



Planning and Development
510 North Baker Street
Mount Dora, Florida 32757
352-735-7112

Email: plandev@cityofmountdora.com

PLANNING & ZONING COMMISSION

City Hall Board Room

September 17, 2025 at 10:00 AM

- I. Call to Order
- II. Roll Call with Determination of Quorum
- III. Approval of Minutes
- IV. Public participation/hearing for non-agenda items
- V. New Business

A. Request for Site Plan; Small Bay Warehouses (Project Name); 1649 Lincoln Avenue (Site Address); G3 Sky, LLC (Owner); Metro Architecture Partnership, Inc. (Applicant); Tawill Engineering Inc. (Engineer); Landscape Architects and Planners LLC (Landscape Architect); Metro Architecture Partnership, Inc. (Architect). Project No. SP24-03

- VI. Announcement of next scheduled meeting date; October 15, 2025
- VII. Adjournment

NOTICE: For purposes of Section 286.011, *Florida Statutes*, two (2) or more members of the City Council may be present at this meeting and this meeting may be considered a City Council meeting although no decision of the City Council will be made at this meeting and the City Council shall comply with the requirements of controlling State law in every respect.

NOTICE: If any person decides to appeal any decisions made at this meeting with respect to any matter considered at this meeting, such person may need a record of these proceedings. For such purpose, a person may need to ensure that a verbatim record of the proceedings is made which record includes the testimony and evidence upon which the appeal is to be based. The

City shall not make or perfect such a record. Section 286.0105, *Florida Statutes*.

NOTICE: In accordance with the Americans with Disabilities Act (“ADA”) and Florida Statutes, Section 286.26, persons with disabilities needing a reasonable accommodation to participate in a public hearing or meeting should contact the City of Mount Dora’s ADA Coordinator at least 48 hours prior to the proceeding. The ADA Coordinator may be contacted by phone at 352-735-7126, ext. 1111, or by email at clerk@cityofmounddora.com.

If hearing impaired, telephone the Florida Relay Service numbers (800) 955-8771 (TDD) or (800) 955- 8770 (Voice) for assistance.

**CITY OF MOUNT DORA, FLORIDA
PLANNING AND ZONING COMMISSION
MINUTES FROM AUGUST 20, 2025**



I. Call to Order

Having been duly advertised as required by law Chairman, Miles Beach called the regular meeting of the Planning and Zoning Commission to order at 10:03 a.m. on Wednesday, August 20, 2025.

II. Roll Call with Determination of Quorum

Present: Miles Beach, Adrian Coombes, Tom Dring, Harris Turner, Andrea Lothar, Barbara Tietmeyer & Suzanne Scheck

Absent:

City Staff and Attorney: Michele Janiszewski, Senior Planner; Ryan Winkler, Senior Planner; Alexandra Stevens, Administrative Coordinator; Andrew Hand, City Attorney via Zoom

Presenters: Michele Janiszewski, Senior Planner;

III. Approval of Minutes

Mr. Coombs motioned to approve the meeting minutes dated June 18, 2025. Ms. Lothar seconded the motion and the minutes were approved unanimously with a 7- 0 vote

For July 16, 2025, Mr. Harris is stating that the last page where he made the motion for the joint committee, it should say Mr. Turner not Mr. Harris for consistency. Mr. Beach made the edit.

Mr. Coombs motioned to approve the meeting minutes dated July 16, 2025. Ms. Lothar seconded the motion and the minutes were approved unanimously with a 7- 0 vote

IV. Public participation/hearing for non-agenda items

Steven Green moved in to 1220 Dora Parc Lane recently and asked about Clayton Road. Between 1st Avenue and Crane Avenue. Would like to know the time line for improvement on road. Mr. Janiszewski will provide homeowner with Public Works contact information.



V. New Business

A. **Request for Variance;** Sara T Rhodes Life Estate (Project Name); 410 N Tremain Street (Site Address); Sara T Rhodes Life Estate (Owner); ECO Construction Group LLC (Applicant); Project No. VAR25-01.

1. Swearing in of witnesses by City Attorney
2. Ex Parte Communication regarding this item
3. Staff/Applicant presentation
4. Public Input
5. Commission deliberation and action

Ms. Janiszewski provided a brief summary of the proposed project.

Ms. Tracy Rhodes reviews the new proposal after talking to staff. Hardship due to access getting into the garage without crashing into the house or garage.

She is not responsible for any special conditions that currently exist on the property due to everything was built.

Bobby from Eco Construction gave plan for public record.

Garage plan shows that garage will not be staying in original footprint of 20x20.

Ms. Tracy Rhodes states that garage is 20x23 and that two cars find in current carport.

Ms. Lothar says that if garage stays same size as original footprint, then it can be moved the 5-feet to adhere to the setbacks needed.

Lisa Smith from Eco Construction says that they can't move it due to walls thickness unlike current carport that has four post and a roof.

Mr. Dring brings up that rendering shows more than a 5-foot setback and that if they go to a one-car garage, they would have room for the setback.

Only one-story house on the block, Mr. Coombs states making the garage two-story has it become an accessory dwelling unit not just a garage. Ms. Tietmeyer agrees.

Mr. Turner states that we need to add as much setback as possible instead of leaving as is.

Mr. Beach ask for a motion.

Ms. Scheck makes motion for rear setback to be 5 feet and to leave the side as-is and take the building down to one-story and make it where two cars can fit in.

Mr. Dring would like to see an accurate rendering with 5-foot setbacks and it being a single-door garage.

Ms. Lisa Smith states that if they do the setbacks all at 5-feet she will not be able to get into the garage.

Mr. Beach states that they would like to see that demonstrated in the drawing.

Ms. Janiszewski states that they have it go to the HPB for design if approved.

Mr. Turner states that there is no hardship to needing to build a two-story garage.

**CITY OF MOUNT DORA, FLORIDA
PLANNING AND ZONING COMMISSION
MINUTES FROM AUGUST 20, 2025**



Board would like an accurate rendering showing both 5-foot setbacks.
Showing the car won't fit.

Ms. Janiszewski states that per code you cannot use non-conforming structures or buildings to justify granting a variance.

Ms. Lisa Smith states for the record that they did not say they weren't enlarging the garage and that they were keeping the same footprint.

Ms. Scheck moves to table based on discussions motion to be seconded by Mr. Turner unanimously with a 7- 0 vote

Ms. Lisa Smith as to see if they can arrange for a site visit.

Due to Sunshine Law, they couldn't all go at once. Mr. hand doesn't recommend.

B. Presentation: Planning Processes

Ms. Janiszewski provided a presentation on the planning processes.

Discussion about the Adopted Plans and Studies.

Explained Muni Code.

Mr. Coombes request links for the Adopted Plans and Studies.

Discussion about DRC.

Discussion on setbacks for subdivisions.

VI. Announcement of next scheduled meeting date

Ms. Janiszewski is waiting to hear back from Public Works about stormwater presentation.

Ms. Tietmeyer stated that October 2025 will be her last meeting.

Discussions about the 3 homes on Highland at the beginning at the city limits.

Next Regularly scheduled meeting date: September 17,2025

Ms. Lothar will be unable to make the meeting.

VII. Adjournment

On a motion by Ms. Lothar, seconded by Ms. Tietmeyer, and the meeting was adjourned unanimously with a 7- 0 vote at 11:16 PM.

**CITY OF MOUNT DORA, FLORIDA
PLANNING AND ZONING COMMISSION
MINUTES FROM AUGUST 20, 2025**



Miles Beach, Chairman

Alexandra Stevens, Admin Coordinator

DRAFT



**CITY OF
MOUNT
DORA**

**Planning and Development
510 N. Baker St.
Mount Dora, FL 32757
352-735-7113
Fax: 352-735-7191
planning@mountdora.gov**

DATE: September 17, 2025

TO: Planning and Zoning Commission

FROM: Development Review Committee
Ryan Winkler, AICP, Senior Planner

RE: **Request for Site Plan Approval;** Mount Dora Small Bay Mini Warehouse Facilities (Project Name); 4.92 Acres (Site Area); North of East Lincoln Avenue and West of US Highway 441 (General Location); Site Address: 1649 Lincoln Avenue (Location); Robby Joshi, Metro Architecture Partnership (Applicant); Michael J. Vedder, Lincoln1649 LLC (Owner); Farid J. Tawill, PE, Tawill Engineering, Inc (Engineer), Randy Buchanan, Landscape Dynamics (Landscape Architect);
Project No. SP25-05

Recommendation:

Staff recommends approval of the above-referenced request.

Reference/Support:

Sections 3.4.5 of the City's *Land Development Code*
Ordinance No. 2022-14 Final PUD October 18, 2022
Chapter 163, Florida Statutes

Background:

Request Type:	Site Plan
Owner(s):	G3 SKY LLC
Applicant:	Robby Joshi, Metro Architects Partnership
Address:	1649 Lincoln Avenue, Mount Dora
General Location:	Located north side of Lincoln Avenue Street and west of U.S. Highway 441
Alternate Key No.:	1447097
Zoning District:	Planned Unit Development (Ord. 2022-14, Vedder Holsters)
Land Use Category:	Industrial
Overlays:	Northeast CRA
Site Area:	4.92 +/- acres
Existing Use:	Single family residence and detached garage
Proposed Use:	Light manufacturing, warehouse, and office.

Surrounding Property Table:

Direction	Jurisdiction	Future Land Use	Zoning District(s)	Existing Use(s)	Comments
North	City	Medium Density	R-2	Residential	Mount Dora Heights Subdivision
South	City	Recreation	GB	Recreation	Lincoln Ave Recreation Center
East	City	Commercial & Industrial	C-3 & WP-1	Light Industrial	Hallmark Nameplate
West	City	High Density	R-3	Residential	City Walk Villas

Background

Vedder Holsters Final Planned Unit Development (PUD) was approved by Ordinance 2022-14 on October 18, 2022. The Vedder Holsters Final PUD proposed a two (2) phase development of a 15,000-sf Office and 30,000-sf of Manufacturing/Warehouse.

Staff presented the subject application for PUD Amendment to the Planning and Zoning Commission (PZC) at a regularly schedule public hearing on January 15, 2025. At this meeting, the Commission voted to table the request, with the Applicant present to address Commission’s concerns with elevations. On February 19, 2025, the Planning and Zoning Commission met and recommended approval of the application with the conditions that the Landscaping Plan is rejected and require the Landscaping Plan to be consistent with the LDC; and revise the elevations to clearly indicate Lincoln Avenue facing building elevation and update labels accordingly and adjust location of overhead doors so that they do not face Lincoln.

The Applicant revised the plans to reflect these conditions and on April 15, 2025, City Council approved the PUD amendment and master plan established in Ordinance 2025-05.

Staff presented the subject application to the Northeast Community Redevelopment Area (CRA) Advisory Committee at a regularly scheduled meeting on January 14, 2025. The Advisory Committee addressed concerns of traffic congestion along Lincoln Avenue and a desire for employment opportunities for community members within the Northeast CRA.

Staff Analysis

The proposed development includes three (3) mini-warehouse buildings totaling 50,680-sf (Building No. 1 – 11,880-sf, Building No. 2 – 19,400-sf, Building No. 3 – 19,400-sf). Building No. 1 is proposed to front along East Lincoln Avenue and has a heightened architectural design. The project is proposed to be developed in a single phase.

Commercial Standards and Architectural Design

The Final Master PUD Plan indicates the proposed development will be consistent with LDC Section 6.13 and the Applicant provided a set of elevations for the proposed development which are consistent with the Code.

The building elevations show heightened architectural design on the front and side of building one which will be visible from Lincoln Ave; no overhead doors will front on Lincoln Avenue.

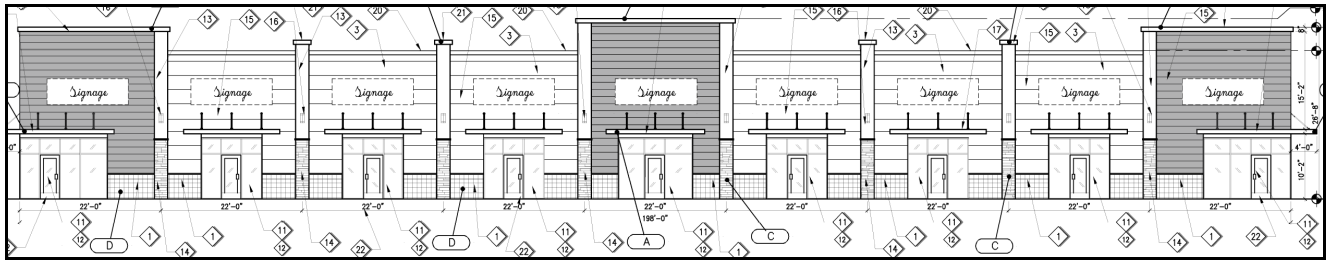


Figure 1 Fronting Lincoln Avenue

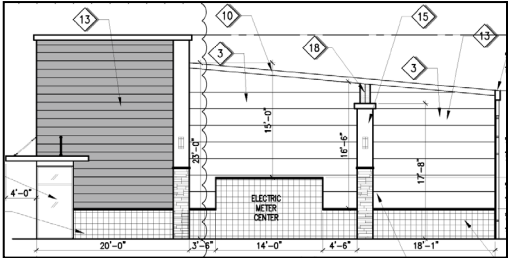


Figure 2 Side Elevation of Building 1

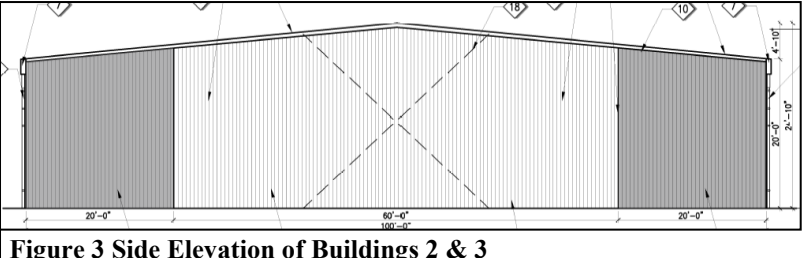


Figure 3 Side Elevation of Buildings 2 & 3

Access

The property is currently accessed off East Lincoln Avenue. The Applicant proposes to improve the existing apron and add a second access off East Lincoln to serve the development.

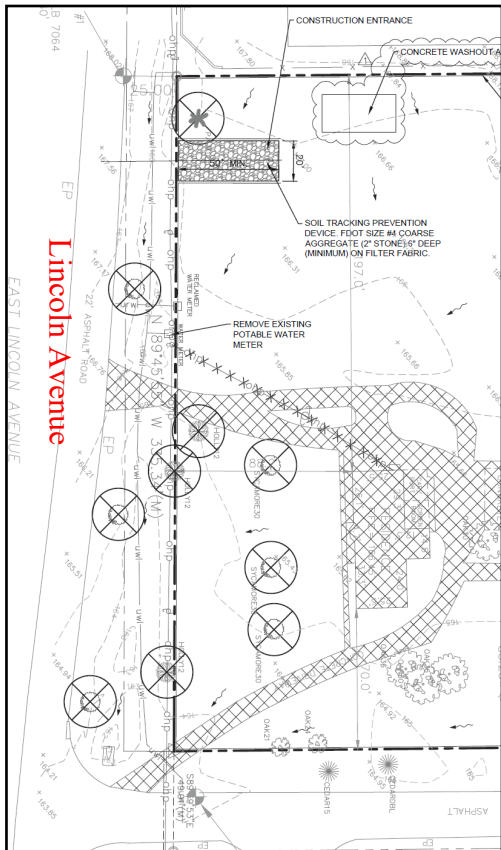


Figure 4 Existing Access Ways

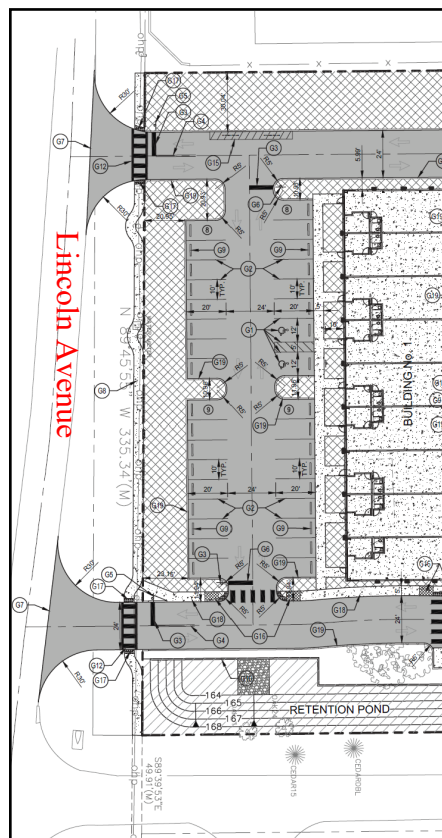


Figure 5 Proposed Accessways

Traffic

LDC Section 5.3.2 (4)(d), states that all traffic impact analysis shall be conducted in conformance with the traffic impact study (TIS) guidelines dated March 2008 or most recent version. The City of Mount Dora Traffic Impact Study Guidelines state that a development generating less than 25 net new peak hour trips may submit a request for exemption letter.

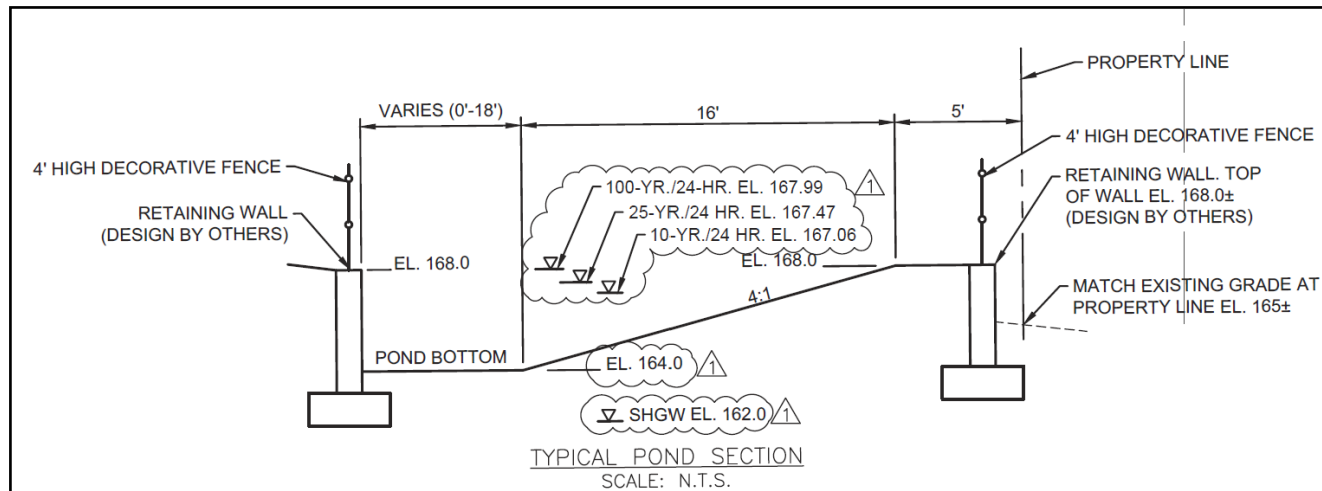
The Applicant submitted a request for exemption letter based on their findings that the development will generate 78 daily trips of which will occur in the A.M. peak hour and 8 will occur in the P.M. peak hour. Staff and CPH had no objections to this request.

LUC	Land Use	Size (KSF) (1)	Daily		AM Peak Hour				PM Peak Hour			
			Rate (2)	Trips	Rate (2)	Enter	Exit	Total	Rate (2)	Enter	Exit	Total
151	Mini-Warehouse	54.000	1.45	78	0.09	3	2	5	0.15	4	4	8
Total New Trips				78	--	3	2	5	--	4	4	8

Notes:
 (1) KSF = 1,000 square feet
 (2) ITE rates used

Stormwater Management

The plans propose a retention pond with a retaining wall along the eastern and northern property lines to accommodate stormwater. The retaining walls will have a six-foot decorative fence.



Landscaping and Buffers

The Applicant has provided a Landscaping Plan demonstrating compliance with the buffer and parking island requirements.

According to a tree survey and removal plan provided by the Applicant, there are 46 protected trees on site, and the applicant proposes to remove 24, 3 of which are greater than 24” DPH. This requires the replacement of 42, 3.5 caliper inch trees or 147 caliper inches. The Applicant does not request a contribution to the City’s Tree Bank, as all trees proposed for removal will be replaced on-site.

The Landscaping Buffer requirements require the planting of 48, 2-inch caliper trees. The Applicant is proposing 3.5 caliper inch trees to mitigate the removed trees which provides an additional 72 caliper inches. The Applicant has not shown how the other 75 caliper inches will be mitigated.

- TOTAL EXISTING NUMBER OF TREES SIZED 6" – 23.99": 46
- TOTAL EXISTING NUMBER OF TREES SIZED 6" – 23.99" REMOVED: 24
- TOTAL EXISTING NUMBER OF TREES SIZED 24" OR GREATER: 9
- TOTAL EXISTING NUMBER OF TREES SIZED 24" OR GREATER REMOVED: 3
- TOTAL NUMBER OF TREES REPLACED AT RATIO 1:1 FOR TREES REMOVED 6"-23.99": 24
- TOTAL NUMBER OF TREES PLACED AT RATIO 1:6 (FOR TREES REMOVED 24" OR GREATER): 18 REQ
29 PROVIDED
- TOTAL NUMBER OF TREES REPLACED: 42(18 + 24)REQ. – (62 NEW CANOPY TREES PROVIDED)
- TOTAL NUMBER OF TREE DEFICIENT (NOT BEING REPLACED) FOR TREE BANK:
CONTRIBUTION AND INCLUDES TOTAL DOLLAR AMOUNT OF CONTRIBUTION FUNDS: \$ 0.00

LANDSCAPE BUFFER														
LANDSCAPE BUFFER REQUIREMENT			WIDTH		CANOPY TREES				UNDER-STORY TREES				SHRUBS	
			REQUIRED	PROVIDED	REQUIRED 3 PER 100 LINEAR FEET	REQUIRED 4 PER 100 LINEAR FEET	EXISTING	PROVIDED 3.5" CALIPER MINIMUM	REQUIRED 5 PER 100 LINEAR FEET	REQUIRED 5 PER 100 LINEAR FEET	REQUIRED 6 PER 100 LINEAR FEET	EXISTING	PROVIDED 1.5" CALIPER MINIMUM	REQUIRED HEDGE PLANTED 36" ON CENTER
BOUNDARY BUFFER	BOUNDARY TYPE	LINEAR FEET												
1	b	335.34'	15'	25'	11			11		17			17	CONTINUOUS HEDGE
2	a	411.40'	10'	20'	13			13	21				21	CONTINUOUS HEDGE
3	B	229.51'	30'	30'		10	1	9	12			0	12	CONTINUOUS HEDGE
4	C	334.05'	40'	40'		14	15	0			21	0	21	5' WALL & CONTINUOUS HEDGE
5	B	271.56'	30'	30'		11	12	0			17	0	17	CONTINUOUS HEDGE
6	B	369.36'	30'	30'		15	0	15	19				19	CONTINUOUS HEDGE
TOTAL:					24	50	28	48	52	17	38	0	107	

Wastewater and Water Utilities

The property will be provided potable water and reclaim water from the City. At this time, the City does not have capacity at the WWTP2 to serve this project.

LDC Section 6.4.2 (1) states “all development is required to be on central sewer except as stipulated in subsection 6.4.3.” Pursuant to LDC Section 6.4.3, septic tanks are not permitted when central sewer is available within 1,000 feet for project site plans less than 10,000-sf. The proposed development is required to connect to the City’s central potable water and sewer system.

The Applicant will be providing sewer treatment onsite until the city is able to provide central sewer capacity. The Developer will construct a dry line form main from the proposed lift station onsite to the nearest sanitary manhole on Unser Street for the future connection.

The Applicant is working with the City to draft a Developer’s Agreement pertaining to the on-site sewer treatment system and connection requirements. The Developer’s Agreement will need to be approved by City Council.

Development Process:

- Step 1. Final PUD: **DRC » PZC » City Council 1st Reading » City Council Adoption**
- Step 2. Site Plan: **DRC » PZC » Address outstanding Comments » City Council Approval of Developer’s Agreement**
- Step 3. Site Development Permit: **Site Permit » Site Work » Final Site Inspections**
- Step 4. Building Permits: **Building Permit » Construction » Inspections » CO**

Staff Recommendation

Staff finds the application request consistent with the Land Development Code and recommends approval of the site plan, subject to the Applicant:

1. Resubmitting a plan set which:
 - a. Addresses outstanding DRC and CPH comments; and
 - b. Provides a revised Landscaping Plan showing how the outstanding 75 caliper inches will be mitigated on site. If the Applicant seeks to make a Tree Bank contribution in lieu of providing the trees on site, the request will need to be approved by the Planning and Zoning Commission.

2. Executing a Developer's Agreement with the City for the on-site wastewater treatment system.

Attachments:

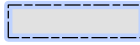

Vicinity Map
Civil Plans
Landscaping Plans
Building Elevations
Sewer Location Survey
Onsyte Preliminary Engineering Report
OnSyte Wastewater Consumption Calculation
Trip Generation Memo dated February 29, 2024
Application

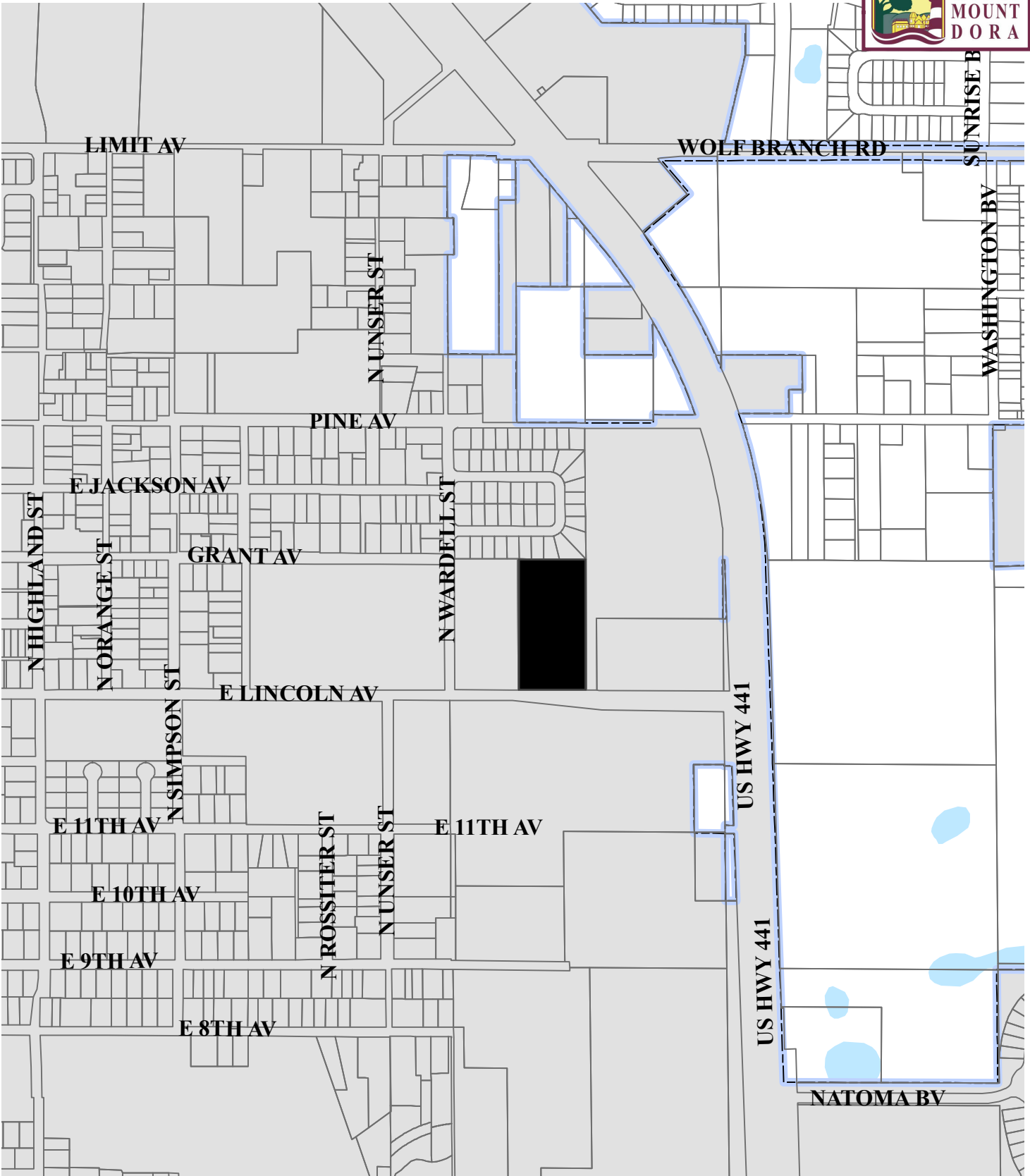
VICINITY MAP

N



Legend

-  City Limits
-  Subject Property



Date: 12/10/2024

Prepared by: Mount Dora Planning and Development Dept * 510 N. Baker Street, Mount Dora, FL 32757 * 352-735-7112

CONSTRUCTION SITE PLANS

for

MOUNT DORA COMMERCE PARK

CITY OF MOUNT DORA, FLORIDA

PARCEL ID No. 29-19-27-0001-000-03401

ALTERNATE KEY: 1447097

OWNER & DEVELOPER:

G3 SKY, LLC
310 N. BAKER STREET
MOUNT DORA, FLORIDA 32757
TEL. 352-397-4869
EMAIL: austin.gunther@g3development.com

PROJECT ARCHITECT:

METRO ARCHITECTURE PARTNERSHIP, INC
5401 SOUTH KIRKMAN ROAD - SUITE 440
ORLANDO, FLORIDA 32835
ROBBY JOSHI, AIA, RA, NCARB
TEL. 407-354-4477
EMAIL: robbj@archenics.com

PROJECT ENGINEER :

TAWILL ENGINEERING, INC.
6312 BUFORD STREET, UNIT 702
ORLANDO, FLORIDA 32835
FARID TAWILL, P.E.
TEL. 407-399-1161
FAX 407-668-4412

PROJECT SURVEYOR :

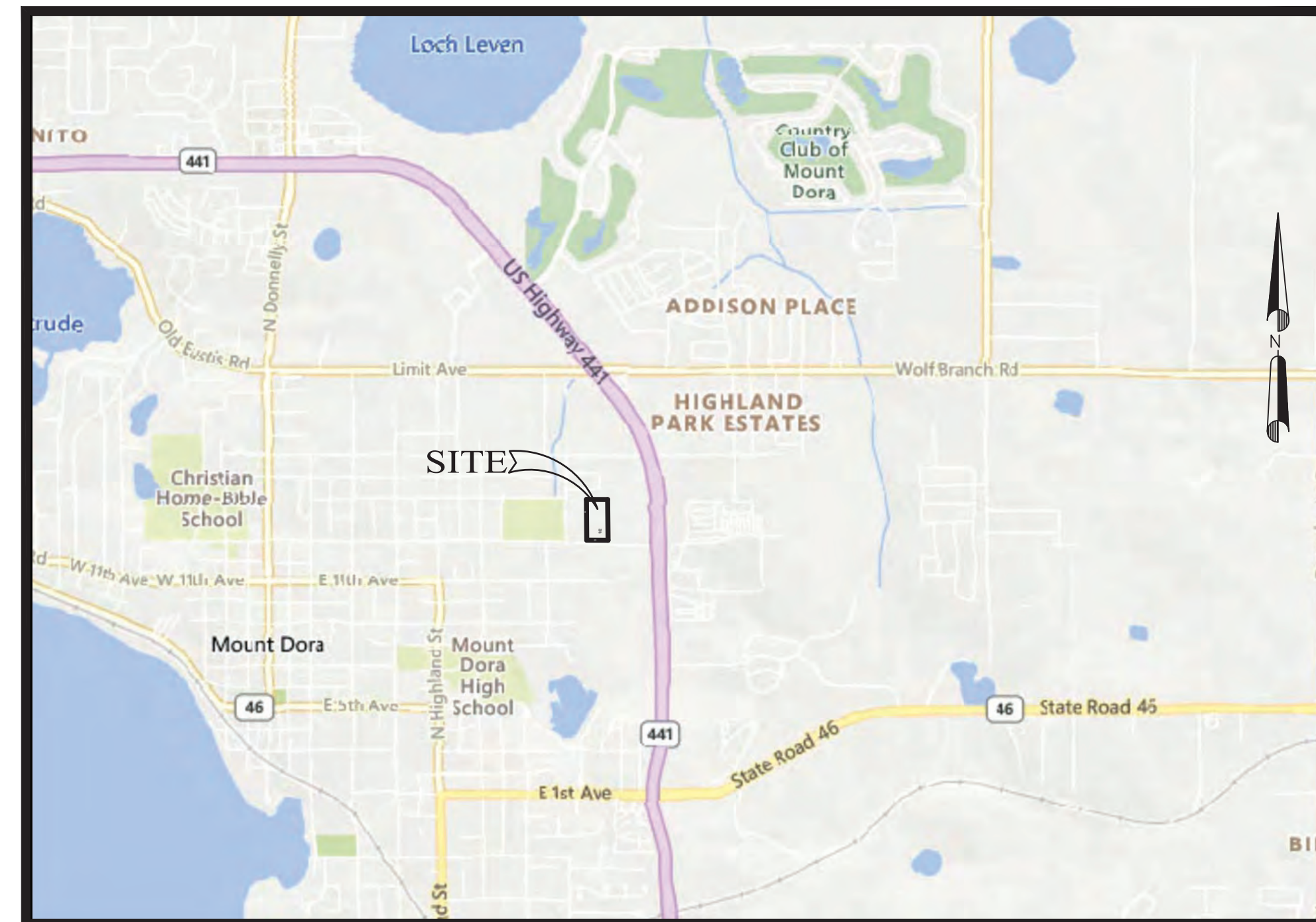
FREELAND - CLINKSCALES & ASSOCIATES, INC. OF NC
1220 HUFFSTETLER DRIVE, UNIT 201
EUSTIS, FLORIDA 32726
FULTON V. CLINKSCALES, JR., PSM
TEL. 352-609-2830

PROJECT GEOTECH :

UNIVERSAL ENGINEERING SCIENCES, LLC
3532 MAGGIE BOULEVARD
ORLANDO, FLORIDA 32811
RICARDO C. KIRIAKIDIS, PH.D., P.E.
TEL. 407-423-0504

PROJECT LANDSCAPE ARCHITECT:

LANDSCAPE DYNAMICS LLC
P.O. BOX 2852
WINTER PARK, FLORIDA 32790
C/O RANDY BUCHANAN
TEL. 407-579-1811



VICINITY MAP

INDEX OF SHEETS

SHEET NO.	SHEET TITLE
1	COVER SHEET
2	GENERAL NOTES AND SITE DATA
2A	PLAT OF TOPOGRAPHIC SURVEY
3	STORMWATER POLLUTION PREVENTION AND DEMOLITION PLAN
4	GEOMETRY SITE PLAN
5	PAVING, GRADING AND DRAINAGE PLAN
6	UTILITY PLAN
7	FIRE TRUCK TURNING ANALYSIS
8	GENERAL DETAILS
9	CITY OF MOUNT DORA DETAILS
10	CITY OF MOUNT DORA DETAILS
11	CITY OF MOUNT DORA DETAILS
12	CITY OF MOUNT DORA DETAILS
13	CITY OF MOUNT DORA DETAILS
14	CITY OF MOUNT DORA DETAILS
15	CITY OF MOUNT DORA DETAILS
16	OFFSITE SANITARY FORCE MAIN PLAN
*	LANDSCAPE & IRRIGATION DESIGN PLANS
*	ARCHITECTURAL ELEVATIONS
* (ATTACHED SEPARATELY)	



T TAWILL ENGINEERING, INC.
CIVIL ENGINEERING DESIGN • CONSULTING • PERMITTING
CERTIFICATE OF AUTHORIZATION: 6625
6312 BUFORD STREET, UNIT 702, ORLANDO, FLORIDA 32835
TELEPHONE (407) 399-1161 • FAX (407) 668-4412

MOUNT DORA COMMERCE PARK

JOB NUMBER 24-002

SHEET 1 OF 17

MAY 2025

LAST REVISED AUGUST 11, 2025

CLEARING, EXCAVATING, GRADING AND PAVING GENERAL NOTES

- FOR IDENTIFICATION OF CONTRACTUAL AGREEMENTS, THE SET OF DRAWINGS IS DATED MAY 2025 ANY REVISIONS THEREAFTER WILL BE NOTED AND DATED ON THE AFFECTED DRAWING(S).
- UNLESS OTHERWISE NOTED ON THE PLANS, THE CONTRACTOR SHALL USE THE GEOMETRY PROVIDED ON THE CONSTRUCTION PLANS. BENCHMARK INFORMATION AS SHOWN ON THE SURVEY PLAN HAS BEEN OBTAINED BY SURVEYOR. ANY DISCREPANCIES BETWEEN FIELD MEASUREMENTS AND CONSTRUCTION PLAN INFORMATION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.
- PRIOR TO COMMENCING CONSTRUCTION, THE CONTRACTOR SHALL INSTALL THE EROSION CONTROL MEASURES SPECIFIED ON THE PLANS, INCLUDING PERIMETER BERMS, SYNTHETIC BALE BARRIERS, AND SILTATION FENCE AS SHOWN ON THE PLANS. DURING CONSTRUCTION, THE CONTRACTOR SHALL INSTALL SYNTHETIC BALES AT ALL INLETS AND AT OTHER PLACES, IF DIRECTED BY THE OWNER, AND SHALL REPLACE THEM AS NECESSARY TO REDUCE SILT DEPOSITS IN PIPES, INLETS, AND RETENTION BASINS. AFTER THE LANDSCAPING IS COMPLETE, THE CONTRACTOR SHALL CLEAN ALL INLETS AND PIPES OF ACCUMULATED SILT AND DEBRIS AND SHALL REMOVE ALL TEMPORARY EROSION IMPROVEMENTS. IF DIRECTED BY THE OWNER OR ENGINEER, THE CONTRACTOR SHALL INSTALL ADDITIONAL EROSION CONTROL MEASURES TO PROTECT SURROUNDING PROPERTY. PRIOR TO COMMENCING CONSTRUCTION, THE CONTRACTOR SHALL WALK THE SITE WITH AN OWNER'S REPRESENTATIVE AND SHALL FLAG TREES TO BE PRESERVED AND PROTECTED DURING CONSTRUCTION.

- THE LOCATIONS OF ALL EXISTING UTILITIES SHOWN ON THE PLANS HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY. FLORIDA LAW (F.S. 556) UNDERGROUND FACILITY DAMAGE PREVENTION AND SAFETY ACT MANDATES THAT EXCAVATORS/CONTRACTORS SHALL CONTACT SUNSHINE 811 (FKA: SUNSHINE STATE ONE-CALL OF FLORIDA) BY CALLING 800-432-4770 OR 811 AT LEAST 2 FULL BUSINESS DAYS PRIOR TO BEGINNING ANY EXCAVATION OR DEMOLITION TO ALLOW MEMBER OPERATORS AN OPPORTUNITY TO IDENTIFY AND MARK THEIR UNDERGROUND FACILITIES AND APPROPRIATELY RESPOND TO THE POSITIVE RESPONSE SYSTEM. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN CROSSING AN UNDERGROUND UTILITY, WHETHER SHOWN ON THE PLANS OR LOCATED BY THE UTILITY COMPANY. ALL UTILITIES THAT INTERFERE WITH THE PROPOSED ON SITE CONSTRUCTION SHALL BE RELOCATED BY THE CONTRACTOR. THE CONTRACTOR SHALL RELOCATION OF EXISTING UTILITIES WITH THE RESPECTIVE UTILITY PROVIDER. OPERATIONS, ANY DELAY OR INCONVENIENCE CAUSED TO THE CONTRACTOR BY THE RELOCATION OF VARIOUS UTILITIES SHALL BE INCIDENTAL TO THE CONTRACTOR, AND NO EXTRA COMPENSATION WILL BE ALLOWED.

- THE BOUNDARY, TOPOGRAPHIC SURVEY, AND EXISTING CONDITIONS INFORMATION HAS BEEN PROVIDED TO THE OWNER BY FREELAND - CLINKSCALES & ASSOCIATES, INC. OF NC. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE SURVEY INFORMATION PROVIDED.
- GEOTECHNICAL INFORMATION, INCLUDING WATER TABLE ELEVATIONS AND SITE PREPARATION RECOMMENDATIONS, HAVE BEEN FURNISHED TO THE OWNER AND ENGINEER BY UNIVERSAL ENGINEERING SCIENCES, LLC. THE CONTRACTOR IS DIRECTED TO OBTAIN A COPY OF THE REPORT AND COMPLY WITH ALL RECOMMENDATIONS THEREIN.

- THE CONTRACTOR IS DIRECTED TO OBTAIN A COPY OF ALL PERMITS INCLUDING PERMITS ISSUED BY THE WATER MANAGEMENT DISTRICT, THE COUNTY AND FDEP, IF APPLICABLE. THE CONTRACTOR SHALL ABIDE BY ALL PERMIT CONDITIONS (SEE LIST BELOW).

PERMIT LIST

CITY OF MOUNT DORA

- WATER (POTABLE)
- STP (SEWER)
- SOLID WASTE

STATE OF FLORIDA

- STORMWATER (SJRWMD)
- STP (FDEP)
- WATER (FDEP)

- THE CONTRACTOR SHALL RECOGNIZE AND ABIDE BY ALL OSHA EXCAVATION SAFETY STANDARDS, INCLUDING THE FLORIDA TRENCH SAFETY ACT (90-96, LAWS OF FLORIDA). ANY MATERIAL, CONSTRUCTION METHODS, OR MATERIAL COST TO COMPLY WITH THESE LAWS SHALL BE INCIDENTAL TO THE CONTRACT.
- NO VIBRATORY ROLLERS OR OTHER SIMILAR EQUIPMENT THAT COULD DAMAGE ADJACENT BUILDINGS OR RESIDENCES SHALL BE USED ON THIS PROJECT. THE CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT PREPARED BY UNIVERSAL ENGINEERING SCIENCES, LLC. FOR INSTRUCTIONS AND SHALL CONFER WITH THE GEOTECHNICAL ENGINEER, AND OWNER TO DETERMINE WHAT METHODS OF COMPACTION ARE SATISFACTORY. IF REPORTS OF DAMAGE TO ADJACENT PROPERTIES ARE RECEIVED, THE CONTRACTOR SHALL STOP WORK IMMEDIATELY UNTIL THE OWNER INVESTIGATE THE CLAIM AND PROVIDE INSTRUCTIONS.
- CLEAN SAND SUITABLE FOR FILL SHALL BE USED AS DIRECTED BY THE GEOTECHNICAL REPORT. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF ALL UNSUITABLE FILL MATERIALS FROM THE SITE.
- PRIOR TO SUBMITTING A BID, THE CONTRACTOR SHALL VISIT AND INSPECT THE SITE TO FAMILIARIZE HIMSELF WITH EXISTING CONDITIONS WHICH MAY AFFECT HIS BID.
- THE CONTRACTOR SHALL BASE HIS BID ON HIS OWN ESTIMATE OF QUANTITIES, INCLUDING PIPE LENGTHS, PAVEMENT QUANTITIES, AND EXCAVATION AND BACKFILL QUANTITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY IMPORT BORROW FILL NEEDED, AND FOR REMOVAL AND DISPOSAL OF EXCESS OR UNSUITABLE MATERIALS.
- THE LIMITS OF DISTURBANCE HAVE BEEN PROVIDED TO THE CONTRACTOR ON THE CONSTRUCTION PLANS. UNLESS OTHERWISE DIRECTED BY THE OWNER OR ENGINEER, THE CONTRACTOR IS EXPECTED TO CONTAIN ALL CONSTRUCTION ACTIVITIES WITHIN THESE LIMITS. AT NO TIME SHALL THE CONTRACTOR DISTURB WETLAND AREAS, IF ANY, OUTSIDE THE SILT FENCE. THE CONTRACTOR SHALL NOT DISTURB SURROUNDING PROPERTIES OR TRAVEL ON SURROUNDING PROPERTIES WITHOUT WRITTEN CONSENT FROM THE PROPERTY OWNER. ANY REPAIR OR RECONSTRUCTION OF WETLAND OR OTHER DAMAGED AREAS IN SURROUNDING PROPERTIES SHALL BE REPAIRED BY THE CONTRACTOR IMMEDIATELY. ALL COSTS FOR REPAIRS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND NO EXTRA COMPENSATION SHALL BE PROVIDED.

- ALL TREES, BRUSH AND ORGANIC MATERIAL CLEARED FROM THIS SITE SHALL BE DISPOSED OF OFFSITE IN A LEGAL MANNER.

- ALL AREAS TO RECEIVE FILL, WHETHER OPEN AREA, UNDER PAVEMENT OR STRUCTURES, SHALL FIRST BE STRIPPED OF ORGANIC MATERIAL BEFORE FILLING IS COMMENCED. FILL SHALL BE PLACED IN 12" LIFTS AND COMPACTED TO 95% MAXIMUM DENSITY OR AS DIRECTED IN THE SOILS REPORT. THE CONTRACTOR IS DIRECTED TO

- OBTAIN A COPY OF THE SOIL REPORT AND COMPLY WITH ALL RECOMMENDATIONS THEREIN.
- THE CONTRACTOR SHALL BE EXPECTED, AT THE END OF EACH DAY, TO HAVE THE SITE GRADED IN SUCH A WAY AS TO NOT CAUSE ANY ADVERSE IMPACT FROM RUNOFF OR SILTATION TO ANY ADJACENT PROPERTIES. SILTATION BARRIERS SHALL BE MAINTAINED AND REPAIRED IF REQUIRED AT THE END OF EACH WORKING DAY. GRADING SHOWN ON THESE PLANS ARE PROVIDED TO THE CONTRACTOR TO EXPRESS THE GENERAL GRADING INTENT OF THE PROJECT. SMOOTH TRANSITIONS SHALL BE PROVIDED BETWEEN CONTOURS OR SPOT ELEVATIONS AS SHOWN ON THE PLANS TO ACCOMPLISH THE GRADING INTENT. ALL SLOPES SHALL BE STABILIZED IMMEDIATELY AFTER FINAL GRADING HAS BEEN COMPLETED. CONTRACTOR SHALL NOTIFY OWNER AND ENGINEER PRIOR TO DEMOBILIZATION OF GRADING EQUIPMENT TO DETERMINE THAT THE GRADING INTENT HAS BEEN ACHIEVED.
- ALL PAVING SURFACES SHALL BE GRADED TO DRAIN POSITIVELY IN THE DIRECTION GENERALLY SHOWN BY THE FLOW ARROWS OR TYPICAL SECTION. NO PUDDING OR "BIRD BATH" WILL BE ACCEPTED IN THE PAVEMENT AREAS. PAVED SURFACES SHALL ALSO BE GRADED TO PROVIDE A SMOOTH DRIVING SURFACE FOR VEHICLES WITH NO SHARP BREAKS IN GRADE AND NO UNUSUALLY STEEP OR REVERSE CROSS SLOPES. APPROACHES TO INTERSECTIONS AND ENTRANCE AND EXIT FLOW LINE GRADES TO INTERSECTIONS AND ENTRANCE AND EXIT FLOW LINE GRADES TO INTERSECTIONS WILL BE DETERMINED IN THE FIELD AND ADJUSTMENTS MAY BE NECESSARY TO ACCOMPLISH THAT PURPOSE. THE CONTRACTOR IS RESPONSIBLE TO ACCOMPLISH THIS PURPOSE. ANY APPARENT DISCREPANCIES BETWEEN THE FLOW ARROWS AND SLOPES OR SPOT ELEVATIONS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER FOR EXPLANATION AND/OR CLARIFICATION.
- MATERIALS AND METHODS FOR STORM DRAINAGE CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LOCAL MUNICIPALITY CODES AND/OR THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 1991, OR LATEST REVISION THEREOF, AND SUPPLEMENTAL SPECIFICATIONS THERETO. REINFORCED CONCRETE PIPE (RCP) SHALL BE CLASS III WITH RUBBER GASKET JOINTS, UNLESS OTHERWISE NOTED ON THE PLANS. ALL F.D.O.T., "C", "D", "E" AND "F" INLETS SHALL BE EQUIPPED WITH STEEL RETICULIN GRATE AND LIFTING CHAINS PER F.D.O.T. STANDARDS, WHERE APPROPRIATE. YARD INLETS MAY BE EQUIPPED WITH CAST IRON GRATES, IF THEY ARE NOT SUBJECT TO TRAFFIC. INLET WALL THICKNESS SHALL BE PER F.D.O.T.
- MATERIALS AND CONSTRUCTION METHODS FOR PAVEMENT CONSTRUCTION SHALL BE IN ACCORDANCE WITH COUNTY OR CITY STANDARDS AND THE F.D.O.T. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION LATEST EDITION THEREOF AND SUPPLEMENTAL SPECIFICATIONS THERETO; AND IN ACCORDANCE WITH COUNTY OR CITY STANDARDS AND SPECIFICATIONS.
- THE CONTRACTOR SHALL SOD BANKS AND OTHER AREAS AS DESIGNATED ON THE CONSTRUCTION PLAN.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE VARIOUS GRADING, DRAINAGE AND PAVING WORK TO ACCOMPLISH THE PROPER FUNCTIONING OF THE SITE IMPROVEMENTS TO PREVENT WATER FROM PONDING OR STANDING ON SIDEWALK OR PAVEMENT AREAS. SOD SHALL BE INSTALLED 0.2' BELOW THE EDGE OF ADJACENT PAVEMENT OR SIDEWALK.
- SHOP DRAWINGS AND CERTIFICATIONS FOR ALL STORM DRAINAGE MATERIALS AND STRUCTURES ARE TO BE SUBMITTED AND APPROVED BY THE OWNERS REPRESENTATIVE OR ENGINEER PRIOR TO ORDERING THE MATERIAL REQUIRED FOR CONSTRUCTION.
- ALL STORM WATER PIPES 24 INCHES OR MORE IN DIAMETER WHICH DISCHARGE INTO DRY RETENTION BASIN AREAS SHALL BE CHILD PROOFED WITH GRATES AS DESIGNATED IN F.D.O.T. INDEX 273. MAXIMUM OPENING BETWEEN BARS SHALL BE 4". OUTFALLS TO DRY RETENTION BASINS SHALL BE EQUIPPED WITH ENERGY DISSIPATORS OR SPLASH PADS AS SHOWN ON THE DETAIL SHEETS.
- REPAIR AND REPLACEMENT OF ALL PRIVATE AND PUBLIC PROPERTY AFFECTED BY THIS WORK SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN EXISTED BEFORE COMMENCING CONSTRUCTION.
- SIDEWALKS ARE TO BE CONSTRUCTED IN THE AREAS SHOWN ON THE CONSTRUCTION PLANS. THE SIDEWALK SHALL BE CONSTRUCTED OF 4" THICK CONCRETE WITH A 28-DAY COMPRESSION STRENGTH OF 3000 PSI. SIDEWALKS SHALL BE CONSTRUCTED PER F.D.O.T. INDEX NO.'S 522-001 & 522-002.
- CURBING SHALL BE CONSTRUCTED WHERE NOTED ON THE CONSTRUCTION PLANS. CONCRETE FOR CURBS SHALL BE F.D.O.T. CLASS I CONCRETE WITH A 28-DAY COMPRESSION STRENGTH OF 3000 PSI. ALL CURBING SHALL CONSTRUCTED PER FDOT INDEX NO. 520-001.
- CONTRACTOR TO SAW-CUT AREAS WHERE PAVEMENT OR CURBING OR CONCRETE, ETC. IS TO BE REMOVED.
- AT LEAST TWO WEEKS PRIOR TO FINAL COMPLETION, THE CONTRACTOR SHALL FURNISH THE ENGINEER COPIES OF AS-BUILT PLANS OF THE ENTIRE SITE DELINEATING ALL CHANGES, IF ANY, TO THESE CONSTRUCTION PLANS. THE AS-BUILT PLANS COULD BE PROVIDED AS "RED-LINED" SET WITH A STATEMENT OF VERIFICATION OR BY A REGISTERED SURVEYOR.



SANITARY SEWER AND WATER SYSTEM NOTES:

- THE HORIZONTAL AND VERTICAL SEPARATION OF UNDERGROUND PIPING SHALL BE PER CITY OF MOUNT DORA PIPE CLEARANCE DETAIL AND PIPE CLEARANCE NOTES. DETAILS GU0016-1, GU0016-2 & GU0016-2B SHOWN ON SHEET 10. ALL SANITARY SEWER AND WATER PIPES SHALL BE AT LEAST 36-INCHES BELOW THE PAVEMENT AND/OR GROUND SURFACE.
- ALL PRESSURE SYSTEMS SHALL BE LOCATED WITH METAL TRACING WIRE ACCORDING TO CITY OF MOUNT DORA STANDARD DETAIL FOR MARKING A PRESSURIZED MAIN.

WATER DISTRIBUTION NOTES:

- HYDROSTATIC AND LEAKAGE TESTING SHALL BE PERFORMED ON ALL NEWLY INSTALLED WATER MAINS AND APPURTENANCES. THE TEST SHALL BE IN ACCORDANCE WITH AWWA C600 OR M23 AS APPLICABLE.
- THE WATER SYSTEM SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA C651.
- ALL P.V.C. PIPE MUST BEAR THE NSF LOGO FOR POTABLE WATER USE.
- WHERE POTABLE WATER AND SANITARY SEWER MAINS CROSS WITH LESS THAN TWELVE (12) INCHES OF VERTICAL CLEARANCE, THE WATER MAIN SHALL BE TWENTY (20) FEET OF DUCTILE IRON PIPE CENTERED AT THE POINT OF CROSSING A MINIMUM HORIZONTAL SEPARATION OF SIX (6) FEET, EDGE TO EDGE, BETWEEN POTABLE WATER MAINS AND SEWER MAINS SHALL BE MAINTAINED WHEN PRACTICAL. WHEN THE APPROPRIATE HORIZONTAL SEPARATION CANNOT BE MAINTAINED, THE WATER MAIN SHALL BE DUCTILE IRON PIPE.
- WHEN POTABLE WATER AND STORM SEWER MAINS CROSS OR RUN ALONGSIDE ONE ANOTHER WITHOUT MEETING THE CRITERIA, THE WATER MAIN SHALL BE DUCTILE IRON PIPE.

PIPE SPECIFICATIONS:

POTABLE AND RECLAIMED WATER PVC PIPE 4" THROUGH 12"

ALL PVC PIPE OF NOMINAL DIAMETER FOUR (4) INCHES THROUGH TWELVE (12) INCHES SHALL BE MANUFACTURED IN ACCORDANCE WITH AWWA C900, LATEST EDITION. THE PVC PIPE SHALL HAVE A MINIMUM RATIO (DR) OF 18. PIPE SHALL BE THE SAME O.D. AS DUCTILE IRON PIPE.

POTABLE AND RECLAIMED WATER HDPE PIPE 3" AND LESS

ALL HDPE PIPE OF NOMINAL DIAMETER THREE (3) INCHES AND LESS SHALL BE MANUFACTURED IN ACCORDANCE WITH AWWA C901 LATEST EDITION. THE HDPE PIPE SHALL HAVE A MINIMUM DIMENSION RATIO (DR) OF 9.

FIRE SERVICE WATER MAINS

ALL FIRE SERVICE WATER MAINS SHALL EITHER AWWA C900 DR14 PVC OR AWWA CLASS 50 DIP.

GRAVITY SANITARY SEWER PIPES

ALL PVC PIPE GRAVITY SANITARY SEWER PIPES SHALL BE SDR OF 26.

SANITARY FORCE MAIN PVC PIPE

ALL PVC PIPE SHALL BE MANUFACTURED IN ACCORDANCE WITH AWWA C900, LATEST EDITION. THE PVC PIPE SHALL HAVE A MINIMUM RATIO (DR) OF 18. PIPE SHALL BE THE SAME O.D. AS DUCTILE IRON PIPE.

MARKINGS

ALL PVC PIPE USED FOR POTABLE WATER USE WILL BEAR THE NSF LOGO.

DISINFECTION

BEFORE THE POTABLE WATER SYSTEM IS PLACED IN SERVICE, ALL WATER MAINS SHALL BE CHLORINATED IN ACCORDANCE WITH THE PROCEDURES OUTLINED IN AWWA C-651 "STANDARD PROCEDURE FOR DISINFECTING WATER MAINS".

PRESSURE TESTS

ALL NEWLY-INSTALLED WATER DISTRIBUTION PIPE AND APPURTENANCES SHALL HAVE HYDROSTATIC TESTS CONDUCTED ON THEM. THE TESTS SHALL BE PRESSURE TESTS AND LEAKAGE TESTS DONE IN ACCORDANCE WITH ALL PROVISIONS OF AWWA C600 OR M23 AS APPLICABLE.

SITE DATA

- PROJECT NAME: MOUNT DORA COMMERCE PARK
- OWNER / DEVELOPER: G3 SKY, LLC, 310 N. BAKER STREET, MOUNT DORA, FLORIDA 32757, TEL. 352-397-4869, EMAIL: austin.gunther@g3development.com
- TOTAL SITE AREA: Total PUD: 4.92 AC (214,315.2 Sq. Ft.)
FUTURE LAND USE: INDUSTRIAL (PERMITTED USES ON THIS PROPERTY INCLUDE LIGHT INDUSTRIAL)
PROPOSED USES: MINI WAREHOUSING (BUILDING 1, 2 & 3)(LIGHT INDUSTRIAL)
- MAXIMUM FLOOR AREA RATIO: 0.35 (75,072.41 Square Feet)
PROPOSED FLOOR AREA RATIO: 0.236 (50,680.00 Square Feet)
TOTAL BUILDING AREA PROPOSED: 50,680 SQ. FT.
BUILDING No.1 = 11,880 Sq. Ft.
BUILDING No.2 = 19,400 Sq. Ft.
BUILDING No.3 = 19,400 Sq. Ft.
TOTAL = 50,680 Sq. Ft.
BUILDING TYPE: II B
OCCUPANCY TYPE: MINI WAREHOUSE/STORAGE GROUP S1
EXPOSURE: "B"
- IMPERVIOUS SURFACE AREA ALLOWED: 0.65
Total PUD: 4.92 AC x 0.65 = 3.198 AC (139,304.88 Sq. Ft.)
IMPERVIOUS SURFACE AREA PROPOSED: 0.64860
Total PUD: 3.20 AC (139,393.4 Sq. Ft.) / 4.92 AC = 0.6497 ~ 65%
PERVIOUS SURFACE AREA PROPOSED: 0.35339
Total PUD: 1.72 AC (75,172.0056 Sq. Ft.) / 4.92 AC = 0.3508 ~ 35%
- MAXIMUM BUILDING HEIGHT: 35'
PROPOSED BUILDING HEIGHT: 28'-0"
- BUILDING MINIMUM SETBACKS AND PROVIDED INDICATED AFTER '-'
MINIMUM REQUIRED PROVIDED
NORTH: 50'-0" NORTH- 111'-11"
EAST: 25'-0" EAST- 78'-8"
SOUTH: 25'-0" SOUTH- 101'-5"
WEST: 50'-0" WEST- 62'-0"
- ARCHITECTURAL DESIGN CRITERIA: SUBJECT TO LDC SECTION 6.13 COMMERCIAL ARCHITECTURAL AND SITE DESIGN REQUIREMENTS
- LIGHTING: SEE SITE LIGHTING AND PHOTOMETRIC STUDY DRAWINGS ATTACHED
- WETLANDS: THERE ARE NO WETLAND WITHIN THE PROJECT SITE AREA. IF WETLANDS ARE IDENTIFIED DURING SITE DEVELOPMENT, THE SITE PLAN MAY NEED TO BE MODIFIED TO PROVIDE THE APPROPRIATE WETLAND BUFFERS.
- DEVELOPABLE AREA: Total PUD: 4.92 AC
- THE EXISTING SITE CONTAINS Single Family Home
- REQUIRED OPEN SPACE: 0.35 (+/- 5% ALLOWABLE)
Total PUD: 4.92 AC x 0.35 = 1.72 AC (75,010.32 Sq. Ft.) = 0.3500 ~ 35.00%
PROPOSED OPEN SPACE: 0.3508
Total PUD: 1.7257 AC (75,172.0056 Sq. Ft.) / 4.92 AC = 0.3508 ~ 35.08%
- DEVELOPMENT REVIEW
ALL SITE DEVELOPMENT AND REVIEW PROCEDURES SHALL FOLLOW THE CITY'S MINIMUM STANDARDS AND PROCEDURES UNLESS OTHERWISE CONTAINED IN THE PUD.
- UTILITIES
WATER & RE-USE WILL BE PROVIDED BY THE CITY OF MOUNT DORA AND CONSTRUCTED BY THE OWNER TO STANDARDS AS CONTAINED IN THE LAND DEVELOPMENT REGULATIONS AND CONSISTENT LDC AS AMENDED.
SEWER TREATMENT SHALL BE PROVIDED ON-SITE UNTIL THE CITY PROVIDES CENTRAL SEWER CAPACITY. THE DEVELOPER SHALL CONSTRUCT A DRY LINE FORCE MAIN FROM THE PROPOSED LIFT STATION ON-SITE TO THE NEAREST SANITARY MANHOLE ON N. UNSER STREET FOR FUTURE CONNECTION.
ALL UTILITIES ARE PROVIDED BY THE CITY OF MOUNT DORA, INCLUDING SOLID WASTE.
- TREE REPLACEMENT
WILL FOLLOW THE REQUIREMENTS OF THE LAND DEVELOPMENT REGULATIONS.
- CANOPY TREES
ALL REPLACEMENT CANOPY TREES WILL BE 3.5" CALIPER AND 15' IN HEIGHT.
ALL REMAINING CANOPY TREES WILL BE 2.5" CALIPER AND 8' IN HEIGHT.
- TRAFFIC
SEE TRAFFIC STUDY REPORT PREPARED BY TRAFFIC PLANNING AND DESIGN INC., REPORT DATED FEBRUARY 29, 2024.
A TIER 2 TRAFFIC STUDY WILL BE PROVIDED AS REQUIRED DURING SITE PLAN APPLICATION.
- FIRE PREVENTION
ALL BUILDINGS WILL BE IN FULL COMPLIANCE WITH THE 2024 8TH EDITION OF FLORIDA FIRE PREVENTION CODE. FIRE PROTECTION SYSTEM MAINS ON PRIVATE PROPERTY SHALL MEET THE REQUIREMENTS AND SHALL BE INSTALLED PER NFPA 24, STANDARD FOR THE INSTALLATION OF PRIVATE FIRE SERVICE MAINS AND THEIR APPURTENANCES AND/OR NFPA 13, STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS AS ADOPTED IN THE FLORIDA FIRE PREVENTION CODE.

SITE DATA

- SIGNAGE
PUD SIGNAGE IS TO FOLLOW ZONING DISTRICT REGULATIONS WP-1 ZONING DISTRICT COMPLIANT TO MOUNT DORA LDC CH VI-6.7ESIGN STANDARDS-SIGNS.
- REQUIRED PARKING
Total PARKING REQUIRED : 102 Spaces REQUIRED - 1 SPACE PER 500 SQ. FT.
TOTAL PARKING PROVIDED: 132 (32 SPACES AT BAY DOORS USED BY TENANT AS PARKING)
TOTAL 6-HC SPACES HAVE BEEN PROVIDED (5 HC SPACES ARE REQUIRED)
TEMPORARY LOADING/UNLOADING ZONE - PROVIDED -1 SPACE
BICYCLE PARKING:
REQUIRED - 6 SPACES
PROVIDED - 8 SPACES
- FLOOD ZONE
FLOOD ZONE X PER FEMA F.I.R.M. PANEL NO. 12069C 0367 E, DATED DECEMBER 18, 2012.
- SOILS
TAVARES SAND - 0-5% SLOPE (QUICK PERCOLATION) - SEE DETAILED GEOTECH REPORT ATTACHED
- HAZARDOUS MATERIALS STATEMENT
DURING CONSTRUCTION, WHEN COMBUSTIBLES ARE BROUGHT ONTO THE SITE IN SUCH QUANTITIES AS DEEMED HAZARDOUS BY THE FIRE OFFICIAL, ACCESS ROADS AND A SUITABLE TEMPORARY SUPPLY OF WATER ACCEPTABLE TO THE FIRE DEPARTMENT SHALL BE PROVIDED AND MAINTAINED.
- DUMPSTER NOTE
THE DUMPSTER SHALL HAVE OPAQUE AND THE WALL SHALL HAVE A DECORATIVE CONCRETE CAP WALL SHALL BE ARCHITECTURALLY COMPATIBLE MATERIAL TO THE PRINCIPLE BUILDING.
- FLAG POLE NOTE
FLAG POLE CONSTRUCTION SHALL COMPLY WITH MOUNT DORA LDC.
- SITE LIGHTING AND PHOTOMETRIC STUDIES:
PROPOSED PLAN SHALL COMPLY WITH DARK SKY LIGHTING PRINCIPLES WITH ADEQUATE LIGHT DEFLECTORS AND DEFLECTOR SHIELDS. ALL HVAC EQUIPMENT AND HOT WATER HEATER SHALL BE ENERGY STAR COMPLIANT. ALL LIGHT FIXTURES AND SITE LIGHTING SHALL BE LED AND COMPLY WITH FLORIDA ENERGY EFFICIENCY REQUIREMENTS.
- SITE PLAN NOTES:
1. SITE PLAN APPLICATION: A SITE PLAN APPLICATION WILL BE SUBMITTED TO THE OFFICE OF PLANNING AND ZONING TO RESERVE CAPACITY AT THE TIME OF WASTEWATER CAPACITY AVAILABILITY.
2. THE PROJECT SHALL MEET ENERGY EFFICIENCY AND ENERGY CODE COMPLIANCE THROUGH SPECIFICATIONS OF ENERGY STAR APPLIANCES, HVAC EQUIPMENT, HOT WATER EQUIPMENT, AND FOLLOW LEED PRINCIPLES WITH ENERGY EFFICIENT LOW-E DOUBLE PANE WINDOWS, INSULATED DOORS, AND BUILDING ENVELOPE TO CURRENT ENERGY CODES.
- PUD EXPIRATION
EXTEND THE PUD EXPIRATION DATE FROM THE STANDARD ONE (1) YEAR FROM DATE OF APPROVAL TO FOUR (4) YEAR PUD EXPIRATION FROM DATE OF APPROVAL APRIL 15, 2025. PUD 24-02/ORDINANCE NO. 2025-05.

POTABLE AND RECLAIMED WATER PVC PIPE

- ALL PVC PIPE OF NOMINAL DIAMETER FOUR (4) INCHES THROUGH TWELVE (12) INCHES SHALL BE MANUFACTURED IN ACCORDANCE WITH AWWA C900, LATEST EDITION. THE PVC PIPE SHALL HAVE A MINIMUM WORKING PRESSURE RATING OF 150 PSI AND SHALL HAVE A DIMENSION RATIO (DR) OF 18. PIPE SHALL BE THE SAME O.D. AS DUCTILE IRON PIPE.
- ALL PVC PIPE OF NOMINAL DIAMETER THREE (3) INCHES AND LESS SHALL BE MANUFACTURED IN ACCORDANCE WITH AWWA C901, LATEST EDITION. THE PVC PIPE SHALL HAVE A MINIMUM WORKING PRESSURE RATING OF 150 PSI AND SHALL HAVE A DIMENSION RATIO (DR) OF 18. PIPE SHALL BE THE SAME O.D. AS DUCTILE IRON PIPE.
- ALL PVC WATER MAINS 3" AND LESS SHALL BE AWWA C901 SDR9 PIPE.
- ALL DUCTILE IRON WATER MAINS SHALL BE IN ACCORDANCE WITH ANSI/AWWA A21.51/C151 CLASS 50 PIPE.

FIRE FLOW CALCULATIONS

- BUILDING AREA = 50,680 SQ. FT.
- CONSTRUCTION TYPE = II B
- FIRE FLOW REQUIREMENTS PER NFF = 4,750 GPM FOR SPRINKLED BUILDING:
- APPLY 75% CREDIT = 1,187 GPM (4,750 - 3,563)
- USE PER NFF REQUIREMENTS OF 1,750 GPM OR LESS
- MINIMUM NUMBER OF FIRE HYDRANTS REQUIRED = ONE (1)
- FIRE HYDRANTS PROVIDED = FOUR (4)

DATE	REVISIONS	REVISED BY	CHECKED BY	CADD FILE NAME
8/11/25	REVISED PER CITY OF MOUNT DORA AND CPH COMMENTS	SML	FJT	G3_MountDoraGeneralNotes.dwg

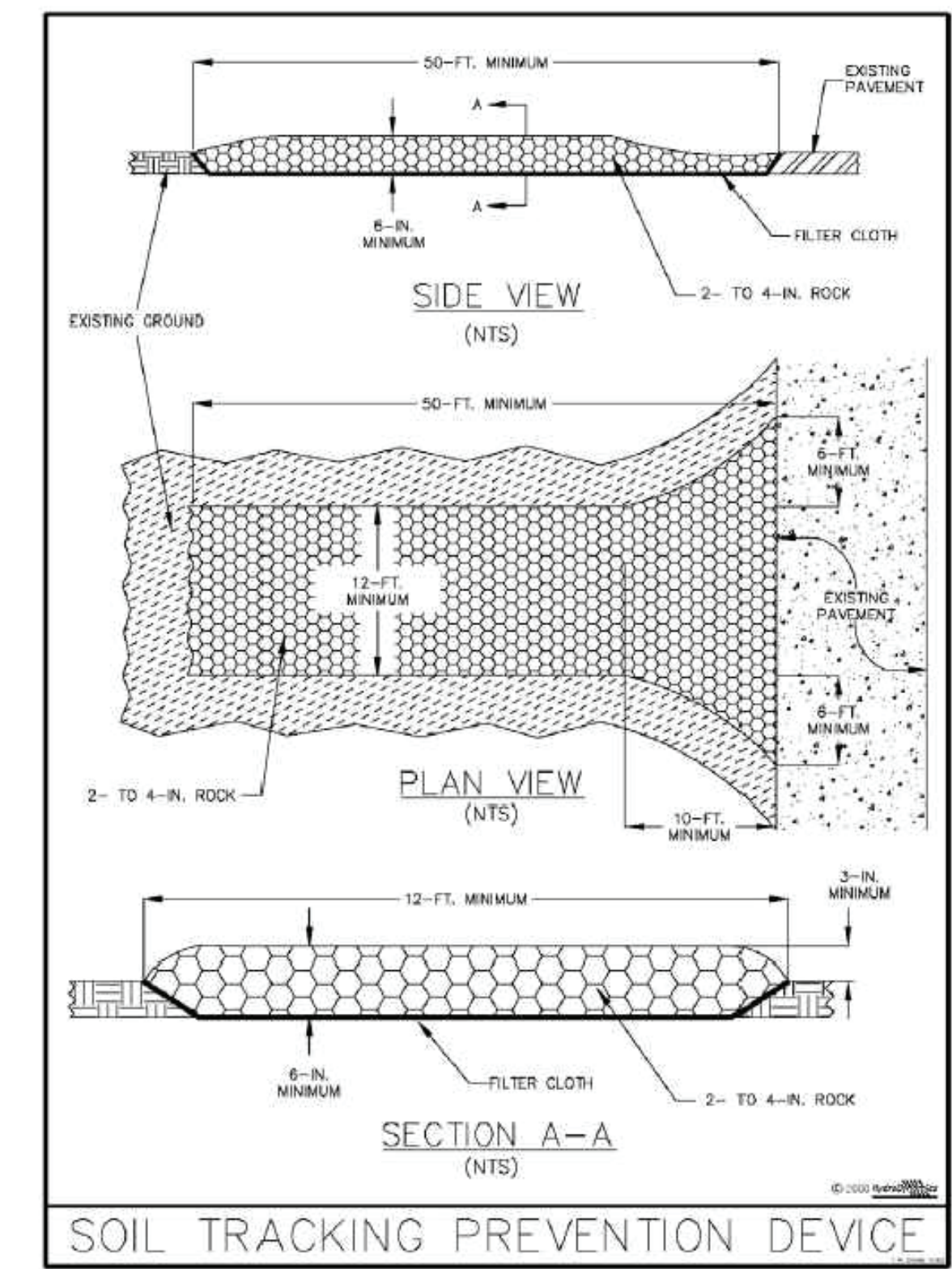
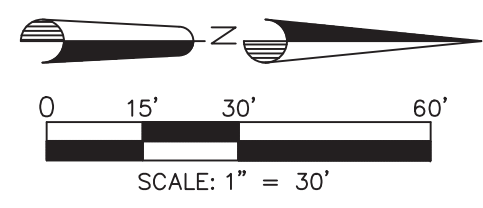
TAWILL ENGINEERING, INC.
CIVIL ENGINEERING DESIGN • CONSULTING • PERMITTING
CERTIFICATE OF AUTHORIZATION: 6625

6312 BUFORD STREET, UNIT 702, ORLANDO, FLORIDA 32835
TELEPHONE (407) 399-1161 • FAX (407) 668-4412

GENERAL NOTES AND SITE DATA

MOUNT DORA COMMERCE PARK

PROJECT NO. 24-002	DATE MAY 2025	SCALE N.T.S.	SHEET 2 OF 17
CITY OF MOUNT DORA		FLORIDA	
DATE		DATE	



SOIL TRACKING PREVENTION DEVICE

LEGEND

- REMOVE EXISTING STRUCTURES, CONCRETE DRIVEWAYS AND SIDEWALKS
- REMOVE EXISTING POWER LINE AND POWER POLE
- REMOVE EXISTING TREES

NOTE:
ALL TREES WILL NEED TO BE MARKED THAT ARE TO BE REMOVED AND THE CITY WILL NEED TO INSPECT AND VERIFY THE TREES TO BE REMOVED PRIOR TO ANY LAND CLEARING.

EROSION CONTROL PLAN

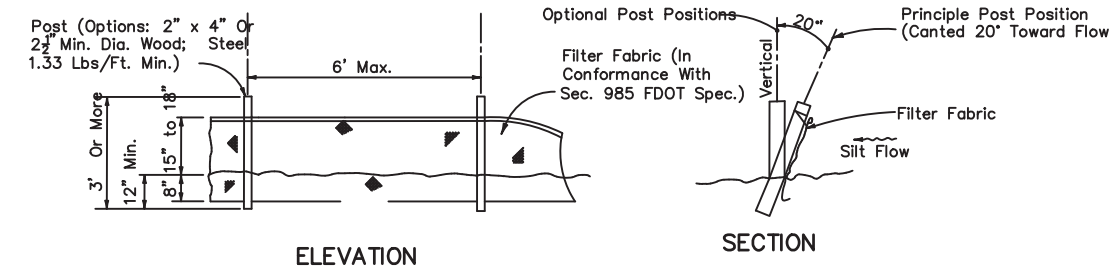
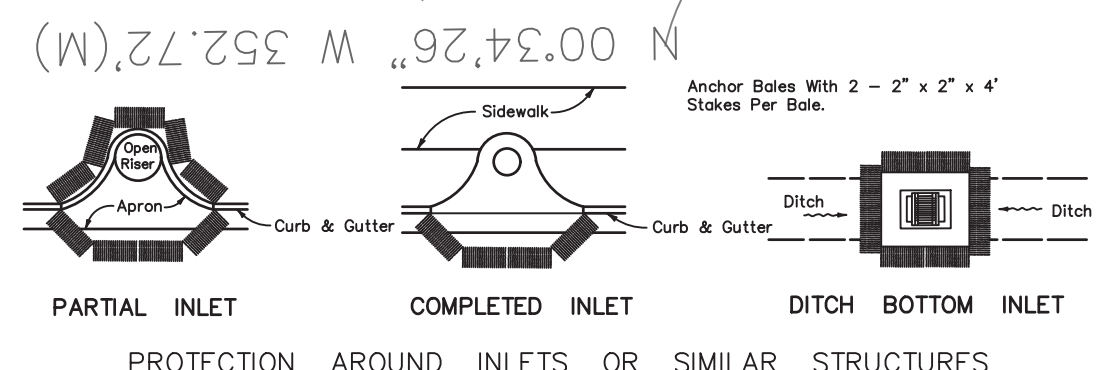
- An erosion control plan shall be conducted by the Contractor and Contractor shall execute all measures necessary to limit the transport of sediments outside the limits of the project to the volume and amount as that are existing prior to the commencement of construction. This condition will be satisfied for the total construction period. Provision must be made to preserve the integrity and capacity of check weirs, sediment basins, slope drains, grading patterns, etc. required to meet this provision throughout the life of the construction. Contractor shall provide synthetic bales, silt barriers, temporary grassing, etc. as required to fully comply with the intent of this specification.
- Stockpiling Material**
No excavated material shall be stockpiled in such a manner as to direct runoff directly off the project site or into any adjacent water body or stormwater collection facility.
 - Silt Barriers**
The Contractor shall provide FDOT type III silt fence around the perimeter of the construction area.
 - Inlet Protection**
Inlets and catch basins shall be protected with synthetic bales to conform to FDOT standards from sediment laden storm runoff until the completion of all construction operations that may contribute sediment to the inlet.
 - Temporary Seeding**
Areas opened by the construction operations and that are not anticipated to be dressed and receive final grassing treatment within seven days shall be seeded with a quick growing grass species which will provide an early cover during the season in which it is planted, and will not later compete with the permanent grassing. The rate of seeding shall be 30 lb. per acres.
 - Temporary Seeding and Mulching**
Slopes steeper than 6:1 that fall within the category established in 4 above, shall additionally receive mulching of approximately 2 inches loose measure of mulch material cut into the soil of the seeded area to a depth of four inches.
 - Temporary Grassing**
The seeded or seeded and mulched area(s) shall be rolled and watered as required to assure optimum growing conditions for the establishment of a good grass cover.
 - Temporary Regrassing**
If, after fourteen days, the temporary grassed areas have not attained a minimum of 75% good grass cover, the area will be reworked and additional seed applied sufficient to establish the desired vegetation cover.
 - Maintenance**
All features of the project shall be constructed to prevent erosion and sediment and shall be maintained during the life of the construction so as to function properly without the transport of sediments outside the limits of the project.
 - F.D.O.T. Standards**
Silt barrier and inlet protection shall conform to FDOT Index 102.
 - Contractor shall install an approved soil tracking device/plan for each entrance and exit to and from the site.**
 - Contractor of Record shall prepare an SWPPP or ECP and submit it to the City for review and approval prior to mobilizing to the site to install the BMPs.**
 - The SWPPP and the maintenance shall be in accordance with FDEP, WMD, and City regulations with respect to stormwater runoff of construction sites.**

CONCRETE WASHOUT NOTE:
CONTRACTOR SHALL PROVIDE A CONCRETE WASHOUT AREA. CONTAINER(S) FOR WASHOUT WATER SHALL BE WATER TIGHT. WASHOUT WATER SHALL BE DISPOSED OF PROPERLY IN A LEGAL MANNER.

INSTALL TEMPORARY SILT BARRIER FENCE. CONTRACTOR SHALL MAINTAIN FOR THE DURATION OF CONSTRUCTION ACTIVITY.

SOIL TRACKING PREVENTION DEVICE. FOOT SIZE #4 COARSE AGGREGATE (2" STONE) 6" DEEP (MINIMUM) ON FILTER FABRIC.

REMOVE EXISTING POTABLE WATER METER



TYPE III SILT FENCE

SYNTHETIC STRAW BARRIERS AND SILT FENCES
N.T.S.

DATE	REVISIONS	REVISED BY	CHECKED BY	CADD FILE NAME
8/11/25	REVISED PER CITY OF MOUNT DORA AND CPH COMMENTS	SML	FJT	APPROVED BY
				FIT
				525
				525
				525
				525

TAWILL ENGINEERING, INC.
CIVIL ENGINEERING DESIGN • CONSULTING • PERMITTING
CERTIFICATE OF AUTHORIZATION: 6625

6312 BUFORD STREET, UNIT 702, ORLANDO, FLORIDA 32835
TELEPHONE (407) 399-1161 • FAX (407) 668-4412

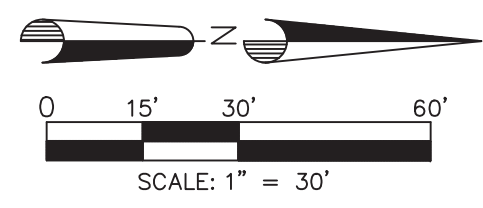
STORMWATER POLLUTION PREVENTION AND DEMOLITION PLAN

MOUNT DORA COMMERCE PARK


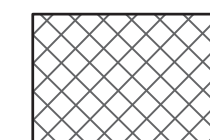
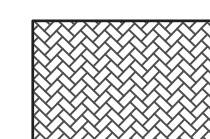
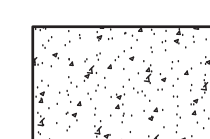

CITY OF MOUNT DORA
FLORIDA

PROJECT NO.	24-002
DATE	MAY 2025
SCALE	1" = 30'
SHEET	3 OF 17

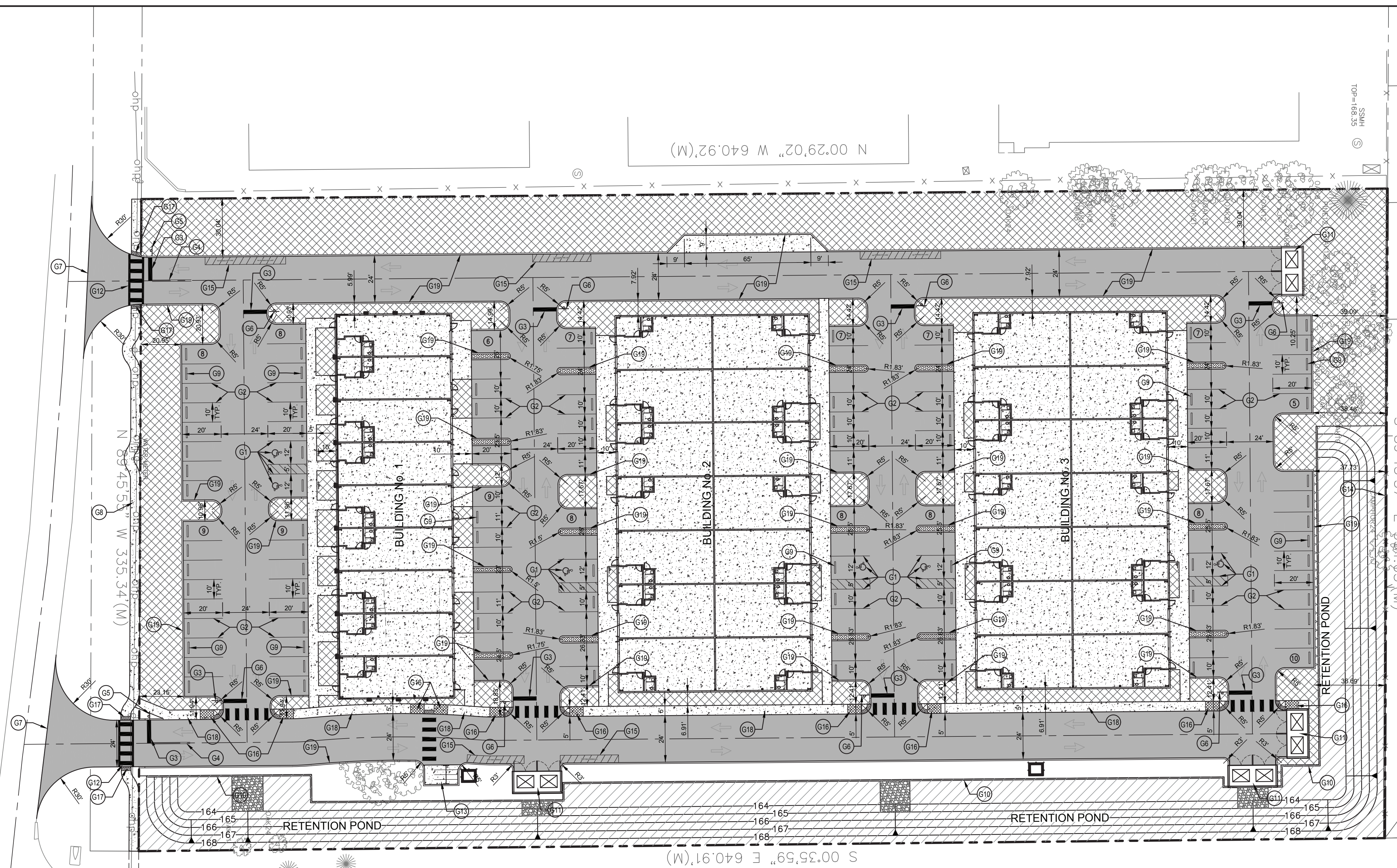




LEGEND

-  DRY RETENTION POND AREA
-  GREEN SPACE / PERVIOUS AREA
-  PERVIOUS PAVER BLOCK SYSTEM
-  BUILDING PAD / CONCRETE SIDEWALK AREA
-  ASPHALT PAVEMENT AREA

MOUNT DORA HEIGHTS
P.B. 17, PG. 1

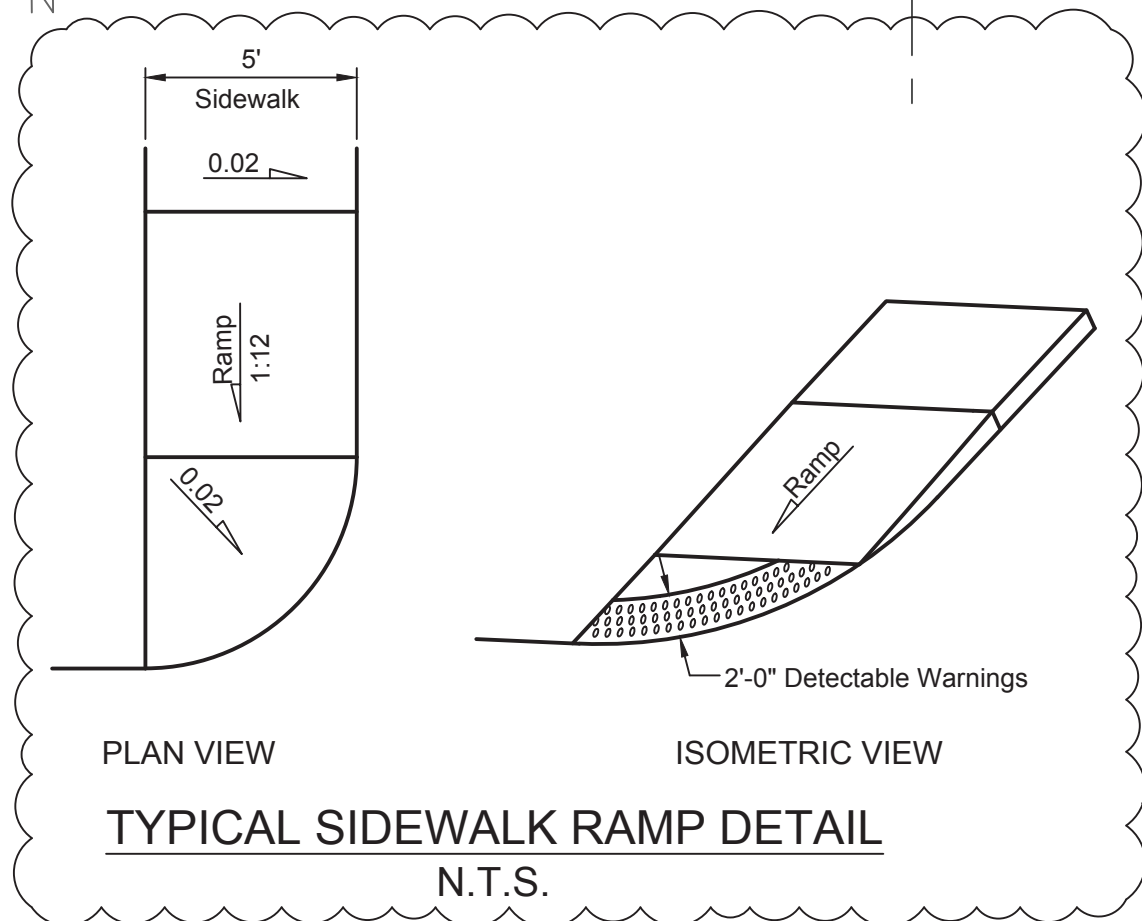
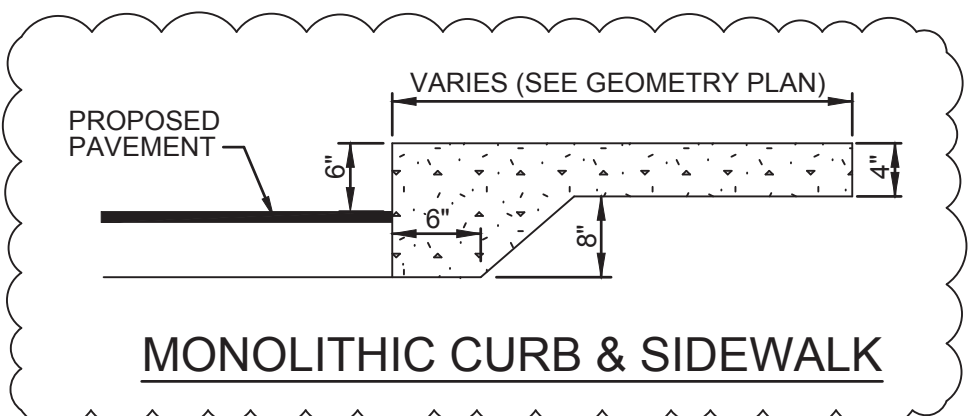


- SIDEWALK NOTES:**
- ALL ON-SITE SIDEWALKS SHALL BE A MINIMUM OF 5' WIDE MUST BE CONSISTENT WITH THE PROVISIONS OF THE AMERICANS WITH DISABILITIES ACT (ADA), THE ACCESSIBILITY GUIDELINES AND THE FLORIDA ACCESSIBILITY CODE; AND MATERIALS MAY INCLUDE SPECIALTY PAVERS, CONCRETE, COLORED CONCRETE OR STAMPED PATTERN CONCRETE.
 - ALL SIDEWALKS WITHIN THE RIGHT-OF-WAY SHALL BE A MINIMUM OF 5' WIDE, 4" THICK CONCRETE EXCEPT AT THE DRIVEWAY CROSSINGS WHERE THEY SHALL BE A MINIMUM OF 6" THICK CONCRETE AND MUST BE CONSISTENT WITH THE PROVISIONS OF THE AMERICANS WITH DISABILITIES ACT (ADA), THE ACCESSIBILITY GUIDELINES AND THE FLORIDA ACCESSIBILITY CODE

GEOMETRY KEYED NOTES

- G1 ACCESSIBLE PARKING STRIPING PER FDOT INDEX 711-001 WITH FTP-22-06 & FTP-21-06 SIGNS
- G2 6" WIDE WHITE PARKING STRIPE (TYP.)
- G3 24" WHITE STOP BAR WITH STOP BAR (MINIMUM SEPARATION SIDEWALK AND STOP BAR SHALL BE 4'-0")
- G4 20' OF DOUBLE 6" YELLOW
- G5 36" HIGH INTENSITY STOP SIGN (R1-1)
- G6 30" HIGH INTENSITY STOP SIGN (R1-1)
- G7 SAW-CUT AND MATCH EXISTING PAVEMENT
- G8 CONCRETE SIDEWALK (SEE DETAIL ON SHEET 8)
- G9 INSTALL CONCRETE WHEEL STOP (TYP.)(SEE DETAIL ON SHEET 8)
- G10 CONCRETE RETAINING WALL WITH 48" TALL DECORATIVE FENCE (DESIGN BY OTHERS)
- G11 DOUBLE DUMPSTER ENCLOSURE (SEE DETAIL ON SHEET 8)
- G12 CROSSWALK (PER FDOT INDEX 711-001)
- G13 BIKE RACK (8 SPACES)(SEE DETAIL ON SHEET 8)
- G14 6' HIGH MASONRY SCREEN WALL (DESIGN BY OTHERS)

- G15 FIRE LANE STRIPING & SIGNAGE (SEE DETAIL ON SHEET 6)
- G16 SIDEWALK RAMP WITH DETECTABLE WARNING (SEE DETAIL ON SHEET THIS SHEET)
- G17 DETECTABLE WARNING PER FDOT INDEX 522-002
- G18 MONOLITHIC CONCRETE CURB & SIDEWALK (SEE DETAIL ON THIS SHEET)
- G19 TYPE D CURB PER FDOT INDEX 520-001 (TYPICAL)



DATE	REVISIONS	REVISED BY	CHECKED BY	CADD FILE NAME
8/11/25	REVISED PER CITY OF MOUNT DORA AND CPH COMMENTS	SML	FJT	G3_MountDoraGeometry.dwg

TAWILL ENGINEERING, INC.
CIVIL ENGINEERING DESIGN • CONSULTING • PERMITTING
CERTIFICATE OF AUTHORIZATION: 6625

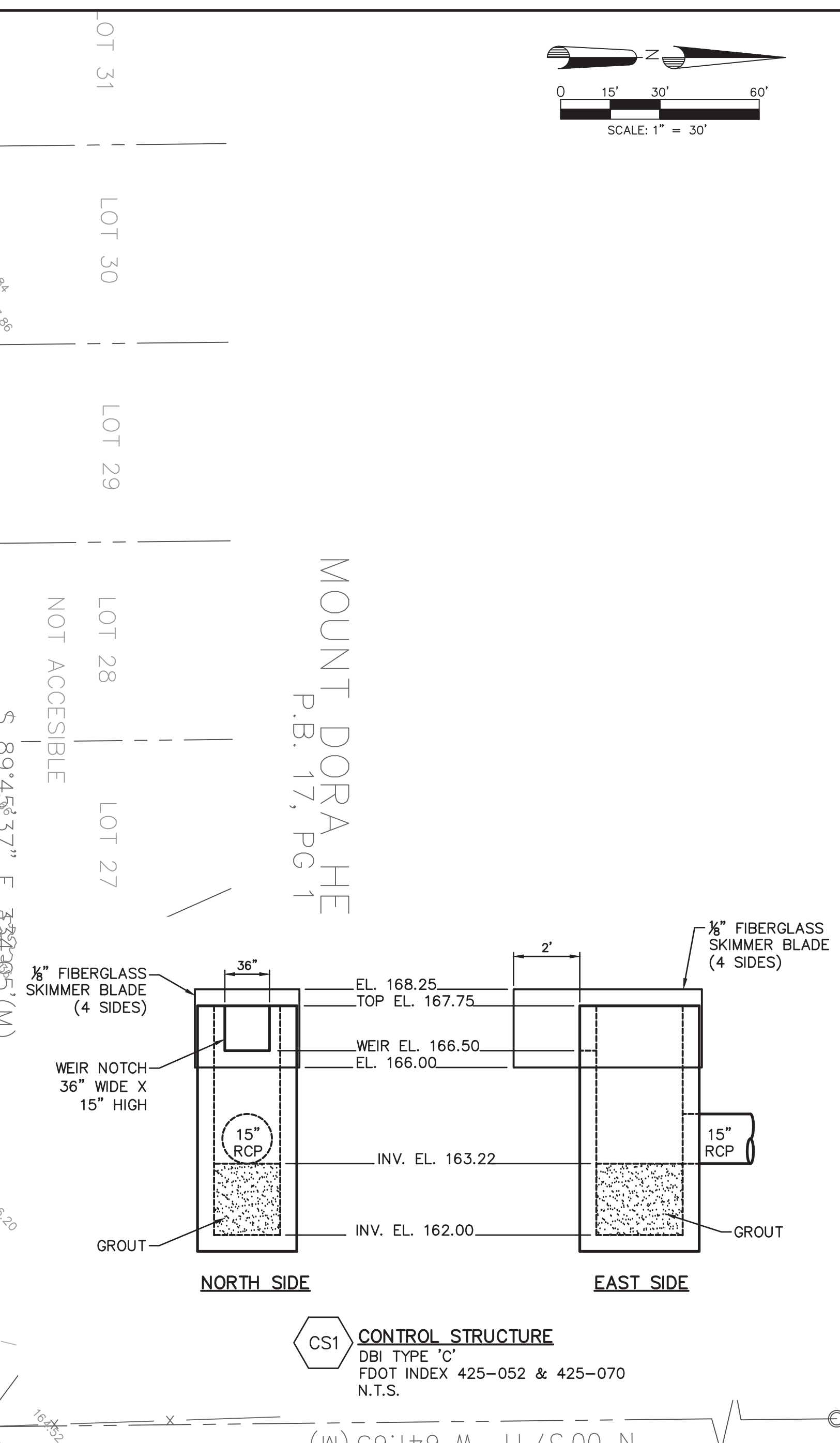
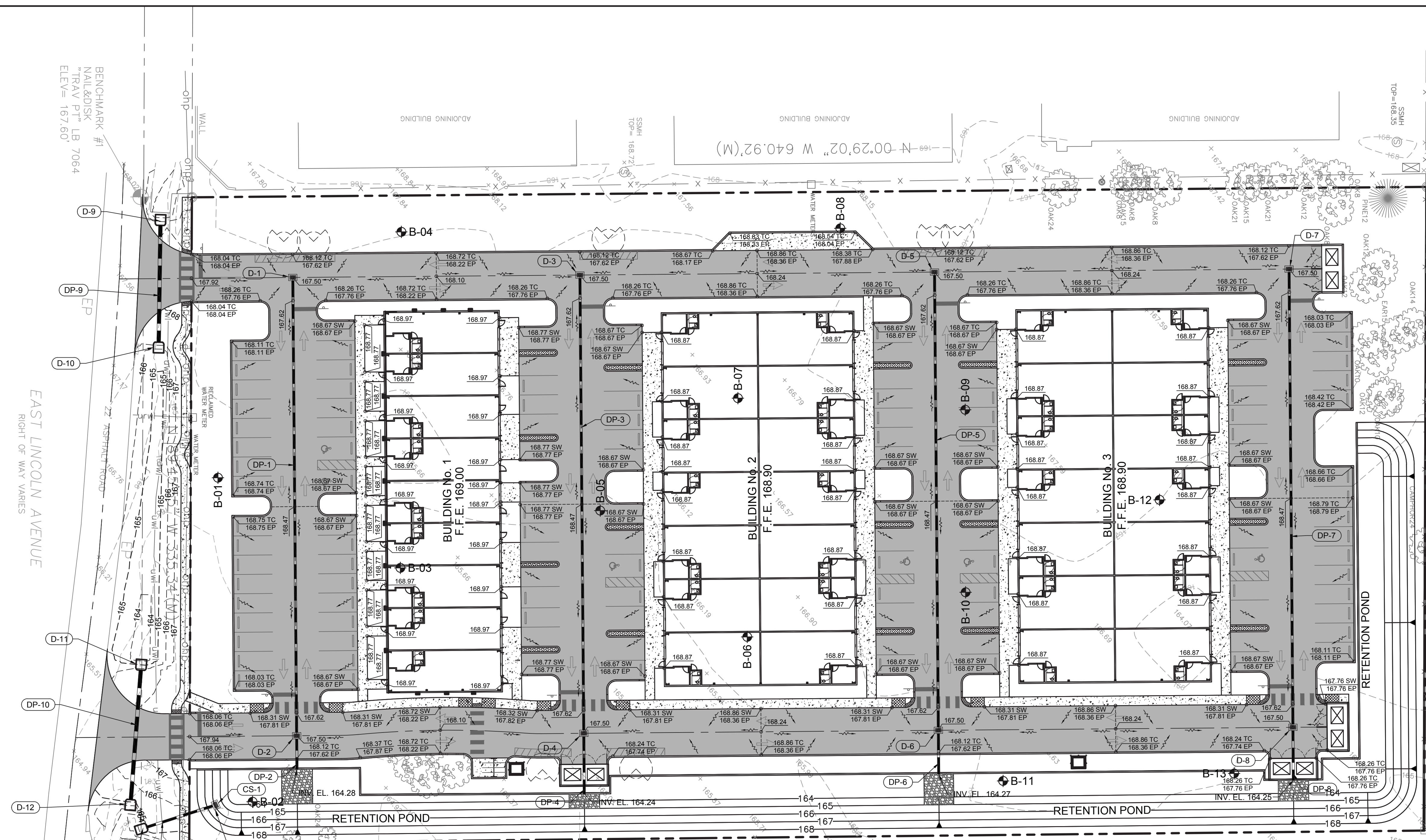
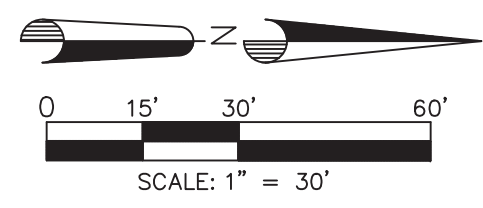
6312 BUFORD STREET, UNIT 702, ORLANDO, FLORIDA 32835
TELEPHONE (407) 399-1161 • FAX (407) 668-4412

GEOMETRY SITE PLAN

MOUNT DORA COMMERCE PARK

CITY OF MOUNT DORA FLORIDA

PROJECT NO.	24-002
DATE	MAY 2025
SCALE	1" = 30'
SHEET	4 OF 17

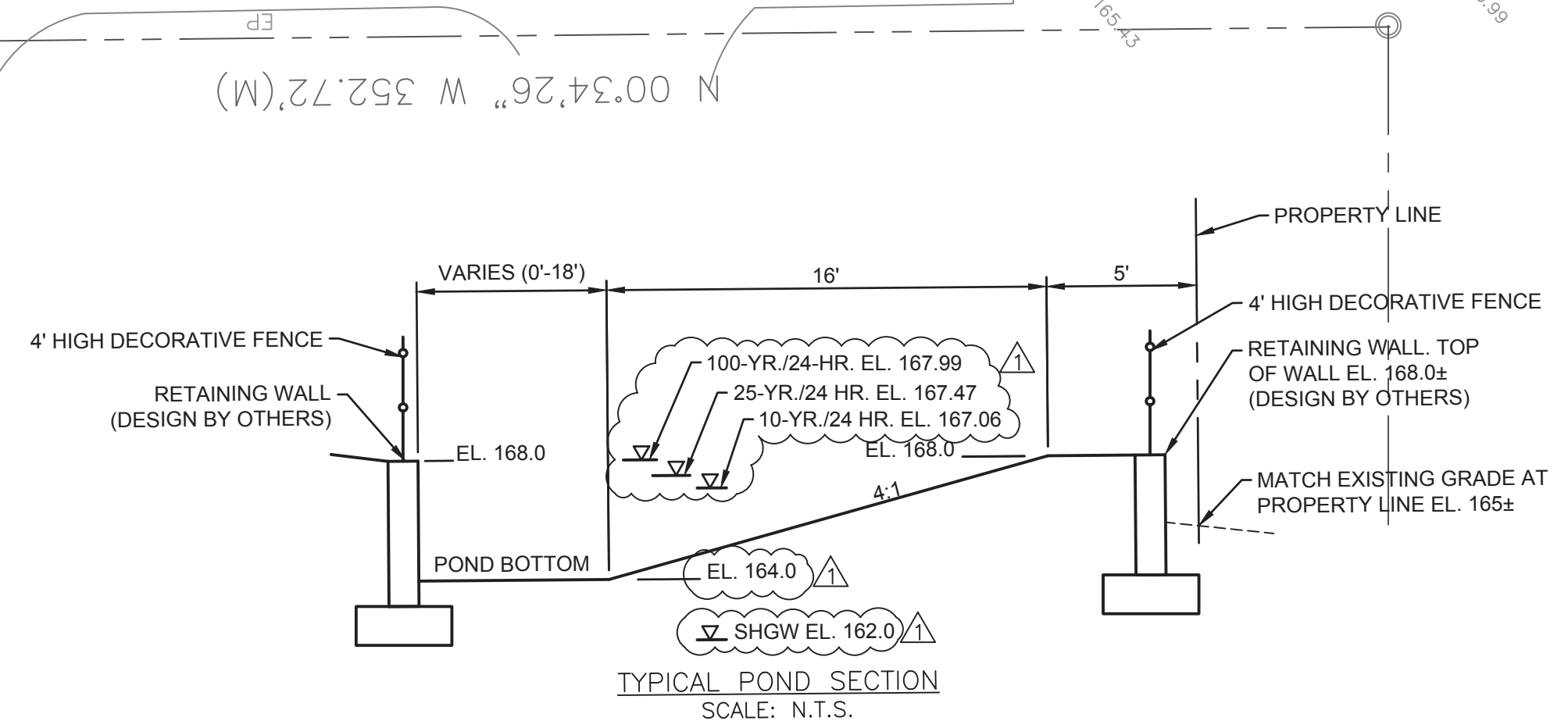


STORM DRAINAGE STRUCTURE TABLE

STRUCTURE No.	STRUCTURE TYPE	GRATE OR TOP EL.	GRATE OR TOP EL. AS-BUILT	INV. EL.	INV. EL. AS-BUILT	PIPE No.
CS-1	CONTROL STRUCTURE	167.00	163.22(S)(15" RCP)	163.22(S)(15" RCP)	167.76 EP	DP-11
D-1	FDOT TYPE C INLET	167.50	165.05(E)(15" RCP)	165.05(E)(15" RCP)	167.76 EP	DP-1
D-2	FDOT TYPE C INLET	167.50	164.34(W)(15" RCP) 164.34(E)(15" RCP)	164.34(W)(15" RCP) 164.34(E)(15" RCP)	167.76 EP	DP-1 DP-2
D-3	FDOT TYPE C INLET	167.50	165.05(E)(15" RCP)	165.05(E)(15" RCP)	167.76 EP	DP-3
D-4	FDOT TYPE C INLET	167.50	164.34(W)(15" RCP) 164.34(E)(15" RCP)	164.34(W)(15" RCP) 164.34(E)(15" RCP)	167.76 EP	DP-3 DP-4
D-5	FDOT TYPE C INLET	167.50	165.05(E)(15" RCP)	165.05(E)(15" RCP)	167.76 EP	DP-5
D-6	FDOT TYPE C INLET	167.50	164.34(W)(15" RCP) 164.34(E)(15" RCP)	164.34(W)(15" RCP) 164.34(E)(15" RCP)	167.76 EP	DP-5 DP-6
D-7	FDOT TYPE C INLET	167.50	165.05(E)(15" RCP)	165.05(E)(15" RCP)	167.76 EP	DP-7
D-8	FDOT TYPE C INLET	167.50	164.34(W)(15" RCP) 164.34(E)(15" RCP)	164.34(W)(15" RCP) 164.34(E)(15" RCP)	167.76 EP	DP-7 DP-8
D-9	14"X23" MES	166.90	165.50(E)(14" X 23" ERCP)	165.50(E)(14" X 23" ERCP)	167.76 EP	DP-9
D-10	14"X23" MES	166.70	165.31(W)(14" X 23" ERCP)	165.31(W)(14" X 23" ERCP)	167.76 EP	DP-9
D-11	14"X23" MES	165.30	163.90(E)(14" X 23" ERCP)	163.90(E)(14" X 23" ERCP)	167.76 EP	DP-10
D-12	14"X23" MES	164.50	163.10(W)(14" X 23" ERCP)	163.10(W)(14" X 23" ERCP)	167.76 EP	DP-10
D-13	15" M.E.S.	164.54	163.10(N)(15" RCP)	163.10(N)(15" RCP)	167.76 EP	DP-11

STORM DRAINAGE PIPE TABLE

PIPE No.	SIZE	LENGTH	AS-BUILT LENGTH	SLOPE	AS-BUILT SLOPE	FROM STRUCTURE No.	TO STRUCTURE No.
DP-1	15" RCP	238'		0.30%		D-1	D-2
DP-2	15" RCP	17'		0.30%		D-2	D-4
DP-3	15" RCP	238'		0.30%		D-3	D-4
DP-4	15" RCP	32'		0.30%		D-4	D-4
DP-5	15" RCP	238'		0.30%		D-5	D-6
DP-6	15" RCP	23'		0.30%		D-6	D-8
DP-7	15" RCP	238'		0.30%		D-7	D-8
DP-8	15" RCP	27'		0.30%		D-8	D-8
DP-9	14" X 23" ERCP	65'		0.30%		D-9	D-10
DP-10	14" X 23" ERCP	72'		1.11%		D-11	D-12
DP-11	15" RCP	40'		0.30%		CS-1	D-13



DATE	REVISIONS	REVISED BY	CHECKED BY	CADD FILE NAME
8/11/25	REVISED PER CITY OF MOUNT DORA AND CPH COMMENTS	SML	FJT	G3_MountDoraPCD.dwg

TAWILL ENGINEERING, INC.
CIVIL ENGINEERING DESIGN • CONSULTING • PERMITTING
CERTIFICATE OF AUTHORIZATION: 6625

6312 BUFORD STREET, UNIT 702, ORLANDO, FLORIDA 32835
TELEPHONE (407) 399-1161 • FAX (407) 668-4412

PAVING, GRADING AND DRAINAGE PLAN

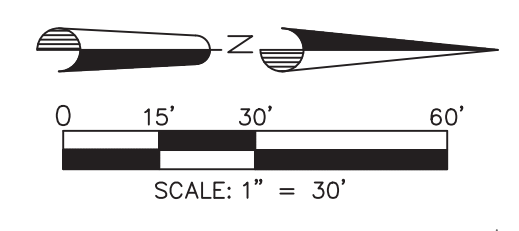
MOUNT DORA COMMERCE PARK

CITY OF MOUNT DORA FLORIDA

PROJECT NO.	24-002
DATE	MAY 2025
SCALE	1" = 30'
SHEET	5 OF 17

FARID J. TAWILL, P.E.
FLORIDA LIC. No. 38845

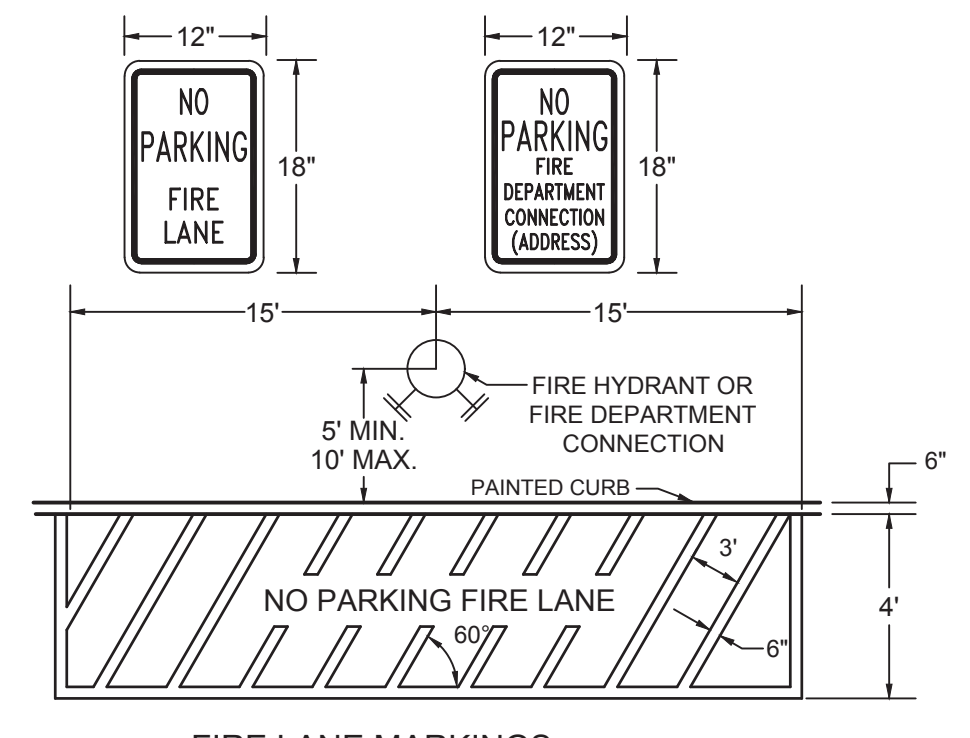




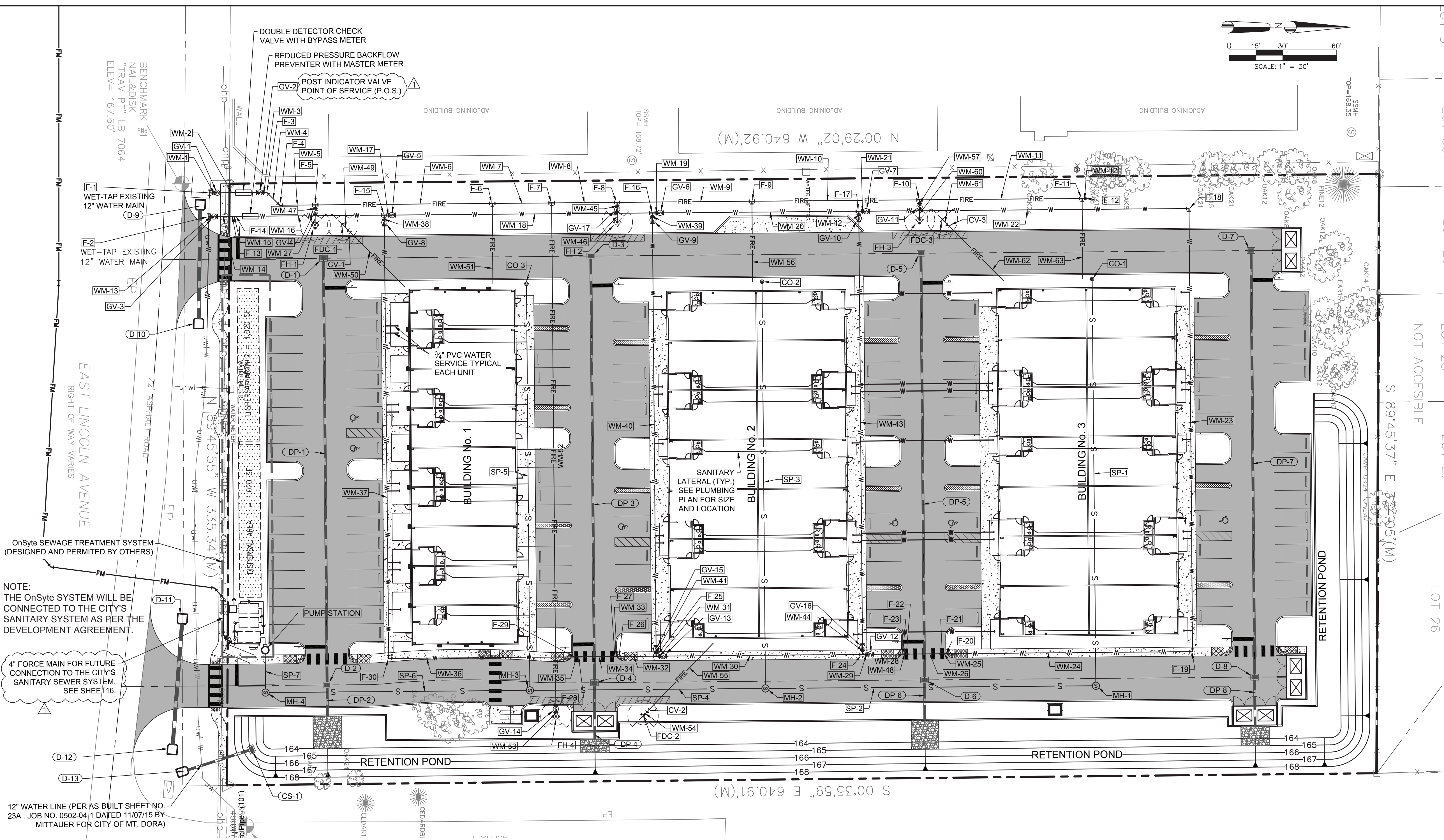
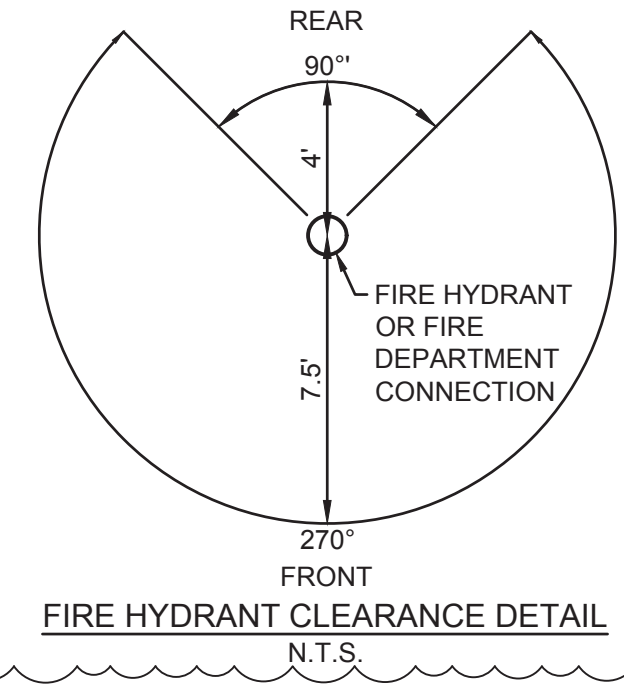
SANITARY SEWER STRUCTURE TABLE						
STRUCTURE No.	STRUCTURE TYPE	TOP EL.	TOP EL. AS-BUILT	INV. EL.	INV. EL. AS-BUILT	PIPES
CO-1	6" CLEAN-OUT	168.90		165.30(E)(6" PVC)		SP-1
CO-2	6" CLEAN-OUT	168.90		165.30(E)(6" PVC)		SP-3
CO-3	6" CLEAN-OUT	168.50		165.30(E)(6" PVC)		SP-5
MH-1	SAN. M.H.	168.25		163.00(W)(6" PVC) 162.80(S)(8" PVC)		SP-1 SP-2
MH-2	SAN. M.H.	168.25		162.00(N)(8" PVC) 162.20(W)(6" PVC) 161.96(S)(8" PVC)		SP-2 SP-3 SP-4
MH-3	SAN. M.H.	167.83		161.44(N)(8" PVC) 161.60(W)(6" PVC) 161.34(S)(8" PVC)		SP-4 SP-5 SP-6
MH-4	SAN. M.H.	167.81		160.75(N)(8" PVC) 160.65(W)(8" PVC)		SP-6 SP-7
PUMP	PUMP STATION	168.50		160.55(E)(8" PVC)		

SANITARY SEWER PIPE TABLE						
PIPE No.	SIZE & MATERIAL	LENGTH	AS-BUILT LENGTH	SLOPE	AS-BUILT SLOPE	FROM STRUCTURE No. TO STRUCTURE No.
SP-1	6" PVC	225'		1.01%		CO-1 MH-1
SP-2	8" PVC	180'		0.40%		MH-1 MH-2
SP-3	6" PVC	224'		1.37%		CO-2 MH-2
SP-4	8" PVC	127'		0.40%		MH-2 MH-3
SP-5	6" PVC	224'		1.63%		CO-3 MH-3
SP-6	8" PVC	143'		0.40%		MH-3 MH-4
SP-7	8" PVC	20'		0.40%		MH-4 PUMP

- NOTES:
- FIRE HYDRANTS AND FIRE DEPARTMENT CONNECTIONS (FDC) SHALL LOCATED NOT LESS THAN 40 FEET FROM BUILDINGS TO BE PROTECTED.
 - FIRE HYDRANTS AND FIRE DEPARTMENT CONNECTIONS (FDC) SHALL BE SET BACK AT LEAST 5 FEET BUT NO MORE THAN 10 FEET FROM ANY ROAD OR CURB.
 - THE BODY OF PUBLIC FIRE HYDRANTS SHALL BE PAINTED YELLOW IN COLOR. THE BODY OF PRIVATE FIRE HYDRANTS SHALL BE PAINTED SILVER IN COLOR. COLOR CODING OF THE HYDRANTS TO ILLUSTRATE AVAILABLE FIRE FLOW RATINGS SHALL BE ACCOMPLISHED PER THE GUIDELINES OF NFPA 291. RECOMMENDED PRACTICES FOR FIRE FLOW TESTING AND MARKING OF HYDRANTS.



- SIGNS SHALL BE HIGH INTENSITY RETROREFLECTIVE, TWELVE (12) INCHES WIDE BY EIGHTEEN (18) INCHES IN HEIGHT, WHITE WITH THREE-INCH HIGH RED LETTERS NOT LESS THAN ONE-HALF INCH WIDE TO READ "NO PARKING FIRE LANE".
- SIGNS SHALL BE DOUBLE FACED, FACE THE DIRECTION OF TRAFFIC FLOW AND SPACED NOT GREATER THAN SIXTY (60) FEET APART. NO PART OF THE FIRE LANE SHALL BE FURTHER THAN 30 FEET FROM A SIGN.
- SIGNS SHALL BE MOUNTED ON METAL POSTS, NOT LESS THAN TWO (2) INCHES IN SIZE.
- THE MINIMUM HEIGHT, MEASURED VERTICALLY FROM THE BOTTOM OF THE SIGN TO THE TOP OF THE CURB, OR IN THE ABSENCE OF CURB, MEASURED VERTICALLY FROM THE BOTTOM OF THE SIGN TO THE ELEVATION OF THE NEAR EDGE OF THE TRAVELED WAY SHALL BE 7 FEET.
- WHERE A CURB IS PROVIDED, SIX INCHES (6") OF CURB TOP AND FACE TO BE TRAFFIC YELLOW (FOOT TRAFFIC RATED PAVEMENT PAINT). STRIPES SHALL BE SIX INCHES (6") WIDE EXTENDING OUTWARD TO A WIDTH OF FOUR (4) FEET FROM CURB WITH THREE (3) FEET BETWEEN EACH STRIPE. STRIPING TO BE TWO (2) COATS OF YELLOW, FDOT TRAFFIC-RATED PAVEMENT PAINT.
- LETTERS NOT LESS THAN FOUR (4) INCHES IN HEIGHT AND NOT LESS THAN TWO (2) INCHES IN WIDTH WITHIN THE STRIPING (BETWEEN THE POSTED SIGNS) TO READ "NO PARKING FIRE LANE". LETTERING TO BE TRAFFIC YELLOW FDOT TRAFFIC RATED PAVEMENT PAINT.
- SIGNS AND PAINTING ARE TO BE MAINTAINED BY THE PROPERTY OWNER.



WATER PIPE TABLE		
PIPE NAME	LENGTH	DESCRIPTION
WM-1	3'	8" PVC (DR 14)
WM-2	23'	8" PVC (DR 14)
WM-3	3'	8" PVC (DR 14)
WM-4	9'	8" PVC (DR 14)
WM-5	19'	8" PVC (DR 14)
WM-6	97'	8" PVC (DR 14)
WM-7	32'	8" PVC (DR 14)
WM-8	35'	8" PVC (DR 14)
WM-9	74'	8" PVC (DR 14)
WM-10	92'	8" PVC (DR 14)
WM-11	89'	8" PVC (DR 14)
WM-12	1'	8" PVC (DR 14)
WM-13	2'	4" PVC
WM-14	9'	4" PVC
WM-15	2'	4" PVC
WM-16	82'	4" PVC

WATER PIPE TABLE		
PIPE NAME	LENGTH	DESCRIPTION
WM-17	3'	4" PVC
WM-18	144'	4" PVC
WM-19	3'	4" PVC
WM-20	110'	4" PVC
WM-21	3'	4" PVC
WM-22	179'	4" PVC
WM-23	246'	4" PVC
WM-24	136'	4" PVC
WM-25	2'	4" PVC
WM-26	19'	4" PVC
WM-27	7'	6" PVC (DR 14)
WM-28	17'	4" PVC
WM-29	3'	4" PVC
WM-30	110'	4" PVC
WM-31	3'	4" PVC
WM-32	20'	4" PVC

WATER PIPE TABLE		
PIPE NAME	LENGTH	DESCRIPTION
WM-33	2'	4" PVC
WM-34	20'	4" PVC
WM-35	2'	4" PVC
WM-36	103'	4" PVC
WM-37	242'	4" PVC
WM-38	3'	4" PVC
WM-39	3'	4" PVC
WM-40	238'	4" PVC
WM-41	3'	4" PVC
WM-42	3'	4" PVC
WM-43	238'	4" PVC
WM-44	3'	4" PVC
WM-45	3'	6" PVC (DR 14)
WM-46	7'	6" PVC (DR 14)
WM-47	3'	6" PVC (DR 14)
WM-48	2'	4" PVC

WATER PIPE TABLE		
PIPE NAME	LENGTH	DESCRIPTION
WM-49	5'	4" PVC (DR 14)
WM-50	43'	4" PVC (DR 14)
WM-51	44'	6" PVC (DR 14)
WM-52	281'	6" PVC (DR 14)
WM-53	4'	6" PVC (DR 14)
WM-54	4'	4" PVC (DR 14)
WM-55	52'	4" PVC (DR 14)
WM-56	44'	6" PVC (DR 14)
WM-57	3'	6" PVC (DR 14)
WM-60	7'	6" PVC (DR 14)
WM-61	4'	4" PVC (DR 14)
WM-62	43'	4" PVC (DR 14)
WM-63	44'	6" PVC (DR 14)

WATER FITTING TABLE	
FITTING NAME	FITTING DESCRIPTION
F-1	12" X 8" TEE
F-2	12" X 4" TEE
F-3	8" 45 BEND
F-4	8" 45 BEND
F-5	8" X 6" TEE
F-6	8" X 6" TEE
F-7	8" X 6" TEE
F-8	8" X 6" TEE
F-9	8" X 6" TEE
F-10	8" X 6" TEE
F-11	8" X 6" TEE
F-12	8" CAP
F-13	4" 45 BEND
F-14	4" 45 BEND
F-15	4" TEE

WATER FITTING TABLE	
FITTING NAME	FITTING DESCRIPTION
F-16	4" TEE
F-17	4" TEE
F-18	4" 90 BEND
F-19	4" 90 BEND
F-20	4" 45 BEND
F-21	4" 45 BEND
F-22	4" 45 BEND
F-23	4" 45 BEND
F-24	4" TEE
F-25	4" TEE
F-26	4" 45 BEND
F-27	4" 45 BEND
F-28	4" 45 BEND
F-29	4" 45 BEND
F-30	4" 90 BEND

WATER APPURTENANCE TABLE	
APPURTENANCE NAME	APPURTENANCE DESCRIPTION
CV-1	4" CHECK VALVE
CV-2	4" CHECK VALVE
CV-3	4" CHECK VALVE
FDC-1	FIRE DEPT. CONNECTION
FDC-2	FIRE DEPT. CONNECTION
FDC-3	FIRE DEPT. CONNECTION
FH-1	FIRE HYDRANT
FH-2	FIRE HYDRANT
FH-3	FIRE HYDRANT
FH-4	FIRE HYDRANT
GV-1	8" TAPPING VALVE
GV-2	POST INDICATOR VALVE (POINT OF CONNECTION)
GV-3	4" GATE VALVE
GV-4	6" GATE VALVE
GV-5	4" GATE VALVE

WATER APPURTENANCE TABLE	
APPURTENANCE NAME	APPURTENANCE DESCRIPTION
GV-6	4" GATE VALVE
GV-7	4" GATE VALVE
GV-8	4" GATE VALVE
GV-9	3" GATE VALVE
GV-10	3" GATE VALVE
GV-11	6" GATE VALVE
GV-12	4" GATE VALVE
GV-13	4" GATE VALVE
GV-14	6" GATE VALVE
GV-15	4" GATE VALVE
GV-16	4" GATE VALVE
GV-17	6" GATE VALVE

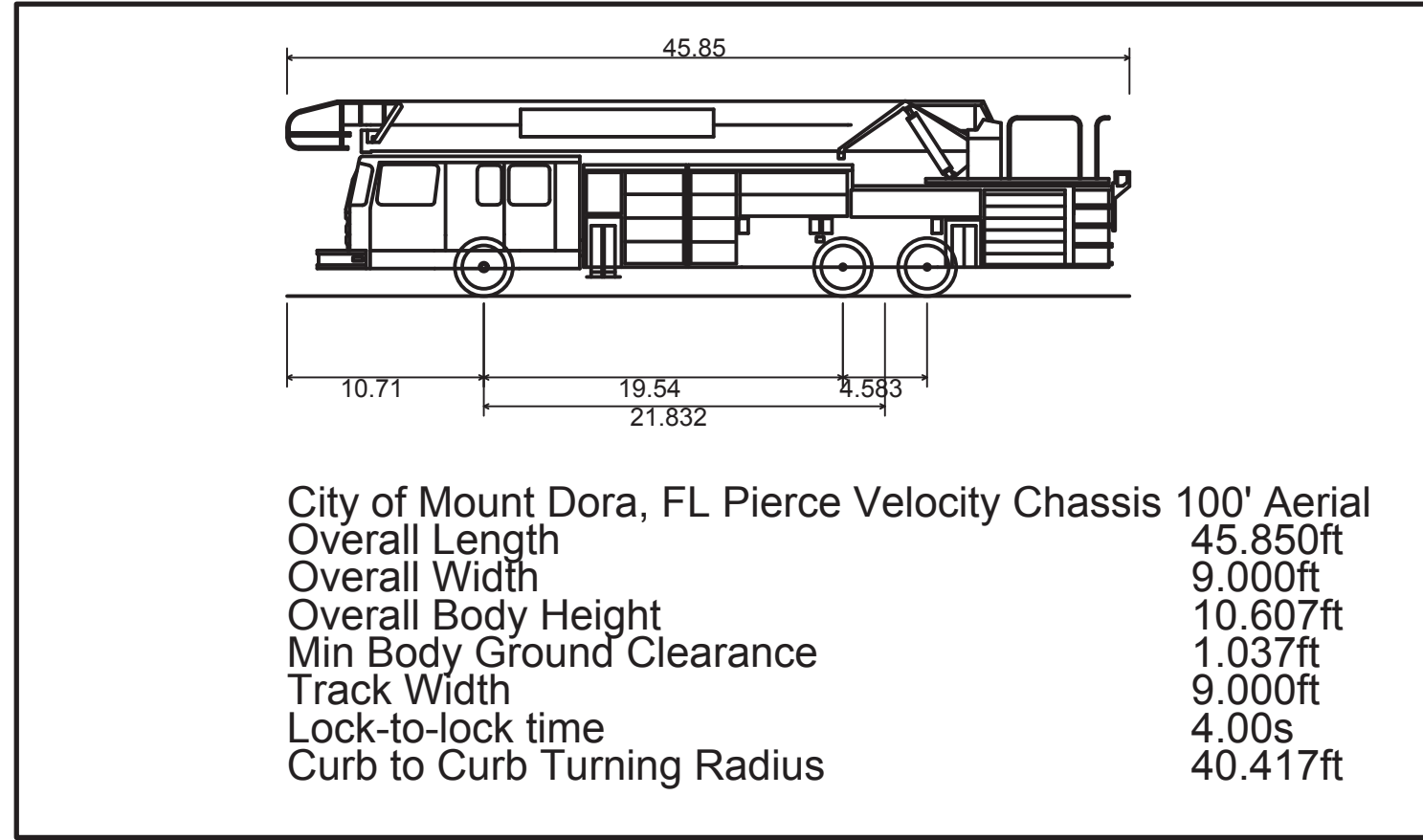
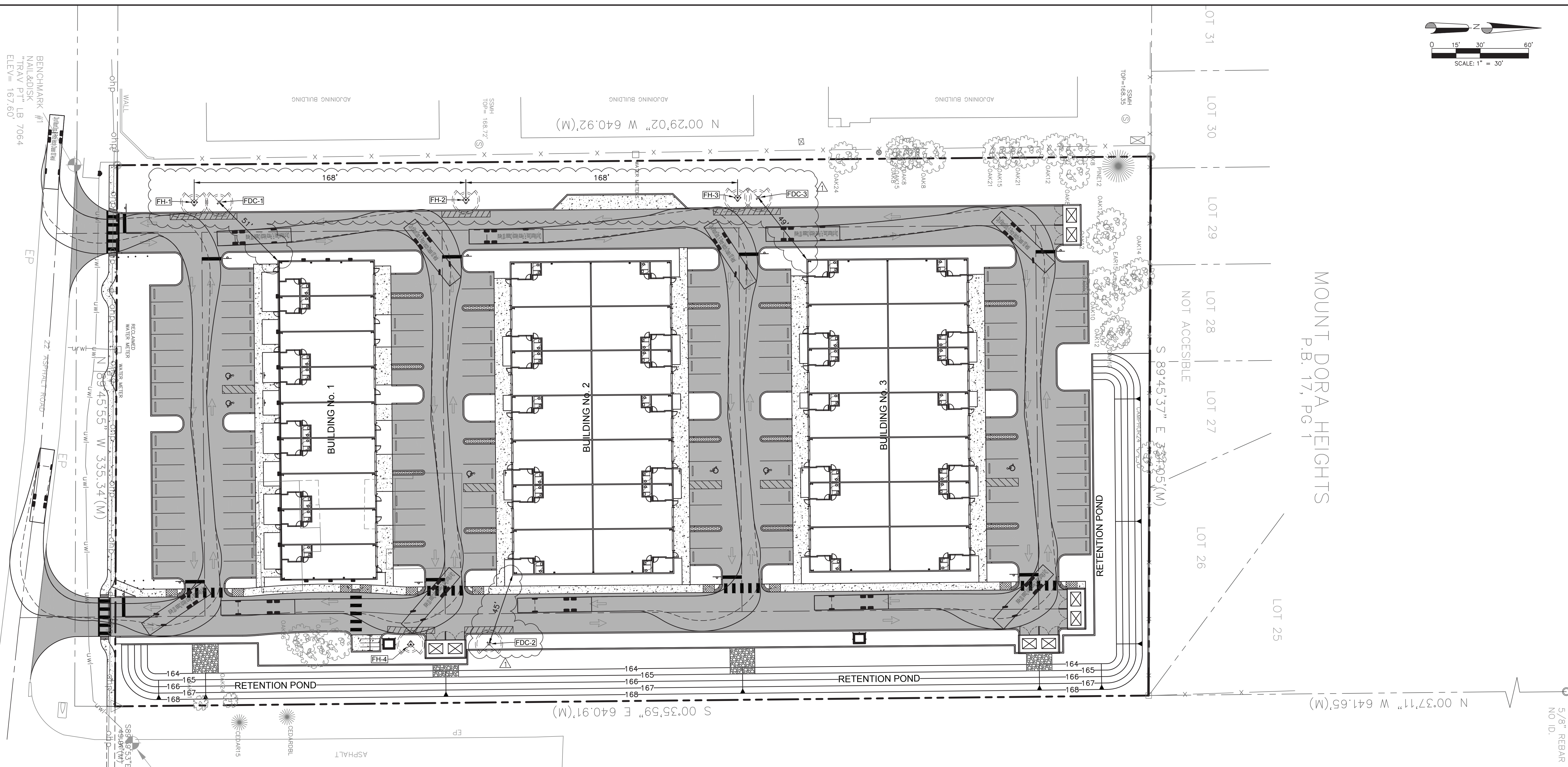
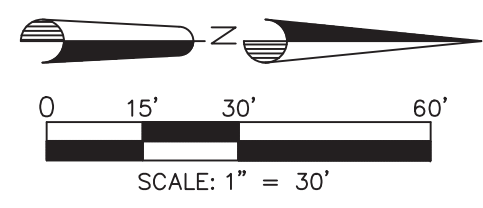
DATE	REVISIONS	REVISED BY	CHECKED BY	CADD FILE NAME
8/11/25	REVISED PER CITY OF MOUNT DORA AND CPH COMMENTS	SML	FJT	G3_MountDoraUtility.dwg

TAWILL ENGINEERING, INC.
 CIVIL ENGINEERING DESIGN • CONSULTING • PERMITTING
 CERTIFICATE OF AUTHORIZATION: 6625
 6312 BUFORD STREET, UNIT 702, ORLANDO, FLORIDA 32835
 TELEPHONE (407) 399-1161 • FAX (407) 668-4412

UTILITY PLAN
MOUNT DORA COMMERCE PARK
 CITY OF MOUNT DORA
 FLORIDA

PROJECT NO. 24-002
 DATE MAY 2025
 SCALE 1" = 30'
 SHEET 6 OF 17





QWEMTB, LLC
ALT KEY 1447364

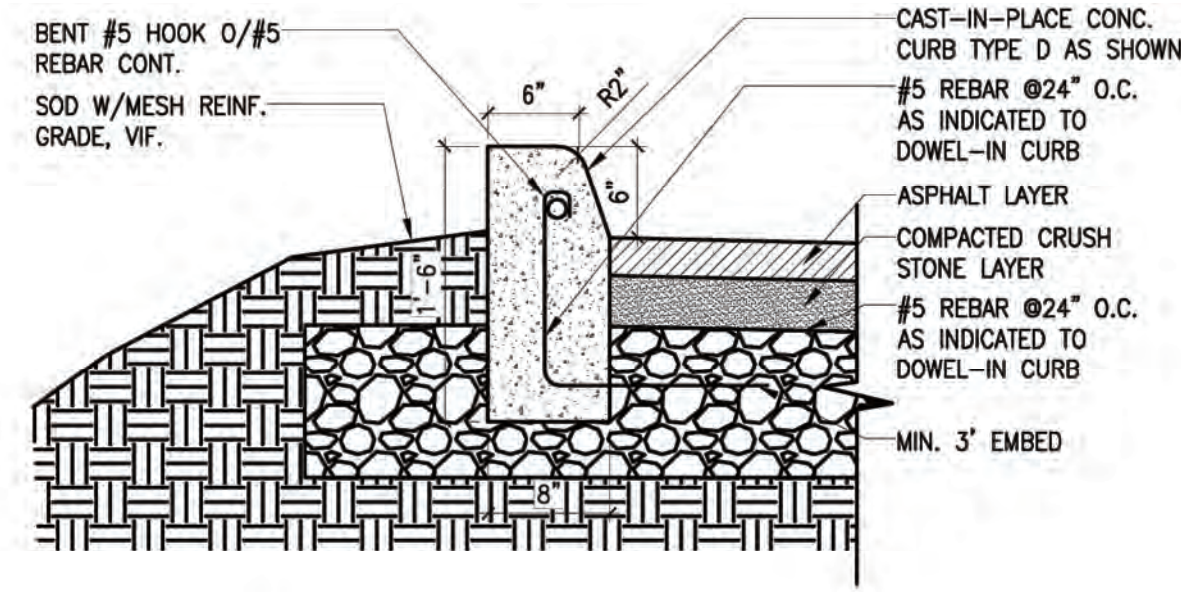


DATE	REVISIONS	REVISED BY	CHECKED BY	CADD FILE NAME
8/11/25	REVISED PER CITY OF MOUNT DORA AND CPH COMMENTS	SML	FJT	G3_MountDoraFireTruckTurn.dwg

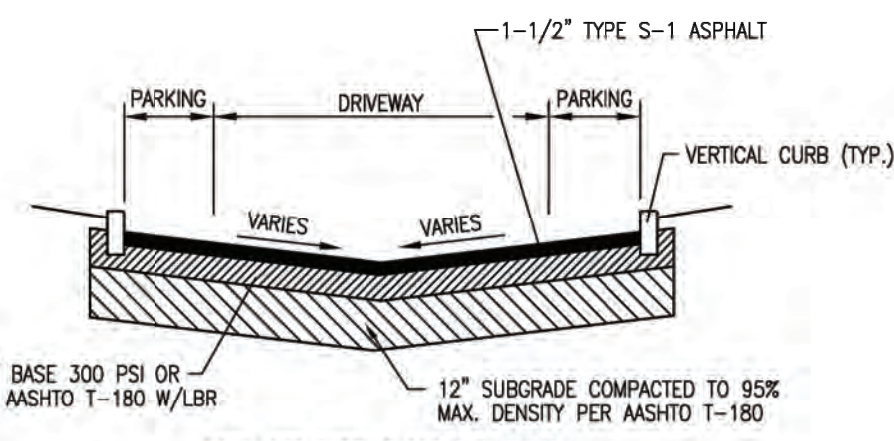
TAWILL ENGINEERING, INC.
CIVIL ENGINEERING DESIGN • CONSULTING • PERMITTING
CERTIFICATE OF AUTHORIZATION: 6625
6312 BUFORD STREET, UNIT 702, ORLANDO, FLORIDA 32835
TELEPHONE (407) 399-1161 • FAX (407) 668-4412

FIRE TRUCK TURNING ANALYSIS
MOUNT DORA COMMERCE PARK
CITY OF MOUNT DORA FLORIDA

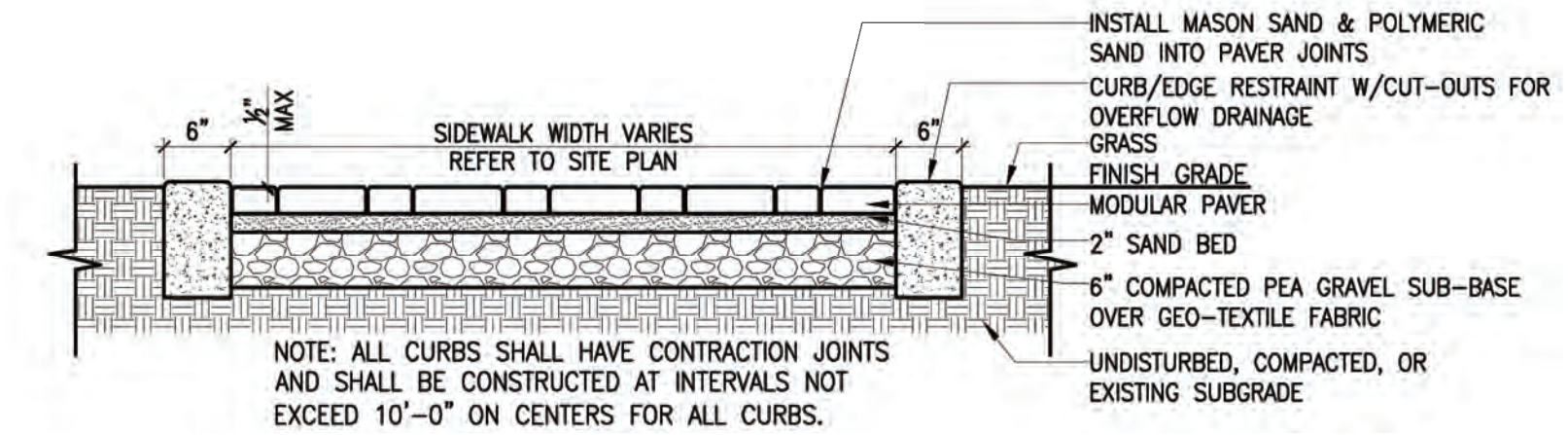
PROJECT NO.	24-002
DATE	MAY 2025
SCALE	1" = 30'
SHEET	7 OF 17



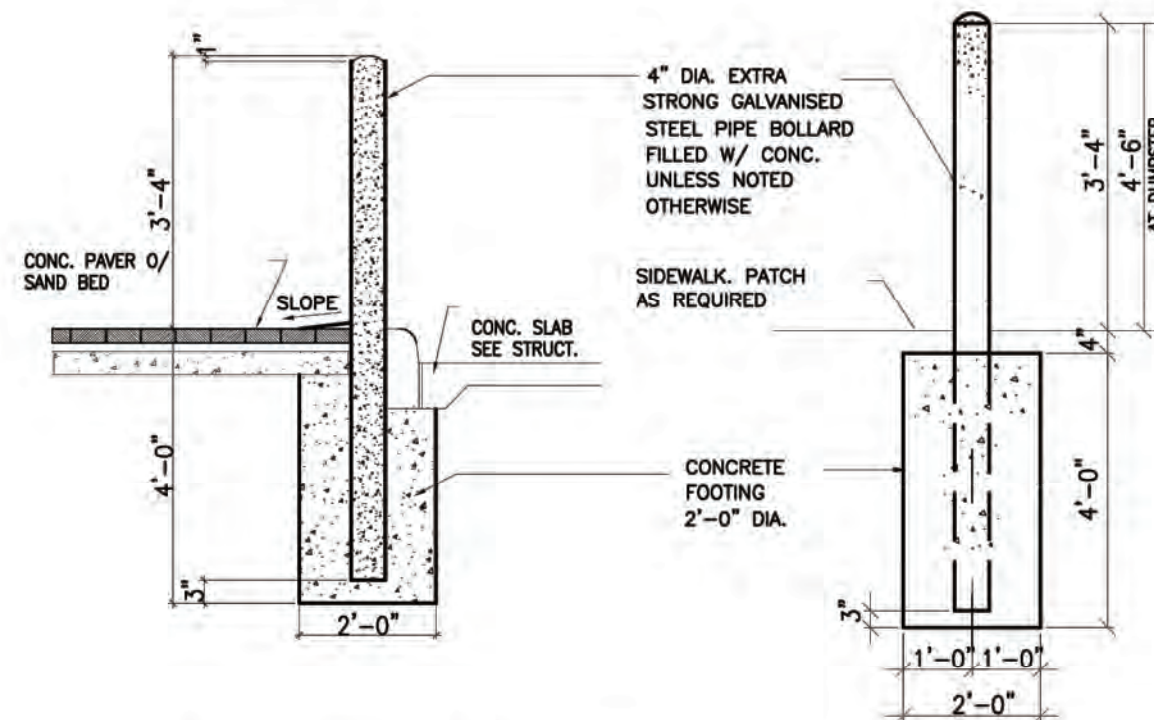
11 D-CURB DETAIL
SCALE: 1/2"=1'-0"



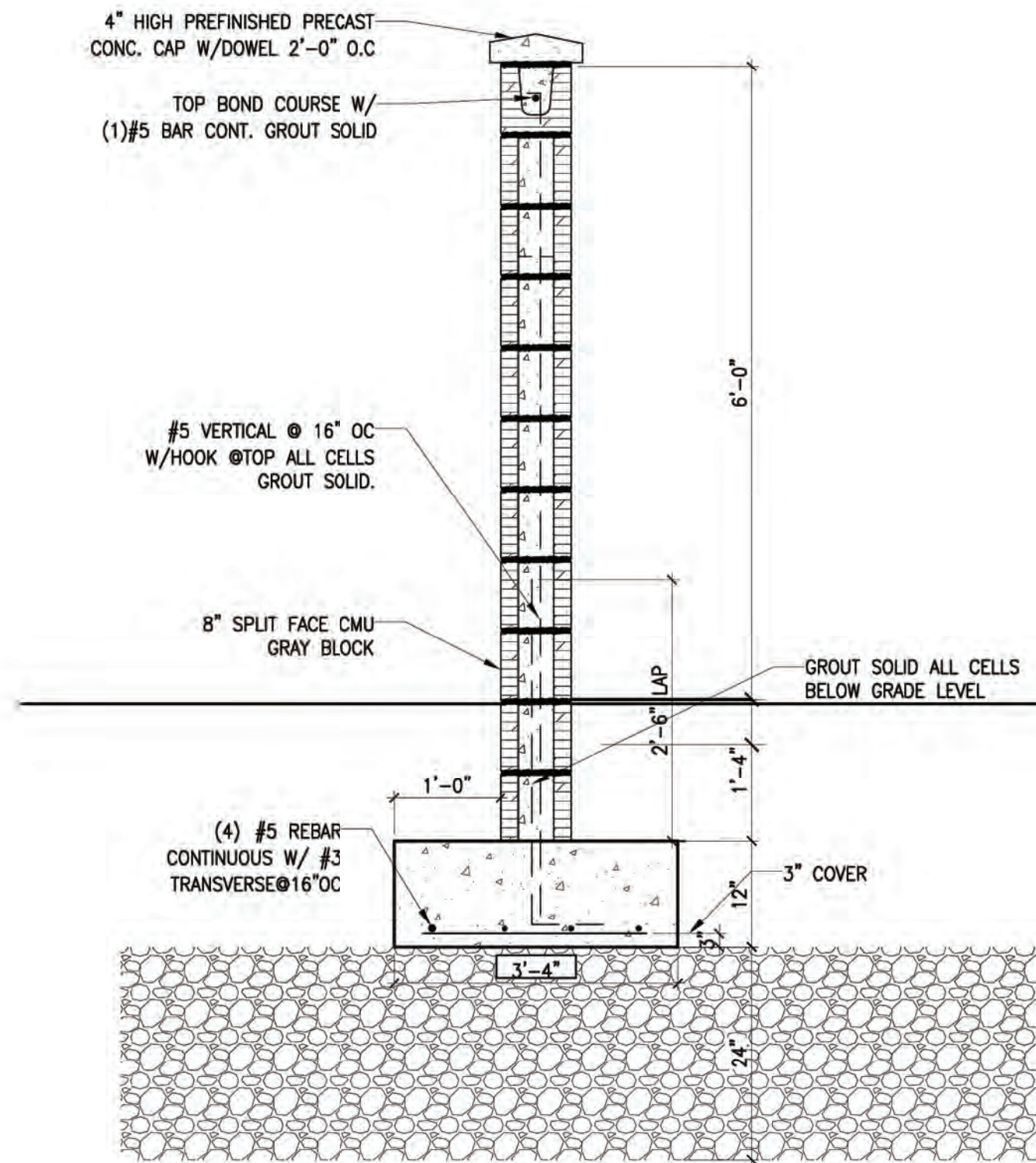
13 ASPHALT PAVEMENT DETAIL
SCALE: 1/2"=1'-0"



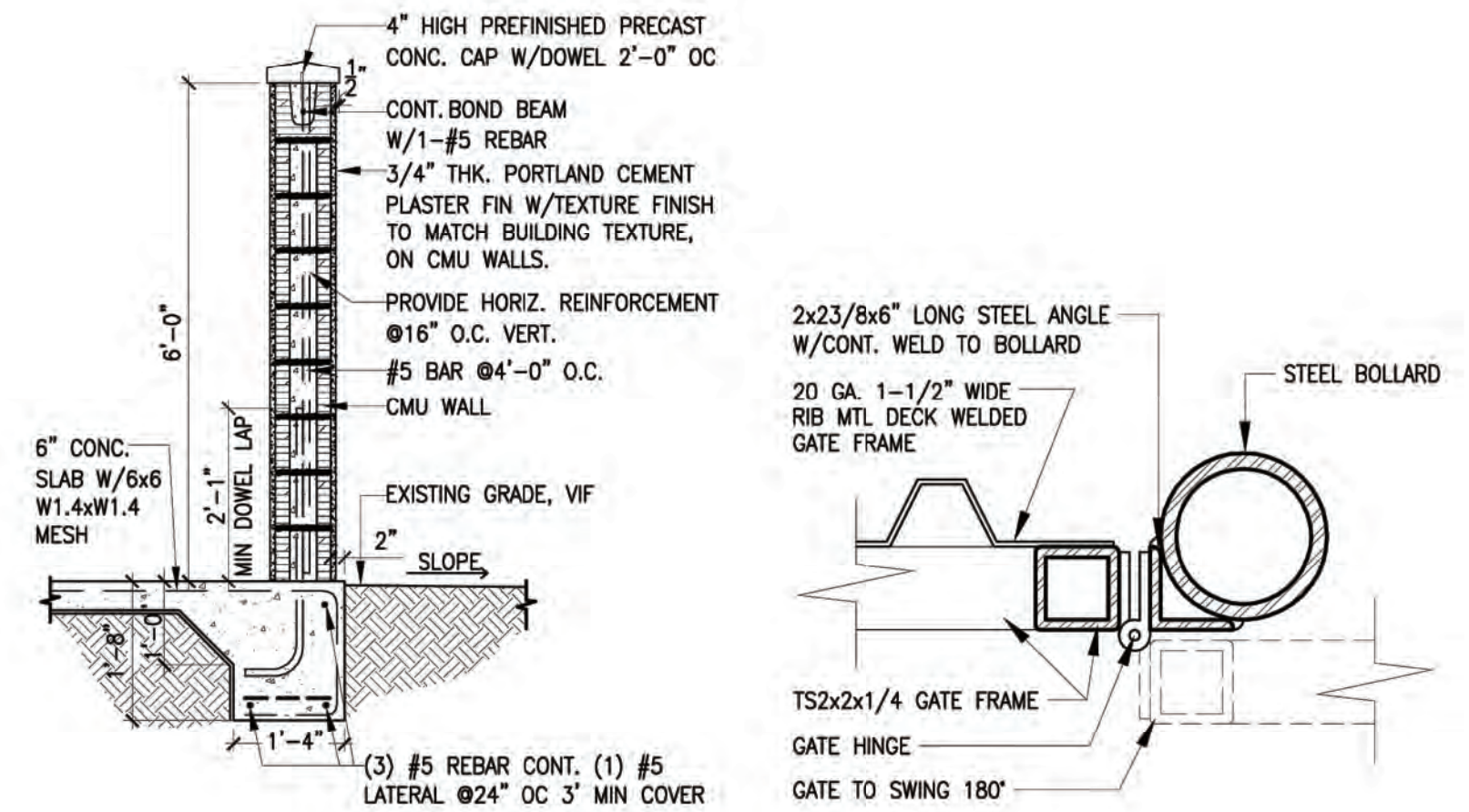
5 PAVER BLOCK SIDEWALK DETAIL
SCALE: 3/4"=1'-0"



10 BOLLARD DETAILS
SCALE: NTS



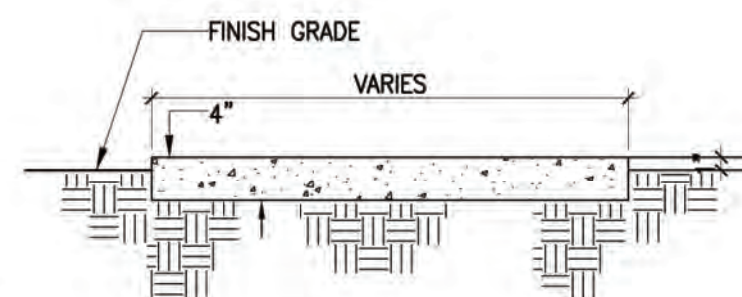
12 6' HIGH WALL DETAIL
SCALE: 3/4"=1'-0"



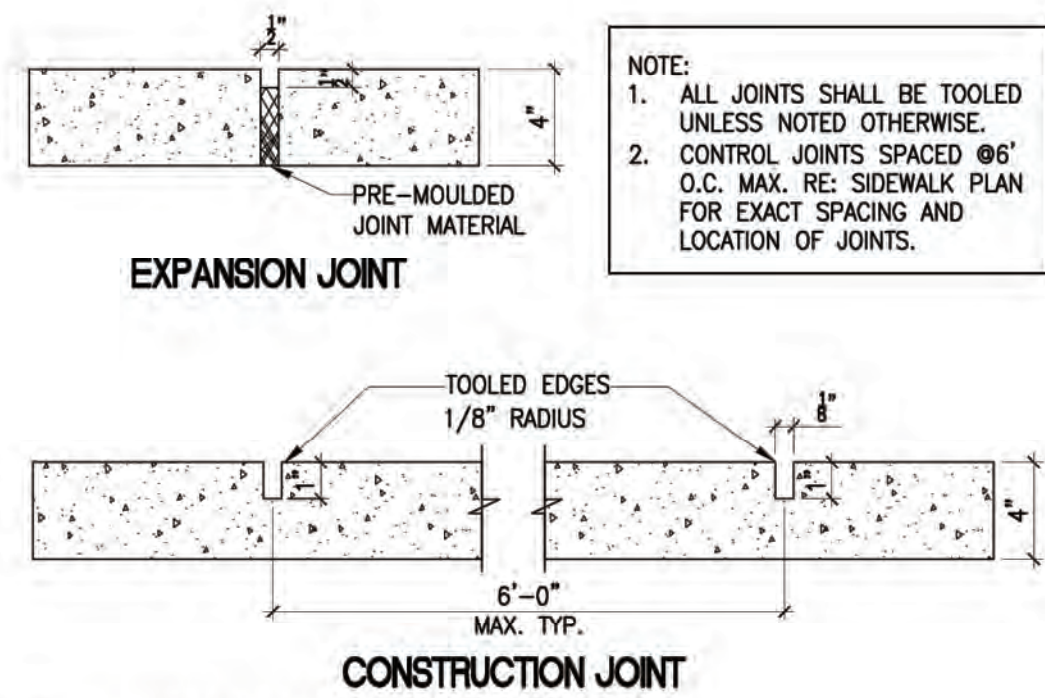
3 DUMPSTER WALL
SCALE: 1/2"=1'-0"

4 GATE POST/HINGE
SCALE: 1-1/2"=1'-0" TYP. DETAIL

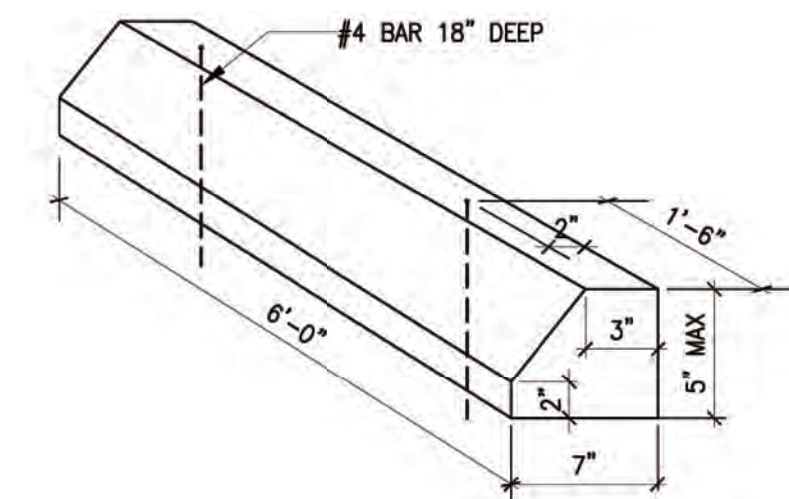
NOTE:
1. SEE CIVIL DWGS FOR SIDEWALK DIMENSIONS
2. ALL EXTERIOR CONCRETE SIDEWALKS SHALL BE 4\"/>



9 SIDEWALK DETAIL
SCALE: 3/4"=1'-0"

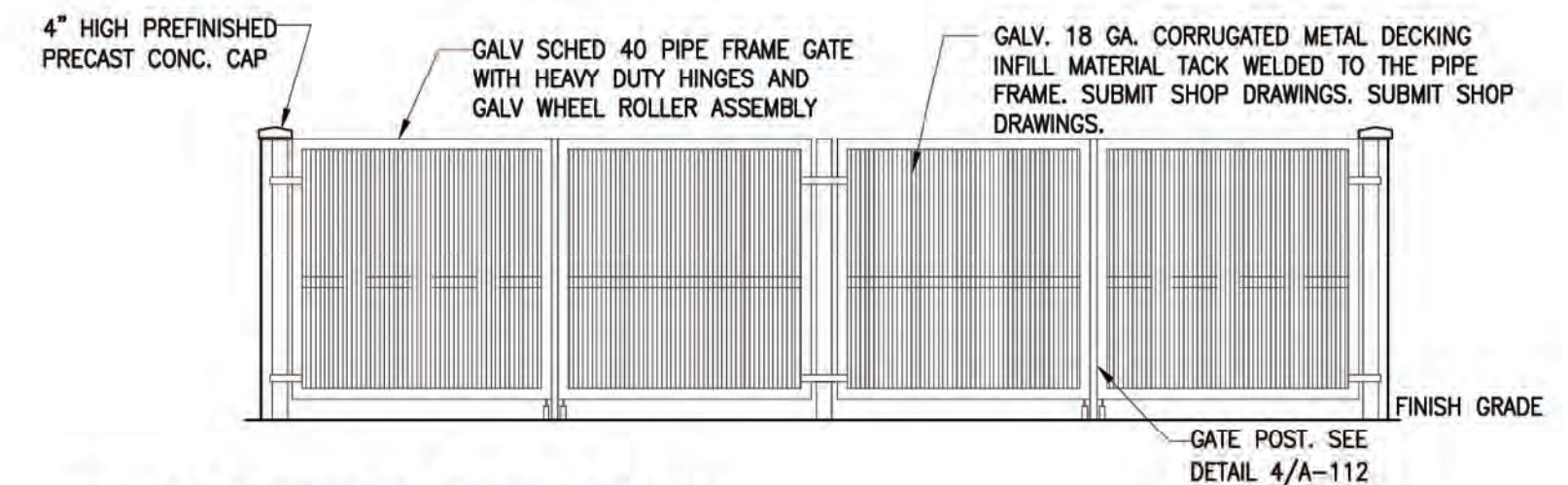


7 SIDEWALK DETAIL
SCALE: 3/4"=1'-0"

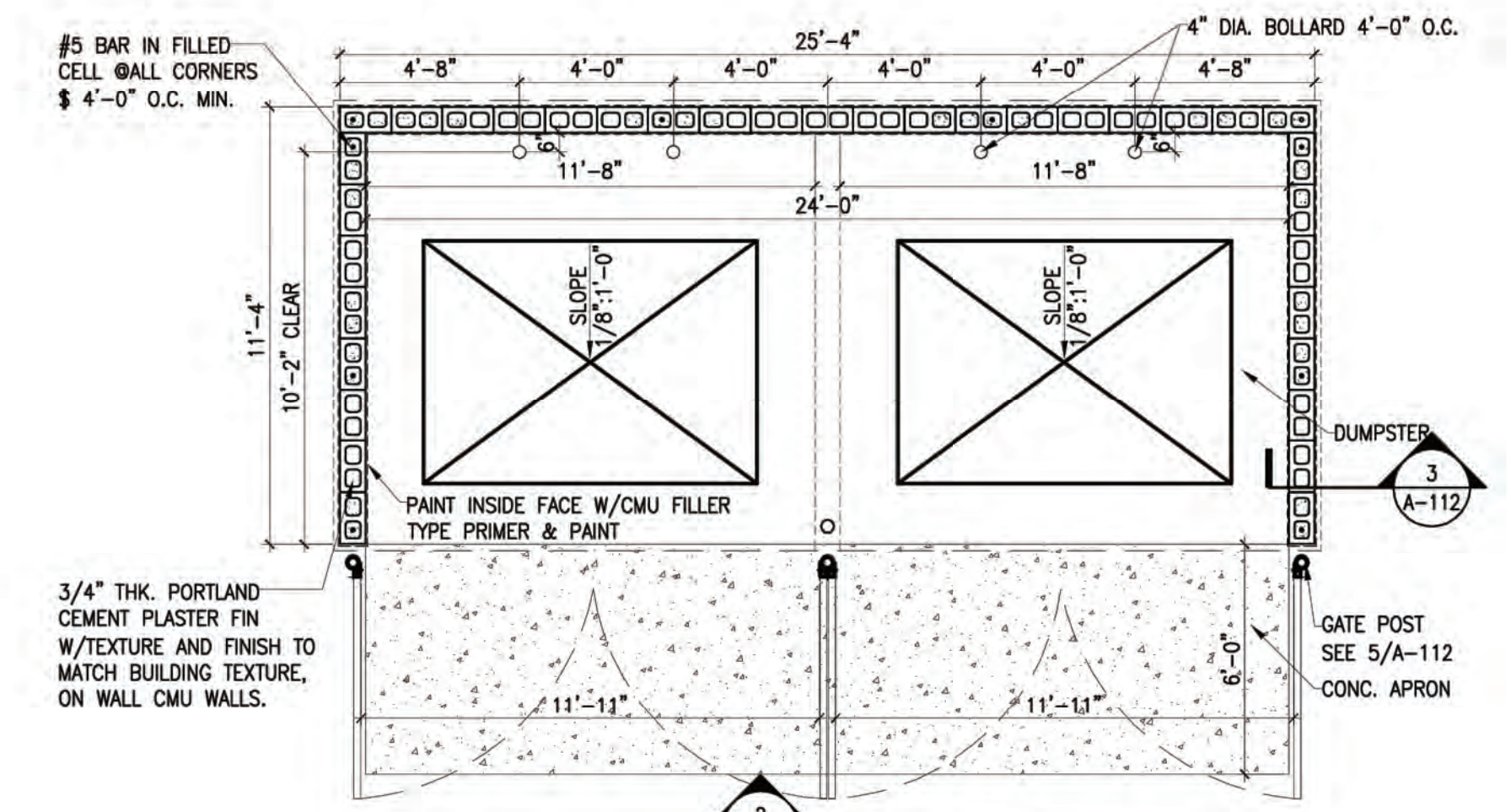


8 CONCRETE WHEELS STOP DETAIL
SCALE: NTS

6 NOT USED
SCALE: NTS



2 DUMPSTER ELEVATION
SCALE: 1/4"=1'-0"



1 ENLARGED DUMPSTER PLAN
SCALE: 1/4"=1'-0"



DATE	REVISIONS	REVISED BY	CHECKED BY	CADD FILE NAME
8/11/25	REVISED PER CITY OF MOUNT DORA AND CPH COMMENTS	SML	FJT	G3_MountDoraGeneralDetails.dwg

TAWILL ENGINEERING, INC.
CIVIL ENGINEERING DESIGN • CONSULTING • PERMITTING
CERTIFICATE OF AUTHORIZATION: 6625
6312 BUFORD STREET, UNIT 702, ORLANDO, FLORIDA 32835
TELEPHONE (407) 399-1161 • FAX (407) 668-4412

GENERAL DETAILS
MOUNT DORA COMMERCE PARK
CITY OF MOUNT DORA
FLORIDA

PROJECT NO.	24-002
DATE	MAY 2025
SCALE	N.T.S.
SHEET	8 OF 17

GENERAL UTILITIES CONSTRUCTION NOTES

- THE PUBLIC SERVICES DEPARTMENT MUST BE NOTIFIED A MINIMUM OF 48 HOURS PRIOR TO ANY WORK ON EXISTING CITY OF MOUNT DORA UTILITIES. THE CONTRACTOR MUST CONTACT, JOSH KRAMM, UTILITY LINE MANAGER AT HIS OFFICE (352) 735-7151 OR CELL PHONE (352) 516-3691, DISTRIBUTION SUPERVISOR - OFFICE (352) 735-7151 OR CELL PHONE (352) 460-7922, RUSSELL HOPPER, COLLECTION & LIFT STATION SUPERVISOR - OFFICE (352) 735-7151 OR CELL PHONE (352) 973-2032.
- NO GRADING, CUTTING, OR FILLING SHALL COMMENCE UNTIL SUCH TIME AS APPROPRIATE EROSION AND SEDIMENTATION CONTROL DEVICES HAVE BEEN INSTALLED BETWEEN THE DISTURBED AREA AND WATER BODIES, WATERCOURSES OR WETLANDS.
- CONSTRUCTION MUST BE PER THE DRC APPROVED SITE PLAN. DEVIATIONS IN ROADWAY, UTILITY OR DRAINAGE CONSTRUCTION WILL REQUIRE WRITTEN APPROVAL OF THE CITY ENGINEER OR THE DIRECTOR OF PUBLIC SERVICES. (NOTE: SIGNIFICANT CHANGES FROM THE DRC APPROVED PLAN MAY REQUIRE THE OWNER/DEVELOPER TO SUBMIT A REVISED SITE PLAN THROUGH THE DRC FOR REVIEW.)
- CONTRACTOR SHALL PROVIDE AN EMERGENCY CONTACT NUMBER LIST FOR KEY SITE PERSONNEL.
- ENGINEER OF RECORD REVIEWED SHOP DRAWING SUBMITTALS ARE REQUIRED FOR ALL WATER/ SEWER/ RECLAIMED AND STORMWATER SYSTEMS TO BE DEDICATED TO THE CITY OF MOUNT DORA. TWO SETS ARE REQUIRED FOR REVIEW. ONE SET WILL BE RETURNED TO THE ENGINEER OF RECORD.
- OFF SITE OR ROADWAY RIGHT OF WAY CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL CONDITIONS OF THE APPROVED R/W PERMITS. A COPY OF THE APPROVED R/W PERMIT MUST BE KEPT ON-SITE AND READILY AVAILABLE DURING ALL CONSTRUCTION ACTIVITIES WITHIN THE R/W.
- THE PUBLIC SERVICES DEPARTMENT MUST BE NOTIFIED A MINIMUM OF 48 HOURS PRIOR TO UTILITY TESTING. THE CONTRACTOR MUST CONTACT, JOSH KRAMM, UTILITY LINE MANAGER, AT HIS OFFICE (352) 735-7151 OR CELL (352) 516-3691, DISTRIBUTION SUPERVISOR - OFFICE (352) 735-7151 OR CELL PHONE (352) 460-7922, RUSSELL HOPPER, COLLECTION & LIFT STATION SUPERVISOR - OFFICE (352) 735-7151 OR CELL PHONE (352) 973-2032. HYDROSTATIC TESTING SHALL BE PER THE APPLICABLE PROVISIONS AS SET FORTH IN AWWA STANDARDS. (MINIMUM 150 PSI @ 2 HOURS - POTABLE/RECLAIMED AND MINIMUM 100 PSI @ 2 HOURS - FORCE MAINS).
- GRAVITY SEWER PIPING TESTS SHALL BE IN ACCORDANCE WITH UNI-BELL PVC PIPE ASSOCIATION; "RECOMMENDED PRACTICES FOR LOW-PRESSURE AIR TESTING OF INSTALLED SEWER PIPE". THE CONTRACTOR WILL BE REQUIRED TO PROVIDE VIDEO INSPECTION OF THE ENTIRE LINE DEMONSTRATING SATISFACTORY WORKMANSHIP AND SHOWING POSITIVE FLOW WITHIN THE SANITARY SYSTEM. ANY DEFECTS IN WORKMANSHIP, AREAS OF STANDING WATER OR "BELLIES" SHALL BE CAUSE FOR REJECTION. ONE DVD FORMAT COPY OF THE VIDEO INSPECTION MUST BE PROVIDED TO THE PUBLIC SERVICES DEPARTMENT.
- THE CONTRACTOR WILL BE REQUIRED TO PROVIDE INSPECTION OF ALL STORM SYSTEM PIPES DEMONSTRATING SATISFACTORY WORKMANSHIP AND SHOWING POSITIVE FLOW WITHIN THE DRAINAGE SYSTEM. ANY DEFECTS IN WORKMANSHIP, AREAS OF STANDING WATER OR "BELLIES" SHALL BE CAUSE FOR REJECTION. ONE DVD FORMAT COPY OF THE VIDEO INSPECTION MUST BE PROVIDED TO THE PUBLIC SERVICES DEPARTMENT.
- AFTER JUMPER CONNECTION IS REMOVED, WATER & RECLAIMED WATER SERVICES MUST BE LOCKED OUT AND KEY SUPPLIED TO CITY.
- FOLLOWING SATISFACTORY PRESSURE TESTING, THE CONTRACTOR SHALL DISINFECT ALL SECTIONS OF THE WATER DISTRIBUTION SYSTEM, AND RECEIVE APPROVAL THEREOF FROM THE APPROPRIATE AGENCIES, PRIOR TO PLACING IN SERVICE. ADVANCE NOTICE SHALL BE PROVIDED TO THE CITY BEFORE DISINFECTING PROCEDURE START. THE DISINFECTING SHALL BE ACCOMPLISHED WITH THE APPLICABLE PROVISIONS OF AWWA STANDARD, "DISINFECTING WATER MAINS" AND ALL APPROPRIATE AGENCY APPROVALS.

STANDARD CONSTRUCTION DETAIL
GENERAL NOTES

GU001-1A
ISSUED: 2017
REVISED: -

GENERAL UTILITIES CONSTRUCTION NOTES

- COPIES OF SATISFACTORY BACTERIOLOGICAL TESTING AND THE FDEP "LETTER OF RELEASE REQUEST" SIGNED BY THE ENGINEER OF RECORD MUST BE SUBMITTED TO THE CITY ENGINEER FOR PROCESSING. NO POTABLE WATER LINE SHALL BE PLACED INTO SERVICE WITHOUT RECEIPT OF FDEP AUTHORIZATION.
- FDEP CLEARANCE REQUEST MUST BE SUBMITTED THROUGH THE PUBLIC WORKS AND UTILITY DEPARTMENT.
- EARTHWORK, PAVEMENT AND CONCRETE CONSTRUCTION NOT SPECIFICALLY ADDRESSED BY THE CITY LDC, SHALL BE THE CURRENT FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, WHICHEVER IS MORE STRINGENT.
- COPIES OF ALL MATERIALS AND COMPACTION TESTING PER THE CURRENT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION MUST BE PROVIDED PRIOR TO CLOSEOUT.
- THE PUBLIC SERVICES DEPARTMENT REQUIRES A PRE-CLOSEOUT FIELD REVIEW WITH THE CONTRACTOR/SITE DEVELOPER. THE CONTRACTOR MUST CONTACT PUBLIC SERVICES-ENGINEERING AT (352) 735-7151, TO COORDINATE. ALL ISSUES IDENTIFIED AT THE FIELD REVIEW MUST BE ADDRESSED PRIOR TO PUBLIC SERVICES FINAL CLOSE OUT APPROVAL.
- LIFT STATION START UP WILL REQUIRE A MINIMUM OF 48 HOURS PRIOR NOTIFICATION TO THE CITY. THE CONTRACTOR MUST CONTACT JOSH KRAMM, UTILITY LINE MANAGER, AT (352) 735-7151 OR (352) 551-9263 OR RUSSELL HOPPER, COLLECTION & LIFT STATION SUPERVISOR - OFFICE (352) 735-7151 OR CELL PHONE (352) 973-2032 TO COORDINATE THE START UP INSPECTION.
- ALL MANUALS FOR LIFT STATION CONTROL PANELS, GENERATORS, AND PUMPS WILL BE REQUIRED PRIOR TO START UP. THESE MANUALS WILL BE SUBJECT TO CITY REVIEW / APPROVAL TO INCLUDE O&M MANUALS. NO LIFT STATION WILL BE ACCEPTED UNTIL SATISFACTORY DOCUMENTATION HAS BEEN PROVIDED. ANY LIFT STATION PUMP, SIZED LARGER THAN 20 HP, SHALL BE PROVIDED WITH A REBUILD KIT CONSISTING OF BEARINGS SEALS, O-RINGS AND WEAR RINGS. ALSO, A TOOL KIT WITH BOX IS REQUIRED.
- DEDICATION OF IMPROVEMENTS TO THE PUBLIC SHALL BE IN ACCORDANCE WITH THE CITY OF MOUNT DORA LDC 4.3.4(4)(A) - BONDS, 5.3.5(1) - BONDS, AND 7.2.4 - BONDS AND WARRANTIES. THE CITY'S LAND DEVELOPMENT CODE IS AVAILABLE ONLINE AT WWW.MUNICODE.COM FOR YOUR REFERENCE.
- AS-BUILT DRAWINGS - PER LDC 7.13.6: OWNER / DEVELOPER SHALL PROVIDE FOUR HARD COPIES AND ONE ELECTRONIC OF THE APPROVED FINAL ENGINEERING PLANS CONFORMED TO SHOW ALL AS-BUILT CONDITIONS. AS-BUILTS MUST SHOW ACCURATE MEASUREMENTS OF WATER AND SEWER LINES AND STRUCTURES FROM FIXED KNOWN LOCATIONS WITHIN THE DEVELOPMENT. CERTIFICATION OF THE PROJECT ENGINEER ATTESTING TO THE ACCURACY OF THE DRAWINGS IF REQUIRED, CITY ACCEPTANCE OF IMPROVEMENTS AND / OR ISSUANCE OF OCCUPANCY WILL BE WITHHELD UNTIL SATISFACTORY AS-BUILTS ARE PROVIDED.

STANDARD CONSTRUCTION DETAIL
GENERAL NOTES

GU001-1B
ISSUED: 2017
REVISED: -

MANHOLE FRAME & COVER

NOTES:

- ARTERIAL ROADWAYS- USF RING AND COVER SERIES 170-BJ. HEAVY DUTY LOAD RATING. COVER WEIGHT 217#, TOTAL WEIGHT 372#.
- ALL OTHER APPLICATIONS- USF RING AND COVER SERIES 170-J. HEAVY DUTY LOAD RATING. COVER WEIGHT 150#, TOTAL WEIGHT 305#.
- CITY IDENTIFIER SHALL BE USED FOR CITY OWNED STRUCTURES ONLY. PRIVATE FACILITIES SHALL ONLY BE IDENTIFIED AS TO USE.

MANHOLE FRAME & COVER

GU002-1
ISSUED: 2017
REVISED: -

GENERAL NOTES:

ALL UTILITY PIPE SHALL BE INSTALLED WITH 3 INCH WIDE SELF ADHESIVE VINYL CONTINUOUS TAPE, FOR IDENTIFICATION PURPOSES. TAPE SHALL BE COLOR CODED AND WORDED AS FOLLOWS:
(NOTE: TRACING WIRE INSULATION SHALL BE SIMILARLY COLOR CODED)

- POTABLE WATER.
A. COLOR: BLUE WITH BLACK LETTERING
B. LETTERING: POTABLE WATER MAIN OR SIMILAR WORDING.
- RECLAIMED WATER.
A. COLOR: PURPLE WITH WHITE OR YELLOW LETTERING.
B. LETTERING: RECLAIMED WATER OR SIMILAR WORDING.
- FIRE LINES.
A. COLOR: RED WITH BLACK LETTERING
B. LETTERING: FIRE LINE OR SIMILAR WORDING.
- GRAVITY SEWER.
A. COLOR: BROWN OR GREEN WITH BLACK LETTERING.
B. LETTERING: SEWER LINE OR SIMILAR WORDING.
- SEWER FORCE MAIN.
A. COLOR: GREEN WITH BLACK LETTERING.
B. LETTERING: SEWER FORCE MAIN OR SIMILAR WORDING.

PIPE IDENTIFICATION
DUCTILE IRON

GU003-1
ISSUED: 2017
REVISED: -

TRACING WIRE GENERAL NOTES:

- ALL PIPE SHALL BE INSTALLED WITH 12 GA. SOLID COPPER TRACING WIRE AS MANUFACTURED BY COPPERHEAD TAPED TO PIPE AT 10" INTERVALS. TRACING WIRE MUST BE INSTALLED DIRECTLY ABOVE THE PIPE IN A CONTINUOUS CIRCUIT AND BROUGHT TO THE SURFACE AT VALVE BOXES, METER BOXES, MANHOLES, CLEANOUTS, ETC., AS FOLLOWS:
- POTABLE WATER AND RECLAIMED WATER SYSTEMS-TRACING WIRE SHALL ALLOW TRACEABILITY OF ALL PIPE BRANCHES INCLUDING THOSE FOR HYDRANTS AND SERVICE CONNECTIONS. TRACING WIRE SHALL EXTEND A MINIMUM OF 12" ABOVE GRADE AT EACH INTERVAL AND SHALL BE COILED AND PLACED IN A PVC PIPE FOR EASY ACCESSIBILITY.
- FORCE MAINS-TRACING WIRE SHALL EXTEND A MINIMUM OF 12" ABOVE GRADE AT EACH INTERVAL AND SHALL BE COILED AND PLACED IN A VALVE OR METER BOX FOR EASY ACCESSIBILITY.
- ON DEAD END MAINS THE TRACING WIRE SHALL BE PLACED IN A PROPERLY IDENTIFIED PVC VALVE BOX AT THE END OF THE RUN.
- WATER TIGHT SPLICE SHALL BE APPROVED BY THE CITY OF MT. DORA AND SHALL BE COPPERHEAD DIRECT BURY CONNECTIONS.
- SEE DETAIL GU002-1 FOR COLOR CODING, INCLUDING WIRE INSTALLATION AND TAPE.

TRACING WIRE
CONNECTION

GU004-1
ISSUED: 2017
REVISED: -

TYPICAL VALVE BOX COVER DETAILS

TYPICAL VALVE AND VALVE BOX DETAIL

VALVE, VALVE BOX, AND COVER

VALVE, VALVE BOX, AND COVER

GU005-1
ISSUED: 2017
REVISED: -

REPLACEMENT OF FLEXIBLE PAVEMENT FOR PERMITTED PAVEMENT CUT

DENSITY PROCEDURES:

THE BACK FILL FOR THE FIRST AND SECOND STAGES SHALL BE PLACED IN 6" LAYERS (COMPACTED THICKNESS) AND SHALL BE COMPACTED TO 98% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180. TEST REPORTS SHALL BE FURNISHED TO THE CITY.

STAGE #1

THE PERMITTEE SHALL PROVIDE ADEQUATE COMPACTED FILL BENEATH THE HAUNCHES OF THE PIPE, USING MECHANICAL TAMPS SUITABLE FOR THIS PURPOSE. THIS COMPACTION APPLIES TO THE MATERIAL PLACED BENEATH THE HAUNCHES OF THE PIPE AND ABOVE ANY BEDDING REQUIRED.

STAGE #2

THE PERMITTEE SHALL OBTAIN A WELL-COMPACTED BED AND FILL ALONG THE SIDES OF THE PIPE AND TO A POINT INDICATING THE TOP OF SUB-GRADE MATERIAL.

GENERAL NOTES:

BASE AND BACK FILL MATERIALS SHALL BE EITHER OF THE SAME TYPE AND COMPOSITION AS THE MATERIALS REMOVED, OR OF EQUAL OR GREATER STRUCTURAL ADEQUACY. MATERIALS CONTAMINATED WITH DELETERIOUS SUBSTANCES DURING EXCAVATION SHALL NOT BE USED.

REPLACED BASE MATERIAL OVER DITCH SHALL BE TWICE THE THICKNESS OF THE ORIGINAL BASE, (MINIMUM 12")

BASE MATERIAL SHALL BE PLACED IN TWO OR THREE LAYERS AND EACH LAYER THOROUGHLY ROLLED OR TAMPED TO THE SPECIFIED DENSITY.

ASPHALT CONCRETE PAYMENT THICKNESS SHALL EQUAL EXISTING THICKNESS BUT NOT LESS THAN TWO (2) INCHES.

SURFACE TREATED PAVEMENT JOINT SHALL BE LAPPED AND FEATHERED AND EXTENDED AT LEAST 2' PAST EACH SURFACE JOINT.

SURFACE MATERIAL WILL BE CONSISTENT WITH THE EXISTING SURFACE.

LIMESTONE, SAND-CLAY, SHELL, ETC. BASES:

6" LAYERS COMPACTED THICKNESS DENSITY REQUIREMENTS:

98% UNDER ROADWAY

98% OUTSIDE THE TRAVELED ROADWAY, SUCH AS INTERSECTIONS, CROSSOVERS, TURNOUTS, ETC.

95% SHOULDER PAVEMENT METHOD AASHTO T-180

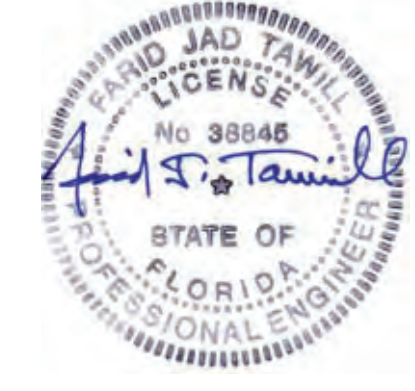
OPEN CUT DETAIL

GU011-1
ISSUED: 2017
REVISED: -

OPEN CUT AND REPAIR DETAIL

OPEN CUT AND REPAIR DETAIL

GU0011-2
ISSUED: 2017
REVISED: -



DATE	REVISIONS	REVISED BY	CHECKED BY	CADD FILE NAME	DATE
8/11/25	REVISED PER CITY OF MOUNT DORA AND CPH COMMENTS	SML	FJT	G3_MountDoraGeneralDetails.dwg	5/25

TAWILL ENGINEERING, INC.
CIVIL ENGINEERING DESIGN • CONSULTING • PERMITTING
CERTIFICATE OF AUTHORIZATION: 6625

6312 BUFORD STREET, UNIT 702, ORLANDO, FLORIDA 32835
TELEPHONE (407) 399-1161 • FAX (407) 668-4412

CITY OF MOUNT DORA DETAILS

MOUNT DORA COMMERCE PARK

CITY OF MOUNT DORA, FLORIDA

PROJECT NO.	24-002
DATE	MAY 2025
SCALE	N.T.S.
SHEET	9 OF 17

LOCATING WIRE SPLICING

NOTES:

- AFTER INSTALLATION OF THE LOCATING WIRE THE SYSTEM SHALL BE SUBJECTED TO TESTING, IN THE PRESENCE OF CITY UTILITIES STAFF PRIOR TO BACKFILL, IN ORDER TO THAT THE SYSTEM IS FUNCTIONAL.

NOT TO SCALE

GU0012-1
ISSUED: 2017
REVISED: -

PIPE SIZE (INCH)	REDUCER			DEAD END/PLUG			TEE			90° BEND			45° BEND			22.5° BEND			11.25° BEND			
	P.V.C. (I)	P.V.C. (II)	P.V.C. (III)	P.V.C. (I)	P.V.C. (II)	P.V.C. (III)	P.V.C. (I)	P.V.C. (II)	P.V.C. (III)	P.V.C. (I)	P.V.C. (II)	P.V.C. (III)	P.V.C. (I)	P.V.C. (II)	P.V.C. (III)	P.V.C. (I)	P.V.C. (II)	P.V.C. (III)	P.V.C. (I)	P.V.C. (II)	P.V.C. (III)	
4	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
6	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
8	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
10	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
12	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
14	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
16	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
18	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
20	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
24	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12

THRUST RESTRAINT DESIGN NOTES

- RESTRAINT JOINTS, FITTINGS, & VALVE REQUIREMENTS CALCULATED BY THE THRUST RESTRAINT DESIGN PROGRAM PROVIDED BY UNI-FLANGE.
- DATA BASED ON MAX. PRESSURE OF 150 P.S.I., THE UNIFIED SOILS CLASSIFICATION SYSTEM (SOIL TYPE SP), THE PIPE BEDDED IN NATIVE SOIL W/ A MINIMUM OF 2.5' COMPACTED FILL OVER THE PIPE, AND USING A SAFETY FACTOR OF 1.5 FOR THE DATA.
- ALL FITTINGS & VALVES SHALL HAVE RESTRAINED JOINTS PER SPECIFICATIONS & ALL BELL & SPIGOT JOINTS TO BE RESTRAINED WITH A RESTRAINING HARNESS WITHIN THE REQUIRED LENGTH OF RESTRAINED PIPE (L).
- THRUST BLOCKS SHALL BE USED ONLY IN EXTRAORDINARY SITUATIONS AND MUST BE APPROVED BY THE CITY ENGINEER.

GU0014-1
ISSUED: 2017
REVISED: -

WATER LINE CROSSING

NOTES:

- ALL PROPOSED JOINTS SHALL BE RESTRAINED.
- ALL EXISTING JOINTS WITHIN 12' SHALL BE RESTRAINED.
- ALL PIPING CLEARANCES SHALL BE IN ACCORDANCE WITH CHAPTER 62-555.314 F.A.C.

NOT TO SCALE

GU0015-1
ISSUED: 2017
REVISED: -

PIPE CLEARANCE

NOT TO SCALE

GU0016-1
ISSUED: 2017
REVISED: -

General Water Notes

- Water system components shall be installed in strict accordance with all local codes and regulations, cleaned, disinfected and bacteriologically cleared for service in accordance with the latest AWWA standards and CHAPTER 62-555 Florida Administrative Code.
- All piping shall bear the "NSF" seal for potable water.
- Water mains shall be pvc conforming to AWWA C-900, DR 18 for pipe sizes 4"-12". Pipes 14" or longer shall be AWWA C-905, DR 18. All couplings, cleaning compounds, solvents, lubricants, and pipe preparation for laying, shall be in accordance with the pipe manufacturers latest recommendations.
- Depth of water lines to be 36" minimum cover from finish grade.
- Water mains to be located 6.00' from back of curb or edge of pavement unless otherwise noted.
- All sleeves under pavement shall extend 5' beyond the back of curb.
- Disinfecting: following the pressure testing, the contractor shall disinfect all sections of the water distribution system. Disinfection shall be in accordance with the applicable provisions of AWWA standard C651 "Disinfecting water mains", and all appropriate agency approval.
- All hydrostatic test shall be in accordance with AWWA C600 for ductile iron pipe and C605/M23 for pvc pipe.
- All water mains shall be installed, pressure and leak tested in accordance with AWWA C600, (62-555.320(21)(b) 1 and 62-555.330, F.A.C. All installation, testing and field procedures must be provided and must conform to the applicable AWWA standards.
- All piping materials and specifications covering pipes, joints and packing materials, internal coating and linings fittings, specials and appurtenances shall all be in accordance with the corresponding AWWA standards and be conforming to NSF requirements, as may be applicable, with exceptions allowed only if documentation and assurances are provided in compliance with paragraphs 62-555.320(3) (d) 62-555.320 (3) (b), and 62-555.320 (21) (c), F.A.C. The lead use prohibition in rule 62-555.322, F.A.C. shall also apply. Polyethylene tubing shall be per AWWA C901. Underground service lines, and valves shall be per AWWA C800.

COLOR Coding

All water main pipe, including fittings shall be color coded or marked blue as a predominate color to differentiate drinking water from reclaimed water or other water. Underground plastic pipe shall be solid-wall blue pipe, shall have a co-extruded blue external skin, or shall be white or black pipe with blue stripes incorporated into, or applied to, the pipe wall; and underground metal or concrete pipe shall have blue striped applied to the pipe wall. Pipe striped during manufacturing of the pipe shall have continuous stripes that run parallel to the axis of the pipe, that are located at no greater than 90° intervals around the pipe, and will remain intact during and after installation of the pipe. If tape or paint is used to stripe pipe during installation of the pipe, the tape or paint shall be applied in a continuous line that runs parallel to the axis of the pipe and that is located along the top of the pipe; for pipes with an internal diameter of 24 inches or greater, tape or paint shall be applied in continuous lines along each side of the pipe as well as along the top of the pipe. Aboveground pipe as drinking water treatment plants shall be color coded and labeled in accordance with subsection 62-555.320(10), F.A.C., and all other aboveground pipe shall be painted blue or shall be color coated or marked like underground pipe.

Utility Construction Notes (DEP)

62-555.314 Location of Public Water System Mains:

For the purpose of this section, the phrase "Water Mains" shall mean Mains, including treatment plant process piping, conveying either raw, partially treated, or finished drinking water; Fire Hydrant leads; and service lines that are under the control of a public Water System and that have an inside diameter of three (3") inches or greater.

(1) Horizontal Separation Between Underground Water Mains and Sanitary or Storm Sewers, Wastewater or Storm Water Force Mains, Reclaimed Water Pipelines, and On-site Sewage Treatment and Disposal Systems:

(a) New or relocated, underground WATER MAINS shall be laid to provide a horizontal distance of at least (3) Three Feet between the outside of the WATER MAIN and the outside of any existing or proposed Storm Sewer water Force Main, or pipeline conveying reclaimed water regulated under Part III of Chapter 62-610, F.A.C.

GU0016-2
ISSUED: 2017
REVISED: -

Utility Construction Notes (DEP) (CONTINUED)

(b) New or relocated, underground WATER MAINS shall be laid to provide a horizontal distance of at least (3) three feet, and preferably (10) Ten Feet, between the outside of the WATER MAIN and the outside of any existing or proposed vacuum-type Sanitary Sewer.

(c) New or relocated, underground WATER MAINS shall be laid to provide a horizontal distance of at least (6) Six Feet and preferably (10) Ten Feet, between the outside of the WATER MAIN and the outside of any existing or proposed Gravity- or Pressure-type Sanitary Sewer Wastewater Force Main, or pipeline conveying reclaimed water not regulated under Part III of Chapter 62-610 F.A.C. The minimum Horizontal Separation distance between WATER MAINS and Gravity-type Sanitary Sewers shall be reduced to (3) Three Feet where the BOTTOM of the WATER MAIN is laid at least (6) Six Inches above the Top of the Sewer.

(d) New or relocated, underground WATER MAINS shall be laid to provide a horizontal distance of at least (10) Ten Feet between the outside of the WATER MAIN and all parts of any existing or proposed "On-site Sewage Treatment and Disposal System" as defined in Section 381.0065(2), F.S. and Rule 64E-6.002, F.A.C.

(2) Vertical Separation Between Underground WATER MAINS and Sanitary or Storm Sewers, Wastewater or Storm Water Force Mains, and Reclaimed Water Pipelines:

(a) New or relocated underground WATER MAINS crossing any existing or proposed gravity- or vacuum-type sanitary sewer or storm sewer shall be laid so the outside of the WATER MAIN is at least (6) Six inches, and preferably 12 inches above, or at least 12 inches below the outside of the other pipeline. However, it is preferable to lay the WATER MAIN "ABOVE" the other pipeline.

(b) New or relocated, Underground WATER MAINS crossing any existing or proposed pressure-type sanitary sewer, wastewater or stormwater Force Main, or pipeline conveying reclaimed water shall be laid so the outside of the WATER MAIN is at least (12) inches ABOVE or BELOW the Outside of the other pipeline. However, it is preferable to lay the WATER MAIN above the other pipeline.

(c) At the Utility crossings described in paragraphs (a) & (b) Above, one full length of Water Main Pipe shall be centered above or below the other pipeline so the WATER MAIN joints will be as far as possible from the other pipeline. Alternatively, at such crossings, the pipes shall be arranged so that all WATER MAIN joints are at least (3) Three feet from all joints in Vacuum-type Sanitary Sewers, Storm Sewers, Stormwater Force Mains, or pipelines conveying reclaimed water regulated under Part III of Chapter 62-610, F.A.C., and at least (6) Six Feet from all joints in Gravity- or Pressure-type Sanitary Sewers, Wastewater force mains, or pipelines conveying reclaimed water not regulated under Part III of Chapter 62-610, F.A.C.

(3) Separation Between WATER MAINS and Sanitary or Storm Sewer Manholes:

(a) No WATER MAIN shall pass thru, or come into contact with any part of a Sanitary Manhole.

(4) Separation Between Fire Hydrant Drains and Sanitary or Storm Sewers, Wastewater or Stormwater Force Mains, reclaimed Water Pipelines, and On-Site Sewage Treatment and Disposal Systems. New or relocated Fire Hydrants with underground Drains shall be located so that the drains are at least (3) Three Feet from any existing or proposed storm sewer, Stormwater force main, or pipeline conveying reclaimed water regulated under Part III of Chapter 62-610, F.A.C.; at least (3) Three Feet, and preferably (10) Ten Feet, from any existing or proposed gravity- or Pressure-type Sanitary Sewer, Wastewater force main, or pipeline conveying reclaimed water not regulated under Part III of Chapter 62-610, F.A.C.; and at least (10) Ten Feet from any existing or proposed "on-site sewage treatment and disposal system" as defined in Section 381.0065(2), F.S. and Rule 64E-6.002, F.A.C.

(5) Exceptions/Mitigation:

Adhere to the above Constraints and Separations in items 1 through 4 shall be Complied to, "WITHOUT EXCEPTION", if for some reason where it is not technically feasible or Economically Sensible that items 1 through 4 cannot be complied with, Contractor will Stop Work and Notify the Engineer of record for the appropriate solution which will be submitted to "The Department of Environmental Protection" for APPROVAL, prior to work commencement.

GU0016-2B
ISSUED: 2017
REVISED: -

BEDDING DETAILS

NOTES: FOR BEDDING AND TRENCHING

- Dimension Bc = Pipe O.D.
Dimension Bt = Trench Width at Top of Pipe
Minimum Bt = Bc + 3"
Maximum Bt = Maximum Dimension of Bell + 8" (Unstayed Trench)
- Depth for removal for unsuitable material shall be as required to reach suitable foundation. For rock or other non-conditioning material, depth shall be 8" below bottom of utility.
- All backfill and select material under all roadways, drives (including cut drains), and parking areas shall be compacted to 98% of the modified proctor maximum dry density (ASTM D-1557). Backfill and select material under all other areas shall be compacted to 95% of the modified proctor maximum dry density (ASTM D-1557). From 12" above top of pipe - 95% of modified proctor maximum dry density (ASTM D-1557). From 12" above top of pipe to top of backfill - 90% of modified proctor maximum dry density (ASTM D-1557).

GU0017-1
ISSUED: 2017
REVISED: -

SOD PLANTING

NOT TO SCALE

GU0018-1
ISSUED: 2017
REVISED: -



DATE	REVISIONS	REVISED BY	CHECKED BY	CADD FILE NAME	DATE
8/11/25	REVISED PER CITY OF MOUNT DORA AND CPH COMMENTS	SML	FJT	G3_MountDoraGeneralDetails.dwg	5/25

TAWILL ENGINEERING, INC.
CIVIL ENGINEERING DESIGN • CONSULTING • PERMITTING
CERTIFICATE OF AUTHORIZATION: 6625

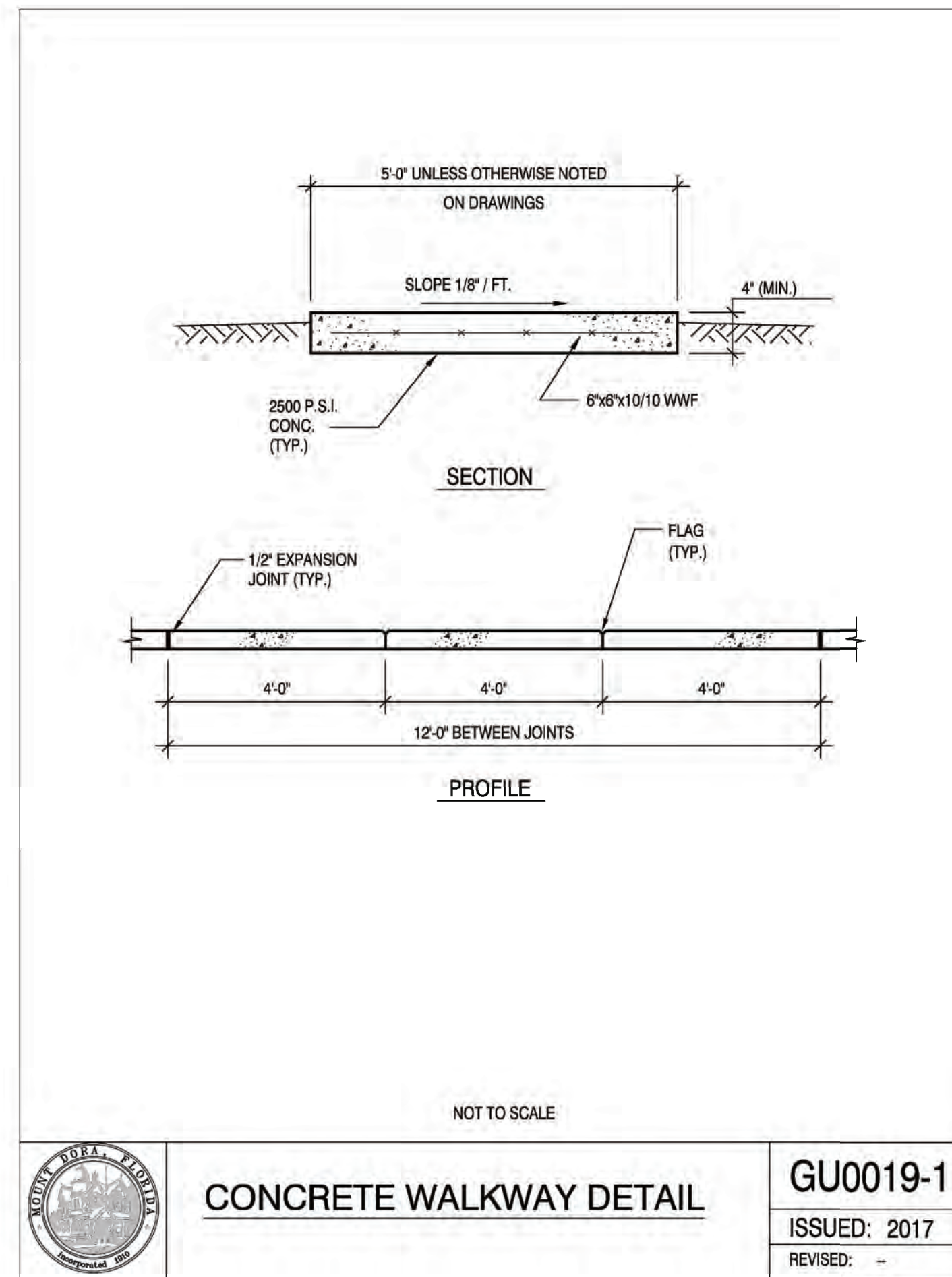
6312 BUFORD STREET, UNIT 702, ORLANDO, FLORIDA 32835
TELEPHONE (407) 399-1161 • FAX (407) 668-4412

CITY OF MOUNT DORA DETAILS

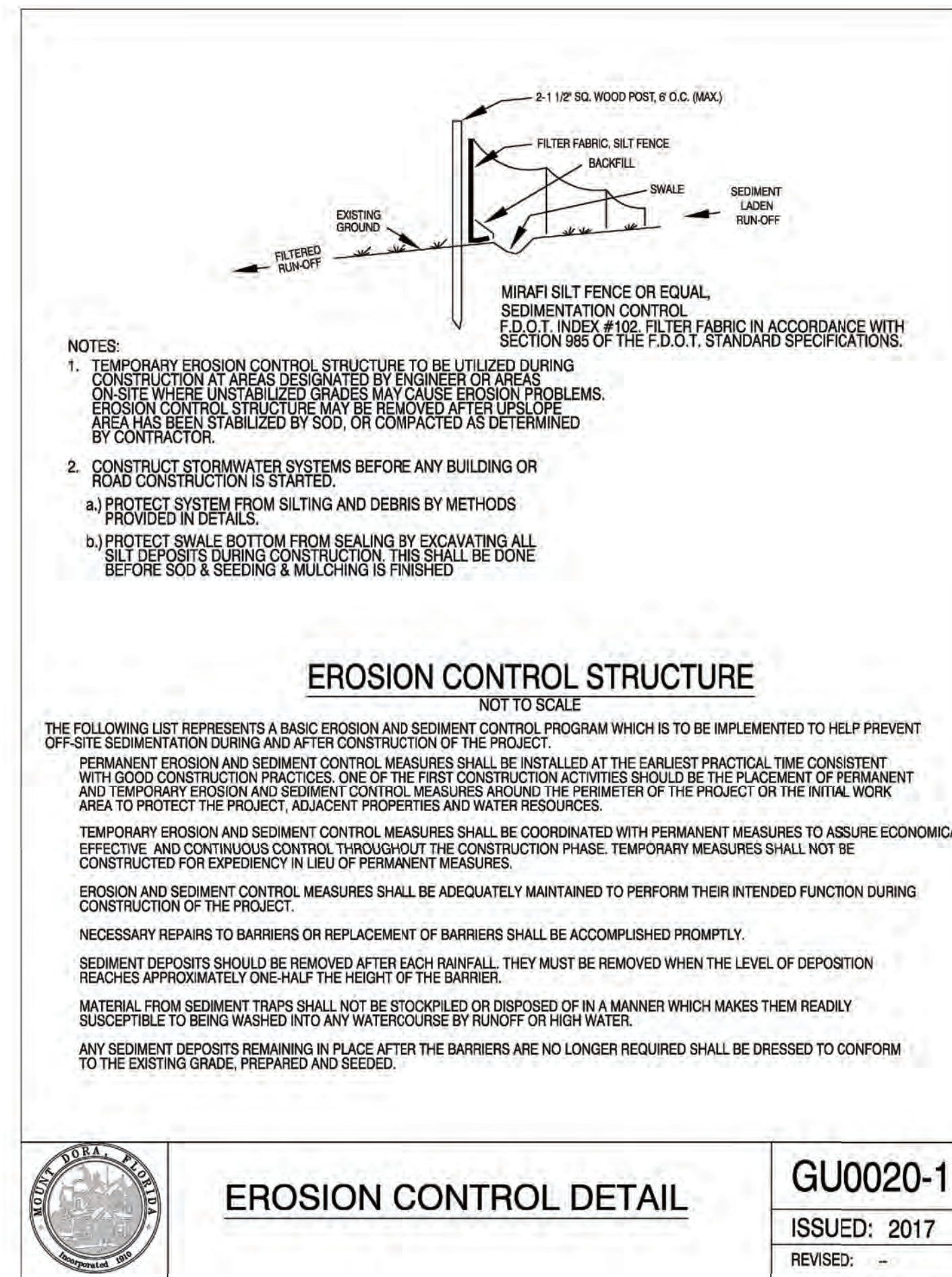
MOUNT DORA COMMERCE PARK

CITY OF MOUNT DORA
FLORIDA

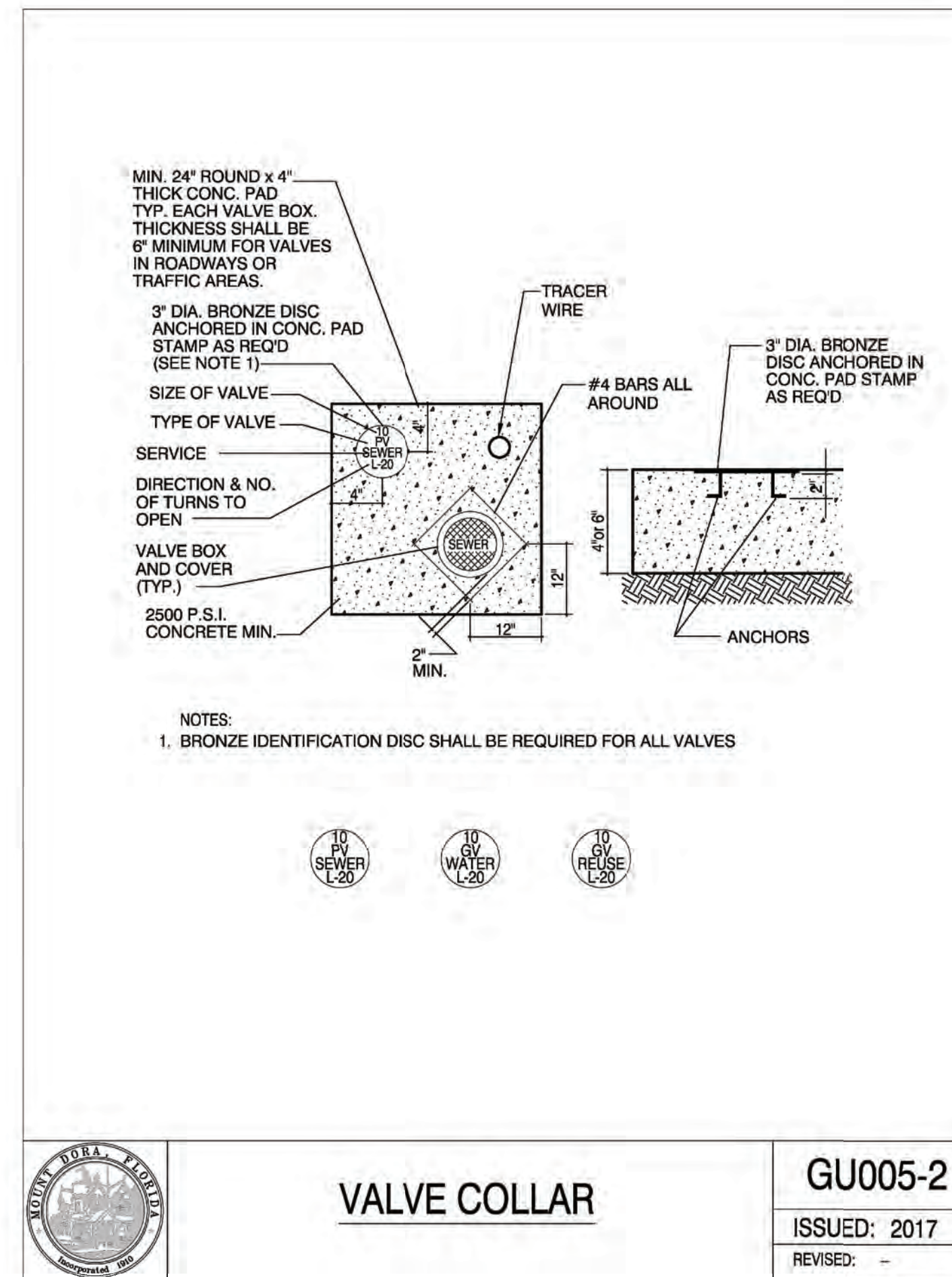
PROJECT NO.	24-002
DATE	MAY 2025
SCALE	N.T.S.
SHEET	10 OF 17



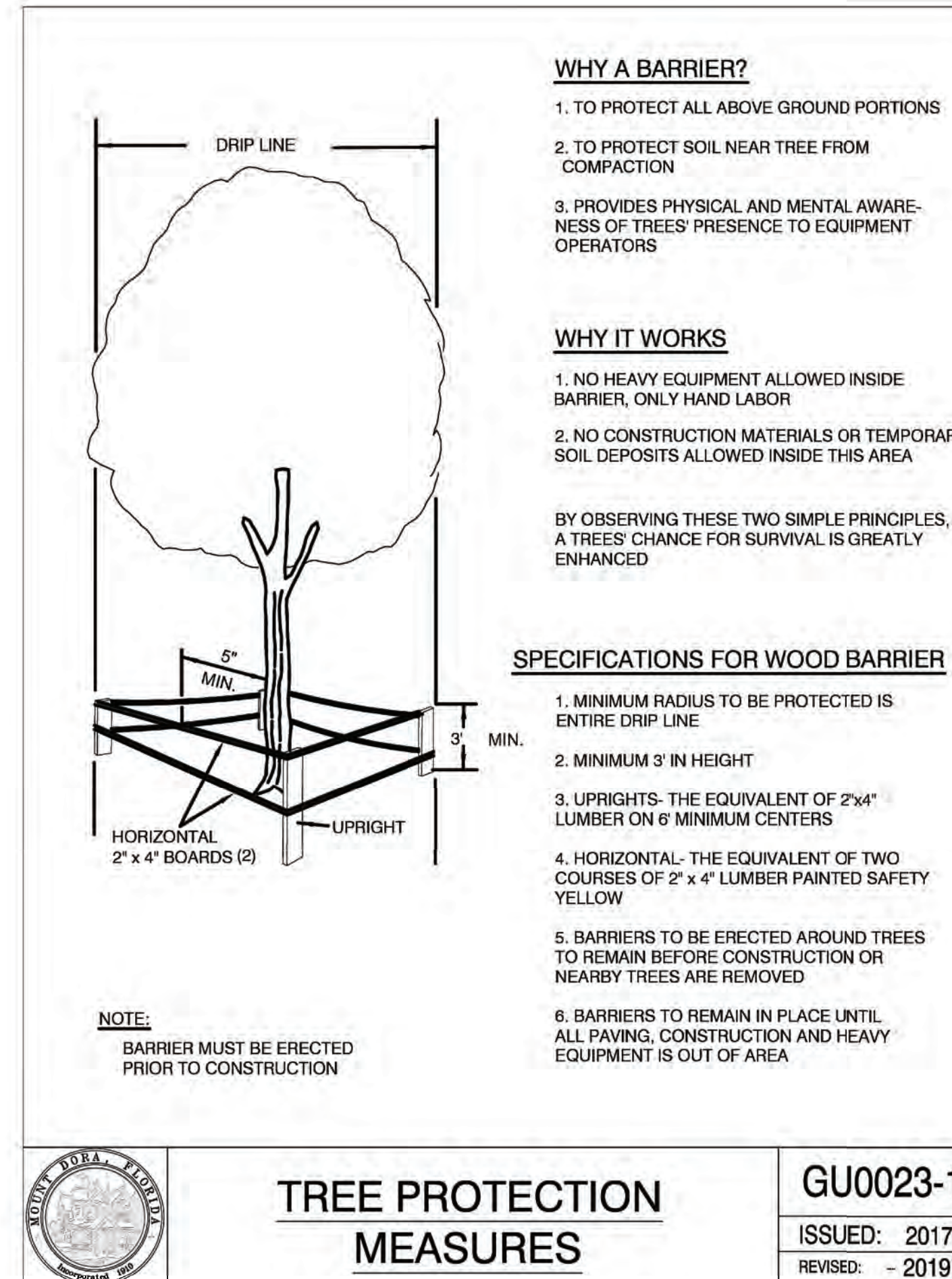
CONCRETE WALKWAY DETAIL GU0019-1
ISSUED: 2017
REVISED: -



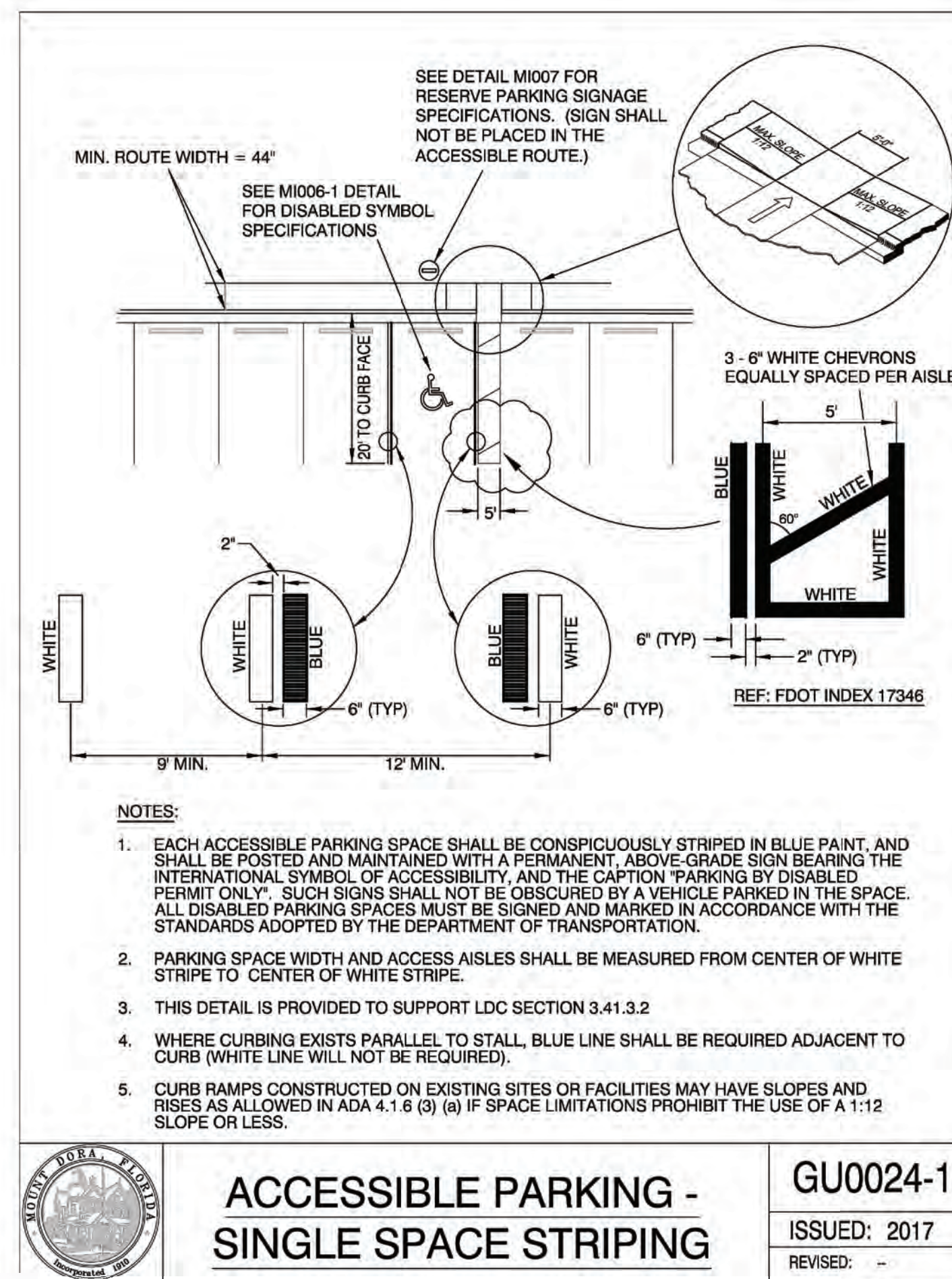
EROSION CONTROL DETAIL GU0020-1
ISSUED: 2017
REVISED: -



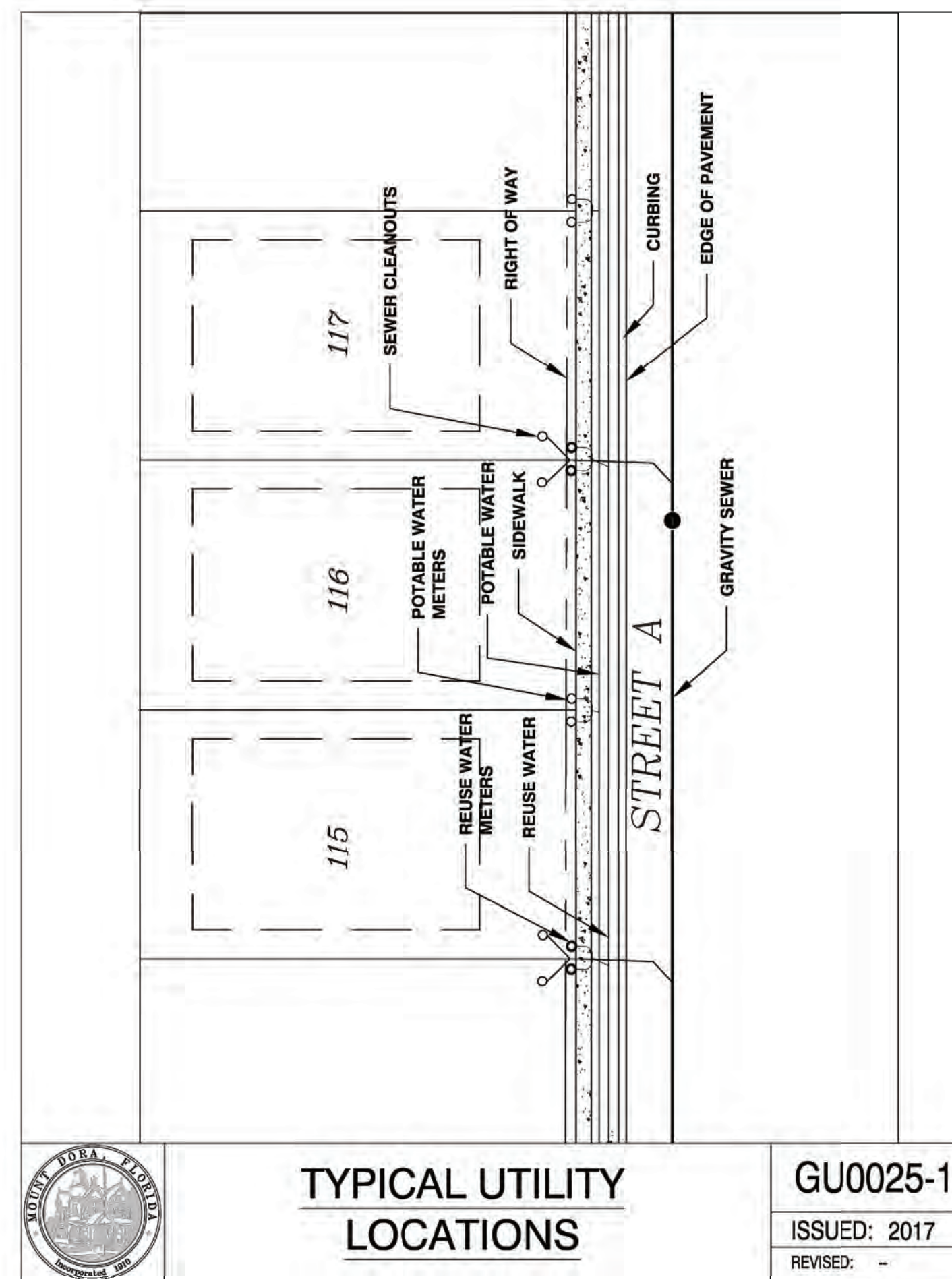
VALVE COLLAR GU005-2
ISSUED: 2017
REVISED: -



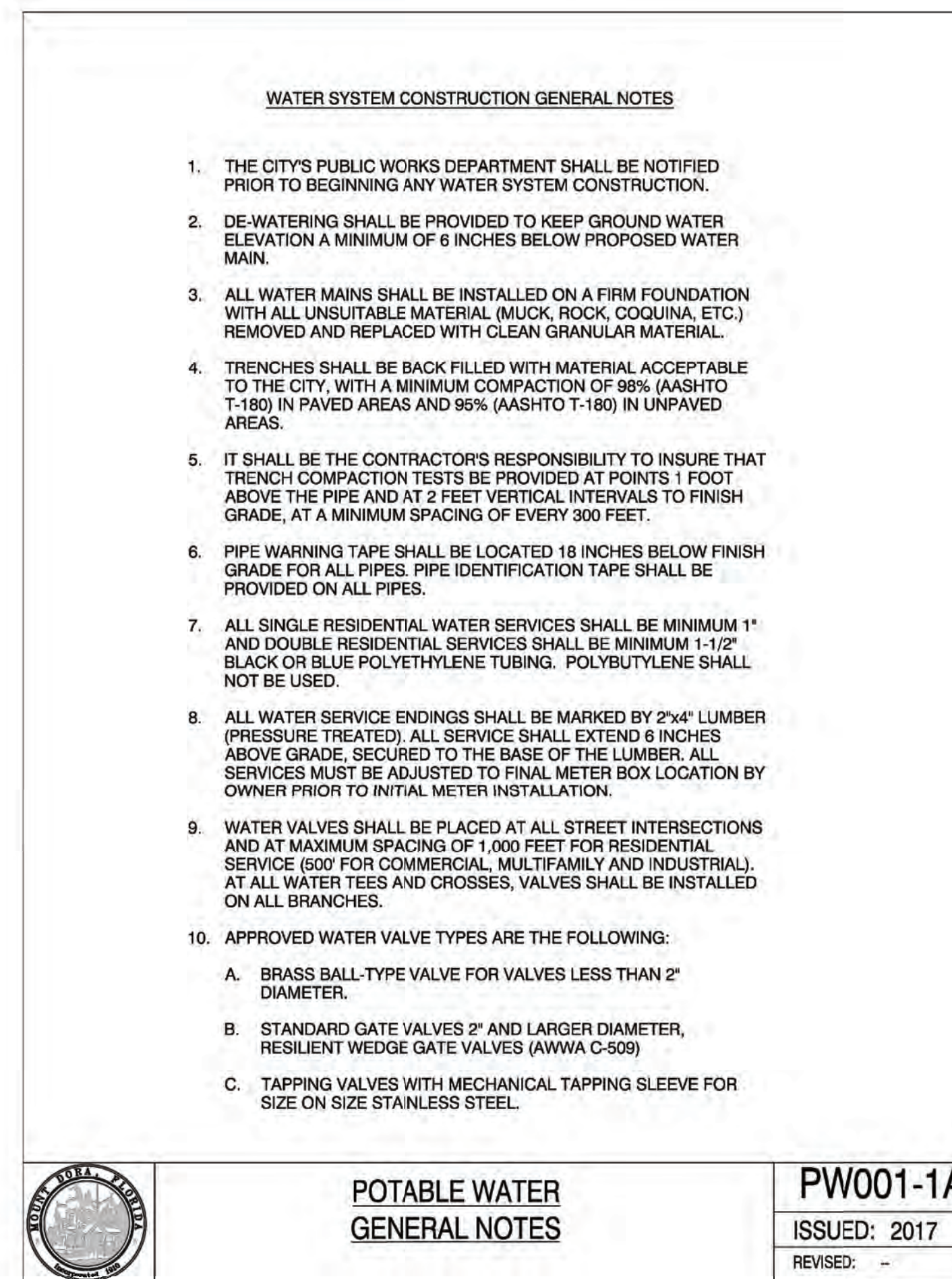
TREE PROTECTION MEASURES GU0023-1
ISSUED: 2017
REVISED: - 2019



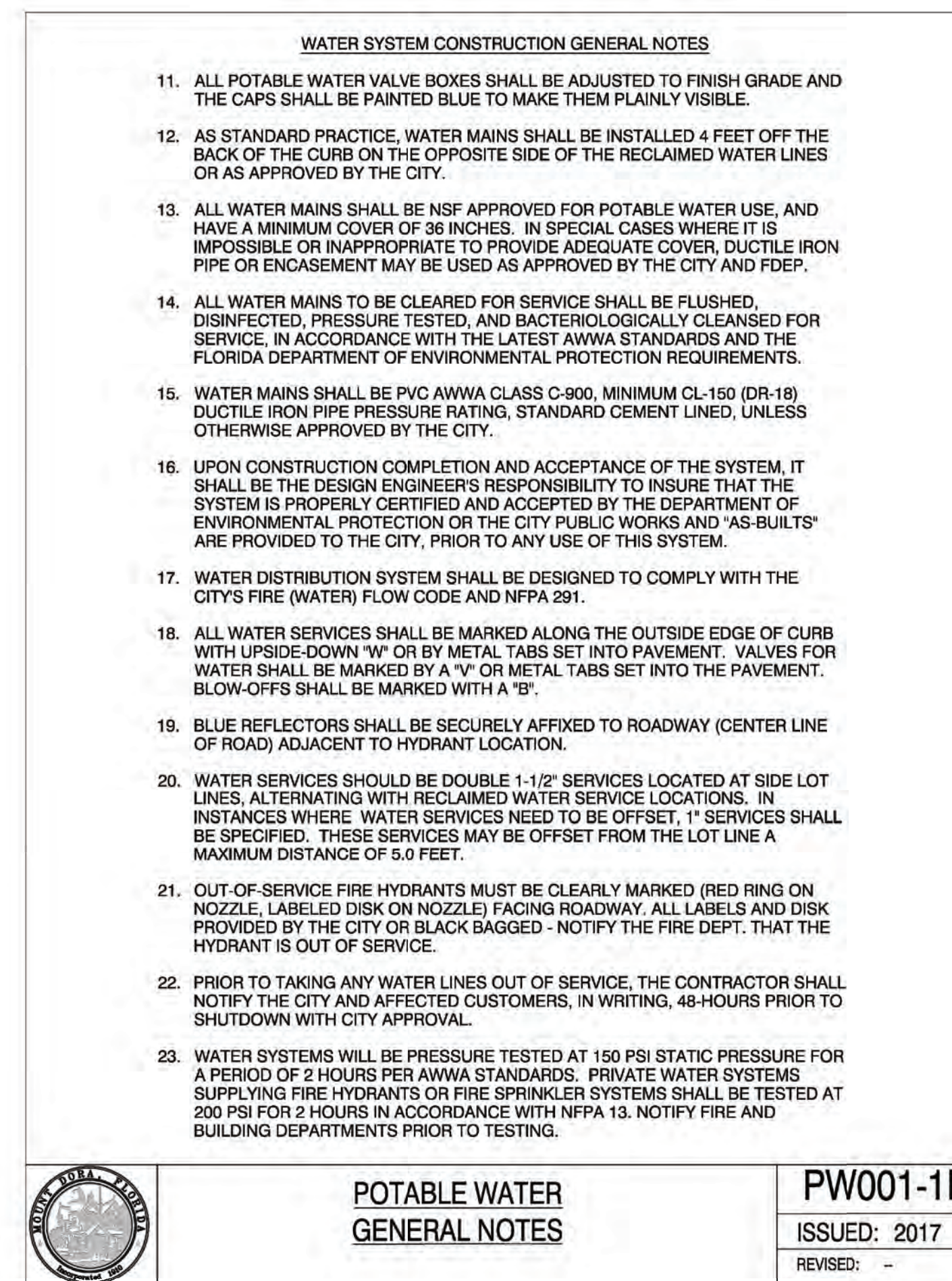
ACCESSIBLE PARKING - SINGLE SPACE STRIPING GU0024-1
ISSUED: 2017
REVISED: -



TYPICAL UTILITY LOCATIONS GU0025-1
ISSUED: 2017
REVISED: -



POTABLE WATER GENERAL NOTES PW001-1A
ISSUED: 2017
REVISED: -



POTABLE WATER GENERAL NOTES PW001-1B
ISSUED: 2017
REVISED: -



DATE	REVISIONS	REVISED BY	CHECKED BY	CADD FILE NAME
8/11/25	REVISED PER CITY OF MOUNT DORA AND CPH COMMENTS	SML	FJT	G3_MountDoraGeneralDetails.dwg

TAWILL ENGINEERING, INC.
CIVIL ENGINEERING DESIGN • CONSULTING • PERMITTING
CERTIFICATE OF AUTHORIZATION: 6625

6312 BUFORD STREET, UNIT 702, ORLANDO, FLORIDA 32835
TELEPHONE (407) 399-1161 • FAX (407) 668-4412

CITY OF MOUNT DORA DETAILS

MOUNT DORA COMMERCE PARK

CITY OF MOUNT DORA FLORIDA

PROJECT NO. 24-002
DATE MAY 2025
SCALE N.T.S.
SHEET 11 OF 17

FARID J. TAWILL, P.E.
FLORIDA LIC. No. 38845

WATER SYSTEM CONSTRUCTION GENERAL NOTES

- 24. MEGALUGS, SPLIT-RESTRAINED BOLTLESS RESTRAINED JOINTS, OR GRIPPER GASKETS SHALL BE USED ON ALL RESTRAINED JOINT INSTALLATIONS. MINIMUM DEPTH OF BURY ON ALL PIPES NOT MEETING REQUIRED COVER REQUIREMENTS SHALL FOLLOW THE MOST RECENT DIPRA THRUST RESTRAINT DESIGN GUIDELINES.
- 25. WATER VALVES SHALL BE COMPLETELY OPENED BY THE CITY, IN THE PRESENCE OF THE CONTRACTOR, PRIOR TO FINAL ACCEPTANCE OF ANY NEW WATER SYSTEM.
- 26. ALL FIRE HYDRANTS SHALL BE CONSTRUCTED TO MAKE THEM EASILY ACCESSIBLE TO FIRE PERSONNEL IN CASE OF A FIRE. THE MAIN NOZZLE SHOULD ALWAYS FACE THE STREET AND BE 18" - 22" ABOVE FINAL GRADE.
- 27. HYDRANT LOCATION AND SPACING SHALL BE AS PER ARTICLE 7.13.2 OF THE LAND DEVELOPMENT CODE.

7.13. - WATER DISTRIBUTION SYSTEMS.

7.13.1. GENERAL: THIS SECTION SETS FORTH THE GENERAL REQUIREMENTS FOR DESIGN AND INSTALLATION OF WATER DISTRIBUTION SYSTEMS FOR POTABLE WATER SERVICE.

7.13.2. DESIGN STANDARDS.

1. REFERENCE: NORMAL FLOW DEMANDS FOR DESIGN SHALL BE CALCULATED ON THE BASIS OF FULL ULTIMATE DEVELOPMENT AS KNOWN, OR PROJECTED. THE AVERAGE DAILY FLOW FOR DOMESTIC USE SHALL BE CALCULATED AT THE MINIMUM RATE OF 135 GALLONS PER DAY PER CAPITA, WITH 3.5 PERSONS PER SINGLE-FAMILY RESIDENCE, AND 2.5 PERSONS PER MULTIFAMILY OR MOBILE HOME DWELLING UNIT. MAXIMUM DAY INSTANTANEOUS DEMAND TO BE USED FOR DESIGN SHALL BE 1.0 GALLON PER MINUTE (GPM) PER SINGLE-FAMILY RESIDENCE AND 0.7 GPM PER DWELLING UNIT FOR EACH MULTIFAMILY OR MOBILE HOME UNIT. FLOW DEMANDS FOR COMMERCIAL, INDUSTRIAL OR OTHER SPECIAL DEVELOPMENTS SHALL BE ESTABLISHED FROM EXISTING RECORDS OR BY ESTIMATED PROJECTIONS, USING THE BEST AVAILABLE DATA.
2. WATER DISTRIBUTION SYSTEMS AND/OR WATER MAIN EXTENSIONS SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE FIRE PROTECTION REQUIREMENTS OF THE INSURANCE SERVICES OFFICE (NATIONAL BOARD OF FIRE UNDERWRITERS), AS STATED IN THEIR PUBLICATION 'GUIDE FOR THE DETERMINATION OF REQUIRED FIRE FLOWS,' IF NOT IN CONFLICT WITH THE FOLLOWING:
 - A. FIRE FLOWS IN SINGLE-FAMILY RESIDENTIAL AREAS SHALL PROVIDE A MINIMUM OF 600 GPM AT A 20 PSI RESIDUAL PRESSURE.



**POTABLE WATER
GENERAL NOTES**

PW001-1C
ISSUED: 2017
REVISED: -

- B. FIRE FLOWS IN COMMERCIAL, INSTITUTIONAL, INDUSTRIAL AREAS AND APARTMENT OR MULTIUNIT COMPLEXES, SHALL PROVIDE A MINIMUM OF 1,500 GPM AT A 20 PSI RESIDUAL PRESSURE. LARGER COMMERCIAL/INDUSTRIAL, MAJOR SHOPPING CENTERS, SCHOOLS, AND SIMILAR USES SHALL HAVE A FIRE FLOW CAPACITY AS DETERMINED NECESSARY BY THE FIRE DEPARTMENT.
- C. FIRE HYDRANTS: DISTANCE FROM OR SPACING OF FIRE HYDRANTS SHALL BE A MINIMUM OF 600 FEET FROM THE FURTHERMOST POINT OF ANY RESIDENTIAL STRUCTURE AND 300 FEET FROM THE FURTHERMOST POINT OF ANY COMMERCIAL STRUCTURE, AS THE FIRE DEPARTMENT WOULD LAY HOSE OR AS OTHERWISE SPECIFIED BY THE FIRE DEPARTMENT TO MEET DETERMINED WATER FLOW REQUIREMENTS FOR FIRE PROTECTION AND/OR INCREASE FIRE PROTECTION EFFECTIVENESS. FIRE HYDRANTS SHALL BE CONNECTED TO WATER MAINS OF EIGHT-INCH MAINS IN ALL AREAS. CONNECTION TO DEAD END STUBS ARE ACCEPTABLE, PROVIDED THAT SAID STUBBED WATER MAIN IS NOT LESS THAN EIGHT INCHES AND WILL PROVIDE ACCEPTABLE FLOW.
- D. SYSTEM SIZE COMPUTATION: THE MINIMUM DESIGN FOR WATER DISTRIBUTION SYSTEMS SHALL PROVIDE FOR AT LEAST 100 PERCENT OF THE COMBINED MAXIMUM DAY-DEMAND RATE AND REQUIRED FIRE FLOW FOR SAID RATE, WITH SPECIAL PROVISIONS FOR PEAK FLOWS IN EXCESS THEREOF. THE ALLOWABLE MINIMUM SERVICE PRESSURE UNDER SAID DESIGN CONDITION SHALL NOT BE LESS THAN 20 POUNDS PER SQUARE INCH. DESIGN COMPUTATION SHALL BE BY THE "HARDY CROSS" PROCEDURE, OR OTHER APPLICABLE METHODS, AS DICTATED BY THE SYSTEM CONFIGURATION. DESIGN FLOWS AND METHOD OF COMPUTATION SHALL BE SUBJECT TO REVIEW AND APPROVAL BY THE CITY.
- E. VALVE LOCATIONS: VALVES SHALL BE PROVIDED FOR ALL BRANCH CONNECTIONS, LOOP ENDS, FIRE HYDRANT STUBS, OR OTHER LOCATIONS, AS REQUIRED TO PROVIDE AN OPERABLE, EASILY MAINTAINED, AND REPAIRED WATER DISTRIBUTION SYSTEM. VALVES ARE TO BE PLACED SO THAT THE MAXIMUM ALLOWABLE LENGTH OF WATER MAIN REQUIRED TO BE SHUT DOWN FOR REPAIR WORK SHALL BE 500 FEET IN COMMERCIAL, INDUSTRIAL OR HIGH-DENSITY RESIDENTIAL DISTRICTS, OR 1,000 FEET IN OTHER AREAS.



**POTABLE WATER
GENERAL NOTES**

PW001-1D
ISSUED: 2017
REVISED: -

7.13.3. STANDARD REQUIREMENTS.

1. GENERAL: THE MATERIALS OF CONSTRUCTION AND GENERAL INSTALLATION PROCEDURES, WITH THE EXCEPTION OF FIRE HYDRANTS, SHALL COMPLY WITH THE SPECIFIC APPLICABLE STANDARDS SET FORTH UNDER SECTION 7.3, 'UTILITY EXCAVATION, TRENCHING AND BACKFILLING,' SECTION 7.4, 'BORING AND JACKING,' AND SECTION 7.5, 'PIPE, FITTINGS, VALVES AND APPURTENANCES,' AS WELL AS 'STANDARD DETAILS-WATER DISTRIBUTION SYSTEMS.'

2. FIRE HYDRANTS: HYDRANTS SHALL COMPLY WITH AWWA STANDARD C502, 'FIRE HYDRANTS FOR ORDINARY WATER WORKS SERVICE,' AND SHALL BE EQUIPPED WITH A MINIMUM OF ONE PUMPER OUTLET NOZZLE 4 1/2 INCHES IN DIAMETER AND TWO HOSE NOZZLES 2 1/2 INCHES IN DIAMETER. THREADS, NOZZLE CAPS, OPERATING NUTS AND COLOR SHALL CONFORM TO CITY STANDARDS. UNITS SHALL BE TRAFFIC TYPE WITH BREAKABLE SAFETY CLIPS OR FLANGE, AND STEM WITH SAFETY COUPLING LOCATED BELOW BARREL BREAK LINE TO PRECLUDE VALVE OPENING. HYDRANTS SHALL BE DRY TOP TYPE. OUTLET NOZZLES SHALL BE ON THE SAME PLANE, WITH MINIMUM DISTANCE OF 18 INCHES FROM CENTER OF NOZZLES TO GROUND LINE. VALVE SHALL BE COMPRESSION TYPE WITH 5 1/2 INCHES MINIMUM OPENING UNLESS OTHERWISE REQUESTED AND SHOW INLET CONNECTION TO BE SIX INCHES MINIMUM.

A. HYDRANTS SHALL BE INSTALLED PLUMB AND IN TRUE ALIGNMENT WITH THE CONNECTION PIPES TO THE WATER MAIN. THEY SHALL BE SECURELY BRACED AGAINST THE END OF THE TRENCH (UNDISTURBED SOIL) WITH CONCRETE THRUST BLOCKS. THE GRAVEL OR CRUSHED STONE FOR THE DRAIN SUMP, FOLLOWED BY BACKFILLING, SHALL BE CAREFULLY PLACED AND COMPACTED. INSTALLED HYDRANTS SHALL BE PAINTED RED FOR THE FINAL COAT.

B. HYDRANT PLACEMENT IS TO BE A MINIMUM OF SIX FEET AND A MAXIMUM OF NINE FEET FROM THE CURB OR PAVED ROAD SURFACE UNLESS OTHERWISE APPROVED. THE CENTER OF THE STEAMER PORT SHALL BE 18 INCHES MINIMUM AND 24 INCHES MAXIMUM ABOVE FINAL GRADE. STEAMER PORT SHALL BE CORRECTLY POSITIONED FOR THE PROPER CONNECTION, WITH THE APPROVAL OF THE CITY (WATER AND FIRE DEPARTMENT)

3. JOINT RESTRAINING: PRESSURE PIPING FITTINGS AND OTHER ITEMS REQUIRING RESTRAINT, SHALL BE BRACED WITH 2,500 PSI CONCRETE THRUST BLOCKS OR OTHER RESTRAINING ASSEMBLIES. SAID RESTRAINING DEVICES SHALL BE DESIGNED FOR THE MAXIMUM PRESSURE CONDITION (TESTING) AND THE SAFE BEARING LOADS FOR HORIZONTAL THRUST, IF THRUST BLOCKING IS USED.



**POTABLE WATER
GENERAL NOTES**

PW001-1E
ISSUED: 2017
REVISED: -

- 4. PIPE DEPTH AND PROTECTION: THE STANDARD MINIMUM COVER FOR WATER DISTRIBUTION SYSTEMS SHALL BE THREE FEET FROM THE TOP OF THE FINISH GRADE. HOWEVER, SHOULD THIS DESIGN NOT BE FEASIBLE, PROTECTIVE CONCRETE SLABS SHALL BE PROVIDED OVER THE PIPE WITHIN THE LIMITS OF THE LESSER COVER. WHERE WATERWAYS, CANALS, DITCHES OR OTHER CUTS ARE CROSSED, DUCTILE IRON PIPE SHALL BE INSTALLED ACROSS AND TO TEN FEET EACH SIDE OF THE BOTTOM. ADDITIONALLY, APPROVED UTILITY CROSSING SIGNS SHALL BE PLACED ON THE PIPE ALIGNMENT AT EACH SIDE OF THE CANAL, ETC.
- 5. CONNECTIONS AT STRUCTURE: WHERE PIPES ARE TO EXTEND INTO OR THROUGH STRUCTURES, FLEXIBLE JOINTS ARE TO BE PROVIDED AT THE WALL FACE.
- 6. SPECIAL EXTERIOR PROTECTION FOR CORROSION: EXTRA PROTECTION SHALL BE PROVIDED FOR UNDERGROUND CAST OR DUCTILE IRON PIPE AND FITTINGS WITHIN AREAS OF SEVERE CORROSIVE CONDITIONS. THIS SHALL BE ACCOMPLISHED BY THE INSTALLATION OF POLYETHYLENE ENCASEMENT, THROUGH THE AREA OF CONCERN. THE SOIL TEST EVALUATION TO DETERMINE THE NECESSITY FOR EXTRA PROTECTION IN SUSPECT AREAS SHALL BE AS SET FORTH IN ANSI STANDARD A21.5. ADDITIONALLY, WHERE OTHER EXISTING UTILITIES ARE KNOWN TO BE CATHODICALLY PROTECTED, CAST OR DUCTILE IRON PIPE CROSSING SAID UTILITY SHALL BE INSTALLED PARALLEL TO AND WITHIN TEN FEET OF, PROTECTION SHALL ALSO BE PROVIDED. STEEL PIPE SHALL NOT BE INSTALLED IN SEVERE CORROSION AREAS.
- 7. AIR VENTING AND BLOWOFFS: WHERE THE WATERMAIN PROFILE IS SUCH THAT AN AIR POCKET OR ENTRAPMENT COULD OCCUR, RESULTING IN FLOW BLOCKAGE, METHODS FOR AIR RELEASE SHALL BE PROVIDED. AIR VENTING CAPABILITIES SHALL BE PROVIDED FOR DISTRIBUTION MAINS BY APPROPRIATELY PLACING FIRE HYDRANTS, BLOWOFFS, OR OTHER MANUAL DEVICES. AT CRITICAL POINTS ON MAJOR MAINS, AUTOMATIC AIR RELEASE ASSEMBLIES SHALL BE INSTALLED. SPECIAL CARE SHALL BE TAKEN TO PRECLUDE ANY CROSS-CONNECTION POSSIBILITY IN THE DESIGN OF AUTOMATIC AIR RELEASE VALVE APPLICATION. ALL DEAD-END WATER MAINS, TEMPORARY OR PERMANENT, SHALL BE EQUIPPED WITH A MANUALLY OPERATED BLOWOFF AT THE TERMINAL.



**POTABLE WATER
GENERAL NOTES**

PW001-1F
ISSUED: 2017
REVISED: -

- 8. SERVICE CONNECTIONS: CONNECTIONS TO WATER MAINS FOUR INCHES AND LARGER SHALL BE MADE BY DRILLING THE APPROPRIATE SIZE HOLE AND INSTALLATION OF SERVICE SADDLES, WITH SERVICES TO SMALLER SIZES ACCOMPLISHED BY IN-LINE FITTINGS. A FITTING WITH THE SERVICE LINE EXTENDED TO THE PROPERTY LINE OR EASEMENT LINE, PERPENDICULAR TO SAID LINE, AND TERMINATING WITH A PLUGGED CURB STOP AND METER BOX WITH STANDARD PLASTIC METER BOX WITH CAST IRON LID. CONCRETE BOXES SHALL BE USED IN HIGH TRAFFIC AREAS PENDING METER INSTALLATION. ON CURBED STREETS THE EXACT LOCATION FOR EACH INSTALLED SERVICE SHALL BE MARKED BY ETCHING OR CUTTING A "W" IN THE CONCRETE CURB AND PAINTED BLUE. WHERE NO CURB EXISTS OR IS PLANNED, LOCATIONS SHALL BE ADEQUATELY MARKED BY A ONE-HALF-INCH STEEL REBAR, THREE INCHES BELOW FINAL GRADE.

7.13.4. TESTING.

1. THE CONTRACTOR SHALL PERFORM HYDROSTATIC TESTING OF ALL WATER DISTRIBUTION SYSTEMS, AS SET FORTH IN THE FOLLOWING AND SHALL CONDUCT SAID TESTS IN THE PRESENCE OF REPRESENTATIVES FROM THE CITY AND/OR OTHER AUTHORIZED AGENCIES, WITH 48 HOURS ADVANCE NOTICE PROVIDED, IN WRITING.

2. PIPING AND APPURTENANCES TO BE TESTED SHALL BE WITHIN SECTIONS BETWEEN VALVES, NOT EXCEEDING 2,000 FEET UNLESS ALTERNATE METHODS HAVE RECEIVED PRIOR APPROVAL FROM THE CITY. TESTING SHALL NOT PROCEED UNTIL CONCRETE THRUST BLOCKS ARE IN PLACE AND CURED, OR OTHER RESTRAINING DEVICES INSTALLED. ALL PIPING SHALL BE THOROUGHLY CLEANED AND FLUSHED PRIOR TO TESTING TO CLEAR THE LINES OF ALL FOREIGN MATTER. WHILE THE PIPING IS BEING FILLED WITH WATER, CARE SHALL BE EXERCISED TO PERMIT THE ESCAPE OF AIR FROM EXTREMITIES OF THE TEST SECTION, WITH ADDITIONAL RELEASE COCKS PROVIDED IF REQUIRED.

3. HYDROSTATIC TESTING SHALL BE PERFORMED AT 150 POUNDS PER SQUARE INCH PRESSURE, UNLESS OTHERWISE APPROVED BY THE CITY, FOR A PERIOD OF NOT LESS THAN TWO HOURS. TESTING SHALL BE IN ACCORDANCE WITH THE APPLICABLE AWWA PROVISIONS FOR PVC-AWWA PUBLICATION M-25 AND FOR DIP-AWWA STANDARD C500, SECTION 4. THE ALLOWABLE RATE OF LEAKAGE SHALL BE LESS THAN THE NUMBER OF GALLONS PER HOUR DETERMINED BY THE FOLLOWING FORMULAS:

$$PVC \text{ DIP } L = NDP \cdot 1/2$$

$$7400 L = SDP \cdot 1/2$$

133,200
FOR 150 PSI; TEST: L = 0.00165 ND (PVC)
FOR 150 PSI; TEST: L = 0.000092 SD (DIP)

L = ALLOWABLE LEAKAGE IN GALLONS PER HOUR
N = NUMBER OF JOINTS IN SECTION TESTED
S = LENGTH OF PIPE TESTED, IN FEET
D = NOMINAL DIAMETER OF THE PIPE IN INCHES
P = AVERAGE TEST PRESSURE MAINTAINED DURING THE LEAKAGE TEST IMPOUNDS PER SQUARE INCH GAUGE.

4. THE TESTING PROCEDURE SHALL INCLUDE THE CONTINUED APPLICATION OF THE SPECIFIED PRESSURE TO THE TEST SYSTEM, FOR THE TWO-HOUR PERIOD, BY WAY OF A PIPE TAKING SUPPLY FROM A CONTAINER SUITABLE FOR MEASURING WATER LOSS. THE AMOUNT OF LOSS SHALL BE DETERMINED BY MEASURING THE VOLUME DISPLACED FROM SAID CONTAINER.

5. SHOULD THE TEST FAIL, NECESSARY REPAIRS SHALL BE ACCOMPLISHED BY THE CONTRACTOR AND THE TEST REPEATED UNTIL WITHIN THE ESTABLISHED LIMITS. THE CONTRACTOR SHALL FURNISH THE NECESSARY LABOR, WATER, PUMPS, GAUGES AND ALL OTHER ITEMS REQUIRED TO CONDUCT THE REQUIRED WATER DISTRIBUTION SYSTEM TESTING AND PERFORM NECESSARY REPAIRS.

6. PIPE SECTIONS TO BE PRESSURE TESTED SHALL BE SUBJECTED TO A HYDROSTATIC PRESSURE OF 150 PSI FOR A DURATION OF TWO HOURS BY MEANS OF A PUMP.



**POTABLE WATER
GENERAL NOTES**

PW001-1H
ISSUED: 2017
REVISED: -

7.13.5. DISINFECTING. FOLLOWING THE PRESSURE TESTING, THE CONTRACTOR SHALL DISINFECT ALL SECTIONS OF THE WATER DISTRIBUTION SYSTEM, AND RECEIVE APPROVAL THEREOF FROM THE APPROPRIATE AGENCIES, PRIOR TO PLACING IN SERVICE. ADVANCE NOTICE SHALL BE PROVIDED TO THE CITY BEFORE DISINFECTING PROCEDURES START. THE DISINFECTING SHALL BE ACCOMPLISHED WITH THE APPLICABLE PROVISIONS OF AWWA STANDARD C651, 'DISINFECTING WATER MAINS' AND ALL APPROPRIATE AGENCY APPROVALS. COMPUTATION OF THE AMOUNTS OF CHLORINE TO BE USED FOR DISINFECTING SHOULD BE APPROVED BY THE CITY OR ITS ENGINEER CONSULTANT.

1. CARE SHALL BE TAKEN TO PROVIDE DISINFECTATION TO THE TOTAL SYSTEM AND EXTREMITIES SHALL BE CAREFULLY FLUSHED PRIOR TO CHLORINATION. AFTER DISINFECTATION AND FINAL FLUSHING HAVE BEEN ACCOMPLISHED, SAMPLES OF WATER FOR BACTERIOLOGICAL ANALYSIS SHALL BE COLLECTED AND SUBMITTED TO AND AS DIRECTED BY THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION OR OTHER APPROPRIATE APPROVAL AGENCY. SHOULD THESE SAMPLES OR SUBSEQUENT SAMPLES PROVE TO BE UNSATISFACTORY, THEN THE PIPING SHALL BE DISINFECTED UNTIL A SUFFICIENT NUMBER OF SATISFACTORY SAMPLES ARE OBTAINED.

2. THE CONTRACTOR SHALL FURNISH ALL EQUIPMENT AND MATERIALS AND PERFORM THE WORK NECESSARY FOR THE DISINFECTING PROCEDURES, INCLUDING ADDITIONAL DISINFECTATION AS REQUIRED.

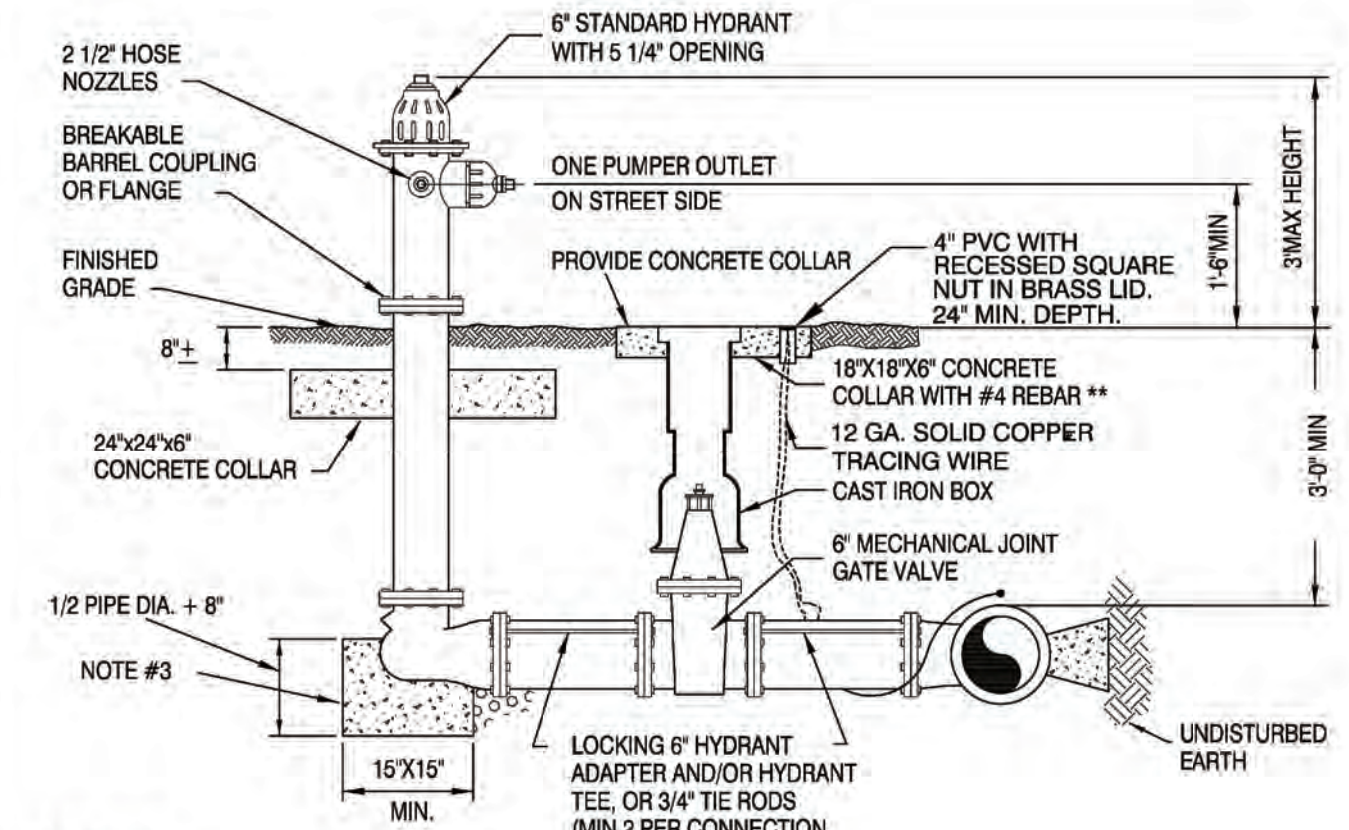
3. CONTRACTOR SHALL PROVIDE THE CITY WITH 48 HOURS ADVANCED NOTICE OF DISINFECTATION.

7.13.6. AS-BUILT RECORD DRAWINGS. THE DEVELOPER MUST PROVIDE ONE COMPLETE SET OF MYLARS AND FOUR COMPLETE SETS OF WHITE COPY PRINTS OF 'AS-BUILT RECORD DRAWINGS' OF THE PROJECT, SHOWING ACCURATE MEASUREMENTS OF WATER AND SEWER LINES AND STRUCTURES FROM FIXED KNOWN LOCATIONS WITHIN THE DEVELOPMENT. THE AS-BUILT RECORD DRAWINGS SHALL BE SIGNED AND SEALED BY THE PROJECT DESIGN ENGINEER ATTESTING TO THE ACCURACY OF THE LOCATIONS OF THE FACILITIES. THE AS-BUILT RECORD DRAWINGS ARE TO BE PROVIDED BEFORE THE CITY CAN ACCEPT THE IMPROVEMENTS.



**POTABLE WATER
GENERAL NOTES**

PW001-1I
ISSUED: 2017
REVISED: -



- NOTES:**
1. THE HYDRANTS ACCEPTABLE TO THE CITY OF MOUNT DORA SHALL BE EITHER AMERICAN DARLING 884B, MUELLER A-423, OR CLOW MEDALLION.
 2. CONCRETE COLLAR AROUND LOWER BARREL OF HYDRANT IN SANDY SOIL OR HYDRANTS CONNECTED TO P.V.C. MAINS.
 3. HYDRANT BASE AND TEE MUST BE WRAPPED IN 4 MIL POLYETHYLENE. NO CONCRETE WILL EXTEND ABOVE MID LINE OF PIPE.
 4. WEEP HOLES TO BE PLUGGED.
 5. A VERTICAL CLEARANCE OF 1'-0" SHALL BE MAINTAINED FOR A HORIZONTAL DISTANCE OF 4 FEET IN ALL DIRECTIONS AROUND ALL HYDRANTS.
 6. PRIVATELY-OWNED WATER SYSTEM HYDRANTS SHALL BE MAINTAINED BY OWNERS.
 7. ANNUAL MAINTENANCE RECORDS FOR PRIVATE HYDRANTS SHALL BE SUBMITTED TO CITY FIRE DEPARTMENT.
- * COIL EXCESS TRACING WIRE IN PVC TUBE FOR LOCATING.
** A 1/2" DIAMETER X 6" THICK CIRCULAR COLLAR MAY BE SUBSTITUTED FOR THE 18"X18"X6" COLLAR.



**STANDARD FIRE HYDRANT
ASSEMBLY**

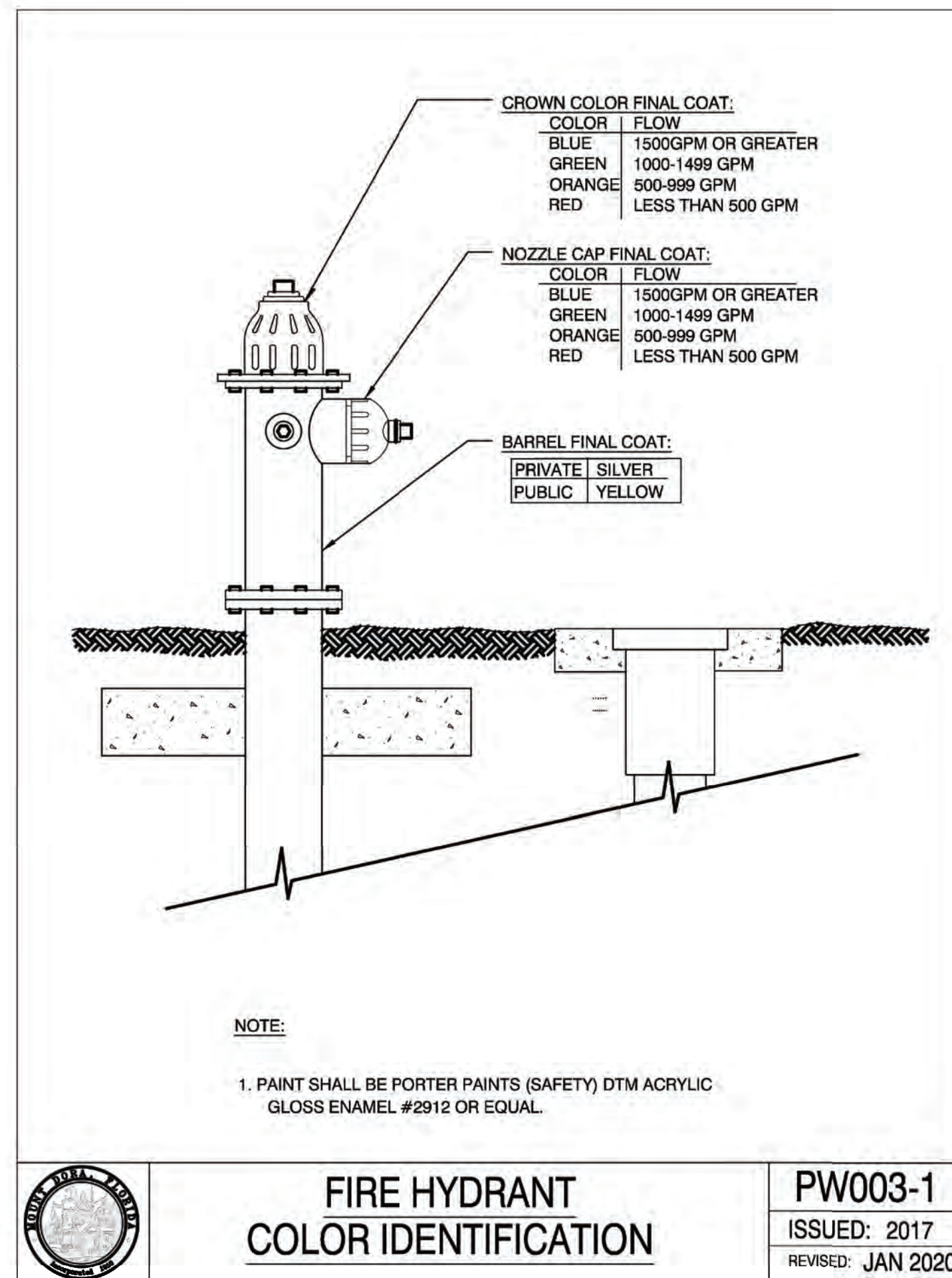
PW002-1
ISSUED: 2017
REVISED: -



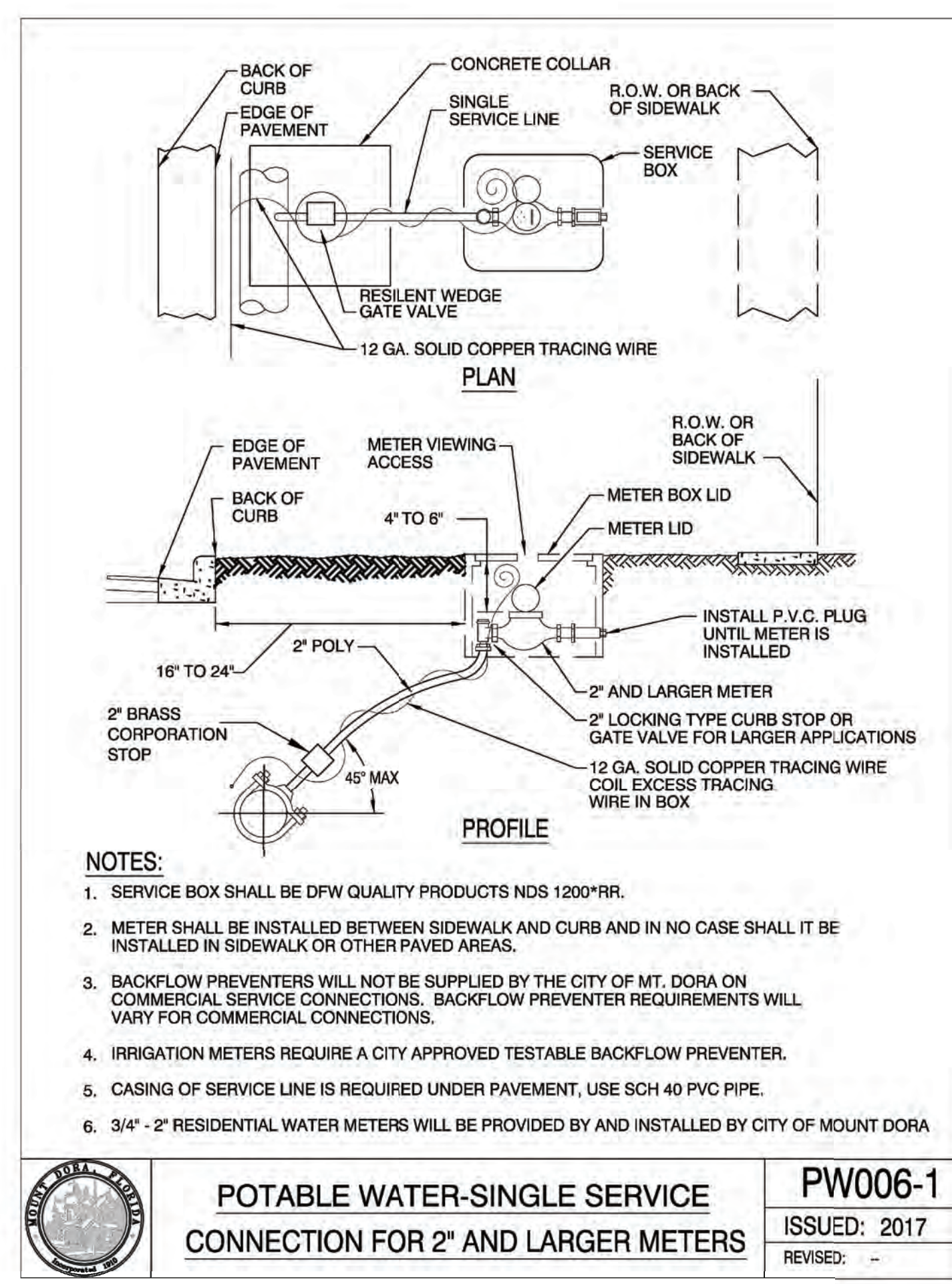
DATE	REVISIONS	REVISED BY	CHECKED BY	CADD FILE NAME
8/11/25	REVISED PER CITY OF MOUNT DORA AND CPH COMMENTS	SML	FJT	G3_MountDoraGeneralDetails.dwg

TAWILL ENGINEERING, INC.
CIVIL ENGINEERING DESIGN • CONSULTING • PERMITTING
CERTIFICATE OF AUTHORIZATION: 6625
6312 BUFORD STREET, UNIT 702, ORLANDO, FLORIDA 32835
TELEPHONE (407) 399-1161 • FAX (407) 668-4412

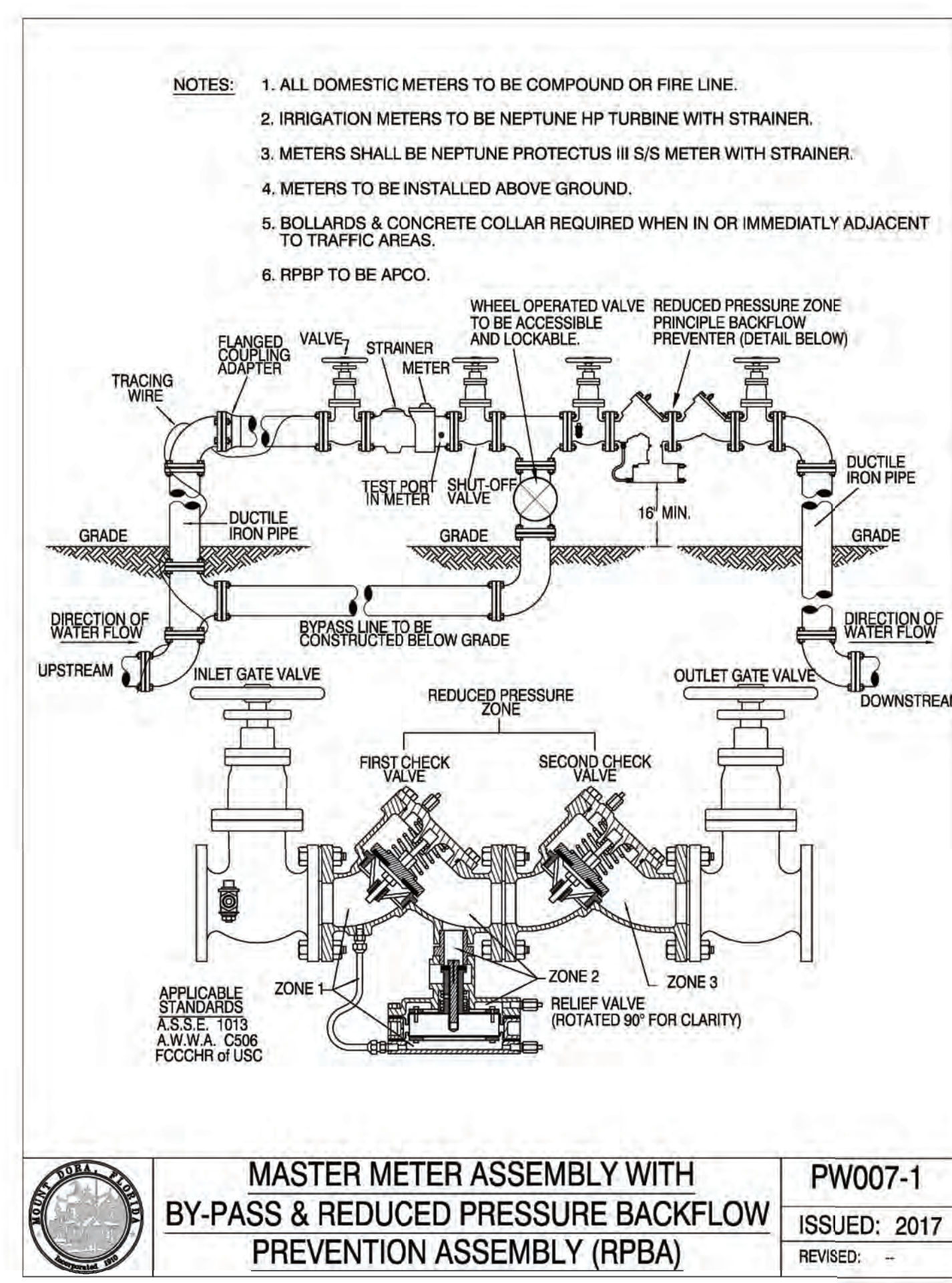
CITY OF MOUNT DORA DETAILS
MOUNT DORA COMMERCE PARK
PROJECT NO. 24-002
DATE MAY 2025
SCALE N.T.S.
SHEET 12 OF 17



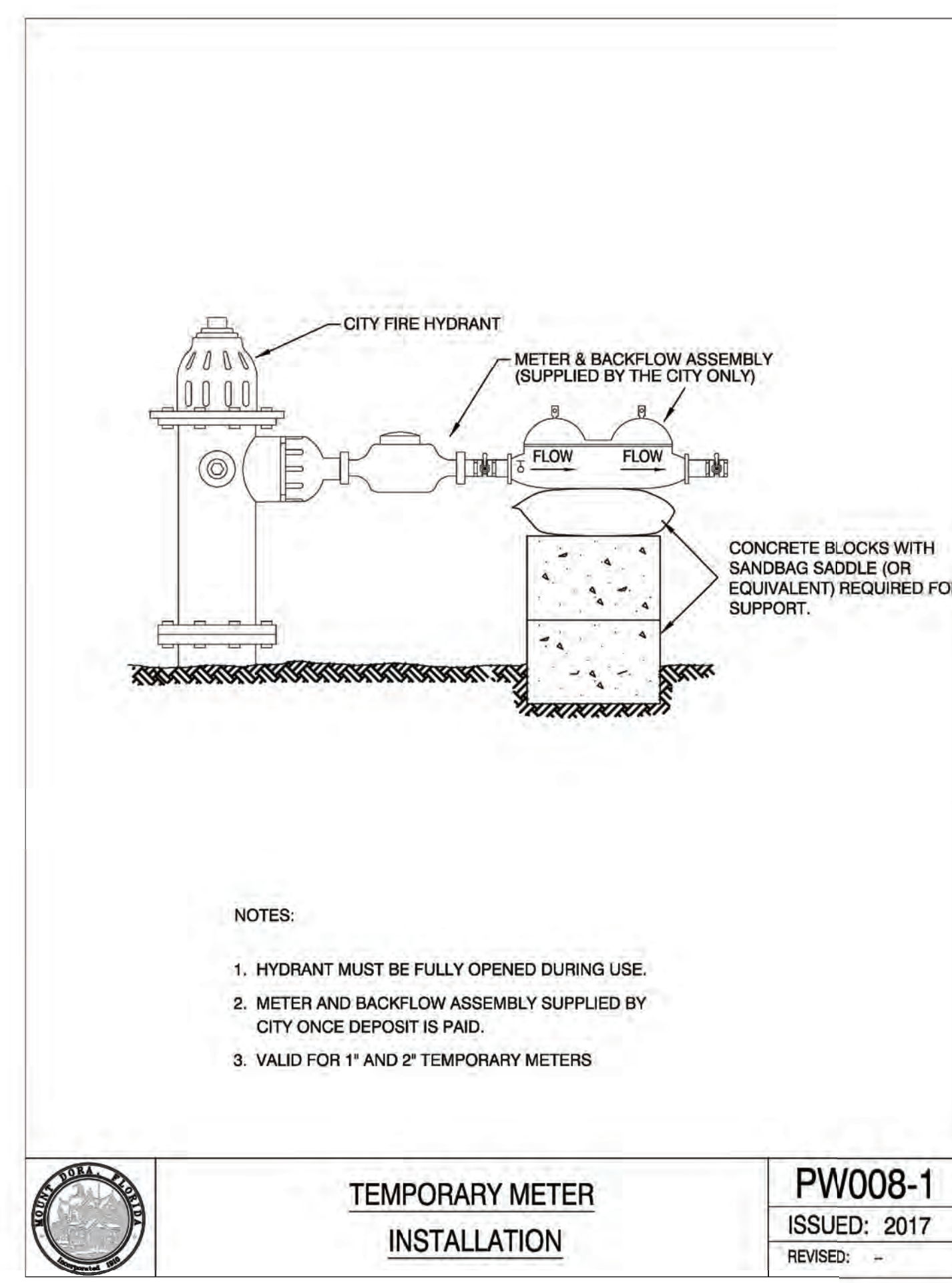
	FIRE HYDRANT COLOR IDENTIFICATION	PW003-1
		ISSUED: 2017
		REVISED: JAN 2020



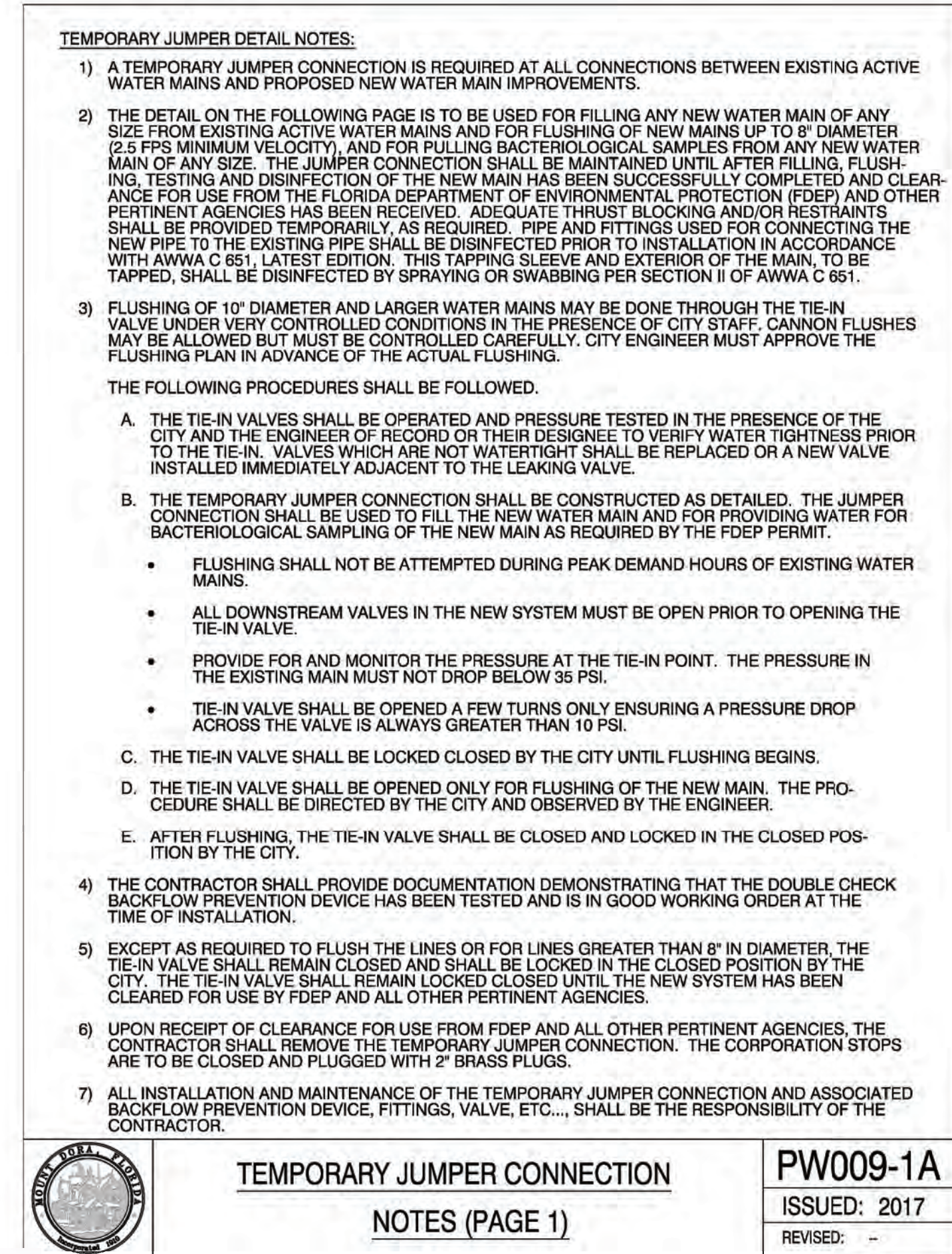
	POTABLE WATER-SINGLE SERVICE CONNECTION FOR 2" AND LARGER METERS	PW006-1
		ISSUED: 2017
		REVISED: -



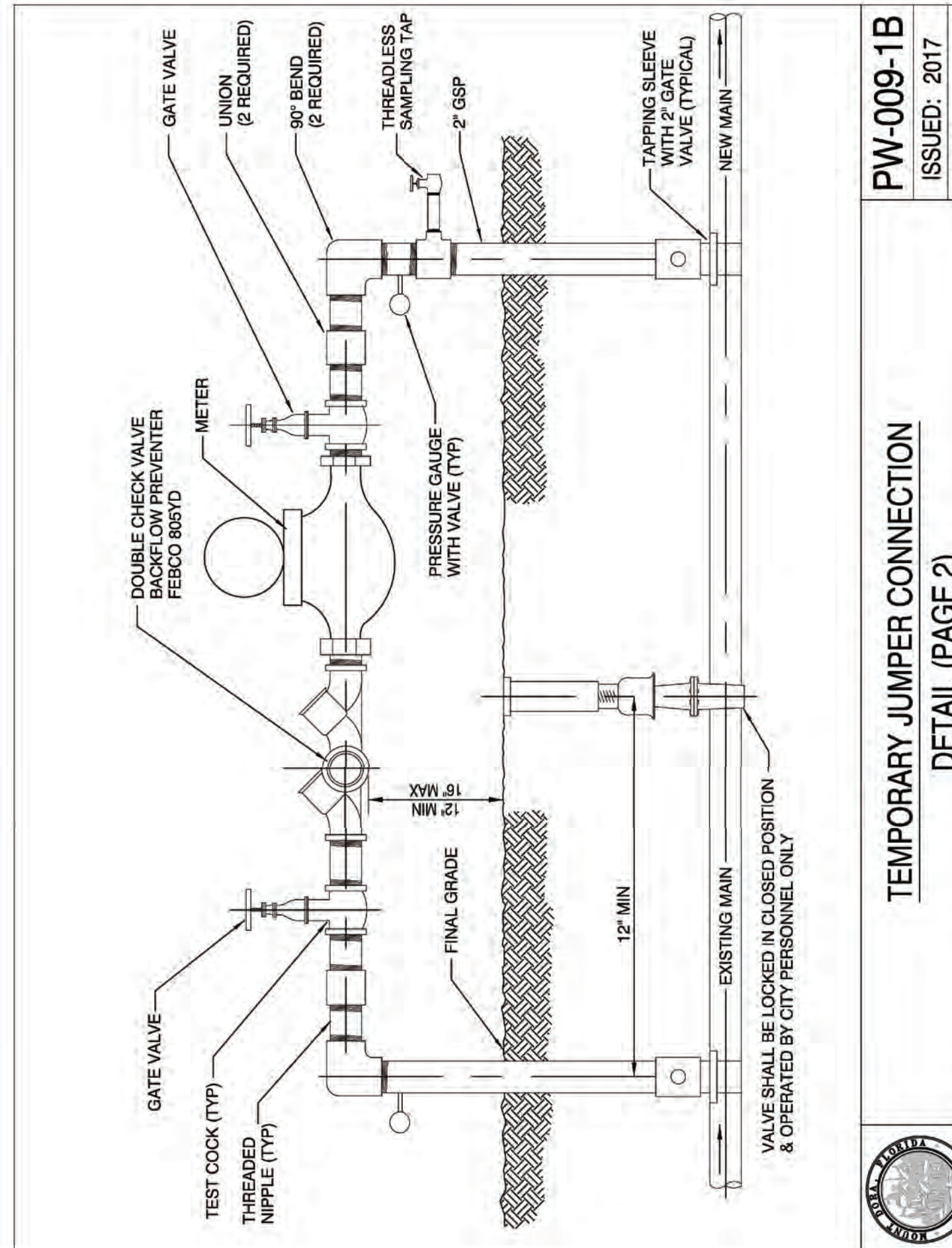
	MASTER METER ASSEMBLY WITH BY-PASS & REDUCED PRESSURE BACKFLOW PREVENTION ASSEMBLY (RPBA)	PW007-1
		ISSUED: 2017
		REVISED: -



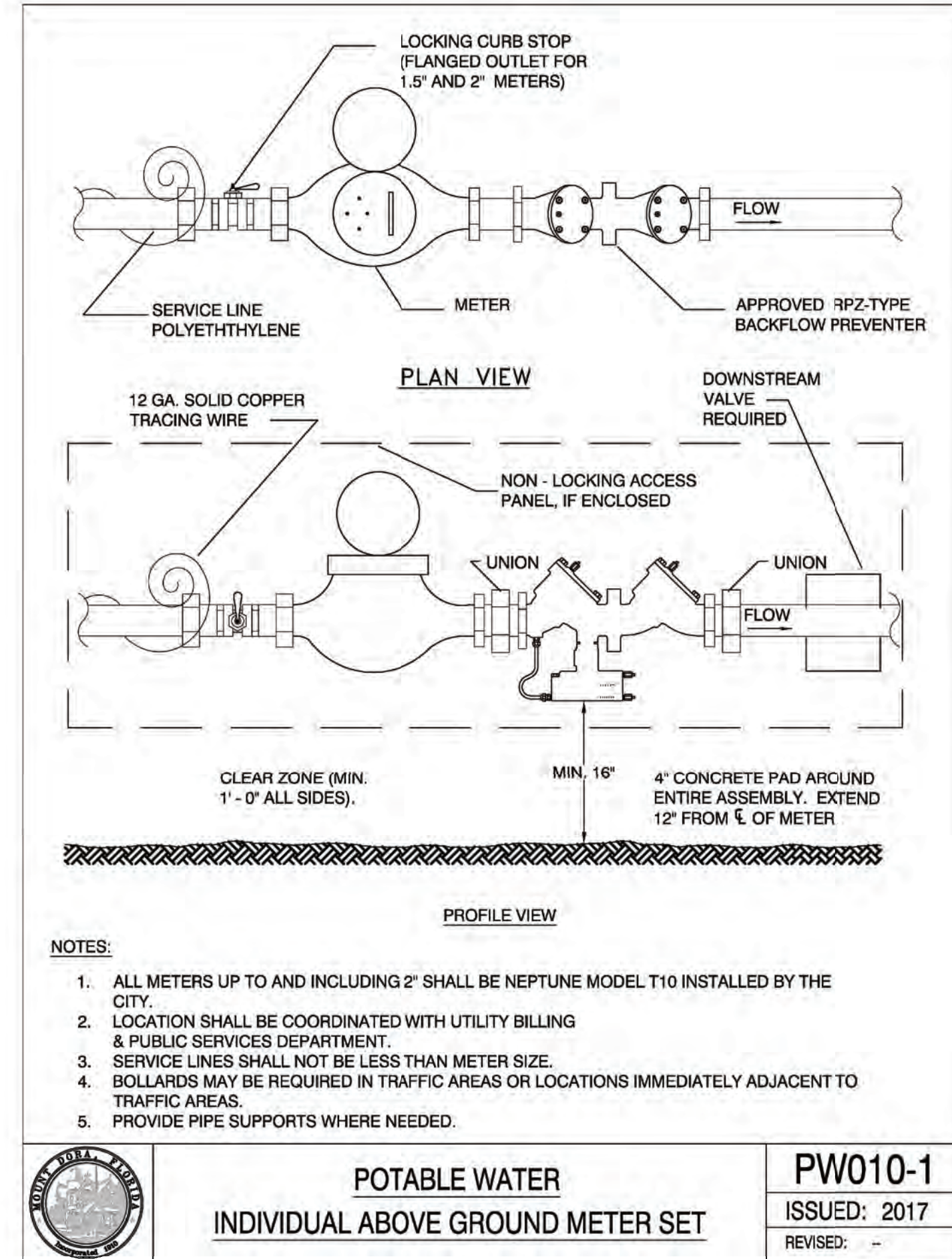
	TEMPORARY METER INSTALLATION	PW008-1
		ISSUED: 2017
		REVISED: -



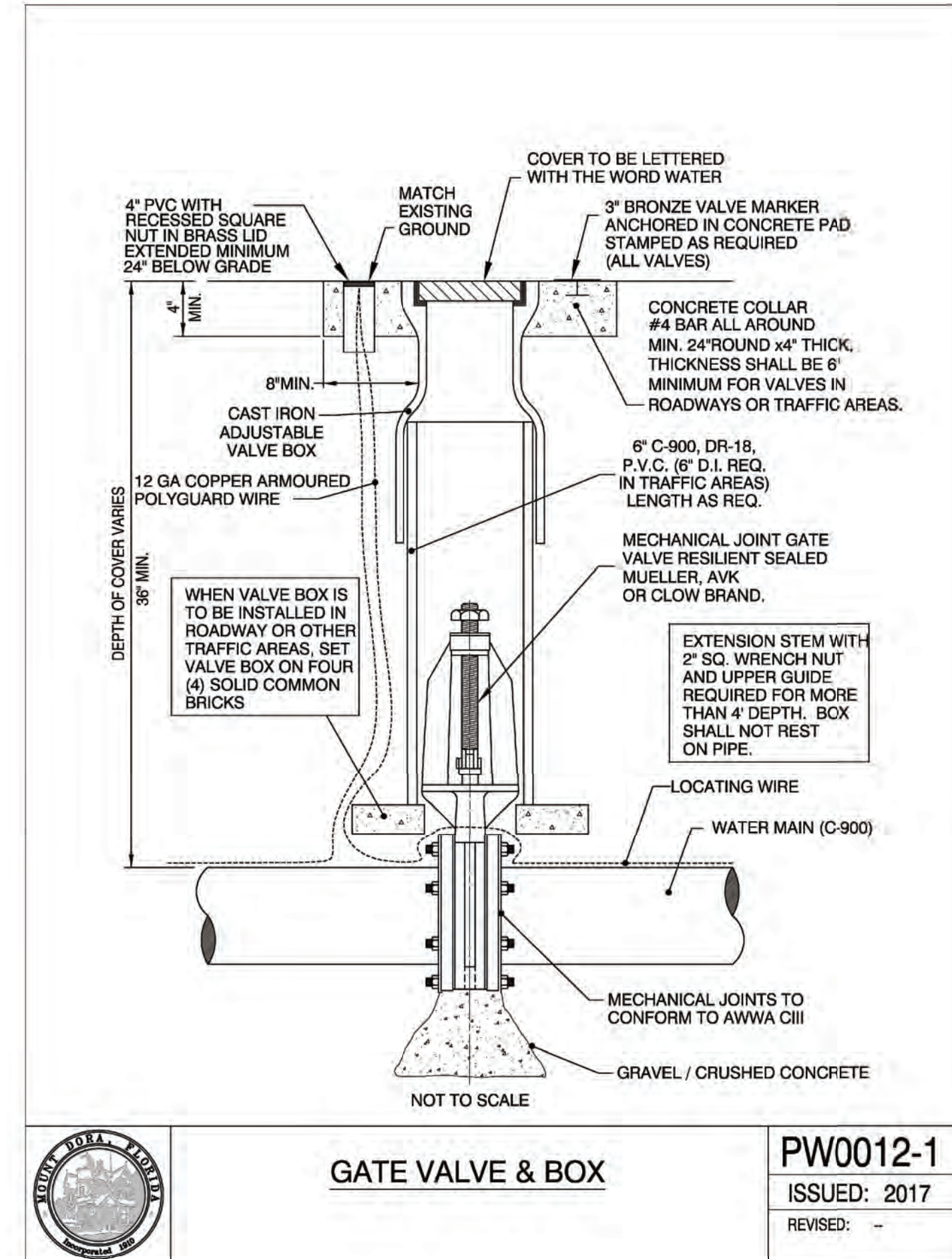
	TEMPORARY JUMPER CONNECTION NOTES (PAGE 1)	PW009-1A
		ISSUED: 2017
		REVISED: -



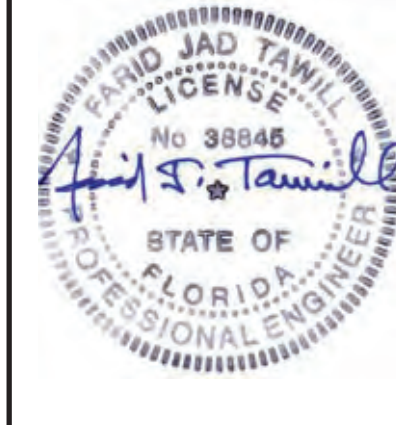
	TEMPORARY JUMPER CONNECTION DETAIL (PAGE 2)	PW-009-1B
		ISSUED: 2017
		REVISED: -



	POTABLE WATER INDIVIDUAL ABOVE GROUND METER SET	PW010-1
		ISSUED: 2017
		REVISED: -



	GATE VALVE & BOX	PW0012-1
		ISSUED: 2017
		REVISED: -



DATE	REVISIONS	REVISED BY	CHECKED BY	CADD FILE NAME
8/11/25	REVISED PER CITY OF MOUNT DORA AND CPH COMMENTS	SML	FJT	Approved by FJT

TAWILL ENGINEERING, INC.
CIVIL ENGINEERING DESIGN • CONSULTING • PERMITTING
CERTIFICATE OF AUTHORIZATION: 6625

6312 BUFORD STREET, UNIT 702, ORLANDO, FLORIDA 32835
TELEPHONE (407) 399-1161 • FAX (407) 668-4412

CITY OF MOUNT DORA DETAILS		MOUNT DORA COMMERCE PARK		PROJECT NO. 24-002
				DATE MAY 2025
				SCALE N.T.S.
				SHEET 13 OF 17

WET TAP SLEEVE & VALVE

PW0013-1
ISSUED: 2017
REVISED: -

RECLAIMED WATER SYSTEM CONSTRUCTION GENERAL NOTES

- THE CITY'S PUBLIC SERVICES DEPARTMENT SHALL BE NOTIFIED PRIOR TO BEGINNING ANY RECLAIMED WATER SYSTEM CONSTRUCTION.
- DE-WATERING SHALL BE PROVIDED TO KEEP GROUND WATER ELEVATION A MINIMUM OF 6 INCHES BELOW RECLAIMED WATER MAIN BEING LAID.
- ALL RECLAIMED WATER MAINS SHALL BE LAID ON A FIRM FOUNDATION WITH ALL UNSUITABLE MATERIAL (MUCK, ROCK, COQUINA, ETC.) REMOVED AND REPLACED WITH CLEAN GRANULAR MATERIAL.
- TRENCHES SHALL BE BACK FILLED WITH MATERIAL ACCEPTABLE TO THE CITY, WITH A MINIMUM COMPACTION OF 98% (AASHTO T-190) IN PAVED AREAS AND 95% (AASHTO T-190) IN UNPAVED AREAS.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INSURE THAT TRENCH COMPACTION TESTS BE PROVIDED AT POINTS 1 FOOT ABOVE THE PIPE AND AT 2 FEET VERTICAL INTERVALS TO FINISH GRADE, AT A MINIMUM SPACING OF EVERY 300 FEET, WITH RESULTS PROVIDED TO THE CITY.
- PIPE WARNING TAPE SHALL BE LOCATED 18 INCHES BELOW FINISH GRADE FOR ALL PIPES. PIPE IDENTIFICATION TAPE SHALL BE PROVIDED ON ALL PIPES.
- ALL SINGLE RESIDENTIAL WATER SERVICES SHALL BE MINIMUM 1" POLYETHYLENE TUBING. POLYBUTYLENE SHALL NOT BE ALLOWED. TUBING COLOR SHALL BE PURPLE.
- ALL WATER SERVICE ENDINGS SHALL BE SECURED BY WIRE TO 2"x4" STAKES, APPROXIMATELY 2' ABOVE GRADE, WITH "Y" BRANCHES AT THE GROUND LEVEL, OR MAY BE PLACED IN RECLAIMED WATER METER BOXES AS SUPPLIED BY THE CITY AT THE TIME OF FINAL SUB-DIVISION INSPECTION.
- RECLAIMED WATER VALVES SHALL BE PLACED AT ALL STREET INTERSECTIONS AND AT MAXIMUM SPACING OF 1,000 FEET.
- AT ALL WATER MAIN TEES AND CROSSES, VALVES SHALL BE INSTALLED ON ALL LEGS, PROVIDED ADEQUATE DOWNSTREAM VALVING EXISTS.
- APPROVED WATER VALVE TYPES ARE THE FOLLOWING:
 - BRASS BALL-TYPE VALVE FOR VALVES LESS THAN 2" DIAMETER.
 - STANDARD GATE VALVES 2" TO 12" DIAMETER, RESILIENT SEAT GATE VALVES (AWWA C-509)
 - BUTTERFLY VALVES GREATER THAN 12" DIAMETER (AWWA C-504) ONLY WITH WRITTEN CITY ENGINEER APPROVAL.
 - TAPPING VALVES WITH MECHANICAL TAPPING SLEEVE FOR SIZE ON SIZE STAINLESS STEEL.
- ALL RECLAIMED WATER VALVES SHALL BE ADJUSTED TO FINISH GRADE AND THE CAPS SHALL BE PAINTED PURPLE TO MAKE THEM PLAINLY DISTINGUISHABLE.
- AS STANDARD PRACTICE, RECLAIMED WATER MAINS SHALL BE INSTALLED 4 FEET OFF THE BACK OF THE CURB ON THE OPPOSITE SIDE OF THE POTABLE WATER LINES OR AS APPROVED BY THE CITY.

STANDARD CONSTRUCTION DETAIL
GENERAL NOTES: RECLAIMED WATER

RW001-1A
ISSUED: 2017
REVISED: -

RECLAIMED WATER SYSTEM CONSTRUCTION GENERAL NOTES

- ALL RECLAIMED WATER VALVES SHALL BE ADJUSTED TO FINISH GRADE AND THE CAPS SHALL BE PAINTED PURPLE TO MAKE THEM PLAINLY DISTINGUISHABLE.
- AS STANDARD PRACTICE, RECLAIMED WATER MAINS SHALL BE INSTALLED 4 FEET OFF THE BACK OF THE CURB ON THE OPPOSITE SIDE OF THE POTABLE WATER LINES OR AS APPROVED BY THE CITY.
- ALL RECLAIMED WATER MAINS SHALL HAVE A MINIMUM COVER OF 30 INCHES. IN SPECIAL CASES WHERE IT IS IMPOSSIBLE OR INAPPROPRIATE TO PROVIDE ADEQUATE COVER, DUCTILE IRON PRESSURE CLASS RATING OR CONCRETE ENCASEMENT MAY BE USED AS APPROVED BY THE CITY.
- ALL RECLAIMED WATER MAINS TO BE CLEARED FOR SERVICE SHALL BE FLUSHED, DISINFECTED, PRESSURE TESTED, AND OTHERWISE TESTED IN ACCORDANCE WITH THE LATEST AWWA STANDARDS AND THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION REQUIREMENTS.
- RECLAIMED WATER MAINS SHALL BE PVC AWWA CLASS C-900, MINIMUM CL-150 (DR-18) DUCTILE PIPE PRESSURE CLASS RATING, STANDARD CEMENT LINER, UNLESS OTHERWISE APPROVED BY THE CITY.
- UPON CONSTRUCTION COMPLETION AND ACCEPTANCE OF THE SYSTEM, IT SHALL BE THE DESIGN ENGINEER'S RESPONSIBILITY TO INSURE THAT THE SYSTEM IS PROPERLY CERTIFIED AND ACCEPTED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION OR THE CITY PUBLIC WORKS AND "AS-BUILTS" ARE PROVIDED TO THE CITY, PRIOR TO ANY USE OF THIS SYSTEM.
- ALL RECLAIMED WATER MAINS AND SERVICE LINES SHALL BE READILY DISTINGUISHABLE BY THEIR PAINTED PURPLE COLOR OR TAPE MARKINGS.
- ALL RECLAIMED WATER SERVICES SHALL BE MARKED ALONG THE OUTSIDE EDGE OF CURB WITH UPSIDE-DOWN "RW" OR BY METAL TABS SET INTO PAVEMENT. VALVES FOR RECLAIMED WATER SHALL BE MARKED BY A "V" SET INTO THE PAVEMENT.
- RECLAIM WATER SERVICES SHOULD BE DOUBLE 1-1/2" SERVICES LOCATED AT SIDE LOT LINES, ALTERNATING WITH POTABLE WATER SERVICE LOCATIONS. IN INSTANCES WHERE RECLAIMED WATER SERVICES NEED TO BE OFFSET, 1" SERVICES SHALL BE SPECIFIED. THESE SERVICES MAY BE OFFSET FROM THE LOT LINE A MAXIMUM DISTANCE OF 5.0 FEET.
- ALL RECLAIMED WATER HOSE CONNECTIONS, HAND-OPERATED CONNECTIONS AND OUTLETS SHALL BE LOCKABLE CONTAINED IN UNDERGROUND SERVICES VAULTS AND SHALL BE APPROPRIATELY TAGGED OR LABELED TO WARN THE PUBLIC AND EMPLOYEES THAT THE WATER IS NOT INTENDED FOR DRINKING. ALL PIPING SHALL BE COLOR-CODED, OR OTHERWISE MARKED, TO DIFFERENTIATE RECLAIMED WATER FROM POTABLE OR OTHER WATER.
- PRIOR TO TAKING ANY RECLAIMED WATER LINES OUT OF SERVICE, THE CONTRACTOR SHALL NOTIFY THE CITY AND AFFECTED CUSTOMERS, IN WRITING, 48-HOURS PRIOR TO SHUTDOWN WITH CITY APPROVAL.

STANDARD CONSTRUCTION DETAIL
GENERAL NOTES: RECLAIMED WATER

RW001-1B
ISSUED: 2017
REVISED: -

Irrigation Systems

Sign shall be 12' x 18' with purple background.

Storage Ponds & Lakes

Sign shall be 18' x 18' with purple background.

RECLAIMED WATER REQUIRED WARNING SIGNS

RW006-1
ISSUED: 2017
REVISED: -

ROAD CLASSIFICATION	DESIGN SPEED (MPH)	PVMT WIDTH (P)*	RIGHT OF WAY WIDTH	MIN. HORIZ. RADIUS C.L.	MIN. VERT. CURVE	GRADE (%)	MIN. INT. SPACE
LOCAL / COLLECTOR UP TO 400 VPD	20	12	50	95'	125'	0.5 8	200'
	25	12	60	180'	165'	0.5 7	250'
	20	12	50	95'	125'	0.5 7	200'
	25	12	60	180'	165'	0.5 6	250'
	30	12	80	300'	200'	0.5 6	330'
	35	12	80	375'	225'	0.5 5	660'
UP TO 1000 VPD	20	12	60	180'	165'	0.5 6	250'
	25	12	80	300'	200'	0.5 5	660'
UP TO 5000 VPD	35	12	80	450'	275'	0.5 5	660'
	40	12	80	450'	275'	0.5 5	660'
ARTERIAL UP TO 7500 VPD	35	5 LANES (12 LANES)		375'	225'	0.5 5	660'
	40						
	40						
OVER 7500 VPD	40			450'	275'	0.5 5	660'

NOTES:

- PAVEMENT WIDTHS FOR INDUSTRIAL AND COMMERCIAL ROADS SHALL BE INCREASED BY ONE (1) FOOT.
- INTERSECTION ANGLES SHALL NOT BE LESS THAN 60 DEGREES EXCEPT ON ARTERIAL ROADWAYS SHALL NOT BE LESS THAN 75 DEGREES. INTERSECTIONS WITH COUNTY ROADS SHALL BE 90 DEGREES.
- 25 MPH MIN. DESIGN SPEED UNLESS APPROVED BY THE CITY ENGINEER.
- ALL INTERSECTIONS AND ACCESS POINTS SHALL HAVE ADEQUATE LINE OF SIGHT BASED ON AN EYE LEVEL OF 3.5' ABOVE THE GROUND AND AN OBJECT 3.0' ABOVE THE LOWEST ROADWAY. FOR PURPOSES OF THIS STANDARD, THE EYE LEVEL SHALL BE MEASURED 8' IN BACK OF THE STOP BAR AT INTERSECTIONS. THE FOLLOWING SIGHT DISTANCES SHALL BE PROVIDED:

DESIGN SPEED (MPH)	20	25	30	35	40	45	50	55
SIGHT DISTANCE (FT) (MINIMUM)	200	250	300	350	400	450	500	550

* IN RESIDENTIAL DEVELOPMENTS WITH LESS THAN 25 FOOT SETBACKS, ADDITIONAL 9 FEET IN TOTAL PAVEMENT WIDTH SHALL BE PROVIDED TO ACCOMMODATE ON-STREET PARKING.

ROADWAY GEOMETRY

RD0002-1
ISSUED: 2017
REVISED: -

TYPICAL SEWER CONNECTION

SS001-1
ISSUED: 2017
REVISED: -

STANDARD MANHOLE DETAIL

SS002-1
ISSUED: 2017
REVISED: -

MH DEPTH	A	B	C	D	E	F
UP TO 12"	48"	8"	24.5"	15"	AS REQD	8"
12 TO 18"	60"	8"	24.5"	15"	AS REQD	10"
18 AND DEEPER	72"	8"	24.5"	15"	AS REQD	14"

MANHOLE SIZE

PIPE SIZE	MANHOLE SIZE
UP TO 24" PIPE	48" MANHOLE
UP TO 36" PIPE	60" MANHOLE
OVER 36" PIPE	72" MANHOLE

* MIN MANHOLE SIZE FOR FORCEMAIN CONNECTION

NOTES:

- PRE-CAST CONCRETE SHALL BE TYPE 2 CEMENT (4,000 PSI).
- LIFT HOLES NOT PERMITTED THROUGH PRE-CAST SECTIONS.
- ALL OPENINGS SHALL BE SEALED WITH NON-SHRINK GROUT.
- INSTALL FLOW CHANNEL INSIDE MANHOLES.
- SERVICE LATERALS SHALL GENERALLY NOT BE PERMITTED DIRECTLY INTO MANHOLES. (SEE SS003-1)
- WRAP JOINTS WITH RUBBER TAR BASED WRAP.
- REINFORCING STEEL PER ASTM C478-88A.
- PROVIDE 5' X 5' X 12" CONCRETE COLLAR AROUND COVER FRAME, WITH 4 - #4 REBAR E.W. IN UNPAVED AREAS.

TYPICAL MANHOLE CONNECTIONS

SS003-1
ISSUED: 2017
REVISED: -

NOTES:

- PENETRATION TO EXISTING MANHOLES SHALL BE CORE BORED.
- DROP CONNECTION SHALL BE REQUIRED WHENEVER AN INFLUENT SEWER IS LOCATED TWO FEET OR MORE ABOVE THE MAIN INVERT CHANNEL.
- ANY MANHOLE WITH PIPES ENTERING AT 45° OR GREATER TO THE FLOW LINE EXTENDED AND/OR WITH A DROP EQUAL TO OR GREATER THAN THE SMALLEST ENTERING PIPE DIAMETER SHALL BE FIBERGLASS LINED.
- ANY MANHOLE DIRECTLY RECEIVING A FORCE MAIN MUST BE HDPE OR FIBERGLASS LINED.
- MANHOLE WILL BE MINIMUM 60" DIAMETER.



DATE	REVISIONS	REVISED BY	CHECKED BY	CADD FILE NAME
8/11/25	REVISED PER CITY OF MOUNT DORA AND CPH COMMENTS	SML	FJT	G3_MountDoraGeneralDetails.dwg

TAWILL ENGINEERING, INC.
CIVIL ENGINEERING DESIGN • CONSULTING • PERMITTING
CERTIFICATE OF AUTHORIZATION: 6625

6312 BUFORD STREET, UNIT 702, ORLANDO, FLORIDA 32835
TELEPHONE (407) 399-1161 • FAX (407) 668-4412

CITY OF MOUNT DORA DETAILS

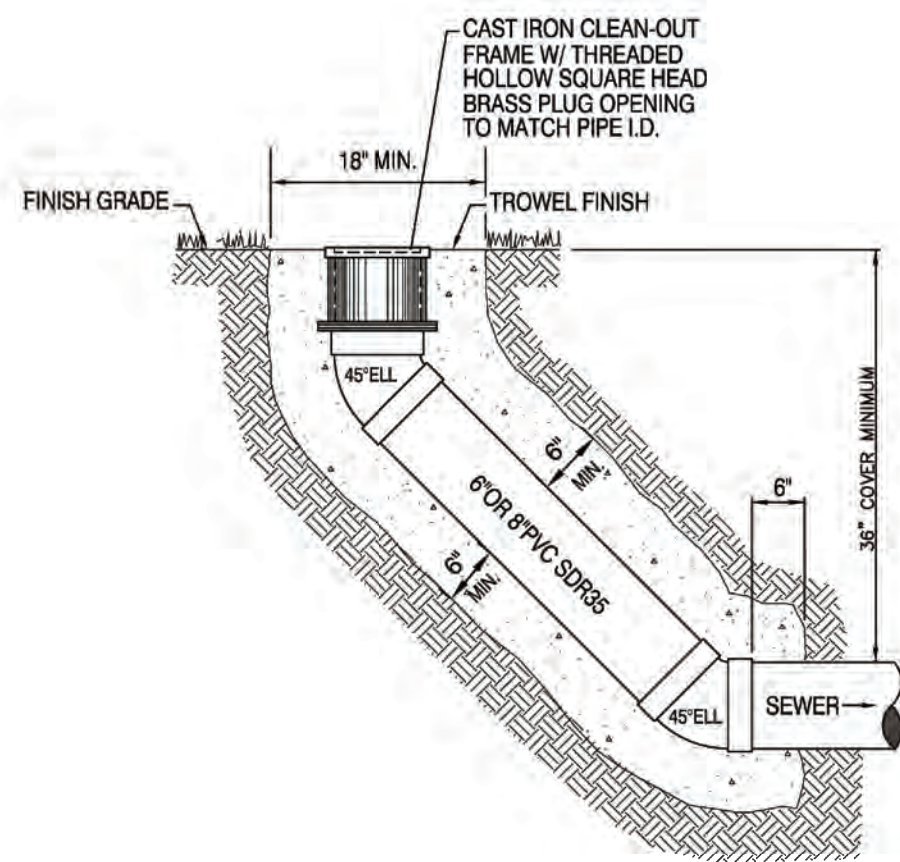
MOUNT DORA COMMERCE PARK

CITY OF MOUNT DORA
FLORIDA

PROJECT NO.	DATE	SCALE	SHEET
24-002	MAY 2025	N.T.S.	17

FARID J. TAWILL, P.E.
FLORIDA LIC. No. 38845

DATE



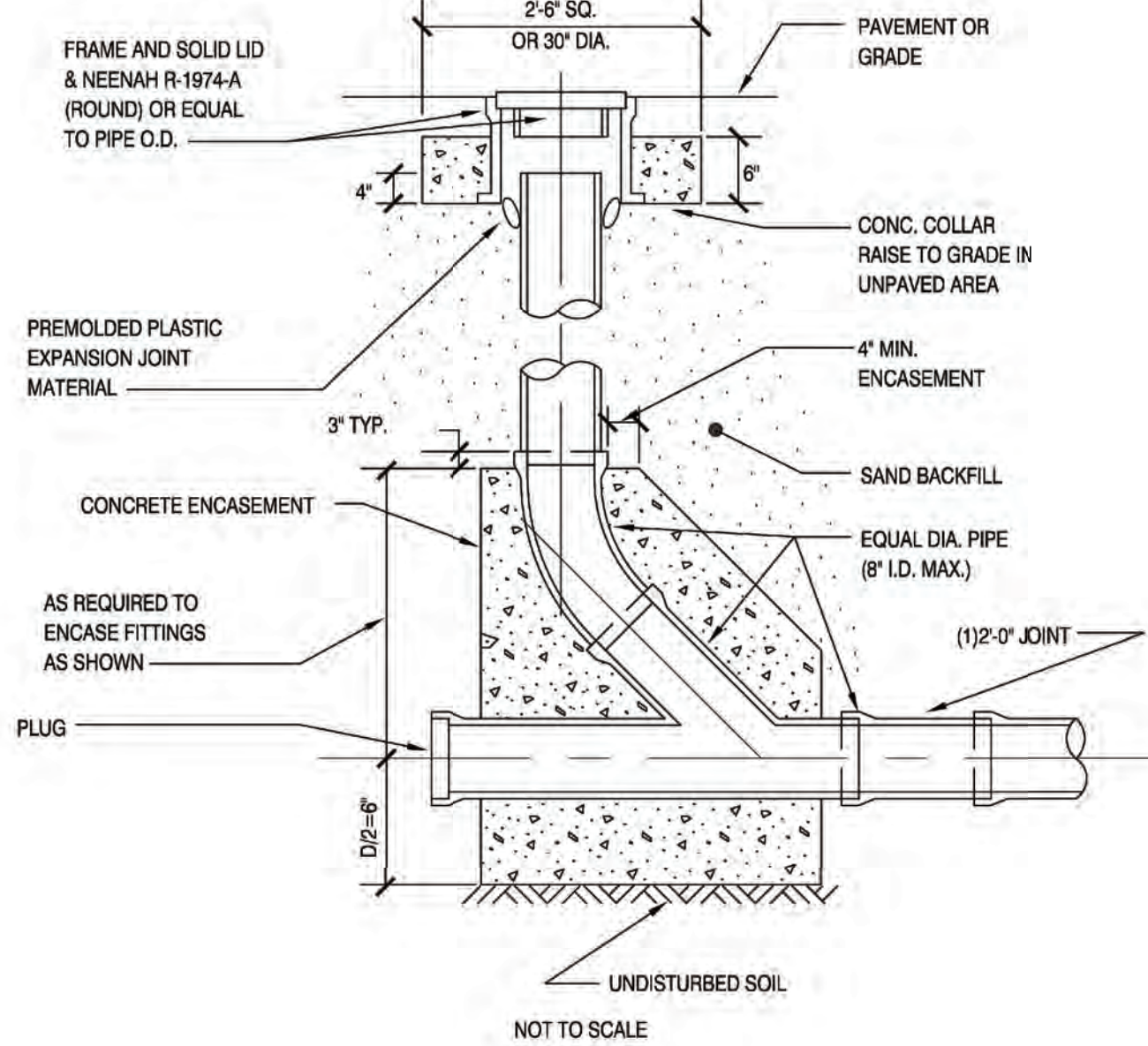
NOT TO SCALE



TRUNK LINE CLEAN-OUT

SS015-1

ISSUED: 2017
REVISED: -



NOT TO SCALE



GRAVITY CLEANOUT

SS014-1

ISSUED: 2017
REVISED: -

STORM DRAINAGE CONSTRUCTION NOTES

- ALL STORM SEWER PIPE SHALL BE REINFORCED CONCRETE UNLESS APPROVED BY THE CITY ENGINEER.
- STORM DRAINAGE PIPES SHALL BE A MINIMUM OF FIFTEEN (15) INCH DIAMETER (15' FOR SHORT LATERAL RUNS ONLY - UP TO 75 FEET; ALL OTHERS, 18" MINIMUM.) OR EQUIVALENT AND BE DESIGNED IN ACCORDANCE WITH THE FDOT DRAINAGE MANUAL.
- ALL PIPE TERMINUS SHALL BE MITERED END SECTIONS UNLESS A HEADWALL IS APPROVED FOR RESTRICTED LOCATIONS.
- UNLESS OTHERWISE NOTED, ALL STRUCTURES SHALL MEET FDOT STANDARDS.
- STORM INLETS, MANHOLES, AND CATCH BASINS SHALL BE EITHER POURED IN PLACE OR PRE-CAST REINFORCED CONCRETE. STRUCTURES SHALL BE REQUIRED AT EACH CHANGE OF PIPE SIZE, CHANGE IN PIPE DIRECTION, OR PIPE MATERIAL.
- STORM INLETS SHALL BE SPACED IN SUCH A MANNER AS TO ACCEPT ONE HUNDRED (100) PERCENT OF THE DESIGN STORM RUNOFF PER FDOT DRAINAGE MANUAL.
- MAXIMUM DISTANCES BETWEEN INLETS AND/OR MANHOLES:

PIPE SIZE (INCHES)	LENGTH RUN (FEET)
15	75 * See Note 2., Above.
18	150
24	250
30	300
36	300
42	400
54 or greater	500

- ALL SWALES, DITCHES MAXIMUM SIDE AND BACK SLOPES MUST NOT BE GREATER THAN 3 TO 1.
- NORMAL ROADSIDE SWALES SHALL BE CONSTRUCTED TO A MAXIMUM DEPTH OF 18" BELOW THE OUTSIDE EDGE OF PAVEMENT OR CONCRETE CURB.
- CONCRETE EROSION CONTROL MUST BE PROVIDED WHERE SWALES OR CULVERTS INTERCEPT DRAINAGE DITCHES.
- WHEN A POND IS INCORPORATED WITHIN A SUBDIVISION, THE POND SHALL BE ON A SEPARATE TRACT, OWNED AND MAINTAINED BY THE HOMEOWNERS ASSOCIATION. WHERE SUCH PONDS EXIST AND ARE BOUNDED IN WHOLE OR IN PART BY STREETS, A STRIP OF LAND NOT LESS THAN FIFTEEN (15) FEET WIDE BUTTING SUCH STREET RIGHT-OF-WAY SHALL BORDER THE POND.



STORMWATER GENERAL NOTES

ST0001-1A

ISSUED: 2017
REVISED: -

STORM DRAINAGE CONSTRUCTION NOTES

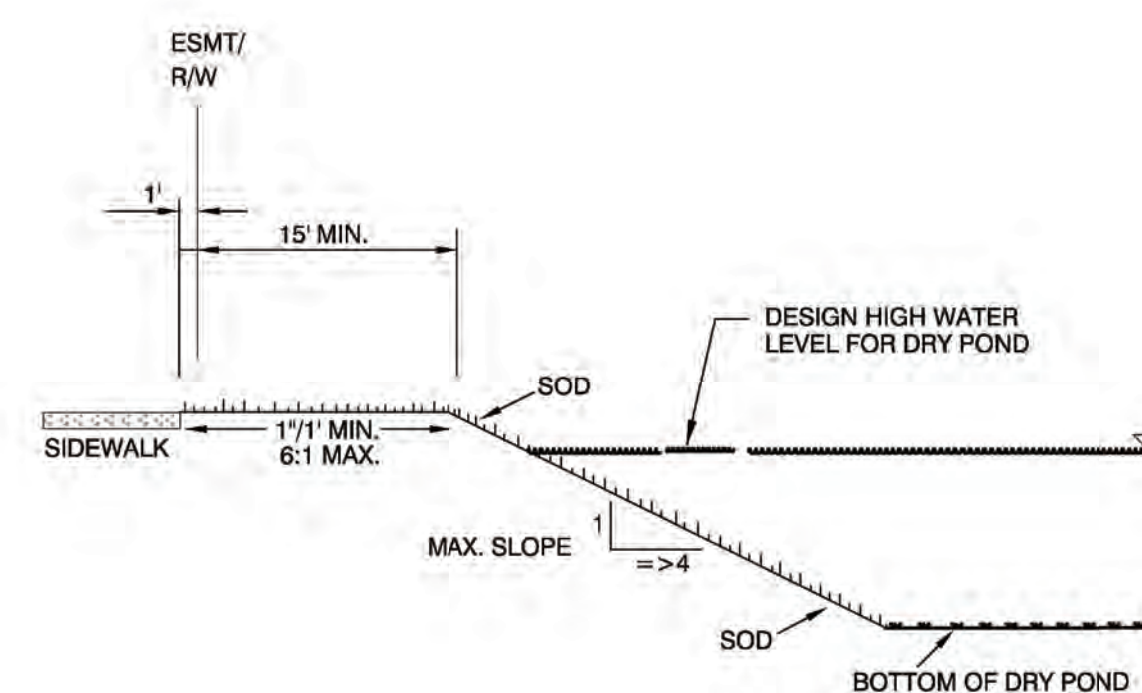
- POND INFLOW AND OUTLET STRUCTURES SHALL BE CONSTRUCTED WITH REINFORCED CONCRETE AND SHALL BE SUBJECT TO THE APPROVAL OF THE CITY ENGINEER.
- SOIL EROSION CONTROL MEASURES, IN CONFORMANCE WITH THE FLORIDA STORMWATER, EROSION AND SEDIMENT CONTROL INSPECTOR'S MANUAL AND SATISFACTORY WITH THE CITY, SHALL BE EMPLOYED DURING CONSTRUCTION.
- THE DEVELOPER MUST SUBMIT A DRAINAGE REPORT BY A QUALIFIED HYDROLOGIST ON THE IMPACT THE POND WILL HAVE ON NEIGHBORING WATER TABLE ELEVATIONS, BOTH DURING CONSTRUCTION AND AFTER COMPLETION. THE CITY ENGINEER MAY REQUIRE GROUNDWATER MONITORING DURING THE POND EXCAVATION.
- ADEQUATE MAINTENANCE EASEMENTS OR RIGHT-OF-WAY AS APPROVED BY THE CITY ENGINEER SHALL BE PROVIDED AROUND THE ENTIRE PERIMETER OF ALL PONDS AND ASSOCIATED OUTFALLS DISCHARGING INTO AND OUT OF PONDS. APPLICABLE CROSS SECTIONS SHALL BE INCLUDED ON ALL FINAL DEVELOPMENT PLANS.
- DEVELOPMENT PLANS SHALL CONTAIN POP-OFF DATA (OVERFLOW), BOTTOM ELEVATION, NORMAL WATER LEVELS, AND 100 YEAR HIGH WATER LEVELS.
- RETENTION/DETENTION SITES MUST BE CONSTRUCTED ON ALL PROJECTS PRIOR TO ANY ROAD, PARKING LOT, OR BUILDING CONSTRUCTION COMMENCING OR AS CURRENT PERMIT CONDITIONS DICTATE. SEWER AND WATER MAINS MAY BE INSTALLED PRIOR TO RETENTION/DETENTION SITE CONSTRUCTION IF DE-WATERING IS NOT REQUIRED.
- THE ENGINEER OF RECORD IS REQUIRED TO OBTAIN, AND PROVIDE EVIDENCE OF, ANY AND ALL DE-WATERING PERMITS, SJRWMD PERMITS, EXEMPTION LETTERS, NPDES PERMITS, AND/OR ANY OTHER PERMITS THAT MAY BE REQUIRED, PRIOR TO SITE PLAN APPROVAL.
- CULVERTS CROSSING RIGHT-OF-WAYS SHALL EXTEND FROM RIGHT-OF-WAY LINE TO RIGHT-OF-WAY LINE UNDER THE ROADWAY.



STORMWATER GENERAL NOTES

ST0001-1B

ISSUED: 2017
REVISED: -



NOTES:

THE SIDE SLOPES OF RETENTION/DETENTION PONDS SHALL BE CONSTRUCTED AND MAINTAINED WITH AS FLAT A SLOPE AS POSSIBLE. WITH APPROVAL FROM THE CITY ENGINEER, SLOPES UP TO THREE (3) HORIZONTAL TO ONE (1) VERTICAL, ARE ACCEPTABLE, PROVIDED SOIL CONDITIONS ARE SUITABLE TO SUSTAIN ADEQUATE PLANT GROWTH AND TO CONTROL EROSION, AS CERTIFIED BY THE ENGINEER OF RECORD. RETENTION/DETENTION PONDS SHALL BE ENCLOSED WITH A GATED, SIX-FOOT-HIGH, FENCE WITH THE FOLLOWING EXCEPTIONS:

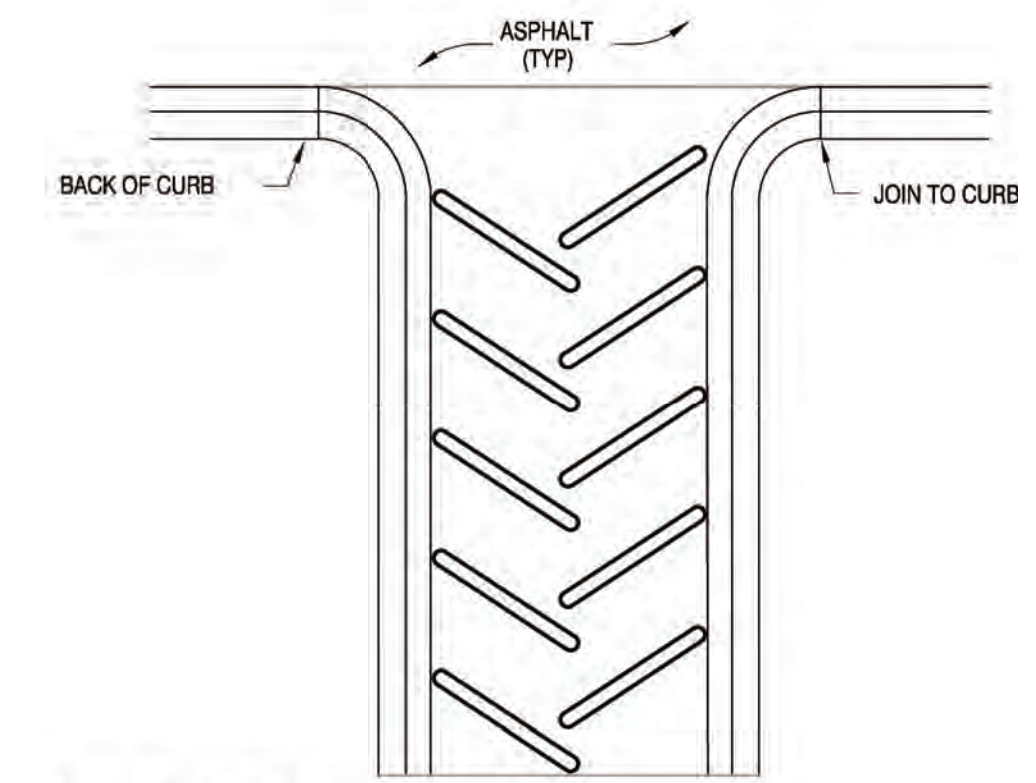
- WHERE THE MAXIMUM DESIGN WATER DEPTH IS LESS THAN TWO (2) FEET, AND/OR
- WHERE THE DETENTION FACILITY IS PART OF A LANDSCAPED AREA OR CONSERVATION SCHEME, AND, THE SIDE SLOPES TO WATER DEPTH OF THREE (3) FEET ARE CONSTRUCTED AND MAINTAINED AT A MAXIMUM SLOPE OF AT LEAST SIX HORIZONTAL TO ONE VERTICAL (6:1)



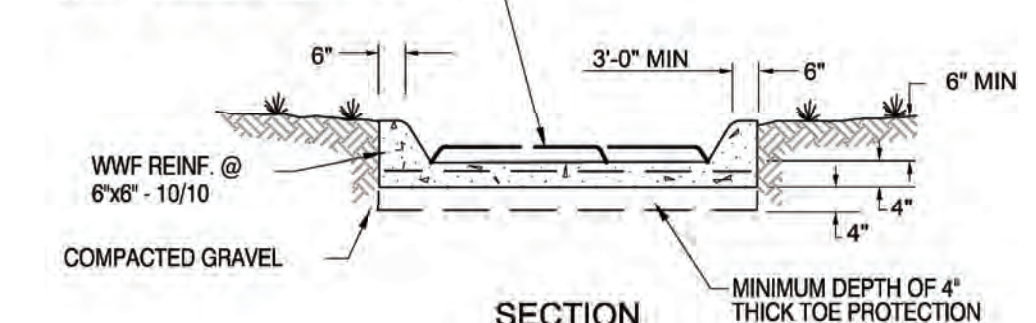
DRY RETENTION POND

ST0002-1

ISSUED: 2017
REVISED: -



PROVIDE CAST IN PLACE CONCRETE ENERGY DIFFUSING RISBS IN 45° CHEVRON PATTERN WITH OVERLAP (MINIMUM HEIGHT OF 3')



NOTES:

- DRAINAGE FLUME SHALL EXTEND DOWN TO THE BOTTOM OF THE POND OR SWALE.
- TO BE USED ON GRADUAL SLOPES OF 4:1 OR LESS.



DRAINAGE FLUME

ST0005-1

ISSUED: 2017
REVISED: -

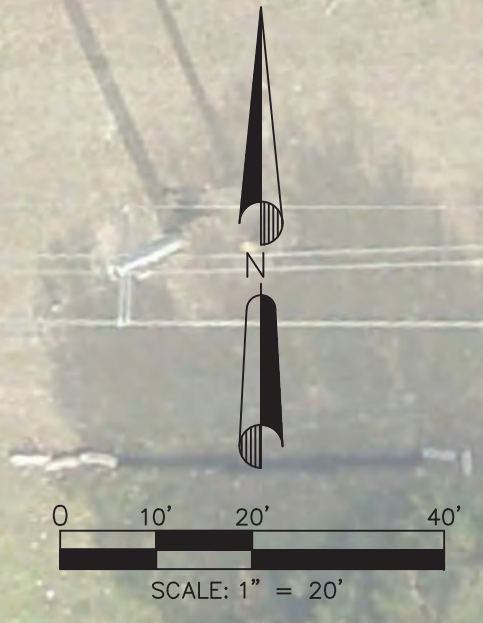
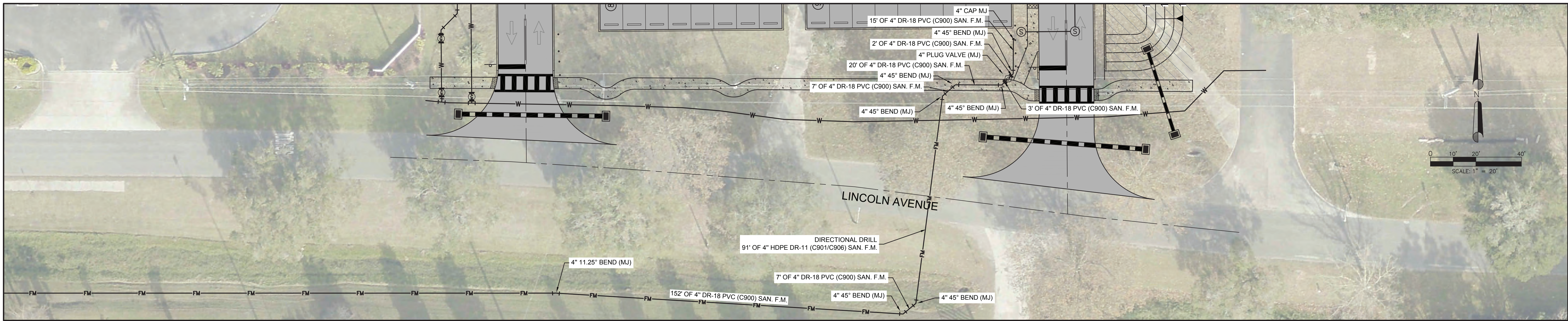


DATE	REVISIONS	REVISOR	CHECKED BY	CADD FILE NAME
8/11/25	REVISED PER CITY OF MOUNT DORA AND CPH COMMENTS	SML	FJT	G3_MountDoraGeneralDetails.dwg

TAWILL ENGINEERING, INC.
CIVIL ENGINEERING DESIGN • CONSULTING • PERMITTING
CERTIFICATE OF AUTHORIZATION: 6625
6312 BUFORD STREET, UNIT 702, ORLANDO, FLORIDA 32835
TELEPHONE (407) 399-1161 • FAX (407) 668-4412

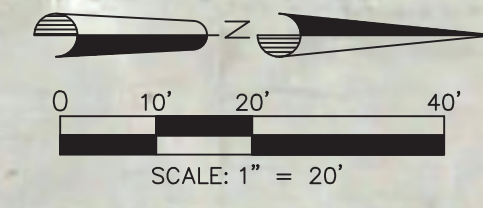
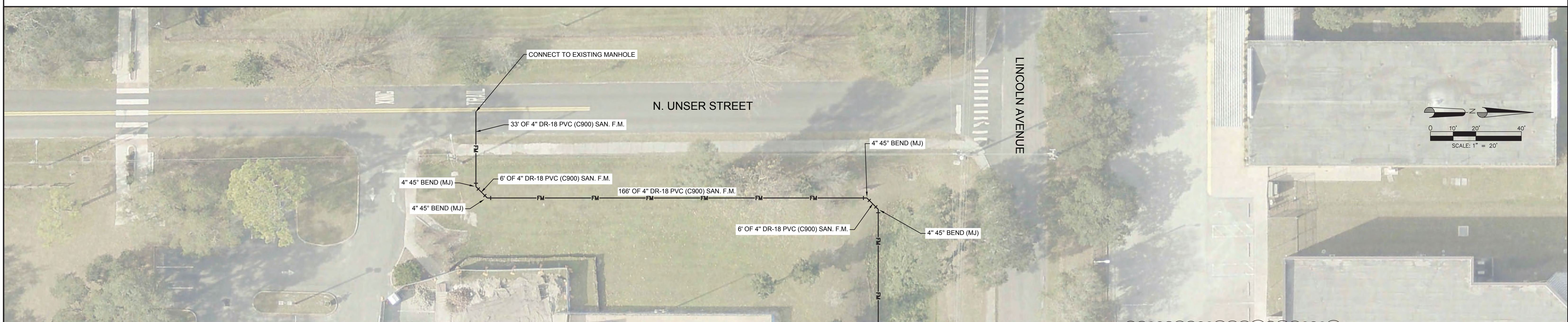
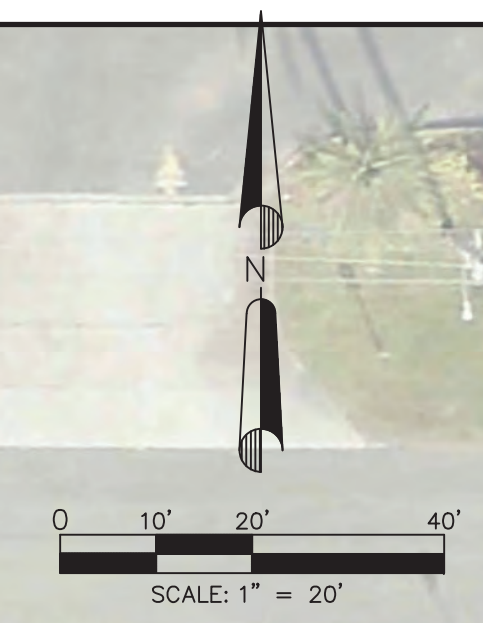
CITY OF MOUNT DORA DETAILS
MOUNT DORA COMMERCE PARK
CITY OF MOUNT DORA FLORIDA

PROJECT NO.	24-002
DATE	MAY 2025
SCALE	N.T.S.
SHEET	15 OF 17



NOTES:

1. SANITARY FORCE MAIN SHALL BE CONSTRUCTED AS A "DRY LINE". PROPERTY OWNER SHALL MAKE THE CONNECTION FROM THE ON-SITE PUMP STATION TO THE FORCE MAIN WHEN THE CITY'S SEWER SYSTEM HAS THE CAPACITY TO ACCOMMODATE THE FLOW FROM THE SITE.
2. THE FORCE MAIN SHALL BE INSTALLED A MINIMUM OF 36" BELOW EXISTING GRADE.



DATE	REVISIONS	REVISED BY	CHECKED BY	CADD FILE NAME
8/11/25	REVISED PER CITY OF MOUNT DORA AND CPH COMMENTS	SML	FJT	G3_MountDoraSanitaryFM.dwg

TAWILL ENGINEERING, INC.
 CIVIL ENGINEERING DESIGN • CONSULTING • PERMITTING
 CERTIFICATE OF AUTHORIZATION: 6625

6312 BUFORD STREET, UNIT 702, ORLANDO, FLORIDA 32835
 TELEPHONE (407) 399-1161 • FAX (407) 668-4412

OFFSITE SANITARY FORCE MAIN PLAN

MOUNT DORA COMMERCE PARK

CITY OF MOUNT DORA FLORIDA

PROJECT NO.	24-002
DATE	MAY 2025
SCALE	1" = 20'
SHEET	16 OF 17



Date: March 1, 2024 Project Name: MOUNT DORA COMMERCE PARK

1. Site Address: 1649 Lincoln Avenue, Mount Dora, FL 32757
(Contact City Staff for New Address Assignments)

2. Applicant's Name: Ar. Robby Joshi, AIA

Company's Name: Metro Architecture Partnership, Inc.

Address: 5401 S Kirkman Rd

City, State & Zip: Orlando FL 32819

Phone: 407-354-4477 E-mail: robby@archenics.com

3. Property Owner's Name(s): GUENTHER, GERARD G, JR.

Company's Name: G3 SKY, LLC

Address: 310 N BAKER ST

City, State & Zip: MOUNT DORA, FL 32757

Phone: 352-397-4869 E-mail: Austin.Guenther@G3Development.com

4. Engineer's Name: Farid J. Tawill PE

Company's Name: Tawill Engineering Inc.

Address: 6312 Buford St. Unit 702

City, State & Zip: Orlando FL 32835

Phone: 407-399-1161 E-mail: tawillinc@aol.com

5. Landscape Architect's Name: Randy Buchanan

Company's Name: Landscape Architects and Planners LLC

Address: P. O. Box 2852

City, State & Zip: Winter Park, Florida 32790-2852

Phone: 407-579-1811 E-mail: randy@landscapedynamics.com

6. Architect's Name: Ar. Robby Joshi, AIA

Company's Name: Metro Architecture Partnership, Inc.

Address: 5401 S Kirkman Rd, Suite 243-244

City, State & Zip: Orlando FL 32819

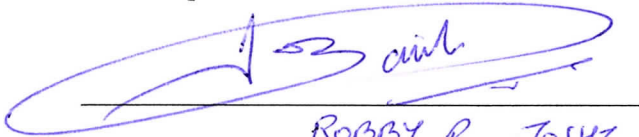
Phone: 407-354-4477 E-mail: robby@archenics.com

7. Briefly describe the property project and proposed use(s): 50,680 square feet of Small Bay warehouses located on Lincoln Avenue
8. Property is located on the following adjacent streets: Lincoln Avenue
9. Public or Private Roadways*: Lincoln Avenue
10. Is this project within the Joint Planning Agreement boundaries? Yes No
11. Zoning District: PUD Future Land Use Category: R-3 (High Density)
12. Building Size Existing (SF): 1800 SF (TO BE DEMO) Proposed (SF): 50,680 SF
13. Total (SF): 50,680 SF (NEW DEVELOPMENT)
14. Proposed Number of Seats: --- N/A ---
15. Size of property in Acres: 4.92 ac Square Feet: 214,315.2 sq. ft.
16. Number of structures to be built on the site: Three
17. Height of structures(s): 35'-0" Building Stories: One Story
18. Total square footage of impervious surface: 136,802.94 sq. ft.
19. The percentage of lot coverage: 63.833%
20. Are vested rights being requested as part of this application?* Yes No

*

** EXISTING 1800 SF DILAPIDATED SINGLE FAMILY HOME TO BE DEMOLISHED.

By my signature below, I certify that the information contained in this application is true and correct to the best of my knowledge at the time of the application. I acknowledge that I understand and have complied with all of the submittal requirements and procedures and that this application is a complete application submittal pursuant to the City's Land Development Code. I further understand that an incomplete application submittal may cause my application to be deferred to the next posted deadline date.



ROBBY R. JOSHZ, AIA
FL LIC NO. 0017614

07/31/2025



CITY HALL
510 North Baker Street
Mount Dora, Florida 32735
352-735-7100
MountDora.gov

April 23, 2025

Metro Architecture Partnership
Attn: Robby Joshi
5401 South Kirkman Road
Orlando, FL 32819
Via Email: Robby@Archenics.com

Re: PZC Verification: City Council Approval
Lincoln Warehouse PUD (Mount Dora Small Bay Warehouse) – 1649 Lincoln Avenue
PUD Amendment (PUD24-02) – 6th Review

Dear Mr. Joshi:

Please allow this correspondence to serve as verification that the Planning and Zoning Commission met on February 19, 2025 to discuss the above referenced request. At this meeting, the Commission recommended approval with conditions of the request to City Council.

This request was scheduled for City Council (Ordinance No. 2025-05, Second Reading) on Tuesday, April 15th, 2025 where it was approved. Please find the passed/adopted ordinance attached.

If you have any comments or questions about the project status, please do not hesitate to contact our office at 352-735-7112.

Sincerely,

Whitney Scott

Whitney Scott, CBTO
Administrative Coordinator

cc:

Guenther, Gerard G, Jr., G3 Sky LLC (Property Owner) Austin.Guenther@G3Development.com

Farid J. Tawill, PE, Tawill Engineering, Inc. (Engineer) tawillinc@aol.com

Randy Buchanan, Landscape Dynamics (Landscape Architect), randeyebuchanan@gmail.com

ORDINANCE NO: 2025-09

AN ORDINANCE OF THE CITY OF MOUNT DORA, FLORIDA, PERTAINING TO THE PLANNED UNIT DEVELOPMENT ESTABLISHED BY ORDINANCE 2022-14 PERTAINING TO PROPERTY GENERALLY LOCATED ON THE NORTH SIDE OF LINCOLN AVENUE AND WEST OF U.S. HIGHWAY 441; PROVIDING FOR LEGISLATIVE FINDINGS AND INTENT; AMENDING AND REPLACING ORDINANCE 2022-14 FOR THE VEDDER HOLSTERS PLANNED UNIT DEVELOPMENT TERMS AND CONDITIONS; PROVIDING FOR OFFICIAL ZONING MAP AMENDMENT; PROVIDING FOR IMPLEMENTATION OF ADMINISTRATIVE ACTIONS; PROVIDING A SAVINGS CLAUSE; PROVIDING FOR NON-CODIFICATION AND SCRIVENER'S ERRORS; PROVIDING FOR CONFLICTS; PROVIDING FOR SEVERABILITY; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, G3 SKY LLC, is the property owner (Property Owner) of that property generally located on the north side of Lincoln Avenue and west of U.S. Highway 441, more particularly described in **Exhibit "A,"** attached hereto (Property); and

WHEREAS, the City adopted Ordinance 2022-14 on October 18, 2022, authorizing the rezoning of the Property to Planned Unit Development (PUD) and setting forth the development conditions for the Vedder Holsters PUD; and

WHEREAS, the Property Owner has requested revisions to the development conditions for the Vedder Holsters PUD; and

WHEREAS, the Property Owner has requested to replace in its entirety the development conditions for the Vedder Holsters PUD to establish a new master development plan and extend the expiration date of the PUD; and

WHEREAS, the revisions to the terms and conditions to the PUD are consistent with the City of Mount Dora's 2045 Comprehensive Plan and the underlying Industrial Future Land Use Designation for the Property; and

WHEREAS, pursuant to applicable law, notice has been given to Lake County and to the public by publication in a newspaper of general circulation in the City; and

WHEREAS, on February 19, 2025, the City of Mount Dora Planning and Zoning Commission recommended approval of the PUD amendment; and

WHEREAS, the City of Mount Dora held a duly noticed public hearing on the proposed amendment to the PUD for the Property, considered the findings and advice of staff and considered the written information, oral comments and supporting data and analysis provided by members of the public and all interested parties; and

WHEREAS, the City of Mount Dora hereby finds that the amendment serves a legitimate public purpose and is in the best interest of the health, safety and welfare of the citizens of the City of Mount Dora, Florida.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY OF MOUNT DORA, FLORIDA:

SECTION 1. LEGISLATIVE FINDINGS AND INTENT. The City of Mount Dora has complied with all requirements and procedures of the Florida law in processing this Ordinance. The above recitals are hereby adopted.

SECTION 2. AMENDING AND REPLACING ORDINANCE 2022-14 FOR THE VEDDER HOLSTERS PLANNED UNIT DEVELOPMENT TERMS AND CONDITIONS.

- (a) The Vedder Holders PUD Master Plan adopted via Ordinance 2022-12 is here by vacated and deleted in its entirety.
- (b) The Lincoln Warehouse Master Plan attached hereto as **Exhibit "B"** is hereby adopted. The Property shall be subject to all conditions set forth in the City's Land Development Code, except for the conditions, zoning performance standards, site designs standards, permitted uses and other components described or graphically depicted on the Lincoln Warehouse Master Plan attached hereto which shall be the controlling master plan for the Property.
- (c) The Lincoln Warehouse Master Plan shall not expire for four years after the date of approval.

SECTION 4. IMPLEMENTING ADMINISTRATIVE ACTIONS. The City Manager is hereby authorized and directed to take such actions as are deemed necessary and appropriate in order to implement the provisions of this Ordinance. The City Manager may, as deemed appropriate, necessary and convenient, delegate the powers of implementation as herein set forth to such City employees as deemed effectual and prudent.

SECTION 5. SAVINGS CLAUSE. All prior actions of the City of Mount Dora pertaining to the zoning district classification change for the Property and Zoning Map amendment, as well as any and all matters relating thereto, are hereby ratified and affirmed consistent with the provisions of this Ordinance.

SECTION 6. NON-CODIFICATION AND SCRIVENER'S ERRORS. The provisions of this Ordinance shall not be codified in the City of Mount Dora Code of Ordinances. Typographical errors and other matters of a similar nature that do not affect the intent of this Ordinance, as determined by the City Clerk and City Attorney, may be corrected.

SECTION 7. CONFLICTS. All Ordinances or parts of Ordinances in conflict with any of the provisions of this Ordinance are hereby repealed.

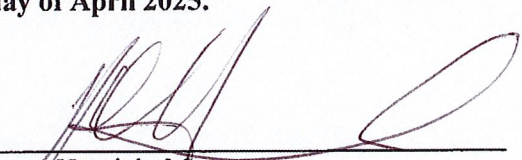
SECTION 8. SEVERABILITY. If any Section or portion of a Section of this Ordinance proves to be invalid, unlawful, or unconstitutional, it shall not be held to invalidate or impair the validity, force, or effect of any other Section or part of this Ordinance.

SECTION 9. EFFECTIVE DATE. This Ordinance shall take effect immediately upon adoption.

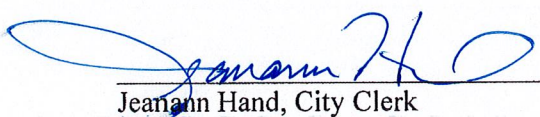
FIRST READING: April 1, 2025

SECOND READING: April 15, 2025

PASSED AND ADOPTED this 15th day of April 2025.


James Homich, Mayor
City of Mount Dora, Florida

ATTEST:


Jeanann Hand, City Clerk

For the use and reliance of City of Mount Dora only.
Approved as to form and legality.

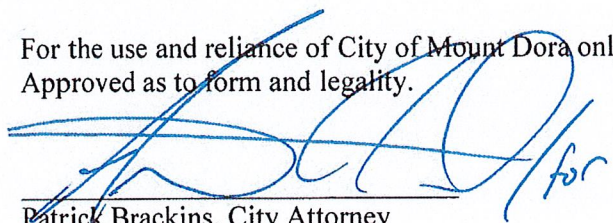

Patrick Brackins, City Attorney

EXHIBIT "A"
Property Legal Description

Identified by Tax Parcel ID # 29-19-27-0001-000-03401 and Alt. Key # 1447097, and more particularly described as:

E $\frac{1}{2}$ of SW $\frac{1}{4}$ of SE $\frac{1}{4}$ of NE $\frac{1}{4}$ of Section 29, Township 19 South, Range 27
East, Lake County, Florida, Less the South 25 feet thereof.

All the Above Containing 4.92 Acres, More or Less

EXHIBIT “B”

Master Plan for Lincoln Warehouses Planned Unit Development

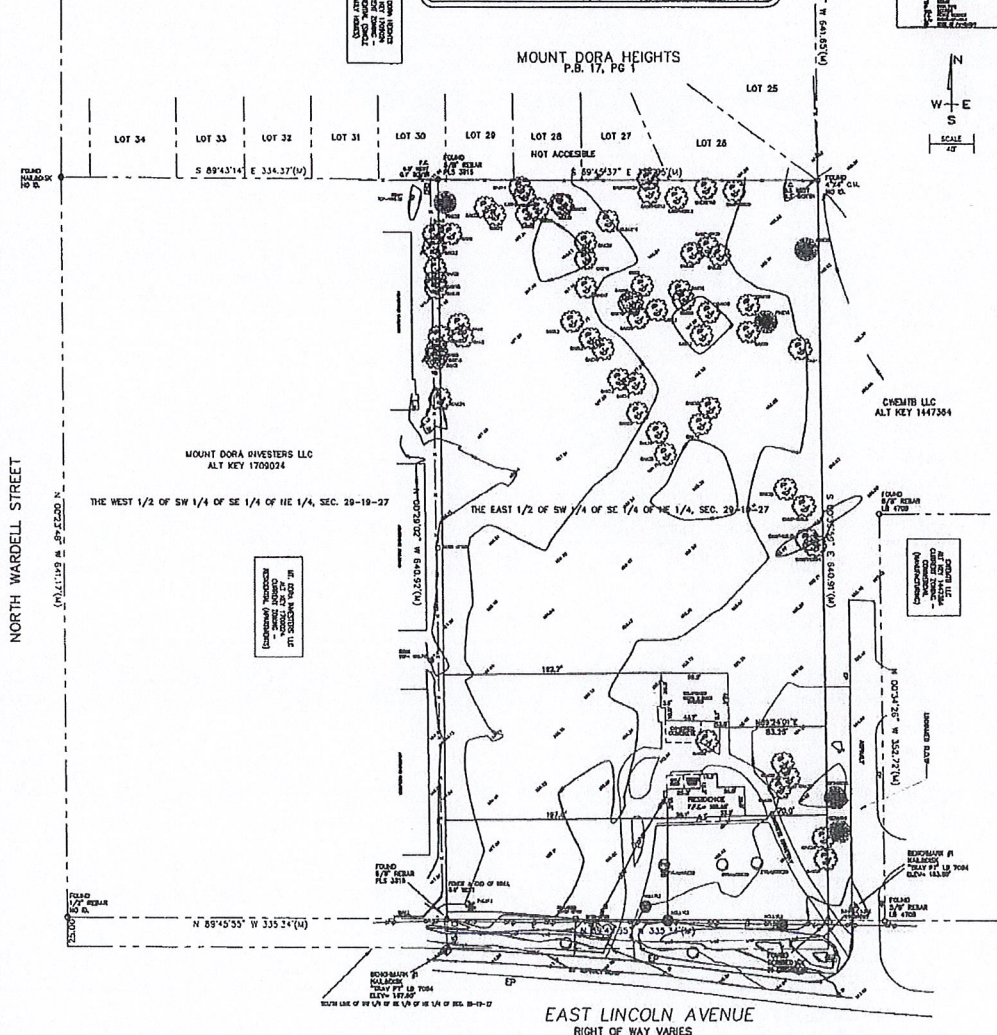
1 SITE SURVEY PLAN

DESCRIPTION
 E 1/2 OF SW 1/4 OF SE 1/4 OF NE 1/4 OF SECTION 29,
 TOWNSHIP 19 SOUTH, RANGE 27 EAST, LAKE COUNTY, FLORIDA,
 LESS THE SOUTH 25 FEET THEREOF.

**Plat of Topographic Survey for
 Michael Vedder**
 1649 Lincoln Street, Mt Dora
 Located in Section 29, Township 19 South, Range 27 East

LEGEND

1	BOUNDARY OF NEIGHBORING PROPERTY
2	BOUNDARY OF THIS PROPERTY
3	PROPERTY LINE
4	PROPERTY CORNER
5	PROPERTY CORNER
6	PROPERTY CORNER
7	PROPERTY CORNER
8	PROPERTY CORNER
9	PROPERTY CORNER
10	PROPERTY CORNER
11	PROPERTY CORNER
12	PROPERTY CORNER
13	PROPERTY CORNER
14	PROPERTY CORNER
15	PROPERTY CORNER
16	PROPERTY CORNER
17	PROPERTY CORNER
18	PROPERTY CORNER
19	PROPERTY CORNER
20	PROPERTY CORNER
21	PROPERTY CORNER
22	PROPERTY CORNER
23	PROPERTY CORNER
24	PROPERTY CORNER
25	PROPERTY CORNER
26	PROPERTY CORNER
27	PROPERTY CORNER
28	PROPERTY CORNER
29	PROPERTY CORNER
30	PROPERTY CORNER
31	PROPERTY CORNER
32	PROPERTY CORNER
33	PROPERTY CORNER
34	PROPERTY CORNER
35	PROPERTY CORNER
36	PROPERTY CORNER
37	PROPERTY CORNER
38	PROPERTY CORNER
39	PROPERTY CORNER
40	PROPERTY CORNER
41	PROPERTY CORNER
42	PROPERTY CORNER
43	PROPERTY CORNER
44	PROPERTY CORNER
45	PROPERTY CORNER
46	PROPERTY CORNER
47	PROPERTY CORNER
48	PROPERTY CORNER
49	PROPERTY CORNER
50	PROPERTY CORNER
51	PROPERTY CORNER
52	PROPERTY CORNER
53	PROPERTY CORNER
54	PROPERTY CORNER
55	PROPERTY CORNER
56	PROPERTY CORNER
57	PROPERTY CORNER
58	PROPERTY CORNER
59	PROPERTY CORNER
60	PROPERTY CORNER
61	PROPERTY CORNER
62	PROPERTY CORNER
63	PROPERTY CORNER
64	PROPERTY CORNER
65	PROPERTY CORNER
66	PROPERTY CORNER
67	PROPERTY CORNER
68	PROPERTY CORNER
69	PROPERTY CORNER
70	PROPERTY CORNER
71	PROPERTY CORNER
72	PROPERTY CORNER
73	PROPERTY CORNER
74	PROPERTY CORNER
75	PROPERTY CORNER
76	PROPERTY CORNER
77	PROPERTY CORNER
78	PROPERTY CORNER
79	PROPERTY CORNER
80	PROPERTY CORNER
81	PROPERTY CORNER
82	PROPERTY CORNER
83	PROPERTY CORNER
84	PROPERTY CORNER
85	PROPERTY CORNER
86	PROPERTY CORNER
87	PROPERTY CORNER
88	PROPERTY CORNER
89	PROPERTY CORNER
90	PROPERTY CORNER
91	PROPERTY CORNER
92	PROPERTY CORNER
93	PROPERTY CORNER
94	PROPERTY CORNER
95	PROPERTY CORNER
96	PROPERTY CORNER
97	PROPERTY CORNER
98	PROPERTY CORNER
99	PROPERTY CORNER
100	PROPERTY CORNER



SURVEYOR'S NOTES

- 1) Bearings based on Florida grid East zone (Lengemann Network).
- 2) Subject to easements and restrictions of Record.
- 3) All of the above captioned property lies within F.I.R.M. Zone "X" according to F.I.R.M. panel No. 12089C 0367 E, dated December 18, 2012.
- 4) This Survey is based on the Description provided, Plat Information, Found Monumentation and other data acquired by this firm.
- 5) Foundations, Underground Structures, and Underground Improvements, if any, not located by this firm.
- 6) Fences were located ONLY where dimensioned and may not run straight; ownership of fences, if any, unknown.

I hereby certify that this survey was made under my responsible charge and made by methods and standards approved by me and by the Board of Professional Land Surveyors in Chapter 6307-4 Florida Administrative Code. Pursuant to Section 672.017 Florida Statutes.

Fulton V. Ombrosini, Jr., Surveyor #4888

No. 4988

Not valid without the signature and the original raised seal of a Florida Licensed Surveyor and Mapper.

NOTE:
 ELEVATIONS SHOWN ARE IN NAVD83 DATUM, DERIVED FROM SATELLITE OBSERVATION.

NO. 1	REVISIONS	DATE	PREBLAND - CLINKSCALES & ASSOCIATES, INC. of NC Engineer's Land Surveyor 101 JACOBY BLVD WINTERGARDEN, FL 32789 1120 RUFFLETTER DRIVE, SUITE 101 DAVIE, FL 32715 (352) 897-1840 SURVEY@PREBLAND.COM	REF. PLAT BOOK REF. SOL. BOOK ALT. SURV. PARTY CH-27 DRAWN DATE DWG. NO.	NO./PT. 4883/2330 14-0299 SCL SCL OCT 18, 2022 F42118/742183
-------	-----------	------	--	--	--

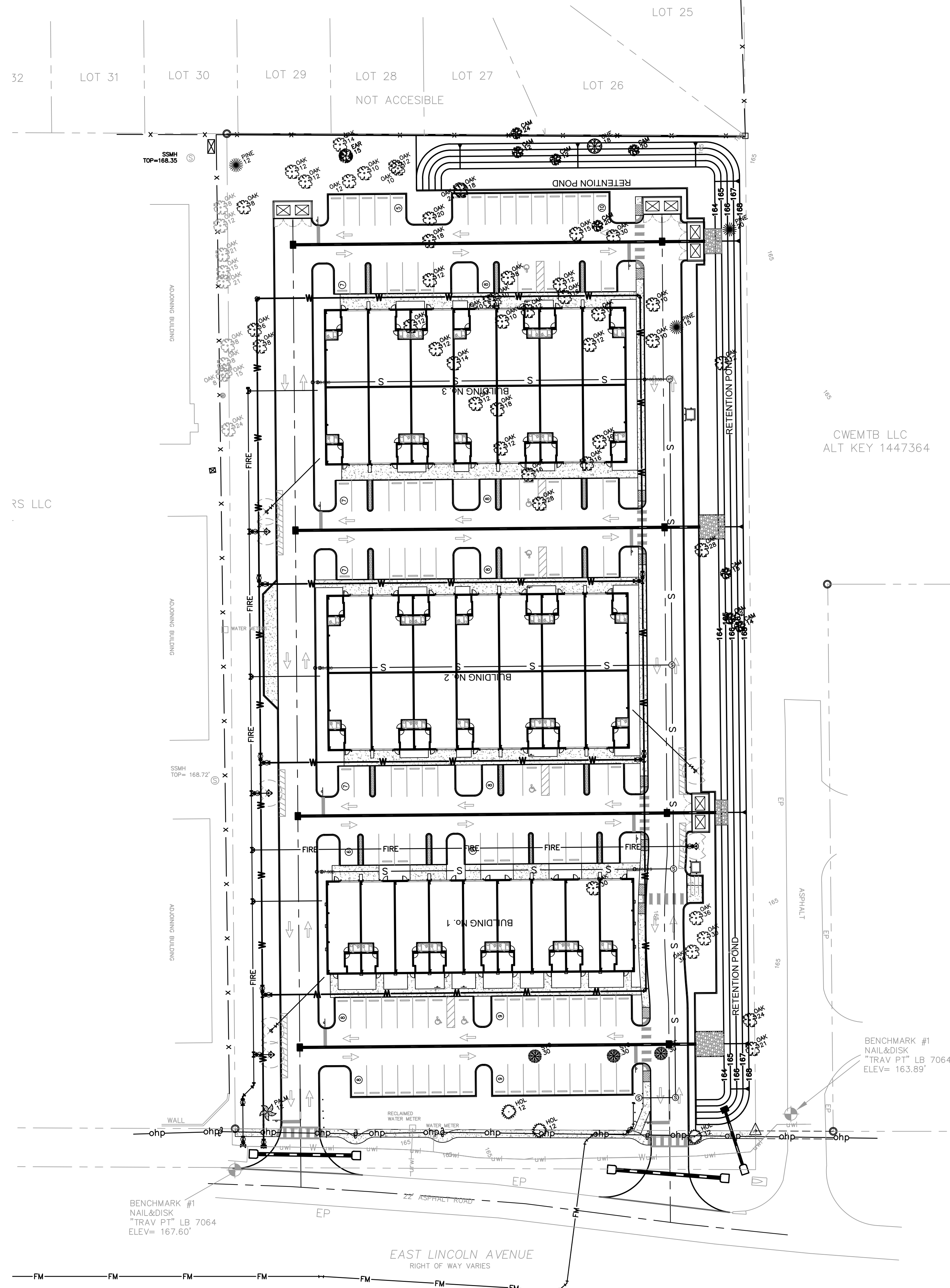
A-011

SITE SURVEY PLAN

MT. DORA SMALL BAY
 MINI WAREHOUSING
 1649 LINCOLN AVE
 MT. DORA, FLORIDA 32757
 MINI WAREHOUSING FACILITIES

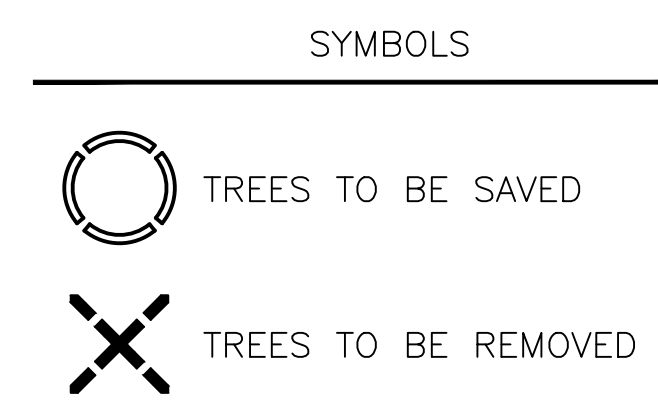
ARCHENICS
 ARCHENIC ARCHITECTURAL PARTNERSHIP, INC.
 ARCHITECTURE PLANNING ENGINEERING PROJECT MANAGEMENT
 2401 SOUTH WILKINSON ROAD, SUITE 100, OLVARDOS, FL 32761
 (352) 341-4477 - Email: ARCHENIC@ARCHENICS.COM - WWW.ARCHENICS.COM

MOUNT DORA HEIGHTS
P.B. 17, PG 1



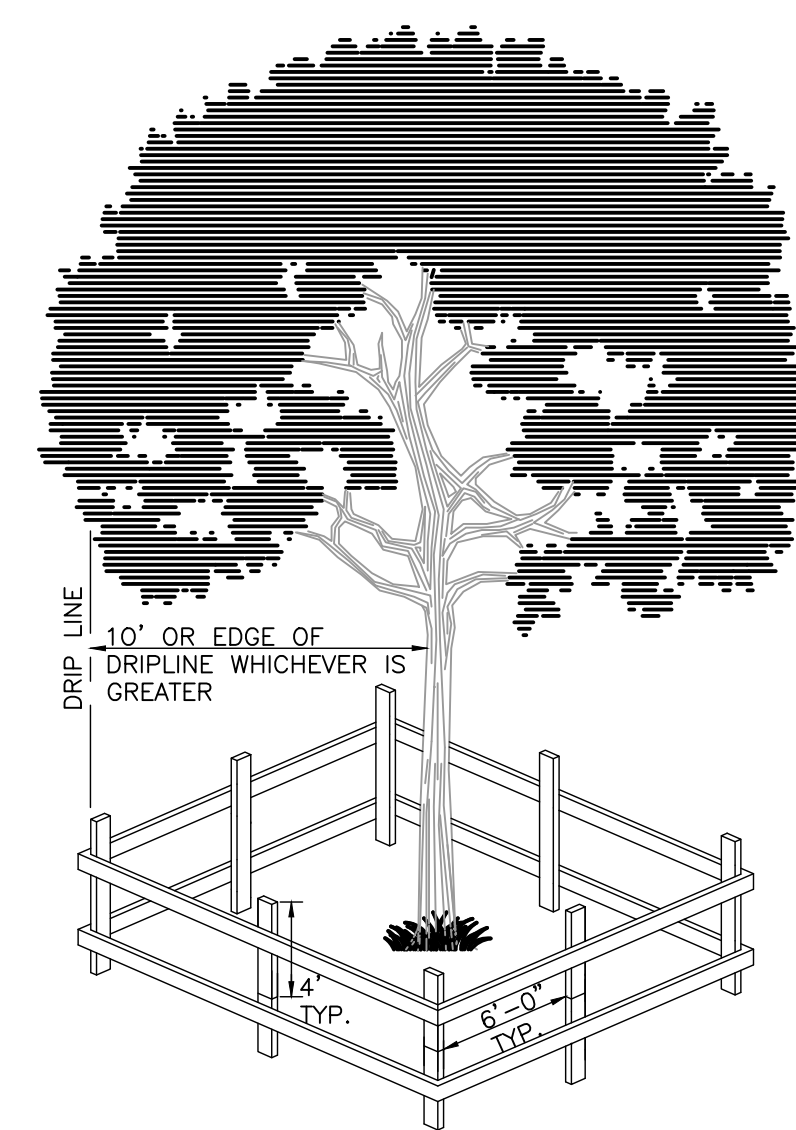
Trees to be Saved			
TYPE	Count	SIZE	INCHES
OAK	4	12	48.0000
OAK	2	10	20.0000
OAK	1	14	14.0000
OAK	1	6	6.0000
OAK	2	36	72.0000
OAK	1	30	30.0000
OAK	2	8	16.0000
PINE	1	12	12.0000
	14		218.0000

Trees to be Removed			
TYPE	Count	SIZE	INCHES
CHE	1	18	18.0000
HOL	3	12	36.0000
OAK	1	8	8.0000
OAK	9	12	108.0000
OAK	3	18	54.0000
OAK	1	15	15.0000
OAK	1	20	20.0000
OAK	1	14	14.0000
OAK	2	30	60.0000
OAK	2	24	48.0000
OAK	1	21	21.0000
OAK	7	10	70.0000
OAK	3	16	48.0000
OAK	2	28	56.0000
PINE	1	20	20.0000
PINE	1	15	15.0000
SYC	3	30	90.0000
	42		701.0000



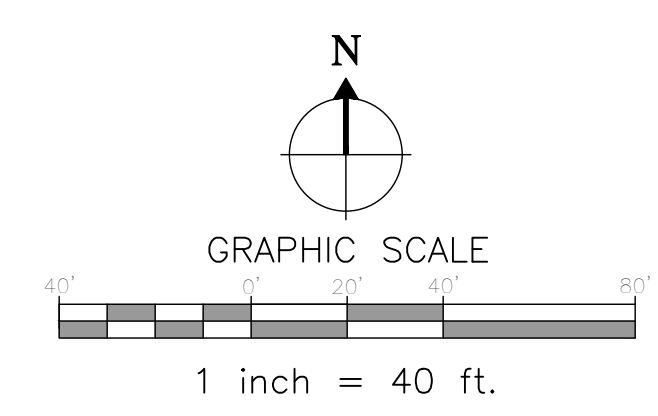
EXISTING TREE TOTALS	
TOTAL TREES REMOVED =	42
TOTAL CALIPER REMOVED =	701
TOTAL TREES PRESERVED =	14
TOTAL CALIPER PRESERVED =	218

NOTES:
1) See enlarged sheets TM101 and TM102 for tree save/removal locations.



NOTE:
Posts shall be used as protective barriers to the roots and trunk of every tree on the parcel being developed. The posts shall be placed at points not closer than three-quarters (3/4) the radius of the drip-line of the protected tree, unless the structure has been permitted by Planning, Zoning & Development Department to be erected within the drip-line of a tree with a wide canopy. Each section of the barrier shall be clearly visible (flagged with brightly colored plastic tape or other markers). No attachments or wires other than those with protective or non-damaging nature shall be attached to any tree.

1 TYPICAL TREE PROTECTION DETAIL
TM100 SCALE= N.T.S.



IF LESS THAN 24"x36" SHEET HAS BEEN REDUCED, ADJUST THE SCALE TO THE DRAWING ACCORDINGLY.

LANDSCAPE ARCHITECT:
Robert R. Buchanan LA0000932

48 HOURS BEFORE YOU DIG
CALL SUNSHINE
1-800-476-8111
IT'S THE LAW IN FLORIDA

CONTRACTOR MUST REVIEW ALL GENERAL LANDSCAPE NOTES PRIOR TO BIDDING AND CONSTRUCTION

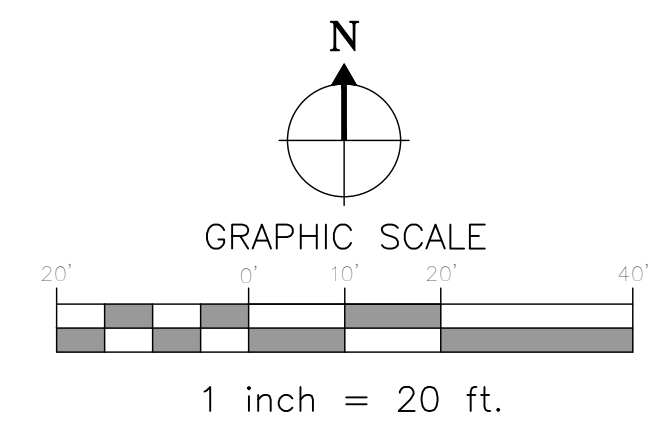
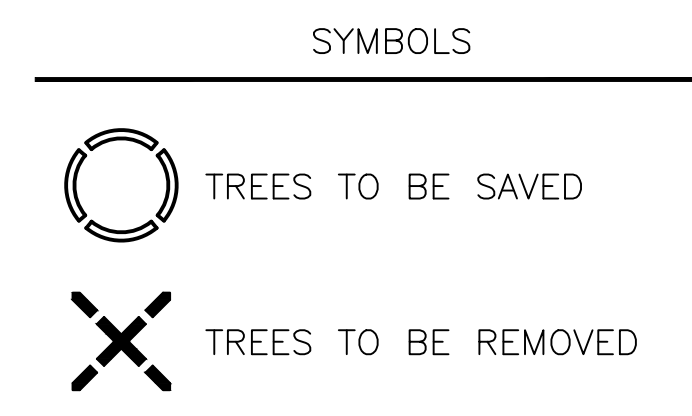
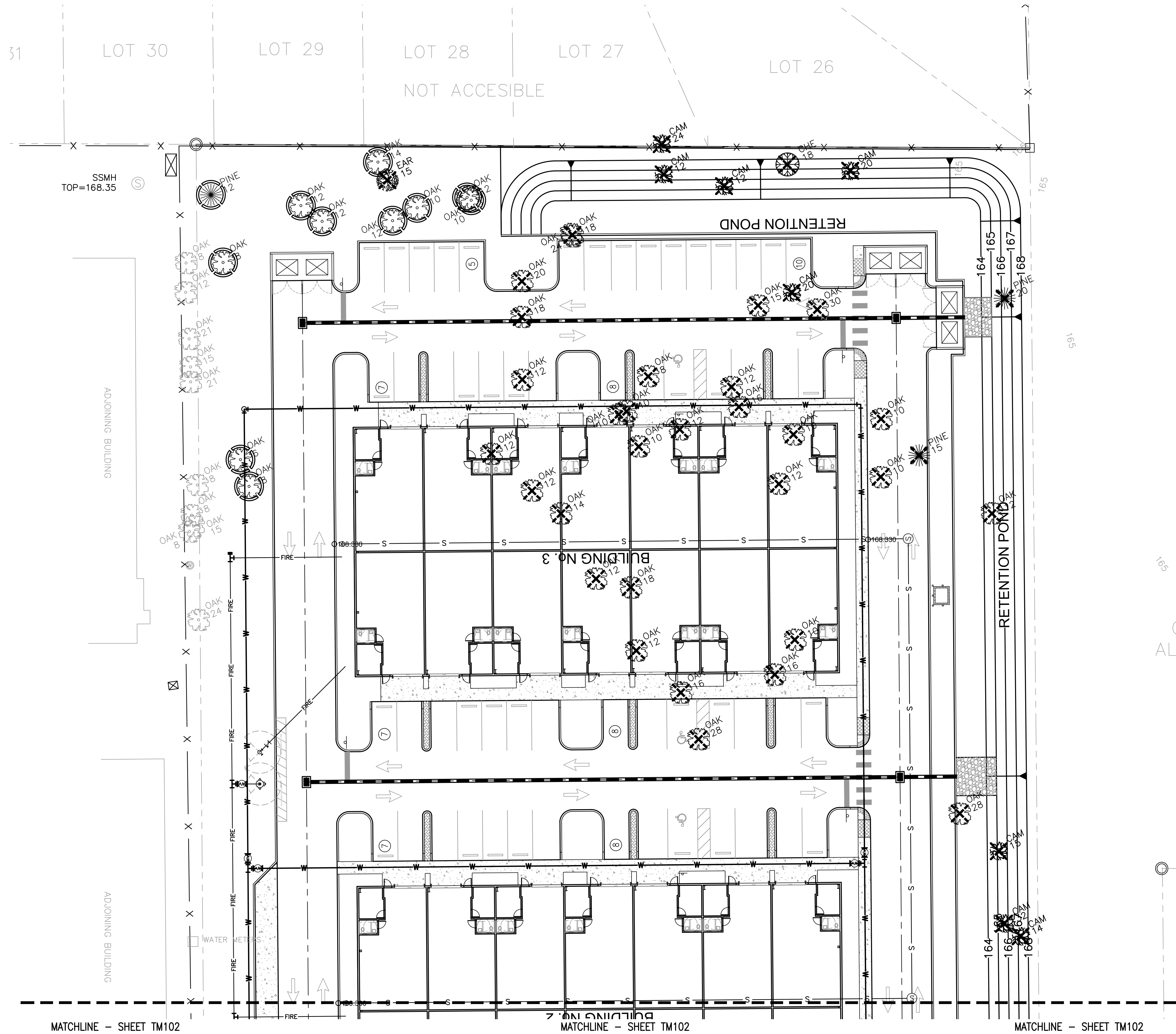
C+3 Development, LLC
310 North Baker Street
Mt. Dora, FL 32757

LANDSCAPE
dynamics
LANDSCAPE ARCHITECTS AND PLANNERS, LLC

P.O. BOX 2852 - Winter Park, Florida 32790-2852 - Phone 407-579-8111 - Email randy@landscapedynamics.com
Overall Tree Mitigation Plan
Mt. Dora Commerce
Mt. Dora, Florida

DATE: 08-06-25
JOB #: 2025-030
PERMIT #
DRAWN BY: BRB
FILE NAME: Tree Mitigation
SCALE: 1:40
TM100

IF LESS THAN 24"x36" SHEET HAS BEEN REDUCED, ADJUST THE SCALE TO THE DRAWING ACCORDINGLY.



LANDSCAPE ARCHITECT:
Robert R. Buchanan LA0000932

Landscape Dynamics Construction Co. Inc. hereby reserves all copyright and other proprietary rights in these plans, views, and designs. These plans, views, and designs are not to be reproduced, stored in a retrieval system, or transmitted in any form or by any means, without the express written permission from Landscape Dynamics Construction Co. Inc.

48 HOURS BEFORE YOU DIG
CALL SUNSHINE
1-800-475-8111
IT'S THE LAW IN FLORIDA

CONTRACTOR MUST REVIEW ALL GENERAL LANDSCAPE NOTES PRIOR TO BIDDING AND CONSTRUCTION

C+3 Development, LLC
310 North Baker Street
Mt. Dora, FL 32757

LANDSCAPE
DYNAMICS
LANDSCAPE ARCHITECTS AND PLANNERS, LLC

Tree Mitigation Plan
Mt. Dora Commerce
Mt. Dora, Florida

REVISIONS

1	
2	
3	
4	
5	
6	
7	
8	

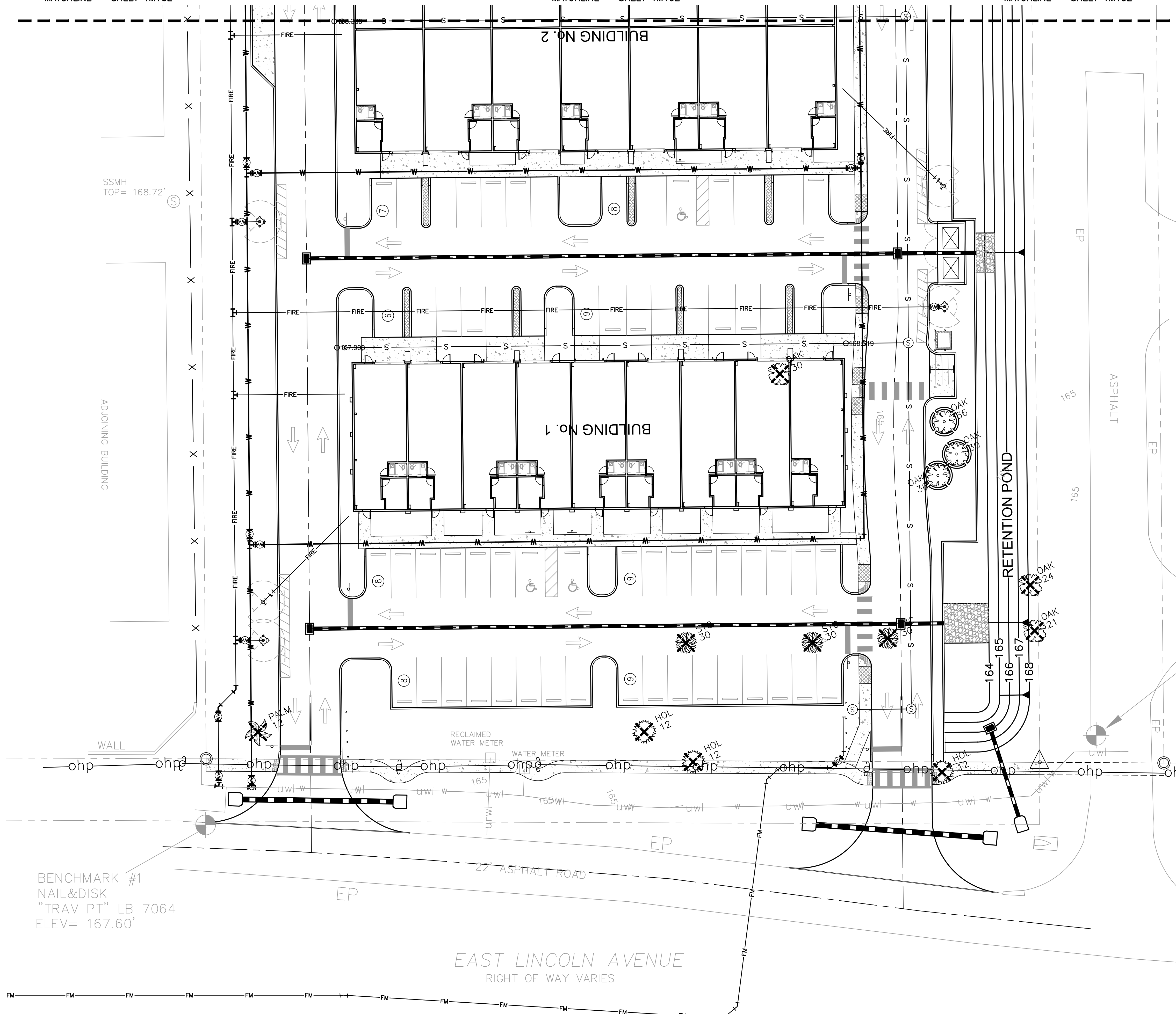
DATE: 08-06-25
JOB #: 2025-030
PERMIT #
DRAWN BY: BRB
FILE NAME: Tree Mitigation
SCALE: 1" = 20'

TM101

MATCHLINE - SHEET TM102

MATCHLINE - SHEET TM102

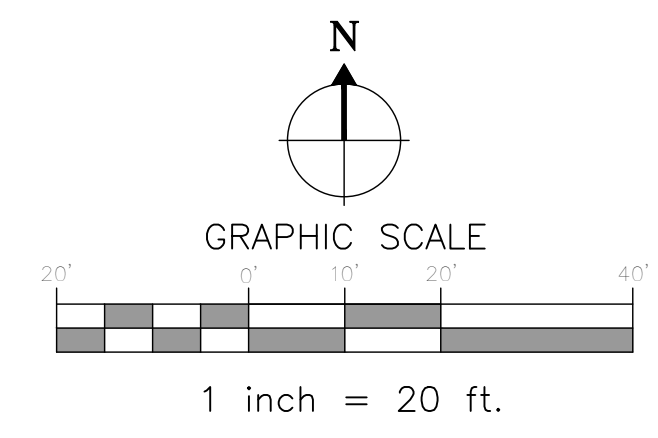
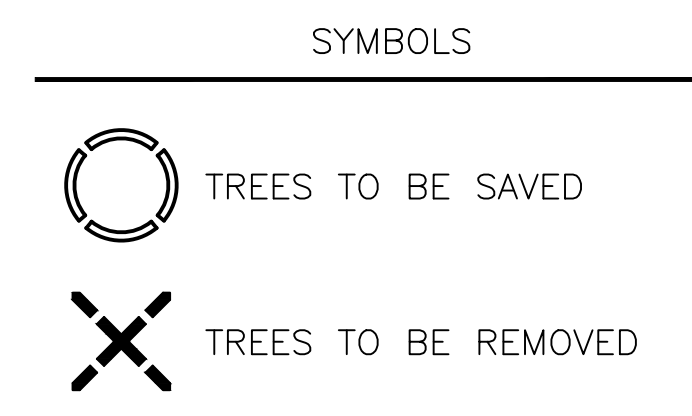
MATCHLINE - SHEET TM102



IF LESS THAN 24"x36" SHEET HAS BEEN REDUCED, ADJUST THE SCALE TO THE DRAWING ACCORDINGLY.

BENCHMARK #1
NAIL&DISK
"TRAV PT" LB 7064
ELEV= 167.60'

EAST LINCOLN AVENUE
RIGHT OF WAY VARIES



LANDSCAPE ARCHITECT:
Robert R. Buchanan LA0000932

Landscape Dynamics Construction Co. Inc. hereby reserves all copyright and other proprietary rights in these plans, views, and designs. These plans, designs, and drawings are not to be reproduced, stored in a retrieval system, or transmitted in any form or by any means, without the written permission of Landscape Dynamics Construction Co. Inc.

48 HOURS BEFORE YOU DIG
CALL SUNSHINE
1-800-447-8111
IT'S THE LAW IN FLORIDA

FLORIDA LAW REQUIRES
EXCAVATION CONTRACTORS
TO CALL BEFORE THEY DIG
FACILITIES NO. LESS THAN TWO
FEET DEEP FROM THE SURFACE

CONTRACTOR MUST REVIEW
ALL GENERAL LANDSCAPE
NOTES PRIOR TO BIDDING AND
CONSTRUCTION

C+3 Development, LLC
310 North Baker Street
Mt. Dora, FL 32757

LANDSCAPE
dynamics
LANDSCAPE ARCHITECTS AND PLANNERS, LLC

Tree Mitigation Plan
Mt. Dora Commerce
Mt. Dora, Florida

REVISIONS

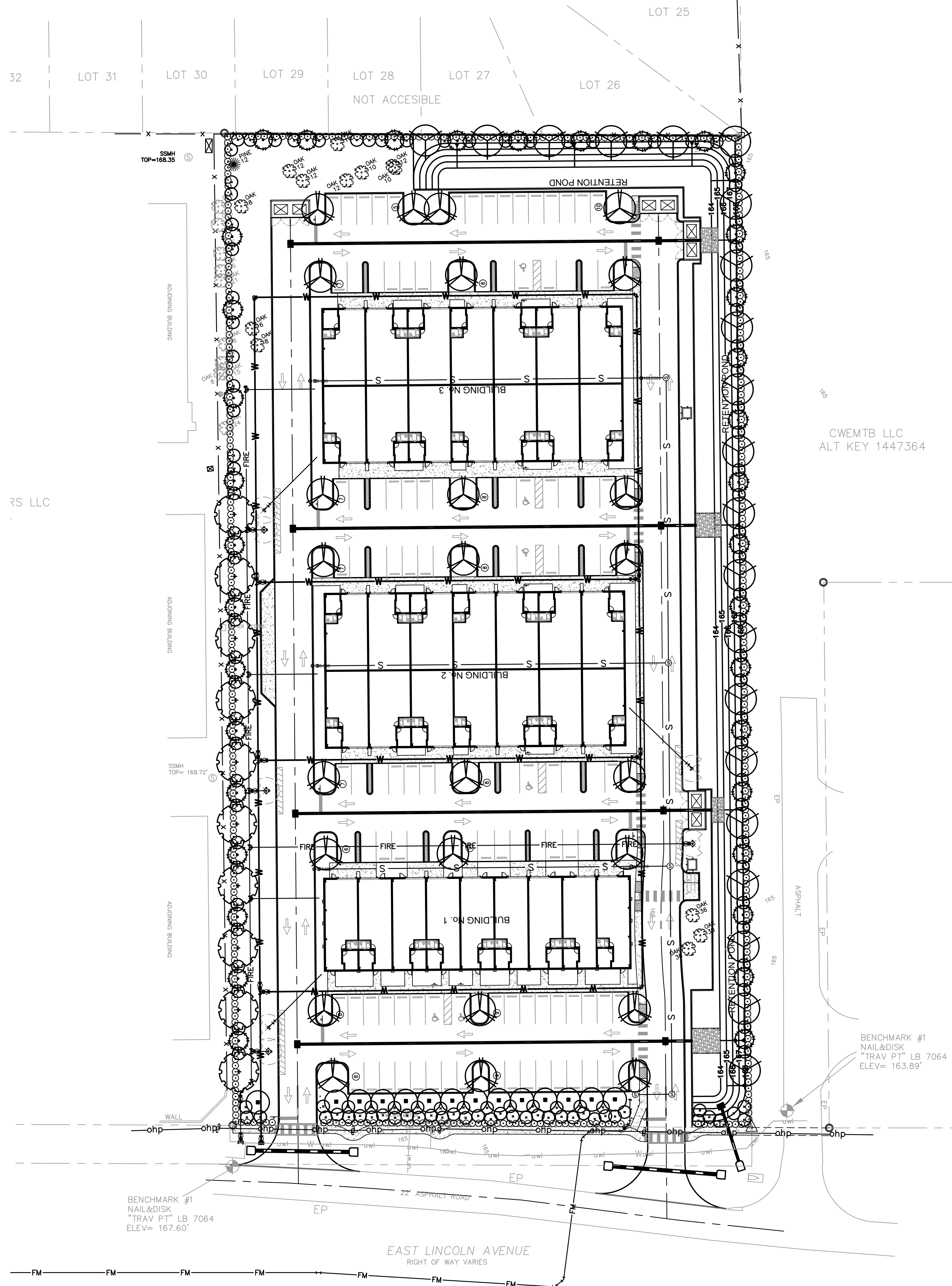
1	
2	
3	
4	
5	
6	
7	
8	

P.O. BOX 2852 - Winter Park, Florida 32790-2852 - Phone 407-579-8111 - Email: randy@landscapedynamics.com

DATE: 08-06-25
JOB #: 2025-030
PERMIT #
DRAWN BY: BRB
FILE NAME: Tree Mitigation
SCALE: 1" = 20'

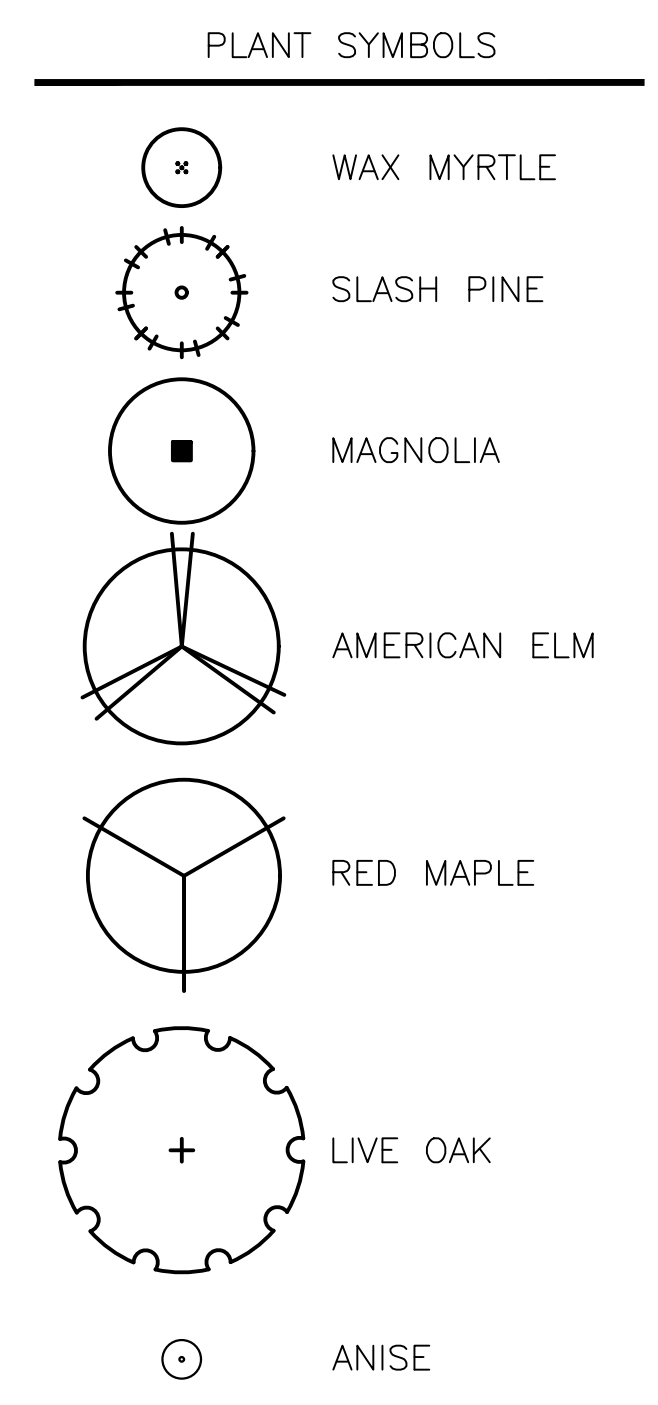
TM102

MOUNT DORA HEIGHTS
P.B. 17, PG 1



Plant List – Mt. Dora Commerce

CNT	SYM	BOTANICAL	COMMON	SPECIFICATIONS
Trees				
130	MC	Myrica cerifera	Wax Myrtle	6' ht., 2.5' spr., multi., 1.5" cal. total
36	PE	Pinus elliottii	Slash Pine	8' ht., 3' spr., 2" cal.
14	MGD	Magnolia grandiflora	DD Blanchard Magnolia	8' ht., 3' spr., 2" cal.
25	UA	Ulmus americana	American Elm	8' ht., 3' spr., 2" cal.
21	AR	Acer rubrum	Red Maple	8' ht., 3' spr., 2" cal.
10	QV	Quercus virginiana	Live Oak	8' ht., 3' spr., 2" cal.
Shrubs & Groundcover				
465	IP	Illicium parviflorum	Yellow Anise	30" ht. x 20" spr., 4' o.c.
Sod & Mulch				
	MULCH		Mini Pine Bark	3" Depth
	SOD	Paspalum notatum	Bahia Sod	solid sod, weed free, count by contractor



LDC Section 6.6.2 Landscape Buffer Requirements:

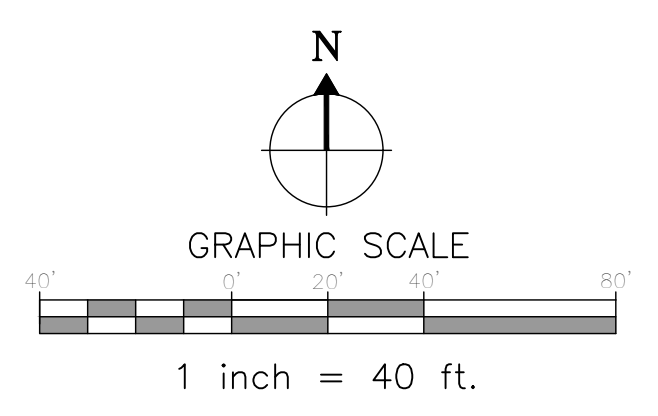
North \approx 334.65'
Trees Required: 13 Canopy, 20 Understory
Trees Provided: 14 Canopy, 20 Understory, 1 Existing

South \approx 335.34'
Trees Required: 17 Canopy, 50 Understory
Trees Provided: 17 Canopy, 50 Understory

East \approx 640.91'
Trees Required: 26 Canopy, 32 Understory
Trees Provided: 31 Canopy, 32 Understory

West \approx 640.92'
Trees Required: 26 Canopy, 32 Understory
Trees Provided: 23 Canopy, 32 Understory, 4 Existing

- NOTES:**
- 1) Irrigation system to be a permanent system.
 - 2) The irrigation plan shall be designed and installed to conform to this Code.
 - 3) All plant material shall be FL. Grade #1 and "Florida Friendly".



IF LESS THAN 24"x36" SHEET HAS BEEN REDUCED, ADJUST THE SCALE TO THE DRAWING ACCORDINGLY.

LANDSCAPE ARCHITECT:
Robert R. Buchanan LA0000932

48 HOURS BEFORE YOU DIG
CALL SUNSHINE
1-800-447-6111
IT'S THE LAW IN FLORIDA

CONTRACTOR MUST REVIEW
ALL GENERAL LANDSCAPE
NOTES PRIOR TO BIDDING AND
CONSTRUCTION

C+3 Development, LLC
310 North Baker Street
Mt. Dora, FL 32757

LANDSCAPE
dynamics
LANDSCAPE ARCHITECTS AND PLANNERS, LLC

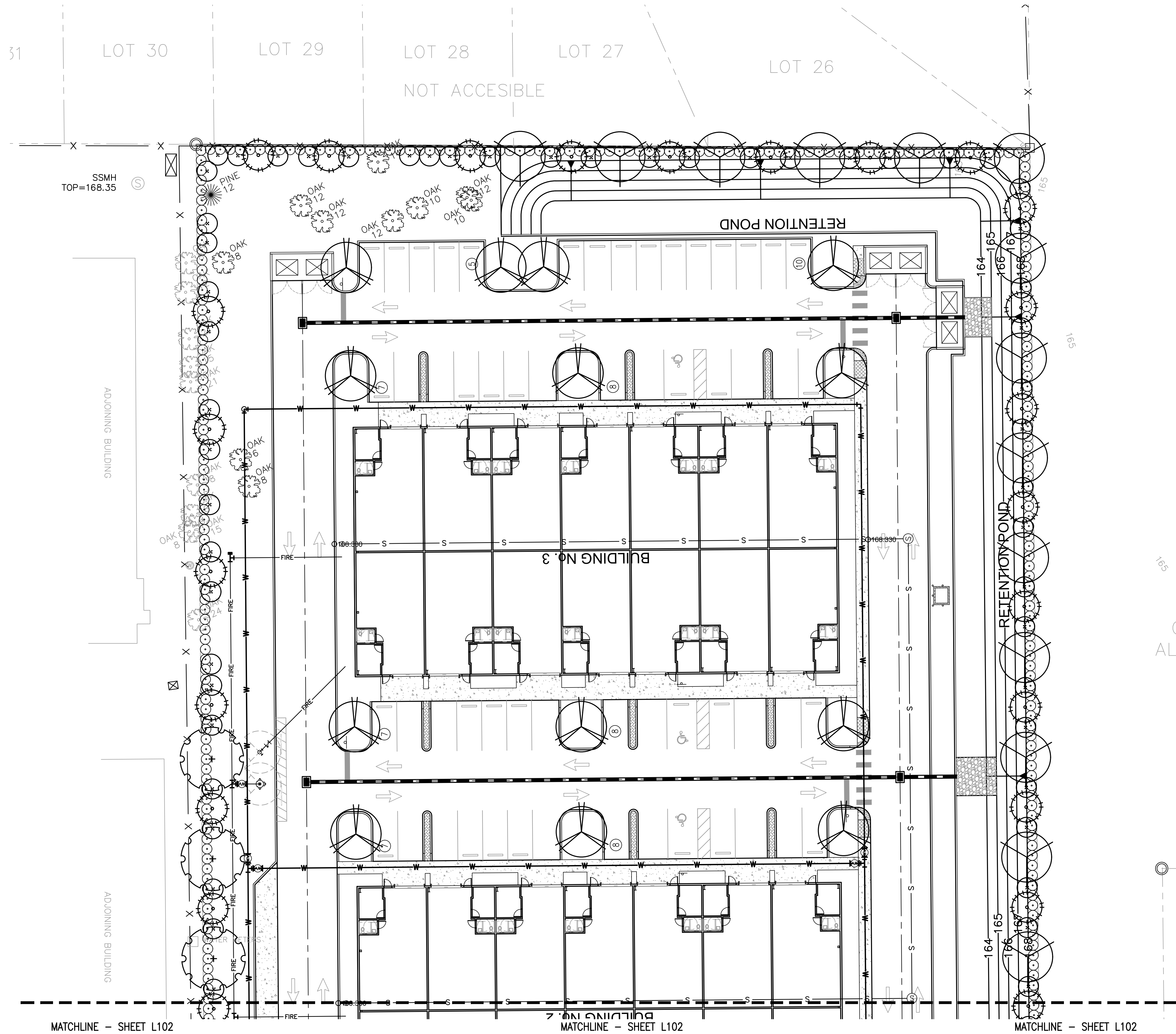
P.O. BOX 2852 - Winter Park, Florida 32790-2852 - Phone 407-579-8111 - Email randy@landscapedynamics.com

Overall Landscape Plan
Mt. Dora Commerce
Mt. Dora, Florida

REVISIONS
1) _____
2) _____
3) _____
4) _____
5) _____
6) _____
7) _____
8) _____

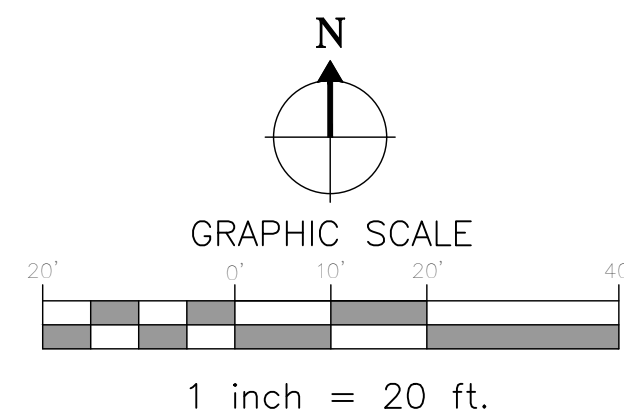
DATE: 06-06-25
JOB #: 2025-030
PERMIT # _____
DRAWN BY: BRB
FILE NAME: LANDSCAPE
SCALE: 1" = 40'
L100

IF LESS THAN 24"x36" SHEET HAS BEEN REDUCED, ADJUST THE SCALE TO THE DRAWING ACCORDINGLY.



PLANT SYMBOLS

	WAX MYRTLE
	SLASH PINE
	MAGNOLIA
	AMERICAN ELM
	RED MAPLE
	LIVE OAK
	ANISE



LANDSCAPE ARCHITECT:
Robert R. Buchanan, LA0000932

48 HOURS BEFORE YOU DIG
CALL SUNSHINE
1-800-475-8111
IT'S THE LAW IN FLORIDA

CONTRACTOR MUST REVIEW
ALL GENERAL LANDSCAPE
NOTES PRIOR TO BIDDING AND
CONSTRUCTION

C+3 Development, LLC
310 North Baker Street
Mt. Dora, FL 32757

LANDSCAPE
dynamics
LANDSCAPE ARCHITECTS AND PLANNERS, LLC

P.O. BOX 2852 - Winter Park, Florida 32790-2852 - Phone 407-579-8111 - Email randy@landscapedynamics.com

Landscape Plan
Mt. Dora Commerce
Mt. Dora, Florida

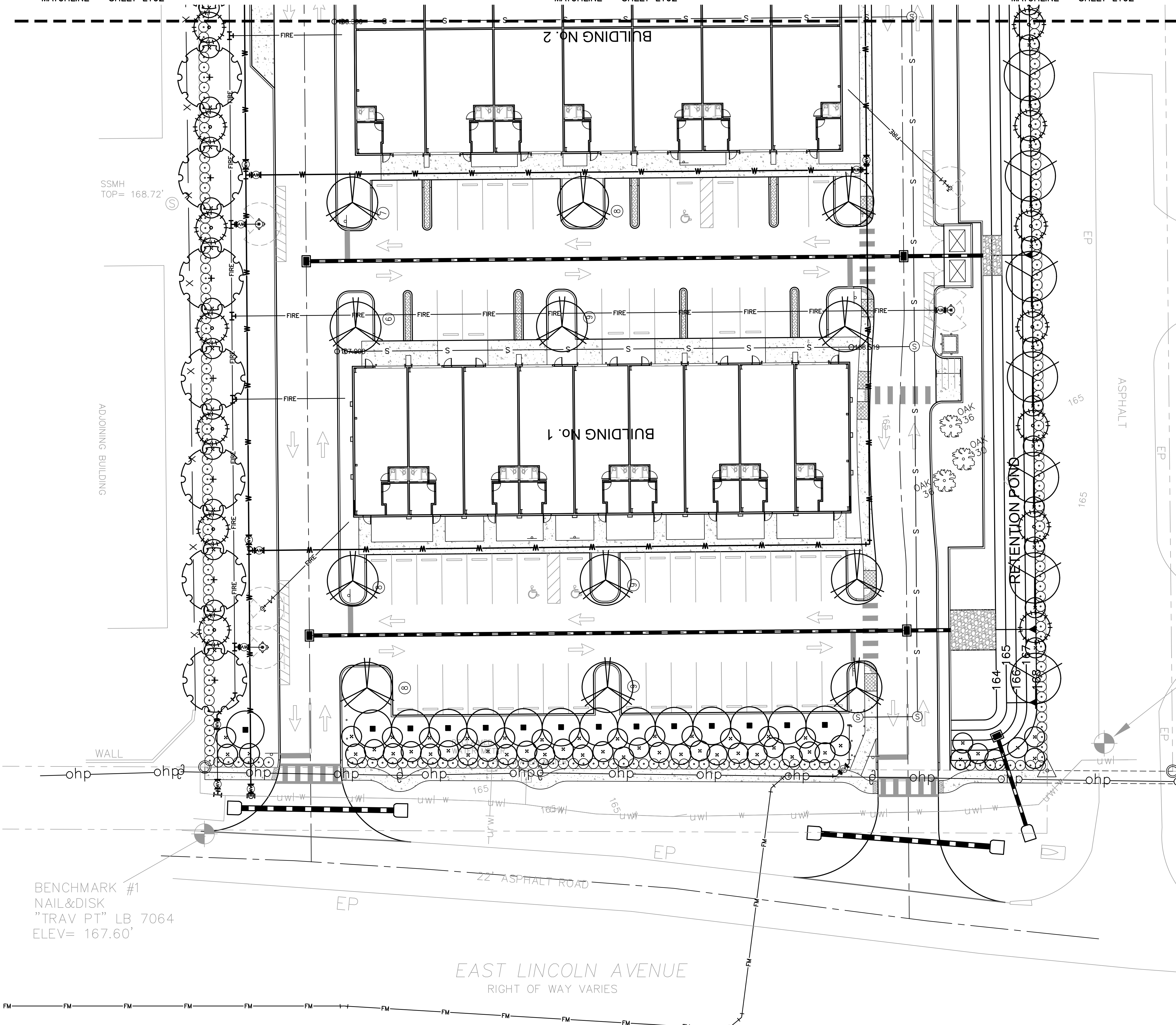
DATE: 08-06-25
JOB #: 2025-030
PERMIT #
DRAWN BY: BRB
FILE NAME: LANDSCAPE
SCALE: 1" = 20'

L101

MATCHLINE - SHEET L102

MATCHLINE - SHEET L102

MATCHLINE - SHEET L102



SSMH TOP= 168.72'

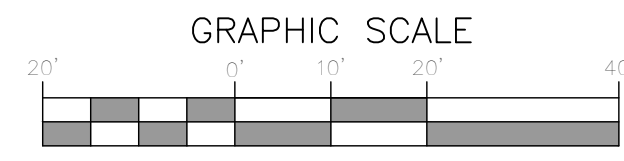
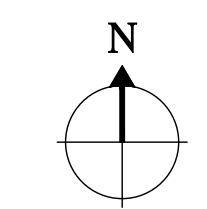
ADJOINING BUILDING

BENCHMARK #1
NAIL&DISK
"TRAV PT" LB 7064
ELEV= 167.60'

EAST LINCOLN AVENUE
RIGHT OF WAY VARIES

PLANT SYMBOLS

- WAX MYRTLE
- SLASH PINE
- MAGNOLIA
- AMERICAN ELM
- RED MAPLE
- LIVE OAK
- ANISE



IF LESS THAN 24"x36" SHEET HAS BEEN REDUCED, ADJUST THE SCALE TO THE DRAWING ACCORDINGLY.

LANDSCAPE ARCHITECT:
Robert R. Buchanan LA0000932

Landscape Dynamics Construction Co., Inc. hereby reserves all copyright and other proprietary rights in these plans, views, and designs. These plans, designs, and drawings are not to be reproduced, copied, or used in any form or manner whatsoever, nor are they to be assigned to any third party, without first obtaining the express written permission from Landscape Dynamics Construction Co., Inc.

48 HOURS BEFORE YOU DIG
CALL SUNSHINE
1-800-475-8111
IT'S THE LAW IN FLORIDA
FLORIDA LAW REQUIRES
REGULATED CONTRACTORS
TO OBTAIN A LICENSE
FOR ALL FACILITIES NO LATER THAN TWO
CITY BLOCKS FROM THE COMMENCEMENT
DATE.

CONTRACTOR MUST REVIEW ALL GENERAL LANDSCAPE NOTES PRIOR TO BIDDING AND CONSTRUCTION

C+3 Development, LLC
310 North Baker Street
Mt. Dora, FL 32757

LANDSCAPE
DYNAMICS
LANDSCAPE ARCHITECTS AND PLANNERS, LLC

P.O. BOX 2852 - Winter Park, Florida 32790-2852 - Phone 407-579-8111 - Email randy@landscape-dynamics.com

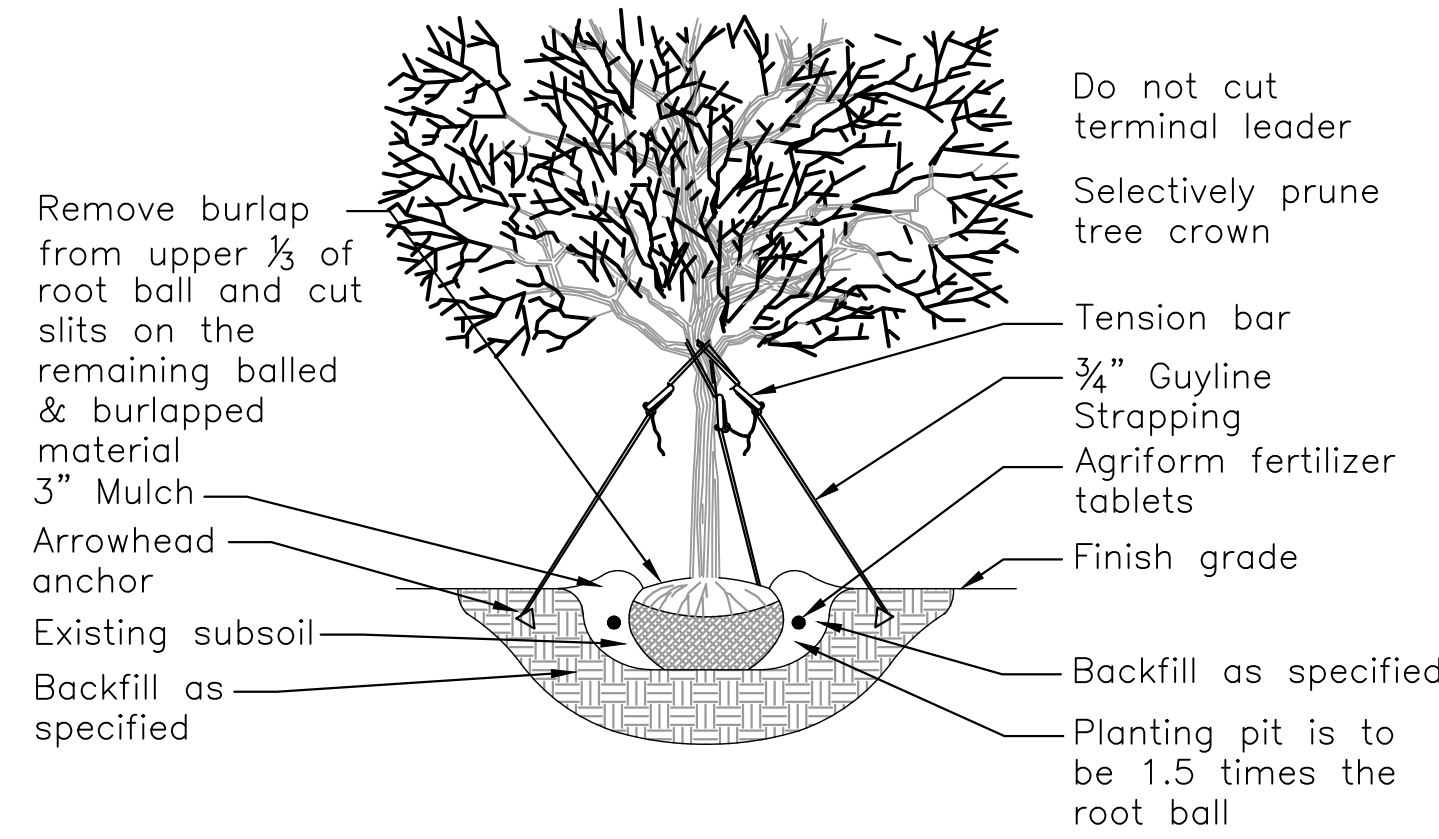
Landscape Plan
Mt. Dora Commerce
Mt. Dora, Florida

REVISIONS

1	
2	
3	
4	
5	
6	
7	
8	

DATE: 08-06-25
JOB #: 2025-030
PERMIT #
DRAWN BY: BRB
FILE NAME: LANDSCAPE
SCALE: 1" = 20'

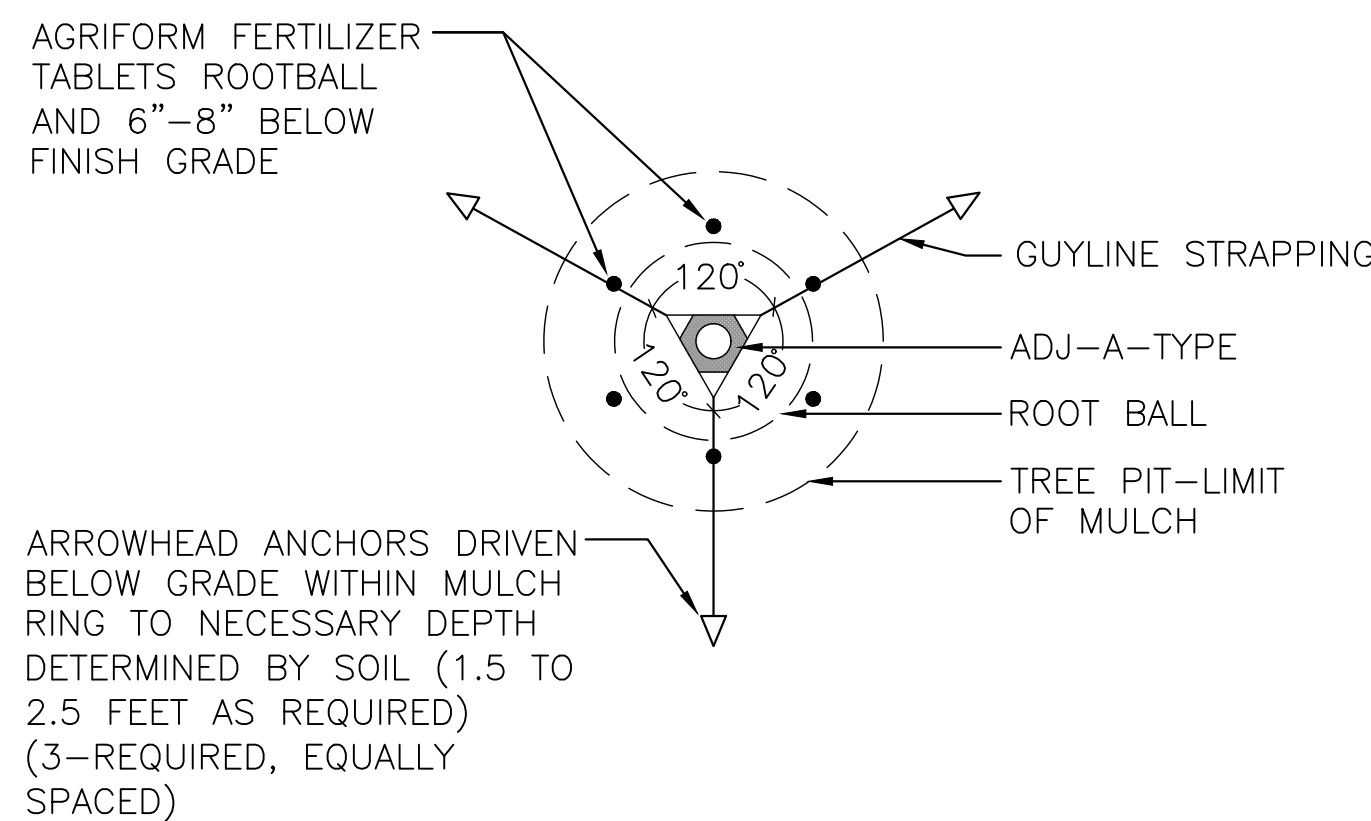
L102



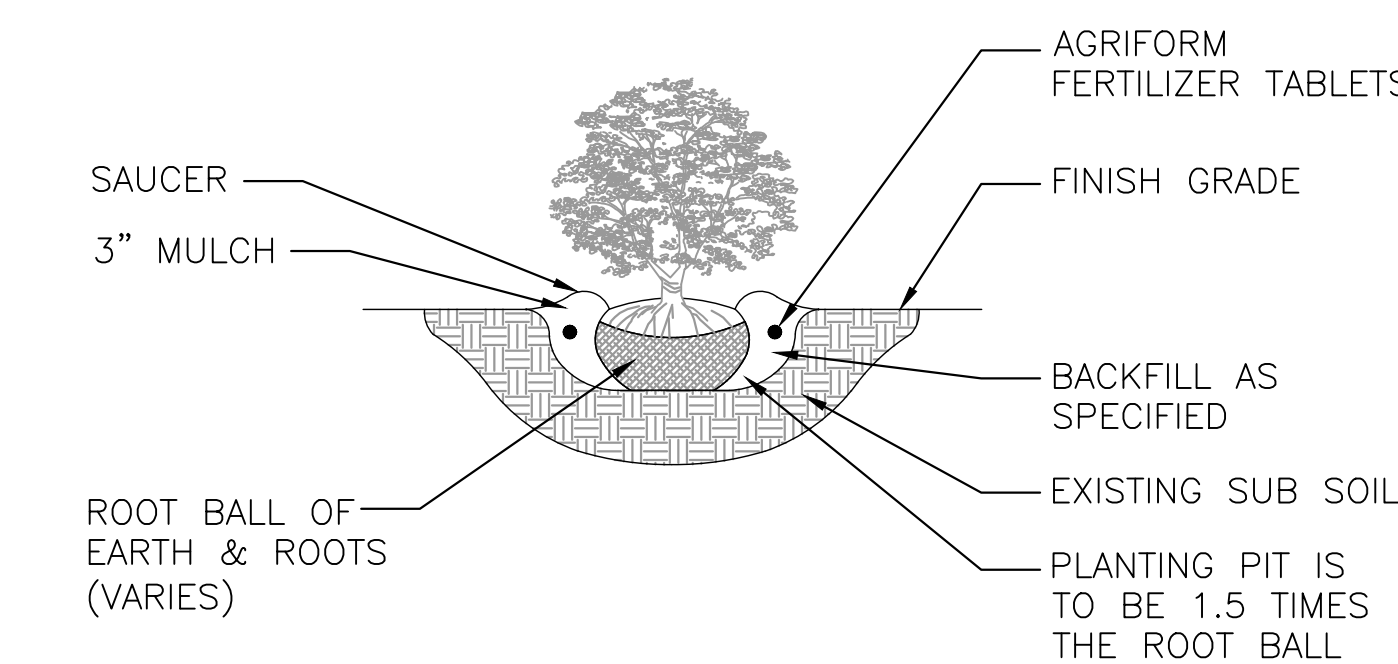
PRO20:
For up to 2" Caliper Trees
(3) ARBORGUY™ Guylines 3/4" x 12' = 600 lb test Black or Green, UV resistant, polypropylene strapping
(3) "Tool-Free" Tension Bars™
(3) Arrowhead *Anchors (4" x 3-3/4")

PRO40:
For up to 4" Caliper Trees
(3) ARBORGUY™ Guylines 1" x 12' = 600 lb test, Black or Green, UV resistant polypropylene strapping
(3) "Tool-Free" Tension Bars™
(3) Arrowhead Anchors (4-3/4" x 3-3/4")

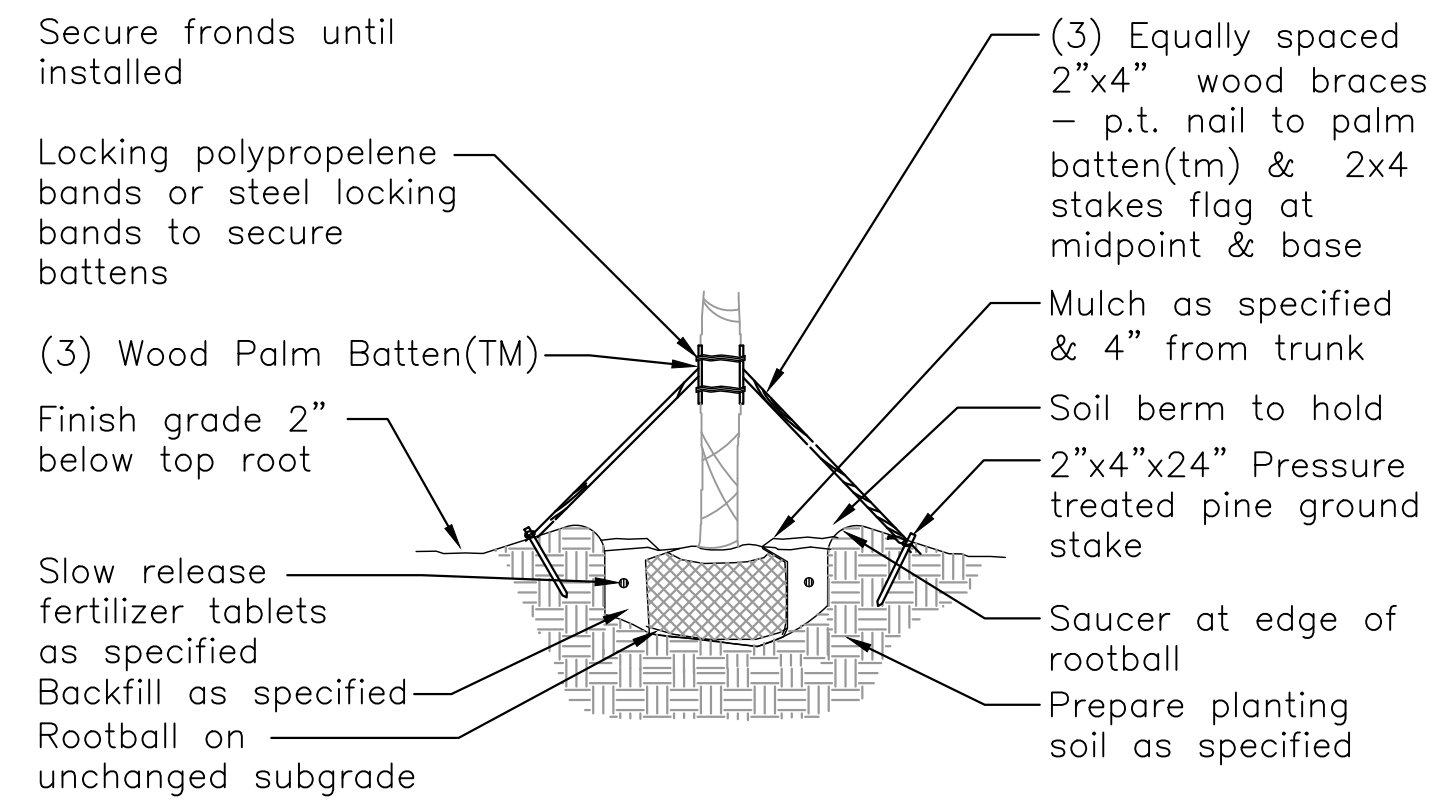
1 ARBORGUY PRO20/PRO40 STAKING AND PLANTING DETAIL
L200 SCALE= N.T.S.



3 TREE STAKING DETAIL
L200 SCALE= N.T.S.



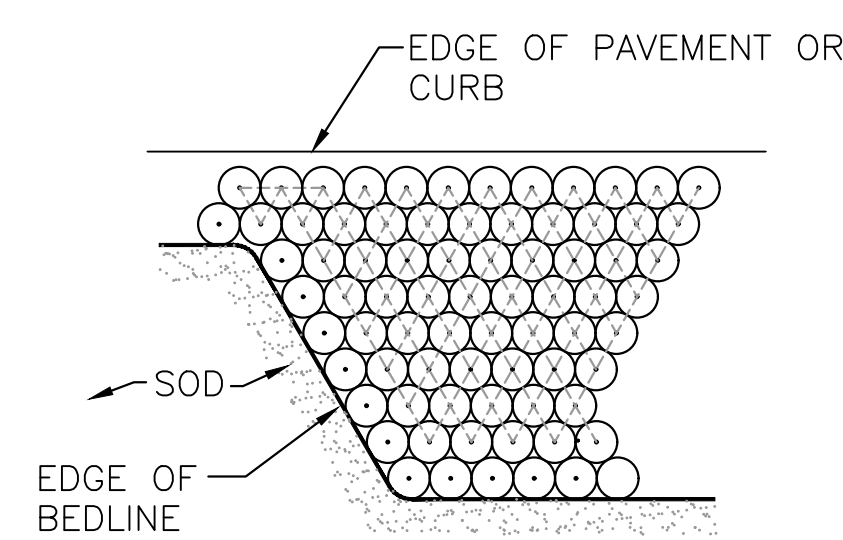
5 TYPICAL SHRUB/GROUNDCOVER PLANTING DETAIL
L200 SCALE= N.T.S.



PBKM (Metal Bands)
(3) 1 1/2"x3 1/2"x12" (2x4 wood) battens with 5 layers of burlap backing and (4) staple guides for banding, pre-notched (to accept 2"x4"x8' support braces)
(2) 44" plated carbon steel bands with tensioning and locking screw / clamp

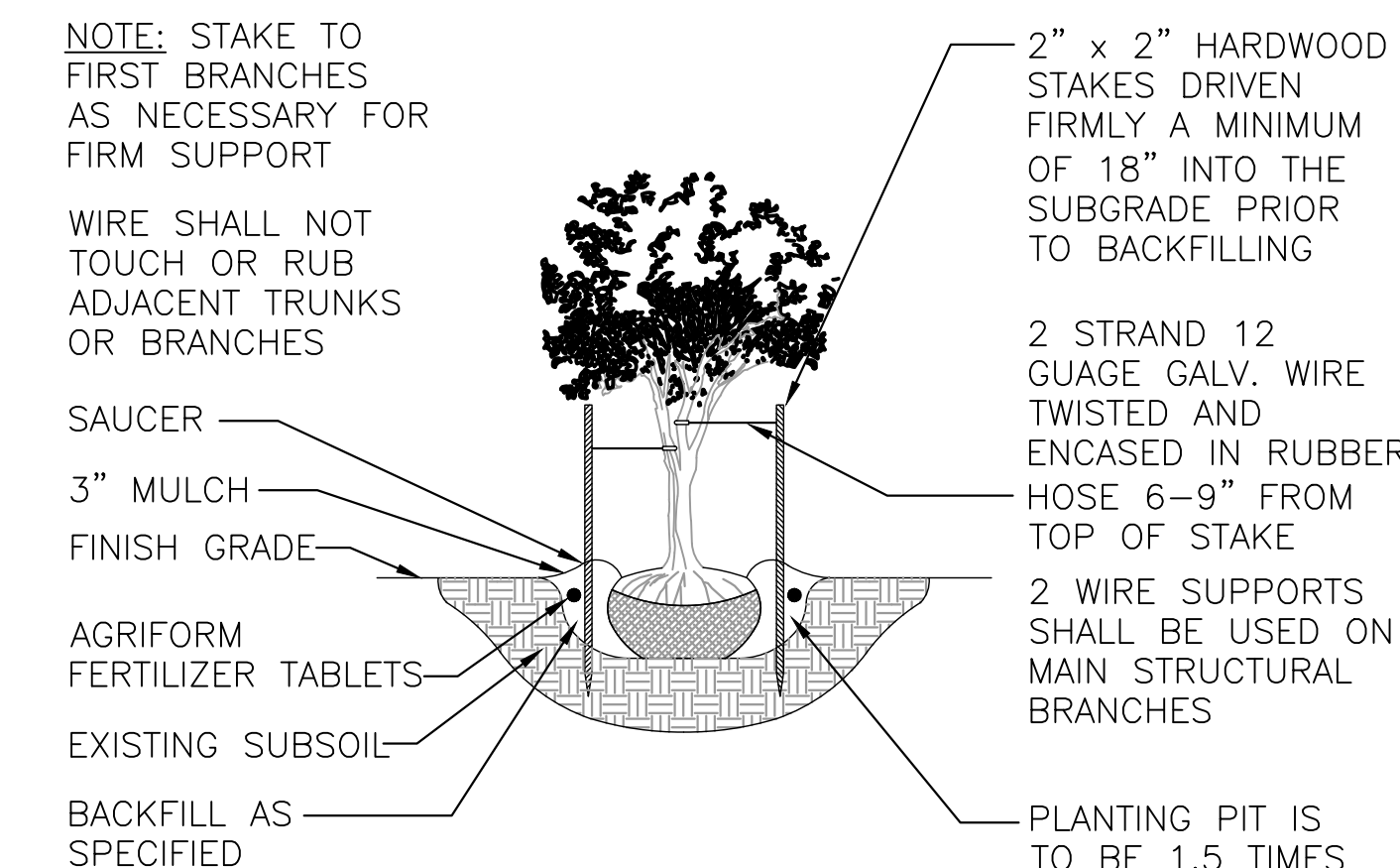
PBKC (Polypropylene Bands)
(3) 1 1/2"x3 1/2"x12" (2x4 wood) battens with 5 layers of burlap backing and (4) staple guides for banding, pre-notched (to accept 2"x4"x8' support braces)
(2) 8"x1", 600 lb test webbing bands with metal spring locking clamps

2 ARBORGUY PALM BATTEN DETAIL
L200 SCALE= N.T.S.



NOTE: FORM EDGE OF BED, THEN FILL IN BED AT TRIANGULAR SPACING AS SPECIFIED ON PLANT LIST.

4 TYPICAL SPACING DETAIL
L200 SCALE= N.T.S.



6 MULTI-TRUNK STAKING DETAIL
L200 SCALE= N.T.S.

GENERAL LANDSCAPE NOTES:

Failure to notify Landscape Architect of plan, detail, or specification discrepancies prior to construction, makes contractor responsible for all costs incurred for construction charges, not the owner or his representative (Landscape Dynamics) The Owner must maintain the height of all plants within the "Line-Of-Site" triangle area to a height of no greater than 24" above grade for shrubs and groundcover, and tree branching no lower than 72" above finish grade, to ensure clear site line views toward traffic at road and driveway intersections. Landscape Dynamics is not responsible for continued maintenance of such plant material. The owner, leasing company and/or the landscape maintenance company accepts full responsibility for these maintenance requirements.

- Landscape contractor (LC) shall be responsible for all materials and work called for on the landscape plans and in the landscape notes and legend. Plant specifications are minimum acceptable sizes. Plans shall rule if there are any quantity discrepancies between the legend and plans. Final quantity takeoffs are the responsibility of the LC. Notify the Landscape Architect of any discrepancies.
- LC shall comply with all local codes and ordinances and obtain all permits and bonds necessary to construct the project.
- LC shall coordinate their work with other contractors to assure efficient and timely completion of the work.
- LC shall be responsible for supplying all materials, labor, and equipment for the performance of their portion of the work.
- LC to verify all existing grades, dimensions, adequate drainage, suitable planting soil and field conditions and notify owner of discrepancies before proceeding with work. Per FL Statutes, LC to call Sunshine State One (811) 72 hours prior to digging to have all utilities located.
- LC to protect existing utilities, structures, surfaces, and vegetation noted to be saved and be responsible for repair/replacement.
- Protect trees to be saved per detail. Vehicle parking, material storage, or soil removal/addition is not permitted within driplines.
- Round-Up shall be applied twice at ten day intervals onto all existing vegetation, sod, and groundcover areas that are to be replanted. Extreme care shall be taken to prevent overspray and/or drift onto existing plant material to be saved. Mfr's recommendations shall be followed. Remaining weeds and their roots shall be removed by hand prior to installation of plants. Resprouting weeds and plants are the responsibility of the LC through the one year warranty period.
- All plant materials shall be graded Florida No. 1 or better as outlined under current Grades and Standards for Nursery Plants, Division of Plant Industry, State of Florida, unless otherwise noted. All plants not listed shall conform to a Florida No. 1 or better as to: (1) health and vitality, (2) condition of foliage, (3) root system, (4) freedom from pest or mechanical damage, (5) heavily branched and densely foliated according to the accepted normal shape of the species. LC to obtain written certification from nurseries that plant materials are Florida No. 1 or better. Trees up to 4" caliper measured at 6" above soil line and over 4" caliper at 12" above soil line unless otherwise noted. All specifications to be met or exceeded unless otherwise noted. All rootballs and containers to be free of weeds and their roots.
- Planting soil of Fla. peat mixed 1/2 with clean topsoil for the backfilling of plant pits and beds shall be required only if existing soil is unsuitable for planting and/or contains lime rock or construction debris (to be removed).
- Trees and palms shall be installed so their top main root at the trunk is visible and 2" above finished grade. If root is buried, remove soil from the top of the rootball prior to installation. Do not apply the 1 1/2" of mulch to the top of the rootball until after inspection of each tree or palm.
- Landscape Architect is not responsible for adverse soil or drainage conditions, determining sub-surface soil conditions, underground objects/utilities or the accuracy of property lines or information portrayed on surveys or on documents or plans provided by others. Owner or their agent is solely responsible for future maintenance of all plantings to maintain safe visibility within all visibility sight triangles and vehicular use and pedestrian areas within and immediately adjacent to the site.
- Finished grade prior to mulching or sodding to be 3" below top of adjacent surfaces such as walks, curbs and driveways extending perpendicularly from the surface edge for a minimum distance of 18". See detail.
- All palms, trees, shrubs, and groundcovers shall be fertilized with Agriform 20-10-5 or SierraTabs 16-8-12 planting tablets. One tablet/ 1 gal, 2 tablets/ 3 gal, 3 tablets/ 5 or 7 gal, 4 tablets/ 10 gal and one tablet/ each 1/2" of tree trunk diameter. Application shall be as per the details and mfr's recommendation.
- All planting beds (except for annuals) and trees to receive med. pine bark mulch. Due to environmental concerns, cypress mulch shall NOT be used. All tree rootballs (which require 4 foot wide mulch rings in turf areas) shall be mulched to a maximum 1 1/2" depth (to aid water penetration) following inspection. All other planting beds to receive a 3" depth. Mulch shall not touch trunks or stems or be applied within the crowns of groundcovers or over their branches or foliage. Mulch is to be applied by hand and shall not be "blown in".
- LC to maintain all plant material in a plumb, upright and stable condition. All trees/palms to be guyed/staked as per details.
- LC to remove all bags (unless biodegradable), tags, ties, wires, ropes, stakes and nursery attachments from all plant material.
- LC shall be responsible to keep plant material in a healthy, hand watered, insect/pest free condition until owner's final acceptance.
- LC to provide a one-year warranty for trees/palms, shrubs, groundcovers, and vines and thirty days for sod. Warranty period shall start with final acceptance by owner. All plant material shall be alive and in satisfactory growth at the end of the warranty period. Replacement plant material shall be warranted for ninety days (sod for thirty days) from replacement date. Warranty shall apply only to material that dies due to poor quality, improper handling, or installation practices. Generally, material transplanted on-site shall not be warranted. Adverse weather conditions shall not apply. Proper watering and maintenance are the owner's responsibility during the warranty period.
- Provide 100% coverage of all landscape areas using automatic underground irrigation system with rain sensor.

IF LESS THAN 24"x36" SHEET HAS BEEN REDUCED, ADJUST THE SCALE TO THE DRAWING ACCORDINGLY.

LANDSCAPE ARCHITECT

Robert R. Buchanan LA0000932
Landscape Dynamics Construction Co. Inc. hereby reserves the right to accept or reject any and all proposals for these plans, specifications, and conditions. These plans, specifications, and conditions are to be read and understood in their entirety and no part shall be construed to be a contract unless it is in writing and signed by the contractor and the Landscape Architect. The contractor shall be responsible for obtaining the appropriate permits from Landscape Dynamics Construction Co. Inc.

48 HOURS BEFORE YOU DIG
CALL SUNSHINE
1-800-447-7111 or 811
IT'S THE LAW IN FLORIDA
FLORIDA LAW REQUIRES
LOCAL GOVERNMENTS TO MAINTAIN
UNDERGROUND UTILITIES
FACILITIES NO LESS THAN TWO
FOOT DEEP FROM THE SURFACE

CONTRACTOR MUST REVIEW
ALL GENERAL LANDSCAPE
NOTES PRIOR TO BIDDING AND
CONSTRUCTION

C+3 Development, LLC
310 North Baker Street
Mt. Dora, FL 32757

LANDSCAPE
Dynamics
LANDSCAPE ARCHITECTS AND PLANNERS, LLC

DATE: 08-06-25
JOB #: 2025-030
PERMIT #
DRAWN BY: BRB
FILE NAME: LANDSCAPE
SCALE: N.T.S.

REVISIONS
1
2
3
4
5
6
7
8

PO. BOX 2852 - Winter Park, Florida 32790-2852 - Phone: 407-579-8111 - Email: randy@landscape-dynamics.com
Landscape Details and Specs.
Mt. Dora Commerce
Mt. Dora, Florida

L200

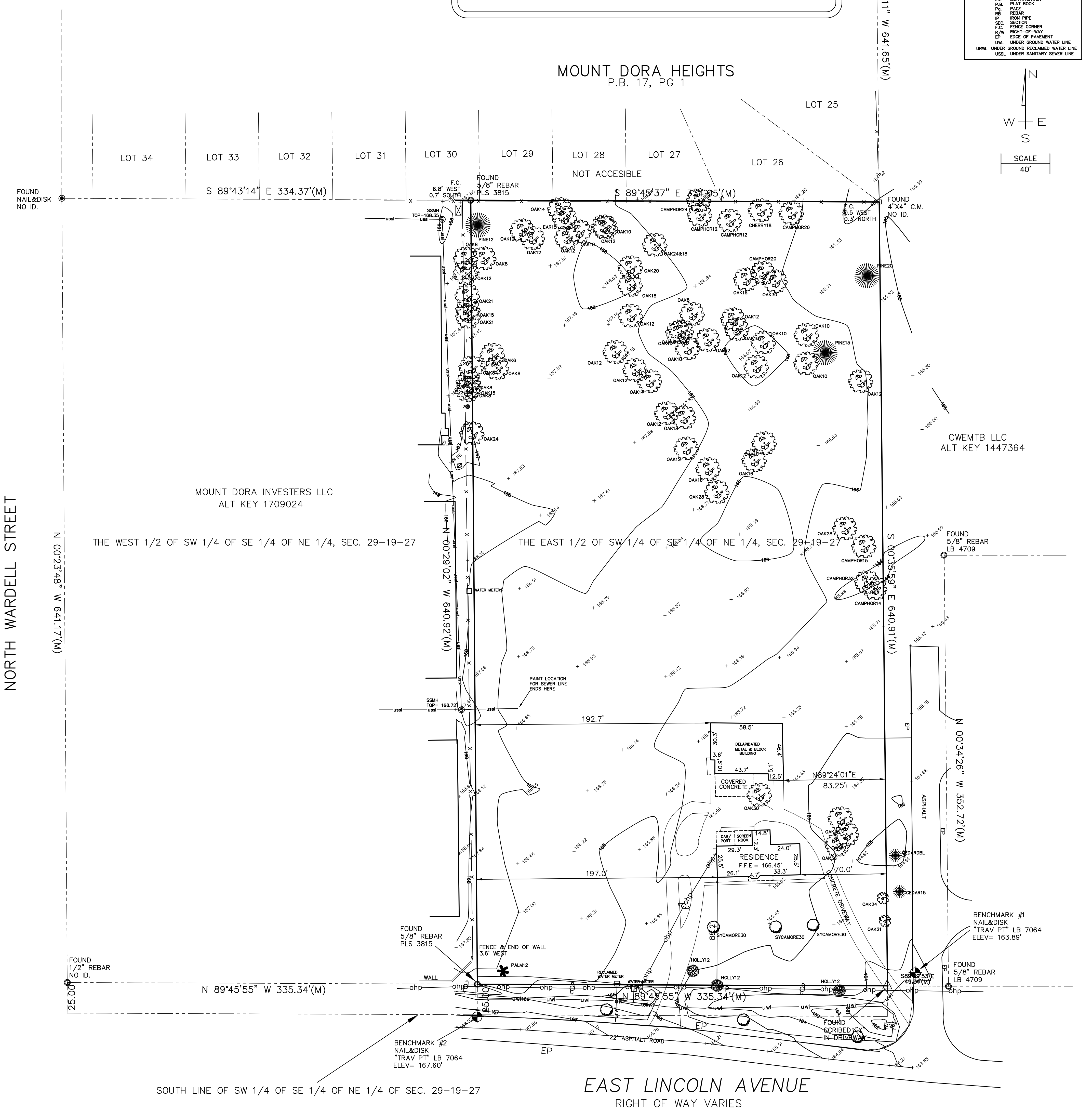
DESCRIPTION

E 1/2 OF SW 1/4 OF SE 1/4 OF NE 1/4 OF SECTION 29,
TOWNSHIP 19 SOUTH, RANGE 27 EAST, LAKE COUNTY, FLORIDA,
LESS THE SOUTH 25 FEET THEREOF.

**Plat of Topographic Survey for
G3 DEVELOPMENT**
1649 Lincoln Street, Mt Dora
Located in Section 29, Township 19 South, Range 27 East

LEGEND:

IPS	IRON PIN SET (1/2" REBAR W/ CAP)
PF	IRON PIN FOUND
CP	CALCULATED POINT ONLY
CM	CONCRETE MONUMENT
PM	POWER POLE
UP	UTILITY POLE
WV	WATER VALVE
GW	GRASS WALK
W	WELL
FH	FIRE HYDRANT
SSM	SANITARY SEWER MANHOLE
SDM	STORM DRAIN MANHOLE
CB	CATCH BASIN
CO	CLEANOUT
CI	CURB INLET
TR	TRANSFORMER
OU	OVERHEAD UTILITY
FL	FENCE LINE
FX	FENCE LINE
(M)	FIELD MEASURED
(R)	RECORD DESCRIPTION OR PLAT
O.R.	OFFICIAL RECORD BOOK
I.D.	IDENTIFICATION
P.B.	PLAT BOOK
PL	PLATE
RP	REBAR
IP	IRON PIPE
SEC.	SECTION
FC	FENCE CORNER
R/W	RIGHT-OF-WAY
EP	EDGE OF PAVEMENT
UWL	UNDER GROUND WATER LINE
URWL	UNDER GROUND RECLAIMED WATER LINE
USSL	UNDER SANITARY SEWER LINE



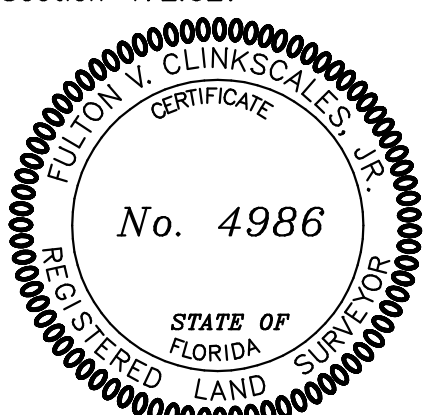
SURVEYOR'S NOTES

- 1) Bearings based on Florida grid East zone (Lengemann Network).
- 2) Subject to easements and restrictions of Record.
- 3) All of the above captioned property lies within F.I.R.M. Zone "X" according to F.I.R.M. panel No. 12069C 0367 E, dated December 18, 2012.
- 4) This Survey is based on the Description provided, Plat information, Found Monumentation and other data acquired by this firm.
- 5) Foundations, Underground Structures, and Underground Improvements, if any, not located by this firm.
- 6) Fences were located ONLY where dimensioned and may not run straight; ownership of fences, if any, unknown.

NOTE:
ELEVATIONS SHOWN ARE IN NAVD88 DATUM. DERIVED FROM SATELLITE OBSERVATION.

I hereby certify that this survey was made under my responsible charge and meets the minimum technical standards as set forth by the Board of Professional Land Surveyors in Chapter 61G17-6 Florida Administrative Code. Pursuant to Section 472.027 Florida Statutes.

Fulton V. Clinkscales, Jr.
Fulton V. Clinkscales, Jr., Surveyor #4986



Not valid without the signature and the original raised seal of a Florida licensed surveyor and mapper.

No.	REVISIONS	Date	FREELAND - CLINKSCALES & ASSOCIATES, INC. of NC	REF. PLAT BOOK	xx/xx
1	ADDED SEWER LINES ON WEST SIDE OF PROPERTY	8/5/25	Engineers * Land Surveyors 201 2nd AVE. EAST HENDERSONVILLE, N.C. 28792 1220 HUFFSTETLER DRIVE, UNIT 201 EUSTIS, FL. 32726 (352) 609-2830 SURVEYQUOTEFCA@GMAIL.COM	REF. O.R. BOOK	4835/2359
				ALT. KEY#	1447097
				PARTY CHIEF	SCL
				DRAWN	SCL
				DATE	DEC. 16, 2022
				DWG.NO.	F42116/F42196

Preliminary Engineering Report

For

Mount Dora Small Bay

DISTRIBUTED WASTEWATER TREATMENT SYSTEM

LAKE COUNTY, FLORIDA

August 2024

PREPARED FOR:

G3 Sky, LLC
310 North Baker Street
Mt. Dora, FL 32757

AND



PREPARED BY:



SALTUS ENGINEERING, INC.
P O Box 8969
Fleming Island, FL 32006

CERTIFICATION

David Bolam, P.E.
Florida Registration No.: 42480
SALTUS ENGINEERING, INC.
P O Box 8969
Fleming Island, FL 32006
904-742-6545

Signature: _____

An engineering report or preliminary design report shall be signed and sealed by a professional engineer registered in Florida who is designated by the applicant as the engineer of record.

Table of Contents

CERTIFICATION	2
Background	3
Location, Population and Flow	3
100-year and 25-year Flood Elevations.....	5
Assessment of Environmental Effects of the Project:	6
Technical Information and Design Criteria	9
Flow Metering and Sampling	10
Disinfection Criteria.....	10
Design Notes	11
Operation and Unit Processes.....	11
Operator Attendance and SCADA	12
Emergency Provisions	12
Operation and control strategies and reliability classification.....	13
Land Application of Reclaimed Water and 62-610 FAC Reuse Requirements.....	13
Access For Operation and Maintenance Control	16
Groundwater Monitoring.....	17
Biosolids, Residuals Management and Chapter 62-640, F.A.C.....	17
Appendix A – Design Calculations and Manufacturer’s Literature	18
Appendix B – NRCS Soils Data and Geotechnical Report	19

Background

The wastewater system being proposed is a Distributed Wastewater Treatment System (“DWTS”) consisting of one or more separate treatment units, called a Distributed Wastewater Treatment Unit (“DWTU”), installed at the point of wastewater generation followed by a land application advanced treatment, effluent disposal method. The DWTU provides effective treatment and is continuously monitored by licensed wastewater operators via a Supervisory Control and Data Acquisition (SCADA) System thus providing enhanced treatment without expensive gravity collection systems and large-scale treatment plants. Under this DWTS permit, the applicant is seeking authorization to install and operate DWTUs with a treatment capacity of 4,050 GPD AADF.

The PDR provides permit-level engineering plans, technical specifications and FDEP Permit applications. The total process from design, permitting, bid, construction, and certification of completion (COC) is expected to take 6 months.

The responsible authority for the permit will be:

G3 Sky, LLC

310 North Baker Street

Mt. Dora, FL 32757

Location, Population and Flow

The location of the proposed Mount Dora Small Bay is 1649 Lincoln Avenue, Mt Dora, FL 32757. Property is owned by Brooke Vedder, MGR, Lincoln1649 LLC. The site is 4.63 acres and there are 41 business condo units proposed with a total 54,000 square feet of conditioned space. It is part of a manufacturing and commercial building for Vedder Holsters. Community potable water will be supplied by the City of Mt. Dora Utilities.

Maximum Daily Flow and population are estimated based on 0.15 GPD per SF of conditioned space. Each unit will have one bathroom with a sink and toilet. A maximum day to average day factor of 2.0 is used to estimate the average annual daily flow at full capacity of 4,050 gallons per day of raw sewage flow or approximately 100 GPD per unit. Peak hour flow is based on 5 times the annual average daily flow or 14 gallons per minute.

The proposed site is shown in Figure 1. Parcel information is shown below:

Mount Dora Small Bay



August 5, 2024

pointLayer

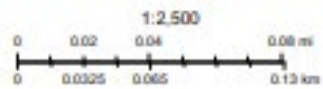
● Override 1

polygonLayer

■ Override 1

□ County Boundary

- Surrounding Counties
- Street Names
- Local Streets SK



Lake MCC

Lake County Board of County Commissioners

Parcel #: 290-19-27-0001-00003401

Figure 1 – Mt. Dora Small Bay Property

100-year and 25-year Flood Elevations

The FEMA flood map is shown in Figure 2. The closed, concrete tanks are buried to a depth of 24 to 30 inches below grade and have sufficient weight to prevent uplift during extreme saturated flood conditions.

Zone X is the flood insurance risk zone that corresponds to areas outside the 0.2-percent-annual-chance floodplain, areas within the 0.2-percent-annual-chance floodplain, areas of 1-percent-annual-chance flooding where average depths are less than 1 foot, areas of 1-percent-annual-chance flooding where the contributing drainage area is less than 1 square mile, and areas protected from the 1-percent-annual-chance flood by levees. No BFEs or base flood depths are shown within this zone.

The flood map for the selected area is number 12069C0367E, effective on 12/18/2012

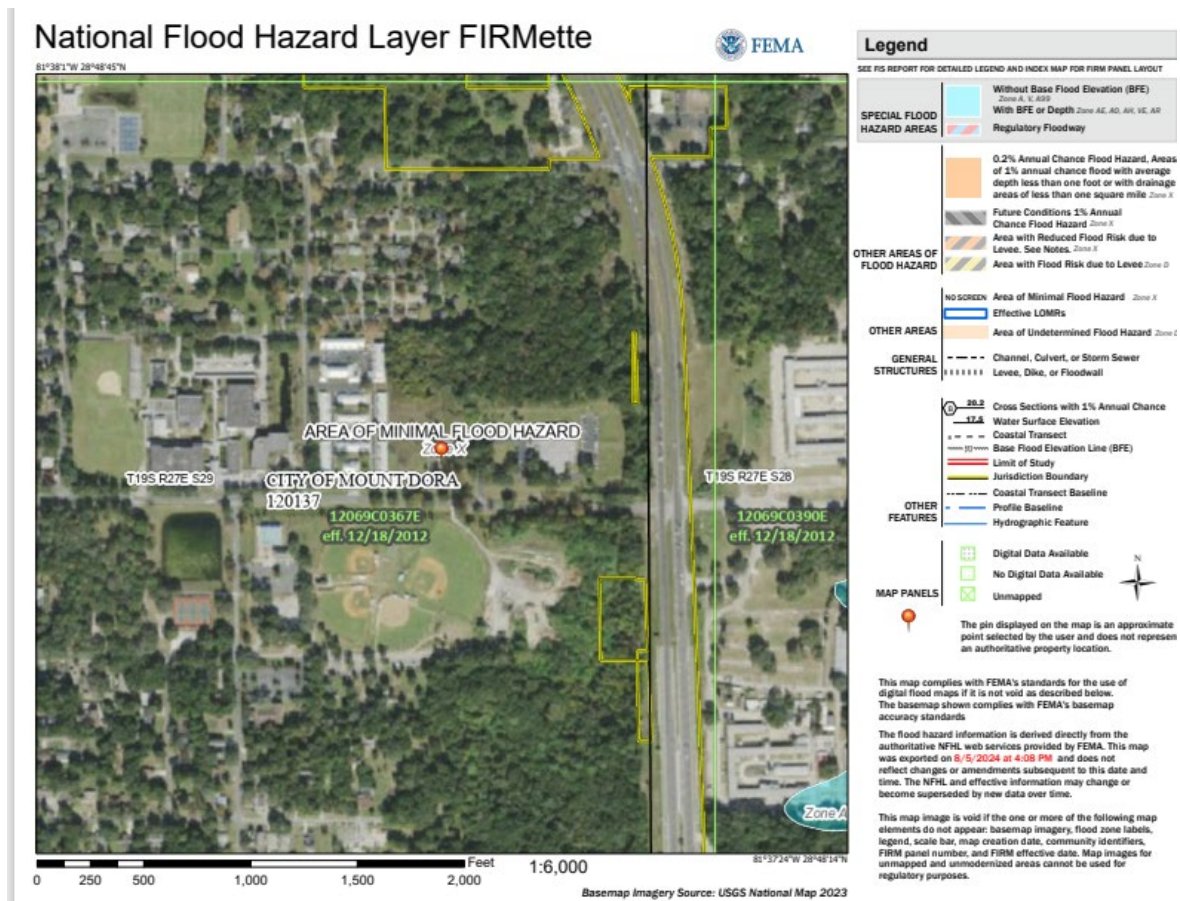


Figure 2 – FEMA FIRM Flood map – Minimal Flood Hazard

Stormwater Management: Development construction and the resulting change from current impervious area will be addressed in a separate permit application with the SJRWMD. Stormwater management for OnSite systems will be within the allowed threshold of exemption for DEP stormwater management permitting.

A USGS topographic map of the area is shown in Figure 3.

Assessment of Environmental Effects of the Project:

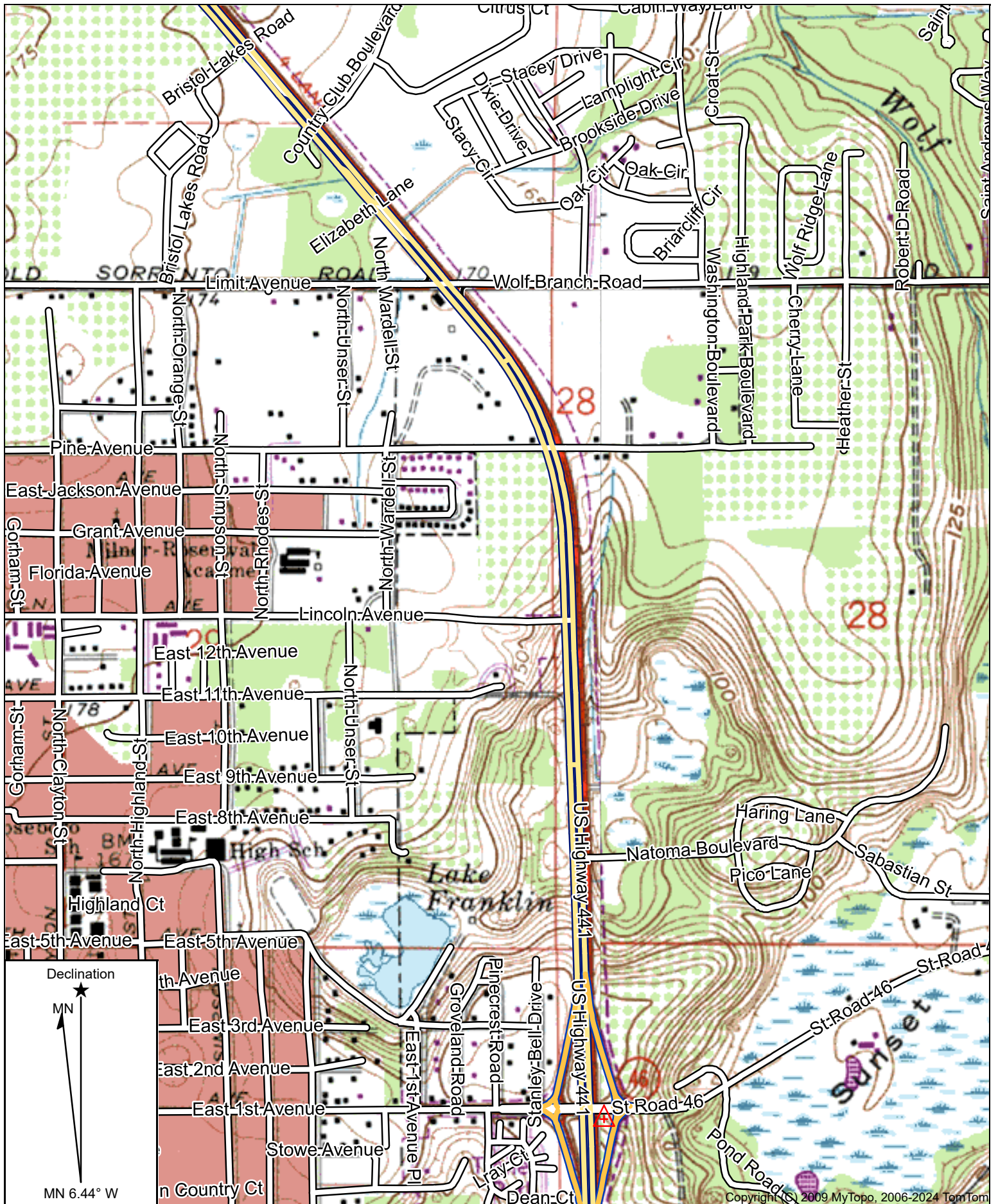
The new wastewater treatment system will be located underground which provides odor control and eliminates aerosol drift. This also provides noise control as all motors for pumps and blowers are submerged. Access is provided for utility staff and no interference in the public accessibility of the current roadways is anticipated. The pre vs post development area for the WWTF provides no new impervious area. No security lighting is needed.

Considering the small footprint of the treatment unit and its distance from any regulated surface water bodies and other potential receptors, the unit is not expected to have any measurable environmental impacts. In fact, the significant increase in treated effluent quality, compared to conventional septic tank systems, is expected to benefit surface waters and groundwater in the service area. Any impacts would be minimal, occurring only during the construction phase and limited to a small area. Anticipated impacts during construction could include increased noise levels from construction machinery and a temporary increase in airborne particulates. To minimize noise impacts, working hours will be limited to daylight hours.

The proposed project will not adversely impact wetland areas, unique, endangered, or threatened species, agricultural lands, or significant historical or archeological resources. The proposed project will not result in any significant adverse impacts on any potable groundwater resources due to effluent quality, application rates and regulatory agency setback distances between the application areas and public potable water supply wells.

With expert operations by OnSite personnel, or contracted wastewater operators, continuous monitoring, contracted residuals handling, efficient and effective treatment, and effluent disposal via underground absorption beds, it is anticipated that ambient air quality will not be compromised. Noise from normal operations of the treatment equipment is not expected to be noticeable more than 10 feet from the unit and therefore should not cause complaints by adjacent landowners.

Figure 4 shows there are no public drinking water wells located within 1000 feet of the site and the entire area is served by the City of Mt. Dora public drinking water system.



Name: EUSTIS
 Date: 08/22/24
 Scale: 1 inch = 1,000 ft.

Location: 28.807804° N, 81.627621° W
 Mt. Dora Small Bay DWTS
 Figure 3

Insert Figure 4

Technical Information and Design Criteria

For physical, chemical, and biological characteristics and concentrations, the raw wastewater is expected to be normal strength domestic wastewater. Since it will be a new collection system, it should be a water-tight system that inhibits inflow and infiltration. The wastewater influent strength would be typical domestic strength as shown in Table 1.

INFLUENT	Max	Average
CBOD5 (mg/L)	420	275
TSS (mg/L)	400	232
TN (mg/L)	60	35
pH	Range of 6.0 to 8.5	

Table 1--- Typical Domestic Wastewater Influent Loading

Treated effluent from each individual DWTU in the System will be disposed of via an on-site absorption field. Florida Administrative Code (FAC) Chapter 62-600 sets forth effluent limits and plant component reliability requirements for treatment facilities with effluent disposal via absorption beds. The treatment requirements set forth under FAC Chapter 62-600.420 are applicable to the proposed System and, at a minimum include secondary treatment. Chapter 62- 600 FAC sets the CBOD and TSS effluent levels for land application discharges to an annual average less than or equal to 20 mg/L as shown in Table 2.

Limitation	Annual Average	Monthly Average	Weekly Average	Single Sample Max
CBOD5 (mg/L)	20	30	45	60
TSS (mg/L)	20	30	45	60
Fecal Coliform #/100mL	Report			
TN (mg/L)	Report			
TP (mg/L)	Report			
pH	Range of 6.0 to 8.5			

Table 2 --- DEP Domestic Wastewater Limitations for Distributed Systems

Rule 62-600.445 also requires that each DWTU be designed and operated to maintain pH within the range of 6.0 to 8.5. Monitoring reports submitted for other permitted DWTS's demonstrate compliance with the pH requirement over multiple years of operation and testing.

Flow Metering and Sampling

Access points will be provided to sample for WWTF influent, reclaimed water effluent for the sample parameters in accordance with the DEP permit. The flow meter will be installed to measure the discharge flow from the system to the absorption field, for the range of expected flow.

Disinfection Criteria

Treatment requirements for disinfection for the System are provided in 62-600.100(2) and 62-600.440, FAC. Rule 62-600.440(4), F.A.C., states “(a)pplicability of the requirements shall be as contained in ... subsection 62-600.100(2), F.A.C., for septic systems and other closed-tank wastewater treatment systems permitted by the Department.” As previously acknowledged by the Department, the proposed DWTS, consisting of multiple individual treatment units, are “closed-tank wastewater treatment systems permitted by the Department” and therefore subject to 62-600.100(2), F.A.C. which does not specify disinfection requirements other than “disinfection necessary to protect public health.” As such, the Department is provided reasonable assurance of secondary treatment requirements by virtue of the continuous DWTU monitoring and operation through the SCADA system and periodic sampling and testing protocols. Assurance for “disinfection necessary to protect public health” is provided by following long-standing design standards and setback requirements for on-site absorption fields (e.g. drainfields) provided in Chapter 62-6, FAC.

From the DEP reference document 62-600.300(o), FAC, the U.S. Environmental Protection Agency, 2002. Onsite Wastewater Treatment Systems Manual under page 5-26, states that Research has demonstrated that soils similar to those present at the site (fine-textured, slowly permeable soils) can effectively remove the fecal coliforms if the wastewater percolates through an unsaturated zone of 2 to 3 feet (Florida HRS, 1993). Because the soil at the site extends to greater than a 3-foot depth (~79 inches per NRCS), the infiltrative surface does not need to be elevated above the ground surface in a mound and is proposed as an at-grade system and fecal coliform removal will be nearly complete.

The slow rate land application process is the most effective, removing about five logs (10^5) of fecal coliforms within a depth of a 0.6 m (2 ft). The soil aquifer treatment process typically can remove two to three logs of fecal coliforms within several meters of travel of applied fecal coliforms (EPA reference Process Design Manual Land Treatment of Municipal Effluent 2006), DEP reference document 62-600.300(i), FAC.

As such, the Department is provided reasonable assurance of secondary treatment requirements by virtue of the continuous DWTU monitoring and operation through the SCADA system and periodic sampling and testing protocols. Assurance for “disinfection necessary to

protect public health” is provided by following long-standing design standards and setback requirements for on-site absorption fields (e.g. drainfields) provided in Chapter 62-6, FAC.

Design Notes

Effluent treatment levels for Monthly Average TSS, CBOD₅, and Nitrate-N are designed to meet secondary standards for reuse of reclaimed water discharged to land application in accordance with DEP rule 62-610 FAC. The WWTF is an OnSyte Performance design (**See Appendix A for details**).

The Permitted Design Flow remains the same for the land application system at 4,050 GPD, the permitted design capacity for the WWTF will be .00405 MGD AADF, thus the overall Permitted Capacity will be 0.00405MGD AADF. The design calculations, manufacturer’s information and PONDS Modeling results are provided in **Appendix A** and in the construction plans.

Operation and Unit Processes

See Sheet C-2 of the drawings for wastewater treatment process diagrams with tank capacity, process flow path, influent and effluent loading. The tank layout plan and profile are shown on Sheet C-2 of the drawings.

The wastewater treatment system will utilize the sequencing batch reactor (SBR) process due to the levels of treatment achieved, and the historical reliability associated with this technology.

The system will consist of multiple units that are sized to handle the flow generated from the specific buildings which the units will serve. The units will be supplied and installed by OnSyte Performance and or a certified licensed installer.

The total rated capacity is 4,050 GPD. For preliminary treatment, two (2) 2,000-gallon grit/primary sedimentation chambers are provided. After the grit chamber, the flow enters a 3,000-gallon flow equalization and dosing chamber. Biological treatment is provided in another 3,000-gallon chamber which is the Sequencing Batch Reactor Tank. The SBR cycle includes fill, aeration/mixing, settling and decant phases.

Treatment processes are continuously monitored using a “Micro-SCADA Platform” (“MSP”), developed by OnSyte Performance, and powered by Siemens automated industrial control equipment. The MSP monitors each treatment unit over an existing wireless network (provided by commercial cellular carriers) and tracks water levels, reports system failures, initiates preventative repair, provides for supervisory control by a licensed wastewater operator, and performs many other functions to ensure the continued performance of the treatment unit. All system data collection, performance monitoring and supervisory control is provided via a secure, purpose-built web portal accessible by the licensed operator.

The system will stabilize solids in the primary sedimentation chamber. The return activated sludge will be returned to the sedimentation chamber via pumps. Air to the process components will be provided by linear air pumps. The process requirements are included in the Design Notes in **Appendix A**.

The Operation and Maintenance Manual will provide operation guidance. An operation manual for the MSP is part of the O&M manual provided to the utility and is available upon request.

Operator Attendance and SCADA

All treatment processes are continuously monitored using a “Micro-SCADA Platform” (“MSP”), developed by OnSyte Performance, and powered by Siemens automated industrial control equipment. The MSP monitors each treatment unit over an existing wireless network (provided by commercial cellular carriers) and tracks water levels, reports system failures, initiates preventative repair, provides for supervisory control by a licensed wastewater operator, and performs many other functions to ensure the continued performance of the treatment unit. All system data collection, performance monitoring and supervisory control is provided via a secure, purpose-built web portal accessible by the licensed operator.

The proposed staffing for this facility is a Class C or higher operator for 1 visit/week. Visits may be accomplished utilizing the SCADA system. The lead/chief operator must be a Class C operator, or higher.

Emergency Provisions

This section describes the operation of the facility in an emergency (i.e. flood or power failure) and what practices will be followed to ensure adequate flow and treatment during those situations. These provisions are provided to demonstrate that the system will not back-up sewer flow during power outages, which is ensured due to the system hydraulic profile - the outlet is located below the inlet pipe. Given the total size of the treatment unit, this is adequate head to ensure positive flow into the adsorption field during extended power outages.

Several other design features and practices contribute to the reliability of the facility during power outages. First, because this is a batch reactor, there will nearly always be headroom in the dosing chamber. During short interruptions in power, the dosing chamber can continue to receive flow via gravity flow from the separation chambers. When the dosing chamber is full, the reaction chamber should be empty in preparation of receiving a new batch. In that case, the second design consideration comes into play. The dosing chamber will overflow into the reaction chamber, allowing it to receive the flows. Once the power is restored the system will continue normal operation.

Operation and control strategies and reliability classification

The WWTF will meet Class III reliability and backup power supply will be provided for the WWTF by portable generators as needed. A new Operation and Maintenance Manual will be prepared for the facility after the full completion of construction for this WWTF.

The property owner will have a service agreement with OnSyte Performance, LLC for operation, preventive maintenance, and inspection by OnSyte Performance.

Land Application of Reclaimed Water and 62-610 FAC Reuse Requirements.

Reuse of reclaimed water and land application systems follows Chapter 62-6, 62-600 and 62-610, F.A.C. The proposed effluent dispersal system to be utilized is the Presby Environmental Products' Advanced Enviro-Septic® System (AES System). This system was originally approved as an alternative drain field product by the Florida Department of Health in 2018.

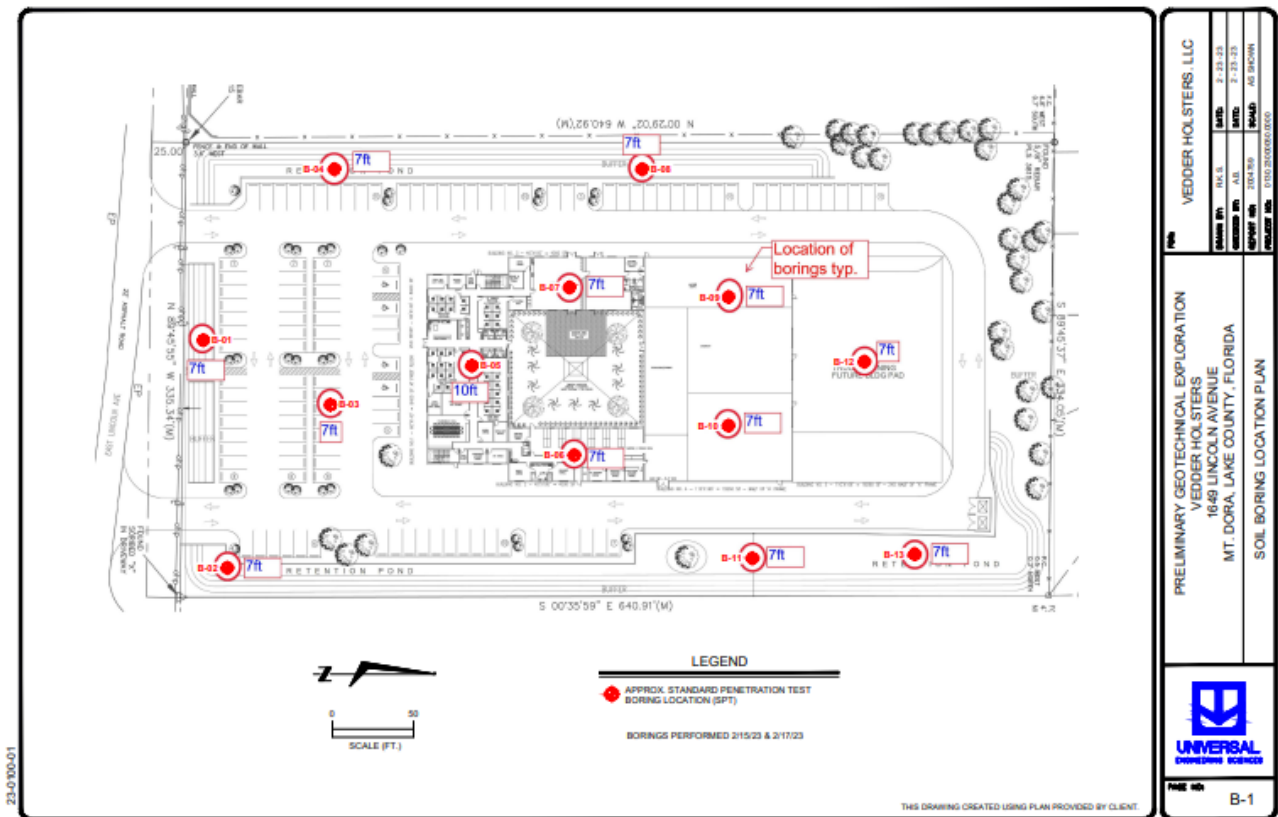


Figure xxx – Soil Boring Locations

Soil boring location **B-01** is located where the land application of the treated effluent would be applied. This location is described as very loose brown fine sand (SP). The seasonal water table fluctuation is 3.5 to 6.0 feet below the surface.

The characteristics of the native soils within the proposed subdivision are based on the NRCS soil reports included in **Appendix B** along with a Geotechnical Report prepared by Universal Engineering Sciences, Richardo Kiriakidis, PhD, P.E. The 4.63-acre site consists of the following soil types:

- Arents sands - ~1.5% of site
- Tavares sand - ~85% of site, and
- Immokalee sand - ~14% of site.

Immokalee sand soil type is poorly drained in the B/D hydrologic group limited rating by NRCS for absorption field effluent disposal. The proposed effluent drain field will be entirely located within the area of the Tavares sand that has a moderately well drained characteristic which indicates good percolation rates and a depth to water table of greater than 3.5 feet.

Soil Symbol	Soil Type	Hydrologic Group	Drainage Characteristics	Depth of Published Seasonal High GWT (feet) ²
17	Arents	B	Somewhat poorly drained	2½ to 5
20	Immokalee sand	B/D	Poorly drained	½ to 1½
45	Tavares sand, 0 to 5 percent slopes	A	Moderately well drained	3½ to 6

¹ Data obtained from the USDA NRCS Web Soil Survey online webpage, accessed on 2/27/2023

The NRCS Web Soil Survey classifies the soils in the location of the effluent disposal area as “Slightly Limited” for septic tank adsorption beds as shown in Figure . Other soil characteristics are provided below:

45—Tavares sand, 0 to 5 percent slopes

- Typical profile: A - 0 to 7 inches: sand, C - 7 to 80 inches: sand
- Slope: 0 to 5 percent
- Depth to restrictive feature: More than 80 inches
- Drainage class: Moderately well drained
- Septic Tank Adsorption Rating: Slightly Limited
- Runoff class: Negligible
- Capacity of the most limiting layer to transmit water
- (Ksat): High to very high (6.00 to 50.02 in/hr)
- Depth to water table: About 42 to 72 inches
- Frequency of flooding: None
- Frequency of ponding: None
- Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
- Sodium adsorption ratio, maximum: 4.0
- Available water supply, 0 to 60 inches: Very low (about 1.9 inches)



Figure xx – Soil Survey Information

The NRCS Septic Tank Absorption field rating for the Taveres sand soil type is slightly limited which is defined in 62-6.006 FAC as: (a) Coarse sand not associated with an estimated wet season high water table within 48 inches below the absorption surface, sand, fine sand, loamy coarse sand, coarse sandy loam, loamy sand, and sandy loam are considered to be slightly limited soil materials.

The Geotechnical Report indicates the seasonal high groundwater table is 3.5 feet below the ground surface. The effluent disposal system proposed is a buried trench drain system designed in accordance with 62-610 FAC with a loading of 2.4" per day. The total effluent disposal site is 4,050 sf and consists of two zones.

The grade elevation at the effluent disposal site is ~ 69.0' MSL and the bottom of the Presby AES discharge pipes will be at elevation 68.1' MSL. The PONDS Model results show the groundwater mound will rise and level out at elevation ~66.1' MSL under seasonal high-water conditions after 365 days of continuous loading. Therefore a 2-foot separation can be maintained from the bottom of the drain field to the groundwater mound.

Access For Operation and Maintenance Control

The System service area will be under the control of OnSyte Performance, LLC. Access to the DWTU installation site will be provided via public roadways and access rights provided by the landowner. Because the units and drain field are buried, no additional access restrictions such as locking fences are required. However, the landowner should restrict vehicular access to site by placing bollards or low rise fencing around the drain field and tanks.

The project will follow the setback requirements of 62-6 FAC (62-6.005(1) & (2) FAC and 62-6.005(3) FAC). Setback considerations are based on Rule 62-6.005 FAC, such as wells, property lines surface water and retention areas for the location and installation as follows:

- Seventy-five feet from a private potable well
- Ten feet from any storm sewer pipe, to the maximum extent possible, but in no instance shall the setback be less than 5' feet.
- Fifteen feet from the design high-water line of retention areas, detention areas, or swales designed to contain standing or flowing water
- Systems must not be located under buildings or within 5' feet of building foundations, including pilings for elevated structures, or within 5' feet of mobile home walls, swimming pool walls, or within 5' feet of property lines
- Sidewalks, decks and patios are not subject to the 5' foot setback, however, drainfields must not be installed beneath such structures
- Systems must not be located within 10' feet of water storage tanks in contact with the ground or potable water lines
- Systems must be setback a minimum of 15' feet from groundwater interceptor drains.
- The maximum setback possible to surface water bodies must be maintained with a minimum setback of 50' feet.

- Effluent transmission lines constructed of schedule 40 PVC must be set back from property lines and building foundations by not less than 2' feet. Schedule 40 PVC effluent transmission lines must be set back from potable water lines and storm water lines by no less than 5' feet

Groundwater Monitoring

No ground water monitoring is proposed for this facility. The analysis of the DEP rules related to groundwater monitoring is detailed below:

1. These treatment units are classified as "other onsite closed-tank wastewater treatment systems with subsurface disposal regulated by this chapter" per 62-600.100 (2). As such, the rule states that only Parts II and V of Chapter 62-600, and Rule 62-600.500 are applicable to these treatment units.
2. 62-600.440 (4) references treatment requirements for disinfection and specifies that those requirements for "other closed-tank wastewater treatment systems" are found in 62-600.100(2), thus further separating requirements for these systems from "standard" domestic wastewater facilities.
3. Parts II and V of 62-600, and 62-600.500 do not mention groundwater monitoring. Groundwater Monitoring is in rule 62-600.670 which is in Part IV of the rule. Part IV of the rule, according to 62-600.100(2), is not applicable to these facilities.

Based on the definition of an onsite sewage disposal system from 62-600.200(44) FAC, "Onsite sewage treatment and disposal system" means an onsite sewage treatment and disposal system as defined in section 381.0065, F.S.

And from 62-520.600(10) FAC, New domestic wastewater facilities that discharge to ground water with less than 100,000 gpd design capacity, excluding onsite sewage disposal systems.

Based on the definition of the system under 62-600.200 FAC and 62-520.600 (9) and (10) FAC, indicates that this installation would be exempt from groundwater monitoring requirements.

Biosolids, Residuals Management and Chapter 62-640, F.A.C.

The facility sludge holding tank is not designed to meet Class B criteria, it is designed to be a sludge holding tank. When the tank is pumped out for this facility, it will be transferred to either a landfill, to a local regional WWTF or hauled and transported to a DEP permitted Biosolids Management Facility. The contracted residual hauler will ultimately be responsible for the stabilization requirements prior to final disposal. A copy of the hauling agreement will be provided at least 30 days prior to the need for a holding tank pump out.

Appendix A – Design Calculations and Manufacturer’s Literature

Mount Dora Small Bay Warehouse Units

Project: _____
 Subject: _____
 Date: September 2024
 Sheet No. 1

SALTUS
 ENGINEERING, INC.

Post Office Box 8969
 Fleming Island, FL 32006

BACKGROUND

It is proposed to build 41 small bay warehouse units in Mount Dora with a total combined indoor space of 54,000 square feet. These warehouse units are typically occupied by commercial and light industrial customers. The city of Mount Dora currently does not have wastewater service to this location at 1649 Lincoln Avenue, Mount Dora, FL 32757. The site is 4.63 acres in total.

Because wastewater service is not currently available, a Distributed Wastewater Treatment System, DWTS is proposed.

DESIGN Parameters

Given the types of business that lease the small bay warehouses, the maximum flow rate for Office/Commercial uses of 15 GPD/SF per 62-6 FAC is used with a Max Day factor of 2.0 and Peak Hour factor of 4.0..

$$\text{AADF} = 54000 \cdot \frac{15}{2} = 4050 \text{ GPD} \quad \text{Peak Hour Flow} = \frac{(4050 \cdot 4)}{1440} = 11.25 \text{ GPM}$$

$$\text{Flow per unit} = \frac{4050}{41} = 98.78 \text{ GPD}$$

Normal Domestic Strength Wastewater

$$\text{CBOD5} := 300 \frac{\text{mg}}{\text{L}} \quad \text{TSS} := 300 \frac{\text{mg}}{\text{L}} \quad \text{TKN} := 65 \frac{\text{mg}}{\text{L}}$$

Influent Lift Station

Wastewater from the small bay warehouses will be directed to an influent lift station at the DWTS site. The top elevation at the lift station site is 69' MSL and the invert from the collection system is at 60' MSL. Design lift station to have a maximum 5 cycles per hour and to have two pumps that will each pump the peak hour flow.

$$\text{Cycle Time, } T = \frac{60}{5} = 12 \text{ min}$$

Minimum Storage Volume will occur when pumping rate is twice the peak hour flow.

$$\text{SVmin} = (\text{Qout}) \cdot T_{\text{min}} / 4$$

$$\text{SVmin} = (2 \cdot 11.25) \cdot \frac{12}{4} = 67.5 \text{ gallons}$$

A 5 diameter wet well has a unit volume of 147 gal/foot of depth.

$$\text{Depth of Storage volume} = \frac{67.5}{147} = 0.46 \text{ ft} \quad \text{Say } 0.5 \text{ ft.}$$

Project: Mount Dora Small Bay Warehouse Units
 Subject: _____
 Date: September 2024
 Sheet No. 2

SALTUS
 ENGINEERING, INC.

Post Office Box 8969
 Fleming Island, FL 32006

Wet well elevations as follows:

Top elevation = 69'
 Invert elevation = 60'
 High Water Alarm = 59.5'
 Lag pump on = 59.5'
 Lead pump on = 59'
 All pumps off = 58.5"
 Wet well bottom = 56'

Total Depth of Wet Well = $69 - 56 = 13 \text{ ft}$

PUMP Selection

See Table 1 for Hydraulic Calculations and Figure 1 System Head Curve

Pump selected is a Liberty 230 Series Solids Handling pump that will deliver 28 GPM @ 11.8' TDH.

Buoyancy Calculations for Lift Station

Grade Elevation = 69.0 ft
 Depth to bottom of wet well = 13'

Neglect weight of pumps and fiberglass wet well

Assume complete saturation of soils and determine wt. of water displaced by wet well

$$\text{Volume of wet well} = \left(\left(\frac{60}{12} \right)^2 \cdot \frac{\pi}{4} \right) \cdot 13 = 255.2544 \text{ cf}$$

$$\text{Wt. of Water Displaced} = 255.2544 \cdot 62.4 = 15927.8746 \text{ lbs}$$

$$\text{Wt. of Concrete Ballast Required} = 16000 \text{ lbs}$$

$$\text{Volume of Concrete Required} = \frac{\left(\frac{16000}{150} \right)}{27} = 3.9506 \text{ Say 4.0 CY min}$$

Absorption Bed

Design two (2) absorption beds each to handle one-half of the average daily flow

$$\text{Flow per absorption bed} = \frac{4050}{2} = 2025 \text{ GPD}$$

Project: _____
 Subject: _____
 Date: September 2024
 Sheet No. 3

SALTUS
 ENGINEERING, INC.

Post Office Box 8969
 Fleming Island, FL 32006

The Web Soil Survey information on this site is included in the PDR. The soils in the location of the absorption bed is classified as "slightly limited" with an allowable surface loading rate of 1.5 GPD/sf. The saturated hydraulic conductivity = 198 micrometers/sec

$$\text{Area needed per absorption bed} = \frac{2025}{1.5} = 1350 \text{ SF}$$

$$\text{Area provide for each bed} = 85 \cdot 16 = 1360 \text{ SF}$$

The Geotechnical Report prepared by Universal Engineering Sciences states the seasonal high water table is 3.5 feet below the surface. The boring B-1 is in the location of the proposed absorption beds. This boring was to a depth of 10' below the surface and shows uniform soil profile of very loose fine sand requiring only 1 blow per foot to a depth of 6 feet, increasing to 2 blows per foot at 8' and 5 blows per foot at 10'.

A POND3.3 model was prepared and modeled for a 365 day period. The end of simulation results along with the model inputs is attached. The results show a ground water mound will develop beneath the adsorption bed that will rise to a depth of 66.1 feet. Therefore, the bottom of the Presby distribution pipes shall be set 2 feet above at 68.1 feet and backfilled with sandy soils meeting the Presby specification to a top elevation of 69.5' and then 6" of top soil to a top elevation of 70'. The top and any side slopes shall be sodded with bahia grass.

Bouancy Calculations DWTU Tanks

1. Determine the Volume of Water Displaced.

Tank Dimensions, 3,000 gallon tank

$$\text{Avg Length} = \frac{\left(\frac{187.625 + 183.5}{2} \right)}{12} = 15.46 \text{ ft}$$

$$\text{Avg Width} = \frac{\left(\frac{99.5 + 95}{2} \right)}{12} = 8.1 \text{ ft}$$

$$\text{Depth} = \frac{(58.5 + 5)}{12} = 5.29 \text{ ft}$$

$$\text{Volume, 3000 gal} = 15.46 \cdot 8.1 \cdot 5.29 = 662.45 \text{ cu ft}$$

Tank Dimensions, 2000 gallon tank

$$\text{Avg length} = \frac{\left(\frac{150 + 148}{2} \right)}{12} = 12.42 \text{ ft}$$

$$\text{Avg Width} = \frac{\left(\frac{78 + 76}{2} \right)}{12} = 6.42 \text{ ft}$$

Project: Mount Dora Small Bay Warehouse Units
 Subject: _____
 Date: September 2024
 Sheet No. 4

SALTUS
 ENGINEERING, INC.
 Post Office Box 8969
 Fleming Island, FL 32006

$$\text{Depth} = \frac{(68)}{12} = 5.67 \quad \text{ft}$$

$$\text{Volume 2000 gall} = 12.42 \cdot 6.42 \cdot 5.67 = 452.11 \quad \text{cu ft}$$

2. Determine the Weight of Water Displaced

$$3000 \text{ Gal Tank} = 662.45 \cdot 62.4 = 4.13 \cdot 10^4 \text{ lbs}$$

$$2000 \text{ Gal Tank} = 452.11 \cdot 62.4 = 2.82 \cdot 10^4 \text{ lbs}$$

3. Weight of Tanks with lids

$$2500 \text{ Gal Tank} = 23,370 \text{ lbs}$$

$$2000 \text{ Gal Tank} = 16,000 \text{ lbs}$$

4. Determine Area of Lid

$$3000 \text{ Gal Tank, A} = \frac{(187.625 \cdot 99.5)}{144} = 129.64 \text{ SF}$$

$$2000 \text{ Gal Tank, A} = \frac{(150 \cdot 76)}{144} = 79.17 \text{ SF}$$

5. Determine Volume and Weight of soil over tanks. Assume 2 feet of cover.

$$3000 \text{ Gal Tank, soil volume} = (129.64 \cdot 2) = 259.28 \text{ cu ft}$$

$$\text{soil weight} = 259.28 \cdot 100 = 2.59 \cdot 10^4 \text{ lbs}$$

$$2000 \text{ Gal Tank, soil volume} = 79.17 \cdot 2 = 158.34 \text{ cu ft}$$

$$\text{soil weight} = 158.34 \cdot 100 = 1.58 \cdot 10^4 \text{ lbs}$$

6. Determine Weight of Concrete and soil

$$3000 \text{ gal tank} = 23370 + 25900 = 4.93 \cdot 10^4 \text{ lbs}$$

$$2000 \text{ Gal Tank} = 13415 + 15800 = 2.92 \cdot 10^4 \text{ lbs}$$

7. Determine Factor of Safety

$$2500 \text{ Gal Tank} = \frac{49300}{41300} = 1.19 \quad \text{okay (greater than 1.0)}$$

$$2000 \text{ Gal Tank} = \frac{29200}{28200} = 1.04 \quad \text{okay (greater than 1.0)}$$

PONDS Version 3.3.0315
Retention Pond Recovery - Refined Method
Copyright 2012
Devo Seereeram, Ph.D., P.E.

Project Data

Project Name: Mount Dora Small Bay
Simulation Description: Absorption Bed
Project Number:
Engineer : David Bolam
Supervising Engineer:
Date: 09-19-2024

Aquifer Data

Base Of Aquifer Elevation, [B] (ft datum): 59.00
Water Table Elevation, [WT] (ft datum): 65.50
Horizontal Saturated Hydraulic Conductivity, [Kh] (ft/day): 56.00
Fillable Porosity, [n] (%): 25.00
Vertical infiltration was not considered.

Geometry Data

Equivalent Pond Length, [L] (ft): 170.0
Equivalent Pond Width, [W] (ft): 16.0
Ground water mound is expected to intersect the pond bottom

Stage vs Area Data

<u>Stage (ft datum)</u>	<u>Area (ft²)</u>
67.00	2720.0
68.00	2720.0

Scenario Input Data

Scenario 1 :: Presby Adsoption Field

Hydrograph Type:	Perc Pond
Modflow Routing:	Routed with infiltration
Loading rate (gpd):	4050
Duration (days):	365
Number of increments:	1
Initial ground water level (ft datum)	65.50 (default)

PONDS Version 3.3.0315
Retention Pond Recovery - Refined Method
Copyright 2012
Devo Seereeram, Ph.D., P.E.

Summary of Results :: Scenario 1 :: Presby Adoption Field

	Time (hours)	Stage (ft datum)	Rate (ft ³ /s)	Volume (ft ³)
Stage				
Minimum	8760.000	66.11		
Maximum	0.000	67.00		
Inflow				
Rate - Maximum - Positive	8760.000		0.0063	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	8760.000			197613.8
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	8760.000			197613.8
Infiltration				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	8760.000			197613.8
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	8760.000			197613.8
Combined Discharge				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	8760.000			0.0
Discharge Structure 1 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.
72 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.

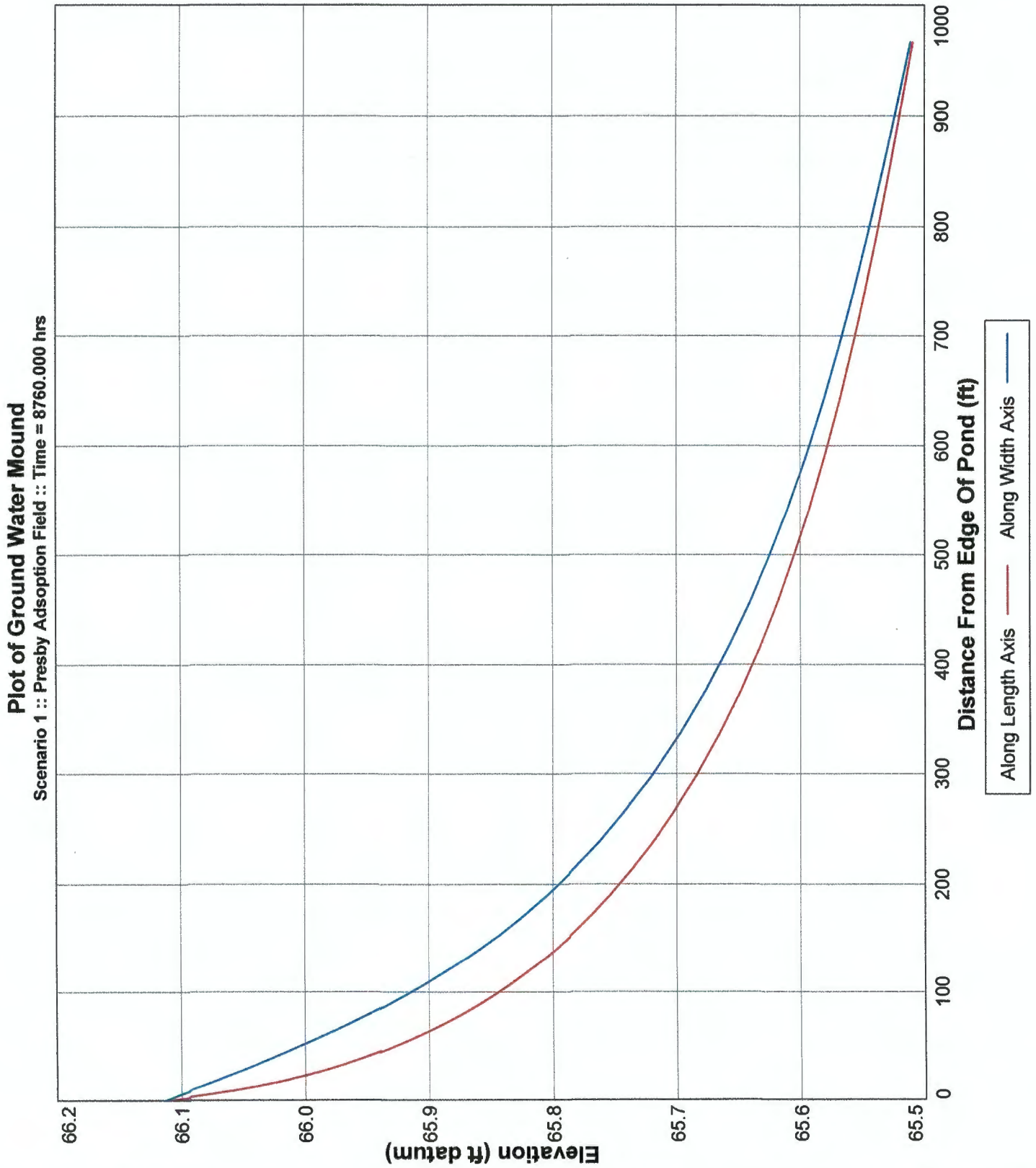
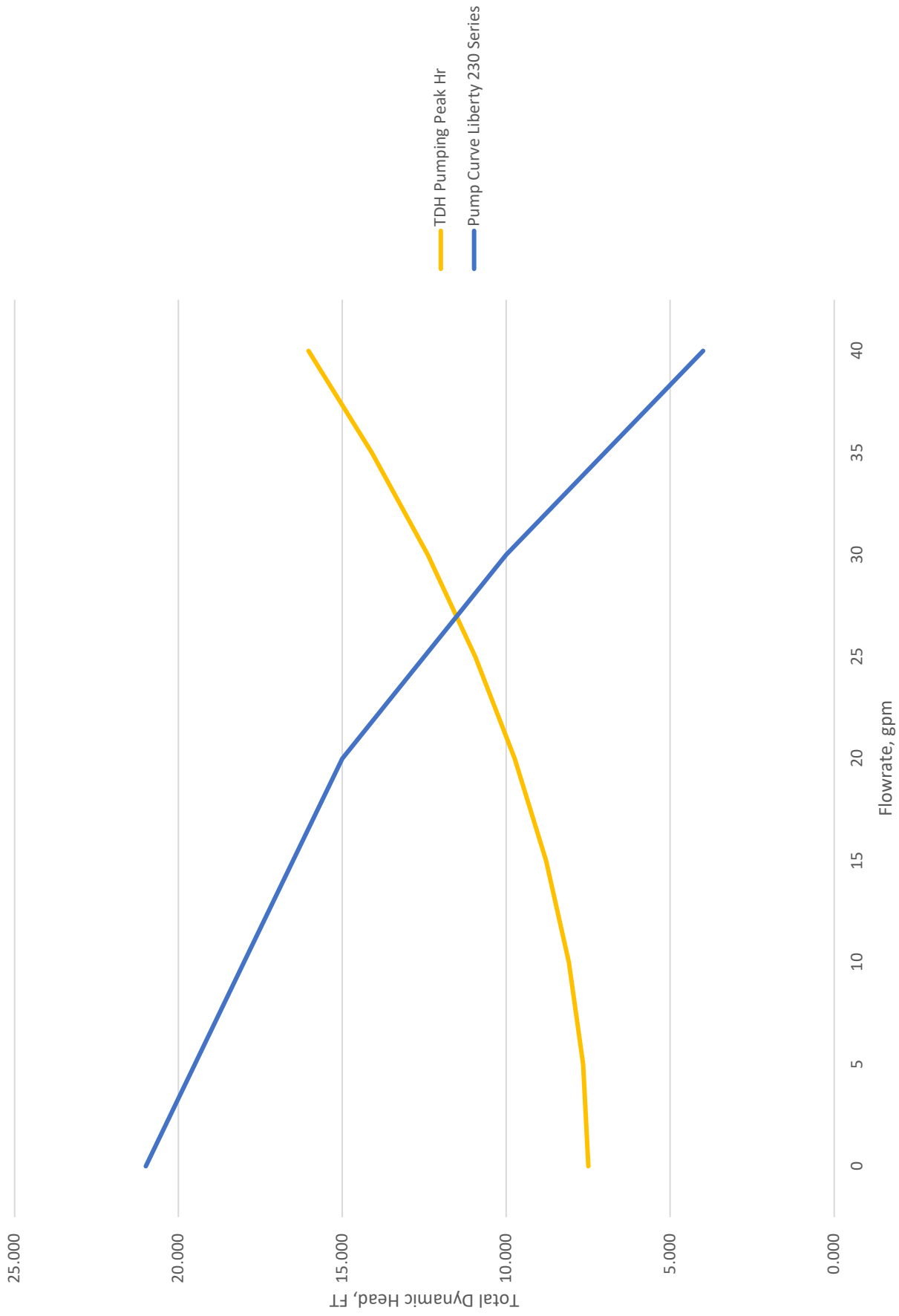


Figure 1 - Mt Dora Small Bay DWTU Lift Station



230-SERIES

Submersible Sump Pumps

Liberty Pumps®

A Family and Employee Owned Company

1/3 hp
1-1/2" Discharge
3/8" Solids Handling

Features

- Vortex style impeller permits passage of solids without clogging
- Polypropylene and powder coated aluminum construction
- Stainless-steel rotor shaft
- Non-corrosive stainless-steel fasteners
- Oil-filled, hermetically sealed motors with thermal overload protection
- Permanently lubricated upper and lower bearings
- Quick-connect 10' standard power cord allows replacement of cord in seconds without breaking seals to motor (25' length optional)

Deep finned powder coated aluminum motor housing provides 225% more cooling capacity than cast iron housings!



Model 237 VMF

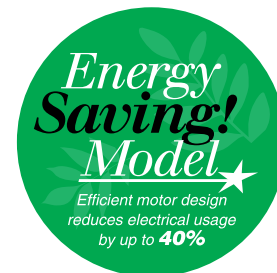
Models

230 Manual

231 Mercury-free float switch, integrally wired, with Quick-connect feature

233 Mercury-free float switch, series plug

237 VMF, Vertical magnetic float switch



innovate. evolve.

230-Series

Features

- Lightweight, high performance submersible pump
- Vortex style impeller made of high temp engineered thermoplastic
- Power coated for corrosion resistance
- Anti-airlock hole allows trapped air to escape and the pump to prime and start pumping
- Removable base allows suction down to 1/8"

Dimensional Data

Weight: 11 lbs

Height: 10-1/2"

Major Width: 9-3/5"

Minimum Sump Diameter: 14" (10" on Model 237)

Motor Specifications

1/3 hp 115V 5.2A

Thermally Protected & Permanently Lubricated

Permanent Split Capacitor (PSC)

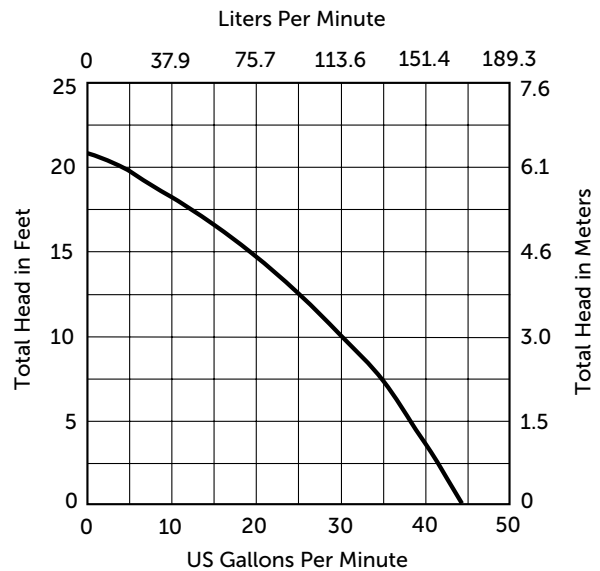
Max Fluid Temperature

140°F (60°C) Intermittent

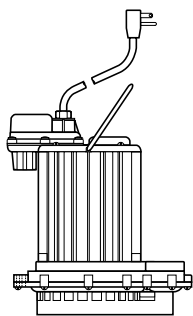
104°F (40°C) Continuous duty

Performance Curve

60 Hz, 3450 RPM

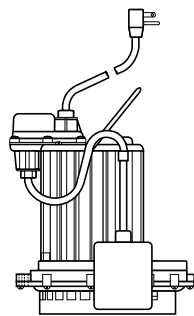


Effluent Models



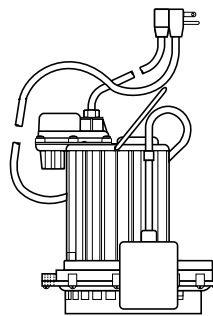
Model 230

Manual, no float switch



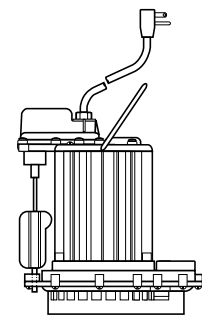
Model 231

Quick-connect wide-angle float switch



Model 233

Wide-angle float switch with series plug, allows for manual operation of pump



Model 237 VMF-Series

VMF switch, magnetically operated vertical float switch – operates in a 10" diameter sump

AE-SERIES

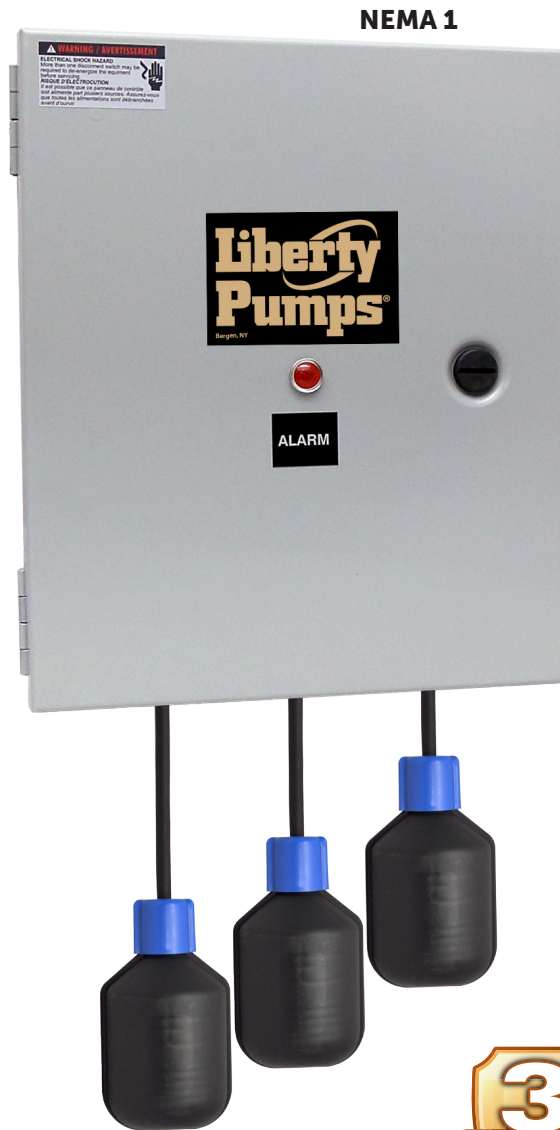
Duplex Pump Controls

Liberty Pumps®

A Family and Employee Owned Company

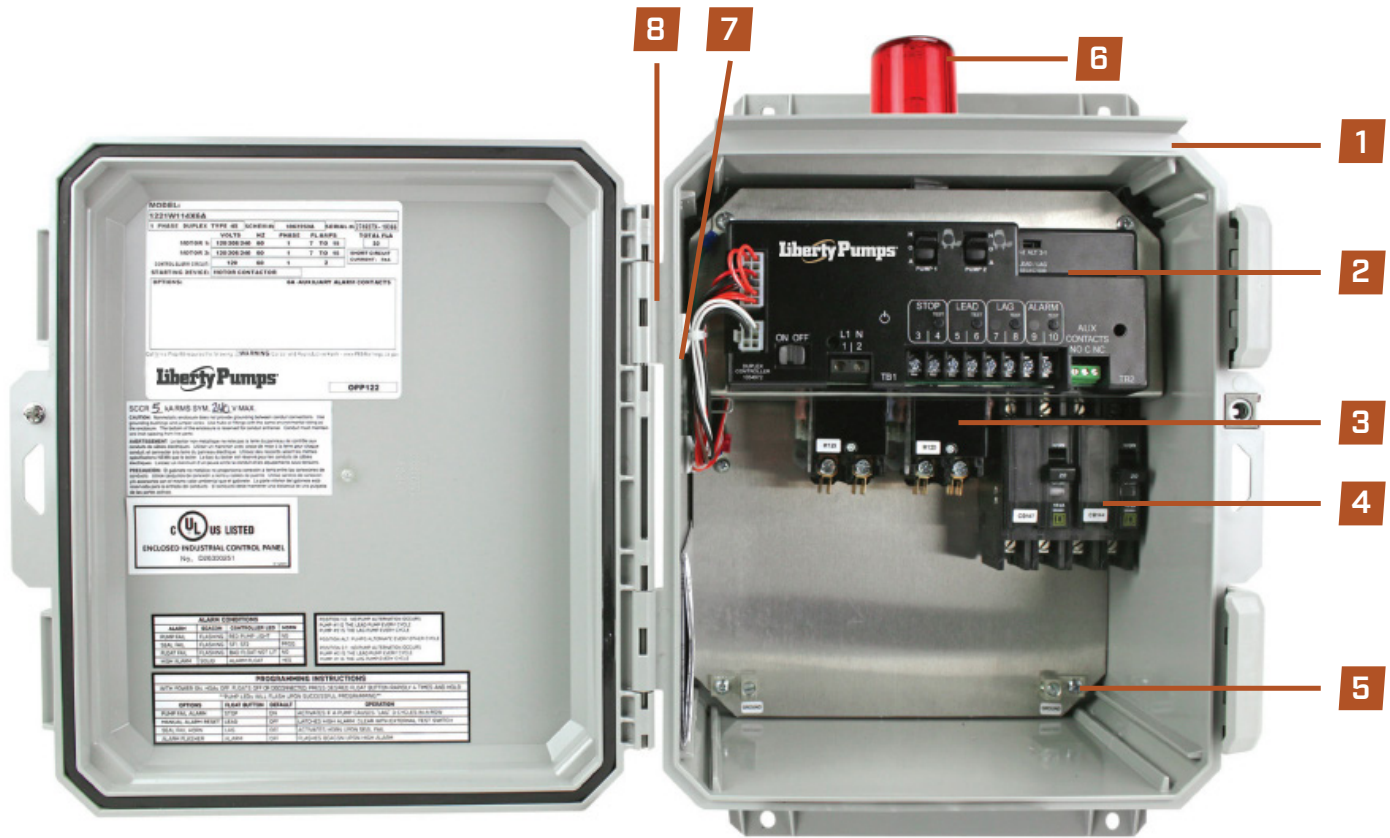
AE-Series duplex panels control two 1-phase or 3-phase pumps in water and sewage installations. This panel includes a new innovative duplex controller for pump control, alternation and alarm; including float switch status LEDs, control/alarm power ON/OFF switch with LED indicator, pump run LEDs, HOA switches, pump lead/lag selector switch, auxiliary contacts and more.

The control panel features built-in lag pump delay time, pump failure detection, and float switch out-of-sequence notification. In addition, there are user-selectable field programmable operations: alarm steady-state or flashing; alarm auto reset or manual reset; pump failure notification.



innovate. evolve.

AE-Series Duplex Panels



1-phase NEMA 4X shown

Components

1. Newly designed larger NEMA 4X enclosure for indoor/outdoor use
 - a. Drip shield
 - b. Heavy-duty wide clamping securable latches (2)
 - c. Stainless steel 1/4 turn cover set screw
 - d. Low profile hinged lockable cover
 - e. Integral mounting flanges
2. Duplex Controller
 - a. Pump HOA switches with green/red LED indicators
 - b. Control power ON/OFF switch
 - c. Power ON green LED indicator
 - d. Float switch status red LED indicators
 - e. Float switch push-to-test buttons
 - f. Pump selector switch
 - g. Auxiliary alarm contacts
 - h. Terminal blocks for incoming power and float switches
3. Magnetic motor contactors control pumps by switching electrical lines.
4. Circuit breakers provides pump disconnect and branch circuit protection
5. Ground lugs
6. Red LED alarm beacon
7. Alarm horn
8. Exterior alarm test/normal/silence switch

Standard Features

Enclosure*: 12" x 10" x 6"; NEMA 4X – ultraviolet stabilized thermoplastic for outdoor use; NEMA 1 – metal for indoor use. Certain options may increase enclosure size.

Magnetic Motor Contactor: Controls pump by switching hot electrical lines.

HOA Switches: Offer manual operation of pumps (on circuit board).

Green Pump Run Indicators: On circuit board

Control ON/OFF Switch: On circuit board

Float Switch Terminal Block: On circuit board

Control/Alarm Auto Reset Fuses

3-phase panel measures 14" x 12" x 6". Multi-tap transformer (208/240/480 VAC primary) provides 120V control voltage. Motor protective switch provides adjustable overload, branch circuit protection and pump disconnect.

Control/Alarm Power ON Indicator: On circuit board.

Float Switch Status Indicators: Stop, lead, lag/alarm, alarm mounted on circuit board. Float switch push-to-test buttons.

Circuit Breakers: Provide pump disconnect and branch circuit protection.

Connection Terminal Block

Auxiliary Contacts

Ground Lug

Alarm:

- NEMA 4X: Red beacon and horn (83 to 85 dB), exterior test/normal/silence switch.
- NEMA 1: Door mounted red indicator and buzzer mounted internally (83 to 85 dB), exterior test/normal/silence switch.

Float Switch Specifications

All standard duplex panels come equipped with (3) or (4) mercury-free pilot-duty float switches (depending on model). 20' cord standard. Optional lengths available. External weights or pipe clamp mounts required.

Cable: Flexible 18 gauge, 2 conductor

Electrical: 1A, 120/230 VAC, 50/60 Hz

Float Switch: Polypropylene

Maximum fluid temperature: 140°F

Liberty Pumps can customize a panel to your specific pump needs.
Please contact us for available options and ordering information.

1-800-543-2550

AE-Series Duplex Panels

MODEL	VOLTS	PHASE	FULL LOAD AMPS [Must match pump]	ENCLOSURE TYPE	FLOAT SWITCHES
1-Phase					
AE21L=3	120/208/240	1	0 - 14.9A	NEMA 1	3
AE21H=3	120/208/240	1	15 - 20A	NEMA 1	3
AE21L=4	120/208/240	1	0 - 14.9A	NEMA 1	4
AE21H=4	120/208/240	1	15 - 20A	NEMA 1	4
AE24L=3	120/208/240	1	0 - 14.9A	NEMA 4X	3
AE24H=3	120/208/240	1	15 - 20A	NEMA 4X	3
***AE24HC=3-3	120/208/240	1	15 - 20A	NEMA 4X	3
AE24L=4	120/208/240	1	0 - 14.9A	NEMA 4X	4
AE24H=4	120/208/240	1	15 - 20A	NEMA 4X	4
AE24K=3	120/108/240	1	20 - 30A	NEMA 4X	3
AE24K=4	120/208/240	1	20 - 30A	NEMA 4X	4
****AE24LC2=3	120/208/240	1	0 - 14.9A	NEMA 4X	3
****AE24LC2=4	120/208/240	1	0 - 14.9A	NEMA 4X	4
****AE24HC2=3	120/208/240	1	15 - 20A	NEMA 4X	3
****AE24HC2=4	120/208/240	1	15 - 20A	NEMA 4X	4
****AE24KC2=3	120/208/240	1	20 - 30A	NEMA 4X	3
****AE24KC2=4	120/208/240	1	20 - 30A	NEMA 4X	4
3-Phase**					
AE34=3-131	208/240/480	3	1.6 - 2.5A	NEMA 4X	3
AE34=3-141	208/240/480	3	2.5 - 4.0A	NEMA 4X	3
AE34=3-171	208/240/480	3	4.0 - 6.3A	NEMA 4X	3
AE34=3-191	208/240/480	3	6 - 10A	NEMA 4X	3
AE34=3-511	208/240/480	3	9 - 14A	NEMA 4X	3
AE34=4-131	208/240/480	3	1.6 - 2.5A	NEMA 4X	4
AE34=4-141	208/240/480	3	2.5 - 4.0A	NEMA 4X	4
AE34=4-171	208/240/480	3	4.0 - 6.3A	NEMA 4X	4
AE34=4-191	208/240/480	3	6 - 10A	NEMA 4X	4
AE34=4-511	208/240/480	3	9 - 14A	NEMA 4X	4
AE54=3-121	575	3	1.6 - 2.5A	NEMA 4X	3
AE54=4-121	575	3	1.6 - 2.5A	NEMA 4X	4
AE54=3-151	575	3	2.5 - 4.0A	NEMA 4X	3
AE54=3-161	575	3	4.0 - 6.3A	NEMA 4X	3
AE54=4-151	575	3	2.5 - 4.0A	NEMA 4X	4
AE54=4-161	575	3	4.0 - 6.3A	NEMA 4X	4
AE34=3-611	208/240/480	3	13 - 18A	NEMA 4X	3
AE34=4-611	208/240/480	3	13 - 18A	NEMA 4X	4
AE34=3-621	208/240/480	3	17 - 23A	NEMA 4X	3
AE34=4-621	208/240/480	3	17 - 23A	NEMA 4X	4
AE54=3-405	575	3	6 - 10A	NEMA 4X	3
AE54=4-405	575	3	6 - 10A	NEMA 4X	4

35' and 50' cord lengths available. Add "-3" or "-5" suffix to model number. Example: AE21L=3-3 for 35' cord.

NOTE: AE-Series panels come with variable amp ranges and must be ordered with the correct matching full load amp to that of the pump(s) being used. Use the chart above to select the proper amp range or consult the factory for technical assistance.

3-phase panels come equipped with thermal overload protection that must be properly sized to the pump's full load run amps. Please consult factory for proper panel selection. All 3-phase "standard" panels come with NEMA 4X enclosure.

*** AE24HC=3-3 includes start/run capacitors and start relay for use with LSG202M-C and LSGX202M-C models.

**** Capacitor kit required. (Purchased separately.)

Jim Curington
 Civil Engineer
 Office: 770-532-8207
 Emergency: 770-536-1688
 Fax: 770-532-8258
 5504 Saddle Club Rd.
 Gainesville, GA 30504



SEPTIC TANK

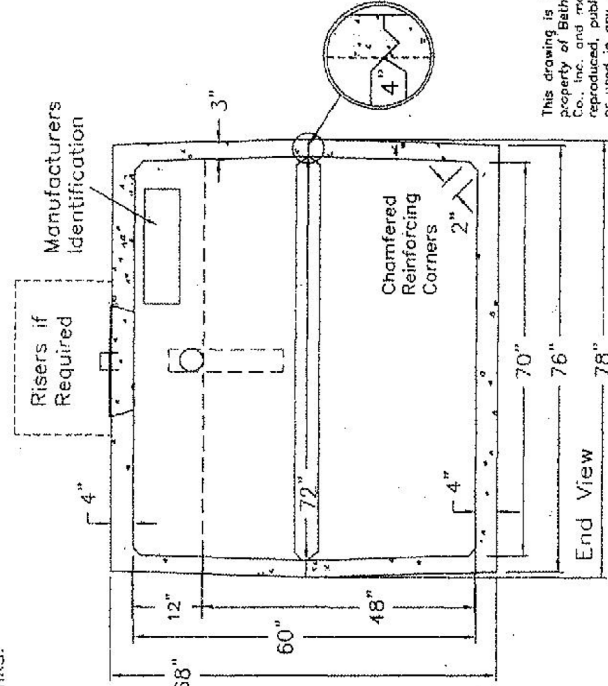
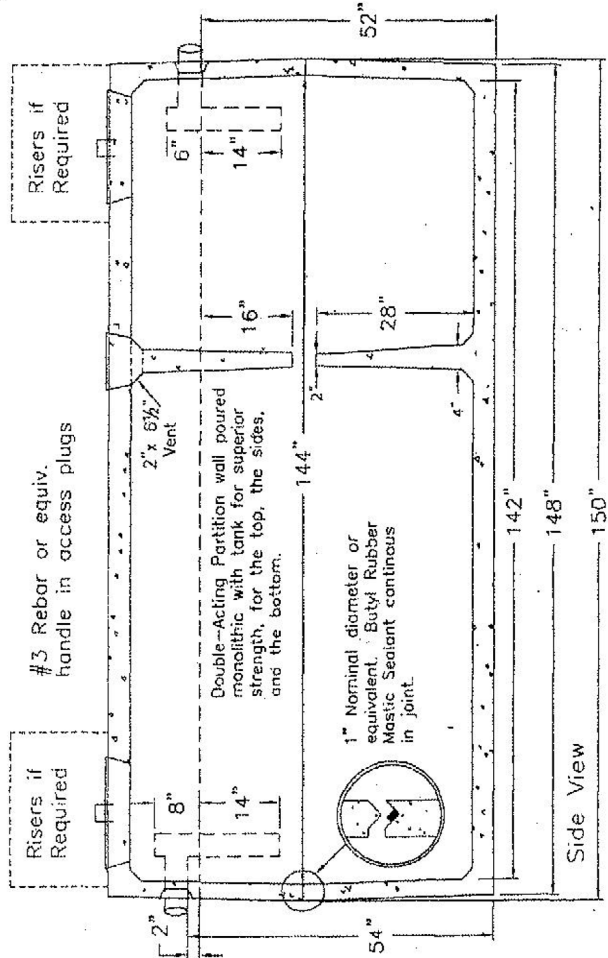
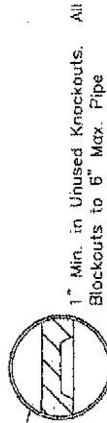
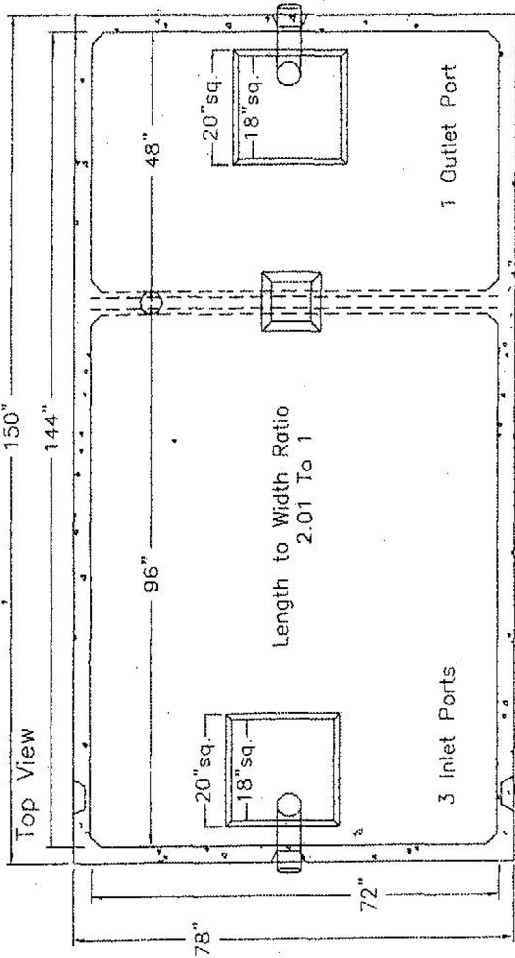
Nix Septic Tank Company
 5504 Saddle Club Road
 Gainesville, CA 30506

Jim Curington (770) 532-8207

LIQUID CAPACITY: 2,065 Gallons
 Gallons Per Inch: 43.02 Avg.
 4 yds. = 16,000 lbs.
 Concrete: 4,000 PSI Minimum

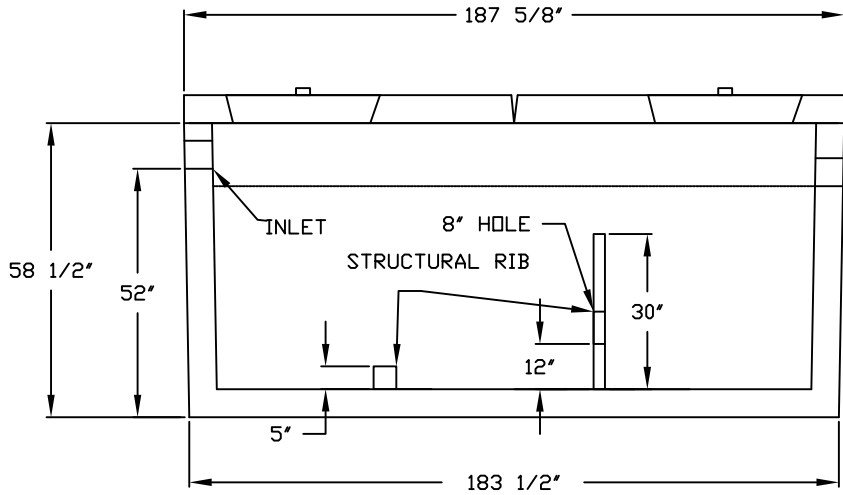
Reinforcing: 1½" polypropylene fiber in top, bottom, partition wall, sides, and end walls per fiber manufacturer's requirements per yard. Additional top reinforcing #4 rebar 12" on center both directions. Additional bottom reinforcing #4 rebar 5 bars the width, 25" on center. Additional side and end wall 6x6x10/10 gauge wire mesh.

Equivalent substitutes allowed for all devices and practices approved under the laws, rules, and regulations for tanks.

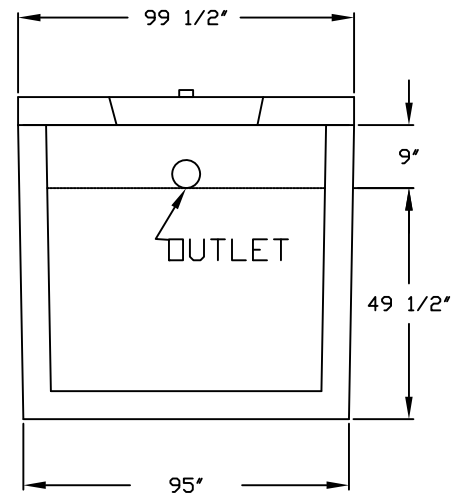


This drawing is the property of Bethlehem Mfg. Co., Inc. and may not be reproduced, published, or used in any way without written permission of Bethlehem Mfg. Co., Inc.
 Scale: 1" = 30"

68x78x150STB2065SQG5T-GANix



SIDE VIEW



END VIEW

TANK: CATEGORY 4. 4" 3000 GALLON 1 COMPARTMENT TANK REINFORCED WITH #3 STEEL 12" O/C. BOTH WAYS. 4" WALLS AND 4" BOTTOM. INLET AND OUTLET RESILIENT CONNECTORS PER ASTM-923-98. CONNECTORS MUST BE USED WITH APPROVED CLAMP. CONNECTOR WILL ACCEPT 4" PVC PIPE.

**LIDS: 5" LID WITH 1-22" ROUND MANHOLE COVER AT EACH END OF TANK
8" LID WITH 1-22" ROUND MANHOLE COVER AT EACH END OF TANK
BOTH LIDS ARE REINFORCED WITH GRADE 60 REBAR.**

TANK & LIDS: 4000 PSI CONCRETE AT 28 DAYS

IMPRINTED ON INLET END OF TANK:

LEGEND: FSI3000

STATE APPROVAL: 01-011-56P-C4

**WEIGHTS: TANK ONLY 15,980
TANK W/ 5" LID 23,370
TANK W/ 8" LID 27,800**

THIS SEWAGE TREATMENT RECEPTACLE HAS BEEN DESIGNED, CONSTRUCTED AND STRUCTURALLY TESTED IN ACCORDANCE WITH CHAPTER 64E-6.013, FLORIDA ADMINISTRATIVE CODE, (FAC) DATED APRIL 28, 2010.

DRAWING NOT TO SCALE

FLORIDA SEPTIC, INC.
P.O. BOX 545
HAWTHORNE, FLORIDA 32640
(800) 940-8265

MODEL:
4" 3000 GAL. TANK

REVISED:
05/01/2011

APPROVAL DATE:
08/14/2001

qd Atlantic Diffusers



Disc and Tube Diffusers



qd Atlantic Diffusers

Our Products

Atlantic Diffusers' Disc and Tube Diffusers are available in a variety of sizes and duties. Our diffusers have the option of either EPDM or silicone membranes, which when compared to traditional stone diffusers, can greatly reduce and even eliminate the risk of unintended backflow of water into the air line, and reduce fouling by up to 73%. Each one of our products are made through the process of compression molding. Unlike traditional systems, our diffusers are made with the ability to be deconstructed, which allows for quick and efficient membrane replacements.

Applications:

- Wastewater Treatment
- Water Oxygenation
- Aerobic Digestion
- Fish Pond Aeration
- Industrial Ecology
- Water Purification



About Us

Atlantic Diffusers specialize in the production, research, and development of the highest quality aeration products in the marketplace. We provide our customers with long-lasting, low maintenance, and efficient products. Every diffuser has been engineered to be as efficient and effective as possible; this is down to the smallest details. For example each diffuser membrane is perforated by its' own purpose built dye cutter maximizing the concentration of perforations, without compromising its integrity. Atlantic Diffusers has an unmatched foundation on which the company has been built. All our diffusers have been engineered and manufactured from the ground up by our already very experienced engineers from our sister company Atlantic Blowers. Our people are some of the most experienced in the aeration industry because they understand the dynamics from the source of which it came, the blower. A major benefit you receive when doing business with Atlantic Diffusers is that we can supply everything you need for your aeration application from one place, the blower itself as well as the diffusers. Atlantic Diffusers has proved time and time again that we deliver on our promises to provide a great product with exceptional customer service.



Disc Diffuser Installation

Installation of our Fine, Medium, and Coarse Bubble Disc Diffusers is made easy by utilizing our Universal Diffuser Mount throughout your piping system. The Universal Diffuser Mount is put into place by boring a 1.25" hole into the feeder pipe and gently tapping it into place with a rubber mallet until the saddle is flush with the pipe's surface.



The Universal Diffuser Mount is made from durable polypropylene and provides a leak-tight seal. The diffusers are installed via 3/4" MPT connection. Using the Universal Diffuser Mount as opposed to tapping directly into the pipe greatly reduces the chances of leakage/breakage, and system fouling. This results in a much more efficient and sustainable system. Once installed it is recommended that the area be filled just above the diffuser line before air is put into the system. Doing this will expose any faults by creating bubbles in the affected area. After the system has been tested for leaks, the area can be filled to the desired depth, and aeration can begin.

Tube Diffuser Installation

Atlantic Diffusers' Fine Bubble Tube Diffusers can be used in a variety of water aeration, and oxygenation applications. Our Tube Diffusers are designed with a 3/4" FPT connection, but come with an MPT nipple for easy conversion, if desired. This nipple also allows users to install our Tube Diffusers using the same Universal Diffuser Mount mentioned above. Simply tap a 1" hole in your piping system and screw in the tube with the attached MPT nipple. Again once all of the diffusers are installed, fill the area just above the diffuser line with water and check for any faulty installations and/or leaks.



Engineering and Troubleshooting

Atlantic Diffusers' engineers are available to answer any questions. We offer assistance with pressure, CFM, and SOTE calculations. We can even offer a complete turnkey solution for your next project including any control panel, and/or automated control system. If you are having an issue with the installation of your system, please feel free to contact us via phone or email. We strive to exceed every one of our customer's expectations.

Disc Diffusers

Bubble Size	Model Number	Descriptions	Curve Number	Fitting Size	Airflow Requirements	Bubble Size	Active Surface Area	Flow Interference	Gallons Mixed per Hour @ 6 ft per CFM Air Input
Coarse	AB-70002	3" Coarse Bubble Cap Diffuser	D2	1/2"	1.5-10 SCFM	9-12mm	28 in ²	3"	5.4
	AB-70016	5" Coarse Bubble Disc Diffuser	D16	3/4"	3-20 SCFM	9-12mm	32 in ²	6.5"	10.8
	AB-70003	5" Coarse Bubble Disc Diffuser	D3	3/8"	3-15 SCFM	9-12mm	32 in ²	6.5"	10.8
Medium	AB-70001	3" Medium Bubble Cap Diffuser	D1	1/2"	1-7 SCFM	6-10mm	28 in ²	3"	5.4
	AB-70004	5" Medium Bubble Disc Diffuser	D4	3/8"	2-10 SCFM	6-10mm	32 in ²	6.5"	10.8
	AB-70017	5" Medium Bubble Disc Diffuser	D17	3/4"	2-12 SCFM	6-10mm	32 in ²	6.5"	10.8
Fine	AB-70005	9" Fine Bubble Disc Diffuser	D5	3/4"	0.5-6 SCFM	1-3mm	58 in ²	10"	5.4
	AB-70013	9" Fine Bubble Disc Diffuser w/ Integrated Check Valve	D13	3/4"	0.5-6 SCFM	1-3mm	58 in ²	10"	5.4
	AB-70006	12" Fine Bubble Disc Diffuser	D6	3/4"	1-10 SCFM	1-3mm	101 in ²	13.5"	8.1
	AB-70014	13" Fine Bubble Disc Diffuser w/ Integrated Check Valve	D14	3/4"	1-15 SCFM	1-3mm	114 in ²	14"	9
	AB-70007	15" Fine Bubble Disc Diffuser	D7	3/4"	2-20 SCFM	1-3mm	121 in ²	16"	10.8

Tube Diffusers

Bubble Size	Model Number	Descriptions	Curve Number	Fitting Size	Airflow Requirements	Bubble Size	Active Surface Area	Flow Interference	Gallons Mixed per Hour @ 6 ft per CFM Air Input
Fine	AB-70008	2.44"x12" Fine Bubble Tube Diffuser	D8	3/4"	1.8-6 SCFM	1-5mm	101 in ²	12.5"	8.1
	AB-70009	2.44"x20" Fine Bubble Tube Diffuser	D9	3/4"	2-9 SCFM	1-5mm	118 in ²	12.5"	9.5
	AB-70010	2.44"x24" Fine Bubble Tube Diffuser	D10	3/4"	2-13 SCFM	1-5mm	122 in ²	12.5"	10
	AB-70011	2.44"x30" Fine Bubble Tube Diffuser	D11	3/4"	3-15 SCFM	1-5mm	130 in ²	12.5"	11.2
	AB-70012	2.44"x40" Fine Bubble Tube Diffuser	D12	3/4"	3-17 SCFM	1-5mm	160 in ²	12.5"	14.6

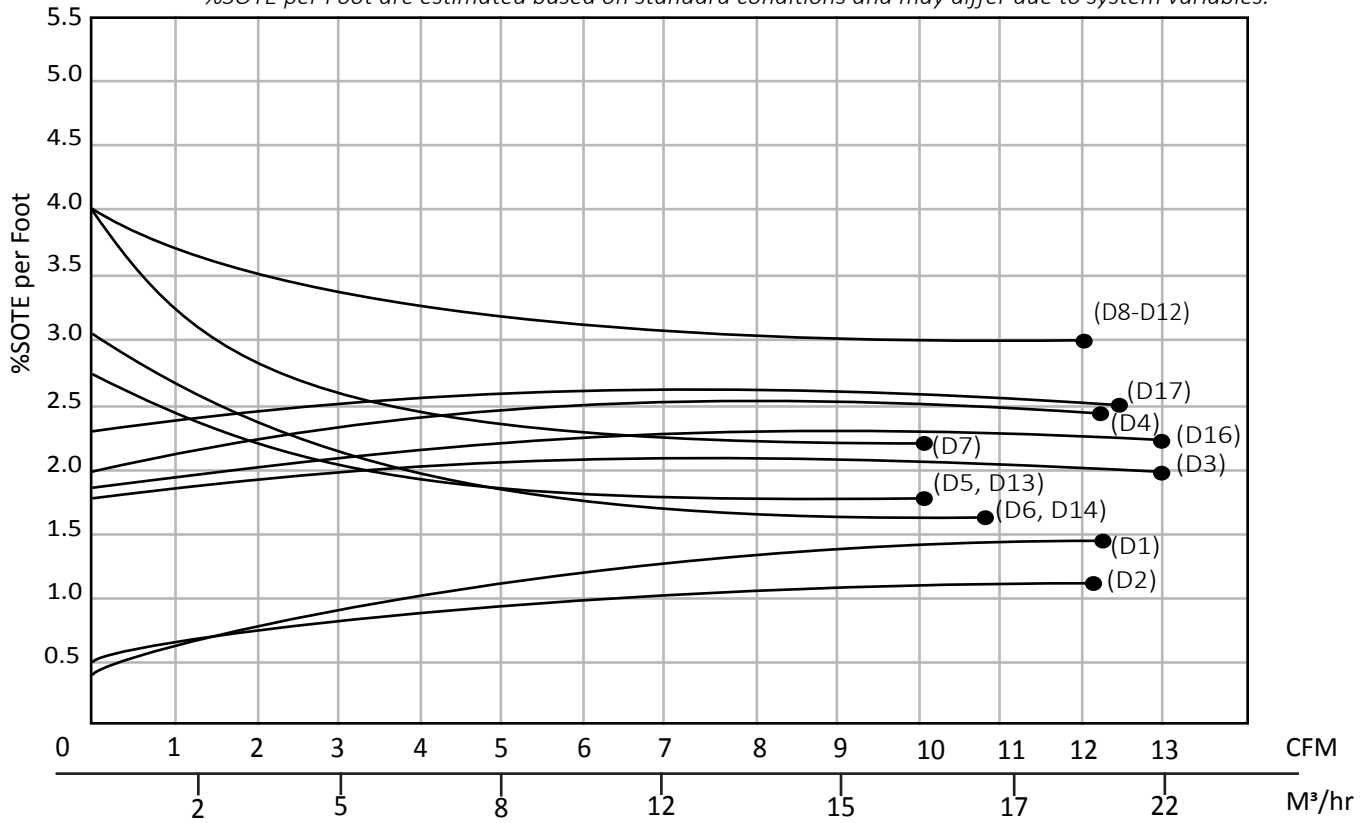
Replacement Membranes

Atlantic Diffusers offers replacement membranes for all Disc and Tube Diffusers. Having the ability to replace these components greatly reduces ownership cost. By replacing over used membranes, you've eliminated the need to purchase a new diffuser, thus making system maintenance less costly and more efficient.

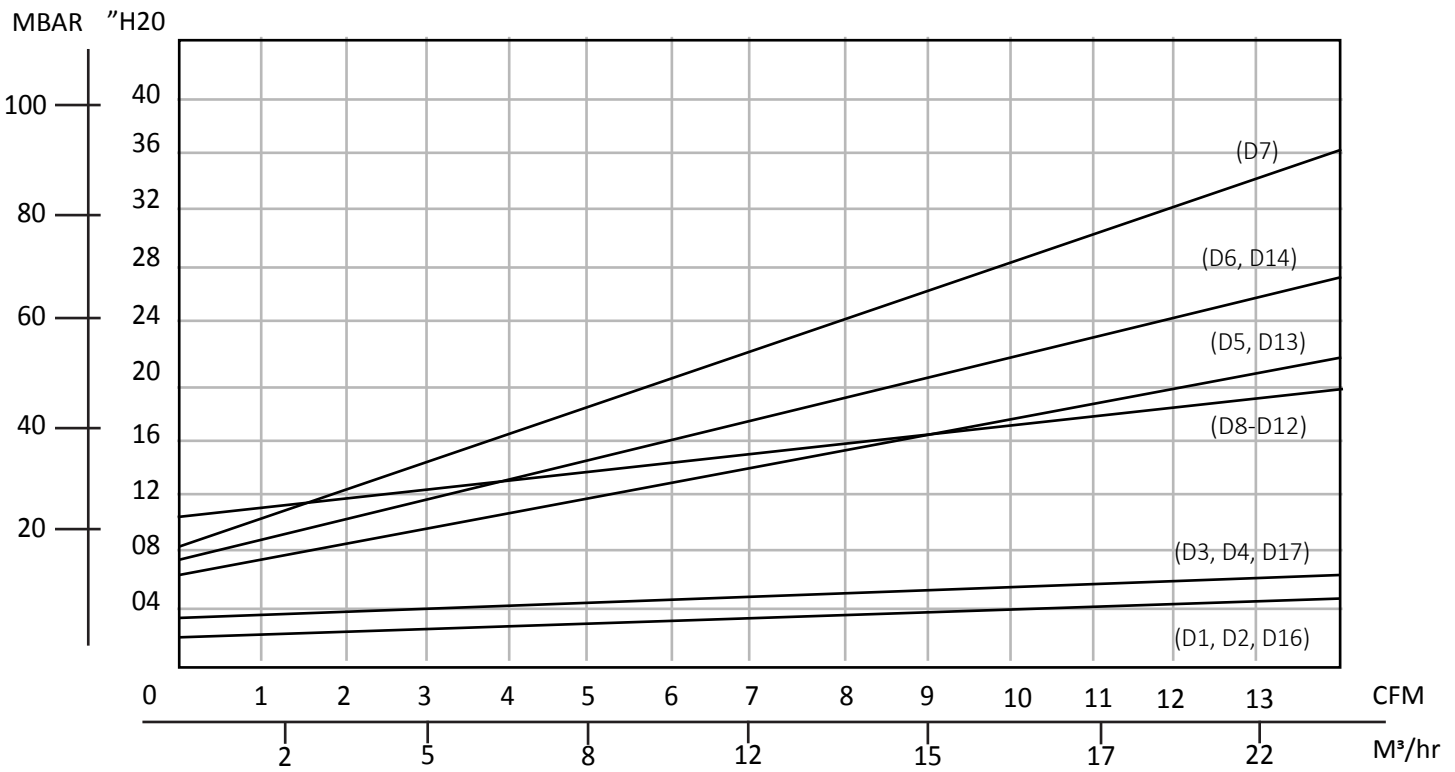


Standard Oxygen Transfer Efficiency

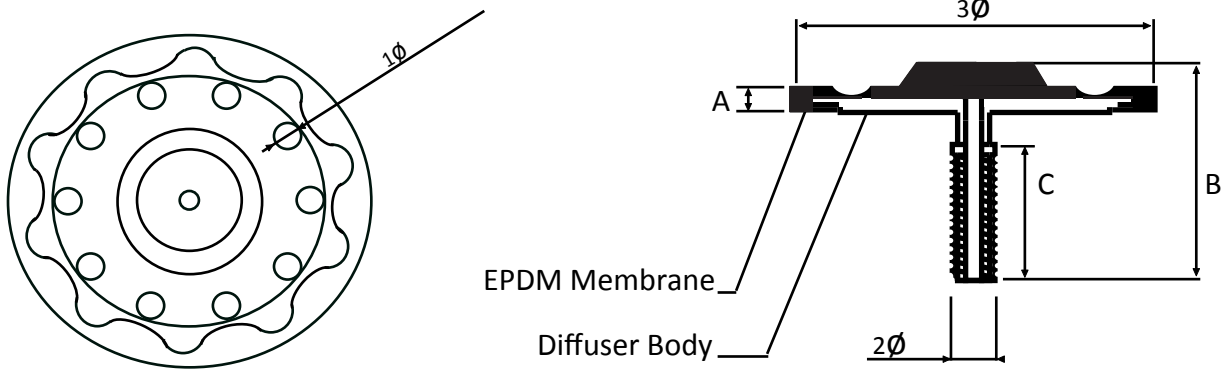
*%SOTE per Foot are estimated based on standard conditions and may differ due to system variables.



HeadLoss Performance

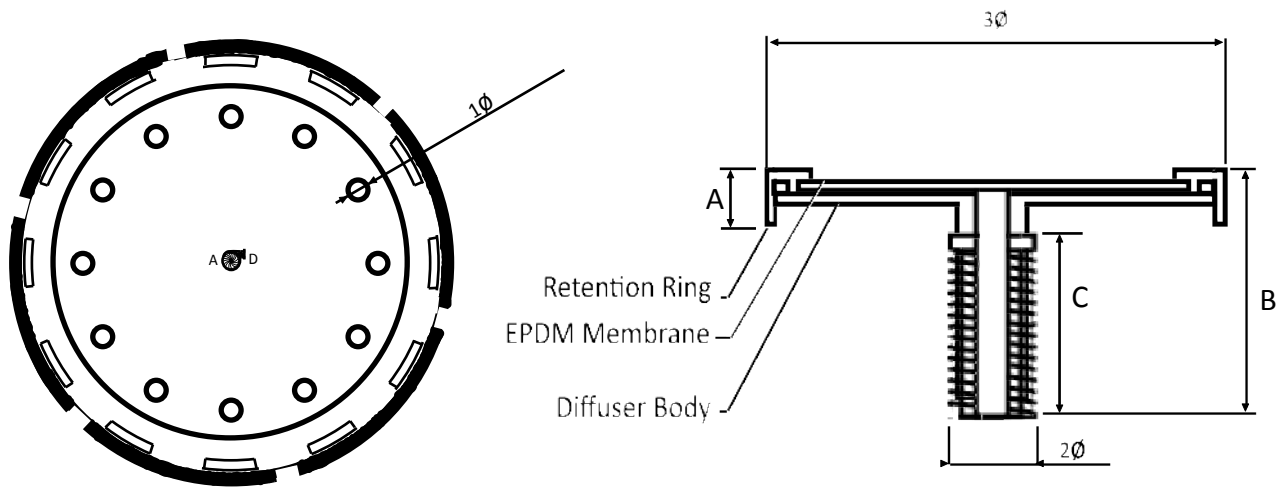


3" Disc Diffusers-Dimensions



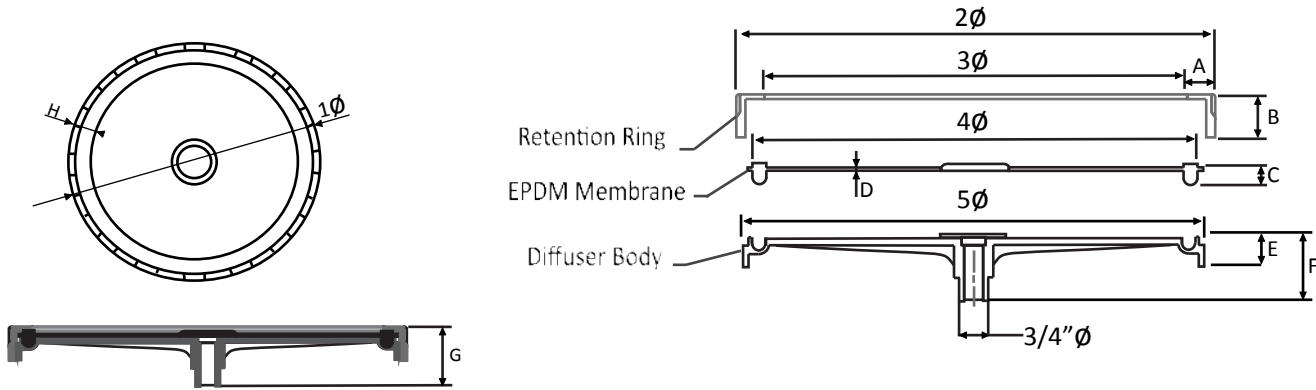
Model No.		A	B	C	1φ	2φ	3φ
AB-70001	(mm)	5	41	21.5	4	3/8"	77
	(in.)	0.2	1.61	0.84	0.15	3/8"	3.0
AB-70002	(mm)	5	41	21.5	6	3/8"	77
	(in.)	0.2	1.61	0.84	0.23	3/8"	3.0

5" Disc Diffusers-Dimensions



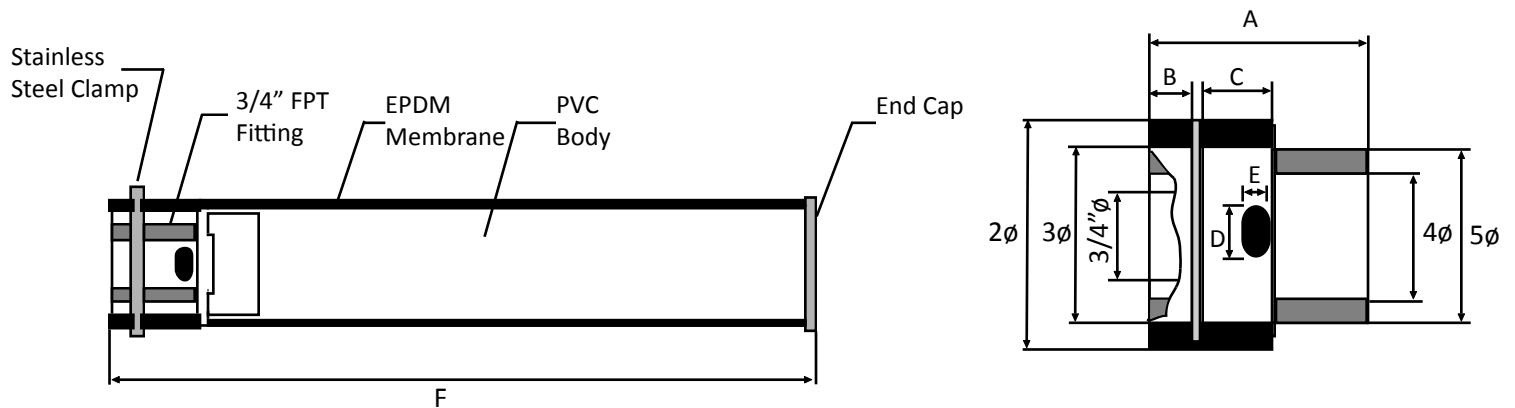
Model No.		A	B	C	1φ	2φ	3φ
AB-70004	(mm)	5	41	21.5	4	3/8"	127
	(in.)	0.2	1.61	0.84	0.15	3/8"	5.0
AB-70017	(mm)	5	41	21.5	4	3/4"	127
	(in.)	0.2	1.61	0.84	0.15	3/4"	5.0
AB-70003	(mm)	5	41	21.5	6	3/8"	127
	(in.)	0.2	1.61	0.84	0.23	3/8"	5.0
AB-70016	(mm)	5	41	21.5	6	3/4"	127
	(in.)	0.2	1.61	0.84	0.23	3/4"	5.0

9 - 15" Disc Diffusers-Dimensions



Model No.		A	B	C	D	E	F	G	H	1φ	2φ	3φ	4φ	5φ
AB-70005	(mm)	16.7	25	12	2	18	38	41	16.7	228	220	186	200	204
	(in.)	0.7	1.0	0.5	0.1	0.7	1.5	1.6	0.7	9.0	8.7	7.3	7.9	8.0
AB-70006	(mm)	16.7	25	12	2	18	38	41	16.7	305	305	282	262	270
	(in.)	0.7	1.0	0.5	0.1	0.7	1.5	1.6	0.7	12.0	12.0	11.1	10.3	10.6
AB-70007	(mm)	16.7	25	12	2	18	38	41	16.7	380	380	380	360	354
	(in.)	0.7	1.0	0.5	0.1	0.7	1.5	1.6	0.7	15.0	15.0	15.0	14.2	13.9
AB-70013	(mm)	16.7	25	12	2	25	89	89	16.5	228	220	190	180	223
	(in.)	0.7	1.0	0.5	0.1	1.0	3.5	3.5	0.7	9.0	8.7	7.5	7.4	8.8
AB-70014	(mm)	16.7	25	12	2	25	89	89	16.5	330	330	249	262	270
	(in.)	0.7	1.0	0.5	0.1	1.0	3.5	3.5	0.7	13.0	13.0	9.8	10.3	10.6

12" - 40" Tube Diffusers-Dimensions



Model No.		A	B	C	D	E	F	2φ	3φ	4φ	5φ
AB-70008	(mm)	36	20	30	16	10	304.8	64.5	63	59	62.9
	(in.)	1.4	0.8	1.2	0.6	0.4	12.0	2.5	2.5	2.3	2.5
AB-70009	(mm)	36	20	30	16	10	508	64.5	63	59	62.9
	(in.)	1.4	0.8	1.2	0.6	0.4	20.0	2.5	2.5	2.3	2.5
AB-70010	(mm)	36	20	30	16	10	609.6	64.5	63	59	62.9
	(in.)	1.4	0.8	1.2	0.6	0.4	24.0	2.5	2.5	2.3	2.5
AB-70011	(mm)	36	20	30	16	10	762	64.5	63	59	62.9
	(in.)	1.4	0.8	1.2	0.6	0.4	30.0	2.5	2.5	2.3	2.5
AB-70012	(mm)	36	20	30	16	10	1016	64.5	63	59	62.9
	(in.)	1.4	0.8	1.2	0.6	0.4	40.0	2.5	2.5	2.3	2.5



1225 Capital Dr. Suite 100 Carrollton, Texas 75006 USA

Phone: (214)233-0280

Fax: (214)233-0281

Email: sales@atlanticdiffusers.com

Blue Diamond ET120

Product Details:

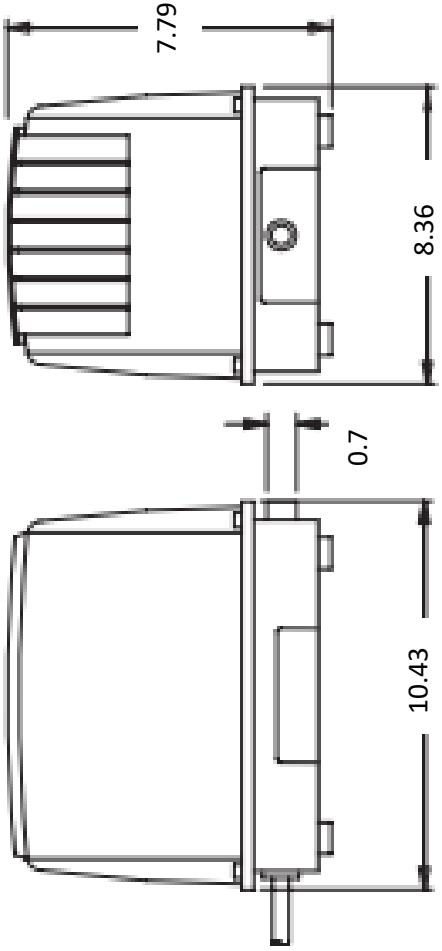
- Linear Diaphragm air pump
- Quiet Operation
- Oil free operation
- Thermal over load protection



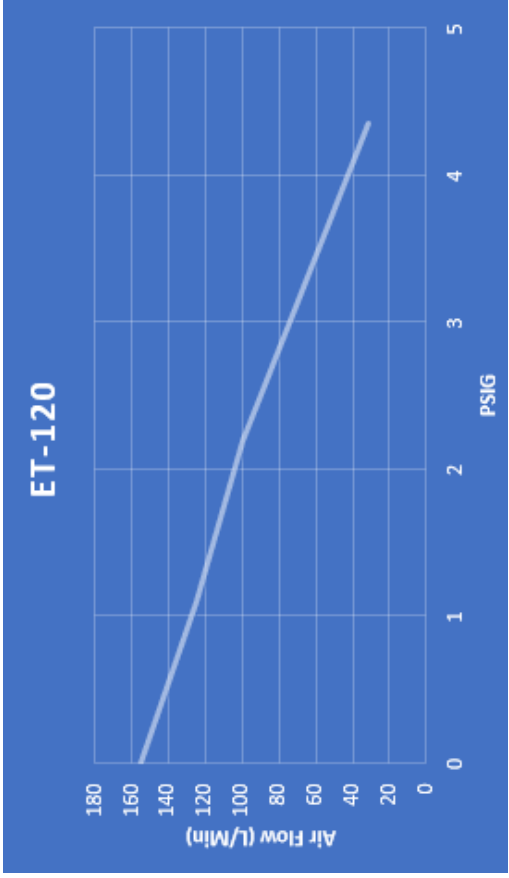
Rated Voltage	120	Volts
Power supply Frequency	60	Hz
Power Consumption	90	W
Maximum Pressure	1.45	PSI
Airflow at maximum Pressure	120	L / min
	4.24	cfm
Sound level	45	dB
Weight	21	lbs.
Length	10.5	In
Width	8.4	In
Height	7.8	In
Outlet Outer Diameter	0.71	In



DIMENSIONS (in)

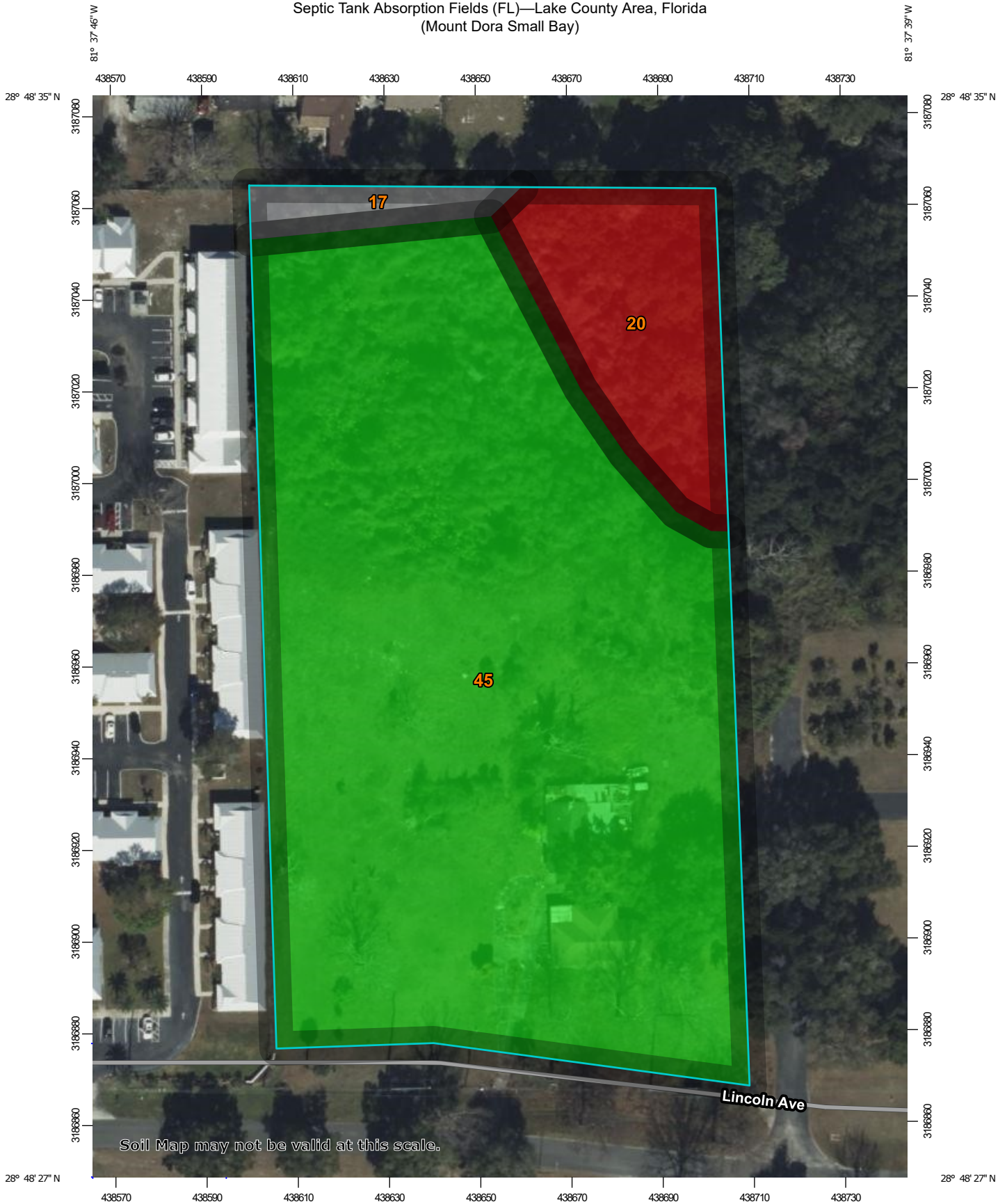


PERFORMANCE CURVE

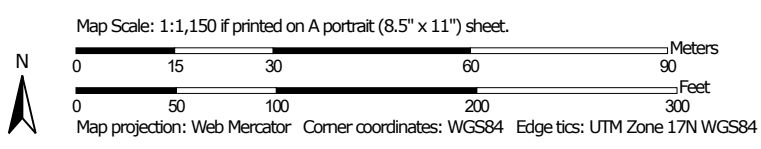


Appendix B – NRCS Soils Data and Geotechnical Report

Septic Tank Absorption Fields (FL)—Lake County Area, Florida
(Mount Dora Small Bay)

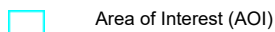


Soil Map may not be valid at this scale.



MAP LEGEND

Area of Interest (AOI)



Area of Interest (AOI)

Background



Aerial Photography

Soils

Soil Rating Polygons



Severely limited



Moderately limited



Slightly limited



Not rated or not available

Soil Rating Lines



Severely limited



Moderately limited



Slightly limited



Not rated or not available

Soil Rating Points



Severely limited



Moderately limited



Slightly limited



Not rated or not available

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lake County Area, Florida
Survey Area Data: Version 23, Sep 6, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jan 6, 2022—Mar 21, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Septic Tank Absorption Fields (FL)

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
17	Arents	Not rated	Arents (100%)		0.1	2.6%
20	Immokalee sand	Severely limited	Immokalee, non-hydric (70%)	Depth to saturated zone (1.00)	0.6	12.4%
				Presence of spodic material (0.50)		
			Immokalee, hydric (20%)	Depth to saturated zone (1.00)		
				Presence of spodic material (0.50)		
			Wabasso, hydric (5%)	Depth to saturated zone (1.00)		
				Restricted permeability (0.50)		
				Presence of spodic material (0.50)		
			Placid, depressional (5%)	Ponding (1.00)		
Depth to saturated zone (1.00)						
45	Tavares sand, 0 to 5 percent slopes	Slightly limited	Tavares (85%)		4.1	85.0%
			Apopka (6%)			
			Candler (4%)			
Totals for Area of Interest					4.8	100.0%

Rating	Acres in AOI	Percent of AOI
Slightly limited	4.1	85.0%
Severely limited	0.6	12.4%
Null or Not Rated	0.1	2.6%
Totals for Area of Interest	4.8	100.0%

Description

This interpretation is designed for Local (State) Interpretations for Septic Systems in Florida. These rules for Standard Trench Drainfield Systems are based on the regulations found in the State of Florida, Department of Health, Chapter 64E-6, Florida Administrative Code, Standards for Onsite Sewage Treatment and Disposal Systems.

The interpretation (Standard Trench Drainfield Systems) for use in the State of Florida is a combination of National NRCS Interpretations, and State Interpretations outlined in the Department of Health (DOH), Chapter 64E-6, Florida Administrative Code, Standards for Onsite Sewage Treatment and Disposal Systems, effective May 24, 2004.

More information on the Standards for Onsite Sewage Treatment and Disposal can be obtained at:

<https://www.flrules.org/gateway/ChapterHome.asp?Chapter=64e-6>

Description:

Standard Trench Drainfield Systems are subsurface systems of distribution lines that distribute effluent from a septic tank into the natural soil. The distribution lines are at a minimum of 12 inches. Only the soil between depths of 0 and 60 inches is considered in making the ratings. Soil properties and site features considered are those that affect the absorption of the effluent, those that affect the construction and maintenance of the system, and those that may affect public health.

Soil properties and qualities that affect the absorption of the effluent are permeability (Ksat), depth to a seasonal high water table, depth to bedrock, depth to a cemented pan, and susceptibility to flooding. Stones and boulders and a shallow depth to bedrock, ice, or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in down-slope areas. In addition, soil erosion is a hazard where absorption fields are installed in steep soils.

Soils can be a non-member, partial member or complete members of the set of soils that are limited for use as "ENG-Septic Tank Absorption Field (FL). If a soil's property within the specified depth of the soil surface has a membership indices greater than zero, then that soil property is limiting. The interpretive rating assigned is the maximum membership indices for one or more of the soil interpretive properties that comprise the "ENG-Septic Tank Absorption Field (FL)" interpretive rules.

Soils are placed into interpretive rating classes per their rating indices. These are Not Rated for Standard Trench System (rating index = Null), Slightly limited for Standard Trench System (rating index >0 and <.1), Moderately limited for Standard Trench System (rating index > .1 to .99), or Severely limited for Standard Trench System (rating index = 1.0). This rating class terminology agrees with terminology from Chapter 64E-6.

Definitions:

Septic tank - a watertight receptacle constructed to promote separation of solid and liquid components of wastewater, to provide limited digestion of organic matter, to store solids, and to allow clarified liquid to discharge for further treatment and disposal into a drainfield.

Standard subsurface drainfield system - an onsite sewage treatment and disposal system drainfield consisting of a distribution box or header pipe and a drain trench or absorption bed with all portions of the drainfield sidewalls installed below the elevation of undisturbed native soil.

Water table elevation - the upper surface of the groundwater or that level below which the soil or underlying rock material is wholly saturated with water. Water table elevation is measured from the soil surface downward to the upper level of saturated soil or up to the free water level.

Limitation ratings - Soil classification ratings which describe the relative suitability of soils to properly assimilate sewage effluent.

The three rating categories for the purpose of this rule are:

(a) Slightly limited - soil materials with favorable properties for the use of a drainfield.

(b) Moderately limited - soil materials that have properties moderately favorable for the use of a drainfield.

(c) Severely limited - soil materials which have one or more properties unsuitable for the use of a drainfield.

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. "Slightly limited" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. "Moderately limited" indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. "Severely limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Saturated Hydraulic Conductivity (Ksat)—Lake County Area, Florida
(Mount Dora Small Bay)



Soil Map may not be valid at this scale.

Map Scale: 1:597 if printed on A landscape (11" x 8.5") sheet.




Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84



Saturated Hydraulic Conductivity (Ksat)—Lake County Area, Florida
(Mount Dora Small Bay)


MAP LEGEND


Area of Interest (AOI)

 Area of Interest (AOI)


Soils


Soil Rating Polygons

 = 198.0000


 Not rated or not available


Soil Rating Lines

 = 198.0000

 Not rated or not available

Soil Rating Points

 = 198.0000

 Not rated or not available

Water Features

 Streams and Canals


Transportation

 Rails


 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Lake County Area, Florida
Survey Area Data: Version 23, Sep 6, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jan 6, 2022—Mar 21, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Saturated Hydraulic Conductivity (Ksat)

Map unit symbol	Map unit name	Rating (micrometers per second)	Acres in AOI	Percent of AOI
45	Tavares sand, 0 to 5 percent slopes	198.0000	0.9	100.0%
Totals for Area of Interest			0.9	100.0%

Description

Saturated hydraulic conductivity (Ksat) refers to the ease with which pores in a saturated soil transmit water. The estimates are expressed in terms of micrometers per second. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Saturated hydraulic conductivity is considered in the design of soil drainage systems and septic tank absorption fields.

For each soil layer, this attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

The numeric Ksat values have been grouped according to standard Ksat class limits.

Rating Options

Units of Measure: micrometers per second

Aggregation Method: Dominant Component

Component Percent Cutoff: None Specified

Tie-break Rule: Fastest

Interpret Nulls as Zero: No

Layer Options (Horizon Aggregation Method): Depth Range (Weighted Average)

Top Depth: 0

Bottom Depth: 120

Units of Measure: Centimeters

PRELIMINARY GEOTECHNICAL EXPLORATION

VEDDER HOLSTERS
1649 LINCOLN AVENUE
MT. DORA, LAKE COUNTY, FLORIDA

UES PROJECT No. 0130.2300050.0000
UES REPORT No. 2004759

PREPARED FOR:

G3 Development
310 North Baker Street
Mt. Dora, FL 32757

Attention: Mr. Austin Guenther

PREPARED BY:

Universal Engineering Sciences, LLC
3532 Maggie Boulevard
Orlando, Florida 32811
(407) 423-0504

March 1, 2023

March 1, 2023

G3 Development
310 North Baker Street
Mt. Dora, FL 32757Attention: Mr. Austin Guenther
austin.guenther@g3development.comReference: **Preliminary Geotechnical Exploration**
Vedder Holsters
1649 Lincoln Avenue
Mt. Dora, Lake County, Florida
UES Project No. 0130.2300050.0000
UES Report No. 2004759

Dear Mr. Guenther:

UES has completed a preliminary geotechnical exploration at the above referenced site in Lake County, Florida. The scope of our exploration was planned in conjunction with and authorized by you. This exploration was performed in accordance with UES Proposal No. 2000424 dated January 30, 2023 and with generally accepted soil and foundation engineering practices. No other warranty, express or implied, is made.

The following report presents the results of our field exploration with a geotechnical engineering interpretation of those results with respect to the project characteristics as provided to us. We have included soil descriptions at boring locations, our estimates of the seasonal high groundwater level at the boring locations, and preliminary geotechnical recommendations for foundation design, pavement design, site preparation and stormwater design. *The site was found to be generally suitable for the proposed multi-family development following typical site preparation procedures. However, an additional exploration will be needed once a final concept plan is established to provide a design-level report.*

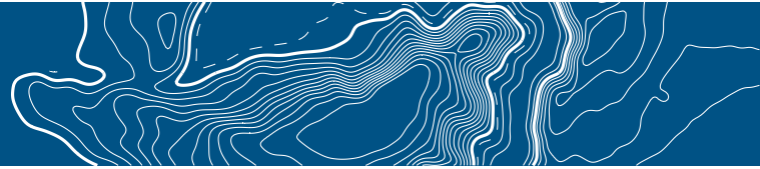
We appreciate the opportunity to have worked with you on this project and look forward to a continued association. Please do not hesitate to contact us if you should have any questions, or if we may further assist you as your plans proceed.

Respectfully Submitted,
UNIVERSAL ENGINEERING SCIENCES, LLC
Certificate of Authorization No. 549Alexa L. Bundy, E.I.
Staff Engineer



TABLE OF CONTENTS

1.0	PROJECT DESCRIPTION	1
2.0	PURPOSE	1
3.0	SITE DESCRIPTION	2
3.1	SOIL SURVEY	2
3.2	TOPOGRAPHY	2
4.0	SCOPE OF SERVICES	3
5.0	FIELD EXPLORATION	3
6.0	LABORATORY TESTING	3
7.0	SUBSURFACE CONDITIONS	4
7.1	GENERALIZED SOIL PROFILE.....	4
7.2	NOTABLE FINDINGS	4
7.2.1	<i>Loose Soil Conditions</i>	4
8.0	GROUNDWATER CONDITIONS	5
8.1	EXISTING GROUNDWATER LEVEL	5
8.2	SEASONAL HIGH GROUNDWATER LEVEL.....	5
9.0	PRELIMINARY GEOTECHNICAL ASSESSMENT	6
9.1	PRELIMINARY SITE PREPARATION	6
9.2	PRELIMINARY FOUNDATION DESIGN	6
9.3	PRELIMINARY PAVEMENT DESIGN	6
9.4	PRELIMINARY STORMWATER POND DESIGN	7
9.5	POTENTIAL CONSTRAINTS TO DEVELOPMENT.....	7
10.0	SUITABILITY OF ON SITE MATERIAL FOR USE AS FILL	7
11.0	FINAL GEOTECHNICAL EXPLORATION	8
12.0	LIMITATIONS	9
13.0	CLOSURE	10



LIST OF TABLES

Table I:	Summary of Published Soil Data	2
Table II:	Laboratory Methodologies.....	4
Table III:	Generalized Soil Profile.....	4
Table IV:	Suitability of Excavated Material for Use as Fill.....	7

APPENDICES

APPENDIX A		
	USGS Location Map.....	A-1
APPENDIX B		
	Boring Location Plan	B-1
	Boring Logs	B-2
	Key to Boring Logs Sheet.....	B-3
APPENDIX C		
	Geotechnical Business Council Document	C-1
	Constraints and Restrictions.....	C-2

1.0 PROJECT DESCRIPTION

UES understands that you intend to develop the subject site into five (5) buildings as part of a manufacturing and commercial building for Vedder Holsters located at 1649 Lincoln Avenue in Mt. Dora, Lake County, Florida. At this time, we have been provided with a site plan with requested boring locations and depths. It is to our understanding that the proposed site is contains a residential home. At this time, we have not been provided with any structural design loads for the proposed building.

Please note that our exploration was preliminary in nature and conducted to acquire general subsurface information only. Once final site configuration, building detail and structural/grading information is available, a comprehensive geotechnical exploration will be required to provide final design recommendations . Note that t1he information obtained from this exploration is not sufficient to meet the industry standard of care for final design of foundation systems, building and pavement grades, and stormwater ponds.

2.0 PURPOSE

The purposes of this exploration were:

- to explore and evaluate the subsurface conditions at the site with special attention to potential problems that may impact the proposed development,
- to provide our estimates of the seasonal high groundwater level at the boring locations, and
- to identify potential constraints to development and provide a preliminary geotechnical assessment regarding the planned construction for due diligence concerns.

This report presents an evaluation of site conditions on the basis of geotechnical procedures for site characterization. The recovered samples were not examined, either visually or analytically, for chemical composition or environmental hazards.

Our exploration was not designed to specifically address the potential for surface expression of deep geological conditions, such as sinkhole development related to karst activity. This evaluation requires a more extensive range of field services than those performed in this study. We would be pleased to conduct an exploration to evaluate the probable effect of the regional geology upon the proposed construction, if you so desire.

3.0 SITE DESCRIPTION

The subject site is located within Section 29, Township 19 South, Range 27 East in Lake County, Florida. More specifically, the site is located at 1649 Lincoln Avenue in Mt. Dora, Florida as shown on the attached Figure A-1. At the time of drilling, the site consisted of an existing residential home and thick trees and vegetation in the northern portion of the lot.

3.1 SOIL SURVEY

There are (3) native soil types mapped within the general vicinity of the site according to the USDA NRCS Soil Survey of Lake County. A brief summary of the mapped surficial soil type is presented in Table I below.

TABLE I
SUMMARY OF PUBLISHED SOIL DATA ¹

Soil Symbol	Soil Type	Hydrologic Group	Drainage Characteristics	Depth of Published Seasonal High GWT (feet) ²
17	Arents	B	Somewhat poorly drained	2½ to 5
20	Immokalee sand	B/D	Poorly drained	½ to 1½
45	Tavares sand, 0 to 5 percent slopes	A	Moderately well drained	3½ to 6

¹ Data obtained from the USDA NRCS Web Soil Survey online webpage, accessed on 2/27/2023



Please note, native soil types may have been altered during previous construction on site.

3.2 TOPOGRAPHY

According to information obtained from the United States Geologic Survey (USGS) quadrangle map of “Eustis, Florida”, the pre-development ground surface elevation across the site ranges from approximately +165 to +170 feet National Geodetic Vertical Datum (NGVD). A copy of a portion of the USGS Map is included in Appendix A.

4.0 SCOPE OF SERVICES

The services conducted by UES during our geotechnical explorations were as follows:

- Drilled thirteen (13) Standard Penetration Test (SPT) borings within the proposed development to depths of 7 to 10 feet below existing land surface (bls).
- Secured samples of representative soils encountered in the soil borings for review, laboratory analysis and classification by a Geotechnical Engineer.
- Measured the existing site groundwater levels and provide an estimate of the seasonal high groundwater level at the boring locations.
- Conducted laboratory testing on selected soil samples obtained in the field to determine their engineering properties.
- Assessed the existing soil conditions with respect to the proposed construction.
- Prepared a report which documents the results of our exploration and analysis with geotechnical engineering recommendations.

5.0 FIELD EXPLORATION

The SPT soil borings were performed with an ATV-mounted drilling rig. Horizontal and vertical survey control was not provided for the test locations prior to our field exploration program. UES located the test borings by using the provided site plan, measuring from existing on-site landmarks shown on an aerial photograph, and by using handheld GPS devices. The indicated test locations should be considered accurate to the degree of the methodologies used. The approximate boring locations are shown in Appendix B.

The SPT borings, designated B-01 through B-13 on the attached Boring Location Plan in Appendix B, were performed in general accordance with the procedures of ASTM D 1586 “Standard Method for Penetration Test and Split-Barrel Sampling of Soils”. SPT sampling was performed continuously to 10 feet to detect variations in the near surface soil profile and on approximate 5 feet centers thereafter.

6.0 LABORATORY TESTING

The soil samples recovered from the test borings were returned to our laboratory and visually classified in general accordance with ASTM D 2487 “Standard Classification of Soils for Engineering Purposes” (Unified Soil Classification System). We selected representative soil samples from the borings for laboratory testing to aid in classifying the soils and to help to evaluate the general engineering characteristics of the site soils. The results of these tests are shown on the boring logs in Appendix B. A summary of the tests performed is shown in Table II on the following page.

**TABLE II
LABORATORY METHODOLOGIES**

Test Performed	Number Performed	Reference
Grain Size Analysis (#200 wash only)	10	ASTM D 1140 "Amount of Material in Soils Finer than the No. 200 (75 - μ m) sieve"
Moisture Content	10	ASTM D 2216 "Laboratory Determination of Water (Moisture) Content of Soil by Mass"

7.0 SUBSURFACE CONDITIONS

7.1 GENERALIZED SOIL PROFILE

The results of our field exploration and laboratory analysis, together with pertinent information obtained from the SPT borings, such as soil profiles, penetration resistance and groundwater levels are shown on the boring logs included in Appendix B. The Key to Boring Logs, Soil Classification Chart is also included in Appendix B. The soil profiles were prepared from field logs after the recovered soil samples were examined by a Geotechnical Engineer. The stratification lines shown on the boring logs represent the approximate boundaries between soil types, and may not depict exact subsurface soil conditions. The actual soil boundaries may be more transitional than depicted. A generalized profile of the soils encountered at our boring locations is presented in Table III below. For detailed soil profiles, please refer to the attached boring logs.

**TABLE III
GENERALIZED SOIL PROFILE**

Typical Depth (feet, bls)		Soil Description	Range of SPT "N" Values (blows per foot, bpf)
From	To		
0	7* or 10*	Very loose to medium dense fine SAND with varying silt contents [SP, SP-SM, SM]	WOH to 50

* denotes maximum termination depth of the borings

7.2 NOTABLE FINDINGS

7.2.1 Loose Soil Conditions

A notable finding during the exploration program was the presence of very loose to loose soil conditions observed in all of the borings across the site. The loose soils in the upper 10 feet, exhibited SPT "N" blow count values less than 10 blows per foot (bpf).

It has been our experience that soils with SPT "N" blow counts less than about 5 bpf may not provide adequate support for the structures without some soil improvement. Larger sized compaction equipment may be required to achieve the in-place soil densities recommended in the site preparation section of this report. The site contractor should select their equipment appropriately.

Although the use of conventional shallow footing foundations is viable, in our opinion, the loose soil conditions found across the majority of the site will require compactive effort and soil moisture conditioning as shown in the site preparation section of this report.

8.0 GROUNDWATER CONDITIONS

8.1 EXISTING GROUNDWATER LEVEL

We measured the water levels in the boreholes on February 17, 2023, during our drilling operations. Groundwater was encountered at depths of 5½ feet below existing grade at the time of our exploration. The encountered groundwater level at each boring is shown on the individual boring logs in Appendix B.

Fluctuations in groundwater levels should be anticipated throughout the year, primarily due to seasonal variations in rainfall, surface runoff, and other factors that may vary from the time the borings were conducted.

8.2 SEASONAL HIGH GROUNDWATER LEVEL

Based on historical data, the rainy season in Central Florida is between June and October of the year. In order to estimate the seasonal high water level at the boring locations, many factors are examined, including the following:

- Measured groundwater level
- Drainage characteristics of existing soil types
- Current & historical rainfall data
- Natural relief points (such as lakes, rivers, wetlands, etc.)
- Man-made drainage systems (ditches, canals, retention basins, etc.)
- On-site types of vegetation
- Review of available data (soil surveys, USGS maps, etc.)
- Redoximorphic features (mottling, stripping, etc.)

Based on the results of our field exploration and the factors listed above. We estimate that the seasonal high groundwater levels may form at 3½ feet below existing grade. The estimated seasonal high groundwater levels at the boring locations are shown on the attached boring logs.

Please note, ground surface elevations at the boring locations would be beneficial to allow us to identify any anomalies in both our measured and estimated seasonal high groundwater levels, as well as improve the usefulness the groundwater information during the civil engineering design of the site.

It should be noted that the estimated seasonal high water levels provided should be considered accurate to about ½ foot +/- and do not provide any assurance that groundwater levels will not exceed these estimated levels during any given year in the future. Should the impediments to surface water drainage be present, or should rainfall intensity and duration, or total rainfall quantities, exceed the normally anticipated rainfall quantities, groundwater levels might exceed our seasonal high estimates. Further, it should be understood that changes in the surface hydrology and subsurface drainage from on-site and/or off-site improvements could have significant effects on the normal and seasonal high groundwater levels.

9.0 PRELIMINARY GEOTECHNICAL ASSESSMENT

9.1 PRELIMINARY SITE PREPARATION

Based on the results of our exploration, the near surface soils at this site consist mostly of loose to very dense sands and silty-clayey sands to a depth of 10 feet bls. No unsuitable soils including highly organic soils, buried debris and/or high plasticity clayey soils which would require significant removal or remediation were encountered our boring locations within the explored depths.

Based on the results of our preliminary exploration, conventional site preparation is anticipated for this project. Typical site preparation will consist of root raking and stripping procedures to remove surface vegetation, roots, topsoils, and other deleterious materials, followed by densification of any loose subgrade soils and placement of compacted fill. Clearing and grubbing depths are anticipated to be about 6 to 12 inches.

Based on the anticipated groundwater conditions, some temporary dewatering may be required in some areas to achieve the necessary excavation, backfilling and compaction requirements within most areas at this site, especially for the installation of underground utilities.

All fill/backfill should consist of clean sand with less than 12 percent soil fines and be free of organics, debris and other deleterious materials. Fill soils containing between 5 and 12 percent fines may require strict moisture control. The fill should be placed in maximum 12-inch loose, uniform lifts with each lift compacted to at least 95 percent of the Modified Proctor maximum dry density (ASTM D1557).

9.2 PRELIMINARY FOUNDATION DESIGN

We assume that the proposed construction will consist of typical commercial and manufacturing building structures (maximum loadings of 75 kips per column and 5 kips/ft for structural walls). Assuming that the site is properly prepared, we anticipate that conventional, shallow spread footing or slab-on-grade foundations may be used to support the proposed structures. Based on the results of our preliminary exploration, adequate allowable net bearing pressures are anticipated for typical residential foundation design (i.e. 2,000 to 2,500psf). The final design bearing pressure will depend upon loading conditions and the results of our design-level exploration.

The foundations may bear on either the compacted suitable native soils or compacted structural fill. The bearing level soils should be densified to at least 95 percent of the maximum dry density as determined by ASTM D 1557 (Modified Proctor) to a depth of at least 2 feet below foundation level.

The minimum width recommended for an isolated column footing is 24 inches. For continuous wall or thickened edge monolithic slab footings, the minimum widths should comply with the current Florida Building Code (FBC), but under no circumstances should be less than 12 inches in width. The base of all footings should bear at least 12 inches below finished grade elevation as required under the current FBC.

9.3 PRELIMINARY PAVEMENT DESIGN

We assume that the proposed pavements will consist of a combination of flexible (asphaltic) pavement and rigid (concrete) pavements sections with typical multi-family residential traffic.

For asphaltic pavements, we recommend using a three-layer section consisting of compacted subgrade (sub-base), base course, and surface course. For concrete pavements, we recommend a minimum 12-inch compacted subgrade beneath the pavement.

Sufficient separation will need to be maintained between the bottom of base course/slab and the anticipated seasonal high groundwater level. Based on the anticipated seasonal high groundwater conditions, the required separation should not be an issue for pavements constructed above existing grade. If the separation is not provided by grading, the installation of underdrains will be required.

9.4 PRELIMINARY STORMWATER POND DESIGN

Based on the anticipated seasonal high groundwater conditions at this site, we believe that “wet” detention ponds would be the most suitable stormwater management system for this project. The borings B-01, B-02, B-04, B-08, B-11 and B-13 were performed within the proposed retention pond footprint.

9.5 POTENTIAL CONSTRAINTS TO DEVELOPMENT

Based on our preliminary exploration, we have identified the following potential geotechnical constraints that could affect the schedule and costs associated with this project including:

- The upper 10 feet of material consisted of loose to very loose sands which will require compaction in order to support the proposed structures.
- Deeper borings will likely be needed once loadings and layout are finalized.

Although we have identified the preceding potential constraints due to subsurface conditions, we believe these issues can be managed through proper planning and design.

10.0 SUITABILITY OF ON SITE MATERIAL FOR USE AS FILL

The soils excavated from stormwater management areas are usually re-used as structural fill throughout the development. Table IV below lists the suitability of materials for use as structural fill based on percent fines content.

**TABLE IV
SUITABILITY OF EXCAVATED MATERIAL FOR USE AS FILL**

Designation	USCS Soil Classification	% Fines Passing No. 200 Sieve	Suitability for Use as Structural Fill
Group A	SP	0-5	Favorable, freely draining, “clean” sands
Group B	SP-SC, SP-SM	5-12	Suitable, will require aeration and moisture control
Group C	SM, SC, SC-SM	12-20	Poor, impedes infiltration, limit overall use, extremely sensitive to water, do not use in pavement or pond areas.
Group D	SM, SC, SC-SM, CH, MH	>20	Very Poor, not recommended for structural fill, may be used as stabilizing material in pavement subgrade
Group E	PT, OL, SM-OL	Organic	Unsuitable, must be completely removed and replaced with Group A or B soils

Based on the results of our soil borings and laboratory testing program, the soils encountered throughout the site generally consist of “Group A & Group B” soils overlying layers of “Group C” soils within approximately 7 to 10 feet of the existing ground surface, as shown on the boring logs in Appendix B.

Clean sandy soils (Group A) with less than 5 percent soil fines are best suited for fill usage, since they are typically free-draining and require minimal moisture control during placement and compaction. The sands with silt and clay (Group B), with contents of 6 to 12 percent soil fines, will require some extra care during placement and compaction. These soils are less freely-draining and might require aeration and drying prior to usage, during use in the rainy season and when placed near the groundwater table. We recommend that imported fill material meet the Group A and Group B qualifications.

Soils classified as silty or clayey, Group C (greater than 12 percent fines, but less than or equal to 20 percent fines), may impede infiltration and cause a perched water condition, especially when compacted. Although not preferable, these soils may be used by contractors experienced with using these materials as fill. These materials require stringent moisture control during stockpiling, placement and compaction. They will also be problematic during compaction. These soils dry very slowly and will have to be compacted with no vibration (a sheep foot roller, for example) in smaller, 6 inch compacted lifts. A more common use for these materials is in construction of stabilized subgrade.

Soils classified as silty or clayey, Group D (greater than 20 percent fines), will impede infiltration and cause a perched water condition. We do not recommend using these soils as structural fill material as they will require stringent moisture control during stockpiling, placement and compaction. They will also be problematic during compaction. Group D soils also dry very slowly and will have to be compacted with no vibration (a sheep foot roller, for example) in smaller, 6 inch compacted lifts.

Soils containing organic materials, Group E, may not be used as structural fill. These materials may only be used in non-structural areas such as green areas or landscaping. We do not recommend that these materials are placed directly beneath sodded areas if they contain significant amounts of organic materials. Highly organic soils are typically poor drainage materials, and may cause ponding or wetness for some time following rain events if placed directly beneath sod.

11.0 FINAL GEOTECHNICAL EXPLORATION

Please note that this exploration was preliminary in nature, and was designed to help determine the presence of any near surface constraints which would significantly impact the intended development of the subject site, as well as affect the cost of construction. The information obtained from this exploration is not sufficient to meet the industry standard of care for final design.

We strongly recommended that the information obtained from this preliminary exploration be supplemented with a more comprehensive subsurface exploration once the building layouts and the site plan have been finalized. The foundations for the building and the pavement grades should be designed based on the information obtained from a comprehensive geotechnical exploration program.

This report has not been prepared to meet the full needs of design professionals, contractors, or any other parties. Any use of this report without the guidance of the geotechnical engineer who

prepared it constitutes improper usage which could lead to erroneous assumptions, faulty conclusions, and other problems.

12.0 LIMITATIONS

This report has been prepared for the exclusive use of **G3 Development** and other designated members of their design/construction team associated with the proposed construction for the specific project discussed in this report. No other site or project facilities should be designed using the soil information contained in this report. As such, UES will not be responsible for the performance of any other site improvement designed using the data in this report.

This report should not be relied upon for final design recommendations or professional opinions by unauthorized third parties without the expressed written consent of UES. Unauthorized third parties that rely upon the information contained herein without the expressed written consent of UES assume all risk and liability for such reliance.

The recommendations submitted in this report are based upon the data obtained from the soil borings performed at the locations indicated on the Boring Location Plan and from other information as referenced. This report does not reflect any variations which may occur between the boring locations. The nature and extent of such variations may not become evident until the course of construction. If variations become evident, it will then be necessary for a re-evaluation of the recommendations of this report after performing on-site observations during the construction period and noting the characteristics of the variations.

Borings for a typical geotechnical report are widely spaced and generally not sufficient for reliably detecting the presence of isolated, anomalous surface or subsurface conditions, or reliably estimating unsuitable or suitable material quantities. Accordingly, UES does not recommend relying on our boring information for estimation of material quantities unless our contracted services **specifically** include sufficient exploration for such purpose(s) and within the report we so state that the level of exploration provided should be sufficient to detect anomalous conditions or estimate such quantities. Therefore, UES will not be responsible for any extrapolation or use of our data by others beyond the purpose(s) for which it is applicable or intended.

All users of this report are cautioned that there was no requirement for UES to attempt to locate any man-made buried objects or identify any other potentially hazardous conditions that may exist at the site during the course of this exploration. Therefore, no attempt was made by UES to locate or identify such concerns. UES cannot be responsible for any buried man-made objects or environmental hazards which may be subsequently encountered during construction that are not discussed within the text of this report. We can provide this service if requested.

During the early stages of most construction projects, geotechnical issues not addressed in this report may arise. Because of the natural limitations inherent in working with the subsurface, it is not possible for a geotechnical engineer to predict and address all possible problems. A Geotechnical Business Council (GBC) publication, "Important Information About This Geotechnical Engineering Report" appears in Appendix C, and will help explain the nature of geotechnical issues.

Further, we present documents in Appendix C: Constraints and Restrictions, to bring to your attention the potential concerns and the basic limitations of a typical geotechnical report.

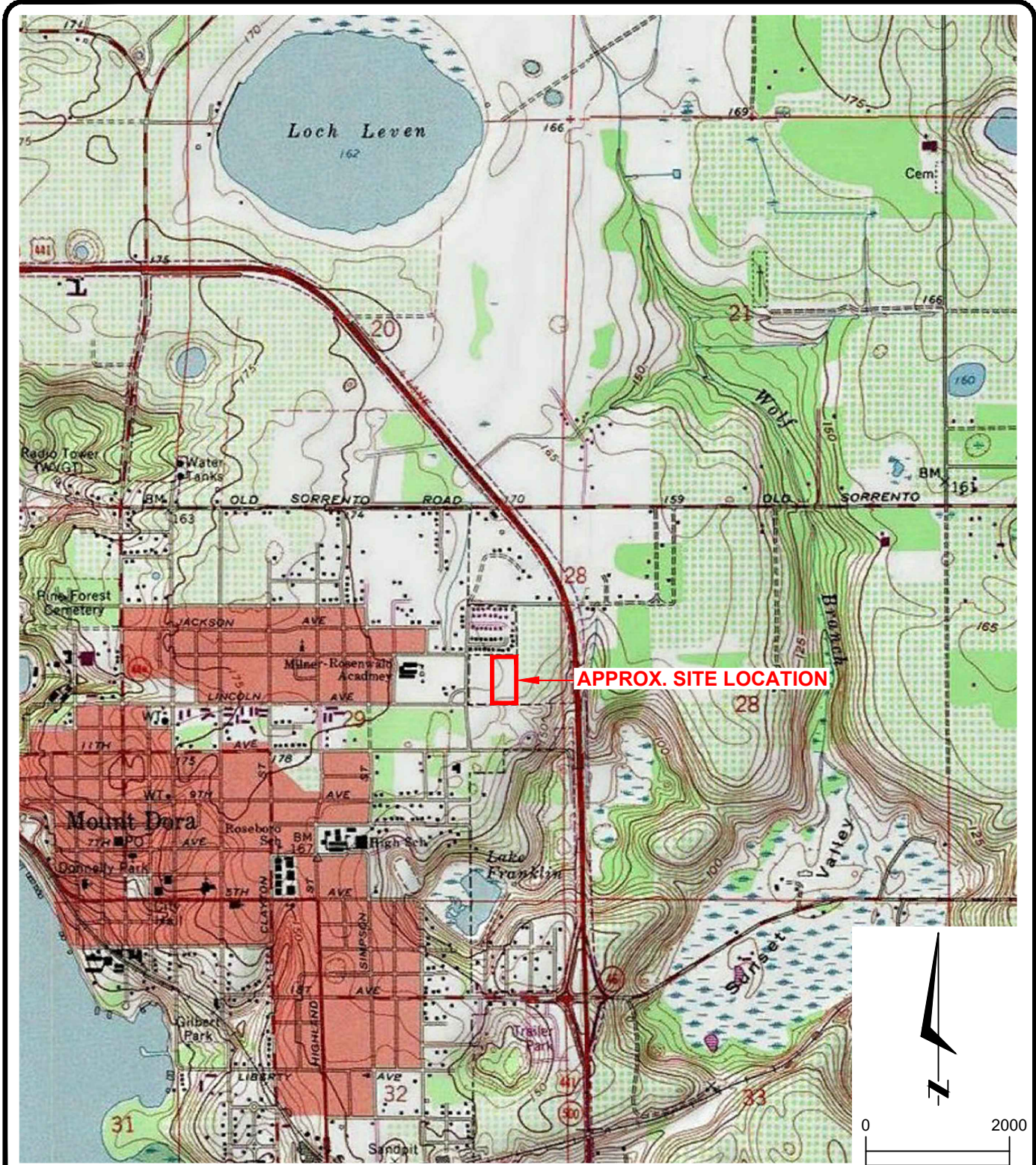
13.0 CLOSURE

We appreciate this opportunity to be of service as your geotechnical consultant on this phase of the project and look forward to providing follow up explorations and geotechnical engineering analyses as the project progresses through the design phase. If you have any questions concerning this report or when we may be of any further service, please contact us.

* * * * *

APPENDIX A





SOURCE: USGS QUADRANGLE MAP OF "EUSTIS, FLORIDA".

SCALE (FT.)



UNIVERSAL
ENGINEERING SCIENCES

PRELIMINARY GEOTECHNICAL EXPLORATION
VEDDER HOLSTERS
1649 LINCOLN AVENUE
MT. DORA, LAKE COUNTY, FLORIDA

U.S.G.S. SITE LOCATION MAP

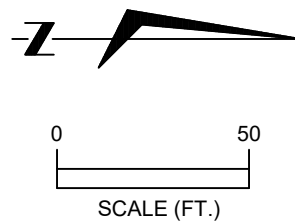
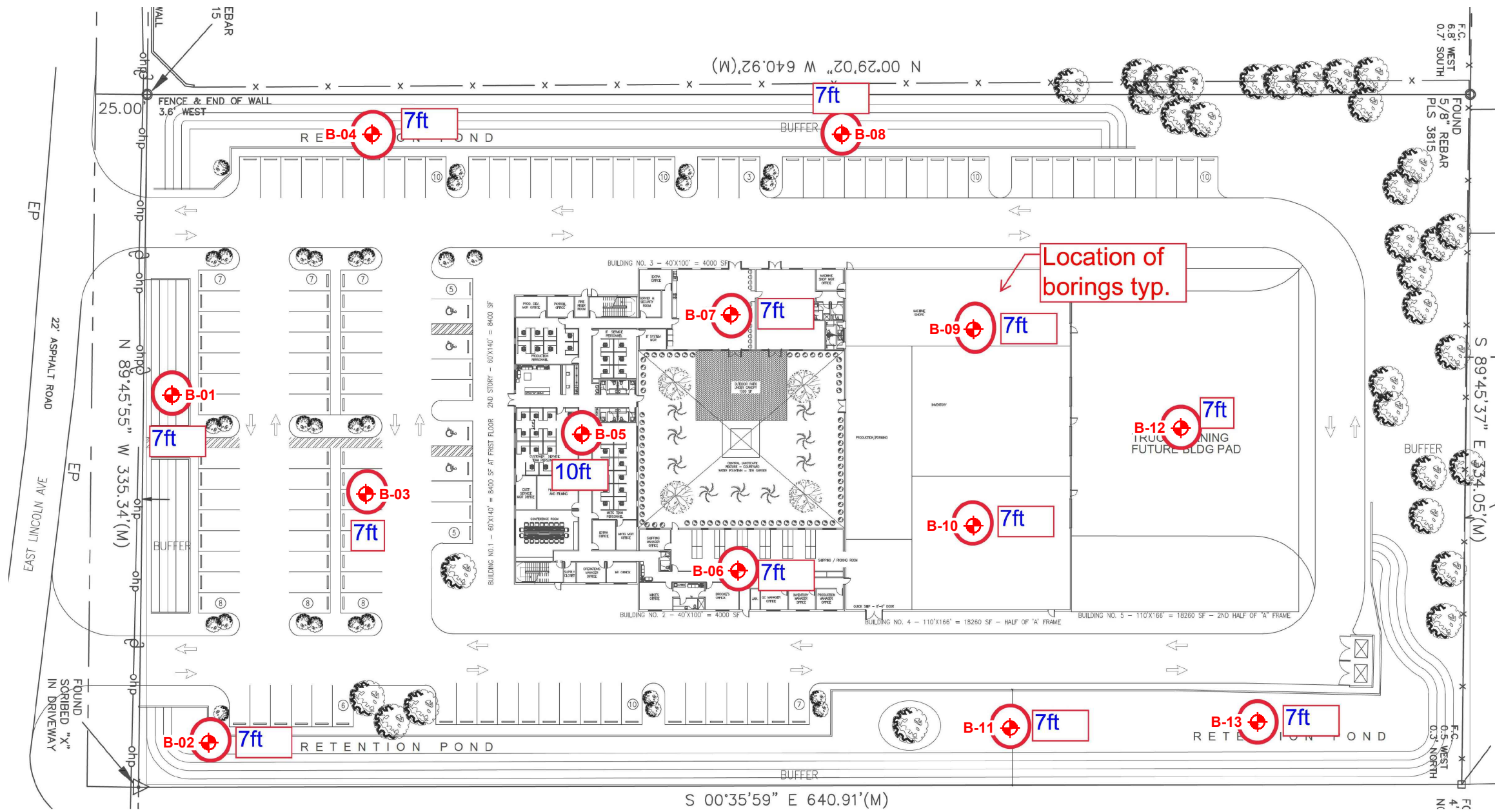
DRAWN BY: R.K.S.	DATE: 2-23-23	CHECKED BY: A.B.	DATE: 2-23-23
SCALE: AS SHOWN	PROJECT NO: 0130.2300050.0000	REPORT NO: 2004759	PAGE NO: A-1

23-0100-01


APPENDIX B



23-0100-01



LEGEND

 APPROX. STANDARD PENETRATION TEST BORING LOCATION (SPT)

BORINGS PERFORMED 2/15/23 & 2/17/23

THIS DRAWING CREATED USING PLAN PROVIDED BY CLIENT.

FOR: VEDDER HOLSTERS, LLC			
DRAWN BY: R.K.S.	DATE: 2-23-23		
CHECKED BY: A.B.	DATE: 2-23-23		
REPORT NO: 2004759	SCALE: AS SHOWN		
PROJECT NO: 0130.23000050.0000			

PRELIMINARY GEOTECHNICAL EXPLORATION
VEDDER HOLSTERS
1649 LINCOLN AVENUE
MT. DORA, LAKE COUNTY, FLORIDA

SOIL BORING LOCATION PLAN





UNIVERSAL ENGINEERING SCIENCES BORING LOG

PROJECT NO.: 0130.2300050.0000

REPORT NO.: 2004759

PAGE: B-2.1

PROJECT: PRELIMINARY GEOTECHNICAL EXPLORATION
VEDDER HOLSTERS, 1649 LINCOLN AVENUE
MT. DORA, LAKE COUNTY, FLORIDA

BORING I.D.: **B-01**

SECTION: 29

TOWNSHIP: 19 S

SHEET: **1 of 1**

RANGE: 27 E

CLIENT: VEDDER HOLSTERS, LLC

G.S. ELEVATION (ft): N.S.

DATE STARTED: 2/15/23

LOCATION: SEE BORING LOCATION PLAN

WATER TABLE (ft): 5.5

DATE FINISHED: 2/15/23

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED

DATE OF READING: 2/17/23

DRILLED BY: PURA VIDA

EST. SHGWT (ft): 3.5

TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS		K (FT/DAY)	ORG. CONT. (%)
									LL	PI		
0						Very loose brown fine SAND [SP]						
		1-0-1-0	1									
		1-0-0-0	WOH	▽		-- gray						
5												
		1-0-1-1	1	▼								
		1-1-1-2	2			-- loose						
10		2-2-3-4	5			GROUP A						
						BORING TERMINATED AT 10.0 FT.						

W-12653.GPJ



UNIVERSAL ENGINEERING SCIENCES BORING LOG

PROJECT NO.: 0130.2300050.0000

REPORT NO.: 2004759

PAGE: B-2.2

PROJECT: PRELIMINARY GEOTECHNICAL EXPLORATION
VEDDER HOLSTERS, 1649 LINCOLN AVENUE
MT. DORA, LAKE COUNTY, FLORIDA

BORING I.D.: **B-02**

SECTION: 29

TOWNSHIP: 19 S

SHEET: **1 of 1**

RANGE: 27 E

CLIENT: VEDDER HOLSTERS, LLC

G.S. ELEVATION (ft): N.S.

DATE STARTED: 2/15/23

LOCATION: SEE BORING LOCATION PLAN

WATER TABLE (ft): 5.5

DATE FINISHED: 2/15/23

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED

DATE OF READING: 2/17/23

DRILLED BY: PURA VIDA

EST. SHGWT (ft): 3.5

TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS		K (FT/DAY)	ORG. CONT. (%)
									LL	PI		
0						Very loose brown fine SAND with roots [SP]						
		1-1-1-1	2									
						-- light brown, no roots						
		1-1-2-2	3			GROUP A						
						Loose brown fine SAND with silt [SP-SM]						
5							6	20				
		2-1-2-2	3									
		2-2-3-3	5									
		2-3-3-4	6			GROUP B						
10						BORING TERMINATED AT 10.0 FT.						

W-12653.GPJ



UNIVERSAL ENGINEERING SCIENCES BORING LOG

PROJECT NO.: 0130.2300050.0000

REPORT NO.: 2004759

PAGE: B-2.3

PROJECT: PRELIMINARY GEOTECHNICAL EXPLORATION
VEDDER HOLSTERS, 1649 LINCOLN AVENUE
MT. DORA, LAKE COUNTY, FLORIDA

BORING I.D.: **B-03**

SECTION: 29

TOWNSHIP: 19 S

SHEET: **1 of 1**

RANGE: 27 E

CLIENT: VEDDER HOLSTERS, LLC

G.S. ELEVATION (ft): N.S.

DATE STARTED: 2/15/23

LOCATION: SEE BORING LOCATION PLAN

WATER TABLE (ft): 5.5

DATE FINISHED: 2/15/23

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED

DATE OF READING: 2/17/23

DRILLED BY: PURA VIDA

EST. SHGWT (ft): 3.5

TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	S A M P L E	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	S Y M B O L	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS		K (FT/DAY)	ORG. CONT. (%)
									LL	PI		
0						Very loose brown fine SAND [SP]						
		0-1-0-1	1									
				▽		GROUP A						
		1-0-1-1	1			Very loose gray fine SAND with silt [SP-SM]						
5				▽			7	21				
						GROUP B						
		1-1-1-2	2			Very loose gray fine SAND [SP]						
						-- loose						
						GROUP A						
		1-2-2-2	4									
		1-2-3-3	5									
10						BORING TERMINATED AT 10.0 FT.						

W-12653.GPJ



UNIVERSAL ENGINEERING SCIENCES BORING LOG

PROJECT NO.: 0130.2300050.0000

REPORT NO.: 2004759

PAGE: B-2.4

PROJECT: PRELIMINARY GEOTECHNICAL EXPLORATION
VEDDER HOLSTERS, 1649 LINCOLN AVENUE
MT. DORA, LAKE COUNTY, FLORIDA

BORING I.D.: **B-04**

SHEET: **1 of 1**

SECTION: 29

TOWNSHIP: 19 S

RANGE: 27 E

CLIENT: VEDDER HOLSTERS, LLC

G.S. ELEVATION (ft): N.S.

DATE STARTED: 2/15/23

LOCATION: SEE BORING LOCATION PLAN

WATER TABLE (ft): 5.5

DATE FINISHED: 2/15/23

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED

DATE OF READING: 2/17/23

DRILLED BY: PURA VIDA

EST. SHGWT (ft): 3.5

TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS		K (FT/DAY)	ORG. CONT. (%)
									LL	PI		
0						Very loose brown to light gray fine SAND [SP]						
		1-1-2-2	3									
				▽			4	6				
		2-1-2-2	3									
5				▽								
		2-1-1-2	2			GROUP A						
						Very loose brown fine SAND with silt, with roots [SP-SM]						
		2-2-2-3	4			-- medium dense						
10		4-6-6-7	12			GROUP B						
						BORING TERMINATED AT 10.0 FT.						

W-12653.GPJ



UNIVERSAL ENGINEERING SCIENCES BORING LOG

PROJECT NO.: 0130.2300050.0000

REPORT NO.: 2004759

PAGE: B-2.5

PROJECT: PRELIMINARY GEOTECHNICAL EXPLORATION
VEDDER HOLSTERS, 1649 LINCOLN AVENUE
MT. DORA, LAKE COUNTY, FLORIDA

BORING I.D.: **B-05**

SECTION: 29

TOWNSHIP: 19 S

SHEET: **1 of 1**

RANGE: 27 E

CLIENT: VEDDER HOLSTERS, LLC

G.S. ELEVATION (ft): N.S.

DATE STARTED: 2/15/23

LOCATION: SEE BORING LOCATION PLAN

WATER TABLE (ft): 5.5

DATE FINISHED: 2/15/23

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED

DATE OF READING: 2/17/23

DRILLED BY: PURA VIDA

EST. SHGWT (ft): 3.5

TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS		K (FT/DAY)	ORG. CONT. (%)
									LL	PI		
0						Very loose brown to light gray fine SAND [SP]						
		1-0-1-2	1									
				▽								
		1-2-1-2	3									
5				▼								
		1-2-2-2	4			-- loose						
							4	19				
		2-2-3-2	5									
		3-3-4-5	7									
10						GROUP A						
						BORING TERMINATED AT 10.0 FT.						

W-12653.GPJ



UNIVERSAL ENGINEERING SCIENCES BORING LOG

PROJECT NO.: 0130.2300050.0000

REPORT NO.: 2004759

PAGE: B-2.6

PROJECT: PRELIMINARY GEOTECHNICAL EXPLORATION
VEDDER HOLSTERS, 1649 LINCOLN AVENUE
MT. DORA, LAKE COUNTY, FLORIDA

BORING I.D.: **B-06**

SECTION: 29

TOWNSHIP: 19 S

SHEET: **1 of 1**

RANGE: 27 E

CLIENT: VEDDER HOLSTERS, LLC

G.S. ELEVATION (ft): N.S.

DATE STARTED: 2/15/23

LOCATION: SEE BORING LOCATION PLAN

WATER TABLE (ft): 5.5

DATE FINISHED: 2/15/23

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED

DATE OF READING: 2/17/23

DRILLED BY: PURA VIDA

EST. SHGWT (ft): 3.5

TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS		K (FT/DAY)	ORG. CONT. (%)
									LL	PI		
0						Very loose brown fine SAND with roots [SP]						
		1-0-1-1	1			GROUP A						
						Very loose light brown fine SAND with silt [SP-SM]						
						-- light brown, no roots	7	16				
		1-1-1-2	2	▽								
5												
		1-2-2-2	4	▼								
		2-1-2-3	3			-- loose, brown						
10		2-2-3-4	5			GROUP B						
						BORING TERMINATED AT 10.0 FT.						

W-12653.GPJ



UNIVERSAL ENGINEERING SCIENCES BORING LOG

PROJECT NO.: 0130.2300050.0000

REPORT NO.: 2004759

PAGE: B-2.7

PROJECT: PRELIMINARY GEOTECHNICAL EXPLORATION
VEDDER HOLSTERS, 1649 LINCOLN AVENUE
MT. DORA, LAKE COUNTY, FLORIDA

BORING I.D.: **B-07**

SECTION: 29

TOWNSHIP: 19 S

SHEET: **1 of 1**

RANGE: 27 E

CLIENT: VEDDER HOLSTERS, LLC

G.S. ELEVATION (ft): N.S.

DATE STARTED: 2/15/23

LOCATION: SEE BORING LOCATION PLAN

WATER TABLE (ft): 5.5

DATE FINISHED: 2/15/23

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED

DATE OF READING: 2/17/23

DRILLED BY: PURA VIDA

EST. SHGWT (ft): 3.5

TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS		K (FT/DAY)	ORG. CONT. (%)
									LL	PI		
0						Very loose brown to light brown fine SAND [SP]						
		1-0-1-2	1									
				▽								
		1-2-1-2	3			-- with roots						
5				▽								
		2-1-2-2	3			GROUP A Loose brown fine SAND with silt [SP-SM]						
		2-3-4-4	7									
10		3-3-4-2	7			GROUP B BORING TERMINATED AT 10.0 FT.						

W-12653.GPJ



UNIVERSAL ENGINEERING SCIENCES BORING LOG

PROJECT NO.: 0130.2300050.0000

REPORT NO.: 2004759

PAGE: B-2.8

PROJECT: PRELIMINARY GEOTECHNICAL EXPLORATION
VEDDER HOLSTERS, 1649 LINCOLN AVENUE
MT. DORA, LAKE COUNTY, FLORIDA

BORING I.D.: **B-08**

SHEET: **1 of 1**

SECTION: 29

TOWNSHIP: 19 S

RANGE: 27 E

CLIENT: VEDDER HOLSTERS, LLC

G.S. ELEVATION (ft): N.S.

DATE STARTED: 2/15/23

LOCATION: SEE BORING LOCATION PLAN

WATER TABLE (ft): 5.5

DATE FINISHED: 2/15/23

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED

DATE OF READING: 2/17/23

DRILLED BY: PURA VIDA

EST. SHGWT (ft): 3.5

TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMP PLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYM BOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS		K (FT/DAY)	ORG. CONT. (%)
									LL	PI		
0						Very loose brown to light brown fine SAND [SP]						
		1-2-1-1	3									
				▽								
		2-2-2-2	4			-- with roots						
5				▽								
		2-2-2-3	4			GROUP A Loose brown fine SAND with silt [SP-SM]						
		4-4-5-7	9									
						-- medium dense	7	15				
						GROUP B						
10		5-6-7-7	13			BORING TERMINATED AT 10.0 FT.						

W-12653.GPJ



UNIVERSAL ENGINEERING SCIENCES BORING LOG

PROJECT NO.: 0130.2300050.0000

REPORT NO.: 2004759

PAGE: B-2.9

PROJECT: PRELIMINARY GEOTECHNICAL EXPLORATION
VEDDER HOLSTERS, 1649 LINCOLN AVENUE
MT. DORA, LAKE COUNTY, FLORIDA

BORING I.D.: **B-09**

SHEET: **1 of 1**

SECTION: 29

TOWNSHIP: 19 S

RANGE: 27 E

CLIENT: VEDDER HOLSTERS, LLC

G.S. ELEVATION (ft): N.S.

DATE STARTED: 2/17/23

LOCATION: SEE BORING LOCATION PLAN

WATER TABLE (ft): 5.5

DATE FINISHED: 2/17/23

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED

DATE OF READING: 2/17/23

DRILLED BY: PURA VIDA

EST. SHGWT (ft): 3.5

TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS		K (FT/DAY)	ORG. CONT. (%)
									LL	PI		
0						Very loose brown to light brown fine SAND [SP]						
		1-2-2-1	4									
				▽								
		1-1-1-1	2									
5				▽								
		1-2-1-2	3			GROUP A Loose dark brown silty fine SAND & roots [SM]	13	22				
		2-3-2-3	5									
10		4-3-4-5	7			GROUP C BORING TERMINATED AT 10.0 FT.						

W-12653.GPJ



UNIVERSAL ENGINEERING SCIENCES BORING LOG

PROJECT NO.: 0130.2300050.0000

REPORT NO.: 2004759

PAGE: B-2.10

PROJECT: PRELIMINARY GEOTECHNICAL EXPLORATION
VEDDER HOLSTERS, 1649 LINCOLN AVENUE
MT. DORA, LAKE COUNTY, FLORIDA

BORING I.D.: **B-10**

SHEET: **1 of 1**

SECTION: 29

TOWNSHIP: 19 S

RANGE: 27 E

CLIENT: VEDDER HOLSTERS, LLC

G.S. ELEVATION (ft): N.S.

DATE STARTED: 2/17/23

LOCATION: SEE BORING LOCATION PLAN

WATER TABLE (ft): 5.5

DATE FINISHED: 2/17/23

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED

DATE OF READING: 2/17/23

DRILLED BY: PURA VIDA

EST. SHGWT (ft): 3.5

TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS		K (FT/DAY)	ORG. CONT. (%)
									LL	PI		
0						Very loose gray to brown fine SAND, trace of roots [SP]						
		0-1-0-0	1			-- brown to light brown, no roots						
				▽								
		1-1-1-3	2									
5				▽								
		2-1-1-2	2			GROUP A Very loose brown fine SAND with silt [SP-SM]						
		1-1-2-2	3									
						-- loose	8	12				
						GROUP B						
10		2-2-3-2	5			BORING TERMINATED AT 10.0 FT.						

W-12653.GPJ



UNIVERSAL ENGINEERING SCIENCES BORING LOG

PROJECT NO.: 0130.2300050.0000

REPORT NO.: 2004759

PAGE: B-2.11

PROJECT: PRELIMINARY GEOTECHNICAL EXPLORATION
VEDDER HOLSTERS, 1649 LINCOLN AVENUE
MT. DORA, LAKE COUNTY, FLORIDA

BORING I.D.: **B-11**

SHEET: **1 of 1**

SECTION: 29

TOWNSHIP: 19 S

RANGE: 27 E

CLIENT: VEDDER HOLSTERS, LLC

G.S. ELEVATION (ft): N.S.

DATE STARTED: 2/15/23

LOCATION: SEE BORING LOCATION PLAN

WATER TABLE (ft): 5.5

DATE FINISHED: 2/15/23

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED

DATE OF READING: 2/17/23

DRILLED BY: PURA VIDA

EST. SHGWT (ft): 3.5

TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS		K (FT/DAY)	ORG. CONT. (%)
									LL	PI		
0						Very loose brown fine SAND with roots [SP]						
		1-0-1-1	1									
				▽								
		1-2-2-3	4									
						GROUP A						
5				▽		Loose brown fine SAND with silt [SP-SM]						
		2-3-4-4	7				12	14				
		3-3-2-3	5									
						-- dense						
						GROUP B						
10		7-18-32-50/2'	50			BORING TERMINATED AT 10.0 FT.						

W-12653.GPJ



UNIVERSAL ENGINEERING SCIENCES BORING LOG

PROJECT NO.: 0130.2300050.0000

REPORT NO.: 2004759

PAGE: B-2.12

PROJECT: PRELIMINARY GEOTECHNICAL EXPLORATION
VEDDER HOLSTERS, 1649 LINCOLN AVENUE
MT. DORA, LAKE COUNTY, FLORIDA

BORING I.D.: **B-12**

SECTION: 29

TOWNSHIP: 19 S

SHEET: **1 of 1**

RANGE: 27 E

CLIENT: VEDDER HOLSTERS, LLC

G.S. ELEVATION (ft): N.S.

DATE STARTED: 2/17/23

LOCATION: SEE BORING LOCATION PLAN

WATER TABLE (ft): 5.5

DATE FINISHED: 2/17/23

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED

DATE OF READING: 2/17/23

DRILLED BY: PURA VIDA

EST. SHGWT (ft): 3.5

TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS		K (FT/DAY)	ORG. CONT. (%)
									LL	PI		
0						Very loose brown fine SAND [SP]						
		1-0-1-0	1									
				▽								
		1-1-0-1	1									
5				▽								
		1-2-1-2	3									
		1-1-2-2	3									
10		2-2-2-2	4			GROUP A						
						BORING TERMINATED AT 10.0 FT.						

W-12653.GPJ



UNIVERSAL ENGINEERING SCIENCES BORING LOG

PROJECT NO.: 0130.2300050.0000

REPORT NO.: 2004759

PAGE: B-2.13

PROJECT: PRELIMINARY GEOTECHNICAL EXPLORATION
VEDDER HOLSTERS, 1649 LINCOLN AVENUE
MT. DORA, LAKE COUNTY, FLORIDA

BORING I.D.: **B-13**

SECTION: 29

TOWNSHIP: 19 S

SHEET: **1 of 1**

RANGE: 27 E

CLIENT: VEDDER HOLSTERS, LLC

G.S. ELEVATION (ft): N.S.

DATE STARTED: 2/15/23

LOCATION: SEE BORING LOCATION PLAN

WATER TABLE (ft): 5.5

DATE FINISHED: 2/15/23

REMARKS: SHGWT = SEASONAL HIGH GROUNDWATER TABLE, N.S. = NOT SURVEYED

DATE OF READING: 2/17/23

DRILLED BY: PURA VIDA

EST. SHGWT (ft): 3.5






TYPE OF SAMPLING: ASTM D 1586

DEPTH (FT.)	SAMPLE	BLOWS PER 6" INCREMENT	N BLOWS / FT	W.T.	SYMBOL	DESCRIPTION	-200 (%)	MC (%)	ATTERBERG LIMITS		K (FT/DAY)	ORG. CONT. (%)
									LL	PI		
0						Very loose brown fine SAND with roots [SP]						
		0-0-1-1	1			-- loose						
		2-3-3-3	6	▽		GROUP A						
						Loose brown fine SAND with silt [SP-SM]						
5				▽								
		3-3-4-3	7			-- very loose	12	19				
		2-1-1-1	2			-- very dense						
10		7-16-50/2"	50/2"			GROUP B						
						BORING TERMINATED AT 10.0 FT.						

W-12653.GPJ



SYMBOLS AND ABBREVIATIONS

<u>SYMBOL</u>	<u>DESCRIPTION</u>
N-Value	No. of Blows of a 140-lb. Weight Falling 30 Inches Required to Drive a Standard Spoon 1 Foot
WOR	Weight of Drill Rods
WOH	Weight of Drill Rods and Hammer
	Sample from Auger Cuttings
	Standard Penetration Test Sample
	Thin-wall Shelby Tube Sample (Undisturbed Sampler Used)
RQD	Rock Quality Designation
	Stabilized Groundwater Level
	Seasonal High Groundwater Level (also referred to as the W.S.W.T.)
NE	Not Encountered
GNE	Groundwater Not Encountered
BT	Boring Terminated
-200 (%)	Fines Content or % Passing No. 200 Sieve
MC (%)	Moisture Content
LL	Liquid Limit (Atterberg Limits Test)
PI	Plasticity Index (Atterberg Limits Test)
NP	Non-Plastic (Atterberg Limits Test)
K	Coefficient of Permeability
Org. Cont.	Organic Content
G.S. Elevation	Ground Surface Elevation

UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS		GROUP SYMBOLS	TYPICAL NAMES
COARSE GRAINED SOILS More than 50% retained on the No. 200 sieve*	GRAVELS 50% or more of coarse fraction retained on No. 4 sieve	CLEAN GRAVELS	GW Well-graded gravels and gravel-sand mixtures, little or no fines
			GP Poorly graded gravels and gravel-sand mixtures, little or no fines
	SANDS More than 50% of coarse fraction passes No. 4 sieve	GRAVELS WITH FINES	GM Silty gravels and gravel-sand-silt mixtures
			GC Clayey gravels and gravel-sand-clay mixtures
	SANDS More than 50% of coarse fraction passes No. 4 sieve	CLEAN SANDS 5% or less passing No. 200 sieve	SW** Well-graded sands and gravelly sands, little or no fines
			SP** Poorly graded sands and gravelly sands, little or no fines
SANDS with 12% or more passing No. 200 sieve		SM** Silty sands, sand-silt mixtures	
		SC** Clayey sands, sand-clay mixtures	
FINE-GRAINED SOILS 50% or more passes the No. 200 sieve*	SILTS AND CLAYS Liquid limit 50% or less	ML	Inorganic silts, very fine sands, rock flour, silty or clayey fine sands
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, lean clays
		OL	Organic silts and organic silty clays of low plasticity
	SILTS AND CLAYS Liquid limit greater than 50%	MH	Inorganic silts, micaceous or diamicaceous fine sands or silts, elastic silts
		CH	Inorganic clays or clays of high plasticity, fat clays
		OH	Organic clays of medium to high plasticity
		PT	Peat, muck and other highly organic soils

*Based on the material passing the 3-inch (75 mm) sieve

** Use dual symbol (such as SP-SM and SP-SC) for soils with more than 5% but less than 12% passing the No. 200 sieve

RELATIVE DENSITY

(Sands and Gravels)

- Very loose – Less than 4 Blow/Foot
- Loose – 4 to 10 Blows/Foot
- Medium Dense – 11 to 30 Blows/Foot
- Dense – 31 to 50 Blows/Foot
- Very Dense – More than 50 Blows/Foot

CONSISTENCY

(Sils and Clays)

- Very Soft – Less than 2 Blows/Foot
- Soft – 2 to 4 Blows/Foot
- Firm – 5 to 8 Blows/Foot
- Stiff – 9 to 15 Blows/Foot
- Very Stiff – 16 to 30 Blows/Foot
- Hard – More than 30 Blows/Foot

RELATIVE HARDNESS

(Limestone)

- Soft – 100 Blows for more than 2 Inches
- Hard – 100 Blows for less than 2 Inches

MODIFIERS

These modifiers Provide Our Estimate of the Amount of Minor Constituents (Silt or Clay Size Particles) in the Soil Sample

- Trace – 5% or less
- With Silt or With Clay – 6% to 11%
- Silty or Clayey – 12% to 30%
- Very Silty or Very Clayey – 31% to 50%

These Modifiers Provide Our Estimate of the Amount of Organic Components in the Soil Sample

- Trace – Less than 3%
- Few – 3% to 4%
- Some – 5% to 8%
- Many – Greater than 8%

These Modifiers Provide Our Estimate of the Amount of Other Components (Shell, Gravel, Etc.) in the Soil Sample

- Trace – 5% or less
- Few – 6% to 12%
- Some – 13% to 30%
- Many – 31% to 50%

APPENDIX C



Important Information about This

Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

Geotechnical Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical-engineering study conducted for a civil engineer may not fulfill the needs of a constructor — a construction contractor — or even another civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client. No one except you should rely on this geotechnical-engineering report without first conferring with the geotechnical engineer who prepared it. *And no one — not even you — should apply this report for any purpose or project except the one originally contemplated.*

Read the Full Report

Serious problems have occurred because those relying on a geotechnical-engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

Geotechnical Engineers Base Each Report on a Unique Set of Project-Specific Factors

Geotechnical engineers consider many unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk-management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical-engineering report that was:

- not prepared for you;
- not prepared for your project;
- not prepared for the specific site explored; or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical-engineering report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light-industrial plant to a refrigerated warehouse;
- the elevation, configuration, location, orientation, or weight of the proposed structure;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes—even minor ones—and request an

assessment of their impact. *Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.*

Subsurface Conditions Can Change

A geotechnical-engineering report is based on conditions that existed at the time the geotechnical engineer performed the study. *Do not rely on a geotechnical-engineering report whose adequacy may have been affected by:* the passage of time; man-made events, such as construction on or adjacent to the site; or natural events, such as floods, droughts, earthquakes, or groundwater fluctuations. *Contact the geotechnical engineer before applying this report to determine if it is still reliable.* A minor amount of additional testing or analysis could prevent major problems.

Most Geotechnical Findings Are Professional Opinions

Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ — sometimes significantly — from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide geotechnical-construction observation is the most effective method of managing the risks associated with unanticipated conditions.

A Report's Recommendations Are Not Final

Do not overrely on the confirmation-dependent recommendations included in your report. *Confirmation-dependent recommendations are not final*, because geotechnical engineers develop them principally from judgment and opinion. Geotechnical engineers can finalize their recommendations *only* by observing actual subsurface conditions revealed during construction. *The geotechnical engineer who developed your report cannot assume responsibility or liability for the report's confirmation-dependent recommendations if that engineer does not perform the geotechnical-construction observation required to confirm the recommendations' applicability.*

A Geotechnical-Engineering Report Is Subject to Misinterpretation

Other design-team members' misinterpretation of geotechnical-engineering reports has resulted in costly

problems. Confront that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Constructors can also misinterpret a geotechnical-engineering report. Confront that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing geotechnical construction observation.

Do Not Redraw the Engineer's Logs

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical-engineering report should *never* be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, *but recognize that separating logs from the report can elevate risk.*

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can make constructors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give constructors the complete geotechnical-engineering report, *but* preface it with a clearly written letter of transmittal. In that letter, advise constructors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. *Be sure constructors have sufficient time* to perform additional study. Only then might you be in a position to give constructors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

Read Responsibility Provisions Closely

Some clients, design professionals, and constructors fail to recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that have led to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help

others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Environmental Concerns Are Not Covered

The equipment, techniques, and personnel used to perform an *environmental* study differ significantly from those used to perform a *geotechnical* study. For that reason, a geotechnical-engineering report does not usually relate any environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated environmental problems have led to numerous project failures.* If you have not yet obtained your own environmental information, ask your geotechnical consultant for risk-management guidance. *Do not rely on an environmental report prepared for someone else.*

Obtain Professional Assistance To Deal with Mold

Diverse strategies can be applied during building design, construction, operation, and maintenance to prevent significant amounts of mold from growing on indoor surfaces. To be effective, all such strategies should be devised for the *express purpose* of mold prevention, integrated into a comprehensive plan, and executed with diligent oversight by a professional mold-prevention consultant. Because just a small amount of water or moisture can lead to the development of severe mold infestations, many mold-prevention strategies focus on keeping building surfaces dry. While groundwater, water infiltration, and similar issues may have been addressed as part of the geotechnical-engineering study whose findings are conveyed in this report, the geotechnical engineer in charge of this project is not a mold prevention consultant; *none of the services performed in connection with the geotechnical engineer's study were designed or conducted for the purpose of mold prevention. Proper implementation of the recommendations conveyed in this report will not of itself be sufficient to prevent mold from growing in or on the structure involved.*

Rely, on Your GBC-Member Geotechnical Engineer for Additional Assistance

Membership in the Geotechnical Business Council of the Geoprofessional Business Association exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project. Confer with your GBC-Member geotechnical engineer for more information.



8811 Colesville Road/Suite G106, Silver Spring, MD 20910
Telephone: 301/565-2733 Facsimile: 301/589-2017
e-mail: info@geoprofessional.org www.geoprofessional.org

Copyright 2015 by Geoprofessional Business Association (GBA). Duplication, reproduction, or copying of this document, or its contents, in whole or in part, by any means whatsoever, is strictly prohibited, except with GBA's specific written permission. Excerpting, quoting, or otherwise extracting wording from this document is permitted only with the express written permission of GBA, and only for purposes of scholarly research or book review. Only members of GBA may use this document as a complement to or as an element of a geotechnical-engineering report. Any other firm, individual, or other entity that so uses this document without being a GBA member could be committing negligent or intentional (fraudulent) misrepresentation.

CONSTRAINTS & RESTRICTIONS

The intent of this document is to bring to your attention the potential concerns and the basic limitations of a typical geotechnical report.

WARRANTY

Universal Engineering Sciences has prepared this report for our client for his exclusive use, in accordance with generally accepted soil and foundation engineering practices, and makes no other warranty either expressed or implied as to the professional advice provided in the report.

UNANTICIPATED SOIL CONDITIONS

The analysis and recommendations submitted in this report are based upon the data obtained from soil borings performed at the locations indicated on the Boring Location Plan. This report does not reflect any variations which may occur between these borings.

The nature and extent of variations between borings may not become known until excavation begins. If variations appear, we may have to re-evaluate our recommendations after performing on-site observations and noting the characteristics of any variations.

CHANGED CONDITIONS

We recommend that the specifications for the project require that the contractor immediately notify Universal Engineering Sciences, as well as the owner, when subsurface conditions are encountered that are different from those present in this report.

No claim by the contractor for any conditions differing from those anticipated in the plans, specifications, and those found in this report, should be allowed unless the contractor notifies the owner and Universal Engineering Sciences of such changed conditions. Further, we recommend that all foundation work and site improvements be observed by a representative of Universal Engineering Sciences to monitor field conditions and changes, to verify design assumptions and to evaluate and recommend any appropriate modifications to this report.

MISINTERPRETATION OF SOIL ENGINEERING REPORT

Universal Engineering Sciences is responsible for the conclusions and opinions contained within this report based upon the data relating only to the specific project and location discussed herein. If the conclusions or recommendations based upon the data presented are made by others, those conclusions or recommendations are not the responsibility of Universal Engineering Sciences.

CHANGED STRUCTURE OR LOCATION

This report was prepared in order to aid in the evaluation of this project and to assist the architect or engineer in the design of this project. If any changes in the design or location of the structure as outlined in this report are planned, or if any structures are included or added that are not discussed in the report, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed and the conclusions modified or approved by Universal Engineering Sciences.

USE OF REPORT BY BIDDERS

Bidders who are examining the report prior to submission of a bid are cautioned that this report was prepared as an aid to the designers of the project and it may affect actual construction operations.

Bidders are urged to make their own soil borings, test pits, test caissons or other investigations to determine those conditions that may affect construction operations. Universal Engineering Sciences cannot be responsible for any interpretations made from this report or the attached boring logs with regard to their adequacy in reflecting subsurface conditions which will affect construction operations.

STRATA CHANGES

Strata changes are indicated by a definite line on the boring logs which accompany this report. However, the actual change in the ground may be more gradual. Where changes occur between soil samples, the location of the change must necessarily be estimated using all available information and may not be shown at the exact depth.

OBSERVATIONS DURING DRILLING

Attempts are made to detect and/or identify occurrences during drilling and sampling, such as: water level, boulders, zones of lost circulation, relative ease or resistance to drilling progress, unusual sample recovery, variation of driving resistance, obstructions, etc.; however, lack of mention does not preclude their presence.

WATER LEVELS

Water level readings have been made in the drill holes during drilling and they indicate normally occurring conditions. Water levels may not have been stabilized at the last reading. This data has been reviewed and interpretations made in this report. However, it must be noted that fluctuations in the level of the groundwater may occur due to variations in rainfall, temperature, tides, and other factors not evident at the time measurements were made and reported. Since the probability of such variations is anticipated, design drawings and specifications should accommodate such possibilities and construction planning should be based upon such assumptions of variations.

LOCATION OF BURIED OBJECTS

All users of this report are cautioned that there was no requirement for Universal Engineering Sciences to attempt to locate any man-made buried objects during the course of this exploration and that no attempt was made by Universal Engineering Sciences to locate any such buried objects. Universal Engineering Sciences cannot be responsible for any buried man-made objects which are subsequently encountered during construction that are not discussed within the text of this report.

TIME

This report reflects the soil conditions at the time of exploration. If the report is not used in a reasonable amount of time, significant changes to the site may occur and additional reviews may be required.



Appendix C – OnSyte Performance Sampling Plan

OnSyte Performance Sampling and QA/QC Procedures

Prior to a sampling event, the OnSyte Performance Distributed Wastewater Treatment Unit (DWTU) must be prepared for sampling. The operator in responsible charge will prepare the sequencing batch reactor (SBR) by placing the reactor in the clarification mode of operation. Samples are collected at the end of the clarification mode prior to the decant step.

Planning A Sampling Event

The sample collection personnel must plan in detail the following:

- Nature of the sampling event – process control, compliance, QA/QC
- Types of samples to collect, grab or composite
- Number of sampling locations and sample collection kits (include two extra)
- Inspect sample containers and lids for flaws (cracks, chips, etc.)
- Sample site accessibility and safety
- Tools for opening the underground DWTU
- Parameters to measure
- Volume, preservative, and container type for each parameter
- Sample collection methods
- Sampling equipment, grab sampler, ice boxes, ice, carboys
- Laboratory equipment, pH meter, spectrophotometer, Dissolved oxygen meter, etc.
- Laboratory supplies, pipets, beakers, paper towels, lens paper
- Laboratory chemicals, buffers, reagents, distilled water
- Flow measurements
- Representative sampling locations
- Sample holding times
- Contract laboratory notification
- Chain of custody requirements
- Indelible ink for documentation
- Operators' logbook documentation requirements
- Health and safety concerns
- Quality control parameters
- Personal protective equipment, gloves, glasses

Data collected in the field should include:

- Identification of the DWTU, station ID
- Name of the person collecting
- Date and time the DWTU begins the clarification/sedimentation mode of operation
- Date and time of sample collection from the decant
- Description of the sampling location
- Ground conditions, sinkhole, odor, standing water
- Type of container used, glass or plastic

- Indication of grab or composite
- Instantaneous flow reading
- Preservative used
- Field parameters measured on site
- Exact time of field analysis
- Parameters to be analyzed
- Date and time of delivery
- Name of the person delivering the samples
- Name of the person accepting the samples
- Unusual conditions of the environment
- Any noteworthy additional information

Observe the following guidelines while sampling:

- Check the cleanliness of the sampling equipment and containers before the initiation of sampling. Decontaminate if necessary.
- Wear unpowdered, disposable gloves.
- Collect samples where the water is well mixed.
- Collect samples in the center of the channel where the velocity is high and the chance of solids settling has been minimized.
- Collect samples at the locations specified by the permits.
- Collect grab samples with the mouth of the jar below the water surface and facing the flow to avoid any excess floating material.
- Collect sufficient volume to allow onsite testing and splitting samples with the contract laboratory.
- Split samples by collecting a sufficient volume and creating two subsamples. One subsample is used for process control testing and the other is divided into sample containers for the contract laboratory.
- Maintain an up-to-date logbook.
- Mix samples thoroughly before pouring the sample into the collection bottles.

When immediate sample analysis is not possible, take precautions to avoid altering the sample characteristics during storage. Follow these guidelines for sample handling and preservation:

- Minimize the number of people handling the samples.
- Follow the established chain of custody guidelines.
- Use the preservation methods and holding times specific to the tests to be analyzed.
- Follow the guidelines listed in 40 CFR part 136 of the Federal Register for methods of preservation, holding time and container type.
- Identify samples properly with moisture-resistant tags or labels that will withstand field conditions.
- Store samples on ice at 4°C.
- Keep samples in a secured area at all times.
- Deliver samples to the contract laboratory within the minimum holding time and with sufficient time for the laboratory to analyze the sample.

The following guidelines will prevent sample contamination during a sampling activity:

- Clean the sampling equipment and containers prior to the sampling activity and between sampling locations.
- Place samples in a tightly sealed container to eliminate contamination from the environment or from other samples.
- Identify sample containers properly with labels.

The objective of the chain of custody is to create an accurately written record that traces the possession and handling of all samples. The documentation begins from the moment of collection and continues through all phases of monitoring, delivery to the laboratory, transfer to laboratory personnel and throughout analysis. The chain of custody shows that the sample was properly collected, preserved and analyzed without tampering. The following guidelines are established to create a proper chain of custody:

- Document all activities related to a sampling event, including sample collection, equipment calibration, and sample transport.
- Document sample collection and each time a sample changes possession including:
 - Name of the person collecting the sample
 - Date and time of sample collection
 - Sampling location
 - Sample and station ID
 - Names and signatures of all persons transferring and handling the samples in the field and in the laboratory
- Other required chain of custody documentation:
 - Sample description
 - Sample matrix
 - Required analysis
- *Do not erase or use white out on sampling records.* Make corrections by marking one line through the error so that it is still legible. Initial or sign the marked error and its correction.

While on the site of the DWTU, which is possibly in a residential area, be cognizant of the following:

- Always leave the site of the treatment unit in good working condition
- Work as quietly as possible
- Do not leave behind trash, tools or other debris
- Properly reseal the treatment unit

OnSyte DWTU Sampling Selection Protocol – Lake Nellie Crossing (FLAB07446)

OnSyte’s fundamental objectives of high-performance wastewater treatment and continuous improvement are accomplished through high-performance sampling and testing. To this end, we must ensure that our treatment equipment is routinely monitored, appropriately adjusted for optimum performance, and routinely sampled to meet our regulatory and contract obligations. Unless otherwise directed by Regulatory Affairs, unit selection for monthly sampling shall be conducted according to the following protocol:

1. Review DWTU history from prior 30 days
 - a. Exclude units that have been commissioned within the last 30 days
 - b. Exclude units that fall outside of the 100-400 gpd design ADF range
 - c. Exclude units with treatment process changes in prior 30 days
 - d. Exclude units previously sampled in the prior 30 days¹
2. Remaining units in the DWTS are eligible for sampling
 - a. Determine the required quantity² of units for sampling
 - b. Select random³ units from the eligible list until the required quantity is met
3. When departing for sampling, bring at least 2 extra sample kits
4. All units selected for sampling will first be field tested with the Hach for TSS, Nitrite, Nitrate, and Ammonia and results recorded in the DWTS Test Log. If Hach results exceed >25mg/L combined NOx and NH₄:
 - a. The sample will be submitted to the lab with a request to split the sample for possible duplicate testing.
 - b. Additionally, select another eligible unit to be tested and sampled following the standard protocol
5. Standard sampling procedures shall be followed without exception. If the unit is observed to be in the wrong mode of operation for sampling, STOP, contact HQ, and prepare to move to another eligible unit.

1 Unless resampling is required for permit compliance or to verify performance after repairs

2 The FDEP DWTS permit requires a minimum of 3 units per month and a maximum of 5% of the units (or 5 units per month at full build out). Note, more units can be sampled, but not less.

3 Attempt to sample each eligible unit at least annually, which may require non-random selection, especially in the 4th quarter.

When results come back from the lab, if any result is greater than 10% different from the field test results, contact Regulatory Affairs. The lab will be contacted to request re-sampling, and if that is not available, the sample may be discarded. Regulatory Affairs will make this call.

Background sampling with the Hach meter may be performed on additional units for various purposes such as treatment process control, operational testing and routine maintenance. These sampling events shall follow the same protocols, including recording results in the DWTS Test Log, but they should be annotated as background testing.

Please contact Regulatory Affairs if you have any questions or ideas for improvement. Thank you for everything you do to support OnSyte Performance and our mission of high-performance wastewater treatment.

Mount Dora Small Bay Warehouse Units

Project: _____
 Subject: _____
 Date: September 2024
 Sheet No. 1

SALTUS
 ENGINEERING, INC.

Post Office Box 8969
 Fleming Island, FL 32006

BACKGROUND

It is proposed to build 41 small bay warehouse units in Mount Dora with a total combined indoor space of 54,000 square feet. These warehouse units are typically occupied by commercial and light industrial customers. The city of Mount Dora currently does not have wastewater service to this location at 1649 Lincoln Avenue, Mount Dora, FL 32757. The site is 4.63 acres in total.

Because wastewater service is not currently available, a Distributed Wastewater Treatment System, DWTS is proposed.

DESIGN Parameters

Given the types of business that lease the small bay warehouses, the maximum flow rate for Office/Commercial uses of 15 GPD/SF per 62-6 FAC is used with a Max Day factor of 2.0 and Peak Hour factor of 4.0..

$$\text{AADF} = 54000 \cdot \frac{15}{2} = 4050 \text{ GPD} \quad \text{Peak Hour Flow} = \frac{(4050 \cdot 4)}{1440} = 11.25 \text{ GPM}$$

$$\text{Flow per unit} = \frac{4050}{41} = 98.78 \text{ GPD}$$

Normal Domestic Strength Wastewater

$$\text{CBOD5} := 300 \frac{\text{mg}}{\text{L}} \quad \text{TSS} := 300 \frac{\text{mg}}{\text{L}} \quad \text{TKN} := 65 \frac{\text{mg}}{\text{L}}$$

Influent Lift Station

Wastewater from the small bay warehouses will be directed to an influent lift station at the DWTS site. The top elevation at the lift station site is 69' MSL and the invert from the collection system is at 60' MSL. Design lift station to have a maximum 5 cycles per hour and to have two pumps that will each pump the peak hour flow.

$$\text{Cycle Time, } T = \frac{60}{5} = 12 \text{ min}$$

Minimum Storage Volume will occur when pumping rate is twice the peak hour flow.

$$\text{SVmin} = (\text{Qout}) \cdot T_{\text{min}} / 4$$

$$\text{SVmin} = (2 \cdot 11.25) \cdot \frac{12}{4} = 67.5 \text{ gallons}$$

A 5 diameter wet well has a unit volume of 147 gal/foot of depth.

$$\text{Depth of Storage volume} = \frac{67.5}{147} = 0.46 \text{ ft} \quad \text{Say } 0.5 \text{ ft.}$$

Project: Mount Dora Small Bay Warehouse Units
 Subject: _____
 Date: September 2024
 Sheet No. 2

SALTUS
 ENGINEERING, INC.

Post Office Box 8969
 Fleming Island, FL 32006

Wet well elevations as follows:

Top elevation = 69'
 Invert elevation = 60'
 High Water Alarm = 59.5'
 Lag pump on = 59.5'
 Lead pump on = 59'
 All pumps off = 58.5"
 Wet well bottom = 56'

Total Depth of Wet Well = $69 - 56 = 13 \text{ ft}$

PUMP Selection

See Table 1 for Hydraulic Calculations and Figure 1 System Head Curve

Pump selected is a Liberty 230 Series Solids Handling pump that will deliver 28 GPM @ 11.8' TDH.

Buoyancy Calculations for Lift Station

Grade Elevation = 69.0 ft
 Depth to bottom of wet well = 13'

Neglect weight of pumps and fiberglass wet well

Assume complete saturation of soils and determine wt. of water displaced by wet well

$$\text{Volume of wet well} = \left(\left(\frac{60}{12} \right)^2 \cdot \frac{\pi}{4} \right) \cdot 13 = 255.2544 \text{ cf}$$

$$\text{Wt. of Water Displaced} = 255.2544 \cdot 62.4 = 15927.8746 \text{ lbs}$$

$$\text{Wt. of Concrete Ballast Required} = 16000 \text{ lbs}$$

$$\text{Volume of Concrete Required} = \frac{\left(\frac{16000}{150} \right)}{27} = 3.9506 \text{ Say 4.0 CY min}$$

Absorption Bed

Design two (2) absorption beds each to handle one-half of the average daily flow

$$\text{Flow per absorption bed} = \frac{4050}{2} = 2025 \text{ GPD}$$

Project: _____
 Subject: _____
 Date: September 2024
 Sheet No. 3

SALTUS
 ENGINEERING, INC.

Post Office Box 8969
 Fleming Island, FL 32006

The Web Soil Survey information on this site is included in the PDR. The soils in the location of the absorption bed is classified as "slightly limited" with an allowable surface loading rate of 1.5 GPD/sf. The saturated hydraulic conductivity = 198 micrometers/sec

$$\text{Area needed per absorption bed} = \frac{2025}{1.5} = 1350 \text{ SF}$$

$$\text{Area provide for each bed} = 85 \cdot 16 = 1360 \text{ SF}$$

The Geotechnical Report prepared by Universal Engineering Sciences states the seasonal high water table is 3.5 feet below the surface. The boring B-1 is in the location of the proposed absorption beds. This boring was to a depth of 10' below the surface and shows uniform soil profile of very loose fine sand requiring only 1 blow per foot to a depth of 6 feet, increasing to 2 blows per foot at 8' and 5 blows per foot at 10'.

A POND3.3 model was prepared and modeled for a 365 day period. The end of simulation results along with the model inputs is attached. The results show a ground water mound will develop beneath the adsorption bed that will rise to a depth of 66.1 feet. Therefore, the bottom of the Presby distribution pipes shall be set 2 feet above at 68.1 feet and backfilled with sandy soils meeting the Presby specification to a top elevation of 69.5' and then 6" of top soil to a top elevation of 70'. The top and any side slopes shall be sodded with bahia grass.

Bouancy Calculations DWTU Tanks

1. Determine the Volume of Water Displaced.

Tank Dimensions, 3,000 gallon tank

$$\text{Avg Length} = \frac{\left(\frac{187.625 + 183.5}{2} \right)}{12} = 15.46 \text{ ft}$$

$$\text{Avg Width} = \frac{\left(\frac{99.5 + 95}{2} \right)}{12} = 8.1 \text{ ft}$$

$$\text{Depth} = \frac{(58.5 + 5)}{12} = 5.29 \text{ ft}$$

$$\text{Volume, 3000 gal} = 15.46 \cdot 8.1 \cdot 5.29 = 662.45 \text{ cu ft}$$

Tank Dimensions, 2000 gallon tank

$$\text{Avg length} = \frac{\left(\frac{150 + 148}{2} \right)}{12} = 12.42 \text{ ft}$$

$$\text{Avg Width} = \frac{\left(\frac{78 + 76}{2} \right)}{12} = 6.42 \text{ ft}$$

Project: Mount Dora Small Bay Warehouse Units
 Subject: _____
 Date: September 2024
 Sheet No. 4

SALTUS
 ENGINEERING, INC.

Post Office Box 8969
 Fleming Island, FL 32006

$$\text{Depth} = \frac{(68)}{12} = 5.67 \quad \text{ft}$$

$$\text{Volume 2000 gall} = 12.42 \cdot 6.42 \cdot 5.67 = 452.11 \quad \text{cu ft}$$

2. Determine the Weight of Water Displaced

$$3000 \text{ Gal Tank} = 662.45 \cdot 62.4 = 4.13 \cdot 10^4 \text{ lbs}$$

$$2000 \text{ Gal Tank} = 452.11 \cdot 62.4 = 2.82 \cdot 10^4 \text{ lbs}$$

3. Weight of Tanks with lids

$$2500 \text{ Gal Tank} = 23,370 \text{ lbs}$$

$$2000 \text{ Gal Tank} = 16,000 \text{ lbs}$$

4. Determine Area of Lid

$$3000 \text{ Gal Tank, A} = \frac{(187.625 \cdot 99.5)}{144} = 129.64 \text{ SF}$$

$$2000 \text{ Gal Tank, A} = \frac{(150 \cdot 76)}{144} = 79.17 \text{ SF}$$

5. Determine Volume and Weight of soil over tanks. Assume 2 feet of cover.

$$3000 \text{ Gal Tank, soil volume} = (129.64 \cdot 2) = 259.28 \text{ cu ft}$$

$$\text{soil weight} = 259.28 \cdot 100 = 2.59 \cdot 10^4 \text{ lbs}$$

$$2000 \text{ Gal Tank, soil volume} = 79.17 \cdot 2 = 158.34 \text{ cu ft}$$

$$\text{soil weight} = 158.34 \cdot 100 = 1.58 \cdot 10^4 \text{ lbs}$$

6. Determine Weight of Concrete and soil

$$3000 \text{ gal tank} = 23370 + 25900 = 4.93 \cdot 10^4 \text{ lbs}$$

$$2000 \text{ Gal Tank} = 13415 + 15800 = 2.92 \cdot 10^4 \text{ lbs}$$


7. Determine Factor of Safety

$$2500 \text{ Gal Tank} = \frac{49300}{41300} = 1.19 \quad \text{okay (greater than 1.0)}$$

$$2000 \text{ Gal Tank} = \frac{29200}{28200} = 1.04 \quad \text{okay (greater than 1.0)}$$



TO: Planning Department
City of Mt. Dora, FL

FROM: Mina Atassi, E.I.
Turgut Dervish, P.E. 

DATE: February 29, 2024

RE: **Trip Generation Memorandum**
G3 Mini-Warehouse Development Mt. Dora
TPD No. 5908

This trip generation memorandum is provided in support of a G3 Warehouse development in the City of Mount Dora, Florida. The site is located on Lincoln Avenue approximately 1,000 feet west of US 441. **Figure 1** depicts the site location. The proposed development will consist of 54,000 square feet of mini-warehousing space which includes 4,058 square-feet of small office spaces for warehouse operation. The estimated completion year of the project is 2025. Access to the site will be provided via two full access driveways on Lincoln Avenue. **Figure 2** provides a preliminary conceptual plan.

Trip Generation

The trip generation of the proposed development was calculated with the use of data from the *11th Edition of the Institute of Transportation Engineers (ITE) Trip Generation Manual*. The results of the trip generation calculations are summarized in **Table 1** and ITE trip generation sheets are included in **Attachment A**. As shown in the table, the project is expected to generate 78 daily trips of which 5 will occur in the A.M. peak hour and 8 will occur in the P.M. peak hour.

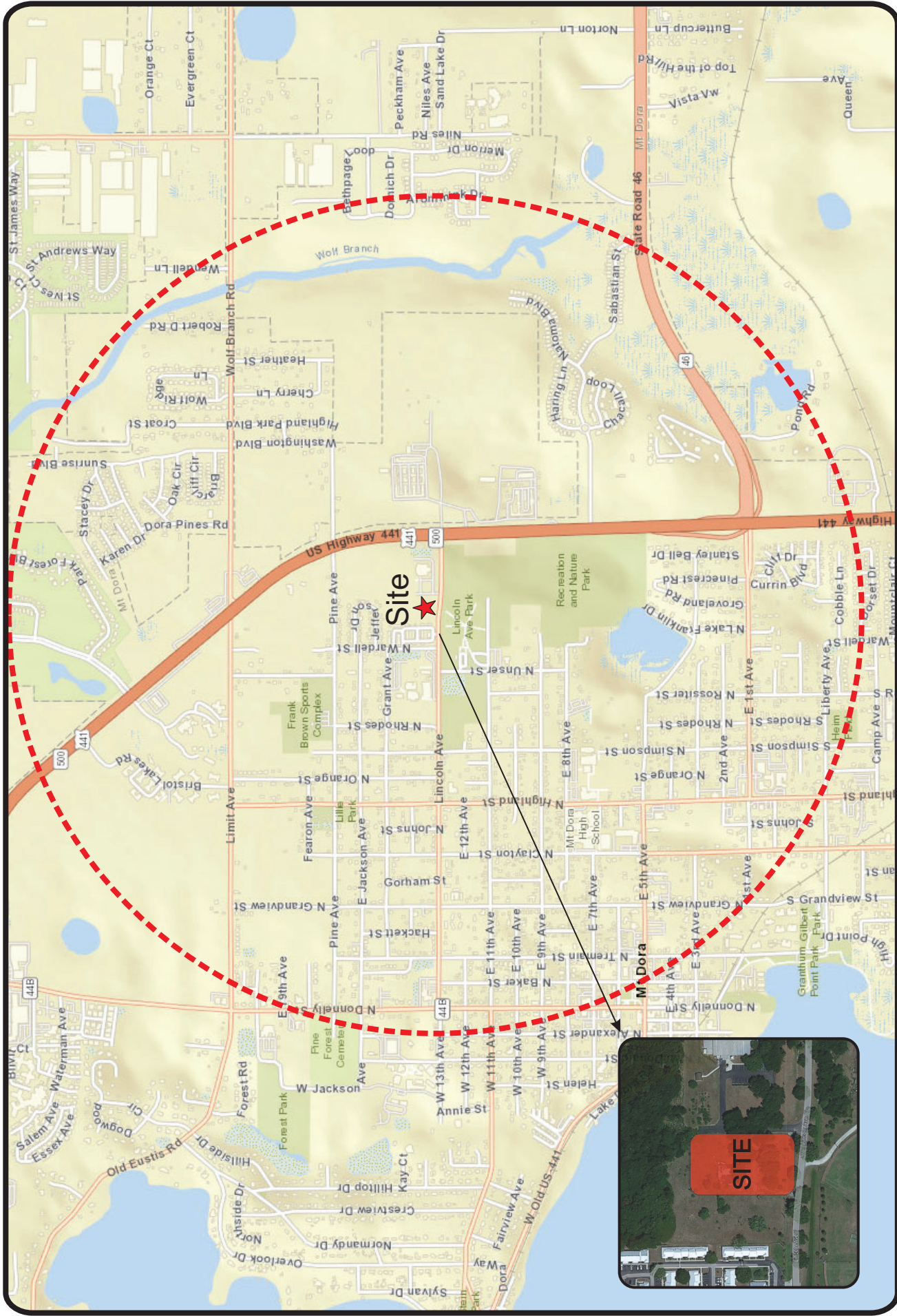
Table 1: Trip Generation Summary

LUC	Land Use	Size (KSF) (1)	Daily		AM Peak Hour			PM Peak Hour				
			Rate (2)	Trips	Rate (2)	Enter	Exit	Total	Rate (2)	Enter	Exit	Total
151	Mini-Warehouse	54.000	1.45	78	0.09	3	2	5	0.15	4	4	8
Total New Trips				78	--	3	2	5	--	4	4	8

Notes:

(1) KSF = 1,000 square feet

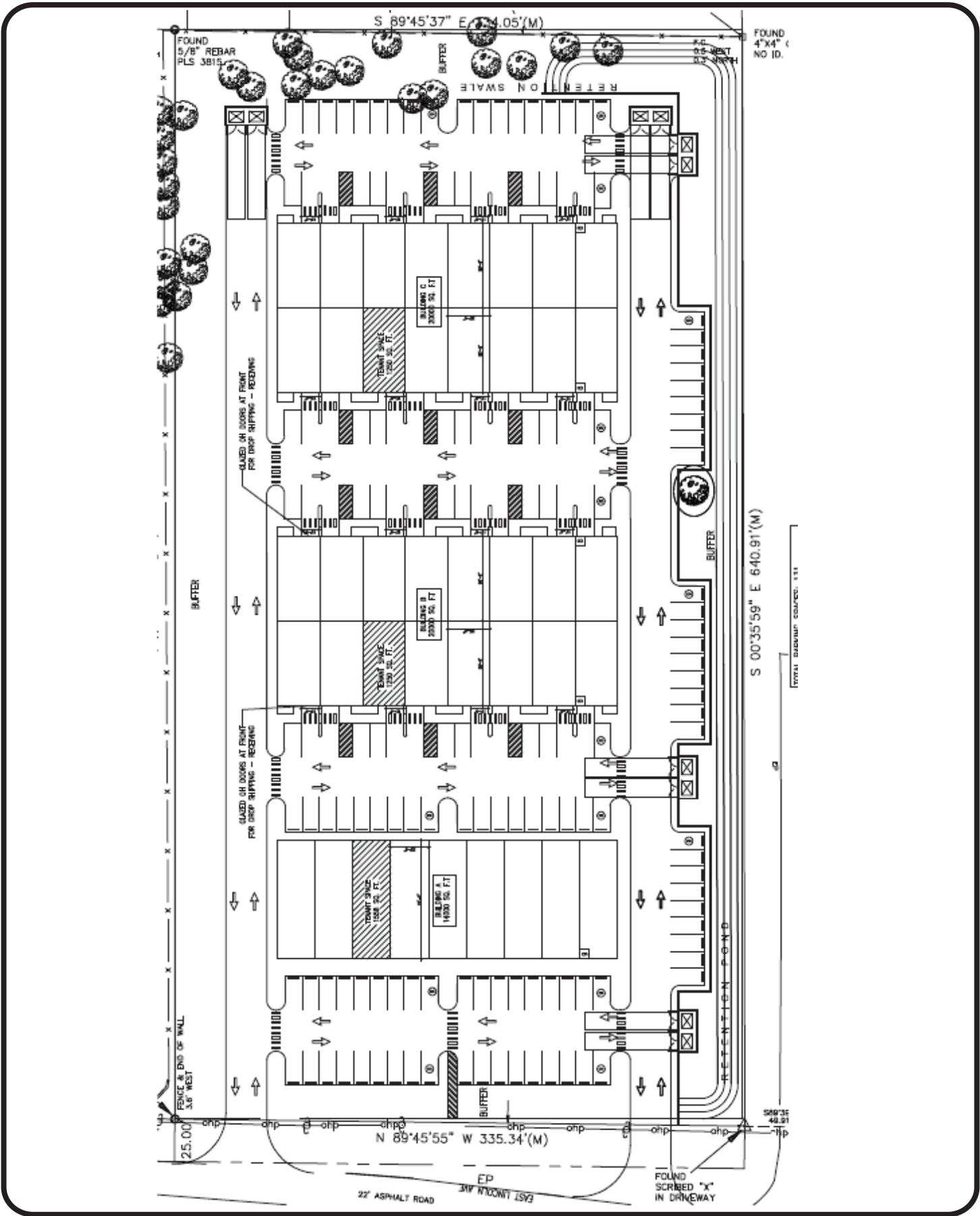
(2) ITE rates used



Site Location

G3 Mini-Warehouse Development
 Project No 5908
 Figure 1





G3 Mini-Warehouse Development
 Project № 5908
 Figure 2

Site Plan



Conclusions

The proposed development consists of 54,000 square feet of mini-warehouse space which includes office space that serves the warehouse’s daily operation. The proposed project’s trip generation (78 daily, 5 A.M. and 8 P.M. new trips) is believed to have minimal impact on the roadway segments within the project’s area of influence. As shown in **Table 2**, the project will consume less than 1% of the adjacent roadway capacity on Lincoln Avenue.

Roadway Segment	Lanes	Adopted (2-Way)		Project Trips		Significance
		LOS*	Capacity**	%	Volume	
Lincoln Ave						
US 441 to Donnelly St	2 LU	E	1,230	100%	8	0.65%

* Based on the City's Comprehensive Plan

** Based on FDOT's QLOS Tables. 2023 for area type C2

As documented herein, the adjacent roadway segment has ample capacity to accommodate the new trips generated by the proposed project. Therefore, an exemption from a Tier 1 Traffic Impact Analysis is requested.



Attachment A

Trip Generation Information

Mini-Warehouse (151)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday

Setting/Location: General Urban/Suburban

Number of Studies: 16

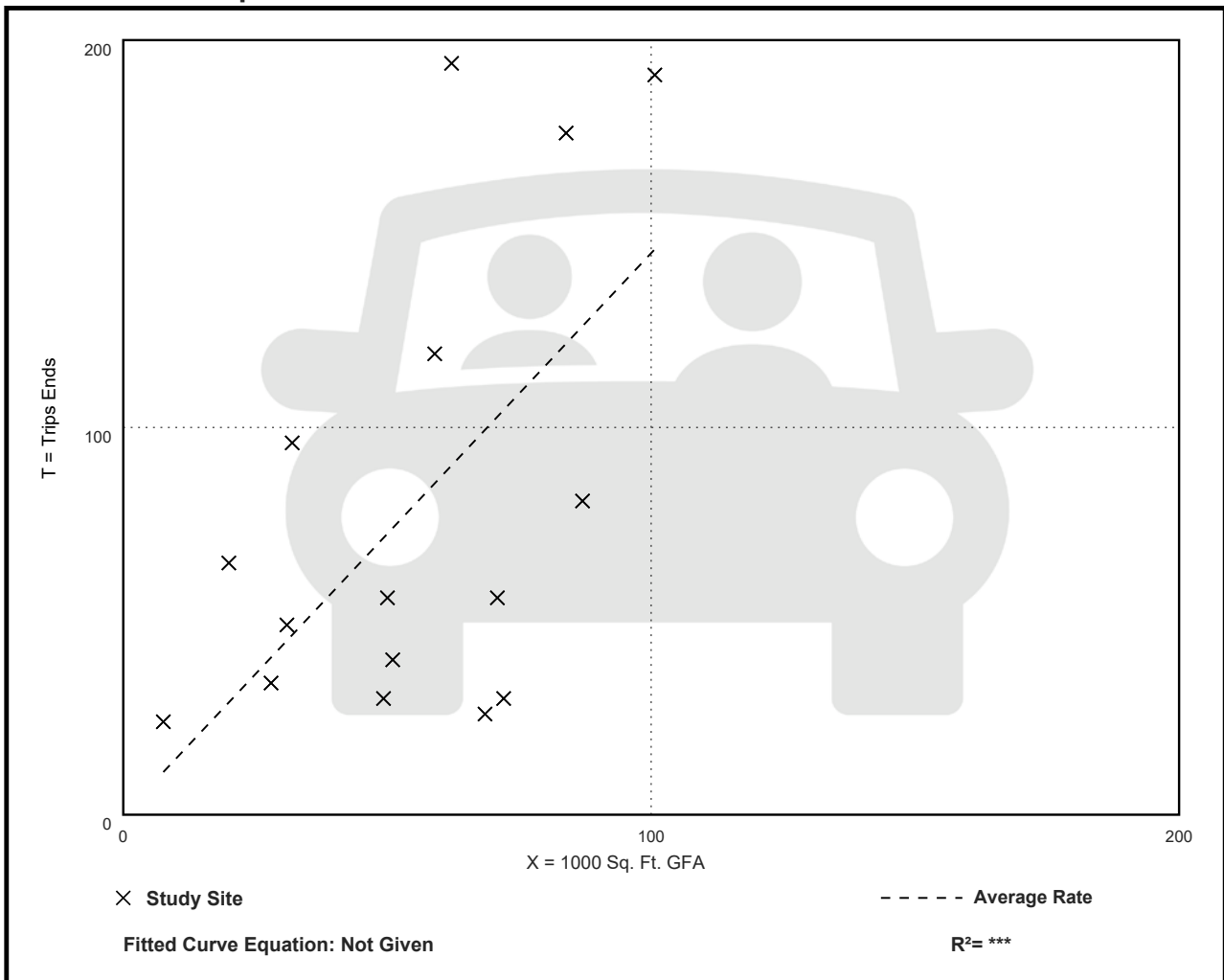
Avg. 1000 Sq. Ft. GFA: 55

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.45	0.38 - 3.25	0.92

Data Plot and Equation



Mini-Warehouse (151)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 13

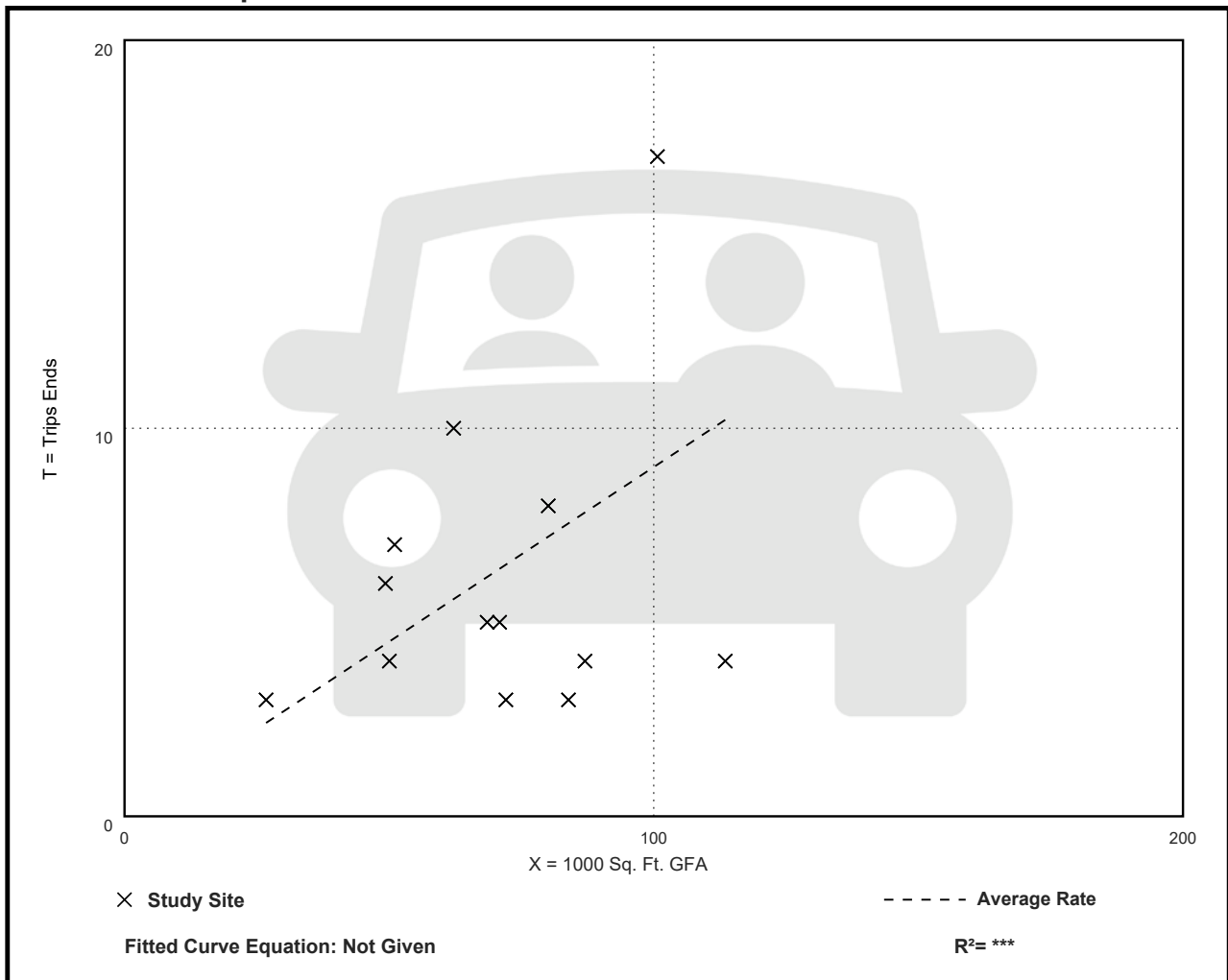
Avg. 1000 Sq. Ft. GFA: 70

Directional Distribution: 59% entering, 41% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.09	0.04 - 0.17	0.05

Data Plot and Equation



Mini-Warehouse (151)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 18

Avg. 1000 Sq. Ft. GFA: 59

Directional Distribution: 47% entering, 53% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.15	0.02 - 0.64	0.14

Data Plot and Equation

