that are compacted to at least 95 percent of the maximum dry density in accordance with ASTM D-1557, Modified Proctor method. Material to be placed within 12 inches of the bottom of the slab should have no single particle greater than 3 inches in size and should meet the requirements of approved structural fill.

The floor slab should be adequately reinforced to reduce the risk of cracking due to differential settlement. Floor slabs should not be rigidly connected to wall and column footings. An impervious membrane should be installed between the soil subgrade and bottom of floor slabs to be overlain with moisture sensitive coverings to avoid slab moisture problems. Floor slab design should conform to American Concrete Institute (ACI) design standards and practices. A modulus of subgrade reaction value of 125 pounds per cubic inch (based on the expected results of a one-foot square plate load test) may be used for design following the proper compaction of the subgrade.

### **3.6 PAVEMENT RECOMMENDATIONS**

Grading information was not provided prior to the submission of this report but we anticipate relatively minor grade changes. We recommend site grading provide a minimum of 18 inches of separation between the estimated normal seasonal high groundwater table and the pavement basecourse for all pavement areas located throughout the site.

If a minimum separation of 18 inches is maintained between the bottom of the pavement base course and the estimated normal seasonal high groundwater table, pavement base materials may consist of limerock or crushed concrete. Base materials should meet FDOT requirements including being compacted to at least 98 percent of the maximum dry density in accordance with ASTM D-1557, modified Proctor Method, and a minimum LBR of 100 for limerock and minimum LBR of 150 for crushed concrete. Traffic should not be allowed on the subgrade as the base is placed to avoid rutting.

The following pavement sections should be considered minimal and are based on our experience with similar developments. Actual pavement sections should be determined by the project civil engineer based upon the anticipated traffic loading and expected pavement performance. Routine maintenance should be anticipated.



<b>MINIMUM FLEXIBLE PAVEMENT RECOMMENDATIONS</b>		
<b>Material</b>	<b>Minimum Thickness (inches)</b>	
	<b>Light-Duty (Car Parking Areas)</b>	<b>Medium-Duty (Drive and Entrance/Exit Areas)</b>
Type SP Asphaltic Concrete	1½	2 ½
Base Minimum LBR = 100 for Limerock and LBR = 150 for Crushed Concrete	6	8
Stabilized Subgrade Minimum LBR = 40	12	12

For heavy-duty uses, such as dumpster pads and areas to receive heavy truck traffic or frequent stopping and turning movements such as trash enclosures, we recommend the use of a rigid concrete pavement section. The concrete should have a minimum compressive strength of 4,000 psi at 28 days when tested in accordance with ASTM C-39. Based on our experience, a minimum concrete thickness of 7 inches should be utilized. The rigid pavement should be dowelled in accordance with FDOT Standard Index 305, as designed by the civil engineer. The upper 12 inches of subgrade immediately beneath the concrete pavement section should comprise AASHTO A-3 soils compacted to at least 98 percent of the maximum dry density in accordance with ASTM D-1557, modified Proctor method. Rigid pavement design recommendations are summarized in the following table.

<b>MINIMUM RIGID PAVEMENT RECOMMENDATIONS</b>	
<b>Material</b>	<b>Minimum Thickness (inches)</b>
Portland Cement (Concrete 4,000 psi minimum)	7
AASHTO A-3 Subgrade compacted to 98 percent of ASTM D-1557	12

All pavement materials and construction procedures should conform to the more stringent of Florida DOT or appropriate county/city requirements.



### **3.7 RETAINING WALL BACKFILL RECOMMENDATIONS**

We understand relatively short (less than 5 feet) retaining walls may be planned at this site. Conventional, above-grade retaining walls should be designed to resist pressures exerted by the adjacent soils. For walls that are not restrained during backfilling but are free to rotate at the top, active earth pressures should be used in design. Walls that are restrained should be designed assuming at-rest pressures. For retaining wall foundations, the recommendations contained in **Section 3.3 Shallow Foundation Recommendations** apply. The provided recommendations should not be used for design of walls greater than 5 feet in height, below-grade walls, or alternative wall types such as soldier pile, MSE, or anchored walls.

Recommended soil parameters for typical wall backfill materials are presented in the following table:

<b>Parameter</b>	<b>Recommended Value</b>
Total Unit Weight, $\gamma_b$	110 lb/ft <sup>3</sup>
Angle of Internal Friction, $\phi$	30°
Coefficient of Sliding Friction	0.40
Active Soil Pressure Coefficient, $K_a$	0.33
At-rest Soil Pressure Coefficient, $K_o$	0.50
Passive Soil Pressure Coefficient, $K_p$	3.00

The recommended parameters assume that adequate drainage is provided behind the walls to prevent the buildup of excess hydrostatic pressures and do not account for any external loads. In order to avoid wall damage due to excessive compaction, hand operated mechanical tampers should be used to densify backfill soils; heavy compaction equipment should not be allowed within five feet of walls. The soils behind walls should be compacted to approximately 95 percent of the material's modified Proctor (ASTM D-1557) maximum dry density.

## **4.0 CONSTRUCTION CONSIDERATIONS**

### **4.1 GENERAL**

It is recommended that PSI be retained to provide observation and testing of construction activities involved in the foundation, earthwork, and related activities of this project. This will promote project continuity and will reduce the potential for misinterpretation of our recommendations.

### **4.2 DRAINAGE AND GROUNDWATER CONCERNS**

Depending on finished grades and the time of year construction occurs, dewatering of this site may be necessary during some foundation and deeper utility construction. Dewatering should maintain the groundwater level at least 2 feet below the lowest excavation to facilitate compaction. We recommend that the dewatering system be designed, constructed, and maintained by an experienced dewatering contractor. The effects of the proposed dewatering system on adjacent properties or nearby structures should also be considered in the design. Dewatering systems should be designed and operated in accordance with current regulatory criteria.



Water should not be allowed to collect in the foundation excavations, on the floor slab areas, on the pavement surface, or on prepared subgrades of the construction area either during or after construction. Undercut or excavated areas should be sloped toward one corner to facilitate removal of any collected rainwater, groundwater, or surface runoff. Positive site drainage should be provided to reduce infiltration of surface water around the perimeter of the building and beneath the floor slabs. The grades should be sloped away from the building and surface drainage should be collected and discharged such that water is not permitted to infiltrate the backfill and floor slab areas of the building. In pavement areas, standing water on the pavement surface or within the base course layer can lead to softening of the subgrade and other problems related to the deterioration of the pavement.

#### **4.3 UTILITY EXCAVATIONS**

Utility trenches may be required for this project. We recommend all utility trench backfill comply to the gradation and requirements of engineered fill, as described above and be placed and compacted to the recommendations contained in the site preparation section of this report. Engineered fill should be compacted to at least 95 percent of the maximum dry density in accordance with ASTM D-1557, modified Proctor method.

#### **4.4 EXCAVATIONS**

In Federal Register, Volume 54, No. 209 (October 1989), the United States Department of Labor, Occupational Safety and Health Administration (OSHA) amended its "Construction Standards for Excavations, 29 CFR, Part 1926, Subpart P". This document was issued to better ensure the safety of workmen entering trenches or excavations. It is mandated by this federal regulation that excavations, whether they be utility trenches, basement excavations or footing excavations, be constructed in accordance with current OSHA guidelines. It is our understanding that these regulations are strictly enforced and if they are not closely followed, the owner and the contractor could be liable for substantial penalties.

The contractor is solely responsible for designing and constructing stable, temporary excavations and should shore, slope, or bench the sides of the excavations as required to maintain stability of both the excavation sides and bottom. The contractor's "responsible person", as defined in 29 CFR, Part 1926, should evaluate the soil exposed in the excavations as part of the contractor's safety procedures. In no case should slope height, slope inclination, or excavation depth, including utility trench excavation depth, exceed those specified in all local, state, and federal safety regulations.

We are providing this information solely as a service to our client. PSI does not assume responsibility for construction site safety or the contractor's or other party's compliance with local, state, and federal safety or other regulations. It is the policy of PSI not to provide recommendations regarding temporary slopes during construction which is the sole responsibility of the contractor as indicated above.

#### **5.0 REPORT LIMITATIONS**

The Geotechnical Engineer warrants that the findings, recommendations, specifications or professional advice contained herein have been made in accordance with generally accepted professional geotechnical engineering practices in the local area. No other warranties are implied or expressed.





The services provided were conventional in nature and did not include any special services that may lessen the risk of conditions that can contribute to moisture, mold or other microbial contaminant growth in buildings. You may be aware that mold is abundant throughout nature and is comprised of a wide variety of microscopic fungi. Due to its nature, the potential for mold infestations cannot be completely eliminated.

The scope of services also does not include an environmental assessment for determining the presence or absence of wetlands, or hazardous or toxic materials in the soil, bedrock, surface water, groundwater, or air on or below, or around this site. Any statements in this report or on the boring logs regarding odors, colors, and unusual or suspicious items or conditions are strictly for informational purposes.

Florida is underlain by a soluble limestone formation, which can dissolve, resulting in the subsidence of overlying soils and the formation of sinkholes. Sinkholes are a naturally occurring phenomena, the timing or location of occurrence cannot be accurately predicted with current geophysical and geotechnical testing methods. A comprehensive assessment of the potential for sinkhole development at this site was not included in our scope of services. Typically, such an assessment would include geophysical surveying methods and the extension of deeper soil borings into the underlying limestone formation.

The recommendations submitted are based on the subsurface information obtained by PSI and design information furnished by High Point Engineering, Inc. for the proposed project. If there are any revisions to the plans for this project or if deviations from the subsurface conditions noted in this report are encountered during construction, PSI should be notified immediately to determine if changes in the recommendations are required.

This report has been prepared for the exclusive use of High Point Engineering, Inc. for the specific application to the proposed K-9 Facilities to be located within the existing Hillsborough County Sheriff's Complex located at 2100 North Falkenburg Road Tampa, Florida 33619.

# APPENDIX



Reference: Aerial obtained from Google

## LEGEND

- ⊕ Approximate SPT boring location
- Approximate Hand Auger boring location
- ⊙ Approximate Double Ring Infiltration Test location

## BORING LOCATION PLAN



DRAWN	DJG
CHECKED	CA
APPROVED	LTL
SCALE	NOTED

GEOTECHNICAL SERVICES <b>PROPOSED HILLSBOROUGH COUNTY SHERIFF K9 FACILITY</b> TAMPA, FLORIDA		
DATE	DEC 23	PROJ. NO. 07753584
		SHEET 1

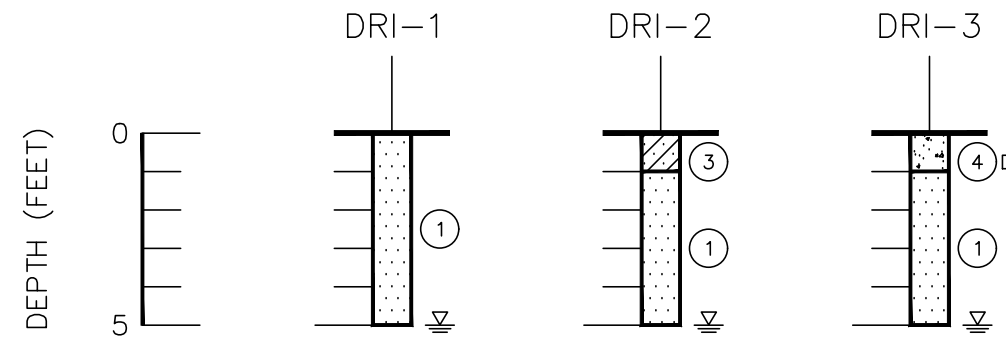
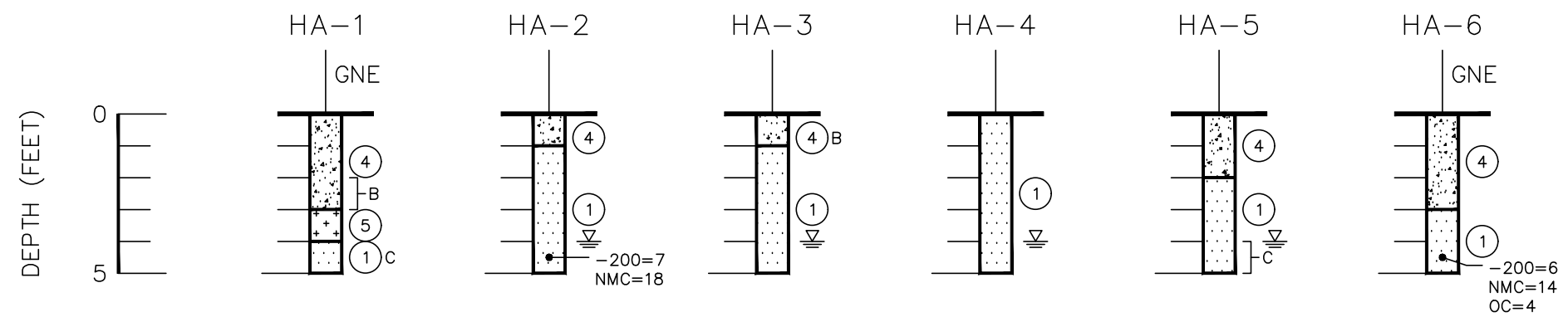
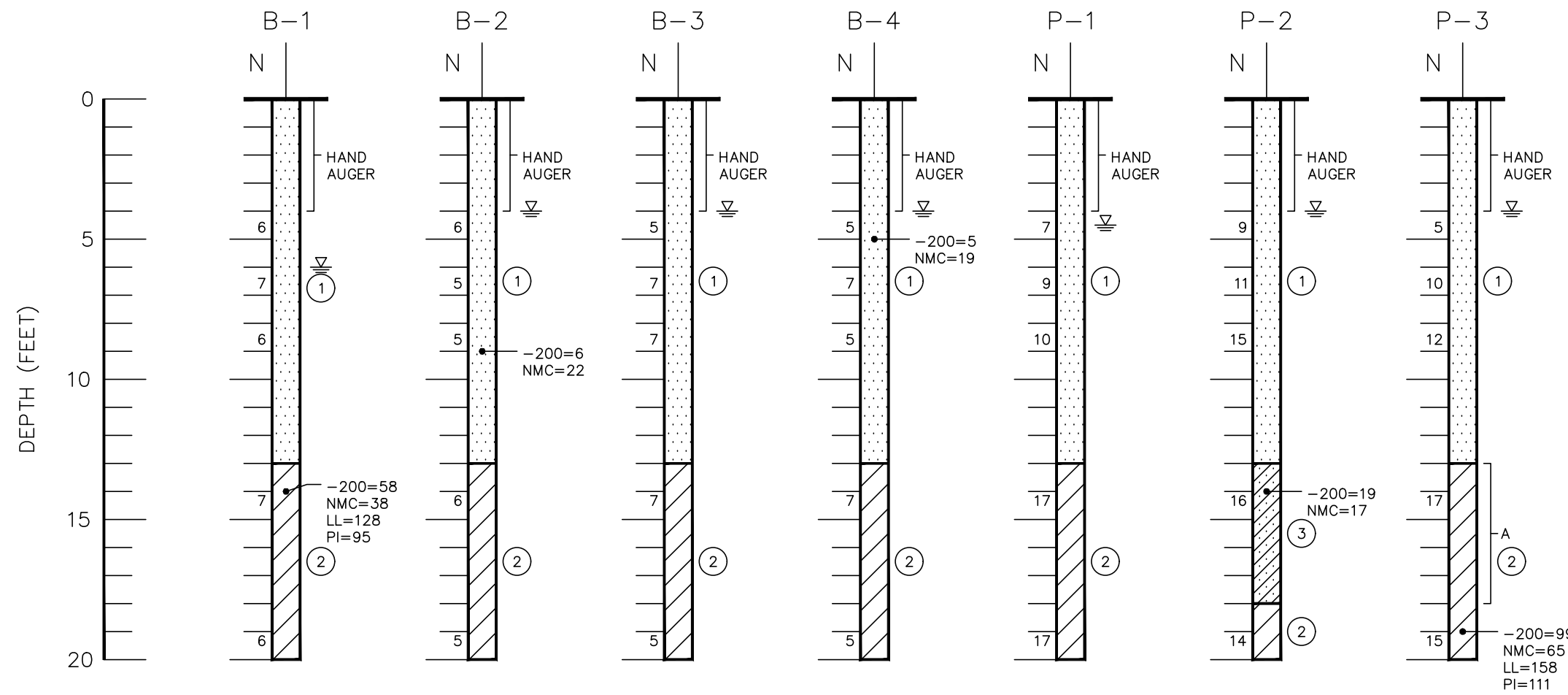
# LEGEND

- ① Light brown/brown/light gray/dark brown SAND to slightly silty SAND (SP/SP-SM)
- ② Light gray/greenish CLAY (CH)
- ③ Brown/light gray clayey SAND (SC)
- ④ Brown/gray apparent FILL sand with limerock fragments
- ⑤ Light brown SHELLS with sand

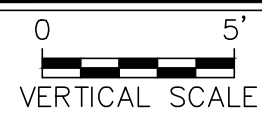
- A With rock fragments
- B With clay pockets
- C With trace roots
- D With trace shells

Unified Soil Classification System (ASTM D 2487) group symbol as determined by visual review

- ▽ Groundwater level, November 2023
- GNE Groundwater level not encountered
- N SPT N-value in blows/foot
- 200 Fines passing No. 200 sieve (%)
- NMC Natural Moisture Content (%)
- OC Organic Content (%)
- LL Liquid Limit (%)
- PI Plasticity Index (%)



## SOIL PROFILES



DRAWN	DJG
CHECKED	CA
APPROVED	LTL
SCALE	NOTED

GEOTECHNICAL SERVICES		
<b>PROPOSED HILLSBOROUGH COUNTY SHERIFF K9 FACILITY</b>		
TAMPA, FLORIDA		
DATE	DEC 23	PROJ. NO. 07753584
		SHEET 2



January 30, 2023

**High Point Engineering, Inc.**  
5005 West Laurel Street, Suite 201  
Tampa, Florida 33607

Attn: Mr. Braulio Grajales

RE: Addendum Letter – Pond Relocation  
**Proposed Hillsborough County Sheriff K9 Facility**  
2100 North Falkenburg Road  
Tampa, Florida 33619  
PSI Project No.: 0775-3584A1

Dear Mr. Grajales:

**Professional Service Industries, Incorporated (PSI), an Intertek Company** is pleased to submit this addendum letter documenting additional subsurface exploration performed in support of the new proposed stormwater management pond location at the site. It is our understanding the location of the proposed stormwater pond for the property was shifted during design and planning at the owner's preference and that the formerly proposed pond is no longer being considered for design and construction. As such, additional exploration relating to the shifted pond location was desired and represents the basis of this supplemental reporting. The work presented herein has been performed subsequent and in addition to the work presented in our Geotechnical Engineering Services Report, the most recent version of which was issued under PSI Project No. 0775-3584 on December 20, 2023. For additional information, please refer to our previously submitted report.

This addendum letter presents the results of our additional field exploration program and a brief geotechnical discussion of conditions revealed through those activities.

## **Background**

The purpose of this supplementary study has been to obtain information on the subsurface soil and groundwater conditions within the new footprint of the proposed stormwater management facility planned for this project which is now being relocated in the southwest corner of the project site, west of the proposed parking and driving pavement areas. The scope of additional services included drilling two (2) additional 20-foot deep Standard Penetration Test (SPT) soil borings at client-requested locations, two (2) DRI field infiltration tests at depths of 2 feet below the existing ground surface, performing laboratory testing, and preparing this addendum letter.

The boring locations were located in the field by use of recreational grade GPS equipment; therefore, the Boring Location Plan presented on **Sheet 1** should be considered approximate. Based on topographic information disclosed to us by the project Civil Engineer, High Point Engineering, we understand the existing ground surface in the vicinity of borings P-4 and P-5 in addition to the newly performed DRI tests DRI-4 and DRI-5 is approximately +38 feet.



Representative portions of each sample were returned to our Tampa, Florida office where they were visually classified by a geotechnical engineer. Classifications were performed in general accordance with the Unified Soil Classification System (USCS). Soil profiles were prepared for the boreholes indicating lithological materials encountered and any additional pertinent information.

At the conclusion of our field and laboratory work, the data was evaluated by an experienced geotechnical engineer to develop this report addendum.

### **Soil Boring Results**

The materials encountered within our new soil borings were observed to be relatively clean to slightly silty sand (SP/SP-SM) to a depth of approximately 13 feet underlain by silty sand (SM) materials to a depth of approximately 18 feet. The borings were ultimately terminated in clayey sand (SC) at approximate depths of 20 feet below the existing ground surface. It should be noted that the uppermost foot of both soil borings completed for this addendum report contained apparent fill sands with rocks and/or stone.

The soil profiles presented on **Sheet 2** include soil descriptions and stratifications. Variations may occur and should be expected between and away from the widely spaced boring locations. The stratifications represent the approximate boundary between subsurface materials and the actual transition may be gradual. The stratifications and depths are presented as approximate depth below the existing ground surface at the boring locations.

### **Groundwater Discussion**

The groundwater table was observed approximately 3 feet below the existing ground surface during drilling operations. Based on the results of the new borings, the previously completed borings, the newly provided groundwater information, and USDA Soil Survey information, we estimate that the normal seasonal high groundwater table (SHWT) will occur at a depth of approximately 2 feet below the existing ground surface at the explored locations.

It should be noted that groundwater levels tend to fluctuate during periods of prolonged drought and extended rainfall and may be affected by man-made influences. In addition, a seasonal effect will occur in which higher groundwater levels are normally recorded during the rainy season.

In general, the normal seasonal high groundwater level is not intended to define a limit or ensure that future seasonal fluctuations in groundwater levels will not exceed the estimated levels. Groundwater conditions will vary with environmental changes and seasonal conditions, such as the frequency and magnitude of rainfall patterns, as well as man-made influences, such as swales, drainage ponds, underdrains and areas of covered soil (buildings, paved parking lots, sidewalks, etc.).



## 2.4 HYDRAULIC CONDUCTIVITY & GEOTECHNICAL SOIL PARAMETERS RELATED TO PONDS

To support stormwater design, PSI carried out testing to evaluate infiltration characteristics of the near surface sandy soils. Two (2) Double Ring Infiltrometer (DRI) infiltration tests were conducted within the approximately footprint of the shifted proposed pond. The DRI tests were performed in general accordance with applicable ASTM standards. The following table provides the results of PSI’s infiltration testing program.

Location	Test Depth (feet)	Soil Description (USCS)	Estimated Depth to SHGWT (feet)	Measured Infiltration Rate (in/hour)	Estimated Vertical Permeability (feet/day)	Estimated Horizontal Conductivity (feet/day)
DRI-4	2	SP/SP-SM	2	5.6	11	14 $\frac{3}{4}$
DRI-5	2	SP/SP-SM	2	7.7	15 $\frac{1}{2}$	17 $\frac{1}{4}$

At the request of the project Civil Engineer, High Point Engineering, we recommend the following soil parameters be considered as part of the design of the stormwater management facility for this project. These parameters effectively replace those provided in our former reporting since the previously reported parameters are applicable only to the formerly proposed stormwater management pond which we understand is no longer being considered for design and construction.

- Estimated Seasonal High Groundwater Elevation: +36 feet  
(Based on existing topographic information provided by High Point Engineering & borings P-4 & P-5)
- Average (Unfactored) Vertical Infiltration Rate: 13 feet per day
- Estimated (Unfactored) Horizontal Conductivity: 14  $\frac{1}{2}$  feet per day
- Estimated Fillable Porosity of Shallow Sands (13 feet or less deep): 25%
- Approximate Confining Layer Depth: 13 feet  
(Based on borings P-4 & P-5)

The recovery of a given stormwater system is dependent on the soil permeability as well as the groundwater table, system bottom elevation, system geometry, confining layer and water level in the system. We recommend a commercially available computer program such as PONDS or MODRET be used by an engineer experienced in groundwater modeling to evaluate the proposed stormwater system. The system should be designed and constructed in accordance with Water Management District requirements. The estimated rates provided above should be considered ultimate permeability rates. We recommend an appropriate safety factor be applied to the stormwater modeling.



## Closing

PSI sincerely appreciates the opportunity to provide geotechnical engineering services to you on this project. If you have questions concerning the contents of this addendum letter or need additional information, please do not hesitate to contact our office.

Respectfully submitted,  
Professional Service Industries, Inc.  
Certificate of Authorization No. 3684

Abhay Wakankar  
Project Manager

Lloyd Lasher, P.E.  
Principal Consultant  
Florida License No. 56794

*THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY:*

*ON THE DATE ADJACENT TO THE SEAL*

*PRINTED COPIES OF THIS DOCUMENT ARE NOT  
CONSIDERED SIGNED AND SEALED. THE SIGNATURE MUST  
BE VERIFIED ON ANY ELECTRONIC COPIES*

*PROFESSIONAL SERVICE INDUSTRIES, INC.  
5801 BENJAMIN CENTER DRIVE, SUITE 112, TAMPA, FL 33634  
CERTIFICATE OF AUTHORIZATION 3684  
COURTLAND ALVIES, P.E. NO. 93388*



## Attachments:

Boring Location Plan – Sheet 1  
Soil Profiles – Sheet 2





Reference: Aerial obtained from Google

## LEGEND

- ⊕ Approximate SPT boring location
- ⊙ Approximate Double Ring Infiltrometer Test location

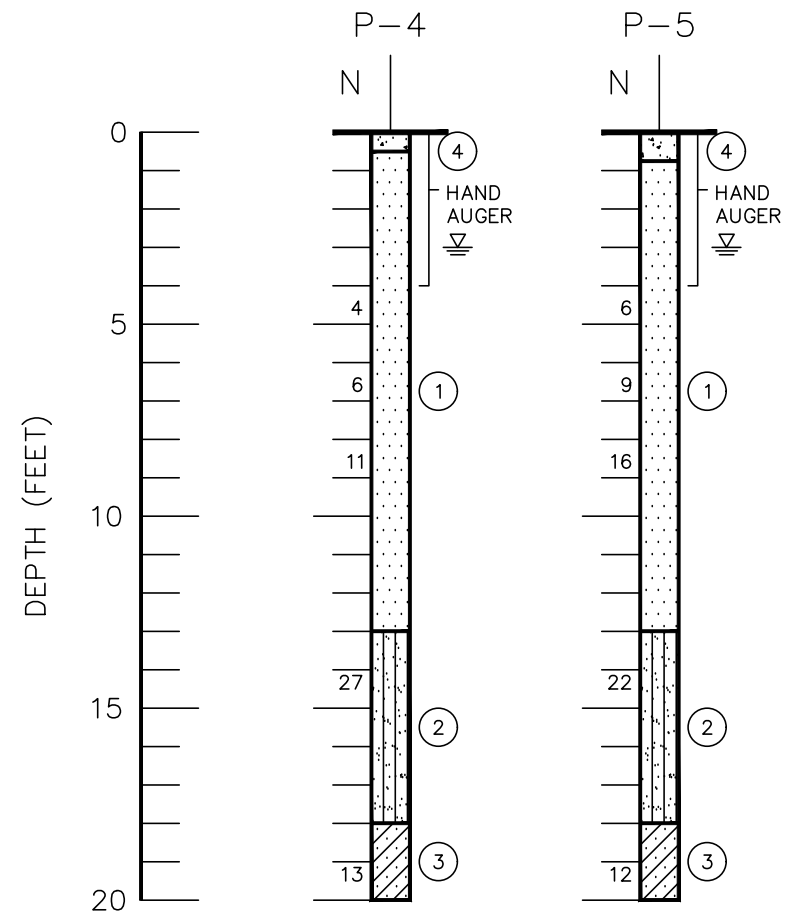
## BORING LOCATION PLAN



DRAWN	DJG
CHECKED	CA
APPROVED	LTL
SCALE	NOTED

GEOTECHNICAL SERVICES  
**HCSO K-9 FACILITY  
 POND RELOCATION**  
 TAMPA, FLORIDA

DATE	JAN 24	PROJ. NO.	07753584	SHEET	1
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## LEGEND

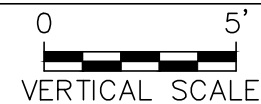
- ① Light gray/light brown/brown SAND to slightly silty SAND (SP/SP-SM)
- ② Dark brown silty SAND (SM)
- ③ Brown clayey SAND (SC)
- ④ Light brown/brown apparent FILL sand with rocks

Unified Soil Classification System  
 SP (ASTM D 2487) group symbol  
 as determined by visual review

∇ Groundwater level, January 2024

N SPT N-value in blows/foot

## SOIL PROFILES



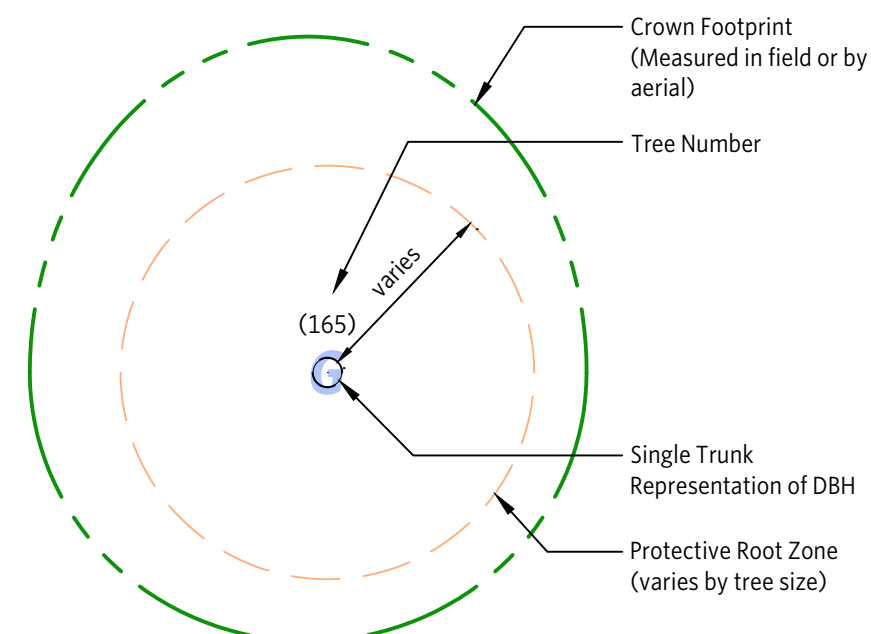
DRAWN  
DJG  
CHECKED  
CA  
APPROVED  
LTL  
SCALE  
NOTED

GEOTECHNICAL SERVICES  
**HCSO K-9 FACILITY  
 POND RELOCATION**  
 TAMPA, FLORIDA

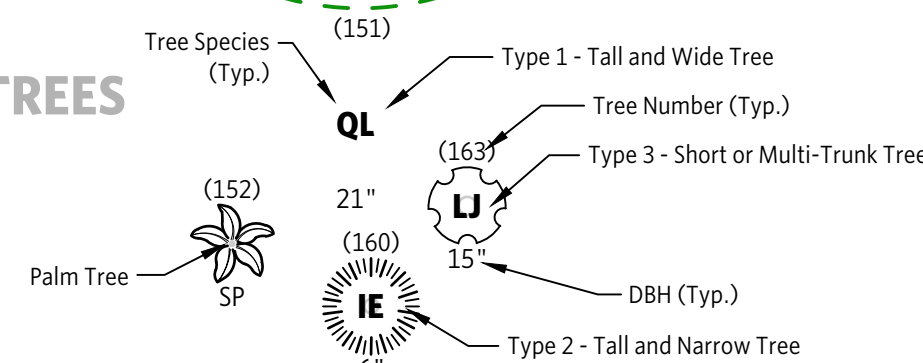
DATE JAN 24 PROJ. NO. 07753584 SHEET 2

## TREE INVENTORY LEGEND

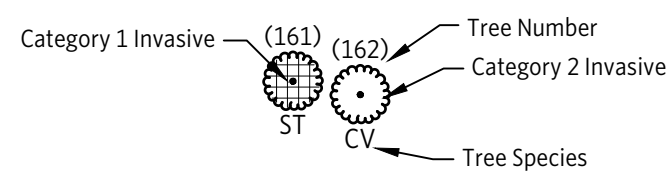
### GRAND OAK



### PROTECTED TREES



### EXEMPT TREES



**DATE OF ASSESSMENT: January 31th, 2024.**

### INVENTORY ASSIGNMENT NOTES:

The objectives of this assignment were limited to the following components:

1. to conduct a tree inventory of all trees with a trunk diameter at breast height (dbh) of 22 inches or greater,
2. to identify any "Grand Oaks" per Hillsborough County LDC Sec. 12.01.00 - Definitions,
3. to rectify any tree identification errors shown on the survey, if applicable,
4. to establish natural resource permitting requirements associated with the inventory.

A field investigation was conducted on the date of assessment. Each investigation was limited to the visual inspection of the on-site trees, their surrounding context, and a review of a tree survey prepared by a third-party surveyor. An arborist trainee assisted in collecting tree dimensional data.

Tree survey data was imported to a data collection field tablet. The tablet was used to collect observations and photographs as needed. No physical notes were taken. If individual trees not captured on the survey were found, they were added to the digital record by generally located each tree using a Dual XGPS160 SkyPro GPS unit combined with aerial photograph interpretation.

Trees smaller than 22" dbh were assessed to identify species and condition. The dbh was assumed to be the dbh measured from survey unless the tree appeared to be larger than 22", in this case the dbh was measured.

Upon arrival to the site, I employed the following field review techniques to gather data:

- Trunk diameter at breast height (dbh) or 54 inches above the ground, taken with a diameter tape. For trees with more than one trunk (stem) originating at or near ground level (less than 36" high), the dbh of each stem was measured at 54" and the cross-sectional area of each stem was summed to derive an equivalent single trunk representative dbh.
- Photographs, taken with a field tablet or a Canon EOS 6D Mark II camera.

When advanced assessment was applicable, the following simple tools and review techniques were used:

- Crown spread measurement, taken with a mechanical wheel from the centroid of the trunk. When ground conditions or thick vegetation precluded use of the wheel, a tape measure or recent aerial photograph was used to measure spread.
- Height to base of limb, taken with a 35-foot Tel-O-Pole II measuring stick, when applicable.
- Tree height, taken with a laser hypsometer using three averaged points from one position.
- Approximation of extent of decay by sounding, listening for tones that may indicate certain conditions, taken with a soft-face mallet.
- Approximation of extent of decay by probing, taken with a 48" steel soil probe.

When overgrowth or obstructions restricted the collection of measurements, the applicable data element was omitted. Assessments were one-sided ground-based and followed ANSI A300 (Part 9)-2017 guidance. No soil, water, or tissue tests were conducted unless otherwise noted.

When typically single-trunked trees are fused at or near the ground, a pith test is performed to determine whether the tree grouping is separate trees or a single tree. The pith test is based on a technique discussed in the [American Forests Champion Trees Measuring Guidelines Handbook \(2019\)](#).

To tailor the inventory to jurisdictional requirements, data elements collected varied by tree classification:

- Grand Oak Candidates: species, dbh, condition rating, crown spread, and Grand Oak condition evaluation
  - Level 2 Basic Tree Risk Assessments were not performed unless specifically noted.
- Protected trees greater than 22-inch dbh: species, dbh, and condition rating.
- Protected trees less than 22-inch dbh: species, dbh from survey, and condition rating.
- Invasive trees: species only.

For protected trees, we noted condition rating and identified the species. For invasive trees, we noted species only.

### ASSUMPTIONS AND LIMITING CONDITIONS

1. Any legal description provided to the consultant is assumed to be correct. Any titles and ownerships to any property are assumed to be good and marketable. No responsibility is assumed for matters legal in character. Any and all property is appraised or evaluated as though free and clear, under responsible ownership and competent management.
2. Care has been taken to obtain all information from reliable sources. All data has been verified insofar as possible; however, the consultant can neither guarantee nor be responsible for the accuracy of information provided by others.
3. Unless expressed otherwise: (1) information contained in this inventory covers only those items that were examined and reflects the condition of those items at the time of inspection; and (2) the inspection is limited to visual examination of accessible items without dissection, excavation, probing, or coring. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the plants or property in question may not arise in the future.
4. Not all defects or conditions that predispose a tree or tree part to failure are detectable, nor are all failures predictable.
5. This inventory is not intended to establish a risk rating for every inventoried tree or tree part, evaluate risk mitigation options or recommendations, provide recommendations for additional assessments, determine residual risk following mitigation, or provide recommendations for monitoring or follow-up.

### RATING NOTES:

1. **DBH and Permit DBH:**  
The species or structure of a tree can be incompatible with a municipal or jurisdictional ordinance. DBH is the arborist's field adjusted dbh determination, based on the Guide for Plant Appraisal, 10th Edition (2018). Permit DBH is a translation of the field adjusted dbh to a value relevant to applicable permitting requirements.
2. **H-S-F = CR**  
**"Health, Structure, and Form" to Condition Rating:**  
A composite, weighted assessment of health, structure, and form. Adapted from the Guide for Plant Appraisal, 10th Edition, second printing (2019) ("10th Edition"). Values range from: A-Excellent, B-Good, C-Fair, D-Poor, F-Very Poor.
  - 2.1. "SD" is used when the tree is standing dead
  - 2.2. "N/A" is used when no value is applicable.
  - 2.3. For permitting purposes, no mitigation (or replacement) value is assigned for trees rated Poor or worse.
3. **Excluded or Reserved**  
Tree survey data quality and utility can vary widely between different surveyors. The initial inventory data involves data transformation to isolate tree data and prepare it for field data collector import. Occasionally extra data points are imported. During the assessment, these points are field verified and either assessed or excluded. The excluded values are preserved in the table to provide consecutive numbering. Reasons to exclude a data point include:
  - 3.1. another type of survey point, such as a ground shot or irrigation valve;
  - 3.2. a surveyed tree that did not exist at the time of assessment;
  - 3.3. a tree part, such as a canopy extent measurement;
  - 3.4. a tree that is not protected due to size;
  - 3.5. or by the arborist's professional opinion.

### REPLACEMENT INCHES REQUIRED: 44 INCHES

### CONDITION RATING COLOR KEY

Color representations of Condition Rating are provided as a visual aid. Preservation or removal suggestions are: 1) not recommendations, 2) apply only to onsite trees, and 3) are based on an opinion of preservation suitability near development. Circles are colored by the following convention:

- Dark Green: Excellent (suitable for preservation)
- Light Green: Good (suitable for preservation)
- White: Fair (somewhat suitable for preservation)
- Light Tan: Poor (removal may be warranted unless the consequence of failure is "negligible" or "minor")
- Brown: Very Poor (removal is likely warranted unless the consequence of failure is "negligible")
- Lavender: Category 1 Invasive (removal is usually required per AHJ) or Category 2 Invasive (consider removing)

### CERTIFICATION OF PERFORMANCE

I, **Richard Peterika**, certify that:

- An on-staff qualified professional or I have inspected the trees and the property referred to in this inventory and have stated our findings accurately. The extent of the inventory is stated in the Inventory Assignment Notes.
- I have no current or prospective interest in the vegetation or the property that is the subject of this inventory and have no personal interest or bias with respect to the parties involved.
- The analysis, opinions, and conclusions stated herein are our own and are based on current scientific procedures and facts.
- Our analysis, opinions, and conclusions were developed and this inventory has been prepared according to commonly accepted arboricultural practices.
- No one provided significant professional assistance to us, except as indicated within the inventory.
- Our compensation is not contingent upon the reporting of a predetermined conclusion that favors the cause of the client or any other party nor upon the results of the assessment, the attainment of stipulated results, or the occurrence of any subsequent events.

I further certify that I am a member in good standing of the American Society of Consulting Arborists and the International Society of Arboriculture. I am licensed by the Florida Department of Business and Professional Regulation as a Landscape Architect. I have been involved in the fields of Landscape Architecture and Arboriculture in full-time capacity since 2009.

  
May 9, 2024

This document has been digitally signed and sealed by: RICHARD F. PETERIKA  
Printed copies of this document are not considered signed and sealed. The signature must be verified on the electronic documents.  
Dark Moss LLC, 308 E 7th Ave Tampa, Florida 33602  
Richard Peterika, ASLA, AICP, RCA #641, ISA-FL #5893B

### TREE DISPOSITION SUMMARY:

NUM	STATUS	DBH	SYM	Botanical Name	H-S-F	Condition	MIT Req'd?	Multiplier	DISPOSITION	Replacement
16	Protected Tree	28	QV	Quercus virginiana	C-C-C	Fair	TRUE	0.5	[REMOVED-]	14
18	Protected Tree	28	QL	Quercus laurifolia	C-C-C	Fair	TRUE	0.5	[REMOVED-]	14
26	Protected Tree	37	QV	Quercus virginiana	C-C-C	Fair	TRUE	0.5	Offsite	0
32	Protected Tree	28	QV	Quercus virginiana	C-C-C	Fair	TRUE	0.5	Offsite	0
34	Protected Tree	31	QV	Quercus virginiana	C-B-B	Fair	TRUE	0.5	[REMOVED-]	15.5
1	Protected Tree	12	QV	Quercus virginiana	B-B-B	Good	FALSE	0	Offsite	0
2	Protected Tree	21	QV	Quercus virginiana	D-C-D	Poor	FALSE	0	ROW Removed	0
3	Protected Tree	12	QV	Quercus virginiana	D-C-D	Poor	FALSE	0	[REMOVED-]	0
4	Protected Tree	17	QL	Quercus laurifolia	C-C-C	Fair	FALSE	0	[REMOVED-]	0
5	Protected Tree	15	QV	Quercus virginiana	C-C-D	Fair	FALSE	0	[REMOVED-]	0
6	Protected Tree	12	QV	Quercus virginiana	B-C-C	Fair	FALSE	0	Offsite	0
7	Protected Tree	11	QV	Quercus virginiana	D-C-D	Poor	FALSE	0	[REMOVED-]	0
8	Protected Tree	12	QV	Quercus virginiana	D-C-D	Poor	FALSE	0	[REMOVED-]	0
9	Protected Tree	20	QV	Quercus virginiana	C-C-D	Fair	FALSE	0	[REMOVED-]	0
10	Protected Tree	11	QL	Quercus laurifolia	B-B-B	Good	FALSE	0	[REMOVED-]	0
11	Protected Tree	12	QV	Quercus virginiana	C-C-D	Fair	FALSE	0	[REMOVED-]	0
12	Protected Tree	18	QV	Quercus virginiana	C-C-D	Fair	FALSE	0	[REMOVED-]	0
13	Protected Tree	10	QL	Quercus laurifolia	B-B-C	Fair	FALSE	0	[REMOVED-]	0
14	Protected Tree	14	QL	Quercus laurifolia	B-D-D	Poor	FALSE	0	[REMOVED-]	0
15	Protected Tree	34	QV	Quercus virginiana	D-C-C	Poor	FALSE	0.5	[REMOVED-]	0
17	Protected Tree	11	QV	Quercus virginiana	D-C-D	Poor	FALSE	0	[REMOVED-]	0
19	Protected Tree	15	QV	Quercus virginiana	D-D-D	Poor	FALSE	0	[REMOVED-]	0
20	Protected Tree	9	QV	Quercus virginiana	C-C-D	Fair	FALSE	0	[REMOVED-]	0
21	Protected Tree	11	QV	Quercus virginiana	C-D-D	Poor	FALSE	0	[REMOVED-]	0
22	Protected Tree	17	QV	Quercus virginiana	B-C-C	Fair	FALSE	0	[REMOVED-]	0
23	Protected Tree	8	QV	Quercus virginiana	C-C-D	Poor	FALSE	0	Offsite	0
24	Protected Tree	6	QV	Quercus virginiana	C-C-D	Poor	FALSE	0	Offsite	0
25	Protected Tree	21	QV	Quercus virginiana	C-C-D	Fair	FALSE	0	Offsite	0
27	Protected Tree	16	QV	Quercus virginiana	B-C-C	Fair	FALSE	0	Offsite	0
28	Protected Tree	12	QV	Quercus virginiana	C-C-D	Fair	FALSE	0	Offsite	0
29	Protected Tree	11	QV	Quercus virginiana	C-C-D	Poor	FALSE	0	Offsite	0
30	Protected Tree	7	QV	Quercus virginiana	C-C-D	Poor	FALSE	0	Offsite	0
31	Protected Tree	9	QV	Quercus virginiana	B-C-C	Fair	FALSE	0	Offsite	0
33	Protected Tree	5	QV	Quercus virginiana	C-C-D	Poor	FALSE	0	Offsite	0

### GRAND TREE MITIGATION SUMMARY TABLE:

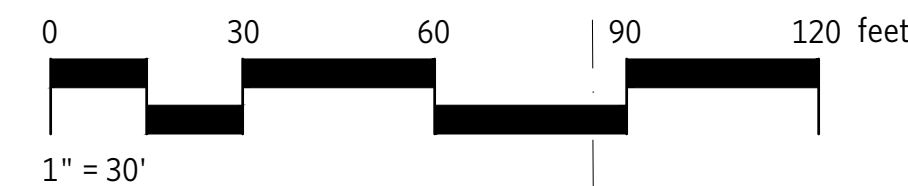
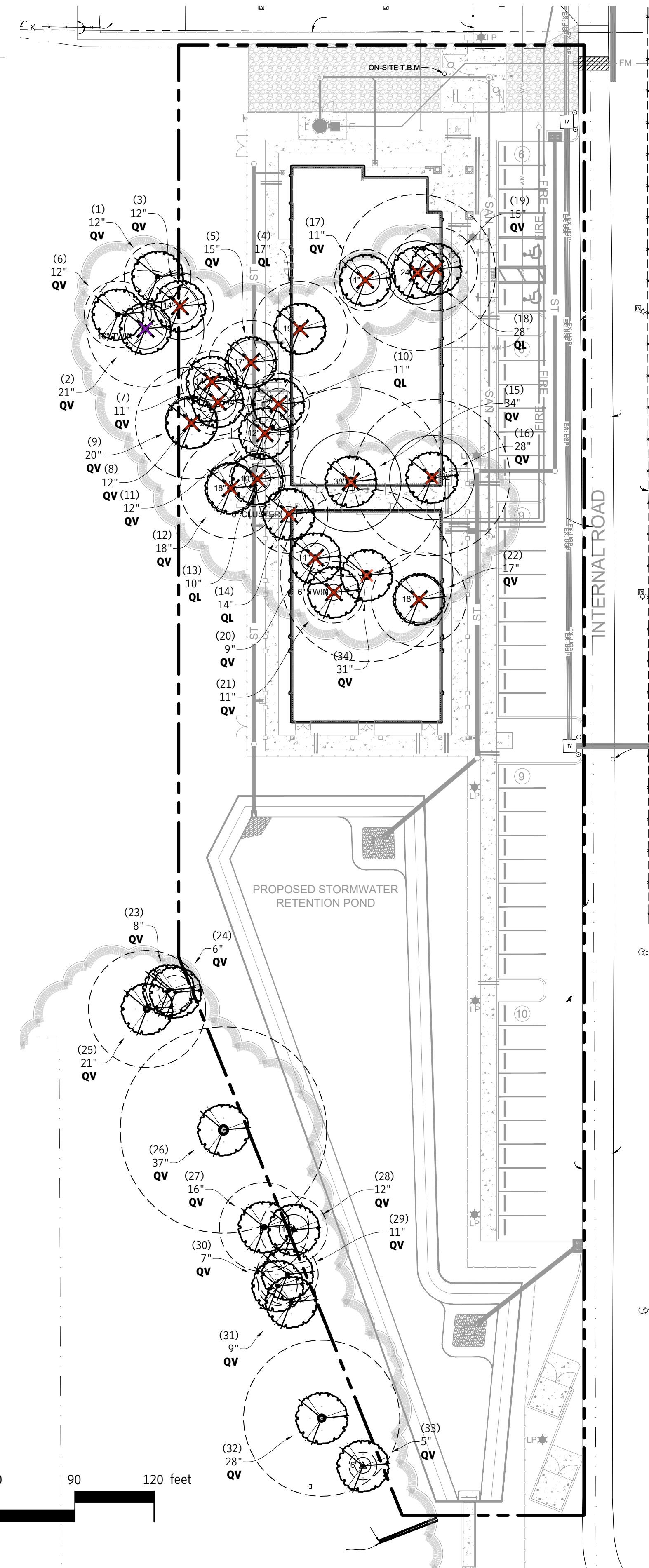
NUM	Tree Condition Evaluation						Grand Check #1	Tree Size Evaluation						Grand Check #2	Mitigation			
	Roots	Trunk	Limb & Branch	Twigs	Foliage	Condition Points		DBH	Circumference	Height	North	South	East		West	Tree Points	Botanical Name	Multiplier
15	3	2	1	1	1	8	FAIL								Protected Tree	Quercus virginiana	0.5	0
26	4	2	2	2	2	12	FAIL								Protected Tree	Quercus virginiana	0.5	18.5

**RATING NOTES:**

1. **DBH and Permit DBH:**  
The species or structure of a tree can be incompatible with a municipal or jurisdictional ordinance. DBH is the arborist's field adjusted dbh determination, based on DBH measurement guidelines provided in the Guide for Plant Appraisal, 10th Edition (2018). Permit DBH is a translation of the field adjusted dbh to a value relevant to applicable permitting requirements. Typically, multi-stem trees are resolved into single-stem equivalents using trunk formula method. The Permit DBH for small multi-stem species may be visually estimated.
2. **H-S-F = CR**  
**"Health, Structure, and Form" to Condition Rating:**  
A composite, weighted assessment of health, structure, and form. Adapted from the Guide for Plant Appraisal, 10th Edition, second printing (2019) ("10th Edition"). Values range from: A-Excellent, B-Good, C-Fair, D-Poor, F-Very Poor.  
2.1. "SD" is used when the tree is standing dead  
2.2. "N/A" is used when no value is applicable.
3. **Excluded or Reserved**  
Tree survey data quality and utility can vary widely between different surveyors. The initial inventory data involves data transformation to isolate tree data and prepare it for field data collector import. Occasionally extra data points are imported. During the assessment, these points are field verified and either assessed or excluded. The excluded values are preserved in the table to provide consecutive numbering. Reasons to exclude a data point include:  
3.1. another type of survey point, such as a ground shot or irrigation valve;  
3.2. a surveyed tree that did not exist at the time of assessment;  
3.3. a tree part, such as a canopy extent measurement;  
3.4. a tree that is not recognized or protected in the jurisdiction due to size;  
3.5. or by the arborist's professional opinion.
4. **Disposition**  
Tree disposition is the decision to retain or remove the tree based on a the arborist's evaluation of the cumulative impact of the proposed construction activity. This decision is based on the tree protection provided, general knowledge of the species, information on the tree's age and condition, and other relevant factors that may be applicable.

**MINI LEGEND**

- Non-hazardous Grand Tree
- Type 1 Tree
- Type 2 Tree
- Type 3 Tree
- Palm
- Cat. 1 Invasive
- Cat. 2 Invasive
- Excellent
- Good
- Fair
- Poor
- Very Poor
- Exempt or Excluded



**dark moss**  
DESIGNING THE URBAN FOREST

PROJECT: **HCSO K-9 FACILITY**  
LOCATION: **TAMPA, FLORIDA**

PREPARED FOR:  
**HIGH POINT ENGINEERING, INC.**

ISSUE DATE: 2024-05-09

PHASE:  
PERMIT ONLY

SHEET TITLE:  
**TREE INVENTORY AND DISPOSITION PLAN (2)**

REVISION:  
1 PER STAFF 2024-05-09  
2  
3  
4  
5

SHEET NUMBER:

**TR1.1**

308 E 7th Ave Tampa, Florida 33602  
813-332-3440 info@darkmoss.com darkmoss.com  
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**HILLSBOROUGH COUNTY STANDARD NOTES**

- ROOT PROTECTION:** Installation of artificial barriers such as protective barricades, fences, posts or walls shall not destroy or irreversibly harm the root system of protected trees and grand trees. Footers for walls shall end at the point where larger roots are encountered, and the roots shall be bridged. Post holes and trenches located close to protected trees or grand trees shall be adjusted to avoid damage to major roots.
- MULCHING:** During the site clearing phase, a layer of mulch shall be applied over the surface of exposed roots of tree to remain. Thickness shall be as follows:  
2.1. Protected Trees: two inch thickness, zero inch thickness at trunk  
2.2. Grand Trees: five inch thickness, zero inch thickness at trunk.
- DRY WELL:** A protective dry well and drainage/aeration system shall be provided where protected trees or grand trees will be adversely affected by raising the grade.
- RETAINING WALL:** A protective retaining wall shall be constructed at the perimeter of the protective radius around a protected tree or grand tree where the protected tree or grand tree will be adversely affected by lowering the grade.
- SIDEWALKS:** All sidewalks within the dripline of existing trees or within any natural preservation or tree protection area shall be installed at or above existing grade according to sidewalks over tree roots detail.
- TREE PROTECTION BARRICADES:** All trees to remain must be protected by tree protection barricades meeting the minimum standards shown on the protective tree barricade diagram. Protective barricades shall remain in place until land alteration and construction activities are completed.
- UNLAWFUL ACTIVITIES:** During land alteration and construction activities, within the dripline of a tree remaining on site, unless otherwise approved by the administrator, it shall be unlawful to remove vegetation, except by hand, by grubbing or to place soil deposits, debris, solvents, construction material, machinery or other equipment of any kind within the dripline of a tree to remain on the site.
- RESERVED**
- PRUNING:** All trimming undertaken on a tree protected by the provisions of the land development code shall be in accordance with the most current version of American National Standards Institute (ANSI) A-300 pruning standards.
- RESERVED**
- EROSION CONTROL:** Proposed land alteration activities shall not unnecessarily remove existing vegetation and alter existing topography. Adequate protection measures (i.e., hay bales, baffles, sodding and sandbagging) shall be provided, as necessary, to minimize erosion and downstream sedimentation caused by surface water run-off on exposed land surfaces.
- STABILIZATION:** Any areas subject to erosion must be adequately stabilized with vegetative material that will, within a reasonable time frame, deter soil disturbance. Sodding, plugging, sprigging or seeding is acceptable for stabilization; however, sodding may be required in areas of erosion-prone soils or where slopes are greater than 5:1. Vegetation other than grass is acceptable unless otherwise specified.
- DROUGHT-TOLERANT TURF:** No more than 50% of the landscaped area may be planted with shallow-rooted (i.e., St. Augustine) turf grass varieties. These turf grass varieties shall be consolidated in and limited to areas that are provided with central automatic irrigation systems.
- ADDITIONAL PROTECTION:** Protected trees and vegetation shall be defined as all naturally occurring trees and shrubs not specifically designated for removal by construction activities. Site contractor shall notify the landscape architect to inspect all barricades and barriers 48 hours prior to clearing and earth moving activities. No activity shall be allowed within areas so marked without the written approval of the landscape architect. See erosion control barrier detail on civil plans. Barricades shall only be required in areas designated on the plans, however, the contractor shall be responsible for non-disturbance of all protected trees and vegetation. This includes any parking of vehicles and storage of materials. Unless otherwise noted, authorized construction activities within the dripline of protected trees shall be performed in compliance with the "Tree Protection Manual for Builders and Developers" prepared by the Florida Division of Forestry.
- VALUATION OF DAMAGE:** The contractor is hereby given notice that any damage or death of protected trees or natural vegetation caused by unauthorized construction-related activities will require restoration/replacement acceptable to the owner or owner's representative. Compensation for trees over 12" DBH shall be determined utilizing methods of appraisal developed by the International Society of Arboriculture. In the event that barricades are not maintained and damage from root disturbance or chemical leaching are not immediately apparent, the owner reserves the right to retain that portion of scheduled payments to the contractor equivalent to the anticipated loss of value in the event of death or decline for a period of 12 months after the damaging activity occurs. The contractor may elect to bond said value in lieu of retainage.
- RESERVED**
- UTILITY APPURTENANCES:** The construction of all above ground utility appurtenances visible from the public right-of-way such as pedestals, utility meters, transformers, back-flow prevention devices, etc for new development or redevelopment activities shall conform to screening requirements as outlined in Section 6.06.06.C.10 of the Land Development Code.  
  
For above ground utility appurtenances illustrated on the plans, the type of screening must be clearly noted to match the overall height for the type of above ground utility specified on the plans. Utilization of evergreen plant material must be described by species, spacing and overall height for the type of utility to be screened. Plant location, utilization of opaque fencing or other screening must be considerate of required spatial separations from a fire flow protection appliance in accordance to the Uniform Fire Code, and per Water, Wastewater and Reclaimed Water Technical Specifications Spec 331001, Part 2.6.4.2, must be located a minimum of 5' from utility slabs and 3' from underground valves. Trees must be located a minimum of 8' from utility slabs. The meter assembly must be accessible by boom truck off a county right-of-way or an interior paved access road at least 12" in width. Do not install any screening that will hinder access to the future to the meter assembly from the interior of the site.

**DEVELOPMENT TABLE**

Applicable Code Section	Permit Requirement	Provision
6.06.03. A.2.	Landscape Plan Concept	"Florida Friendly Landscape"
6.06.03. A.3.	Minimum Percentage of Native Species Required:	50%
	Proposed:	100%
6.06.03. B.	Site Area (based on limit of survey):	75,785 1.74 SF Acres
	Development Type:	Office, Neighborhood/General/Regional Commercial
	Number of Lots Proposed	1
	Minimum No. of Lot Trees Required	0
	Minimum No. of Development Trees Required	11
	Total Trees Required	11
6.06.03. C.1.	Credit of Preserved Trees:	0
6.06.03. A.4.	Minimum No. of Tree Species Required:	2
	Proposed:	3
6.06.04. A.	Minimum Percentage of VUA Shade Trees Required:	75%
	Total Trees Proposed	29
	VUA Trees Proposed	11
	VUA Shade Trees Proposed	11
	Percent VUA Shade Trees Proposed:	100%
6.06.03. B.	Adjusted No. of Development Trees Required:	11
	(Min. Trees Required less Preserved Tree Credits)	
	Total Trees Proposed	29
4.01.06. A.7.	Tree Replacement Inches Required:	44
	Replacement Inches Provided	47
4.01.15. A.	In-lieu Inches Required	0
	In-lieu Fee Required (@ \$65 / Inch)	\$0.00

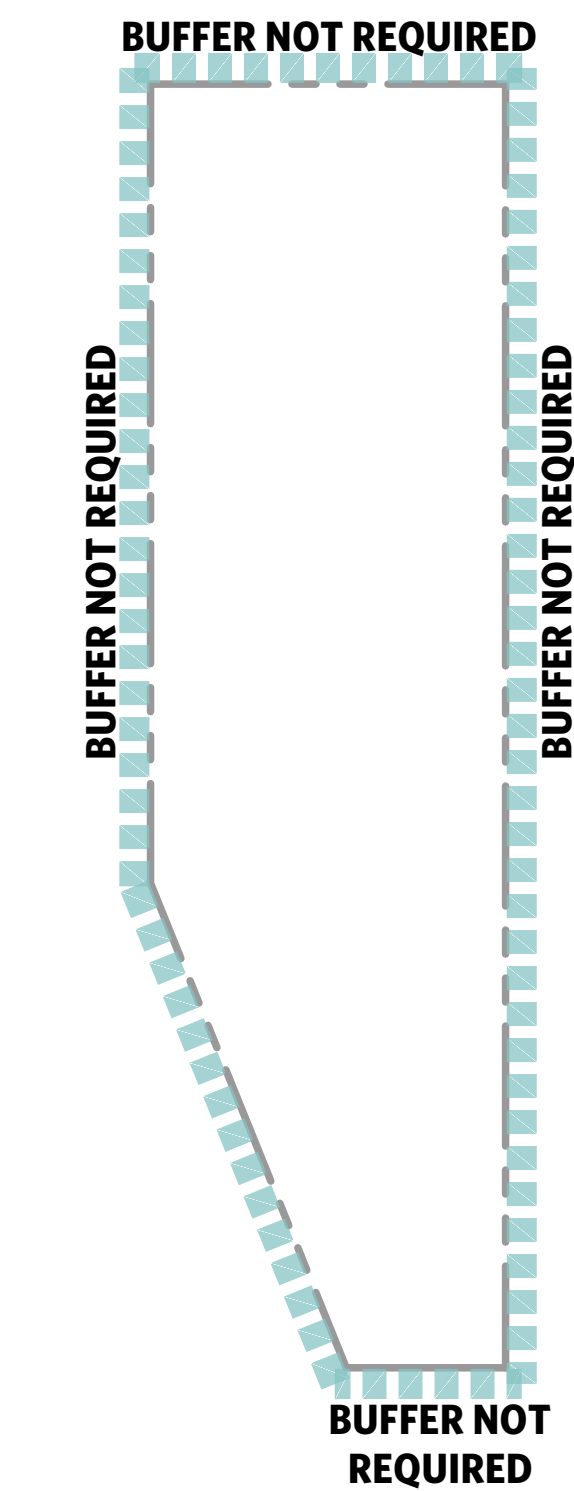
**BUFFER TABLE**

Proposed Use Group	5	Abutting Group	Width	Type	Character	Constraint or Note
North	Office/Comm	5	0'	None	No buffer required	
South	Office/Comm	5	0'	None	No buffer required	
East	Office/Comm	5	0'	None	No buffer required	
West	NA	NA	#N/A	#N/A	#N/A	

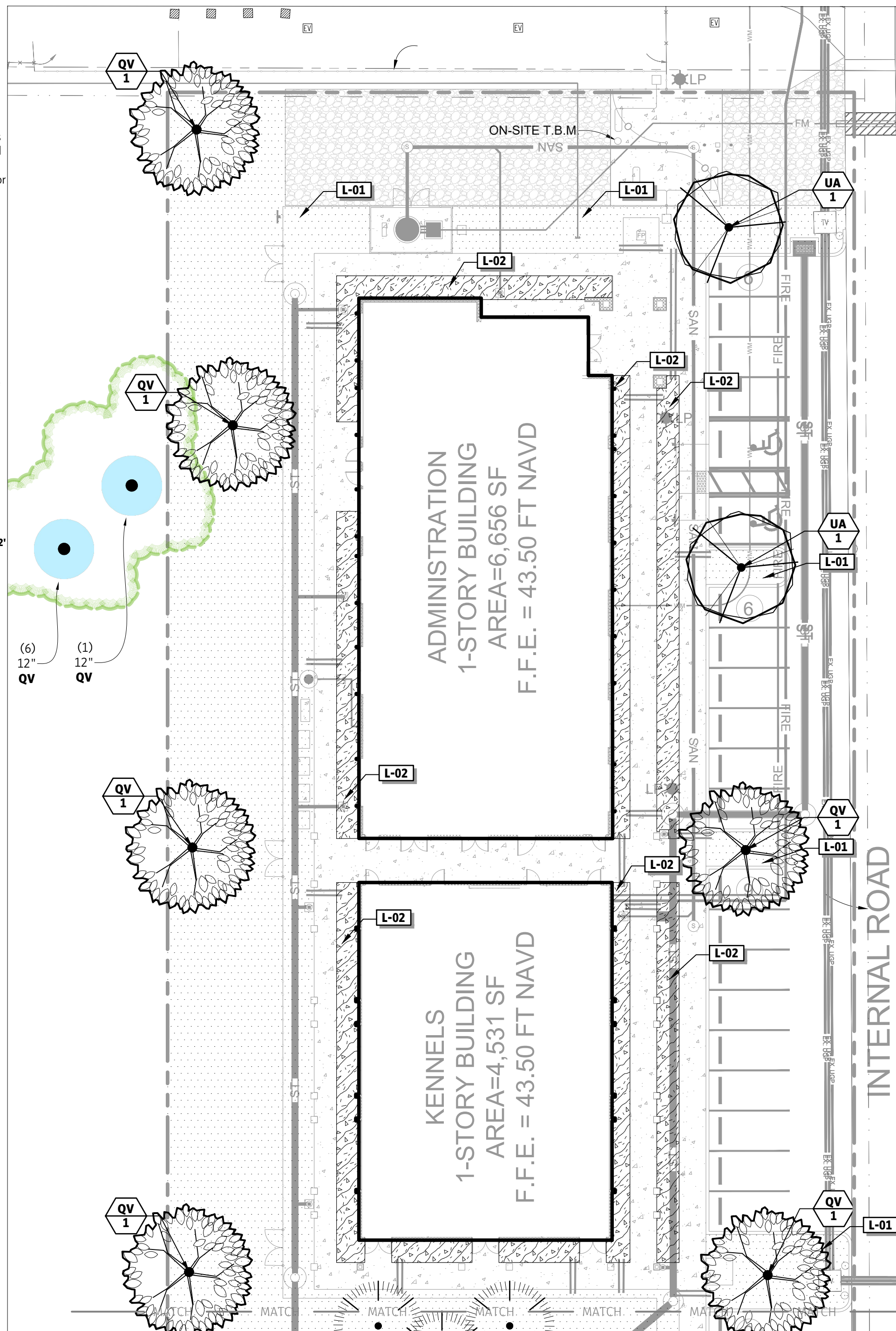
Key: blank cells are not applicable

**PLANT LIST**

Type	Code	Quantity	Botanical Name	Common Name	Min. Spec	In Buffers	In VUA or Lots	Replacement Provided
2-Shade Tree	UA	3	Ulmus alata	winged elm	3" cal., 10' high overall. (2" DBH)	0	2	4
2-Shade Tree	QV	10	Quercus virginiana	live oak	3" cal., 10' high overall. (2" DBH)	0	4	16
2-Shade Tree	PE	16	Pinus elliottii	slash pine	3" cal., 10' high overall. (2" DBH)	0	5	27
Total								47



**BUFFER KEY PLAN**



**PLANT SCHEDULE**

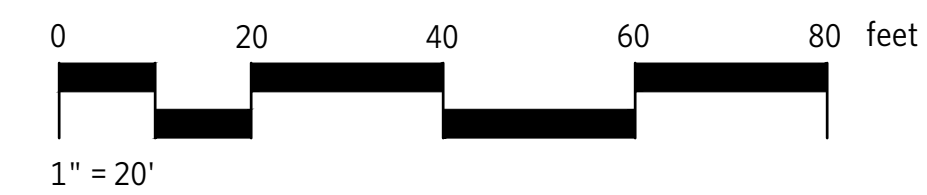
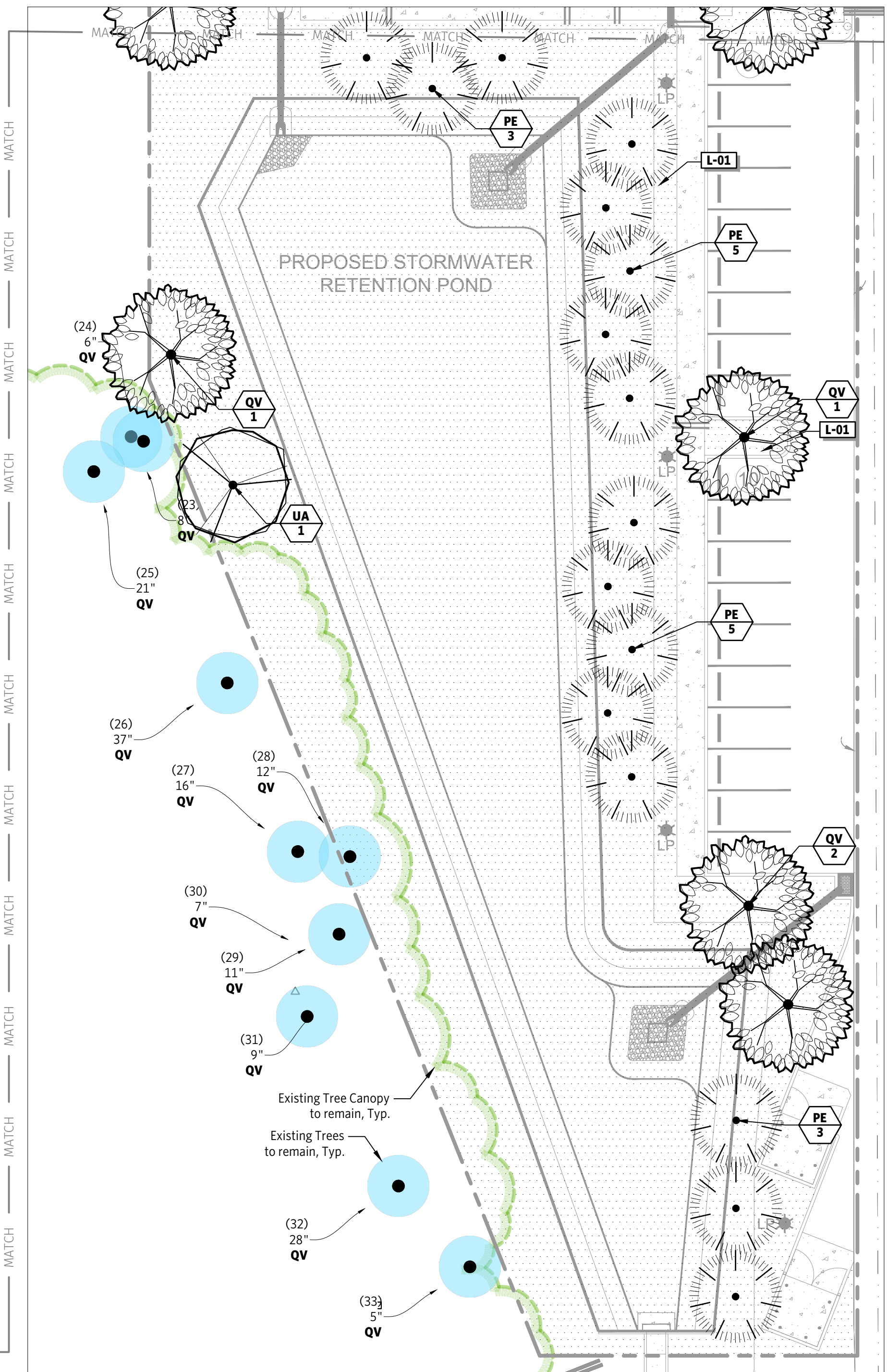
SYMBOL	CODE	BOTANICAL NAME	COMMON NAME
	PE	Pinus elliottii	Slash Pine
	QV	Quercus virginiana	Southern Live Oak
	UA	Ulmus alata	Winged Elm

**SPECIALTY LANDSCAPE SCHEDULE**

SYMBOL	DESCRIPTION	QTY
L-01	Argentine Bahia Sod Rolled	37,543 sf
L-02	#57 Granite Stone Salt & Pepper, 3" Layer over Filter Fabric	28.71 cy

**REVISION 1 CLOUD NOTES**

- Landscape Plan has been revised. Revision clouds have been omitted for graphic clarity.



This document has been digitally signed and sealed by:

Richard Peterka, FLA6667068  
Dark Moss LLC  
308 E 7th Ave  
Tampa, Florida 33602

THE ABOVE NAMED REGISTERED LANDSCAPE ARCHITECT SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE WITH RULE 63G10-11.012, F.A.C.

Sheet Number	Sheet Title
LA1.0	LANDSCAPE PLAN
LA1.1	LANDSCAPE DETAILS
IR1.0	IRRIGATION PLAN
IR1.1	IRRIGATION DETAILS

**dark moss**  
DESIGNING THE URBAN FOREST

PROJECT: **HCSO K-9 FACILITY**  
LOCATION: TAMPA, FLORIDA  
FILE: E-0016

PREPARED FOR:  
HIGH POINT  
ENGINEERING, INC.

PUBLISHED: 2024-05-09  
PHASE:  
PERMIT ONLY

SHEET TITLE:  
**LANDSCAPE PLAN**

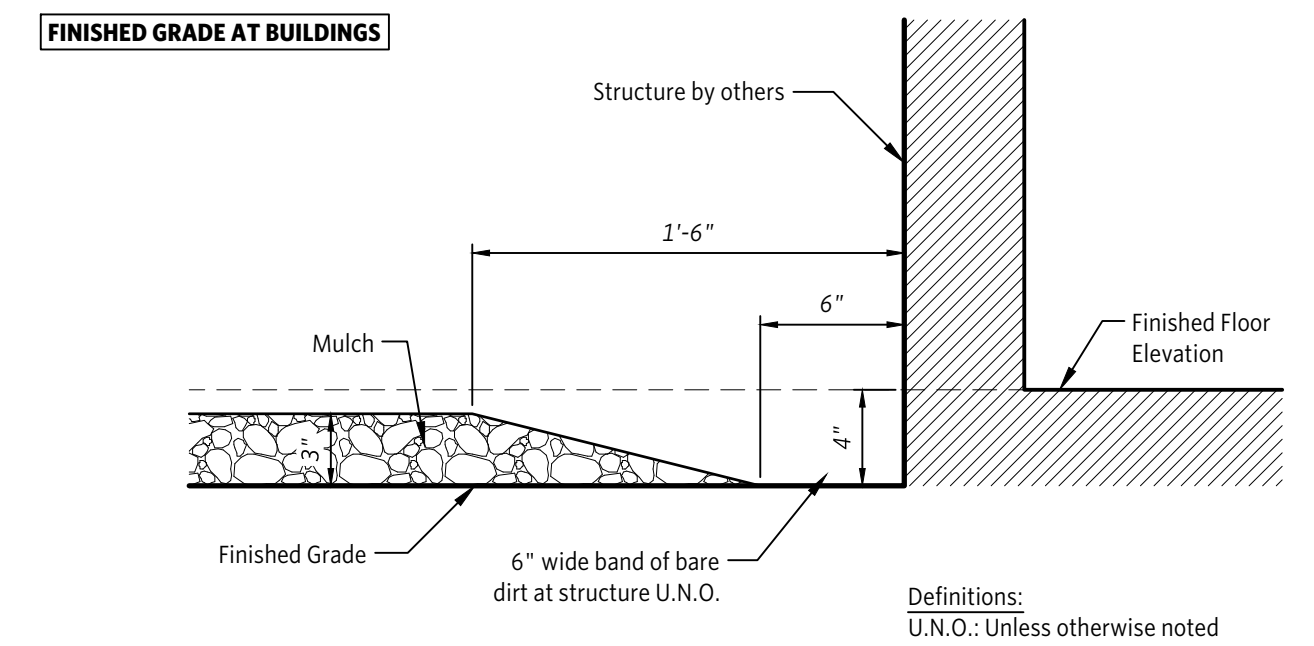
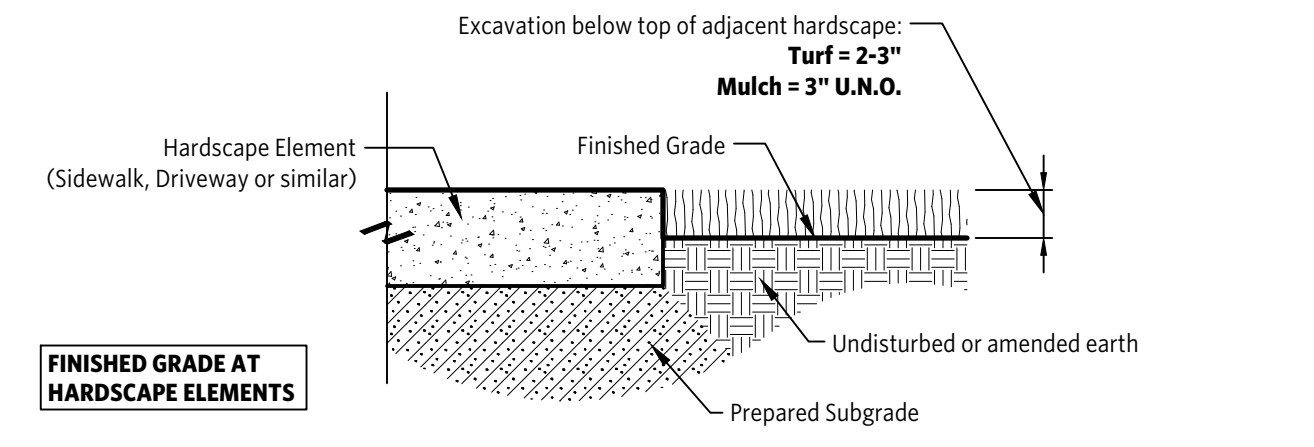
REVISION:  
1: PER STAFF 2024-05-09  
2:  
3:  
4:  
5:

SHEET NUMBER:

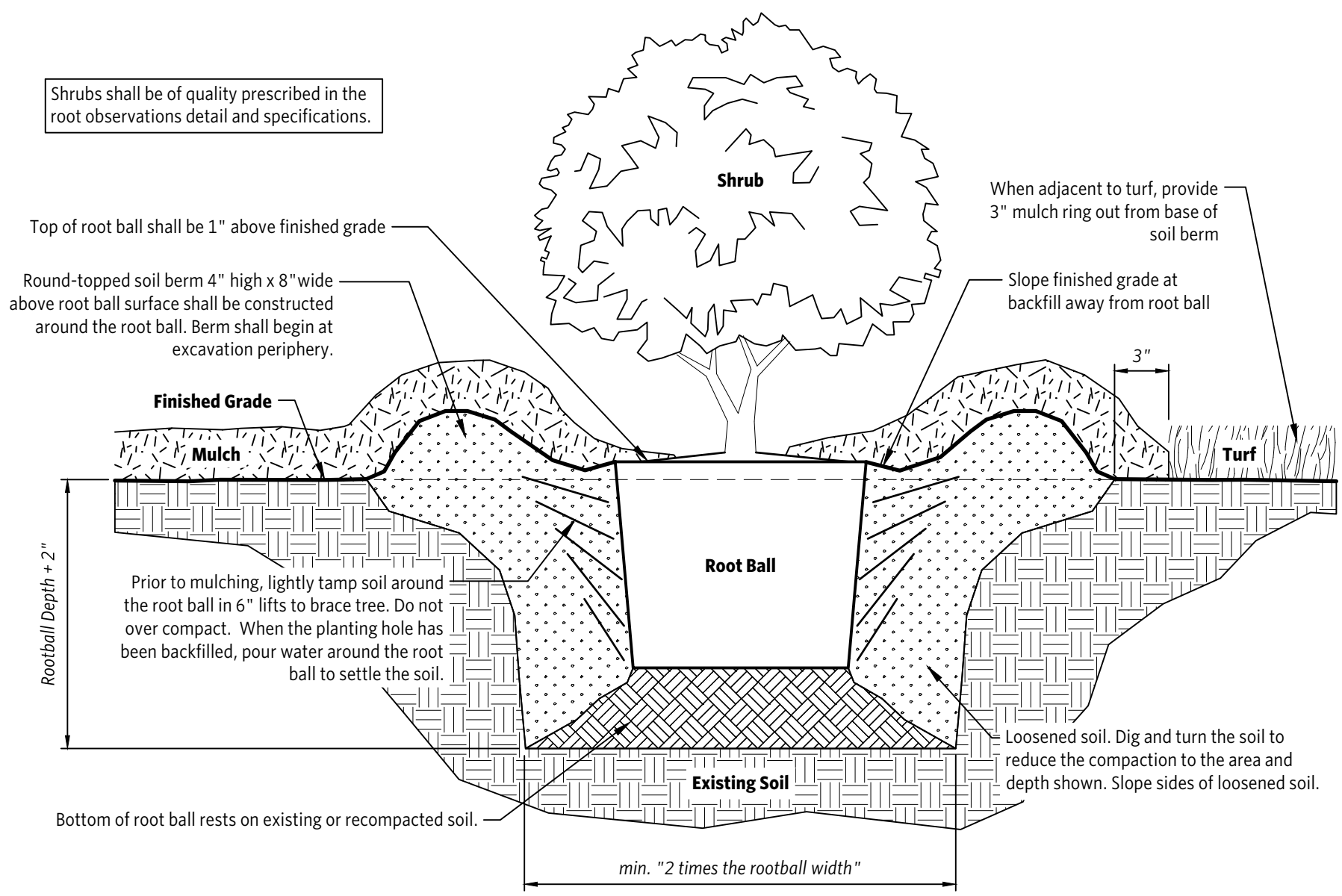
**LA1.0**

**LANDSCAPE NOTES**

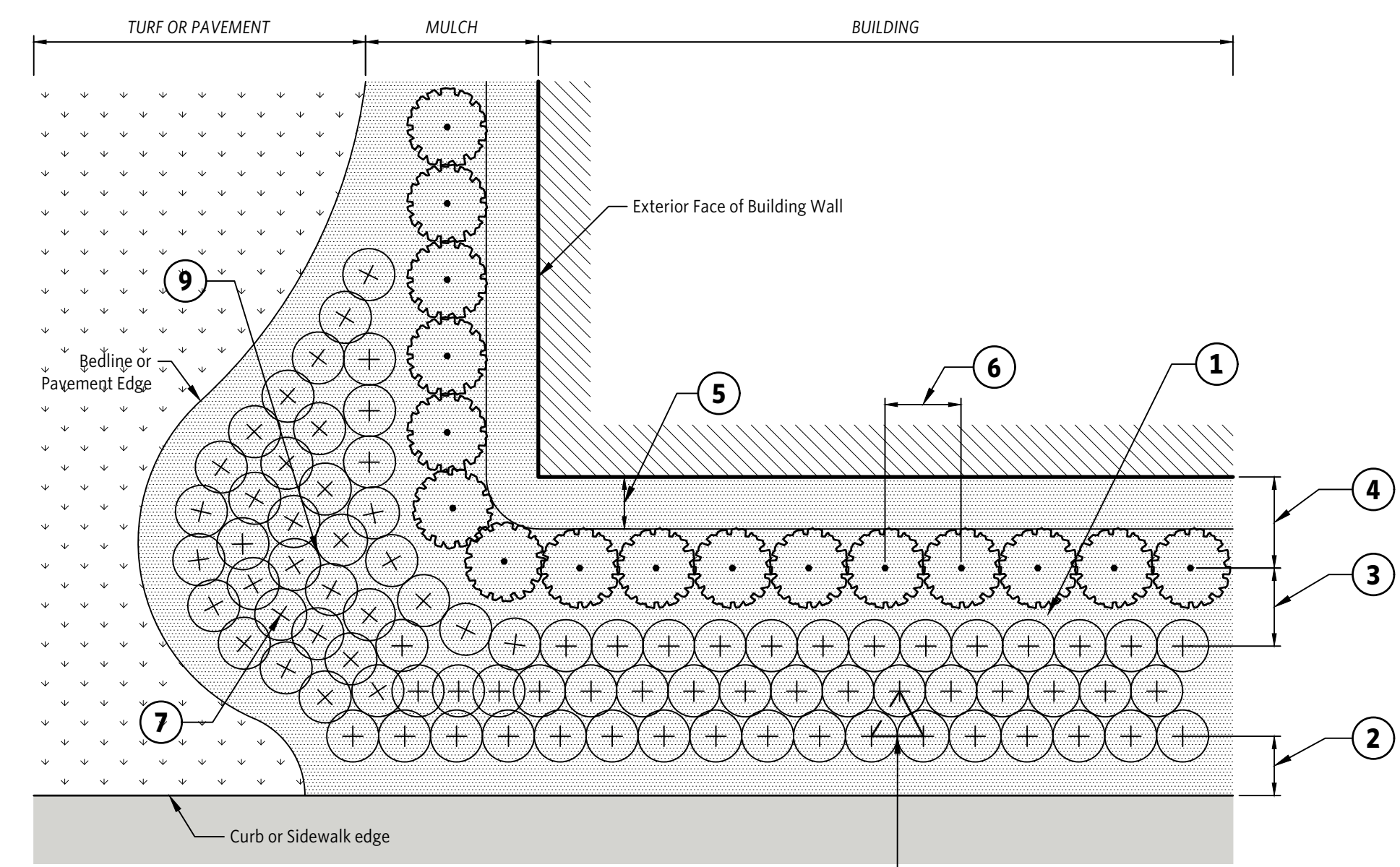
- Any and all unmarked landscape areas shall be sodded with Argentine Bahia sod unless otherwise noted. Seeding is not acceptable without written approval from the Landscape Architect.
- All landscape beds shall have a weed-free finished appearance at installation and through the warranty or maintenance period, whichever is longer.
- All plant material shall be Florida Grade No. 1 or better per "Florida Grades and Standards for Nursery Plants", latest revision, Florida Department of Agriculture, Tallahassee, FL.
- All permits necessary for installation/construction are to be provided by the landscape contractor unless otherwise specifically stated in the landscape plans or notes.
- Installation of landscape must be coordinated with other subcontractors. The landscape contractor will be responsible for locating underground utilities prior to excavation.
- The contractor shall notify the landscape architect if any conflicts arise between the proposed design and existing conditions on-site.
- The contractor is responsible for familiarizing himself with on-site conditions as part of the bidding process. The contractor shall notify the landscape architect prior to award of contract of any on-site conditions that would hinder the normal, healthy growth of plant species proposed on these plans.
- The landscape architect may be contacted for assistance in layout of plant material, if needed. All questions regarding plant placement must be resolved prior to commencement of installation.
- Carefully review the landscape material specifications. All materials must be as specified on the landscape plans. If materials or methods do not adhere to specifications, the landscape architect will reject them.
- The landscape architect will accept no substitutions of plant material/species without written approval. Contractor shall submit to the landscape architect proof of non-availability and a proposal for the use of equivalent material.
- Plant material quantities shown on these plans are supplied as an aid to the contractor for bidding purposes. Final quantity takeoffs are the responsibility of the contractor. Notify the landscape architect if any discrepancies exist prior to proceeding with any changes in material quantities.
- Plant specifications of height, clear trunk, spread and container size shown on the plans are minimum acceptable sizes. All installed material shall meet or exceed the given specifications. The contractor shall submit to the landscape architect proof of non-availability and a proposal for the use of equivalent material.
- The general contractor is responsible for rough grading the site to within 0.10 ft. of grades shown on these plans. The landscape contractor is responsible for finish grades in all landscape areas. All proposed contours shown on the landscape plans are to be graded to a maximum slope of 3H:1V.
- Landscape contractor shall have any applicable licenses or certifications required per state or municipal codes.
- Planting beds shall be treated with a US EPA approved pre-emergent herbicide prior to installation of plant material. Contractor shall follow manufacturer's specifications for application rates, etc.
- Shrub beds shall be mulched with a 3" layer of mini pine bark mulch unless otherwise noted or unless adjacent existing beds have a minimum of 1" layer of differing mulch material, in which case the existing mulch material shall be matched.
- Asiatic Jasmine (all varieties) and annual beds shall be mulched with a 3" layer of pine fines.
- Planting pits shall be amended and backfilled with a mixture of one part good quality peat or composted fines, and one part native soil or approved equal. All annual beds shall be filled to a depth of 10" with an approved soil mix. Contractor shall submit samples for approval.
- The contractor is responsible for appropriate watering and maintenance of all plant material during the installation phase. Any dead or deficient plant material will be replaced prior to final acceptance by the owner.
- The contractor shall warranty all workmanship and materials per contractual requirements.
- The contractor shall verify that the soil is free of excess clay, debris and trash and has a pH level suitable for optimal growing conditions prior to implementation of the proposed plan.
- The Landscape contractor shall conduct soil nutrient analyses before planting and then apply fertilizer to correct the identified soil deficiencies, if any. Copies of all test results and fertilization specifications shall be submitted to the Landscape Architect.
- All landscape bids shall provide unit price breakdowns for plants and supplemental materials.
- After completion of planting, the contractor shall remove all rope "cross-ties" from the top of the rootball and cut the wirebasket away from the top of the rootball. The top of the root ball shall have a finished natural appearance.
- Sod shall be planted as quickly as possible after delivery, but if there are delays, store the sod in a cool, shady place until ready to plant. (Sod life on pallets during summer is less than 48 hours.) The area to be planted shall be properly prepared (e.g., tilled and raked smooth) prior to sod delivery and shall be moistened at the time of laying sod. Sod pieces shall be fitted together as tightly as possible, but the sod should not be stretched to fit an area. If cracks are evident between pieces, they shall be filled with cut up pieces of sod. Lay the sod in a staggered brick pattern so that the seams are offset between sod pieces. Tamp or roll the sod to remove air pockets and ensure good soil contact. Make sure the roots have good contact with the underlying soil so that it does not dry out during establishment. Keep the grass moist for the first 7 days after planting with brief spritzes of water 2-3 times during the day.
- Unless otherwise noted, pond banks shall be sodded with Argentine Bahia sod from top of bank to a pond contour twenty-four (24) inches below the pond control elevation. Refer to Civil Plans for hydroperiods.



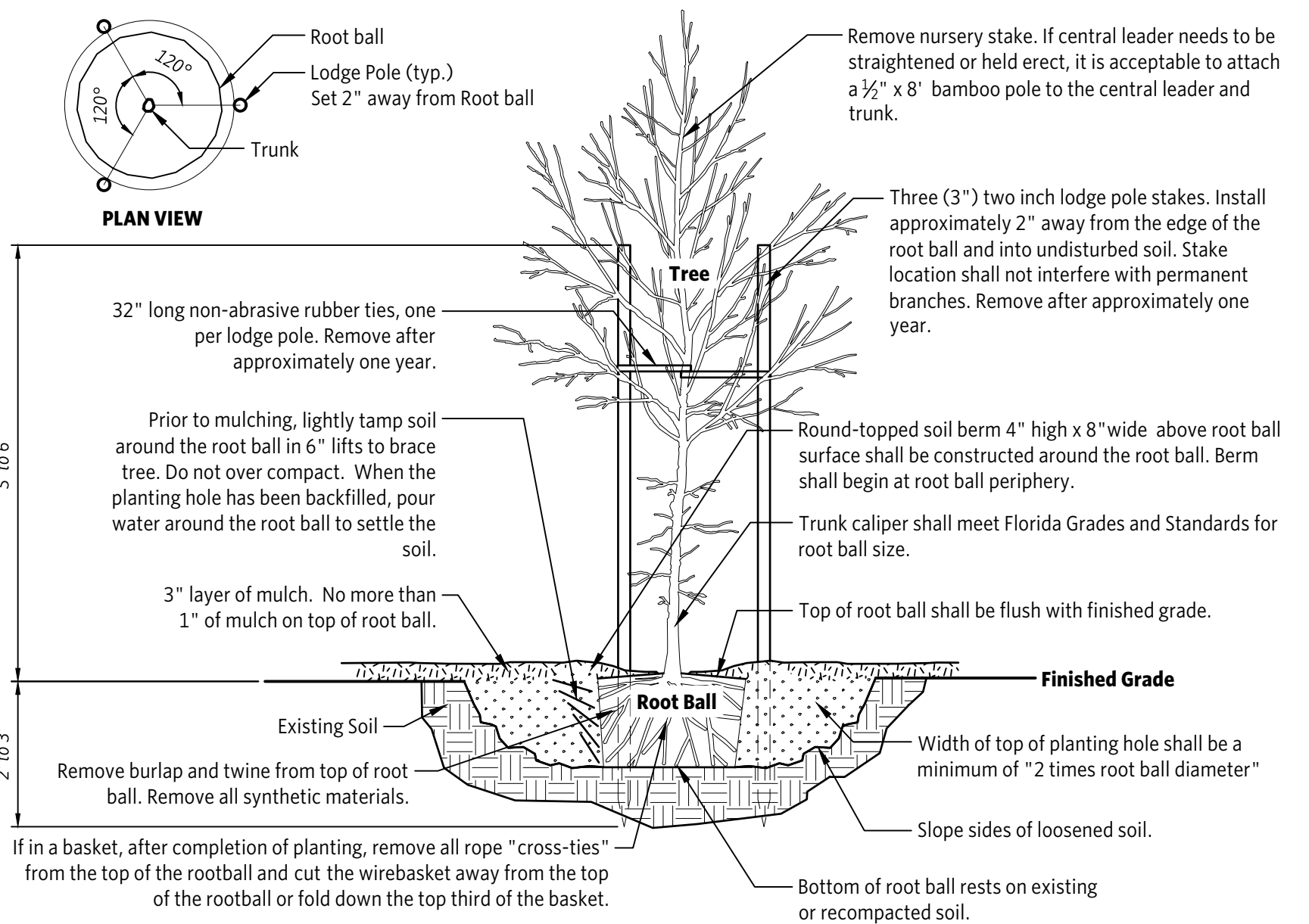
**2 LANDSCAPE AND FINISHED GRADE**  
1 1/2" = 1'-0" 1-07



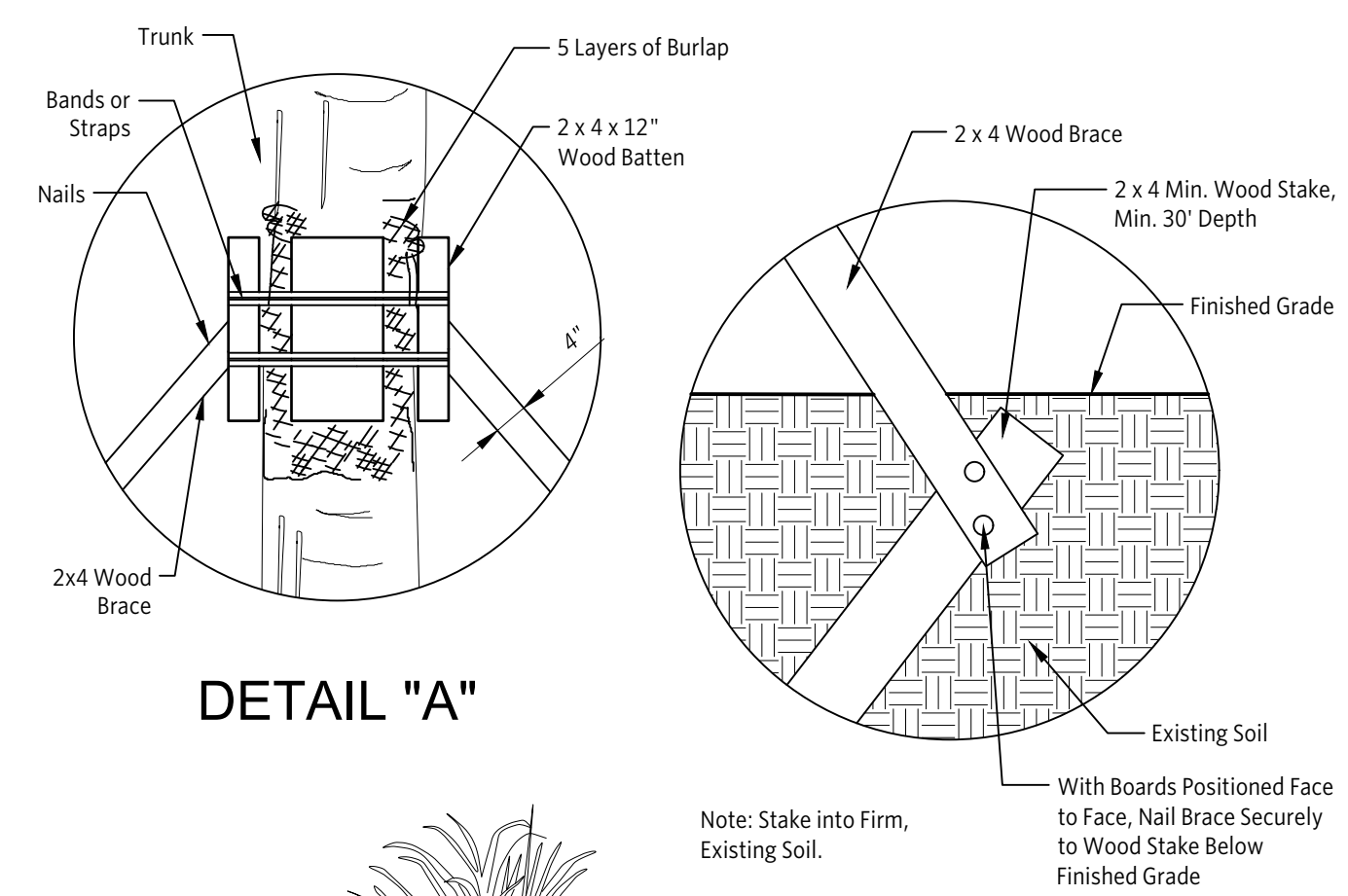
**3 SHRUB PLANTING DETAIL**  
1 1/2" = 1'-0" 1-07



**1 PLANT LAYOUT DETAIL**  
3/16" = 1'-0" 1-07

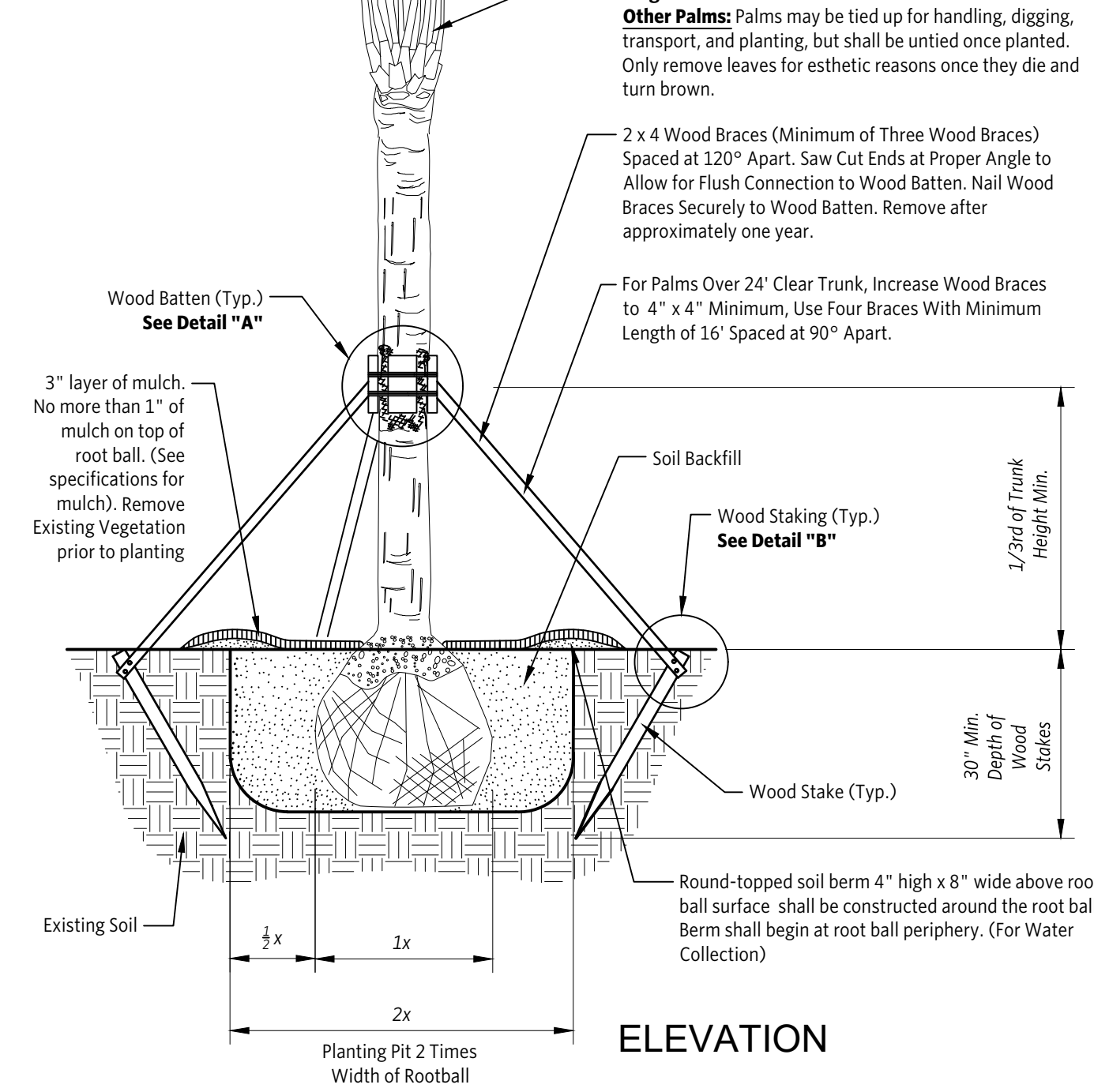


**4 TREE PLANTING DETAIL**  
1/2" = 1'-0" 1-07



**DETAIL "A"**

**DETAIL "B"**

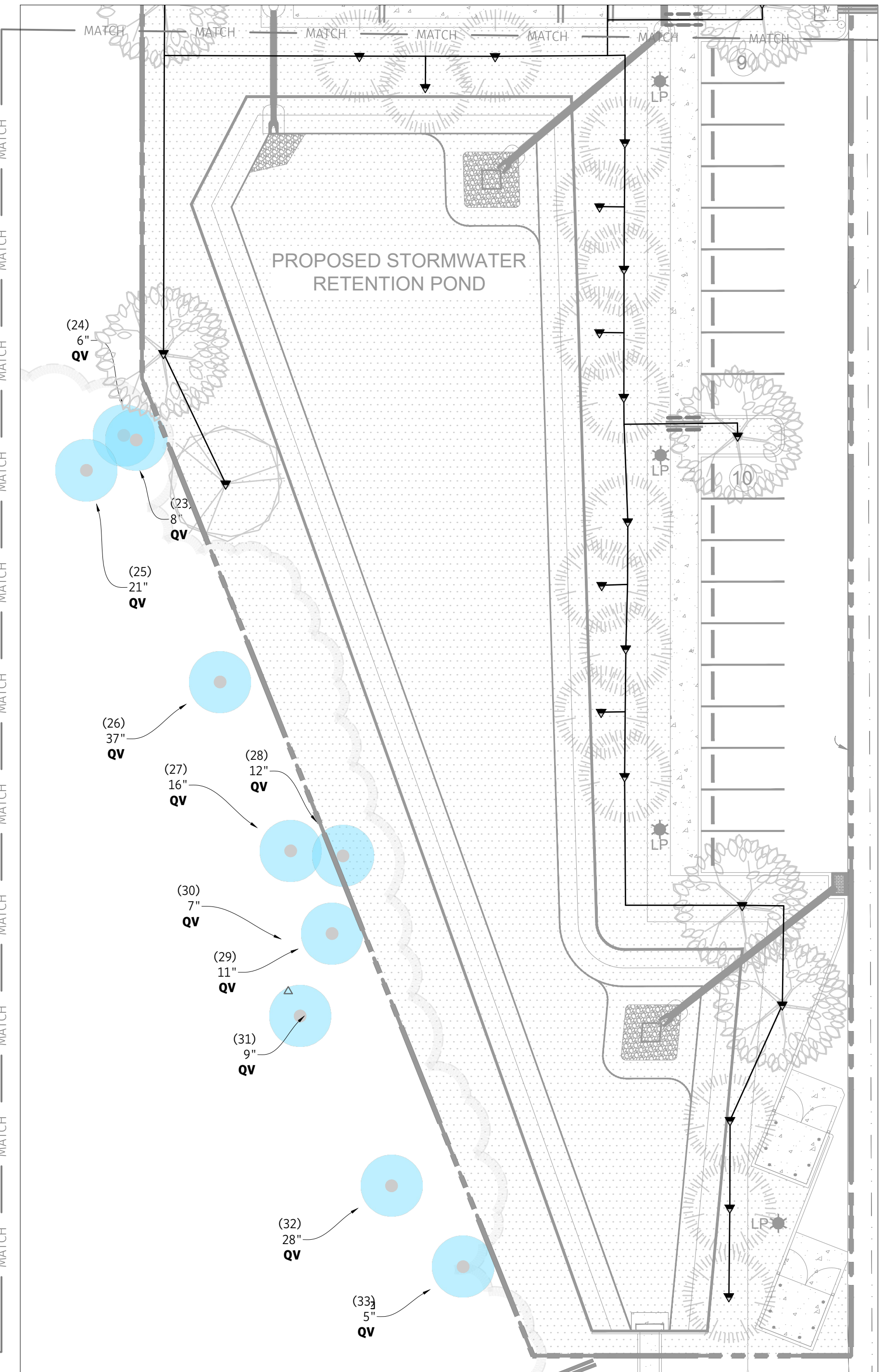
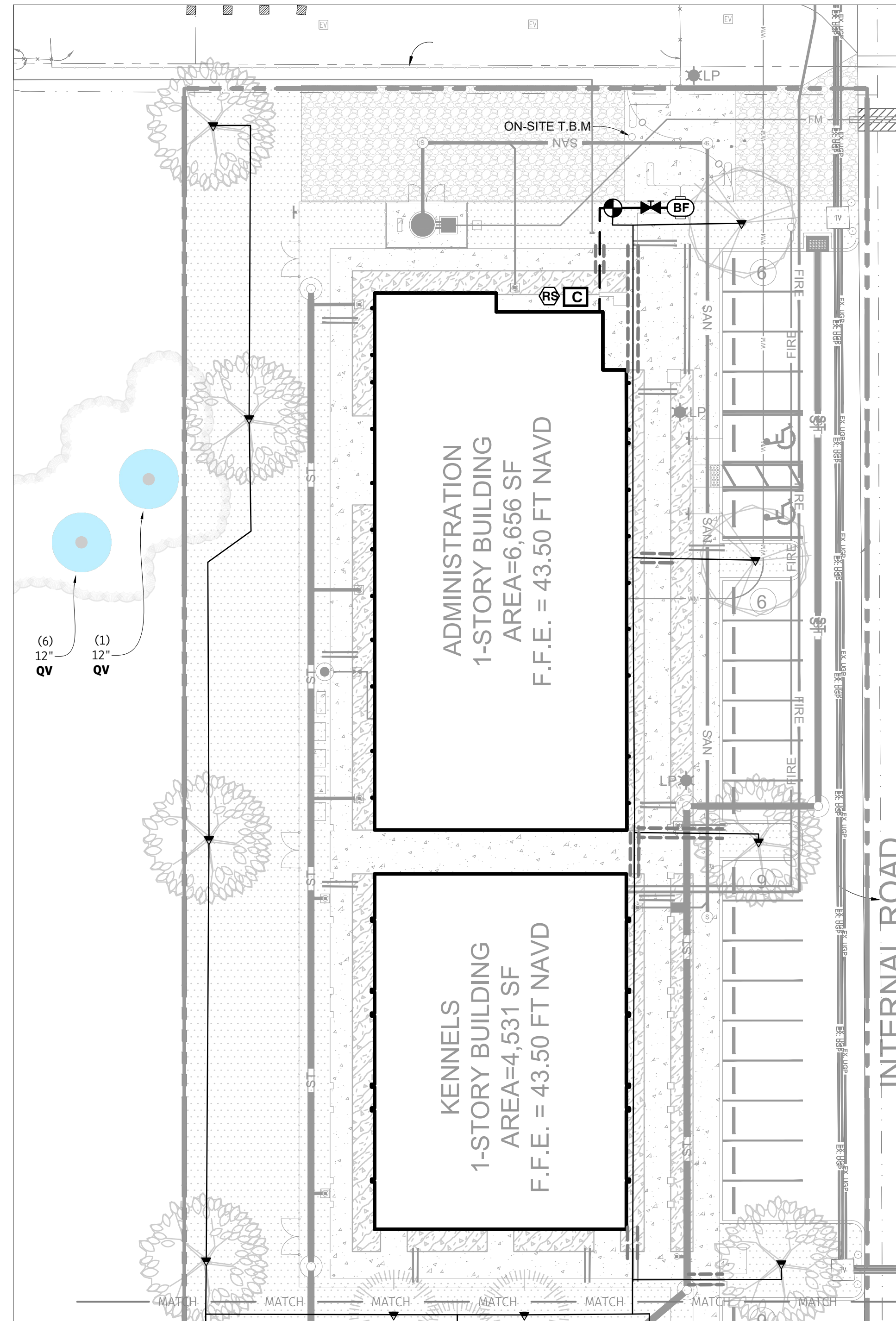
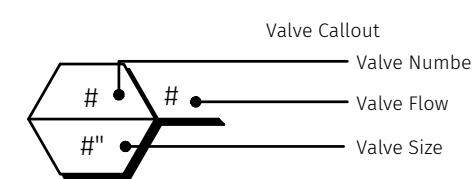


**5 PALM PLANTING DETAIL**  
1/2" = 1'-0" 1-07

- "Center to Center Spacing" (O.C.) varies for different plant species. Space each variety of plant equally in planting areas unless otherwise noted.
- Distance between the edge of pavement and the centerline of the nearest plant row is 1 to 1.5 times the on center spacing of the nearest plant group.
- Distance between plant material types shall be the greater of the two plant spacing distances.
- Distance between the edge of building and the centerline of the nearest plant shall be 2' plus 0.5 times the on center spacing of the plant.
- Maintain an 18" minimum setback from building faces and 12" setback from freestanding wall faces. Increase as necessary to allow for species growth & maintenance access.
- O.C. Spacing (See Plant List)
- Shrubs and groundcover adjacent to curved edges shall be planted in rows parallel to the bedline.
- Shrubs and Groundcovers adjacent to straight edges shall be planted in triangular spacing with rows parallel to the straight edge.
- Maintain O.C. spacing and curvature as much as possible within the center of irregularly shaped massings.

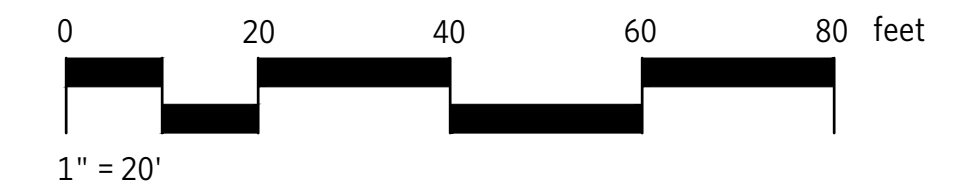
**IRRIGATION SCHEDULE**

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI
	Double Tree Bubbler Two Rain Bird 1402 Bubblers	29	30
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	
	Rain Bird PESB-PRS-D 1", 1-1/2", 2" Plastic Industrial Valves. Low Flow Operating Capability, Globe Configuration. With Pressure Regulating Module, and Scrubber Technology for Reliable Performance in Dirty Water Irrigation Applications.	1	
	Landscape Products Inc. BBV 1/2", 3/4", 1", 1-1/4", 1-1/2", 2", 2-1/2" 3" Full Port Brass Ball Valve. Include two unions, nipples, and adapters as required	1	
	(Small RP2) Watts LF909 1" Lead Free Reduced Pressure Backflow Preventer. Connect to Existing Main Line	1	
	Rain Bird ESP12LXMEF with (01) ESPLXMSM12 24 Station Commercial Controller. Plastic Wall Mount. Flow Sensing.	1	
	Rain Bird RSD-BEx Rain Sensor, with metal latching bracket, extension wire.	1	
	Irrigation Lateral Line: PVC Schedule 40		
	Irrigation Mainline: PVC Class 200 SDR 21		
	Pipe Sleeve: PVC Class 200 SDR 21		



**REVISION 1 CLOUD NOTES**

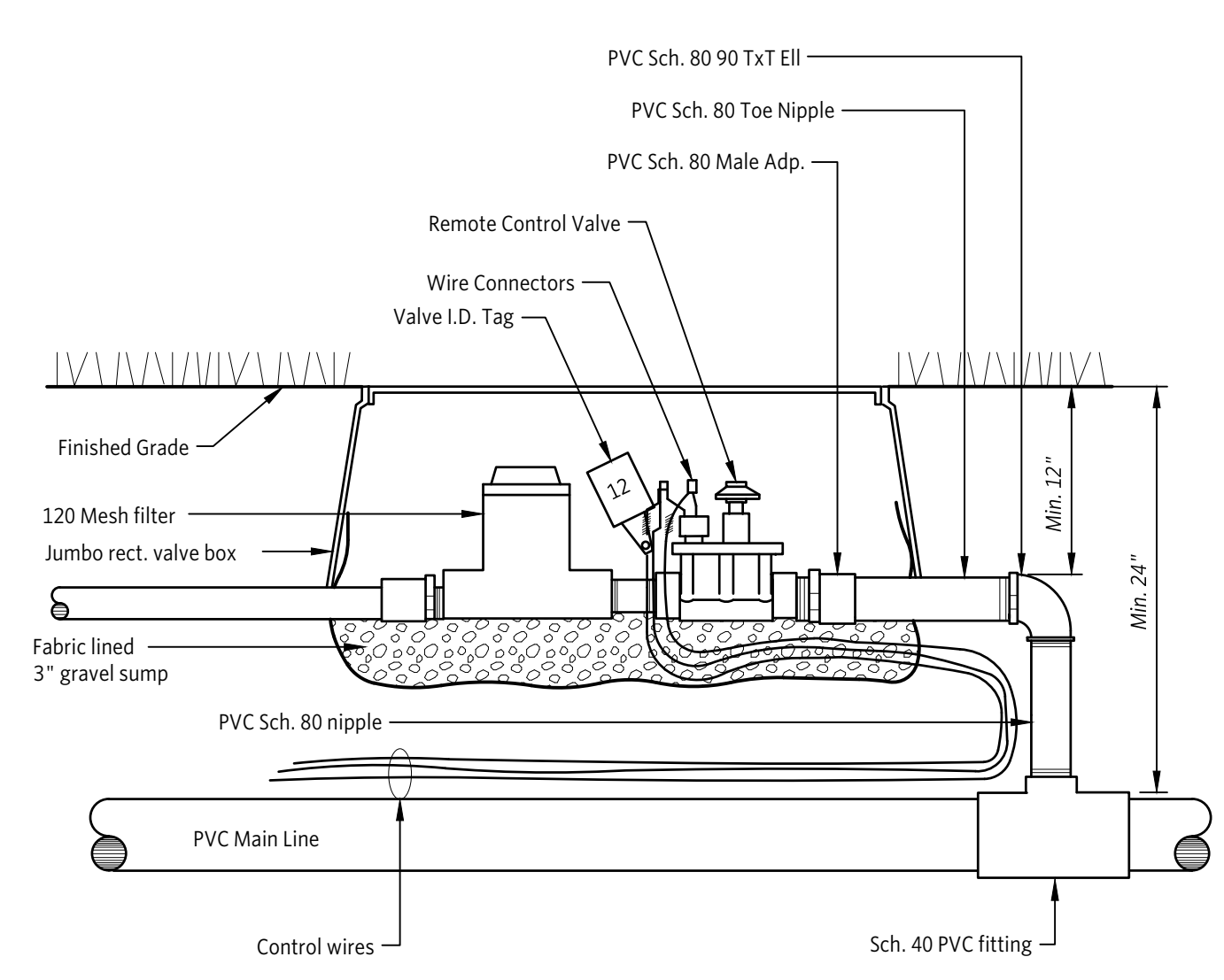
1. Irrigation Plan has been revised. Revision clouds have been omitted for graphic clarity.



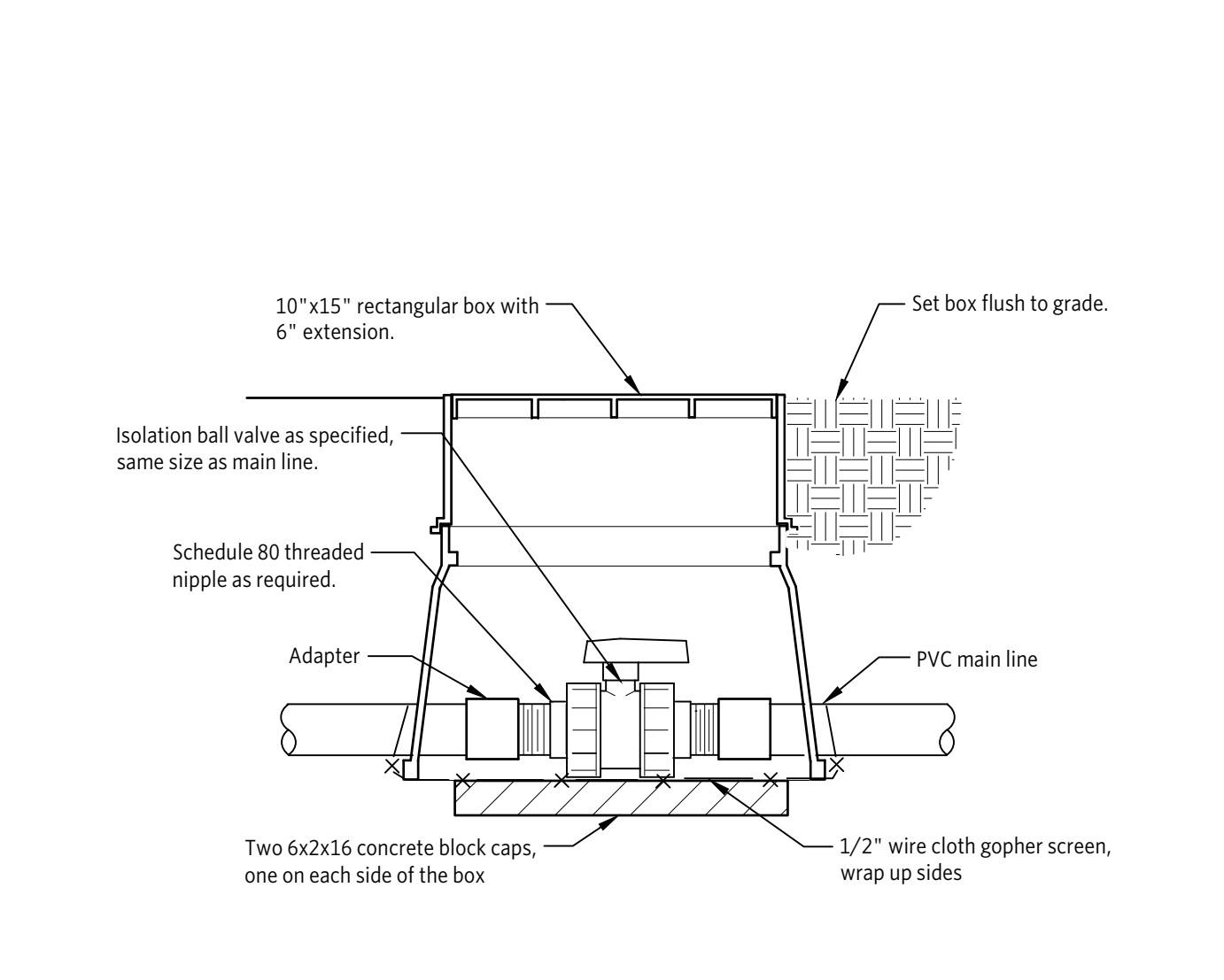
**DESIGN FLOW: 37.5 GPM**  
**DESIGN PRESSURE: 65 PSI**  
 Above parameters are the minimum required at the point of connection.

**IRRIGATION NOTES**

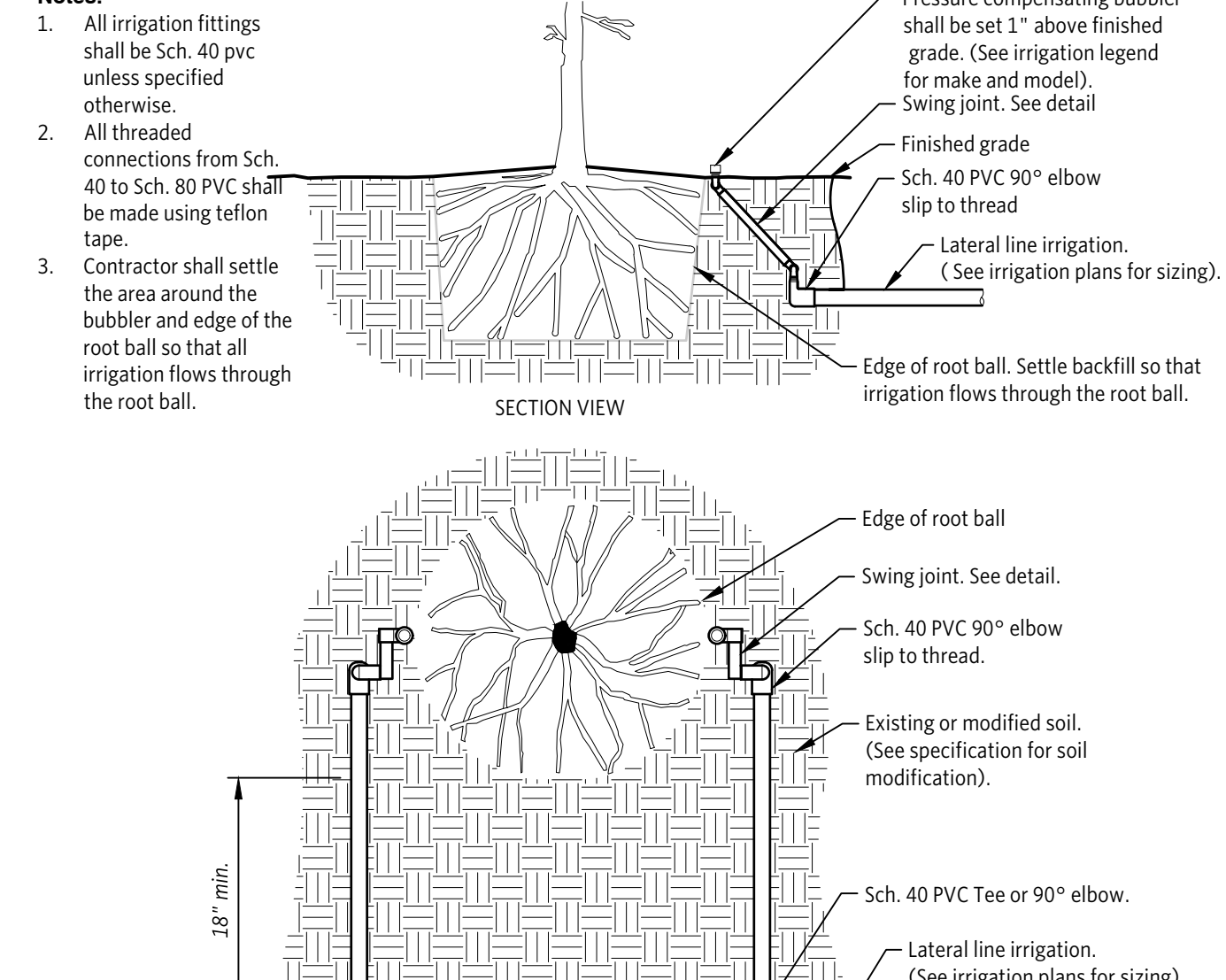
1. Irrigation system design requirements: Refer to above parameters. The Irrigation Contractor shall verify the available GPM and PSI prior to installation of the system.
2. **Do not willfully install the irrigation system as shown on the drawings when it is obvious in the field that conditions exist that might not have been considered in the design process.** For example: obstructions, grade differences, water levels, dimensional differences, etc. Refer to the Landscape Plan to avoid conflicts with proposed trees or shrubs.
3. **Valve and pipe locations are diagrammatic**, install equipment within the property line, in "low traffic" areas with a min. clearance of 12" between the valve box and any fence, wall, sidewalk, pavement or sodline.
4. Piping may sometimes be indicated as being located in unlikely areas: i.e., under buildings or pavement, outside of property lines, in lakes or ditches, etc. **This is done for graphic clarity only.** Whenever possible, piping is to be installed in open, green" areas.
5. If required, the Irrigation Contractor shall provide the necessary "Right of Way" use permits.
6. Pipe sizes shall conform to those on the drawings. Substituting with smaller pipe sizes will not be permitted.
7. Mainline is to be installed with a minimum of 18" depth of cover. Lateral lines are to be installed with a minimum of 12" depth of cover.
8. Unless otherwise indicated, all sleeves are to be PVC Sch 40 and two (2) nominal sizes larger than the pipe to be sleeved. For example: The sleeve for a 2" pipe shall be 3". No irrigation sleeve shall be smaller than 2".
9. Wherever practical, install valves in mulched beds and/or out of high traffic areas. All valves, flush valves and wire splices shall be installed in boxes as noted in the **Valve Box Specifications** below.
10. The bottom and sides of the valve boxes shall be lined with landscape fabric. Install a 3" deep bed of gravel on the landscape fabric to create a drainage sump.
11. Refer to Valve Designation Symbols for controller, station number and designed flow rate for each remote control valve.
12. All 24 volt control cable to be UL Listed, single strand, type UF 600 Volt control cable. Sizes and colors per the **Wiring Designation Guide** below.
13. All splices to the 24 volt control wiring shall be made with Rain Bird #DBTWC 24-600 volt, direct bury splice kits.
14. All control valve wires shall be bundled and taped together at 20' intervals and placed along the side of the mainline pipe.
15. Location of all sprinkler heads shall be site adjusted to minimize water overthrow onto building surfaces and walkways. Throttle valves on spray zones as required to prevent fogging.
16. Install drip tubing, supply header and exhaust header at grade and cover with mulch. Spacing to be determined by plant layout, refer to Landscape Plan. Anchor drip tubing every 5' with 8" long wire tubing stakes. Install vacuum relief valves and flush valve assemblies as needed.
17. Exact controller location(s) shall be coordinated with an Owner's Representative prior to installation. Unless otherwise stated, the General Contractor shall provide 110 volt power to the controller location(s). The Irrigation Contractor is responsible for the connection from the power source to the controller(s).
18. At each irrigation controller, install a "secondary surge arrester" to the incoming (120 volt) power supply (Intermatic #AG2401 or equal).
19. A weather based sensor with interface shall be connected to the irrigation controller. The sensor/ interface shall adjust the irrigation program based on daily weather readings. The sensor shall be installed to meet local codes and/or minimum manufacturer's recommendations. Obstructions, vandalism and ease of service shall be considered in locating the device.
20. **As-Built Drawings Required**  
 The IRRIGATION CONTRACTOR shall prepare an AS-BUILT drawing on reproducible paper detailing the actual installation of the irrigation system. The AS-BUILT drawings shall locate all main line piping, control wires, wire splices, sleeves and valves by showing exact measurements from permanent features (buildings, edge of pavement, power poles, fire hydrants, etc.). Include depth of cover on mainline and sleeves.
21. No product substitutions will be permitted without the written permission of the Owner's Representative. Irrigation Contractor to provide submittals to the Owner's Representative for approval prior to installation.
22. Any other equipment required that is not otherwise detailed or specified shall be installed as per manufacturer's recommendations and local code.
23. Proposed irrigation controller must include a functioning rain switch which must be installed such that the sensor is exposed to unobstructed rainfall.



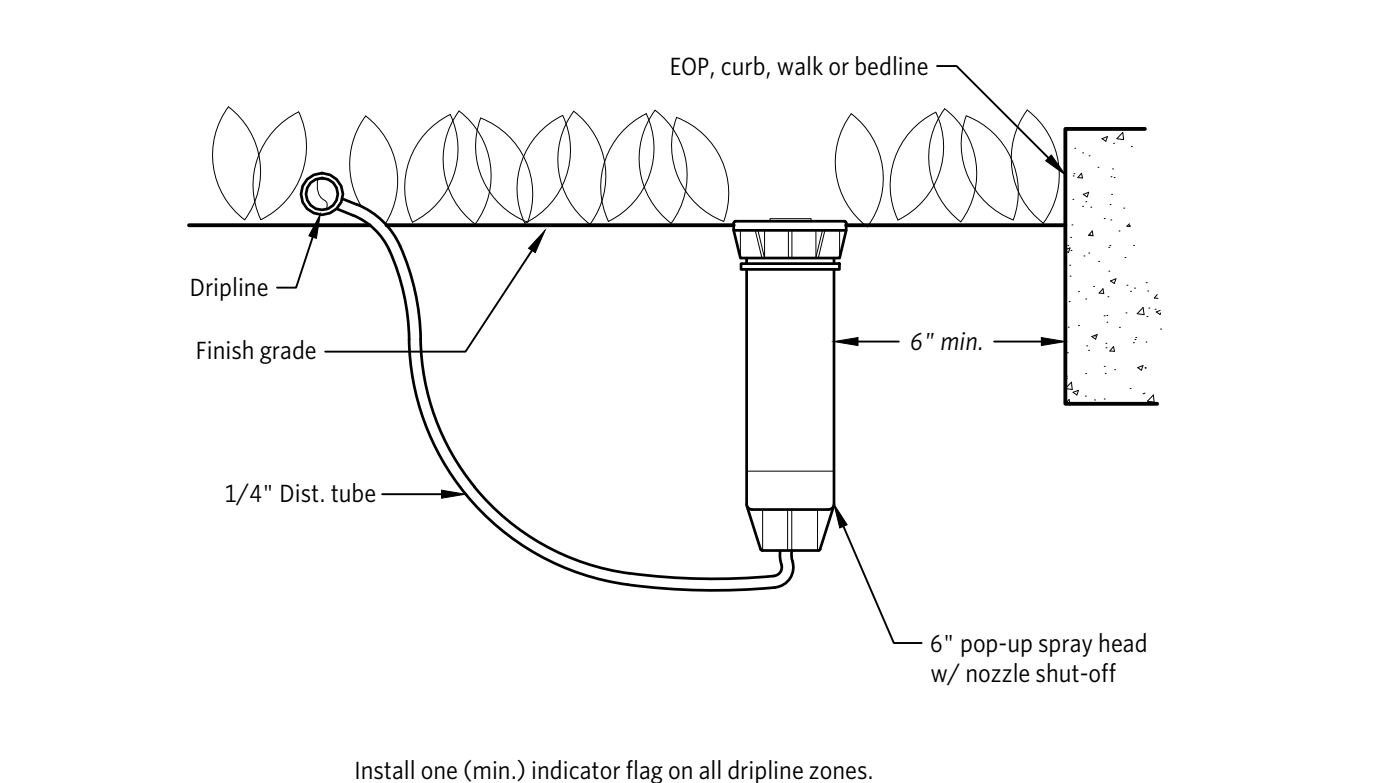
**2 DRIP ZONE REMOTE CONTROL VALVE**  
 1 1/2" = 1'-0" I-01



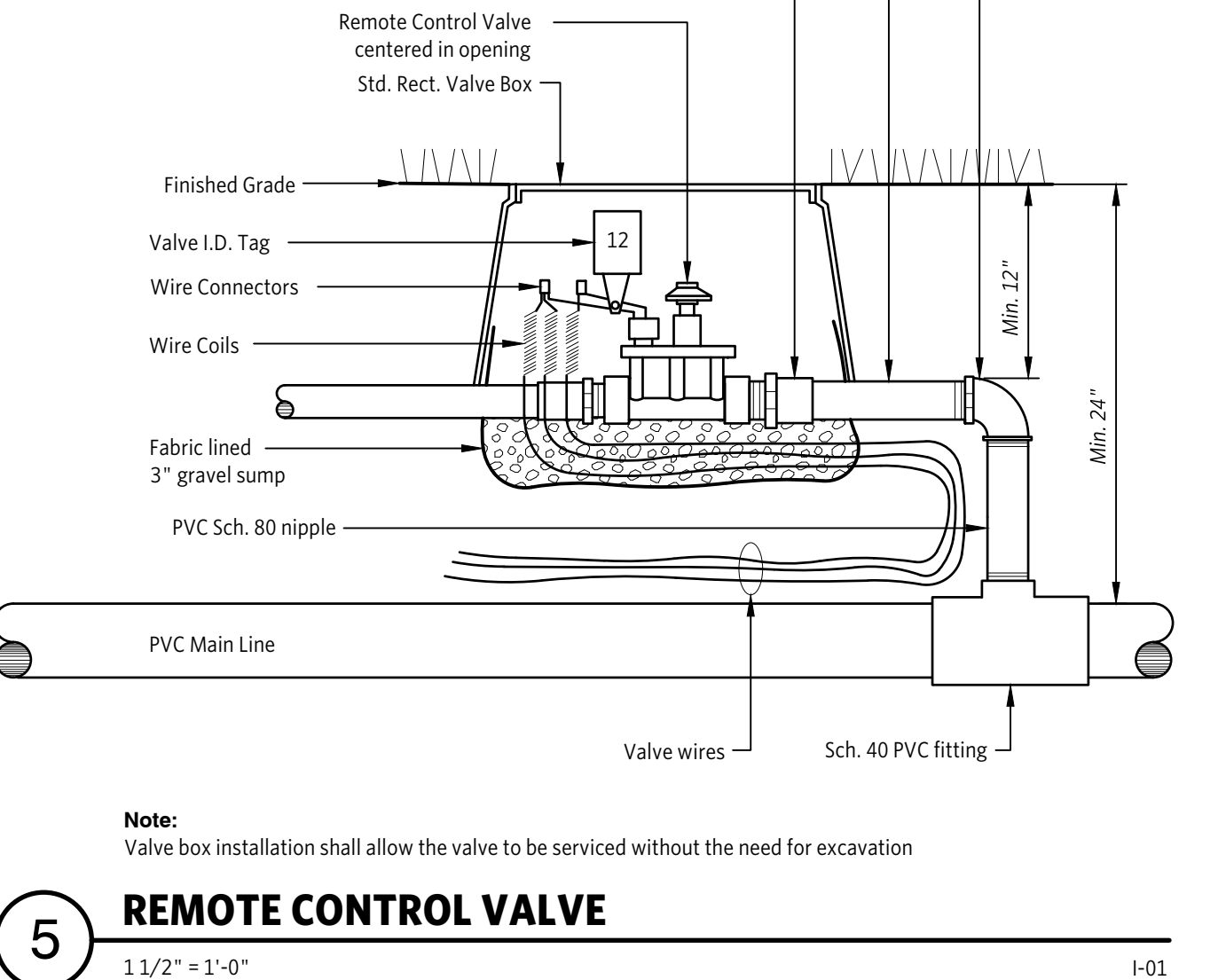
**4 TRUE UNION BALL ISOLATION VALVE**  
 1 1/2" = 1'-0" I-01



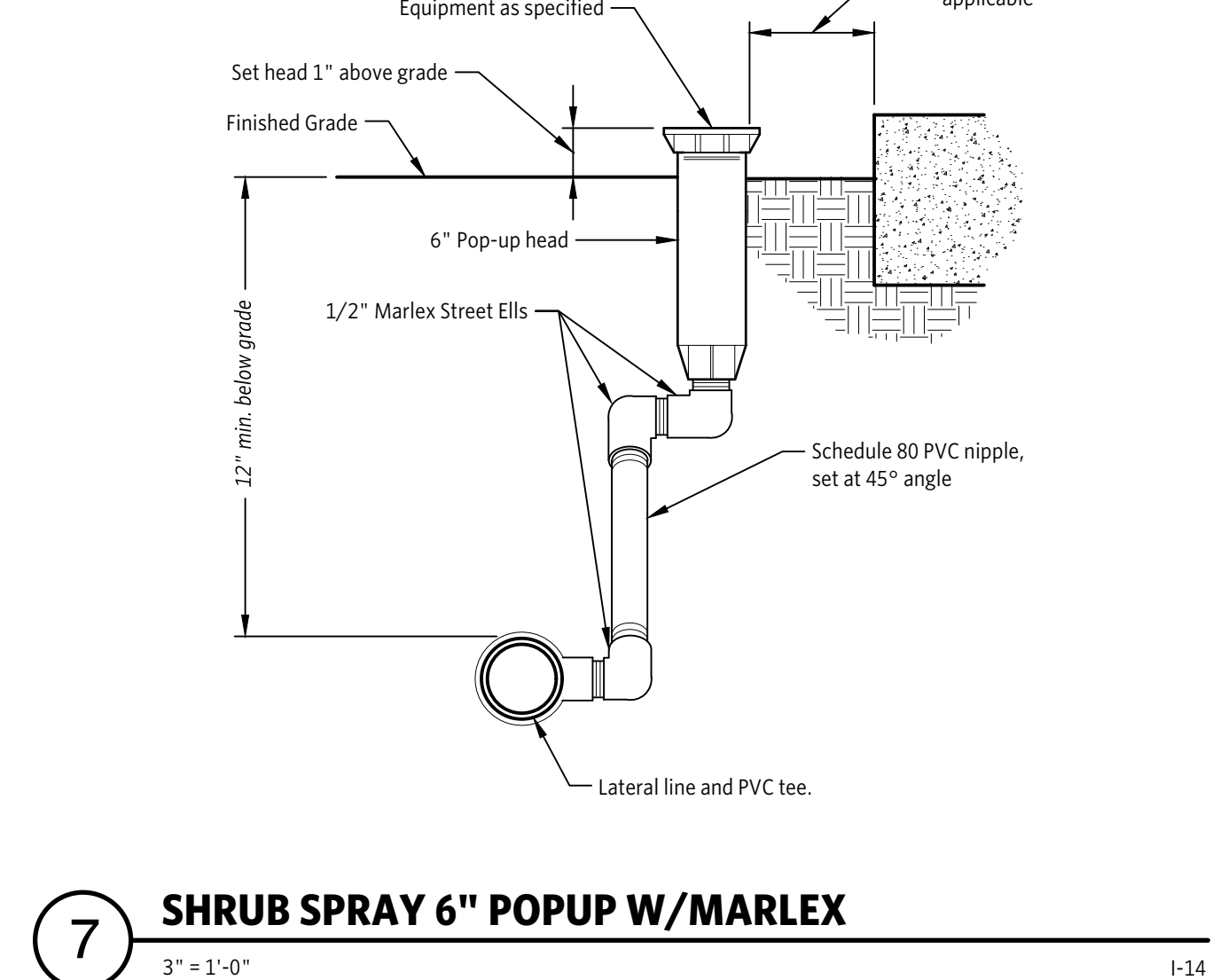
**6 DOUBLE TREE BUBBLER W/ LAYOUT**  
 3/4" = 1'-0" I-08



**3 ZONE INDICATOR FLAG**  
 3" = 1'-0" I-01



**5 REMOTE CONTROL VALVE**  
 1 1/2" = 1'-0" I-01



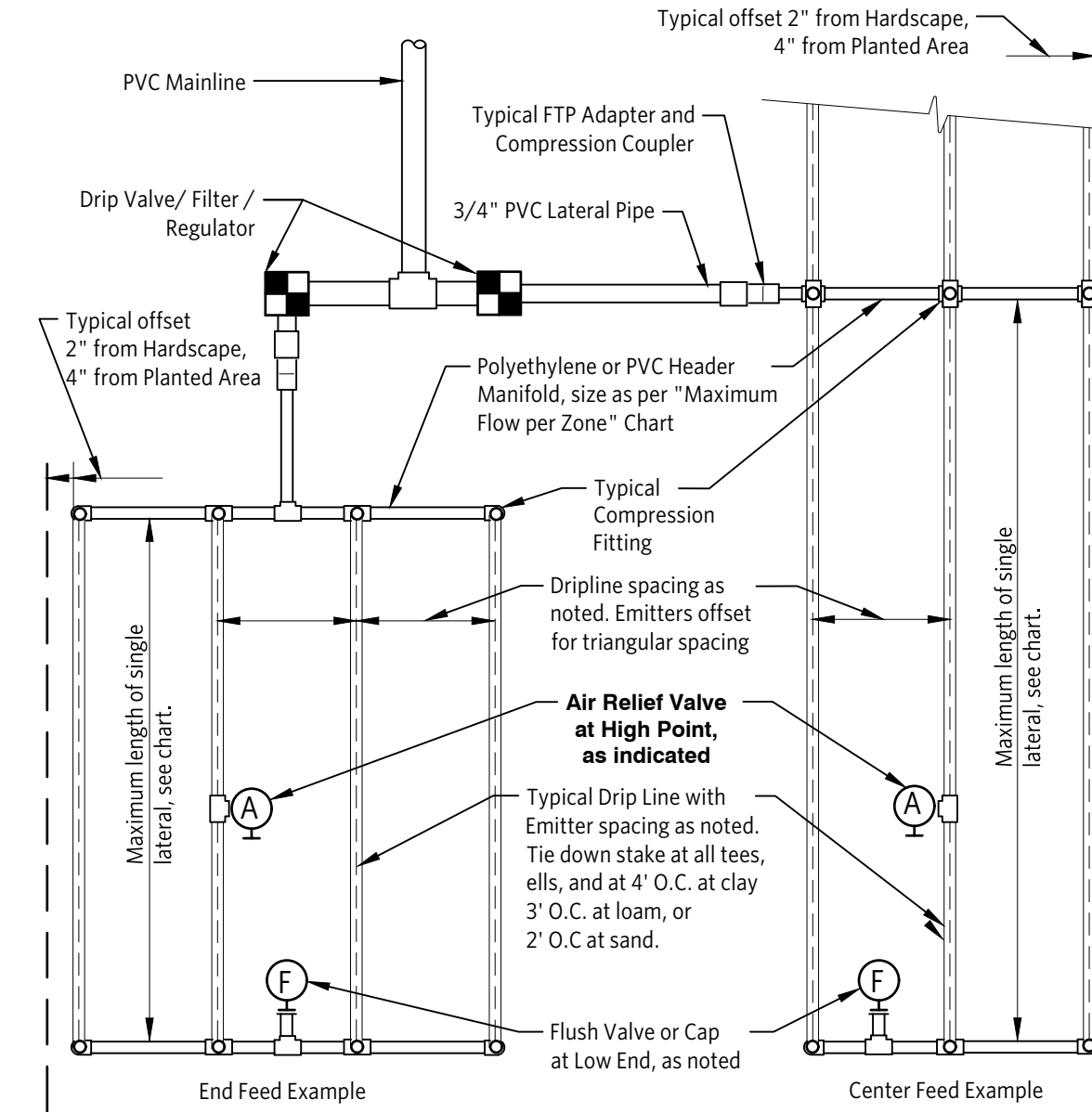
**7 SHRUB SPRAY 6\"/>
 3" = 1'-0" I-14**

**Valve Box Specifications**

Equipment Housed	Manufacturer	Model	Description
Remote Control Valves	Rain-Bird	VBSTD	Standard Body & Green Lid
Isolation Gate Valves & Wire Splices	Rain-Bird	VB1ORND	10" Round Body & Green Lid
Drip Zone Valve / Filter Assembly	Rain-Bird	VBSPRH	Super Jumbo Body & 2 Lock Green Lid

**Wiring Designation Guide**

Wire Use	Size AWG	Color
Common Wires	#14 or larger	White
Hot Wires	#16 or larger	Red
Spare Wires	#16 or larger	Blue



**1 TYPICAL RAIN BIRD DRIPLINE REQUIREMENTS**  
 N.T.S. I-01

**Maximum Lateral Length (FEET)**

Emitter PSI	12" Spacing		18" Spacing		24" Spacing	
	Lateral	Emitter Flow Rate	Lateral	Emitter Flow Rate	Lateral	Emitter Flow Rate
10	125	96	175	135	218	171
20	249	191	350	271	442	340
30	307	236	434	333	550	422
40	350	268	495	380	627	471
50	125	96	175	135	218	171
60	125	96	175	135	218	171

**Grid Precipitation Rates (IN/HR)**

Emitter Spacing	Lateral Spacing		Emitter Flow Rate	
	0.6	0.9	0.6	0.9
12	12	0.96	1.44	
18	18	0.69	1.03	
24	24	0.28	0.41	

**Lateral Flow per 100 FT (GPM)**

Emitter Flow	12" Spacing		18" Spacing		24" Spacing	
	Spacing	Flow	Spacing	Flow	Spacing	Flow
0.6 GPH	1.0 GPM	1.0 GPM	0.67 GPM	0.50 GPM		
0.9 GPH	1.5 GPM	1.0 GPM	0.75 GPM			

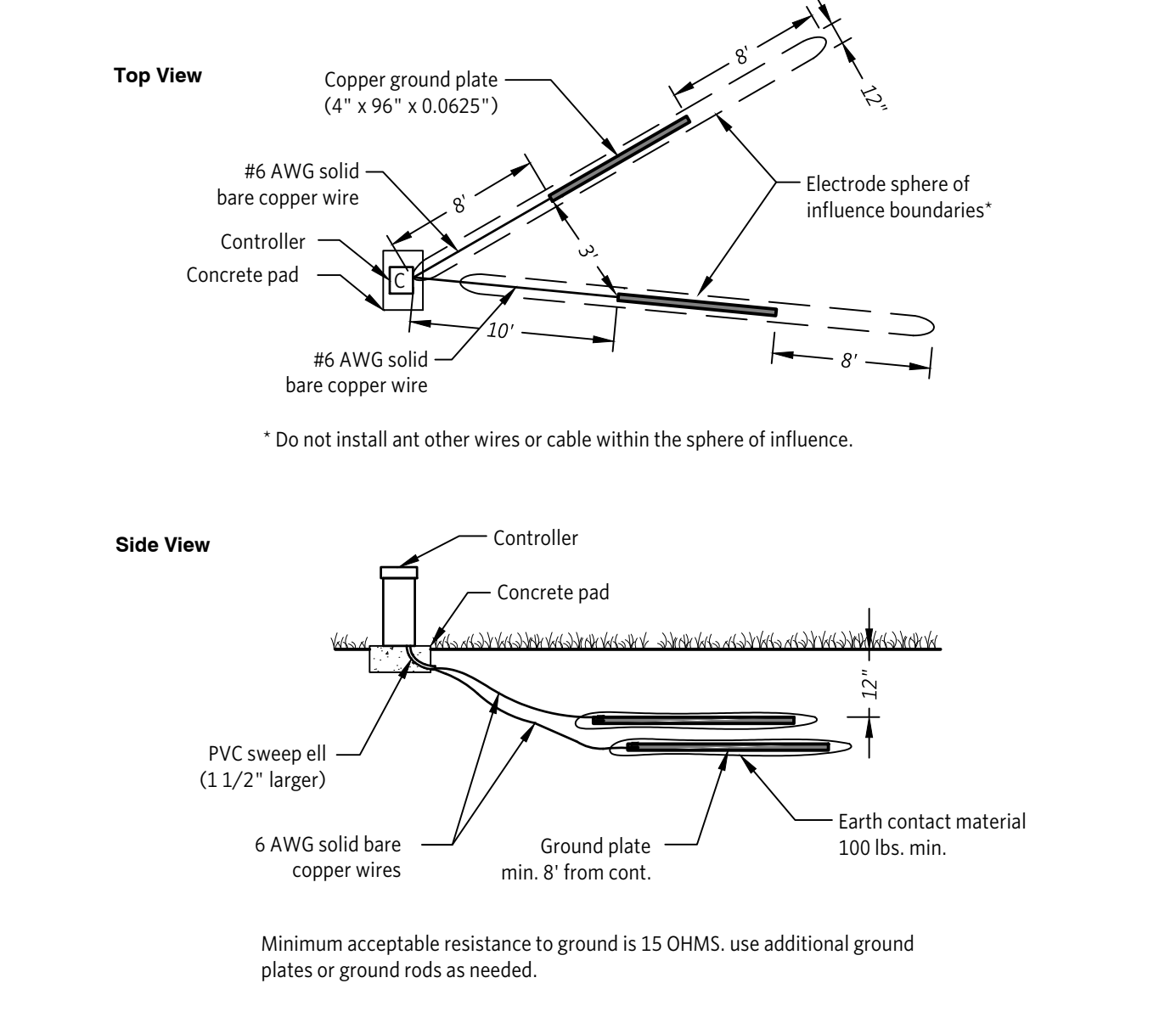
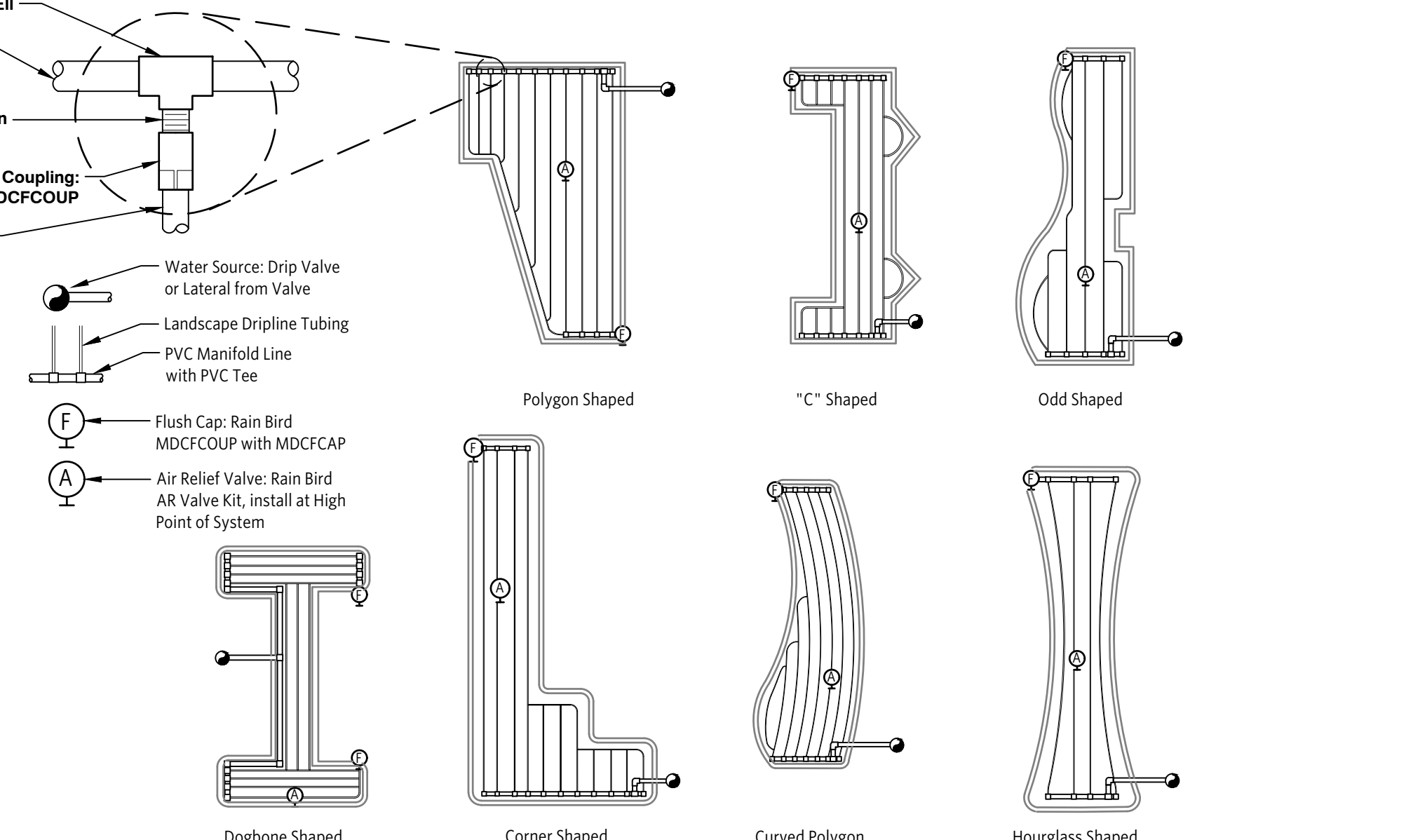
**Maximum Flow per Zone**

Schedule 40 PVC Header Size	Max GPM	PSI Loss
1/2"	4.7 GPM	7.7 PSI
3/4"	8.3 GPM	5.6 PSI
1"	13.5 GPM	4.2 PSI
1-1/2"	33.9 GPM	2.9 PSI
2"	52.4 GPM	1.9 PSI

**Poly Pipe Header Size**

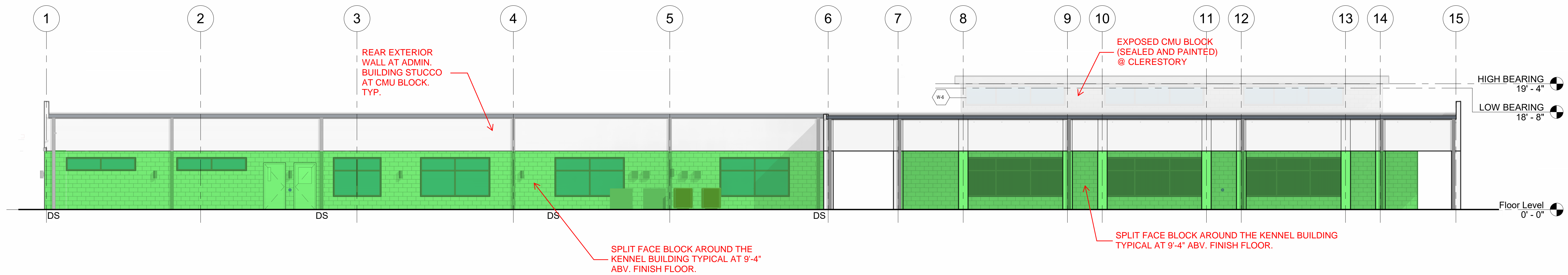
Header Size	Max GPM	PSI Loss
1/2"	4.7 GPM	8.8 PSI
3/4"	8.3 GPM	6.3 PSI
1"	13.5 GPM	4.8 PSI
1-1/2"	31.8 GPM	2.9 PSI
2"	52.4 GPM	2.2 PSI

- Sloped Condition Note**
1. Dripline laterals should follow the contours of the slope whenever possible.
  2. Install air relief valve at highest point.
  3. Normal spacing within the top 2/3 of slope.
  4. Install dripline at 25% greater spacing at the bottom 1/3 of the slope
  5. When elevation change is 10 ft or more, zone the bottom 1/3 on a separate valve.

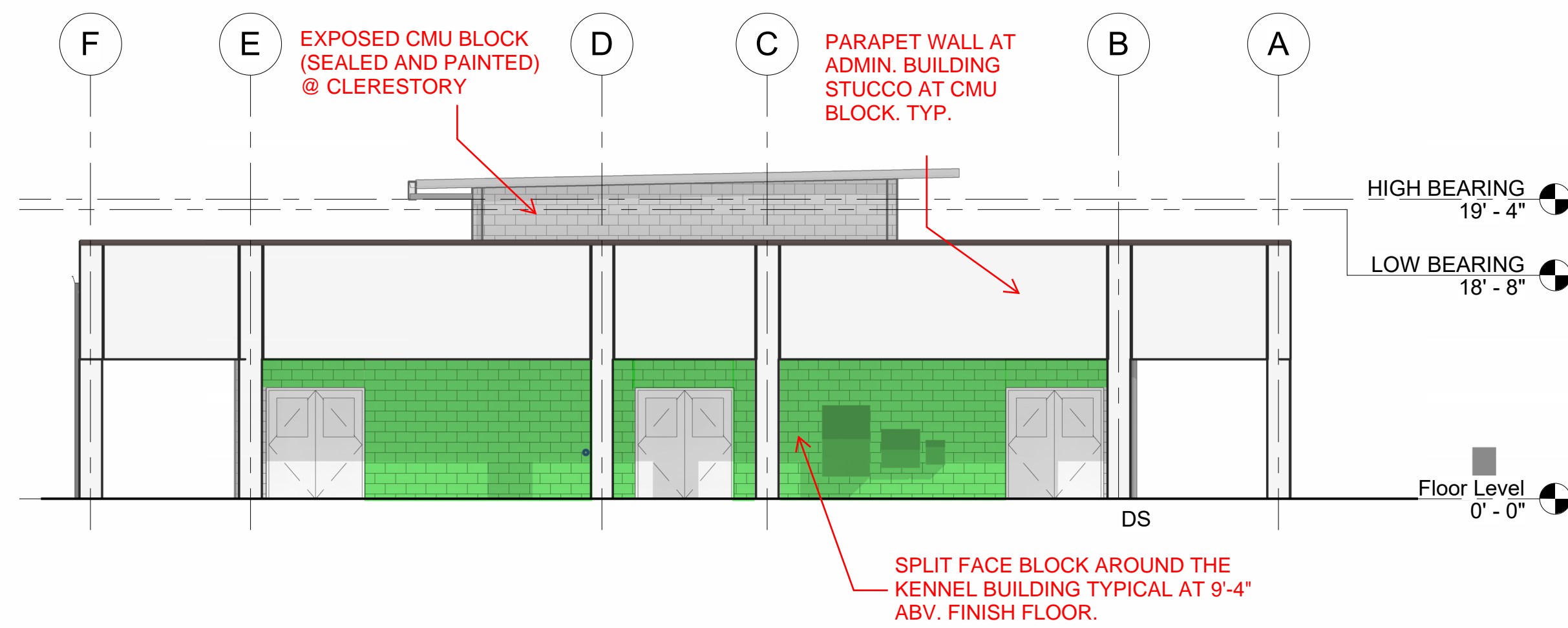


**8 CONTROLLER REQUIRED GROUNDING**  
 1/8" = 1'-0" I-17

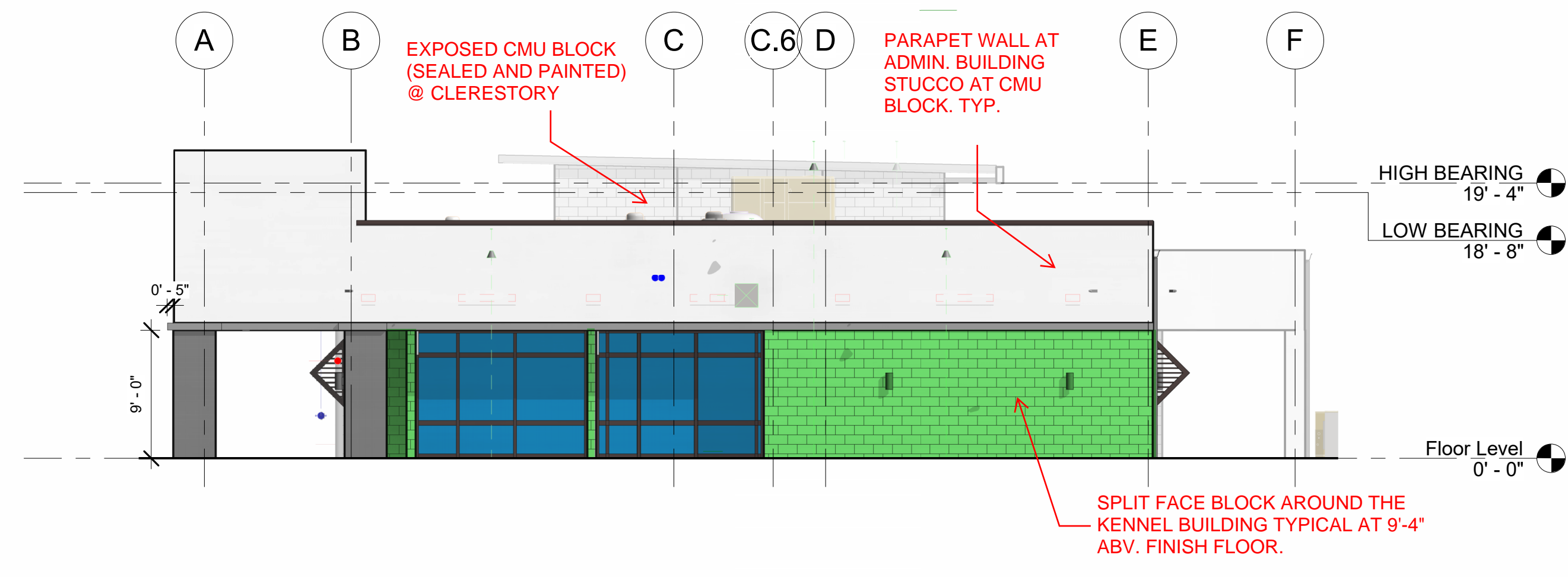




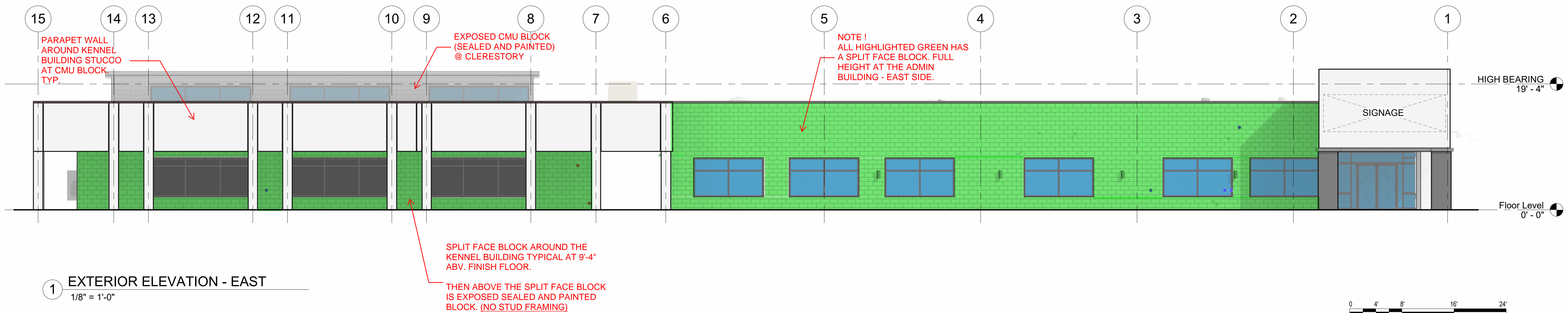
**4 EXTERIOR ELEVATION - WEST**  
1/8" = 1'-0"



**3 EXTERIOR ELEVATION - SOUTH**  
1/8" = 1'-0"



**2 EXTERIOR ELEVATION - NORTH**  
1/8" = 1'-0"



**1 EXTERIOR ELEVATION - EAST**  
1/8" = 1'-0"



HCSO: Regional Canine Training Center

2102 N FALKENBURG RD  
TAMPA, FL 33619

EXTERIOR ELEVATIONS

#	ISSUED FOR	DATE
	PERMIT SET	2024-09-11

DRAWN BY: TLG  
REVIEW BY: BTL

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23164.01

A-201

## SECTION 107500 - FLAGPOLES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Section includes ground-mounted flag poles made from aluminum.
- B. Owner-Furnished Material: Flags.

#### 1.3 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Flagpole assemblies, including anchorages and supports, shall withstand the effects of gravity loads, and the following loads and stresses within limits and under conditions indicated according to the following design criteria:
  - 1. Wind Loads: Refer to Structural Drawings.
  - 2. Base flagpole design on polyester flags of maximum standard size suitable for use with flagpole or flag size indicated, whichever is more stringent.

#### 1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, operating characteristics, fittings, accessories, and finishes for flagpoles.
- B. Shop Drawings: For flagpoles. Include plans, elevations, details, and attachments to other work. Show general arrangement, jointing, fittings, accessories, grounding, anchoring, and support.
  - 1. Include section, and details of foundation system for ground-mounted flagpoles.
- C. Samples for Verification: For each type of exposed finish required, in manufacturer's standard sizes.

#### 1.5 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For flagpoles to include in operation and maintenance manuals.

#### 1.6 QUALITY ASSURANCE

- A. Source Limitations: Obtain flagpole as complete unit, including fittings, accessories, bases, and anchorage devices, from sole source from single manufacturer.

### PART 2 - PRODUCTS

#### 2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. American Flagpole; a Kearney-National Inc. company.
2. Concord Industries, Inc.
3. U.S. Flag & Flagpole Supply, LP.

## 2.2 FLAGPOLES

- A. Flagpole Construction, General: Construct flagpoles in one piece if possible. If more than one piece is necessary, comply with the following:
1. Fabricate shop and field joints without using fasteners, screw collars, or lead caulking.
  2. Provide flush hairline joints using self-aligning, snug-fitting, internal sleeves.
  3. Provide self-aligning, snug-fitting joints.
- B. Aluminum Flagpoles: Provide cone-tapered flagpoles fabricated from seamless extruded tubing complying with ASTM B 241/B 241M, Alloy 6063, with a minimum wall thickness of 3/16 inch (4.8 mm), height: 25 feet.
- C. Metal Foundation Tube: Manufacturer's standard corrugated-steel foundation tube, not less than 0.064-inch- (1.6-mm-) nominal wall thickness. Provide with 3/16-inch (4.8-mm) steel bottom plate and support plate; 3/4-inch- (19-mm-) diameter, steel ground spike; and steel centering wedges welded together. Galvanize steel after assembly. Provide loose hardwood wedges at top of foundation tube for plumbing pole.
1. Provide flashing collar of same material and finish as flagpole.

## 2.3 FITTINGS

- A. Finial Ball: Manufacturer's standard flush-seam ball, sized as indicated or, if not indicated, to match flagpole-butt diameter.
1. 0.063-inch (1.6-mm) spun aluminum with gold anodic finish.
- B. External Halyard: Ball-bearing, no fouling, revolving truck assembly of cast metal with continuous 5/16-inch- (8-mm-) diameter, braided polypropylene halyard and 9-inch (228-mm) cast-metal cleats with fasteners. Finish exposed metal surfaces to match flagpole.
1. Provide one halyard and one cleat at each flagpole.
  2. Provide cast-metal cleat covers, finished to match flagpole, secured with cylinder locks.
  3. Provide halyard covers consisting of a 2-inch (50-mm) channel, 60 inches (1500 mm) long, finished to match flagpole.
  4. Halyard Flag Snaps: Provide two stainless-steel swivel snap hooks per halyard.
    - a. Provide with neoprene or vinyl covers.

## 2.4 MISCELLANEOUS MATERIALS

- A. Sand: ASTM C 33, fine aggregate.
- B. Elastomeric Joint Sealant: Single-component neutral-curing silicone joint sealant complying with requirements in Division 07 Section "Joint Sealants" for Use NT (nontraffic) and for Use M, G, A, and, as applicable to joint substrates indicated, for Use O.
- C. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D 1187.

## 2.5 GENERAL FINISH REQUIREMENTS

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

## 2.6 ALUMINUM FINISHES

- A. Clear Anodic Finish: AAMA 611, AA-M12C22A41, Class I, 0.018 mm or thicker.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, including foundation; accurate placement, pattern, orientation of anchor bolts, and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Prepare uncoated metal flagpoles that are set in foundation tubes by painting below-grade portions with a heavy coat of bituminous paint.
- B. Foundation Excavation: Excavate to neat clean lines in undisturbed soil. Remove loose soil and foreign matter from excavation and moisten earth before placing concrete. Place and compact drainage material at excavation bottom.
- C. Provide forms where required due to unstable soil conditions and for perimeter of flagpole base at grade. Secure and brace forms to prevent displacement during concreting.
- D. Place concrete, as specified in Division 03 Section "Cast-in-Place Concrete." Compact concrete in place by using vibrators. Moist-cure exposed concrete for not less than seven days or use nonstaining curing compound.
- E. Trowel exposed concrete surfaces to a smooth, dense finish, free of trowel marks, and uniform in texture and appearance. Provide positive slope for water runoff to perimeter of concrete base.

### 3.3 FLAGPOLE INSTALLATION

- A. General: Install flagpoles where shown and according to Shop Drawings and manufacturer's written instructions.
- B. Ground Set: Place foundation tube, center, and brace to prevent displacement during concreting. Place concrete. Plumb and level foundation tube and allow concrete to cure. Install flagpole, plumb, in foundation tube.
  - 1. Foundation Tube: Place tube seated on bottom plate between steel centering wedges and install hardwood wedges to secure flagpole in place. Place and compact sand in foundation tube and

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remove hardwood wedges. Seal top of foundation tube with a 2-inch (50-mm) layer of elastomeric joint sealant and cover with flashing collar.

END OF SECTION 107500