



SITE PLAN REVIEW COMMITTEE MEETING ZEPHYRHILLS, FLORIDA

**Tuesday, February 21, 2023
9:30 AM**

**Zephyrhills
City Hall**

**Council
Chambers**

The City Of Zephyrhills will maintain quorum in council chambers and will host a virtual meeting to allow the public to attend virtually. Please use the following information to access the meeting view phone, computer or tablet.

Site Plan Review Committee 2/21/23
Feb 21, 2023, 9:30 – 11:00 AM (America/New_York)

Please join my meeting from your computer, tablet or smartphone.
<https://meet.goto.com/700852973>

You can also dial in using your phone.
Access Code:
700-852-973
United States:
[+1 \(872\) 240-3212](tel:+18722403212)

Call to Order – Planning Director

1. PLANNING ITEMS

1.1 SPR-0058-22_Squirrel Storage (Airport Road)

Site Development Plans submitted by Rizzo Self Storage of Zephyr Hills, LLC for a 54,550 sq. ft. self-storage facility on approximately 6.51 acres of real property generally located on the west side of Airport Road, north of Old Barracks Road and east of the CSX Railroad.

1. SPR-0058-22_Civil Set
2. SPR-0058-22_Drainage Narrative

3. SPR-0058-22_Geotech
 4. SPR-0058-22_Trip Generation (De Minimus)
- 1.2 SPR 59-23 Tractor Supply Site Modifications

ADJOURN

*** PLEASE NOTE: This is a Public Meeting. Should any interested party seek to appeal any decision made by the Council with respect to any matter considered at such meeting or hearing, he or she will need a record of the proceedings, and that, for such purpose, he or she may need to ensure that a verbatim record of the proceeding is made, which record includes the testimony and evidence upon which the appeal is to be based. F.S. 286.0105. If you are a person with a disability which requires reasonable accommodation in order to participate in this meeting, please contact the City Clerk at 813/780-0000 at least 48 hours prior to the public hearing. A.D.A. and F.S. 286.26.**

STAFF REPORT

To:

From:

RE: SPR-0058-22_Squirrel Storage (Airport Road)
Site Development Plans submitted by Rizzo Self Storage of Zephyr Hills, LLC for a 54,550 sq. ft. self-storage facility on approximately 6.51 acres of real property generally located on the west side of Airport Road, north of Old Barracks Road and east of the CSX Railroad.

Date: February 21, 2023

I. BACKGROUND & INFORMATION

- A. History | Application Summary
- B. Site Information
 - 1. Applicant/Owner:
 - 2. File #:
 - 3. Historic Designation:
 - 4. Acreage:
 - 5. Existing Land Use:
 - 6. Current FLU:
 - 7. Proposed FLU:
 - 8. Existing Zoning:
 - 9. Current Zoning:

II. DATA & ANALYSIS

- A. Character Analysis
- B. Compatibility Analysis
- C. Natural & Historic Resources Analysis
- D. Public Service Analysis & Impact
- E. Comprehensive Plan Consistency

III. RECOMMENDATION

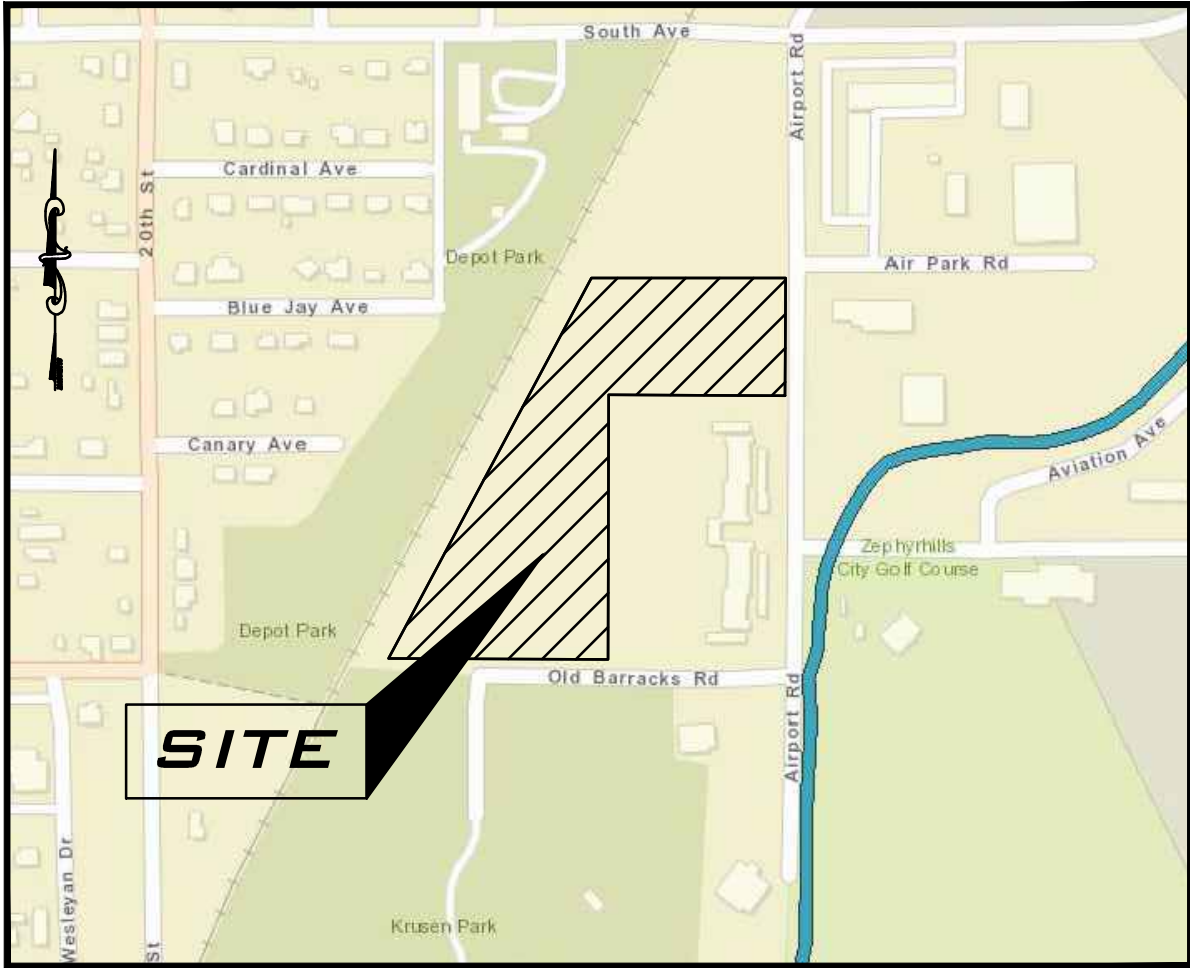
- A. Staff / Site Plan Review Committee
- B. Historic Preservation Board
- C. Planning Commission
- D. Board of Adjustment

**SITE PLAN
FOR
SQUIRREL STORAGE
AIRPORT ROAD & OLD BARRACKS ROAD
ZEPHYRHILLS, FL 33542**

INDEX OF DRAWINGS

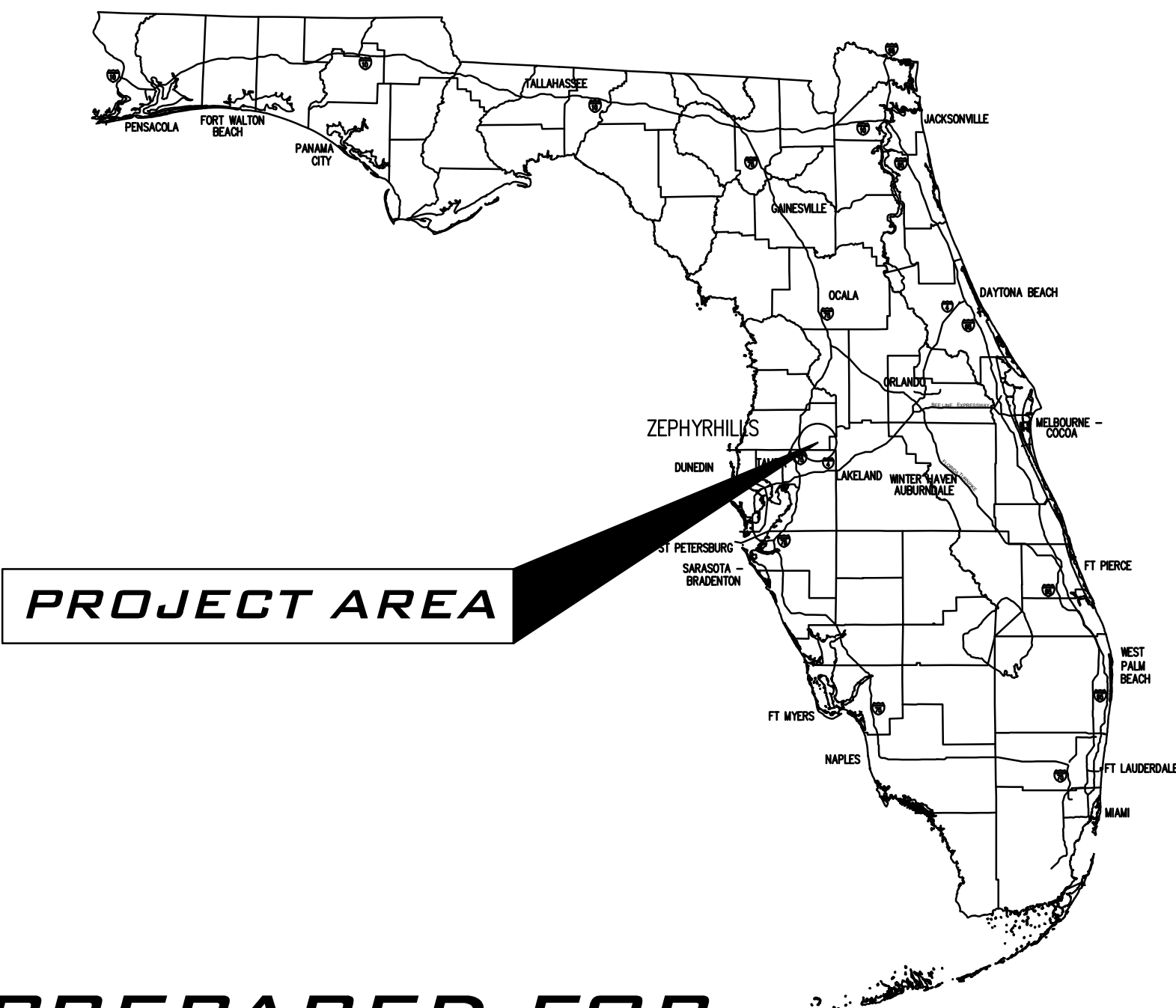
DRAWING TITLE	SHEET NO.
COVER SHEET	1
EX. COND./DEMO. & SOIL EROSION CONTROL PLAN	2-3
TREE INVENTORY PLAN & REPORT	4-8
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PAVING, GRADING & DRAINAGE PLAN	11-12
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SPECIFICATIONS	19

VICINITY MAP



SECTION 13, TOWNSHIP 26S, RANGE 21E
PASCO COUNTY, FLORIDA

LOCATION MAP



PREPARED FOR

**SQUIRREL STORAGE LLC
ATTN: KEVIN MARTIN
16395 BROOKFIELD ESTATES WAY
DELRAY BEACH, FL 33446
(315) 538-9149**

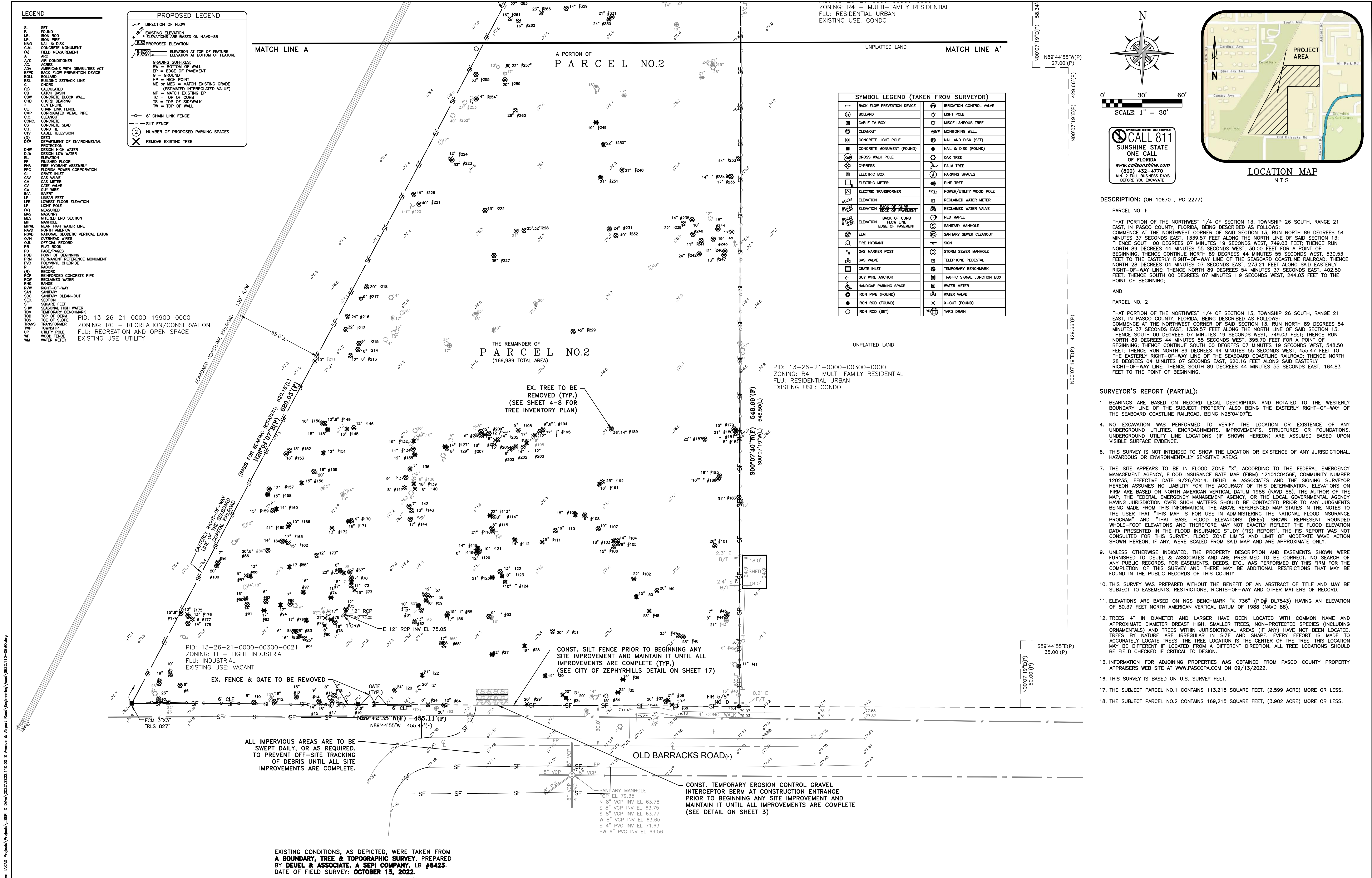
DEUEL & ASSOCIATES

A SEPI COMPANY, A DIVISION OF TRANSYSTEMS

565 SOUTH HERCULES AVENUE
CLEARWATER, FL 33764
PHONE 727.822.4151
WWW.DEUELENGINEERING.COM

I, CHRISTOPHER A. CHIN, HEREBY CERTIFY AS A LICENSED PROFESSIONAL ENGINEER, REGISTERED IN ACCORDANCE WITH FLORIDA STATUTE 471 (461) THAT THE ABOVE PROJECT'S SITE AND/OR CONSTRUCTION PLANS, TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, WILL MEET APPLICABLE DESIGN CRITERIA SPECIFIED BY CITY MUNICIPAL ORDINANCE, STATE AND FEDERAL ESTABLISHED STANDARDS. I UNDERSTAND THAT IT IS MY RESPONSIBILITY AS THE PROJECT'S PROFESSIONAL ENGINEER TO PERFORM A QUALITY ASSURANCE REVIEW OF THESE SUBMITTED PLANS.		Digitally signed by Christopher Chin	WORK ORDER NO. SE22.110.00
		Date: 2022.12.16 12:18:06 -05'00'	DATE: DECEMBER 13, 2022
		CHRISTOPHER A. CHIN, P.E. 84365	SCALE: N.T.S. SHEET NO. 1 OF 19

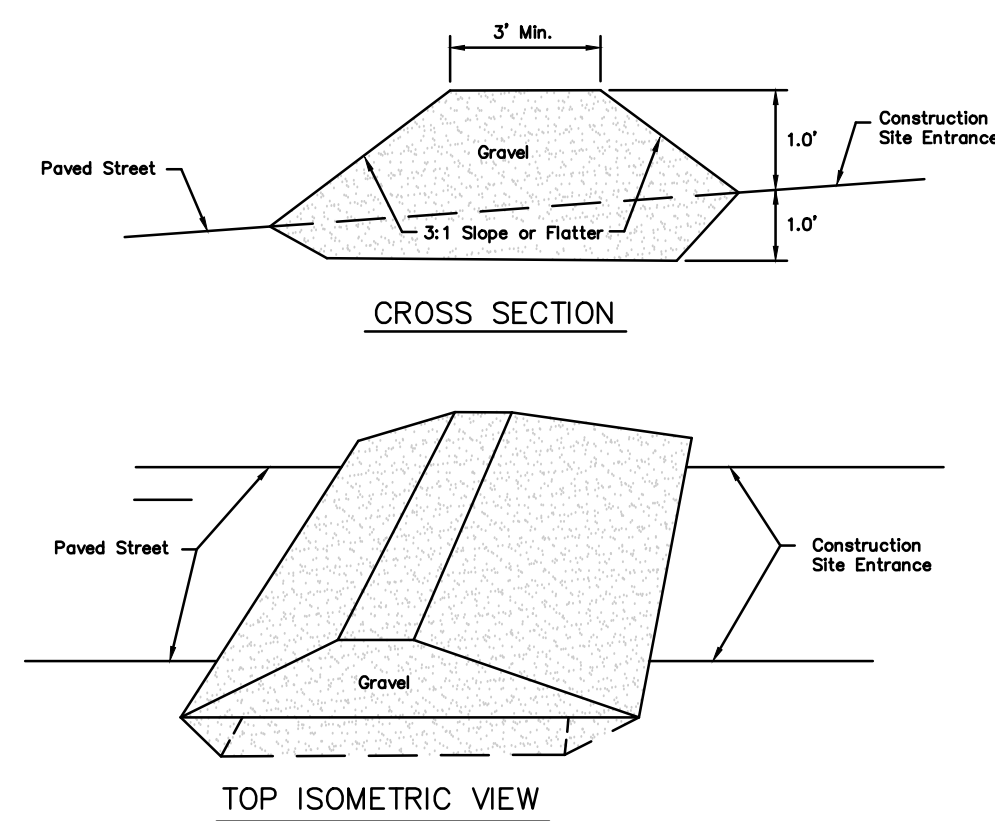
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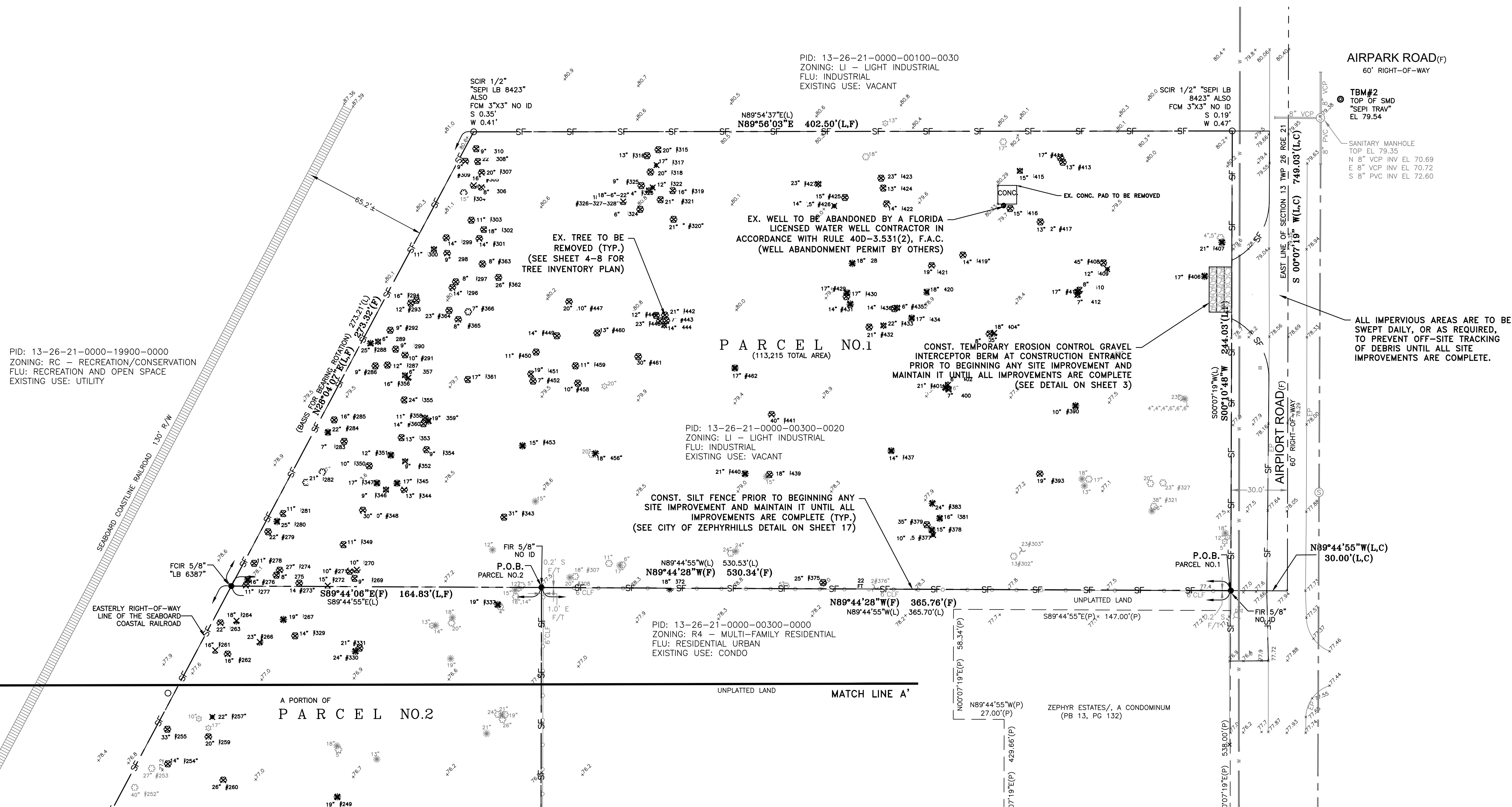
Dec 13, 2022 - 7:10pm I:\GAD Projects\Projects\SE22.110.00 S Avenue & Airport Road\Engineering\Visual\SE22.110.00.dwg

S. SET
S.I. IRON ROD
S.L. IRON PIPE
S.M. MISC. & DISK
C.M. CONCRETE MONUMENT
C.M. FIELD MEASUREMENT
A/C AIR CONDITIONER
ACR ACRES
A.D. AIRBORNE WITH DISABILITIES ACT
BFLD BACK FLOW PREVENTION DEVICE
BFLD BACK FLOW
B.S. BUILDING SETBACK LINE
CHB CALCULATED
C.B. CATCH BASIN
C.B. CONCRETE BLOCK WALL
CHB CHORD BEARING
CEN CENTERLINE
CLF CHAIN LINK FENCE
C.M. CURBING MATERIAL PIPE
C.C. CLEANOUT
C.O. CONCRETE
S.C. CONCRETE SLAB
C.C. CURB TIE
C.TV CABLE TELEVISION
D.D. DEAD
DEP DEPARTMENT OF ENVIRONMENTAL PROTECTION
DWH DESIGN HIGH WATER
L.E. ELEVATION
F.F. FINISHED FLOOR
T.H. TIE HYDRANT ASSEMBLY
FPC FLORIDA POWER CORPORATION
G.V. GAS VALVE
G.W. GAS WETTER
G.V. GATE VALVE
G.W. GUY WIRE
INV. INVERT
L.F. LOWEST FLOOR ELEVATION
L.F. LIGHT FOOT
M. MEASURED
M.S. MASONRY
M.M. MITTRED END SECTION
M.M. MANHOLE
M.W. MEAN HIGH WATER LINE
NAD NORTH AMERICAN GEODETIC VERTICAL DATUM
O/H OVERHEAD WIRE
O/H OVERHEAD RECORD
PB. PLASTIC BOULDER
P.P. PAGE/PAGES
P.O.B. POINT OF BEGINNING
P.O.B. POINT OF BEGINNING MONUMENT
P.V. POLYVINYL CHLORIDE
R. RADIUS
R. RECORD
RCP REINFORCED CONCRETE PIPE
R.W. RIGHTEOF WAY
RNG. RANGE
RNG. RANGE
RNG. RIGHT-OF-WAY
S.S. SAND
S.S. SANITARY
S.C. SANITARY CLEAN-OUT
SEC. SECTION
S.S. SQUARE FEET
S.W. SEASONAL HIGH WATER
T.B. TEMPORARY BENCHMARK
T.O.B. TOP OF BERM
T.O.S. TOP OF SLOPE
TRANS. TRANSFORMER
TOWNSHIP
U.P. UTILITY POLE
W.F. WOOD FENCE
W.P. WATER METER

* DIRECTION OF FLOW
 * EXISTING ELEVATION
 * ELEVATIONS ARE BASED ON NAVD-88
 R 8.8724 PROPOSED ELEVATION
 R 8.8724 ELEVATION AT TOP OF FEATURE
 R 8.8723 ELEVATION AT BOTTOM OF FEATURE
 GRADING SUFFICES:
 BW = BOTTOM OF WALL
 E = EDGE OF PAVEMENT
 G = HIGH POINT
 ME OR MED = MATCH EXISTING GRADE
 (ESTIMATED INTEGRATED VALUE)
 MP = MATCH EXISTING TP
 TC = TOP OF CURB
 TS = TOP OF SIDEWALK
 TW = TOP OF WALL
 —○— 6' CHAIN LINK FENCE
 —○— SILT FENCE
 (2) NUMBER OF PROPOSED PARKING SPACES
 REMOVE EXISTING TREE



TEMPORARY EROSION CONTROL
GRAVEL INTERCEPTOR BERM
N.T.S.



EXISTING CONDITIONS, AS DEPICTED, WERE TAKEN FROM
A BOUNDARY, TREE & TOPOGRAPHIC SURVEY, PREPARED
BY DEUEL & ASSOCIATE, A SEPI COMPANY, LB #8423.
DATE OF FIELD SURVEY: OCTOBER 13, 2022.

				DESIGN:	XC
				DRAWN:	XC
REV.#	DATE	REVISION	BY	CHECKED:	CAC

DEUEL & ASSOCIATES
A SEPI COMPANY, A DIVISION OF TRANSYSTEMS

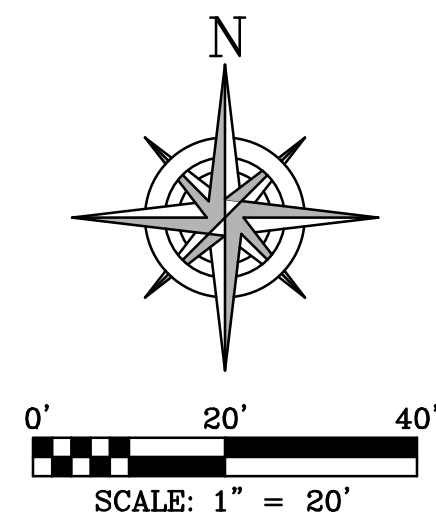
565 SOUTH HERCULES AVENUE
CLEARWATER, FL 33764
PHONE 727.822.4151
WWW.DEUELENGINEERING.COM

SQUIRREL STORAGE EX. COND./DEMO. & SOIL EROSION CONTROL PLAN

I, CHRISTOPHER A. CHIN, HEREBY CERTIFY AS A LICENSED PROFESSIONAL ENGINEER, REGISTERED IN ACCORDANCE WITH FLORIDA STATUTE 471 (481) THAT THE PROJECT'S SITE AND/OR CONSTRUCTION PLANS, TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, WILL MEET APPLICABLE DESIGN CRITERIA SPECIFIED BY CITY MUNICIPAL ORDINANCE, STATE AND FEDERAL ESTABLISHED STANDARDS. I UNDERSTAND THAT IT IS MY RESPONSIBILITY AS THE PROJECT'S PROFESSIONAL ENGINEER TO PERFORM A QUALITY ASSURANCE REVIEW OF THESE SUBMITTED PLANS.

CHRISTOPHER A. CHIN, P.E. 84365

PROJECT NO.	SE22.110.00
DATE:	DECEMBER 13, 2022
SCALE:	1" = 30'
SHEET NO.	3 OF 19



Dec 13, 2022 - 7:51pm I:\CAD Projects\Projects\SEPI X Drive\2022\SE22.110.00 S Avenue & Airport Road\Engineering\Draw\SE22.110-00 TREE INVENTORY.dwg

REV.	DATE	REVISION	BY	CHECKED	LC

DESIGN: LC

DRAWN: LC

CHECKED: LC

BY

CHECKED

LC

DEUEL & ASSOCIATES

A SEPI COMPANY, A DIVISION OF TRANSYSTEMS

565 SOUTH HERCULES AVENUE
CLEARWATER, FL 33764
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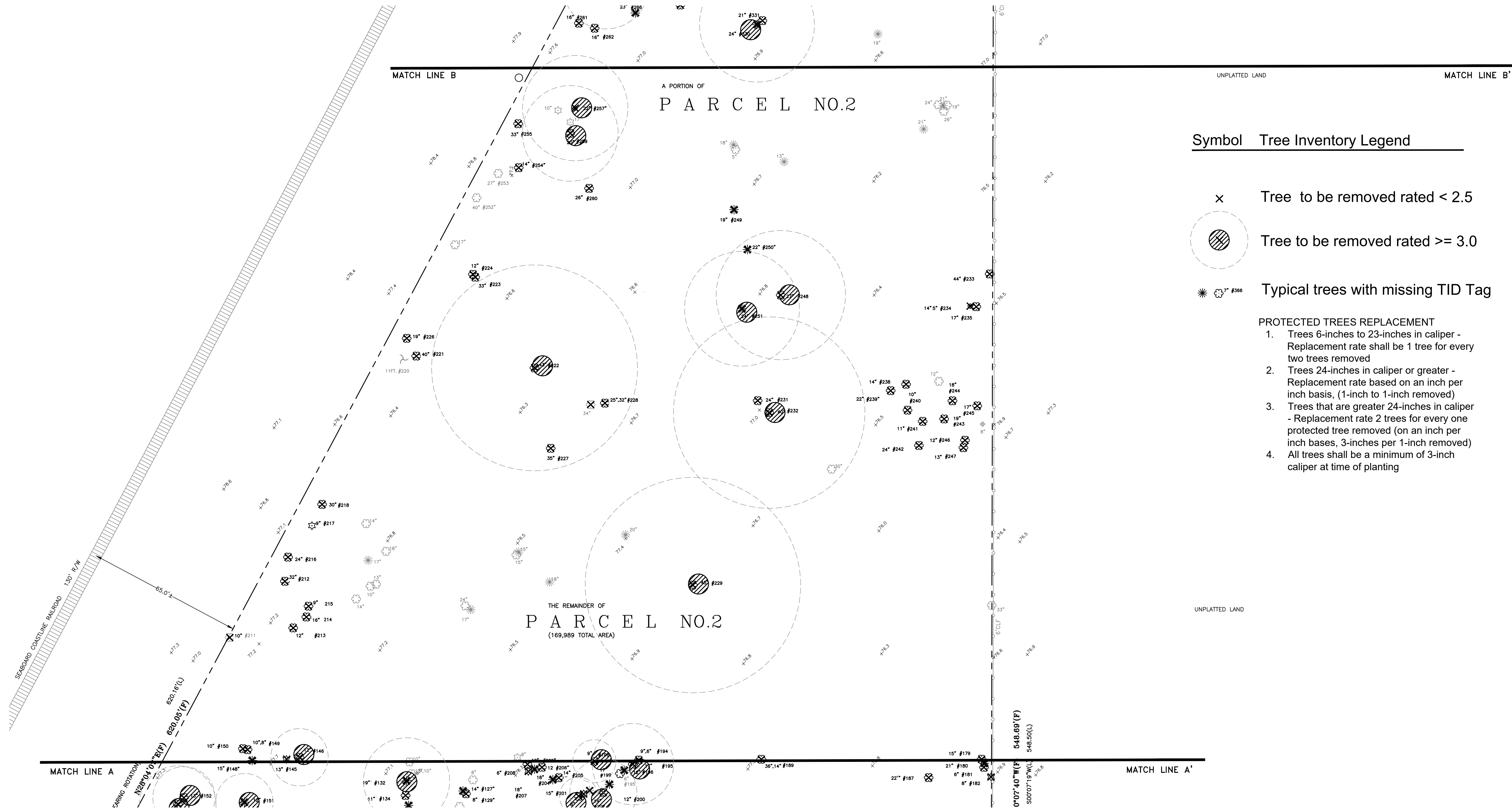
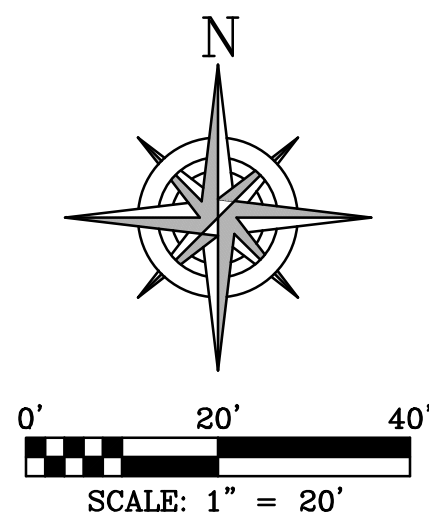
SQUIRREL STORAGE
TREE INVENTORY PLAN
ZEPHYRHILLS
FLORIDA

I, LEROY CHIN, HEREBY CERTIFY AS A LICENSED PROFESSIONAL LANDSCAPE ARCHITECT, REGISTERED IN ACCORDANCE WITH FLORIDA STATUTE 471 (481) THAT THE ABOVE PROJECT'S SITE AND/OR CONSTRUCTION PLANS, TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, WILL MEET APPLICABLE DESIGN CRITERIA SPECIFIED BY CITY MUNICIPAL ORDINANCE, STATE AND FEDERAL ESTABLISHED STANDARDS. I UNDERSTAND THAT IT IS MY RESPONSIBILITY AS THE PROJECT'S PROFESSIONAL LANDSCAPE ARCHITECT TO PERFORM A QUALITY ASSURANCE REVIEW OF THESE SUBMITTED PLANS.

PROJECT NO.	SE22.110.00
DATE:	DECEMBER 13, 2022
SCALE:	1" = 20'
SHEET NO.	4 OF 19

LEROY CHIN, FL RLA 1206

Dec 13, 2022 -- 7:51pm I:\CAD Projects\Projects_A_SEP\X Drive\2022\SE22.110.00 S Avenue & Airport Road\Engineering\Draws\SE22.110-TREE INVENTORY.dwg



Symbol Tree Inventory Legend

- × Tree to be removed rated < 2.5
- ⊗ Tree to be removed rated >= 3.0
- ✱ ⊗ #368 Typical trees with missing TID Tag

PROTECTED TREES REPLACEMENT

- Trees 6-inches to 23-inches in caliper - Replacement rate shall be 1 tree for every two trees removed
- Trees 24-inches in caliper or greater - Replacement rate based on an inch per inch basis, (1-inch to 1-inch removed)
- Trees that are greater 24-inches in caliper - Replacement rate 2 trees for every one protected tree removed (on an inch per inch bases, 3-inches per 1-inch removed)
- All trees shall be a minimum of 3-inch caliper at time of planting

REV.#	DATE	REVISION	BY	CHECKED	LC

DESIGN: LC

DRAWN: LC

CHECKED: LC

BY

CHECKED

LC

DEUEL & ASSOCIATES

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SQUIRREL STORAGE
TREE INVENTORY PLAN

ZEPHYRHILLS

FLORIDA

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LEROY CHIN, FL RLA 1206

PROJECT NO.	SE22.110.00
DATE:	DECEMBER 13, 2022
SCALE:	1" = 20'
SHEET NO.	5 OF 19

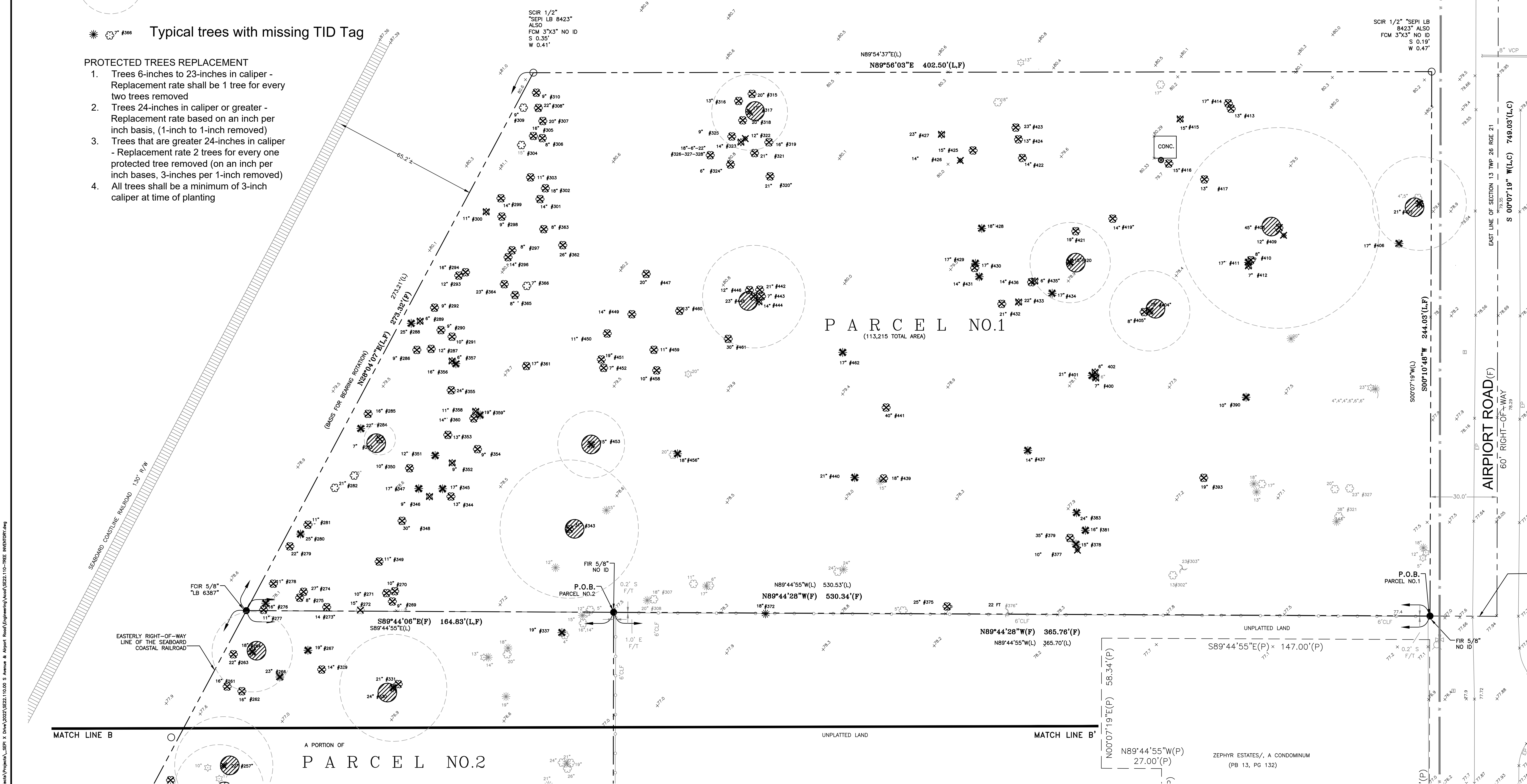
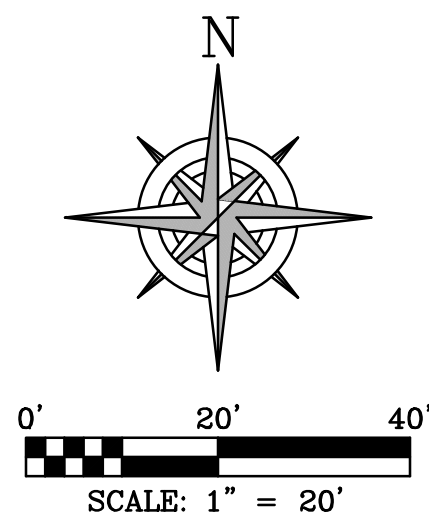
Symbol Tree Inventory Legend

- × Tree to be removed rated < 2.5
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✱ 7" #366 Typical trees with missing TID Tag

PROTECTED TREES REPLACEMENT

- Trees 6-inches to 23-inches in caliper - Replacement rate shall be 1 tree for every two trees removed
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- Trees that are greater 24-inches in caliper - Replacement rate 2 trees for every one protected tree removed (on an inch per inch bases, 3-inches per 1-inch removed)
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REV. #				DATE				REVISION							
PROJECT NO.				SE22.110.00				DATE:				DECEMBER 13, 2022			
SCALE:				1" = 20'				SHEET NO.				6 OF 19			

DEUEL & ASSOCIATES
A SEPI COMPANY, A DIVISION OF TRANSYSTEMS

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PHONE 727.822.4151
WWW.DEUELENGINEERING.COM

*SQUIRREL STORAGE
TREE INVENTORY PLAN*

I, LEROY CHIN, HEREBY CERTIFY AS A LICENSED PROFESSIONAL LANDSCAPE ARCHITECT, REGISTERED IN ACCORDANCE WITH FLORIDA STATUTE 471 (481) THAT THE ABOVE PROJECT'S SITE AND/OR CONSTRUCTION PLANS, TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, WILL MEET APPLICABLE DESIGN CRITERIA SPECIFIED BY CITY MUNICIPAL ORDINANCE, STATE AND FEDERAL ESTABLISHED STANDARDS. I UNDERSTAND THAT IT IS MY RESPONSIBILITY AS THE PROJECT'S PROFESSIONAL LANDSCAPE ARCHITECT TO PERFORM A QUALITY ASSURANCE REVIEW OF THESE SUBMITTED PLANS.

LEROY CHIN, FL RLA 1206

Dec 13, 2022 -- 7:51pm I:\GDD Projects\Projects\SEPI x Drive\2022\SE22.110.09 S Avenue & Airport Road\Engineering\Visual\SE22.110- TREE INVENTORY.dwg

Arborist Municipal International
Tree Inventory
South and Airport
Zephyrhills, Florida

July 13th, 2022, amended on December 4th, 2022.

Prepared For: Squirrel Storage - Airport Road.

Prepared By: Michael Lousias, Consulting Arborist
ISA Board Certified Master Arborist #SO-0909BUM
Tree Risk Assessment Qualification (TRAQ)

The following report is submitted by Michael Lousias, Consulting Arborist, and includes findings I believe are accurate based on my education, experience, and knowledge in the field of Arboriculture. My findings are based on scientific research in the field of Arboriculture. In addition, my findings are based on personal observations of over 30 years of experience in the broad field of Arboriculture. I have no interest personally or financially in this property and I believe my report is factual and unbiased.

Tree Inventory Overview

The subject property is forested with medium to large sized shade tree species dominated by the Live Oak (Quercus virginiana). The best tree related strategy for this site is planting new trees that meet Florida #1 grade specifications and have them structurally pruned annually until a permanent single leader structure is developed. The following tree inventory rates each tree using an overall condition rating that measures the quality of the trees health and structure and to a lesser degree the tree's aesthetic contribution to the site. The overall condition ratings range from 0 (a dead tree) to 6 (a specimen quality tree). Increments of 0.5 are used for accuracy. A tree rated 3.0 is an average tree that has sufficient health and structure to warrant consideration for preservation. A tree rated 2.5 is slightly below average and should be considered for removal. Trees that are rated 2.0 or less are recommended for removal. Trees rated 4.0 and above are high quality trees that combine superior health and structural attributes. The tree inventory includes specific arboricultural terminology justifying the overall condition rating in the "comments" section for each tree. The notes following tree inventory provide important information regarding recommendations made in the inventory. The Tree Data Section that follows the notes provides a more thorough explanation of the rating system and how individual trees are scored and evaluated.

The tree inventory field work was conducted over several dates in the first half of July, 2022.

NOTE:A recommendation for tree preservation at the end of the comment section for each tree only indicates that the tree or palm has a sufficient overall condition rating to warrant preservation considerations. Whether a tree can be preserved in the proposed site design is addressed at the tree preservation stage of the site development process. A tree or palm with a 2.5 condition rating may be upgraded if determined as such by an ISA Consulting Arborist and the developer. All trees rated 2.0 or less should be removed from the site.

NOTE:In the tree inventory tree sizes are listed by trunk diameter inches measured at 4.5' above grade. If the tree forks at or below 4.5' above grade, then the trunk is measured at the narrowest trunk diameter between the fork and grade. Palms are listed by clear feet (CT) of trunk.

NOTE:Each tree or palm listed in the tree inventory is tagged in the field with an aluminum numbered tag on the trunk that corresponds to its number in the following tree inventory. Off-site trees are not tagged but shown by location on the numbered site plan.

NOTE:Any references in the following tree inventory recommending tree pruning should only be performed by International Society of Arboriculture (ISA) Certified Arborists skilled in pruning to the standards defined in the American National Standards Institute (ANSI) publication, *ANSI-A300 Part 1: Tree, Shrub and Other Woody Plant Maintenance - standards Practices, Pruning and the International Society of Arboriculture's companion publication: Best Management Practices, Tree Pruning* (Revised 2008).

NOTE:Any reference to future monitoring of trees or further inspections of trees should only be performed by ISA Certified Arborists who have verifiable proof that they have attended and received CEU's (continuing educational units) in ISA supported tree hazard risk assessment seminars.

NOTE:Any recommendations in this tree inventory for structural pruning should only be performed by ISA Certified Arborists skilled in this type of pruning and in conformance with the methodology as defined within the International Society of Arboriculture's publication: Best Management Practices, Tree Pruning (latest version).

NOTE:A tree inventory is typically valid for 3-5 years. However, events such as drought, lightning, mechanical root damage, freeze, improper maintenance, and severe storms can downgrade the rated value of a tree. Conversely, remedial maintenance can upgrade the value. If you suspect that a tree has been adversely affected, have the tree inspected by a qualified International Society of Arboriculture (ISA) Certified Arborist.

NOTE:Whenever possible it is advised to adhere to inventory recommendations when selecting trees to be preserved. For example, trees or palms rated 4.0 and higher are strong candidates to be considered for preservation, while trees or palms rated 2.0 and lower should be removed unless otherwise noted in the inventory. **Trees or palms rated 2.5 should be further evaluated by a Consulting Arborist and the developer to determine if preservation is both development friendly and possible with specific Arboricultural practices.** Trees or palms rated 3.0 and generally preservation quality.

Tree Inventory Data

A tree inventory is a written record of a tree's condition at the time of inspection. It is a valuable tool to prioritize tree maintenance and remove trees with problems that could lead to failure and cause personal injury or property damage. The tree inventory lists four codes, tree#, trunk diameter, tree species, and overall condition rating. It also includes a comment section with specific supportive data for the rating. The following is an explanation of the data used in the inventory:

Tree# - location - Each tree is assigned a number for reference in the inventory that corresponds with a number on the site plan or a number on a tree tag that identifies the location of the tree in the field.

Size - Tree size is a measure of the tree's trunk diameter measured at 4.5' above grade. If the trunk forks at 4.5' above grade the diameter is measured at the narrowest trunk diameter below the fork. Palm species are measured in feet of clear trunk (C.T.).

Species - Each tree is listed by its common and botanical name the first time it is listed in the inventory. For simplicity, the tree is listed by its common name thereafter.

Condition Rating - The condition rating is an assessment of the tree's overall structure and systemic health.

Elements of structure include: 1) the presence of cavities, decayed wood, split, cracked, rubbing branches etc., 2) branch arrangements and attachments, i.e., well-spaced scaffold branches vs. several branches emanating from the same area on the trunk, codominant stems vs. single leader trunk, and presence of a branch bark ridge vs. included bark.

Elements of systemic health relate to the tree's overall energy system measured by net photosynthesis (food made) vs. respiration (food used). A tree with good systemic health will have a vascular system that moves water, nutrients and photosynthate within the tree as needed. Indicators of a healthy systemic system used in the overall condition rating include: 1) live crown ratio (the percentage live crown a tree has relative to its height, 2) crown density (density of the foliage), 3) tip growth (foliated branch tips and shoot elongation) The overall condition rating also takes into consideration the species, appearance and any unique features. The rating scale is 0-6 with 0 being a dead tree and 6 a specimen. Increments of 0.5 are used to increase accuracy. Examples of the tree rating system are as follows:
0- A dead tree

1- A tree that is dying, severely declining, hazardous, harboring a communicable disease or a tree designated by the State of Florida's Exotic Pest Plant Council as a category #1 ecological pest e.g., Brazilian pepper tree (*Schinus terebinthifolius*). A tree with a rating of 1 should be removed as it is beyond treatment and is a threat to cause personal injury or property damage or is an invasive species.

2 - A tree exhibiting serious structural defects such as codominant stems with included bark at or near the base, large cavities, large areas of decayed wood, crown dieback, cracked/split scaffold branches etc. In addition, a tree with health issues such as low energy, low live crown ratio, serious disease or insect problems, nutritional deficiencies or soil pH problems. A tree with a rating of #2 should be removed unless the problem(s) can be treated. A tree with a #2 condition rating will typically require a considerable amount of maintenance to qualify for an upgrade of the condition rating.

3- A tree with average structure and systemic health and with problems that can be corrected with moderate maintenance. A tree with a codominant stem not in the basal area that will be subordinated or cabled and braced or a codominant stem that will soon have included bark can be included as a #3. A tree with a rating of #3 has average appearance, crown density and live crown ratio and should be preserved if possible.

4- A tree with a rating of 4 has good structure and systemic health with minor problems that can be easily corrected. The tree should have an attractive appearance and be essentially free of any debilitating disease or insect problem. The tree should also have above average crown density and live crown ratio. Mature trees exhibiting scars, old wounds, small cavities, or other problems that are not debilitating can be included in this group particularly if they possess unique form or other aesthetic amenities relating to their age. A tree with a rating of 4 is valuable to the property and should be preserved.

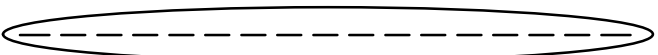
5 - A tree with live crown ratio of at least 65%, exceptionally good crown density, exceptional structure and systemic health and virtually free of debilitating insect or disease problems or nutritional deficiencies. A tree in this category should have a balanced crown with exceptional aesthetic amenities. A tree in this category should be of a species that possesses characteristics inherent to longevity and withstanding construction impacts. A tree with a #5 rating lends considerable value to the site and should be incorporated into the site design. A tree with a #5 rating is worthy of significant site plan modification to ensure its preservation.

6 - A specimen tree. A specimen tree is a tree that possesses a combination of superior qualities in regard to systemic health, structural strength, crown density, live crown ratio, form (balanced crown), overall aesthetic appeal, size, species, age and uniqueness. A great effort should be made to preserve a specimen tree including shifting structures that would adversely impact the tree. In addition, a specimen tree should have an undisturbed rooting area equal to its dripline (equal to the branch spread) to grow in. Only an experienced and competent International Society of Arboriculture (I.S.A.) Certified Arborist should be allowed to perform maintenance on a specimen tree.

Any questions or comments may be directed to Michael Lousias @ Greentek1@yahoo.com

Respectfully,
Michael Lousias
813.710.0712

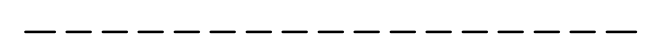
TREE INVENTORY LEGEND



Tree removed to be mitigated



Caliper Inches



Tree to be removed



Survey of trees with missing identification tag

INVENTORY ID	SIZE	SPECIES	RATING
IID01	28"	Quercus laurifolia	3.0
IID02	23"	Quercus laurifolia	2.0
IID03	22"	Quercus laurifolia	2.0
IID04	40"	Quercus laurifolia	2.0
IID05	40"	Quercus laurifolia	2.5
IID06	42"	Quercus laurifolia	2.0
? IID07	40"	Quercus laurifolia	1.5
? IID08	18"	Quercus virginiana	2.0
? IID09	10"	Pinus serotina	1.5
IID10	32"	Quercus laurifolia	2.0
IID11	32"	Quercus laurifolia	3.5
IID12	32"	Quercus virginiana	1.5
IID13	45"	Quercus laurifolia	2.5
IID14	32"	Quercus laurifolia	2.0
IID15	14"	Quercus virginiana	3.0
IID16	32"	Quercus laurifolia	3.0
IID17	40"	Quercus laurifolia	1.0
IID18	22"	Quercus nigra	2.5
IID19	32"	Pinus caroliniana	1.5
IID20	24"	Quercus virginiana	2.0
IID21	21"	Quercus laurifolia	3.0
IID22	22"	Pinus palustris	2.0
? IID23	11"	Quercus virginiana	1.0
IID24	32"	Quercus nigra	2.0
? IID25	18"	Quercus laurifolia	1.0
? IID26	14"	Pinus palustris	1.5
IID27	22"	Pinus palustris	2.0
IID28	48"	Pinus palustris	1.5
IID29	20"	Pinus palustris	1.5
IID30	12"	Pinus palustris	1.5
IID31	20"	Pinus palustris	2.0
IID32	42"	Pinus serotina	2.0
? IID33	16"	Pinus palustris	2.5
? IID34	15"	Pinus palustris	2.0
IID35	22"	Pinus palustris	1.5
IID36	14"	Pinus palustris	1.5
IID37	20"	Quercus virginiana	2.0
IID38	24"	Pinus palustris	2.0
IID39	21"	Pinus palustris	2.0
IID40	45"	Quercus laurifolia	3.0
IID41	11"	Pinus serotina	2.0
IID42	32"	Quercus laurifolia	3.5
IID43	21"	Pinus palustris	3.0
IID44	32"	Quercus phellos	2.0
IID45	22"	Pinus serotina	1.5
IID46	23"	Quercus phellos	2.0
IID47	23"	Quercus virginiana	2.5
IID48	23"	Pinus palustris	2.5
IID49	20"	Pinus palustris	1.5
IID50	45"	Pinus palustris	1.5
IID51	20"	Quercus laurifolia	2.5
? IID52	19"	Pinus palustris	3.0
IID53	32"	Quercus laurifolia	2.0
IID54	11"	Pinus palustris	3.0
IID55	15"	Quercus virginiana	1.5
IID56	12"	Pinus palustris	1.5
IID57	42"	Quercus laurifolia	3.0
IID58	22"	Quercus virginiana	2.0
IID59	18"	Pinus palustris	1.5
IID60	32"	Pinus palustris	1.0
IID61	12"	Cinnamomum camphora	2.5
IID62	13"	Quercus virginiana	2.0
IID63	20"	Pinus palustris	3.0
IID64	12"	Quercus laurifolia	2.0
IID65	26"	Quercus laurifolia	2.5
IID66	42"	Pinus palustris	2.5
? IID67	22"	Quercus laurifolia	2.5
IID68	20"	Pinus palustris	0.0
IID69	32"	Pinus serotina	2.0
IID70	22"	Pinus serotina	1.0
IID71	45"	Pinus palustris	2.5
IID72	14"	Quercus laurifolia	1.0
IID73	49"	Pinus palustris	2.0
IID74	46"	Pinus palustris	2.5
IID75	42"	Quercus laurifolia	2.0

INVENTORY ID	SIZE	SPECIES	RATING
IID76	46"	Quercus laurifolia	2.0
IID77	24"	Pinus palustris	2.5
IID78	47"	Pinus palustris	3.0
IID79	17"	Pinus palustris	2.5
IID80	8"	Cinnamomum camphora	2.0
IID81	25"	Quercus nigra	3.0
IID82	16"	Pinus palustris	1.0
IID83	32"	Pinus serotina	1.5
IID84	6"	Quercus nigra	2.0
IID85	47"	Pinus palustris	3.0
IID86	20'3"	Quercus laurifolia	2.5
IID87	9"	Pinus serotina	1.5
IID88	13"	Pinus palustris	1.5
? IID89	27"	Quercus laurifolia	1.5
IID90	46"	Pinus palustris	2.0
IID91	44"	Quercus laurifolia	2.0
IID92	6"	Quercus laurifolia	3.0
IID93	47"	Pinus palustris	1.5
IID94	17"	Pinus palustris	1.0
? IID95	14"	Quercus virginiana	2.0
IID96	22"	Quercus virginiana	1.0
IID97	16"	Pinus palustris	3.0
? IID98	8"	Quercus laurifolia	2.5
IID99	22"	Quercus virginiana	0.0
IID100	20"	Quercus laurifolia	2.5
IID101	26"	Quercus virginiana	3.5
IID102	22"	Pinus palustris	2.0
IID103	18"	Pinus palustris	2.0
IID104	14"	Quercus virginiana	1.5
IID105	9"	Quercus virginiana	1.0
IID106	15"	Quercus laurifolia	2.5
IID107	49"	Quercus virginiana	2.0
IID108	49"	Quercus phellos	2.0
IID109	24"	Pinus palustris	3.0
IID110	49"	Pinus palustris	2.0
IID111	48"	Pinus palustris	3.0
IID112	14"	Pinus palustris	1.5
IID113	22"	Pinus palustris	3.5
IID114	6"	Cinnamomum camphora	1.5
IID115	6"	Quercus virginiana	3.0
IID116	21"	Pinus palustris	2.5
? IID117	14"	Quercus laurifolia	3.0
IID118	19"	Pinus palustris	2.0
IID119	8"	Pinus serotina	1.5
IID120	12"	Quercus virginiana	1.5
IID121	10"	Quercus virginiana	1.5
IID122	13"	Quercus laurifolia	1.0
IID123	9"	Magnolia grandiflora	3.0
IID124	49"	Cinnamomum camphora	1.0
IID125	24"	Pinus palustris	2.5
? IID126	8"	Quercus laurifolia	2.5
IID127	17"	Pinus palustris	2.0
? IID128	6"	Quercus virginiana	1.5
IID129	32"	Quercus virginiana	1.0
? IID130	12"	Quercus laurifolia	2.0
? IID131	9'9"	Quercus virginiana	1.5
IID132	19"	Pinus palustris	3.0
? IID133	14"	Quercus virginiana	2.0
IID134	44"	Quercus nigra	2.5
IID135	12"	Pinus palustris	1.0
? IID136	7"	Quercus laurifolia	1.5
IID137	9"	Quercus virginiana	1.5
? IID138	6"	Pinus serotina	1.5
IID139	18"	Pinus palustris	1.5
IID140	6"	Cinnamomum camphora	3.0
IID141	32"	Quercus laurifolia	1.5
IID142	22"	Quercus nigra	1.5
IID143	13"	Quercus laurifolia	3.0
IID144	17"	Quercus laurifolia	2.5
IID145	13"	Pinus serotina	2.0
IID146	12"	Quercus nigra	3.0
? IID147	18"	Pinus palustris	2.0
IID148	15"	Pinus palustris	2.0
IID149	10'3"	Quercus phellos	1.5
IID150	10"	Quercus laurifolia	2.0

INVENTORY ID	SIZE	SPECIES	RATING
IID151	42"	Pinus palustris	3.0
IID152	43"	Quercus nigra	3.0
IID153	46"	Quercus laurifolia	3.0
? IID154	19"	Pinus palustris	3.0
IID155	46"	Quercus nigra	2.0
IID156	46"	Pinus palustris	3.5
IID157	42"	Pinus serotina	2.5
IID158	46"	Pinus palustris	1.5
IID159	46"	Quercus laurifolia	2.5
IID160	44"	Pinus palustris	1.5
? IID161	12"	Quercus nigra	2.5
IID162	46"	Quercus phellos	2.5
IID163	47"	Pinus palustris	2.0
IID164	44"	Quercus nigra	2.0
IID165	21"	Pinus palustris	2.0
IID166	40"	Quercus virginiana	2.0
? IID167	15"	Pinus palustris	2.0
? IID168	8"	Pinus serotina	1.5
? IID169	25"	Quercus laurifolia	3.0
IID170	9"	Quercus virginiana	2.0
IID171	46"	Pinus palustris	2.0
IID172	43"	Pinus palustris	2.0
IID173	42"	Quercus laurifolia	1.5
IID174	45'3"	Quercus nigra	2.5
IID175	40"	Cinnamomum camphora	1.5
IID176	43"	Quercus laurifolia	1.5
IID177	6"	Pinus serotina	1.5
IID178	44"	Quercus nigra	2.0
IID179	46"	Quercus laurifolia	2.0
IID180	21"	Pinus palustris	1.5
IID181	6"	Quercus laurifolia	2.0
IID182	8"	Cinnamomum camphora	1.5
IID183	34"	Quercus virginiana	2.5
? IID184	22"	Quercus virginiana	3.5
IID185	46"	Cinnamomum camphora	2.5
IID186	46"	Quercus virginiana	2.0
IID187	22"	Quercus virginiana	2.5
? IID188	8"	Cinnamomum camphora	1.5
IID189	36'14"	Quercus laurifolia	2.5
? IID190	14"	Pinus serotina	2.5
IID191	46"	Pinus palustris	2.5
IID192	26"	Pinus palustris	3.0
? IID193	18"	Quercus laurifolia	2.5
IID194	9'6"	Quercus virginiana	2.0
? IID195	17"	Quercus virginiana	3.0
IID196	42"	Pinus palustris	1.0
? IID197	6"	Quercus virginiana	1.5
IID198	9"	Quercus laurifolia	3.0
IID199	47"	Pinus palustris	1.0
IID200	42"	Quercus laurifolia	3.0
IID201	46"	Pinus palustris	1.5
IID202	44"	Pinus serotina	2.0
IID203	32"	Quercus nigra	3.0
IID204	18"	Pinus palustris	1.5
IID205	44"	Quercus nigra	2.0
IID206	42"	Quercus laurifolia	1.5
IID207	48"	Pinus palustris	2.5
IID208	6"	Pinus serotina	1.5
IID209	42"	Quercus laurifolia	1.5
? IID210	7"	Quercus laurifolia	1.5
IID211	27"	Quercus laurifolia	1.0
IID212	32"	Quercus laurifolia	1.5
IID213	42"	Quercus virginiana	2.0
IID214	46"	Quercus virginiana	2.5
IID215	9"	Quercus virginiana	2.5
IID216	24"	Quercus phellos	2.0
IID217	40"	Celtis laevigata	3.0
IID218	30"	Quercus virginiana	2.5
? IID219	16"	Quercus virginiana	1.5
IID220	11ft	Sabal palmetto	4.0
IID221	40"	Quercus virginiana	2.5
IID222	43"	Quercus virginiana	3.0
IID223	33"	Quercus virginiana	2.5
IID224	42"	Quercus laurifolia	2.5
? IID225	20"	Quercus laurifolia	2.0

Dec 13, 2022 7:32pm I:\CAD Projects\Projects_2021\2022\SE22_110.00 S Avenue & Airport Road\Engineering\Visual\SE22_110-TREE INVENTORY.dwg

INVENTORY ID				SIZE	SPECIES	RATING	INVENTORY ID				SIZE	SPECIES	RATING	INVENTORY ID				SIZE	SPECIES	RATING	INVENTORY ID				SIZE	SPECIES	RATING	
TID226				19"	Quercus laurifolia	2.5	TID301				44"	Quercus virginiana	2.5	TID276				24"	Sabal palmetto	3.5	TID461				49"	Quercus laurifolia	2.5	
TID227				35"	Quercus nigra	2.0	TID302				48"	Quercus laurifolia	2.5	TID277				49"	Ginnamomum camphora	1.5	TID462				7"	Quercus virginiana	1.0	
TID228				25'x2"	Quercus laurifolia	2.5	TID303				44"	Quercus virginiana	1.5	TID278				46"	Pinus palustris	2.0	TID453				15"	Pinus palustris	3.0	
TID229				45"	Quercus virginiana	3.0	TID304				15"	Quercus laurifolia	3.0	TID279				35"	Quercus laurifolia	2.0	TID454				15"	Pinus palustris	1.0	
TID230				32"	Quercus virginiana	3.0	TID305				16"	Quercus virginiana	1.5	TID280				13"	Pinus palustris	2.0	TID455				30"	Quercus nigra	1.5	
TID231				24"	Ginnamomum camphora	1.0	TID306				8"	Quercus virginiana	1.5	TID281				46"	Pinus palustris	2.0	TID456				18"	Pinus palustris	1.5	
TID232				40"	Quercus laurifolia	3.0	TID307				20"	Quercus laurifolia	1.5	TID282				15'	Sabal palmetto	4.0	TID457				29"	Quercus laurifolia	0.0	
TID233				44"	Quercus virginiana	2.0	TID308				22"	Quercus virginiana	2.5	TID283				24"	Quercus nigra	1.5	TID458				40"	Quercus virginiana	2.0	
TID234				14"	Ginnamomum camphora	2.0	TID309				30"	Quercus virginiana	1.5	TID284				17"	Pinus palustris	1.0	TID459				44"	Quercus nigra	2.5	
TID235				17"	Quercus nigra	2.0	TID310				50"	Quercus virginiana	1.5	TID285				9"	Prunus serotina	1.5	TID460				43"	Quercus nigra	2.5	
TID236				14"	Ginnamomum camphora	1.0	TID311				16"	Prunus serotina	1.0	TID286				23"	Prunus serotina	2.0	TID461				30"	Quercus phellos	2.0	
TID237				16"	Quercus laurifolia	2.0	TID312				25"	Quercus virginiana	2.5	TID287				40"	Quercus virginiana	2.0	TID462				47"	Pinus palustris	0.0	
TID238				14"	Quercus laurifolia	2.0	TID313				17"	Quercus virginiana	2.5	TID288				17"	Pinus palustris	2.0								
TID239				22"	Quercus laurifolia	2.0	TID314				20"	Quercus virginiana	0.0	TID289				16"	Pinus palustris	1.5								
TID240				19"	Quercus laurifolia	0.5	TID315				20"	Quercus nigra	2.5	TID290				49"	Ginnamomum camphora	1.0								
TID241				14"	Quercus laurifolia	2.5	TID316				43"	Quercus laurifolia	2.0	TID291				20"	Quercus nigra	1.5								
TID242				24"	Quercus phellos	2.5	TID317				17"	Ginnamomum camphora	3.0	TID292				11"	Pinus palustris	1.5								
TID243				19"	Quercus phellos	2.0	TID318				20"	Quercus nigra	2.0	TID293				49"	Pinus palustris	1.5								
TID244				18"	Quercus phellos	1.5	TID319				46"	Quercus laurifolia	2.0	TID294				21"	Pinus palustris	1.5								
TID245				17"	Quercus virginiana	2.0	TID320				24"	Quercus laurifolia	2.0	TID295				21"	Pinus palustris	1.5								
TID246				12"	Quercus nigra	2.0	TID321				24"	Quercus nigra	2.0	TID296				17"	Pinus palustris	1.5								
TID247				19"	Quercus laurifolia	1.0	TID322				12"	Ginnamomum camphora	1.5	TID297				13"	Prunus serotina	1.0								
TID248				27"	Quercus phellos	3.0	TID323				14"	Pinus serotina	1.5	TID298				17"	Pinus palustris	2.0								
TID249				19"	Pinus palustris	2.0	TID324				46"	Quercus virginiana	1.5	TID299				29"	Quercus laurifolia	2.0								
TID250				22"	Pinus palustris	1.5	TID325				50"	Ginnamomum camphora	1.5	TID300				7"	Pinus serotina	1.5								
TID251				24"	Pinus palustris	3.0	TID326				18"	Quercus virginiana	1.5	TID301				21"	Pinus palustris	2.5								
TID252				40"	Quercus virginiana	3.5	TID327				49"	Quercus virginiana	1.0	TID302				46"	Quercus serotina	1.5								
TID253				27"	Quercus virginiana	3.0	TID328				22"	Quercus virginiana	2.0	TID303				8"	Pinus serotina	0.5								
TID254				14"	Quercus virginiana	1.5	TID329				14"	Quercus nigra	2.5	TID304				18"	Pinus palustris	3.0								
TID255				33"	Quercus virginiana	2.5	TID330				24"	Pinus palustris	3.0	TID305				8"	Pinus serotina	2.5								
TID256				10"	Prunus serotina	1.5	TID331				24"	Quercus virginiana	2.0	TID306				16"	Pinus palustris	2.0								
TID257				22"	Ginnamomum camphora	3.0	TID332				13"	Prunus serotina	2.0	TID307				21"	Pinus palustris	3.5								
TID258				17"	Prunus serotina	2.5	TID333				14"	Pinus palustris	2.0	TID308				45"	Quercus virginiana	3.5								
TID259				20"	Quercus laurifolia	3.0	TID334				21"	Quercus laurifolia	2.5	TID309				12"	Ginnamomum camphora	1.0								
TID260				26"	Quercus virginiana	2.5	TID335				20"	Pinus palustris	2.5	TID310				8"	Pinus serotina	1.0								
TID261				16"	Ginnamomum camphora	2.0	TID336				21"	Pinus palustris	3.0	TID311				47"	Pinus palustris	1.5								
TID262				16"	Quercus phellos	2.0	TID337				49"	Pinus palustris	2.5	TID312				7"	Pinus serotina	1.0								
TID263				22"	Quercus laurifolia	2.0	TID338				30"	Quercus laurifolia	1.5	TID313				13"	Quercus nigra	0.0								
TID264				19"	Pinus palustris	3.0	TID339				17"	Pinus palustris	2.5	TID314				47"	Quercus nigra	1.5								
TID265				15"	Dead Unknown	0.0	TID340				11"	Prunus serotina	2.0	TID315				45"	Quercus virginiana	1.5								
TID266				23"	Pinus palustris	2.5	TID341				6"	Quercus phellos	1.5	TID316				45"	Quercus virginiana	2.0								
TID267				19"	Pinus palustris	1.5	TID342				11"	Pinus palustris	1.0	TID317				43"	Quercus laurifolia	2.0								
TID268				13"	Quercus nigra	2.5	TID343				34"	Quercus virginiana	3.0	TID318				14"	Quercus virginiana	2.0								
TID269				8"	Quercus nigra	1.5	TID344				43"	Quercus virginiana	2.0	TID319				14"	Quercus virginiana	2.0								
TID270				19"	Quercus nigra	1.5	TID345				17"	Pinus palustris	2.5	TID320				48"	Pinus palustris	3.0								
TID271				19"	Quercus nigra	2.0	TID346				49"	Pinus serotina	2.0	TID321				49"	Quercus virginiana	1.0								
TID272				15"	Quercus laurifolia	2.5	TID347				47"	Pinus palustris	2.0	TID322				14"	Quercus laurifolia	2.0								
TID273				14"	Quercus virginiana	1.5	TID348				30"	Quercus laurifolia	2.5	TID323				28"	Quercus phellos	2.5								
TID274				27"	Quercus laurifolia	2.5	TID349				44"	Quercus laurifolia	1.5	TID324				43"	Quercus laurifolia	1.0								
TID275				8"	Quercus laurifolia	2.5	TID350				10"	Quercus laurifolia	2.5	TID325				45"	Quercus laurifolia	2.5								
TID276				16"	Pinus palustris	1.5	TID351				12"	Pinus palustris	2.0	TID326				14"	Ginnamomum camphora	1.5								
TID277				14"	Quercus phellos	2.0	TID352				9"	Pinus serotina	1.5	TID327				23"	Quercus phellos	2.0								
TID278				11"	Quercus laurifolia	1.5	TID353				13"	Quercus phellos	2.5	TID328				18"	Pinus palustris	2.0								
TID279				22"	Quercus laurifolia	2.5	TID354				9"	Quercus nigra	1.5	TID329				17"	Pinus palustris	2.0								
TID280				26"	Pinus palustris	2.0	TID355				24"	Quercus laurifolia	2.0	TID330				47"	Quercus nigra	2.0								
TID281				14"	Quercus virginiana	1.5	TID356				16"	Pinus palustris	2.0	TID331				14"	Pinus palustris	2.0								
TID282				21"	Quercus laurifolia	3.0	TID357				50"	Pinus serotina	1.0	TID332				21"	Quercus virginiana	2.0								
TID283				7"	Quercus laurifolia	3.0	TID358				44"	Pinus serotina	1.5	TID333				22"	Quercus virginiana	2.0								
TID284				22"	Pinus palustris	1.5	TID359				49"	Pinus palustris	2.0	TID334				17"	Pinus palustris	0.0								
TID285				19"	Ginnamomum camphora	2.5	TID360				44"	Quercus phellos	1.0	TID335				50"	Pinus serotina	2.0								
TID286				9"	Quercus nigra	1.5	TID361				17"	Quercus virginiana	2.0	TID336				44"	Quercus virginiana	2.0								
TID287				12"	Quercus laurifolia	2.5	TID362				26"	Quercus nigra	2.0	TID337				14"	Pinus palustris	2.5								
TID288				25"	Pinus palustris	2.5	TID363				8"	Quercus virginiana	2.0	TID338				20"	Quercus nigra	2.0								
TID289				6"	Pinus serotina	0.0	TID364				23"	Quercus nigra	0.0	TID339				18"	Pinus palustris	2.0								
TID290				9"	Quercus laurifolia	2.5	TID365				8"	Quercus virginiana	2.0	TID340				21"	Quercus laurifolia	2.0								
TID291				19"	Quercus laurifolia	2.5	TID366				LOST TAG/NOT TREE			TID341				6"	Quercus laurifolia	2.0								
TID292				9"	Quercus laurifolia	2.0	TID367				18"	Pinus palustris	2.0	TID342				11"	Quercus laurifolia	1.5								
TID293				12"	Quercus nigra	2.0	TID368				21"	Quercus laurifolia																

PROPOSED LEGEND

 DIRECTION OF FLOW

 EXISTING ELEVATION
ELEVATIONS ARE BASED ON NAVD-88

 PROPOSED ELEVATION

 ELEVATION AT TOP OF FEATURE
 ELEVATION AT BOTTOM OF FEATURE

GRADING FEATURES:

 BW = BOTTOM OF WALL

 GP = EDGE OF PAVEMENT

 GR = GROUND

 HP = HIGH POINT

 MG = MATCH EXISTING GRADE
(ESTIMATED INTERPOLATED VALUE)

 MP = MATCH EXISTING E.P.

 TC = TOP OF CURB

 TS = TOP OF SIDEWALK

 TW = TOP OF WALL

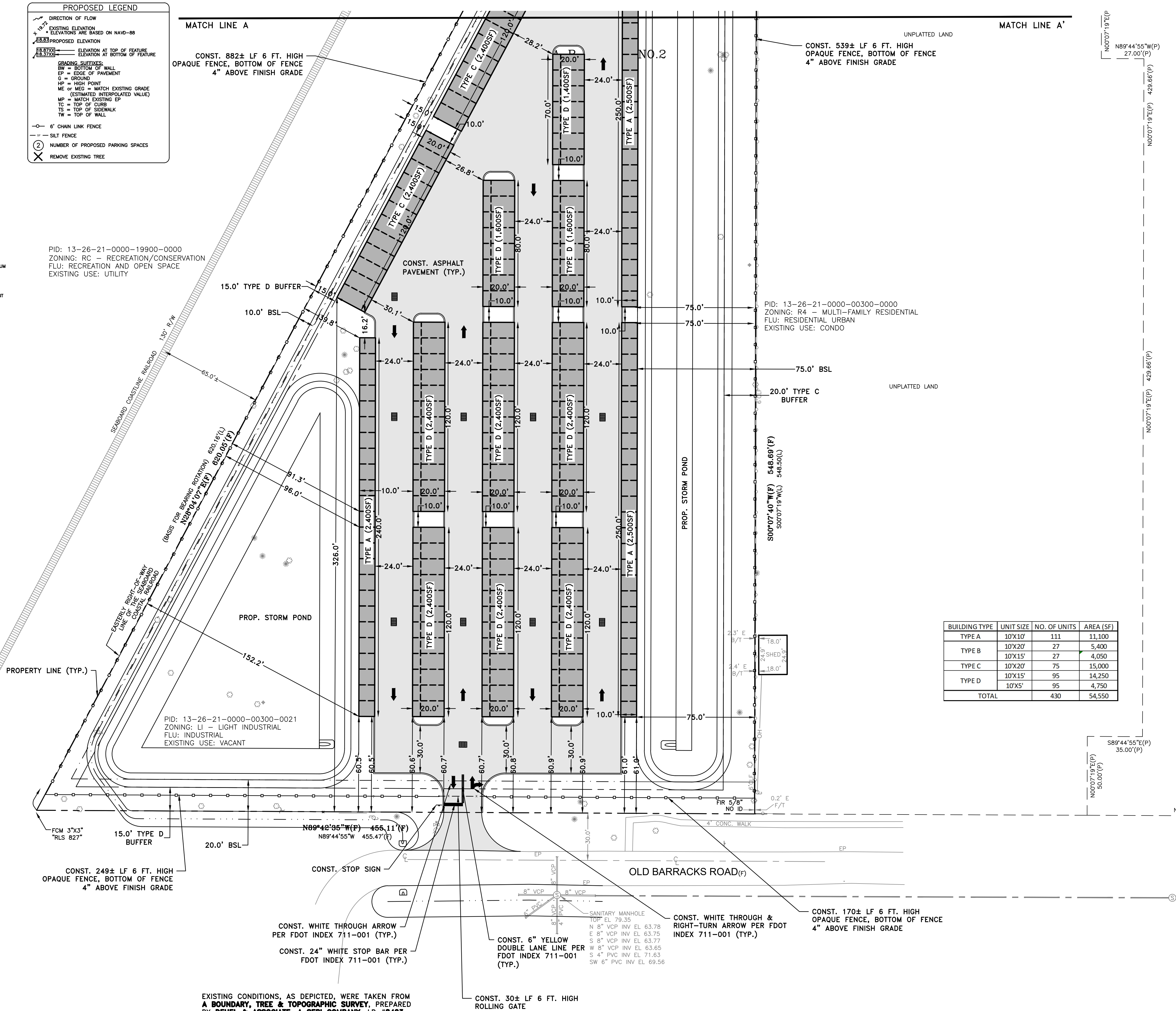
 6" CHAIN LINK FENCE

 SILT FENCE

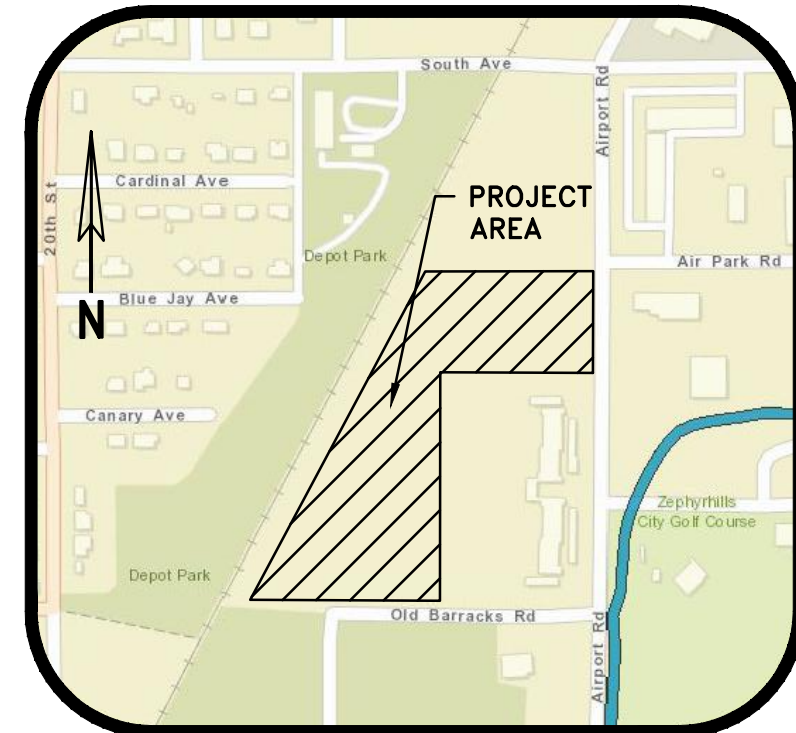
 NUMBER OF PROPOSED PARKING SPACES

 REMOVE EXISTING TREE

PID: 13-26-21-0000-19900-0000
ZONING: RC - RECREATION/CONSERVATION
FLU: RECREATION AND OPEN SPACE
EXISTING USE: UTILITY



 INVESTIGATE BEFORE YOU EXCAVATE
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MIN. 2 FULL BUSINESS DAYS
BEFORE YOU EXCAVATE



LOCATION MAP
N.T.S.

SITE LOCATION:
AIRPORT ROAD & OLD BARRACKS ROAD
ZEPHYRHILLS, FL 33542

PROPERTY OWNER:
 RIZZO SELF STORAGE OF
 ZEPHYR HILLS LLC
 1635 COMMONS PARKWAY
 MACEDON, NY 14502

CIVIL ENGINEER & SURVEYOR:
 DEUEL & ASSOCIATES,
 A SEPI COMPANY,
 A DIVISION OF TREANSYSTEMS
 565 SOUTH HERCULES AVENUE
 CLEARWATER, FL 33764
 (727) 822-4151

DEVELOPER:
 SQUIRREL STORAGE LLC
 ATTN: KEVIN MARTIN
 16395 BROOKFIELD ESTATES WAY
 DELRAY BEACH, FL 33446

FLOOD_ZONE: "X"
MAP PANEL ID: 12103C0456F
EFFECTIVE DATE: 9/26/2014

<u>PROJECT SUMMARY & SITE DATA:</u>	<u>EXISTING</u>	<u>PROPOSED</u>
TOTAL BUILDING AREA	= 0 SF(0%)	54,550 SF(19.3%)
TOTAL BUILDING (GFA)	= 0 SF	54,550 SF
TOTAL ASPHALT/CONC./SHELL AREA=	105 SF(0%)	79,308 SF(28.0%)
TOTAL IMPERVIOUS AREA	= 105 SF(0%)	133,858 SF(47.3%)
TOTAL GREEN AREA	= 283,098 SF(100%)	149,345 SF(52.7%)
TOTAL PROJECT AREA		283,203 SF (6.50 AC)

ZONING: LI - LIGHT INDUSTRIAL **PROPOSED USE:** SELF-STORAGE

LAND USE: INDUSTRIAL

PIN: 13-26-21-0000-00300-0020 & 0021

<u>LOT REQUIREMENTS:</u>	<u>REQUIRED</u>	<u>PROPOSED</u>
LOT AREA	N/A SF	283,203 SF
LOT WIDTH	75 FT	244 FT
LOT DEPTH	100 FT	466 FT

BUILDING SETBACK REQUIREMENTS:

FRONT(NORTHERLY EAST)	20 FT	20 FT
SIDE(SOUTHERLY EAST)	75 FT	75 FT
FRONT(WESTERLY SOUTH)	20 FT	60.5 FT
SIDE(EASTERLY SOUTH)	75 FT	101.9 FT
SIDE(WEST)	15 FT	15.1 FT
SIDE(NORTH)	15 FT	15 FT

LANDSCAPE BUFFER REQUIREMENTS:

FRONT(NORTHERLY EAST)	15 FT	15 FT
SIDE(SOUTHERLY EAST)	20 FT	20 FT
FRONT(WESTERLY SOUTH)	15 FT	15 FT
SIDE(EASTERLY SOUTH)	20 FT	20 FT
SIDE(WEST)	15 FT	15 FT
SIDE(NORTH)	15 FT	15 FT

MAXIMUM LOT COVERAGE (ISR): 0.85 0.47

INTERIOR GREEN SPACE:

10% OF V.U.A.(3,262SF) = 326 SF 357 SF

MAXIMUM FLOOR/AREA RATIO: 0.50 0.19

MAXIMUM BUILDING HEIGHT: 30 FT/2 STORIES < 30 FT

NUMBER OF PARKING SPACES:

WEARHOUSE: 1 SP PER TWO EMPLOYEES ON
 THE COMBINED LARGEST AND
 SECOND LARGEST WORKING SHIFT = 1 SP 2 SP

NUMBER OF H.C. PARKING SPACES: 2 SP = 1 HC 1 HC

SOLID WASTE: TRASH CONTAINERS TO BE KEPT INSIDE OF
 BUILDING AND DEPOSITED ALONG AIRPORT R/W ON
 ASSIGNED TRASH COLLECTION DAY.

				DESIGN:	XC
				DRAWN:	XC
REV.#	DATE	REVISION	BY	CHECKED:	CAC

DEUEL & ASSOCIATES
A SEPI COMPANY, A DIVISION OF TRANSYSTEMS

565 SOUTH HERCULES AVENUE
CLEARWATER, FL 33764
PHONE 727.822.4151
WWW.DEUELENGINEERING.COM

ZEPHYRHILS

*SQUIRREL STORAGE
SITE PLAN*

FLORIDA

I, CHRISTOPHER A. CHIN, HEREBY CERTIFY AS A LICENSED PROFESSIONAL ENGINEER, REGISTERED IN ACCORDANCE WITH FLORIDA STATUTE 471 (481) THAT THE ABOVE PROJECT'S SITE AND/OR CONSTRUCTION PLANS, TO THE BEST OF KNOWLEDGE, INFORMATION AND BELIEF, WILL MEET APPLICABLE DESIGN CRITERIA SPECIFIED BY CITY MUNICIPAL ORDINANCE, STATE AND FEDERAL ESTABLISHED STANDARDS. I UNDERSTAND THAT IT IS MY RESPONSIBILITY AS THE PROJECT'S PROFESSIONAL ENGINEER TO PERFORM A QUALITY ASSURANCE REVIEW OF THESE SUBMITTED PLANS.

CHRISTOPHER A. CHIN, P.E. 84365

PROJECT NO.	SE22.110.00
DATE:	DECEMBER 13, 2022
SCALE:	1" = 30'
SHEET NO.	9 OF 19

[illegible]

PROPOSED LEGEND

—○— DIRECTION OF FLOW

18.972 EXISTING ELEVATION
 18.972 ELEVATIONS ARE BASED ON NAVD-88

18.972 PROPOSED ELEVATION
 18.972 ELEVATION AT TOP OF FEATURE
 18.972 ELEVATION AT BOTTOM OF FEATURE

GRADING FEATURES:

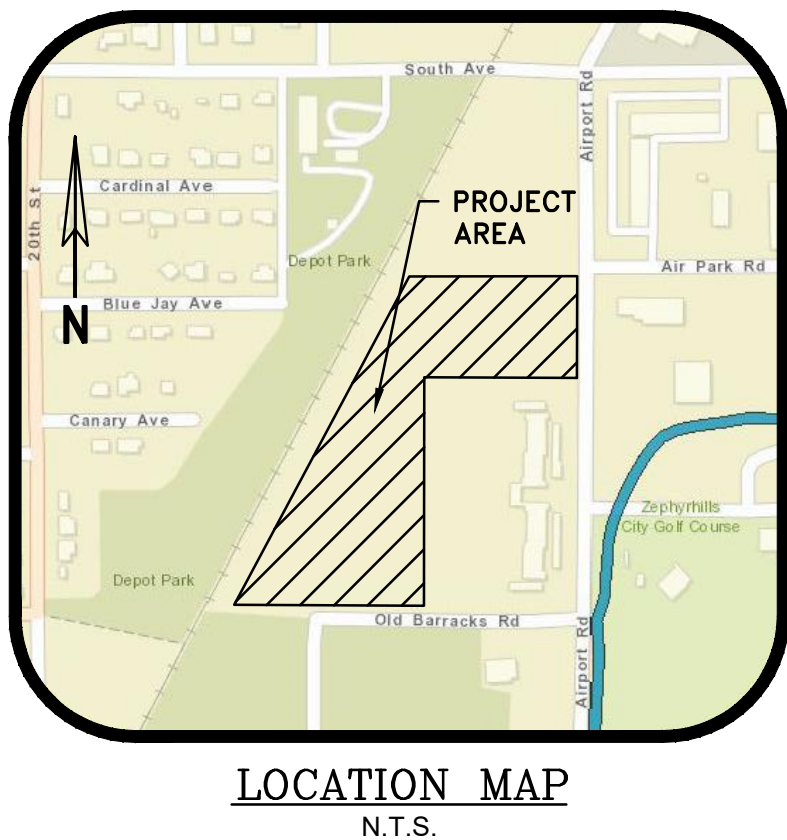
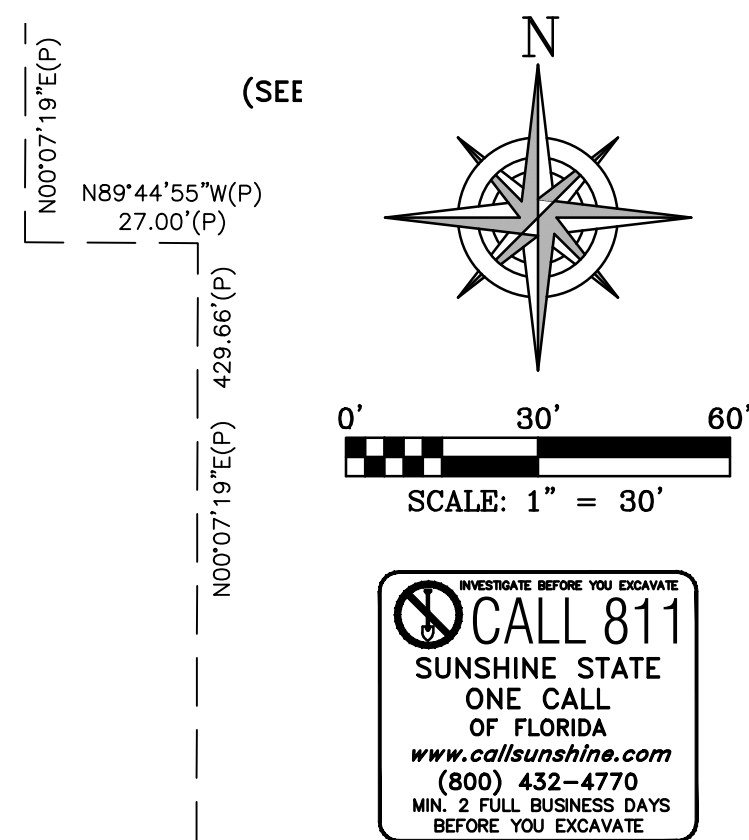
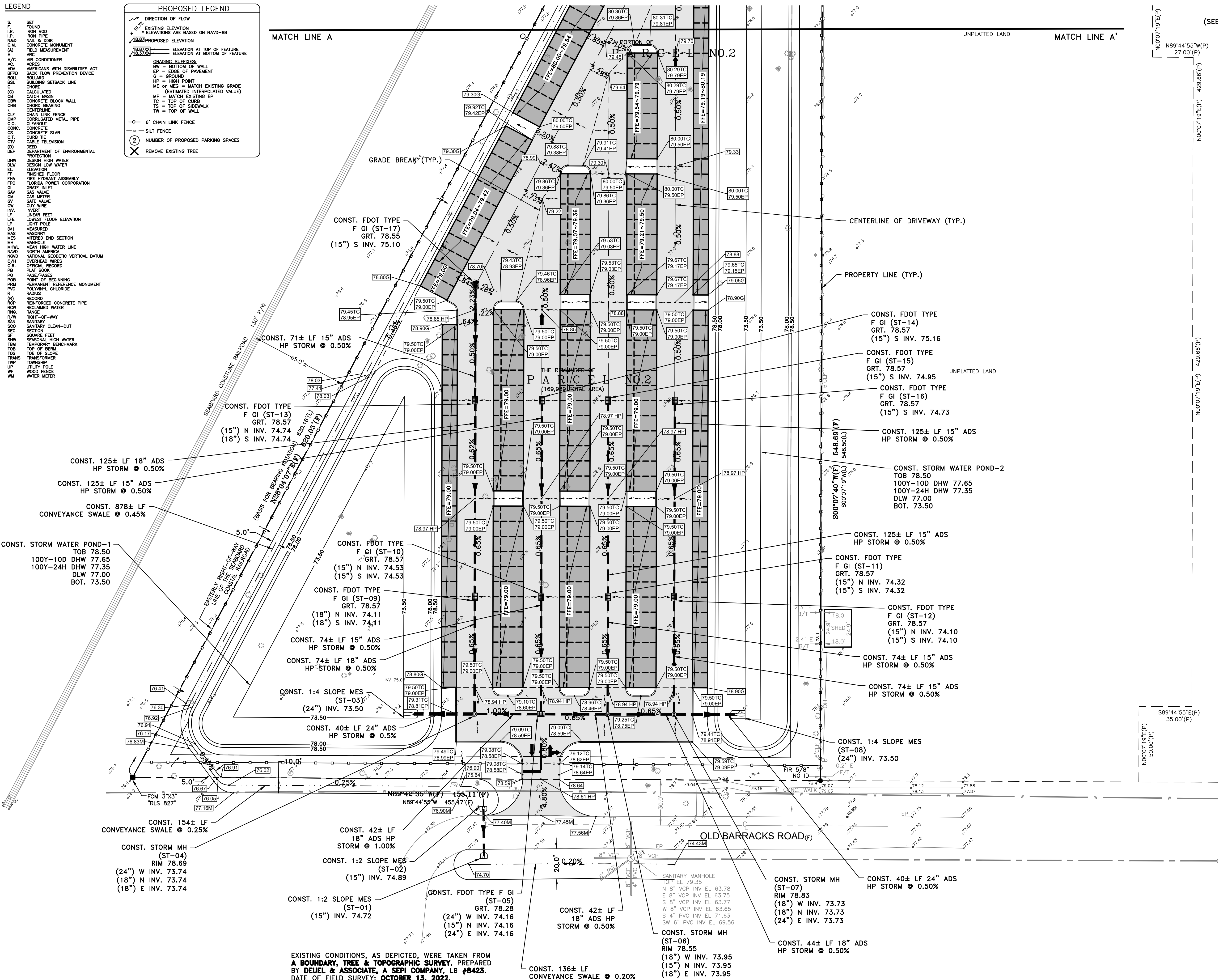
BP = BOTTOM OF WALL
 EP = EDGE OF PAVEMENT
 G = GRADING
 HP = HIGH POINT
 ME OR EGD = MATCH EXISTING GRADE
 (ESTIMATED INTERPOLATED VALUE)
 MP = MATCH EXISTING EP
 TS = TOP OF CURB
 TS = TOP OF SIDEWALK
 TW = TOP OF WALL

—○— 6" CHAIN LINK FENCE

—○— SILT FENCE

② NUMBER OF PROPOSED PARKING SPACES

—○— REMOVE EXISTING TREE



				DESIGN:	XC
				DRAWN:	XC
CV.#	DATE	REVISION	BY	CHECKED:	CAC

DEUEL & ASSOCIATES
A SEPI COMPANY, A DIVISION OF TRANSYSTEMS

565 SOUTH HERCULES AVENUE
CLEARWATER, FL 33764
PHONE 727.822.4151
WWW.DEUELENGINEERING.COM

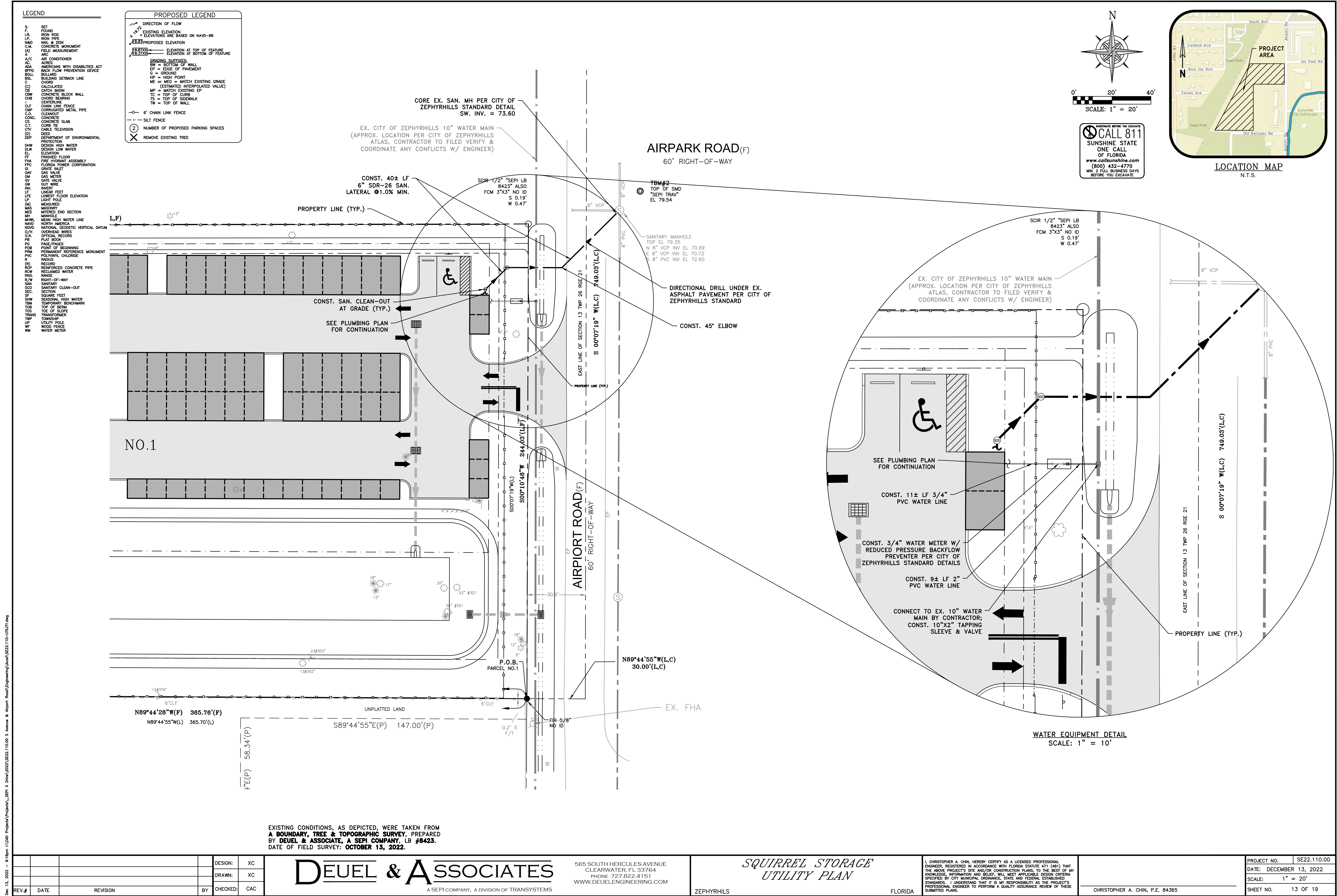
*SQUIRREL STORAGE
PAVING, GRADING & DRAINAGE
PLAN*

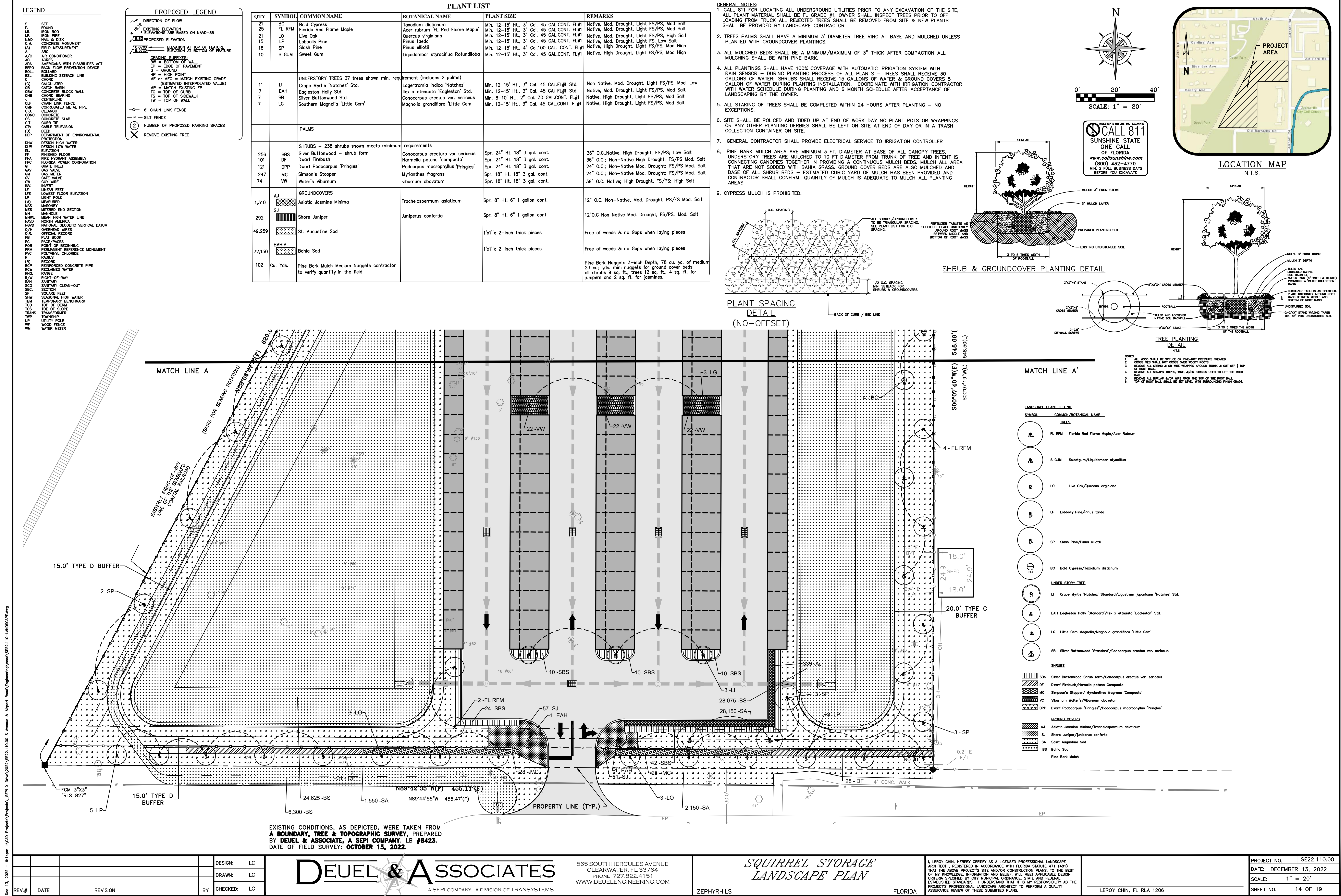
ZEPHYRHILLS FLORIDA

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CHRISTOPHER A. CHIN, P.E. 84365

PROJECT NO.	SE22.110.00
DATE:	DECEMBER 13, 2022
SCALE:	1" = 30'
SHEET NO.	11 OF 19





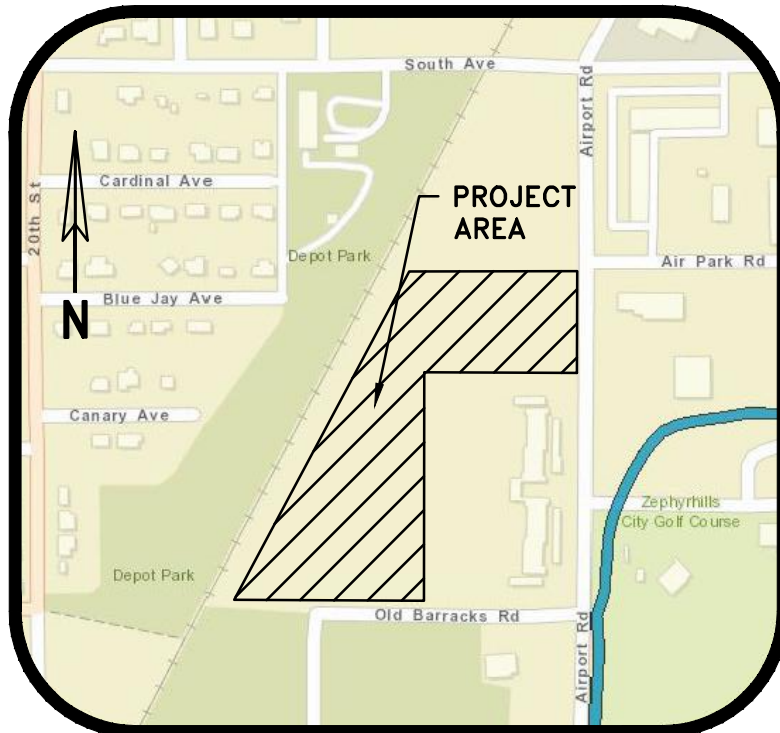
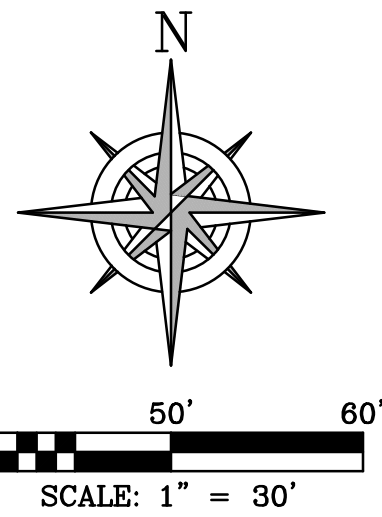
Dec 13, 2022 ... 9:27pm I:\GDD Projects\Projects\SEPI x Drive\2022\SE22.110.00 S Avenue & Airport Road\Engineering\Visual\SE22.110-LANDSCAPE.dwg

LEGEND

S. SET
F. FOUND
I.R. IRON ROD
I.P. IRON PIPE
N&D NAIL & DISK
C.M. CONCRETE MONUMENT
(A) FIELD MEASUREMENT
A ARC
A/C AIR CONDITIONER
AC ACRES
ADA AMERICANS WITH DISABILITIES ACT
BFPD BACK FLOW PREVENTION DEVICE
BOLL BOLLARD
BSL BUILDING SETBACK LINE
C CHORD
(C) CALCULATED
CBW CONCRETE BLOCK WALL
CHB CHORD BEARING
C CENTERLINE
CL CHAIN LINK FENCE
CMP CORRUGATED METAL PIPE
C.O. CLEANOUT
C.C. CONCRETE
C.T. CURE TIE
C.V. CABLE TELEVISION
(D) DEED
DEP DEPARTMENT OF ENVIRONMENTAL PROTECTION
DHW DESIGN HIGH WATER
DLW DESIGN LOW WATER
EL ELEVATION
FHA FINISHED FLOOR
FFC FIRE HYDRANT ASSEMBLY
G FLORIDA POWER CORPORATION
G.I. GRATE INLET
G.V. GAS VALVE
G.M. GAS METER
G.W. GATE VALVE
G.W. GUY WIRE
INV. INVERT
LFE LINEAR FEET
LFE LOWEST FLOOR ELEVATION
LP LIGHT POLE
(M) MEASURED
M.M. MEASURED
MES MITERED END SECTION
MH MARSH
MHW MEAN HIGH WATER LINE
NAVD NORTH AMERICA
NOVD NATIONAL GEODETIC VERTICAL DATUM
O/H OVERHEAD WIRE
O.R. OFFICIAL RECORD
PB PAGE/PAGES
PGB POINT OF BEGINNING
PRM PERMANENT REFERENCE MONUMENT
PVC POLYVINYL CHLORIDE
R RADIUS
(R) RECORD
RC REINFORCED CONCRETE PIPE
ROW RECLAIMED WATER
RNG. RANGE
R/W RIGHT-OF-WAY
SAN SANITARY
SCD SANITARY CLEAN-OUT
SEC. SECTION
SF SQUARE FEET
SHW SEASONAL HIGH WATER
TBM TEMPORARY BENCHMARK
TOB TOP OF BERM
TOS TIE OF SLOPE
TOS TRANSFORMER
TWP TOWNSHIP
UP UTILITY POLE
WF WOOD FENCE
WM WATER METER

PROPOSED LEGEND

DIRECTION OF FLOW
EXISTING ELEVATION
ELEVATIONS ARE BASED ON NAVD-88
PROPOSED ELEVATION
ELEVATION AT TOP OF FEATURE
ELEVATION AT BOTTOM OF FEATURE
GRADING SUFFIXES:
BW = BOTTOM OF WALL
EP = EDGE OF PAVEMENT
G = GROUND
ME or MEG = MATCH EXISTING GRADE
(ESTIMATED INTERPOLATED VALUE)
MP = MATCH EXISTING EP
TC = TOP OF CURB
TS = TOP OF SIDEWALK
TW = TOP OF WALL
6" CHAIN LINK FENCE
SILT FENCE
NUMBER OF PROPOSED PARKING SPACES
REMOVE EXISTING TREE



LOCATION MAP
N.T.S.

SQUIRREL STORAGE TREE INVENTORY
AIRPORT ROAD & OLD BARACKS ROAD
ZEPHYRHILLS, FL 33542

TREE REMOVAL COST IN LIEU OF PLANTING NEW TREES
IN LIEU OF TREE REPLACEMENT ON SUBJECT PROPERTY, THE APPLICANT AT THE CITY'S OPTION, MAY REPLANT APPROVED TREES ON CITY OWNED PROPERTY OR CONTRIBUTE A PER TREE MONETARY FEE AS FOLLOWS. FEES COLLECTED IN LIEU OF REPLACEMENT SHALL BE PLACED BY THE CITY INTO THE PARKS DEPARTMENT TREE TRUST FUND FOR USE OF TREE REPLACEMENT, USE OF A TRAINED HORTICULTURALIST OR ARBORIST, EDUCATIONAL PURPOSES REGARDING TREES AND/OR THE ENFORCEMENT OR FOR THE ADVANCEMENT OF THIS PART. THE FEES ARE HEREBY ESTABLISHED AS FOLLOWS:
10" DBH = \$50 PER INCH REMOVED
GREATER THAN 10" TO LESS THAN 20" DBH = \$100 PER INCH REMOVED
20" TO LESS THAN 30" DBH = \$125 PER INCH REMOVED
30" AND GREATER DBH = \$150 PER INCH REMOVED

TREE IDENTIFICATION NUMBER & RATING	Species	10 INCH DBH \$50 PER INCH REMOVED	GREATER THAN 10 INCH TO LESS THAN 20 INCH DBH \$100 PER INCH REMOVAL	GREATER THAN 20 INCH TO LESS THAN 30 INCH DBH \$125 PER INCH REMOVAL	GREATER THAN 30 INCH DBH \$150 PER INCH REMOVAL
TID 15 - 3.0	LAUREL OAK		14		
TID 16 - 3.0	LAUREL OAK	9			
TID 21 - 3.0	LAUREL OAK			21	
TID 40 - 3.0	LAUREL OAK		15		
TID 42 - 3.5	LAUREL OAK	6			
TID 57 - 3.0	LAUREL OAK		12		
TID 63 - 3.0	LONG LEAF PINE		20		
TID 78 - 3.0	LONG LEAF PINE		17		
TID 81 - 3.0	WATER OAK			25	
TID 85 - 3.0	LONG LEAF PINE				47
TID 92 - 3.0	LAUREL OAK	6			
TID 97 - 3.0	LONG LEAF PINE		16		
TID 101 - 3.5	LIVE OAK			26	
TID 109 - 3.0	LONG LEAF PINE			24	
TID 111 - 3.0	LONG LEAF PINE		19		
TID 113 - 3.5	LONG LEAF PINE			22	
TID 115 - 3.0	LIVE OAK	7			
TID 143 - 3.0	LAUREL OAK		13		
TID 146 - 3.0	WATER OAK		12		
TID 151 - 3.0	LONG LEAF PINE		12		
TID 152 - 3.0	WATER OAK		13		
TID 153 - 3.0	LAUREL OAK		16		
TID 156 - 3.0	LONG LEAF PINE		16		
TID 192 - 3.0	LONG LEAF PINE			25	
TID 195 - 3.0	LIVE OAK		17		
TID 198 - 3.0	LAUREL OAK	9			
TID 200 - 3.0	LAUREL OAK		12		
TID 203 - 3.0	WATER OAK	8			
TID 222 - 3.0	LIVE OAK				43
TID 229 - 3.0	LIVE OAK				45
TID 232 - 3.0	LAUREL OAK				40
TID 248 - 3.0	WILLOW OAK			27	
TID 251 - 3.0	LONG LEAF PINE			24	
TID 259 - 3.0	LAUREL OAK		20		
TID 264 - 3.0	LONG LEAF PINE		18		
TID 283 - 3.0	LAUREL OAK	7			
TID 330 - 3.0	LONG LEAF PINE			24	
TID 343 - 3.0	LIVE OAK				31
TID 404 - 3.0	LONG LEAF PINE		18		
TID 407 - 3.5	LONG LEAF PINE			21	
TID 408 - 3.5	LIVE OAK				45
TID 420 - 3.0	LONG LEAF PINE		18		
TID 445 - 3.0	LAUREL OAK			23	
TID 453 - 3.0	LONG LEAF PINE		16		

Total inches per category		52	314	262	251
Cost per \$/inch in lieu of planting new trees into City's Tree Bank		\$50.00	\$100.00	\$ 125.00	\$ 150.00
Grand total into tree fund in lieu of planting new trees	\$104,400.00	\$2,600.00	\$31,400.00	\$32,750.00	\$37,650.00

EXISTING CONDITIONS, AS DEPICTED, WERE TAKEN FROM A BOUNDARY, TREE & TOPOGRAPHIC SURVEY, PREPARED BY DEUEL & ASSOCIATE, A SEPI COMPANY, LB #8423. DATE OF FIELD SURVEY: OCTOBER 13, 2022.

DEUEL & ASSOCIATES
A SEPI COMPANY, A DIVISION OF TRANSYSTEMS

565 SOUTH HERCULES AVENUE
CLEARWATER, FL 33764
PHONE 727.822.4151
WWW.DEUELENGINEERING.COM

SQUIRREL STORAGE
LANDSCAPE PLAN

ZEPHYRHILLS

FLORIDA

I, LEROY CHIN, HEREBY CERTIFY AS A LICENSED PROFESSIONAL LANDSCAPE ARCHITECT, REGISTERED IN ACCORDANCE WITH FLORIDA STATUTE 471 (481) THAT THE ABOVE PROJECT'S SITE AND/OR CONSTRUCTION PLANS, TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, WILL MEET APPLICABLE DESIGN CRITERIA SPECIFIED BY CITY MUNICIPAL ORDINANCE, STATE AND FEDERAL ESTABLISHED STANDARDS. I UNDERSTAND THAT IT IS MY RESPONSIBILITY AS THE PROJECT'S PROFESSIONAL LANDSCAPE ARCHITECT TO PERFORM A QUALITY ASSURANCE REVIEW OF THESE SUBMITTED PLANS.

LEROY CHIN, FL RLA 1206

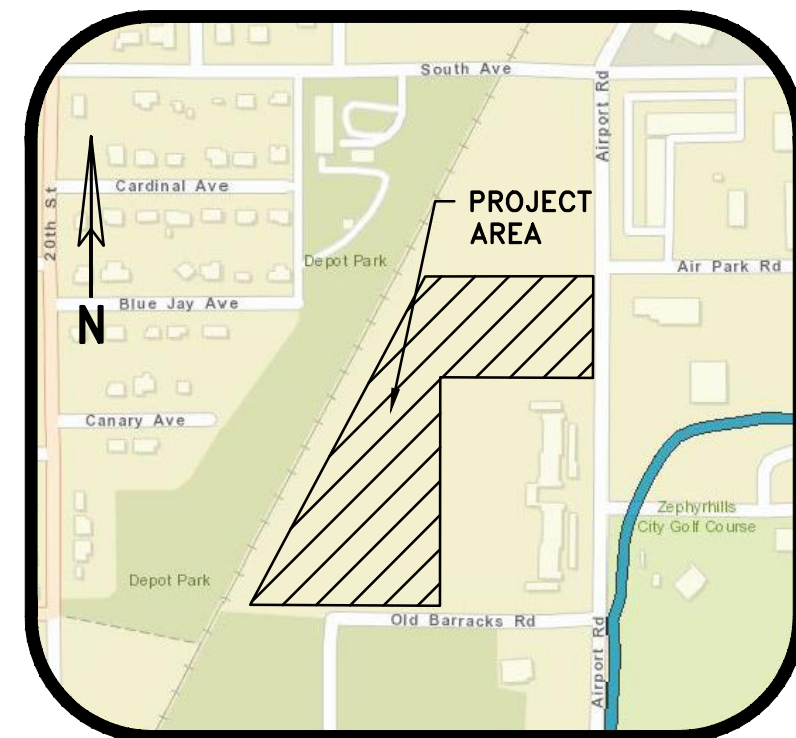
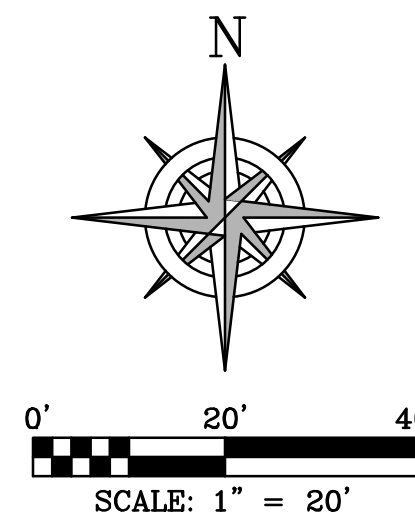
PROJECT NO. SE22.110.00
DATE: DECEMBER 13, 2022
SCALE: 1" = 20'
SHEET NO. 15 OF 19

[illegible]

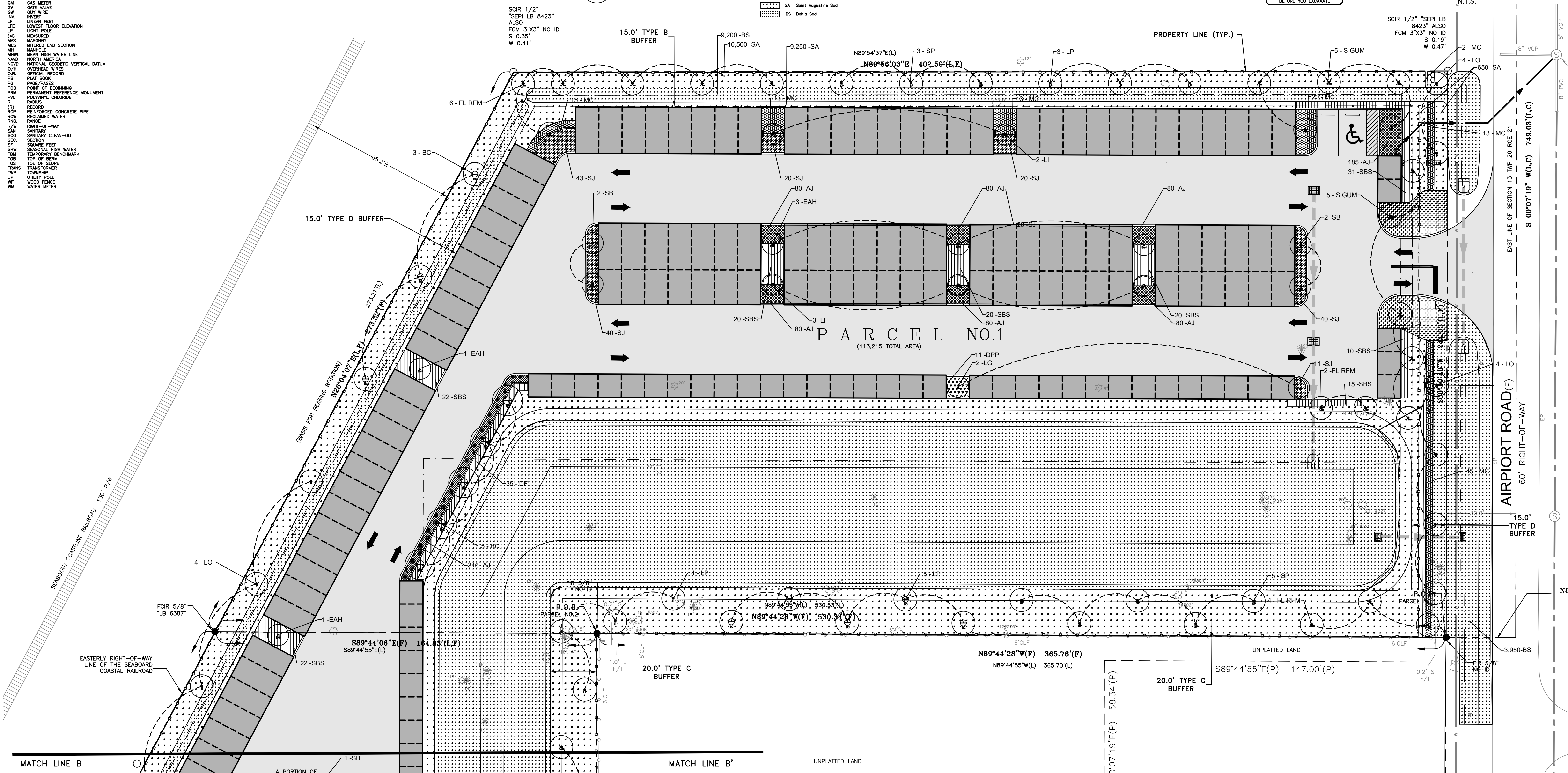

 DIRECTION OF FLOW
 * EXISTING ELEVATION
 * ELEVATIONS ARE BASED ON NAVD-88
 R.R. 87202 PROPOSED ELEVATION
 R.R. 87202 ELEVATION AT TOP OF FEATURE
 R.R. 87202 ELEVATION AT BOTTOM OF FEATURE
 GRADING SURFACES:
 BW = BOTTOM OF WALL
 EP = EDGE OF PAVEMENT
 G = GROUND
 HP = HIGH POINT
 ME OR MED = MATCH EXISTING GRADE
 (ESTIMATED INTERPOLATED VALUE)
 MP = MATCH EXISTING EP
 TC = TOP OF CURB
 TS = TOP OF SIDEWALK
 TW = TOP OF WALL
 —○— 6' CHAIN LINK FENCE
 ——— SILT FENCE
 (2) NUMBER OF PROPOSED PARKING SPACES
 REMOVE EXISTING TREE

SYMBOL	COMMON/BOTANICAL NAME
<u>TREES</u>	
	FL RFM Florida Red Flame Maple/Acer Rubrum
	S GUM Sweetgum/Liquidambar styraciflua
	LO Live Oak/Quercus virginiana
	LP Loblolly Pine/Pinus torida
	SP Slash Pine/Pinus elliotii
	BC Bald Cypress/Taxodium distichum

SYMBOL	COMMON/BOTANICAL NAME
<u>UNDER STORY TREE</u>	
	LI Grape Myrtle 'Natchez' Standard/Ligustrum japonicum 'Natchez' Std.
	EAH Eggleston Holy 'Standard'/Ilex x attenuata 'Eggleston' Std.
	LG Little Gem Magnolia/Magnolia grandiflora 'Little Gem'
	SB Silver Buttonwood 'Standard'/Conocarpus erectus var. sericeus
<u>SHRUBS</u>	
	SBS Silver Buttonwood Shrub form/Conocarpus erectus var. sericeus
	DF Dwarf Firebush/Hamelia patens Compacta
	MC Simpson's Stopper/'Myrsine tomentosa 'Compacta'
	VC Vismium Water's/Vismium coccineum
	DPP Dwarf Podocarpus 'Pringles'/Podocarpus macrophyllus 'Pringles'
<u>GROUND COVERS</u>	
	AJ Ailetic Jasmine Minima/Trachelopetalum calcitum
	SH Shore Juniper/Juniperus conferta
	SA Saint Augustine Sod
	BS Bahia Sod



LOCATION MAP
N.T.S.



EXISTING CONDITIONS, AS DEPICTED, WERE TAKEN FROM
A BOUNDARY, TREE & TOPOGRAPHIC SURVEY, PREPARED
BY DEUEL & ASSOCIATE, A SEPI COMPANY, LB #8423.
DATE OF FIELD SURVEY: OCTOBER 13, 2022.

				DESIGN:	LC
				DRAWN:	LC
REV.#	DATE	REVISION	BY	CHECKED:	LC

DEUEL & ASSOCIATES

A SEPI COMPANY, A DIVISION OF TRANSYSTEMS

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SQUIRREL STORAGE
LANDSCAPE PLAN

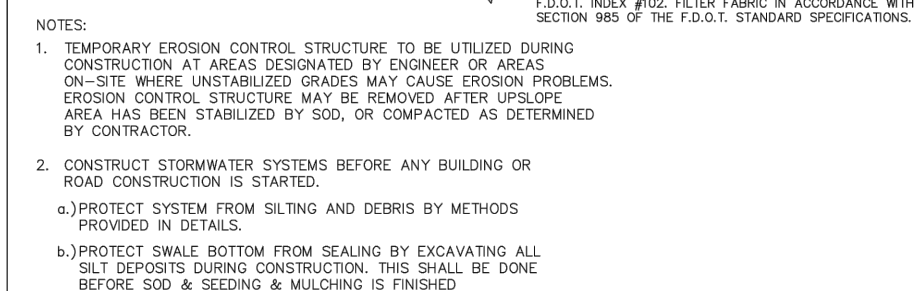
ZEPHYRHILS

FLORIDA

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LEROY CHIN, FL RLA 1206

PROJECT NO.	SE22.110.00
DATE:	DECEMBER 13, 2022
SCALE:	1" = 20'
SHEET NO.	16 OF 19



THE FOLLOWING LIST REPRESENTS A BASIC REGIONAL AND SEDIMENT CONTROL PROGRAM WHICH IS TO BE IMPLEMENTED TO HELP PREVENT OFF-SITE SEDIMENTATION DURING AND AFTER CONSTRUCTION OF THE PROJECT.

1. EROSION CONTROL AND SEDIMENT CONTROL MEASURES SHALL BE THE EARLIEST PRACTICAL TIME CONSISTENT WITH GOOD CONSTRUCTION PRACTICES ONE OF THE FIRST CONSTRUCTION ACTIVITIES SHOULD BE THE PLACEMENT OF PERMANENT EROSION CONTROL MEASURES TO PREVENT CONSTRUCTION ACTIVITIES FROM BEING THE SOURCE OF THE INITIAL WASH AREA TO PROTECT THE PROJECT, ADJACENT PROPERTIES AND WATER RESOURCES.

2. TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE COORDINATED WITH PERMANENT MEASURES TO ASSURE ECONOMICALLY FEASIBLE CONSTRUCTION OF THE PROJECT.

3. TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL NOT BE CONSTRUCTED FOR EXPEDIENT IN USE OF PERMANENT MEASURES.

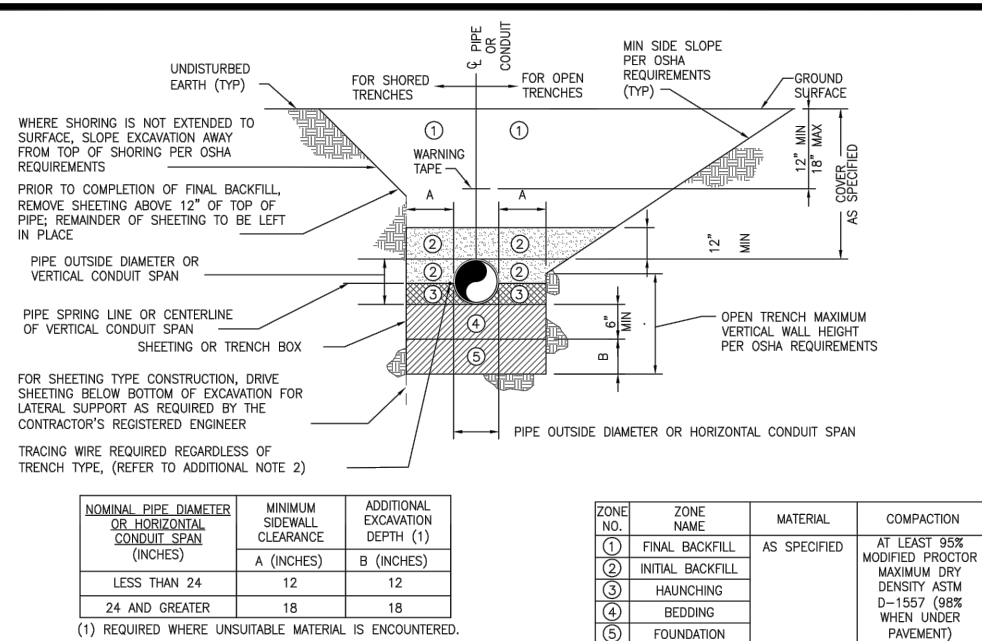
4. TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE ADEQUATELY MAINTAINED TO PERFORM THEIR INTENDED FUNCTION DURING CONSTRUCTION OF THE PROJECT.

5. NECESSARY REPAIRS TO BARRIERS OR REPLACEMENT OF BARRIERS SHALL BE ACCOMPLISHED PROMPTLY.

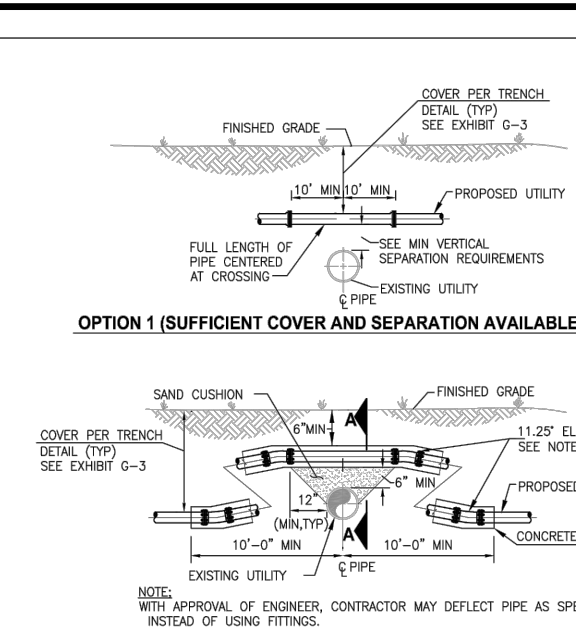
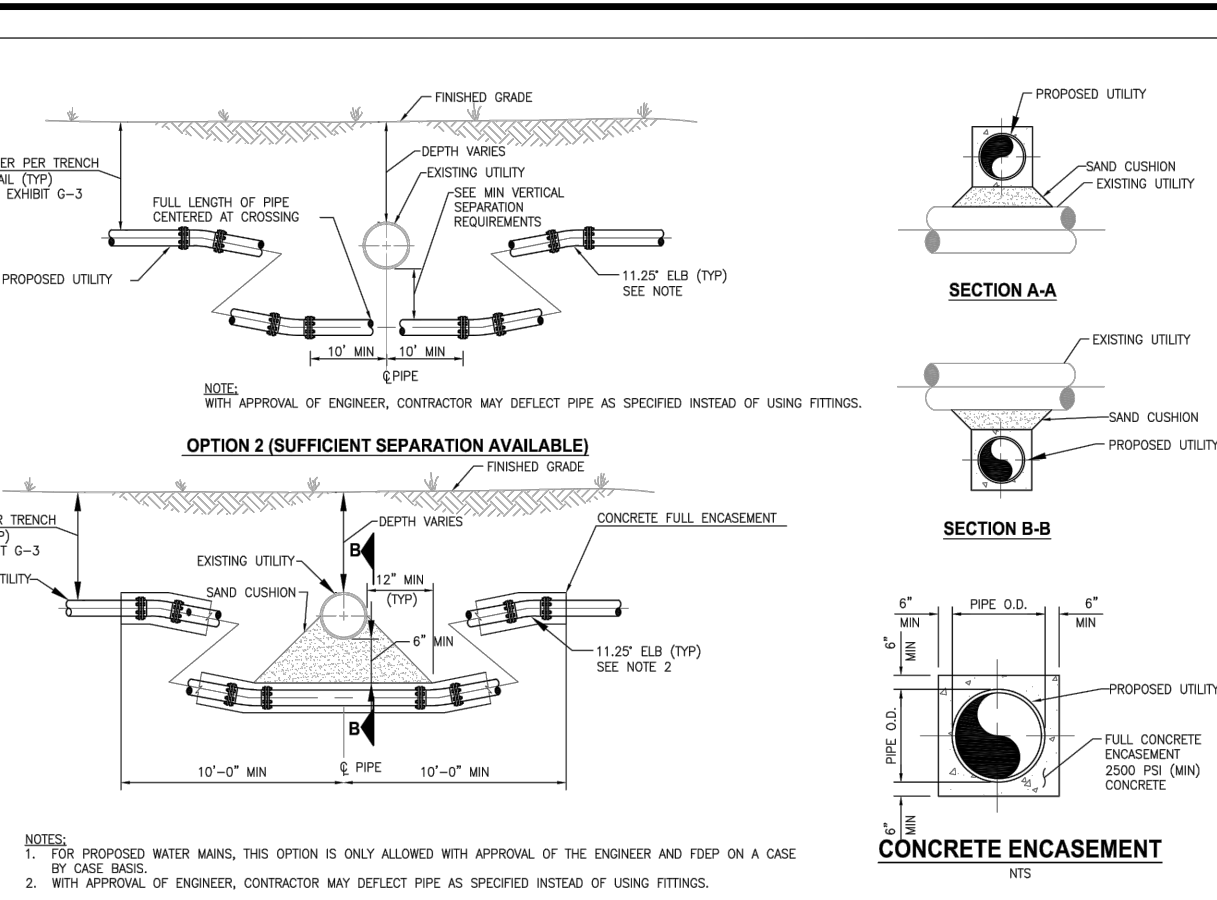
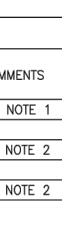
6. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH RAINFALL, THEY WILL BE REMOVED WHEN THE LEVEL OF DEPOSITION REACHES APPROPRIATELY DURING THE HIGH FLOW OF THE RAINFALL.

7. SEDIMENT DEPOSITS SHALL BE REMOVED FROM THE EXISTING GRADE, PREPARED AND STORED IN A MANNER THAT THE MATERIAL FROM SEDIMENT TRAPS SHALL NOT BE STOCKPILED OR DISPOSED OF IN A MANNER WHICH MAKES THEM READILY SUSCEPTIBLE TO BEING WASHED INTO ANY WATERCOURSE BY RUNOFF OR HIGH WATER.

8. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE BARRIERS ARE NO LONGER REQUIRED SHALL BE DESIRED TO CONFORM WITH THE EXISTING GRADE.



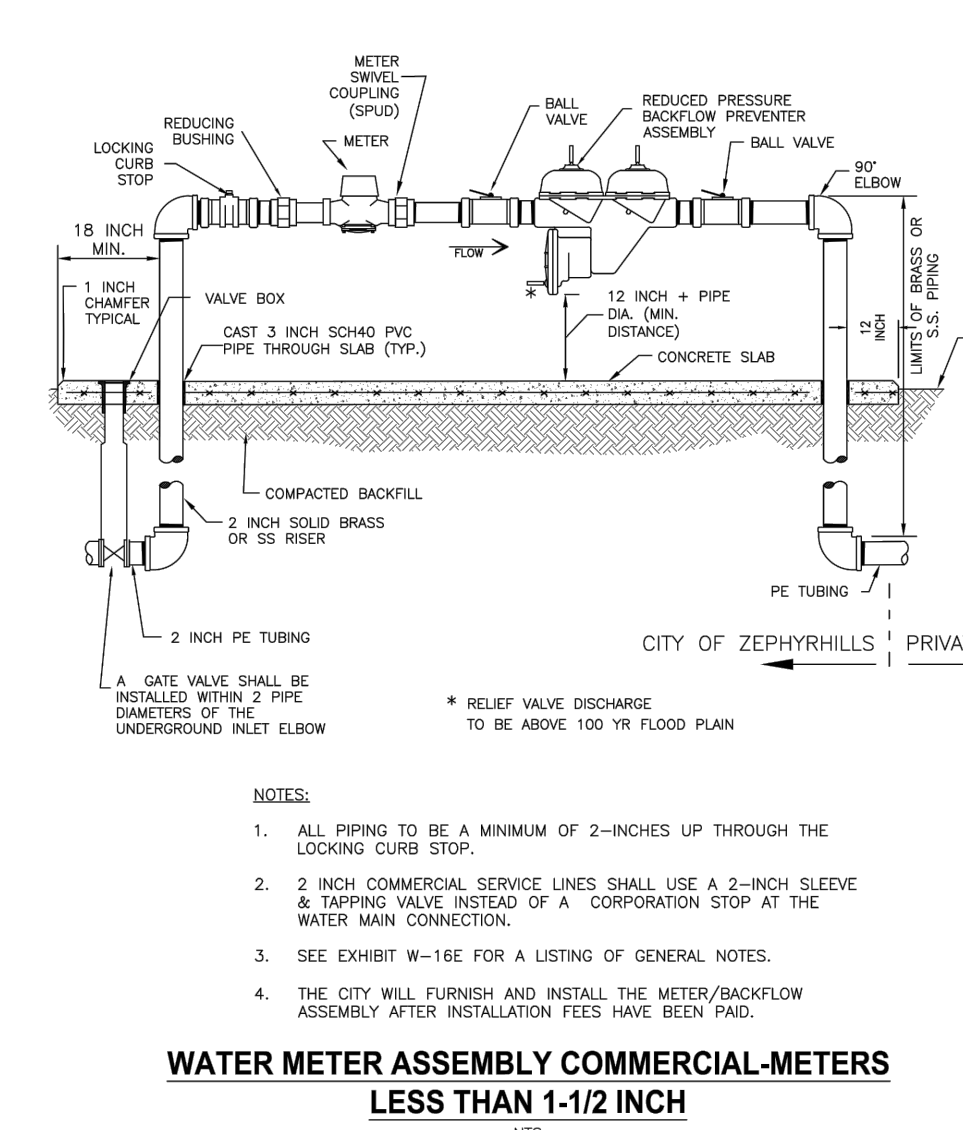
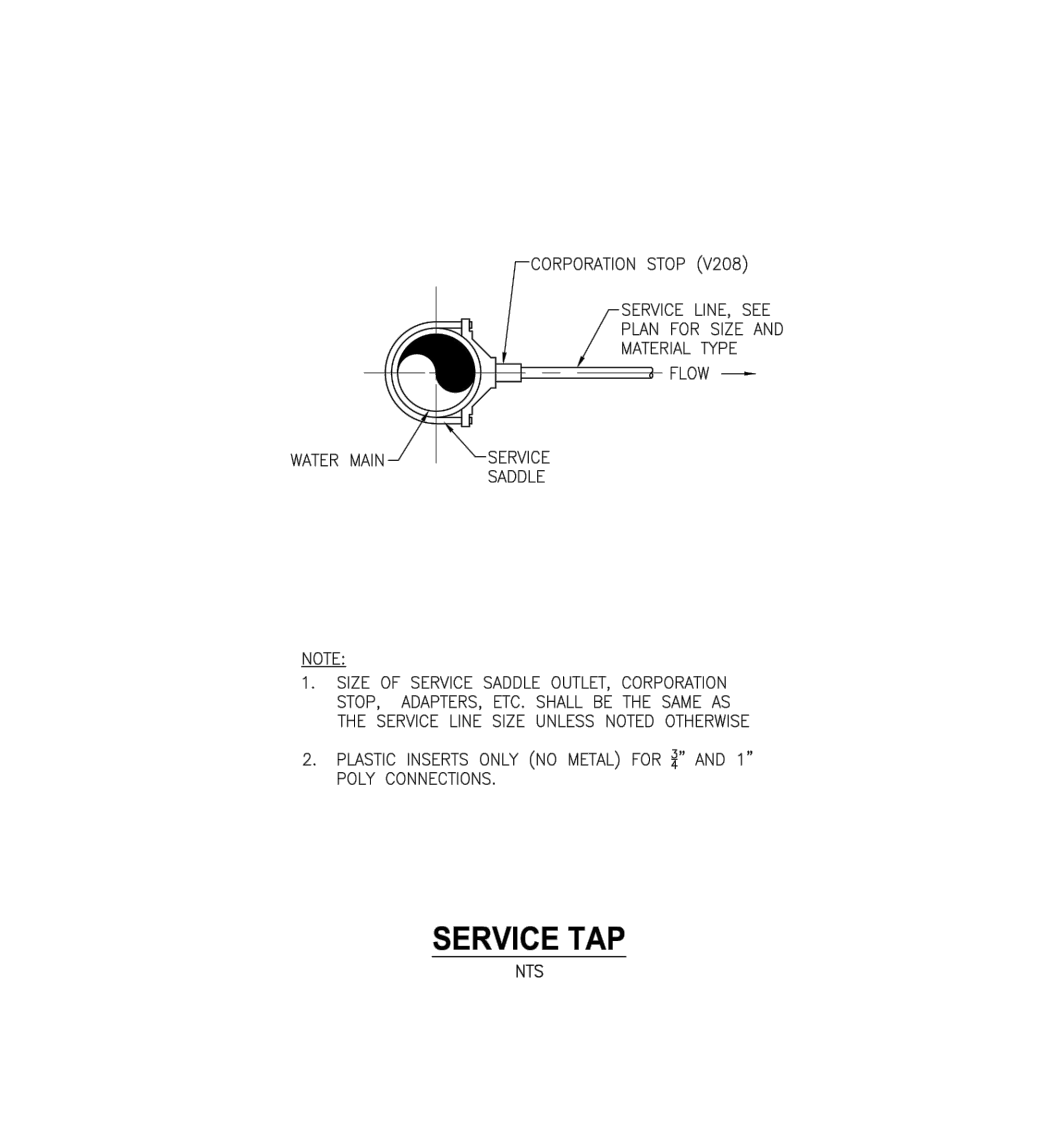
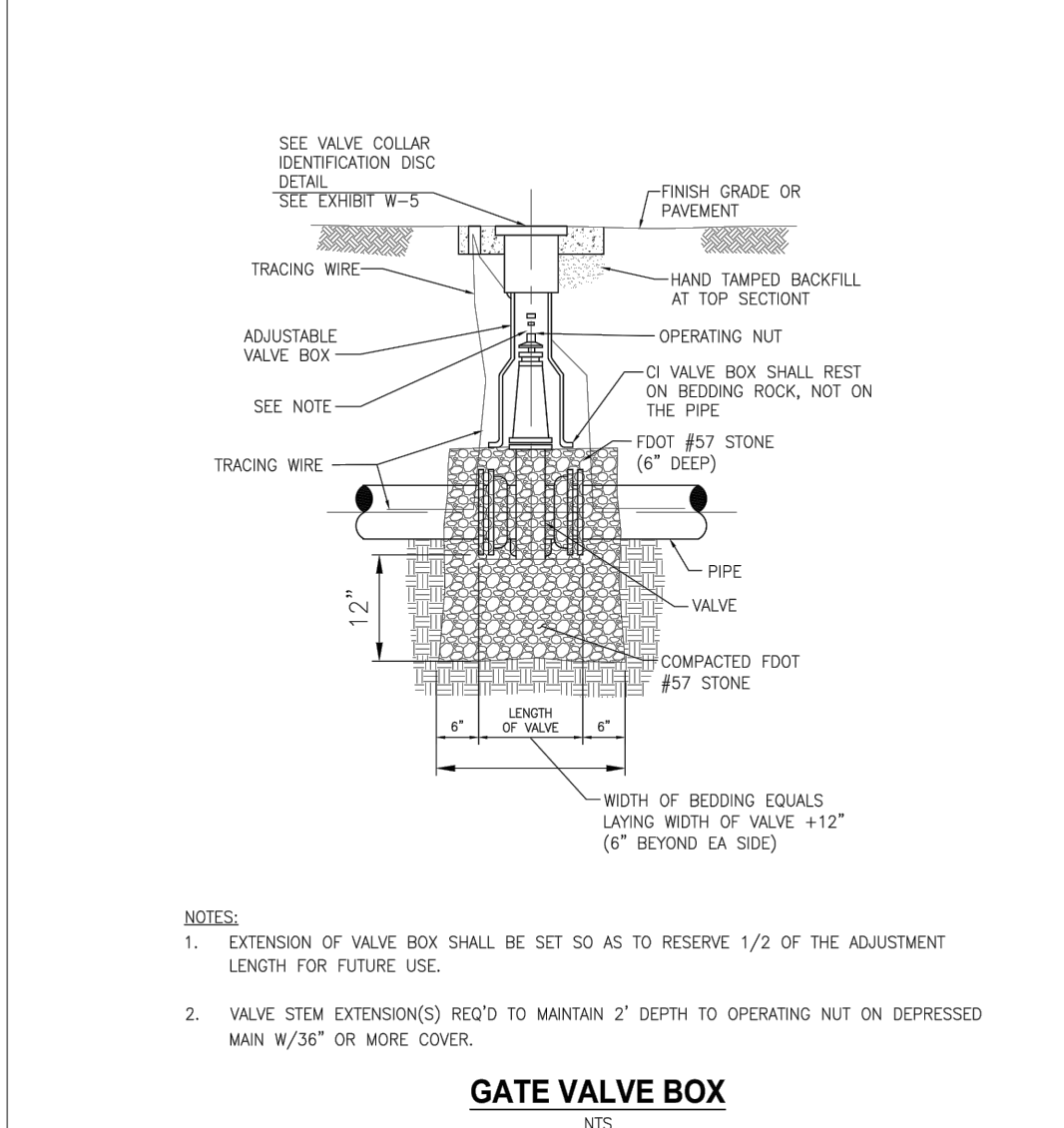
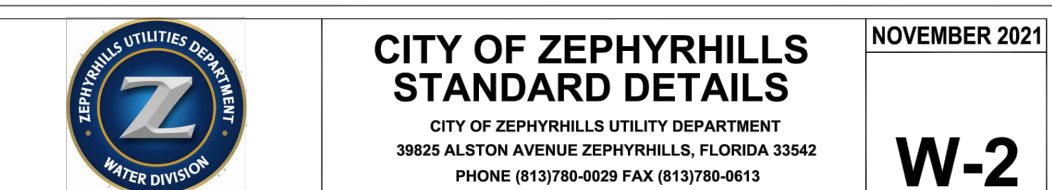
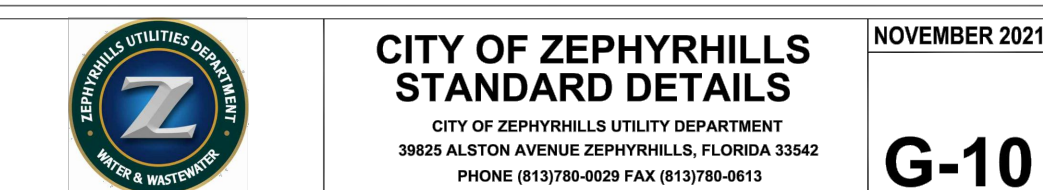
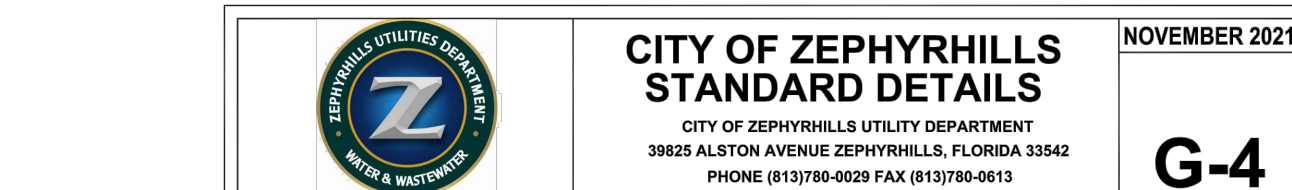
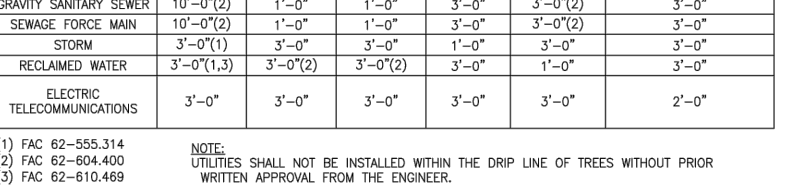
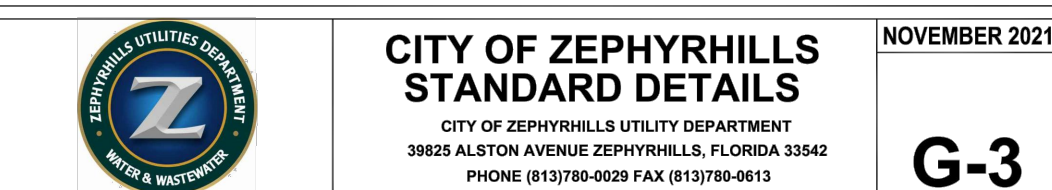
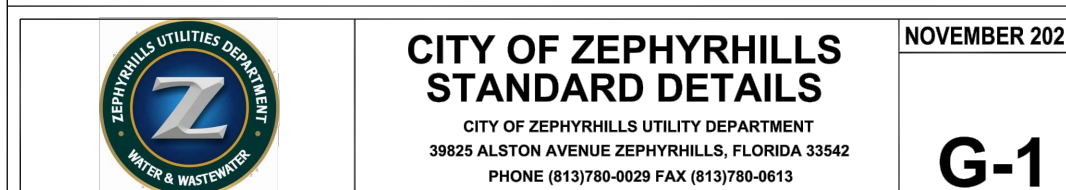
ZONE NO.	ZONE NAME	MATERIAL	COMPACTION
1	FINAL BACKFILL	AS SPECIFIED	AT LEAST 95% MODIFIED PROCTOR MAXIMUM DRY DENSITY ASTM D-1557 (98% WHEN UNDER PAVEMENT)
2	INITIAL BACKFILL		
3	HAUNCHING		
4	BEDDING		
5	FOUNDATION		

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NTS

- NOTES:
1. ALL BRASS/STAINLESS PIPE AND FITTINGS SHALL BE THREADED SCH. 40.
 2. CAM-LOCK MALE ADAPTER & DUST CAP SHALL BE ALUMINUM/THREADED.
 3. ACTUAL LENGTH OF BRASS/STAINLESS PIPELINE TO BE DETERMINED IN THE FIELD.
 4. DEFLECT OR INSTALL FITTINGS AS REQUIRED TO MAINTAIN COVER AND TO SET BLOW-OFF ASSEMBLY PLUMB.
 5. EXTENSION OF VALVE BOX SHALL BE SET SO AS TO RESERVE 1/2 OF THE ADJUSTMENT RANGE FOR FUTURE USE.
 6. VALVE STEM EXTENSION(S) REQ'D TO MAINTAIN 2" DEPTH TO OPERATING NUT ON DEPRESSURE SIDE.

NTS



- GENERAL NOTES:**
1. A MASTER METER ASSEMBLY SHALL BE DIRECTLY ACCESSIBLE BY ROOM TRUCK OFF A COMMON BASE ROW, OR BY AN INTERIOR ROAD THAT IS NOT BACKED BY A WALL OR CURB. THE ACCESS ROAD SHALL BE 12 FT WIDE (MIN) AND PAVED (MAXIMUM).
 2. ALL ABOVE GROUND PIPES AND FITTINGS SHALL BE CLASS 53 D.I.P. FOR 4 INCH AND LARGER SIZE.
 3. CERTIFICATION BY THE CITY OF PROPER INSTALLATION AND OPERATION WILL BE REQUIRED PRIOR TO ACCEPTANCE BY THE CITY.
 4. THE CITY WILL FURNISH AND INSTALL THE METER/BACKFLOW ASSEMBLY AFTER INSTALLATION FEES HAVE BEEN PAID. THE CONTRACTOR WILL BE REQUIRED TO INSTALL THE METER/BACKFLOW FOR 3" AND LARGER METERS.
 5. THE 6 INCH CONCRETE SLAB SHALL BE REINFORCED WITH 6#-W#14X4' WELD REINFORCING BARS AND SHALL BE TYPE I PORTLAND CEMENT WITH A MINIMUM 25-30 STRENGTH OF 3000PSI.
 6. SLAB WIDTH AND LENGTH SHALL VARY ACCORDANCE. THE TOP OF SLAB SHALL BE FINISHED TO MATCH FINISHED GROUND.
 7. THE METER ASSEMBLY & BOLLARDS SHALL BE PAINTED IN ACCORDANCE WITH SSPC STANDARDS. COLOR TO BE CHOSEN BY THE CITY.
 8. IF THE METER ASSEMBLY IS LOCATED WITHIN A TRAFFIC/VEHICLE AREA (PARKING LOT, DRIVEWAY, OR WITHIN 15 FT OF EDGE OF PAVEMENT/BACK OF CURB), THE BOLLARDS SHALL BE 2 INCHES IN DIAMETER (MINIMUM) & 3' TALL (MINIMUM). PROTECTION BOLTS, AND FOR METERS 3 INCHES & LARGER A MINIMUM OF 4 BOLLARDS SHALL BE REQUIRED.

TEMPORARY METER NOTES:

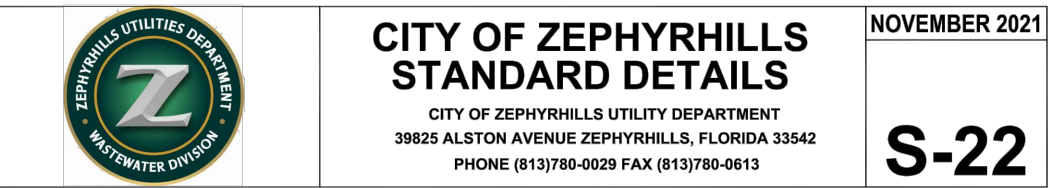
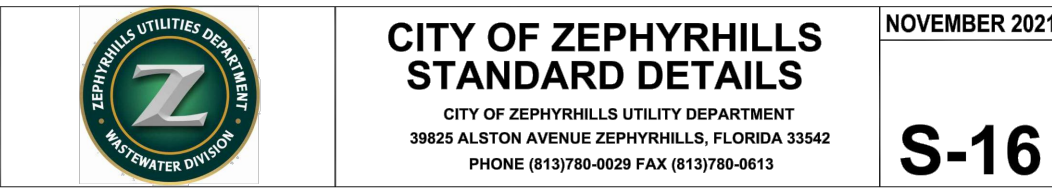
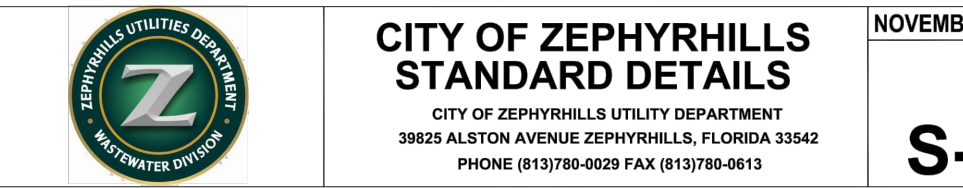
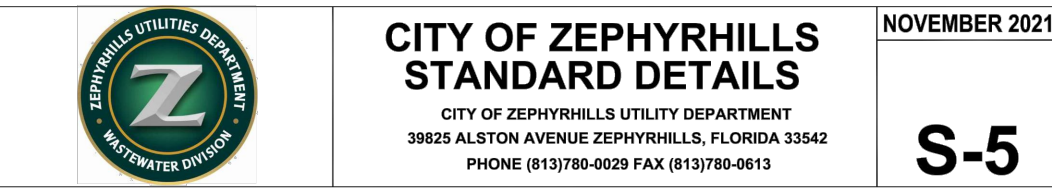
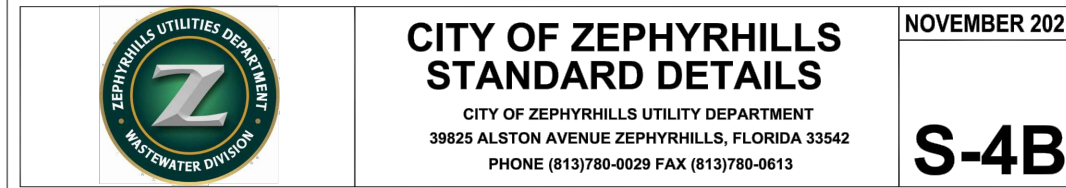
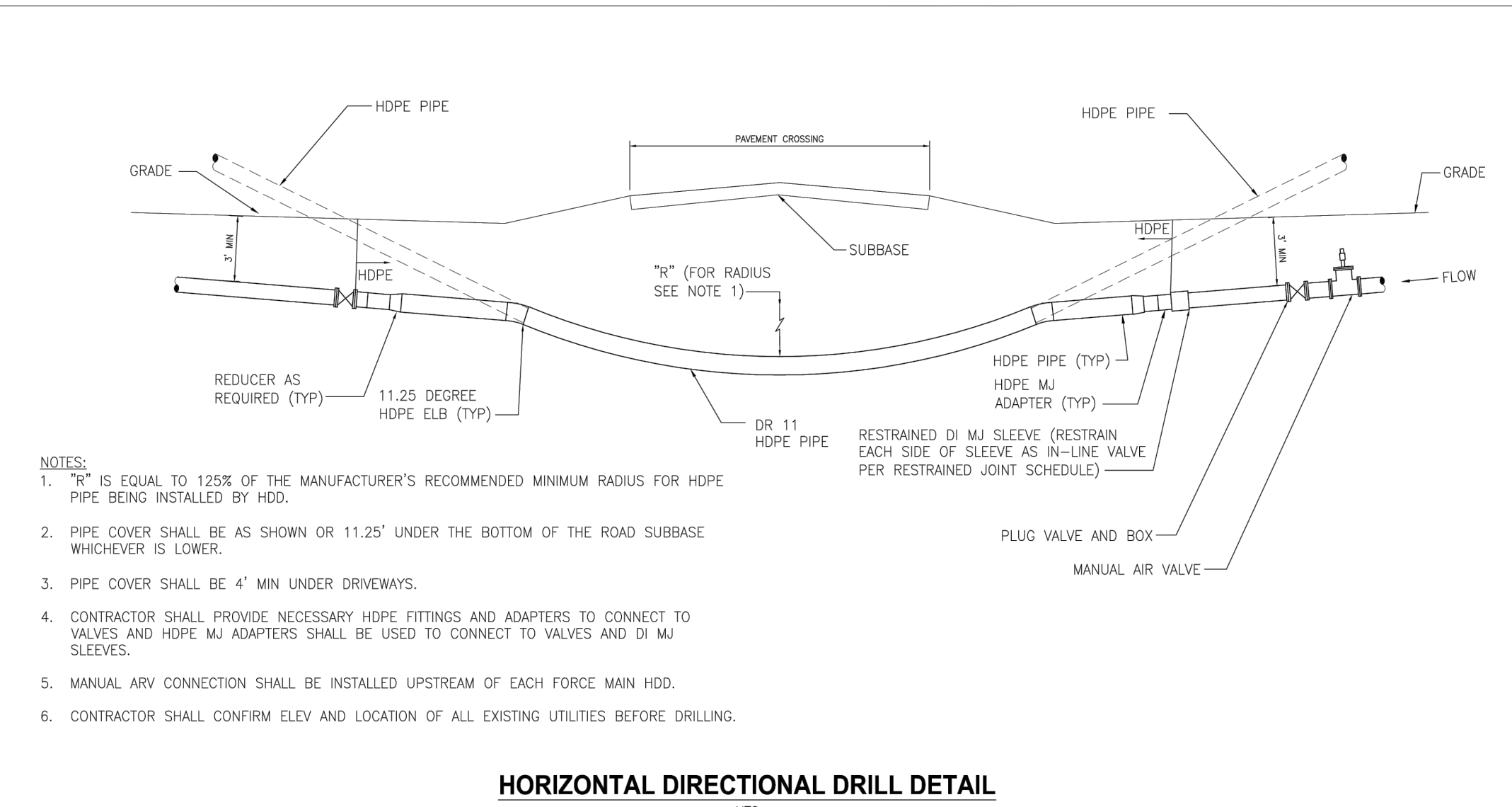
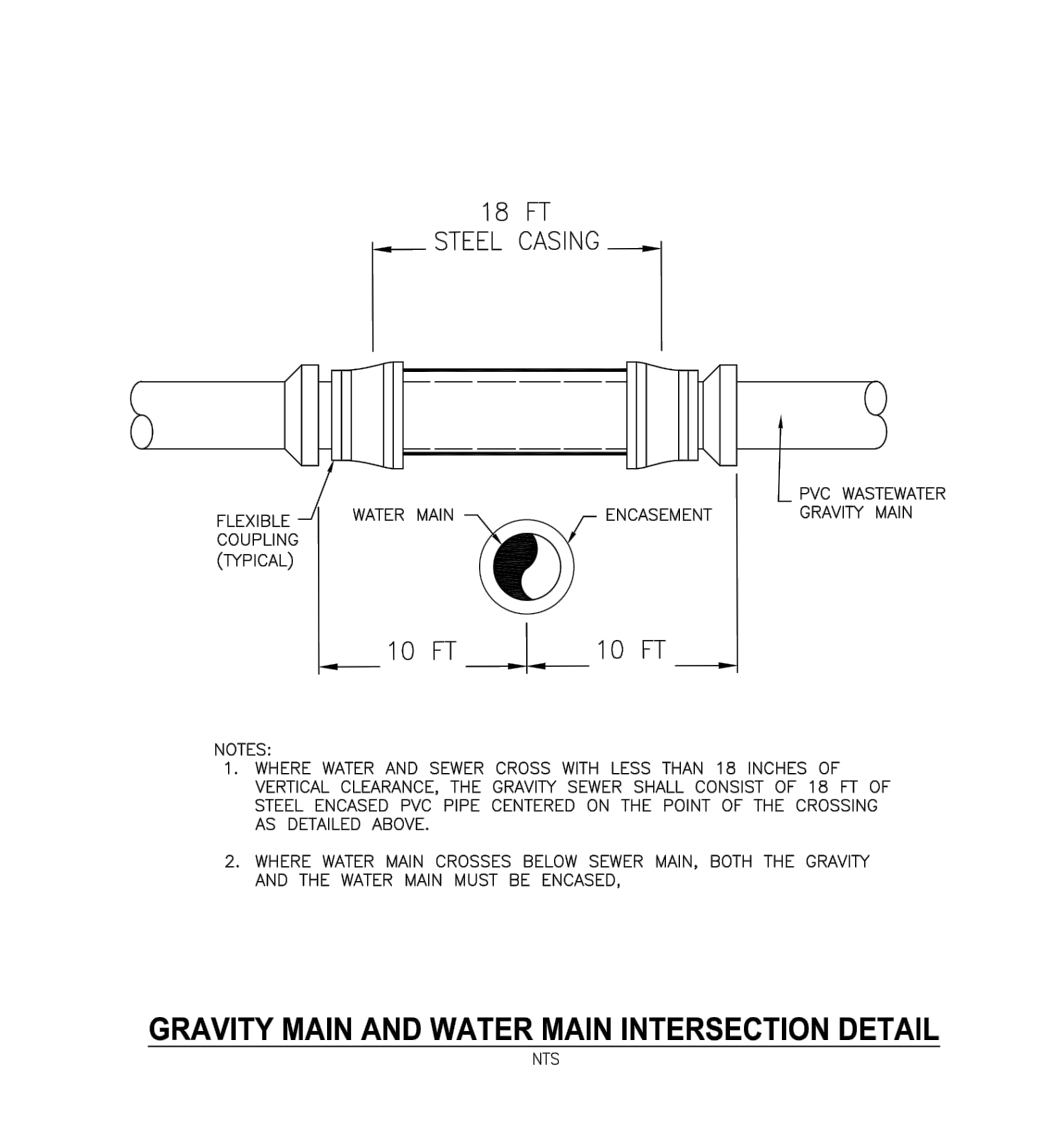
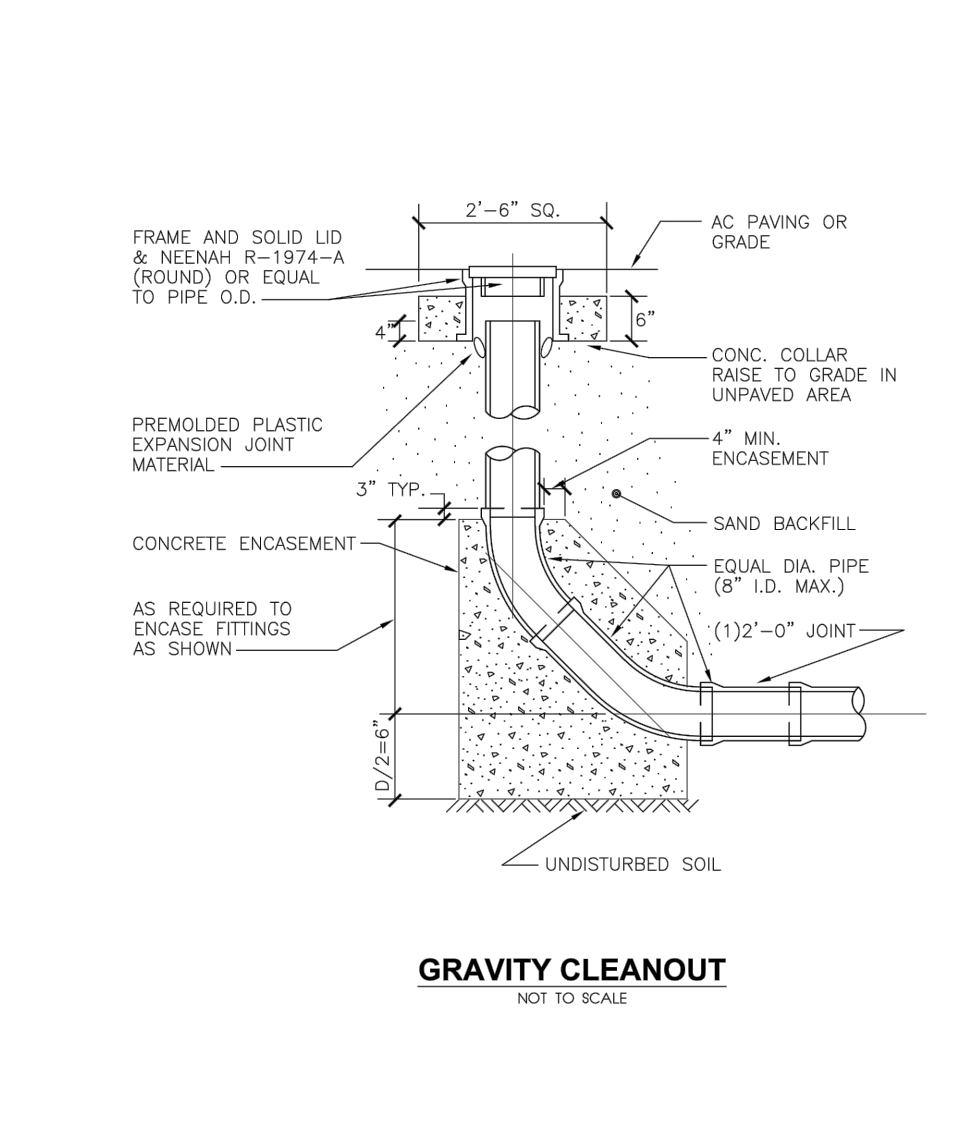
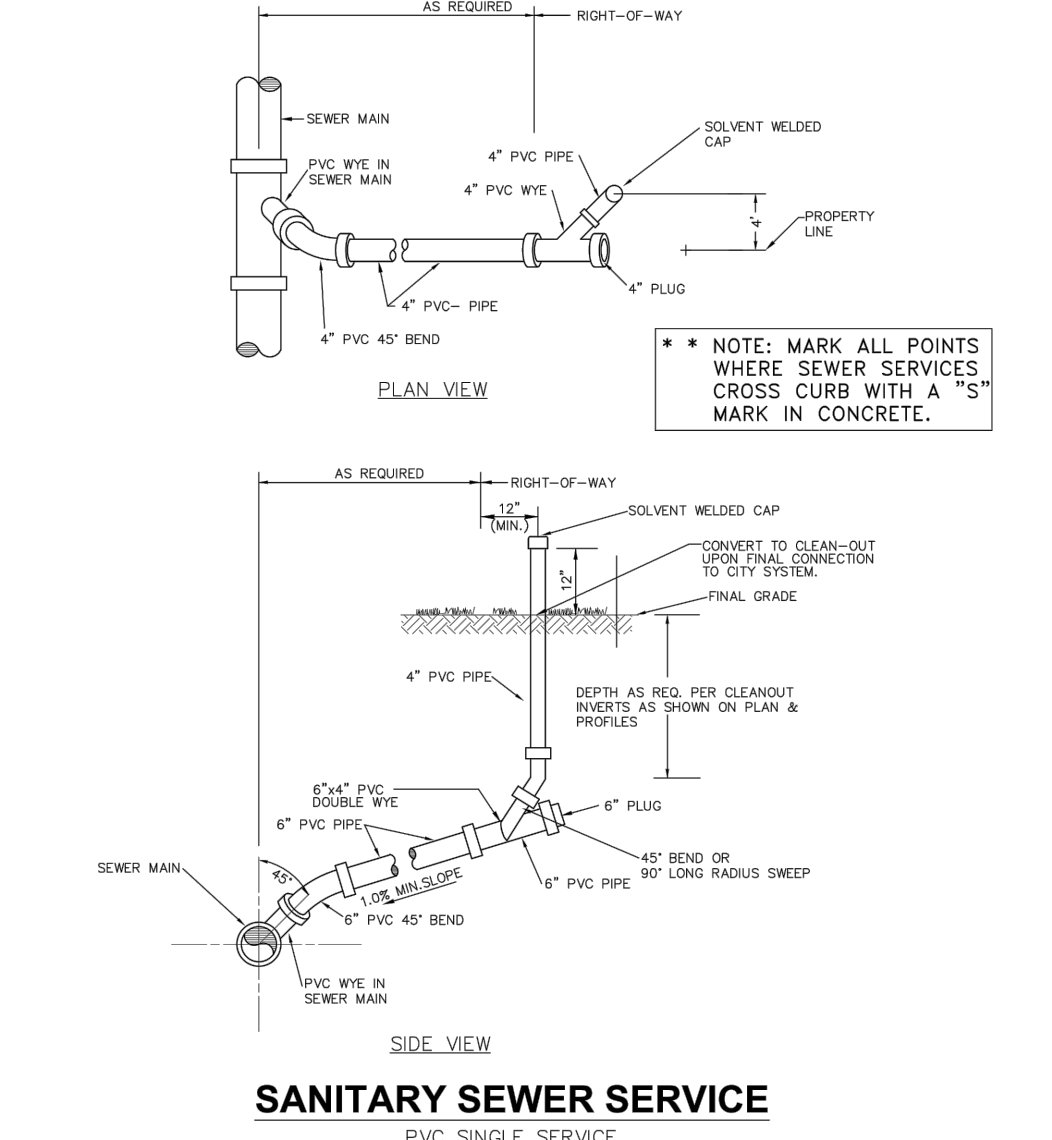
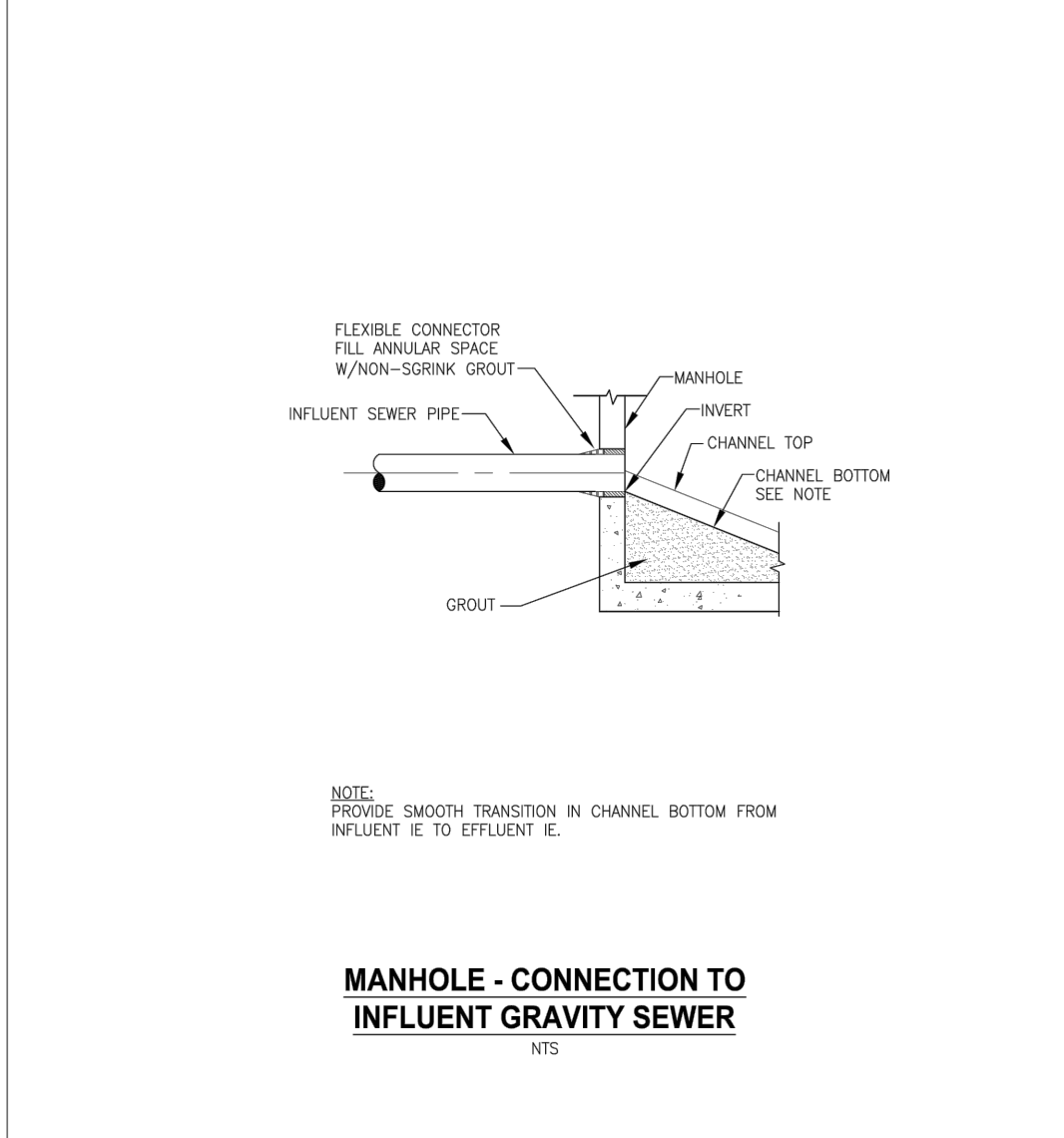
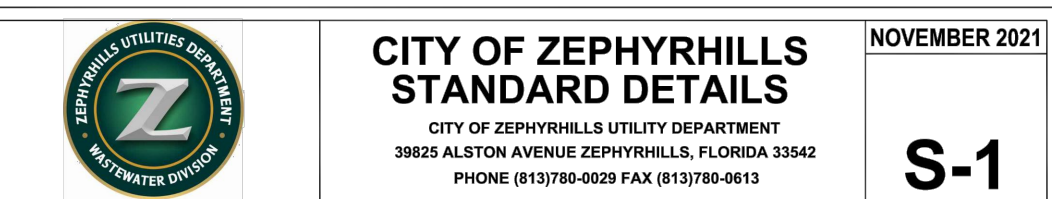
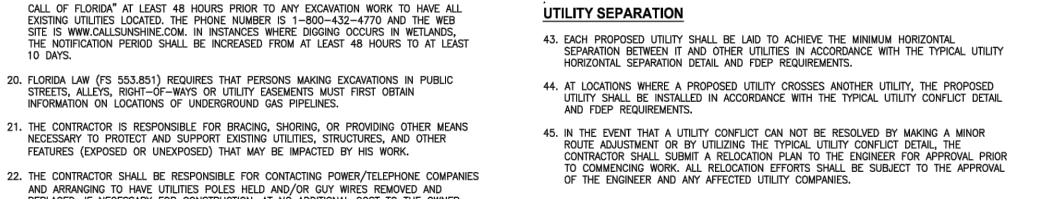
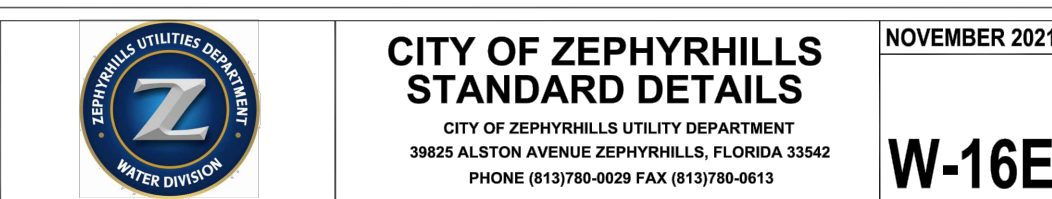
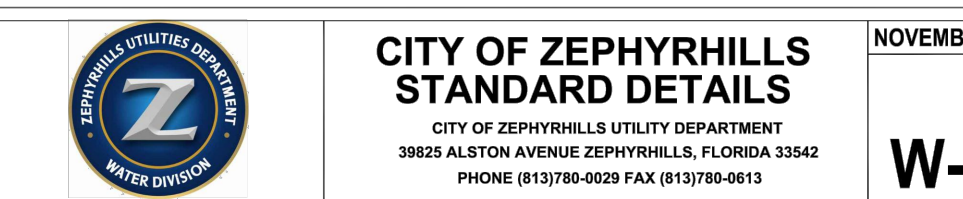
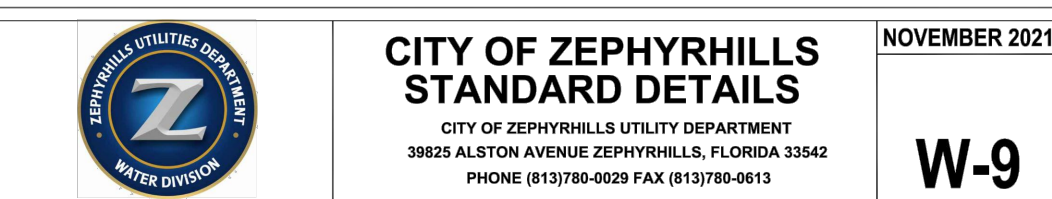
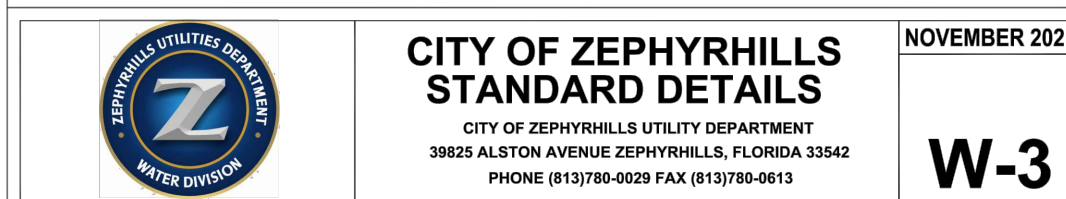
1. THE IN-LINE VALVE IS TO REMAIN CLOSED UNTIL AFTER THE CONSTRUCTION AND ACCEPTANCE OF THE DEVELOPMENT WATER DISTRIBUTION SYSTEM.
2. THE METER ASSEMBLY IS TO BE REMOVED AFTER FINAL ACCEPTANCE OF THE WATER DISTRIBUTION SYSTEM BY THE CITY OF ZEPHYRHILLS HEALTH DEPARTMENT AND THE CITY OF ZEPHYRHILLS PLANNING DEPARTMENT.
3. ALL CONSTRUCTION MUST MEET APPLICABLE STATE AND/OR LOCAL ROADWAY/ROADSIDE DESIGN STANDARDS INCLUDING, BUT NOT LIMITED TO, CLEAR ZONE REQUIREMENTS.

GENERAL WATER METER ASSEMBLY NOTES **RESIDENTIAL OR COMMERCIAL DEVELOPMENT**



MAINTENANCE OF TRAFFIC

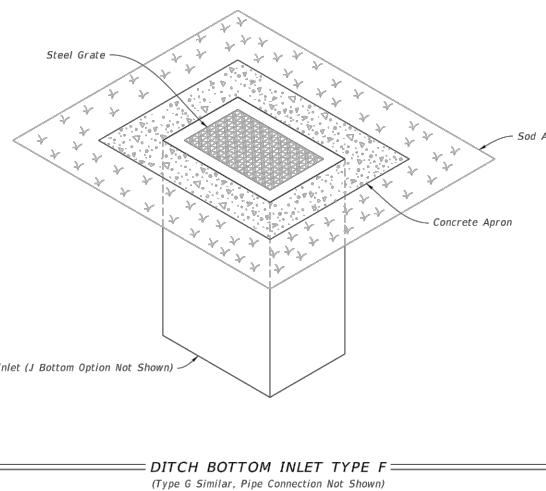
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- GENERAL NOTES:
1. When used in areas subject to bicycle traffic, install filter bar when concrete is 2" thick or greater than 18" in depth from 425-051.
 2. These inlets may be used with Alternative B structure bottoms, Table 425-052.
 3. Chapter all exposed edges and corners 1/2" chamfer or beveled in 1/2" radius.
 4. See Index for supplemental details.
 5. Reinforcing bars are Grade 60 with 7" minimum cover unless otherwise noted.
 6. Call in steel bars to provide 10' clearance around pipe opening. Provide 10' minimum clearance at each end of pipe opening in sheet.
 7. Dimensions are for both structural and construction unless otherwise noted.
 8. Questions are for informational and estimating purposes only.

TABLE OF CONTENTS:	
Sheet	Description
1	General Notes and Contents
2	Type F - Dimensional, Reinforcing, and Grate Details
3	Type G - Dimensional, Reinforcing, and Grate Details
4	Concrete Pipe and Grate Details



LAST REVISION	DESCRIPTION	DATE	BY	INDEX	SHEET
11/01/20				425-053	1 of 4

TABLE 1		SINGLE AND MULTIPLE CONCRETE PIPE DIMENSIONS AND QUANTITIES	
PIPE SIZE (IN)	PIPE LENGTH (FT)	PIPE WEIGHT (LBS)	PIPE VOLUME (CU YD)
12	10	1,200	0.15
12	20	2,400	0.30
12	30	3,600	0.45
12	40	4,800	0.60
12	50	6,000	0.75
12	60	7,200	0.90
12	70	8,400	1.05
12	80	9,600	1.20
12	90	10,800	1.35
12	100	12,000	1.50
12	120	14,400	1.80
12	150	18,000	2.25
12	200	24,000	3.00
12	240	28,800	3.60
12	300	36,000	4.50
12	360	43,200	5.40
12	420	50,400	6.30
12	480	57,600	7.20
12	540	64,800	8.10
12	600	72,000	9.00
12	720	86,400	10.80
12	840	100,800	12.60
12	960	115,200	14.40
12	1080	129,600	16.20
12	1200	144,000	18.00
12	1440	172,800	21.60
12	1680	201,600	25.20
12	1920	230,400	28.80
12	2160	259,200	32.40
12	2400	288,000	36.00
12	2700	324,000	40.50
12	3000	360,000	45.00
12	3600	432,000	54.00
12	4200	504,000	63.00
12	4800	576,000	72.00
12	5400	648,000	81.00
12	6000	720,000	90.00
12	7200	864,000	108.00
12	8400	1,008,000	126.00
12	9600	1,152,000	144.00
12	10800	1,296,000	162.00
12	12000	1,440,000	180.00
12	14400	1,728,000	216.00
12	16800	2,016,000	252.00
12	19200	2,304,000	288.00
12	21600	2,592,000	324.00
12	24000	2,880,000	360.00
12	27000	3,240,000	405.00
12	30000	3,600,000	450.00
12	36000	4,320,000	540.00
12	42000	5,040,000	630.00
12	48000	5,760,000	720.00
12	54000	6,480,000	810.00
12	60000	7,200,000	900.00
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GENERAL CONSTRUCTION NOTES				GRADING AND DRAINAGE NOTES				WATER SYSTEM TESTING AND INSPECTION REQUIREMENTS				S.W.F.W.M.D. / EROSION CONTROL NOTES				STANDARD SITE PLAN NOTES			
1. ALL WORK PERFORMED SHALL COMPLY WITH THE REGULATIONS AND ORDINANCES OF THE VARIOUS GOVERNMENTAL AGENCIES HAVING JURISDICTION OVER THE WORK.				1. ALL DELETERIOUS SUBSTANCE MATERIAL, (I.E. MUCK, PEAT, BURIED DEBRIS), IS TO BE EXCAVATED IN ACCORDANCE WITH THESE PLANS, OR AS DIRECTED BY THE OWNER'S ENGINEER, OR OWNER'S SOIL TESTING COMPANY. DELETERIOUS MATERIAL IS TO BE STOCKPILED OR REMOVED FROM THE SITE AS DIRECTED BY THE OWNER. EXCAVATED AREAS ARE TO BE BACKFILLED WITH APPROVED MATERIALS AND COMPACTED AS SHOWN ON THESE PLANS.				1. ALL COMPONENTS OF THE WATER SYSTEM, INCLUDING FITTINGS, HYDRANTS, CONNECTIONS, AND VALVES SHALL REMAIN UNCOVERED UNTIL PROPERLY PRESSURE TESTED AND ACCEPTED BY THE OWNER'S ENGINEER. PRESSURE TESTS TO BE IN ACCORDANCE WITH WATER DEPARTMENT SPECIFICATIONS. CONTRACTOR TO NOTIFY OWNER'S ENGINEER AND WATER DEPARTMENT INSPECTORS 48 HOURS IN ADVANCE OF PERFORMING TESTS.				1. DURING CONSTRUCTION SEDIMENT IS TO REMAIN ON SITE. THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF EROSION AND SEDIMENT CONTROL DEVICES PRIOR TO INITIATING AND DURING ALL PHASES OF LAND CLEARING AND CONSTRUCTION TO PREVENT SOIL EROSION AND SILTATION.				1. ALL PROPOSED SIGNS MUST BE APPLIED FOR, APPROVED, AND PERMITTED ON AN INDIVIDUAL BASIS APART FROM ANY ULTIMATELY-APPROVED SITE PLAN. APPROVAL OF THIS SITE PLAN DOES NOT CONSTITUTE APPROVAL OF ANY SIGNAGE.			
2. LOCATIONS, ELEVATIONS, AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES, AND OTHER FEATURES ARE SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATIONS, ELEVATIONS, AND DIMENSIONS OF ALL EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES AFFECTING THIS WORK PRIOR TO CONSTRUCTION.				2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXCAVATIONS AGAINST COLLAPSE AND WILL PROVIDE BRACING, SHEETING, OR SHORING, AS NECESSARY. TRENCHES SHALL BE KEPT DRY WHILE PIPE AND APPURTENANCES ARE BEING PLACED. DEWATERING SHALL BE USED AS REQUIRED.				2. CONTRACTOR TO PERFORM CHLORINATION. BACTERIOLOGICAL SAMPLING SHALL BE BY THE LOCAL PUBLIC HEALTH UNIT AND/OR LOCAL UTILITY. CONTRACTOR SHALL OBTAIN CLEARANCE OF DOMESTIC WATER SYSTEM. COPIES OF ALL BACTERIOLOGICAL TESTS TO BE SUBMITTED TO OWNER'S ENGINEER.				2. ROUGH EXCAVATE RETENTION AREAS.				2. HANDICAP PARKING SPACES WILL BE PROPERLY SIGNED AND STRIPED IN ACCORDANCE WITH FLORIDA STATUTE 316, THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, OR OTHER APPLICABLE STANDARDS.			
3. THE CONTRACTOR SHALL CHECK THE PLANS FOR CONFLICTS AND DISCREPANCIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE OWNER'S ENGINEER OF ANY CONFLICTS OR DISCREPANCIES BEFORE PERFORMING ANY WORK IN THE AFFECTED AREA.				3. ALL STORM SEWER PIPE SHALL BE REINFORCED CONCRETE CLASS III (ASTM C-76) UNLESS OTHERWISE NOTED ON PLANS.				3. ANY AND ALL UTILIZATION OF HOSE BIB OUTLETS FOR PURVEYING NONPOTABLE WATER SUPPLIES, SHALL BE IN STRICT COMPLIANCE WITH THE SBCCI, STANDARD PLUMBING CODE, CHAPTER VI CRITERIA. SPECIFIC ATTENTION SHALL BE DIRECTED TO COLOR CODING OF ANY AND ALL ABOVE GRADE PIPING AND THE LABELING OF OUTLETS AS NONPOTABLE WATER SUPPLIES, PURSUANT TO FULL SAID CHAPTER VI CRITERIA.				3. DIRECT ALL SURFACE DRAINAGE TOWARD RETENTION AREA DURING CONSTRUCTION.				3. THE ARCHITECT/ENGINEER CERTIFIES THAT THE SITE HAS BEEN DESIGNED IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT.			
4. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN AREAS OF BURIED UTILITIES, AND SHALL PROVIDE AT LEAST 48 HOURS NOTICE TO THE VARIOUS UTILITY COMPANIES, IN ORDER TO PERMIT MARKING THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES, IN ADVANCE OF CONSTRUCTION, BY CALLING "SUNSHINE" AT 1-800-432-4770. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL UTILITIES NOT INCLUDED IN THE "SUNSHINE" PROGRAM.				4. PVC STORM PIPE, 12" AND SMALLER SHALL CONFORM TO AWWA C-900, CLASS 150 STANDARDS, UNLESS OTHERWISE NOTED.				4. PRIOR TO COMMENCING WORK WHICH REQUIRES CONNECTING NEW WORK TO EXISTING LINES OR APPURTENANCES, THE CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF EXISTING CONNECTION POINT AND NOTIFY OWNER'S ENGINEER OF ANY CONFLICTS OR DISCREPANCIES.				4. AFTER PAVING, GRADE RETENTION AREAS TO CONTOURS, SHAPE AS SHOWN AND SOD.				4. ALL ON-SITE PARKING SPACES WILL BE STRIPED AND SIGNED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION. PARKING SPACES, DIRECTIONAL ARROWS, AND STOP BARS SHALL BE STRIPED IN WHITE. IT SHALL BE THE OWNER/DEVELOPERS' RESPONSIBILITY TO PROPERLY SIGN AND STRIPE THE SITE IN ACCORDANCE WITH APPLICABLE STANDARDS.			
5. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO EXISTING FACILITIES, ABOVE OR BELOW GROUND, THAT MAY OCCUR AS A RESULT OF THE WORK PERFORMED BY THE CONTRACTOR.				5. ALL DRAINAGE STRUCTURE GRATES AND COVERS WITHIN TRAFFIC AREAS SHALL BE TRAFFIC RATED FOR H-20 LOADINGS.				5. PVC PIPE AND FITTINGS SHALL CONFORM TO ASTM SPECIFICATIONS DESIGNATION D-3034-77C, MA SDR 35. INSTALLATION OF SDR 35 PIPE SHALL BE IN STRICT ACCORDANCE WITH THE REQUIREMENTS OF ASTM SPECIFICATION SECTION D2321. ALL SANITARY SEWER PIPELINES SHALL BE SOLID GREEN IN COLOR.				5. ALL DISTURBED CONDITIONS SHALL BE RESTORED TO NATURAL CONDITIONS OR BETTER.				5. THE OWNER/DEVELOPER ACKNOWLEDGES THAT THIS APPROVAL DOES NOT INCLUDE ANY WORK IN THE RIGHT-OF-WAY. ALL RIGHT-OF-WAY WORK SHALL BE A FUNCTION OF AN APPROVED RIGHT-OF-WAY USE PERMIT.			
6. ALL UNDERGROUND UTILITIES MUST BE IN PLACE AND TESTED OR INSPECTED PRIOR TO BASE AND SURFACE CONSTRUCTION.				6. THE CONTRACTOR IS TO SOD THE RETENTION/DETENTION POND AS INDICATED ON PLANS WITHIN ONE WEEK FOLLOWING CONSTRUCTION OF THE POND.				6. ALL PVC FORCE MAINS SHALL BE CLASS 200, SDR 21, COLOR GREEN, WITH A GREEN MAGNETIC TAPE A MINIMUM OF 2" WIDE, PLACED 1 FOOT BELOW THE PROPOSED GRADE. THE PRINTING ON THE MAGNETIC TAPE SHOULD READ "FORCEMAIN".				6. SIDE SLOPES OF RETENTION OR SWALE AREAS SHALL BE STABILIZED BY VEGETATION OR OTHER MATERIALS TO MINIMIZE EROSION AND PROTECT THE STORMWATER BASIN.				6. ALL CLEAR-SITE AREAS SHALL BE KEPT FREE OF ANY SIGNAGE, PLANTINGS, TREES, ETC. IN EXCESS OF THREE-AND-A-HALF (3-1/2) FEET IN HEIGHT.			
7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BECOME FAMILIAR WITH THE PERMIT AND INSPECTION REQUIREMENTS OF THE VARIOUS GOVERNMENTAL AGENCIES. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS PRIOR TO CONSTRUCTION, AND SCHEDULE INSPECTIONS ACCORDING TO AGENCY INSTRUCTION.				7. MATERIALS AND CONSTRUCTION METHODS FOR STREETS AND STORM DRAINAGE CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LOCAL REGULATORY AGENCY.				7. ALL DUCTILE IRON PIPE SHALL BE CLASS 52 IN ACCORDANCE WITH ANSI A 21.50 (AWWA C 150) AND ANSI A21.51 (AWWA C 151). DUCTILE IRON PIPE SHALL RECEIVE INTERIOR AND EXTERIOR BITUMINOUS COATING IN ACCORDANCE WITH ANSI A 21.6, A 21.8, OR A 21.51.				7. SWALE AREAS SHALL BE KEPT CLEAN AND FREE OF ANY OBSTRUCTIONS.				7. NO IRRIGATION SYSTEM OR LANDSCAPING SHALL BE INSTALLED IN ANY COUNTY OR STATE RIGHT-OF-WAY WITHOUT ISSUANCE OF APPROPRIATE RIGHT-OF-WAY USE PERMIT.			
8. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL TO THE OWNER'S ENGINEER, SHOP DRAWINGS ON ALL PRECAST AND MANUFACTURED ITEMS WHICH ARE FROM THIS SITE. FAILURE TO OBTAIN APPROVAL BEFORE INSTALLATION MAY RESULT IN REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE. ALL SHOP DRAWINGS ARE TO BE REVIEWED AND APPROVED BY THE CONTRACTOR PRIOR TO SUBMITTAL TO THE OWNER'S ENGINEER.				8. THE CONTRACTOR IS TO PROVIDE A 1/2" BITUMINOUS EXPANSION JOINT MATERIAL WITH SEALER, AT ABUTMENT OF CONCRETE AND ANY STRUCTURE.				8. ALL SANITARY SEWER GRAVITY MAINS OR SANITARY SEWER FORCE MAINS THAT REQUIRE D.I.P. ARE TO BE POLYUNED OR EPOXY LINED.				8. IF DAMAGE TO THE SYSTEM DOES OCCUR, THE SYSTEM SHALL BE RECONSTRUCTED IN ACCORDANCE WITH THE APPROVED PLAN.				8. THE OWNER/DEVELOPER ACKNOWLEDGES THAT THE SITE AND ITS SUBSEQUENT BUILDING PERMITS SHALL COMPLY WITH ALL REZONING/MPUD/PUD CONDITIONS.			
9. AT LEAST THREE (3) WORKING DAYS PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND APPROPRIATE AGENCIES, AND SUPPLY THEM WITH ALL REQUIRED SHOP DRAWINGS, THE CONTRACTOR'S NAME, STARTING DATE, PROJECTED SCHEDULE, AND OTHER INFORMATION AS REQUIRED. ANY WORK PERFORMED PRIOR TO NOTIFYING THE ENGINEER, OR WITHOUT AGENCY INSPECTOR PRESENT, MAY BE SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.				9. ALL PAVEMENT MARKINGS SHALL BE MADE WITH TRAFFIC PAINT IN ACCORDANCE TO FDOT STANDARD SPECIFICATIONS 971. PARKING STALL STRIPING TO BE 4" WIDE PAINTED WHITE STRIPES.				9. ALL SANITARY SEWER COVERS SHALL BE TRAFFIC RATED FOR H-20 LOADING.				9. MAINTENANCE AND OPERATIONS INSPECTIONS FOR STORMWATER DISCHARGE FACILITY				9. ALL STRUCTURES, INCLUDING BUFFER WALLS, RETAINING WALLS, SIGNAGE, ETC. REQUIRE SEPARATE BUILDING PERMITS.			
10. BACKFILL MATERIAL SHALL BE SOLIDLY TAMPED AROUND PIPES IN 6" LAYERS UP TO A LEVEL OF AT LEAST ONE FOOT ABOVE THE TOP OF THE PIPE. IN AREAS TO BE PAVED, BACKFILL SHALL BE COMPACTED TO 100% MAXIMUM DENSITY AS DETERMINED BY AASHTO T-99.				10. THE CONTRACTOR IS TO INSTALL EXTRA BASE MATERIAL WHEN THE DISTANCE BETWEEN THE PAVEMENT ELEVATION AND THE TOP OF THE PIPE OR BELL IS LESS THAN TWELVE (12) INCHES.				10. THE CONTRACTOR SHALL PERFORM AN EXFILTRATION TEST ON ALL GRAVITY SEWERS INSTALLED IN ACCORDANCE WITH THE REGULATION AGENCY HAVING JURISDICTION. MAXIMUM ALLOWABLE LEAKAGE RATE: 100 GPD PER INCH PIPE DIAMETER PER MILE. TEST RESULTS ARE TO BE SUBMITTED TO THE REGULATORY AGENCY FOR APPROVAL. COORDINATION AND NOTIFICATION OF ALL PARTIES IS THE CONTRACTOR'S RESPONSIBILITY.				10. THE OWNER SHALL PERIODICALLY MONITOR THE STORMWATER SYSTEM (PIPE CONVEYANCE SYSTEM AND RETENTION POND) FOR SILT AND SEDIMENTATION BUILD UP. THE PIPE CONVEYANCE SYSTEM SHALL BE FLUSHED, AS DEEMED NECESSARY NO LESS THAN TWICE A YEAR. ALL MATERIAL SHALL BE COLLECTED DOWNSTREAM AND REMOVED. THE RETENTION POND SHALL BE KEPT MOWED AND THE BOTTOM FREE OF DEBRIS. IF WATER STANDS IN THE POND MORE THAN 48 HOURS THE OWNER SHALL RAKE AND/OR SCABBY THE POND BOTTOM, AS DEEMED NECESSARY AND NO LESS THAN TWICE A YEAR TO RESTORE THE PERCOLATION CHARACTERISTICS OF THE POND. THE OWNER WILL BE RESPONSIBLE TO MAKE SURE THAT TO THE BEST OF HIS ABILITY NOTHING ENTERS THE SYSTEM BESIDES STORMWATER THAT COULD DETERIORATE THE FUNCTIONING CAPABILITIES OF THE SYSTEM, I.E. GASOLINE, OIL, GREASE, CHEMICALS, ETC.				10. STANDARD INDEXES REFER TO THE LATEST EDITION OF FDOT "STANDARD PLANS FOR ROAD CONSTRUCTION".			
11. SITE WORK CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF AT LEAST 3,000 P.S.I. IN 28 DAYS, UNLESS OTHERWISE NOTED.				11. STANDARD INDEXES REFER TO THE LATEST EDITION OF FDOT "STANDARD PLANS FOR ROAD CONSTRUCTION".				11. PRIOR TO CONSTRUCTING CONCRETE PAVEMENT, THE CONTRACTOR IS TO SUBMIT A PROPOSED JOINTING PATTERN TO THE OWNER'S ENGINEER FOR APPROVAL.				11. REQUIRED EROSION CONTROL MEASURES MUST REMAIN INTACT THROUGHOUT CONSTRUCTION. FAILURE TO INSTALL OR PROPERLY MAINTAIN THESE BARRICADES WILL RESULT IN ENFORCEMENT ACTION WHICH MAY INCLUDE CITATIONS, AS PROVIDED BY CHAPTERS 400-4 & 400-40 F.A.C. INITIATION OF CIVIL PENALTY PROCEDURES PURSUANT TO SECTION 373.129. F.A.C. CAN RESULT IN A PENALTY NOT TO EXCEED \$10,000 PER OFFENSE WITH EACH DATE DURING WHICH SUCH VIOLATION OCCURS CONSTITUTING A OFFENSE.				11. IF DAMAGE TO THE SYSTEM DOES OCCUR, THE SYSTEM SHALL BE RECONSTRUCTED IN ACCORDANCE WITH THE APPROVED PLAN.			
12. ALL PRIVATE AND PUBLIC PROPERTY AFFECTED BY THIS WORK SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN EXISTING CONDITIONS UNLESS SPECIFICALLY EXEMPTED BY THE PLANS. ADDITIONAL COSTS ARE INCIDENTAL TO OTHER CONSTRUCTION AND NO EXTRA COMPENSATION IS TO BE ALLOWED.				12. THE CONTRACTOR SHALL MAINTAIN THE STORM DRAINAGE SYSTEMS UNTIL FINAL ACCEPTANCE OF THE PROJECT.				12. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE APPLICABLE TESTING WITH THE SOILS ENGINEER. TESTS WILL BE REQUIRED PURSUANT WITH THE TESTING SCHEDULE FOUND IN THE ENGINEERING CONSTRUCTION DRAWINGS. UPON COMPLETION OF THE WORK, THE SOILS ENGINEER MUST SUBMIT CERTIFICATIONS TO THE OWNER'S ENGINEER STATING THAT ALL REQUIREMENTS HAVE BEEN MET.				12. OPERATION & MAINTENANCE OF THE STORMWATER SYSTEM				12. THE OWNER/DEVELOPER ACKNOWLEDGES THAT THE SITE AND ITS SUBSEQUENT BUILDING PERMITS SHALL COMPLY WITH ALL REZONING/MPUD/PUD CONDITIONS.			
13. ALL DISTURBED AREAS WHICH ARE NOT TO BE SODDED, ARE TO BE SEEDED AND MULCHED TO DOT STANDARDS, AND MAINTAINED UNTIL A SATISFACTORY STAND OF GRASS, ACCEPTABLE TO THE REGULATORY AGENCY AND ENGINEER OF RECORD, HAVE BEEN OBTAINED. ANY WASHOUTS, REGRADING, RESEEDING, AND GRASSING WORK, AND OTHER EROSION WORK REQUIRED, WILL BE PERFORMED BY THE CONTRACTOR, UNTIL THE SYSTEM IS ACCEPTED FOR MAINTENANCE, BY THE REGULATORY AGENCY AND ENGINEER OF RECORD.				13. THE CONTRACTOR IS TO PROVIDE A 1/2" BITUMINOUS EXPANSION JOINT MATERIAL WITH SEALER, AT ABUTMENT OF CONCRETE AND ANY STRUCTURE.				13. PRIOR TO CONSTRUCTING CONCRETE PAVEMENT, THE CONTRACTOR IS TO SUBMIT A PROPOSED JOINTING PATTERN TO THE OWNER'S ENGINEER FOR APPROVAL.				13. IF DAMAGE TO THE SYSTEM DOES OCCUR, THE SYSTEM SHALL BE RECONSTRUCTED IN ACCORDANCE WITH THE APPROVED PLAN.				13. THE OWNER/DEVELOPER ACKNOWLEDGES THAT THE SITE AND ITS SUBSEQUENT BUILDING PERMITS SHALL COMPLY WITH ALL REZONING/MPUD/PUD CONDITIONS.			
14. THE SOILS ENGINEER IS TO SUPPLY THE ENGINEER WITH A PHOTOCOPY OF ALL COMPACTION TESTS, AND ASPHALT RESULTS. THE SOILS ENGINEER IS TO CERTIFY TO THE ENGINEER OF RECORD, IN WRITING, THAT ALL TESTING REQUIREMENTS, REQUIRED BY THE LOCAL REGULATORY AGENCY, AND THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT), FOR THE IMPROVEMENTS, AS REQUIRED BY THE ENGINEERING CONSTRUCTION DRAWINGS, HAVE BEEN SATISFIED.				14. THE CONTRACTOR SHALL MAINTAIN A COPY OF THE APPROVED PLANS AND PERMITS AT THE CONSTRUCTION SITE.				14. THE CONTRACTOR IS TO PROVIDE A 1/2" BITUMINOUS EXPANSION JOINT MATERIAL WITH SEALER, AT ABUTMENT OF CONCRETE AND ANY STRUCTURE.				14. IF DAMAGE TO THE SYSTEM DOES OCCUR, THE SYSTEM SHALL BE RECONSTRUCTED IN ACCORDANCE WITH THE APPROVED PLAN.				14. THE OWNER/DEVELOPER ACKNOWLEDGES THAT THE SITE AND ITS SUBSEQUENT BUILDING PERMITS SHALL COMPLY WITH ALL REZONING/MPUD/PUD CONDITIONS.			
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16. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR MEANS AND METHODS FOR CONSTRUCTION SITE SAFETY.				16. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR MEANS AND METHODS FOR CONSTRUCTION SITE SAFETY.				16. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR MEANS AND METHODS FOR CONSTRUCTION SITE SAFETY.				16. IF DAMAGE TO THE SYSTEM DOES OCCUR, THE SYSTEM SHALL BE RECONSTRUCTED IN ACCORDANCE WITH THE APPROVED PLAN.				16. THE OWNER/DEVELOPER ACKNOWLEDGES THAT THE SITE AND ITS SUBSEQUENT BUILDING PERMITS SHALL COMPLY WITH ALL REZONING/MPUD/PUD CONDITIONS.			
17. ALL SODDING, SEEDING AND MULCHING SHALL INCLUDE WATERING AND FERTILIZATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THESE AREAS UNTIL THE PROJECT IS COMPLETED AND ACCEPTED BY THE OWNER.				17. ALL SODDING, SEEDING AND MULCHING SHALL INCLUDE WATERING AND FERTILIZATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THESE AREAS UNTIL THE PROJECT IS COMPLETED AND ACCEPTED BY THE OWNER.				17. ALL SODDING, SEEDING AND MULCHING SHALL INCLUDE WATERING AND FERTILIZATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THESE AREAS UNTIL THE PROJECT IS COMPLETED AND ACCEPTED BY THE OWNER.				17. IF DAMAGE TO THE SYSTEM DOES OCCUR, THE SYSTEM SHALL BE RECONSTRUCTED IN ACCORDANCE WITH THE APPROVED PLAN.				17. THE OWNER/DEVELOPER ACKNOWLEDGES THAT THE SITE AND ITS SUBSEQUENT BUILDING PERMITS SHALL COMPLY WITH ALL REZONING/MPUD/PUD CONDITIONS.			
CLEARING AND GRUBBING NOTES				CLEARING AND GRUBBING NOTES				CLEARING AND GRUBBING NOTES				CLEARING AND GRUBBING NOTES				CLEARING AND GRUBBING NOTES			
1. PRIOR TO ANY SITE CLEARING, ALL TREES SHOWN TO REMAIN ON THE CONSTRUCTION PLANS SHALL BE PROTECTED IN ACCORDANCE WITH THE LOCAL REGULATORY AGENCY'S TREE ORDINANCE AND DETAILS CONTAINED IN THESE PLANS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THESE TREES IN GOOD CONDITION. NO TREES SHOWN TO REMAIN SHALL BE REMOVED WITHOUT WRITTEN APPROVAL FROM THE OWNER.				1. PRIOR TO ANY SITE CLEARING, ALL TREES SHOWN TO REMAIN ON THE CONSTRUCTION PLANS SHALL BE PROTECTED IN ACCORDANCE WITH THE LOCAL REGULATORY AGENCY'S TREE ORDINANCE AND DETAILS CONTAINED IN THESE PLANS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THESE TREES IN GOOD CONDITION. NO TREES SHOWN TO REMAIN SHALL BE REMOVED WITHOUT WRITTEN APPROVAL FROM THE OWNER.				1. PRIOR TO ANY SITE CLEARING, ALL TREES SHOWN TO REMAIN ON THE CONSTRUCTION PLANS SHALL BE PROTECTED IN ACCORDANCE WITH THE LOCAL REGULATORY AGENCY'S TREE ORDINANCE AND DETAILS CONTAINED IN THESE PLANS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THESE TREES IN GOOD CONDITION. NO TREES SHOWN TO REMAIN SHALL BE REMOVED WITHOUT WRITTEN APPROVAL FROM THE OWNER.				1. PRIOR TO ANY SITE CLEARING, ALL TREES SHOWN TO REMAIN ON THE CONSTRUCTION PLANS SHALL BE PROTECTED IN ACCORDANCE WITH THE LOCAL REGULATORY AGENCY'S TREE ORDINANCE AND DETAILS CONTAINED IN THESE PLANS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THESE TREES IN GOOD CONDITION. NO TREES SHOWN TO REMAIN SHALL BE REMOVED WITHOUT WRITTEN APPROVAL FROM THE OWNER.				1. PRIOR TO ANY SITE CLEARING, ALL TREES SHOWN TO REMAIN ON THE CONSTRUCTION PLANS SHALL BE PROTECTED IN ACCORDANCE WITH THE LOCAL REGULATORY AGENCY'S TREE ORDINANCE AND DETAILS CONTAINED IN THESE PLANS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THESE TREES IN GOOD CONDITION. NO TREES SHOWN TO REMAIN SHALL BE REMOVED WITHOUT WRITTEN APPROVAL FROM THE OWNER.			
2. THE CONTRACTOR IS TO PREPARE THE SITE PRIOR TO BEGINNING ACTUAL CONSTRUCTION IN ACCORDANCE, WITH THE SOILS TESTING REPORT. COPIES OF THE SOILS REPORT ARE AVAILABLE THROUGH THE OWNER OR THE SOILS TESTING COMPANY. QUESTIONS REGARDING SITE PREPARATION REQUIREMENTS DESCRIBED IN THE SOILS REPORT ARE TO BE DIRECTED TO THE SOILS TESTING COMPANY.				2. THE CONTRACTOR IS TO PREPARE THE SITE PRIOR TO BEGINNING ACTUAL CONSTRUCTION IN ACCORDANCE, WITH THE SOILS TESTING REPORT. COPIES OF THE SOILS REPORT ARE AVAILABLE THROUGH THE OWNER OR THE SOILS TESTING COMPANY. QUESTIONS REGARDING SITE PREPARATION REQUIREMENTS DESCRIBED IN THE SOILS REPORT ARE TO BE DIRECTED TO THE SOILS TESTING COMPANY.				2. THE CONTRACTOR IS TO PREPARE THE SITE PRIOR TO BEGINNING ACTUAL CONSTRUCTION IN ACCORDANCE, WITH THE SOILS TESTING REPORT. COPIES OF THE SOILS REPORT ARE AVAILABLE THROUGH THE OWNER OR THE SOILS TESTING COMPANY. QUESTIONS REGARDING SITE PREPARATION REQUIREMENTS DESCRIBED IN THE SOILS REPORT ARE TO BE DIRECTED TO THE SOILS TESTING COMPANY.				2. THE CONTRACTOR IS TO PREPARE THE SITE PRIOR TO BEGINNING ACTUAL CONSTRUCTION IN ACCORDANCE, WITH THE SOILS TESTING REPORT. COPIES OF THE SOILS REPORT ARE AVAILABLE THROUGH THE OWNER OR THE SOILS TESTING COMPANY. QUESTIONS REGARDING SITE PREPARATION REQUIREMENTS DESCRIBED IN THE SOILS REPORT ARE TO BE DIRECTED TO THE SOILS TESTING COMPANY.				2. THE CONTRACTOR IS TO PREPARE THE SITE PRIOR TO BEGINNING ACTUAL CONSTRUCTION IN ACCORDANCE, WITH THE SOILS TESTING REPORT. COPIES OF THE SOILS REPORT ARE AVAILABLE THROUGH THE OWNER OR THE SOILS TESTING COMPANY. QUESTIONS REGARDING SITE PREPARATION REQUIREMENTS DESCRIBED IN THE SOILS REPORT ARE TO BE DIRECTED TO THE SOILS TESTING COMPANY.			
3. THE CONTRACTOR SHALL CLEAR AND GRUB, ONLY THOSE PORTIONS OF THE SITE, NECESSARY FOR CONSTRUCTION. DISTURBED AREAS WILL BE SEEDED, MULCHED, OR PLANTED WITH OTHER APPROVED LANDSCAPE MATERIAL IMMEDIATELY FOLLOWING CONSTRUCTION.				3. THE CONTRACTOR SHALL CLEAR AND GRUB, ONLY THOSE PORTIONS OF THE SITE, NECESSARY FOR CONSTRUCTION. DISTURBED AREAS WILL BE SEEDED, MULCHED, OR PLANTED WITH OTHER APPROVED LANDSCAPE MATERIAL IMMEDIATELY FOLLOWING CONSTRUCTION.				3. THE CONTRACTOR SHALL CLEAR AND GRUB, ONLY THOSE PORTIONS OF THE SITE, NECESSARY FOR CONSTRUCTION. DISTURBED AREAS WILL BE SEEDED, MULCHED, OR PLANTED WITH OTHER APPROVED LANDSCAPE MATERIAL IMMEDIATELY FOLLOWING CONSTRUCTION.				3. THE CONTRACTOR SHALL CLEAR AND GRUB, ONLY THOSE PORTIONS OF THE SITE, NECESSARY FOR CONSTRUCTION. DISTURBED AREAS WILL BE SEEDED, MULCHED, OR PLANTED WITH OTHER APPROVED LANDSCAPE MATERIAL IMMEDIATELY FOLLOWING CONSTRUCTION.				3. THE CONTRACTOR SHALL CLEAR AND GRUB, ONLY THOSE PORTIONS OF THE SITE, NECESSARY FOR CONSTRUCTION. DISTURBED AREAS WILL BE SEEDED, MULCHED, OR PLANTED WITH OTHER APPROVED LANDSCAPE MATERIAL IMMEDIATELY FOLLOWING CONSTRUCTION.			
4. THE TOP 4" TO 6" OF GROUND REMOVED DURING CLEARING AND GRUBBING SHALL BE STOCKPILED AT A SITE DESIGNATED BY THE OWNER TO BE USED FOR LANDSCAPING PURPOSES, UNLESS OTHERWISE DIRECTED BY THE OWNER.				4. THE TOP 4" TO 6" OF GROUND REMOVED DURING CLEARING AND GRUBBING SHALL BE STOCKPILED AT A SITE DESIGNATED BY THE OWNER TO BE USED FOR LANDSCAPING PURPOSES, UNLESS OTHERWISE DIRECTED BY THE OWNER.				4. THE TOP 4" TO 6" OF GROUND REMOVED DURING CLEARING AND GRUBBING SHALL BE STOCKPILED AT A SITE DESIGNATED BY THE OWNER TO BE USED FOR LANDSCAPING PURPOSES, UNLESS OTHERWISE DIRECTED BY THE OWNER.				4. THE TOP 4" TO 6" OF GROUND REMOVED DURING CLEARING AND GRUBBING SHALL BE STOCKPILED AT A SITE DESIGNATED BY THE OWNER TO BE USED FOR LANDSCAPING PURPOSES, UNLESS OTHERWISE DIRECTED BY THE OWNER.				4. THE TOP 4" TO 6" OF GROUND REMOVED DURING CLEARING AND GRUBBING SHALL BE STOCKPILED AT A SITE DESIGNATED BY THE OWNER TO BE USED FOR LANDSCAPING PURPOSES, UNLESS OTHERWISE DIRECTED BY THE OWNER.			
5. ALL CONSTRUCTION DEBRIS AND OTHER WASTE MATERIAL SHALL BE DISPOSED OF OFF-SITE IN ACCORDANCE WITH APPLICABLE REGULATIONS. ONLY "GRADING BY HAND" IS PERMITTED WITHIN THE CANOPY LINE OF TREES THAT ARE TO REMAIN.				5. ALL CONSTRUCTION DEBRIS AND OTHER WASTE MATERIAL SHALL BE DISPOSED OF OFF-SITE IN ACCORDANCE WITH APPLICABLE REGULATIONS. ONLY "GRADING BY HAND" IS PERMITTED WITHIN THE CANOPY LINE OF TREES THAT ARE TO REMAIN.				5. ALL CONSTRUCTION DEBRIS AND OTHER WASTE MATERIAL SHALL BE DISPOSED OF OFF-SITE IN ACCORDANCE WITH APPLICABLE REGULATIONS. ONLY "GRADING BY HAND" IS PERMITTED WITHIN THE CANOPY LINE OF TREES THAT ARE TO REMAIN.				5. ALL CONSTRUCTION DEBRIS AND OTHER WASTE MATERIAL SHALL BE DISPOSED OF OFF-SITE IN ACCORDANCE WITH APPLICABLE REGULATIONS. ONLY "GRADING BY HAND" IS PERMITTED WITHIN THE CANOPY LINE OF TREES THAT ARE TO REMAIN.				5. ALL CONSTRUCTION DEBRIS AND OTHER WASTE MATERIAL SHALL BE DISPOSED OF OFF-SITE IN ACCORDANCE WITH APPLICABLE REGULATIONS. ONLY "GRADING BY HAND" IS PERMITTED WITHIN THE CANOPY LINE OF TREES THAT ARE TO REMAIN.			
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PROJECT AND DRAINAGE NARRATIVE

HYLE TRUCKING
ZEPHYRHILLS, FL

PRESENTED TO:

CITY OF ZEPHYRHILLS
SOUTHWEST FLORIDA WATER MANAGEMENT DEPARTMENT

FROM:

DEUEL & ASSOCIATES
A SEPI COMPANY, A DIVISION OF TRANSYSTEMS
565 S. HERCULES AVE
CLEARWATER, FL 33764

CHRISTOPHER A. CHIN, P.E. NO. 84365
SEPTEMBER 2022

SQUIRREL STORAGE

PROJECT AND DRAINAGE NARRATIVE

1.0 EXISTING CONDITIONS

The project site consists of two parcels (Parcel ID Number 13-26-21-0000-00300-0020 & 0021) are located at west side of Airport Road & north side of Old Barracks Road, Zephyrhills, FL 33542. The project site consists of 6.50 acres of vacant land.

The project site is within a closed basin, and receive offsite runoff from north (vacant land), west (railroad) and south (city park). The excess surface water will pop off and drains along the swales on the south side of Old Barrack Road and west side of Airport Road, and ultimately outfall into the swale along Aviation Avenue and east side of Airport Road.

The Project is in FEMA Flood Zone “X” and not impaired with any water body.

2.0 PROPOSED CONDITIONS

This project involves with the construction of 54,550 SF of self-storage building, associate asphalt driveway, and two stormwater pond, and perimeter swales. The runoff will be collected and directed to the pond through grate inlets. The proposed pond will have one outfall control structures, which will discharge to the proposed roadside swale on west side of Airport Road. The proposed swale will tie into existing roadside swale. The offsite runoff will be directed to the swales on Old Barracks Road and Airport Road through the proposed swales on the north, west and south side of the project site.

The required attenuation (100-year/10-day for closed basin required by City of Zephyrhills) will be provided in the proposed pond. This will exceed SWFWMD requirement of 100-year/24-hour for closed basin. An ICPR model has been provided showing that the post development runoff rate is less than pre-development.

The treatment volume of first 0.5” of the entire site will be provided in the pond. A Modret report has been attached to show that the required treatment volume will recover via percolation in less than 72 hours.

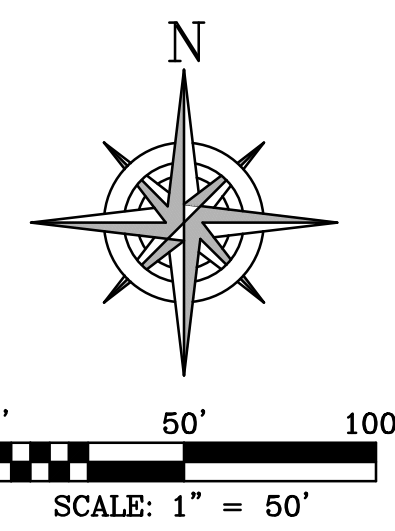
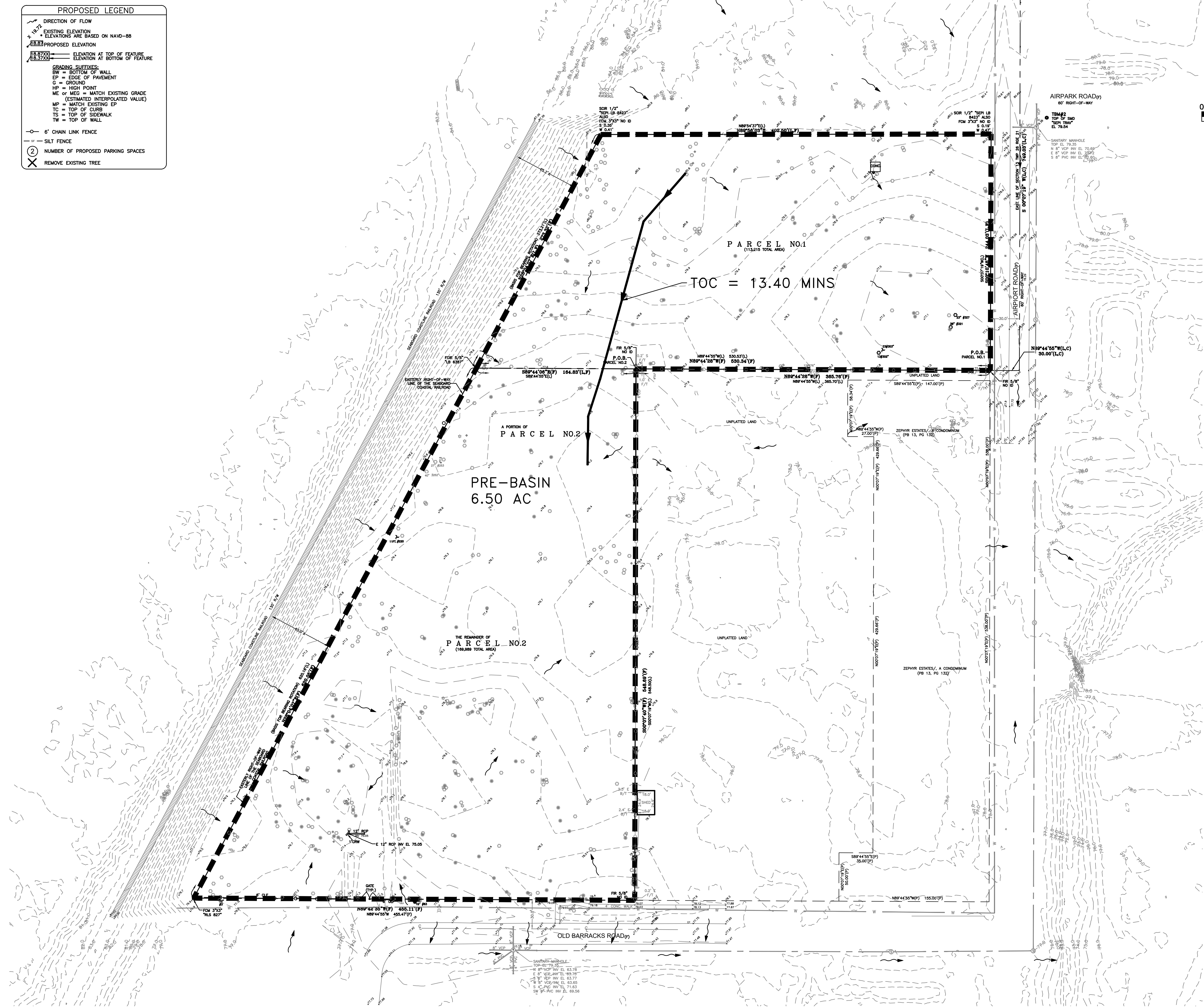
A Geotech Report (Gulf Coast Testing Laboratory, Inc. Project No. 29212, dated September 13, 2022) is included in this report showing the seasonal high water table of 5’ below existing grade, average confining layer depth of 6.1’ below existing grade and infiltration rate of 20.3 in/hr.

3.0 SUMMARY

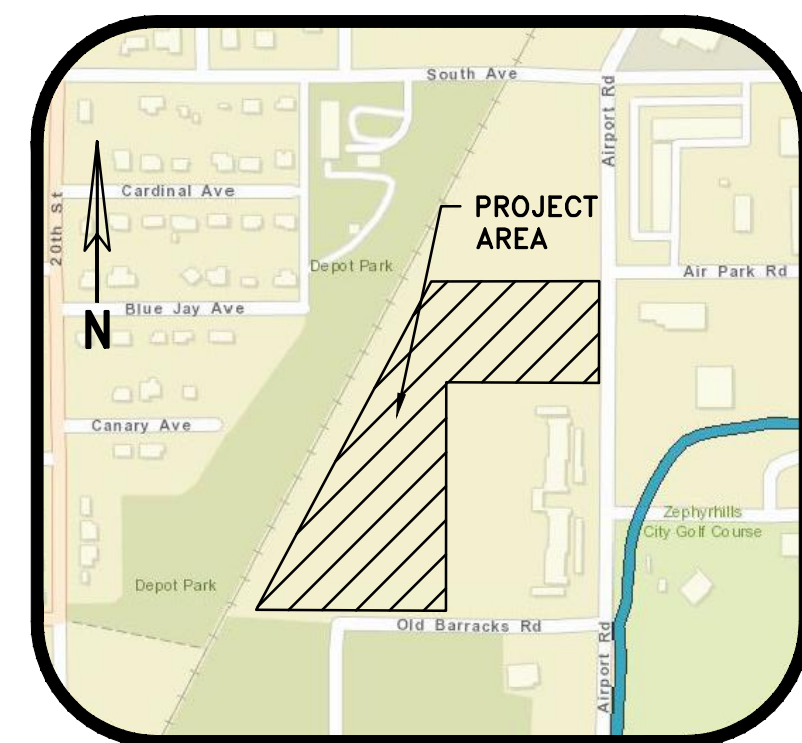
- Provides attenuation of 100-yr/10-day storm event.
- Provides water quality treatment for the first 1/2” of stormwater runoff.
- The treatment volume will be recovered via percolation within 72 hours.
- Erosion control measures will be in place prior to any construction.

- LEGEND
- S. SET
F. FOUND
I.R. IRON ROD
I.P. IRON PIPE
NAD. NAIL & DISK
C.M. CONCRETE MONUMENT
A. ARC
A/C. AIR CONDITIONER
A.C. AREAS
ADA. AMERICANS WITH DISABILITIES ACT
B.F.P.D. BACK FLOW PREVENTION DEVICE
BOLL. BOLLARD
B.S.L. BUILDING SETBACK LINE
C. CHORD
C. (C). CALCULATED
C.B.W. CONCRETE BLOCK WALL
C.H.B. CHORD BEARING
C.L. CENTERLINE
C.M.P. CORRUGATED METAL PIPE
C.O. CLEANOUT
C.C. CONCRETE
C.S. CONCRETE SLAB
C.T. CURE TIE
C.T.V. CABLE TELEVISION
(D). DEED
DEP. DEPARTMENT OF ENVIRONMENTAL PROTECTION
D.H.W. DESIGN HIGH WATER
D.L.W. DESIGN LOW WATER
E.L. ELEVATION
F.F. FINISHED FLOOR
F.H.A. FIRE HYDRANT ASSEMBLY
F.P.C. FLORIDA POWER CORPORATION
G.I. GRATE INLET
G.V. GAS VALVE
G.M. GAS METER
G.V. GATE VALVE
G.W. GUY WIRE
I.N.V. INVERT
L.F. LINEAR FEET
L.F.E. LOWEST FLOOR ELEVATION
L.P. LIGHT POLE
(M). MEASURED
M.A.S. MASONRY
M.E.S. MITERED END SECTION
M.H. MANHOLE
M.H.W. MEAN HIGH WATER LINE
N.A.D. NORTH AMERICA
N.O.D. NATIONAL GEODETIC VERTICAL DATUM
O/H. OVERHEAD WIRES
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P.B. PLAT BOOK
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W.M. WATER METER

- PROPOSED LEGEND
- DIRECTION OF FLOW
EXISTING ELEVATION
ELEVATIONS ARE BASED ON NAVD-88
PROPOSED ELEVATION
ELEVATION AT TOP OF FEATURE
ELEVATION AT BOTTOM OF FEATURE
GRADING SUFFIXES:
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(ESTIMATED INTERPOLATED VALUE)
MP = MATCH EXISTING GP
TC = TOP OF CURB
TS = TOP OF SIDEWALK
TW = TOP OF WALL
6" CHAIN LINK FENCE
SILT FENCE
NUMBER OF PROPOSED PARKING SPACES
REMOVE EXISTING TREE



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LOCATION MAP
N.T.S.

EXISTING CONDITIONS, AS DEPICTED, WERE TAKEN FROM
A BOUNDARY, TREE & TOPOGRAPHIC SURVEY, PREPARED
BY DEUEL & ASSOCIATE, A SEPI COMPANY, LB #8423.
DATE OF FIELD SURVEY: OCTOBER 13, 2022.

DEUEL & ASSOCIATES
A SEPI COMPANY, A DIVISION OF TRANSYSTEMS

565 SOUTH HERCULES AVENUE
CLEARWATER, FL 33764
PHONE 727.822.4151
WWW.DEUELENGINEERING.COM

*SQUIRREL STORAGE
PRE-DEVELOPMENT
BASIN MAPS*

ZEPHYRHILLS

FLORIDA

I, CHRISTOPHER A. CHIN, HEREBY CERTIFY AS A LICENSED PROFESSIONAL ENGINEER, REGISTERED IN ACCORDANCE WITH FLORIDA STATUTE 471 (461) THAT THE ABOVE PROJECT'S SITE AND/OR CONSTRUCTION PLANS, TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, WILL MEET APPLICABLE DESIGN CRITERIA SPECIFIED BY CITY MUNICIPAL ORDINANCE, STATE AND FEDERAL ESTABLISHED STANDARDS. I UNDERSTAND THAT IT IS MY RESPONSIBILITY AS THE PROJECT'S PROFESSIONAL ENGINEER TO PERFORM A QUALITY ASSURANCE REVIEW OF THESE SUBMITTED PLANS.

CHRISTOPHER A. CHIN, P.E. 84365

PROJECT NO.	SE22.110.00
DATE:	DECEMBER 13, 2022
SCALE:	1" = 50'
SHEET NO.	1 OF 2

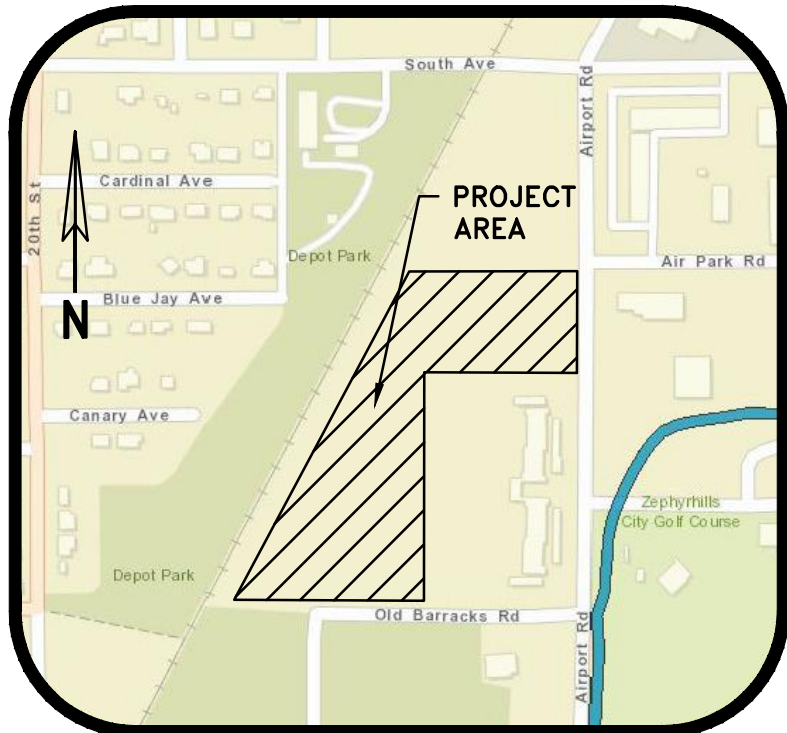
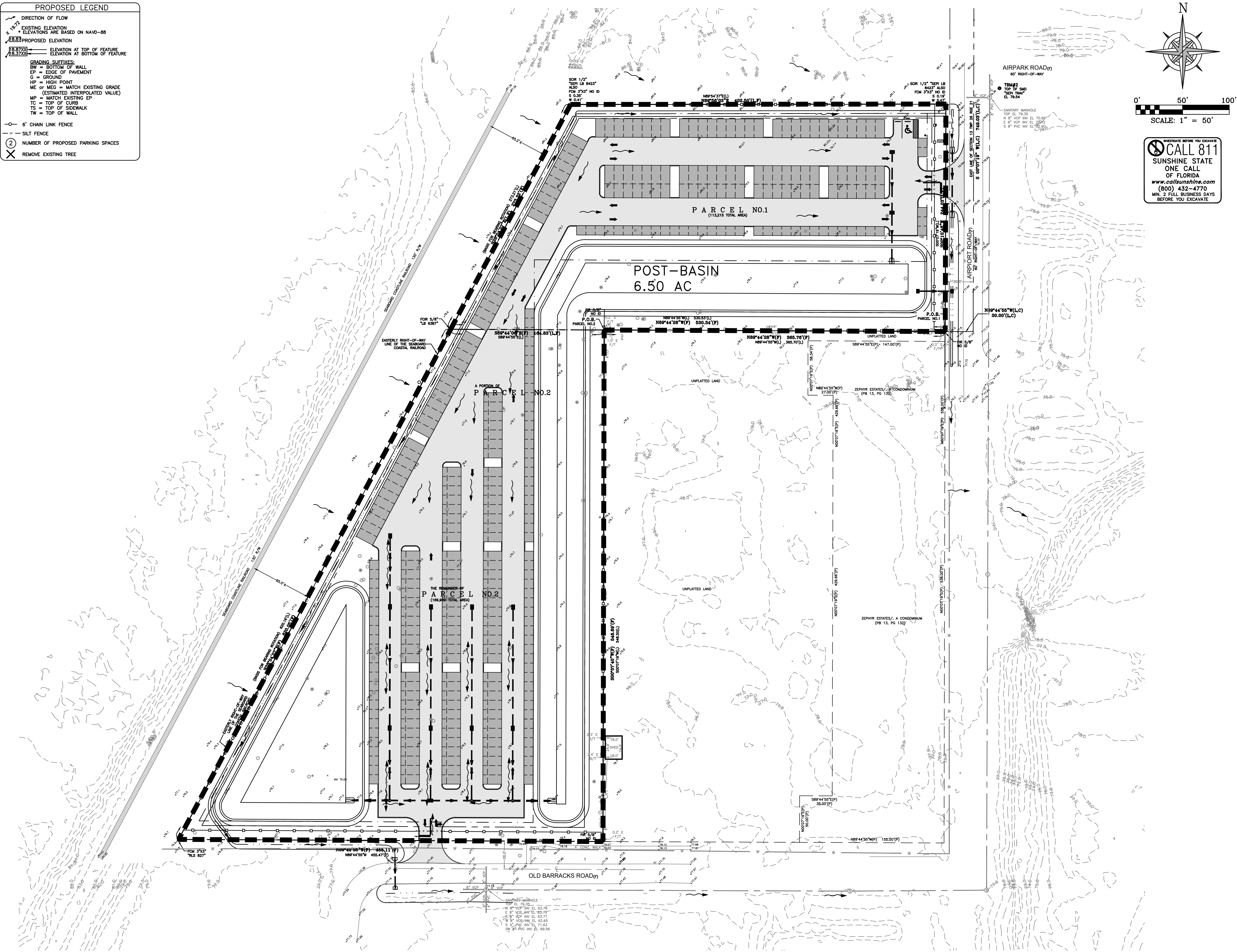
Dec 16, 2022, 5:10pm I:\CAD Projects\Projects\SE22.110.00 S. Avenue & Airport Road\Engineering\Drawings\SE22.110.000 MAPS.dwg

LEGEND

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I.P. IRON PIPE
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POST-DEVELOPMENT
BASIN MAPS*
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CHRISTOPHER A. CHIN, P.E. 84365

PROJECT NO.	SE22.110.00
DATE:	DECEMBER 13, 2022
SCALE:	1" = 50'
SHEET NO.	2 OF 2

NRCS Time of Concentration

Development Condition (pre or post)

Sheet Flow:

1. Surface Description (table 3-1)			
2. Manning's Roughness coeff., n	0.15	(see Table 3-1 of TR-55 at right)	
3. Flow Length, L (should be <= 100 ft)	100	ft	
4. Two-yr, 24-hr rainfall, P ₂	4	inches	
5. Land Slope, s	0.01	ft/ft	
6. $T_t = 0.007 \cdot (n \cdot L)^{0.8} / (P_2^{0.5} \cdot s^{0.4})$	0.19	hr =	11.56 min

Shallow Concentrated Flow:

7. Surface Description (paved/unpaved)			
8. Flow Length, L	226	ft	
9. Watercourse slope, s	0.016	ft/ft	
10. Average Velocity, V (figure 3-1, see below)	2.05	ft/s	
11. $T_t = L / (3600 \cdot V)$	0.03	hr =	1.84 min

Channel Flow:

12. Cross Sectional Flow Area, a	0	sq ft	
13. Wetted Perimeter, P _w	0	ft	
14. Hydraulic radius, r = a/P _w	0	ft	
15. Channel Slope, s	0	ft/ft	
16. Manning's Roughness coeff., n	0		
17. $V = 1.49 \cdot r^{2/3} \cdot s^{1/2} / n$	0.00	ft/s	
18. Flow Length, L	0	ft	
19. $T_t = L / (3600 \cdot V)$	0.00	ft/s	0.00
20. Total Watershed or subarea T _c	0.22	hr =	13.40 min

BASIN / CATCHMENT SUMMARY TABLE
FOR RATIONAL METHOD/ICPR

PRE DEVELOPMENT SUB BASINS

	PRE-BASIN				TOTAL			
<u>Pre-development sub basins</u>	<i>Basin Area (SF)</i>	<i>Basin Area (Acres)</i>	<i>C</i>	<i>CN</i>	<i>Basin Area (SF)</i>	<i>Basin Area (Acres)</i>	<i>C</i>	<i>CN</i>
<u>Non-DCIA Area</u>								
Pervious (Typ A Soil)	283,098	6.50	0.20	39.00	283,098	6.50	0.20	39.00
Impervious	105	0.00	0.95	98.00	105	0.00	0.95	98.00
Building		--	0.95	98.00	--	--	0.95	98.00
Pond	--	--	1.00	100.00	--	--	1.00	100.00
	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--
Total Non-DCIA & Weighted CN	283,203			39.02	283,203		--	39.02
							--	
<u>Total Area (SF) & Weighted C Value</u>	283,203	6.50	0.20		283,203	6.50	0.20	

POST DEVELOPMENT BASINS

	POST-BASIN				TOTAL			
<u>Post-Development Basins</u>	<i>Basin Area (SF)</i>	<i>Basin Area (Acres)</i>	<i>C</i>	<i>CN</i>	<i>Basin Area (SF)</i>	<i>Basin Area (Acres)</i>	<i>C</i>	
<u>Non-DCIA</u>								
Pervious (Typ A Soil)	77,761	1.79	0.20	39.00	77,761	1.79	0.20	39.00
Impervious	79,308	1.82	0.95	98.00	79,308	1.82	0.95	98.00
Building	54,550	1.25	0.95	98.00	54,550	1.25	0.95	98.00
Pervious Pavement		--	0.59	64.00	--	--	0.59	64.00
Pond	71,584	1.64	1.00	100.00	71,584		1.00	100.00
	--	--			--	--	0.00	--
Total Non-DCIA & Weighted CN	283,203			82.31	283,203	--		82.31
<u>Total Area (SF) & Weighted CN</u>	283,203	6.50	0.76		283,203	6.50	0.76	

$$\text{Treatment Volume Required} \quad x = 0.5$$

$$(x'')(Area Sf)(1'/12'') = 11,800 \quad CF = 11,800 \quad CF$$

POND DESIGN

LICENSED TO: DEUEL & ASSOCIATES
STAGE - STORAGE

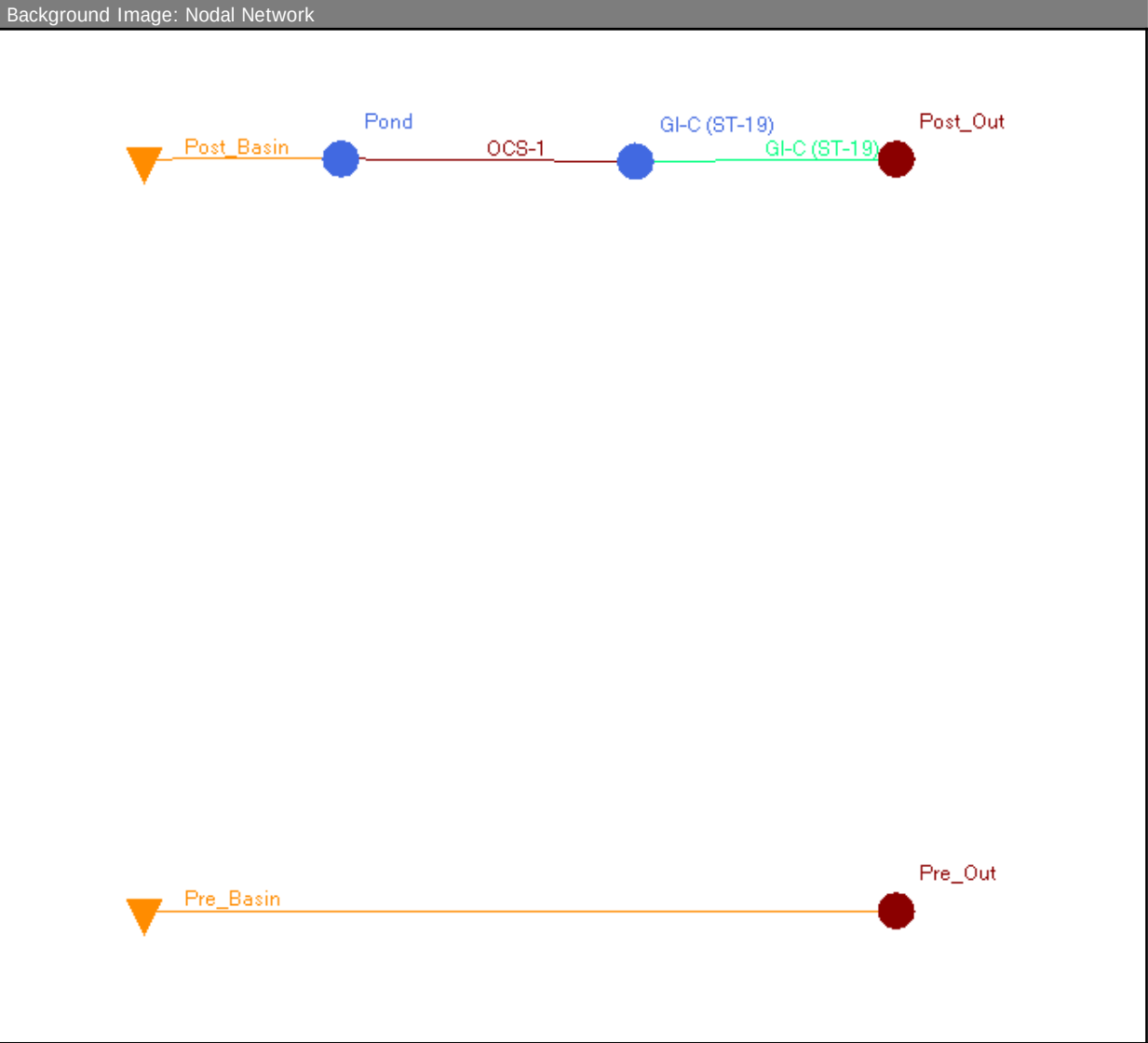
PROJECT NAME Squirrel Storage - Airport Rd
PROJECT NUMBER SE22.110
DESIGNER XC
DATE 12/16/22

COMMENTS:

AREA @ T.O.B. 80343 EL..... 78.50
AREA @ DHW 71584 EL..... 77.65
AREA @ DLW 32838 EL..... 73.89
AREA @ BOTTOM\NWL 28819 EL..... 73.50

STAGE	AREA SQ\FT	VOLUME CU\FT	STAGE	AREA SQ\FT	VOLUME CU\FT
73.50	28819	0	76.05	55086	106938
73.60	29829	2875	76.15	56096	112388
73.70	30840	5849	76.25	57107	117937
73.79	31850	8922	76.34	58117	123585
73.89	32860	12094	76.44	59127	129333
73.99	33870	15365	76.54	60138	135179
74.09	34881	18735	76.64	61148	141124
74.19	35891	22204	76.74	62158	147169
74.28	36901	25773	76.83	63168	153312
74.38	37911	29440	76.93	64179	159555
74.48	38922	33206	77.03	65189	165896
74.58	39932	37072	77.13	66199	172337
74.68	40942	41036	77.23	67209	178876
74.77	41953	45100	77.32	68220	185515
74.87	42963	49262	77.42	69230	192253
74.97	43973	53524	77.52	70240	199090
75.07	44983	57884	77.62	71251	206026
75.17	45994	62344	77.72	72261	213060
75.26	47004	66903	77.81	73271	220194
75.36	48014	71560	77.91	74281	227427
75.46	49024	76317	78.01	75292	234759
75.56	50035	81173	78.11	76302	242190
75.66	51045	86128	78.21	77312	249720
75.75	52055	91182	78.30	78322	257350
75.85	53066	96335	78.40	79333	265078
75.95	54076	101587	78.50	80343	272905

VOLUME ABOVE TREATMENT 196313 CF
DESIGN TREATMENT VOLUME 12023 CF
TOTAL VOLUME 208336 CF



Simulation: 100Y10D

Scenario: Scenario1
Run Date/Time: 12/13/2022 9:38:20 PM
Program Version: ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	300.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	60.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	60.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:

Unit Hydrograph
Folder:

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set:Green-Ampt Set:
Vertical Layers Set:
Impervious Set:

Tolerances & Options

Time Marching: SAOR
 Max Iterations: 6
 Over-Relax Weight: 0.5 dec
 Fact:
 dZ Tolerance: 0.0010 ft
 Max dZ: 1.0000 ft
 Link Optimizer Tol: 0.0001 ft
 Edge Length Option: Automatic

IA Recovery Time: 24.0000 hr
 Smp/Man Basin Rain Global
 Opt:
 Rainfall Name: ~FLMOD
 Rainfall Amount: 18.40 in
 Storm Duration: 240.0000 hr
 Dflt Damping (1D): 0.0050 ft
 Min Node Srf Area 100 ft2
 (1D):
 Energy Switch (1D): Energy

Comment:

Simulation: 100Y24H

Scenario: Scenario1
Run Date/Time: 12/13/2022 9:39:30 PM
Program Version: ICPR4 4.07.08

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	30.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:

Unit Hydrograph
Folder:

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set:

Green-Ampt Set:
Vertical Layers Set:
Impervious Set:

Tolerances & Options

Time Marching:	SAOR	IA Recovery Time:	24.0000 hr
Max Iterations:	6		
Over-Relax Weight	0.5 dec		
Fact:			
dZ Tolerance:	0.0010 ft	Smp/Man Basin Rain	Global
		Opt:	
Max dZ:	1.0000 ft	Rainfall Name:	~FLMOD
Link Optimizer Tol:	0.0001 ft	Rainfall Amount:	11.80 in
		Storm Duration:	24.0000 hr
Edge Length Option:	Automatic		
		Dflt Damping (1D):	0.0050 ft
		Min Node Srf Area	100 ft2
		(1D):	
		Energy Switch (1D):	Energy

Comment:

Simple Basin: Post_Basin

Scenario: Scenario1
Node: Pond
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 10.0000 min
Max Allowable Q: 0.00 cfs
Time Shift: 0.0000 hr
Unit Hydrograph: UH256
Peaking Factor: 256.0
Area: 6.5000 ac
Curve Number: 82.3
% Impervious: 0.00
% DCIA: 0.00
% Direct: 0.00
Rainfall Name:

Comment:

Simple Basin: Pre_Basin

Scenario: Scenario1
Node: Pre_Out
Hydrograph Method: NRCS Unit Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 13.4000 min
Max Allowable Q: 0.00 cfs
Time Shift: 0.0000 hr

Unit Hydrograph: UH256
 Peaking Factor: 256.0
 Area: 6.5000 ac
 Curve Number: 39.0
 % Impervious: 0.00
 % DCIA: 0.00
 % Direct: 0.00
 Rainfall Name:

Comment:

Node: GI-C (ST-19)

Scenario: Scenario1
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 74.00 ft
 Warning Stage: 76.68 ft

Stage [ft]	Area [ac]	Area [ft2]
74.00	0.0001	6
76.68	0.0001	6

Comment:

Node: Pond

Scenario: Scenario1
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 73.50 ft
 Warning Stage: 78.00 ft

Stage [ft]	Area [ac]	Area [ft2]
73.50	0.6616	28819
73.89	0.7539	32838
77.65	1.6433	71584
78.50	1.8444	80343

Comment:

Node: Post_Out

Scenario: Scenario1
 Type: Time/Stage

Base Flow: 0.00 cfs
 Initial Stage: 75.00 ft
 Warning Stage: 75.00 ft
 Boundary Stage:

Year	Month	Day	Hour	Stage [ft]
0	0	0	0.0000	75.00
0	0	0	300.0000	75.00

Comment:

Node: Pre_Out

Scenario: Scenario1
 Type: Time/Stage
 Base Flow: 0.00 cfs
 Initial Stage: 75.00 ft
 Warning Stage: 75.00 ft
 Boundary Stage:

Year	Month	Day	Hour	Stage [ft]
0	0	0	0.0000	75.00
0	0	0	300.0000	75.00

Comment:

Weir Link: GI-C (ST-19)

Scenario: Scenario1
 From Node: GI-C (ST-19)
 To Node: Post_Out
 Link Count: 26
 Flow Direction: Both
 Damping: 0.0000 ft
 Weir Type: Horizontal
 Geometry Type: Rectangular
 Invert: 76.68 ft
 Control Elevation: 76.68 ft
 Max Depth: 0.15 ft
 Max Width: 0.92 ft
 Fillet: 0.00 ft

Bottom Clip

Default: 0.00 ft
 Op Table:
 Ref Node:

Top Clip

Default: 0.00 ft
 Op Table:
 Ref Node:

Discharge Coefficients

Weir Default: 3.200
 Weir Table:
 Orifice Default: 0.600
 Orifice Table:

Comment: This is the cast iron grate with 26 slots, each 1.75 inches by 11 inches (0.1458 ft x 0.9167 ft)

Drop Structure Link: OCS-1

Upstream Pipe

Downstream Pipe

Scenario:	Scenario1	Invert:	74.17 ft	Invert:	74.00 ft
From Node:	Pond	Manning's N:	0.0130	Manning's N:	0.0130
To Node:	GI-C (ST-19)	Geometry:	Circular	Geometry:	Circular
Link Count:	1	Max Depth:	1.25 ft	Max Depth:	1.25 ft
Flow Direction:	Both	Bottom Clip			
Solution:	Combine	Default:	0.00 ft	Default:	0.00 ft
Increments:	0	Op Table:		Op Table:	
Pipe Count:	1	Ref Node:		Ref Node:	
Damping:	0.0000 ft	Manning's N:	0.0000	Manning's N:	0.0000
Length:	34.00 ft	Top Clip			
FHWA Code:	1	Default:	0.00 ft	Default:	0.00 ft
Entr Loss Coef:	0.50	Op Table:		Op Table:	
Exit Loss Coef:	1.00	Ref Node:		Ref Node:	
Bend Loss Coef:	0.00	Manning's N:	0.0000	Manning's N:	0.0000
Bend Location:	0.00 dec				
Energy Switch:	Energy				
Pipe Comment:					

Weir Component					
Weir:	1	Bottom Clip			
Weir Count:	26	Default:	0.00 ft		
Weir Flow Direction:	Both	Op Table:			
Damping:	0.0000 ft	Ref Node:			
Weir Type:	Horizontal	Top Clip			
Geometry Type:	Rectangular	Default:	0.00 ft		
Invert:	77.65 ft	Op Table:			
Control Elevation:	77.65 ft	Ref Node:			
Max Depth:	0.15 ft	Discharge Coefficients			
Max Width:	0.92 ft	Weir Default:	3.200		
Fillet:	0.00 ft	Weir Table:			
		Orifice Default:	0.600		
		Orifice Table:			
Weir Comment: This is the cast iron grate with 26 slots, each 1.75 inches by 11 inches (0.1458 ft x 0.9167 ft)					

Weir Component					
Weir:	2	Bottom Clip			
Weir Count:	1	Default:	0.00 ft		
Weir Flow Direction:	Both	Op Table:			
Damping:	0.0000 ft	Ref Node:			
Weir Type:	Sharp Crested Vertical	Top Clip			
Geometry Type:	Rectangular	Default:	0.00 ft		
Invert:	77.00 ft	Op Table:			
Control Elevation:	77.00 ft	Ref Node:			
Max Depth:	9999.00 ft	Discharge Coefficients			
Max Width:	2.00 ft	Weir Default:	3.200		
Fillet:	0.00 ft	Weir Table:			
		Orifice Default:	0.600		
		Orifice Table:			
Weir Comment: This is vertical slot opening, 2' wide on one side					

Drop Structure Comment:

Node Max Conditions w/ Times [Scenario1]

Node Name	Sim Name	Warning Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]	Time to Max Stage [hr]	Time to Min/Max Delta Stage [hr]	Time to Max Total Inflow [hr]	Time to Max Total Outflow [hr]
GI-C (ST-19)	100Y10 D	76.68	76.75	0.0010	3.32	3.46	100	122.4583	118.8743	122.6070	122.6370
Pond	100Y10 D	78.00	77.65	0.0010	8.75	3.32	71543	122.5910	117.4083	119.9979	122.5835
Post_Out	100Y10 D	75.00	75.00	0.0000	3.46	0.00	0	0.0000	0.0000	122.6370	0.0000
Pre_Out	100Y10 D	75.00	75.00	0.0000	4.92	0.00	0	0.0000	0.0000	120.0005	0.0000
GI-C (ST-19)	100Y24 H	76.68	76.72	0.0010	1.33	1.42	100	18.7874	13.9127	18.7265	18.6658
Pond	100Y24 H	78.00	77.35	0.0010	42.05	1.33	68501	18.7265	11.9396	12.0498	18.7265
Post_Out	100Y24 H	75.00	75.00	0.0000	1.42	0.00	0	0.0000	0.0000	18.6658	0.0000
Pre_Out	100Y24 H	75.00	75.00	0.0000	10.85	0.00	0	0.0000	0.0000	12.1165	0.0000

MODRET

SUMMARY OF UNSATURATED & SATURATED INPUT PARAMETERS

PROJECT NAME : SE22.110 Squirrel Storage Airport Rd
POLLUTION VOLUME RUNOFF DATA USED
UNSATURATED ANALYSIS EXCLUDED

Pond Bottom Area	28,819.00 ft ²
Pond Volume between Bottom & DHWL	12,023.00 ft ³
Pond Length to Width Ratio (L/W)	7.00
Elevation of Effective Aquifer Base	70.90 ft
Elevation of Seasonal High Groundwater Table	72.00 ft
Elevation of Starting Water Level	73.50 ft
Elevation of Pond Bottom	73.50 ft
Design High Water Level Elevation	73.89 ft
Avg. Effective Storage Coefficient of Soil for Unsaturated Analysis	0.30
Unsaturated Vertical Hydraulic Conductivity	40.60 ft/d
Factor of Safety	2.00
Saturated Horizontal Hydraulic Conductivity	60.90 ft/d
Avg. Effective Storage Coefficient of Soil for Saturated Analysis	0.30
Avg. Effective Storage Coefficient of Pond/Exfiltration Trench	1.00

Hydraulic Control Features:

Groundwater Control Features - Y/N

Distance to Edge of Pond
Elevation of Water Level

Top	Bottom	Left	Right
N	N	N	N
0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00

Impervious Barrier - Y/N

Elevation of Barrier Bottom

Top	Bottom	Left	Right
N	N	N	N
0.00	0.00	0.00	0.00

MODRET

TIME - RUNOFF INPUT DATA

PROJECT NAME: SE22.110 SQUIRREL STORAGE AIRPORT RD

STRESS PERIOD NUMBER	INCREMENT OF TIME (hrs)	VOLUME OF RUNOFF (ft³)
Unsat	0.00	0.00
1	1.00	12,023.00
2	12.79	0.00
3	12.79	0.00
4	12.79	0.00
5	12.79	0.00
6	12.79	0.00
7	12.79	0.00
8	12.79	0.00
9	12.79	0.00
10	12.79	0.00
11	12.79	0.00
12	12.79	0.00
13	12.79	0.00
14	12.79	0.00
15	12.79	0.00
16	12.79	0.00
17	12.79	0.00
18	12.79	0.00
19	12.79	0.00
20	12.79	0.00
21	12.79	0.00
22	12.79	0.00
23	12.79	0.00
24	12.79	0.00
25	12.79	0.00
26	12.79	0.00
27	12.79	0.00
28	12.79	0.00
29	12.79	0.00
30	12.79	0.00

MODRET

SUMMARY OF RESULTS

PROJECT NAME : SE22.110 Squirrel Storage Airport Rd

CUMULATIVE TIME (hrs)	WATER ELEVATION (feet)	INSTANTANEOUS INFILTRATION RATE (cfs)	AVERAGE INFILTRATION RATE (cfs)	CUMULATIVE OVERFLOW (ft ³)
00.00 - 0.00	72.000	0.000 *		
			0.00000	
0.00	72.000	0.17181		
			0.16843	
1.00	73.870	0.16505		0.00
			0.12179	
13.79	73.688	0.09847		0.00
			0.07514	
26.59	73.576	0.06361		0.00
			0.05207	
39.10	73.500	0.04605		0.00
			0.04004	
52.18	73.438	0.03642		0.00
			0.03280	
64.97	73.389	0.03038		0.00
			0.02796	
77.77	73.348	0.02622		0.00
			0.02448	
90.56	73.311	0.02317		0.00
			0.02186	
103.36	73.278	0.02081		0.00
			0.01975	
116.15	73.249	0.01890		0.00
			0.01805	
128.95	73.222	0.01736		0.00
			0.01667	
141.74	73.197	0.01605		0.00
			0.01543	
154.54	73.174	0.01492		0.00

MODRET

SUMMARY OF RESULTS

PROJECT NAME : SE22.110 Squirrel Storage Airport Rd

CUMULATIVE TIME (hrs)	WATER ELEVATION (feet)	INSTANTANEOUS INFILTRATION RATE (cfs)	AVERAGE INFILTRATION RATE (cfs)	CUMULATIVE OVERFLOW (ft ³)
			0.01440	
167.33	73.152	0.01397		0.00
			0.01353	
180.13	73.132	0.01310		0.00
			0.01267	
192.92	73.113	0.01233		0.00
			0.01199	
205.72	73.095	0.01166		0.00
			0.01133	
218.51	73.078	0.01105		0.00
			0.01078	
231.31	73.062	0.01052		0.00
			0.01025	
244.10	73.047	0.01001		0.00
			0.00977	
256.90	73.032	0.00955		0.00
			0.00932	
269.69	73.019	0.00914		0.00
			0.00896	
282.49	73.005	0.00876		0.00
			0.00856	
295.28	72.992	0.00841		0.00
			0.00826	
308.08	72.980	0.00810		0.00
			0.00795	
320.87	72.968	0.00779		0.00
			0.00764	
333.67	72.957	0.00751		0.00

MODRET

SUMMARY OF RESULTS

PROJECT NAME : SE22.110 Squirrel Storage Airport Rd

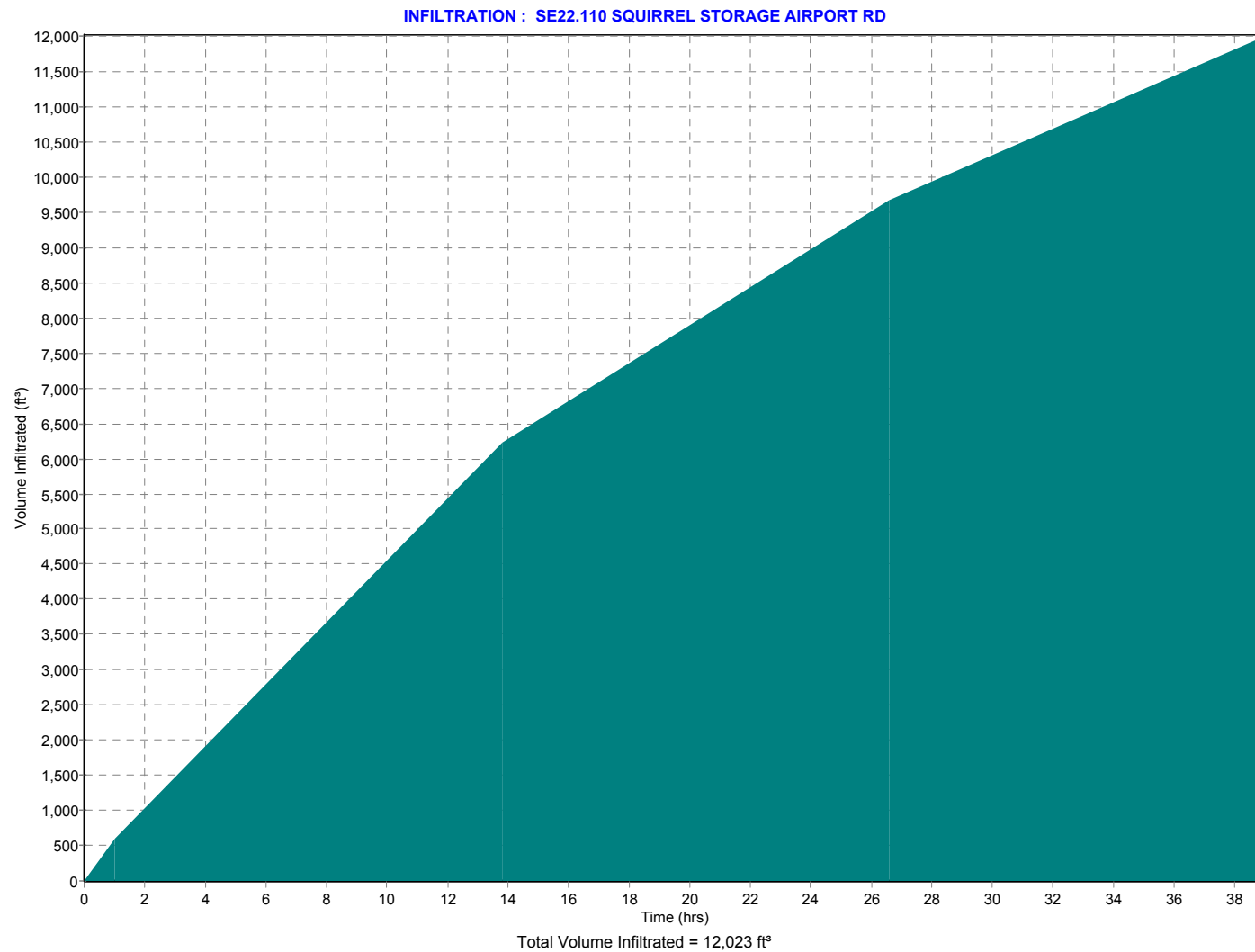
CUMULATIVE TIME (hrs)	WATER ELEVATION (feet)	INSTANTANEOUS INFILTRATION RATE (cfs)	AVERAGE INFILTRATION RATE (cfs)	CUMULATIVE OVERFLOW (ft ³)
			0.00739	
346.46	72.946	0.00725		0.00
			0.00712	
359.26	72.935	0.00701		0.00
			0.00690	
372.05	72.925	0.00680		0.00
			0.00670	
384.85	72.915	0.00658		0.00
			0.00645	
397.64	72.905	0.00637		0.00
			0.00628	
410.44	72.896	0.00618		0.00
			0.00609	
423.23	72.887	0.00600		0.00
			0.00591	
436.03	72.878	0.00583		0.00
			0.00575	
448.82	72.869	0.00567		0.00
			0.00559	
461.62	72.861	0.00551		0.00
			0.00543	
474.41	72.853	0.00536		0.00
			0.00530	
487.20	72.845	0.00522		0.00
			0.00515	
500.00	72.837			0.00

Maximum Water Elevation: 73.870 feet @ 1.00 hours

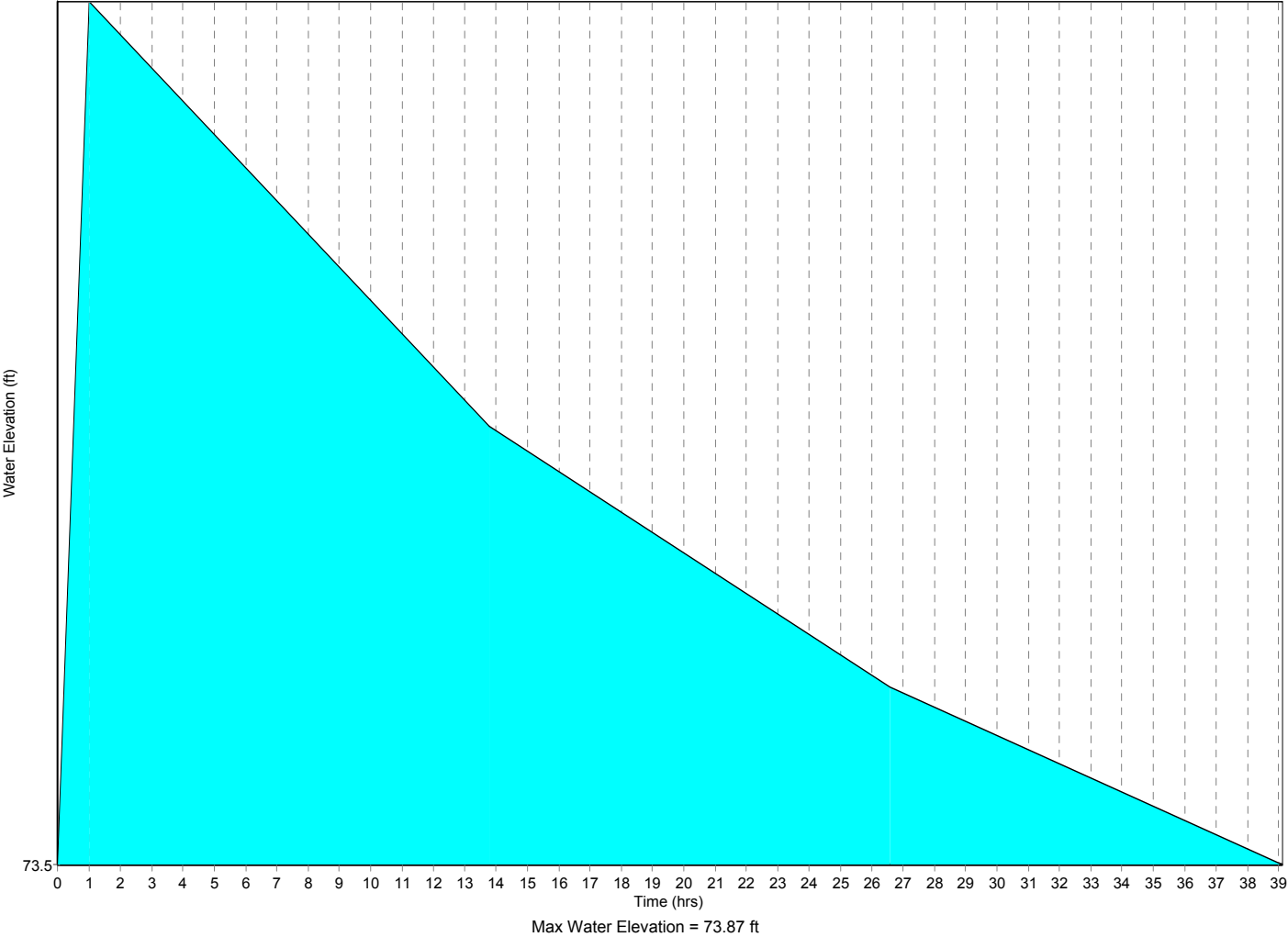
Recovery @ 39.104 hours

* Time increment when there is no runoff

Maximum Infiltration Rate: 0.472 ft/day



INFILTRATION : SE22.110 SQUIRREL STORAGE AIRPORT RD



EXECUTIVE SUMMARY

- It is understood the subject project is generally located within the southwest quadrant of the intersection of Airport Road and Airpark Road, Zephyrhills, Pasco County, Florida and is currently known as Squirrel's Storage. This property was observed to currently consist of a generally level, undeveloped, open-wooded area with grass/soil surfaced areas, with some remnant asphaltic concrete pavement was observed within the interior of the subject property. The development at this property is expected to consist of a series of one-story self-storage facilities with associated pavement areas for light vehicular traffic with occasional heavier loaded truck traffic, and associated stormwater management areas.
- The general subsurface conditions for the pavement areas and the SMA areas are described below:
 - **Pavement Areas:** The initial soil layer encountered generally consisted of approximately one foot of dark gray fine SAND (SP) with some roots. The second soil layer encountered generally consisted of light gray to pale brown fine SAND (SP) that extended to an approximate depth of four feet below the existing ground surface. The final soil layer encountered generally consisted of pale brown to gray clayey SAND (SC) that extended to the maximum boring termination depths of 5.3 feet below the existing ground surface elevations.
 - **Stormwater Management Areas:** The initial soil layer encountered generally consisted of approximately two feet of grayish brown fine SAND (SP) with some roots. The second soil layer encountered generally consisted of pale brown, loose to medium dense, fine SAND (SP) that extended to an approximate depth of six feet below the existing ground surfaces. The third soil layer encountered generally consisted of light gray, stiff to hard Clayey SAND (SC) that extended to an approximate depth of 17 feet below the existing ground surfaces. The final soil layer encountered generally consisted of very soft to hard CLAY (CH) that appeared to be transitioning to highly weathered LIMESTONE that extended to the maximum boring termination depths of 20.3 feet below the existing ground surface elevations.
- Measurable groundwater was not encountered to a depth of at least 7.5 feet below the existing ground surface elevations. The normal seasonal high groundwater level (NSHGWL) is recommended to be considered at least five feet below the existing ground surface elevations.
- The results of the two DRI tests performed at the subject site are tabulated below.

DRI Test Number	Depth* (Feet)	Near-Surface Porosity	Measured Vertical Infiltration Rate (In/Hr)	"Confining" Soil Depth* (Feet)	Measured Groundwater Depth* (Feet)	Estimated Seasonal High Groundwater Depth* (Feet)
1	2.0	30	19.6	6.0	>7.0	5.0
2	2.0	30	14.9	6.7	>7.5	5.0
3	2.0	30	26.3	5.7	>6.3	5.0

*Depth below existing ground surface elevations

- The near surface soil strata are expected to consist of slightly silty to silty SAND that tend to be moderately moisture sensitive. In this regard, the near-surface soils are expected to be generally SUITABLE for use as structural fill.
- Based on our evaluation of the subsurface conditions and our extensive experience with similar conditions, it is expected that the proposed pavement be constructed as a conventional asphaltic concrete and/or Portland Cement concrete pavement structure.

GULF COAST TESTING LABORATORY INC.

5671 70th AVENUE NORTH

PINELLAS PARK, FL 33781

CONSTRUCTION MATERIALS ENGINEERING COUNCIL CERTIFIED

CERTIFICATE of AUTHORIZATION # 00002370

PHONE: (727) 544-4080 FAX: (727) 544-7532

Email: info@gctfl.com

**REPORT OF
GEOTECHNICAL EXPLORATION
FOR
SQUIRREL'S 'S STORAGE
PASCO COUNTY, FLORIDA**

Prepared for:



Prepared by:

Gulf Coast Testing Laboratory, Inc.

GCTL Project No. 29212

September 13, 2022

State of Florida Certificate of Authorization Number 00002370

GULF COAST TESTING LABORATORY INC.

PINELLAS PARK, FL 33781

CONSTRUCTION MATERIALS ENGINEERING COUNCIL CERTIFIED

September 13, 2022

Mr. Kevin Martin

Squirrel's 's Storage

1055 Commons Parkway West

Macedon, NY 14502

**Subject: Report of Geotechnical Exploration
Squirrel's Storage
Pasco County, FL
GCTL Project No. 29212**

Dear Mr. Martin:

Gulf Coast Testing Laboratory, Inc. (GCTL) has completed the requested geotechnical exploration for the above-referenced project. The results of the subsurface exploration have been evaluated and are presented in this Report of Geotechnical Exploration.

This report presents a review of the project information provided to us, a description of the site and subsurface conditions encountered as well as our foundation and earthwork recommendations. The Appendices to the report contain site and boring location figures, USDA soil survey information, boring logs, site photographs, and Double-Ring Infiltration (DRI) test results.

5671 70th AVENUE NORTH

PINELLAS PARK, FL 33781

CONSTRUCTION MATERIALS ENGINEERING COUNCIL CERTIFIED

CERTIFICATE of AUTHORIZATION # 00002370

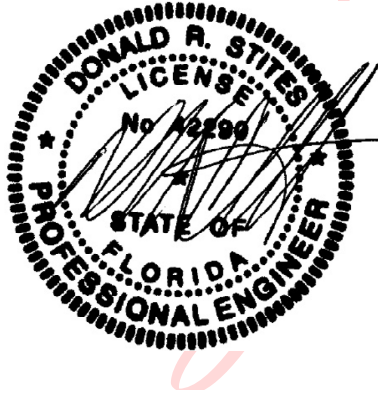
PHONE: (727) 544-4080 FAX: (727) 544-7532

Email: info@gctlfl.com

We appreciate this opportunity to provide our services to you and we look forward to serving as your geotechnical consultant throughout this project. Should you have any questions regarding the information presented in this report, please do not hesitate to contact us at your earliest convenience.

Sincerely,

GULF COAST TESTING LABORATORY, INC.



Digitally signed
by Don R Stites
Date:
2022.09.15
15:28:19 -04'00'

Rick Davis

Don R. Stites, P.E.
Principal Geotechnical Engineer
Florida Registration No. 42290

Rick Davis
President

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APPENDIX

- **Figure 1 – General Site Vicinity Map**
- **Figure 2 – Local Site Vicinity Map**
- **Figure 3 – 2021 Aerial Photograph**
- **Figure 4 – 2015 Aerial Photograph**
- **Figure 5 – 2008 Aerial Photograph**
- **Figure 6 – 2002 Aerial Photograph**
- **Figure 7 – 1994 Aerial Photograph**
- **Figure 8 – Field Exploration Plan**
- **Figure 9 – Aerial Field Exploration Plan**
- **USDA Soil Map Information**
- **Soil Boring Logs**
- **Site Photographs**
- **Double-Ring Infiltration Test Results**

1.0 EXECUTIVE SUMMARY

- It is understood the subject project is generally located within the southwest quadrant of the intersection of Airport Road and Airpark Road, Zephyrhills, Pasco County, Florida and is currently known as Squirrel's Storage. This property was observed to currently consist of a generally level, undeveloped, open-wooded area with grass/soil surfaced areas, with some remnant asphaltic concrete pavement was observed within the interior of the subject property. The development at this property is expected to consist of a series of one-story self-storage facilities with associated pavement areas for light vehicular traffic with occasional heavier loaded truck traffic, and associated stormwater management areas.
- The general subsurface conditions for the pavement areas and the SMA areas are described below:
 - **Pavement Areas:** The initial soil layer encountered generally consisted of approximately one foot of dark gray fine SAND (SP) with some roots. The second soil layer encountered generally consisted of light gray to pale brown fine SAND (SP) that extended to an approximate depth of four feet below the existing ground surface. The final soil layer encountered generally consisted of pale brown to gray clayey SAND (SC) that extended to the maximum boring termination depths of 5.3 feet below the existing ground surface elevations.
 - **Stormwater Management Areas:** The initial soil layer encountered generally consisted of approximately two feet of grayish brown fine SAND (SP) with some roots. The second soil layer encountered generally consisted of pale brown, loose to medium dense, fine SAND (SP) that extended to an approximate depth of six feet below the existing ground surfaces. The third soil layer encountered generally consisted of light gray, stiff to hard Clayey SAND (SC) that extended to an approximate depth of 17 feet below the existing ground surfaces. The final soil layer encountered generally consisted of very soft to hard CLAY (CH) that appeared to be transitioning to highly weathered LIMESTONE that extended to the maximum boring termination depths of 20.3 feet below the existing ground surface elevations.
- Measurable groundwater was not encountered to a depth of at least 7.5 feet below the existing ground surface elevations. The normal seasonal high groundwater level (NSHGWL) is recommended to be considered at least five feet below the existing ground surface elevations.
- The results of the two DRI tests performed at the subject site are tabulated below.

DRI Test Number	Depth* (Feet)	Near-Surface Porosity	Measured Vertical Infiltration Rate (In/Hr)	"Confining" Soil Depth* (Feet)	Measured Groundwater Depth* (Feet)	Estimated Seasonal High Groundwater Depth* (Feet)
1	2.0	30	19.6	6.0	>7.0	5.0
2	2.0	30	14.9	6.7	>7.5	5.0
3	2.0	30	26.3	5.7	>6.3	5.0

*Depth below existing ground surface elevations

- The near surface soil strata are expected to consist of slightly silty to silty SAND that tend to be moderately moisture sensitive. In this regard, the near-surface soils are expected to be generally SUITABLE for use as structural fill.
- Based on our evaluation of the subsurface conditions and our extensive experience with similar conditions, it is expected that the proposed pavement be constructed as a conventional asphaltic concrete and/or Portland Cement concrete pavement structure.

2.0 INTRODUCTION

2.1 SITE DESCRIPTION

It is understood the subject project is generally located within the southwest quadrant of the intersection of Airport Road and Airpark Road, Zephyrhills, Pasco County, Florida and is currently known as Squirrel's Storage.

This property was observed to currently consist of a generally level, undeveloped, open-wooded area with grass/soil surfaced areas (see photograph). It is notable that some remnant asphaltic concrete pavement was observed within the interior of the subject property.



The approximate site location is illustrated on Figures in the Appendix of this report. Photographs of the subject property have been included in the Appendix of this report.

2.2 PROJECT CHARACTERISTICS

The development at this property is expected to consist of a series of one-story self-storage facilities with associated pavement areas for light vehicular traffic with occasional heavier loaded truck



traffic, and associated stormwater management areas (see photograph).

The finished grades of the development area are expected to generally coincide with the existing grade levels.

2.3 PURPOSE AND SCOPE

The purpose of this study was to obtain information on the general subsurface conditions at the proposed project site. The subsurface materials encountered were then evaluated with respect to the available project characteristics. In this regard, engineering assessments for the following items were formulated:

- General location and description of potentially deleterious materials encountered in the borings, which may interfere with construction progress or structure performance, including existing fills or surficial/subsurface organics.
- Identification of the existing groundwater levels and estimated normal seasonal high groundwater fluctuations.
- Determination of the vertical infiltration characteristics of the upper soils in the designated stormwater management areas (SMA's).
- Evaluate near-surface soil fillable porosity in the proposed SMA.
- Determine depth to "confining" soil layer in the proposed SMA.
- Evaluate active raveling ("sinkhole-type") activity, if any, in the boring performed.
- Pavement design and construction suggestions, considering the encountered subgrade soils and the measured groundwater conditions. Development of the vertical modulus of subgrade reaction.
- Recommended soil subgrade preparation operations, including stripping, grubbing and compaction. Recommended engineering criteria for placement and compaction of approved structural fill materials.
- Evaluation of the suitability and availability of materials on-site that may be moved during site grading for use as structural fill.
- Presentation of construction recommendations, including expected ground water control measures, temporary slope stability recommendations, and unsuitable soil removal guidelines.

The following services were provided in order to achieve the preceding objectives:

- Reviewed readily-available published geologic information. This included information from available soil survey information published by the United States Department of Agriculture (USDA) Soil Conservation Service (SCS).
- Reviewed readily-available aerial photographs of the subject property obtained from Google Earth Pro.
- Coordinate underground utility location services through Sunshine State One Call of Florida, Inc.
- Executed a program of subsurface exploration consisting of subsurface sampling and field testing. The soil tests were performed in grass-surfaced areas which were readily accessible to track/trailer-mounted equipment.
 - Performed three Standard Penetration Test (SPT) borings within the approximate designated areas. The SPT borings were extended to an approximate depth range of 15 to 20.3 feet below the existing grades.
 - Perform three auger borings to an approximate depth range of 6.3 to 7.5 feet below the existing ground surfaces within the DRI test areas.
 - Perform six auger borings to an approximate depth range of 5.0 to 5.3 feet below the existing ground surfaces within the pavement areas.
 - Performed three Double Ring Infiltration (DRI) tests in general accordance with the American Society of Testing and Materials (ASTM) test designation D-3385. The DRI tests were performed at approximate depths of two feet below the existing ground surface elevations.
- Collected groundwater level measurements and estimated normal wet seasonal high groundwater levels.
- Visually classified and stratified representative soil samples in the laboratory using the Unified Soil Classification System (USCS). Identified soil conditions at each boring location and formed an opinion of the site soil stratigraphy.
- The results of the field exploration and laboratory tests were used in the engineering analyses and in the formulation of the recommendations. The results of the subsurface exploration, including the recommendations and the data upon which they are based, are presented in this formal written report prepared by an experienced Professional Engineer.

The scope of our services does not include an environmental assessment or investigation for the presence or absence of hazardous or toxic materials in the soil, groundwater, or surface water within or beyond the site studied.

3.0 FIELD EXPLORATION

The general soil types and associated design parameters were developed by drilling three soil test borings and nine auger borings within the proposed development area.

The boring locations were determined in the field from existing ground surface features. The ground surface elevations at the boring locations were neither furnished nor determined. The boring locations illustrated in the Appendix should be considered accurate only to the degree implied by the method used. If more precise locations are desired, we suggest that you contact a Registered Surveyor.

The soil test borings were advanced with a track-mounted drill rig using "Mud" Rotary drilling procedures to an approximate depth range of 15 to 20.3 feet below the existing ground surface elevations (see photograph).



The soil sampling was performed in general accordance with ASTM Test Designation D-1586, entitled "Penetration Test and Split-Barrel Sampling of Soils." Samples were obtained at intervals of two feet to a depth of ten feet, and at intervals of five feet thereafter. Representative portions of these soil samples were sealed in "air-tight" containers, labeled and transferred to our laboratory for classification and testing.

The auger borings were manually performed with the use of a 3-inch nominal diameter bucket auger. The soil sampling was performed in general accordance with ASTM Test Designation D-1452, titled "Soil Investigation and Sampling by Auger Borings." These samples were taken "continuously" from the ground surface to an approximate maximum depth of 7.5 feet below the existing ground surface elevations. Representative portions of these soil samples were sealed in "air-tight" containers, labeled and transferred to our laboratory for classification and testing.

3.1 DOUBLE RING INFILTRATION (DRI) TESTS

Three DRI tests were performed following ground saturation in general accordance with ASTM Test Designation D-3385, titled "Infiltration Rate of Soils in Field Using Double-Ring Infiltrometers". The DRI location was determined in the field based on ground surface features. The DRI test results have been tabulated and are presented below:

DRI Test Number	Depth* (Feet)	Near-Surface Porosity	Measured Vertical Infiltration Rate (In/Hr)	"Confining" Soil Depth* (Feet)	Measured Groundwater Depth* (Feet)	Estimated Seasonal High Groundwater Depth* (Feet)
1	2.0	30	19.6	6.0	>7.0	5.0
2	2.0	30	14.9	6.7	>7.5	5.0
3	2.0	30	26.3	5.7	>6.3	5.0

*Depth below existing ground surface elevations

The DRI test results have been provided in the Appendix of this report.

4.0 LABORATORY TESTING

The soil samples were transported to our laboratory and were classified by the Geotechnical Engineer using the Unified Soil Classification System (USCS) in general accordance with ASTM Test Designation D-2488. Based on the subsurface materials encountered with respect to the proposed project, refined laboratory testing was not deemed necessary.

It should be noted that all soil samples will be properly disposed of 30 days following the submittal of the **GCTL** subsurface exploration report.

5.0 GENERALIZED SUBSURFACE CONDITIONS

5.1 AERIAL PHOTOGRAPH

The Aerial Photographs dated 2021, 2015, 2008, 2002, and 1994 were reviewed for the subject property. Based on this review, the aerial photographs appeared to illustrate the subject property to be similar to the conditions observed during the time of our field services. Copies of the aerial photographs have been included in the Appendix of this report.

5.2 COUNTY SOIL SURVEY

The "Soil Survey of Pasco County, Florida", dated 1972, published by the United States Department of Agriculture (USDA) Soil Conservation Service (SCS), was reviewed for general near-surface soil information within the general vicinity of the subject project. A copy of the soil survey has been included in the appendix of this report. This information indicates that there is one primary soil mapping unit within the proposed project area. The soil map unit characteristics are tabulated below:

SOIL SERIES	DEPTH (INCHES)	UNIFIED SOIL CLASS	PERMEABILITY RATING (INCHES/HOUR)	USDA SEASONAL HIGH GROUNDWATER TABLE	
				DEPTH	MONTHS
Tavares Sand (6)	0 – 86	SP, SP-SM	>20	3.5 – 6.0	Apparent Jun – Dec

5.3 SUBSURFACE CONDITIONS

Soil stratification was based on visual observation of the recovered soil samples, laboratory testing and interpretation of the field boring logs by an experienced **GCTL** Engineering Technician. The boring stratification lines represent the approximate boundaries between soil types of significantly different engineering properties; however, the actual transition may be gradual. In some cases, small variations in properties not considered pertinent to our engineering evaluation may have been abbreviated or omitted for clarity. The boring profiles present the conditions at the particular boring locations and variations do occur among the borings and between soil samples. The general subsurface conditions for the pavement areas and the SMA areas are described below.

Pavement Areas

The initial soil layer encountered generally consisted of approximately one foot of dark gray fine SAND (SP) with some roots. The second soil layer encountered generally consisted of light gray to pale brown fine SAND (SP) that extended to an approximate depth of four feet below the existing ground surface. The final soil layer encountered generally consisted of pale brown to gray clayey SAND (SC) that extended to the maximum boring termination depths of 5.3 feet below the existing ground surface elevations.

SMA Areas

The initial soil layer encountered generally consisted of approximately two feet of grayish brown fine SAND (SP) with some roots. It is believed that a portion of this soil layer consists of EARTHFILL. Standard Penetration Test (SPT) results within this soil stratum were measured to range from 5 to 12 blows per foot (bpf).

The second soil layer encountered generally consisted of pale brown, loose to medium dense, fine SAND (SP) that extended to an approximate depth of six feet below the existing ground surfaces. SPT results within this soil stratum were measured to range from 7 to 20 bpf.

The third soil layer encountered generally consisted of light gray, stiff to hard Clayey SAND (SC) that extended to an approximate depth of 17 feet below the existing ground surfaces. SPT results within this soil stratum were measured to range from 11 to 61 bpf.

The final soil layer encountered generally consisted of very soft to hard CLAY (CH) that appeared to be transitioning to highly weathered LIMESTONE that extended to the maximum boring termination depths of 20.3 feet below the existing ground surface elevations. SPT results within this soil stratum were measured to range from 2 bpf to 76 blows with 9 inches of penetration.

The subsurface soils were generally consistent across the subject property. As a noted exception, very soft soil conditions and drilling fluid losses were encountered near the apparent LIMESTONE surface within boring B1, which is a common occurrence. No "raveled" conditions indicative of sinkhole type activity was considered to have been encountered.

5.4 GROUNDWATER CONDITIONS

As recorded immediately after drilling during the time of our subsurface exploration, measurable groundwater was not encountered to a depth of at least 7.5 feet below the existing ground surface elevations.

Groundwater levels tend to fluctuate during periods of prolonged drought and extended rainfall and may be affected by man-made influences. In addition, a seasonal effect may also occur during which higher groundwater levels are normally recorded in rainy seasons. Based on our review of the subsurface conditions, including the soil coloring characteristics, available published information, and the reported rainfall events, the normal seasonal high groundwater level (NSHGWL) is recommended to be considered at a depth of five feet below the existing ground surface elevations.

If the ground water level is critical to design or construction, ground water observation wells should be installed on-site to monitor ground water fluctuations over a period of time and to permit more accurate determinations of wet season and dry season levels.

6.0 PAVEMENT DESIGN RECOMMENDATIONS

It is understood that flexible (Asphaltic Concrete) and/or rigid (Portland Cement) pavement sections may be utilized within the proposed pavement areas. Based on our extensive experience with similar subsurface conditions, we believe that the proposed pavement structures may be satisfactorily supported with the use of conventional pavement systems.

The following pavement recommendations presented in the following sections are considered minimum for the site, soil and limited traffic conditions expected. The final pavement thickness design should be determined by the project civil engineer using information obtained during the subsurface exploration program and an analysis of anticipated traffic conditions.

6.1 SUBGRADE

Following clearing and grading, the exposed ground surface should be proofrolled and compacted with a vibratory drum roller having a static drum weight on the order of eight tons under the direction of an experienced Professional Engineer to confirm the ability of the soils to properly support the expected development. It is recommended that twelve passes of the roller be performed, with successive passes aligned perpendicular to the proceeding pass.

Areas which are evaluated to be unstable, if any, should be remediated in accordance with the recommendations of the Geotechnical Engineer. Care should be used in areas in which the vibratory roller is within 50 feet of existing structures, including underground utilities, in order to prevent vibrations which could be detrimental to existing structures.

Following approval of the Geotechnical Engineer, the pavement subgrade should be compacted to a minimum depth of 12 inches to at least 98 percent of the Modified Proctor maximum dry density (ASTM D1557). Any fill used to elevate the cleared pavement areas to subgrade elevation should consist of reasonably clean well-graded to fine sands, uniformly compacted to a minimum density of 98 percent of the soil Modified Proctor maximum dry density (ASTM D1557).

Limerock Bearing Ratio (LBR) tests were not performed during this subsurface exploration program. Based on our experience with similar materials, the near-surface soils which were encountered across the subject site during the time of our subsurface exploration tend to have an LBR value on the order of 18. It is recommended that the pavement subgrade soils within flexible pavement areas be improved in order to develop a minimum LBR value of 40 for a depth equal to the depth of the base material.

6.2 MODULUS OF SUBGRADE REACTION

Based upon the soil conditions encountered at the proposed site and the recommended site preparation operations presented in the Construction Considerations section of this report, the modulus of vertical subgrade reaction (k) for the shallow soil is expected to be on the order of 240 pounds per square inch per inch of vertical deflection (pci).

6.3 FLEXIBLE PAVEMENT BASE

It is expected that a minimum separation of 18 to 24 inches can be maintained between the bottom of the base and the normal seasonal high groundwater level. In this regard, a limerock and/or crushed concrete base can be utilized.

Limerock base material should meet FDOT requirements, including compaction to 98 percent of its maximum dry density as determined by the Modified Proctor Test (ASTM D-1557) and a minimum Limerock Bearing Ratio (LBR) of 100 percent. Crushed concrete should have an LBR value of 100 percent and be graded in accordance with Florida Department of Transportation (FDOT) Standard Specification Section 204. Due to the subgrade soil conditions, it is recommended that type B stabilized subgrade (LBR = 30%) be utilized, as specified by the FDOT Standard Specifications for Road and Bridge Construction. As a minimum, the stabilized subgrade thickness should be equal to the thickness of the pavement base. Traffic should not be allowed on the subgrade before the base is placed to avoid rutting.

As a guideline for pavement design, we recommend that the limerock, crushed concrete and soil cement base materials be a minimum of six inches thick under parking areas and eight inches thick under heavily-traveled driving aisles.

6.4 ASPHALTIC CONCRETE

The asphaltic concrete structural course should consist of at least 1½ to 2 inches of Type SP-9.5 or SP-12.5 asphaltic concrete material. It is recommended that at least 1½ inches of asphaltic concrete be utilized in the parking areas and 2 inches be utilized in heavily-traveled driving areas. Type SP-9.5 or SP-12.5 should be utilized because of their durability qualities. If Type SP-12.5 is selected the asphalt should be placed at least 1½ inches thick because of the larger size of the coarse aggregate. The asphaltic concrete should meet standard FDOT material requirements and placement procedures as outlined in the current FDOT Standard Specifications for Road and Bridge Construction.

6.5 FLEXIBLE ASPHALT PAVEMENT DESIGN

The following pavement designs are based upon the design methods described in the FDOT "Flexible Pavement Design Manual for New Construction and Pavement Rehabilitation" (Document No. 625-010-002). These designs present the recommended range of 18-kip-equivalent single axle loads for the "light duty" and "heavy duty" pavement sections presented.

Based on the pavement conditions observed and the subsurface conditions encountered, the evaluations were performed using the following parameters:

- Design Reliability = 85% at an overall standard deviation of 0.45
- Initial Serviceability = 4.2; Terminal Serviceability = 2.0;
- Modulus of Resiliency, Mr = 8700 psi
- Structural Coefficient for Asphaltic Concrete = 0.44
- Structural Coefficient for Crushed Limerock/Concrete Base = 0.18
- Structural Coefficient for Stabilized Subgrade = 0.06

Pavement Duty	Pavement Structural Section			Structural Number	18-Kip Equivalent Single Axle Loads
	Asphalt	Base	Subgrade		
Light Vehicle Passenger Parking	1½ Type SP- 9.5 or SP-12.5	6-Inch Crushed Limerock/Concrete	6-Inch Stabilized Subgrade	2.10	70,000
Light Vehicle Passenger Driving Aisle	2 Type SP-9.5 or SP-12.5	8-Inch Crushed Limerock/Concrete	8-Inch Stabilized Subgrade	2.80	500,000
Heavy Truck Traffic	2½ Type SP- 9.5 or SP-12.5	10-Inch Crushed Limerock/Concrete	10-Inch Stabilized Subgrade	3.50	1,700,000

6.6 RIGID CONCRETE PAVEMENT

As an alternate to the above referenced flexible pavement design, a rigid concrete pavement design could be used. It is suggested that a rigid pavement be utilized in dumpster areas, including the areas in which dumpster trucks or other large vehicles load, backup and turn around.

The following pavement thickness designs are based upon the design procedure described in the American Association of State Highway and Transportation Officials (AASHTO) publication titled "Design of Pavement Structures" (dated 1993). This design method considers the following pavement characteristics:

- The concrete has a minimum flexural strength of 470 psi.
- Continuously reinforced concrete pavement
- Excellent drainage
- Design serviceability loss of 2.5
- Reliability of 95% with an overall standard deviation of .35

Based upon our experience, a minimum thickness of five inches should be utilized for standard light duty applications and a minimum thickness of six inches should be utilized for heavy duty applications. We further recommend that a reinforcing steel mat, preferably size No. 3 steel bars, be placed sixteen inches on center. However, the steel reinforcement within the concrete pavement should be designed by the project Civil Engineer.

The following table summarizes the results of our rigid pavement evaluation for "light duty", "medium duty", and "heavy duty" pavement sections.

Pavement Duty	Pavement Structural Section		Subgrade Support	Modulus of Rupture	Estimated Total 18-kip Equivalent Single Axel (ESAL) Load Applications
Light	5" Concrete	12" Compacted Subgrade	High	470	200,000
Medium	6" Concrete	12" Compacted Subgrade	High	470	450,000
Heavy	7" Concrete	12" Compacted Subgrade	High	470	1,000,000

7.0 CONSTRUCTION CONSIDERATIONS

7.1 FILL PLACEMENT AND SUBGRADE PREPARATION

The following are our recommendations for overall site preparation and mechanical densification work for construction of the proposed development, based on the anticipated construction and our boring results. These recommendations should be used as a guideline for the project general specifications prepared by the Design Engineer.

1. The location of any existing underground utility lines within the construction area should be established. Provision should then be made to relocate any interfering utility lines from the construction area to appropriate locations. In this regard, it should be noted that if underground pipes are not properly removed or plugged, they may serve as conduits for subsurface erosion which subsequently may result in excessive settlements.
2. Following clearing and grading, the exposed ground surface should be proofrolled and compacted with a vibratory drum roller under the direction of an experienced Professional Engineer in order to confirm the ability of the soils to properly support the expected pavement. It is recommended the roller have a static drum weight on the order of eight tons. Careful observations should be made during proofrolling to help identify any areas of soft yielding soils that may require over-excavation and replacement.
3. It is recommended that the natural ground be compacted to a dry density of at least 98 percent of the Modified Proctor Test maximum dry density to a minimum depth of one foot below stripped grade within the pavement areas.
4. Following satisfactory completion of the proofrolling and compaction operations, the proposed structure area may be brought up to finished subgrade levels, if required. It is recommended that off-site fill consist of soils having less than 12 percent passing the No. 200 sieve, and be free of rubble, organics, clay, debris and other unsuitable material. Fill should be tested and approved by **GCTL** prior to acquisition. Approved sand fill should be placed in loose lifts not exceeding twelve inches in thickness. The fill soils should be compacted to a dry density of at least 98 percent of the Modified Proctor Test maximum dry density within the pavement areas.

5. Soil moisture content may need to be controlled in order to facilitate proper compaction. If additional moisture is necessary to achieve the compaction objectives of imported fill, then water should be applied in such a way that will not cause erosion or removal of the subgrade soils. A moisture content within two percentage points of the optimum indicated by the Modified Proctor Test (ASTM D-1557) is recommended prior to compaction of the natural ground and fill.
6. The construction of the SMA's should be monitored and the subgrade conditions evaluated for suitability. Clayey soils, if encountered, should be removed and backfilled with "clean" Sand to the approval of the Geotechnical Engineer.
7. A representative from **GCTL** should be retained to provide on-site observation of earthwork and ground modification activities. It is important that **GCTL** be retained to observe that the subsurface conditions are as we have discussed and reported herein, and that foundation construction, ground modification and fill placement are in accordance with our recommendations.

7.2 GROUNDWATER CONTROL

Measurable groundwater was not encountered to a depth of at least 7.5 feet below the existing ground surface elevations. Groundwater levels tend to fluctuate during periods of prolonged drought and extended rainfall and may be affected by man-made influences. The normal seasonal high groundwater (NSHGWL) is recommended to be considered at a depth of five feet below the existing ground surface elevations.

Soils exposed in the bases of all satisfactory foundation excavations should be protected against any detrimental change in conditions, such as physical disturbance. If possible, all foundation excavations should be backfilled the same day that the excavations are made. If this is not possible, the foundation excavations should be adequately protected in the interim. It is expected that stormwater may be satisfactorily controlled with the use of natural infiltration and/or pumping from excavated sumps.

7.3 TEMPORARY SIDE SLOPES

Following necessary dewatering, the side slopes for temporary excavations are expected to remain stable at two horizontal to one vertical (2H:1V) to a maximum excavation depth of four feet. Where restrictions do not permit slopes to be constructed as recommended above, the excavation should be shored and braced in accordance with current OSHA requirements. Excavated materials should not be stockpiled at the top of any slope within a horizontal distance equal to the excavation depth.

7.4 ON-SITE SOIL SUITABILITY

All materials to be used for backfill or compacted fill construction should be evaluated and, if necessary, tested by **GCTL** prior to placement to determine if they are suitable for the intended use. In general, the near surface soil strata are expected to consist of fine to slightly silty SAND that tend to be moderately moisture sensitive. In this regard, the near-surface soils are expected to be generally **SUITABLE** for use as structural fill. The underlying clayey soils tend to be highly moisture sensitive and are generally expected to be **UNSUITABLE** for use as structural fill.

It is recommended that off-site structural fill materials consist of soils having less than 12 percent passing the No. 200 sieve, and be free of rubble, organics, clay, debris and other unsuitable material. Any off-site materials used as fill should be approved by an experienced Professional Engineer prior to acquisition.

8.0 BASIS FOR RECOMMENDATIONS

Our professional services have been performed, our findings obtained and our recommendations prepared in accordance with generally accepted geotechnical engineering principles and practices. This company is not responsible for the conclusions, opinions or recommendations made by others based upon this data.

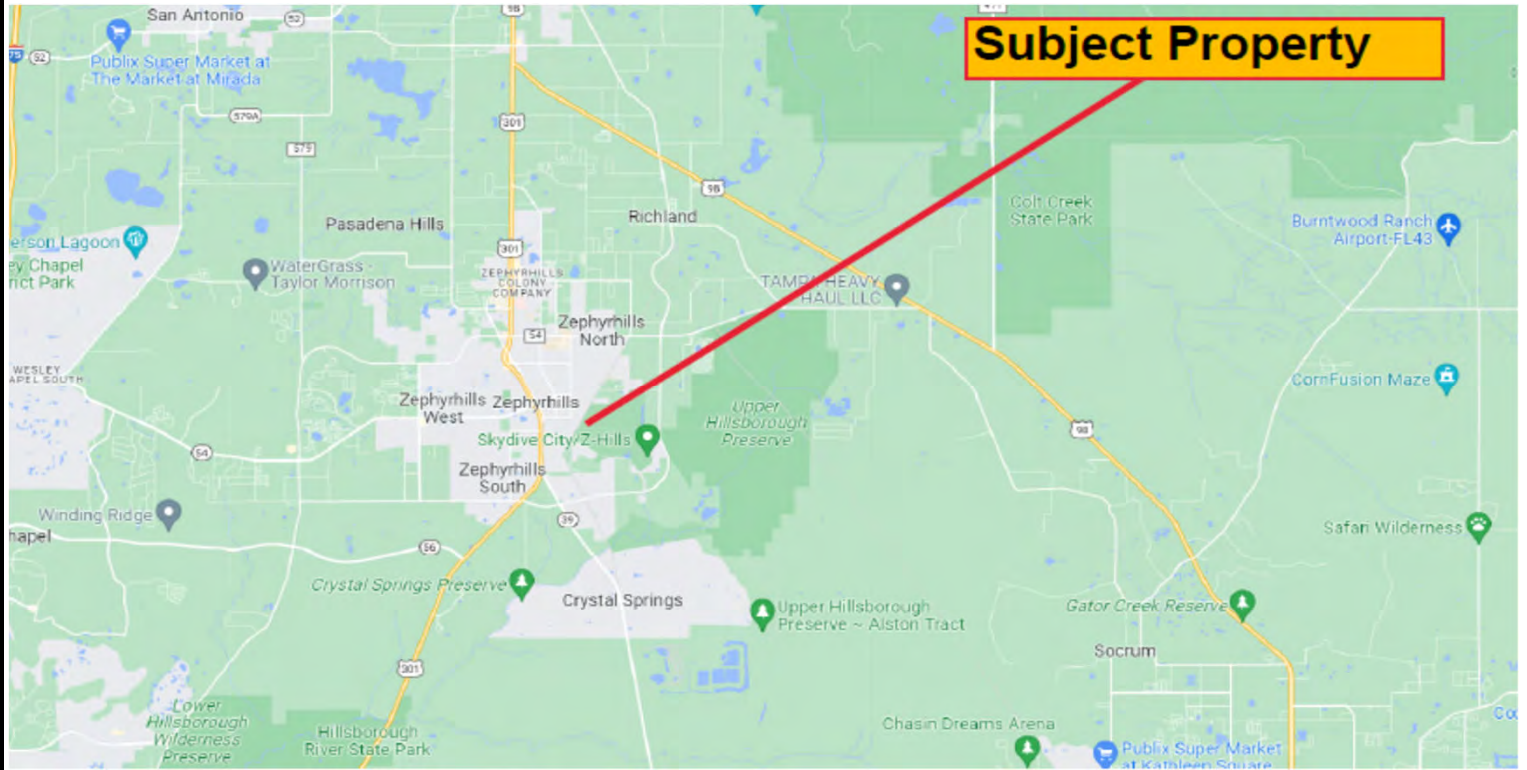
The scope of the exploration was intended to evaluate soil conditions within the primary influence of the considered pavement structure and does not include an evaluation of potential deep soil conditions, such as sinkholes. The analysis and recommendations submitted in this report are based upon the data obtained from the soil borings performed at the locations indicated. Regardless of the thoroughness of a geotechnical exploration, there is always a possibility that conditions between borings will be different from those at specific boring locations and that conditions will not be as anticipated by the designers or contractors. In addition, the construction process itself may alter soil conditions.

If any subsoil variations become evident during the course of this project, a re-evaluation of the recommendations contained in this report will be necessary after we have had an opportunity to observe the characteristics of the conditions encountered. The applicability of this report should also be reviewed in the event that significant changes occur in the design, nature or location of the proposed construction.

The recommendations provided herein are based in part upon project information provided to us and they apply only to the specific project and site discussed in this report. Once complete project information is available, the proposed facility structure characteristics should be conveyed to us for review. Our recommendations may then be modified, if necessary. Experienced geotechnical personnel should observe and document the construction procedures used and the conditions encountered. Unanticipated conditions and inadequate procedures should be reported to the design team. We recommend that the owner retain **GCTL** to provide these services based upon our familiarity with the project, the subsurface conditions, and the intent of the recommendations and design criteria.

APPENDIX

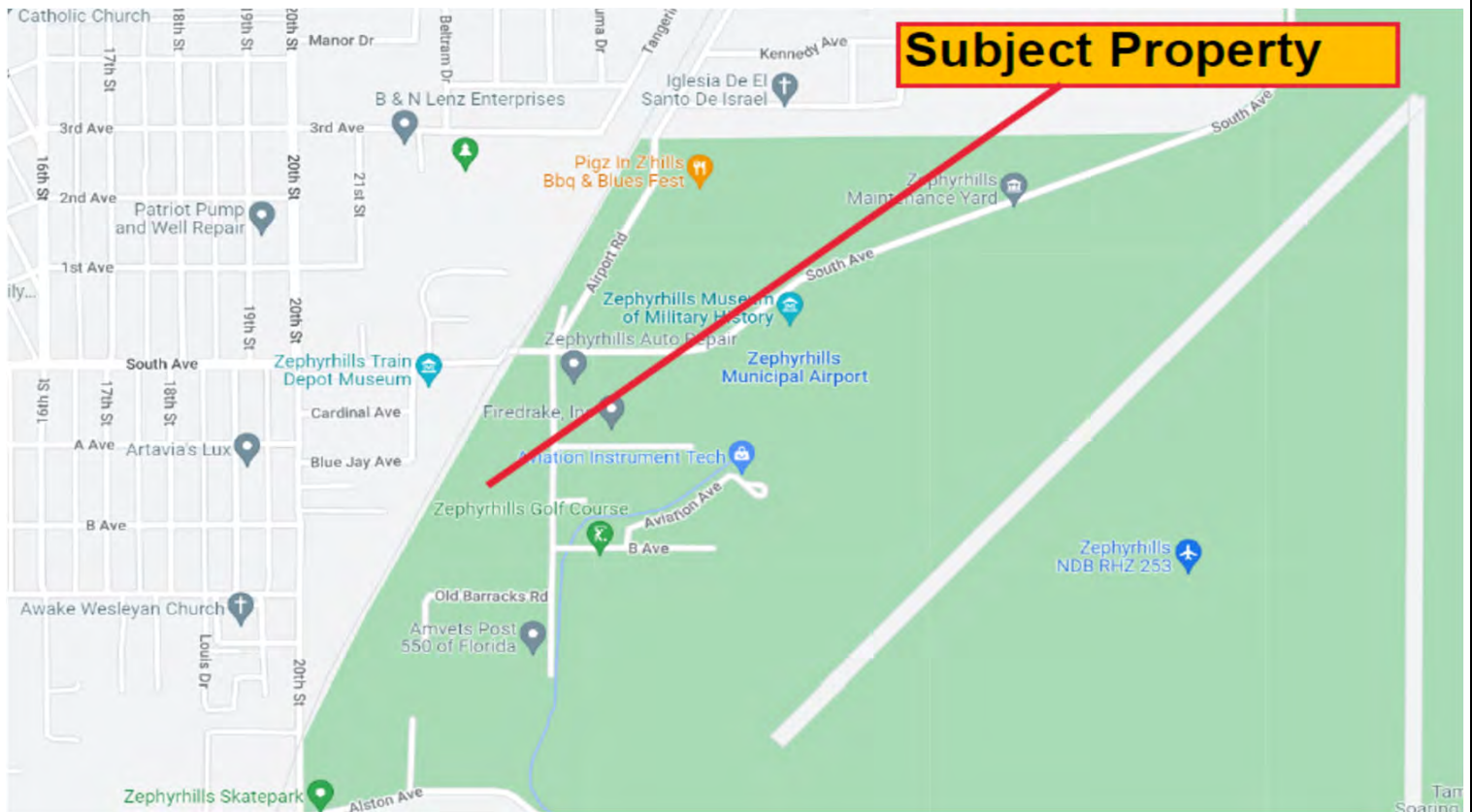
FIGURES



General Site Vicinity Map
Subject Property
Pinellas County, Florida

Project No.:
29212
Scale:
As Shown
Figure No.:
1

Gulf Coast Testing Laboratory, Inc.
5671 70th Avenue North
Pinellas Park, Florida
PH: (727)-544-4080
FX: (727)-544-7532



Local Site Vicinity Map
Subject Property
Pinellas County, Florida

Project No.:
29212
Scale:
As Shown
Figure No.:
2

Gulf Coast Testing Laboratory, Inc.
5671 70th Avenue North
Pinellas Park, Florida
PH: (727)-544-4080
FX: (727)-544-7532



2021 Aerial Photograph
Subject Property
Pinellas County, Florida

Project No.:
29212
Scale:
As Shown
Figure No.:
3

Gulf Coast Testing Laboratory, Inc.
5671 70th Avenue North
Pinellas Park, Florida
PH: (727)-544-4080
FX: (727)-544-7532



2015 Aerial Photograph
Subject Property
Pinellas County, Florida

Project No.:
29212
Scale:
As Shown
Figure No.:
4

Gulf Coast Testing Laboratory, Inc.
5671 70th Avenue North
Pinellas Park, Florida
PH: (727)-544-4080
FX: (727)-544-7532



2008 Aerial Photograph
Subject Property
Pinellas County, Florida

Project No.:
29212
Scale:
As Shown
Figure No.:
5

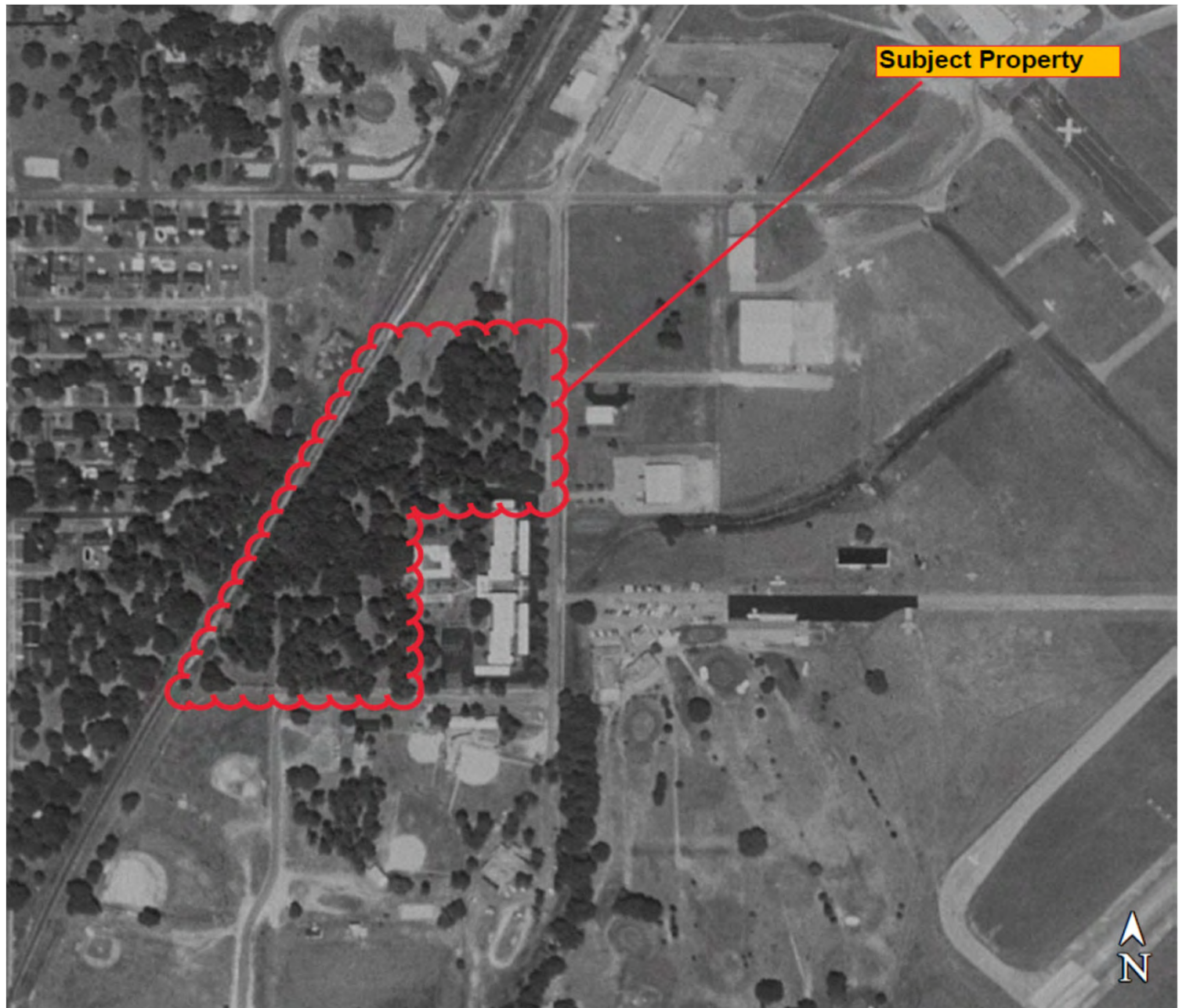
Gulf Coast Testing Laboratory, Inc.
5671 70th Avenue North
Pinellas Park, Florida
PH: (727)-544-4080
FX: (727)-544-7532



2002 Aerial Photograph
Subject Property
Pinellas County, Florida

Project No.:
29212
Scale:
As Shown
Figure No.:
6

Gulf Coast Testing Laboratory, Inc.
5671 70th Avenue North
Pinellas Park, Florida
PH: (727)-544-4080
FX: (727)-544-7532



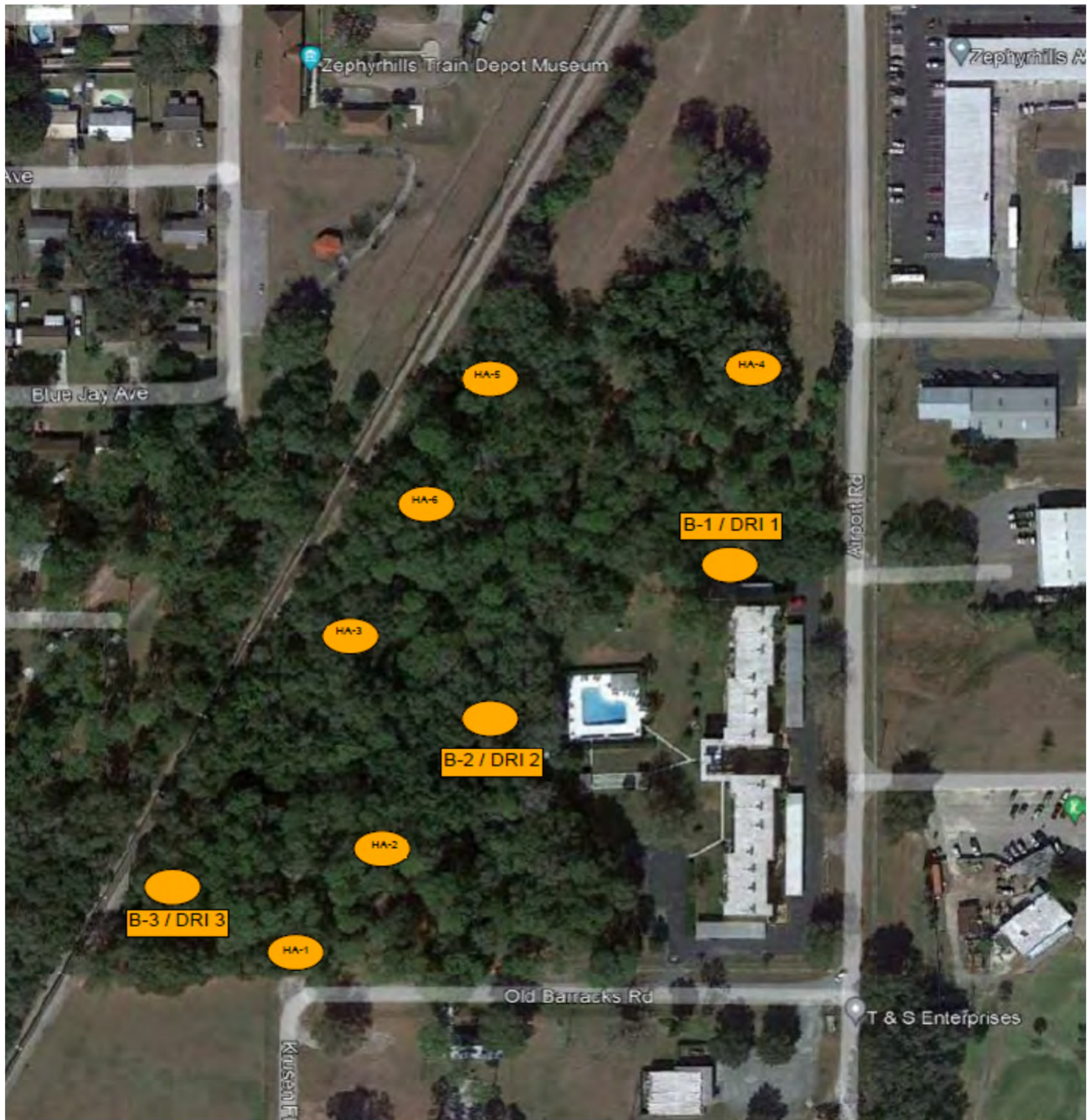
1994 Aerial Photograph
Subject Property
Pinellas County, Florida

Project No.:
29212
Scale:
As Shown
Figure No.:
7

Gulf Coast Testing Laboratory, Inc.
5671 70th Avenue North
Pinellas Park, Florida
PH: (727)-544-4080
FX: (727)-544-7532



Gulf Coast Testing Laboratory, Inc.
5671 70th Avenue North
Pinellas Park, Florida
PH: (727)-544-4080
FX: (727)-544-7532



Aerial Field Exploration Plan
Subject Property
Pinellas County, Florida

Project No.:
29212
Scale:
As Shown
Figure No.:
9

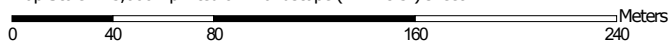
Gulf Coast Testing Laboratory, Inc.
5671 70th Avenue North
Pinellas Park, Florida
PH: (727)-544-4080
FX: (727)-544-7532

USDA SOIL SURVEY INFORMATION

Soil Map—Pasco County, Florida



Map Scale: 1:3,000 if printed on A landscape (11" x 8.5") sheet.



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



**Natural Resources
Conservation Service**

Web Soil Survey
National Cooperative Soil Survey

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

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: Pasco County, Florida

Survey Area Data: Version 20, Aug 27, 2021

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—Jan 30, 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.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
6	Tavares sand, 0 to 5 percent slopes	9.9	100.0%
Totals for Area of Interest		9.9	100.0%

Pasco County, Florida

6—Tavares sand, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2v173

Elevation: 0 to 180 feet

Mean annual precipitation: 44 to 56 inches

Mean annual air temperature: 68 to 75 degrees F

Frost-free period: 300 to 365 days

Farmland classification: Not prime farmland

Map Unit Composition

Tavares and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tavares

Setting

Landform: Flats on marine terraces, ridges on marine terraces, knolls on marine terraces

Landform position (two-dimensional): Shoulder, backslope

Landform position (three-dimensional): Interfluve, base slope

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Eolian or sandy marine deposits

Typical profile

A - 0 to 7 inches: sand

C - 7 to 80 inches: sand

Properties and qualities

Slope: 0 to 5 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained

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)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3s

Hydrologic Soil Group: A

Forage suitability group: Sandy soils on rises, knolls, and ridges of mesic uplands (G154XB121FL)

Other vegetative classification: Longleaf Pine-Turkey Oak Hills (R154XY002FL), Sandy soils on rises, knolls, and ridges of mesic uplands (G154XB121FL)

Hydric soil rating: No

Minor Components

Apopka

Percent of map unit: 6 percent

Landform: Knolls on marine terraces, ridges on marine terraces

Landform position (two-dimensional): Shoulder, summit, footslope

Landform position (three-dimensional): Nose slope, side slope, crest

Down-slope shape: Convex

Across-slope shape: Linear

Other vegetative classification: Longleaf Pine-Turkey Oak Hills (R154XY002FL), Sandy soils on ridges and dunes of xeric uplands (G154XB111FL)

Hydric soil rating: No

Candler

Percent of map unit: 4 percent

Landform: Ridges on marine terraces, knolls on marine terraces

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Interfluvium, side slope, tread

Down-slope shape: Convex

Across-slope shape: Convex

Other vegetative classification: Longleaf Pine-Turkey Oak Hills (R155XY002FL), Longleaf Pine-Turkey Oak Hills (R154XY002FL), Sandy soils on ridges and dunes of xeric uplands (G155XB111FL), Sandy soils on ridges and dunes of xeric uplands (G154XB111FL)

Hydric soil rating: No

Adamsville

Percent of map unit: 3 percent

Landform: Knolls on flatwoods, rises on flatwoods

Landform position (two-dimensional): Summit

Landform position (three-dimensional): Interfluvium, rise, talf

Down-slope shape: Convex

Across-slope shape: Linear

Other vegetative classification: Upland Hardwood Hammock (R154XY008FL), Upland Hardwood Hammock (R155XY008FL), Sandy soils on rises and knolls of mesic uplands (G155XB131FL)

Hydric soil rating: No

Zolfo

Percent of map unit: 2 percent

Landform: Flats on marine terraces

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: Sandy soils on rises and knolls of
mesic uplands (G154XB131FL)
Hydric soil rating: No

Data Source Information

Soil Survey Area: Pasco County, Florida
Survey Area Data: Version 20, Aug 27, 2021

SOIL BORING LOGS

GULF COAST TESTING LABORATORY INC.

**5671 70th Avenue North
Pinellas Park, FL 33781**

Soil Boring LogGCTL Project No. : 29212Project Name: Squirrel StorageBoring Number: B-1Site Location: Pasco County, FLStart Date: 08/29/22Drilling Method: MRCompletion Date: 08/29/22

	FEET (BLS)	SAMPLE TYPE	SAMPLE INTERVAL (BLS)	BLOW COUNT	N-Value	MATERIAL DESCRIPTION	COMMENTS
— — — 5 — — — 10 — — — 15 — — 20	0	SS	0 - 1.0	2-3	5	Grayish Brown	Groundwater Not Encountered 7.0 Feet BLS
		SS	1.0 - 2.0	4-5	9	Fine SAND (SP) with Roots	
		SS	2.0 - 3.0	3-4	7	Pale Brown	
		SS	3.0 - 4.0	5-8	13	Fine SAND (SP)	
		SS	4.0 - 5.0	7-12	19	Pale Gray Clayey SAND (SC)	
		SS	5.0 - 6.0	12-12	24		
		SS	6.0 - 7.0	3-8	11		
		SS	7.0 - 8.0	16-17	33		
		SS	8.0 - 9.0	11-14	25		
		SS	9.0 - 10.0	16-12	28	Brownish Yellow CLAY (CH)	
	15	SS	13.5 - 15.0	WH-1-1	2	*Boring Redrilled Offset 4 Feet West Resampled at 13,5-15.0 Ft Due to Borehole Collapse	
		SS*	13.5 - 15.0	2-3-2	5		
		SS	18.5 - 19.5	WR-18	18	Highly Weathered LIMESTONE	100% LOC Initial Boring
	20	SS	19.5 - 20.5	26-50/3"	76/9"		
						EOB 20.3 Feet BLS Boring Bentonite Sealed	

(HA) = HAND AUGER

(MR) = MUD ROTARY

(SS) = SPLIT SPOON

(WR) = WEIGHT OF ROD

(WH) = WEIGHT OF HAMMER

(BLS) = BELOW LAND SURFACE

(EOB) = END OF BORING

(NR) = NOT RECORDED

(NA) = NOT APPLICABLE

GULF COAST TESTING LABORATORY INC.**5671 70th Avenue North
Pinellas Park, FL 33781****Soil Boring Log**GCTL Project No. : 29212Project Name: Squirrel StorageBoring Number: B-2Site Location: Pasco County, FLStart Date: 08/29/22Drilling Method: MRCompletion Date: 08/29/22

FEET (BLS)	SAMPLE TYPE	SAMPLE INTERVAL (BLS)	BLOW COUNT	N-Value	MATERIAL DESCRIPTION	COMMENTS
0	SS	0 - 1.0	2-3	5	Grayish Brown Fine SAND (SP) with Roots	Groundwater Not Encountered 7.0 Feet BLS
—	SS	1.0 - 2.0	5-2	7		
—	SS	2.0 - 3.0	4-3	7		
—	SS	3.0 - 4.0	4-4	8	Pale Brown Fine SAND (SP)	
5	SS	4.0 - 5.0	4-4	8		
—	SS	5.0 - 6.0	6-7	13		
—	SS	6.0 - 7.0	4-7	11		
—	SS	7.0 - 8.0	8-9	17		
—	SS	8.0 - 9.0	5-10	15		
10	SS	9.0 - 10.0	9-9	18	Light Gray Clayey SAND (SC)	
—						
—						
—						
15	SS	13.5 - 15.0	5-6-6	12		
—						
—						
—						
20	SS	18.5 - 20.0	4-4-8	12	Pale Gray CLAY (CH)	
					EOB 20.0 Feet BLS Boring Bentonite Sealed	

(HA) = HAND AUGER

(MR) = MUD ROTARY

(SS) = SPLIT SPOON

(WR) = WEIGHT OF ROD

(WH) = WEIGHT OF HAMMER

(BLS) = BELOW LAND SURFACE

(EOB) = END OF BORING

(NR) = NOT RECORDED

(NA) = NOT APPLICABLE

GULF COAST TESTING LABORATORY INC.**5671 70th Avenue North
Pinellas Park, FL 33781****Soil Boring Log**

GCTL Project No. : 29212 Project Name: Squirrel Storage Boring Number: B-3
Site Location: Pasco County, FL Start Date: 08/29/22
Drilling Method: MR Completion Date: 08/29/22

FEET (BLS)	SAMPLE TYPE	SAMPLE INTERVAL (BLS)	BLOW COUNT	N-Value	MATERIAL DESCRIPTION	COMMENTS
0	SS	0 - 1.0	2-4	6	Grayish Brown	Groundwater Not Encountered 7.0 Feet BLS
—	SS	1.0 - 2.0	6-6	12	Fine SAND (SP) with Roots	
—	SS	2.0 - 3.0	4-4	8	Pale Brown Fine SAND (SP)	
—	SS	3.0 - 4.0	4-4	8		
5	SS	4.0 - 5.0	5-8	13		
—	SS	5.0 - 6.0	10-10	20		
—	SS	6.0 - 7.0	8-8	16		
—	SS	7.0 - 8.0	12-8	20	Light Gray Clayey SAND (SC)	
—	SS	8.0 - 9.0	13-20	33		
10	SS	9.0 - 10.0	23-38	61		
—					EOB 15.0 Feet BLS Boring Bentonite Sealed	
—						
—						
15	SS	13.5 - 15.0	20-27-22	49		

(HA) = HAND AUGER
(MR) = MUD ROTARY
(SS) = SPLIT SPOON
(WR) = WEIGHT OF ROD
(WH) = WEIGHT OF HAMMER

(BLS) = BELOW LAND SURFACE
(EOB) = END OF BORING
(NR) = NOT RECORDED
(NA) = NOT APPLICABLE

GULF COAST TESTING LABORATORY INC.

P.O. BOX 6

PINELLAS PARK, FL 33780

CONSTRUCTION MATERIALS ENGINEERING COUNCIL CERTIFIED

CERTIFICATE of AUTHORIZATION # 00002370

PHONE: (727)544-4080 FAX: (727) 544-7532

PROJECT: Squirrel Storage

LOCATION: Airport Road, Zephyrhills, Florida

See Site Plan

LAB NO.: 29212 **DATE REPORTED:** 9/6/22

DATE TESTED: 9/2/22 **TESTED BY:** RD

PROJECT: Squirrel Storage

LOCATION: Airport Road, Zephyrhills, Florida

See Site Plan

LAB NO.: 29212 **DATE REPORTED:** 9/6/22

DATE TESTED: 9/2/22 **TESTED BY:** RD

Hand Auger HA #1

DEPTH		CLASSIFICATION
FT.	IN.	
	3	Very Dark Gray SAND w/ Roots & Trace Limerock
	6	
	9	
1	12	Grayish Brown SAND w/ Occasional Roots
	15	
	18	
	20	
2	24	Light Grayish Brown to Pale Brown SAND
	27	
	30	
	33	
3	36	Light Pale Yellow SAND w/ Occasional Roots
	39	
	42	
	45	
4	48	Very Pale Yellow Clayey SAND
	51	
	55	
	57	Very Pale Yellow Very Clayey SAND
5	60	
	63	Hole Terminated @ 5' 0" Water Table Not Encountered at this Location
	66	
	69	
6	72	
	75	
	78	
	81	
7	84	
	87	
	90	
	93	
8	96	
	99	
	102	
	105	
9	108	
	111	
	114	
	117	
10	120	

Hand Auger HA #2

DEPTH		CLASSIFICATION
FT.	IN.	
	3	Dark Gray SAND w/ Roots
	6	
	10	
1	12	Light Grayish Brown SAND w/ Occasional Roots
	15	
	18	
	21	
2	24	Pale Brown SAND
	26	
	30	
	33	Pale Yellow SAND w/ Slight Trace Clay
3	36	
	39	
	42	Strong Yellow Clayey SAND to Very Clayey SAND w/ Red Streaks
	44	
4	48	
	51	Hole Terminated @ 5' 0" Water Table Not Encountered at this Location
	54	
	57	
5	60	
	63	
	66	
	69	
6	72	
	75	
	78	
	81	
7	84	
	87	
	90	
	93	
8	96	
	99	
	102	
	105	
9	108	
	111	
	114	
	117	
10	120	

GULF COAST TESTING LABORATORY INC.

P.O. BOX 6

PINELLAS PARK, FL 33780

CONSTRUCTION MATERIALS ENGINEERING COUNCIL CERTIFIED

CERTIFICATE of AUTHORIZATION # 00002370

PHONE: (727)544-4080 FAX: (727) 544-7532

PROJECT: Squirrel Storage

LOCATION: Airport Road, Zephyrhills, Florida

See Site Plan

LAB NO.: 29212 **DATE REPORTED:** 9/7/22

DATE TESTED: 9/6/22 **TESTED BY:** RD

PROJECT: Squirrel Storage

LOCATION: Airport Road, Zephyrhills, Florida

See Site Plan

LAB NO.: 29212 **DATE REPORTED:** 9/8/22

DATE TESTED: 9/7/22 **TESTED BY:** CR

Hand Auger HA #3

DEPTH		CLASSIFICATION
FT.	IN.	
	3	Dark Gray SAND w/ Roots & Trace Organics
	6	
	11	
1	12	Dark Grayish Brown SAND
	15	
	17	
	21	Grayish Brown SAND
2	24	
	27	
	30	Pale Brown SAND
	33	
3	36	
	39	
	42	
	45	
4	48	
	51	
	54	
	57	Very Pale Brown SAND
5	60	
	63	
	66	
	69	
6	72	
	75	Hole Terminated @ 5' 3" Water Table Not Encountered at this Location
	78	
	81	
7	84	
	87	
	90	
	93	
8	96	
	99	
	102	
	105	
9	108	
	111	
	114	
	117	
10	120	

Hand Auger HA #4

DEPTH		CLASSIFICATION
FT.	IN.	
	3	
	6	
	9	
1	12	Grayish Brown SAND w/ Roots
	15	
	18	
	21	
2	24	
	27	
	30	Pale Brown SAND
	33	
3	36	
	39	
	42	
	45	
4	48	
	51	
	54	
	57	Yellowish Brown to Strong Yellowish Brown Slightly Silty Clayey SAND
5	60	
	63	
	66	
	69	
6	72	
	75	Hole Terminated @ 5' 0" Water Table Not Encountered at this Location
	78	
	81	
7	84	
	87	
	90	
	93	
8	96	
	99	
	102	
	105	
9	108	
	111	
	114	
	117	
10	120	

GULF COAST TESTING LABORATORY INC.

P.O. BOX 6

PINELLAS PARK, FL 33780

CONSTRUCTION MATERIALS ENGINEERING COUNCIL CERTIFIED

CERTIFICATE of AUTHORIZATION # 00002370

PHONE: (727)544-4080 FAX: (727) 544-7532

PROJECT: Squirrel Storage

LOCATION: Airport Road, Zephyrhills, Florida

See Site Plan

LAB NO.: 29212 **DATE REPORTED:** 9/8/22

DATE TESTED: 9/7/22 **TESTED BY:** CR

PROJECT: Squirrel Storage

LOCATION: Airport Road, Zephyrhills, Florida

See Site Plan

LAB NO.: 29212 **DATE REPORTED:** 9/8/22

DATE TESTED: 9/7/22 **TESTED BY:** CR

Hand Auger HA #5

DEPTH		CLASSIFICATION
FT.	IN.	
	3	Grayish Brown SAND w/ Roots
	6	
	9	
1	12	
	15	
	18	Pale Brown SAND
	21	
2	24	
	27	
	30	
	33	Mottled Pale Brown to Gray Clayey SAND w/ Plastic
3	36	
	39	
	42	
	45	
4	48	Hole Terminated @ 5' 0" Water Table Not Encountered at this Location
	51	
	54	
	57	
5	60	
	63	
	66	
	69	
6	72	
	75	
	78	
	81	
7	84	
	87	
	90	
	93	
8	96	
	99	
	102	
	105	
9	108	
	111	
	114	
	117	
10	120	

Hand Auger HA #6

DEPTH		CLASSIFICATION
FT.	IN.	
	3	Brownish Gray SAND
	6	
	9	
1	12	
	15	
	18	Pale Yellow SAND
	21	
2	24	
	27	
	30	
	33	Pale Yellow Slightly Silty Clayey SAND
3	36	
	39	
	42	
	45	
4	48	Hole Terminated @ 5' 0" Water Table Not Encountered at this Location
	51	
	54	
	57	
5	60	
	63	
	66	
	69	
6	72	
	75	
	78	
	81	
7	84	
	87	
	90	
	93	
8	96	
	99	
	102	
	105	
9	108	
	111	
	114	
	117	
10	120	

SITE PHOTOGRAPHS



Photograph No. 1: View of subject property with adjacent railway.



Photograph No. 2: View of soil boring operations at subject property.



Photograph No. 3: View of soil boring operations at subject property.



Photograph No. 4: View of soil boring operations at subject property.

DOUBLE-RING INFILTRATION TEST RESULTS

GULF COAST TESTING LABORATORY, INC.

5671 70th AVENUE NORTH
PINELLAS PARK, FL 33781
CONSTRUCTION MATERIALS ENGINEERING COUNCIL CERTIFIED
CERTIFICATE of AUTHORIZATION # 00002370

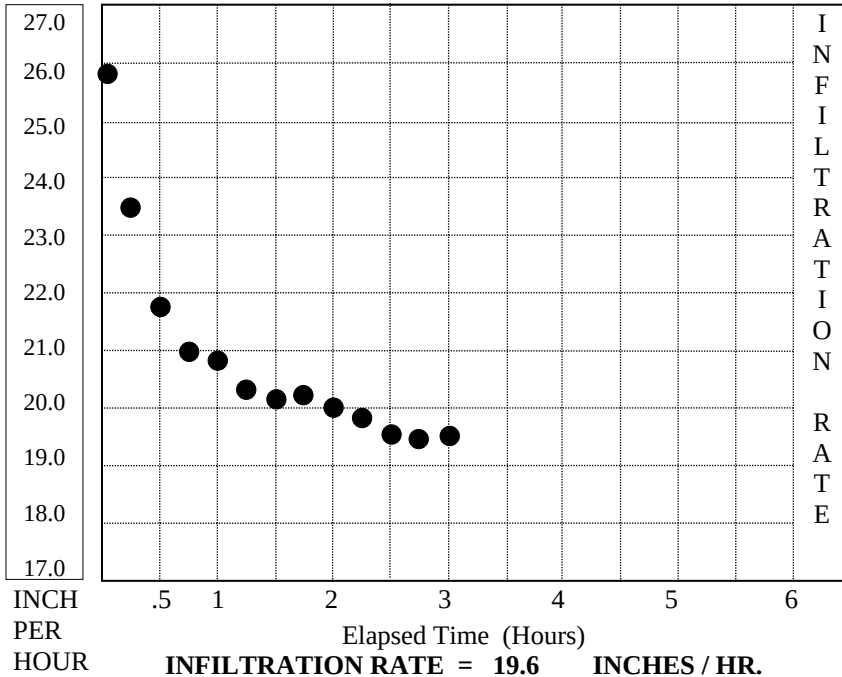
PHONE: (727) 544-4080
FAX: (727) 544-7532

INFILTRATION RATE OF SOILS IN FIELD USING DOUBLE RING INFILTROMETER

CLIENT: Deuel & Associates
PROJECT: Squirrel Storage, Airport Road, Zephyrhill, Florida
DATE TESTED: 9/7/22
LOCATION OF TEST: See Site Plan
DEPTH TO EXISTING WATER TABLE: **Not Encountered at this Location**

LAB NO: 29212 Test #1
DATE REPORTED: 9/8/22

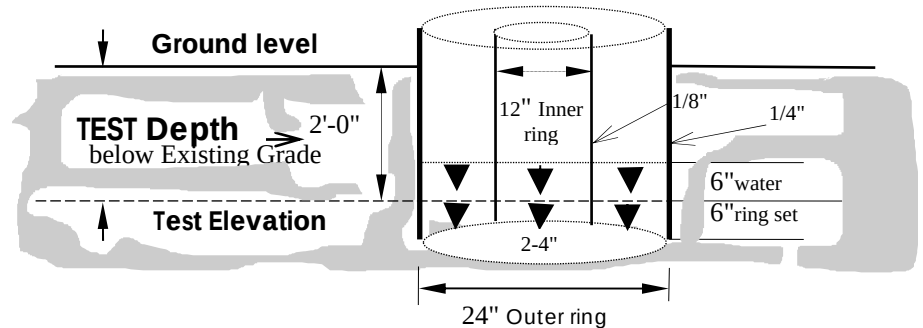
● = INNER RING READINGS



SOIL PROFILE

Depth in feet.	CLASSIFICATION (EXISTING SURFACE APPROX. ELEV.)
1' 6"	Dark Grayish Brown to Grayish Brown SAND w/ Roots
6' 0"	Light Grayish Brown to Pale Brown SAND w/ Occasional Roots
7' 0"	Yellowish Brown Very Clayey SAND w/ Strong Yellowish Brown Streaks

Hole Terminated at 84"



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PHONE: (727) 544-4080

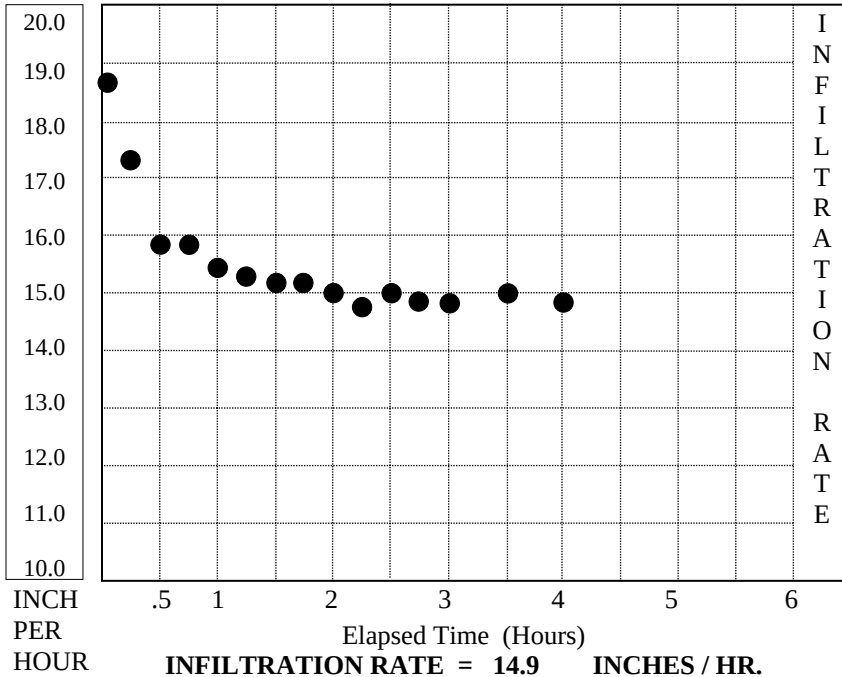
FAX: (727) 544-7532

INFILTRATION RATE OF SOILS IN FIELD USING DOUBLE RING INFILTROMETER

CLIENT: Deuel & Associates
PROJECT: Squirrel Storage, Airport Road, Zephyrhill, Florida
DATE TESTED: 9/6/22
LOCATION OF TEST: See Site Plan
DEPTH TO EXISTING WATER TABLE: **Not Encountered at this Location**

LAB NO: 29212 Test #2
DATE REPORTED: 9/7/22

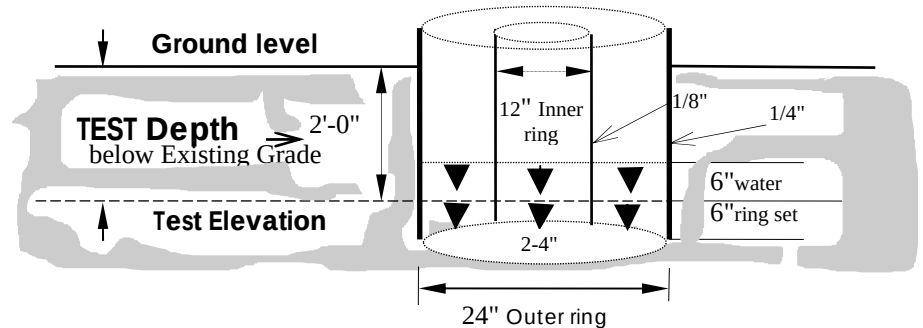
● = INNER RING READINGS



SOIL PROFILE

Depth in feet.	CLASSIFICATION (EXISTING SURFACE APPROX. ELEV.)
0' 2"	Vegetation
0' 10"	Dark Gray SAND w/ Roots, Trace Organics & Limerock Fragments
2' 0"	Grayish Brown SAND
3' 0"	Light Grayish Brown SAND
	Pale Brown SAND
6' 8"	
7' 6"	Yellowish Brown to Strong Yellowish Brown Very Clayey SAND

Hole Terminated at 90"



GULF COAST TESTING LABORATORY, INC.

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PHONE: (727) 544-4080

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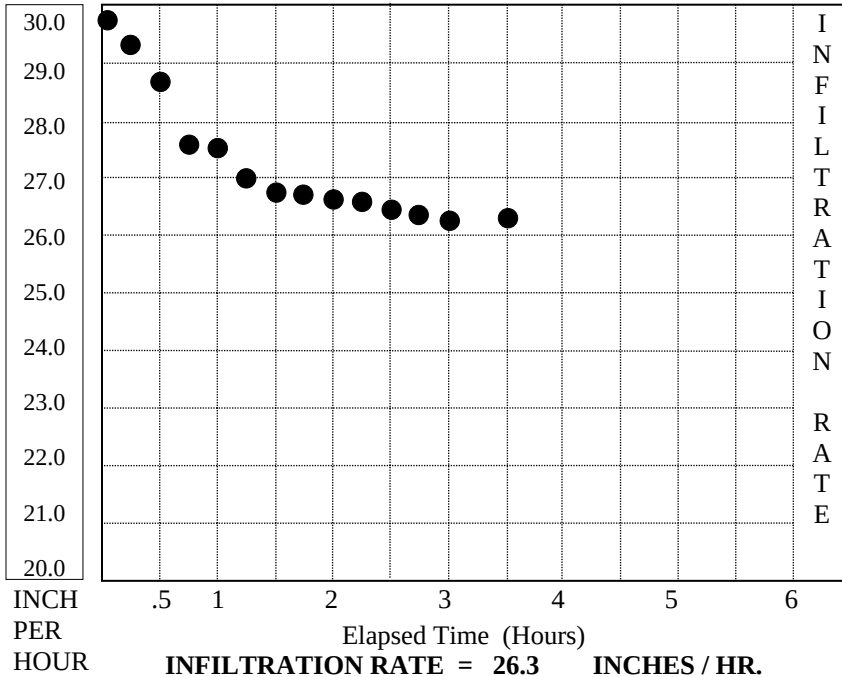
INFILTRATION RATE OF SOILS IN FIELD USING DOUBLE RING INFILTROMETER

CLIENT: Deuel & Associates
PROJECT: Squirrel Storage, Airport Road, Zephyrhill, Florida
DATE TESTED: 9/2/22
LOCATION OF TEST: See Site Plan
DEPTH TO EXISTING WATER TABLE: **Not Encountered at this Location**

LAB NO: 29212 Test #3

DATE REPORTED: 9/6/22

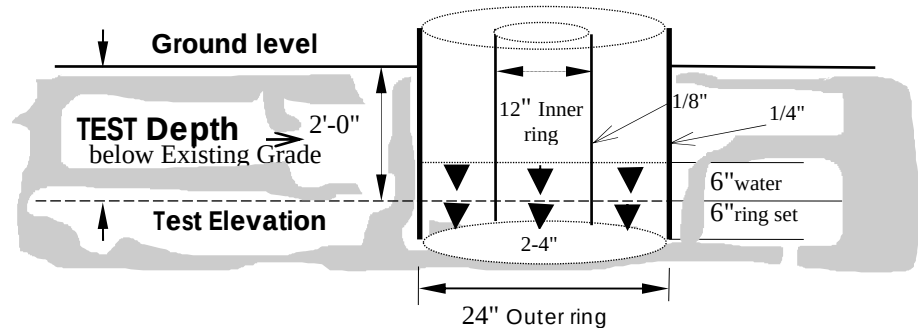
● = INNER RING READINGS



SOIL PROFILE

Depth in feet.	CLASSIFICATION (EXISTING SURFACE APPROX. ELEV.)
0' 10"	Grayish Brown SAND w/ Vegetation top 4" w/ roots
3' 0"	Gray to Light Gray SAND w/ Occasional Roots
4' 9"	Grayish Brown SAND to Very Light Pale Yellow SAND
5' 8"	Very Light Pale Yellow SAND
6' 4"	Yellowish Brown Clayey SAND to Very Clayey SAND w/ Strong Yellowish Brown Streaks

Hole Terminated at 76"



ITE Trip Generation Rates - 9th Edition
Pass-by rates from ITE Trip Generation Handbook - 2nd Edition
(copyrights, Insitute of Transportation Engineers)

Instructions: Enter Expected Unit Volumes into Column 'M'

Notes on Color Coding at Bottom

Description/ITE Code	Units	ITE Vehicle Trip Generation Rates								Expected Units	Total Generated Trips			Total Distribution of Generated Trips					
		(peak hours are for peak hour of adjacent street traffic unless highlighted)									Daily	AM Hour	PM Hour	AM In	AM Out	Pass-By	PM In	PM Out	Pass-By
		Weekday	AM	PM	Pass-By	AM In	AM Out	PM In	PM Out										
Mini Warehouse 151	Storage Units	0.25	0.02	0.02		50%	50%	48%	52%	430.0	108	9	9	4	4	0	4	4	0

RED Rates = CAUTION - Use Carefully - Small Sample Size
Green Rates = Peak Hour of Generator - (no peak rate for the rush hour of adjacent street traffic)
Blue Rates = Saturday Daily total - (no weekday daily rate)
Added to 9th Edition
*Pass-By % are Rates from Weekay PM Peak Period
*The Total Pass-By Trips will be Distributed: 50% IN / 50 % OUT

NA = Not Available KSF² = Units of 1,000 square feet
DU = Dwelling Unit Fuel Position = the number of vehicles that could be fueled simultaneously
Occ.Room = Occupied Room