HILLIARD PLANNING AND ZONING BOARD MEETING

Hilliard Town Hall / Council Chambers
15859 West County Road 108
Post Office Box 249
Hilliard, FL 32046

BOARD MEMBERS
Wendy Prather, Chair
Charles A. Reed, Vice Chair
Harold "Skip" Frey, Board Member
Josetta Lawson, Board Member
Kevin Webb, Board Member

ADMINISTRATIVE STAFF
Lee Anne Wollitz
Land Use Administrator

PLANNING AND ZONING ATTORNEY
Christian Waugh

AGENDA

TUESDAY, FEBRUARY 13, 2024, 7:00 PM

NOTICE TO PUBLIC

Anyone wishing to address the Planning & Zoning Board regarding any item on this agenda is requested to complete an agenda item sheet in advance and give it to the Land Use Administrator. The sheets are located next to the printed agendas in the back of the Council Chambers. Speakers are respectfully requested to limit their comments to three (3) minutes. A speaker's time may not be allocated to others.

PLEDGE OF CIVILITY

WE WILL BE RESPECTFUL OF ONE ANOTHER
EVEN WHEN WE DISAGREE.
WE WILL DIRECT ALL COMMENTS TO THE ISSUES.
WE WILL AVOID PERSONAL ATTACKS.
"Politeness costs so little." – ABRAHAM LINCOLN

CALL TO ORDER
PRAYER & PLEDGE OF ALLEGIANCE
ROLL CALL

CHAIR **To call on members of the audience wishing to address the Board on matters not on the Agenda.**

REGULAR MEETING

ITEM-1 Additions/Deletions to Agenda

ITEM-2 Planning and Zoning Board Recommendation to the Town Council, the Minor Subdivision Application No. 20240116
Parcel ID No. 08-3N-24-2380-0010-0042
Property Owner- Shawn Clark
Lee Anne Wollitz – Land Use Administrator

ITEM-3 Planning and Zoning Board approval of the Site Plan Application No. 20221025.
Parcel ID No. 17-3N-24-2020-0057-0000. Address 3714 Raven Drive.
Property Owner- Gregg Simmons
Lee Anne Wollitz – Land Use Administrator

ITEM-4 Planning and Zoning approval of the Minutes from January 16, 2024, regular Meeting.

ADDITIONAL COMMENTS

PUBLIC

BOARD MEMBERS

LAND USE ADMINISTRATOR

PLANNING AND ZONING ATTORNEY

ADJOURNMENT

The Town may take action on any matter during this meeting, including items that are not set forth within this agenda.

TOWN COUNCIL MEETINGS
The Town Council meets the first and third Thursday of each month beginning at 7:00 p.m., unless otherwise scheduled. Meetings are held in the Town Hall Council Chambers located at 15859 West County Road 108. Video and audio recordings of the meetings are available in the Town Clerk's Office upon request.

PLANNING & ZONING BOARD MEETINGS
The Planning & Zoning Board meets the second Tuesday of each month beginning at 7:00 p.m., unless otherwise scheduled. Meetings are held in the Town Hall Council Chambers located at 15859 West County Road 108. Video and audio recordings of the meetings are available in the Town Clerk's Office upon request.

MINUTES & TRANSCRIPTS
Minutes of the Town Council meetings can be obtained from the Town Clerk's Office. The Meetings are usually recorded but are not transcribed verbatim for the minutes. Persons requiring a verbatim transcript may make arrangements with the Town Clerk to duplicate the recordings, if available, or arrange to have a court reporter present at the meeting. The cost of duplication and/or court reporter will be at the expense of the requesting party.

TOWN WEBSITE & YOUTUBE MEETING VIDEO
The Town's Website can be access at www.townofhilliard.com.
Live & recorded videos can be access at www.youtube.com search - Town of Hilliard, FL.

ADA NOTICE
In accordance with Section 286.26, Florida Statutes, persons with disabilities needing special accommodations to participate in this meeting should contact the Town Clerk's Office at (904) 845-3555 at least seventy-two hours in advance to request such accommodations.

APPEALS
Pursuant to the requirements of Section 286.0105, Florida Statues, the following notification is given: If a person decides to appeal any decision made by the Council with respect to any matter considered at such meeting, 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.

PUBLIC PARTICIPATION

Pursuant to Section 286.0114, Florida Statutes, effective October 1, 2013, the public is invited to speak on any "proposition" before a board, commission, council, or appointed committee takes official action regardless of whether the issue is on the Agenda. Certain exemptions for emergencies, ministerial acts, etc. apply. This public participation does not affect the right of a person to be heard as otherwise provided by law.

EXPARTE COMMUNICATIONS

Oral or written exchanges (sometimes referred to as lobbying or information gathering) between a Council Member and others, including staff, where there is a substantive discussion regarding a quasi-judicial decision by the Town Council. The exchanges must be disclosed by the Town Council so the public may respond to such exchanges before a vote is taken.

2024 HOLIDAYS

TOWN HALL OFFICES CLOSED

1. Martin Luther King, Jr. Day	Monday, January 15, 2024
2. Memorial Day	Monday, May 27, 2024
3. Independence Day Monday	Thursday, July 4, 2024
4. Labor Day	Monday, September 2, 2024
5. Veterans Day	Monday, November 11, 2024
6. Thanksgiving Day	Thursday, November 28, 2024
7. Friday after Thanksgiving Day	Friday, November 29, 2024
8. Christmas Eve	Tuesday, December 24, 2024
9. Christmas Day	Wednesday, December 25,2024
10.New Year's Eve	Tuesday, December 31, 2024
11.New Year's Day	Wednesday, January 1, 2025

AGENDA ITEM REPORT
TOWN OF HILLIARD, FLORIDA

TO: Planning and Zoning Board Regular Meeting Meeting Date: February 13, 2024

FROM: ***Lee Anne Wollitz – Land Use Administrator***

SUBJECT: Planning and Zoning Board Recommendation to the Town Council, the Minor Subdivision Application No. 20240116
Parcel ID No. 08-3N-24-2380-0010-0042
Property Owner- Shawn Clark

BACKGROUND:
See Page 2-3.

FINANCIAL IMPACT:
None.

RECOMMENDATION:
It is my recommendation that the Planning and Zoning board recommend to the Town Council the approval of the lot split as proposed.
With the following conditions:

1. The applicant shall record the lot split with the Clerk of the Court and provide the Town evidence of the recordation.
2. The applicant shall obtain real estate parcel numbers for each parcel from the Property Appraiser and provide those real estate parcel numbers to the Town.

Background:

Mr. Clark currently owns 0.48 acres on W. 1st Street. The Parcel is zoned R-2. It has a FLUM designation of Commercial. The parcel is 100 feet wide with a total of 21,000 sq ft. There are two single-family dwellings on the parcel.
Mr. Clark has a desire to split the lot into two equal parcels.
Future parcels to be 50 feet wide with approx.10,500 sq ft. each and have one dwelling unit on each parcel.
Mr. Clark states that his plans for the property include completing the needed renovations of both homes and selling the units.

It is important to note that the lot layout currently is *nonconforming* as it does not meet the requirements of R-2 or C-1 in its current state.

It does not meet the width requirements for its two structures in either district.

Without the removal of one of the structures and rezoning the property there is no way to bring this parcel into conformity within the C-1 district.

It does not meet the side yard requirements for either structure in the R-2 district.
Without the removal of both structures there is no way to bring this parcel into conformity for the R-2 district.
However, it does meet the needed back yard setback for both structures as well as minimum lot size needed. One of the structures meets the front setback and the other misses the mark by less than 2 feet.

Requirements for R-2:
62-284
(b)(1) minimum lot width:90 feet,
(b)(2) Minimum lot area: 10,000 sq ft,
(d)yard requirements
(1) Front:30 feet
(2) Side:12.5 feet
(3) Rear:30 feet

Requirements for C-1:
62-289
(b) Minimum lot width:75 feet
(c) Minimum size 7,500 sq ft.
(e) minimum yard requirements
(1) Front:10 feet
(2) Side:5 feet
(3) Rear:10 feet

Other information from the code concerning this split:
62-68. Nonconforming lots of record
(b)a conforming use or structure on a lot of record which was recorded on or before December 29, 1987 may be expanded or altered, provided other requirements of this chapter are met.
(c)no lot or parcel shall be so divided as to create a lot with an area or width below the requirements of this code

(d) no lot or parcel or portion of a lot or parcel shall be altered in a manner which causes the lot to be less compliant with the Code.

Comp Plan information:

Policy A.1.4.2- The Town shall discourage the issuance of variances, or other permits to non-conforming land uses or take any other action that may prolong their existence as a non-conforming land use.

Objective C.1.4- The Town shall promote the conservation and rehabilitation of existing housing in Hilliard and the demolition of substandard dwelling units in the Town.

Additional information to note:
There are 4 “residential” parcels on the south side of W. 1st Street within this block.
The parcel in question today is nonconforming due to width with two dwelling units as well as side setbacks.
There are two additional parcels that are nonconforming due to width and side setbacks.
The fourth parcel has a conforming width but does not meet the requirements for side or front setbacks.

FOR OFFICE USE ONLY

File # 20240116

Application Fee: $ 100.00 pd cc/AH

Filing Date: 1/16/24 Acceptance Date: _____

Town of Hilliard
Lot Split/Reconfiguration Application
(Applicable for creating no more than 2 lots from 1 lot)

A. PROJECT

1. Project Name: W First Street
2. Address of Subject Property: 37517 W 1st Street Hilliard, FL 32046
3. Parcel ID Number(s): 08-3N-24-2380-0010-0042
4. Existing Use of Property: single family
5. Zoning Designation: R-2
6. Future Land Use Map Designation: _____
7. Acreage of Parcel: 0.48

B. Owner

1. Name of Owner(s) or Contact Person(s): Shawn Clark Title: Owner

   Company (if applicable): _____

   Mailing address: 37191 South Oak St.

   City: Hilliard State: FL ZIP: 32046

   Telephone: (912) 674-2300 FAX: (___) _____ E-mail: shawnclark914@gmail.com

* Must provide executed Property Owner Affidavit authorizing the agent to act on behalf of the property owner.

C. ATTACHMENTS (One copy plus one copy in PDF format)

1. Legal description with tax parcel number.
2. Survey of Existing Property, including all structures and driveways
3. Survey of Proposed Lot Split
4. Warranty Deed or other proof of ownership.

5. Fee - $100

No application shall be accepted for processing until the required application fee is paid in full by the applicant. Any fees necessary for technical review or additional reviews of the application by a consultant will be billed to the applicant at the rate of the reviewing entity. The invoice shall be paid in full prior to any action of any kind on the application.

A completeness review of the application will be conducted within fourteen (14) business days of receipt. If the application is determined to be incomplete, the application will be returned to the applicant.

I/We certify and acknowledge that the information contained herein is true and correct to the best of my/our knowledge:

Signature of Applicant

Signature of Co-applicant

Shawn Clark Owner
Typed or printed name and title of applicant

Typed or printed name of co-applicant

01-16-2024
Date

Date

State of Florida County of Nassau

The foregoing application is acknowledged before me this 16th day of January, 2024 by Shawn Clark

_____, who is/are personally known to me, or who has/have produced _____ as identification.

NOTARY SEAL

Signature of Notary Public, State of Florida

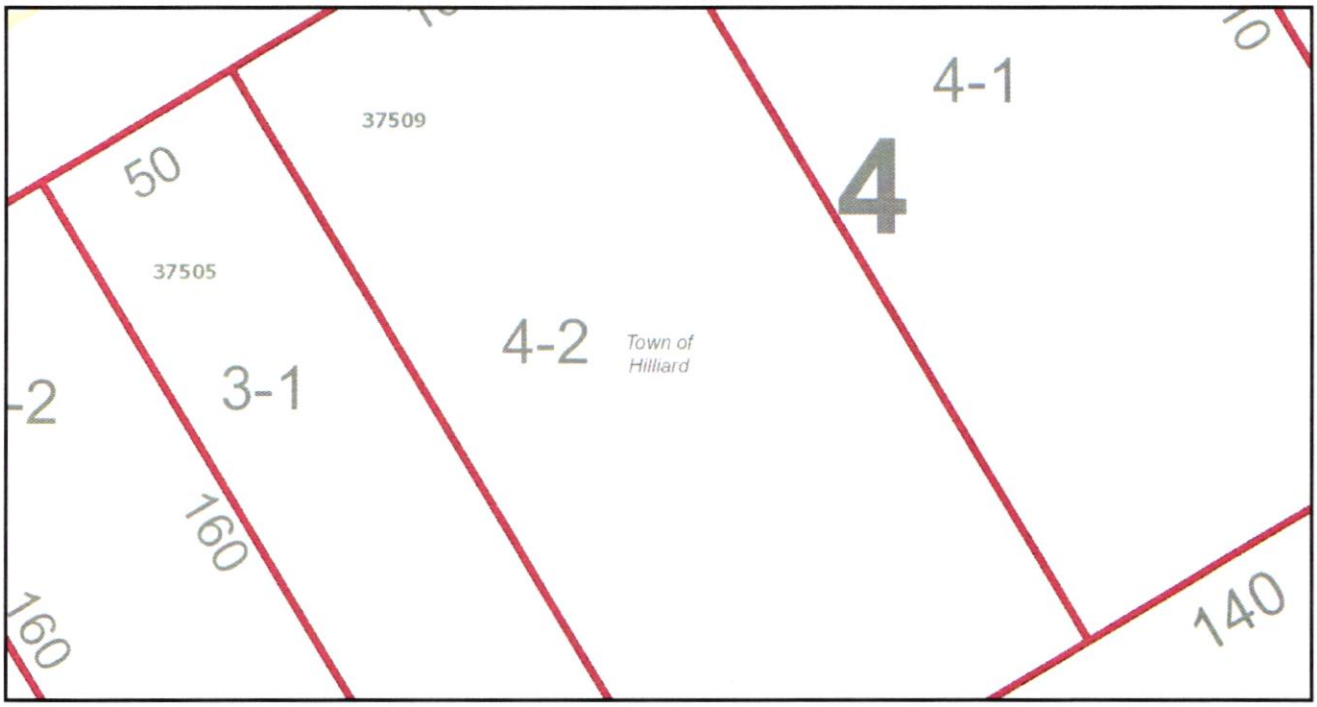
RHONDA J. TILLEY
MY COMMISSION # HH 249864
EXPIRES: August 6, 2026

Rhonda J Tilley

ITEM-2

904-491-7300 www.NassauFLPA.com

A. Michael Hickox
Nassau County Property Appraiser



Parcel Report	Results
Parcel ID	08-3N-24-2380-0010-0042
Owner Information	CLARK SHAWN
Mailing Address	297 REMINGTON RD WHITE OAK, GA 31568
Site Address	37509 W FIRST ST HILLIARD 32046 37517 W FIRST ST HILLIARD 32046
Previous Site Address (If Changed by 911)	Null
Deed Acre	0.00
Approximate Acres (GIS Calculated)	0.48
Property Use Code	000100
Municipality	Town of Hilliard
Census Tract	
MLS Zone	9 - Mainland
Subdivision	Not in a Subdivision

ITEM-2

Value & Sales Report	Results	
Land Value	$0.00	Value of land
Building Value	$0.00	Value of all improvement on the land
Misc. Value	$0.00	Any extra features to the land and/or building(s)
Just Value (Market Value)	$103,675.00	The Just, or Market Value, for tax purposes
Assessed Value	$100,515.00	Market Value minus assessment limits
Taxable Value		Assessed Value minus any Exemptions

Sales Information

Date	Price	Vacant?	Qual
20230620	$80,000.00	N	U
20210414	$62,000.00	N	U

Land Use Report	Results	
Zoning	R-2	Note: (Must be verified with Municipality)
Future Land Use	Contact Town of Hilliard for Futue Land Use	Note: (Must be verified with Municipality)
Community Development District	No	
Community Redevelopment Area	No	Note: (Must be verified with City of Fernandina Beach)
Historic District	No	Note: (Must be verified with City of Fernandina Beach)
Municipal Service Benefit Unit (MSBU)	No	
Mobility Fee Zone	Zone 3	

Topographical Report	Results	
Soil Map Unit Name	HURRICANE-POTTSBURG FINE SANDS, 0 TO 5 PERCENT SLOPES	
Drainage Basin	St. Marys River	
Drainage Basin Number	Coming Soon	
Vegetation		Not a jurisdictional survey
Approximate Elevation	Coming Soon	

Utility Report	Results
Water Source	Town of Hilliard
Waste Water	Town of Hilliard
Electric Provider	Okefenokee Rural Electric

Emergency Management Report	Results	
Fire District	40	Note: (Must be verified with Nassau County Fire & Rescue)
USNG	17R MP 12 95	Note: (Must be verified with Nassau County Emergency Management)
Storm Surge Zone		Note: (Must be verified with Nassau County Emergency Management)
Hurricane Evacuation Zone	K	Note: (Must be verified with Nassau County Emergency Management)
Special Flood Hazard Area	X	Note: (Must be verified with Nassau County Building Dept.)
DFIRM Panel	12089C0135F	Note: (Must be verified with Nassau County Building Dept.)

School Board Report	Results

ITEM-2

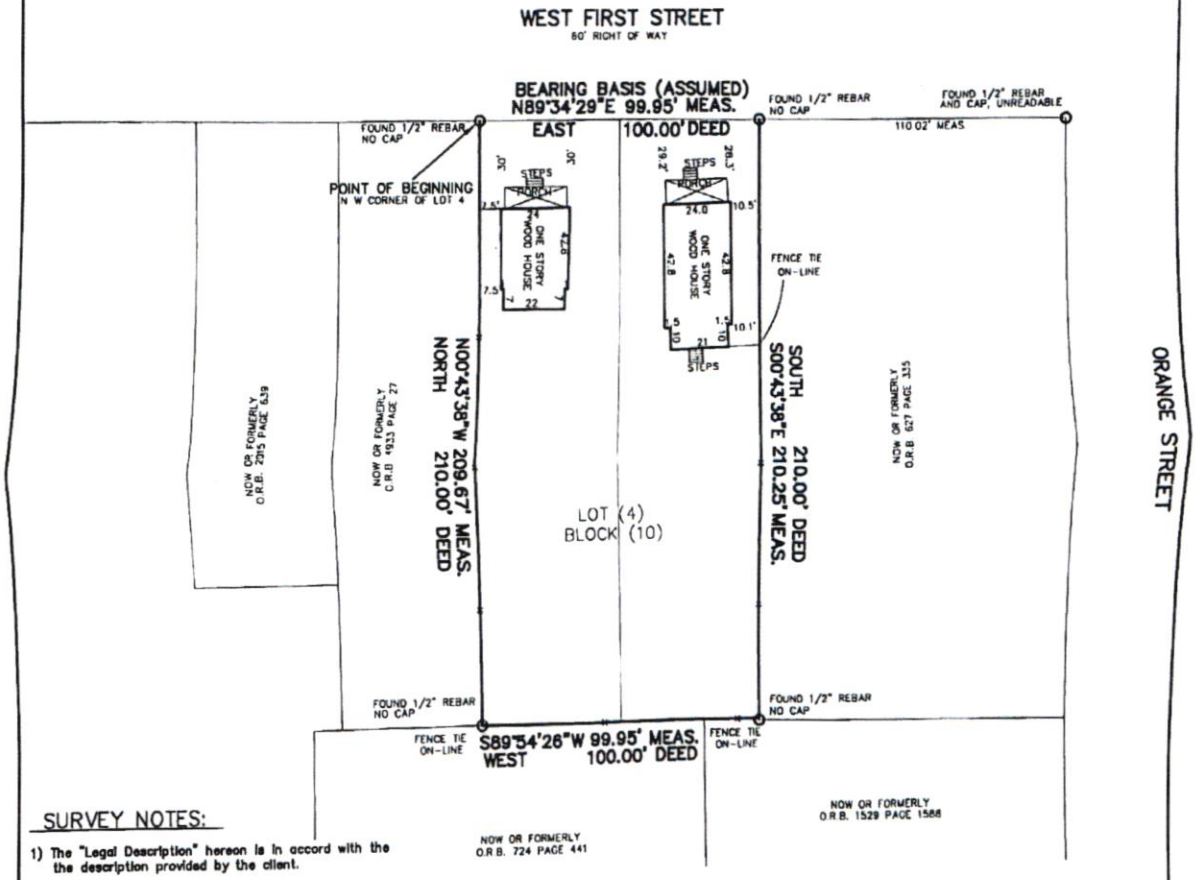
Elementary School Zone	Hilliard Elementary School	Note: (Must be verified with NCSB)
Middle School Zone	Hilliard Middle School	Note: (Must be verified with NCSB)
High School Zone	Hilliard High School	Note: (Must be verified with NCSB)

Elections Report	**Results**	
Municipality	Town of Hilliard	
Voting Precinct	401	Note: (Must be verified with SOE)
Polling Location	Coming Soon	Note: (Must be verified with SOE)
Congressional	4	Note: (Must be verified with SOE)
State Senate	4	Note: (Must be verified with SOE)
State House	11	Note: (Must be verified with SOE)
County Commissioner	4 - Alyson R. McCullough	Note: (Must be verified with SOE)
School Board	4 - Dr. Cynthia Grooms	Note: (Must be verified with SOE)
Ocean, Highway & Port Authority	4 - Ray Nelson	Note: (Must be verified with SOE)
City of Fernandina Beach Commission	Does Not Apply	Note: (Must be verified with City of Fernandina Beach)
Hilliard Town Council	John Beasley,Kenny Sims, Callie Bishop, Lee Pickett & Jared Wollitz	Note: (Must be verified with Town of Hilliard)
Callahan Town Council	Does Not Apply	Note: (Must be verified with Town of Callahan)
Mosquito Control	No	Note: (Must be verified with SOE)

MAP OF BOUNDARY SURVEY

THE WEST 100 FEET OF LOT 4, BLOCK 10, HILLILARD, MORE PARTICULARY DESCRIBED AS FOLLOWS: BEGINNING AT THE NORTHWEST CORNER OF LOT FOUR (4), BLOCK TEN (10), IN THE TOWN OF HILLIARD, THENCE RUNNING ONE HUNDRED (100) FEET EAST, THENCE TWO HUNDRED AND 10 (210) FEET SOUTH, THENCE ONE HUNDRED (100) WEST, THENCE TWO HUNDRED AND TEN (210) FEET NORTH TO POINT AND PLACE OG BEGINNING.

PREPARED FOR:
CHAD BROCK



SURVEY NOTES:

1) The "Legal Description" hereon is in accord with the the description provided by the client.
2) Underground improvements were not located or shown.
3) Lands shown hereon were not abstracted by this office for easements, rights-of-way, ownership or other instruments of record.
4) Bearings based on N 89°34'29" E for the right of way line of West First Street, Nassau County, Florida, (Assumed).
5) Fence ownership, if aplicable, has not been determined by this office. Fences are drawn out of scale in order to accentuate their relationship to property lines. Fences are not deemed to be encroachments unless ownership is apparent.
6) "Unless it bears the signature and the original raised seal of a Florida licensed surveyor and mapper, this map/report is for informational purposes only and is not valid.
7) The property shown hereon lies within flood zone " X " as per F.E.M.A. Flood Insurance Rate Map, Panel 12089C0135F Dated DECEMBER 17, 2010
8) Unless otherwise noted Measured angles and distances are the same as Plat or Deed angles and distances.
9) This survey has been performed according to the standard of care to achieve the following accuracies for the following surveyed
Surveyed Accuracy = 1 foot in 16127 feet
Commercial/High Risk Linear = 1 foot in 10000 feet
SOP rule 5J-17.051(3) (8) (15) b.ii

LEGEND
-E-E- = AERIAL UTILITY WIRES
A/C = AIR CONDITIONER
AKA = ALSO KNOWN AS
B.R.L = BUILDING RESTRICTION LINE
CATV = CABLE TELEVISION PEDESTAL
Δ = CENTRAL ANGLE
℄ = CENTERLINE
-x-x- = CHAIN LINK FENCE
CB = CHORD BEARING
CD = CHORD DISTANCE
CONC. = CONCRETE
CONC. = CONCRETE FLATWORK
CMP = CORRUGATED METAL PIPE
E = ELECTRICITY METER
ELEV. = ELEVATION
F.F. = FINISHED FLOOR
= FIRE HYDRANT
G = GAS METER
L = ARC LENGTH
= LIGHT POLE
MEAS. = MEASURED
N.G.V.D. = NATIONAL GEODETIC VERTICAL DATUM
O.R.B. = OFFICIAL RECORD BOOK
P.I.N. = PARCEL IDENTIFICATION NUMBER
P.O.B. = POINT OF BEGINNING
P.O.C. = POINT OF COMMENCEMENT
R = RADIUS
RCP = REINFORCED CONCRETE PIPE
R/W = RIGHT-OF-WAY
S = SEWER CLEANOUT
= SEWER MANHOLE
= STORM MANHOLE
T = TELEPHONE PEDESTAL
-o-o- = WOOD FENCE
= WOOD POWER POLE
W = WATER METER
= WELL

THE INFORMATION SHOWN HEREON MEETS THE MINIMUM TECHNICAL STANDARDS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 5J-17, FLORIDA ADMINISTRATIVE CODE, PURSUANT TO SECTION 472.027, FLORIDA STATUTES.

BY: _____
ALAN FRANKLIN GLASS
FLORIDA REGISTERED SURVEYOR
MAPPER CERTIFICATE No. 5712

ALAN FRANKLIN GLASS

ALAN FRANKLIN GLASS
23884 CRESCENT PARK COURT, FERNANDINA BEACH, FLORIDA 32034
(904) 261-0128 - CELL (904) 370-0318

SCALE: 1"=40'
DATE: 8/23/2018
DRN BY: WWG
CKD BY: AFG
JOB NO: AG18-65
F.B. NO: CS-6
PAGE NO. 22

DWG No. AG18-65

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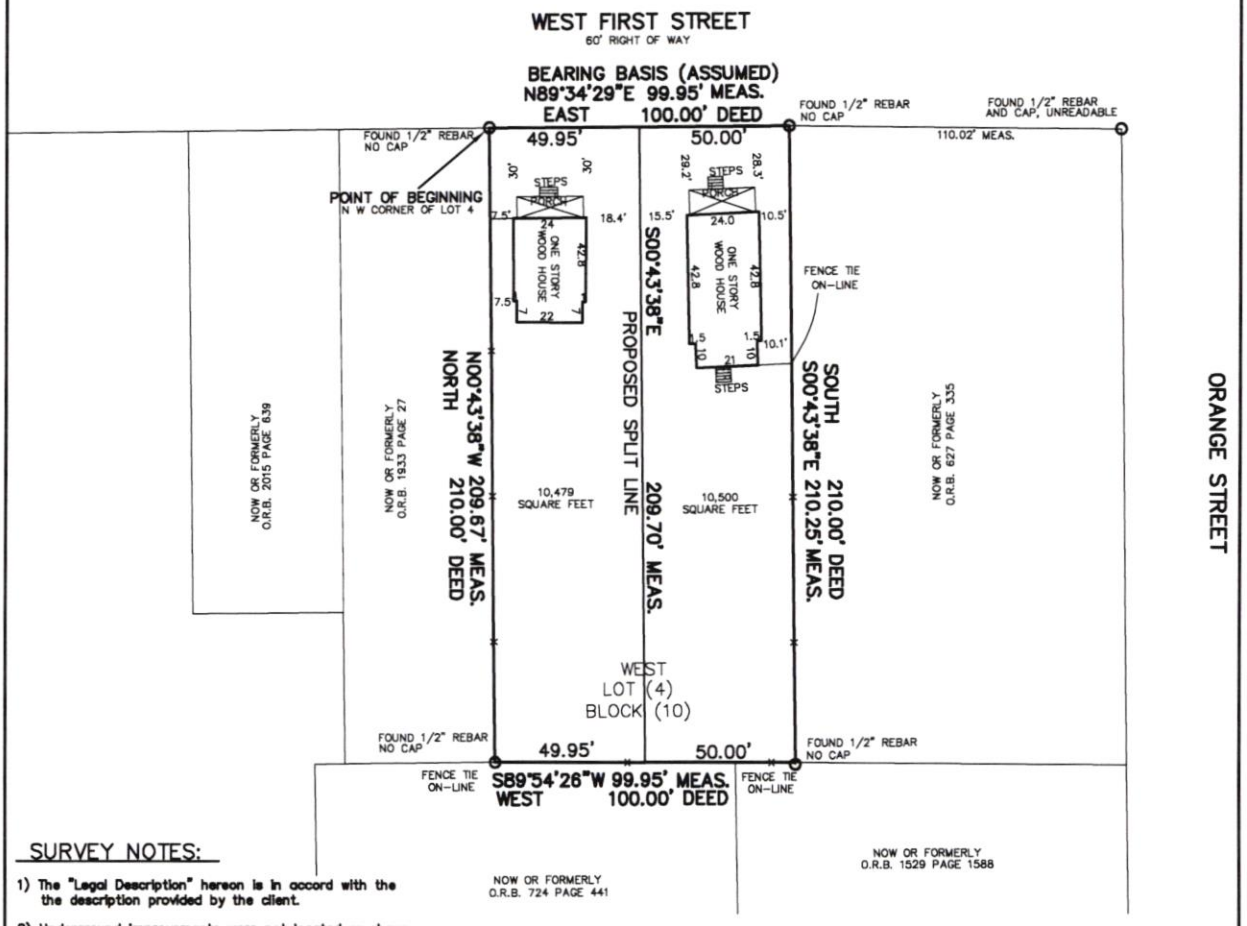
PREPARED FOR:
SHAWN CLARK



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Commercial/High Risk Linear – 1 foot in 10000 feet
SOP rule 5J-17.051(3) (B) (15) b.ii

REVISED TO SHOW PROPOSED LOT SPLIT LINE 01-16-2024

LEGEND
—E—E— = AERIAL UTILITY WIRES
A/C = AIR CONDITIONER
AKA = ALSO KNOWN AS
B.R.L. = BUILDING RESTRICTION LINE
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BY: _____

ALAN FRANKLIN GLASS
FLORIDA REGISTERED SURVEYOR
MAPPER CERTIFICATE No. 5712

ALAN FRANKLIN GLASS

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PAGE NO. 22

DWG No. AG18-65

Inst. Number: 202345019020 Book: 2649 Page: 1102 Page 1 of 2 Date: 6/23/2023 Time: 11:34 AM
John A. Crawford Clerk of Courts, Nassau County, Florida Doc Mort: 0.00 Int Tax: 0.00 Doc Deed: 560.00

Prepared by:
April Ross
Titletown of America, LLC
480 Busch Drive
Jacksonville, Florida 32218

File Number: TT23-0223

General Warranty Deed

Made this June 20, 2023 A.D. By **Melissa J. Conner, conveying non-homestead real property,** whose address is: 37139 Pineridge Road, Hilliard, FL 32046, hereinafter called the grantor, to **Shawn Clark**, whose post office address is: 297 Remington Rd., White Oak Ga, 31568, hereinafter called the grantee:

(Whenever used herein the term "grantor" and "grantee" include all the parties to this instrument and the heirs, legal representatives and assigns of individuals, and the successors and assigns of corporations)

Witnesseth, that the grantor, for and in consideration of the sum of Ten Dollars, ($10.00) and other valuable considerations, receipt whereof is hereby acknowledged, hereby grants, bargains, sells, aliens, remises, releases, conveys and confirms unto the grantee, all that certain land situate in Nassau County, Florida, viz:

West 100 feet of Lot 4, Block 10, Town of Hilliard, according to the map or plat thereof, as recorded in Plat Book 1, Page(s) 28, of the Public Records of Nassau County, Florida, more particularly described as follows:

Beginning at the Northwest corner of Lot 4, Block 10 in the Town of Hilliard; thence running 100 feet East; thence 210 feet South; thence 100 feet West; thence 210 feet North to the point of beginning.

Together with all the tenements, hereditaments and appurtenances thereto belonging or in anywise appertaining.

To Have and to Hold, the same in fee simple forever.

And the grantor hereby covenants with said grantee that the grantor is lawfully seized of said land in fee simple; that the grantor has good right and lawful authority to sell and convey said land; that the grantor hereby fully warrants the title to said land and will defend the same against the lawful claims of all persons whomsoever; and that said land is free of all encumbrances except taxes accruing subsequent to December 31, 2022.

ITEM-2

Prepared by:
April Ross
Titletown of America, LLC
480 Busch Drive
Jacksonville, Florida 32218

File Number: TT23-0223

In Witness Whereof, the said grantor has signed and sealed these presents the day and year first above written.

Signed, sealed and delivered in our presence:

Witness Printed Name April Ross

Witness Printed Name Josh Bernard

Melissa J. Conner (Seal)
Melissa J. Conner

State of Florida
County of Nassau

The foregoing instrument was acknowledged before me by means of [X] physical presence or [ ] online notarization, this 14 day of June, 2023, by **Melissa J. Conner, conveying non-homestead real property**, who is personally known to me or who has produced _____ as identification.

JOSHUA BERNARD
MY COMMISSION # HH 224480
EXPIRES: February 6, 2026

Notary Public
Print Name: Josh Bernard

My Commission Expires: _____

BLOCK 10 W100 FT OF LOT 4
TOWN OF HILLIARD

CLARK SHAWN
297 REMINGTON RD
WHITE OAK, GA 31568

2024

08-3N-24-2380-0010-0042

ITEM-2

BUILDING CHARACTERISTICS

ELEMENT	CD	CONSTRUCTION
Exterior Wall	05	AVERAGE 100
Roof Structur	03	GABLE/HIP 100
Roof Cover	01	MINIMUM 100
Interior Wall	01	MINIMUM 100
Interior Floo	09	PINE WOOD 100
Air Condition	01	NONE 100
Heating Type	02	CONVECTION 100
Bedrooms		2 100
Bathrooms		1 100
Frame	02	WOOD FRAME 100
Stories	1.	1. 100
Units		0 100
BUD8 Adjustme	03	DIST HI 100
Occupancy	00	NONE 100
Quality	03	Quality Level 03
DOR CODE	0100	SINGLE FAMILY
MAP NUM		MKT AREA 06
NEIGHBORHOOD/LOC	6001.00	

AREA TYPE	TOTAL GROSS AREA	PCT OF BASE	TOT ADJ AREA	SUBAREA MARKET VALUE
BAS	888	100	888	44,732
FSP	100	40	40	2,015
FSP	168	40	67	3,375
TOTALS	1,156		995	50,123

MARKET ADJUSTMENTS

TYPE	MDL	EFF. AREA	TOT ADJ PTS	EFF. BASE RATE	REPL. COST NEW	AYB	EYB	ECON	FNCT		NORM	% COND
0100	01	995	82.0800	74.08	73,710	1924	1924	0	0	0	32.00	68.00

1 SINGLE FAM - 0% - 0 Heated Area: 888 HX Base Yr

37517 W FIRST ST, HILLIARD

BLD DATE		LGL DATE	
XF DATE		LAND DATE	
INC DATE		AG DATE	

EXTRA FEATURES

LN	OB/XF CODE	DESCRIPTION	BLD	CAP	L	W	UNITS	UT	Adj R	ADJ UNIT PRICE	ORIG COND	YEAR ON	YEAR ACTUAL	Q	% COND	OB/XF MKT VALUE	NOTES

NASSAU COUNTY PROPERTY

PAGE 1 of 2 3

VALUATION SUMMARY

VALUATION BY	STANDARD
Tax Group: 3	Tax Dist:
BUILDING MARKET VALUE	73,491
TOTAL MARKET OB/XF VALUE	0
TOTAL LAND VALUE - MARKET	30,000
TOTAL MARKET VALUE	103,491
SOH/AGL Deduction	0
ASSESSED VALUE	103,491
TOTAL EXEMPTION VALUE	0
BASE TAXABLE VALUE	103,491
TOTAL JUST VALUE	103,491
NCON VALUE	0
INCOME VALUE	
PREVIOUS YEAR MKT VALUE	103,675

PERMIT NUM	DESCRIPTION	AMT	ISSUED
20210151	REMODEL	0	08/03/2021
20210148	ELEC OTHER	0	07/23/2021

SALES DATA

OFF RECORD Number	DATE	TYPE INST	Q / U	V / I	RSN CD	SALE PRICE
2649/1102	6/20/2023	WD	U	I	37	80,000
GRANTOR: CONNER MELISSA J						
GRANTEE: CLARK SHAWN						
2452/1194	4/14/2021	WD	U	I	37	62,000
GRANTOR: BROCK CHADWICK						
GRANTEE: CONNER MELISSA J						

BUILDING NOTES

BUILDING DIMENSIONS

BAS=[YR=1993] W1 FSP=[YR=1993] N10 W10 S10 E10$ W10 N10 W12 S10 W1 S32 E1 FSP=[YR=2003] S8 E21 N8 W21$ E23 N32 $.

LAND DESCRIPTION

TOTAL OB/XF 0

LN	USE CODE	CLS	LAND USE DESCRIPTION	CAP	RD	LOC ZONE	FRONT	DEPTH	TOT LND UTS	UNIT TYPE	DT	DPTH FACT	% COND	TOT ADJ	UNIT PRICE	ADJ UNIT PRICE	LAND VALUE	OTHER ADJUSTMENTS AND NOTES	YEAR	DENSITY	DECL	FRZ	YR	CONSRV
1	000100	C	SFR	0	0006	R-2	100.00	210.00	100.00	FF		1.00	1.00	1.00	300.00	300.00	30,000							

REVIEW DATE 03/10/2022 BY TW Total Acres: 0.00 Total Land Value: 30,000 Market: 0 Agricultural: 0 Common: 30,000 PRINTED 01/12/2024

BLOCK 10 W100 FT OF LOT 4
TOWN OF HILLIARD

CLARK SHAWN
297 REMINGTON RD
WHITE OAK, GA 31568

2024

08-3N-24-2380-0010-0042

ITEM-2

BUILDING CHARACTERISTICS

ELEMENT	CD	CONSTRUCTION
Exterior Wall	05	AVERAGE 100
Roof Structur	03	GABLE/HIP 100
Roof Cover	01	MINIMUM 100
Interior Wall	05	DRYWALL 100
Interior Floo	09	PINE WOOD 100
Air Condition	01	NONE 100
Heating Type	02	CONVECTION 100
Bedrooms		0 100
Bathrooms		1 100
Frame	02	WOOD FRAME 100
Stories	1.	1. 100
Units		0 100
BUD8 Adjustme	03	DIST HI 100
Occupancy	00	NONE 100
Quality	03	Quality Level 03
DOR CODE	0100	SINGLE FAMILY
MAP NUM		MKT AREA 06
NEIGHBORHOOD/LOC	6001.00	

AREA TYPE	TOTAL GROSS AREA	PCT OF BASE	TOT ADJ AREA	SUBAREA MARKET VALUE
BAS	826	100	826	21,737
FSP	154	40	62	1,632
TOTALS	980		888	23,368

MARKET ADJUSTMENTS

TYPE	MDL	EFF. AREA	TOT ADJ PTS	EFF. BASE RATE	REPL. COST NEW	AYB	EYB	ECON	FNCT	PD	NORM	% COND
0100	01	888	97.2000	87.72	77,895	1950	1950	0	0	30	25.50	30.00

2 SINGLE FAM - 0% - 0 Heated Area: 826 HX Base Yr

37517 W FIRST ST, HILLIARD

BLD DATE		LGL DATE	
XF DATE		LAND DATE	
INC DATE		AG DATE	

EXTRA FEATURES

LN	OB/XF CODE	DESCRIPTION	BLD	CAP	L	W	UNITS	UT	Adj R	ADJ UNIT PRICE	ORIG COND	YEAR ON	YEAR ACTUAL	Q	% COND	OB/XF MKT VALUE	NOTES

NASSAU COUNTY PROPERTY

PAGE 2 of 2

VALUATION SUMMARY

VALUATION BY	STANDARD
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TOTAL MARKET OB/XF VALUE	0
TOTAL LAND VALUE - MARKET	30,000
TOTAL MARKET VALUE	103,491
SOH/AGL Deduction	0
ASSESSED VALUE	103,491
TOTAL EXEMPTION VALUE	0
BASE TAXABLE VALUE	103,491
TOTAL JUST VALUE	103,491
NCON VALUE	0
INCOME VALUE	
PREVIOUS YEAR MKT VALUE	103,675

PERMIT NUM	DESCRIPTION	AMT	ISSUED

SALES DATA

OFF RECORD Number	DATE	TYPE INST	Q / U	V / I	RSN CD	SALE PRICE
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GRANTEE: CLARK SHAWN						
2452/1194	4/14/2021	WD	U	I	37	62,000
GRANTOR: BROCK CHADWICK						
GRANTEE: CONNER MELISSA J						

BUILDING NOTES

BUILDING DIMENSIONS

BAS=[YR=1993] W1 N7 W22 S7 W1 S28 E1 FSP=[YR=2003] S7 E22 N7 W22$ E23 N28 $.

LAND DESCRIPTION

TOTAL OB/XF 0

LN	USE CODE	CLS	LAND USE DESCRIPTION	CAP	RD	LOC ZONE	FRONT	DEPTH	TOT LND UTS	UNIT TYPE	DT	DPTH FACT	% COND	TOT ADJ	UNIT PRICE	ADJ UNIT PRICE	LAND VALUE	OTHER ADJUSTMENTS AND NOTES	YEAR	DENSITY	DECL	FRZ	YR	CONSRV

REVIEW DATE 03/10/2022 BY TW Total Acres: 0.00 Total Land Value: 30,000 Market: 0 Agricultural: 0 Common: 30,000 PRINTED 01/12/2024

AGENDA ITEM REPORT
TOWN OF HILLIARD, FLORIDA

TO: Planning and Zoning Board Regular Meeting Meeting Date: February 13, 2024

FROM: ***Lee Anne Wollitz – Land Use Administrator***

SUBJECT: Planning and Zoning Board approval of the Site Plan Application No. 20221025. Parcel ID No. 17-3N-24-2020-0057-0000. Address 3714 Raven Drive. Property Owner- Gregg Simmons

BACKGROUND:
In August 2022 the Planning and Zoning board approved a special exception allowing a RV Park on this parcel with the following conditions:
1. All roadways and drives shall be paved.
2. One-way drives shall be at least 20’ wide and two-way drives shall be at least 24’ wide.
3. A landscaped buffer of at least eight feet wide and six feet high shall be maintained along the exterior boundary of the RV Park.
4. All drainage plans for the RV Park shall be approved by the St. Johns River Water Management District.
5. Wetlands shall not be disturbed unless permitted by the St. Johns River Water Management District.
6. A Traffic Study be conducted.

On 10.25.2022 a Site Plan Application for the property was filed requesting approval for a 240 slot RV park with onsite amminities.

The owner of the property and their team have met with all the requirments of the Planning and Zoning Board as well as the request of Town staff and consultants.

FINANCIAL IMPACT:
All cost will be paid by the applicant.

RECOMMENDATION:
I recommend approval of Site Plan Application 20221025 with the following conditions:

1. The Public works Department be notified after the removal of the last resident and allowed significant time to remove the remaining water meter(s) and cap/close water and sewer connections prior to the commencement of additional work on site.
2. A preconstruction meeting be held with the Town of Hilliard’s Public Works Department prior to the start of work within the approved site.
3. Nassau County ROW permit be provided to the Town of Hilliard for our records prior to the commencement of work in the ROW.
4. The SJRWMD Permit be provided to Town Staff prior to the commencement of work on site.

$1000.00 de
Paid 10.25.2022
HM

FOR OFFICE USE ONLY

File # 20221025

app fee used from previous app. $1800.00 paid 7.22.2022.

Application Fee:

Filing Date: 10.25.22 Acceptance Date: _____

Town of Hilliard
Site Plan Application

A. PROJECT

1. Project Name: Hilliard RV
2. Address of Subject Property: 3714 Raven Drive, Hilliard FL 32046
3. Parcel ID Number(s): 17-3N-24-2020-0057-0000
4. Existing Use of Property: parking / mobile home
5. Future Land Use Map Designation : high density
6. Zoning Designation: RHM
7. Acreage: 39.14

B. APPLICANT

1. Applicant's Status ☐ Owner (title holder) ☑ Agent
2. Name of Applicant(s) or Contact Person(s): Henry A. Vorpe, Jr. or Jennifer Wilson Title: President

   Company (if applicable): AVA Engineers, Inc

   Mailing address: 4201 Baymeadows Rd., Suite 3

   City: Jacksonville State: FL ZIP: 32217

   Telephone: (904) 730-3223 FAX: (___) _____ e-mail: vorpefactorx@yahoo.com
   Jennifer@avaengineers.com
3. If the applicant is agent for the property owner*:

   Name of Owner (title holder): Gregg Simmons

   Company (if applicable): Hilliard LLC

   Mailing address: 4225 North Pearl Street

   City: Jacksonville State: FL ZIP: 32206

   Telephone: (904) 647-9304 FAX: (___) _____ e-mail: greggsimmons91@gmail.com

* Must provide executed Property Owner Affidavit authorizing the agent to act on behalf of the property owner.

D. ATTACHMENTS (One copy plus one copy in PDF format)

1. Site Plan and Survey including but not limited to:
   a. Name, location, owner, and designer of the proposed development.
   b. Vicinity map - indicating general location of the site and all abutting streets and properties.
   e. Statement of Proposed Uses.
   f. Location of the site in relation to adjacent properties, including the means of ingress and egress to such properties and any screening or buffers along adjacent properties.
   g. Location of nearest fire hydrant, adjacent pedestrian sidewalks and bicycle paths.
   h. Date, north arrow, and graphic scale (not to exceed one (1) inch equal to fifty (50) feet).
   i. Area and dimensions of site.
   j. Location of all property lines, existing right-of-way approaches, sidewalks, curbs, and gutters.
   k. Access and points of connection to utilities (electric, potable water, sanitary sewer, gas, etc.).
   m. Location and dimensions of all existing and proposed parking areas, loading areas, curb cuts.
   n. Number of proposed parking spaces
   o. Structures and major features – fully dimensioned – including setbacks, distances between structures, floor area, width of driveways and lot coverage.
   p. Required buffers.
   q. Location of existing trees, identifying any trees to be removed.
   r. Landscaping plan depicting type, size, and design of landscaped areas, buffers, and tree mitigation calculations.
   s. Percent of pervious surface.
   t. Lighting plan.
   u. Location, design, height, and orientation of signs.
   v. Location of dumpsters and detail of dumpster enclosure.
   w. For development consisting of Multi-family residential;
      i. Tabulation of gross acreage.
      ii. Tabulation of density.
      iii. Number of dwelling units proposed.
      v. Floor area of dwelling units.
2. Stormwater management plan - including the following:
   a. Existing contours at one (1) foot intervals.
   b. Proposed finished floor elevation of each building site.
   c. Existing and proposed stormwater management facilities with size and grades.
   d. Proposed orderly disposal of surface water runoff.
3. Legal description with tax parcel number.
4. Warranty Deed or other proof of ownership.
5. Permit or Letter of Exemption from the St. Johns River Water Management District.

6. Fee.

   a. Based on size of site:

      i. For sites <10,000 s.f. - $200

      ii. For sites >10,000 s.f.- $1,000 + $20 per acre

No application shall be accepted for processing until the required application fee is paid in full and a $1,000 refundable deposit is paid by the applicant. Any fees necessary for technical review or additional reviews of the application by a consultant will be billed to the applicant at the rate of the reviewing entity. The invoice shall be paid in full prior to any action of any kind on the development application.

All 6 attachments are required for a complete application. A completeness review of the application will be conducted within fourteen (14) business days of receipt. If the application is determined to be incomplete, the application will be returned to the applicant.

I/We certify and acknowledge that the information contained herein is true and correct to the best of my/our knowledge:

10.21.22
Signature of Applicant

Signature of Co-applicant

Henry A. Vorpe, Jr., PE
Typed or printed name and title of applicant

Typed or printed name of co-applicant

~~07/13/22~~ 10.21.22
Date

Date

State of Florida County of Duval

The foregoing application is acknowledged before me this 21 day of OCTOBER, 2022, by HENRY A. VORPE, JR., who is/are personally known to me, or who has/have produced _____ as identification.

NOTARY SEAL

Notary Public State of Florida
Jennifer G Wilson
My Commission GG 264554
Expires 11/19/2022

Signature of Notary Public, State of FLORIDA

OWNER'S AUTHORIZATION FOR AGENT
PLANNING DEPARTMENT

TOWN OF HILLIARD, FLORIDA

EACH AND EVERY OWNER SHOWN ON THE PROOF OF OWNERSHIP MUST SIGN AN AUTHORIZATION FORM

Agent Authorization Form

I/We Hilliard LLC
(Print Name of Property Owner)

hereby authorize AVA Engineers, Inc
(Print Name of Agent)

to represent me/us in processing an application for Site Plan Application
(Type of Application)

on our behalf. In authorizing the agent to represent me/us, I/we, as owner(s) attest that the application is made in good faith and that any information contained in the application is accurate and complete.

(Signature of Owner) (Signature of Owner)

Greg Boree
(Print Name of Owner) (Print Name of Owner)

State of Florida
} ss
~~Nassau~~ County
DUVAL

Sworn to and subscribed before me on this 24 **day of** October, 20 22,
by Greg Boree
(Name of Person Making Statement)

JOAN M. STEPHENS MY COMMISSION EXPIRES JUNE 30, 2024 #GG 964609 Bonded thru Notary Public Underwriters NOTARY PUBLIC, STATE OF FLORIDA

Signature of Notary Public
State of Florida

Joan M. Stephens
Print, type or stamp commissioned name of Notary Public

My Commission Expires: 6/30/24

Individual making statement is ✓ **personally known or** _____ **produced identification.**

Type of identification produced: _____

Return to.

THIS INSTRUMENT PREPARED BY:
Nassau Title Company
542435 US Hwy. 1
Callahan Florida 32011

INSTR # 200421661
OR BK 01240 PGS 0367-0368
RECORDED 06/23/2004 12:25:22 PM
J. M. OXLEY JR
CLERK OF CIRCUIT COURT
NASSAU COUNTY, FLORIDA
DOC TAX PD(F.S.201.02) 560.00
RECORDING FEES 18.50

ITEM-3

Corporate Warranty Deed

This Warranty Deed made this 1st day of June, 2004 by **SW Rentals, INC, a Florida Corporation existing under the laws of Florida,** and having its principal place of business at PO Box 162, Hilliard FL 32046, **hereinafter called the grantor, to Hilliard LLC, a Florida Limited Liability Company** whose address is 4362 Davincy Avenue, Jacksonville, FL 32210, hereinafter called the grantee.

(Wherever used herein the term "grantor" and "grantee" include all the parties to this instrument and the heirs , legal representatives and assigns of individuals, and the successors and assigns of corporation.)

WITNESSETH:

That the Grantor, for and in consideration of the sum of Ten and NO/100 Dollars, and other valuable considerations, receipt whereof is hereby acknowledged, hereby grants, bargains, sells, aliens, remises, releases, conveys and confirms unto the Grantee, all that certain land situate, lying and being in Nassau County, Florida."

ALL THAT CERTAIN PIECE, PARCEL, OR TRACT OF LAND BEING A PROTION OF PARCEL 18, (Lot 57) Lying and Being in the South One S(1/2) of the South One (S1/2) of the Southeast One Quarter (SE ¼) of the Northeast One Quarter (NE1/4) of Section 17, Township 3 North, Range 24 East, Nassau County, Florida.

Subject to taxes accruing subsequent to December 31, 2003.
Subject to covenants, restrictions and easements of record, if any; however, this reference thereto shall not operate to reimpose same.
Together with all the tenements, hereditaments and appurtenances thereunto belonging or in anywise appertaining.
To have and to hold the same in fee simple forever.
And the Grantor hereby covenants with said Grantee that the Grantor is lawfully seized of said land in fee simple; that the Grantor has good right and lawful authority to sell and convey said land; that the Grantor hereby fully warrants the title to said land and will defend the same against the lawful claims of all persons whomsoever; and that said land is free of all encumbrances.

In Witness whereof, the said Grantor has signed and sealed these presents the day and year first above written.

Signed, sealed and delivered in our presence:

James M. Smith
Witness Signature

JAMES M. SMITH
Witness Printed Name:

Billie Dees
Witness Signature

Billie Dees
Witness Printed Name:

SW Rentals, Inc., a Florida Corporation

John S. Williams Jr.
John S. Williams Jr.

Sharon Williams
Sharon Williams

STATE OF **Florida**
COUNTY OF **Nassau**

The foregoing instrument was acknowledged before me this 1st day of June, 2004 by **John S. Williams, Sr. and Sharon Williams**, who is are personally known to me or have produced identification in the form of a Florida driver's license.

Notary Public, State and County Aforesaid

Billie Dees
Notary Signature

Title or Rank

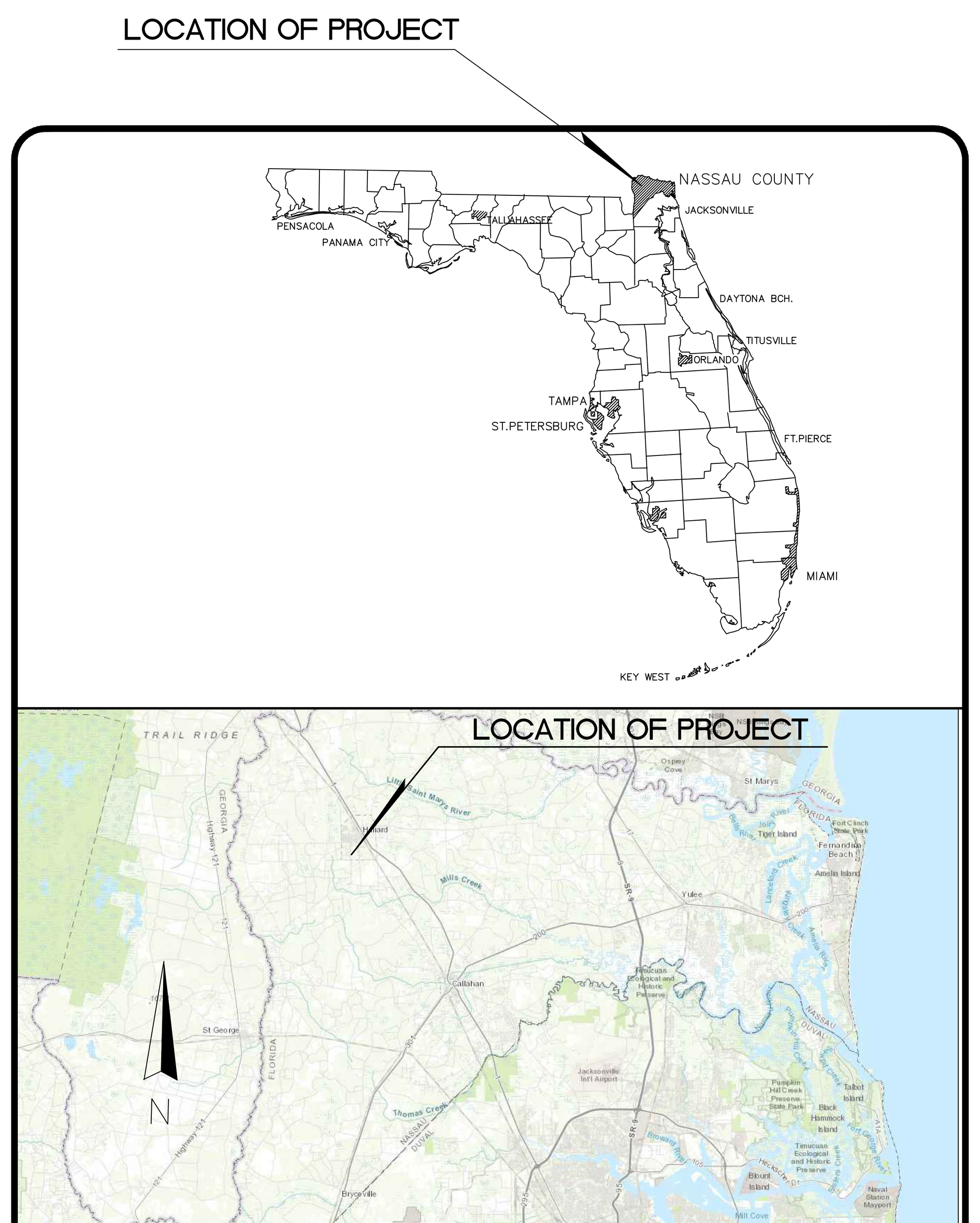
Notary Printed Signature

(serial No., if any)

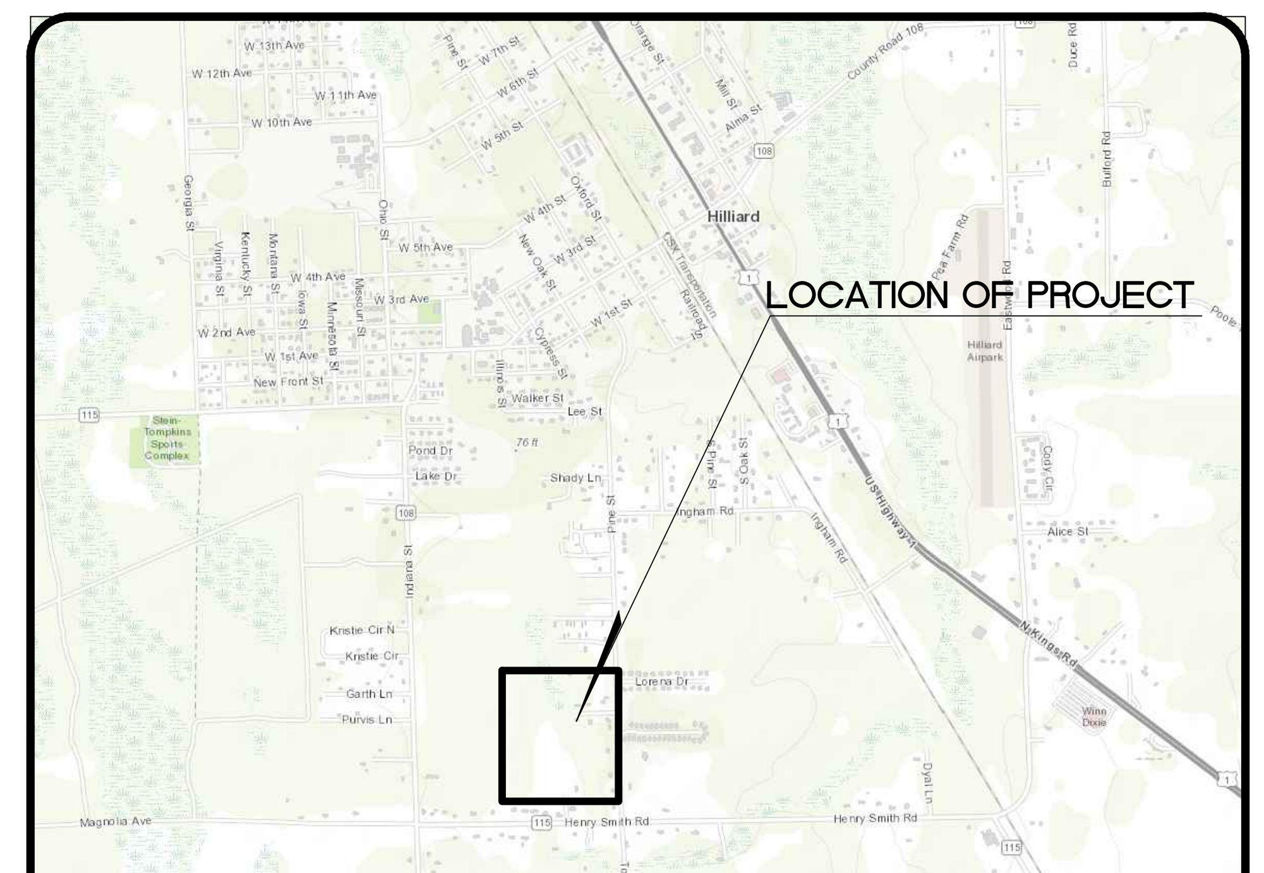
BILLIE M. DEES
MY COMMISSION # DD 305692
EXPIRES: March 31, 2008
Bonded Thru Budget Notary Services

HILLIARD RV

3714 RAVEN DRIVE
HILLIARD, FL 32046



VICINITY MAP
N.T.S.



LOCATION MAP
N.T.S.

Sheet List Table

Sheet Number	Sheet Title
1	COVER
2	GENERAL NOTES
3	EXISTING CONDITIONS
4	PRE-DEVELOPMENT PLAN
5	POST DEVELOPMENT PLAN
6	DEMOLITION PLAN
7	SITE PLAN
8.01	GRADING & DRAINAGE PLAN
8.02	GRADING & DRAINAGE PLAN
8.03	GRADING & DRAINAGE PLAN
8.04	GRADING DETAILS
9.01	MASTER UTILITY PLAN
9.02	UTILITY PLAN
9.03	UTILITY PLAN
9.04	UTILITY PLAN
9.05	UTILITY PLAN
10.01	SANITARY PROFILES
10.02	SANITARY PROFILES
10.03	SANITARY PROFILES
11	UTILITY DETAILS
12	UTILITY DETAILS
13	UTILITY DETAILS
14	GENERAL DETAILS
15	GENERAL DETAILS
16	FDOT - MAINTENANCE OF TRAFFIC
17	SWPPP
18	ESC
19	SWPPP

HENRY A. VORPE, JR. LICENSE No 49049 ★ STATE OF FLORIDA PROFESSIONAL ENGINEER

Digitally signed by Henry A Vorpe Jr.
Date: 2024.01.19 12:42:17 -05'00'

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY HENRY A. VORPE, JR., P.E. ON THE DATE ADJACENT TO THE SEAL.

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

Z:\DWG\2021\21-071\2-DESIGN\21-071.DWG

PROJECT CONTACTS

OWNER
HILLIARD LLC
8280 PRINCETON SQUARE BLVD. SUITE 8
JACKSONVILLE, FL 33256
(904)-555-XXXX

SURVEYOR
A & J LAND SURVEYORS, INC
JONATHON B. BOWAN, PSM
5847 LUELLA STREET, JACKSONVILLE, FL 32207
(904) 346-1733

ENGINEER
AVA ENGINEERS, INC.
HENRY A. VORPE, P.E.
5711 RICHARD STREET, SUITE 4
JACKSONVILLE, FL 32216
(904) 730-3223

GEOTECHNICAL ENGINEER
JACKSON GEOTECHNICAL ENGINEERING, LLC
JEFF S. JACKSON, P.E.
164 PLAZA DEL RIO DRIVE
ST. AUGUSTINE, FLORIDA 32084
(904) 252-2292

UTILITY CONTACTS

CABLE PROVIDER:
COMCAST
10151 DEERWOOD PARK BLVD,
JACKSONVILLE, FL 32256
904-416-1979

ELECTRIC PROVIDER:
OKEFENOKE RURAL ELECTRIC MEMBERSHIP CORPORATION
458442 OLD DIXIE HWY,
HILLIARD, FL 32046
1-800-262-5131

WATER AND SEWER PROVIDER
TOWN OF HILLIARD
15859 WEST COUNTY ROAD 108,
HILLIARD, FL 32046
1-904-845-3555

PLAN APPROVAL

Date ______ Development Services Division (Chief) ______

Date ______ Review Group (Reviewer) ______

Plan approval is valid for five years after the initial approval date. Revisions made after the initial approval date do not extend this five-year time frame.

PLAN APPROVAL IS SUBJECT TO THE FOLLOWING NOTES AND CONDITIONS:

PROJECT INFORMATION

GENERAL	
City Development Number	N/A
Concurrency Application Number	N/A
Property Appraiser Number (RE #)	17-3N-24-2020-0057-0000
NASSAU County Soils	36, 39
Zoning Designation / FLU	RMH/HIGH DENSITY
PUD Ordinance Number	N/A
FIRM – Community – Panel	12089C 0145 F
Flood Zones (Show in Plans)	X
Base Flood Elev. (Show in Plans)	N/A
Vertical Datum Used for Project	NAVD 1988
SUBDIVISION	
PSD Number	N/A
City or Private Inspection	PRIVATE
Public or Private Roads	PRIVATE
Subdivision ("911") Disk Provided?	N/A
NON-SUBDIVISION	
North American Industry Classification System (NAICS)	721200
Impervious Area (Sq. Ft.)	396,893

ITEM-3

No.	Revisions	By
2	1/12/24 FINAL REVISION	JES

AVA ENGINEERS, INC.
Commercial | Residential | Marine
Florida Certificate No. 00008161
4201 BAYMEADOWS RD. SUITE 3 | JACKSONVILLE, FLORIDA 32217
Ph. (904) 730-3223 | Fx. (904) 730-3226
Henry A. Vorpe Jr. No. 49049

UNLESS THIS DRAWING BEARS THE EMBOSSED SEAL OF A FLORIDA REGISTERED ENGINEER ACTING AS AN AUTHORIZED AGENT FOR AVA ENGINEERS, INC., IT IS FOR INFORMATION PURPOSES ONLY AND IS NOT VALID.

THE STORMWATER SYSTEM AS SHOWN ON THESE PLANS HAS BEEN PREPARED IN ACCORDANCE WITH STANDARD, ACCEPTED ENGINEERING PRACTICE, HOWEVER, CERTAIN DESIGN CRITERIA, RULES OR LAWS THAT ARE MANDATED BY OTHERS (ie CITY, COUNTY, STATE, FEDERAL, etc.) HAVE BEEN USED TO DETERMINE THE FINAL DESIGN FOR SUCH STORMWATER FACILITIES. THE ENGINEER DOES NOT ACCEPT RESPONSIBILITY FOR POSSIBLE FUTURE CONTAMINATION RESULTING FROM THE REQUIREMENT FOR RETENTION AND TREATMENT OF STORMWATER.

HILLIARD RV

COVER

NASSAU FLORIDA

Date: 06/2022
Designer: HAV
Job #: 21-071
Drawn: MRP
Scale: N/A
Sheet: 1

ITEM-3

DEVELOPMENT REVIEW GENERAL NOTES:

1. ENGINEERING PLANS APPROVAL DOES NOT CONSTITUTE PERMISSION TO VIOLATE ANY ADOPTED FEDERAL, STATE, OR LOCAL LAW, CODE, OR ORDINANCE.
2. ALL WORK WITHIN THE PUBLIC STREETS AND RIGHT-OF-WAYS SHALL CONFORM TO TOWN OF HILLIARD LAND DEVELOPMENT CODES (LDC), FDOT STANDARD INDICES, FLORIDA GREENBOOK, TOWN OF HILLIARD ROADWAY AND DRAINAGE STANDARDS, AND TOWN OF HILLIARD STANDARD DETAILS AS NECESSARY. FOR ANY DISCREPANCY BETWEEN STANDARDS, THE MOST STRINGENT SHALL PREVAIL.
3. PER TOWN OF HILLIARD ROADWAY AND DRAINAGE STANDARDS, SITE SHALL BE CONSTRUCTED PER APPROVED CONSTRUCTION DRAWINGS. ANY SUBSTANTIAL DEVIATION SHALL BE CONCURRENTLY REVIEWED BY ENGINEER OF RECORD AND TOWN OF HILLIARD DEVELOPMENT REVIEW COMMITTEE PRIOR TO FIELD CHANGES.
4. A PRE-CONSTRUCTION MEETING WITH TOWN OF HILLIARD ENGINEERING SERVICES CONSTRUCTION INSPECTOR IS REQUIRED. ATTENDEES SHALL BE THE TOWN OF HILLIARD, ENGINEER OF RECORD, CONTRACTOR, TESTING FIRM, PAVING FIRM, AND UTILITY COMPANIES PER TOWN OF HILLIARD. THE TOWN OF HILLIARD MAY CANCEL PRE-CONSTRUCTION MEETING IF ATTENDEE LIST IS INADEQUATE. THE TOWN OF HILLIARD ENGINEERING SERVICES CAN BE REACHED AT 904-845-3555.
5. THE CONTRACTOR SHALL SCHEDULE AND COORDINATE ALL WORK WITH THE APPROPRIATE TOWN OF HILLIARD CONSTRUCTION INSPECTOR ASSIGNED TO THE PROJECT PER THE TOWN OF HILLIARD.
6. ALL WORK SHALL BE PERFORMED IN A SAFE MANNER. ALL SAFETY RULES AND GUIDELINES OF O.S.H.A. SHALL BE FOLLOWED. THE CONTRACTOR SHALL BE WHOLLY RESPONSIBLE FOR ANY INJURIES TO HIS EMPLOYEES AND ANY DAMAGE TO PRIVATE PROPERTY OR PERSONS DURING THE COURSE OF THIS PROJECT.
7. PER THE TOWN OF HILLIARD ROADWAY AND DRAINAGE STANDARDS ANY DISTURBED AREAS WITHIN TOWN OF HILLIARD RIGHT-OF-WAY SHALL BE SODDED.
8. PER THE TOWN OF HILLIARD ROADWAY AND DRAINAGE STANDARDS, AT THE TIME OF FINAL INSPECTION, GRASSING SHALL BE A MINIMUM OF SEVENTY PERCENT COVERAGE AND FULLY ESTABLISHED AND/OR SODDING TO BE ONE HUNDRED PERCENT COVERAGE AND STABILIZED.
9. ENGINEER OF RECORD APPROVED SHOP DRAWINGS SHALL BE PROVIDED TO TOWN OF HILLIARD CONSTRUCTION INSPECTOR A MINIMUM OF ONE WEEK BEFORE BEGINNING STRUCTURE INSTALLATION.
10. PARKING AT MAIL KIOSKS IS REQUIRED PER THE TOWN OF HILLIARD ROADWAY AND DRAINAGE STANDARDS, MAIL KIOSK LOCATIONS ARE SUBJECT TO USPS POSTMASTER APPROVAL.
11. THE DEVELOPER'S CONTRACTOR IS THE SINGLE RESPONSIBLE PARTY FOR THE PROPER IMPLEMENTATION OF AN EROSION PROTECTION SEDIMENT CONTROL (EPSC) WITHIN EACH LOT OR CONSTRUCTION SITE. THIS INCLUDES THE RESPONSIBILITY FOR THE ACTIONS/INACTIONS OF EMPLOYEES, SUBCONTRACTORS, AND/OR SUPPLIERS.
12. SIDEWALKS TO BE PROVIDED AND BUILT IN ACCORDANCE FLORIDA BUILDING CODE. ALL PROPOSED SIDEWALKS SHALL MEET ADA REQUIREMENTS.
13. THE CONTRACTOR SHALL COMPLY WITH CURRENT FLORIDA ACCESSIBILITY STANDARDS FOR ALL WORK ON THIS PROJECT.
14. MINIMUM COVER FOR WATER LINES AND FORCE MAINS UNDER PAVEMENT SHALL 42" AND 36"IN GREEN AREAS.
15. ALL WATER, SEWER, AND STORM WATER CONSTRUCTION WITHIN TOWN OF HILLIARD ROW SHALL BE ACCOMPLISHED BY AN UNDERGROUND UTILITY CONTRACTOR LICENSED UNDER THE PROVISIONS OF CHAPTER 409 OF THE FLORIDA STATUTES.
16. NO WORK SHALL BE PERMITTED BETWEEN THE HOURS OF 7:00 PM – 7:00AM WITHOUT PRIOR APPROVAL FROM THE TOWN OF HILLIARD ENGINEERING SERVICES.
17. ALL TREES REQUIRED TO BE PROTECTED SHALL BE FLAGGED FOR PROTECTION PRIOR TO CLEARING.
18. ALL GRADING AND PLACEMENT OF COMPACTED FILL SHALL BE IN ACCORDANCE WITH THE LATEST TOWN OF HILLIARD SPECIFICATIONS.
19. ANY DAMAGES (SIDEWALK, CURB, ASPHALT, DITCH GRADING, ET CETERA) WITHIN PUBLIC RIGHT-OF-WAY SHALL BE REPAIRED OR REPLACED IN ACCORDANCE WITH THE TOWN OF HILLIARD SPECIFICATIONS. PROPOSED REPAIR METHOD SHALL BE APPROVED BY THE TOWN OF HILLIARD ENGINEERING SERVICES.
20. ANY ASPHALT MILLINGS FROM NASSAU COUNTY ROW SHALL BE DELIVERED TO THE ROAD DEPARTMENT LAYDOWN YARD LOCATED ON GENE LASSERRE BOULEVARD OR PEA FARM ROAD.
21. AS-BUILT DRAWINGS SHALL BE SUBMITTED TO TOWN OF HILLIARD BEFORE A FINAL INSPECTION CAN BE SCHEDULED. AS-BUILTS SUBMITTALS WILL BE IN ACCORDANCE WITH TOWN OF HILLIARD AS-BUILT REQUIREMENT CHECKLIST. AS-BUILT DRAWINGS SHALL BE CERTIFIED BY REQUIRED LICENSED SURVEYOR AND APPROVED BY ENGINEER OF RECORD.

STORMWATER DRAINAGE NOTES:

1. ALL STORMWATER DRAINAGE FACILITIES WITHIN PUBLIC RIGHT-OF-WAY AND PAVED AREAS, INCLUDING NASSAU COUNTY RIGHT-OF-WAY, TURN LANES, RESIDENTIAL ROADWAYS, DRIVE AISLES FOR MULTI-FAMILY DEVELOPMENTS, AND MAJOR DRIVE AISLES FOR COMMERCIAL DEVELOPMENTS SHALL BE LASER PROFILED PER FDOT SECTION 430.
2. A BUILDER CANNOT MODIFY THE COUNTY'S STORM WATER MANAGEMENT SYSTEM INCLUDING THE PIPES, INLETS, AREA DRAINS, DITCHES AND RELATED ELEMENTS TYPICALLY WITHIN THE STREET OR WITHIN A DRAINAGE EASEMENT WITHOUT THE PRIOR WRITTEN APPROVAL OF THE COUNTY ENGINEER OR DESIGNEE.
3. DRAINAGE EASEMENTS AND DITCHES SHOULD REMAIN FREE OF STOCKPILED SOIL, SEDIMENT, MUD, CONSTRUCTION MATERIALS/WASTE, ET CETERA AT ALL TIMES. POSITIVE STORMWATER FLOW MUST BE MAINTAINED THROUGHOUT CONSTRUCTION.
4. THE CONTRACTOR SHALL TEMPORARILY OR PERMANENTLY STABILIZE BARE SOIL AREAS AND SOIL STOCKPILES WHEN THE AREA IS INACTIVE FOR FOURTEEN DAYS OR MORE OR HAS REACHED FINISHED GRADE.
5. PER ORDINANCE 99-17 SECTION 11.11.5.4, ALL GRAVITY FLOW PIPE INSTALLATIONS SHALL HAVE A SOIL TIGHT JOINT PERFORMANCE UNLESS SPECIFIC SITE FACTORS WARRANT WATERTIGHT JOINT PERFORMANCE.
6. PER ORDINANCE 99-17 SECTION 10.6.5.1, IMMEDIATELY INSTALL ADDITIONAL EROSION PROTECTION SEDIMENT CONTROL MEASURES IF SEDIMENT IS LEAVING YOUR SITE. FAILURE TO CONTAIN SEDIMENT TO YOUR SITE MAY RESULT IN DELAYED INSPECTIONS, NOTICES OF VIOLATION, CITATIONS, FINES, PENALTIES, AND/OR STOP WORK ORDERS.
7. PER 99-17 SECTION 10.1.2.A-E, STORMWATER MANAGEMENT FOR A PROJECT SHALL NOT HAVE ADVERSE EFFECTS ON ADJACENT PROPERTIES, DOWNSTREAM STRUCTURES, OR RIGHTS OF OTHER LAND OWNERS.

PAVING NOTES:

1. PER TOWN OF HILLIARD ROADWAY AND DRAINAGE STANDARDS, A CONSTRUCTION BOND AND 26-MONTH MAINTENANCE BOND WILL BE REQUIRED FOR ALL WORK WITHIN NASSAU COUNTY RIGHT-OF-WAY.
2. A PRE-PAVE MEETING IS REQUIRED PRIOR TO ANY PAVING OPERATIONS WITHIN TOWN OF HILLIARD ROW, RESIDENTIAL SUBDIVISIONS, OR MULTI-FAMILY DEVELOPMENTS.
3. APPROVED MIX DESIGNS SHALL BE PROVIDED TO TOWN OF HILLIARD CONSTRUCTION INSPECTOR 48 HOURS PRIOR TO PRE-PAVE MEETING OR PLACEMENT OF CONCRETE.
4. CONTRACTOR IS REQUIRED TO HAVE A CERTIFIED QC ASPHALT LEVEL II TECHNICIAN DURING ANY ASPHALT OPERATIONS WITHIN THE TOWN OF HILLIARD ROW, RESIDENTIAL SUBDIVISION, OR MULTI-FAMILY DEVELOPMENTS.
5. ALL BASES SHALL BE PRIMED IN ACCORDANCE WITH ORDINANCE 99-17 SECTION 11.5.2.3, TOWN OF HILLIARD STANDARD DETAILS, AND FDOT STANDARD SPECIFICATIONS.
6. SIGNAGE AND PAVEMENT MARKINGS SHALL BE IN COMPLIANCE WITH TOWN OF HILLIARD STANDARDS, MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), AND FDOT STANDARD PLANS.
7. MAINTENANCE OF TRAFFIC (MOT) SHALL BE IN COMPLIANCE WITH FDOT STANDARD INDEX 600 SERIES.
8. ALL WORK, MATERIALS, AND TESTING PERFORMED WITHIN TOWN OF HILLIARD RIGHT-OF-WAY AND SINGLE-FAMILY/MULTI-FAMILY DEVELOPMENTS SHALL BE IN ACCORDANCE WITH THE CURRENT REVISION OF TOWN OF HILLIARD'S ORDINANCE 99-17 AND ALL CURRENT TOWN OF HILLIARD STANDARD DETAILS.
9. PER ORDINANCE 99-17 SECTION 11.9.2, ALL PAVEMENT MARKINGS WITHIN TOWN OF HILLIARD ROW SHALL BE LEAD FREE THERMOPLASTIC MEETING TOWN OF HILLIARD AND FDOT STANDARD SPECIFICATION LATEST EDITION.
10. REMOVING PAVEMENT MARKINGS WITHIN TOWN OF HILLIARD ROW SHALL BE:
    A. GRINDING OR HYDRO-BLASTING ON WEATHERED ASPHALT SURFACES.
    B. HYDRO-BLASTING ONLY ON NEW ASPHALT SURFACES. C. PAINT BLACKOUT IS PROHIBITED.
11. PER ORDINANCE 99-17 SECTION 8.5.5, ANY DAMAGE TO PAVEMENT RESULTING FROM CONSTRUCTION OR PAVEMENT MARKING REMOVAL WITHINPUBLIC ROW NOT PLANNED AS PART OF THE PROJECT SHALL BE MILLED AND OVERLAID FOR ENTIRE WIDTH OF ROADWAY AND LENGTH OF DAMAGE PLUS 50' IN EACH DIRECTION.
12. ALL UNDERGROUND UTILITIES, OR APPROPRIATE CONDUIT SLEEVES, THAT ARE TO BE INSTALLED UNDER PAVEMENT MUST BE INSTALLED PRIOR TO PREPARATION OF THE SUBGRADE FOR PAVEMENT.
13. SINGLE VERTICAL JOINTS IN ROADWAY CONSTRUCTION SHALL BE AVOIDED IN TOWN OF HILLIARD RIGHT-OF-WAY USING TOWN OF HILLIARD STANDARD DETAIL #26.
14. ALL DRAINAGE STRUCTURES SHALL HAVE TRAFFIC BEARING GRATES THAT MEET OR EXCEED THE RATING FOR THE FACILITIES EXPECTED TRAFFIC.
15. ALL CONCRETE SHALL BE A MINIMUM OF 3000 PSI WITHIN PUBLIC RIGHT-OF-WAY.

AS-BUILT REQUIREMENTS

CONTRACTOR SHALL PROVIDE COMPLETE AS-BUILT INFORMATION TO THE PROJECT ENGINEER IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS:

1. AS-BUILT DRAWINGS SHALL BE PREPARED IN AUTOCAD FORMAT BY A REGISTERED LAND SURVEYOR. ONE SET OF SIGNED AS-BUILTS AND A COMPUTER DISK OF THE PROJECT AS-BUILTS IN .PDF FORM SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL. SIGNED AND SEALED PRINTS SHALL BE PROVIDED TO THE ENGINEER AS REQUESTED.
2. AS-BUILT DRAWINGS SHALL BE IN ACCORDANCE WITH ALL AUTHORITIES HAVING JURISDICTION. CONTRACTOR SHALL COORDINATE AS-BUILT SUBMITTALS AND APPROVALS WITH JURISDICTIONAL AGENCIES UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER.
3. PROVIDE BUILDING LOCATIONS, FINISH FLOOR ELEVATIONS, PAVEMENT GRADES AND ALL UNDERGROUND FACILITIES.
4. PROVIDE PERIMETER DIMENSIONS AT TOP OF BANK AND AT BOTTOM OF POND. PROVIDE ELEVATIONS AT TOP OF BANK AND BOTTOM OF POND.
6. PROVIDE SPECIAL DETAIL DRAWINGS WHERE INSTALLATIONS WERE NOT AS SHOWN ON CONTRACT DRAWINGS DUE TO FIELD CONDITIONS OR WHERE REQUIRED FOR CLARITY.
7. PROVIDE LOCATION, ELEVATION AND DESCRIPTION OF BENCHMARK(S).
8. LOCATE AND PROVIDE ELEVATIONS OF ALL STRUCTURES. LOCATION OF ALL STRUCTURES SHALL BE FROM TWO (2) DIRECTIONS.
9. LOCATE ALL PIPES AND PROVIDE SIZE, ELEVATION, INVERT ELEVATIONS, LENGTH AND TYPE.
10. PROVIDE DIMENSIONS AND ELEVATIONS OF THE POND OUTFALL STRUCTURE(S).
11. WATER AS-BUILTS SHALL INDICATE THE LOCATION OF BACTERIOLOGICAL SAMPLE POINTS. SAMPLE POINTS SHALL BE INDICATED IN RED OR PINK.
12. THE AS-BUILTS SHALL INCLUDE A DETAIL OF EVERY CROSSING OF THE NEW WATER MAIN WITH GRAVITY SEWERS, FORCE MAINS AND STORM PIPES CLEARLY SHOWN & INDICATING THE VERTICAL CLEARANCES AT EACH CROSSING. DETAILS SHALL BE FURNISHED FOR PARALLEL RUNS WHERE THE HORIZONTAL SEPARATION IS LESS THAN 10 FEET.
13. THE CENTERING OF UNCUT LENGTHS OF PIPE AT POINTS OF CROSSING SHALL BE DOCUMENTED ON THE AS-BUILTS AND ALL MITIGATING CONSTRUCTION MEASURES CLEARLY DEPICTED IN CASES WHERE A MINIMUM OF 18" OF VERTICAL CLEARANCE BETWEEN THE WATER AND SEWER (INCLUDING STORM) LINES IS NOT POSSIBLE.

SANITARY SEWER NOTES:

1. THE CONTRACTOR SHALL OBTAIN ALL PERMITS TO COMPLETE THE CONSTRUCTION.
2. CONTRACTOR SHALL COORDINATE THE CONSTRUCTION OF SEWER FACILITIES WITH ALL OTHER CONSTRUCTION.
3. CONTRACTOR SHALL FURNISH SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL BEFORE BEGINNING CONSTRUCTION.
4. ALL GRAVITY SEWER CONSTRUCTION SHALL CONFORM TO THE LATEST TOWN OF HILLIARD STANDARDS AND SPECIFICATIONS.
5. THE EXISTING UTILITY FACILITIES AND LOCATIONS SHOWN ON THE DRAWINGS ARE TAKEN FROM READILY AVAILABLE INFORMATION. THE ACTUAL LOCATIONS OF THE UTILITY FACILITIES MAY VARY SOMEWHAT FROM THE LOCATIONS SHOWN AND THERE MAY BE UTILITY FACILITIES EXISTING THAT ARE NOT SHOWN OR INDICATED ON THE DRAWINGS. THE SITE UTILITY CONTRACTOR SHALL CONTACT ALL AGENCIES WITH UTILITY FACILITIES IN THE VICINITY OF THE WORK AND SHALL LOCATE ALL UNDERGROUND FACILITIES BEFORE BEGINNING WORK. THE CONTRACTOR SHALL PROTECT ALL UTILITY FACILITIES AND REPAIR ANY DAMAGES RESULTING FROM THEIR WORK IN CONFORMANCE WITH THE CONTRACT DOCUMENTS AND SPECIFICATIONS AND RELOCATE IF REQUIRED AT NO COST TO THE OWNER.MANHOLES SHALL BE IN CONFORMANCE WITH TOWN OF HILLIARD STANDARDS.
6. THE CONTRACTOR SHALL STAKE THE SANITARY SEWER SYSTEM AND THE STORM SEWER SYSTEM AND SHALL NOTIFY THE ENGINEER RECORD OF ANY CONFLICTS PRIOR TO INSTALLATION OF ANY PIPE.
7. MANHOLES SHALL BE IN CONFORMANCE WITH THE TOWN OF HILLIARD STANDARDS.
8. GRAVITY SEWER MINIMUM SLOPE SHALL BE 0.4%.
9. TYPE B BEDDING SHALL BE USED FOR THIS PROJECT UNLESS INDICATED OTHERWISE ON THE DRAWINGS OR DIRECTED BY THE ENGINEER.
10. BACKFILLING SHALL BE MADE WITH CLEAN BACKFILL WHICH SHALL BE THOROUGHLY COMPACTED IN 6" LIFTS. COMPACTION SHALL BE A MINIMUM OF 95% MAX DENSITY AT +/- 2% OF THE MODIFIED PROCTOR OPTIMUM MOISTURE CONTENT.
11. UNSUITABLE MATERIALS UNDER SEWER PIPE SHALL BE REMOVED AND REPLACED WITH SELECTED BACKFILL PROPERLY COMPACTED. THE MATERIAL SHOULD EXHIBIT MOISTURE CONTENTS WITHIN +/- 2 PERCENT OF THE MODIFIED PROCTOR OPTIMUM MOISTURE CONTENT (ASTM D1557) DURING THE COMPACTION OPERATIONS. COMPACTION SHOULD CONTINUE UNTIL DENSITIES OF AT LEAST 95 PERCENT OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D1557) HAVE BEEN ACHIEVED.
12. CONTRACTOR SHALL NOTIFY THE UTILITY COMPANY A MINIMUM OF TWO DAYS PRIOR TO CONNECTION OF FORCE MAIN TO THE EXISTING LINE. ALL NEW WORK MUST BE INSPECTED BY THE ENGINEER. NO TESTS SHALL BE SCHEDULED FOR WEEKENDS. ANY CHANGE FROM THE TECHNICAL REQUIREMENTS MUST BE REVIEWED AND APPROVED BY THE ENGINEER AND OWNER.
13. LATERAL SEPARATION OF AT LEAST 10 FEET SHALL BE MAINTAINED BETWEEN WATER AND SEWER LINES. WHERE VERTICAL SEPARATION IS LESS THAN 18", SEWER LINES SHALL BE ENCASED IN CONCRETE OR CAST IRON PIPE USED IN LIEU OF PVC PIPE FOR A DISTANCE OF 10 FEET ON EITHER SIDE OF CROSSING.
14. ALL SEWER CONSTRUCTION SHALL BE ACCOMPLISHED BY AN UNDERGROUND UTILITY CONTRACTOR LICENSED UNDER CHAPTER 489 F.S.
15. ALL PIPE LENGTHS ARE HORIZONTAL DISTANCES AND ARE APPROXIMATE.
16. ALL SANITARY SEWER MAINS SHALL TERMINATE APPROXIMATELY 5 FEET OUTSIDE THE BUILDING UNLESS OTHERWISE NOTED. THE END OF THESE SERVICE LINES SHALL BE TIGHTLY PLUGGED OR CAPPED AND MARKED UNTIL SUCH TIME AS CONNECTION IS MADE INSIDE THE BUILDING.
17. THE CONTRACTOR SHALL PERFORM A TELEVISION INSPECTION OF THE SEWER SYSTEM. TWO FULL REPORTS, INCLUDING VIDEO TAPE, SHALL INDICATE CONDITIONS OF THE PIPE, LOCATION, TYPE OF PIPE, DIAMETER, LOCATION OF SERVICES, TYPE OF JOINT, DISTANCE BETWEEN MANHOLES AND ANY IRREGULARITIES IN THE PIPELINE. THE TELEVISION INSPECTION SHALL INCLUDE A DEFLECTION TEST WITH A 5% MANDREL. THE SEWER LINES SHALL BE LAMPED AS PART OF THE FINAL INSPECTION.
18. THE CONTRACTOR SHALL COORDINATE THE LOCATION, SIZE AND INVERT ELEVATIONS OF SANITARY SEWER SERVICES WITH THE APPROVED PLUMBING PLANS FOR THE BUILDING.
19. CONTRACTOR SHALL PROVIDE, TO THE ENGINEER, A SCHEDULE OF INVERT ELEVATIONS OF ALL SANITARY MANHOLES PRIOR TO THE PLACEMENT OF THE LIMEROCK BASE OCURSE. THIS SCHEDULE IS TO BE PROVIDED BY THE REGISTERED LAND SURVEYOR SUBMITTING THE "AS-BUILT" DRAWINGS FOR THIS PROJECT.
20. CONTRACTOR SHALL PROVIDE TO THE ENGINEER A SCHEDULE OF INVERT ELEVATIONS OF ALL SANITARY MANHOLES PRIOR TO PLACEMENT OF THE LIMEROCK BASE COURSE. THIS SCHEDULE TO BE PROVIDED BY THE REGISTERED LAND SURVEYOR SUBMITTING THE AS-BUILT DRAWINGS FOR THIS PROJECT.
21. ALL SEWER MAINS SHALL BE PVC (ASTM-3034) SDR-26 FOR DEPTHS TO 12 FEET, SDR-26 FOR DEPTHS 12' OR DEEPER, OR IN EASEMENTS UNLESS OTHERWISE NOTED. FORCEMAINS TO BE PVC – DR 18 PIPE UNLESS OTHERWISE NOTED. MINIMUM SLOPE SHALL BE 0.4%

NOTICE OF PROCEDURE:

THE WATER TAPS DEPICTED ON THESE DESIGN PLANS SHALL BE CONSTRUCTED AS FOLLOWS: ALL POTABLE AND IRRIGATION WATER TAPS, FIRE LINE SERVICES AND FIRE HYDRANT INSTALLATIONS SHALL BE PERFORMED BY A LICENSED MASTER PLUMBER OR UNDERGROUND UTILITY CONTRACTOR UNDER THE FOLLOWING SPECIAL CONDITIONS:

1. THE TAPS ARE TO BE SCHEDULED 48 HOURS IN ADVANCE. CONTACT YOUR TOWN OF HILLIARD INSPECTOR.
2. TAPS REQUIRING METER INSTALLATIONS OF SIZE 2" AND BELOW MUST INCLUDE THE SERVICE PIPE, METER BOX, AND CORP. STOP SIZED READY TO ACCEPT THE METER INSTALLATION BY TOWN OF HILLIARD FORCES.
3. TOWN OF HILLIARD FORCES WILL INSTALL THE METER UPON APPLICATION AND PAYMENT BY LICENSED MASTER PLUMBER OR UTILITY CONTRACTOR AT TOWN OF HILLIARD WATER AND SEWER, 15859 WEST COUNTY ROAD 108.
4. ALL TAPS REQUIRING METER INSTALLATIONS OF SIZE 3" AND ABOVE SHALL TERMINATE SIZED READY FOR VAULT, METER AND BYPASS INSTALLATION BY TOWN OF HILLIARD FORCES.

WATER AND SEWER CAPACITY FEES SHALL BE REQUIRED AT TIME OF METER APPLICATION. FEES WILL BE BASED ON TOTAL NUMBER OF PLUMBING FIXTURE UNITS SHOWN OR LISTED ON BUILDING PLANS.

ALL WATER AND SEWER CONSTRUCTION MATERIALS TO BE CONSTRUCTED IN CITY RIGHT-OF-WAY OR TOWN OF HILLIARD EASEMENT MUST BE IN CONFORMANCE WITH THE TOWN OF HILLIARD APPROVED MATERIALS MANUAL FOR WATER AND SEWER.

A PRE-CONSTRUCTION CONFERENCE IS REQUIRED AND SHALL BE SCHEDULED WITH LEE ANNE WOLLITZ; TOWN OF HILLIARD DEVELOPMENT 904-845-3555.

METER TO BE INSTALLED BY TOWN OF HILLIARD WATER AND SEWER FORCES UPON APPLICATION AND PAYMENT BY LICENSED MASTER PLUMBER OR UTILITY CONTRACTOR, 515 N. LAURA ST. 1ST FLOOR CUSTOMER SERVICE BUILDING.

ALL WATER MAINS SHALL BE PRESSURE TESTED AT 150 PSI FOR 2 HOURS AND FORCE MAINS SHALL BE TESTED AT 100 PSI FOR 2 HOURS IN ACCORDANCE WITH SECTION "A" OF AWWA STANDARD C600 WITH LEAKAGE LIMITED TO THAT DETERMINED BY THE APPROPRIATE FORMULA.

DISINFECTION OF THE WATER MAIN SHALL BE PERFORMED IN ACCORDANCE WITH AWWA C651.

MECHANICAL JOINT RESTRAINTS SHALL CONFORM TO AWWA STANDARD C509.

ALL ONSITE PRIVATE WATER AND SEWER CONSTRUCTION AND MATERIALS SHALL CONFORM TO CURRENT TOWN OF HILLIARD AND FDEP STANDARDS AND SPECIFICATIONS.

SHOP DRAWINGS ON ALL BACKFLOW PREVENTORS SHALL BE SUBMITTED TO TOWN OF HILLIARD FOR APPROVAL PRIOR TO INSTALLATION. CONTACT BILL POUND @ 904-665-5787.

NOTES:

1) GENERAL CONTRACTOR & SITE CONTRACTOR SHALL REVIEW THE SITE ENGINEERING DOCUMENTS, ARCHITECTURAL PLANS & COORDINATE W/ THE FOLLOWING:

A) PLUMBING PLANS W/ RESPECT TO LATERAL LOCATIONS, INVERTS, & WATER SERVICE CONNECTION POINTS

ANY DISCREPANCY SHALL BE REPORTED IMMEDIATELY TO THE DESIGN PROFESSIONAL PRIOR TO ANY INSTALLATION. FAILURE TO COORDINATE SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR & THE SITE CONTRACTOR.

2) COORDINATE W/ PLUMBING PLANS

3) CONTRACTOR TO VERIFY LOCATION OF WATER MAIN & SEWER MAIN LOCATION ON PLANS IS ESTIMATED FROM TOWN OF HILLIARD AVAILABILITY. CONTRACTOR TO VERIFY LOCATION OF BOTH MAINS BEFORE BEGINING CONSTRUCTION AND NOTIFY ENGINEER IMEDIATELY IF LOCATION SIGNIFICANTLY DIFFERS FROM PLANS.

4) CONTRACTOR TO COORDINATE LOCATION OF ALL ENTRY & EXIT POINTS FROM THE STRUCTURE(S) SHOWN ON ENGINEERING PLANS WITH ARCHITECTURAL PLANS

WATER NOTES:

1. THE CONTRACTOR SHALL OBTAIN ALL PERMITS TO COMPLETE THE CONSTRUCTION.
2. CONTRACTOR SHALL COORDINATE THE CONSTRUCTION OF WATER FACILITIES WITH ALL OTHER CONSTRUCTION.
3. CONTRACTOR SHALL FURNISH SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO BEGINNING CONSTRUCTION.
4. ALL WORKMANSHIP AND MATERIALS SHALL CONFORM TO LATEST TOWN OF HILLIARD STANDARDS AND SPECIFICATIONS AND APPLICABLE AWWA STANDARDS.
5. THE EXISTING UTILITY FACILITIES AND LOCATIONS SHOWN ON THE DRAWINGS ARE TAKEN FROM READILY AVAILABLE INFORMATION. THE ACTUAL LOCATIONS OF THE UTILITY FACILITIES MAY VARY SOMEWHAT FROM THE LOCATIONS SHOWN AND THERE MAY BE UTILITY FACILITIES EXISTING THAT ARE NOT SHOWN OR INDICATED ON THE DRAWINGS. THE SITE UTILITY CONTRACTOR SHALL CONTACT ALL AGENCIES WITH UTILITY FACILITIES IN THE VICINITY OF THE WORK AND SHALL LOCATE ALL UNDERGROUND FACILITIES BEFORE BEGINNING WORK. THE CONTRACTOR SHALL PROTECT ALL UTILITY FACILITIES AND REPAIR ANY DAMAGES RESULTING FROM THEIR WORK. IN CONFORMANCE WITH THE CONTRACT DOCUMENTS AND SPECIFICATIONS AND RELOCATE IF REQUIRED AT NO COST TO THE OWNER.
6. WATER LINES SHALL HAVE A MINIMUM OF 36" COVER FROM FINISHED GRADE. MAXIMUM COVER SHALL BE 60".
7. WATER LINES ARE DESIGNED TO FINISHED GRADE AND SHALL BE PROTECTED UNTIL FINISH WORK IS COMPLETE.
8. ALL WATER MAINS 4" AND LARGER SHALL BE AWWA C900, DR18 PVC. WATER MAINS 2" AND SMALLER SHALL BE HDPE AND WITH NSF-PW APPROVAL.
9. RESTRAINED JOINTS ARE REQUIRED WHERE WATER MAINS ARE TERMINATED AND AT ALL BENDS, IN ACCORDANCE WITH THE TOWN OF HILLIARD STANDARD DETAILS AND SPECIFICATIONS.
10. ALL GATE VALVES SHALL BE NON-RISING STEM TYPE AND SHALL BE SUITABLE FOR 200 PSI NON-SHOCK WORKING PRESSURE. GATE VALVES SHALL BE MECHANICAL JOINT, IRON BODY, RESILIENT SEAT, MUELLER OR EQUAL. VALVE BOXES WITH SCREW EXTENSIONS SHALL BE PROVIDED FOR EACH BURIED GATE VALVE. BOXES SHALL BE OF CAST IRON CONSTRUCTION, 3/8" MINIMUM WALL THICKNESS AND SHALL BE NON-TACKY TAR ENAMEL COATED. THE WORD "WATER" SHALL BE CAST IN COVER. ALL GATE VALVES INSTALLED SHALL OPEN BY TURNING TO THE LEFT (COUNTERCLOCKWISE) WHEN VIEWED FROM THE STEM.
11. CLASS B, TYPE I BEDDING SHALL BE USED FOR THIS PROJECT UNLESS INDICATED OTHERWISE ON THE DRAWINGS OR DIRECTED BY THE ENGINEER.
12. UNSUITABLE MATERIALS UNDER WATER PIPE SHALL BE REMOVED AND REPLACED WITH SELECTED BACKFILL PROPERLY COMPACTED. THE MATERIAL SHOULD EXHIBIT MOISTURE CONTENTS WITHIN +/- 2 PERCENT OF THE MODIFIED PROCTOR OPTIMUM MOISTURE CONTENT (ASTM D1557) DURING THE COMPACTION OPERATIONS. COMPACTION SHOULD CONTINUE UNTIL DENSITIES OF AT LEAST 95 PERCENT OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D 1557) HAVE BEEN ACHIEVED.
13. BACKFILLING SHALL BE MADE WITH CLEAN BACKFILL WHICH SHALL BE THOROUGHLY COMPACTED IN 6" LIFTS. COMPACTION SHALL BE A MINIMUM OF 95% OF MAX. DENSITY AT +/- 2.0% OF THE MODIFIED PROCTOR
14. WHERE WATER MAINS ARE LAID UNDER DITCHES, CULVERTS, PIPELINES, OR OBSTRUCTIONS WITHOUT FITTINGS, THE MAXIMUM DEFLECTION OF ANY JOINT SHALL NOT EXCEED 50% OF THE MAXIMUM RECOMMENDED BY THE PIPE MANUFACTURER.
15. NO CONNECTION TO EXISTING POTABLE WATER SYSTEM WILL BE ALLOWED UNTIL ALL PROPOSED WATER LINES HAVE BEEN FLUSHED, PRESSURE TESTED, DISINFECTED, AND CLEARED FOR SERVICE BY THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION.
16. CONTRACTOR SHALL NOTIFY UTILITY COMPANY A MINIMUM OF TWO DAYS PRIOR TO CONNECTION OF WATER MAINS TO EXISTING LINES. ALL NEW WORK MUST BE INSPECTED BY THE ENGINEER. NO TESTS SHALL BE SCHEDULED FOR WEEKENDS. ANY CHANGE FROM THE TECHNICAL REQUIREMENTS MUST BE REVIEWED AND APPROVED BY THE ENGINEER AND OWNER.
17. HYDROSTATIC AND LEAKAGE TESTING OF THE WATER MAINS INSTALLED SHALL BE PERFORMED IN ACCORDANCE WITH AWWA STANDARD SPECIFICATIONS. A REPRESENTATIVE OF THE UTILITY COMPANY OR THE ENGINEER MUST BE PRESENT DURING THE TESTS. PRESSURE TESTS SHALL BE CONDUCTED AT 150 PSI FOR 2 HOURS FOR WATER MAINS AND 200 PSI FOR 2 HOURS FOR FIRE MAINS. PRESSURE TEST AFTER LIMEROCK IS INSTALLED.
18. THE CONTRACTOR SHALL COORDINATE ALL WATER MAIN FLUSHING WITH THE TOWN OF HILLIARD UTILITY DEPARTMENT. FLUSHING AND DISINFECTION PROCEDURES SHALL COMPLY WITH AWWA FOR MAIN DISINFECTION.
19. UPON COMPLETION OF WATER MAIN FLUSHING, BACTERIOLOGICAL SAMPLES SHALL BE TAKEN. SAMPLES SHALL BE TAKEN FOR 2 CONSECUTIVE DAYS.
20. SAMPLE POINTS FOR BACTERIOLOGICAL SAMPLING SHALL BE LOCATED AS FOLLOWS:
    1. EVERY 1000 FEET AND/OR EVERY DEAD END ON A WATER MAIN.
    2. POINT OF TIE-IN TO EXISTING WATER SYSTEM.
    3. WATER MAIN STUBS MORE THAN 40 FEET IN LENGTH.
21. FIRE HYDRANTS SHALL MEET THE TOWN OF HILLIARD STANDARDS.
22. ALL WATER MAINS SHALL TERMINATE APPROXIMATELY 5 FEET OUTSIDE THE BUILDING UNLESS OTHERWISE NOTED. THE END OF THESE SERVICE LINES SHALL BE TIGHTLY PLUGGED OR CAPPED AND MARKED UNTIL SUCH TIME AS CONNECTION IS MADE INSIDE THE BUILDING.
23. THE SITE UTILITY CONTRACTOR SHALL MAKE APPLICATION TO UTILITY COMPANY FOR THE PROJECT WATER METER AND SHALL PAY FOR ALL METER FEES.
24. UTILITY LEAD-INS TO BUILDING SHALL NOT BE INSTALLED UNTIL BUILDING PLANS ARE COMPLETED AND LOCATIONS ESTABLISHED ON THE ARCHITECTURAL PLUMBING PLANS. LEAD-INS MAY CHANGE 15' HORIZONTALLY AND 3' VERTICALLY PRIOR TO INSTALLATIONS AT NO ADDITIONAL COST TO OWNER. LOCATION, SIZE, AND INVERT ELEVATIONS SHALL BE COORDINATED WITH THE APPROVED PLUMBING PLANS FOR THE BUILDING.
25. WHERE PARALLEL WATER AND SEWER (INCLUDING STORM) LINES HAVE LESS THAN 10 FEET HORIZONTAL SEPARATION, FULL-UNCUT LENGTHS OF WATER QUALITY PIPE (I.E. DR 18 AWWA C-900 FOR NEWLY INSTALLED SEWER & DR 25 AWWA C-900 WATER) WILL BE USED WITH THE JOINTS STAGGERED AT 10 FOOT INTERVALS OR THEY WILL BE PLACED ON AN UNDISTURBED SHELF OR IN A SEPARATE TRENCH WITH A MINIMUM VERTICAL SEPARATION OF AT LEAST 18 INCHES. IT IS PREFERABLE TO HAVE THE WATER MAINS LOCATED ABOVE THE SEWER AND WITH 10 FOOT OF SEPARATION WHERE POSSIBLE.
26. WHERE IT IS NOT POSSIBLE FOR WATER AND SEWER (INCLUDING STORM) LINES TO CROSS WITH A MINIMUM OF 18 INCHES OF VERTICAL CLEARANCE, A FULL-UNCUT LENGTH OF WATER QUALITY PIPE (I.E. DR 18 AWWA C-900 FOR NEWLY INSTALLED SEWER & DR 25 AWWA C-900 WATER) WHICH IS USUALLY 20 FEET LONG WILL BE CENTERED ON THE POINT OF CROSSING. THE CONTRACTOR WILL FIELD VERIFY THE VERTICAL SEPARATION. THE MINIMUM VERTICAL SEPARATION BETWEEN WATER AND SEWER (INCLUDING STORM) PIPES WHEN 18 INCHES IS NOT POSSIBLE WILL BE 6 INCHES OUTSIDE DIAMETER TO OUTSIDE DIAMETER. IT IS PREFERABLE TO HAVE THE WATER MAIN ABOVE THE SEWER LINES AND AT LEAST 18 INCHES VERTICAL SEPARATION.
27. A FULL UNCUT LENGTH OF WATER MAIN PIPE (USUALLY 20 FEET) SHALL BE CENTERED AT THE POINT OF CROSSING OF ALL WATER AND SEWER (INCLUDING STORM) LINES AT THE POINT OF CROSSINGS REGARDLESS OF THE VERTICAL SEPARATIONS.
28. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE MITIGATING CONSTRUCTION MEASURES IN ALL CASES WHERE A MINUMUM OF 18 INCHES OF VERTICAL CLEARANCE BETWEEN WATER AND SEWER (INCLUDING STORM) LINES IS NOT POSSIBLE.
29. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING WATER FOR CONSTRUCTION USE DURING ENTIRE COURSE OF PROJECT IF NECESSARY.
30. PRESSURE PIPE AND FITTINGS REQUIRING RESTRAINT SHALL BE BRACED WITH RESTRAINED JOINTS PER THE TOWN OF HILLIARD STANDARDS.
31. THE CONTRACTOR SHALL COORDINATE THE LOCATION AND SIZE OF WATER SERVICES WITH THE APPROVED PLUMBING PLANS FOR THE BUILDING.
32. THE CONTRACTOR SHALL COORDINATE ALL CONNECTIONS WITH SITE PIPING AND BUILDING PIPING.
33. ALL WATER AND SEWER CONSTRUCTION WITHIN NASSAU COUNTY SHALL BE ACCOMPLISHED BY AN UNDERGROUND UTILITY CONTRACTOR LICENSED UNDER THE PROVISIONS OF CHAPTER 489 FLORIDA STATUTES.
34. IF DEWATERING CAPACITY REQUIRES A CONSUMPTIVE USE PERMIT IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN THE PERMIT THROUGH THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT.
35. IF SOLVENT CONTAMINATION IS FOUND IN THE PIPE TRENCH, WORK SHALL BE STOPPED AND THE PROPER AUTHORITIES NOTIFIED. WITH APPROVAL OF THE PERMITTING AGENCY, DUCTILE IRON PIPE, FITTINGS, AND SOLVENT RESISTANT GASKET MATERIAL SUCH AS FLUOROCARBON SHALL BE USED IN THE CONTAMINATED AREA. THE DUCTILE IRON PIPE SHALL EXTEND AT LEAST 100 FEET BEYOND ANY SOLVENT NOTED. ANY CONTAMINATED SOIL THAT IS EXCAVATED SHALL BE PLACED ON AN IMPERMEABLE MAT AND COVERED WITH A WATERPROOF COVERING. THE PROPER AUTHORITIES WILL BE NOTIFIED AND THE CONTAMINATED SOIL HELD FOR PROPER DISPOSAL.

UNLESS OTHERWISE SHOWN, CONTRACTOR SHALL INSTALL SUITABLE GUTTERS AND DOWN SPOUTS AS REQUIRED TO CONVEY AND ENSURE ROOF DRAINAGE IS DIRECTED TO A POINT THAT IT WILL ULTIMATELY GO INTO THE STORM WATER MANAGEMENT FACILITY.

PIPING FOR THE ROOF DRAIN SYSTEM SHALL NOT INTERFERE WITH OTHER UTILITIES, SIDEWALKS, OR LANDSCAPING.

THE LOCATION OF AREA TELEPHONES, LIGHTING, IRRIGATION, UNDERGROUND ELECTRIC CONDUITS AND TRANSFORMER PADS (IF SHOWN) ARE FOR INFORMATION PURPOSES ONLY. THE CONTRACTOR, OWNER AND DESIGNER OF THE UTILITY SHALL BE RESPONSIBLE FOR COORDINATION OF ALL UTILITIES EXCEPT FOR DRAINAGE, WATER, AND SEWER.

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2	1/12/24 FINAL REVISION	JES

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Henry A. Vorpe Jr. No. 49049

UNLESS THIS DRAWING BEARS THE EMBOSSED SEAL OF A FLORIDA REGISTERED ENGINEER ACTING AS AN AUTHORIZED AGENT FOR AVA ENGINEERS, INC., IT IS FOR INFORMATION PURPOSES ONLY AND IS NOT VALID.

THE STORMWATER SYSTEM AS SHOWN ON THESE PLANS HAS BEEN PREPARED IN ACCORDANCE WITH STANDARD, ACCEPTED ENGINEERING PRACTICE. HOWEVER, CERTAIN DESIGN CRITERIA, RULES OR LAWS THAT ARE MANDATED BY OTHERS (ie CITY, COUNTY, STATE, FEDERAL, etc.) HAVE BEEN USED TO DETERMINE THE FINAL DESIGN FOR SUCH STORMWATER FACILITIES. THE ENGINEER DOES NOT ACCEPT RESPONSIBILITY FOR POSSIBLE FUTURE CONTAMINATION RESULTING FROM THE REQUIREMENT FOR RETENTION AND TREATMENT OF STORMWATER.

HILLIARD RV

GENERAL NOTES

NASSAU **FLORIDA**

Date:	06/2022
Designer:	HAV
Job #:	21-071
Drawn:	MRP
Scale:	N/A
Sheet:	2

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ITEM-3

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HILLIARD RV

EXISTING CONDITIONS

NASSAU FLORIDA

Date: 06/2022

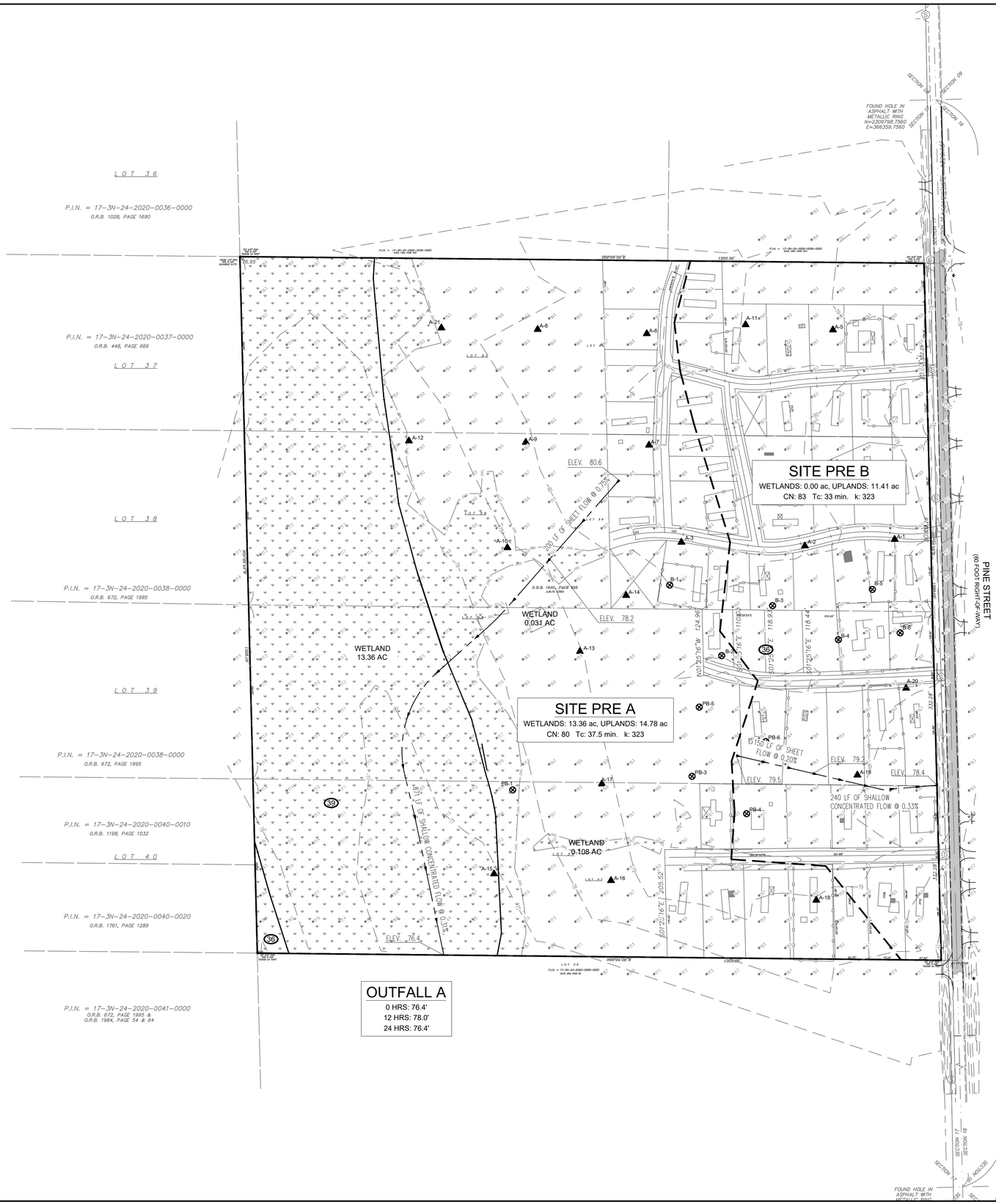
Designer: HAV

Job #: 21-071

Drawn: MRP

Scale: 1:60

Sheet: 3



LEGEND

- SITE BOUNDARY
- 38 EX CONTOURS
- SOIL BOUNDARY
- DRAINAGE BNDY
- TC PATH

SOIL LEGEND

- (36) BOULOGNE FINE SAND, HSG: B/D
- (39) EVERGREEN-LEON MUCKS, DEPRESSIONAL, HSG: B/D

No.	Revisions	By
2	1/12/24 FINAL REVISION	JES

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HILLIARD RV

PRE-DEVELOPMENT PLAN
NASSAU FLORIDA

Date: 06/2022
Designer: HAV
Job #: 21-071
Drawn: MRP
Scale: 1:100
Sheet: 4

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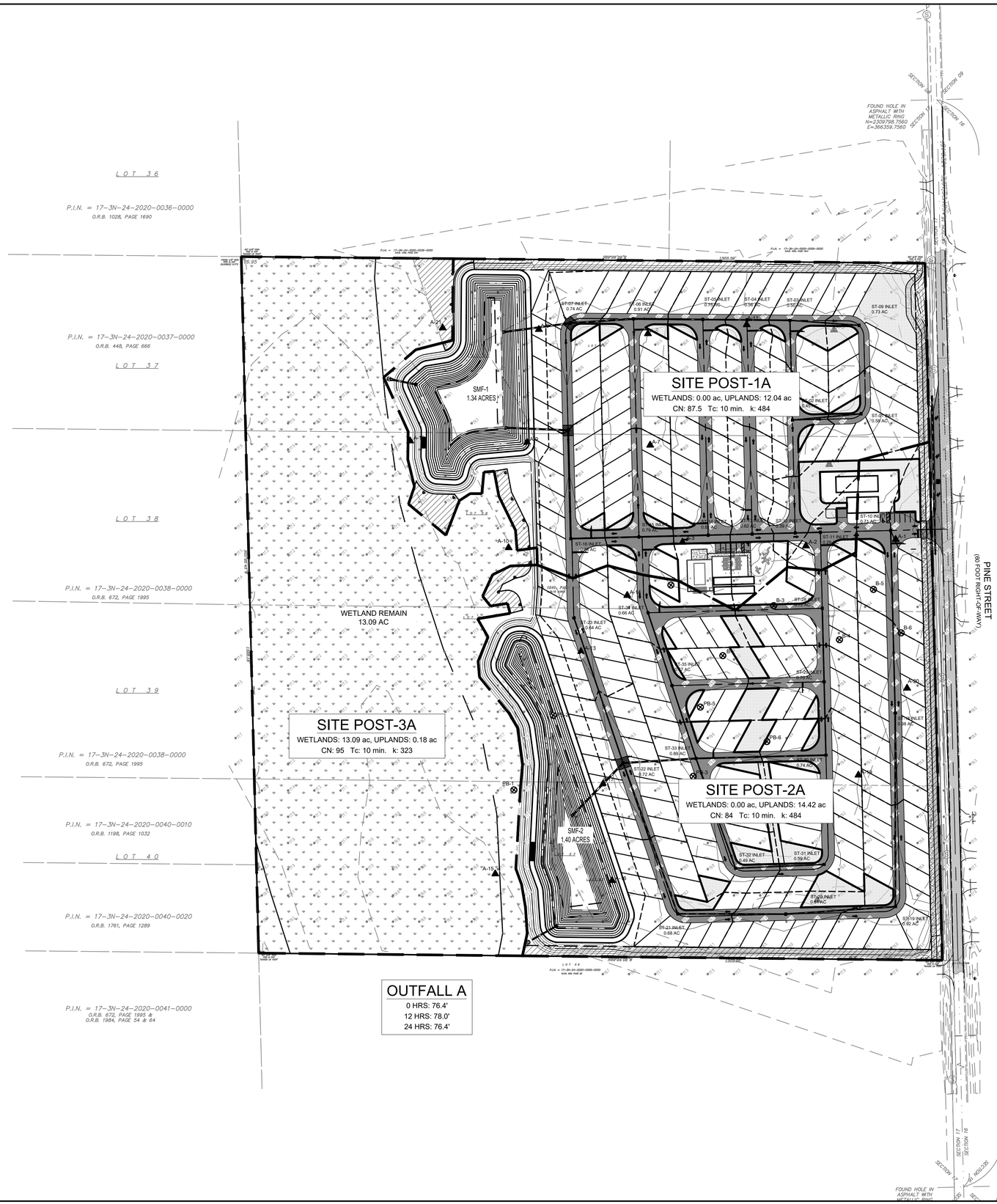

LEGEND

- BOUNDARY
- 38 EX CONTOURS
- SILT FENCE
- DRAINAGE AREA
- TC PATH

No.	Revisions	By
2	1/12/24 FINAL REVISION	JES

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HILLIARD RV

POST DEVELOPMENT PLAN
FLORIDA
NASSAU

Date:	06/2022
Designer:	HAV
Job #:	21-071
Drawn:	MRP
Scale:	1:100
Sheet:	5

GRAPHIC SCALE
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1" = 100'

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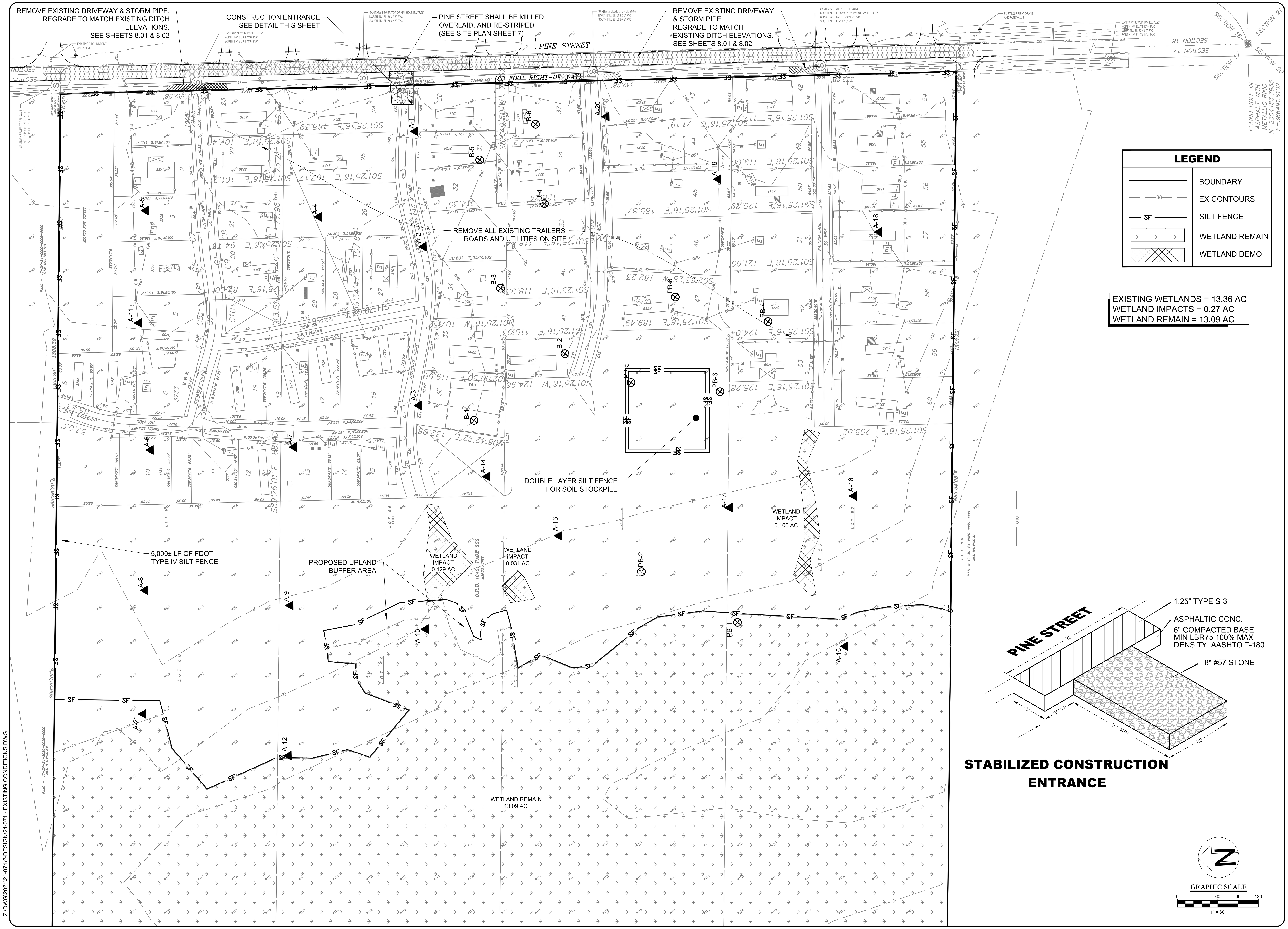
ITEM-3



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2	1/12/24 FINAL REVISION	JES

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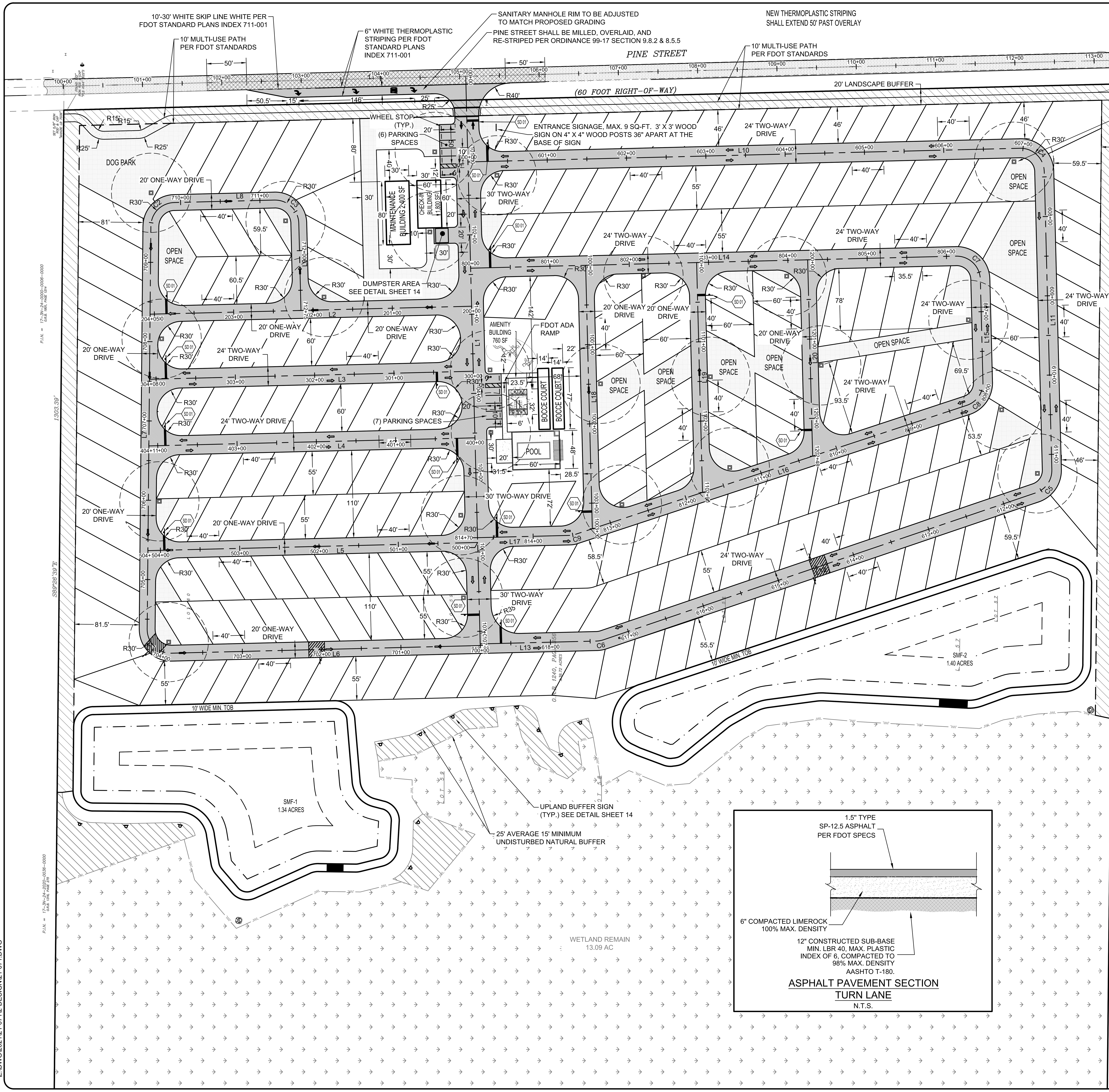
HILLIARD RV

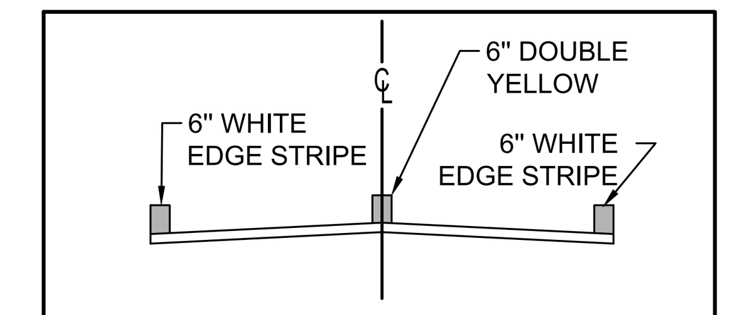
DEMOLITION PLAN

NASSAU FLORIDA

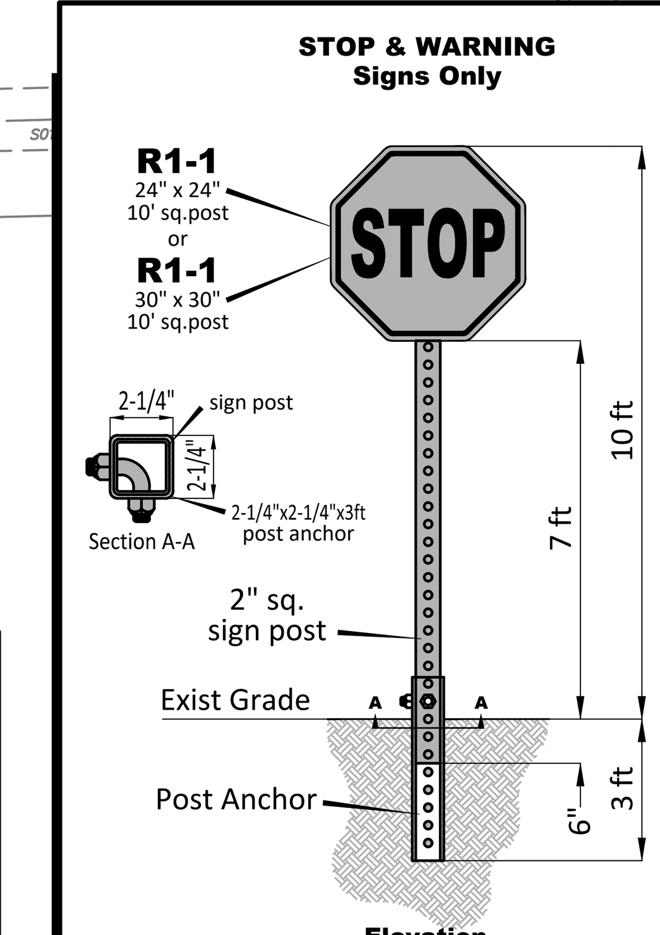
Date:	06/2022
Designer:	HAV
Job #:	21-071
Drawn:	MRP
Scale:	1:60
Sheet:	6

ITEM-3





PROPOSED PAVEMENT STRIPING DETAIL
PER FDOT INDEX 711-001 AND 706-001



Elevation
(D) Sign Installation for 2" x 10 foot square post
24" STOP BAR & STOP/STREET SIGN COMBINATION

EXISTING WETLANDS = 13.36 AC
WETLAND IMPACTS = 0.27 AC
WETLAND REMAIN = 13.09 AC

DATA SUMMARY

TOTAL SITE AREA:	39.73 AC
TOTAL RV LOTS:	240 LOTS
PHASING:	DEVELOPMENT TO BE BUILT IN SINGLE PHASES, SUBJECT TO DESIGN & ENGINEERING
CURRENT ZONING / FUTURE LAND USE:	RMH/HIGH DENSITY
% BLDG COVERAGE TO SITE AREA:	0.24%
TOTAL PERIMETER BUFFER AREA:	1.37 AC
REAL ESTATE NO.:	17-3N-24-2020-0057-0000
MAX BLDG HEIGHT	35'
STORMWATER MANAGEMENT:	ON-SITE
TOTAL IMPERVIOUS	9.11 AC/22.93%*
FIRE PROTECTION:	2 FIRE HYDRANTS IN PINE STREET ROW BETWEEN SITE'S NORTH AND SOUTH PROPERTY BOUNDARIES
NEAREST HYDRANT:	OFFSITE IN PINE STREET ROW
FEMA FLOOD PANEL NO.:	12089C 0145 F
FLOOD ZONE:	X; NOT IN FLOOD ZONE
EXISTING WETLANDS ON SITE:	13.36 AC.
PROPOSED IMPACTS / PRESERVE AREA:	0.27 / 13.09 AC.
ACTIVE RECREATION SPACE:	2.00 AC
ROADWAYS:	PAVED, 24' TWO-WAY 20' ONE-WAY
UTILITIES:	CONNECTION TO LOCAL WATER MAIN AND SANITARY UTILITIES

*TOTAL INCLUDES 2.74 AC FOR THE NORMAL WATER OF PONDS

CURVE TABLE

CURVE #	RADIUS	LENGTH	TANGENT	CHORD	DELTA
C1	30.00'	48.14'	31.04'	43.14'	91°56'47"
C2	30.00'	46.10'	29.00'	41.70'	88°03'13"
C3	30.00'	47.12'	30.00'	42.43'	90°00'00"
C4	30.00'	47.10'	29.98'	42.41'	89°57'39"
C5	30.00'	38.06'	22.07'	35.55'	72°40'49"
C6	30.00'	9.09'	4.58'	9.05'	17°21'32"
C7	30.00'	47.10'	29.98'	42.41'	89°57'35"
C8	30.00'	38.34'	22.29'	35.78'	73°13'03"
C9	30.00'	8.81'	4.44'	8.78'	16°49'22"

LINE TABLE

LINE #	BEARING	DISTANCE
L1	S 88°32'19" W	718.00'
L2	N 01°25'16" W	405.45'
L3	N 01°25'16" W	408.29'
L4	N 01°25'16" W	411.21'
L5	N 01°25'16" W	415.79'
L6	N 01°25'16" W	389.26'
L7	S 89°28'29" E	508.29'
L8	S 01°25'16" E	126.53'
L9	S 88°34'44" W	110.00'
L10	S 01°25'16" E	696.02'

LINE TABLE

LINE #	BEARING	DISTANCE
L11	S 88°32'23" W	376.26'
L12	N 18°46'48" W	575.48'
L13	N 01°25'16" W	146.59'
L14	S 01°25'15" E	612.02'
L15	S 88°32'19" W	129.78'
L16	N 18°14'38" W	518.89'
L17	N 01°25'16" W	115.19'
L18	S 88°32'19" W	332.29'
L19	S 88°32'19" W	289.97'
L20	S 88°32'19" W	247.65'

1.5" TYPE SP-12.5 ASPHALT PER FDOT SPECS
6" COMPACTED LIMEROCK 100% MAX. DENSITY
12" CONSTRUCTED SUB-BASE MIN. LBR 40, MAX. PLASTIC INDEX OF 6, COMPACTED TO 98% MAX. DENSITY AASHTO T-180.

ASPHALT PAVEMENT SECTION
TURN LANE
N.T.S.

(13) PARKING SPACES PROVIDED (2 HANDICAPPED)

LEGEND

- BOUNDARY
- BUILDING SETBACK
- UPLAND BUFFER
- LANSCAPE BUFFER
- WETLAND REMAIN
- OPEN SPACE
- AREA TO BE MILLED, OVERLAID & RE-STRIPED

GRAPHIC SCALE
0 60 90 120
1" = 60'

No.	Revisions	By
2	1/12/24 FINAL REVISION	JES

AVA ENGINEERS, INC.
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Henry A. Vorpe Jr. No. 49049

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HILLIARD RV

SITE PLAN

NASSAU FLORIDA

Date:	06/2022
Designer:	HAV
Job #:	21-071
Drawn:	MRP
Scale:	1:60
Sheet:	7

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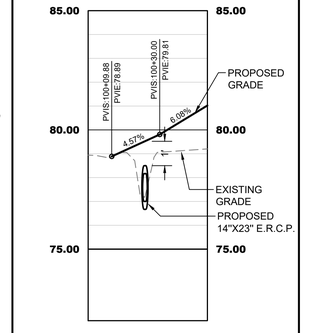
SOIL COMPACTION NOTES

1. COMPACT THE EXPOSED SURFACE OF THE POND BANKS UNTIL THE UPPER ONE FOOT OF SOILS BELOW THE EXPOSED SURFACE ARE IMPROVED TO ACHIEVE A MINIMUM COMPACTION REQUIREMENT OF 95% OF THE MODIFIED PROCTOR TEST (ASTM D 1557). COMPACTION OF THE POND BANKS SHOULD BE PERFORMED TO AT LEAST NORMAL WATER LEVEL OF THE PONDS. THE UPPER ONE FOOT OF SOILS BELOW THE EXPOSED SURFACE (AFTER STRIPPING/GRUBBING) WITHIN THE AREA OF THE PROPOSED POND BERMS SHOULD ALSO BE COMPACTED UNTIL IMPROVED TO A DENSITY OF 95% OF ASTM D 1557. SHOULD THE SOILS EXPERIENCE PUMPING AND SOIL STRENGTH LOSS DURING THE COMPACTION OPERATIONS, COMPACTION WORK SHOULD BE IMMEDIATELY TERMINATED AND (1) THE DISTURBED SOILS REMOVED AND BACKFILLED WITH DRY STRUCTURAL FILL SOILS WHICH ARE THEN COMPACTED, OR (2) THE EXCESS MOISTURE CONTENT WITHIN THE DISTURBED SOILS ALLOWED TO DISSIPATE BEFORE RECOMPACTING.
2. TEST THE COMPACTED SURFACE FOR DENSITY AT A MINIMUM OF 10 LOCATIONS PER POND.
3. STRUCTURAL FILL AND BACKFILL THAT IS REQUIRED FOR POND CONSTRUCTION AND POND BERM CONSTRUCTION SHOULD BE PLACED IN LOOSE LIFTS NOT EXCEEDING 8 INCHES AND COMPACTED UNTIL FINISHED GRADE IS ACHIEVED. STRUCTURAL FILL AND BACKFILL IS TYPICALLY DEFINED AS NON-PLASTIC, INORGANIC, GRANULAR SOIL HAVING LESS THAN 10 PERCENT MATERIAL PASSING THE NO. 200 MESH SIEVE AND CONTAINING LESS THAN 4 PERCENT ORGANIC MATERIAL. TYPICALLY, THE MATERIAL SHOULD EXHIBIT MOISTURE CONTENTS WITHIN 2 PERCENT OF THE MODIFIED PROCTOR OPTIMUM MOISTURE CONTENT (ASTM D 1557) DURING THE COMPACTION OPERATIONS. COMPACTION SHOULD CONTINUE UNTIL DENSITIES OF AT LEAST 95 PERCENT OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D 1557) HAVE BEEN ACHIEVED WITHIN EACH LIFT OF THE COMPACTED STRUCTURAL FILL.
4. PERFORM DENSITY TESTS WITHIN EACH LIFT OF FILL AT A MINIMUM OF 10 LOCATIONS PER POND.

LEGEND

— — —	BOUNDARY
38	PROPOSED CONTOURS
37.65	SPOT EL.
37.65 NG	SPOT EL. NATURAL GRADE
37.65 TC / 37.15 FS	SPOT EL. TOP OF CURB / SPOT EL. FINISH SURFACE
37.65 HP	SPOT EL. HIGH POINT
37.65 LP	SPOT EL. LOW POINT
0.65%	DIR. SLOPE ARROW
	UPLAND BUFFER
	LANSCAPE BUFFER
→ → →	WETLAND REMAIN

GRAPHIC SCALE
0 30 45 60
1" = 30'



SECTION "A"-"A"
100+00.00 TO 100+50.00

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Henry A. Verpe, jr. No. 43043

No.	Revisions	By
2	1/12/24 FINAL REVISION	JES

HILLIARD RV

GRADING & DRAINAGE PLAN
NASSAU FLORIDA

Date: 06/2022
Designer: HAV
Job #: 21-071
Drawn: MRP
Scale: 1:30
Sheet: 8.01

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MATCHLINE SEE SHEET 8.01

No.	Revisions	By
2	1/12/24 FINAL REVISION	JES

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STORMWATER MGMT. FACILITY SMF-2		
TOP	=	83.00, 1.402 Ac.
NWL	=	78.60, 0.860 Ac.
BOT	=	68.00, 0.153 Ac.
DHW (100 YR)	=	82.96
DHW (25 YR)	=	82.50
DHW (5 YR)	=	81.32
DHW (MEAN)	=	80.85

ANY SLOPES GREATER THAN 4:1 SIDESLOPE STABILIZE WITH GEOTEXTILES AND STAKED SOD.

POINT OF FIRE WATER SOURCE SEE DETAIL SHEET 8.03

ST-24 MES (NE) 36" INV = 70.00

35' LONG 10' WIDE OVERFLOW WEIR SEE DETAIL SHEET 8.04

SMF-2 1.40 ACRES

CS-2 TYPE "C" INLET TOP 82.50 INV OUT: 77.00 SW

ST-17 MES (NE) 30" INV = 76.60

RIP RAP SEE DETAIL SHEET 8.04

GRAPHIC SCALE 0 30 45 60 1" = 30'

ST-23 INLET TOP 82.50 INV OUT: 79.40 S

ST-34 INLET TOP 82.50 INV OUT: 79.50 S

ST-28 INLET TOP 82.50 INV OUT: 79.50 S

ST-35 INLET TOP 82.50 INV IN: 79.30 N INV OUT: 79.30 S

ST-29 INLET TOP 82.50 INV IN: 79.30 N INV OUT: 79.30 S

ST-22 INLET TOP 82.50 INV IN: 77.50 S INV IN: 79.00 N INV IN: 77.25 E INV OUT: 70.00 SW

ST-33 INLET TOP 82.50 INV IN: 79.10 S INV IN: 79.10 N INV IN: 78.35 E INV OUT: 77.35 W

ST-30 INLET TOP 82.50 INV IN: 79.10 N INV OUT: 78.60 W

ST-18 INLET TOP 82.50 INV IN: 79.05 N INV OUT: 78.55 S

ST-31 INLET TOP 82.50 INV OUT: 79.65 W

ST-32 INLET TOP 82.50 INV IN: 79.40 E INV OUT: 79.40 N

ST-19 INLET TOP 82.50 INV IN: 78.20 N INV OUT: 78.20 W

ST-21 INLET TOP 82.50 INV IN: 77.80 E INV OUT: 77.80 N

ST-20 INLET TOP 82.50 INV IN: 78.00 E INV OUT: 78.00 W

~146 LF 18" HDPE @ 0.14%
~292 LF 18" HDPE @ 0.14%
~139 LF 30" HDPE @ 0.07%
~185 LF 30" HDPE @ 0.05%
~53 LF 30" HDPE @ 0.75%
~222 LF 18" HDPE @ 0.13%
~306 LF 24" HDPE @ 0.10%
~169 LF 18" HDPE @ 0.15%
~206 LF 24" HDPE @ 0.10%
~248 LF 24" HDPE @ 0.10%
~348 LF 18" HDPE @ 0.13%
~140 LF 18" HDPE @ 0.14%
~369 LF 24" HDPE @ 0.09%
~210 LF 24" HDPE @ 0.10%

PB-1 PB-2 PB-3 PB-4 PB-5 PB-6

A-13 A-14 A-15 A-16 A-17 A-18 A-19 A-20 B-2 B-4 B-6

PINE STREET (80 FOOT RIGHT-OF-WAY)

S89°29'E 612.45'

N89°24'08"E 1303.25'

DAYLIGHT LINE GRADE @ 3:1 TO EXISTING GRADE

DAYLIGHT LINE

LOT 57

LOT 56

HILLIARD RV

GRADING & DRAINAGE PLAN

FLORIDA

NASSAU

Date:	06/2022
Designer:	HAV
Job #:	21-071
Drawn:	MRP
Scale:	1:30
Sheet:	8.02

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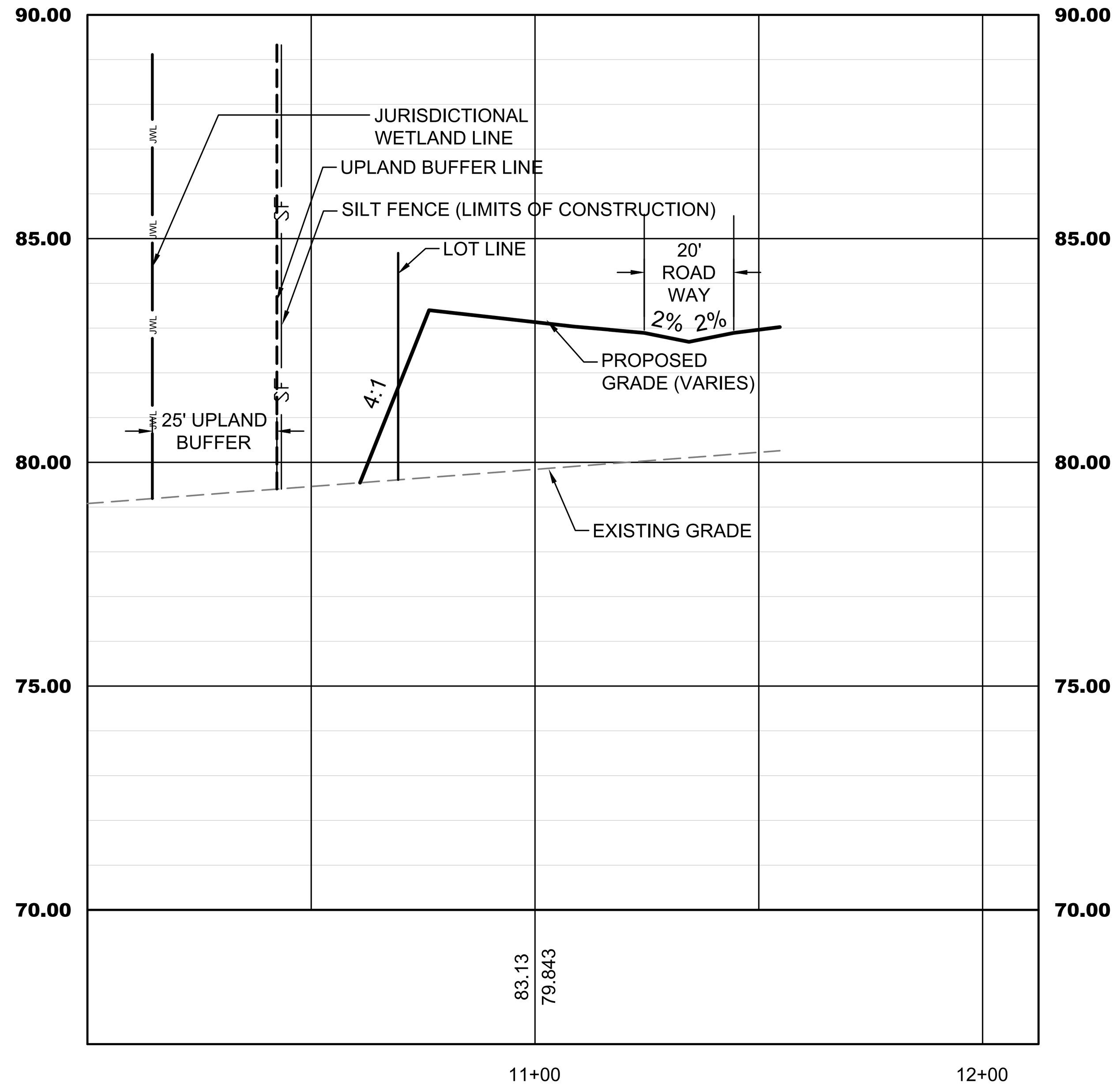
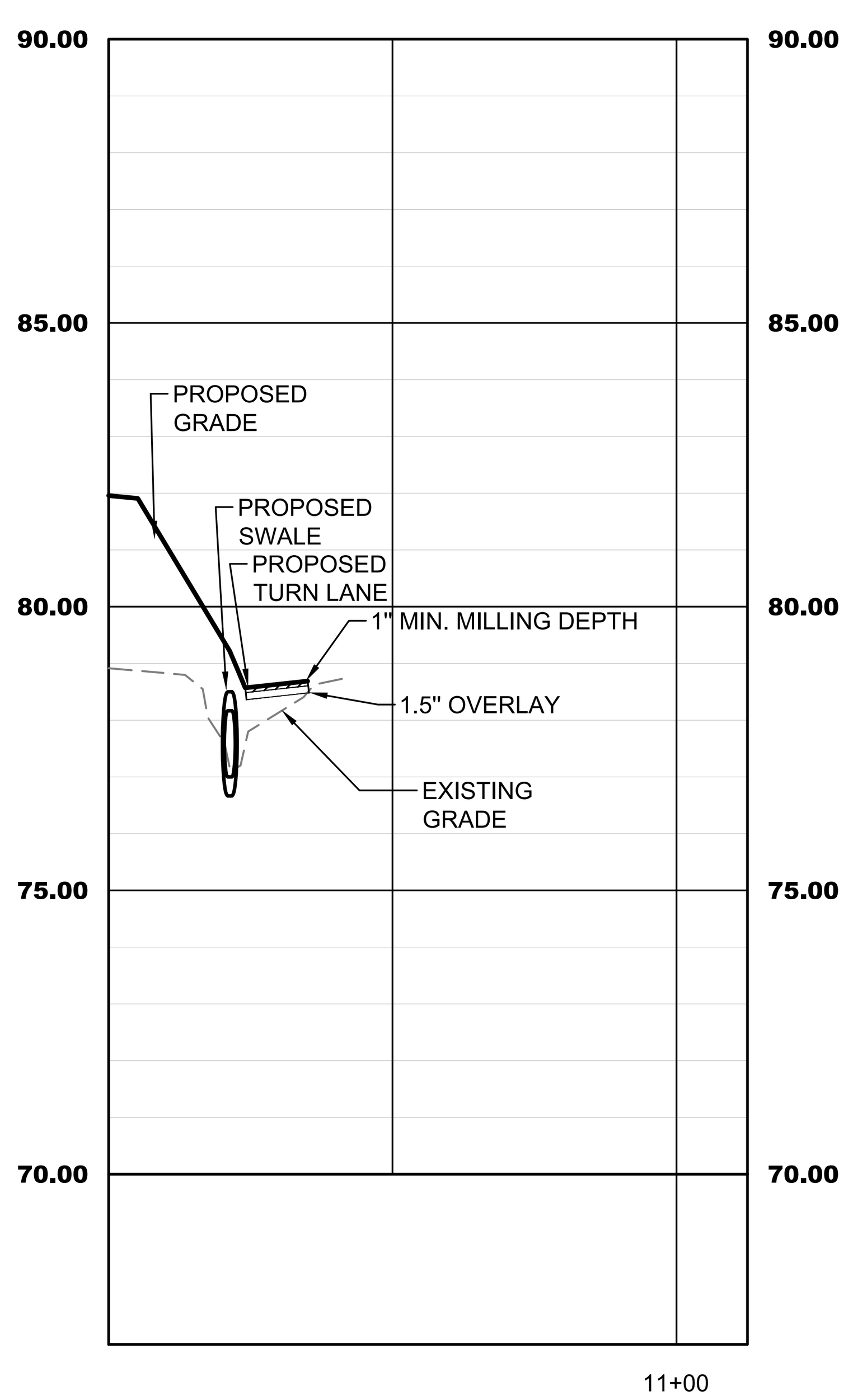
ITEM-3



SECTION "B-B"
10+00.00 TO 12+12.50

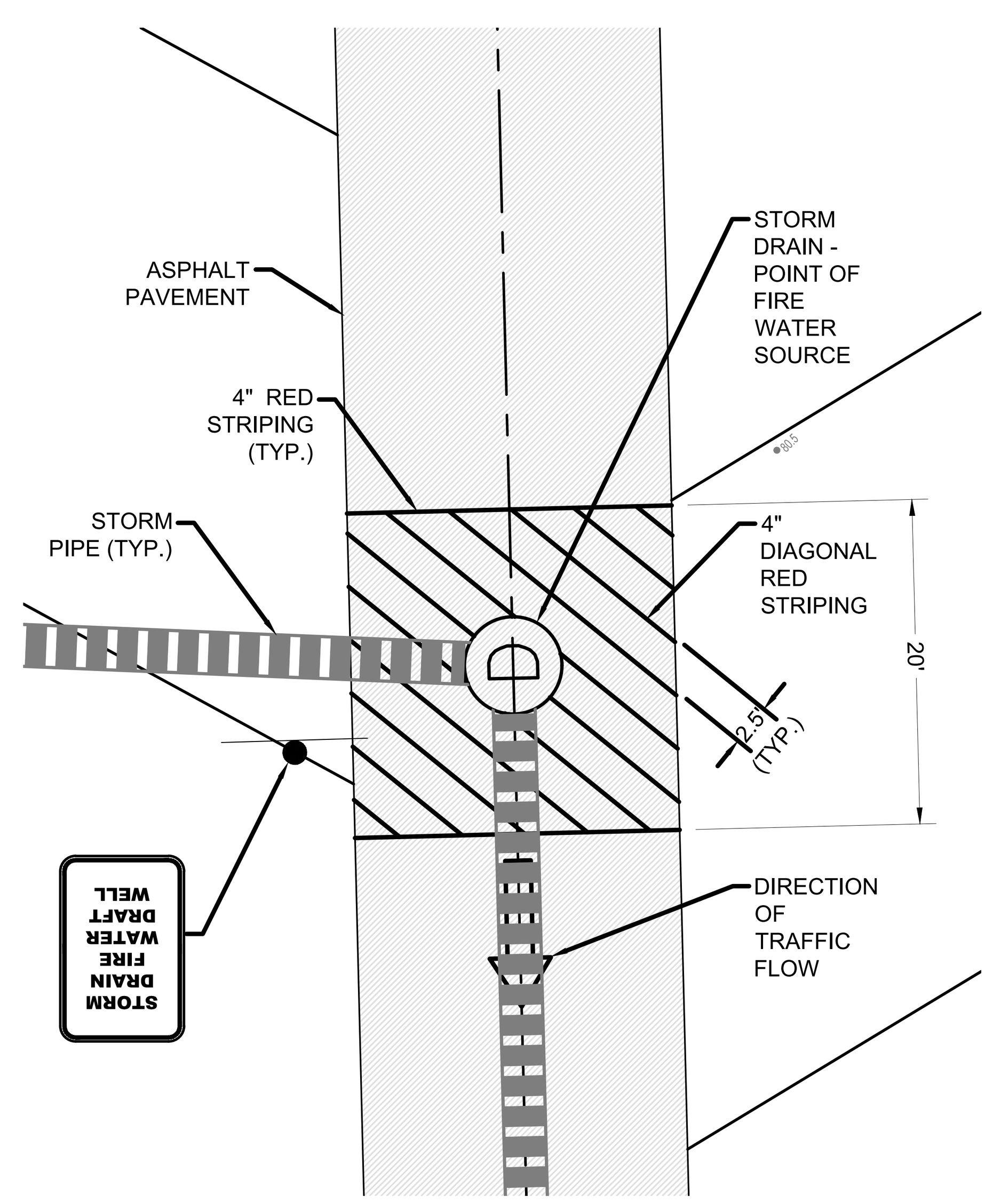


SECTION "C-C"
10+00.00 TO 11+12.50

FOR SIGN MOUNTING AND INSTALLATION, REFER TO HANDICAPPED SIGN DETAIL ON SHEET 14

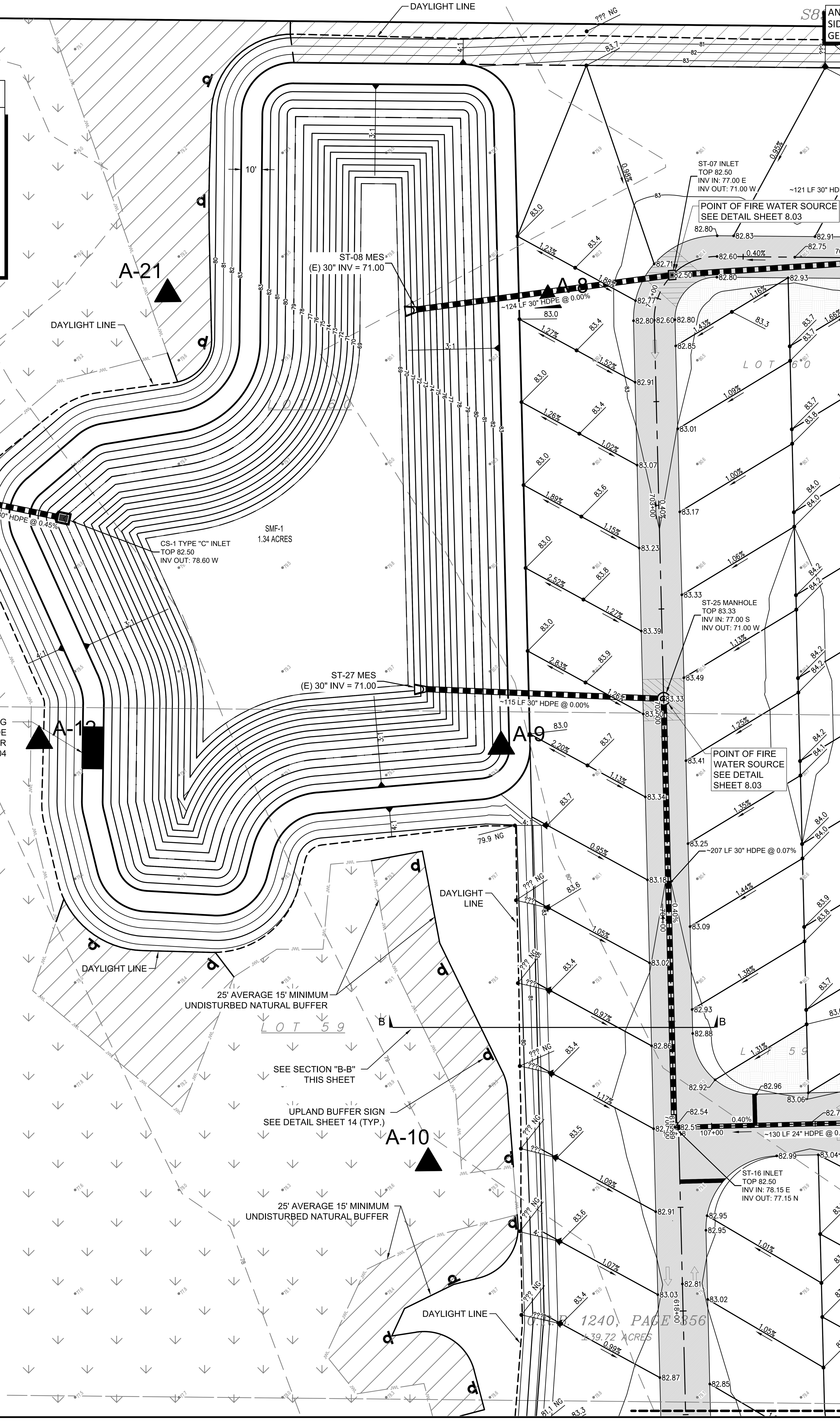
FIRE WATER SOURCE SIGN

NOT TO SCALE



FIRE WATER SOURCE DETAIL

SCALE: 1" = 10'



LEGEND

— — —	BOUNDARY
—38—	PROPOSED CONTOURS
37.65	SPOT EL.
37.65 NG	SPOT EL. NATURAL GRADE
37.65 TC / 37.15 FS	SPOT EL. TOP OF CURB / SPOT EL. FINISH SURFACE
37.65 HP	SPOT EL. HIGH POINT
37.65 LP	SPOT EL. LOW POINT
0.85%	DIR. SLOPE ARROW

STORMWATER MGMT. FACILITY SMF-1		
TOP	=	83.00, 1.339 Ac.
NWL	=	79.00, 0.953 Ac.
BOT	=	69.00, 0.320 Ac.
DHW (100 YR)	=	82.98
DHW (25 YR)	=	82.49
DHW (5 YR)	=	81.32
DHW (MEAN)	=	80.85

No.	Revisions	By
2	1/12/24 FINAL REVISION	JES

AVA ENGINEERS, INC.
Commercial | Residential | Marine
Florida Certificate No. 00008161
4201 BAYMEADOWS RD. SUITE 3 | JACKSONVILLE, FLORIDA 32217
Ph. (904) 730-3223 | Fx. (904) 730-3226
Henry A. Vorpe Jr. No. 49049

HILLIARD RV

GRADING & DRAINAGE PLAN

NASSAU **FLORIDA**

Date:	06/2022
Designer:	HAV
Job #:	21-071
Drawn:	MRP
Scale:	1:30
Sheet:	8.03

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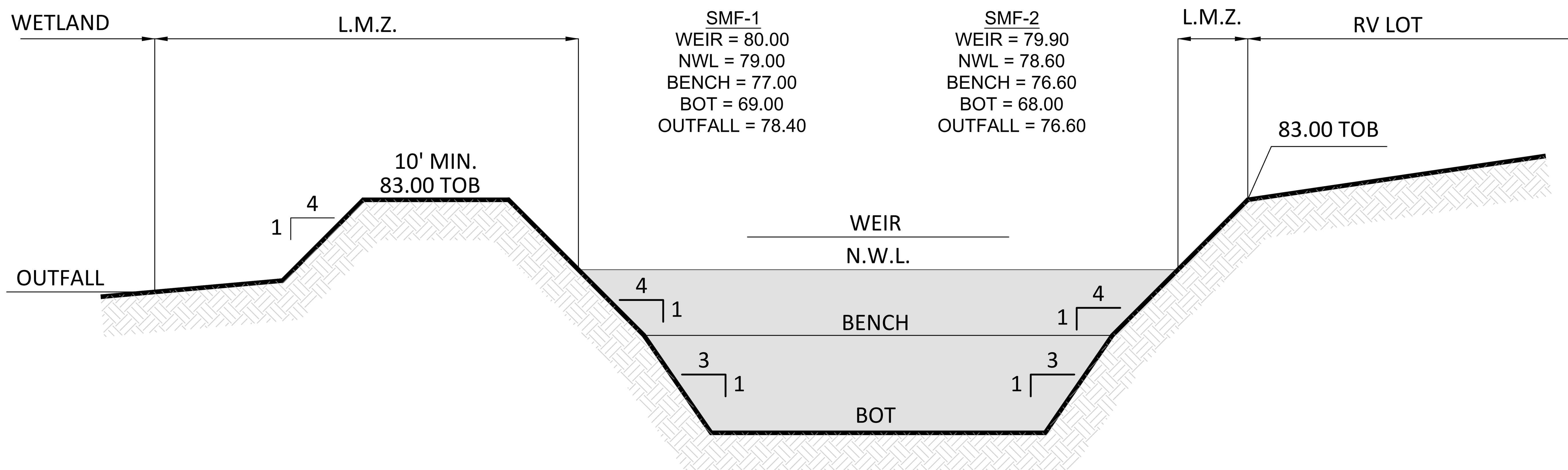


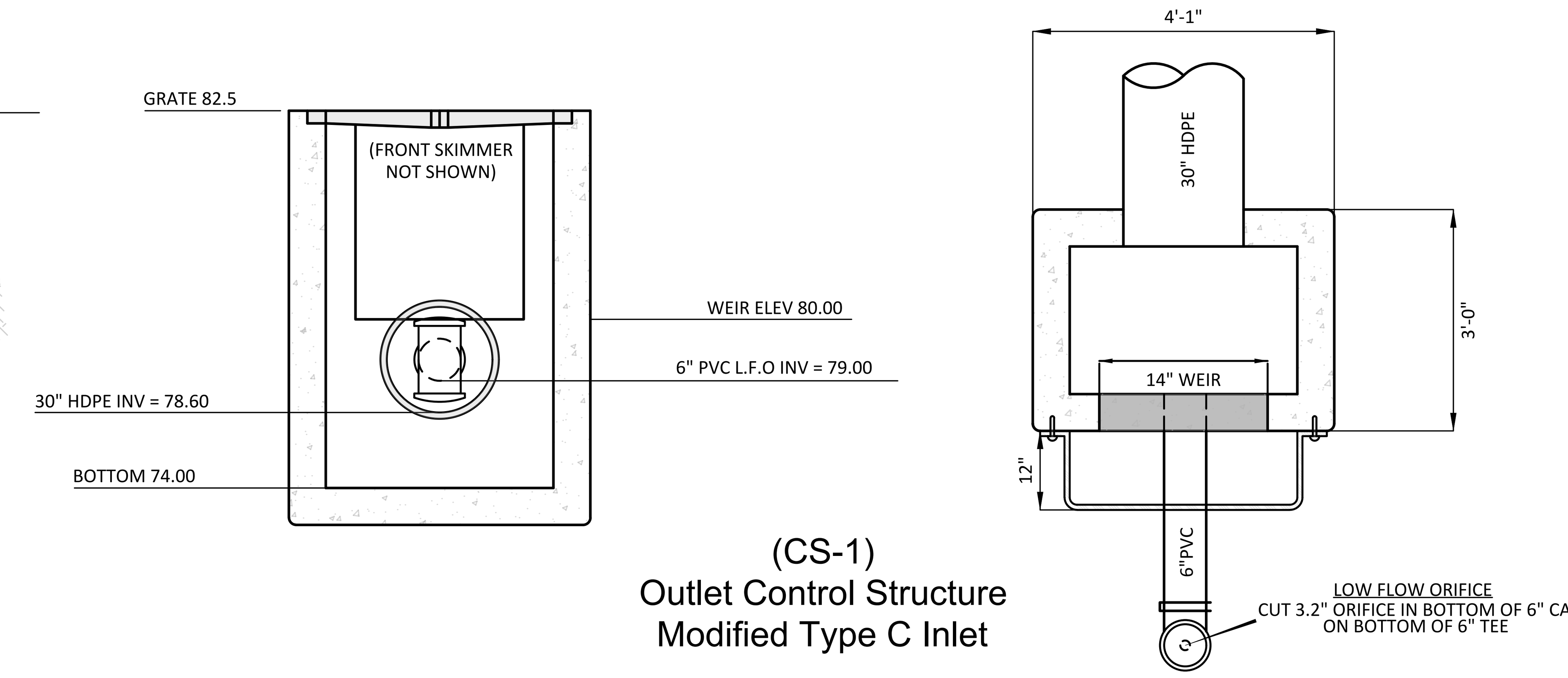
SMF-1 & SMF-2 Cross Section with Low Maintenance Zone

Low Maintenance Zone (L.M.Z.) Requirements

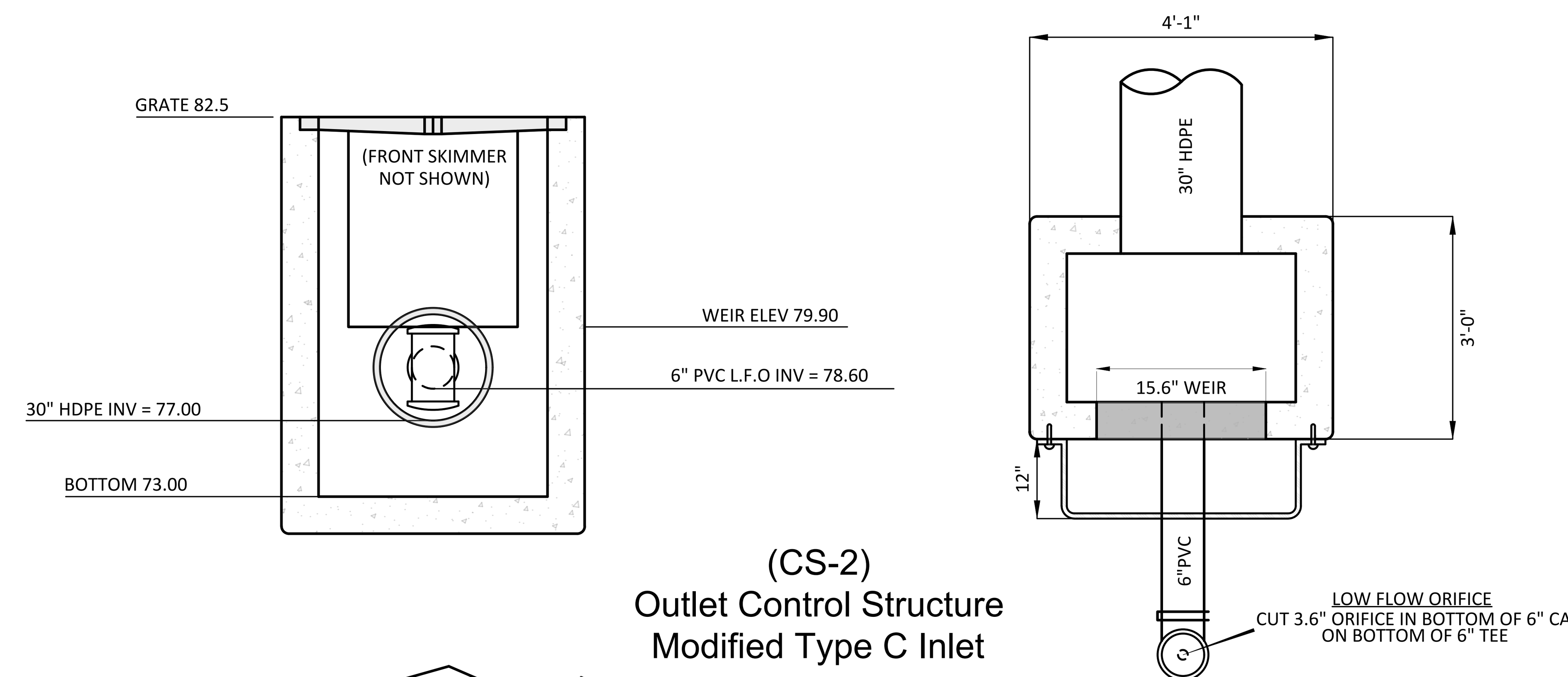
* Bahia Grass planted and managed in order to minimize the need for fertilization, watering and mowing, etc.
* No mowed or cut vegetable material shall be deposited or remain in the low maintenance zone or deposited in the water.
* Care will be taken to prevent the overspray of aquatic weed products into the low maintenance zone.

STORMWATER MGMT. FACILITY SMF-1		
TOP	=	83.00, 1.339 Ac.
NWL	=	79.00, 0.953 Ac.
BOT	=	69.00, 0.320 Ac.
DHW (100 YR)	=	82.98
DHW (25 YR)	=	82.49
DHW (5 YR)	=	81.32
DHW (MEAN)	=	80.85

STORMWATER MGMT. FACILITY SMF-2		
TOP	=	83.00, 1.402 Ac.
NWL	=	78.60, 0.860 Ac.
BOT	=	68.00, 0.153 Ac.
DHW (100 YR)	=	82.96
DHW (25 YR)	=	82.50
DHW (5 YR)	=	81.32
DHW (MEAN)	=	80.85



(CS-1)
Outlet Control Structure
Modified Type C Inlet



(CS-2)
Outlet Control Structure
Modified Type C Inlet

GENERAL NOTES:

1. Unless otherwise designated in the plans, concrete pipe mitered end sections may be used with any type of side drain pipe; corrugated steel pipe mitered end sections may be used with any type of side drain pipe except aluminum pipe; and, corrugated aluminum mitered end sections may be used with any type of side drain pipe except steel pipe. When bituminous coated metal pipe is specified for side drain pipe, construct the mitered end sections with like pipe or concrete pipe. When the mitered end section pipe is dissimilar to the side drain pipe, construct a concrete jacket in accordance with Index 430-001.

2. Use either corrugated metal or concrete mitered end sections for corrugated polyethylene pipe (HDPE), polyvinyl-chloride pipe (PVC), steel reinforced polyethylene pipe (SRPE), and polypropylene pipe (PP). When used in conjunction with corrugated mitered end sections, make connection using either a formed metal band specifically designated to join HDPE, PVC, SRPE, or PVC pipe. When used in conjunction with a concrete mitered end sections, construct concrete jacket in accordance with Index 430-001.

3. Use class NS concrete cast-in-place reinforced slabs for all cross drain pipes.

4. Select lengths of concrete pipe that avoid excessive connections in the assembly of the mitered end section.

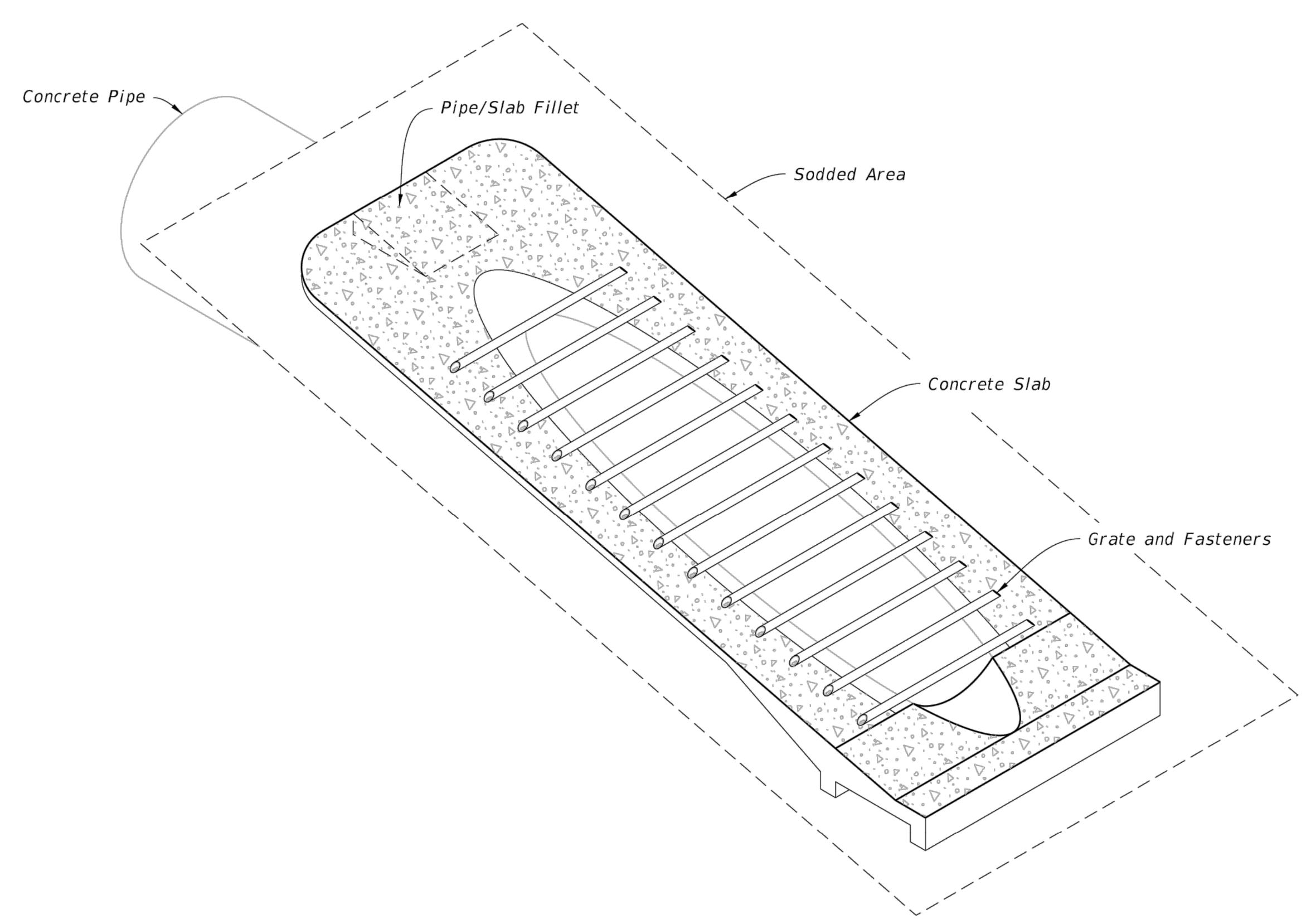
5. Repair corrugated metal pipe galvanizing that is damaged during beveling and perforating.

6. When existing multiple side drain pipes are spaced other than the dimensions shown in this Index, have nonparallel axes, or non-uniform sections, either construct the mitered end sections separately as single pipe or collectively as multiple pipe end sections as directed by the Engineer.

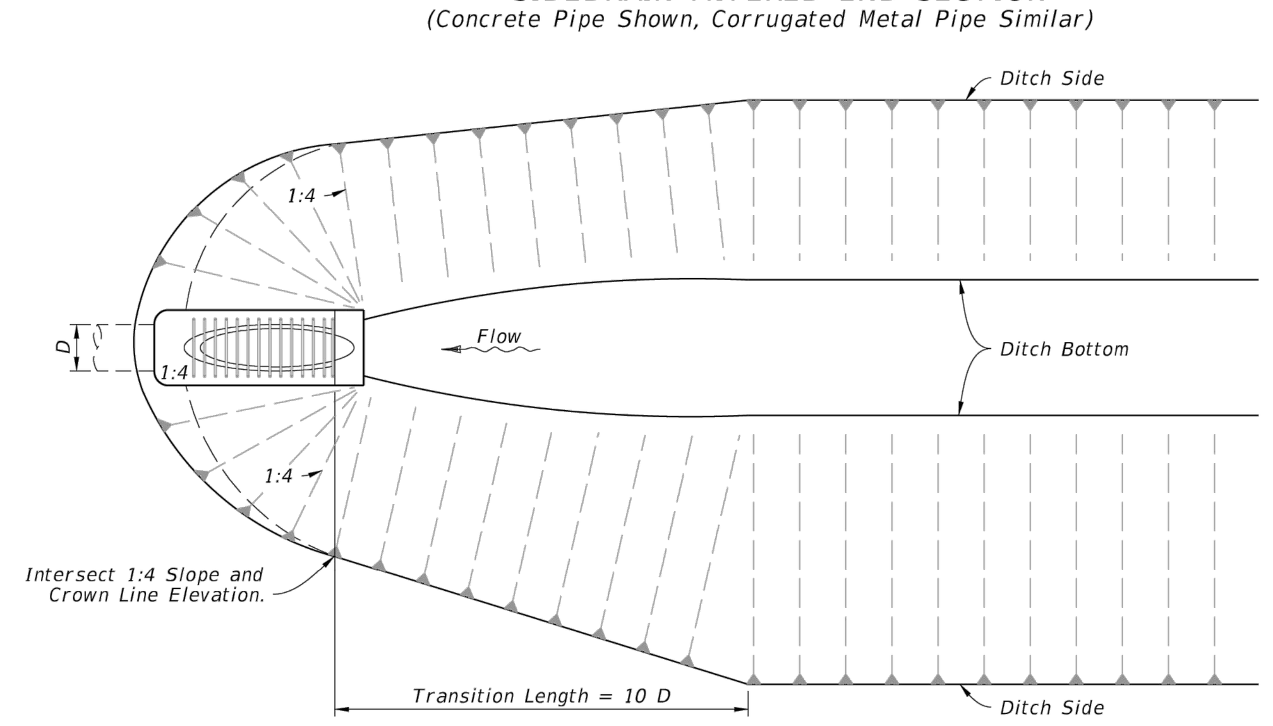
7. Saddle Slope:
   1:4 Miter – Slope to ℄ of pipe for round pipes less than or equal to 18" diameter and 1:1 for round pipes greater than or equal to 24" diameter.
   Slope to the major axis for elliptical pipes 24"x38" or smaller and 1:2 for pipes 29"x45" or larger.
   Slope to the span line for pipe arch 28"x20" or smaller and 1:2 for pipe arch 35"x24" or larger.

   1:2 Miter – Slope to ℄ of pipe for round pipes less than or equal to 18"diameter and 1:2 for round pipes greater than or equal to 24" diameter.
   Slope to the major axis for elliptical pipes 29"x45" or smaller and 1:1 for pipes 34"x53" or larger.
   Slope 1:1 for all pipe arch sizes.

8. Quantities shown are for estimating purposes only.



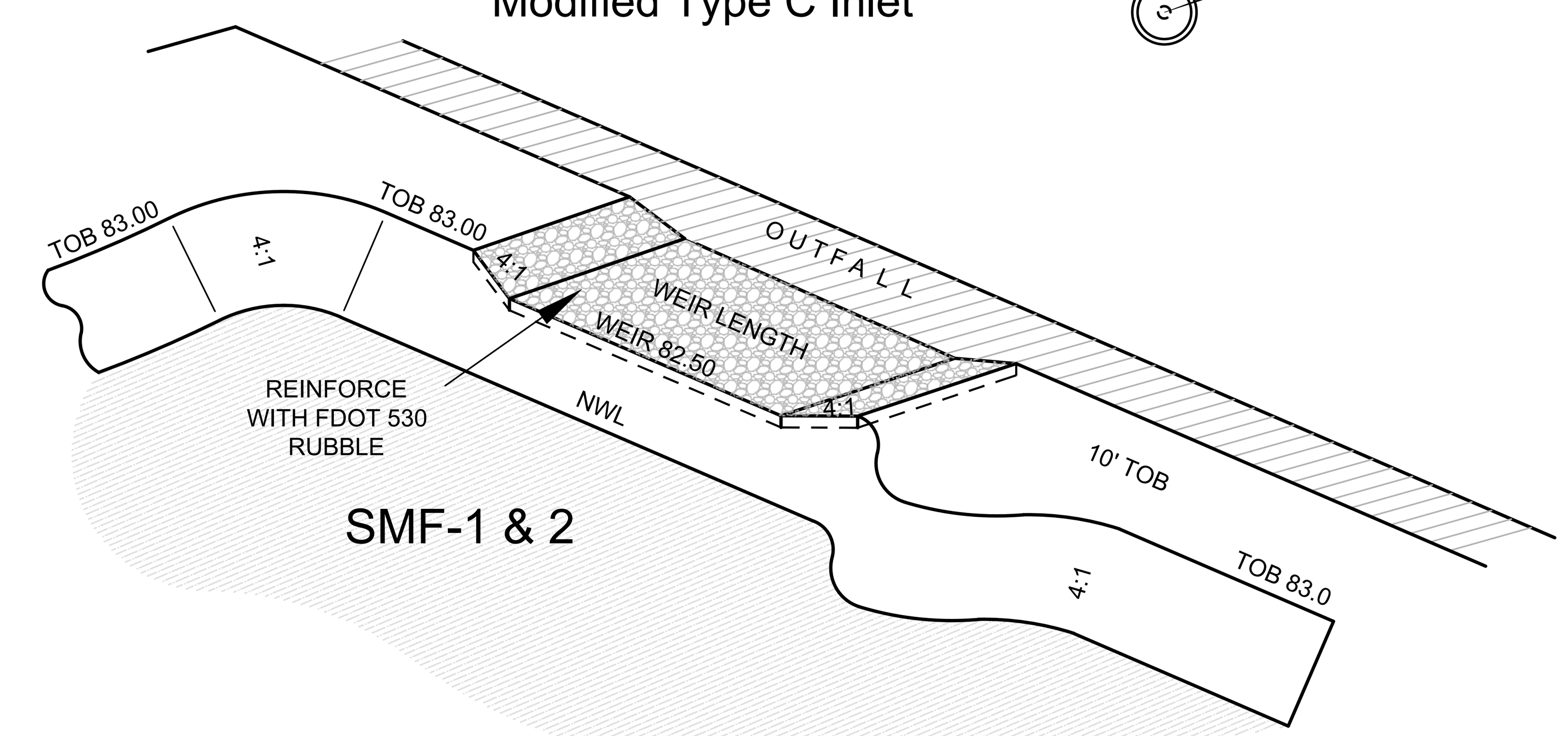
SIDEDRAIN MITERED END SECTION
(Concrete Pipe Shown, Corrugated Metal Pipe Similar)



DITCH TRANSITION

9/21/2021 1:34:20 PM

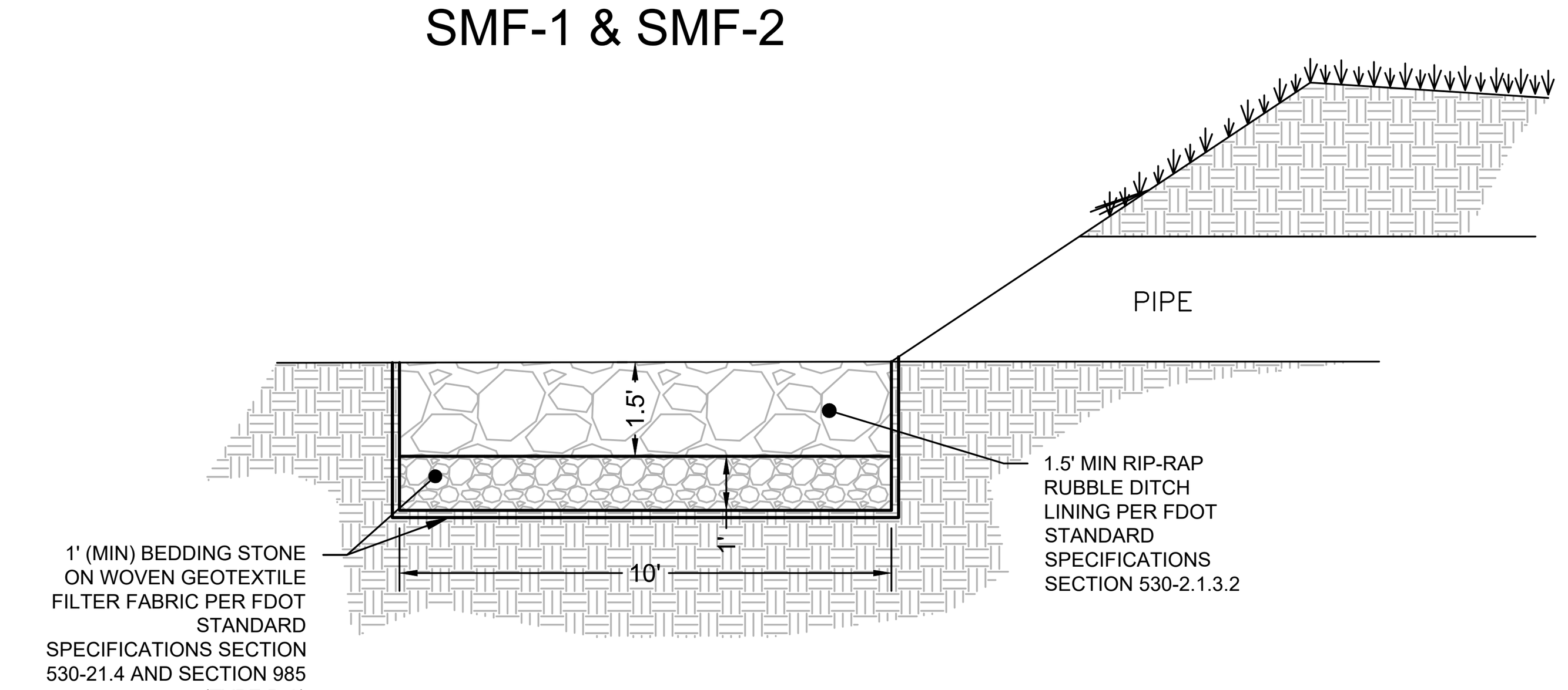
LAST REVISION 11/01/19	REVISION	DESCRIPTION:	FDOT FY 2022-23 STANDARD PLANS	SIDE DRAIN MITERED END SECTION	INDEX 430-022	SHEET 1 of 7



SMF-1
NWL = 79.00
WEIR LENGTH = 20'

SMF-2
NWL = 78.60
WEIR LENGTH = 35'

EMERGENCY OVERFLOW WEIR DETAIL
SMF-1 & SMF-2



RIP-RAP PAD DETAIL

NTS

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No.	Revisions	By
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Henry A. Vorpe Jr. No. 49049

HILLIARD RV

GRADING DETAILS

NASSAU **Florida**

Date: 06/2022
Designer: HAV
Job #: 21-071
Drawn: MRP
Scale: N/A
Sheet: 8.04

No.	Revisions	By
2	1/12/24 FINAL REVISION	JES

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Henry A. Verpe Jr. No. 63043

HILLIARD RV

MASTER UTILITY PLAN

FLORIDA

NASSAU

Date:	06/2022
Designer:	HAV
Job #:	21-071
Drawn:	MRP
Scale:	1:60
Sheet:	9.01

GRAPHIC SCALE
0 60 90 120
1" = 60'

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GRAPHIC SCALE
0 30 45 60
1" = 30'

PINE STREET
(60 FOOT RIGHT-OF-WAY)

EXISTING FIRE HYDRANT

EX-05
TOP 78.24
INV IN: 63.97 N
INV IN: 63.96 S

EX-06
TOP 78.82
INV IN: 64.74 S
INV IN: 74.50 W
INV OUT: 64.74 N

EX-07
TOP 78.26
INV IN: 65.82 S
INV IN: 72.79 SW
INV OUT: 65.87 N

CONNECT TO EXISTING MANHOLE WITH AN INTERNAL DROP CONNECTION. SEE DETAIL SHEET 13

CONNECT TO EXISTING MANHOLE WITH AN INTERNAL DROP CONNECTION. SEE DETAIL SHEET 13

PROPOSED WATER UNDER EXISTING WATERMAIN 1.5' MC

6" 90° M.J. BEND

CONNECT TO EXISTING 6" WATER MAIN w/ 6" X6" TAPPING SLEEVE AND VALVE

35± LF OF 6" PVC WATER MAIN TO BE INSTALLED VIA OPEN CUT CASE X PAVEMENT REPAIR

WATER OVER SANITARY 1.5' MC

6" C-900 PVC WATER MAIN

6" X 3" REDUCER

3" WATER METER

4" R.P.Z.

CO-63
TOP 83.23
INV OUT: 76.68 S

3" 90° M.J. BEND

3" GATE VALVE & COVER

3" TEE
(2) 3" GATE VALVE W/ COVER

3" 90° M.J. BEND

3" C-900 PVC WATER MAIN

~341 LF 8" PVC @ 0.32%

1529.15'

SECTION 17

SECTION 16 S01°25'16"E 1229.15'

FOUND 1/2" IRON ROD & CAP "LB 4225"

SET 5/8" IRON ROD & CAP "MAKE LB 7039"

~209 LF 8" PVC @ 0.37%

~77LF OF 8" PVC @ 0.40%

SANITARY PROFILE 04
SEE SHEET NO. 10.01

TYPE B MANHOLE WITH INTERNAL DROP CONNECTION
SEE SHEET 13 FOR DETAILS

~23LF OF 8" PVC @ 0.40%

SANITARY PROFILE 03
SEE SHEET NO. 10.01

ST-21
TOP 83.47
INV IN: 75.41 W
INV IN: 77.26 S
INV IN: 76.50 N
INV OUT: 74.81 E

~136LF OF 8" PVC @ 0.40%

ST-25
TOP 83.48
INV IN: 77.80 W
INV OUT: 77.80 N

CO-68
TOP 83.38
INV OUT: 76.59 S

3" C-900 PVC WATER MAIN

3" 90° M.J. BEND

WATER OVER SANITARY 1.5' M.C.

3" CAP TAPPED 2' W/ 2" FLUSHING VALVE

WATER SERVICE (TYP)

3" CAP TAPPED 2' W/ 2" FLUSHING VALVE

ST-09 INLET

ST-01 INLET

~125LF OF 8" PVC @ 0.40%

~75LF OF 8" PVC @ 0.40%

SANITARY PROFILE 05
SEE SHEET NO. 10.01

~170LF OF 8" PVC @ 0.40%

ST-10 INLET

WATER SERVICE TO MAINTENANCE BUILDING

WATER SERVICE TO CHECK-IN BUILDING

WATER UNDER STORM 1.5' MC

WATER OVER SANITARY 1.5' MC

ST-24
TOP 83.14
INV IN: 78.10 S
INV IN: 78.10 W
INV OUT: 78.10 E

F.F.E. = 83.50'
2,400 SF

F.F.E. = 83.50'
1800 SF

ST-33
TOP 83.24
INV IN: 73.58 W
INV IN: 73.97 S
INV OUT: 73.50 NE

SANITARY PROFILE 2
SEE SHEET NO. 10.0

6" SEWER LATERAL (TYP.)

ST-19
TOP 83.36
INV IN: 76.73 W
INV OUT: 76.50 S

3" C-900 PVC WATER MAIN

WATER OVER SANITARY 1.5' MC

STORM OVER SANITARY 1.5' MC

~147LF OF 8" PVC @ 0.40%

TYPE B MANHOLE WITH INTERNAL DROP CONNECTION
SEE SHEET 13 FOR DETAILS

ST-22
TOP 83.25
INV OUT: 78.50 N

CO-71
TOP 83.50
INV OUT: 78.34 N

~61LF OF 8" PVC @ 0.40%

~192LF OF 8" PVC @ 0.40%

3" TEE
(2) 3" GATE VALVE W/ COVER

3" C-900 PVC WATER MAIN

WATER OVER SANITARY 1.5' MC

ST-28 INLET

ST-11 INLET

~155LF OF 8" PVC @ 0.40%

WATER UNDER STORM 1.5' M.C.

3" C-900 PVC WATER MAIN

ST-20
TOP 83.69
INV IN: 75.91 N
INV IN: 78.23 S
INV OUT: 75.91 E

3" C-900 PVC WATER MAIN

WATER UNDER STORM 1.5' M.C.

~100LF OF 8" PVC @ 0.40%

ST-02 INLET

3" TEE
(2) 3" GATE VALVE W/ COVER

SANITARY PROFILE 01
SEE SHEET NO. 10.01

SANITARY SERVICE LATERAL (TYP)

P.I.N. = 17-3N-24-00-0006-0000
O.R.B. 1801, P. 1214

ST-03 INLET

~67LF OF 8" PVC @ 0.40%

ST-12 INLET

WATER OVER SANITARY 1.5' MC

ST-32
TOP 83.26
INV IN: 74.20 W
INV IN: 76.00 N
INV OUT: 74.20 E

3" CAP TAPPED 2' W/ 2" FLUSHING VALVE

3" C-900 PVC WATER MAIN

3" C-900 PVC WATER MAIN

CO-26
TOP 82.98
INV OUT: 78.50 E

3" TEE
(2) 3" GATE VALVE W/ COVER

SANITARY PROFILE 02
SEE SHEET NO. 10.01

CO-38
TOP 83.40
INV OUT: 77.45 S

~365LF OF 8" PVC @ 0.40%

SANITARY PROFILE 06
SEE SHEET NO. 10.01

WATER UNDER STORM 1.5' MC (TYP)

WATER UNDER STORM 1.5' MC (TYP)

STORM OVER SANITARY 1.5' MC

ST-31
TOP 82.97
INV IN: 74.54 W
INV IN: 74.54 N
INV IN: 75.00 S
INV OUT: 74.54 E

3" TEE
(2) 3" GATE VALVE W/ COVER

3" C-900 PVC WATER MAIN

SANITARY SEWER SERVICE (TYP)

WATER SERVICE (TYP)

ST-04 INLET

ST-13 INLET

~84LF OF 8" PVC @ 0.40%

WATER SERVICE TO AMENITY AREA

~17LF OF 6" PVC @ 1.00%

F.F.E. = 83.50'
760 SF

F.F.E. = 83.50'

F.F.E. = 83.50'

CO-37
TOP 83.50
INV OUT: 76.00 S

~367LF OF 8" PVC @ 0.40%

STORM OVER SANITARY 1.5' MC

3" CAP TAPPED 2' W/ 2" FLUSHING VALVE

3" C-900 PVC WATER MAIN

SANITARY PROFILE 07
SEE SHEET NO. 10.01

WATER UNDER STORM 1.5' MC (TYP)

CO-70
TOP 83.08
INV OUT: 75.17 N

3" TEE
(2) 3" GATE VALVE W/ COVER

ST-05 INLET

3" C-900 PVC WATER MAIN

~437LF OF 8" PVC @ 0.40%

3" C-900 PVC WATER MAIN

~109LF OF 8" PVC @ 0.40%

F.F.E. = 83.50'

WATER OVER SANITARY 1.5' M.C.

3" CAP TAPPED 2' W/ 2" FLUSHING VALVE

3" C-900 PVC WATER MAIN

ST-14 INLET

3" TEE
(2) 3" GATE VALVE W/ COVER

STORM OVER SANITARY 1.5' M.C.

ST-30
TOP 83.16
INV IN: 74.98 W
INV IN: 75.80 N
INV OUT: 74.98 E

~398LF OF 8" PVC @ 0.40%

1303.39'

S89°25'12"E 612.15'

MATCHLINE SEE SHEET 9.03

MATCHLINE SEE SHEET 9.05

AVA ENGINEERS, INC.
Commercial | Residential | Marine
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Henry A. Verpe Jr. No. 45043

HILLIARD RV

FLORIDA

NASSAU

UTILITY PLAN

Date: 06/2022
Designer: HAV
Job #: 21-071
Drawn: MRP
Scale: 1:30
Sheet: 9.02

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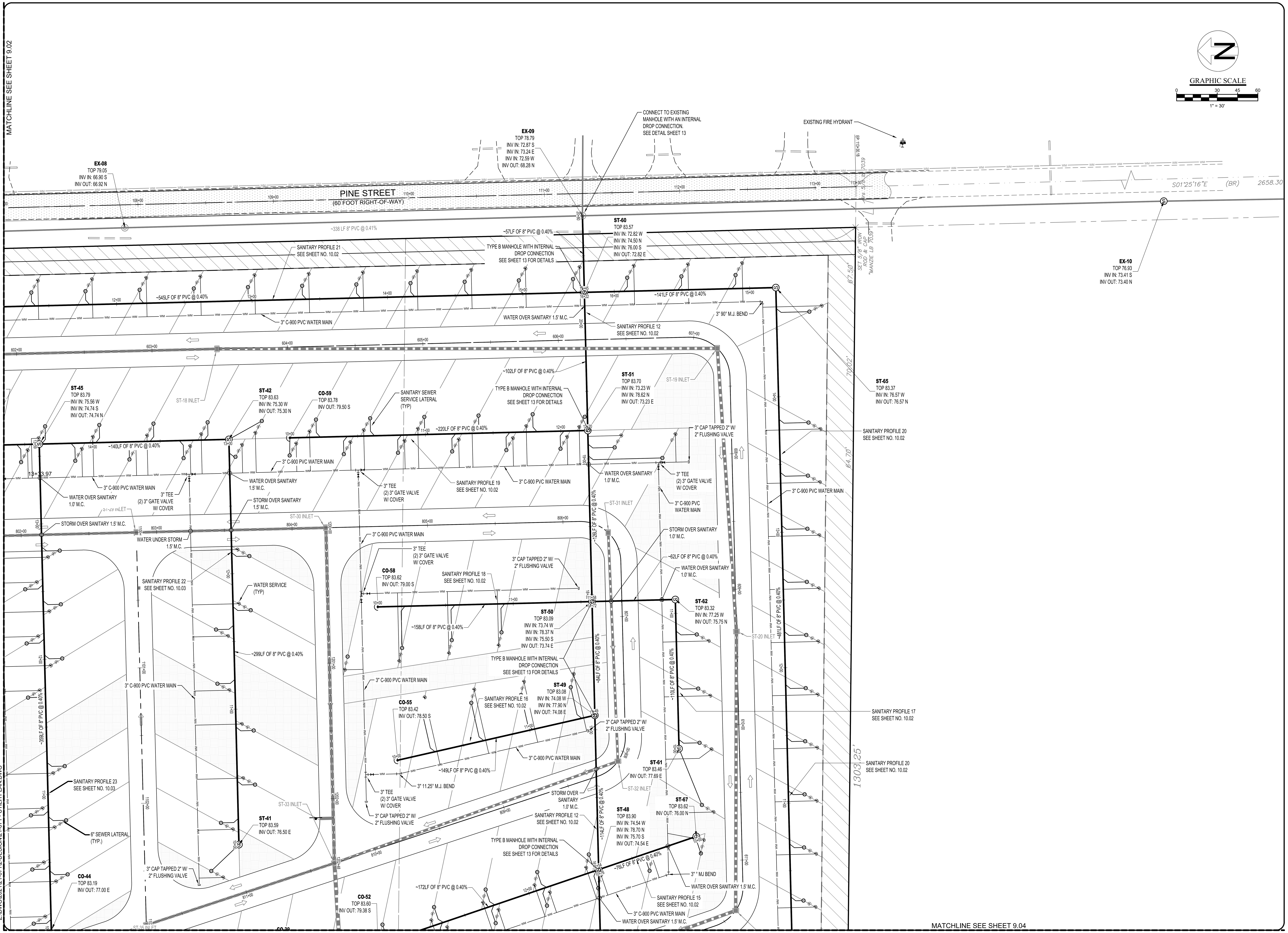

No.	Revisions	By
2	1/12/24 FINAL REVISION	JES

AVA ENGINEERS, INC.
Commercial | Residential | Marine
Florida Certificate No. 00008161
4200 BAYMEADOWS RD. SUITE 3 | JACKSONVILLE, FLORIDA 32207
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HILLIARD RV

UTILITY PLAN

NASSAU FLORIDA

Date: 06/2022
Designer: HAV
Job #: 21-071
Drawn: MRP
Scale: 1:30
Sheet: 9.03

MATCHLINE SEE SHEET 9.03

TOP 83.50
INV OUT: 78.80 N
STORM OVER SANITARY 1.5' M.C.
WATER SERVICE (TYP)
SANITARY SEWER SERVICE (TYP)
~114LF OF 8" PVC @ 0.40%
SANITARY PROFILE 14 SEE SHEET NO. 10.02
WATER UNDER STORM 1.5' M.C.
STORM OVER SANITARY 1.5' M.C.
SANITARY PROFILE 13 SEE SHEET NO. 10.02
CO-66
TOP 83.30
INV OUT: 78.97 N
3" 90° MJ BEND
6" SEWER LATERAL (TYP.)
ST-64
TOP 83.22
INV OUT: 78.50 E
ST-21 INLET
~280LF OF 1"HDPE @ 0.40%
SANITARY PROFILE 10 SEE SHEET NO. 10.02
3" C-900 PVC WATER MAIN
POINT OF FIRE WATER SOURCE SEE DETAIL SHEET 8.03
ST-22 INLET
STORM UNDER SANITARY 1.5' M.C.
~17LF OF 8" 12+5R @ 0.40%
~58LF OF 8" PVC @ 0.40%
TYPE B MANHOLE WITH INTERNAL DROP CONNECTION SEE SHEET 13 FOR DETAILS
WATER OVER SANITARY 1.5' M.C.
WATER OVER STORM 1.5' M.C.
ST-47
TOP 83.54
INV IN: 78.70 N
INV IN: 78.70 S
INV OUT: 75.00 E
3" C-900 PVC WATER MAIN
CO-69
TOP 83.40
INV OUT: 79.00 N
CO-46
TOP 83.40
INV OUT: 79.39 S
~271LF OF 8" PVC @ 0.40%
SANITARY PROFILE 12 SEE SHEET NO. 10.02
ST-24 MES
NE INV 70.00
SMF-2
1.40 ACRES
LOT 57
LOT 56
P.I.N. = 17-3N-24-2020-0056-0000
O.R.B. 696, PAGE 20
N89°24'08"W

GRAPHIC SCALE
0 30 45 60
1" = 30'

MATCHLINE SEE SHEET 9.05

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No.	Revisions	By
2	1/12/24 FINAL REVISION	JES

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Henry A. Verpe, Jr. No. 45043

HILLIARD RV

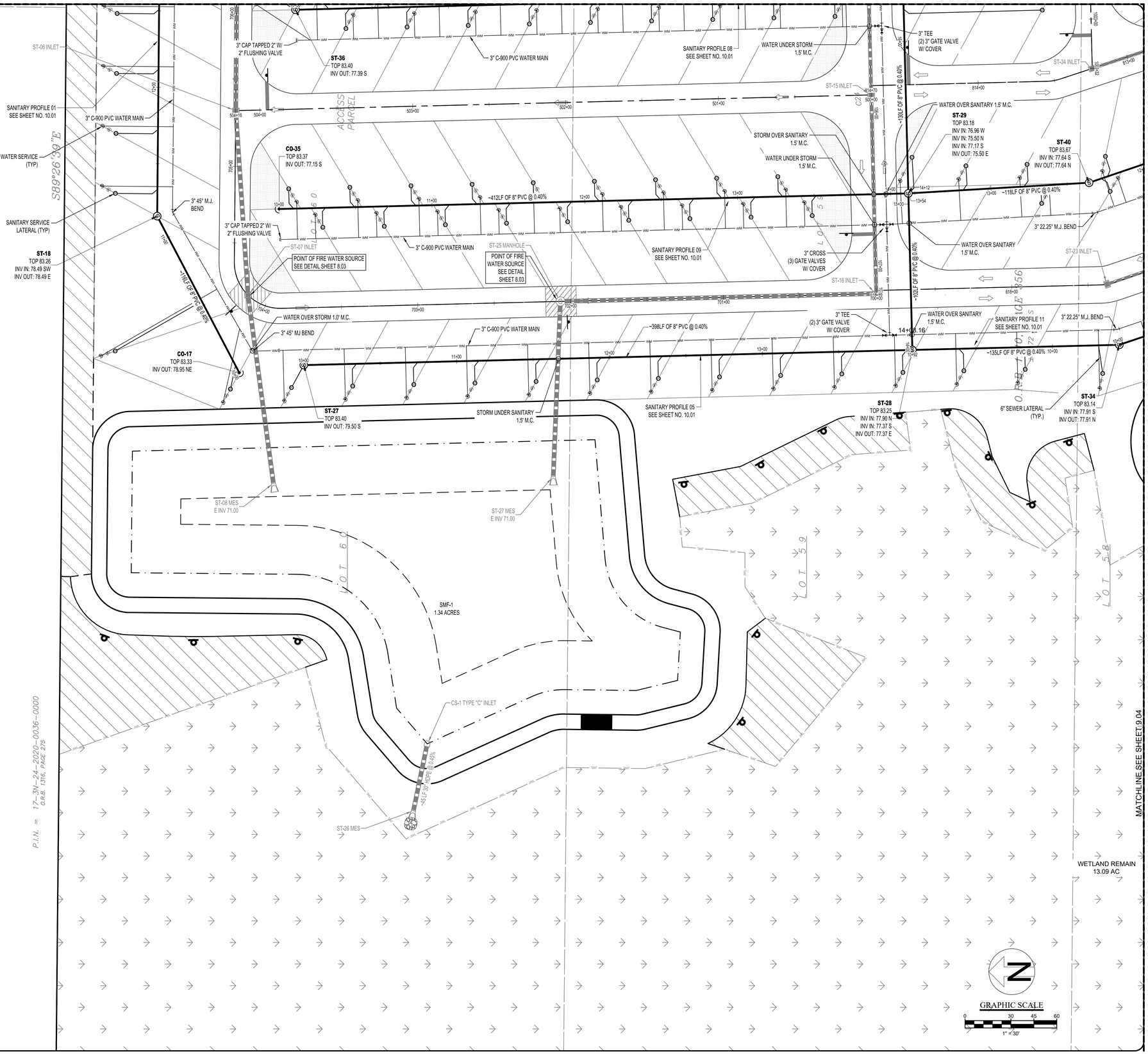
NASSAU

FLORIDA

UTILITY PLAN

Date: 06/2022
Designer: HAV
Job #: 21-071
Drawn: MRP
Scale: 1:30
Sheet: 9.04

MATCHLINE SEE SHEET 9.02



GRAPHIC SCALE
0 30 45 60
1" = 30'

No.	Revisions	By
2	1/12/24 FINAL REVISION	JES

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Commercial | Residential | Marine
Florida Certificate No. 0000816
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HILLIARD RV

NASSAU FLORIDA

UTILITY PLAN

Date: 06/2022
Designer: HAV
Job #: 21-071
Drawn: MRP
Scale: 1:30
Sheet: 9.05

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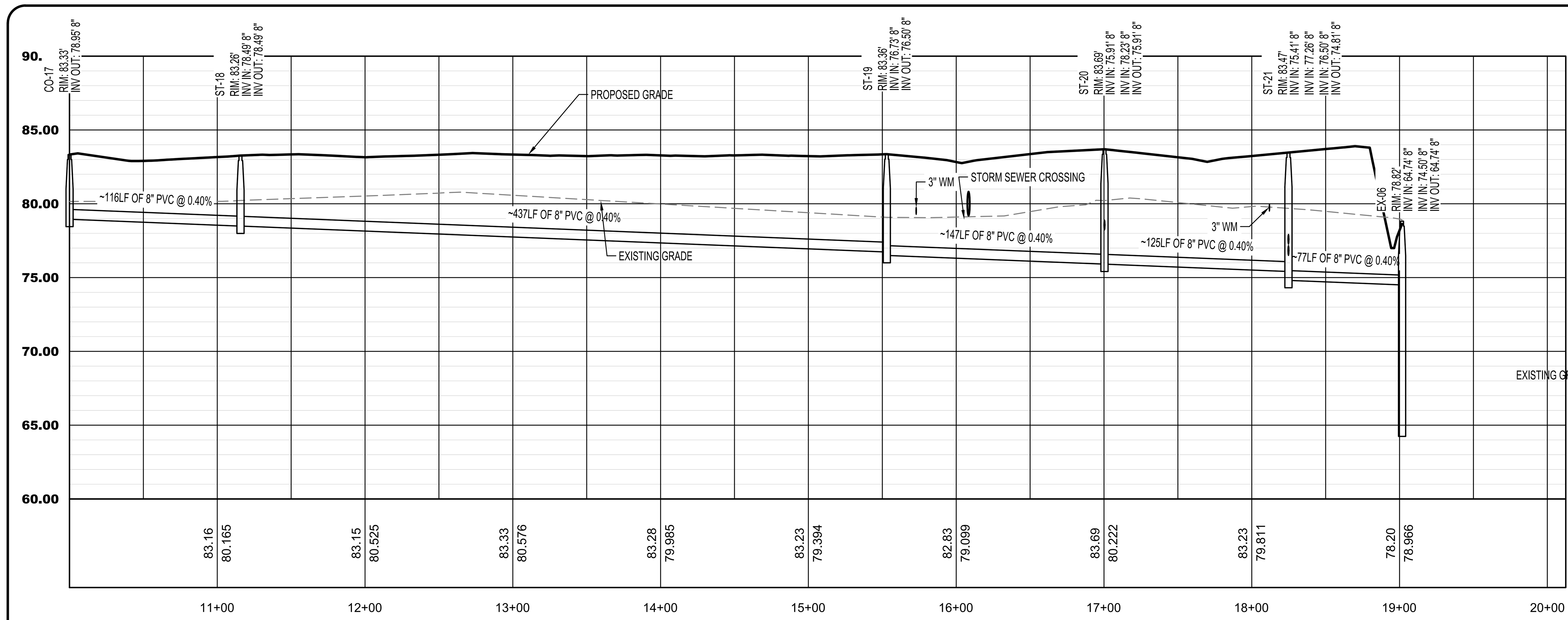
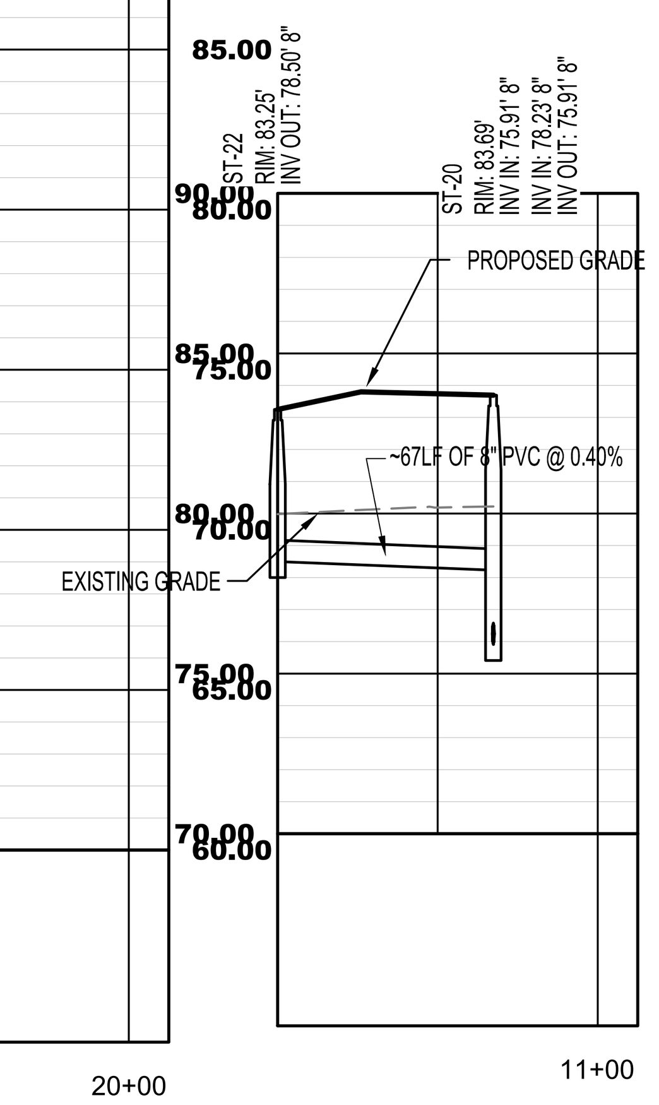
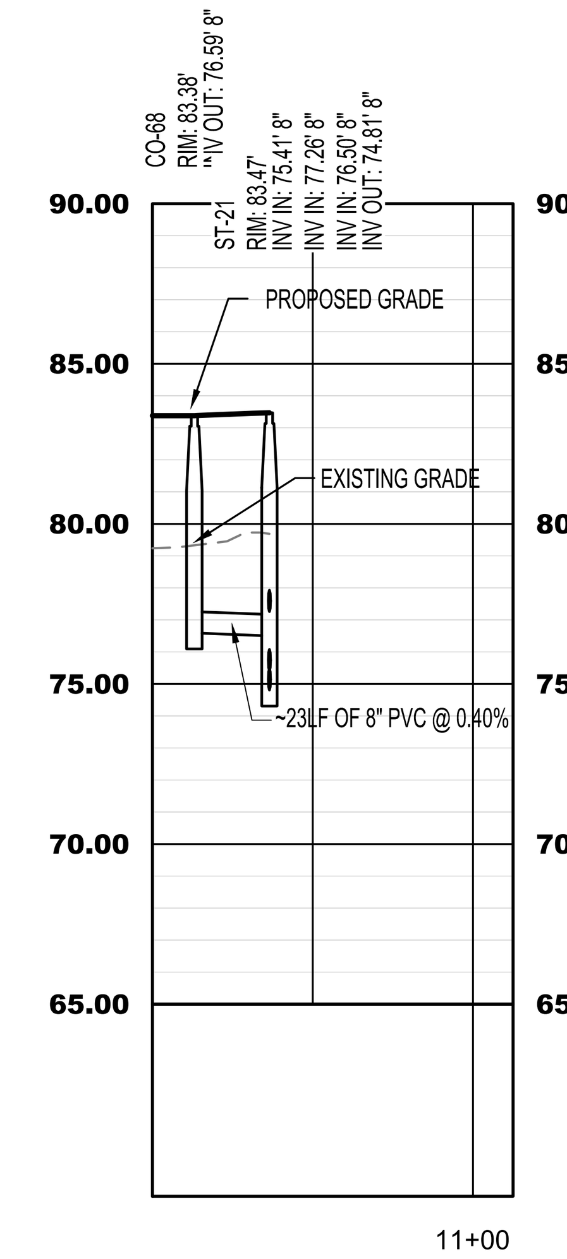
ITEM-3



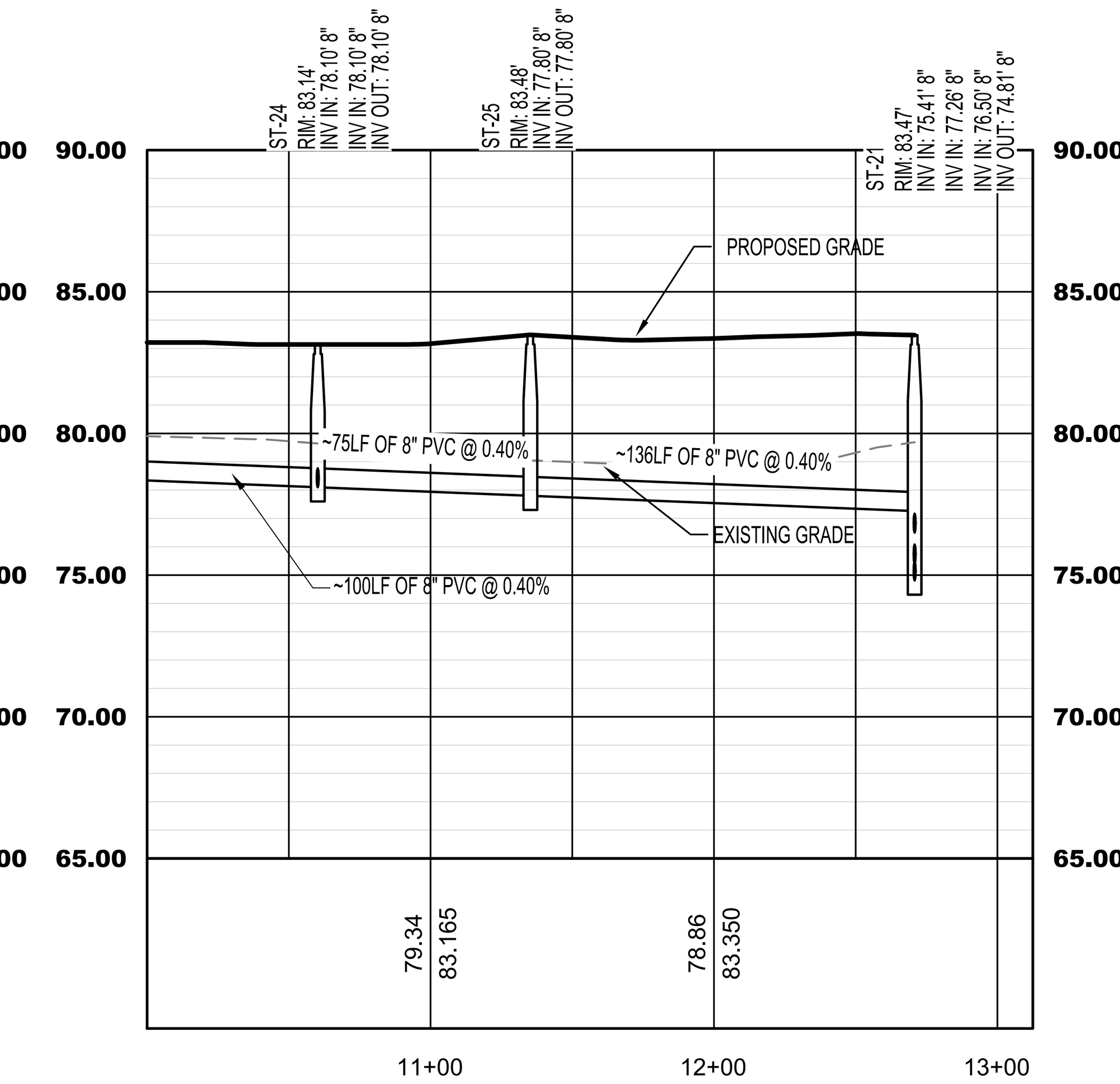
SANITARY PROFILE 01



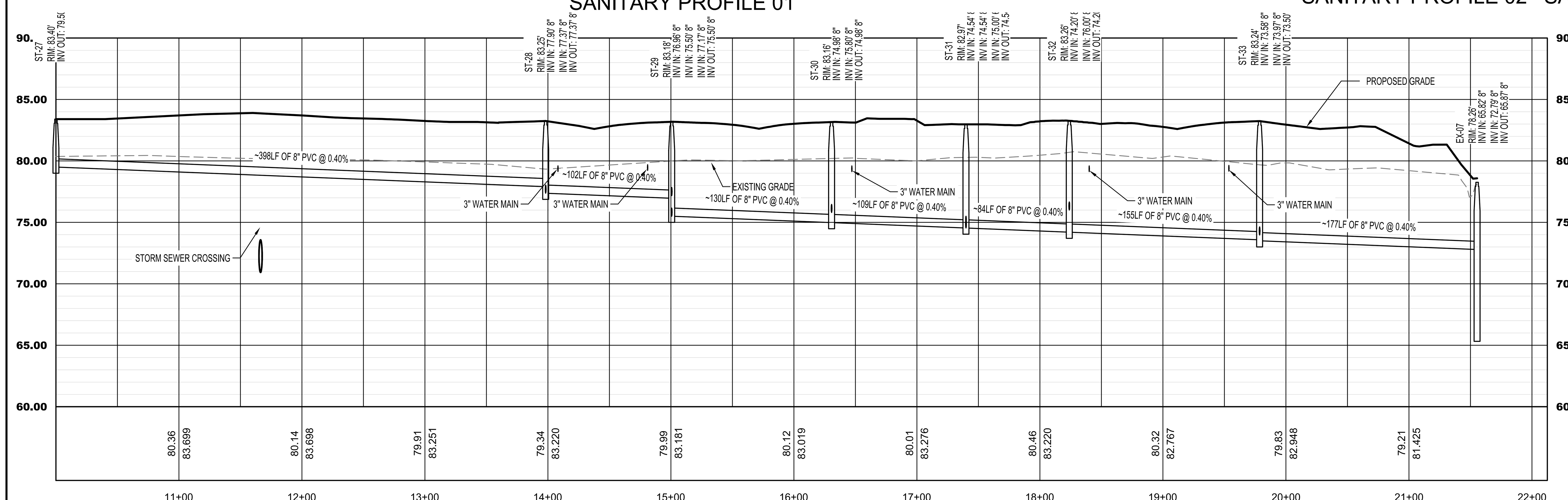
SANITARY PROFILE 02



SANITARY PROFILE 03



SANITARY PROFILE 04



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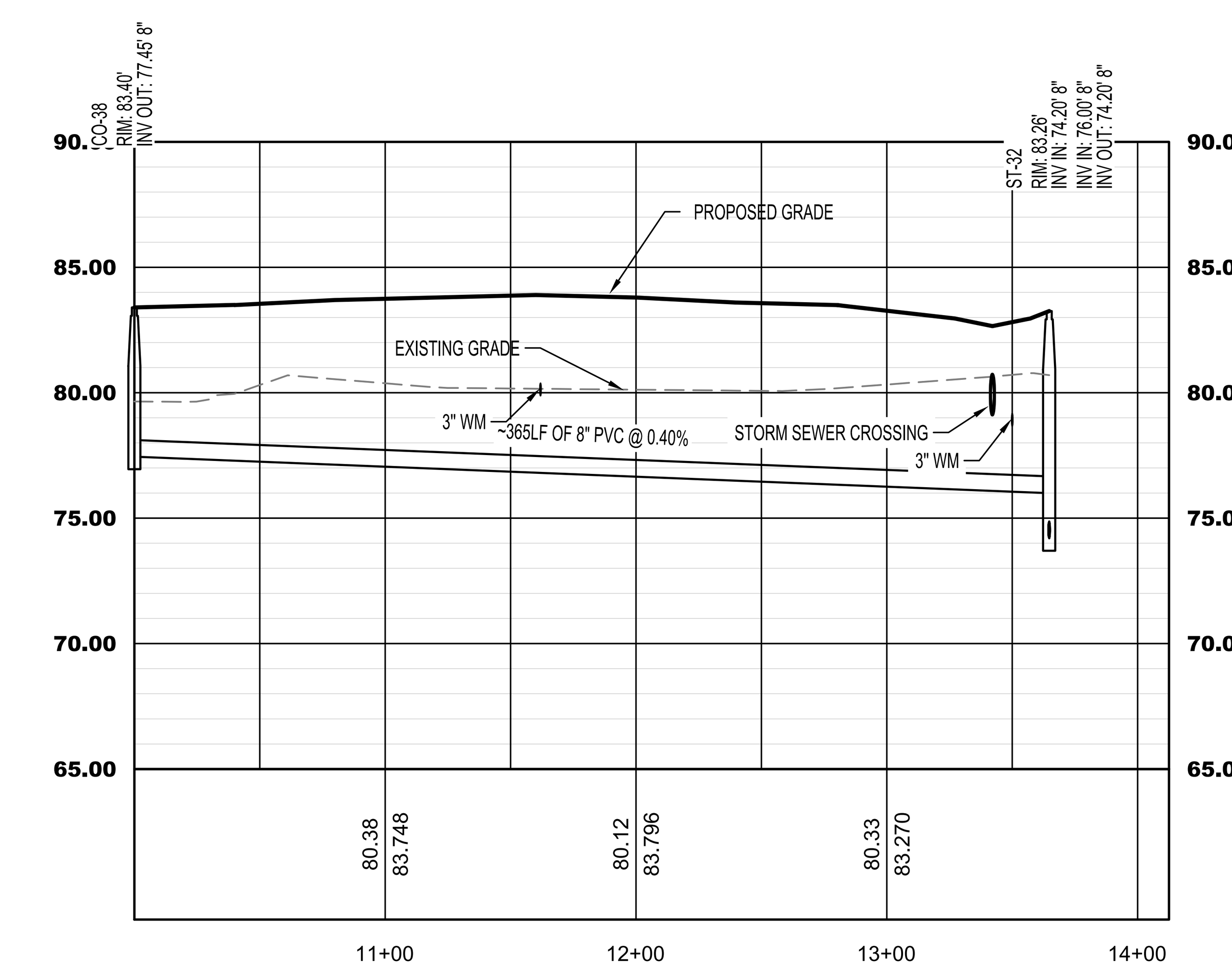

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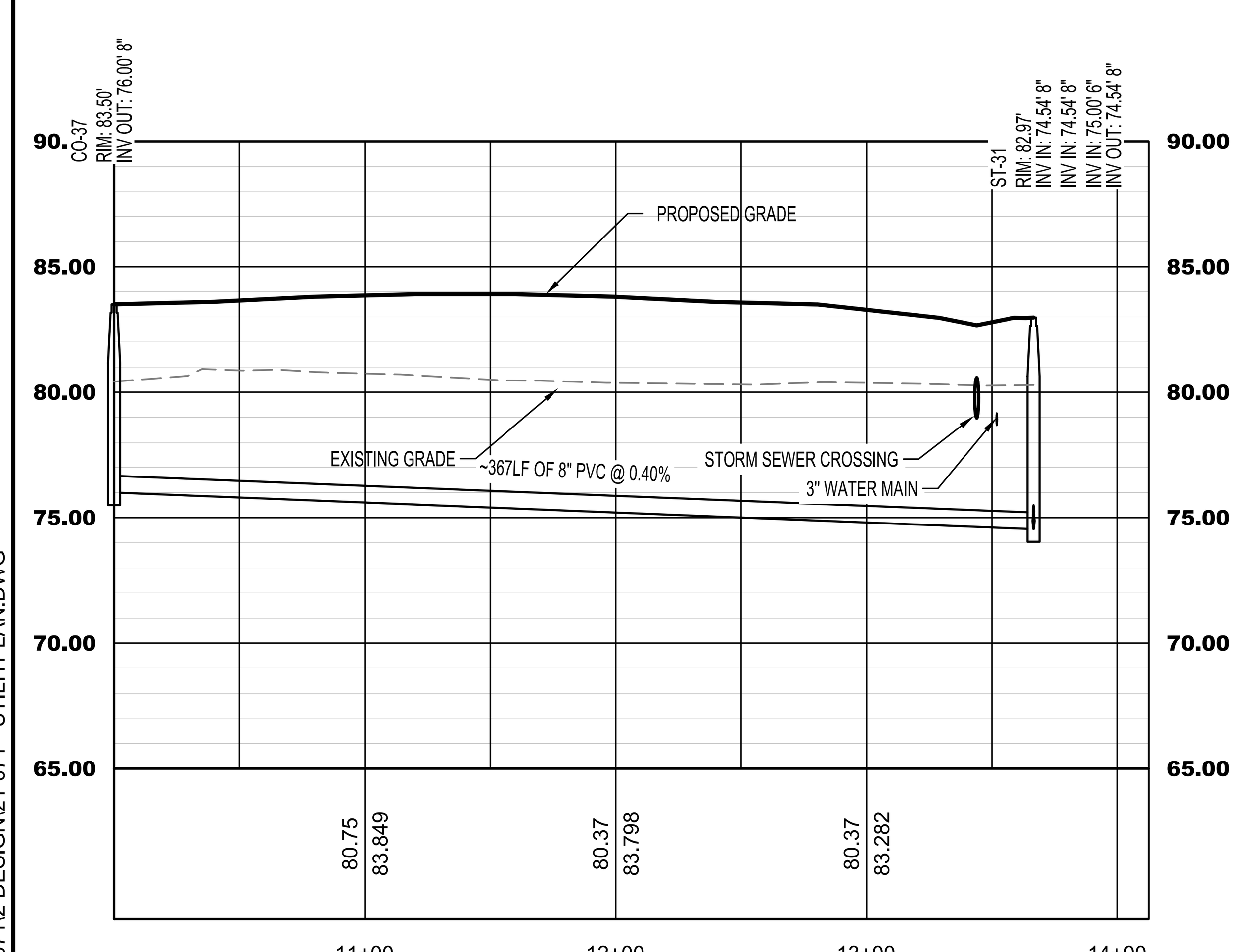

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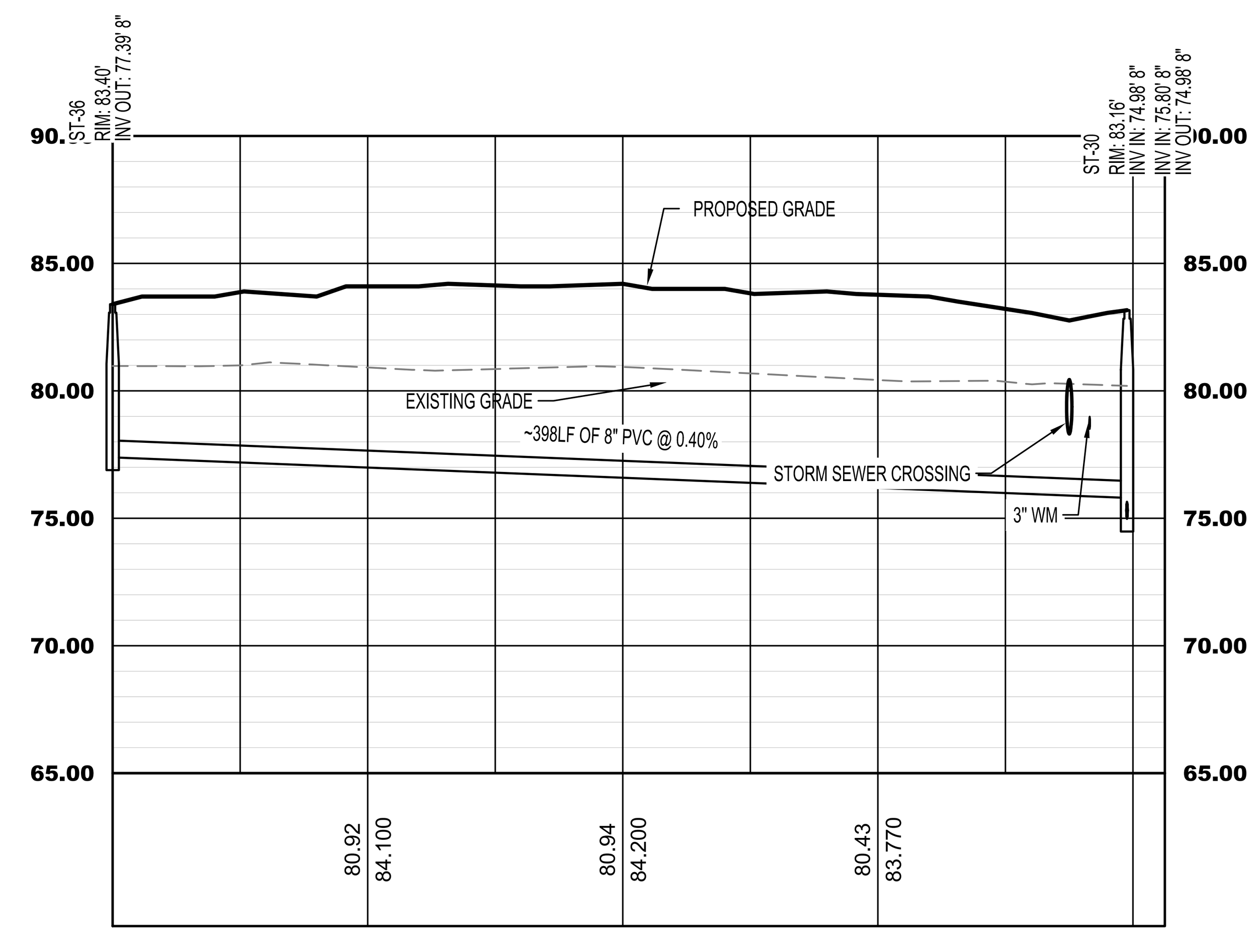

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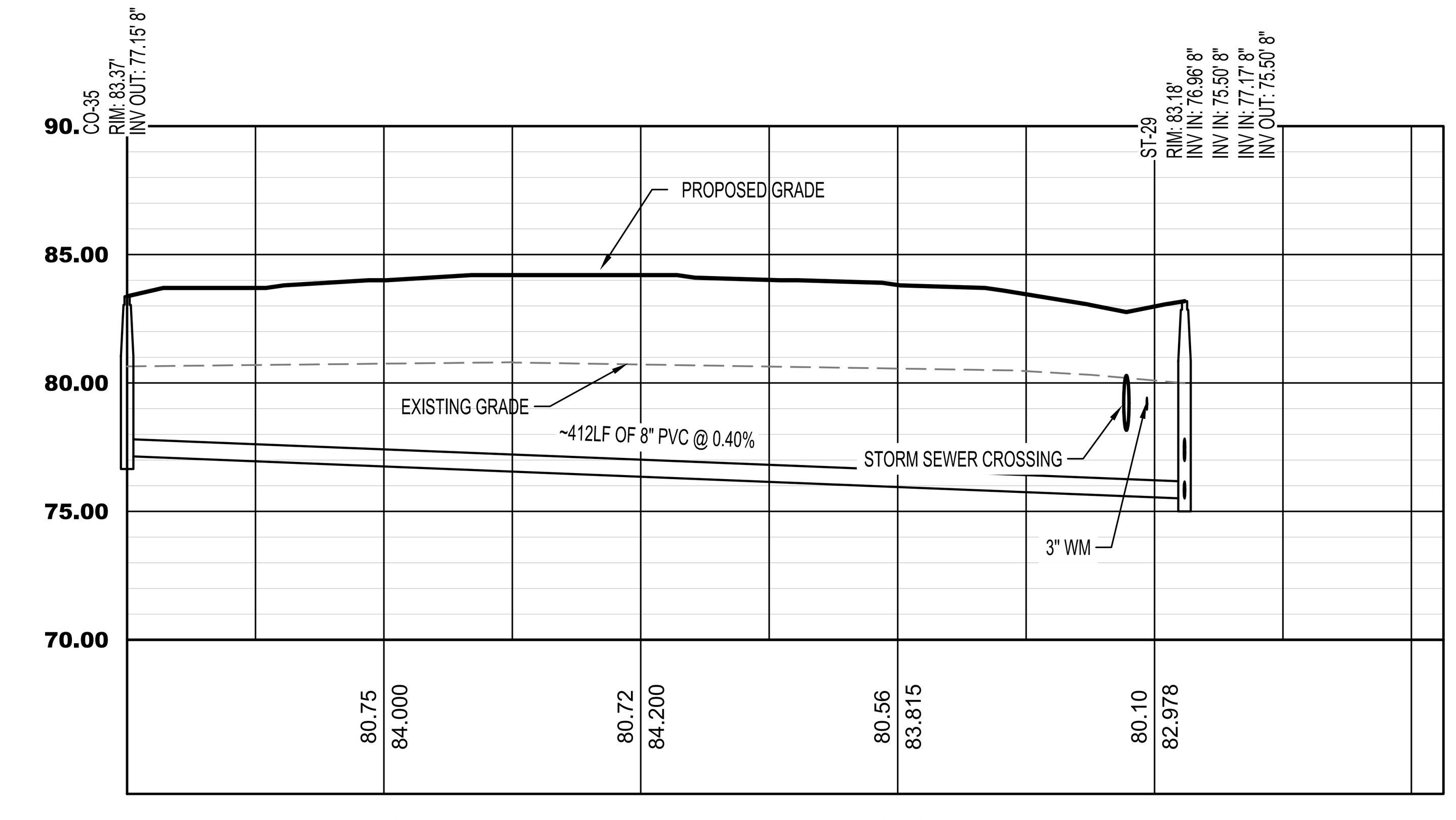

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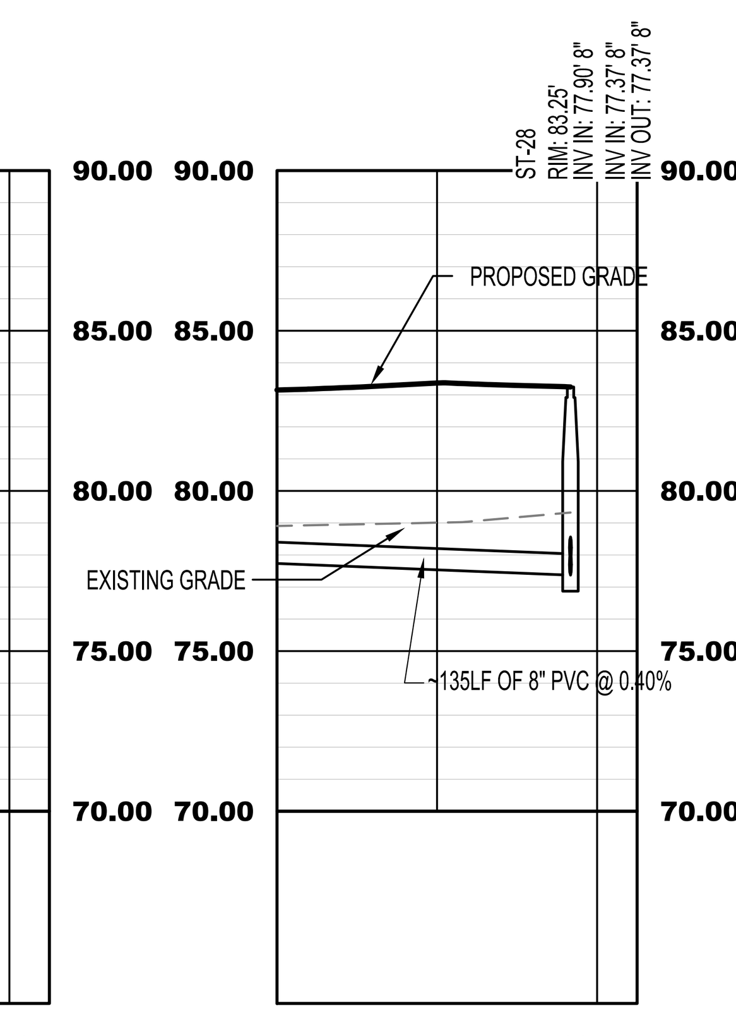

SANITARY PROFILE 11
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UNLESS THIS DRAWING BEARS THE EMBOSSED SEAL OF A FLORIDA REGISTERED ENGINEER ACTING AS AN AUTHORIZED AGENT FOR AVA ENGINEERS, INC., IT IS FOR INFORMATION PURPOSES ONLY AND IS NOT VALID.

THE STORMWATER SYSTEM AS SHOWN ON THESE PLANS HAS BEEN PREPARED IN ACCORDANCE WITH STANDARD, ACCEPTED ENGINEERING PRACTICE. HOWEVER, CERTAIN DESIGN CRITERIA, RULES OR LAWS THAT ARE MANDATED BY OTHERS (ie CITY, COUNTY, STATE, FEDERAL, etc.) HAVE BEEN USED TO DETERMINE THE FINAL DESIGN FOR SUCH STORMWATER FACILITIES. THE ENGINEER DOES NOT ACCEPT RESPONSIBILITY FOR POSSIBLE FUTURE CONTAMINATION RESULTING FROM THE REQUIREMENT FOR RETENTION AND TREATMENT OF STORMWATER.

HILLIARD RV

SANITARY PROFILES

NASSAU FLORIDA

Date: 06/2022
Designer: HAV
Job #: 21-071
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Scale: N/A
Sheet: 10.01

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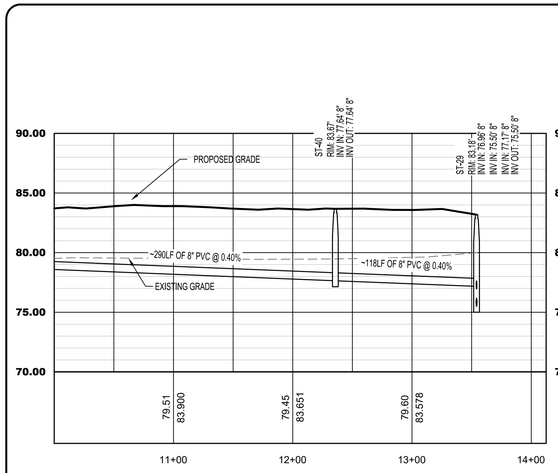

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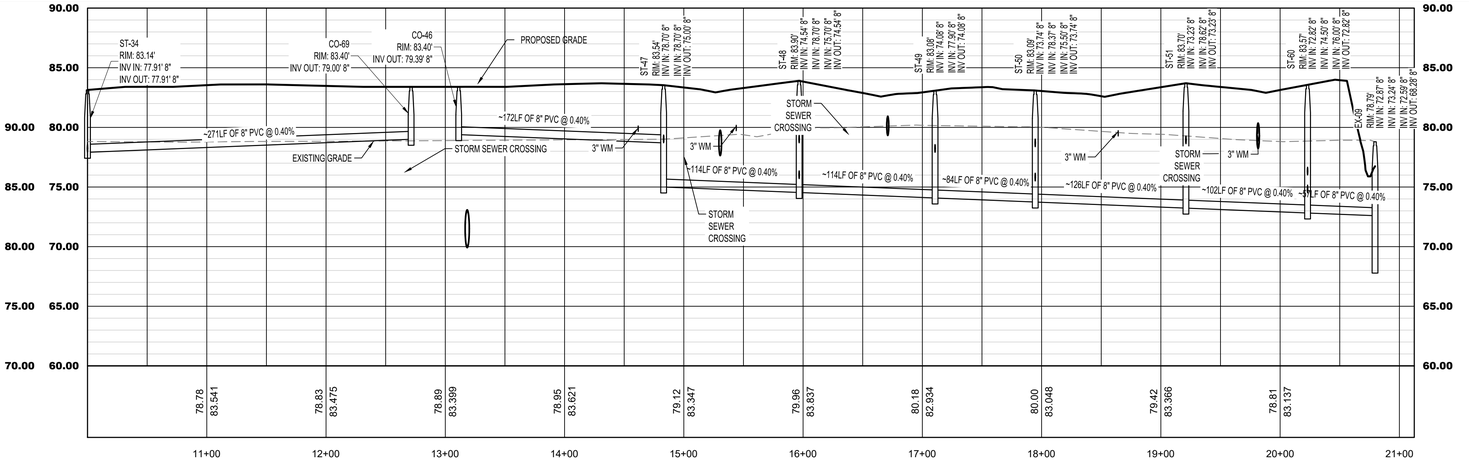

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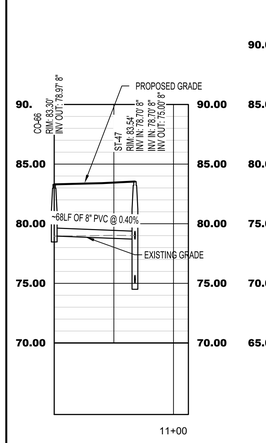

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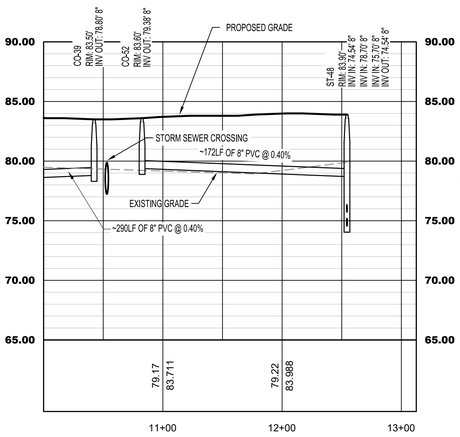

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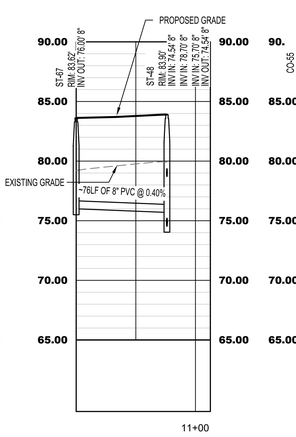

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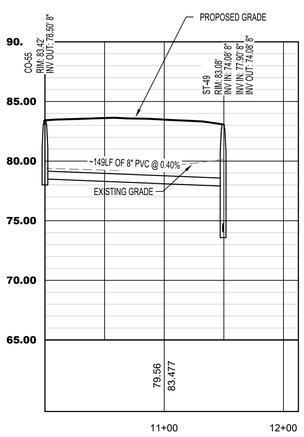

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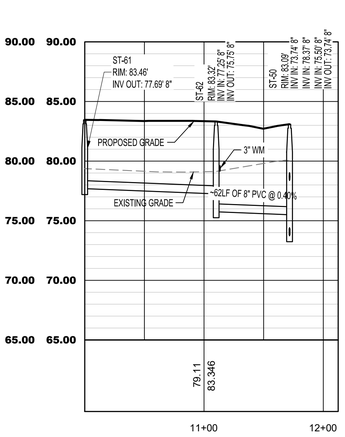

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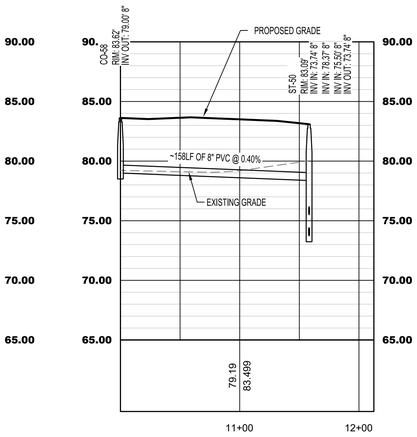

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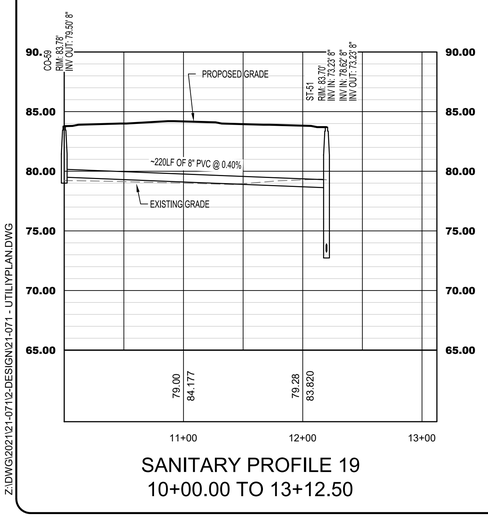

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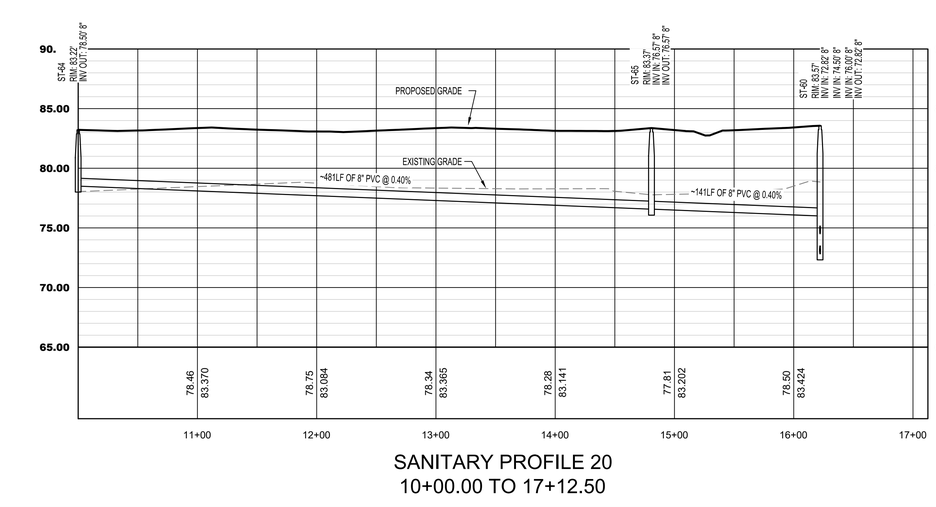

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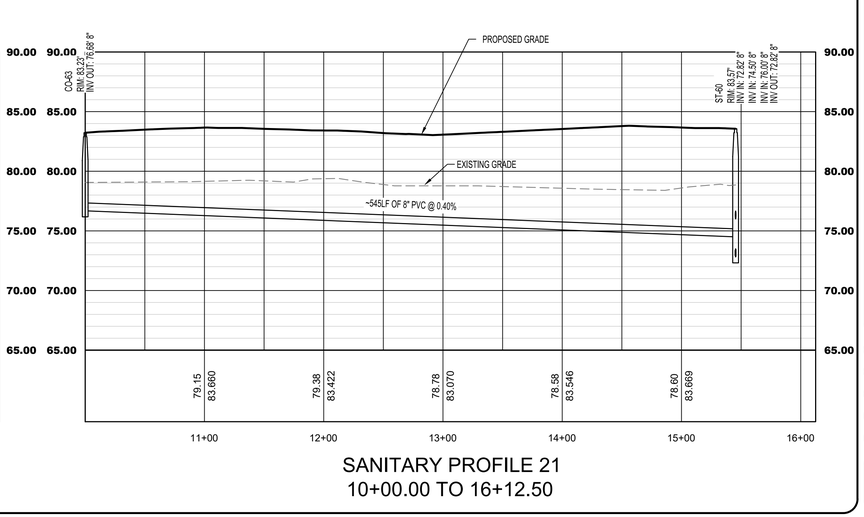

SANITARY PROFILE 21
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HILLIARD RV

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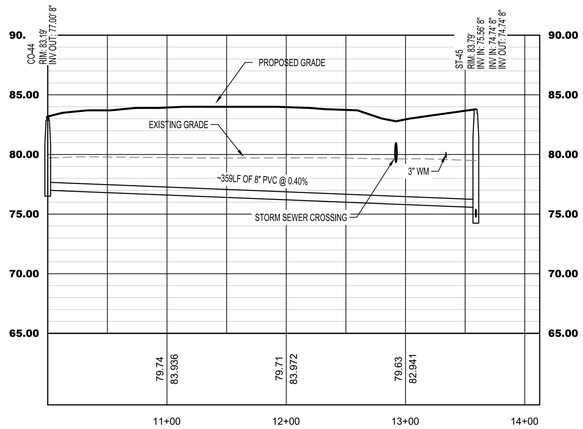

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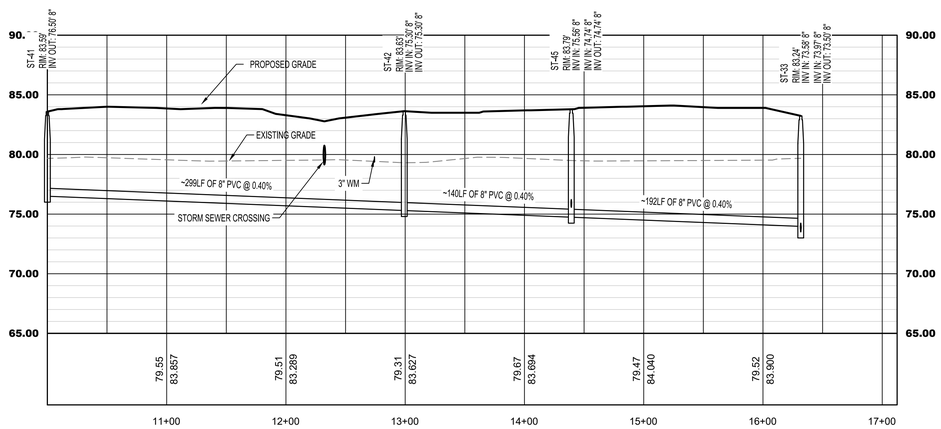

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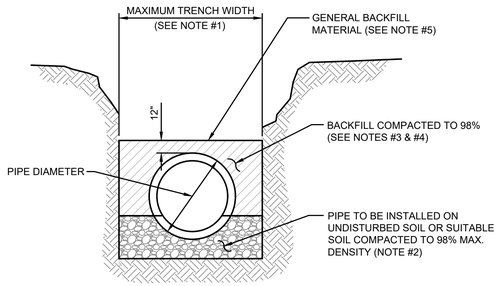


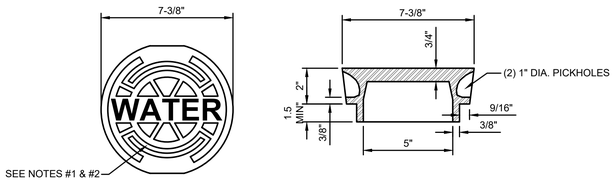
TYPICAL TRENCH

NOTES:

1. TRENCH SIDES SHALL BE APPROXIMATELY VERTICAL BETWEEN AN ELEVATION OF 1 FOOT ABOVE THE TOP OF THE PIPE AND THE CENTER LINE OF THE PIPE; OTHERWISE, TRENCH SIDES SHALL BE AS VERTICAL AS POSSIBLE OR AS REQUIRED BY OSHA STANDARDS. REFER TO THE MEASUREMENT AND PAYMENT SECTION (SECTION #801, PARAGRAPH #4)) TO DETERMINE MAXIMUM PAYLINE WIDTHS.
2. BELL HOLE SHALL BE DUG TO PERMIT THE ENTIRE STRAIGHT BARREL OF THE PIPE TO REST ON THE UNDISTURBED TRENCH BOTTOM. BOULDERS OR LOOSE ROCKS LARGER THAN 3/4 INCH IN SIZE WILL NOT BE PERMITTED IN BACKFILL UP TO 1 FOOT ABOVE THE TOP OF THE PIPE.
3. BACK FILL MATERIAL UP TO A LEVEL OF 1 FOOT OVER THE PIPE SHALL CONSIST OF AASHTO CLASS A-3 SOIL (SUITABLE SOIL) AND SHALL EXCLUDE CLAY MATERIALS AND LOOSE ROCKS LARGER THAN 3/4 INCH SIZE.
4. BACKFILL MATERIAL UP TO A LEVEL 1 FOOT OVER THE TOP OF PIPE OR BOTTOM OF STRUCTURES SHALL BE PLACED IN 6 INCH COMPACTED THICKNESS LAYERS AND SHALL BE COMPACTED TO 98% OF IT'S MAXIMUM DENSITY AS DETERMINED BY THE LABORATORY MODIFIED PROCTOR TEST, ASTM D1557.
5. SEE " EXCAVATION AND EARTHWORK", SECTION 408 FOR ADDITIONAL REQUIREMENTS INCLUDING REMOVAL AND REPLACEMENT OF UNSUITABLE SOILS, DEWATERING, COMPACTION REQUIREMENTS AND DENSITY TESTING OF COMPACTED SOILS.

OPEN CUT TRENCH FOR PRESSURE PIPE

JANUARY 2023 | IN COUNTY RIGHT -OF-WAY | PLATE W-42



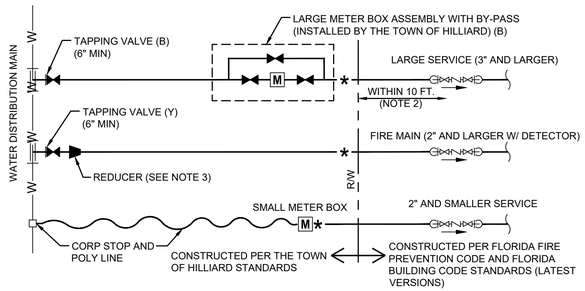
HEAVY DUTY RATING

NOTES:

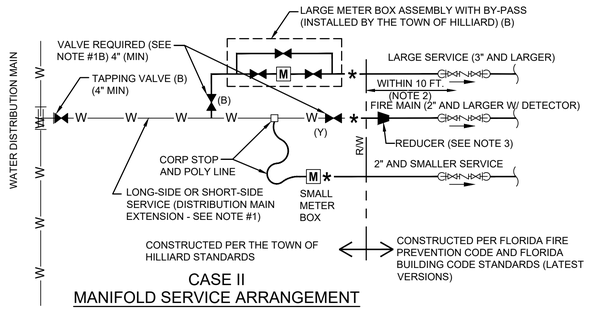
1. PAINT TOP OF THE COVER WITH ENAMEL PAINT (BLUE COLOR) FOR WATER.
2. FOR "REUSE" PAINT TOP PANTONE PURPLE.
3. LID WEIGHT: APPROX. 12 LBS.

WATER SYSTEM VALVE BOX COVER

JANUARY 2023 | PLATE W-16



CASE I
SEPARATE INDIVIDUAL SERVICE ARRANGEMENT



CASE II
MANIFOLD SERVICE ARRANGEMENT

KEY

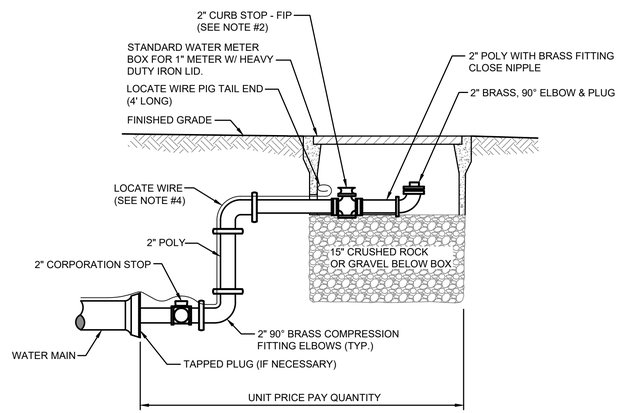
- GATE VALVE
- (B) VALVE COVER PAINT COLOR (B) = BLUE (Y) = YELLOW
- * POINT OF SERVICE
- BACKFLOW PREVENTER (NOTE #2)
- —W— WATER DISTRIBUTION MAIN
- M METER

NOTES:

1. SHOULD AN INSTALLATION INCLUDE MULTIPLE WATER SERVICES FOR THE SAME CUSTOMER (i.e. DOMESTIC, IRRIGATION, FIRE) AND ONE OR MORE OF THOSE SERVICES ARE 3 INCH OR LARGER, A MANIFOLD ARRANGEMENT (SEE CASE II ABOVE) IS ACCEPTABLE PROVIDED:
   A. THE PROJECT DESIGN ENGINEER (FLORIDA PROFESSIONAL ENGINEER) PROVIDES ACCEPTABLE HYDRAULIC CALCULATION (ENGINEERED, SIGNED AND SEALED) WHICH MEETS THE MOST HYDRAULICALLY DEMANDING CASE.
   B. TO MEET THE TOWN OF HILLIARD AND LOCAL FIRE CODE REQUIREMENTS, A SEPARATE ISOLATION VALVE (BELOW GROUND TYPE GATE VALVE OR CORP STOP) SHALL BE PROVIDED FOR EACH SERVICE ON A MANIFOLD ARRANGEMENT.
   C. THE SPECIFIC PROPOSED WATER SERVICE ARRANGEMENT IS IN ACCORDANCE WITH THE TOWN OF HILLIARD STANDARDS AND IS REVIEWED AND APPROVED BY THE TOWN OF HILLIARD.
2. BACKFLOW PREVENTER (BFP) - THE ABOVE GROUND VALVE SHALL MEET THE TOWN OF HILLIARD'S CROSS-CONNECTION CONTROL PROGRAM. THIS APPROVED VALVE SHALL BE INSTALLED WITHIN TEN (10) FEET OF RIGHT-OF-WAY LINE OR EASEMENT UNLESS APPROVED OTHERWISE BY THE TOWN OF HILLIARD. ALL BFPs INSTALLED ON A FIRE MAIN SHALL INCLUDE A DETECTOR.
3. REDUCER ONLY REQUIRED IF APPROVED BY THE TOWN OF HILLIARD REPRESENTATIVE (3" SERVICE REDUCER MUST BE AT CONTROL VALVE AT MAIN, 2" SERVICE CAN BE REDUCED TO 1 ½ INSIDE THE METER BOX)

WATER SERVICE MANIFOLD ARRANGEMENT

JANUARY 2023 | PLATE W-9

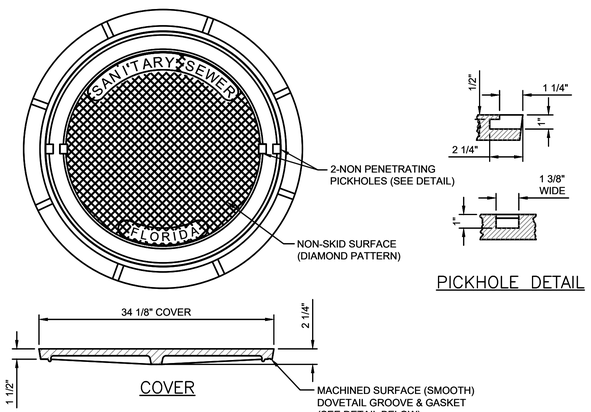


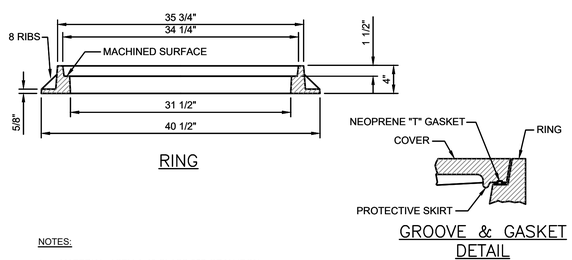
NOTES:

1. PIPE SHALL BE POLYETHYLENE. FITTINGS SHALL BE BRASS.
2. THE 2" CURB STOP SHALL BE ALL BRONZE. FITTINGS SHALL BE BRASS.
3. ANY RECLAIMED WATER VALVE SHALL HAVE RECLAIMED EMBLEM.
4. LOCATE WIRE FOR 10' OR GREATER IN LENGTH.
5. CANNOT BE PLACED UNDER CONCRETE OR PAVEMENT.
6. PLACE 2 FEET PAST LAST WATER MAIN SERVICE CONNECTION.

FLUSHING VALVE BELOW GRADE

JANUARY 2023 | PLATE W-28





NOTES:

1. MATERIAL: ASTM A-48 CLASS 35B GRAY IRON.
2. RING WEIGHT 230 LBS APPROX.
3. COVER WEIGHT 230 LBS. APPROX.
4. ALL DIMENSIONS ARE SHOWN IN INCHES.
5. FOR MANHOLES WHICH WILL BE MAINTAINED BY THE TOWN OF HILLIARD (INCLUDING UTILITY DEDICATION PROJECTS), THE COVER SHALL INCLUDE THE "THE TOWN OF HILLIARD" LOGO AND A NEOPRENE GASKET.
6. FOR MANHOLES WHICH WILL BE MAINTAINED BY PARTIES OTHER THAN THE TOWN OF HILLIARD (SUCH AS PRIVATE SEWER COLLECTION SYSTEMS, PRIVATE (FORCE MAIN) PUMP OUT BOX AND SYSTEMS NOT MAINTAINED BY THE TOWN OF HILLIARD), THE COVER SHALL INCLUDE "SANITARY SEWER" GENERIC LETTERING (NO "THE TOWN OF HILLIARD" LOGO OR NEOPRENE GASKET).

SANITARY SEWER MANHOLE FRAME AND COVER

JANUARY 2023 | PLATE S-1

ALL UTILITIES TO BE IN ACCORDANCE WITH LATEST TOWN OF HILLIARD STANDARDS

No.	Revisions	By
2	1/12/24 FINAL REVISION	JES

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HILLIARD RV

UTILITY DETAILS

FLORIDA

NASSAU

Date: 06/2022
Designer: HAV
Job #: 21-071
Drawn: MRP
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Sheet: 11

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HORIZONTAL & VERTICAL SEPARATION REQUIREMENTS

PROPOSED UTILITY

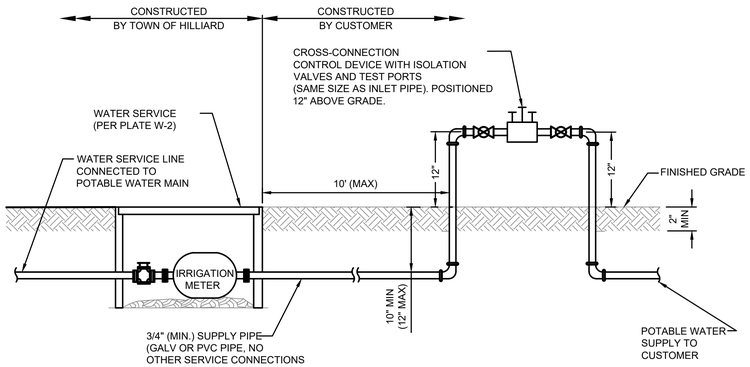
CONFLICTING UTILITY	POTABLE WATER			WASTEWATER GRAVITY AND FORCE MAIN			RECLAIMED WATER			VACUUM SEWERS		
	HORIZ.	VERT.	JOINT SPACING*	HORIZ.	VERT.	JOINT SPACING*	HORIZ.	VERT.	JOINT SPACING*	HORIZ.	VERT.	JOINT SPACING*
POTABLE WATER	3' NOTE 1	12"	3' NOTE 2	6' to 10'	12" NOTE 5	6' NOTE 2	3'	12"	6' NOTE 2	3' to 10'	12"	3' NOTE 2
RECLAIMED WATER	3'	12"	6' NOTE 2	3' NOTE 1	12"	3' NOTE 2	3'	12"	6' NOTE 2	3' NOTE 1	12"	3' NOTE 2
WASTEWATER (GRAVITY AND FORCE MAIN)	6' to 10'	12"	6' NOTE 2	3' NOTE 1	12"	6"	3' NOTE 1	12"	3' NOTE 2	3' NOTE 1	12"	3' NOTE 2
VACUUM SEWERS	3' to 10'	12"	3' NOTE 2	3' NOTE 1	12"	6"	3' NOTE 1	12"	3' NOTE 2	3' NOTE 1	12"	3' NOTE 2
RIGHT OF WAYS	3' NOTE 1	N/A	N/A	3' NOTE 1	N/A	N/A	3' NOTE 1	N/A	N/A	3' NOTE 1	N/A	N/A
PERMANENT STRUCTURES (BUILDINGS, SIGNS, POLES, ETC.)	SEE NOTE 7	N/A	N/A	SEE NOTE 7	N/A	N/A	SEE NOTE 7	N/A	N/A	SEE NOTE 7	N/A	N/A
STORM SEWERS	3' NOTE 1	12"	3' NOTE 2	3' NOTE 1	12"	3' NOTE 2	3' NOTE 1	12"	3' NOTE 2	3' NOTE 1	12"	3' NOTE 2
GAS	3' NOTE 1	12"	3' NOTE 2	3' NOTE 1	12"	3' NOTE 2	3' NOTE 1	12"	3' NOTE 2	3' NOTE 1	12"	3' NOTE 2
TREES	3'-6' NOTE 6	N/A	N/A	3'-6' NOTE 6	N/A	N/A	3'-6' NOTE 6	N/A	N/A	3'-6' NOTE 6	N/A	N/A
ALL OTHER UTILITIES	3' NOTE 1	12"	3' NOTE 2	3' NOTE 1	12"	3' NOTE 2	3' NOTE 1	12"	3' NOTE 2	3' NOTE 1	12"	3' NOTE 2

NOTES:

1. THIS SEPARATION REQUIREMENT IS TO PROVIDE ACCESSIBILITY FOR CONSTRUCTION AND MAINTENANCE. THREE FEET OF HORIZONTAL SEPARATION IS THE MINIMUM FOR PIPES WITH THREE FEET OF COVER. FOR PIPES INSTALLED AT GREATER DEPTH, PROVIDE AN ADDITIONAL FOOT OF SEPARATION FOR EACH ADDITIONAL FOOT OF DEPTH.
2. THE MINIMUM JOINT SPACING REQUIRED FROM CROSSING FROM OTHER UTILITIES WHILE STILL MAINTAINING MINIMUM VERTICAL SEPARATION.
3. DISTANCES GIVEN ARE FROM OUTSIDE OF PIPE TO OUTSIDE OF PIPE.
4. NO WATER PIPE SHALL PASS THROUGH OR COME INTO CONTACT WITH ANY PART OF SANITARY OR STORM WATER MANHOLE OR STRUCTURES.
5. WATER MAIN SHOULD CROSS ABOVE OTHER PIPES WHENEVER POSSIBLE. WHEN WATER MAIN MUST BE BELOW OTHER UTILITY PIPING, THE MINIMUM SEPARATION SHALL BE 12 INCHES.
6. REFER TO POTABLE WATER PIPING- SECTION 350, III.4.11.
7. SEE SECTION 350, III.4.10 FOR MINIMUM SEPARATION REQUIREMENTS FROM PIPE TO STRUCTURES.

SEPARATION REQUIREMENTS FOR WATER, WASTEWATER AND RECLAIMED WATER MAINS

JANUARY 2023 PLATE W-10



NOTES:

1. WATER SERVICE CONNECTIONS REQUIRE ABOVE GRADE REDUCED PRESSURE BACKFLOW PREVENTERS. (SEE PLATE W-15)
2. BACKFLOW PREVENTION DEVICES REQUIRED WHEN:
   IRRIGATION SYSTEMS - REQUIRED ON IRRIGATION SYSTEMS AT THE CONNECTION TO POTABLE SYSTEM
   RESIDENTIAL SYSTEMS - REQUIRED ON WATER SERVICE IF RECLAIMED SERVICE WATER AVAILABLE TO SITE
   COMMERCIAL SITES - REQUIRED ON ALL WATER SERVICES
   INDUSTRIAL SITES - REQUIRED ON BOTH WATER AND RECLAIMED SERVICE CONNECTIONS.
3. RESIDENTIAL IRRIGATION SERVICES MAY UTILIZE AN ALTERNATE BACKFLOW PREVENTER LOCATION IF THE FOLLOWING CONDITIONS EXITS:
   3.a. CUSTOMER HAS SUBMITTED A COMPLETED "CUSTOMER AFFIDAVIT" FORM AND
   3.b. THERE ARE NO ADDITIONAL CONNECTIONS BETWEEN THE METER AND THE BACKFLOW PREVENTER, AND
   3.c. THE ALTERNATE BACKFLOW LOCATION IS EASILY ACCESSIBLE TO THE TOWN OF HILLIARD AND BACKFLOW TESTERS.

CROSS CONNECTION CONTROL DEVICE

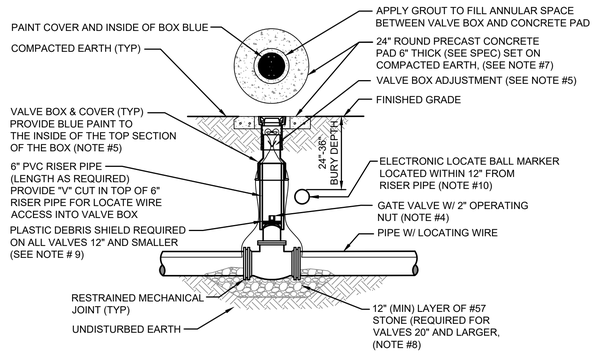
JANUARY 2023 IRRIGATION SERVICE CONNECTIONS PLATE W-15A

WATER MAIN AND NON-WATER MAIN SEPARATION REQUIREMENTS - NOTES

1. IT IS REQUIRED THAT "WATER MAINS" BE INSTALLED, CLEANED, DISINFECTED AND HAVE A SATISFACTORY BACTERIOLOGICAL SURVEY PERFORMED IN ACCORDANCE WITH THE LATEST APPLICABLE AWWA STANDARDS, CHAPTER 62-555, F.A.C. AND LATEST WATER AND SEWER STANDARDS. FOR THE PURPOSE OF THIS SECTION, THE PHRASE "WATER MAINS" SHALL MEAN MAINS, INCLUDING TREATMENT PLANT PROCESS PIPING, CONVEYING EITHER RAW, PARTIALLY TREATED, OR FINISHED DRINKING WATER; FIRE HYDRANT LEADS; AND SERVICE LINES THAT HAVE AN INSIDE DIAMETER OF THREE (3) INCHES OR GREATER. IN ADDITION, THE PHRASE "RECLAIMED WATER" REFERS TO THE WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.
2. NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE (3) FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER.
3. NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST SIX (6) FEET, AND PREFERABLY TEN (10) FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY-TYPE SANITARY SEWERS MAY BE REDUCED TO THREE (3) FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX (6) INCHES ABOVE THE TOP OF THE SEWER (SPECIAL CASE).
4. NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY OR VACUUM-TYPE SANITARY SEWER OR STORM SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX (6) INCHES, AND PREFERABLE TWELVE (12) INCHES, ABOVE OR AT LEAST TWELVE (12) INCHES BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.
5. NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED PRESSURE-TYPE SANITARY SEWER, WASTEWATER OR STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS A LEAST TWELVE (12) INCHES ABOVE OR BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.
6. AT THE UTILITY CROSSINGS DESCRIBED IN NOTES 4 AND 5 ABOVE, ONE FULL LENGTH OF WATER MAIN PIPE SHALL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE. ALTERNATIVELY, AT SUCH CROSSINGS, THE PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE (3) FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, STORM SEWERS, STORMWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER, AND AT LEAST SIX (6) FEET FROM ALL JOINTS IN GRAVITY OR PRESSURE-TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINE CONVEYING RECLAIMED WATER.
7. NEW OR RELOCATED FIRE HYDRANTS SHALL BE LOCATED SO THAT THE HYDRANTS ARE AT LEAST THREE (3) FEET FROM ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER; AT LEAST THREE (3) FEET, AND PREFERABLY TEN (10) FEET, FROM ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER; AT LEAST SIX (6) FEET, AND PREFERABLY TEN (10) FEET, FROM ANY EXISTING OR PROPOSED GRAVITY OR PRESSURE-TYPE SANITARY SEWER OR WASTEWATER FORCE MAIN.
8. WHERE AN UNDERGROUND WATER MAIN IS BEING LAID LESS THAN THE REQUIRED MINIMUM HORIZONTAL DISTANCE FROM ANOTHER PIPELINE AND WHERE AN UNDERGROUND WATER MAIN IS CROSSING ANOTHER PIPELINE AND JOINTS IN THE WATER MAIN ARE BEING LOCATED LESS THAN THE REQUIRED MINIMUM DISTANCE FROM JOINTS IN THE OTHER PIPELINE, THE CONTRACTOR SHALL CONSULT THE DESIGN ENGINEER TO OBTAIN APPROVAL OF ANY ALTERNATIVE CONSTRUCTION METHODS, PRIOR TO CONSTRUCTION.

NOTES ON UTILITY SEPARATION REQUIREMENTS

JANUARY 2023 PLATE W-11

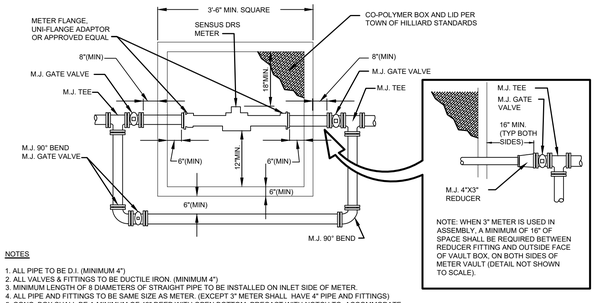


NOTES:

1. FOR UNPAVED LOCATIONS, A PRECAST CONCRETE VALVE PAD SHALL BE PROVIDED AND INSTALLED FLUSH WITH GRADE. CONCRETE PAD IS NOT REQUIRED FOR VALVE LOCATED IN THE ROADWAY, UNLESS SHOWN OR NOTED OTHERWISE.
2. LOCATING WIRE IS REQUIRED ON ALL PRESSURE PIPING (SEE DETAILW-44).
3. A "V" CUT SHALL BE CARVED IN THE CURB CLOSEST/ADJACENT/(ASPHALT IF NO CURB) TO ALL BELOW GRADE VALVES. THE "V" CUT IS TO BE PAINTED BLUE WATER/PURPLE RECLAIMED.
4. IN PAVED AREAS, INSTALL VALVE AT A DEPTH TO ALLOW A 12" MIN. DISTANCE BETWEEN THE VALVE COVER PLATE AND THE TOP OF THE VALVE OPERATING NUT. OUTSIDE OF PAVED AREAS (GRASS), INSTALL VALVE AT A DEPTH TO ALLOW A 6" MINIMUM DISTANCE BETWEEN THE VALVE COVER AND THE TOP OF THE VALVE OPERATING NUT. OPERATING NUT/STEM EXTENSION SHALL BE PROVIDED (WHERE APPLICABLE) SO THAT THE OPERATING NUT WILL BE NO MORE THAN 30 INCHES BELOW FINISHED GRADE.
5. FOR NEW CONSTRUCTION, THE VALVE BOX SHALL BE ADJUSTED TO MIDRANGE TO ALLOW FOR FUTURE BOX ADJUSTMENTS. ROUTE LOCATE WIRES THRU A "V" CUT IN THE TOP OF THE 6" PVC RISER PIPE FOR LOCATE WIRE ACCESS INTO VALVE BOX. THE LOCATE WIRES WITH A 24" LONG PIG-TAIL AT THE TOP SHALL BE CONNECTED TOGETHER WITH A WIRE NUT.
6. BRASS IDENTIFICATION TAG INDICATING "WATER", VALVE SIZE, DIRECTION AND TURNS TO OPEN & VALVE TYPE. PROVIDE A ¾" HOLE IN BRASS TAG AND ATTACH TAG (TWIST WIRE AROUND TAG) TO THE END OF THE LOCATE WIRE. TAGS ARE NOT REQUIRED ON VALVES INSTALLED ON FIRE HYDRANT BRANCH LINES.
7. IN LIEU OF PRECAST CONCRETE PAD, A 6" THICK X 24" (ROUND OR SQUARE) POURED CONCRETE PAD W/2 - #4 REBAR AROUND PERIMETER, MAY BE USED.
8. GRAVEL SHALL BE PROVIDED UNDER ALL VALVES 20" AND LARGER. THE MINIMUM VERTICAL LIMIT OF GRAVEL IS 12" UNDER THE VALVE UP TO ⅓ THE OVERALL HEIGHT OF THE VALVE.
9. FOR VALVES 12 INCH AND SMALLER, PROVIDE A WHITE OR BLACK PLASTIC DEBRIS SHIELD WHICH INSTALLS BELOW THE OPERATING NUT. THIS SHIELD SHALL CENTER THE RISER PIPE BOX OVER THE OPERATING NUT AND MINIMIZE INFILTRATION. SHIELD SHALL BE BY AFC, BOXLOK OR APPROVED EQUAL.
10. ALL VALVES SHALL BE INSTALLED WITH AN ELECTRIC LOCATE MARKER. MARKER SHALL BE 4" DIA. COLOR CODED BALL MARKER (3M-1403XR FOR WATER AND 1408XR FOR RECLAIMED WATER).

WATER VALVE INSTALLATION DETAIL

JANUARY 2023 PLATE W-18



NOTE: WHEN 3" METER IS USED IN ASSEMBLY, A MINIMUM OF 16" OF SPACE SHALL BE REQUIRED BETWEEN REDUCER FITTING AND OUTSIDE FACE OF VAULT BOX, ON BOTH SIDES OF METER VAULT (DETAIL NOT SHOWN TO SCALE).

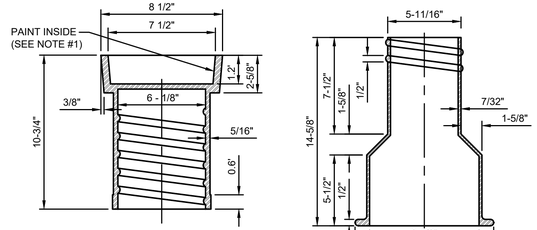
NOTES

1. ALL PIPE TO BE D.I. (MINIMUM 4")
2. ALL VALVES & FITTINGS TO BE DUCTILE IRON. (MINIMUM 4")
3. MINIMUM LENGTH OF 8 DIAMETERS OF STRAIGHT PIPE TO BE INSTALLED ON INLET SIDE OF METER.
4. ALL PIPE AND FITTINGS TO BE SAME SIZE AS METER. (EXCEPT 3" METER SHALL HAVE 4" PIPE AND FITTINGS)
5. CONC. BOX SHALL BE A MINIMUM OF 42" DEEP WITH OPEN BOTTOM, PRECAST WITH NOTCH TO ACCOMMODATE PIPE INSTALLED 36" DEEP, INSTALLED ON 12" OF #57 STONE.
6. CONTRACTOR SHALL PROVIDE SHOP DRAWING OF BOX WITH DIMENSIONS FOR APPROVAL.
7. THE COST OF THE METER WILL BE ASSESSED TO DEVELOPER UNDER SEPARATE AGREEMENT. THE METER ONLY WILL BE FURNISHED TO THE CONTRACTOR BY THE TOWN OF HILLIARD UTILITY AUTHORITY AND THE CONTRACTOR SHALL INSTALL THE METER TO COMPLETE THE INSTALLATION SHOWN HEREON.
8. PIPES COMING IN AND GOING OUT OF BOX SHALL BE 36" DEEP. CONTRACTOR SHALL BE RESPONSIBLE TO ADJUST THE ELEVATION OF THESE PIPES. USE OF BENDS ARE PERMITTED TO ACHIEVE THIS.
9. FOR ANY SIZE WATER AND FIRE LINE METERS NOT LISTED, THE CONTRACTOR SHALL SUBMIT ALL NECESSARY SUBMITTALS TO BE APPROVED BY THE TOWN OF HILLIARD.

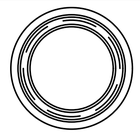
METER VAULT DIMENSIONS (OVER 8" CONTACT CCUA ENGINEERING DEPARTMENT)

METER TYPE	3" and 4" VAULT DIMENSIONS	6" VAULT DIMENSIONS	8" VAULT DIMENSIONS
SENSUS TURBINE	4'-0" OUTSIDE 3'-10" INSIDE	4'-6" OUTSIDE 3'-8" INSIDE	4'-6" OUTSIDE 3'-8" INSIDE
SENSUS COMPOUND	4'-0" OUTSIDE 3'-0" INSIDE	4'-6" OUTSIDE 3'-0" INSIDE	4'-6" OUTSIDE 3'-0" INSIDE
SENSUS F2 FIRE LINE	5'-0" OUTSIDE 4'-0" INSIDE	6'-0" OUTSIDE 5'-0" INSIDE	6'-10" OUTSIDE 5'-8" INSIDE
"NICROMETER" PROPELLER	4'-0" OUTSIDE 3'-0" INSIDE	4'-6" OUTSIDE 3'-6" INSIDE	4'-6" OUTSIDE 3'-6" INSIDE

METER VAULT - 3" AND LARGER METERS



HEAVY DUTY RATING

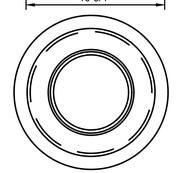


TOP SECTION VIEW

(23 LBS. APPROX.)

NOTES:

1. PAINT THE INSIDE OF THE TOP SECTION OF THE BOX WITH APPLICABLE COLOR (BLUE OR PURPLE)
2. HEAVY DUTY RATING (TOTAL WEIGHT APPROX. 50 LBS.).
3. REFERENCE SECTION 351, PARAGRAPH X.2.



BOTTOM SECTION VIEW

(26 LBS. APPROX.)

WATER SYSTEM VALVE BOX

JANUARY 2023 PLATE W-17

ALL UTILITIES TO BE IN ACCORDANCE WITH LATEST TOWN OF HILLIARD STANDARDS

No.	Revisions	By
2	1/12/24 FINAL REVISION	JES

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HILLIARD RV

FLORIDA

UTILITY DETAILS

NASSAU

Date: 06/2022
Designer: HAV
Job #: 21-071
Drawn: MRP
Scale: N/A
Sheet: 12

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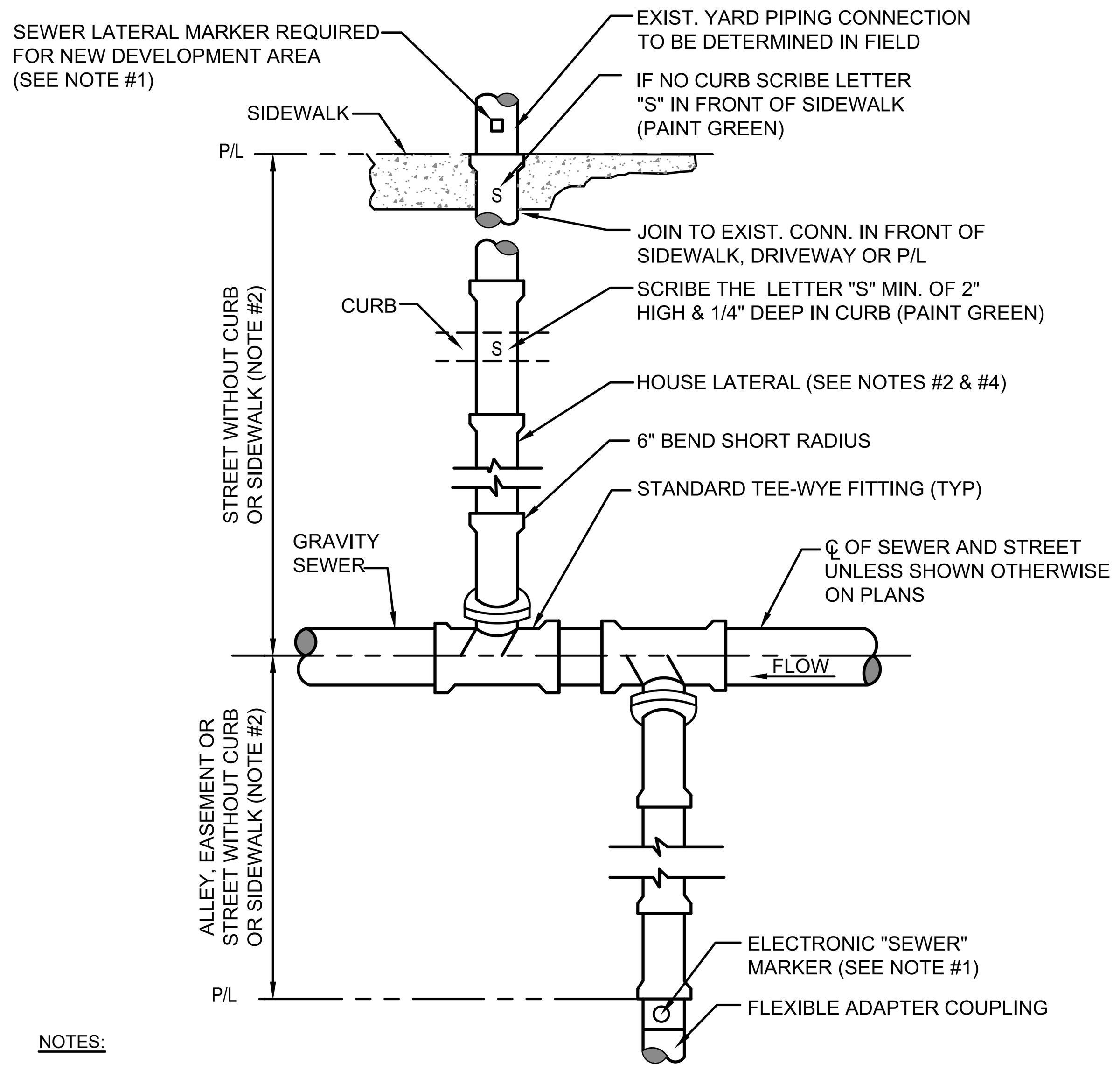
ITEM-3



NOTES:

1. TO MARK THE LOCATION OF THE 6" PLUG FOR NEW SERVICE: FOR PROJECTS WHERE NO CONCRETE CURB EXIST, AN ELECTRONIC "SEWER" MARKER IS REQUIRED FOR ALL LATERALS WHICH ARE"NOT" IN USE". FOR NEW DEVELOPMENT AREAS WHERE THE SEWER LATERAL IS "NOT IN USE", A LANDSCAPE TIMBER OR 3x3 MIN. P.T. POST (TOP PAINTED GREEN) SHALL BE INSTALLED.
2. THE MINIMUM SIZE OF ALL HOUSE LATERALS SHALL BE 6 INCHES. THE MAXIMUM LENGTH OF A HOUSE LATERAL SHALL BE 60 FEET (LENGTH BETWEEN SEWER MAIN OR MANHOLE TO CUSTOMERS PROPERTY LINE).
3. NO SEWER SERVICE CONNECTIONS PERMITTED ON GRAVITY SEWER PIPE WHICH ARE 16" AND LARGER.
4. ALL GRAVITY SEWER MAINS AND ASSOCIATED SEWER LATERAL PIPE AND FITTINGS (INCLUDING THE TEE-WYE FITTING) SHALL BE PVC SDR-26.

SEWER LATERAL - PLAN VIEW

JANUARY 2023 PLATE S-19

PVC PIPE RESTRAINT NOTES:

1. THIS SCHEDULE SHALL BE UTILIZED ON ALL WATER, SEWER FORCE MAIN OR RECLAIMED WATER SYSTEMS. ALL FITTINGS SHALL BE RESTRAINED TO LENGTHS INDICATED ON THE ABOVE SCHEDULE, AT A MINIMUM.
2. ASSUMPTIONS: PVC PIPE, SAFETY FACTOR=1.5, TEST PRESSURE=150PSI, SOIL=GM OR SM, TRENCH TYPE 3, DEPTH OF COVER=30 INCHES FOR 20" AND SMALLER PIPE SIZE OR 36 INCHES FOR 24" AND LARGER PIPE SIZE.
3. BENDS AND VALVES: SHALL BE RESTRAINED ON EACH SIDE OF FITTING.
4. VERTICAL OFFSETS: ARE APPROX. 3 FEET COVER ON TOP AND APPROX. 8 FEET COVER ON BOTTOM. PER THE DETAILS, Lu IS THE RESTRAINED LENGTH FOR THE UPPER (TOP) LEVEL. Li IS THE RESTRAINED LENGTH FOR THE LOWER (DEEPER) LEVEL. ASSUME 45 DEGREE BENDS.
5. TEES: TOTAL LENGTH BETWEEN FIRST JOINTS OR RESTRAINED LENGTH ON EITHER SIDE OF TEE (RUN) SHALL BE A TOTAL DISTANCE OF 30 FEET (MIN). SEE SCHEDULE ABOVE FOR RESTRAINT LENGTH ON TEE "BRANCH" LINE.
6. HDPE TO PVC TRANSITIONS: THE PVC PIPE SIDE SHALL BE RESTRAINED 35 FT (MIN).
7. THE INSTALLATION OF BELL HARNESS RESTRAINTS AT PVC JOINTS (DR-18 & 25 PIPE) SHALL BE COMPLETED PER THE MANUFACTURERS RECOMMENDATION, WHICH INCLUDES NOT OVER TIGHTENING THE PARALLEL RODS/NUTS. THESE NUTS SHOULD ONLY BE SNUG TIGHT. THE HOME MARKS ON THE PIPE SHOULD ALWAYS BE VISIBLE AFTER THE RESTRAINT IS INSTALLED. OVERHOMING THE JOINT MAY CAUSE A FAILURE AT THE BELL RESULTING IN A SERVICE OUTAGE.

LENGTH (L) TO BE RESTRAINED (SEE PLATE Nos. 38C & 38D FOR ADDITIONAL DETAILS)

NOMINAL PIPE SIZE (IN.)	HORIZONTAL BENDS				VERTICAL OFFSETS 45° BENDS (SEE NOTE 4)		VALVES OR DEAD ENDS
	90° BENDS L (FT.)	45° BENDS L (FT.)	22.5° BENDS L (FT.)	11.25° BENDS L (FT.)	UPPER L (FT.)	LOWER L (FT.)	L (FT.)
4	21	9	5	3	17	3	47
6	30	13	6	3	23	4	66
8	38	16	8	4	30	6	86
10	45	19	9	5	36	7	103
12	53	22	11	6	43	8	121
14	61	26	13	6	50	9	140
16	66	28	14	7	55	10	154
18	73	30	15	8	60	11	170
20	79	33	16	8	66	12	186
24	79	33	16	8	77	15	185
30	93	39	19	10	97	17	222
36	106	39	21	11	107	20	257
42	117	49	24	12	120	24	289
48	144	53	26	13	133	26	321

REDUCERS

SIZE (IN.)	L (FT.)
6x4	34
8x6	36
8x4	62
10x8	35
10x6	63
12x10	36
12x8	64
16x12	66
16x10	92
20x18	35
20x16	66
20x12	117
24x20	56
24x18	80
24x16	101
30x24	78
30x20	121
36x30	78
36x24	141
42x36	75
42x30	140
48x42	75
48x36	139

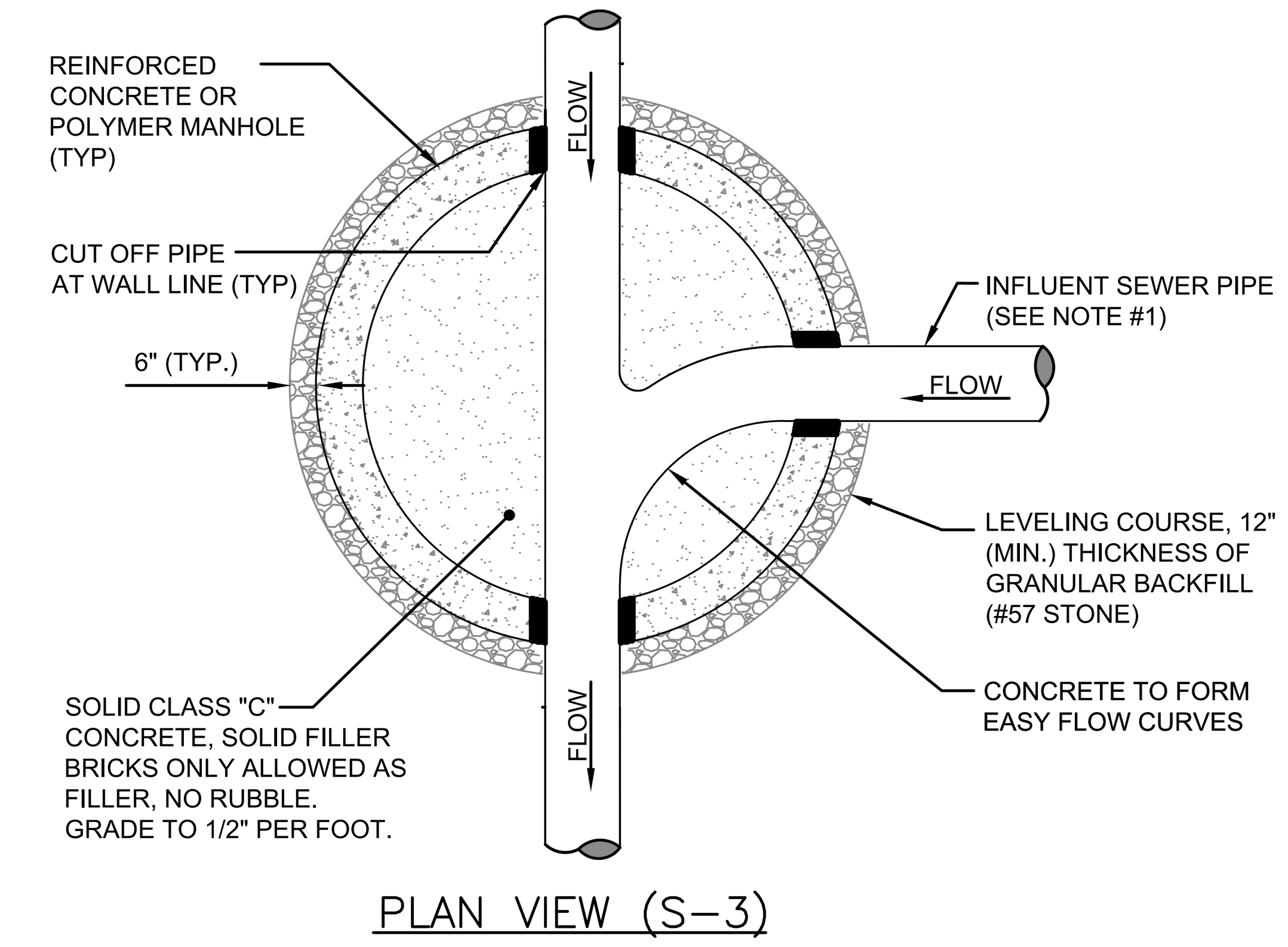
TEES SEE NOTE 5

RUN SIZE (IN.)	BRANCH SIZE (IN.)	L (FT.)
4	4	F.O.
4	6 4 < LESS	10 F.O.
8	8 6 < LESS	29 F.O.
10	10 8 6 < LESS	45 13 F.O.
12	12 10 8 < LESS	62 32 F.O.
16	16 12 10 10 < LESS	94 39 5 F.O.
20	20 16 12 10 < LESS	125 76 14 F.O.
24	24 20 16 12 < LESS	124 84 36 F.O.
30	30 24 20 16 16 < LESS	159 104 60 5 F.O.
36	36 30 24 20 16 < LESS	192 142 83 33 F.O.
42	42 36 30 24 20 16 < LESS	223 178 124 59 5 F.O.
48	48 42 36 30 24 20 < LESS	253 209 162 104 34 F.O.

F.O. = FITTING ONLY

PVC PIPE RESTRAINT JOINT SCHEDULE

JANUARY 2023 PLATE W-31A



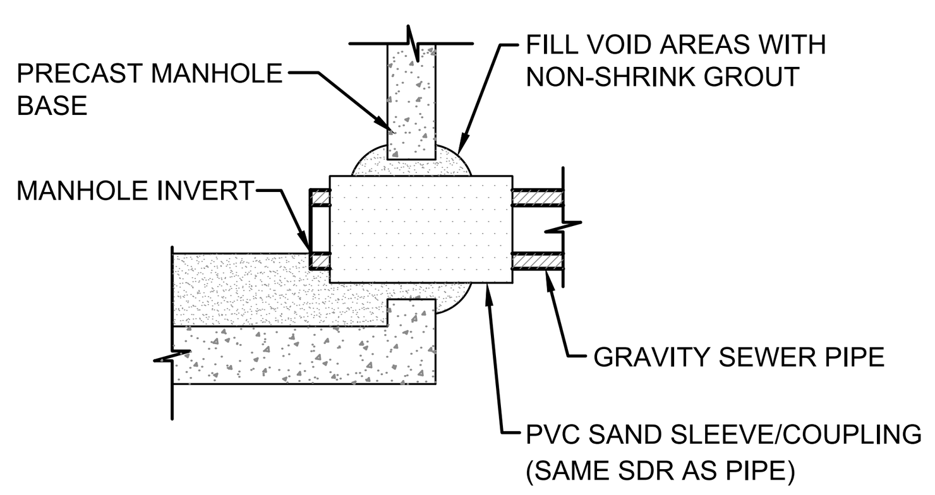
PLAN VIEW (S-3)

(FOR SECTION VIEW SEE S-2, S-2A)

NOTES:

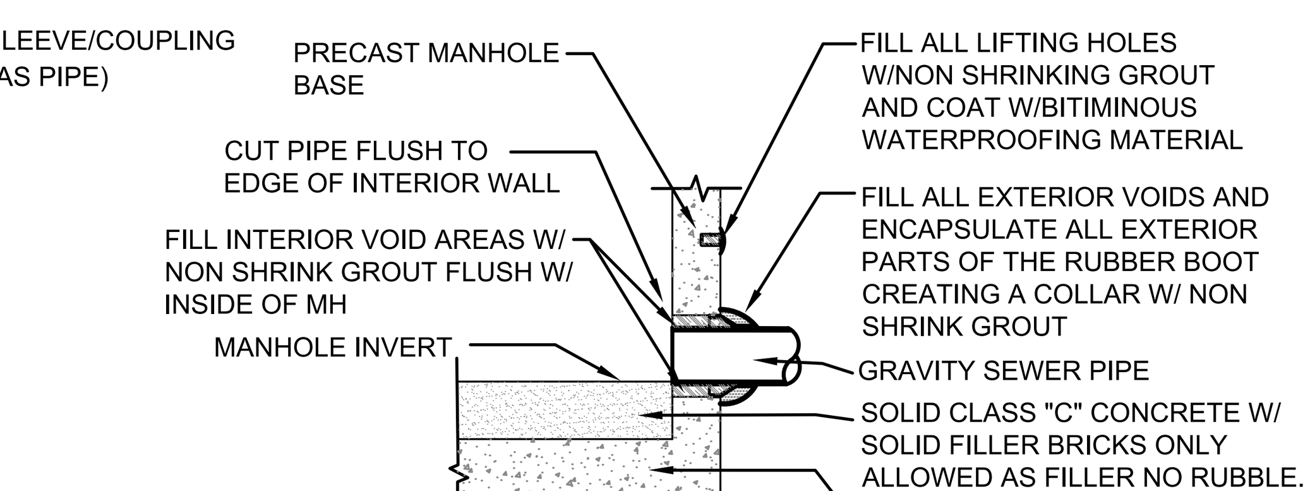
1. THE ANGLE BETWEEN ALL INFLUENT FLOW CHANNELS AND EFFLUENT PIPE SHALL BE BETWEEN 90° - 180° UNLESS OTHERWISE APPROVED BY THE TOWN OF HILLIARD.

JANUARY 2023 PLATE S-3



PVC SAND SLEEVE

(FOR EXISTING AND NEW M/H CONSTRUCTION)

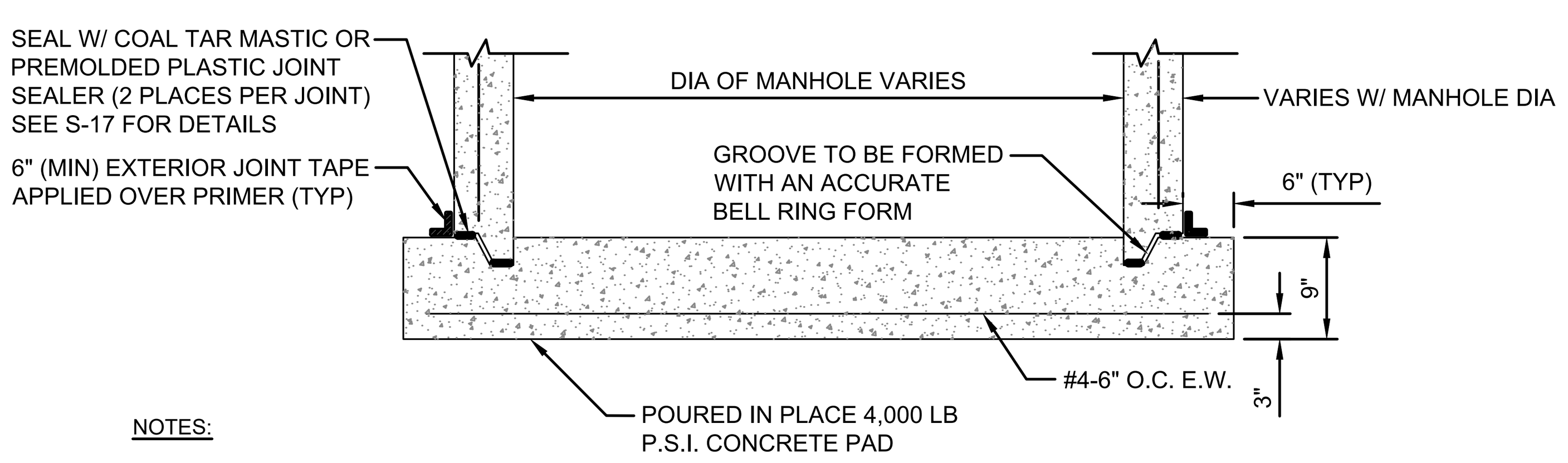


NOTES:

RUBBER BOOT, DOUBLE BANDED, 316 S/S CLAMPS, MEETING THE ASTM C923 STANDARD. Kor-N-Seal® I EX SERIES CONNECTOR WITH DOUBLE STAINLESS STEEL BANDS OR EQUAL

RUBBER BOOT

(FOR NEW M/H CONSTRUCTION ONLY, MAXIMUM DEPTH 15FT)



NOTES:

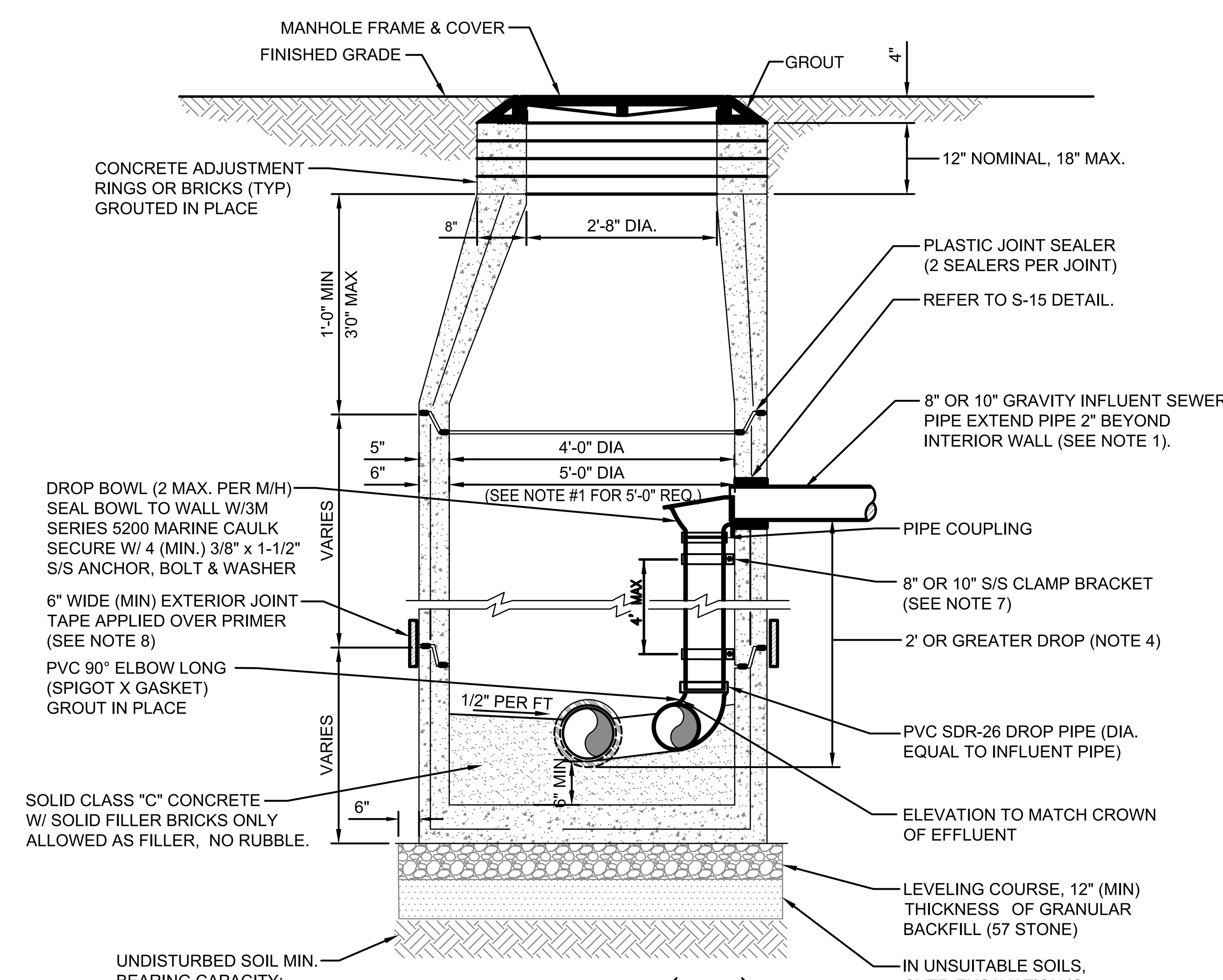
THE USE OF THE POURED IN PLACE MANHOLE BOTTOM SHALL BE MINIMIZED AND SHALL BE SPECIFICALLY APPROVED BY THE TOWN OF HILLIARD PRIOR TO CONSTRUCTION.

CORE DRILL EXISTING MANHOLE TO CONNECT SEWER PIPE.

MANHOLE BOTTOM

MANHOLE PIPE CONNECTION DETAIL

JANUARY 2023 PLATE S-15



SECTION VIEW (S-4)

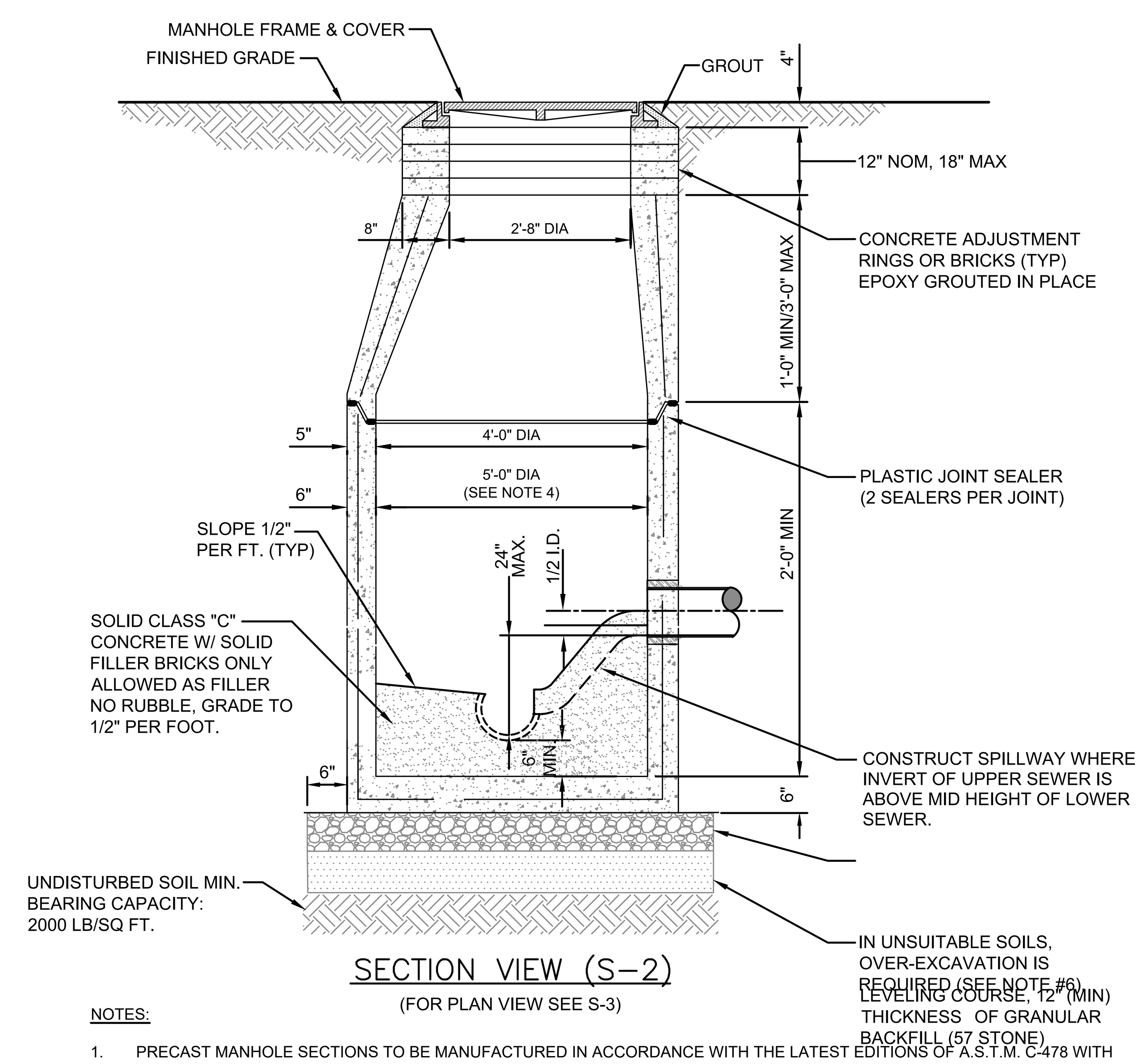
(FOR PLAN VIEW SEE S-5)

NOTES:

1. THIS ASSEMBLY IS FOR 8" OR 10" GRAVITY INFLUENT LINES ONLY. NO DROPS ALLOWED FOR FORCE MAINS. MAXIMUM OF 2 INSIDE DROP BOWLS PER MANHOLE. A 5'-0" DIA. MANHOLE (6" THICK WALLS) IS REQUIRED IF TWO INSIDE DROPS ARE CONSTRUCTED WITH ONE OR BOTH BEING 10" SIZE. DROP BOWL BY RELINER OR APPROVED EQUAL REQUIRED. THE INSIDE DROP FOR AN 8" HIGH-LINE SHALL BE CONSTRUCTED SIMILAR TO ABOVE (SEE PLATE S-5).
2. PRECAST MANHOLE SECTIONS TO BE MANUFACTURED IN ACCORDANCE WITH THE LATEST EDITIONS OF A.S.T.M. C-478 WITH 4000 LB. CONC., TYPE II CEMENT. ALL LIFTING HOLES AND OUTSIDE INSERTS SHALL BE FILLED WITH NON-SHRINK GROUT AND COATED WITH BITUMINOUS WATERPROOFING MATERIAL.
3. THE INTERIOR AND EXTERIOR OF MANHOLE AND THE INTERIOR OF ADJUSTMENT RINGS SHALL BE GIVEN TWO COATS OF BITUMINOUS WATERPROOFING MATERIAL.
4. TYPE "B" MANHOLE MUST BE USED FOR 2' OR GREATER INFLUENT PIPE DROPS.
5. THE DROP BOWL ASSEMBLY SHALL BE INSTALLED PRIOR TO APPLICATION OF SPECIALTY LINING MATERIAL.
6. A TYPE "D" MANHOLE SHALL BE UTILIZED WHEN THREE OR MORE (2' OR GREATER) DROPS ARE INVOLVED OR WHEN INFLUENT PIPES AREA LARGER THAN 10" IN SIZE.
7. ADJUSTABLE CLAMPING BRACKET (MIN. 2 PER DROP BOWL ASSY). 1-1/2" WIDE, 11 GA. W/ 3/8" DIA. 18-8 PINCH BOLTS AND NUTS. SECURE TO M/H WALL WITH (2) 3/8" X 1" BOLT, ANCHOR & WASHER PER BRACKET ASSY. ALL 304 OR 316 STAINLESS STEEL MATERIALS.
8. ALL M/H JOINTS BELOW THE TOP CONE SECTION SHALL INCLUDE A 6" WIDE (MIN) EXTERIOR JOINT TAPE (W/PRIMER). TAPE ON THE CONE SECTION IS OPTIONAL.
9. IN SILTS, CLAY OR HIGHLY ORGANIC SOILS (FINE-GRAINED SOILS INCLUDING SOIL GROUPS ML, CL, OL, MH, CH, OH AND PT) THE SOILS SHALL BE OVER-EXCAVATED AN ADDITIONAL 24" (AT A MIN.) AND BACKFILLED WITH AASHTO CLASS A-3 SOIL (COMPACTED TO 98%, ASTM D1557) OR OVER-EXCAVATE AN ADDITIONAL 12" (AT A MIN.) AND BACKFILL WITH GRANULAR BACKFILL (57 STONE).

SANITARY SEWER TYPE "B" MANHOLE 8"-10" SEWERS

JANUARY 2023 PLATES S-4, S-5



SECTION VIEW (S-2)

(FOR PLAN VIEW SEE S-3)

NOTES:

1. PRECAST MANHOLE SECTIONS TO BE MANUFACTURED IN ACCORDANCE WITH THE LATEST EDITIONS OF A.S.T.M. C-478 WITH 4000 LB. CONC., TYPE II CEMENT. ALL LIFTING HOLES AND OUTSIDE INSERTS SHALL BE FILLED WITH NON-SHRINK GROUT AND COATED WITH BITUMINOUS WATERPROOFING MATERIAL.
2. THE INTERIOR AND EXTERIOR OF MANHOLE AND ADJUSTING RINGS SHALL BE GIVEN TWO COATS OF BITUMINOUS WATERPROOFING MATERIAL.
3. IF SPECIALTY LINER IS TO BE INSTALLED ON INSIDE SURFACE OF MANHOLE, THE BITUMINOUS WATERPROOFING MATERIAL SHALL BE OMITTED ON THE INSIDE.
4. JUNCTION MANHOLE (CLOSEST TO WETWELL) SHALL BE 5' DIA WITH SPECIALTY LINER.
5. ALL MANHOLE JOINTS BELOW THE TOP COVER SECTION SHALL INCLUDE A 6" WIDE (MIN) EXTERIOR JOINT TAPE (WITH PRIMER). TAPE ON THE CONE SECTION IS OPTIONAL. SEE PLATE S-17.
6. IN SILTS, CLAY OR HIGHLY ORGANIC SOILS (FINE-GRAINED SOILS INCLUDING SOIL GROUPS ML, CL, OL, MH, CH, OH AND PT) THE SOILS SHALL BE OVER-EXCAVATED AN ADDITIONAL 24" (AT A MIN.) AND BACKFILLED WITH AASHTO CLASS A-3 SOIL (COMPACTED TO 98%, ASTM D1557) OR OVER-EXCAVATE AN ADDITIONAL 12" (AT A MIN.) AND BACKFILL WITH GRANULAR BACKFILL (57 STONE).

SANITARY SEWER CONCRETE TYPE "A" MANHOLE 8"-21" SEWERS

JANUARY 2023 PLATES S-2, S-3

ALL UTILITIES TO BE IN ACCORDANCE WITH LATEST TOWN OF HILLIARD STANDARDS

No.	Revisions	By
2	1/12/24 FINAL REVISION	JES

AVA ENGINEERS, INC.
Commercial | Residential | Marine
Florida Certificate No. 00008161
4201 BAYMEADOWS RD, SUITE 3 | JACKSONVILLE, FLORIDA 32217
Ph. (904) 730-3223 | Fx. (904) 730-3226
Henry A. Vorpe Jr. No. 49049

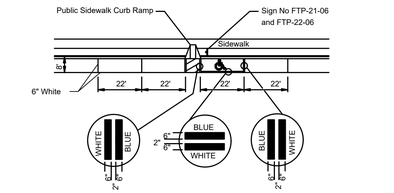
HILLIARD RV

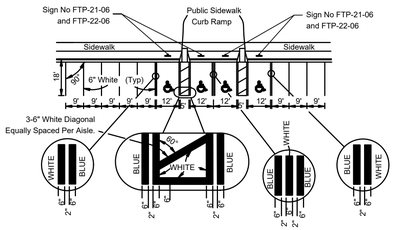
UTILITY DETAILS

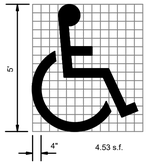
NASSAU FLORIDA

Date: 06/2022
Designer: HAV
Job #: 21-071
Drawn: MRP
Scale: N/A
Sheet: 13

Z:\DWG\2021\21-071\2-DESIGN\21-071 - UTILIPLAN.DWG





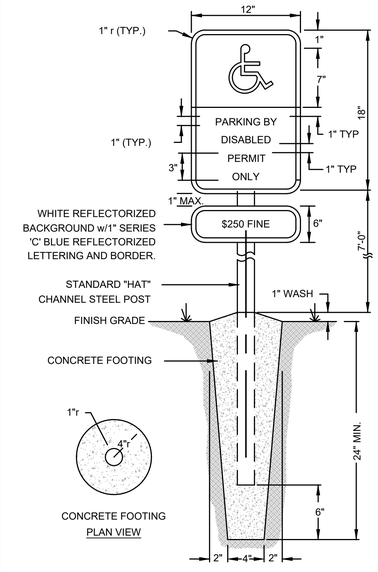


Use of pavement symbol in accessible parking spaces is optional, when used the symbol shall be 3' or 5' high and white in color.

UNIVERSAL SYMBOL OF ACCESSIBILITY

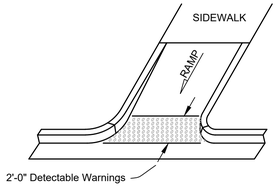
GENERAL NOTES

1. For entrances to a one-way street, the downstream restriction may be reduced to 20'.
2. Parking shall not be allowed within 20' of a crosswalk.
3. All parking lane markings shall be 6" white.
4. Parking lane lines shall be broken at driveways.
5. Refer to Chapter 316, Fla. Statutes, for laws governing parking spaces.
6. Where curb and gutter is used, the gutter pan width may be included as part of the minimum width of parking lanes. Otherwise, the lane width should be in addition to that of the gutter pan.

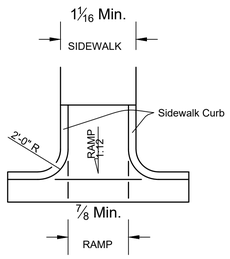


CONCRETE FOOTING
PLAN VIEW

HANDICAPPED SIGN DETAIL

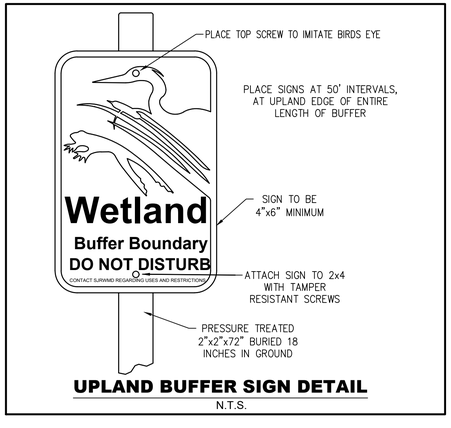


OPTION A



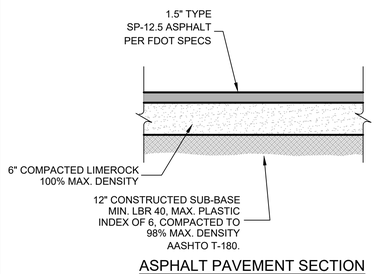
PLAN VIEW

FDOT 522.002 ADA RAMP DETAIL



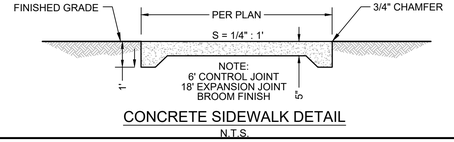
UPLAND BUFFER SIGN DETAIL

N.T.S.



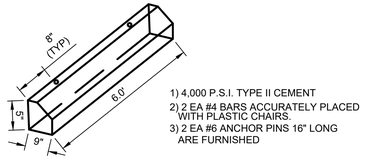
ASPHALT PAVEMENT SECTION

N.T.S.



CONCRETE SIDEWALK DETAIL

N.T.S.

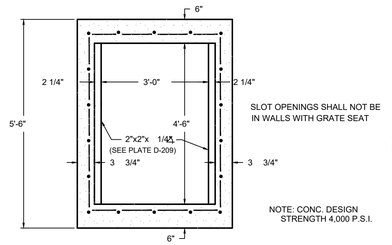


1) 4,000 P.S.I. TYPE II CEMENT
2) 2 EA #4 BARS ACCURATELY PLACED WITH PLASTIC CHAIRS.
3) 2 EA #6 ANCHOR PINS 16" LONG ARE FURNISHED

CONCRETE WHEEL STOP DETAIL

N.T.S.

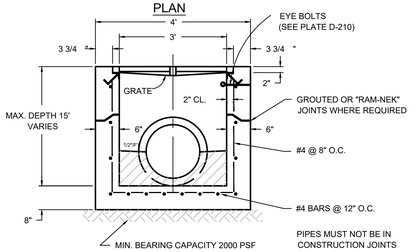
SEE PLATE D-307 FOR GRATE DETAIL



SLOT OPENINGS SHALL NOT BE IN WALLS WITH GRATE SEAT

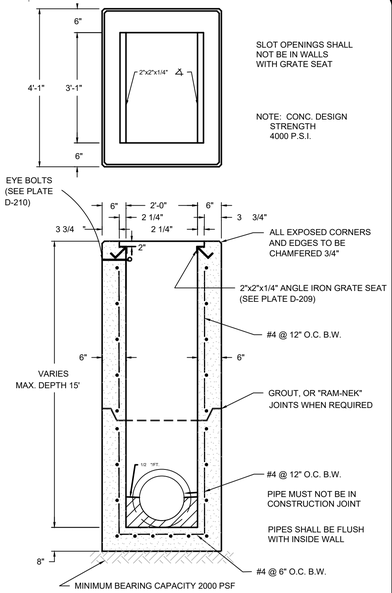
NOTE: CONC. DESIGN STRENGTH 4,000 P.S.I.

PLAN

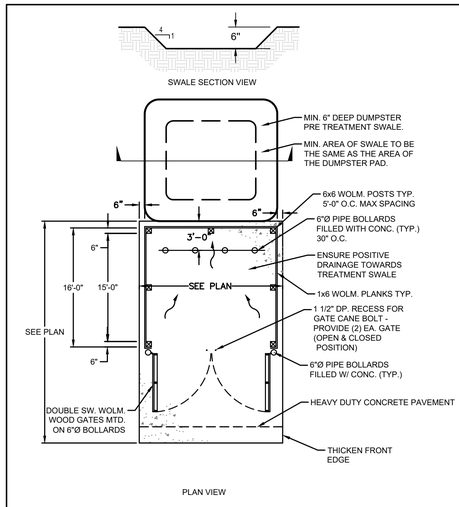


SECTION

TYPE E INLET



TYPE C INLET



NOTES:

1. PREPARE PAVEMENT SUBGRADE AND CONCRETE IN CONFORMANCE WITH THE WORK SPECIFIED IN THE PROJECT REPORT OF GEOTECHNICAL INVESTIGATION.
2. SOLID WASTE FACILITY MUST BE SCREENED IN ACCORDANCE WITH LDC, SECTION 6.06.04.B.8.d, AND MUST BE A COMPATIBLE COLOR AND STYLE WITH THE PROPOSED BUILDING

NOTE: WIDEN ENCLOSURE IF OWNER CHOOSES TO RECYCLE

WOODEN DUMPSTER ENCLOSURE WITH PRE TREATMENT SWALE

No.	Revisions	By
2	1/12/24 FINAL REVISION	JES

AVA ENGINEERS, INC.
Commercial | Residential | Marine
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Henry A. Verpe Jr. - Lic. No. 43043

HILLIARD RV

GENERAL DETAILS

FLORIDA

NASSAU

Date:	06/2022
Designer:	HAV
Job #:	21-071
Drawn:	MRP
Scale:	N/A
Sheet:	14

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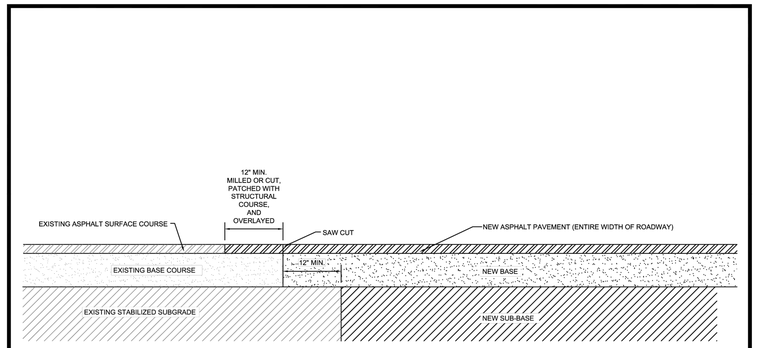
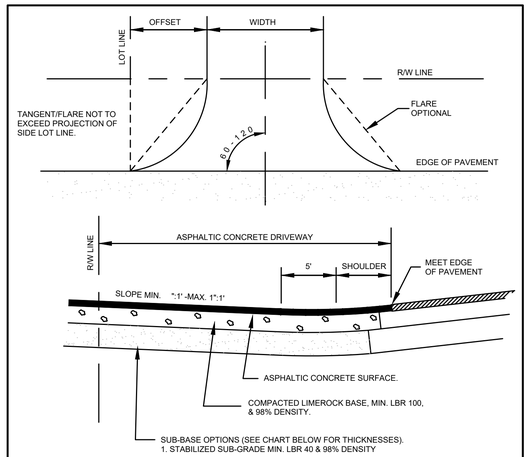


NOTES:

1. ENTIRE WIDTH OF THE ROADWAY SHALL BE OVERLAYED.
2. MILLING AND OVERLAY OF THE ENTRIE ROADWAY WIDTH MAY BE REQUIRED AS DETERMINED BY THE ENGINEERING SERVICES DEPARTMENT

ROADWAY AND DRAINAGE STANDARDS NASSAU COUNTY ENGINEERING SERVICES DEPARTMENT	REVISION DATES		SAWCUT DETAIL	DETAIL NO. 26 DWG: ADOPTED:

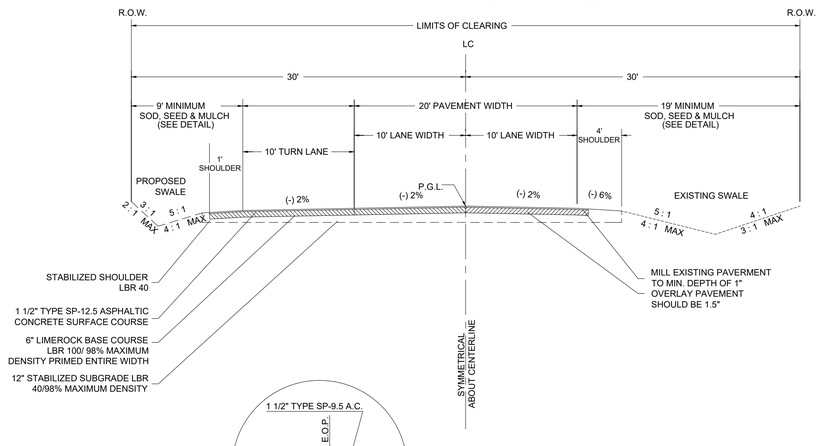


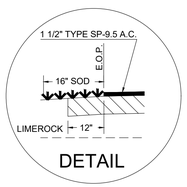
1. ALL DRIVEWAYS CONSTRUCTED WITHIN CITY MAINTAINED RIGHT-OF-WAYS SHALL CONFORM TO CITY STANDARDS. A PERMIT MUST BE ISSUED BY THE DEPARTMENT OF PUBLIC WORKS FOR ALL SUCH WORK.
2. ALL MATERIALS SHALL CONFORM TO CITY STANDARDS.
3. ALL DRIVEWAYS CONSTRUCTED WITHIN STATE MAINTAINED RIGHT-OF-WAYS SHALL CONFORM TO D.O.T. STANDARDS.

DRIVEWAY TYPE	MIN. WIDTH	MAX. WIDTH	PAVEMENT OPTION #1			MIN. FLARE
			ASPHALT	LIMEROCK	STABILIZED SUB-BASE	
LOCAL ROADS	12'	26'	1 1/2"	6"	12"	5'
MINOR COLLECTORS	12'	26'	1 1/2"	6"	12"	10'
MAJOR COLLECTORS	16'	26'	1 1/2"	6"	12"	15'

STANARD ASPHALTIC CONCRETE DRIVEWAY	NASSAU COUNTY STANDARD	N.T.S.	PLATE
		DATE DRAWN	07/10/2023
		REVISED DATE	07/10/2023

TYPICAL CROSS-SECTION FOR PINE STREET ROW INCLUDING PROPOSED TURN LANE
RIGHT-OF-WAY WIDTH: 60 FEET





OPTIONAL BASE MATERIALS MAY BE ACCEPTABLE UPON APPROVAL BY THE ENGINEERING SERVICES DEPARTMENT

No.	Revisions	By
2	1/12/24 FINAL REVISION	JES

AVA ENGINEERS, INC.
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HILLIARD RV

GENERAL DETAILS

NASSAU

FLORIDA

Date: 06/2022
Designer: HAV
Job #: 21-071
Drawn: MRP
Scale: N/A
Sheet: 15

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No.	Revisions	By
2	1/12/24 FINAL REVISION	JES

AVA ENGINEERS, INC.
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Florida Certificate No. 00008161
4201 BAYMEADOWS RD. SUITE 3 | JACKSONVILLE, FLORIDA 32217
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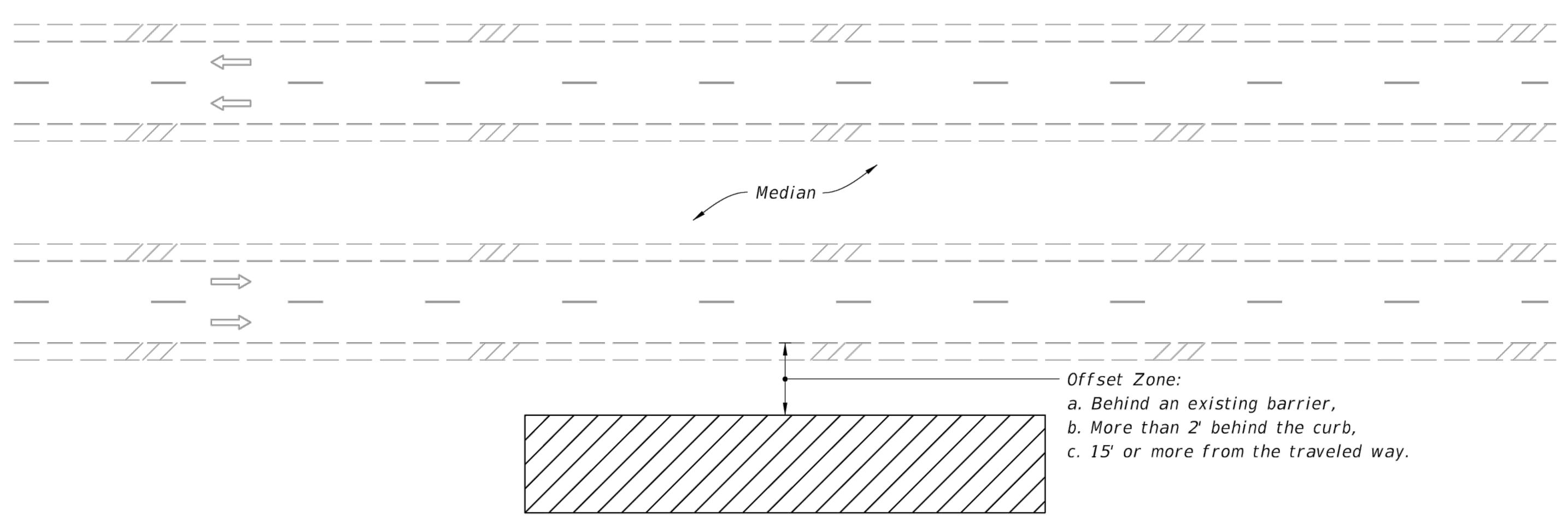
Henry A. Vorpe Jr. No. 49049

HILLIARD RV

FDOT - MAINTENANCE OF TRAFFIC

NASSAU FLORIDA

Date:	06/2022
Designer:	HAV
Job #:	21-071
Drawn:	MRP
Scale:	N/A
Sheet:	16



MULTILANE ROADWAY SHOWN, TWO-LANE ROADWAY SIMILAR

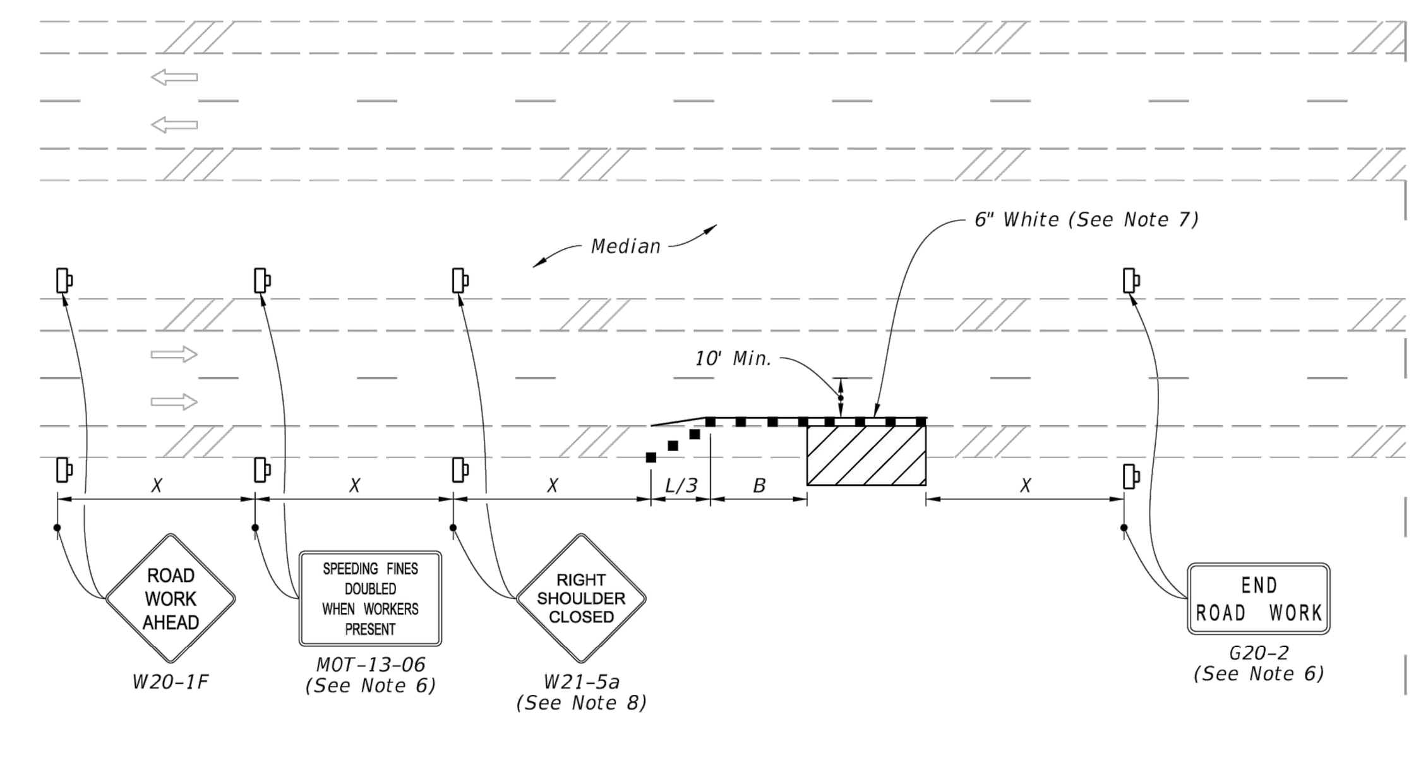
NOTES:

1. This Index applies to Two-Lane, Two-Way and Multilane Roadways, including Medians of divided roadways, with work beyond the shoulder.
2. Use Index 102-602 when the work operation (excluding establishing and terminating the work area) requires that two or more work vehicles cross the Offset Zone in any one hour period.
3. Use Index 102-660 when Work Area encroaches a Sidewalk.

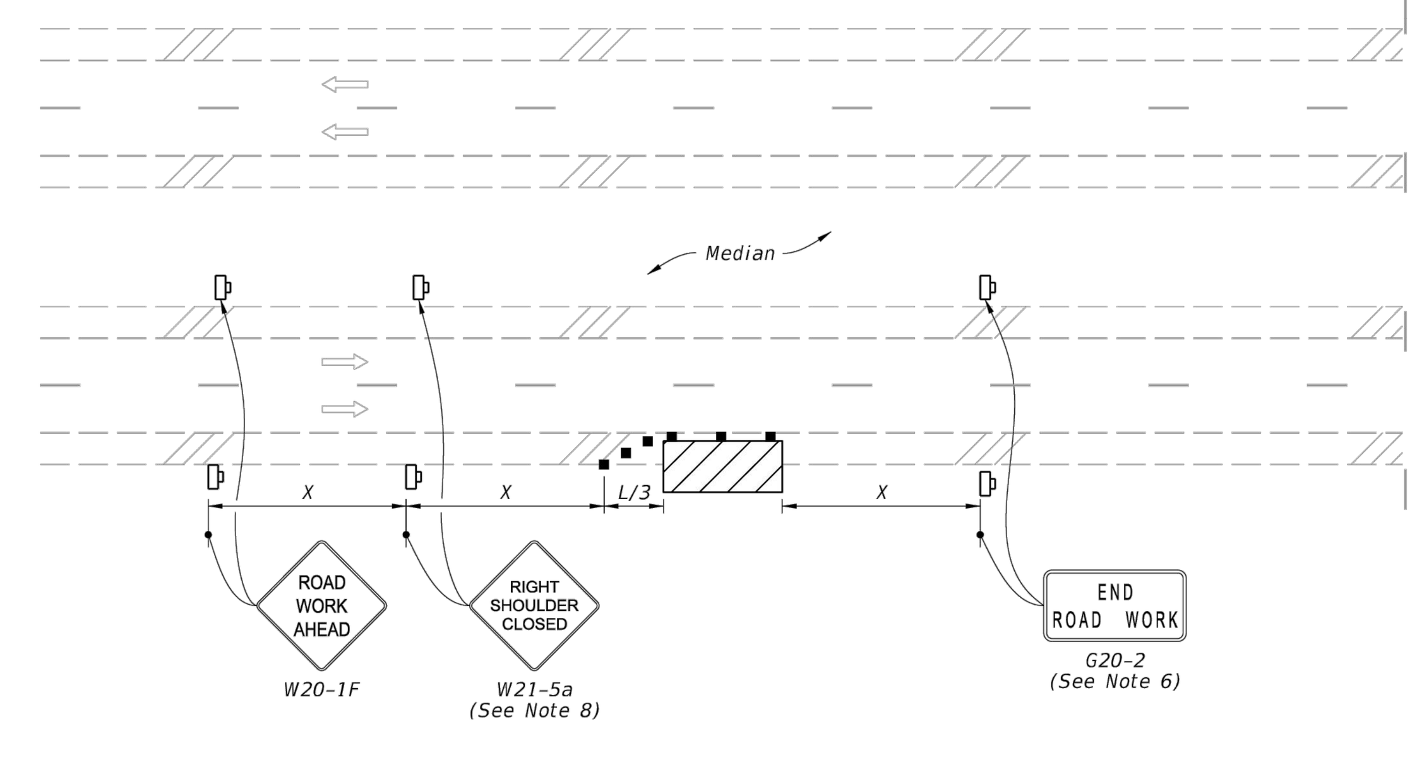
SYMBOLS:

- Work Area
- Lane Identification and Direction of Traffic

LAST REVISION	REVISION	DESCRIPTION:	FDOT		INDEX	SHEET
11/01/20			FY 2023-24 STANDARD PLANS	TWO-LANE AND MULTILANE ROADWAY, WORK BEYOND THE SHOULDER	102-601	1 of 1



MULTILANE ROADWAY
SHOULDER WORK LESS THAN 2' FROM THE TRAVELED WAY WITH WORK ZONE SPEED OF 45 MPH OR LESS



MULTILANE ROADWAY
SHOULDER WORK BETWEEN 2' AND 15' FROM THE TRAVELED WAY

SYMBOLS:

- Work Area
- Channelizing Device (See Index 102-600)
- Work Zone Sign
- Lane Identification and Direction of Traffic

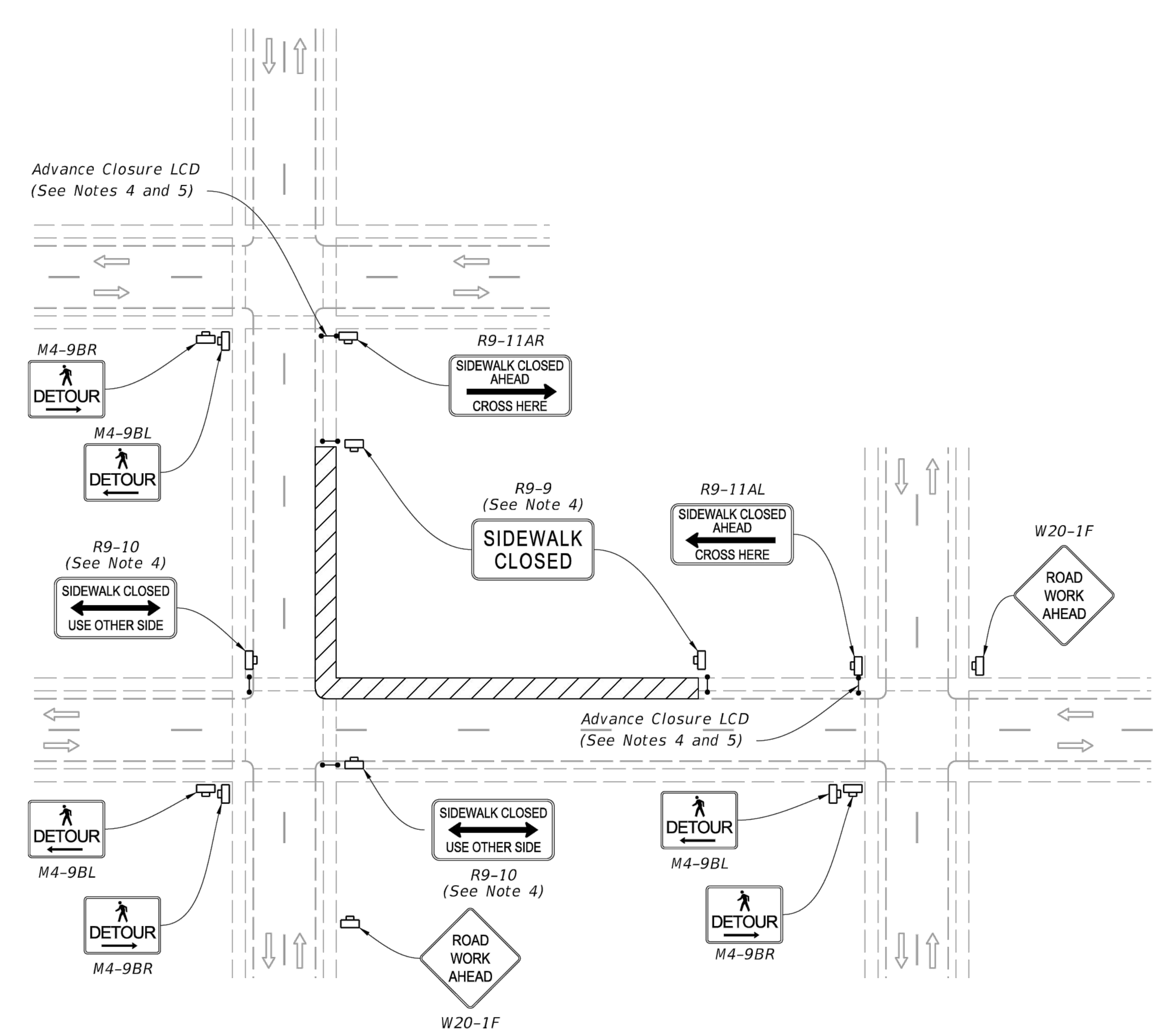
LAST REVISION	REVISION	DESCRIPTION:	FDOT		INDEX	SHEET
11/01/20			FY 2023-24 STANDARD PLANS	TWO-LANE AND MULTILANE, WORK ON SHOULDER	102-602	2 of 2

NOTES:

1. Cover or deactivate pedestrian traffic signal display(s) controlling closed crosswalks.
2. Place pedestrian LCDs across the full width of the closed sidewalk.
3. For post mounted signs located near or adjacent to a sidewalk, maintain a minimum 7' clearance from the bottom of the sign panel to the surface of the sidewalk.
4. "Sidewalk Closed" signs (R9-XX) may be mounted on pedestrian LCDs in accordance with the manufacturer's instructions.
5. Omit the Advance Closure LCD if it blocks access to other pedestrian facilities (e,g,, transit stops, residences, or business entrances).

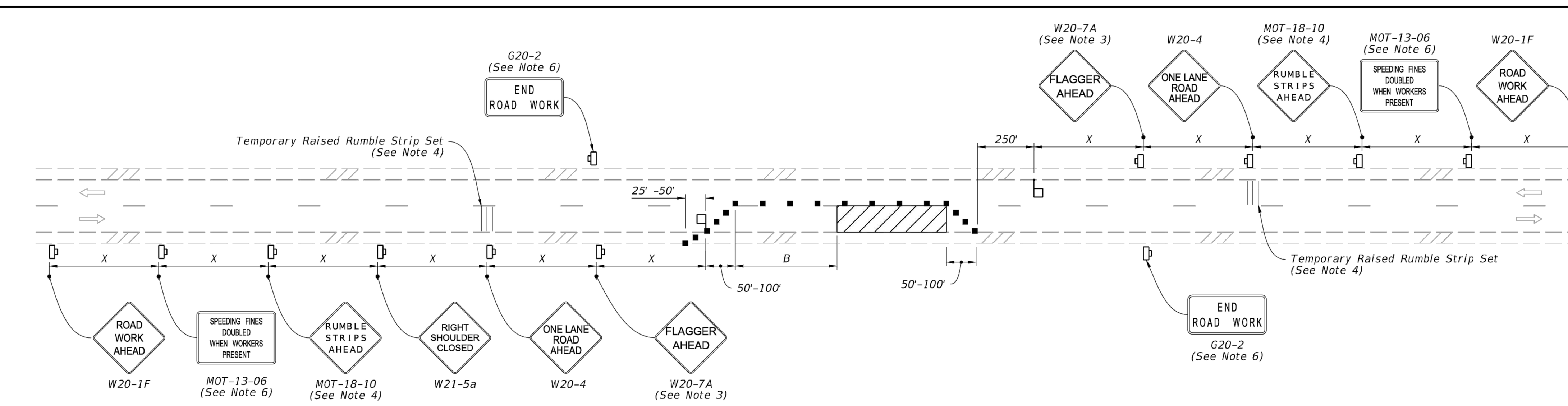
SYMBOLS:

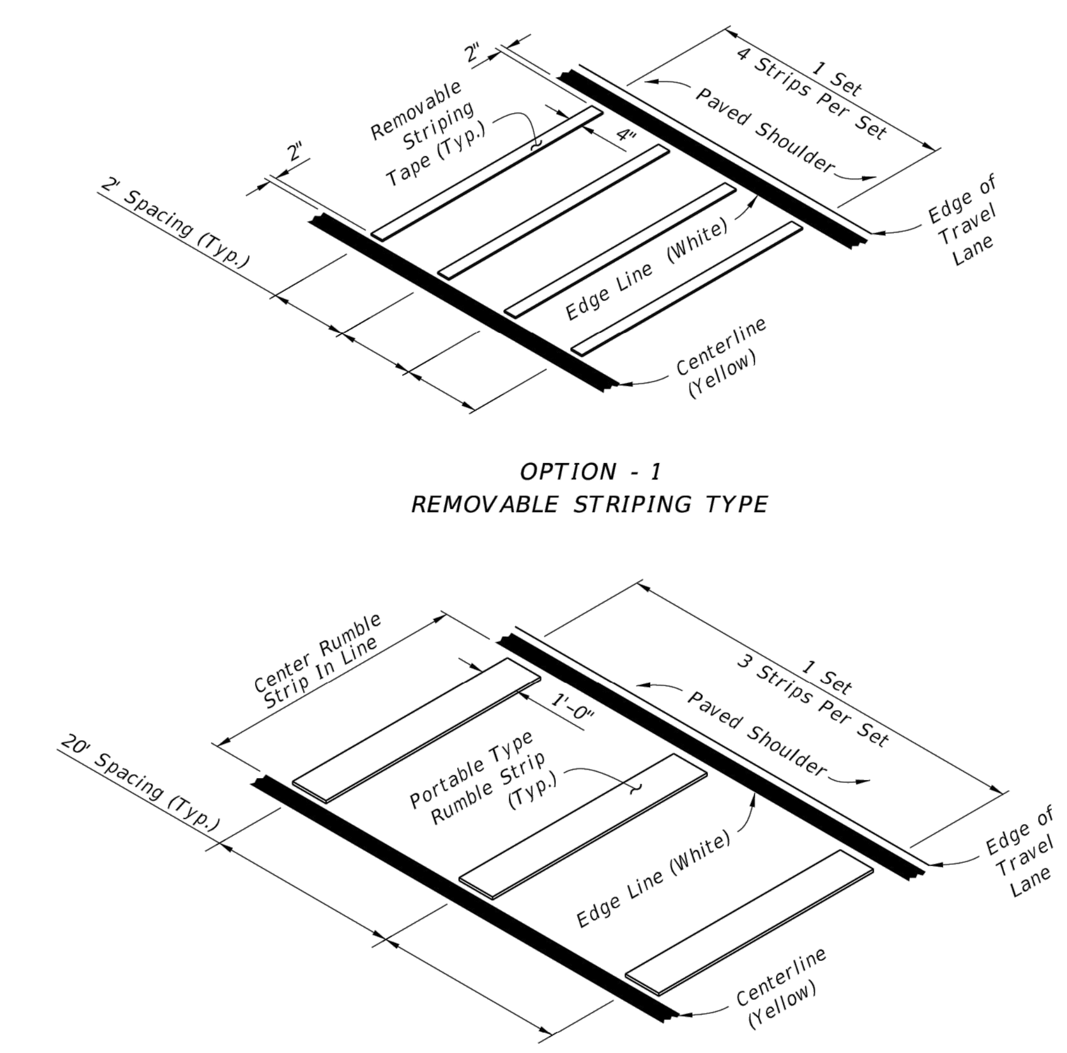
- Work Area
- Work Zone Sign
- Pedestrian Longitudinal Channelizing Device (LCD)
- Lane Identification and Direction of Traffic



PEDESTRIAN DETOUR

LAST REVISION	REVISION	DESCRIPTION:	FDOT		INDEX	SHEET
11/01/20			FY 2023-24 STANDARD PLANS	SIDEWALK CLOSURE	102-660	1 of 2





RUMBLE STRIP SETS

NOTES:

1. This Index applies to Two-Lane, Two-Way Roadways with work within the traveled way.
2. L = Taper Length
   B = Buffer Length
   X = Work Zone Sign Spacing
   See Index 102-600 for "L", "B", "X" and channelizing device spacing values.
3. Optionally, use "Flagger Ahead" sign with symbol (W20-7) instead of "Flagger Ahead" sign with text (W20-7A).
4. Use temporary raised rumble strips when the existing posted speed is 55 mph or greater and the work duration is greater than 60 minutes. If temporary raised rumble strips are not used, omit "Rumble Strips Ahead" signs (MOT-18-10) and associated work zone sign spacing.
5. Additional one-way control may be provided by the following means:
   a. Flag-carrying vehicle
   b. Official vehicle
   c. Pilot vehicles
   d. Traffic signals

   When flaggers are the sole means of one-way control, the flaggers must be in sight of each other or in direct communication at all times.
6. The "Speeding Fines Doubled When Workers Present" signs (MOT-13-06) and "End Road Work" signs (G20-2), along with associated work zone sign spacing, may be omitted when the work operation will be in place for 24 hours or less.
7. Automated Flagger Assistance Devices (AFADs) may be used in accordance with Specification Sections 102, 990 and the APL vendor drawings.
8. Railroad Crossings:

   a. If an active railroad crossing is located closer to the Work Area than the queue length plus 300 feet, extend the Buffer Space as shown on Sheet 2.

   b. If the queuing of vehicles across an active railroad crossing cannot be avoided, provide a uniformed traffic control officer or flagger at the highway-rail grade crossing to prevent vehicles from stopping within the highway-rail grade crossing, even if automatic train warning devices are in place.

SYMBOLS:

- Work Area
- Channelizing Device (See Index 102-600)
- Work Zone Sign
- Flagger
- Lane Identification and Direction of Traffic

LAST REVISION	REVISION	DESCRIPTION:	FDOT		INDEX	SHEET
11/01/21			FY 2022-23 STANDARD PLANS	TWO-LANE, TWO-WAY WORK WITHIN THE TRAVEL WAY	102-603	1 of 2

OWNER'S REQUIREMENTS

SITE DESCRIPTION

PROJECT NAME AND LOCATION:
HILLIARD RV
3714 RAVEN DR
HILLIARD, FL 32046

OWNER NAME AND ADDRESS:
HILLIARD LLC
4225 N PEARL STREET
JACKSONVILLE, FL 32206

DESCRIPTION:
240 LOT RV PARK WITH ASSOCIATED ROADWAY, UTILTIES, DRAINAGE AND STORMWATER MANAGEMENT FACILITY

SOIL DISTURBING ACTIVITIES WILL INCLUDE:
CLEARING AND GRUBBING; PERIMETER, AND OTHER EROSION AND SEDIMENT CONTROLS; GRADING ; EXCAVATION FOR UTILITIES, STORM PIPING; CURB AND GUTTER; ASPHALT PAVING; ALSO INCLUDES PREPARATION FOR FINAL PLANTING AND SEEDING.

RUNOFF COEFFICIENT:
1. PRE-CONSTRUCTION = 78
2. DURING CONSTRUCTION = 85
3. POST-CONSTRUCTION =90

SOILS:
SEE SOILS REPORT FOR SOILS DATA

SITE MAPS:
* SEE ATTACHED GRADING PLAN FOR PRE & POST DEVELOPMENT GRADES, AREAS OF SOIL, DISTURBANCE, LOCATION OF SURFACE WATERS, PROTECTED AREAS, MAJOR STRUCTURAL AND NON-STRUCTURAL CONTROLS AND STORM WATER DISCHARGE POINTS.

* SEE ATTACHED EROSION & TURBIDITY CONTROL PLAN FOR LOCATION OF TEMPORARY STABILIZATION PRACTICES, AND TURBIDITY BARRIERS.

* SEE GENERAL NOTES FOR REQUIREMENTS FOR TEMPORARY AND PERMANENT STABILIZATION.

SITE AREA:

1. TOTAL AREA OF SITE = 39.73 Ac.
2. TOTAL AREA TO BE DISTURBED = 26.48 Ac.

NAME OF RECEIVING WATERS: LOWER ST. MARYS RIVER

CONTROLS

THIS PLAN UTILIZES BEST MANAGEMENT PRACTICES TO CONTROL EROSION AND TURBIDITY CAUSED BY STORM WATER RUNOFF. AN EROSION AND TURBIDITY PLAN HAS BEEN PREPARED TO INSTRUCT THE CONTRACTOR ON PLACEMENT OF THESE CONTROLS AS PER PLAN AS WELL AS ENSURING THE PLAN IS PROVIDING THE PROPER PROTECTION AS REQUIRED BY FEDERAL , STATE, AND LOCAL LAWS. REFER TO "CONTRACTORS RESPONSIBILITY" FOR A VERBAL DESCRIPTION OF THE CONTROLS THAT MAY BE IMPLEMENTED.

STORM WATER MANAGEMENT

STORM WATER DRAINAGE WILL BE PROVIDED BY CURB AND GUTTER, STORM SEWER, CURB INLETS AND CATCH BASINS
FOR THE PAVED AREAS. AREAS WHICH ARE NOT DEVELOPED BUT WILL BE REGRADED SHALL BE STABILIZED IMMEDIATELY AFTER GRADING IS COMPLETE. WHEN CONSTRUCTION IS COMPLETE, A TOTAL OF 26.48 ACRES WILL HAVE BEEN REGRADED. THE SITE DISCHARGES TO AN EXISTING WETLAND SYSTEM
WHERE PRACTICAL, TEMPORARY SEDIMENT BASINS WILL BE USED TO INTERCEPT SEDIMENT BEFORE ENTERING THE PERMANENT DETENTION BASIN.

TIMING OF CONTROLS/MEASURES

REFER TO " CONTRACTORS RESPONSIBILITY " FOR THE TIMING OF CONTROL/MEASURES.

CERTIFICATION OF COMPLIANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS

IN AN EFFORT TO ENSURE COMPLIANCE WITH FEDERAL, STATE, AND LOCAL LAWS REGARDING EROSION AND TURBIDITY CONTROLS, THE FOLLOWING PERMITS HAVE BEEN OBTAINED:

D.E.R. DREDGE/FILL PERMIT: N/A
C.O.E. DREDGE/FILL PERMIT: N/A
S.J.R.W.M.D. PERMIT: 193676-1
TOWN OF HILLIARD, FL DEVELOPMENT PERMIT: IN-PROGRESS

POLLUTION PREVENTION PLAN CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

SIGNED: _____
CORPORATE OFFICER, GENERAL PARTNER, PROPRIETOR,
EXECUTIVE OFFICER, RANKING ELECTED OFFICIAL

DATE: _____

CONTRACTOR'S REQUIREMENTS

GENERAL

THE CONTRACTOR SHALL AT A MINIMUM IMPLEMENT THE CONTRACTOR'S REQUIREMENTS OUTLINED BELOW AND THOSE MEASURES SHOWN ON THE EROSION AND TURBIDITY CONTROL PLAN. IN ADDITION THE CONTRACTOR SHALL UNDERTAKE ADDITIONAL MEASURES REQUIRED TO BE IN COMPLIANCE WITH APPLICABLE PERMIT CONDITIONS AND STATE WATER QUALITY STANDARDS. DEPENDING ON THE NATURE OF MATERIALS AND METHODS OF CONSTRUCTION THE CONTRACTOR MAY BE REQUIRED TO ADD FLOCCULATES TO THE RETENTION SYSTEM PRIOR TO PLACING THE SYSTEM INTO OPERATION.

SEQUENCE OF MAJOR ACTIVITIES

THE ORDER OF ACTIVITIES WILL BE AS FOLLOWS:

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE
2. INSTALL SILT FENCES AND HAY BALES AS REQUIRED
3. CLEAR AND GRUB FOR DIVERSION SWALES/DIKES AND SEDIMENT BASIN
4. CONSTRUCT SEDIMENTATION BASIN
5. CONTINUE CLEARING AND GRUBBING
6. STOCK PILE TOP SOIL IF REQUIRED
7. PERFORM PRELIMINARY GRADING ON SITE AS REQUIRED
8. STABILIZE DENUDED AREAS AND STOCKPILES AS SOON AS PRACTICABLE
9. INSTALL UTILITIES, STORM SEWER CURBS AND GUTTER.
10. APPLY BASE TO PARKING LOT
11. COMPLETE GRADING AND INSTALL PERMANENT SEEDING/SOD AND PLANTING
12. COMPLETE FINAL PAVING
13. REMOVE ACCUMULATED SEDIMENT FROM BASINS
14. WHEN ALL CONSTRUCTION ACTIVITY IS COMPLETE AND THE SITE IS STABILIZED, REMOVE ANY TEMPORARY DIVERSION SWALES/DIKES AND RESEED/SOD AS REQUIRED

CONTROLS

IT IS IN THE CONTRACTORS RESPONSIBILITY TO IMPLEMENT THE EROSION AND TURBIDITY CONTROLS AS SHOWN ON THE EROSION AND TURBIDITY CONTROL PLAN. IT IS ALSO THE CONTRACTORS RESPONSIBILITY TO ENSURE THESE CONTROLS ARE PROPERLY INSTALLED, MAINTAINED AND FUNCTIONING PROPERLY TO PREVENT TURBID OR POLLUTED WATER FROM LEAVING THE PROJECT SITE. THE CONTRACTOR WILL ADJUST THE EROSION AND TURBIDITY CONTROLS SHOWN ON THE EROSION AND TURBIDITY CONTROL PLAN AND ADD ADDITIONAL CONTROL MEASURES. AS REQUIRED TO ENSURE THE SITE MEETS ALL FEDERAL, STATE, AND LOCAL EROSION AND TURBIDITY CONTROL REQUIREMENTS. THE FOLLOWING BEST MANAGEMENT PRACTICES WILL BE IMPLEMENTED BY THE CONTRACTOR AS REQUIRED BY THE EROSION AND TURBIDITY CONTROL PLAN AND AS REQUIRED TO MEET THE EROSION AND TURBIDITY REQUIREMENTS IMPOSED ON THE PROJECT SITE BY THE REGULATORY AGENCIES.

EROSION AND SEDIMENT CONTROLS
STABILIZATION PRACTICES

1. STRAW BALE BARRIER: STRAW BALE BARRIERS CAN BE USED BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION WITH THE FOLLOWING LIMITATIONS:
   A. WHERE THE MAXIMUM SLOPE BEHIND THE BARRIER IS 33 PERCENT.
   B. IN MINOR SWALES OR DITCH LINES WHERE THE MAXIMUM CONTRIBUTING DRAINAGE AREA IS NO GREATER THAN 2 ACRES.
   C. WHERE EFFECTIVENESS IS REQUIRED FOR LESS THAN 3 MONTHS
   D. EVERY EFFORT SHOULD BE MADE TO LIMIT THE USE OF STRAW BALE BARRIERS CONSTRUCTED IN LIVE STREAMS OR IN SWALES WHERE THERE IS THE POSSIBILITY OF A WASHOUT. IF NECESSARY, MEASURES SHALL BE TAKEN TO PROPERLY ANCHOR BALES TO INSURE AGAINST WASHOUT.
2. FILTER FABRIC BARRIER: FILTER FABRIC BARRIERS CAN BE USED BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION WITH THE FOLLOWING LIMITATIONS:
   A. WHERE THE MAXIMUM SLOPE BEHIND THE BARRIER IS 33 PERCENT.
   B. IN MINOR SWALES OR DITCH LINES WHERE THE MAXIMUM CONTRIBUTING DRAINAGE AREA IS NO GREATER THAN 2 ACRES.
3. BRUSH BARRIER WITH FILTER FABRIC: BRUSH BARRIER MAY BE USED BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION WHERE ENOUGH RESIDUE MATERIAL IS AVAILABLE ON SITE.
4. LEVEL SPREADER: A LEVEL SPREADER MAY BE USED WHERE SEDIMENT FREE STORM RUNOFF IS INTERCEPTED AND DIVERTED AWAY FROM THE GRADED AREAS ONTO UNDISTURBED STABILIZED AREAS. THIS PRACTICE APPLIES ONLY IN THOSE SITUATIONS WHERE THE SPREADER CAN BE CONSTRUCTED ON UNDISTURBED SOIL AND THE AREA BELOW THE LEVEL LIP IS STABILIZED. THE WATER SHOULD NOT BE ALLOWED TO RECONCENTRATE AFTER RELEASE.
5. STOCKPILING MATERIAL: NO EXCAVATED MATERIAL SHALL BE STOCKPILED IN SUCH A MANNER AS TO DIRECT RUNOFF DIRECTLY OFF THE PROJECT SITE INTO ANY ADJACENT WATER BODY OR STORM WATER COLLECTION FACILITY.
6. EXPOSED AREA LIMITATION: THE SURFACE AREA OF OPEN, RAW ERODIBLE SOIL EXPOSED BY CLEARING OR GRUBBING OPERATIONS OR EXCAVATION AND FILLING OPERATIONS SHALL NOT EXCEED 10 ACRES. THIS REQUIREMENT MAY BE WAIVED FOR LARGE PROJECTS WITH AN EROSION CONTROL PLAN WHICH DEMONSTRATES THAT OPENING OF ADDITIONAL AREAS WILL NOT SIGNIFICANTLY AFFECT OFF-SITE DEPOSIT OF SEDIMENTS.
7. INLET PROTECTION: INLETS AND CATCH BASINS WHICH DISCHARGE DIRECTLY OFF-SITE SHALL BE PROTECTED FROM SEDIMENT -LADEN STORM RUNOFF UNTIL THE COMPLETION OF ALL CONSTRUCTION OPERATIONS THAT MAY CONTRIBUTE SEDIMENT TO THE INLET.
8. TEMPORARY SEEDING: AREAS OPENED BY CONSTRUCTION OPERATIONS AND THAT ARE NOT ANTICIPRED TO BE RE-EXCAVATED OR DRESSED AND RECEIVE FINAL GRASSING TREATMENT WITHIN 30 DAYS SHALL BE SEEDED WITH A QUICK GROWING GRASS SPECIES WHICH WILL PROVIDE AN EARLY COVER DURING THE SEASON IN WHICH IT IS PLANTED AND WILL NOT AFTER COMPETE WITH PERMANENT GRASSING.
9. TEMPORARY SEEDING AND MULCHING: SLOPES STEEPER THAN 6:1 THAT FALL WITHIN THE CATEGORY ESTABLISHED IN PARAGRAPH 8 ABOVE SHALL ADDITIONALLY RECEIVE MULCHING OF APPROXIMATELY 2 INCHES LOOSE MEASURE OF MULCH MATERIAL CUT INTO THE SOIL OF THE SEEDED AREA ADEQUATE TO PREVENT MOVEMENT OF SEED AND MULCH.
10. TEMPORARY GRASSING: THE SEEDED OR SEEDED AND MULCHED AREA(S) SHALL BE ROLLED AND WATERED OR HYDROMULCHED OR OTHER SUITABLE METHODS IF REQUIRED TO ASSURE OPTIMUM GROWING CONDITIONS FOR THE ESTABLISHMENT OF A GOOD GRASS COVER.
11. TEMPORARY REGRASSING: IF, AFTER 14 DAYS FROM SEEDING, THE TEMPORARY GRASSED AREAS HAVE NOT ATTAINED A MINIMUM OF 75 PERCENT GOOD GRASS COVER, THE AREA WILL BE REWORKED AND ADDITIONAL SEED APPLIED SUFFICIENT TO ESTABLISH THE DESIRED VEGETATIVE COVER.
12. MAINTENANCE: ALL FEATURES OF THE PROJECT DESIGNED AND CONSTRUCTED TO PREVENT EROSION AND SEDIMENT SHALL BE MAINTAINED DURING THE LIFE OF THE CONSTRUCTION SO AS TO FUNCTION AS THEY WERE ORIGINALLY DESIGNED AND CONSTRUCTED.
13. PERMANENT EROSION CONTROL: THE EROSION CONTROL FACILITIES OF THE PROJECT SHOULD BE DESIGNED TO MINIMIZE THE IMPACT ON THE OFF SITE FACILITIES.
14. PERMANENT SEEDING: ALL AREAS WHICH HAVE BEEN DISTURBED BY CONSTRUCTION WILL, AS A MINIMUM, BE SEEDED. THE SEEDING MIX MUST PROVIDE BOTH LONG-TERM VEGETATION AND RAPID GROWTH SEASONAL VEGETATION. SLOPES STEEPER THAN 4:1 SHALL BE SEEDED AND MULCHED OR SODDED.

STRUCTURAL PRACTICES

1. TEMPORARY DIVERSION DIKE: TEMPORARY DIVERSION DIKES MAY BE USED TO DIVERT RUNOFF TROUGH A SEDIMENT-TRAPPING FACILITY.
2. TEMPORARY SEDIMENT TRAP: A SEDIMENT TRAP IS USUALLY INSTALLED IN A DRAINAGE WAY AT A STORM DRAIN INLET OR AT OTHER POINTS OF DISCHARGE FROM A DISTURBED AREA WITH THE FOLLOWING LIMITATIONS:
   A. THE SEDIMENT TRAP MAY BE INSTRUCTED EITHER INDEPENDENTLY OR IN CONJUNCTON WITH A TEMPORARY DIVERSION DIKE.
3. OUTLET PROTECTION: APPLICABLE TO THE OUTLETS OF ALL PIPES AND PAVED CHANNEL SECTIONS WHERE THE VELOCITY OF FLOW AT DESIGN CAPACITY OF THE OUTLET WILL EXCEED THE PERMISSIBLE VELOCITY OF THE RECEIVING CHANNEL OR AREA.
4. SEDIMENT BASIN: WILL BE CONSTRUCTED AT THE COMMON DRAINAGE LOCATIONS THAT SERVE AN AREA WITH 10 OR MORE DISTURBED ACRES AT ONE TIME. THE PROPOSED STORM WATER PONDS (OR TEMPORARY PONDS) WILL BE CONSTRUCTED FOR USE AS SEDIMENT BASINS. THESE SEDIMENT BASINS MUST PROVIDE A MINIMUM OF 3, 600 CUBIC FEET OF STORAGE PER ACRE DRAINED UNTIL FINAL STABILIZATION OF THE SITE. THE 3, 600 CUBIC FEET OF STORAGE AREA PER ACRE DRAINED DOES NOT APPLY TO FLOWS FROM OFFSITE AREAS AND FLOWS FROM ONSITE AREAS THAT ARE EITHER UNDISTURBED OR HAVE UNDERGONE FINAL STABILIZATION WHERE SUCH FLOWS ARE DIVERTED AROUND BOTH THE DISTURBED AREA AND THE SEDIMENT BASIN. ANY TEMPORARY SEDIMENT BASINS CONSTRUCTED MUST BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE SPECIFICATIONS FOR STRUCTURAL FILL. ALL SEDIMENT COLLECTED IN PERMANENT OR TEMPORARY SEDIMENT TRAPS MUST BE REMOVED UPON FINAL STABILIZATION.

OTHER CONTROLS

WASTE DISPOSAL

WASTE MATERIALS

ALL WASTE MATERIALS EXCEPT LAND CLEARING DEBRIS SHALL BE COLLECTED AND STORED IN A SECURELY LIDDED METAL DUMPSTER. THE DUMPSTER WILL MEET ALL LOCAL AND STATE SOLID WASTE MANAGEMENT REGULATIONS. THE DUMPSTER WILL BE EMPTIED AS NEEDED AND THE TRASH WILL BE HAULED TO A STATE APPROVED LANDFILL. ALL PERSONNEL WILL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL. NOTICES STATING THESE PRACTICES WILL BE POSTED AT THE CONSTRUCTION SITE BY THE CONSTRUCTION SUPERINTENDENT, THE INDIVIDUAL WHO MANAGES THE DAY-TO-DAY SITE OPERATIONS, WILL BE RESPONSIBLE FOR SEEING THAT THESES PROCEDURES ARE FOLLOWED.

HAZARDOUS WASTE

ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER. SITE PERSONNEL WILL BE INSTRUCTED IN
THESE PRACTICES AND THE SITE SUPERINTENDENT, THE INDIVIDUAL WHO MANAGES DAY-TO-DAY SITE OPERATIONS, WILL BE RESPONSIBLE FOR SEEING THAT THESE PRACTICES ARE
FOLLOWED.

SANITARY WASTE

ALL SANITARY WASTE WILL BE COLLECTED FROM THE PORTABLE UNITS AS NEEDED TO PREVENT POSSIBLE SPILLAGE. THE WASTE WILL BE COLLECTED AND DISPOSED OF IN ACCORDANCE WITH STATE AND LOCAL WASTE DISPOSAL REGULATIONS FOR SANITARY SEWER OR SEPTIC SYSTEMS.

OFFSITE VEHICLE TRACKING

A STABILIZED CONSTRUCTION ENTRANCE WILL BE PROVIDED TO HELP REDUCE VEHICLE TRACKING OF SEDIMETS. THE PAVED STREET ADJACENT TO THE SITE ENTRANCE WILL BE SWEPT DAILY
TO REMOVE ANY EXCESS MUD, DIRT OR ROCK TRACKED FROM THE SITE. DUMP TRUCKS HAULING MATERIAL FROM THE CONSTRUCTION SITE WILL BE COVERED WITH A TARPAULIN.

INVENTORY FOR POLLUTION PREVENTION PLAN

THE MATERIALS OR SUBSTANCES LISTED BELOW ARE EXPECTED TO BE PRESENT ONSITE DURING CONSTRUCTION:

CONCRETE	FERTILIZERS	WOOD
ASPHALT	PETROLEUM BASED PRODUCTS	MASONRY BLOCKS
TAR	CLEANING SOLVENTS	ROOFING MATERIALS
DETERGENTS	PAINTS	METAL STUDS

SPILL PREVENTION

MATERIAL MANAGEMENT PRACTICES

THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT WILL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES TO STORM WATER RUNOFF.

GOOD HOUSEKEEPING

THE FOLLOWING GOOD HOUSEKEEPING PRACTICES WILL BE FOLLOWED ONSITE DURING THE CONSTRUCTION PROJECT.

1. AN EFFORT WILL BE MADE TO STORE ONLY ENOUGH PRODUCT REQUIRED TO DO THE JOB.
2. ALL MATERIALS STORED ONSITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE.
3. PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THE ORIGINAL MANUFACTURERS LABEL.
4. SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.
5. WHENEVER POSSIBLE, ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF THE CONTAINER.
6. MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED.
7. THE SITE SUPERINTENDENT WILL INSPECT DAILY TO ENSURE MATERIALS ONSITE RECEIVE PROPER USE AND DISPOSAL.

HAZARDOUS PRODUCTS

THESE PRACTICES ARE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS.

1. PRODUCTS WILL BE KEPT IN ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE.
2. ORIGINAL LABELS AND MATERIAL SAFETY DATA WILL BE RETAINED; THEY CONTAIN IMPORTANT PRODUCT INFORMATION.
3. IF SURPLUS PRODUCT MUST BE DISPOSED OF, MANUFACTURER'S OR LOCAL AND STATE RECOMMENDED METHODS FOR PROPER DISPOSAL WILL BE FOLLOWED.

PRODUCT SPECIFIC PRACTICES

THE FOLLOWING PRODUCT SPECIFIC PRACTICES WILL BE FOLLOWED ONSITE:

PETROLEUM PRODUCTS

ALL ONSITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT SUBSTANCES USED ONSITE WILL BE APPLIED ACCORDING TO THE MANUFACTURERS RECOMMENDATIONS.

FERTILIZERS

FERTILIZERS USED WILL APPLIED ONLY IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER. ONCE APPLIED, FERTILIZER WILL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORM WATER. STORAGE WILL BE IN A COVERED AREA. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER WILL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.

PAINTS

ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM BUT WILL BE PROPERLY DISPOSED OF ACCORDING TO MANUFACTURERS' INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.

CONCRETE TRUCKS

CONCRETE TRUCKS WILL NOT BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ON THE SITE.

SPILL CONTROL PRACTICES

IN ADDITION TO THE GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTIONS OF THIS PLAN, THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:

MANUFACTURERS' RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED ON SITE AND SITE PERSONNEL WILL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.

MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ONSITE. EQUIPMENT AND MATERIALS WILL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, LIQUID ABSORBENT (i.e. KITTY LITTER OR EQUAL), SAND, SAWDUST, AND PLASTIC, AND METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.

ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.

THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.

SPILL OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF THE SIZE OF THE SPILL.

THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM REOCCURRING AND HOW TO CLEAN UP THE SPILL IF THERE IS ANOTHER ONE. A
DESCRIPTION OF THE SPILL, WHAT CAUSED IT, AND THE CLEANUP MEASURES WILL ALSO BE INCLUDED.

THE SITE SUPERINTENDENT RESPONSIBLE FOR THE DAY-TO-DAY SITE OPERATIONS, WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR. HE/SHE WILL DESIGNATE AT LEAST ONE OTHER SITE PERSONNEL WHO WILL RECEIVE SPILL PREVENTION AND CLEANUP TRAINING. THESE INDIVIDUALS WILL EACH BECOME RESPONSIBLE FOR A PARTICULAR PHASE OF PREVENTION AND CLEANUP. THE NAMES OF RESPONSIBLE SPILL PERSONNEL WILL BE POSTED IN THE MATERIAL STORAGE AREA AND IF APPLICABLE, IN THE OFFICE TRAILER ONSITE.

MAINTENANCE/INSPECTION PROCEDURES

EROSION AND SEDIMENT CONTROL INSPECTION AND MAINTENANCE PRACTICES

THE FOLLOWING ARE INSPECTION AND MAINTENANCE PRACTICES THAT WILL BE USED TO MAINTAIN EROSION AND SEDIMENT CONTROLS.

1. NO MORE THAN 10 ACRES OF THE SITE WILL BE DENUDED AT ONE TIME WITHOUT WRITTEN PERMISSION FROM THE ENGINEER.
2. ALL CONTROL MEASURES WILL BE INSPECTED BY THE SUPERINTENDENT, THE PERSON RESPONSIBLE FOR THE DAY TO DAY SITE OPERATION OR SOMEONE APPOINTED BY THE SUPERINTENDENT, AT LEAST ONCE A WEEK AND FOLLOWING ANY STORM EVENT OF 0.25 INCHES OR GREATER.
3. ALL TURBIDITY CONTROL MEASURES WILL BE MAINTAINED IN GOOD WORKING ORDER; IF A REPAIR IS NECESSARY, IT WILL BE INITIATED WITHIN 24 HOURS OF REPORT.
4. BUILT UP SEDIMENT WILL BE REMOVED FROM SILT FENCE WHEN IT HAS REACHED ONE-THIRD THE HEIGHT OF THE FENCE.
5. SILT FENCE WILL BE INSPECTED FOR DEPTH OF SEDIMENT, TEARS, TO SEE IF THE FABRIC IS SECURELY ATTACHED TO THE FENCE POSTS, AND TO SEE THAT THE FENCE POSTS ARE FIRMLY IN THE GROUND.
6. THE SEDIMENT BASINS WILL BE INSPECTED FOR THE DEPTH OF SEDIMENT, AND BUILT UP SEDIMENT WILL BE REMOVED WHEN IT REACHES 10 PERCENT OF THE DESIGN CAPACITY OR AT THE END OF THE JOB.
7. DIVERSION DIKES/SWALES WILL BE INSPECTED AND ANY BREACHES PROMPTLY REPAIRED.
8. TEMPORARY AND PERMANENT SEEDING AND PLANTING WILL BE INSPECTED FOR BARE SPOTS, WASHOUTS, AND HEALTHY GROWTH.
9. A MAINTENANCE INSPECTION REPORT WILL BE MADE AFTER EACH INSPECTION. A COPY OF THE REPORT FORM TO BE COMPLETED BY THE INSPECTOR IS ATTACHED.
   THE REPORTS WILL BE KEPT ON SITE DURING CONSTRUCTION AND AVAILABLE UPON REQUEST TO THE OWNER, ENGINEER, OR ANY FEDERAL, STATE, OR LOCAL AGENCY APPROVING SEDIMENT AND EROSION PLANS, OR STORM WATER MANAGEMENT PLANS.
   THE REPORTS SHALL BE MADE AND RETAINED AS PART OF THE STORM WATER POLLUTION PREVENTION PLAN FOR AT LEAST THREE YEARS FROM THE DATE THAT THE SITE IS FINALLY STABILIZED AND THE NOTICE TERMINATION IS SUBMITTED. THE REPORTS SHALL IDENTIFY ANY INCIDENTS OF NON- COMPLIANCE.
10. THE SITE SUPERINTENDENT WILL SELECT UP TO THREE INDIVIDUALS WHO WILL BE RESPONSIBLE FOR INSPECTIONS, MAINTENANCE, AND REPAIR ACTIVITIES, AND FILLING OUT THE INSPECTION AND MAINTENANCE REPORT.
11. PERSONNEL SELECTED FOR INSPECTION AND MAINTENANCE RESPONSIBILITIES WILL RECEIVE TRAINING FROM THE SITE SUPERINTENDENT. THEY WILL BE TRAINED IN ALL THE INSPECTION AND MAINTENANCE PRACTICES NECESSARY FOR KEEPING THE EROSION AND SEDIMENT CONTROLS USED ONSITE IN GOOD WORKING ORDER.

NON-STORM WATER DISCHARGES

1. IT IS EXPECTED THAT THE FOLLOWING NON-STORM WATER DISCHARGES WILL OCCUR FROM THE SITE DURING THE CONSTRUCTION PERIOD:
2. WATER FROM WATER LINE FLUSHING
3. PAVEMENT WASH WATERS (WHERE NO SPILLS OR LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE OCCURRED).
4. UNCONTAMINATED GROUNDWATER (FROM DEWATERING EXCAVATION).

ALL NON-STORM WATER DISCHARGES WILL BE DIRECTED TO THE SEDIMENT BASIN PRIOR TO DISCHARGE.

CONTRACTOR'S CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND THE TERMS AND CONDITIONS OF THE GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT THAT AUTHORIZES THE STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY FROM THE CONSTRUCTION SITE IDENTIFIED AS PART OF THIS CERTIFICATION.

SIGNATURE	BUSINESS NAME AND ADDRESS OF CONTRACTOR AND ALL SUBS	RESPONSIBLE FOR/DUTIES
		GENERAL CONTRACTOR
		SUB-CONTRACTOR
		SUB-CONTRACTOR
		SUB-CONTRACTOR
		SUB-CONTRACTOR

No.	Revisions	By
2	1/12/24 FINAL REVISION	JES

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EROSION AND SEDIMENT CONTROL NOTES

1. THE ENVIRONMENTAL PROTECTION AGENCY (EPA) HAS ISSUED TO FLORIDA A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT FOR CERTAIN STROMWATER DISCHARGES. THIS NPDES PROGRAM REQUIRES THAT IF THE MAGITUDE OF CONSTRUCTION SCTIVITIES COVERED BY THE GENERAL PERMIT ARE ABOVE CERTAIN THRESHOLDS, THEN A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IS REQUIRED. ALSO INVOLVED ARE CERTAIN CERTIFICATION, NOTIFICATION, INSPECTION AND RECORD KEEPING IN ACCORDANCE WITH THE EPA PUBLICATION EPA 832-R-92-005 DATED SEPT., 1992 & TITLED "STORM WATER MANAGEMENT FOR CONSTRUCTION ACTIVITIES-DEVELOPING POLLUTION PREVENTION PLANS & BEST MANAGEMENT PRACTICES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE IF THIS PROJECT REQUIRES AN NPDES APPLICATION AND NOTIFICATION AND, IF NECESSARY, PREPARE, SUBMIT AND MAINTAIN THE REQUIRED DOCUMENTATION IN COMPLIANCE WITH THE EPA GUIDELINES AND CRITERIA.

2. THESE PLANS INDICATE THE MINIMUM EROSION AND SEDIMENT CONTROL MEASURES REQUIRED FOR THIS PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR MEETING ALL APPLICABLE RULES, REGULATIONS AND WATER QUALITY GUILDELINES AND MAY NEED TO INSTALL ADDITIONAL CONTROLS.

3. THE CONTRACTOR IS RESPONSIBLE FOR FOLLOWING THE BEST EROSION AND SEDIMENT CONTROL PRACTICES AS OUTLINED IN THE PLANS, SPECIFICATIONS, AND THE ST. JOHNS RIVER MANAGEMENT DISTRICT PERMIT AND REGULATIONS. DEWATERING PUMPS SHALL NOT EXCEED THE CAPACITY OF THAT WHICH REQUIRES A CONSUMPTIVE USE PERMIT FROM THE ST. JOHNS RIVER MANAGEMENT DISTRICT.

4. ALL EXCAVATIONS AND EARTHWORK SHALL BE DONE IN A MANNER TO MINIMIZE WATER TURBIDITY AND POLLUTION. DISCHARGE SHALL BE CONTROLLED AND REROUTED THROUGH HAY FILTERS, SILTATION DIAPERS AND SUMPS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREVENTION, CORRECTION, CONTROL AND ABATEMENT OF EROSION AND WATER POLLUTION IN ACCORDANCE WITH CHAPTER 17-3, FLORIDA ADMINISTRATIVE CODE. FOR ADDITIONAL INFORMATION ON SEDIMENT AND EROSION CONTROL REFER TO "FLORIDA DEVELOPEMENT MANUAL - A GUIDE TO SOUND LAND AND WATER MANAGEMENT" FROM THE STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, CHAPTER 6.

5. THE CONTRACTOR SHALL PAY FOR ANY WATER QUALITY CONTROL VIOLATIONS FROM ANY AGENCY THAT RESULTS IN FINES BEING ASSESSED TO THE OWNER BECAUSE OF THE CONTRACTOR'S FAILURE TO ELIMINATE TURBID RUNOFF FROM LEAVING THE SITE AND RAISING BACKGROUND LEVELS. EROSION AND SEDIMENT CONTROL BARRIERS SHALL BE PLACED ADJACENT TO ALL WETLAND AREAS WHERE THERE IS POTENTIAL FOR DOWNSTREAM WATER

6. QUALITY DEGRADATION.

7. ADDITIONAL PROTECTION - ON SITE PROTECTION, AS MAY BE DEEMED NECESSARY DURING CONSTRUCTION SHALL BE PROVIDED THAT WILL NOT PERMIT SILT TO LEAVE THE PROJECT CONFINES DUE TO UNFORSEEN CONDITIONS OR ACCIDENTS,

8. WIRE MESH SHALL BE LAID OVER THE DROP INLET SO THAT THE WIRE EXTENDS A MINIMUM OF 1 FOOT BEYOND EACH SIDE OF THE INLET STRUCTURE. HARDWARE CLOTH OR COMPARABLE WIRE MESH WITH 1/2-INCH OPENINGS SHALL BE USED. IF MORE THAN ONE STRIP OF MESH IS NECESSARY, THE STRIPS SHALL BE OVERLAPPED. FDOT NO. 1 COARSE AGGREGATE SHALL BE PLACED OVER THE WIRE MESH. THE DEPTH OF STONE SHALL BE AT LEAST 12 INCHES OVER THE ENTIRE INLET OPENING. THE STONE SHALL EXTEND BEYOND THE INLET OPENING AT LEAST 18 INCHES ON ALL SIDES.

9. IF THE STONE FILTER BECOMES CLOGGED WITH SEDIMENT SO THAT IT NO LONGER ADEQUATELY PERFORMS ITS FUNCTION, THE STONES MUST BE PULLED AWAY FROM THE INLET, CLEANED AND REPLACED.

10. BALES SHALL BE PLACED LENGTHWISE IN SINGLE ROW SURROUNDING THE INLET, WITH THE ENDS OF ADJACENT BALES PRESSED TOGETHER. BALES SHALL BE EITHER WIRE-BOUND OR STRING-TIED WITH THE BINDINGS ORIENTED AROUND THE SIDES RATHER THAN OVER AND UNDER THE BALES.

11. THE FILTER BARRIER SHALL BE ENTRENCHED AND BACKFILLED. A TRENCH SHALL BE EXCAVATED TO A MINIMUM DEPTH OF 8 INCHES. AFTER THE BALES ARE STAKED, THE EXCAVATED SOIL SHALL BE BACKFILLED AND COMPACTED AGAINST THE FILTER BARRIER. EACH BALE SHALL BE SECURELY ANCHORED AND HELD IN PLACE BY AT LEAST TWO STAKES OR REBARS DRIVEN THROUGH THE BALE. LOOSE FIBER SHOULD BE WEDGED BETWEEN BALES TO PREVENT WATER FROM ENTERING BETWEEN BALES.

12. SOD SHALL BE PLACED IN AREAS WHICH MAY REQUIRE IMMEDIATE EROSION PROTECTION TO ENSURE WATER QUALITY STANDARDS AND SHALL BE MAINTAINED UNTIL COMPLETION OF ALL CONSTRUCTION ACTIVITY.

13. CONTRACTOR SHALL ENSURE THAT ALL DRAINAGE STRUCTURES, PIPES, ETC., ARE CLEANED OUT AND WORKING PROPERLY AT ALL TIMES AND THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAINFALL EVENT AND REPAIRS, AS NEEDED, SHALL BE MADE IMMEDIATELY.

14. ANY DISCHARGE FROM A DEWATERING ACTIVITY SHALL BE FILTERED AND CONVEYED TO THE OUTFALL IN A MANNER WHICH PREVENTS EROSION AND THE TRANSPORTATION OF SUSPENDED SOLIDS TO THE RECEIVING OUTFALL.

15. SILT FENCES AND FILTER BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.

16. NECESSARY REPAIRS TO BARRIERS OR REPLACEMENT OF BALES SHALL BE ACCOMPLISHED PROMPTLY. CLOSE ATTENTION SHALL BE PAID TO THE REPAIR OF DAMAGED BALES, END RUNS AND UNDERCUTTING BENEATH BALES.

17. THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL OF ANY SEDIMENT THAT LEAVES THE SITE AND CHANGES ANY DOWNSTREAM CONDITIONS BY RAISING CHANNEL BOTTOMS AND/OR CLOGGING OUTFALL CULVERTS.

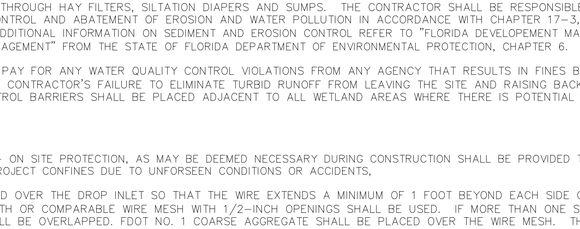
18. SEDIMENT DEPOSITS TO BE REMOVED AFTER EACH RAINFALL AND REMOVED WHEN THE LEVEL OF DEPOSITION REACHES APPROXIMATELY ONE-HALF THE HEIGHT ON THE BARRIER. SEDIMENT TRAPS TO BE RESTORED TO THIER ORIGIONAL DIMENSIONS BY REMOVING THE SEDIMENT WHEN IT HAS ACCUMULATED TO ONE-THIRD THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT TO BE DEPOSITED IN A SUITABLE AREA AND MANNER THAT IT WILL NOT ERODE.

19. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE, SYNTHETIC BALE OR FILTER BARRIER IS NO LONGER REQUIRED OR AFTER COMPLETION OF CONSTRUCTION SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED AND SEEDED.

20. THE SITE CONTRACTOR IS RESPONSIBLE FOR REMOVING THE TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES AFTER COMPLETION OF CONSTRUCTION AND ONLY WHEN AREAS HAVE BEEN STABILIZED. ALL DEWATERING, EROSION AND SEDIMENT CONTROL TO REMAIN IN PLACE AFTER COMPLETION OF CONSTRUCTION AND REMOVED ONLY WHEN ALL DISTURBED AREAS HAVE BEEN STABILIZED.

21. ALL DISTURBED AREAS SHALL BE STABILIZED THROUGH COMPACTION, GRASSING AND SODDING. THE GRASS/SODDING SHALL BE MAINTAINED UNTIL PERMANENT VEGETATIVE COVER IS ESTABLISHED. ALL FILL SLOPES 4:1 OR GREATER TO RECEIVE STAKED SOLID SOD.

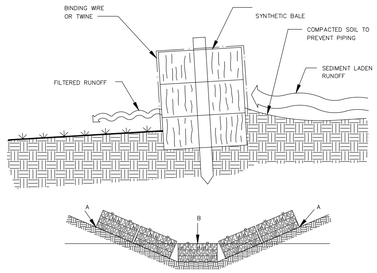
ONLY SYNTHETIC BALES TO BE USED (TYP)



SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE THE INLET DRAINS A RELATIVELY FLAT AREA (SLOPES NO GREATER THAN 5%) WHERE SHEET OR OVERLAND FLOWS (NOT EXCEEDING 0.5 CFS) ARE TYPICAL. THE METHOD SHALL NOT APPLY TO INLETS RECEIVING CONCENTRATED FLOWS, SUCH AS IN STREET OR HIGHWAY MEDIANS.

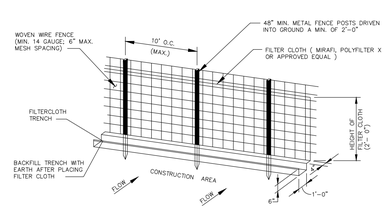
BURLAP DROP INLET SEDIMENT FILTER



POINTS "A" SHOULD BE HIGHER THAN POINT "B"

NOTES:
1. EXCAVATE THE TRENCH
2. PLACE AND STAKE SYNTHETIC BALES
3. WEDGE LOOSE FIBER BETWEEN BALES
4. BACKFILL AND COMPACT THE EXCAVATED SOIL.

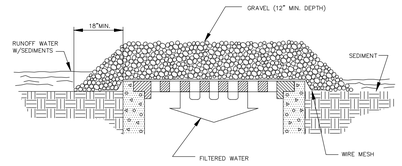
SYNTHETIC BALE BARRIER



CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS BY USE OF WIRE TIES
2. FILTER CLOTH TO BE FASTEN SECURELY TO WOVEN WIRE FENCE BY USE OF WIRE TIES SPACED EVERY 24"x 24".
3. SILT FENCES TO BE INSTALLED IN LOCATIONS AS SHOWN ON THIS EROSION AND SEDIMENT CONTROL PLAN PRIOR TO BEGINNING OF CONSTRUCTION TO CONTROL SEDIMENT.
4. SILT FENCES TO BE MAINTAINED AND CLEANED AS NECESSARY TO MAINTAIN IN FUNCTIONAL CONDITION.
5. SILT FENCES TO BE REMOVED AND THE AREA TO BE RESTORED TO ITS NATURAL CONDITION WHEN PERMANENT EROSION AND SEDIMENT CONTROL PROCEDURES ARE EFFECTIVE.

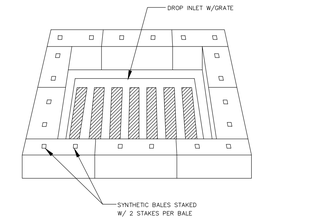
FILTER FENCE

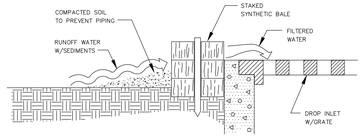


SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY CONCENTRATED FLOWS ARE EXPECTED, BUT NOT WHERE PONDING AROUND STRUCTURE MIGHT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURED ARE UNPROTECTED AREAS.

GRAVEL & WIRE MESH DROP INLET SEDIMENT FILTER

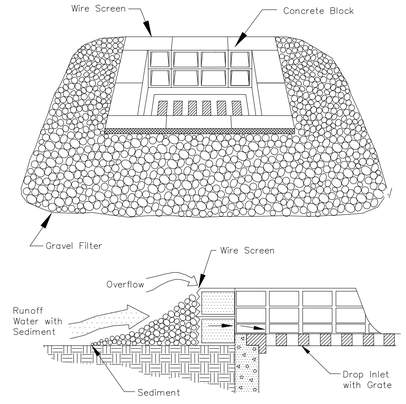




SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE THE INLET DRAINS A RELATIVELY FLAT AREA (SLOPES NO GREATER THAN 5%) WHERE SHEET OR OVERLAND FLOWS (NOT EXCEEDING 0.5 CFS) ARE TYPICAL. THE METHOD SHALL NOT APPLY TO INLETS RECEIVING CONCENTRATED FLOWS, SUCH AS IN STREET OR HIGHWAY MEDIANS.

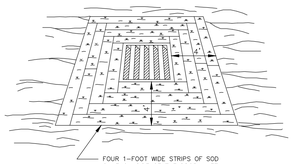
SYNTHETIC BALE DROP INLET SEDIMENT FILTER

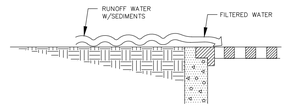


SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY FLOWS ARE EXPECTED AND WHERE OVERFLOW CAPACITY IS NECESSARY TO PREVENT EXCESSIVE PONDING AROUND THE STRUCTURE.

BLOCK & GRAVEL DROP INLET SEDIMENT FILTER

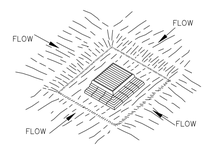


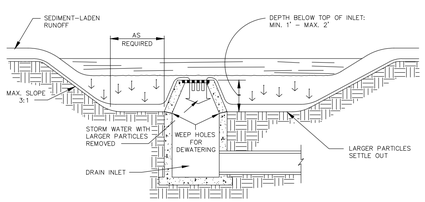


SPECIFIC APPLICATION

PROTECT THE INLET FROM SEDIMENT AND MULCH MATERIALS UNTIL PERMANENT VEGETATION HAS BECOME ESTABLISHED.

SOD DROP INLET SEDIMENT FILTER

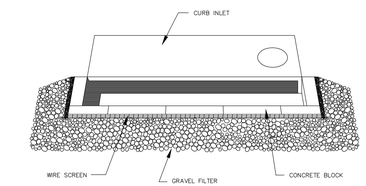


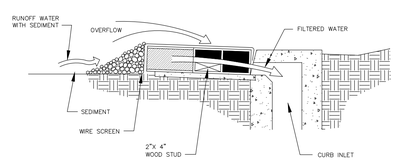


SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY FLOWS ARE EXPECTED AND WHERE AN OVERFLOW CAPABILITY AND EASE OF MAINTENANCE ARE DESIRABLE.

EXCAVATED DROP INLET SEDIMENT TRAP

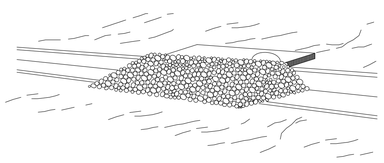


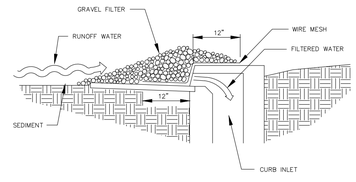


SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE AT CURB INLETS WHERE AN OVERFLOW CAPABILITY IS NECESSARY TO PREVENT EXCESSIVE PONDING IN FRONT OF THE STRUCTURE.

BLOCK & GRAVEL CURB INLET SEDIMENT FILTER





SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE AT CURB INLETS WHERE PONDING IN FRONT OF THE STRUCTURE IS NOT LIKELY TO CAUSE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURES AND UNPROTECTED AREAS.

GRAVEL CURB INLET SEDIMENT FILTER

No.	Revisions	By
2	1/12/24 FINAL REVISION	JES

AVA ENGINEERS, INC.
Commercial | Residential | Marine
Florida Certificate No. 0000816
4201 BAYMEADOWS RD, SUITE 5 | JACKSONVILLE, FLORIDA 32217
Ph. (904) 730-2223 | Fx. (904) 730-2226
Henry A. Verpe Jr. No. 45643

HILLIARD RV

ESC

FLORIDA

NASSAU

Date:	06/2022
Designer:	HAV
Job #:	21-071
Drawn:	MRP
Scale:	N/A
Sheet:	18

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JOB DESCRIPTION

STORM WATER POLLUTION PREVENTION PLAN
INSPECTION AND MAINTENANCE REPORT

TO BE COMPLETED EVERY SEVEN (7) DAYS AND WITHIN TWENTY-FOUR (24) HOURS
OF A RAINFALL EVENT OF 0.25 INCHES OR MORE

INSPECTOR: _____ DATE: _____

INSPECTOR'S QUALIFICATIONS:

_____

_____

_____

_____

_____

DATES SINCE LAST RAINFALL:_____ AMOUNT OF LAST RAINFALL:_____ INCHES

STABILIZATION MEASURES

INSPECTION AREA (DESCRIPTION OF LOCATION)	DATE SINCE LAST DISTURBED	DATE OF NEXT DISTURBANCE	STABILIZED ? (YES / NO)	STABILIZED WIDTH	CONDITION

STABILIZATION REQUIRED:

_____

_____

_____

_____

TO BE PERFORMED BY: _____ ON OR BEFORE: _____

SHEET 1 OF 4

JOB DESCRIPTION

STORM WATER POLLUTION PREVENTION PLAN
INSPECTION AND MAINTENANCE REPORT

DATE:_____

STRUCTURAL CONTROLS

EARTH DIKES / SWALES

DIKE OR SWALE	FROM	TO	IS DIKE / SWALE STABILIZED?	IS THERE EVIDENCE OF WASHOUT OR OVER TOPPING?

MAINTENANCE REQUIRED FOR EARTH DIKE / SWALE:

_____

_____

_____

_____

TO BE PERFORMED BY: _____ ON OR BEFORE: _____

EARTH DIKES / SWALES

STRUCTURAL / OUTFALL	ARE TURBIDITY CONTROLS IN PLACE?	ANY EVIDENCE OF CLOGGING/WASHOUT OR BYPASSING?	ARE TURBIDITY CONTROLS IN NEED OF REPLACING?	DOES SILT NEED TO BE REMOVED FROM AROUND CONTROL?

MAINTENANCE REQUIRED FOR CATCH BASIN / CURB INLETS / OUTFALLS TRUBIDITY CONTROLS:

_____

_____

_____

_____

TO BE PERFORMED BY: _____ ON OR BEFORE: _____

SHEET 2 OF 4

JOB DESCRIPTION

STORM WATER POLLUTION PREVENTION PLAN
INSPECTION AND MAINTENANCE REPORT

SEDIMENT BASIN

DEPTH OF SEDIMENT IN BASIN	DEPTH OF SEDIMENT SIDE BASIN	IS THERE EVIDENCE OF OVER TOPPING OF EMBANKMENT?	CONDITION OF OUTFALL FROM SEDIMENT BASIN

MAINTENANCE REQUIRED FOR SEDIMENT BASIN:

_____

_____

_____

_____

TO BE PERFORMED BY: _____ ON OR BEFORE: _____

OTHER CONTROLS

STABILIZED CONSTRUCTION ENTRANCE

DOES MUCH SEDIMENT GET TRACKED ON TO ROADWAY?	IS THE GRAVEL CLEAN OR IS IT FILLED WITH SEDIMENT?	DOES ALL TRAFFIC USE THE STABILIZED ENTRANCE LEAVE THE SITE?	IS THE CULVERT BENEATH THE ENTRANCE WORKING? (IF APPLICABLE)

MAINTENANCE REQUIRED FOR STABILIZED CONSTRUCTION ENTRANCE:

_____

_____

_____

_____

TO BE PERFORMED BY: _____ ON OR BEFORE: _____

SHEET 3 OF 4

JOB DESCRIPTION

STORM WATER POLLUTION PREVENTION PLAN
INSPECTION AND MAINTENANCE REPORT

CHANGES REQUIRED TO THE POLLUTION PREVENTION PLAN:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

REASONS FOR CHANGES:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERTY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

SIGNATURE: _____ DATE: _____

SHEET 4 OF 4

NOTE TO CONTRACTOR:

THIS IS THE CONTRACTORS CERTIFICATE REQUIRED BY THE EPA'S NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES), STORM WATER POLLUTION PREVENTION PLAN FOR CONSTRUCTION SITES OVER FIVE (5) ACRES. IT IS SUGGESTED THAT THIS SHEET BE REMOVED FROM THE PLAN SET AND DUPLICATED AS NEEDED BY THE CONTRACTOR.

AN INSPECTOR, CERTIFIED BY THE STATE OF FLORIDA OR EXPERIENCED IN THE INSTALLATION AND MAINTENANCE OF EROSION CONTROLS, IS REQUIRED TO INSPECT THE EROSION AND SEDIMENT CONTROL MEASURES AS SHOWN ON THE APPROVED STORMWATER POLLUTION PREVENTION PLAN. INSPECTION REPORTS ARE TO BE COMPLETED ONCE EVERY WEEK AND AFTER EVERY RAINFALL EVENT OF 0.5" OR MORE DURING THE CONSTRUCTION PHASE. THESE REPORTS SHALL BE MADE AVAILABLE TO THE CITY AT ANY TIME AND COPIES OF ALL OF THE INSPECTIONS SHALL BE SUBMITTED TO THE CITY PRIOR TO THE ISSUANCE OF A CERTIFICATE OF COMPLETION OR OCCUPANCY.

No.	Revisions	By
2	1/12/24 FINAL REVISION	JES

AVA ENGINEERS, INC.
Commercial | Residential | Marine
Florida Certificate No. 0000816
4201 BAYMEADOWS RD. SUITE 5 | JACKSONVILLE FLORIDA 32217
Ph. (904) 730-3223 | Fx. (904) 730-3226
Henry A. Verpa, Jr. No. 65143

HILLIARD RV

SWPPP

FLORIDA

NASSAU

Date: 06/2022
Designer: HAV
Job #: 21-071
Drawn: MRP
Scale: N/A
Sheet: 19

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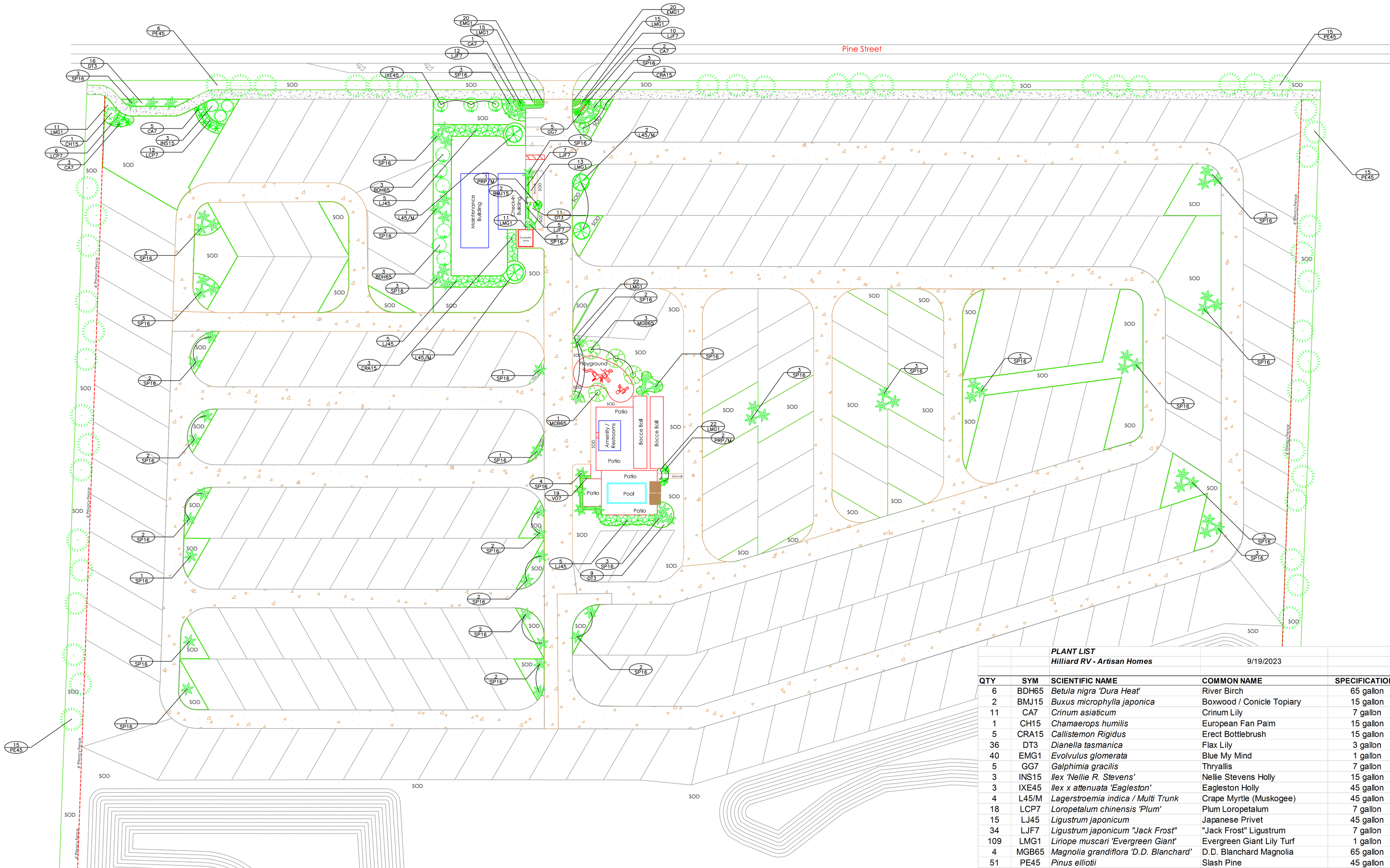

		PLANT LIST			
		Hilliard RV - Artisan Homes	9/19/2023		
QTY	**SYM**	**SCIENTIFIC NAME**	**COMMON NAME**	**SPECIFICATIONS**	**SPACING**
6	BDH65	*Betula nigra 'Dura Heat'*	River Birch	65 gallon	As Shown
2	BMJ15	*Buxus microphylla japonica*	Boxwood / Conicle Topiary	15 gallon	As Shown
11	CA7	*Crinum asiaticum*	Crinum Lily	7 gallon	5' o.c.
1	CH15	*Chamaerops humilis*	European Fan Palm	15 gallon	As Shown
5	CRA15	*Callistemon Rigidus*	Erect Bottlebrush	15 gallon	As Shown
36	DT3	*Dianella tasmanica*	Flax Lily	3 gallon	30" o.c.
40	EMG1	*Evolvulus glomerata*	Blue My Mind	1 gallon	18" o.c.
5	GG7	*Galphimia gracilis*	Thryallis	7 gallon	36" o.c.
3	INS15	*Ilex 'Nellie R. Stevens'*	Nellie Stevens Holly	15 gallon	As Shown
3	IXE45	*Ilex x attenuata 'Eagleston'*	Eagleston Holly	45 gallon	As Shown
4	L45/M	*Lagerstroemia indica / Multi Trunk*	Crape Myrtle (Muskogee)	45 gallon	As Shown
18	LCP7	*Loropetalum chinensis 'Plum'*	Plum Loropetalum	7 gallon	30" o.c.
15	LJ45	*Ligustrum japonicum*	Japanese Privet	45 gallon	As Shown
34	LJF7	*Ligustrum japonicum "Jack Frost"*	"Jack Frost" Ligustrum	7 gallon	36" o.c.
109	LMG1	*Liriope muscari 'Evergreen Giant'*	Evergreen Giant Lily Turf	1 gallon	24" o.c.
4	MGB65	*Magnolia grandiflora 'D.D. Blanchard'*	D.D. Blanchard Magnolia	65 gallon	As Shown
51	PE45	*Pinus elliotii*	Slash Pine	45 gallon	As Shown
3	PRP/M	*Phoenix roebelenii*	Pygmy Date Palm / Triple Stem	5' - 6' Field Grown	As Shown
81	SP16	*Sabal Palmetto*	Sabal Palm	16' ct	As Shown
19	VO7	*Viburnum odoratissimum*	Viburnum - Sweet	7 gallon	30" o.c.
96000	S.F.	Bahia Sod (excluding detention areas)			
157	C.Y.	Mulch (17,000 sq.ft. - 3" Thick)			
	Unit	Irrigation System			

N

GRAPHIC SCALE
50' 25' 0' 50' 100' 150'

PRESTIGE LANDSCAPES OF NORTH FLORIDA, INC.
12527 San Jose Blvd. Suite 702
Jacksonville, FL 32223
Phone: 904.674.4600

LANDSCAPE PLAN

Hilliard RV

REVISION: 9-25-2023

DATE: 9-18-2023
DRAWN BY: A. Wilson
C. Kenny
SCALE: AS SHOWN

SHEET L-1
1 OF 1 SHEETS

JOB NO. -----

AVA ENGINEERS, INC.
Commercial | Residential | Marine | Rail
Ph. (904) 730-3223

January 18, 2024
Ms. Janis Fleet, ACIP, Land Use Administrator
Town of Hilliard
15859 West County Road 108
Hilliard, FL 32046

RE: Determination of Completeness and Site Plan Review
Hilliard RV
Town of Hilliard, Florida
Mittauer & Associates, Inc. project No. 9610-23-19

Dear Ms. Fleet:
Please find the following responses in bold to comments returned for correction.

General Comments:

1. Provide signed and sealed copies of the final approved Drawings, Boundary & Topographic Survey, and reports prior to construction.

   Noted, signed and sealed copies will be provided prior to construction.

2. Coordinate with the Town for applicable water/sewer connection and impact fees, and verify concurrency requirements/conditions have been met, as required.

   Noted, the Town has been contacted.

3. Provide approved FDEP water and wastewater construction permits and any corresponding revisions to the Drawings.

   Please see attached FDEP water and wastewater permits.

4. Coordinate with Nassau County for driveway connection and R/W requirements at Pine Street. Provide approved Nassau County Driveway Permit for Raven Dr entrance and Right-of-Way Permit for proposed work within R/W.

   Please see attached County Permit.

5. Provide an approved SJRWMD Environmental Resource Permit and any corresponding revisions to the drawing and/or stormwater design calculators

AVA ENGINEERS, INC.
Commercial | Residential | Marine | Rail
Ph. (904) 730-3223

Please see the attached SJRWMD ERP permit.

Sheet 1 – Cover Sheet:

1. Update the Town of Hilliard's phone number to 904-845-3555 under 'Utility Contacts'.

   The phone number has been updated.

Sheet 2 – General Notes:

1. Development Review General Note 4: Update the Town of Hilliard's phone number to 904-845-3555 and coordinate with the Town for specific points of contact, as applicable.

   The phone number has changed.

2. Development Review General Note 20: Revise "Town of Hilliard" to "Nassau County" as this is within their R/W.

   The note has been changed to include Nassau County.

3. Notice of Procedure: Remove Chris Barrington from Pre-Construction Conference note, the JEA address from the meter install note, and Bill Pound from the shop drawing note and replace with the applicable Town of Hilliard contacts / addresses.

   The notes have been changed.

4. Water Notes 4: Replace "JEA and City of Jacksonville" with "Town of Hilliard".

   JEA and COJ have been removed from the notes and replaced with Town of Hilliard.

Sheet 4 – Pre-Development Plan:

1. Lot 39- missing P.I.N. and O.R.B. – Please add both.

   Lot 39- P.I.N. and O.R.B. have been added.

Sheet 4 – Pre-Development Plan:

1. Lot 39- missing P.I.N. and O.R.B. – Please add both.

   Lot 39- P.I.N. and O.R.B. have been added.

Sheet 7 – Site Plan:

AVA ENGINEERS, INC.
Commercial | Residential | Marine | Rail
Ph. (904) 730-3223

1. An Asphalt Pavement Section for Turn Lane is provided on this Sheet, and an identical Asphalt Pavement Section is provided on Sheet 14 - General Details, both calling for SP-12.5 asphalt. Sheet 15 - General Details also shows a Typical R/W Section for Pine St calling for SP-9.5 asphalt and for Asphaltic Concrete Driveways. Recommend combining where appropriate and calling for a consistent asphalt mix.

   The multipole details were a request from the county. A consistent asphalt mix was updated.

2. A note regarding face of curb radii is provided under the Stop Sign Detail. Clarify where curbing is/will be located on the Drawings. Provide curb detail(s), as applicable.

   The note has been removed from the plans.

3. Clarify or correct the existing, impacted, and remaining wetlands acreage shown on the Plans, Data Summary Table, and separate wetlands summary box, and make sure the acreage is consistent throughout all Sheets.

   The wetland calculations have been updated and are consistent throughout the plans.

<u>Sheet 8.01 – 8.04 – Grading & Drainage Plan & Details:</u>

1. Verify proposed inverts for ST-06 Inlet. Out invert shown higher than In invert.

   The inverts have been fixed.

2. Section A-A: Update section arrows on Plan View to match Cross Section View. It is not clear how and where the proposed grading and asphalt are connecting to the existing roadway.

   The arrows have been updated.

3. Section C-C: Update to reflect the proposed ERCP drainage pipe.

   The ERCP has been added to the cross-section.

4. Ensure all updated drainage structures, elevations, and areas are consistent with the latest Stormwater Drainage Analysis.

   All pipes in plans are consistent with storm tab calcs.

AVA ENGINEERS, INC.
Commercial | Residential | Marine | Rail
Ph. (904) 730-3223

Sheet 9.01 – 9.05 – Maser Utility Plain and Utility Plan Sheets:

1. Correct southern Matchline on Sheet 9.02 to match with Sheet 9.03, not 9.02.

   All matchlines have been corrected.

2. Coordinate with the Town to determine which water and sewer components they will be responsible owning, operating, and maintaining following construction. We assume all utilities within the R/W will be the responsibility of the Town, and all utilities onsite will be the responsibility of the Owner.

   Noted, the town has been contacted.

3. Upsize the proposed water main within the R/W from 3" to 6" diameter to meet minimum Town standards along with the associated connections/valves.

   We have spoken to the fire marshal and we are no longer required to upsize the water mains to 6". Storm inlets have been modified to be used as draft hydrants per the fire marshal's request. See updated plans, calcs, and 50-year drought study.

4. Ensure adequate fire protection and hydraulic capacity can be provided for the entirety of the site per FDEP regulations and other applicable standards. Coordinate with the Town and Fire Department to conduct a hydrant flow test on the nearest hydrant in accordance with Section 23.3.3 of their W/WW Utility Specifications to determine fire flow capability to the site.

   Please see attached hydrant flow test.

5. The proposed Draft Hydrants should be removed and replaced with an upsized fire line and Fire Hydrants connected to the Town's system to adequately serve the site. The fire line should be metered in accordance with Section 23.5.5 of the Town's W/WW Utility Specifications.

   The draft hydrants have been removed and certain storm inlets have been modified to be used as draft hydrants per the fire marshals request.

6. Based on the location of the fire hydrants, it does not appear all areas onsite are within the required 500' radius. Address, as needed.

   See response to comment 3 and 5.

7. Verify the proposed Open Cut and Case X Pavement Repair shown for water main crossing on Pine Street is acceptable to Town / County. Revise, as applicable.

AVA ENGINEERS, INC.
Commercial | Residential | Marine | Rail
Ph. (904) 730-3223

It is acceptable to the county. See county ROW permit.

8. Provide detail for 2" Flushing Valve.

   See utility detail sheets in the plans.

9. The In/Out Inverts shown for existing manholes along Pine Street do not appear to match the direction of flow. Review and revise, as needed.

   Those are existing manholes and the inverts match what is on the survey.

10. Provide sewer service within the proposed amenity area, as applicable.

    Sewer service has been added to the proposed amenity area.

11. Gravity sewer and MH upstream of ST-34 to south not labeled or identified.

    Labels have been added to the structure and connecting pipe.

12. ST-37 to ST-31 (Sanitary Profile 07 on Sheet 10.01) is sloped incorrectly and will flow in the wrong direction. Correct inverts and slopes, as required.

    The inverts have been corrected to ensure it will flow in the correct direction.

13. ST-34 elevation data blocked by lateral callout. Relocate so callout is visible.

    The callout has been moved off of the structure label.

14. Identify on Drawings all drop manholes and reference Internal Drop Connection detail provided on Sheet 13. Multiple manholes (EX-06, EX-07, ST-20, ST-21, ST- 47, ST-48, ST-49, ST-50, ST-51, ST-60) are shown with a $ 24" elevation different between inverts, which will require a drop connection.

    All drop manholes have been identified and labeled on the plans.

15. As noted in the initial Site Plan Review, several gravity sewer pipe runs from manhole to manhole exceed 400' max separation. Recommend adding additional manholes to split these pipe runs to meet minimum state standards. FDEP typically does not allow for pipe runs greater than 400 LF between manholes, as indicated on Page 5, item No. 20 of the FDEP Wastewater Permit Application. Assuming the Owner (Hilliard LLC) will own, operate, and maintain the proposed collection system onsite, we will defer to FDEP if

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they will allow for the gravity runs greater than the typical 400 LF maximum between manholes.

Please attached FDEP water and sewer permit.

Sheet 10.01 – 10.03 – Sanitary Profiles:

1. Revise the profiles to reflect and be consistent with the design presented on the Sheets 9.01-9.05. This includes, but is not limited to, the following:
    a. Profile 1 - ST-17 not shown
    ST-17 was added to the profile.
    b. Profile 7 - Sloped in opposite direction
    The slope direction was corrected.
    c. Profile 10 - ST-39 not shown
    ST-39 was added to profile 14.
    d. Profile 11 - ST-34 and unlabeled manhole to south not shown
    Profile 11 has been revised to show all appropriate manholes.
    e. Profile 17 - ST-62 not labeled, ST-61 not shown
    ST-61 was added to profile 61

2. Update the profiles to reflect any revisions made on Sheets 9.01-9.05.

    All profiles consistent with the plans.

Sheet 11 - 13 – Utility Details:

1. Update water meter detail(s) to match Town's W/WW Utility Specifications, where applicable. All meters less than 2" shall be installed underground in an approved meter box, and all meters 2" and larger shall be installed above ground. The new Meter Vault detail provided on Sheet 12 is likely not applicable.

    The detail has been updated to specify to follow Town's Utility Specifications.

2. Sewer Lateral Plate S-19: Remove reference to JEA.

    All references to JEA have been removed from S-19

3. Manhole Pipe Connection Detail Plate S-15: Update detail or applicable Utility Plan Sheet(s) to identify how connection to existing manholes will be accomplished, likely via core drill.

    A note stating to core drill existing manhole has been added to the detail.

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4. Open Cut Trench Plate W-42: Change, “In City Right of Way” to “In County Right of Way”

   The note has been changed.

5. Separate Individual Service: Where 4” connection is stated, update to reflect 6” at connections.

   The plans have been updated to have a 6” connection.

6. Meter Volt: change Aluminum Access Lid to Co-Polymer Box Cover.

   Co-polymer box cover has been added to the detail.

7. Plate S-19: 1. Change JEA to Town of Hilliard.

   The detail has been updated.

Sheets 14 – General Details:

1. Identify on Drawings where various signs, ADA Ramps, and Concrete Wheel Stops are to be installed.

   The notes have been added to the site plan.

2. Remove any details that may not be applicable to this project, including the Dry Hydrant, Compact Parking Signage, Pavement Marking for Public Sidewalk Curb Ramps, and Minimum Parking Restriction for Nonsignalized and Signalized Intersections.

   All unnecessary details have been removed.

Sheet 15 – General Details:

1. See Note 1 for Sheet 7 - Site Plan. Address, as needed.

   Noted.

Sheet 16 – FDOT – Maintenance of Traffic:

1. FDOT Index 102-613 for Multilane Roadway, Lane Closures provided. With Pine Street being a two-lane roadway, FDOT Index 102-603 for Two Lane, Two-Way Work Within the Travel Way may be more applicable. Revise, as needed.

   FDOT index 102-613 have been removed and index 102-603 has been added.

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Sheet L-1 – Landscape Plans:

1. The Landscape Plan does not identify existing trees or which trees are to be removed, nor do the Existing Conditions, Pre-Development Plan, or Demolition Plan Sheets. Address or resolve in accordance with the Site Plan Application, Attachment 1, Item q., as applicable.

   The Town did not have an landscape codes or requirements when this project was started. The Town has been contacted and made aware of this during the project and they are not requiring us to show or call-out the existing trees in the civil plans nor the landscape plans.

2. Per the Special Exception, a landscaped buffer of at least 8' wide and 6' high shall be maintained along the exterior boundary of the RV Park. The Drawings and Landscape Plan show the 20' landscape buffer and landscaping (sod and slash pines) along the N and S boundaries and the Pine St R/W, along with a 6' high privacy fence along the N and S boundaries. This would appear to meet the buffer requirements, but verify with the Town that what is proposed is satisfactory.

   The landscape plan is satisfactory with the Town.

FDEP water & Wastewater Permit Applications:

1. Coordinate with the Town to update the Applications, as needed, to reflect the required revisions to the water and sewer utilities.

   Please see the attached FDEP water and wastewater permits.

2. Clarify the separation of ownership for the proposed water and wastewater utilities on the Application Forms.

   Please see the attached FDEP water and wastewater permits.

Fire Marshal Site Plan Review:

1. Add two fire hydrants to the property.

   We have spoken with the fire marshal and we have come to an agreement that the site will no longer need to provide 2 fire hydrants on site, instead we will provide 3 storm inlets/manholes that can be used as 'draft-hydrants'. Please see revised plans for proposed fire protection.

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If you should have any questions or need additional information, please do not hesitate to contact our office at (904) 730-3223 or frontdesk@avaengineers.com.

Sincerely,

Henry A. Vorpe Jr., P.E.

STORMWATER DRAINAGE ANALYSIS AND CALCULATIONS

FOR

St Johns River Water Management District

Hilliard RV Park

Date: August 07,2023
AVA No. 21-071

Submitted By:

AVA ENGINEERS, INC.
Civil Engineers
Ph. (904) 730-3223

4201 Baymeadows RD, Suite 3
Jacksonville FL 32217
Certification of Authorization No. 8161
Phone: 904.730.3223

SECTION I
NARRATIVE

ENGINEER OF RECORD SIGNATURE PAGE

Project Name:	Hilliard RV Park	AVA Job No.	21-071
Project Location:	3714 Raven Dr		
Project City/State:	Hilliard, Florida		
Project County:	Nassau		
Parcel ID #(s)	17-3N-24-2020-0057-0000		
Computer Programs Used:	Microsoft Excel v.2007 and ICPR v4.07.08		

TABLE OF CONTENTS:

HENRY A. VORPE, JR. LICENSE No 49049 STATE OF FLORIDA PROFESSIONAL ENGINEER

Digitally signed by Henry A Vorpe Jr.
Date: 2024.01.19 12:45:01 -05'00'

Portions of pages or sections of this report signed and sealed by Engineer: I, II, III, IV, V, VI, VII, & VIII

This report is prepared in general compliance with: *SFWMD Applicant's Handbook: Regulation of Stormwater Management Systems, dated 05/22/2016* and is not intended for any other agency or purpose.

AVA ENGINEERS, INC.
Civil Engineers
Ph. (904) 730-3223

4201 Baymeadows Rd. Ste. 3,
Jacksonville, FL 32217
Phone (904) 730-3223 CA No: 00008161

Signature | Date

Henry Vorpe Jr, P.E. | 49049
Engineer of Record | Florida P.E. No.

INTRODUCTION

A 39.73-acre wooded site with numerous trailers and dirt roads is being converted into a RV Park with 240 RV spots. The Site is located in Nassau County, Florida west of Pine Street, north of Neachelle Lane, and south of Ingham Road. The site contains ~13.36 acres of wetlands with ~0.27 acres that will be impacted during construction of the site.

Proposed Development includes two on site, wet detention stormwater management facilities (SMF-1 & SMF-2) as well as all utilities and grading needed to accommodate the proposed development. The total disturbed area is expected to be 26.48 acres of the 39.73-acre site. The predeveloped and post developed drainage areas are representative of the existing and proposed drainage dived within the property boundaries.

DESIGN METHODS

SJRWMD Design Criteria – Methodology and design specifications for wet detention ponds obtained from the SJRWMD's Applicants Handbook: Regulation of Stormwater Management Systems (Oct. 1, 2013) were utilized to determine the required treatment volume, permanent pool volume and recovery time for each of the proposed ponds. SCS Curve Number methodology and SCS Type II Florida Modified storm for rainfall distribution were used to analyze the existing and proposed hydrologic characteristics of the site. Rainfall quantities were obtained from the District isopluvial maps for the mean annual, 10-year, 25-year and 100-year 24-hour storm events.

Tailwater Conditions – Tailwater conditions utilized in the numerical modeling scenarios were assumed to peak at elevation 78.00, aligning with the top of the existing wetlands on the west side of the property. The initial stage of the tailwater condition was set at 76.4' the low point of the wetlands on the southwest side of the property.

Design Software – Streamline Technology's Advanced Interconnected Channel and Pond Routing (Ad-ICPR) version 4.07.08 service pack 11 software was used to model the hydrological characteristics of the existing and proposed site.

Numerical Modeling – ICPR modeling of the post-developed conditions included existing and proposed conditions. Runoff generated on the proposed project site will be routed to the proposed stormwater management facilities where it will then go through a control structure where it will be discharged into the existing wetlands.

Vertical Datum – The vertical data (stages, inverts, etc.) presented in the enclosed calculations are based on the NAVD 88 Datum.

PREDEVELOPMENT CONDITIONS

The existing site consists of upland & wetland areas. The site is located in floodplain 'X' per FEMA Panel 12089C0145F (Dated 12/17/2010). Based on National Cooperative Soil Survey Data, the soils on this site consist of #36 Boulogne fine sand and #39 Evergreen-Leon mucks. The hydrologic soil group for both of these soils is B/D and they will be classified as type D soils for these calculations. Based on the geotechnical report provided by Jackson Geotechnical Engineering, LLC the seasonal high groundwater level (SHGWL) is expected to be where the edge of the wetlands on site are. On the northern half of the site the SHGWL is located around 79.0 NAVD and on the southern half of the site the SHGWL is around 78.0 NAVD.

The site has a natural drainage divide running north to south that splits the site into two drainage basins. The western basin (Site Pre-A) drains to the wetlands located on site and exits the property to the south. The eastern basin (Site Pre-B) drains to the east to a ditch that runs along Pine Street. All water on site ultimately ends up draining to the Little Saint Marys River.

(Site Pre-B was not modeled in ICPR because the proposed development does not discharge to Outfall-B.)

POST-DEVELOPMENT CONDITION

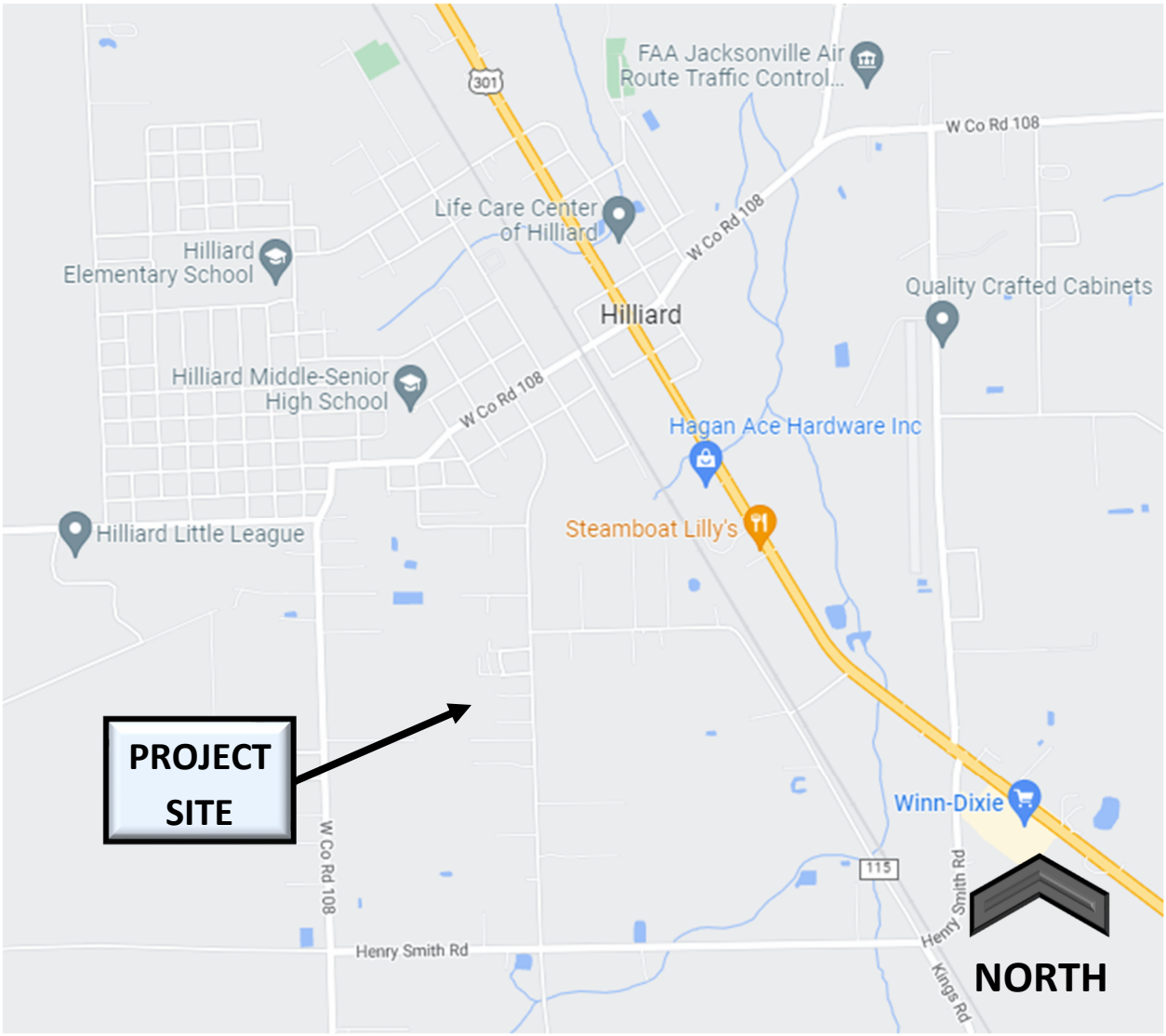
The proposed site has been divided into 3 drainage basins. Site Post-1A is 12.08 acres with 4.08 acres of proposed impervious surface that will drain into SMF-1. Site Post-2A is 14.42 acres with 5.03 acres of proposed impervious surface that drains into SMF-2. Site Post-3A is 13.27 acres of undisturbed onsite wetlands and woods that drain to the southern property boundary. Water from both Site Post-1A & -2A will be collected and conveyed to their respective treatment facility through a network of piped and sheet flow. SMF-1 & -2 both have a control structure that discharges into the onsite wetlands where it then flows to the southern property boundary.

OPERATION AND MAINTENANCE PLAN

Erosion control measures will be implemented during construction to maintain existing water quality of the surrounding areas. These measures may include, but are not limited to, seed & mulch, silt fences, turbidity barriers, and coir bales as may be necessary.

Hilliard, LLC will be the entity responsible for the maintenance and operation of the proposed stormwater management facilities until the residential lots are sold individually. The SWMF will have an easement established for access from Owens Avenue and around the proposed pond. Maintenance of the ponds shall be in the form of maintaining a vegetated cover over all pond slopes and inspecting the water level periodically to ensure that the pond is recovering the treatment volume within the designated time frame. Inlets should be kept free of excessive debris which could inhibit the drainage function of the system or convey sediment to the points of discharge.

SECTION II
PROJECT MAPS

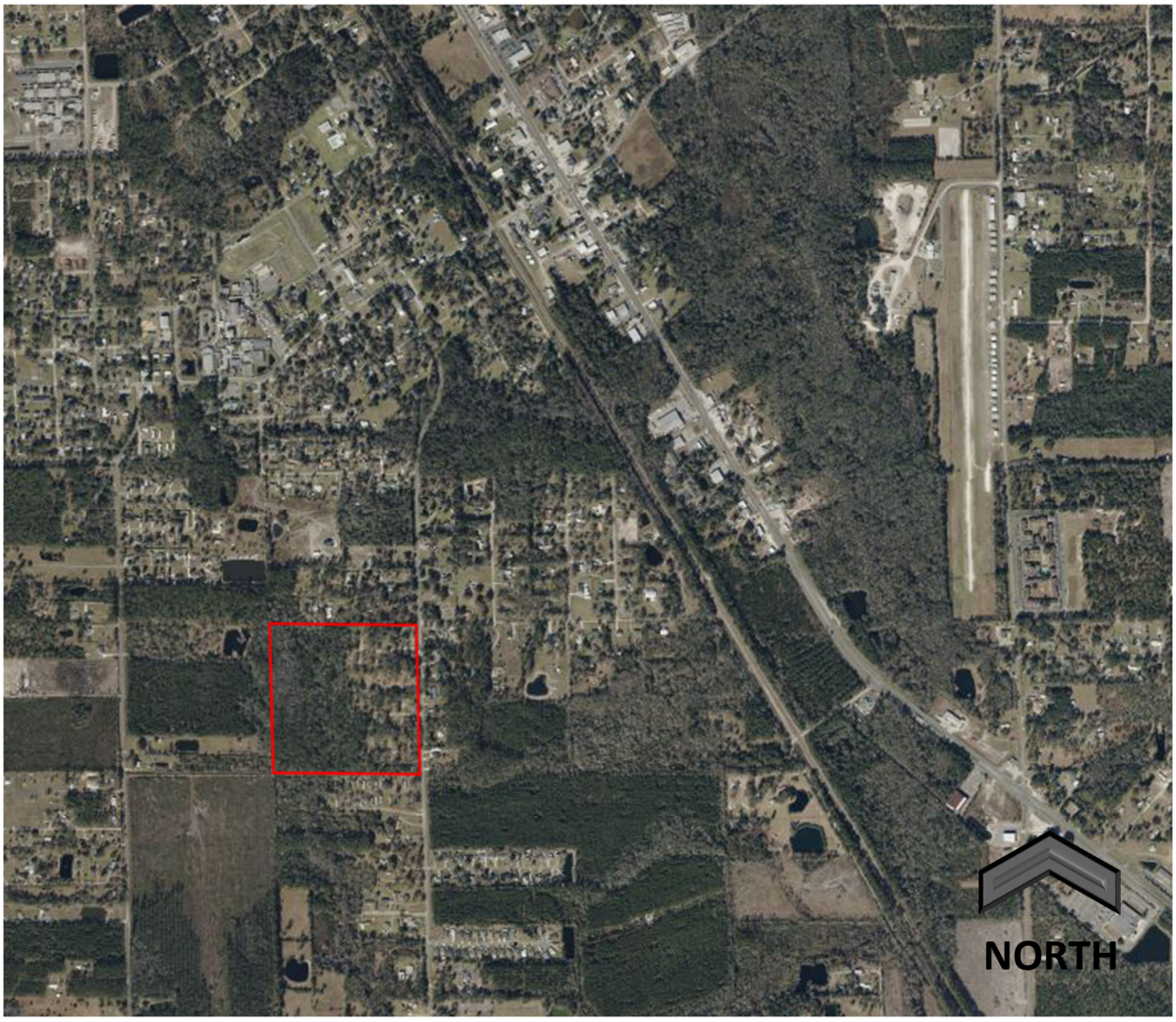


Hilliard RV Park

Hilliard, Florida 32046

Vicinity Map

Not to scale

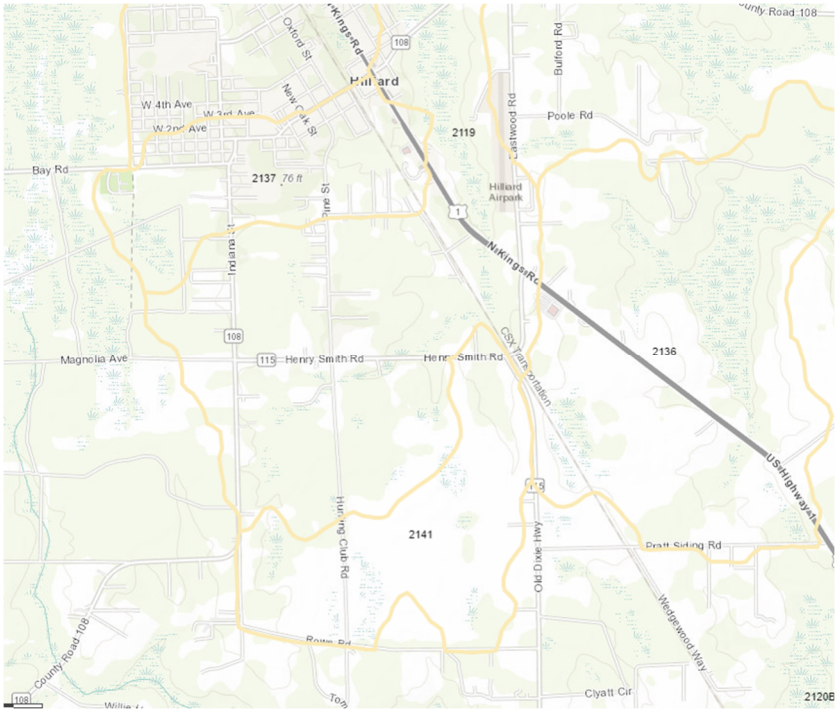


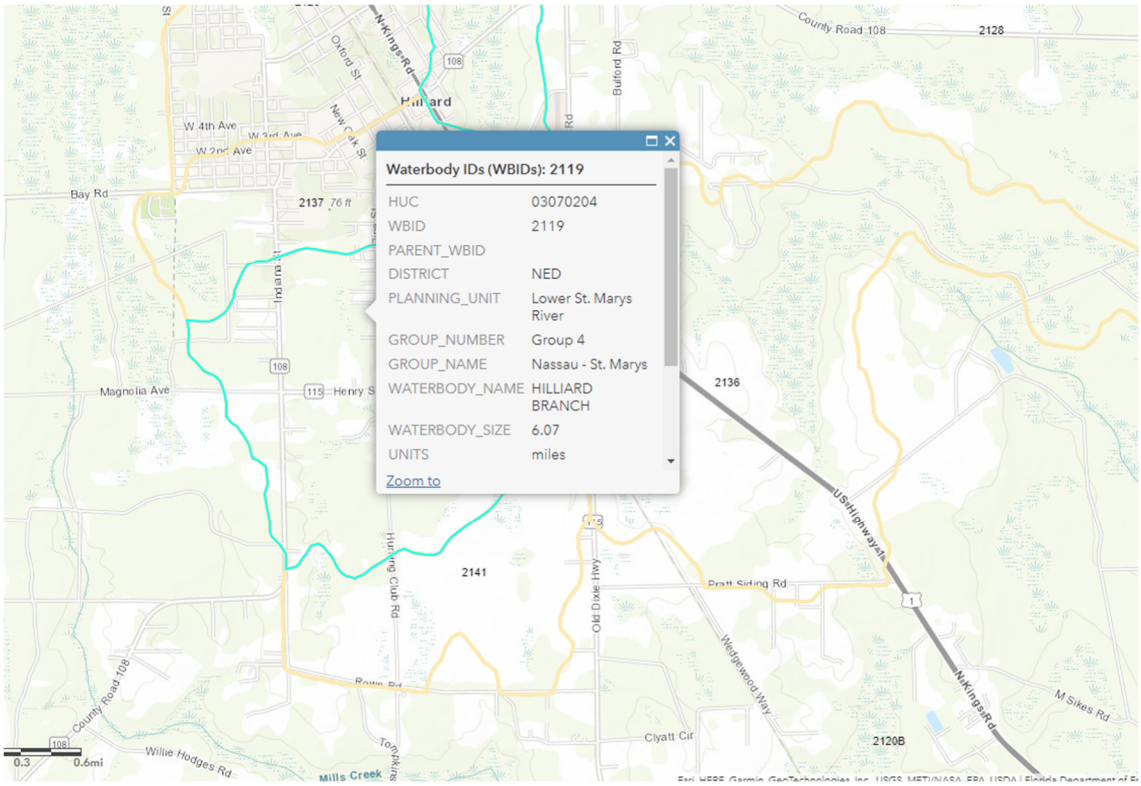
Hilliard RV Park

Hilliard, Florida 32046

Aerial Map

Not to scale





SJRWMD Drainage Basin

Not to Scale

SECTION III
STORMWATER SUMMARY

HILLIARD RV

STORMWATER SUMMARY

Vertical Datum: NAVD '88
Horizontal Datum: NAD83 Florida, East Zone, US Foot
Latitude: N30° 40' 42"±
Longtitude: W81° 55' 29"±

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24-HR Design Storms (in):

	2-YR	MEAN	5-YR	10-YR	25-YR	100-YR
Source						
SJ88-3	-	4.6	-	7.0	8.7	11.4
NOAA Atlas 14	4.52	-	5.70	-	-	-

Pre/Post Discharge Comparisons for Outfall-A (cfs):

	MEAN	5-YR	10-YR	25-YR	100-YR
Pre	39.32	51.79	66.55	85.77	116.04
Post	32.75	45.53	62.31	85.55	191.78

Peak Stages (ft)(NAVD):

	NWL	MEAN	5-YR	10-YR	25-YR	100-YR	TOB
SMF-1	79.00	80.85	81.32	81.85	82.49	82.98	83.00
SMF-2	78.60	80.67	81.19	81.78	82.50	82.96	83.00

SECTION IV
PREDEVELOPMENT DRAINAGE CALCULATIONS

HILLIARD RV

CURVE NUMBER & TIME OF CONCENTRATION
PRE-DEVELOPMENT DRAINAGE AREAS

DESCRIPTION: **Site Predeveloped Conditions**
BASIN NAME: **Pre-A**
NODE NAME: **BndyA**

Area: 1,233,431 SF
28.32 ac.
K = 323

CN:

SF	Ac.	Land Cover	Soil Type	SCS CN	%	Weight %
		#36 - Boulogne fine sand	B/D			
		#39 - Evergreen-Leon mucks, depressional	B/D			
21,226	0.49	Impervious - Pavement	D	98	1.7%	1.7
80,546	1.85	Open Space - Fair	D	84	6.5%	5.5
589,802	13.54	On-Site Wetland Woods - Fair	D	95	47.8%	45.4
541,857	12.44	On-Site Woods - Fair	D	79	43.9%	34.7
					100.0%	

Area: 28.32 OK

Weighted SCS CN = 87.3
SAY **87**

T_C:

		Upstream Invert (ft)	Downstream Invert (ft)
Total Flow Length	1071 ft		
Overland Flow Length	200 ft	80.6	79.1
Shollow Conc. Length	871 ft	79.1	76.4

Overland Flow Calculations:

Tt = $(0.007 * (nL)^{0.8}) / (P^{0.5} * S^{0.4})$
P = 4.52 (2yr 24 hr Rain Amount) inches

Overland Flow Length	L (feet)	200	Recommended Maximum Length = 57.7 ft
Upstream Elevation	ft	80.6	
Downstream Elevation	ft	79.1	
Overland Flow Slope	(ft/ft)	0.0075	
Overland Manning's Coefficient	"n"	0.15	Short Grass
Overland Flow Time	T_t (hr)	0.35	
	T_t (min)	21.20	

Shallow Conc. Flow:

Unpaved (U): V = $16.1345 * S^{0.5}$
Paved (P): V = $20.3282 * S^{0.5}$

Shallow Conc. Flow Length	L (feet)	871
Upstream Elevation	ft	79.1
Downstream Elevation	ft	76.4
Shallow Conc. Flow Slope	(ft/ft)	0.0031
Shallow Conc. Surface (P or U)		U
Shallow Conc. Flow Velocity	(fps)	0.90
Shallow Conc. Flow Time	T_t (sec)	969.59
	T_t (min)	16.16
Total Time of Concentration	T_t (min)	37.4
	SAY	**37.5** MIN

HILLIARD RV

CURVE NUMBER & TIME OF CONCENTRATION
PRE-DEVELOPMENT DRAINAGE AREAS

DESCRIPTION: **Site Predeveloped Conditions**
BASIN NAME: **Pre-B**
NODE NAME: **BndyB**

Area: 497,158 SF / 11.41 ac.
K = 323

CN:

SF	Ac.	Land Cover	Soil Type	SCS CN	%	Weight %
		#36 - Boulogne fine sand	B/D			
73,035	1.68	Impervious - Pavement	D	98	14.7%	14.4
116,453	2.67	Open Space - Fair	D	84	23.4%	19.7
307,670	7.06	On-Site Woods - Fair	D	79	61.9%	48.9
					100.0%	

Area: 11.41 OK

Weighted SCS CN = 83.0
SAY **83**

T_c:

		Upstream Invert (ft)	Downstream Invert (ft)
Total Flow Length	390 ft		
Overland Flow Length	150 ft	79.5	79.2
Shollow Conc. Length	240 ft	79.2	78.4

Overland Flow Calculations:

Tt = $(0.007 * (nL)^{0.8}) / (P^{0.5} * S^{0.4})$
P = 4.52 (2yr 24 hr Rain Amount) inches

Overland Flow Length	L (feet)	150	Recommended Maximum Length = 29.8 ft
Upstream Elevation	ft	79.5	
Downstream Elevation	ft	79.2	
Overland Flow Slope	(ft/ft)	0.0020	
Overland Manning's Coefficient	"n"	0.15	Short grasses
Overland Flow Time	T_t (hr)	0.48	
	T_t (min)	28.60	

Shallow Conc. Flow:

Unpaved (U): V = $16.1345 * S^{0.5}$
Paved (P): V = $20.3282 * S^{0.5}$

Shallow Conc. Flow Length	L (feet)	240
Upstream Elevation	ft	79.2
Downstream Elevation	ft	78.4
Shallow Conc. Flow Slope	(ft/ft)	0.0033
Shallow Conc. Surface (P or U)		U
Shallow Conc. Flow Velocity	(fps)	0.93
Shallow Conc. Flow Time	T_t (sec)	257.64
	T_t (min)	4.29
Total Time of Concentration	T_t (min)	32.9
	SAY	**33** MIN

SECTION V
POST DEVELOPMENT DRAINAGE CALCULATIONS

HILLIARD RV

CURVE NUMBER & TIME OF CONCENTRATION
POST-DEVELOPMENT DRAINAGE AREAS

DESCRIPTION:	**Proposed On-Site Development**	**Area:**	524,262	SF
BASIN NAME:	**Site Post - 1A**		12.04	ac.
NODE NAME:	**SMF1**	**K =**	484	

CN:

SF	Ac.	Land Cover	Soil Type	SCS CN	%	Weight %
		#36 - Boulogne fine sand	B/D			
177,623	4.08	Impervious - Pavement	D	98	33.9%	33.2
41,493	0.95	Pond @ NWL	D	100	7.9%	7.9
305,146	7.01	Open Space - Good	D	80	58.2%	46.6
					100.0%	

Area: 12.04 OK

Weighted SCS CN = 87.68

SAY **87.5**

T_C:

SAY **10** MIN

HILLIARD RV

CURVE NUMBER & TIME OF CONCENTRATION
POST-DEVELOPMENT DRAINAGE AREAS

DESCRIPTION: **Proposed On-Site Development**
BASIN NAME: **Site Post - 2A**
NODE NAME: **SMF2**

Area: 628,090 SF
14.42 ac.
K = 484

CN:

SF	Ac.	Land Cover	Soil Type	SCS CN	%	Weight %
		#36 - Boulogne fine sand	B/D			
219,270	5.03	Impervious - Pavement	D	88	34.9%	30.7
37,453	0.86	Pond @ NWL	D	100	6.0%	6.0
371,367	8.53	Open Space - Good	D	80	59.1%	47.3
					100.0%	

Area: 14.42 OK

Weighted SCS CN = 83.99

SAY **84**

T_C:

SAY **10** MIN

HILLIARD RV

CURVE NUMBER & TIME OF CONCENTRATION
POST-DEVELOPMENT DRAINAGE AREAS

DESCRIPTION:	**Proposed On-Site Development**	**Area:**	578,240	SF
BASIN NAME:	**Site Post - 3A**		13.27	ac.
NODE NAME:	**Bndy3A**	**K =**	484	

CN:

SF	Ac.	Land Cover	Soil Type	SCS CN	%	Weight %
		#36 - Boulogne fine sand	B/D			
		#39 - Evergreen-Leon mucks, depressional	B/D			
8,040	0.18	On-Site Woods - Fair	D	79	1.4%	1.1
570,200	13.09	On-Site Wetland Woods - Fair	D	95	98.6%	93.7
					100.0%	

Area: 13.27 OK

Weighted SCS CN = 94.78

SAY **95**

T_C:

SAY **20** MIN

SECTION VI
STORMWATER MANAGEMENT FACILITY DESIGN

HILLIARD RV

STORMWATER MANAGEMENT FACILITY

Node SMF1

	Elev	Area		Volume (Cumulative)	
	NAVD 88	(SF)	(Ac)	(CF)	(Ac-Ft)
TOB	83.00	58,317	1.339	199,117	4.571
	82.00	53,960	1.239	142,979	3.282
	81.00	49,704	1.141	91,147	2.092
	80.00	45,548	1.046	43,521	0.999
NWL	79.00	41,493	0.953	-	-
	78.00	37,561	0.862	39,527	0.91
BENCH	77.00	33,759	0.775	75,187	1.73
	76.00	30,994	0.712	107,564	2.47
	75.00	28,303	0.650	137,212	3.15
	74.00	25,685	0.590	164,206	3.77
	73.00	23,141	0.531	188,619	4.33
	72.00	20,681	0.475	210,530	4.83
	71.00	18,326	0.421	230,034	5.28
	70.00	16,080	0.369	247,237	5.68
BOT	69.00	13,933	0.320	262,243	6.02

HILLIARD RV

STORMWATER MANAGEMENT FACILITY

Node SMF2

	Elev	Area		Volume (Cumulative)	
	NAVD 88	(SF)	(Ac)	(CF)	(Ac-Ft)
TOB	83.00	61,072	1.402	216,076	4.960
	82.00	55,533	1.275	157,773	3.622
	81.00	50,095	1.150	104,959	2.410
	80.00	44,757	1.027	57,533	1.321
	79.00	39,520	0.907	15,395	0.353
NWL	78.60	37,453	0.860	-	-
	78.00	34,384	0.789	21,551	0.49
	77.00	29,348	0.674	53,417	1.23
	76.00	24,417	0.561	80,300	1.84
	75.00	20,937	0.481	102,977	2.36
	74.00	17,915	0.411	122,403	2.81
	73.00	15,280	0.351	139,000	3.19
	72.00	12,954	0.297	153,117	3.52
	71.00	10,920	0.251	165,054	3.79
	70.00	9,163	0.210	175,096	4.02
	69.00	7,568	0.174	183,461	4.21
BOT	68.00	6,677	0.153	191,450	4.40

HILLIARD RV

TREATMENT VOLUME CALCULATIONS
STORMWATER MANAGEMENT FACILITY - SMF-1

Drainage Area to SMF-1	SF	Acreage	Rational Runoff Coefficient (c)	Weighted Area (%)	Weighted Coefficient (c)
Impervious	177,623	4.078	0.95	36.79%	0.35
Pond `	41,493	0.953	-	-	-
Forest	305,146	7.005	0.2	63.21%	0.13
Total Area	524,262	12.035		100.00%	
Total Area - Pond		11.083			
Total Impervious Area		4.078		Weighted "c" =	0.48
				SAY	**0.48**

TREATMENT VOLUME REQUIRED (Wet Detention):

1.0" Over Entire Site: (Total Area)(1.0")/(12"/ft) = 1.003 Ac-ft
or, 2.5" Over Impervious Area: (Impervious Area)(2.5")/(12"/ft) = 0.850 Ac-ft
,whichever is greater

	Use	1.003	Ac-ft
From Pond Configuration:	Weir Elevation =	80.00	Ft
	SAY	***80.00***	Ft

TREATMENT VOLUME DRAWDOWN (Low Flow Orifice):

CF	3600	sec/hour
t (wet)	27	hours
C	0.6	
h1	1.00	ft
h2	0.50	ft
g	32.2	ft/sec^2

$$Q = \frac{TV}{2tCF} \qquad A = \frac{Q}{C\sqrt{2gh}} \qquad D = \left(\frac{4Q}{\pi C\sqrt{2gh}}\right)^{0.5}$$

$$h = \frac{h_1 + h_2}{2} \qquad A = \frac{D^2\pi}{4}$$

TV	1.003	Ac-ft
TV	43,689	CF
Q	0.225	cfs
h	0.750	Ft
D	0.262	Ft

ORIFICE DIAMETER 3.2 inches = 8.04 sq. in. -> Compliant
SAY **3.20** in

PERMANENT POOL VOLUME REQUIRED (Wet Detention - Non-Littoral option):

(Total Area)(c)(21 days/153 days)(30")(1'/12") = 1.982 Ac-ft

From Pond Configuration: @ Bottom Elevation 69' = 6.02 Ac-ft Compliant

MEAN PERMANENT POOL VOLUME DEPTH REQUIRED (Wet Detention):

@ Normal Water Elevation 79.0' = 41,493 SF
Permanent Pool Volume = 6.02 Ac-Ft

Mean Depth = Pond Permanent Pool Volume / NWL SF = 6.3 Ft Compliant

HILLIARD RV

TREATMENT VOLUME CALCULATIONS
STORMWATER MANAGEMENT FACILITY - SMF-2

Drainage Area to SMF-2	SF	Acreage	Rational Runoff Coefficient (c)	Weighted Area (%)	Weighted Coefficient (c)
Impervious	219,270	5.034	0.95	37.12%	0.35
Pond `	37,453	0.860	-	-	-
Forest	371,367	8.525	0.2	62.88%	0.13
Total Area	628,090	14.419		100.00%	
Total Area - Pond		13.559			
Total Impervious Area		5.034		Weighted "c" =	0.48
				SAY	**0.48**

TREATMENT VOLUME REQUIRED (Wet Detention):

1.0" Over Entire Site: (Total Area)(1.0")/(12"/ft) = 1.202 Ac-ft
or, 2.5" Over Impervious Area: (Impervious Area)(2.5")/(12"/ft) = 1.049 Ac-ft
,whichever is greater

	Use	1.202	Ac-ft
From Pond Configuration:	Weir Elevation =	79.88	Ft
	SAY	***79.90***	Ft

TREATMENT VOLUME DRAWDOWN (Low Flow Orifice):

CF	3600	sec/hour
t (wet)	27	hours
C	0.6	
h1	0.90	ft
h2	0.45	ft
g	32.2	ft/sec^2

$$Q = \frac{TV}{2tCF} \qquad A = \frac{Q}{C\sqrt{2gh}} \qquad D = \left(\frac{4Q}{\pi C\sqrt{2gh}}\right)^{0.5}$$

$$h = \frac{h_1 + h_2}{2} \qquad A = \frac{D^2\pi}{4}$$

TV	1.202	Ac-ft
TV	52,341	CF
Q	0.269	cfs
h	0.675	Ft
D	0.294	Ft

ORIFICE DIAMETER 3.6 inches = 10.18 sq. in. -> Compliant
SAY **3.60** in

PERMANENT POOL VOLUME REQUIRED (Wet Detention - Non-Littoral option):

(Total Area)(c)(21 days/153 days)(30")(1'/12") = 2.375 Ac-ft

From Pond Configuration: @ Bottom Elevation 68' = 4.40 Ac-ft Compliant

MEAN PERMANENT POOL VOLUME DEPTH REQUIRED (Wet Detention):

@ Normal Water Elevation 78.6' = 37,453 SF
Permanent Pool Volume = 4.40 Ac-Ft

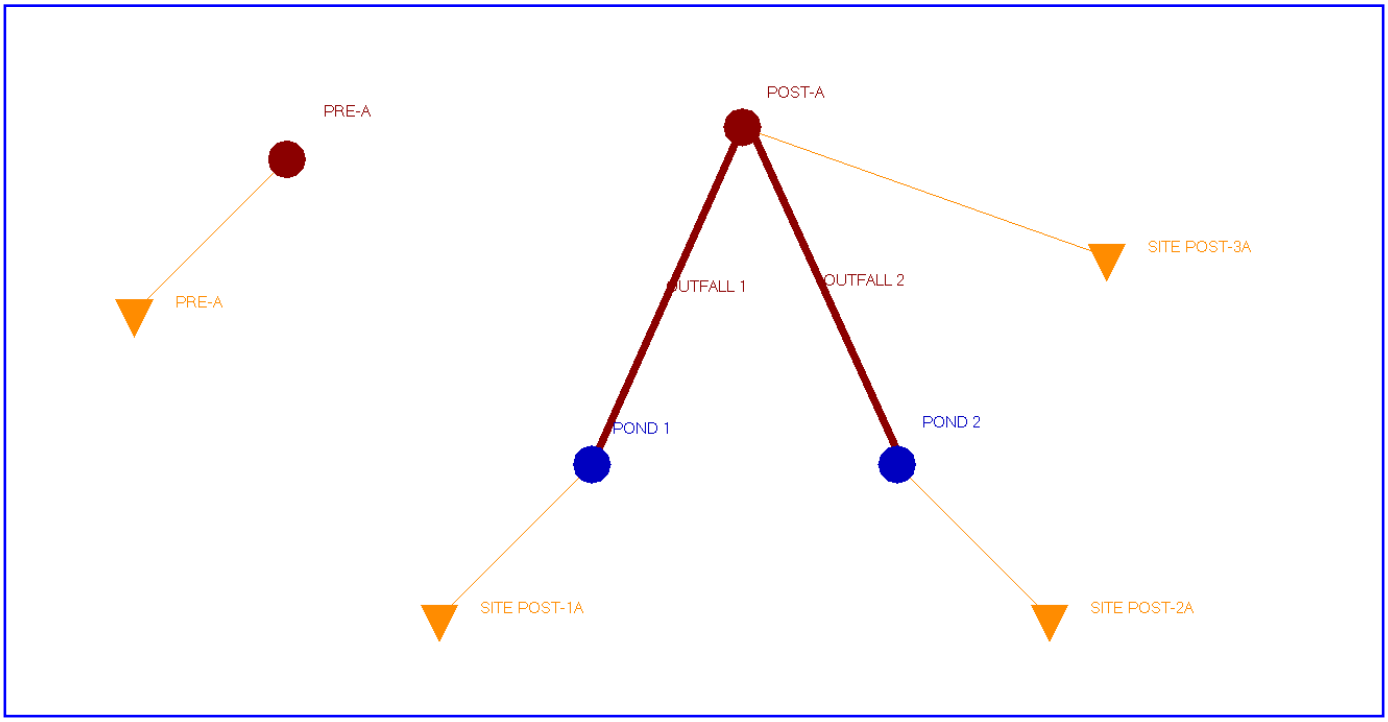
Mean Depth = Pond Permanent Pool Volume / NWL SF = 5.1 Ft Compliant

SECTION VII
NUMERICAL MODELING
(ICPR ANALYSIS)

Nodal Diagram

AVA Engineers
Hilliard RV Park
AVA Job No.: 21-071

Nodal Diagram



Input Summary

Input Summary

Simple Basin: PRE-A

Scenario:	Scenario1
Node:	PRE-A
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	37.5000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	28.3200 ac
Curve Number:	87.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: SITE POST-1A

Scenario:	Scenario1
Node:	POND 1
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH484
Peaking Factor:	484.0
Area:	12.0400 ac
Curve Number:	87.5
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: SITE POST-2A

Scenario:	Scenario1
Node:	POND 2
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number

Input Summary

Time of Concentration:	10.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH484
Peaking Factor:	484.0
Area:	14.4200 ac
Curve Number:	84.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: SITE POST-3A

Scenario:	Scenario1
Node:	POST-A
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	20.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH323
Peaking Factor:	323.0
Area:	13.2700 ac
Curve Number:	95.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Node: POND 1

Scenario:	Scenario1
Type:	Stage/Area
Base Flow:	0.00 cfs
Initial Stage:	79.00 ft
Warning Stage:	82.50 ft

Stage [ft]	Area [ac]	Area [ft2]
83.00	1.3390	58327
82.00	1.2390	53971

Input Summary

Stage [ft]	Area [ac]	Area [ft2]
81.00	1.1410	49702
80.00	1.0460	45564
79.00	0.9530	41513

Comment:

Node: POND 2

Scenario: Scenario1
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 78.60 ft
Warning Stage: 82.50 ft

Stage [ft]	Area [ac]	Area [ft2]
83.00	1.4020	61071
82.00	1.2750	55539
81.00	1.1500	50094
80.00	1.0270	44736
79.00	0.9070	39509
78.60	0.8600	37462

Comment:

Node: POST-A

Scenario: Scenario1
Type: Time/Stage
Base Flow: 0.00 cfs
Initial Stage: 77.30 ft
Warning Stage: 9999.00 ft
Boundary Stage:

Year	Month	Day	Hour	Stage [ft]
0	0	0	0.0000	77.30
0	0	0	12.0000	78.00
0	0	0	24.0000	77.30

Comment:

Node: PRE-A

Input Summary

Scenario:	Scenario1
Type:	Time/Stage
Base Flow:	0.00 cfs
Initial Stage:	77.30 ft
Warning Stage:	9999.00 ft
Boundary Stage:	

Year	Month	Day	Hour	Stage [ft]
0	0	0	0.0000	76.40
0	0	0	12.0000	78.00
0	0	0	24.0000	76.40

Comment:

Drop Structure Link: OUTFALL 1		Upstream Pipe		Downstream Pipe	
Scenario:	Scenario1	Invert:	78.60 ft	Invert:	78.40 ft
From Node:	POND 1	Manning's N:	0.0110	Manning's N:	0.0110
To Node:	POST-A	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	2.50 ft	Max Depth:	2.50 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:	45.00 ft	Top Clip			
FHWA Code:	0	Default:	0.00 ft	Default:	0.00 ft
Entr Loss Coef:	0.00	Op Table:		Op Table:	
Exit Loss Coef:	0.00	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		Bottom Clip	
Weir:	1	Default:	0.00 ft
Weir Count:	1	Op Table:	
Weir Flow Direction:	Both	Ref Node:	
Damping:	0.0000 ft	Top Clip	
Weir Type:	Horizontal	Default:	0.00 ft
Geometry Type:	Circular	Op Table:	
Invert:	79.00 ft	Ref Node:	
Control Elevation:	79.00 ft	Discharge Coefficients	
Max Depth:	0.26 ft	Weir Default:	3.200
		Weir Table:	

Orifice Default:	0.600
Orifice Table:	

Weir Comment:

Weir Component

Weir:	2
Weir Count:	1
Weir Flow Direction:	Both
Damping:	0.0000 ft
Weir Type:	Sharp Crested Vertical
Geometry Type:	Rectangular
Invert:	80.00 ft
Control Elevation:	80.00 ft
Max Depth:	9999.00 ft
Max Width:	1.17 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:	

Weir Comment:

Weir Component

Weir:	3
Weir Count:	1
Weir Flow Direction:	Both
Damping:	0.0000 ft
Weir Type:	Horizontal
Geometry Type:	Rectangular
Invert:	82.50 ft
Control Elevation:	82.50 ft
Max Depth:	2.00 ft
Max Width:	3.00 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:	

Weir Comment:

Weir Component

Weir:	4
Weir Count:	1
Weir Flow Direction:	Both
Damping:	0.0000 ft
Weir Type:	Broad Crested Vertical
Geometry Type:	Rectangular
Invert:	82.50 ft
Control Elevation:	82.50 ft
Max Depth:	9999.00 ft
Max Width:	20.00 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

Fillet:	0.00 ft		
		Weir Table:	
		Orifice Default:	0.600
		Orifice Table:	

Weir Comment:

Drop Structure Comment:

Drop Structure Link: OUTFALL 2		Upstream Pipe		Downstream Pipe	
Scenario:	Scenario1	Invert:	77.00 ft	Invert:	76.60 ft
From Node:	POND 2	Manning's N:	0.0110	Manning's N:	0.0110
To Node:	POST-A	Geometry: Circular		Geometry: Circular	
Link Count:	1	Max Depth:	2.50 ft	Max Depth:	2.50 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:	53.00 ft	Top Clip			
FHWA Code:	0	Default:	0.00 ft	Default:	0.00 ft
Entr Loss Coef:	0.00	Op Table:		Op Table:	
Exit Loss Coef:	0.00	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:	1	Default:	0.00 ft
Weir Flow Direction:	Both	Op Table:	
Damping:	0.0000 ft	Ref Node:	
Weir Type:	Horizontal	Top Clip	
Geometry Type:	Circular	Default:	0.00 ft
Invert:	78.60 ft	Op Table:	
Control Elevation:	78.60 ft	Ref Node:	
Max Depth:	0.29 ft	Discharge Coefficients	
		Weir Default:	3.200
		Weir Table:	
		Orifice Default:	0.600
		Orifice Table:	

Weir Comment:

Weir Component			
Weir:	2	Bottom Clip	

Input Summary

Weir Count:	1		
Weir Flow Direction:	Both	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:	
Weir Type:	Sharp Crested Vertical	Ref Node:	
Geometry Type:	Rectangular	**Top Clip**	
Invert:	79.90 ft	Default:	0.00 ft
Control Elevation:	79.90 ft	Op Table:	
Max Depth:	9999.00 ft	Ref Node:	
Max Width:	1.30 ft	**Discharge Coefficients**	
Fillet:	0.00 ft	Weir Default:	3.200
		Weir Table:	
		Orifice Default:	0.600
		Orifice Table:	

Weir Comment:

Weir Component

Weir:	3	**Bottom Clip**	
Weir Count:	1	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:	82.50 ft	Op Table:	
Control Elevation:	82.50 ft	Ref Node:	
Max Depth:	2.00 ft	**Discharge Coefficients**	
Max Width:	3.00 ft	Weir Default:	3.200
Fillet:	0.00 ft	Weir Table:	
		Orifice Default:	0.600
		Orifice Table:	

Weir Comment:

Weir Component

Weir:	4	**Bottom Clip**	
Weir Count:	1	Default:	0.00 ft
Weir Flow Direction:	Both	Op Table:	
Damping:	0.0000 ft	Ref Node:	
Weir Type:	Broad Crested Vertical	**Top Clip**	
Geometry Type:	Rectangular	Default:	0.00 ft
Invert:	82.50 ft	Op Table:	
Control Elevation:	82.50 ft	Ref Node:	
Max Depth:	9999.00 ft	**Discharge Coefficients**	
Max Width:	35.00 ft	Weir Default:	3.200
Fillet:	0.00 ft	Weir Table:	
		Orifice Default:	0.600
		Orifice Table:	

Weir Comment:

Drop Structure Comment:

Input Summary

Simulation: 010Y-24H

Scenario: Scenario1
Run Date/Time: 8/1/2023 2:27:08 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]	Groundwater [sec]
Min Calculation Time:	60.0000	0.1000	900.0000
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

Groundwater

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	360.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:
Reference ET Folder:
Unit Hydrograph Folder:

Lookup Tables

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

Crop Coef Set:	
Fillable Porosity Set:	
Conductivity Set:	
Leakage Set:	

Tolerances & Options

Time Marching:	SAOR	IA Recovery Time:	24.0000 hr
Max Iterations:	6	ET for Manual Basins:	False
Over-Relax Weight Fact:	0.5 dec		
dZ Tolerance:	0.0010 ft	Smp/Man Basin Rain Opt:	Global
Max dZ:	1.0000 ft	OF Region Rain Opt:	Global
Link Optimizer Tol:	0.0001 ft	Rainfall Name:	~FLMOD
		Rainfall Amount:	7.00 in
Edge Length Option:	Automatic	Storm Duration:	24.0000 hr
Dflt Damping (2D):	0.0050 ft	Dflt Damping (1D):	0.0050 ft
Min Node Srf Area (2D):	100 ft2	Min Node Srf Area (1D):	100 ft2
Energy Switch (2D):	Energy	Energy Switch (1D):	Energy

Comment:

Simulation: 025Y-24H

Scenario:	Scenario1
Run Date/Time:	8/1/2023 2:27:13 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	96.0000

	Hydrology [sec]	Surface Hydraulics [sec]	Groundwater [sec]
Min Calculation Time:	60.0000	0.1000	900.0000
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

Groundwater

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	360.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:
Reference ET Folder:
Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set:
Green-Ampt Set:
Vertical Layers Set:
Impervious Set:
Roughness Set:
Crop Coef Set:
Fillable Porosity Set:
Conductivity Set:
Leakage Set:

Tolerances & Options

Time Marching:	SAOR	IA Recovery Time:	24.0000 hr
Max Iterations:	6	ET for Manual Basins:	False
Over-Relax Weight Fact:	0.5 dec		
dZ Tolerance:	0.0010 ft	Smp/Man Basin Rain Opt:	Global
Max dZ:	1.0000 ft	OF Region Rain Opt:	Global
Link Optimizer Tol:	0.0001 ft	Rainfall Name:	~FLMOD
		Rainfall Amount:	8.70 in
Edge Length Option:	Automatic	Storm Duration:	24.0000 hr
Dflt Damping (2D):	0.0050 ft	Dflt Damping (1D):	0.0050 ft
Min Node Srf Area	100 ft2	Min Node Srf Area	100 ft2

(2D):
Energy Switch (2D): Energy

(1D):
Energy Switch (1D): Energy

Comment:

Simulation: 100Y-24H

Scenario: Scenario1
Run Date/Time: 8/1/2023 2:27:41 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]	Groundwater [sec]
Min Calculation Time:	60.0000	0.1000	900.0000
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

Groundwater

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	360.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Lookup Tables

Input Summary

Rainfall Folder:		Boundary Stage Set:	
Reference ET Folder:		Extern Hydrograph Set:	
Unit Hydrograph Folder:		Curve Number Set:	
		Green-Ampt Set:	
		Vertical Layers Set:	
		Impervious Set:	
		Roughness Set:	
		Crop Coef Set:	
		Fillable Porosity Set:	
		Conductivity Set:	
		Leakage Set:	

Tolerances & Options

Time Marching:	SAOR	IA Recovery Time:	24.0000 hr
Max Iterations:	6	ET for Manual Basins:	False
Over-Relax Weight Fact:	0.5 dec		
dZ Tolerance:	0.0010 ft	Smp/Man Basin Rain Opt:	Global
Max dZ:	1.0000 ft	OF Region Rain Opt:	Global
Link Optimizer Tol:	0.0001 ft	Rainfall Name:	~FLMOD
		Rainfall Amount:	11.40 in
Edge Length Option:	Automatic	Storm Duration:	24.0000 hr
Dflt Damping (2D):	0.0050 ft	Dflt Damping (1D):	0.0050 ft
Min Node Srf Area (2D):	100 ft2	Min Node Srf Area (1D):	100 ft2
Energy Switch (2D):	Energy	Energy Switch (1D):	Energy

Comment:

Simulation: 5Y-24H

Scenario:	Scenario1
Run Date/Time:	8/1/2023 2:27:49 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

Input Summary

	Hydrology [sec]	Surface Hydraulics [sec]	Groundwater [sec]
Min Calculation Time:	60.0000	0.1000	900.0000
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

Groundwater

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	360.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:
Reference ET Folder:
Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set:
Green-Ampt Set:
Vertical Layers Set:
Impervious Set:
Roughness Set:
Crop Coef Set:
Fillable Porosity Set:
Conductivity Set:
Leakage Set:

Tolerances & Options

Time Marching: SAOR
Max Iterations: 6
Over-Relax Weight Fact: 0.5 dec
dZ Tolerance: 0.0010 ft
IA Recovery Time: 24.0000 hr
ET for Manual Basins: False
Smp/Man Basin Rain: Global

		Opt:	
Max dZ:	1.0000 ft	OF Region Rain Opt:	Global
Link Optimizer Tol:	0.0001 ft	Rainfall Name:	~FLMOD
		Rainfall Amount:	5.70 in
Edge Length Option:	Automatic	Storm Duration:	24.0000 hr
Dflt Damping (2D):	0.0050 ft	Dflt Damping (1D):	0.0050 ft
Min Node Srf Area (2D):	100 ft2	Min Node Srf Area (1D):	100 ft2
Energy Switch (2D):	Energy	Energy Switch (1D):	Energy

Comment:

Simulation: MA-24H

Scenario: Scenario1
Run Date/Time: 8/1/2023 2:27:57 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]	Groundwater [sec]
Min Calculation Time:	60.0000	0.1000	900.0000
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

Groundwater

Year	Month	Day	Hour [hr]	Time Increment [min]

Input Summary

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	360.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:
Reference ET Folder:
Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set:
Green-Ampt Set:
Vertical Layers Set:
Impervious Set:
Roughness Set:
Crop Coef Set:
Fillable Porosity Set:
Conductivity Set:
Leakage Set:

Tolerances & Options

Time Marching:	SAOR	IA Recovery Time:	24.0000 hr
Max Iterations:	6	ET for Manual Basins:	False
Over-Relax Weight Fact:	0.5 dec		
dZ Tolerance:	0.0010 ft	Smp/Man Basin Rain Opt:	Global
Max dZ:	1.0000 ft	OF Region Rain Opt:	Global
Link Optimizer Tol:	0.0001 ft	Rainfall Name:	~FLMOD
		Rainfall Amount:	4.60 in
Edge Length Option:	Automatic	Storm Duration:	24.0000 hr
Dflt Damping (2D):	0.0050 ft	Dflt Damping (1D):	0.0050 ft
Min Node Srf Area (2D):	100 ft2	Min Node Srf Area (1D):	100 ft2
Energy Switch (2D):	Energy	Energy Switch (1D):	Energy

Comment:

Link Max Conditions

Link Min/Max Conditions with Times [Scenario1]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Time to Max Flow [hrs]	Time to Min Flow [hrs]	Time to Min/Max Delta Flow [hrs]	Time to Max Us Velocity [hrs]	Time to Max Ds Velocity [hrs]
OUTFALL 1 - Pipe	010Y-24H	9.80	0.00	-0.01	0.00	0.00	12.6051	0.0000	12.7449	0.0000	0.0000
OUTFALL 1 - Weir: 1	010Y-24H	0.39	0.00	0.00	7.14	7.14	12.6008	0.0000	6.7611	12.6008	12.6008
OUTFALL 1 - Weir: 2	010Y-24H	9.42	0.00	-0.01	4.35	4.35	12.6008	0.0000	12.7401	12.6008	12.6008
OUTFALL 1 - Weir: 3	010Y-24H	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000
OUTFALL 1 - Weir: 4	010Y-24H	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000
OUTFALL 2 - Pipe	010Y-24H	11.31	0.00	-0.01	0.00	0.00	12.6093	0.0000	12.7449	0.0000	0.0000
OUTFALL 2 - Weir: 1	010Y-24H	0.58	0.00	0.00	8.58	8.58	12.6051	0.0000	7.4861	12.6051	12.6051
OUTFALL 2 - Weir: 2	010Y-24H	10.72	0.00	-0.01	4.39	4.39	12.6051	0.0000	12.7401	12.6051	12.6051
OUTFALL 2 - Weir: 3	010Y-24H	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000
OUTFALL 2 - Weir: 4	010Y-24H	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000
OUTFALL 1 - Pipe	025Y-24H	15.15	0.00	0.01	0.00	0.00	12.5242	0.0000	12.2878	0.0000	0.0000
OUTFALL 1 - Weir: 1	025Y-24H	0.42	0.00	0.00	7.73	7.73	12.5210	0.0000	5.7444	12.5210	12.5210
OUTFALL 1 - Weir: 2	025Y-24H	14.73	0.00	0.01	5.05	5.05	12.5210	0.0000	12.3252	12.5210	12.5210
OUTFALL 1 - Weir: 3	025Y-24H	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000

Link Max Conditions

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Time to Max Flow [hrs]	Time to Min Flow [hrs]	Time to Min/Max Delta Flow [hrs]	Time to Max Us Velocity [hrs]	Time to Max Ds Velocity [hrs]
OUTFALL 1 - Weir: 4	025Y-24H	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000
OUTFALL 2 - Pipe	025Y-24H	18.07	0.00	-0.01	0.00	0.00	12.5094	0.0000	12.7337	0.0000	0.0000
OUTFALL 2 - Weir: 1	025Y-24H	0.64	0.00	0.00	9.50	9.50	12.5066	0.0000	6.4277	12.5066	12.5066
OUTFALL 2 - Weir: 2	025Y-24H	17.42	0.00	-0.01	5.16	5.16	12.5066	0.0000	12.6388	12.5066	12.5066
OUTFALL 2 - Weir: 3	025Y-24H	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000
OUTFALL 2 - Weir: 4	025Y-24H	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000
OUTFALL 1 - Pipe	100Y-24H	49.12	0.00	-0.12	0.00	0.00	12.2164	0.0000	12.3811	0.0000	0.0000
OUTFALL 1 - Weir: 1	100Y-24H	0.42	0.00	0.00	7.74	7.74	13.0240	0.0000	4.6277	13.0240	13.0240
OUTFALL 1 - Weir: 2	100Y-24H	16.83	0.00	-0.01	5.16	5.16	12.2146	0.0000	12.9115	12.6807	12.6807
OUTFALL 1 - Weir: 3	100Y-24H	10.65	0.00	0.03	2.22	2.22	12.2146	0.0000	12.1295	12.2146	12.2146
OUTFALL 1 - Weir: 4	100Y-24H	21.30	0.00	0.06	2.22	2.22	12.2146	0.0000	12.1295	12.2146	12.2146
OUTFALL 2 - Pipe	100Y-24H	67.64	0.00	-0.21	0.00	0.00	12.1640	0.0000	12.3015	0.0000	0.0000
OUTFALL 2 - Weir: 1	100Y-24H	0.65	0.00	0.00	9.60	9.60	12.0139	0.0000	12.0673	12.0139	12.0139
OUTFALL 2 - Weir: 2	100Y-24H	22.13	0.00	-0.01	5.57	5.57	12.1618	0.0000	12.2999	12.1216	12.1216
OUTFALL 2 -	100Y-24H	9.99	0.00	-0.03	2.17	2.17	12.1618	0.0000	12.2999	12.1618	12.1618

Link Max Conditions

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Time to Max Flow [hrs]	Time to Min Flow [hrs]	Time to Min/Max Delta Flow [hrs]	Time to Max Us Velocity [hrs]	Time to Max Ds Velocity [hrs]
Weir: 3											
OUTFALL 2 - Weir: 4	100Y-24H	34.97	0.00	-0.11	2.17	2.17	12.1618	0.0000	12.2999	12.1618	12.1618
OUTFALL 1 - Pipe	5Y-24H	6.03	0.00	-0.01	0.00	0.00	12.7037	0.0000	13.2994	0.0000	0.0000
OUTFALL 1 - Weir: 1	5Y-24H	0.36	0.00	0.00	6.64	6.64	12.6988	0.0000	7.7861	12.6988	12.6988
OUTFALL 1 - Weir: 2	5Y-24H	5.67	0.00	-0.01	3.67	3.67	12.6988	0.0000	13.0992	12.6988	12.6988
OUTFALL 1 - Weir: 3	5Y-24H	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000
OUTFALL 1 - Weir: 4	5Y-24H	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000
OUTFALL 2 - Pipe	5Y-24H	6.59	0.00	-0.01	0.00	0.00	12.7401	0.0000	13.2994	0.0000	0.0000
OUTFALL 2 - Weir: 1	5Y-24H	0.53	0.00	0.00	7.74	7.74	12.7346	0.0000	8.5527	12.7346	12.7346
OUTFALL 2 - Weir: 2	5Y-24H	6.06	0.00	-0.01	3.63	3.63	12.7346	0.0000	13.2461	12.7346	12.7346
OUTFALL 2 - Weir: 3	5Y-24H	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000
OUTFALL 2 - Weir: 4	5Y-24H	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000
OUTFALL 1 - Pipe	MA-24H	3.29	0.00	0.01	0.00	0.00	13.0923	0.0000	12.3165	0.0000	0.0000
OUTFALL 1 - Weir: 1	MA-24H	0.33	0.00	0.00	6.20	6.20	13.0923	0.0000	8.8777	13.0923	13.0923
OUTFALL 1 - Weir: 2	MA-24H	2.95	0.00	0.00	2.96	2.96	13.0923	0.0000	12.4397	13.0923	13.0923

Link Max Conditions

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Time to Max Flow [hrs]	Time to Min Flow [hrs]	Time to Min/Max Delta Flow [hrs]	Time to Max Us Velocity [hrs]	Time to Max Ds Velocity [hrs]
OUTFALL 1 - Weir: 3	MA-24H	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000
OUTFALL 1 - Weir: 4	MA-24H	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000
OUTFALL 2 - Pipe	MA-24H	3.29	0.00	0.01	0.00	0.00	13.2423	0.0000	12.4582	0.0000	0.0000
OUTFALL 2 - Weir: 1	MA-24H	0.47	0.00	0.00	6.93	6.93	13.2340	0.0000	9.6111	13.2340	13.2340
OUTFALL 2 - Weir: 2	MA-24H	2.82	0.00	0.00	2.81	2.81	13.2340	0.0000	12.4397	13.2340	13.2340
OUTFALL 2 - Weir: 3	MA-24H	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000
OUTFALL 2 - Weir: 4	MA-24H	0.00	0.00	0.00	0.00	0.00	0.0000	0.0000	0.0000	0.0000	0.0000

Node Max Comparison

Node Max Comparison

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]
POND 1	010Y-24H	82.50	81.85	-0.0010	56.37	9.80	53329	12.6008	17.6432	12.0167	12.6008
POND 2	010Y-24H	82.50	81.78	0.0010	64.02	11.31	54341	12.6051	11.8008	12.0167	12.6051
POST-A	010Y-24H	9999.00	78.00	0.0005	62.31	0.00	0	12.0001	0.7277	12.1654	0.0000
PRE-A	010Y-24H	9999.00	78.00	0.0011	66.55	0.00	0	12.0001	0.7194	12.3331	0.0000
POND 1	025Y-24H	82.50	82.49	-0.0010	72.05	15.15	56117	12.5210	18.6905	12.0167	12.5210
POND 2	025Y-24H	82.50	82.50	0.0010	82.99	18.07	58294	12.5066	8.6607	12.0167	12.5066
POST-A	025Y-24H	9999.00	78.00	0.0005	85.55	0.00	0	12.0000	0.7277	12.1664	0.0000
PRE-A	025Y-24H	9999.00	78.00	0.0011	85.77	0.00	0	12.0000	0.7194	12.3329	0.0000
POND 1	100Y-24H	82.50	82.98	-0.0010	96.72	49.12	58241	12.2131	12.6430	12.0166	12.2146
POND 2	100Y-24H	82.50	82.96	0.0010	112.86	67.65	60851	12.1618	11.7201	12.0166	12.1618
POST-A	100Y-24H	9999.00	78.00	0.0005	191.78	0.00	0	12.0000	0.7277	12.1673	0.0000
PRE-A	100Y-24H	9999.00	78.00	0.0011	116.04	0.00	0	12.0000	0.7194	12.3328	0.0000
POND 1	5Y-24H	82.50	81.32	-0.0010	44.29	6.03	51061	12.6988	13.0992	12.0168	12.6988
POND 2	5Y-24H	82.50	81.19	-0.0010	49.46	6.59	51103	12.7346	14.6303	12.0168	12.7346
POST-A	5Y-24H	9999.00	78.00	0.0005	45.53	0.00	0	12.0001	0.7277	12.1668	0.0000
PRE-A	5Y-24H	9999.00	78.00	0.0011	51.79	0.00	0	12.0001	0.7194	12.3335	0.0000
POND 1	MA-24H	82.50	80.85	0.0010	34.02	3.29	49096	13.0923	10.3944	12.0169	13.0923
POND 2	MA-24H	82.50	80.67	0.0010	37.17	3.29	48332	13.2340	11.9648	12.0332	13.2340
POST-A	MA-24H	9999.00	78.00	0.0005	32.75	0.00	0	12.0001	0.7277	12.1499	0.0000
PRE-A	MA-24H	9999.00	78.00	0.0011	39.32	0.00	0	12.0001	0.7194	12.3498	0.0000

SECTION VIII
SUPPORT DOCUMENTS

AVA Engineers

Storm Sewer Tabulation

PROJECT NAME : Hilliard RV Park | **BY : MRP** | **STORM FREQUENCY : 5 Yr**
PROJECT No. : 21-071 | **DATE : January 18, 2024** | **COUNTY : NASSAU** | **ZONE : 4**

LINE FROM	LINE TO	STRUCTURE NUMBER	TYPE OF STRUCTURE	TYPE OF LINE	PIPE LENGTH (Ft)	DRAINAGE AREA C = 0.40 C = INCREM AREA	DRAINAGE AREA SUB-TOT (CA)	TIME OF CONC. Tc (Min)	TIME OF FLOW IN SECTION (Min)	RAINFALL INTENSITY (I)	INCRIMENTAL RUNOFF (CIA) (Cfs)	TOTAL RUNOFF (CIA) (Cfs)	HGL BELOW INLET / INLET ELEV / DEPTH TO INVERT (Ft)	ELEV. OF HYDRAULIC GRADIENT / INSIDE CROWN ELEVATION / PIPE INVERT ELEVATION UP-END	LOW-END	Jn-LOSS	FALL	PIPE DIAMETER (in)	HYDRAULIC GRADIENT DESIGN VALUE / MINIMUM VELOCITY SLOPE %	VEL. (fps)	FLOW (Cfs)
			Type				0.00				HGL SUFFICIENT		0.89	81.61	81.61	0.00	0.00		0.00	0.40	0.71
ST - 11	ST - 12	ST - 12	C	Main	48	0.290	0.12	10.00	0.25	6.13	0.71	0.71	82.50	80.85	80.75	X	0.10	18	0.21	3.21	5.67
			Inlet				0.00		SUFFICIENT BURIAL DEPTH				3.15	79.35	79.25	X	0.06	Good	0.13	2.50	4.42
			Type			0.290	0.12				HGL SUFFICIENT		0.89	81.61	81.59	0.00	0.01		0.02	0.94	1.66
ST - 12	ST- 13	ST - 12	C	Main	82	0.390	0.16	10.25	0.45	6.09	0.95	1.66	82.50	80.75	80.60	X	0.15	18	0.18	3.00	5.31
			Inlet				0.00		SUFFICIENT BURIAL DEPTH				3.25	79.25	79.10	X	0.10	Good	0.13	2.50	4.42
			Type			0.680	0.27				HGL SUFFICIENT		0.91	81.59	81.54	0.00	0.05		0.06	1.77	3.12
ST - 13	ST - 14	ST - 13	C	Main	84	0.620	0.25	10.70	0.47	6.00	1.49	3.12	82.50	80.60	80.45	X	0.15	18	0.18	2.97	5.25
			Inlet				0.00		SUFFICIENT BURIAL DEPTH				3.40	79.10	78.95	X	0.11	Good	0.13	2.50	4.42
			Type			1.300	0.52				HGL SUFFICIENT		0.96	81.54	81.49	0.00	0.05		0.03	1.59	4.99
ST - 14	ST- 15	ST - 14	C	Main	132	0.810	0.32	11.18	0.77	5.92	1.92	4.99	82.50	80.45	80.30	X	0.15	24	0.11	2.87	9.01
			Inlet				0.00		SUFFICIENT BURIAL DEPTH				4.05	78.45	78.30	X	0.11	Good	0.09	2.50	7.85
			Type			2.110	0.84				HGL SUFFICIENT		1.01	81.49	81.41	0.00	0.08		0.06	2.14	6.71
ST - 15	ST- 16	ST - 15	C	Main	130	0.790	0.32	11.94	0.75	5.78	1.83	6.71	82.50	80.30	80.15	X	0.15	24	0.12	2.89	9.08
			Inlet				0.00		SUFFICIENT BURIAL DEPTH				4.20	78.30	78.15	X	0.11	Good	0.09	2.50	7.85
			Type			2.900	1.16				HGL SUFFICIENT		1.09	81.41	81.35	0.00	0.06		0.03	1.70	8.33
ST - 16	ST- 25	ST - 16	C	Main	207	0.780	0.31	12.69	1.30	5.66	1.77	8.33	82.50	79.65	79.50	X	0.15	30	0.07	2.66	13.05
			Inlet				0.00		SUFFICIENT BURIAL DEPTH				5.35	77.15	77.00	X	0.13	Good	0.06	2.50	12.27
			Drainage			3.680	1.47				HGL SUFFICIENT		1.98	81.35	81.32	0.00	0.03		0.03	1.64	8.04
ST - 25	SMF1	ST - 25		Main	115	-	0.00	13.99	#DIV/0!	5.46	0.00	8.04	83.33	73.50	73.50	X	0.00	30	-	-	-
			Manhole				0.00		SUFFICIENT BURIAL DEPTH				12.33	71.00	71.00	X	0.07	Good	0.06	2.50	12.27
							0.00				TOTAL LINE LOSSES =		0.29	**81.32**	Assumed 5 Yr Stage				83.00	TOP	
ST - 25	**SMF1**					3.680	1.47	#DIV/0!				8.04		73.50	Inside Crown Elevation			30	78.60	Discharge Elev	
	3.680					3.680	1.47							**71.00**	30 " Inlet Invert				69.00	BOT Elevation	

AVA Engineers

Storm Sewer Tabulation

PROJECT NAME : Hilliard RV Park | **BY : MRP** | **STORM FREQUENCY : 5 Yr**
PROJECT No. : 21-071 | **DATE : January 18, 2024** | **COUNTY : NASSAU** | **ZONE : 4**

LINE FROM	LINE TO	STRUCTURE NUMBER	TYPE OF STRUCTURE	TYPE OF LINE	PIPE LENGTH (Ft)	DRAINAGE AREA C = 0.40 C = INCREM AREA	DRAINAGE AREA SUB-TOT (CA)	TIME OF CONC. Tc (Min)	TIME OF FLOW IN SECTION (Min)	RAINFALL INTENSITY (I)	INCRIMENTAL RUNOFF (CIA) (Cfs)	TOTAL RUNOFF (CIA) (Cfs)	HGL BELOW INLET / INLET ELEV / DEPTH TO INVERT (Ft)	ELEV. OF HYDRAULIC GRADIENT INSIDE CROWN ELEVATION PIPE INVERT ELEVATION UP-END	LOW-END	Jn-LOSS	FALL	PIPE DIAMETER (in)	HYDRAULIC GRADIENT DESIGN VALUE MINIMUM VELOCITY SLOPE %	VEL. (fps)	FLOW (Cfs)
ST - 1	ST - 2	ST - 2	Type C Inlet	Main	132	0.580	0.00 0.23 0.00	10.00	0.80	6.13	HGL SUFFICIENT 1.42	1.42	0.86 82.50 SUFFICIENT BURIAL DEPTH 2.90	81.64 81.10 79.60	81.63 80.90 79.40	0.00 X X	0.02 0.20 0.17	18	0.01 0.15 0.13	0.81 2.73 2.50	1.42 4.83 4.42
ST - 2	ST- 3	ST - 2	Type C Inlet	Main	190	0.580 0.450	0.23 0.18 0.00	10.80	1.24	5.98	HGL SUFFICIENT 1.08	2.47	0.87 82.50 SUFFICIENT BURIAL DEPTH 3.10	81.63 80.90 79.40	81.55 80.65 79.15	0.00 X X	0.07 0.25 0.24	18	0.04 0.13 0.13	1.40 2.55 2.50	2.47 4.50 4.42
ST - 9	ST - 3	ST - 9	Type C Inlet	Branch	132	0.730	0.00 0.29 0.00	10.00	0.80	6.13	HGL SUFFICIENT 1.79	1.79	0.92 82.50 SUFFICIENT BURIAL DEPTH 3.15	81.58 80.85 79.35	81.55 80.65 79.15	0.00 X X	0.03 0.20 0.17	18	0.02 0.15 0.13	1.01 2.73 2.50	1.79 4.83 4.42
ST - 3	ST- 4	ST - 3	Type C Inlet	Main	82	1.760 0.500	0.70 0.20 0.00	12.05	0.46	5.77	HGL SUFFICIENT 1.15	5.21	0.95 82.50 SUFFICIENT BURIAL DEPTH 3.85	81.55 80.65 78.65	81.52 80.55 78.55	0.00 X X	0.03 0.10 0.07	24	0.04 0.12 0.09	1.66 2.97 2.50	5.21 9.34 7.85
ST - 4	ST- 5	ST - 4	Type C Inlet	Main	84	2.260 0.560	0.90 0.22 0.00	12.51	0.48	5.69	HGL SUFFICIENT 1.27	6.42	0.98 82.50 SUFFICIENT BURIAL DEPTH 3.95	81.52 80.55 78.55	81.47 80.45 78.45	0.00 X X	0.05 0.10 0.07	24	0.06 0.12 0.09	2.04 2.94 2.50	6.42 9.22 7.85
ST - 5	ST- 6	ST - 5	Type C Inlet	Main	132	2.820 0.750	1.13 0.30 0.00	12.98	0.81	5.61	HGL SUFFICIENT 1.68	8.02	1.03 82.50 SUFFICIENT BURIAL DEPTH 5.30	81.47 79.70 77.20	81.44 79.60 77.10	0.00 X X	0.04 0.10 0.08	30	0.03 0.08 0.06	1.63 2.72 2.50	8.02 13.34 12.27
ST - 6	ST- 7	ST - 6	Type C Inlet	Main	121	3.570 0.910	1.43 0.36 0.00	13.79	0.71	5.49	HGL SUFFICIENT 2.00	9.84	1.06 82.50 SUFFICIENT BURIAL DEPTH 5.40	81.44 79.60 77.10	81.39 79.50 77.00	0.00 X X	0.05 0.10 0.08	30	0.04 0.08 0.06	2.00 2.84 2.50	9.84 13.94 12.27
ST - 7	SMF1	ST - 7	Type C Inlet	Main	124	4.480 0.740	1.79 0.30 0.00	14.50	#DIV/0!	5.38	HGL SUFFICIENT 1.59	11.24	1.11 82.50 SUFFICIENT BURIAL DEPTH 11.50	81.39 73.50 71.00	81.32 73.50 71.00	0.00 X X	0.07 0.00 0.08	30	0.05 - 0.06	2.29 - 2.50	11.24 - 12.27
ST - 7	SMF1					5.220	0.00 2.09	#DIV/0!			TOTAL LINE LOSSES =	11.24	0.35	**81.32** 73.50 **71.00**	Assumed 5 Yr Stage Inside Crown Elevation 30 " Inlet Invert			30	83.00 78.60 69.00	TOP Discharge Elev BOT Elevation	
						5.220	5.220 2.09														

AVA Engineers

Storm Sewer Tabulation

PROJECT NAME : Hilliard RV Park
PROJECT No. : 21-071
DATE : January 18, 2024
BY : MRP
COUNTY : NASSAU
STORM FREQUENCY : 5 Yr
ZONE : 4

LINE FROM	LINE TO	STRUCTURE NUMBER	TYPE OF STRUCTURE	TYPE OF LINE	PIPE LENGTH (Ft)	DRAINAGE AREA C = 0.40 C = INCREM AREA	DRAINAGE AREA SUB-TOT (CA)	TIME OF CONC. Tc (Min)	TIME OF FLOW IN SECTION (Min)	RAINFALL INTENSITY (I)	INCREMENTAL RUNOFF (CIA) (Cfs)	TOTAL RUNOFF (CIA) (Cfs)	HGL BELOW INLET / INLET ELEV / DEPTH TO INVERT (Ft)	ELEV. OF HYDRAULIC GRADIENT INSIDE CROWN ELEVATION PIPE INVERT ELEVATION UP-END	LOW-END	Jn-LOSS	FALL	PIPE DIAMETER (in)	HYDRAULIC GRADIENT DESIGN VALUE MINIMUM VELOCITY SLOPE %	VEL. (fps)	FLOW (Cfs)
ST - 10	ST - 18	ST - 18	Type C Inlet	Main	348	0.710	0.00 0.28 0.00	10.00	2.30	6.13	HGL SUFFICIENT 1.74	1.74	0.57 82.50 3.00	81.93 81.00 79.50	81.86 80.55 79.05	0.00 X X	0.07 0.45 0.44	18 Bad	0.02 0.13 0.13	0.99 2.53 2.50	1.74 4.46 4.42
ST - 18	ST- 19	ST - 18	Type C Inlet	Main	369	0.710 0.980	0.28 0.39 0.00	12.30	2.35	5.73	HGL SUFFICIENT 2.24	3.87	0.64 82.50 3.95	81.86 80.55 78.55	81.78 80.20 78.20	0.00 X X	0.08 0.35 0.32	24 Good	0.02 0.09 0.09	1.23 2.62 2.50	3.87 8.23 7.85
ST - 19	ST - 20	ST - 19	Type C Inlet	Main	210	1.690 0.920	0.68 0.37 0.00	14.64	1.33	5.36	HGL SUFFICIENT 1.97	5.60	0.72 82.50 4.30	81.78 80.20 78.20	81.69 80.00 78.00	0.00 X X	0.09 0.20 0.18	24 Good	0.04 0.10 0.09	1.78 2.63 2.50	5.60 8.25 7.85
ST - 20	ST- 21	ST - 20	Type C Inlet	Main	206	2.610 0.510	1.04 0.20 0.00	15.98	1.29	5.18	HGL SUFFICIENT 1.06	6.46	0.81 82.50 4.50	81.69 80.00 78.00	81.57 79.80 77.80	0.00 X X	0.12 0.20 0.18	24 Good	0.06 0.10 0.09	2.06 2.65 2.50	6.46 8.33 7.85
ST - 21	ST- 22	ST - 21	Type C Inlet	Main	306	3.120 0.680	1.25 0.27 0.00	17.27	1.91	5.01	HGL SUFFICIENT 1.36	7.62	0.93 82.50 4.70	81.57 79.80 77.80	81.32 79.50 77.50	0.00 X X	0.25 0.30 0.26	24 Good	0.08 0.10 0.09	2.42 2.66 2.50	7.62 8.37 7.85
ST - 28	ST- 29	ST - 28	Type C Inlet	Branch	140	0.720	0.00 0.29 0.00	10.00	0.88	6.13	HGL SUFFICIENT 1.77	1.77	0.87 82.50 3.00	81.63 81.00 79.50	81.61 80.80 79.30	0.00 X X	0.03 0.20 0.18	18 Good	0.02 0.14 0.13	1.00 2.66 2.50	1.77 4.69 4.42
ST - 29	ST- 30	ST - 29	Type C Inlet	Main	140	0.720 0.700	0.29 0.28 0.00	10.88	0.88	5.97	HGL SUFFICIENT 1.67	3.39	0.89 82.50 3.20	81.61 80.80 79.30	81.50 80.60 79.10	0.00 X X	0.10 0.20 0.18	18 Good	0.07 0.14 0.13	1.92 2.66 2.50	3.39 4.69 4.42
ST - 30	ST - 33	ST - 30	Type C Inlet	Main	248	1.420 0.740	0.57 0.30 0.00	11.76	1.53	5.82	HGL SUFFICIENT 1.72	5.03	1.00 82.50 3.90	81.50 80.60 78.60	81.41 80.35 78.35	0.00 X X	0.09 0.25 0.21	24 Good	0.04 0.10 0.09	1.60 2.70 2.50	5.03 8.49 7.85
ST - 34	ST- 35	ST - 34	Type C Inlet	Branch	146	0.660	0.00 0.26 0.00	10.00	0.94	6.13	HGL SUFFICIENT 1.62	1.62	0.97 82.50 3.00	81.53 81.00 79.50	81.51 80.80 79.30	0.00 X X	0.02 0.20 0.18	18 Good	0.02 0.14 0.13	0.92 2.60 2.50	1.62 4.59 4.42
ST - 35	ST - 33	ST - 35	Type C Inlet	Main	146	0.660 0.670	0.26 0.27 0.00	10.94	0.94	5.96	HGL SUFFICIENT 1.60	3.17	0.99 82.50 3.20	81.51 80.80 79.30	81.41 80.60 79.10	0.00 X X	0.10 0.20 0.18	18 Good	0.07 0.14 0.13	1.79 2.60 2.50	3.17 4.59 4.42
ST - 31	ST- 32	ST - 31	Type C Inlet	Branch	169	0.590	0.00 0.24 0.00	10.00	1.04	6.13	HGL SUFFICIENT 1.45	1.45	0.97 82.50 2.85	81.53 81.15 79.65	81.51 80.90 79.40	0.00 X X	0.02 0.25 0.21	18 Good	0.01 0.15 0.13	0.82 2.70 2.50	1.45 4.77 4.42
ST - 32	ST- 33	ST - 32	Type C Inlet	Main	222	0.590 0.490	0.24 0.20 0.00	11.04	1.43	5.94	HGL SUFFICIENT 1.16	2.57	0.99 82.50 3.10	81.51 80.90 79.40	81.41 80.60 79.10	0.00 X X	0.09 0.30 0.28	18 Good	0.04 0.14 0.13	1.45 2.58 2.50	2.57 4.56 4.42
ST - 33	ST- 22	ST - 33	Type C Inlet	Main	139	4.570 0.890	1.83 0.36 0.00	12.48	0.87	5.70	HGL SUFFICIENT 2.03	12.44	1.09 82.50 5.15	81.41 79.85 77.35	81.32 79.75 77.25	0.00 X X	0.09 0.10 0.09	30 Good	0.07 0.07 0.06	2.53 2.65 2.50	12.44 13.00 12.27
ST - 23	ST- 22	ST - 23	Type C Inlet	Branch	292	0.640	0.00 0.26 0.00	10.00	1.87	6.13	HGL SUFFICIENT 1.57	1.57	1.13 82.50 3.10	81.37 80.90 79.40	81.32 80.50 79.00	0.00 X X	0.05 0.40 0.37	18 Good	0.02 0.14 0.13	0.89 2.60 2.50	1.57 4.59 4.42
ST - 22	SMF2	ST - 22	Type C Inlet	Main	135	9.900 0.720	3.96 0.29 0.00	11.87	#DIV/0!	5.80	HGL SUFFICIENT 1.67	24.63	1.18 82.50 12.50	81.32 73.00 70.00	81.19 73.00 70.00	0.00 X X	0.13 0.00 0.07	36 Good	0.10 - 0.05	3.48 - 2.50	24.63 - 17.67
ST - 22	SMF2					10.620 10.620	0.00 4.25 4.25	#DIV/0!			TOTAL LINE LOSSES =	24.63	1.34	81.19 73.00 70.00	Assumed 5 Yr Stage Inside Crown Elevation 36 " Inlet Invert			36	83.00 77.00 70.00	TOP Discharge Elev BOT Elevation	

National Flood Hazard Layer FIRMette

FEMA

81°55'43"W 30°40'59"N

81°55'6"W 30°40'29"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

ITEM-3

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR [illegible]UT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 9/16/2022 at 1:58 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community id[illegible] FIRM panel number, and FIRM effective date. Map i[illegible] unmapped and unmodernized areas cannot be used regulatory purposes.

ITEM-3

NOAA Atlas 14, Volume 9, Version 2
Location name: Hilliard, Florida, USA*
Latitude: 30.6783°, Longitude: -81.9247°
Elevation: 77.47 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Deborah Martin, Sandra Pavlovic, Ishani Roy, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Michael Yekta, Geoffery Bonnin

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.492** (0.386-0.621)	**0.565** (0.443-0.715)	**0.687** (0.537-0.873)	**0.791** (0.615-1.01)	**0.936** (0.703-1.24)	**1.05** (0.770-1.41)	**1.17** (0.825-1.62)	**1.29** (0.872-1.84)	**1.45** (0.943-2.14)	**1.57** (0.996-2.36)
10-min	**0.720** (0.565-0.910)	**0.827** (0.649-1.05)	**1.01** (0.787-1.28)	**1.16** (0.900-1.48)	**1.37** (1.03-1.82)	**1.54** (1.13-2.07)	**1.71** (1.21-2.37)	**1.88** (1.28-2.69)	**2.12** (1.38-3.13)	**2.30** (1.46-3.46)
15-min	**0.878** (0.689-1.11)	**1.01** (0.792-1.28)	**1.23** (0.960-1.56)	**1.41** (1.10-1.80)	**1.67** (1.25-2.21)	**1.87** (1.38-2.52)	**2.08** (1.47-2.89)	**2.29** (1.56-3.28)	**2.58** (1.68-3.82)	**2.80** (1.78-4.22)
30-min	**1.36** (1.07-1.71)	**1.56** (1.23-1.98)	**1.90** (1.49-2.42)	**2.19** (1.70-2.80)	**2.60** (1.95-3.44)	**2.92** (2.14-3.93)	**3.24** (2.30-4.49)	**3.57** (2.42-5.12)	**4.03** (2.62-5.95)	**4.37** (2.78-6.58)
60-min	**1.80** (1.41-2.27)	**2.05** (1.61-2.59)	**2.48** (1.94-3.15)	**2.87** (2.23-3.66)	**3.44** (2.60-4.60)	**3.91** (2.88-5.30)	**4.41** (3.13-6.15)	**4.94** (3.36-7.11)	**5.68** (3.72-8.44)	**6.27** (3.98-9.45)
2-hr	**2.23** (1.77-2.81)	**2.53** (2.00-3.18)	**3.06** (2.41-3.86)	**3.55** (2.78-4.50)	**4.29** (3.28-5.72)	**4.91** (3.65-6.64)	**5.58** (4.01-7.76)	**6.30** (4.34-9.04)	**7.34** (4.85-10.9)	**8.18** (5.24-12.2)
3-hr	**2.47** (1.96-3.09)	**2.78** (2.20-3.48)	**3.36** (2.66-4.22)	**3.91** (3.07-4.94)	**4.77** (3.68-6.38)	**5.52** (4.14-7.47)	**6.35** (4.59-8.83)	**7.25** (5.03-10.4)	**8.56** (5.71-12.7)	**9.64** (6.22-14.4)
6-hr	**2.89** (2.31-3.59)	**3.26** (2.60-4.05)	**3.97** (3.16-4.96)	**4.67** (3.70-5.86)	**5.79** (4.52-7.73)	**6.78** (5.13-9.15)	**7.87** (5.76-10.9)	**9.10** (6.38-13.0)	**10.9** (7.33-16.0)	**12.4** (8.06-18.3)
12-hr	**3.37** (2.71-4.16)	**3.85** (3.10-4.76)	**4.79** (3.84-5.93)	**5.68** (4.54-7.08)	**7.10** (5.58-9.41)	**8.34** (6.37-11.2)	**9.71** (7.16-13.4)	**11.2** (7.94-15.9)	**13.4** (9.14-19.6)	**15.3** (10.0-22.4)
24-hr	**3.90** (3.17-4.78)	**4.52** (3.67-5.55)	**5.69** (4.60-7.00)	**6.79** (5.46-8.40)	**8.51** (6.72-11.2)	**9.99** (7.68-13.3)	**11.6** (8.63-15.9)	**13.4** (9.56-18.9)	**16.0** (11.0-23.2)	**18.1** (12.0-26.4)
2-day	**4.50** (3.68-5.48)	**5.22** (4.27-6.36)	**6.56** (5.35-8.02)	**7.82** (6.34-9.61)	**9.78** (7.79-12.7)	**11.5** (8.88-15.1)	**13.3** (9.97-18.0)	**15.3** (11.0-21.4)	**18.2** (12.6-26.3)	**20.6** (13.9-29.9)
3-day	**4.94** (4.06-6.00)	**5.70** (4.68-6.92)	**7.10** (5.81-8.65)	**8.42** (6.86-10.3)	**10.5** (8.38-13.6)	**12.2** (9.53-16.1)	**14.2** (10.7-19.1)	**16.3** (11.8-22.6)	**19.3** (13.5-27.7)	**21.8** (14.7-31.5)
4-day	**5.31** (4.38-6.43)	**6.09** (5.02-7.38)	**7.54** (6.19-9.16)	**8.89** (7.26-10.9)	**11.0** (8.82-14.2)	**12.8** (9.99-16.7)	**14.7** (11.2-19.8)	**16.9** (12.3-23.4)	**20.0** (14.0-28.6)	**22.5** (15.3-32.5)
7-day	**6.22** (5.16-7.49)	**7.08** (5.87-8.53)	**8.64** (7.14-10.4)	**10.1** (8.27-12.2)	**12.2** (9.86-15.7)	**14.1** (11.1-18.3)	**16.1** (12.2-21.4)	**18.2** (13.3-25.1)	**21.3** (15.0-30.2)	**23.8** (16.3-34.1)
10-day	**7.04** (5.86-8.43)	**7.96** (6.62-9.55)	**9.59** (7.96-11.5)	**11.1** (9.13-13.4)	**13.3** (10.7-16.9)	**15.1** (11.9-19.5)	**17.1** (13.0-22.7)	**19.2** (14.1-26.3)	**22.2** (15.7-31.4)	**24.6** (17.0-35.2)
20-day	**9.45** (7.93-11.2)	**10.5** (8.84-12.6)	**12.4** (10.4-14.8)	**14.0** (11.7-16.8)	**16.3** (13.2-20.4)	**18.2** (14.4-23.1)	**20.1** (15.5-26.3)	**22.2** (16.4-29.9)	**24.9** (17.8-34.8)	**27.1** (18.9-38.5)
30-day	**11.6** (9.74-13.7)	**12.9** (10.8-15.3)	**15.0** (12.6-17.9)	**16.8** (14.1-20.1)	**19.4** (15.7-24.0)	**21.3** (16.9-26.9)	**23.3** (18.0-30.2)	**25.3** (18.8-34.0)	**28.0** (20.1-38.8)	**30.1** (21.1-42.5)
45-day	**14.3** (12.1-16.9)	**16.0** (13.5-18.9)	**18.7** (15.8-22.1)	**20.9** (17.5-24.9)	**23.8** (19.3-29.2)	**26.0** (20.7-32.5)	**28.1** (21.8-36.2)	**30.2** (22.6-40.2)	**33.0** (23.8-45.4)	**35.0** (24.7-49.2)
60-day	**16.7** (14.2-19.7)	**18.8** (15.9-22.1)	**22.0** (18.6-26.0)	**24.6** (20.7-29.2)	**28.0** (22.8-34.2)	**30.5** (24.3-37.9)	**32.8** (25.5-42.1)	**35.1** (26.2-46.5)	**37.9** (27.4-51.9)	**39.9** (28.3-56.0)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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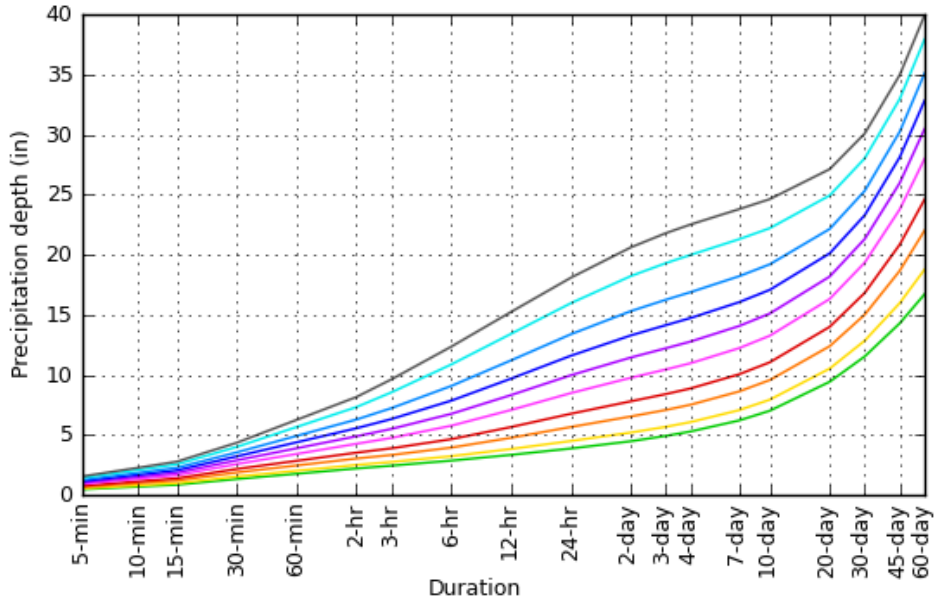
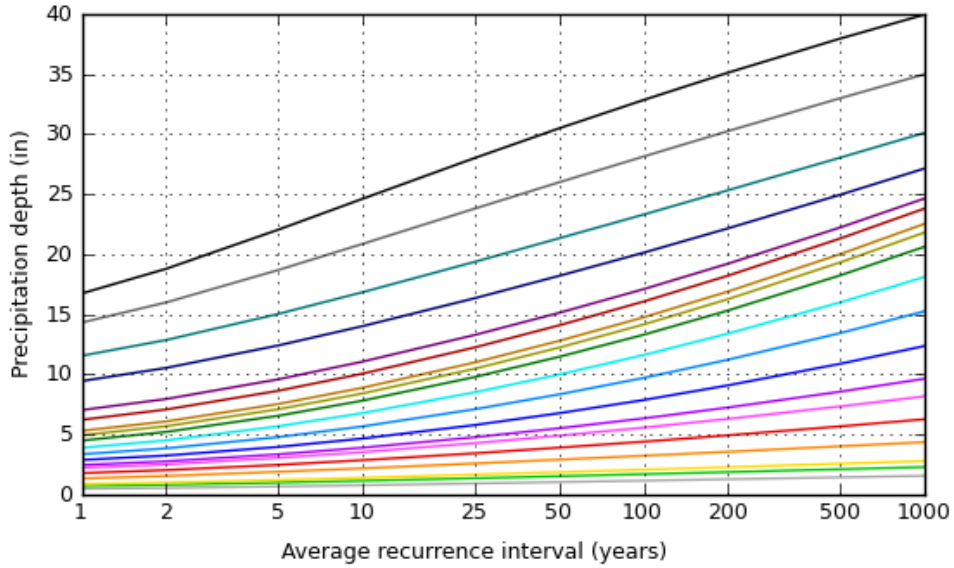
PF graphical

ITEM-3

PDS-based depth-duration-frequency (DDF) curves
Latitude: 30.6783°, Longitude: -81.9247°





NOAA Atlas 14, Volume 9, Version 2

Created (GMT): Fri Sep 16 18:11:59 2022

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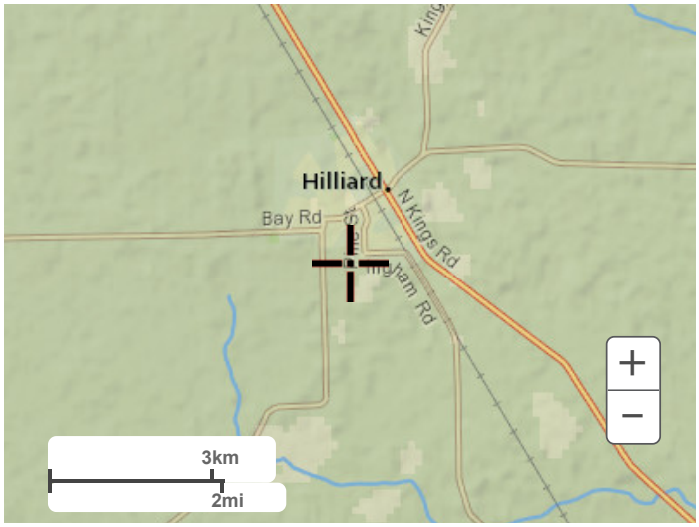
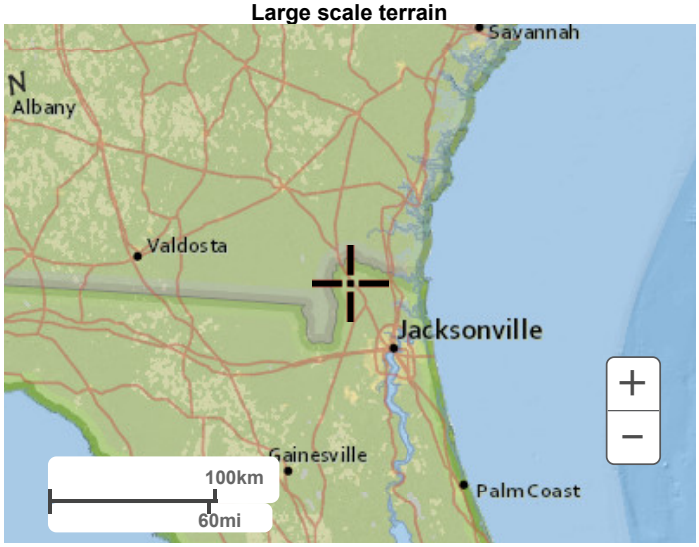
Maps & aerials

Small scale terrain

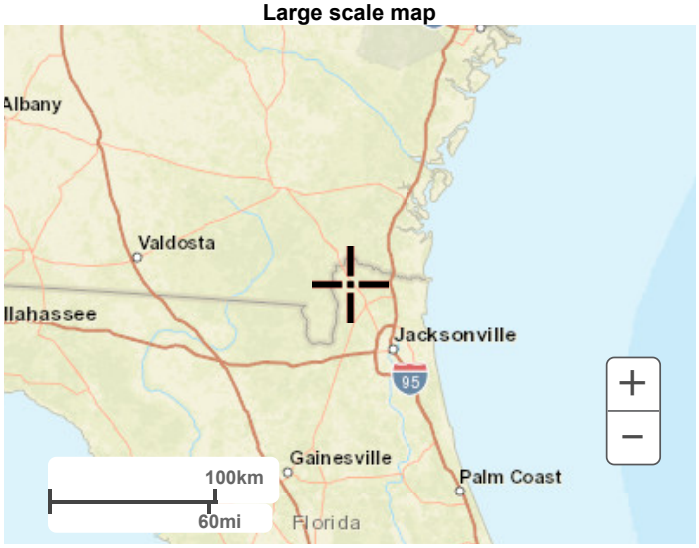
ITEM-3



Large scale terrain

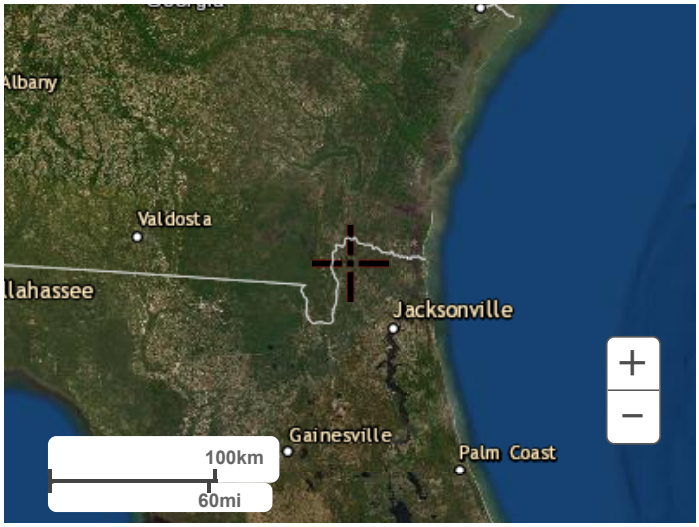


Large scale map



Large scale aerial

ITEM-3



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US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

120

Soil Map—Nassau County, Florida

Map Scale: 1:3,450 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 150 300 600 900

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

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 1:15,800.

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: Nassau County, Florida
Survey Area Data: Version 21, Sep 1, 2021

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

Date(s) aerial images were photographed: Jan 7, 2022—Feb 14, 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
36	Boulogne fine sand	29.5	73.2%
39	Evergreen-Leon mucks, depressional	10.8	26.8%
Totals for Area of Interest		**40.3**	**100.0%**

Nassau County, Florida

36—Boulogne fine sand

Map Unit Setting

National map unit symbol: 4g9w
Elevation: 50 to 150 feet
Mean annual precipitation: 47 to 55 inches
Mean annual air temperature: 64 to 72 degrees F
Frost-free period: 305 to 335 days
Farmland classification: Not prime farmland

Map Unit Composition

Boulogne and similar soils: 98 percent
Minor components: 2 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Boulogne

Setting

Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy marine deposits

Typical profile

A - 0 to 10 inches: fine sand
Bh - 10 to 13 inches: fine sand
E - 13 to 33 inches: fine sand
B'h1 - 33 to 54 inches: loamy fine sand
B'h2 - 54 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 6 to 18 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: Moderate (about 7.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: B/D
Forage suitability group: Sandy soils on flats of mesic or hydric lowlands (G153AA141FL)
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G153AA141FL), North Florida Flatwoods (R153AY004FL)
Hydric soil rating: No

Minor Components

Ridgewood
Percent of map unit: 1 percent
Landform: Knolls on marine terraces, ridges on marine terraces
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: Sandy soils on rises and knolls of mesic uplands (G153AA131FL)
Hydric soil rating: No

Hurricane
Percent of map unit: 1 percent
Landform: Knolls on marine terraces, rises on marine terraces
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: Sandy soils on rises and knolls of mesic uplands (G153AA131FL)
Hydric soil rating: No

Data Source Information

Soil Survey Area: Nassau County, Florida
Survey Area Data: Version 21, Sep 1, 2021

Nassau County, Florida

39—Evergreen-Leon mucks, depressional

Map Unit Setting

National map unit symbol: 4g9z
Elevation: 10 to 150 feet
Mean annual precipitation: 47 to 55 inches
Mean annual air temperature: 64 to 72 degrees F
Frost-free period: 305 to 335 days
Farmland classification: Not prime farmland

Map Unit Composition

Evergreen and similar soils: 64 percent
Leon and similar soils: 36 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Evergreen

Setting

Landform: Depressions on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Organic material over sandy marine deposits

Typical profile

Oa - 0 to 11 inches: muck
A - 11 to 17 inches: fine sand
E - 17 to 26 inches: fine sand
Bh - 26 to 80 inches: loamy fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
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: High (about 12.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: B/D

Forage suitability group: Organic soils in depressions and on flood plains (G153AA645FL)
Other vegetative classification: Organic soils in depressions and on flood plains (G153AA645FL)
Hydric soil rating: Yes

Description of Leon

Setting

Landform: Depressions on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Sandy marine deposits

Typical profile

Oa - 0 to 3 inches: muck
AE - 3 to 17 inches: fine sand
Bh - 17 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
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: Low (about 5.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: A/D
Forage suitability group: Organic soils in depressions and on flood plains (G153AA645FL)
Other vegetative classification: Organic soils in depressions and on flood plains (G153AA645FL)
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Nassau County, Florida
Survey Area Data: Version 21, Sep 1, 2021

JACKSON GEOTECHNICAL ENGINEERING, LLC
Consulting Geotechnical Engineers

REPORT OF GEOTECHNICAL ENGINEERING
HILLIARD RV 50 YEAR DROUGHT STUDY
NASSAU COUNTY, FLORIDA
JGE PROJECT NO. 24-490.1

Prepared for:

AVA Engineering
4201 Baymeadows Road, Suite 3
Jacksonville, Florida 32217

Prepared by:

Jackson Geotechnical Engineering
164 Plaza Del Rio Drive
St. Augustine, Florida 32084
Phone: 904-252-2292

January 8, 2024

JACKSON GEOTECHNICAL ENGINEERING, LLC

Consulting Geotechnical Engineers

January 8, 2024

Mr. Henry Vorpe, P.E
AVA Engineering
4201 Baymeadows Road, Suite 3
Jacksonville, Florida 32217

Report of Geotechnical Engineering
Hilliard RV 50-Year Drought Study
Nassau County, Florida
JGE Project No. 24-490.1

Dear Mr. Vorpe:

As requested, Jackson Geotechnical Engineering has completed a 50-year drought study for the subject project. The study was performed to estimate the lowest groundwater level that would occur during drought conditions within a 50-year period. The study is required to satisfy the municipal requirements for dry hydrant design.

We appreciate this opportunity to be of service as your geotechnical consultant on this phase of the project. Please contact us if you have any questions, or if we may be of any further service.

Sincerely:
Jackson Geotechnical Engineering, LLC.

Jeffrey S Jackson
Digitally signed by Jeffrey S Jackson
Date: 2024.01.08 17:42:52 -05'00'

Jeff S. Jackson, P.E.
Licensed, Florida 51979

Table of Contents

1.0 PROJECT INFORMATION

1.1 Site Location and Description

The site for the subject project is located within the southwest quadrant of the intersection of Ingham Road and Pine Street in Hilliard, Florida. The eastern portion of the site was previously utilized for a residential mobile home park. The western portion of the subject site is wooded, with some areas occupied by wetlands. Based on visual observation, it appears the topography within the eastern portion of the site is relatively level. Towards the western portion of the site, the topography begins to gently slope downwards toward the wetlands.

1.2 Project Description

Project information was provided to us during correspondence with you. We were provided with a copy of drawings 8.01 through 8.04 of the civil plan-set, prepared by your office, last dated June, 2022. The provided drawings show the layout of the proposed construction, property boundaries, topographical elevations, adjacent roadways, and various design details.

We understand a dry hydrant is proposed for fire suppression purposes. The dry hydrant system will utilize water stored in the proposed detention ponds. The volume of water available in the proposed ponds for fire suppression purposes will be based on the lowest groundwater within a period of 50 years (50-year drought level).

Jackson Geotechnical Engineering previously conducted a geotechnical exploration and engineering study for the subject project. The results of our exploration and study were conveyed in our Report of Geotechnical Exploration dated January 21, 2022. Please refer to the previous report for information pertaining to subsurface conditions encountered.

2.0 ESTIMATED 50 YEAR DROUGHT LEVEL

Based on the results of our analysis, we estimate the average 50-year drought groundwater level within proposed Ponds SMF-1 and SMF-2 at El. 72.9 and El. 71.65, respectively. Our analysis takes into account the existing groundwater level, encountered soil types, expected groundwater fluctuations within the noted time period, and a review of historical groundwater level fluctuations in the subject area. The estimated drought groundwater level represents a groundwater fluctuation of 6.4 feet between the estimated seasonal high groundwater level and 50-year drought groundwater level.

3.0 LIMITATIONS

We have conducted the study in accordance with principles and practices normally accepted in the geotechnical and hydro-geotechnical engineering profession. Our analysis and recommendations are dependent on the information provided to us. Jackson Geotechnical Engineering is not responsible for independent conclusions or interpretations based on the information presented in this report.

FLORIDA DEPARTMENT OF Environmental Protection

Northeast District
8800 Baymeadows Way West, Suite 100
Jacksonville, Florida 32256

December 12, 2023

In the Matter of an
Application for Permit by:

PERMITTEE:
Mr. Gregg Simmons, Owner
Hilliard, LLC
8280 Princeton Square Boulevard
Jacksonville, Florida 32256
greggsimmons91@gmail.com

PERMIT NUMBER: 0002851-020-DWC
COUNTY: Nassau
PROJECT NAME: Hilliard RV
WASTEWATER TREATMENT: Town of Hilliard WWTF
FACILITY ID: FL0043079

NOTICE OF PERMIT ISSUANCE

Enclosed is Permit Number 0002851-020-DWC to construct a domestic wastewater collection/transmission system, issued pursuant to 403.087(1), Florida Statutes.

NOTICE OF RIGHTS

This action is final and effective unless a petition for an administrative hearing is timely filed under Sections 120.569 and 120.57, F.S., before the deadline for filing a petition. On the filing of a timely and sufficient petition, this action will not be final and effective until further order of the Department. Because the administrative hearing process is designed to formulate final agency action, the hearing process may result in a modification of the agency action or even denial of the application.

Petition for Administrative Hearing
A person whose substantial interests are affected by the Department's action may petition for an administrative proceeding (hearing) under Sections 120.569 and 120.57, F.S. Pursuant to Rules 28-106.201 and 28-106.301, F.A.C., a petition for an administrative hearing must contain the following information:

(a) The name and address of each agency affected and each agency's file or identification number, if known;
(b) The name, address, any e-mail address, any facsimile number, and telephone number of the petitioner, if the petitioner is not represented by an attorney or a qualified representative; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the

petitioner's substantial interests will be affected by the agency determination; A statement of when and how the petitioner received notice of the agency decision;

(c) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
(d) A concise statement of the ultimate facts alleged, including the specific facts that the petitioner contends warrant reversal or modification of the agency's proposed action;
(e) A statement of the specific rules or statutes that the petitioner contends require reversal or modification of the agency's proposed action, including an explanation of how the alleged facts relate to the specific rules or statutes; and
(f) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wishes the agency to take with respect to the agency's proposed action.

The petition must be filed (received by the Clerk) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, or via electronic correspondence at Agency_Clerk@dep.state.fl.us. Also, a copy of the petition shall be mailed to the applicant at the address indicated above at the time of filing.

Time Period for Filing a Petition

In accordance with Rule 62-110.106(3), F.A.C., petitions for an administrative hearing by the applicant and persons entitled to written notice under Section 120.60(3), F.S., must be filed within 14 days of receipt of this written notice. Petitions filed by any persons other than the applicant, and other than those entitled to written notice under Section 120.60(3), F.S., must be filed within 14 days of publication of the notice or within 14 days of receipt of the written notice, whichever occurs first. You cannot justifiably rely on the finality of this decision unless notice of this decision and the right of substantially affected persons to challenge this decision has been duly published or otherwise provided to all persons substantially affected by the decision. While you are not required to publish notice of this action, you may elect to do so pursuant Rule 62-110.106(10)(a).

The failure to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention (in a proceeding initiated by another party) will be only at the discretion of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C. If you do not publish notice of this action, this waiver will not apply to persons who have not received written notice of this action.

Extension of Time

Under Rule 62-110.106(4), F.A.C., a person whose substantial interests are affected by the Department's action may also request an extension of time to file a petition for an administrative hearing. The Department may, for good cause shown, grant the request for an extension of time. Requests for extension of time must be filed with the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, or via electronic correspondence at Agency_Clerk@dep.state.fl.us, before the deadline for filing a petition for an administrative hearing. A timely request for extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

Mediation

Mediation is not available in this proceeding.

Judicial Review

Once this decision becomes final, any party to this action has the right to seek judicial review pursuant to Section 120.68, F.S., by filing a Notice of Appeal pursuant to Florida Rules of Appellate Procedure 9.110 and 9.190 with the Clerk of the Department in the Office of General Counsel (Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000) and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice must be filed within 30 days from the date this action is filed with the Clerk of the Department.

EXECUTION AND CLERKING

Executed in Jacksonville, Florida.

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Shannon Taylor
Environmental Manager
Permitting Program

Attachment: Permit Number 0002851-020-DWC

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this document and all attachments were sent on the filing date below to the following listed persons:

cc:
Henry Vorpe, Jr., P.E., vorpefactorx@yahoo.com
Jennifer Wilson, jennifer@avaengineers.com
Cory Hobbs, lwollitz@townofhilliard.com
Shannon Taylor, DEP
Lydia Joyner, DEP
Stephen Spence, DEP

FILING AND ACKNOWLEDGMENT

FILED, on December 12, 2023, pursuant to Section 120.52, F.S., with the designated Department Clerk, receipt of which is hereby acknowledged.

Clerk **Date** December 12, 2023

FLORIDA DEPARTMENT OF Environmental Protection

Northeast District
8800 Baymeadows Way West, Suite 100
Jacksonville, Florida 32256

STATE OF FLORIDA
DOMESTIC WASTEWATER COLLECTION/TRANSMISSION INDIVIDUAL PERMIT

PERMITTEE:
Mr. Gregg Simmons, Owner
Hilliard, LLC
8280 Princeton Square Boulevard
Jacksonville, Florida 32256
greggsimmons91@gmail.com

PERMIT NUMBER: 0002851-020-DWC
EFFECTIVE DATE: December 12, 2023
EXPIRATION DATE: December 11, 2028
COUNTY: Nassau
PROJECT NAME: Hilliard RV
WASTEWATER TREATMENT: Town of Hilliard WWTF
FACILITY: FL0043079

This permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Chapters 62-4 and 62-604, Florida Administrative Code (F.A.C.).

The above named permittee is hereby authorized to construct the facilities shown on the application and other documents on file with the Department and made a part hereof and specifically described as follows:

DESCRIPTION OF PROJECT:

A collection/transmission system consisting of 8820 LF of 8" gravity main, 47 manholes, and the required appurtenances to serve 240 RV spaces, a 1800ft² office building, and a 750ft² amenity building. The proposed average daily flow associated with this project is 23,032 gpd.

LOCATION OF PROJECT:

This project will be located bounded by Pine St to the north, in Nassau County.

IN ACCORDANCE WITH: The limitations, requirements and other conditions set forth in pages 1 through 4 of this permit.

PERMIT CONDITIONS:

1. This permit is subject to the general conditions of Rule 62-4.160, F.A.C., as applicable. [62-4.160]

2. Upon completion of construction of the collection/transmission system project, and before placing the facilities into operation for any purpose other than testing for leaks or testing equipment operation, the permittee shall submit Form 62-604.300(3)(b), Notification of Completion of Construction for a Domestic Wastewater Collection/Transmission System. The form shall be submitted electronically by using the Department's Business Portal at

https://www.fldepportal.com/go/ (via "Submit" then "Registration/Notification" and "Submit Notifications to DEP." The submission is "Division of Water Resource Management Domestic/Industrial Wastewater" and the submittal type is "Notification of Completion of Construction for a Domestic Wastewater Collection/Transmission System."). This form is available at the Department's Internet site at: https://floridadep.gov/water/domestic-wastewater/content/domestic-wastewater-forms. [62-604.700(2)]

3. Permit revisions shall only be made in accordance with Rule 62-4.050(4)(s), F.A.C. Request for revisions shall be made to the Department in writing and shall include the appropriate fee. Revisions not covered under Rule 62-4.050(4)(s), F.A.C., shall require a new permit. [62-604.600(8)]

4. Abnormal events shall be reported to the Department's Northeast District Office in accordance with Rule 62-604.550, F.A.C. For unauthorized spills of wastewater in excess of 1000 gallons per incident, or where information indicates that public health or the environment may be endangered, oral reports shall be provided to the STATE WATCH OFFICE TOLL FREE NUMBER, (800) 320-0519, as soon as practical, but no later than 24 hours from the time the permittee or other designee becomes aware of the circumstances. Unauthorized releases or spills less than 1000 gallons per incident are to be reported orally to the Department's Northeast District Office within 24 hours from the time the permittee, or other designee becomes aware of the circumstances.

   The oral notification shall be followed by a written submission, which shall be provided within five days of the time that the owner/operator becomes aware of the circumstances. The written submission shall contain: a description of the spill, release or abnormal event and its cause; the period and duration of noncompliance including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; clean-up actions taken and status; steps taken or planned to reduce, eliminate, and prevent recurrence; the type of sanitary sewer overflow structure (e.g., manhole); the discharge location address and latitude/longitude; type of water discharged; discharge volumes and volumes recovered; volume discharged to surface waters and receiving waterbody name; types of human health and environmental impacts of the sanitary sewer overflow (e.g., beach closure); whether the noncompliance was caused by a third party (e.g., contractor); and, whether the sanitary sewer overflow was related to wet weather. The written submission shall be provided electronically. Electronic submission is available using the Department's Business Portal at https://www.fldepportal.com/go/ (via "Submit" followed by "Report" or "Registration/Notification").

   In accordance with Section 403.077, F.S., unauthorized releases or spills reportable to the State Watch Office shall also require a public notice of pollution report. Reporting may be made or by reporting electronically using the Department's Business Portal at https://www.fldepportal.com/go/ (via "Submit" followed by "Report" or "Registration/Notification") and selecting the option to also submit the public notice of pollution report, or reporting may be made to the Department's Public Notice of Pollution web page at https://floridadep.gov/pollutionnotice. [62-604.550]

ADDITIONAL INFORMATION:

Once a collection/transmission system is cleared for operation, the provisions below shall be met by the owner/operator of the system in accordance with Rule 62-604.500, F.A.C.

1. All collection/transmission systems shall be operated and maintained to provide uninterrupted service. All pump stations shall be operated and maintained to provide the emergency pumping capability requirements in paragraph 62-604.400(2)(a), F.A.C., the lightning and transient voltage surge protections in paragraph 62-604.400(2)(b), F.A.C., and the design and signage requirements in paragraph 62-604.400(2)(d), F.A.C. Also, all equipment, pipes, manholes, pump stations, and other appurtenances necessary for the collection/transmission of domestic wastewater, including equipment provided pursuant to subsection 62-604.400(2), F.A.C., shall be maintained to function as intended. [62-604.500(2) and (3)]

2. The owner/operator of a collection/transmission system shall evaluate and update the emergency response plan portion of the operation and maintenance manual annually. The emergency response plan shall assess system security including cybersecurity; water quality monitoring for sanitary sewer overflows affecting surface waters; and, hurricane and severe storm preparedness and response. [62-604.500(4)]

3. Collection/transmission systems shall be maintained to minimize excessive infiltration and inflow into the collection/transmission system, as well as excessive leakage from the collection/transmission system. The owner/operator of a collection/transmission system shall take corrective actions when infiltration, inflow, or leakage is excessive. Infiltration and inflow are considered excessive if one or both cause or contribute to sanitary sewer overflows. Leakage, or exfiltration, is considered excessive if it causes or contributes to a violation of surface water quality standards or ground water quality standards. [62-604.500(5)]

4. All collection/transmission systems shall be operated and maintained to prevent sanitary sewer overflows. Owners/operators shall evaluate the cause of all sanitary sewer overflows and evaluate potential corrective measures to avoid future sanitary sewer overflows. Corrective actions shall be taken by the owner/operator of the collection/transmission system if excessive inflow and infiltration causes or contributes to a sanitary sewer overflow. The owner/operator of a satellite collection system shall take corrective actions for a sanitary sewer overflow in the receiving collection system caused by excessive inflow and infiltration in the satellite collection system. [62-604.500(6)]

5. The approved Operation and Maintenance Manual and emergency response plan pursuant to Rule 62-604.500(4), F.A.C., shall be kept available at a site convenient for use by operation and maintenance personnel and for inspection by the Florida Department of Environmental Protection personnel. [62-604.500(4)]

Executed in Jacksonville, Florida.

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Shannon Taylor
Environmental Manager
Permitting Program

DATE: December 12, 2023

From: no-reply@dep.state.fl.us
To: AVA Info
Cc: greggsimmons91@gmail.com; lwollitz@townofhilliard.com; greggsimmons91@gmail.com; Stephen.Spence@FloridaDEP.gov; DEP_NED@dep.state.fl.us
Subject: DEP PW DSGP Issued - Hilliard RV 0080317-017
Date: Tuesday, November 14, 2023 9:17:05 AM
Attachments: ATT00001.bin
PWSDSGPGeneralConditions_1_03.doc
PWDSGPWMEXTENSION_1_02.docx
PWSDSGPConstructionCompletion_1_02.docx
PWSDSGPClearanceRequest_1_02.pdf
PWSDSGPMicrobialSampleCollection_1_02.doc

FLORIDA DEPARTMENT OF Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Ron DeSantis
Governor

Jeanette Nuñez
Lt. Governor

Shawn Hamilton
Secretary

NOTICE OF ACCEPTANCE TO USE A GENERAL PERMIT

For:
Construction of Water Main Extensions for PWSs

11/14/2023

Permittee:
Gregg Simmons MGR Hilliard LLC 8280 Princeton Square Blvd. , Jacksonville FL 32256 Sent by E-mail: greggsimmons91@gmail.com

Permit Number:	0080317-017
Issue Date:	11/14/2023
Expiration Date:	11/13/2028
County:	NASSAU
Project Name:	Hilliard RV
Water Supplier Name:	HILLIARD WTP
Water Supplier ID:	2451179

Dear Henry Vorpe,Jr.:

On 11/13/2023, the Department received your Notice of Intent to Use the General Permit for Construction of Water Main Extensions for PWSs, under the provisions of Rules 62-4.530 and 62-555.405, Florida Administrative Code (F.A.C.). The Department does not object to the use of a General Permit for the activity described. Your general permit number is listed above; please refer to this number in all correspondence or inquiries regarding this permit. The activity covered under this general permit must conform to the description contained in your notice and any supplemental information. Any deviation will subject the Permittee to enforcement action and possible penalties.

Proposed Project Description and its Purpose: Approximately 35 LF of 3" watermain as DEP does not permit any WM pipe behind meter or on private property.

Project Location: 3714 Raven Drive, Hilliard, Florida 32046

Permit Remarks: Hi Henry, please be aware that DEP does not permit WM pipe on private property or behind the water meter nor service connections either. So, we will be permitting approximately 35 LF of 3" PVC watermain only. Otherwise, everything else now looks good. Thank you for all your time and continued support. Regards, Steve

Any activities performed under this general permit are subject to the general conditions required in Rule 62-4.540, F.A.C. and the general conditions applicable to this general permit in Rule 62-555.405, F.A.C.; copies of which are provided as attachments to this document. You should become familiar with the General Conditions and any sampling and/or reporting requirements for which you may be responsible. This General Permit does not relieve you, the permittee, from the responsibility for obtaining any other permits required by the Department or any federal, state or local agency.

Upon completion of construction of the project and before placing into operation for any purpose other than testing for leakage, disinfection or testing equipment operations, you are required to obtain a clearance from the Department per the attached requirements.

Copies of satisfactory bacteriological analysis taken within sixty (60) days of completion of construction shall be submitted to the Department. Samples shall be taken from locations within the distribution system or water main extension to be cleared, in accordance with Rules 62-555.315(6), 62-555.330, and 62-555.340, F.A.C. and American Water Works Association (AWWA) Standard C 651-92, as follows:

Description of Sampling Points: 1 The endpoint of the proposed addition; 2 Any water lines branching off a main extension; 3 Every 1,200 feet of water main; 4 Each location shall be sampled on two consecutive days (at least 6 hours apart) with sample point locations and chlorine residual readings clearly indicated on the report and/or drawings. 5 A sketch or description of all bacteriological sampling locations must also be provided. 6 Bacteriological sample results will be considered unacceptable if the tests were completed more than 60 days before the Department receives the results. Each location shall be sampled on two consecutive days, with sample points, chlorine residual readings, and presence or absence of total coliform clearly indicated on the report. A sketch or description of all bacteriological sampling locations must also be provided.

Each location shall be sampled on two consecutive days, with sample points, chlorine residual readings, and presence or absence of total coliform clearly indicated on the report. A sketch or description of all bacteriological sampling locations must also be provided.

CLEARANCE REQUIREMENTS

To review clearance requirements and submit clearance documentation, please visit the ESSA electronic portal at: https://prodenv.dep.state.fl.us/DepEssa/coreenginestart?name=dwrm_pwc&Create=new.

If you have any questions or comments regarding coverage under the General Permit, please contact Stephen Spence by e-mail at Stephen.Spence@FloridaDEP.gov.

NOTICE OF RIGHTS
This action is final and effective on the date filed with the Clerk of the Department unless a petition for an administrative hearing is timely filed under Sections 120.569 and 120.57, F.S., before the deadline for filing a petition. On the filing of a timely and sufficient petition, this action will not be final and effective until further order of the Department. Because the administrative hearing process is designed to formulate final agency action, the hearing process may result in a modification of the agency action or even denial of the application.

Petition for Administrative Hearing
A person whose substantial interests are affected by the Department's action may petition for an administrative proceeding (hearing) under Sections 120.569 and 120.57, F.S. Pursuant to Rules 28-106.201 and 28-106.301, F.A.C., a petition for an administrative hearing must contain the following information:

a. The name and address of each agency affected and each agency's file or identification number, if known;
b. The name, address, and telephone number of the petitioner; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests are or will be affected by the agency determination;
c. A statement of when and how the petitioner received notice of the agency decision;
d. A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
e. A concise statement of the ultimate facts alleged, including the specific facts that the petitioner contends warrant reversal or modification of the agency's proposed action;
f. A statement of the specific rules or statutes that the petitioner contends require reversal or modification of the agency's proposed action, including an explanation of how the alleged facts relate to the specific rules or statutes; and
g. A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wishes the agency to take with respect to the agency's proposed action.

The petition must be filed (received by the Clerk) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, or via electronic correspondence at Agency_Clerk@dep.state.fl.us. Also, a copy of the petition shall be mailed to the applicant at the address indicated above at the time of filing.

Time Period for Filing a Petition
In accordance with Rule 62-110.106(3), F.A.C., petitions for an administrative hearing by the applicant and persons entitled to written notice under Section 120.60(3), F.S., must be filed within 14 days of receipt of this written notice. Petitions filed by any persons other than the applicant, and other than those entitled to written notice under Section 120.60(3), F.S., must be filed within 14 days of receipt of the written notice, whichever occurs first. The failure to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention (in a proceeding initiated by another party) will be only at the discretion of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

Extension of Time
Under Rule 62-110.106(4), F.A.C., a person whose substantial interests are affected by the Department's action may also request an extension of time to file a petition for an administrative hearing. The Department may, for good cause shown, grant the request for an extension of time. Requests for extension of time must be filed with the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, or via electronic correspondence at Agency_Clerk@dep.state.fl.us, before the deadline for filing a petition for an administrative hearing. A timely request for extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

Mediation
Mediation is not available in this proceeding.

FLAWAC Review
The applicant, or any party within the meaning of Section 373.114(1)(a) or 373.4275, F.S., may also seek appellate review of this order before the Land and Water Adjudicatory Commission under Section 373.114(1) or 373.4275, F.S. Requests for review before the Land and Water Adjudicatory Commission must be filed with the Secretary of the Commission and served on the Department within 20 days from the date when this order is filed with the Clerk of the Department.

Judicial Review
Once this decision becomes final, any party to this action has the right to seek judicial review pursuant to Section 120.68, F.S., by filing a Notice of Appeal pursuant to Florida Rules of Appellate Procedure 9.110 and 9.190 with the Clerk of the Department in the Office of General Counsel (Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000) and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice must be filed within 30 days from the date this action is filed with the Clerk of the Department.

EXECUTION AND CLERKING
Executed in Tallahassee, Florida.
STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Enclosures:
All supporting documentation provided by the applicant can be found here:
https://prodenv.dep.state.fl.us/DepNexus/public/electronic-documents/0080317-017/permit
This link will not be available immediately. These documents will be available no later than 3 days from the date of issuance of this permit.

Attachments:

1. General Conditions for All General Permits, Rule 62-4.540, F.A.C., effective date 8/31/1988
2. Requirements for this General Permit, Construction of Water Main Extensions for Public Water Systems, Rule 62-555.405, F.A.C., effective date 8/28/2003
3. Certification of Construction Completion and Clearance for Public Water System Components, Rule 62-555.345, F.A.C., effective date 8/28/2003
4. Certification of Construction Completion and Request for Clearance to Place Permitted PWS Components into Operation, Form 62-555.900(9), F.A.C., effective date 8/28/2003
5. Drinking Water Microbial Sample Collection & Laboratory Reporting format, Form 62-550.730 Reporting Format effective 01/1995, Revised 02/2010

CERTIFICATE OF SERVICE
Enterprise Self-Service Authorization System (ESSA) hereby certifies that this document and all attachments were sent on the filing date below to the following listed persons:

Henry Vorpe,Jr.
Gregg Simmons
Stephen Spence

FILING AND ACKNOWLEDGMENT
FILED, on this date, pursuant to Section 120.52, F. S.

ESSA
Clerk

11/14/2023
Date

FIRE FLOW CALCULATIONS

PROJECT: **HILLIARD RV**
PERFORMED BY: **HAV**
DATE: **1/8/2024**

TEST BY CITY FIRE

Flow Hydrant Location:	PINE ST 60 0' SOUTH
Static/Residual Hydrant Location:	PINE ST AT INGHAM RD
Date and Time of Test:	1/8/2024
Test Flow (gpm) =	560
Static Pressure (psi) =	45
Residual Pressure (psi) =	28

Solving for available flow during Fire Flow Conditions at test hydrant:

$$Q_A = Q_T [(P_S - P_F) / (P_S - P_R)]^{0.54}$$

where Q_A = Available Flow during Fire Flow Condition, gpm
Q_T = Test Flow, gpm
P_S = Static Pressure, psi
P_R = Residual Pressure during Test, psi
P_F = Residual Pressure during Fire Flow Condition, psi
(Minimum allowable = 20 psi)

→ Q_A (gpm)= 689.6571

HENRY A. VORPE, JR. LICENSE No 49049 STATE OF FLORIDA PROFESSIONAL ENGINEER

Digitally signed by Henry A Vorpe Jr.
Date: 2024.01.10 12:47:11 -05'00'

HILLIARD RV

STORMWATER MANAGEMENT FIRE PROTECTION

SMF-1

		Elev	Area		Volume (Cumulative)	
		NAVD 88	(SF)	(Ac)	(CF)	(Ac-Ft)
50 Year Drought Level		72.90	22,872	0.525	-	-
		72.00	20,681	0.475	19,599	0.45
30" Inv		71.00	18,326	0.421	39,103	0.90
		70.00	16,080	0.369	56,305	1.29
BOT		69.00	13,933	0.320	71,312	1.64

Volume Required:

500 GPM x 60 mw x 2hr = 60,000 GALLONS REQUIRED
60,000 GALLONS = 8020.83 CF

Volume Provided:

39,103 CF > 8,021 CF

HILLIARD RV

STORMWATER MANAGEMENT FIRE PROTECTION

SMF-2

		Elev	Area		Volume (Cumulative)	
		NAVD 88	(SF)	(Ac)	(CF)	(Ac-Ft)
50 Year Drought Level		71.65	12,080	0.277	-	-
		71.00	10,920	0.251	7,475	0.17
36" Inv		70.00	9,163	0.210	17,517	0.40
		69.00	7,568	0.174	25,882	0.59
BOT		68.00	6,677	0.153	33,005	0.76

Volume Required:

500 GPM x 60 mw x 2hr = 60,000 GALLONS REQUIRED
60,000 GALLONS = 8020.83 CF

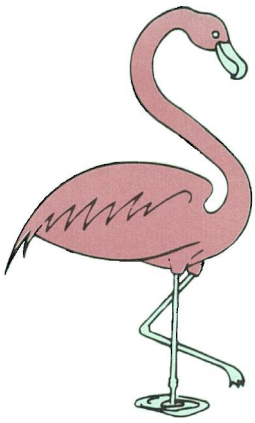
Volume Provided:

17,517 CF > 8,021 CF

HILLIARD RV PARK
TRAFFIC STUDY

NASSAU COUNTY, FLORIDA

September 2022



BUCKHOLZ TRAFFIC

BUCKHOLZ TRAFFIC
3585 KORI ROAD
JACKSONVILLE, FLORIDA 32257
(904) 886-2171 jwbuckholz@aol.com

September 6, 2022

Jan Doan
Woodland Capital
8280 Princeton Square Boulevard W.
Jacksonville, Florida 32256

Re: **Hilliard RV Park, Traffic Impact Study**

Dear Mr. Doan:

Attached is the requested traffic study. If there are any questions or comments regarding this study, please contact me.

Sincerely,

Digitally signed by Jeffrey W. Buckholz
DN: cn=Jeffrey W. Buckholz, o=BUCKHOLZ TRAFFIC ENGINEERING, ou, email=jwbuckholz@aol.com, c=US
Date: 2022.09.06 10:04:54 -04'00'

Jeffrey W. Buckholz, P.E., PTOE
Principal

This item has been digitally signed and sealed by Jeffrey W. Buckholz, P.E. on 9/6/22. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

INTRODUCTION

This proposed 240 lot RV Park will be located on the west side of Pine Street just south of Ingram Road (CR 115) near the City of Hilliard in Nassau County, Florida. The development will have one full access driveway on Pine Street. Pine Street is a two lane undivided local road with a posted speed limit of 30 mph in both directions. Figure 1 shows the site location and the site plan is provided in Appendix A. The development is expected to be completed and fully occupied by the end of 2023. Consequently, 2023 is used as the design year for this study.

EXISTING TRAFFIC VOLUMES

During August of 2022 with school in session, Buckholz Traffic personnel conducted weekday AM peak period (6:45 ï 8:45 AM) and PM peak period (4:00 ï 6:15 PM) turning movement counts at the Pine Street/Ingham Road intersection. These counts, which were collected at 15-minute intervals and provide a separate tabulation for trucks and pedestrians, are provided in Appendix B. The peak hour volumes are shown in Figure 2 while the peak period volumes are depicted in Figure 3.

Appendix C provides daily traffic volumes from the FDOT annual traffic counting program for three nearby count stations. Also included in Appendix C are the latest FDOT seasonal adjustment factors for Nassau County.

TRIP GENERATION OF SITE TRAFFIC

Trip generation calculations were carried out using the 11th edition of ITE's Trip Generation Manual and referencing land use code 412 (Campground/Recreational Vehicle Park). Table 1 contains the daily, AM peak hour, and PM peak hour trip generation calculations. During an average weekday, the development is expected to generate 1708 total trips (854 entering and 854 exiting) with 41 total trips (15 entering and 26 exiting) occurring during the AM peak hour and 46 total trips (30 entering and 16 exiting) occurring during the PM peak hour. All of these trips will be new trips.

DISTRIBUTION AND ASSIGNMENT OF SITE TRAFFIC

Peak hour site trips were directionally distributed and assigned to the road network based on the results of our weekday AM and PM peak period turning movement counts supplemented by engineering judgment. Figure 4 provides the resulting peak hour traffic assignments.

FUTURE TRAFFIC VOLUMES

The expected 2023 weekday AM and PM peak hour background (No Build) traffic volumes and total (Build) traffic volumes at the Pine Street/Ingham Road intersection and at the future Pine Street/Site Drive intersection are graphically depicted in Figures 5 through 8. The 2023 background traffic volumes were obtained by multiplying the existing traffic volumes by the appropriate FDOT seasonal adjustment factor and then by a corresponding average annual growth factor of 3.0% (see Tables C-1 through C-3 in Appendix C). The 2023 Build traffic volumes were obtained by adding the traffic generated by the new development to the 2023 No Build traffic volumes.

TURN LANE ANALYSIS

Using 2023 Build traffic volumes a formal analysis was made to determine if an exclusive right turn lane is warranted in the southbound direction on Pine Street at the Site Drive or in the northbound direction on Pine Street at Ingham Road. The methodology contained in NCHRP Report 279 was used to conduct this analysis. As is indicated in Figures 9 and 10, right turn volumes will not be high enough to warrant an exclusive right turn lane at either location. These results are supported by NCHRP Report 420.

Using 2023 Build traffic volumes a formal analysis was also conducted to determine if a left turn lane is warranted on northbound Pine Street at the Site Drive or on southbound Pine Street at Ingham Road. The methodology contained in a paper written by M.D. Harmelink entitled: "Volume Warrants for Left Turn Storage Lanes at Unsignalized Grade Intersections" was used to conduct this evaluation. The results indicate that traffic volumes will not be high enough to warrant an exclusive left turn lane at either location. The supporting analysis is provided in Figures 11 through 13.

UNSIGNALIZED INTERSECTION CAPACITY ANALYSIS

Weekday AM and PM peak hour intersection capacity analyses were performed for the Pine Street/Ingham Road intersection and the future Pine Street/Site Drive intersection using the two-way stop control methodology contained in the 2022 version of the Highway Capacity Software. Appendix D contains the capacity analysis calculations with the capacity results summarized in Table 2. To expedite traffic operations, two egress lanes are recommended for the site driveway. A review of Table 2 indicates that, under 2023 Build conditions, all minor movements at these two intersection are expected to operate at level of service A during both weekday peak hours with minimal queueing and a volume-to-capacity ratio of well less than one.

ITEM-3

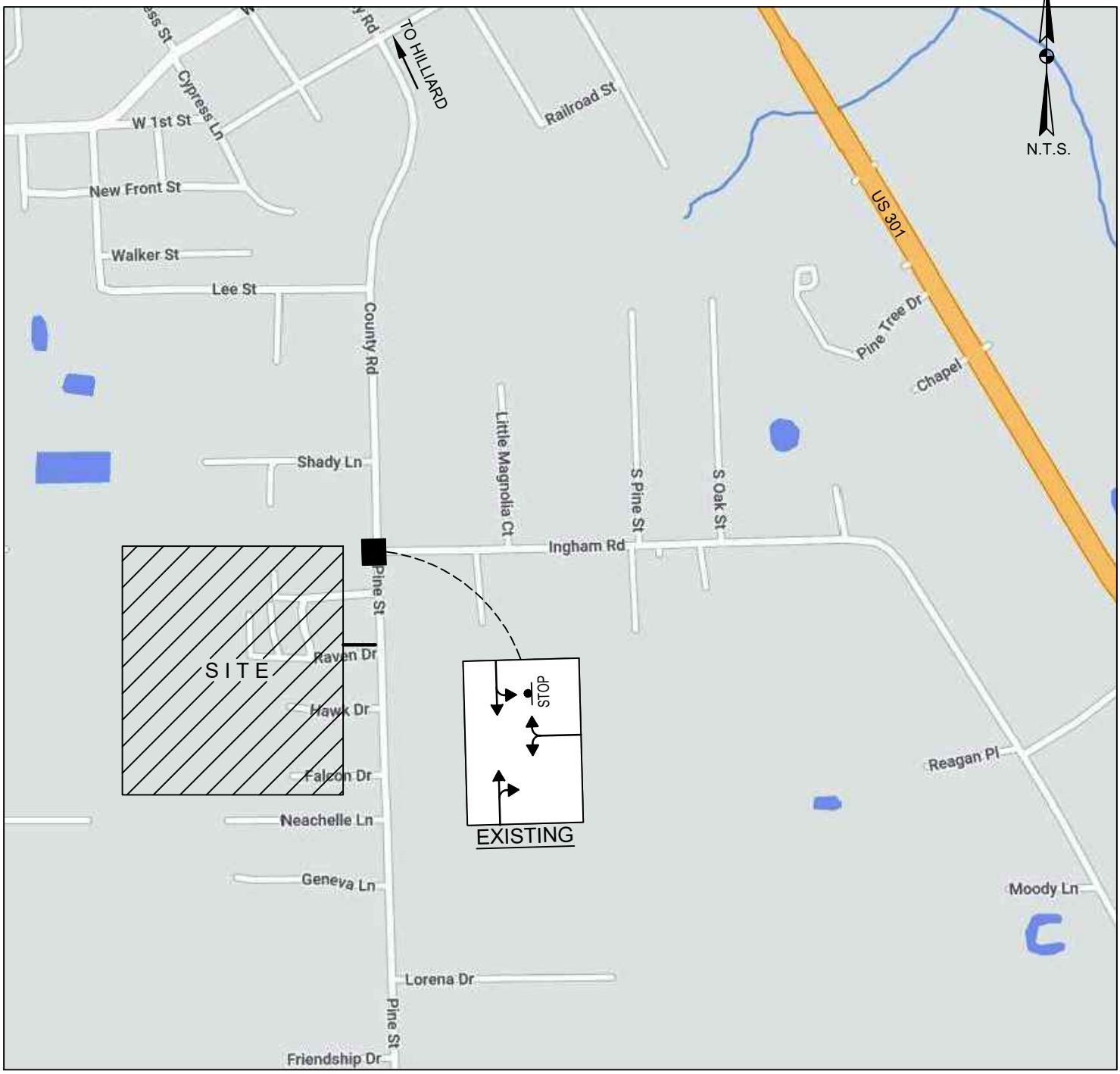


FIGURE 1

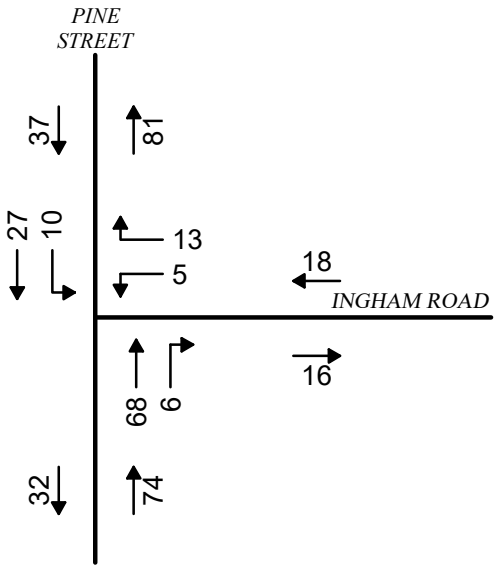
SITE LOCATION

Buckholz Traffic

D:\USB20FD\22-1771\CAD\FIG_01.dwg 5/11/2022 8:05 AM

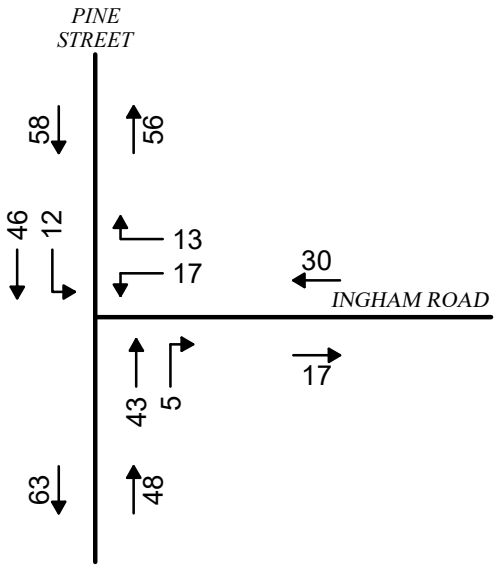
N.T.S.

7:00-8:00 AM



TOTAL ENTERING	129

5:15-6:15 PM



TOTAL ENTERING	136

FIGURE 2

TRAFFIC COUNTS

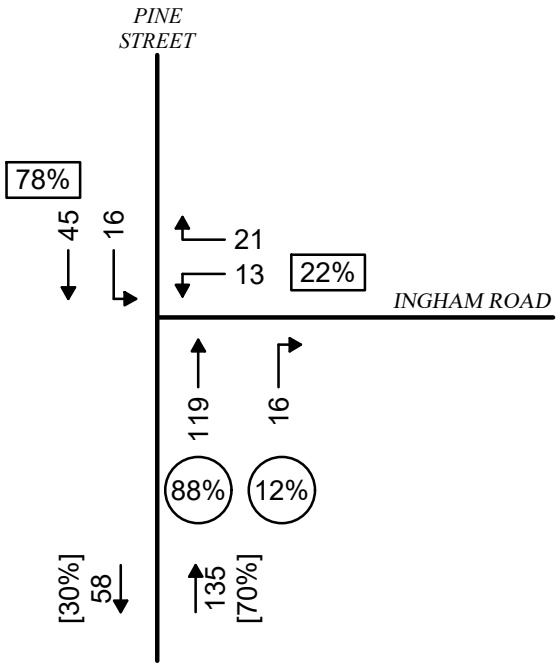
WEEKDAY PEAK HOURS

Buckholz Traffic

ITEM-3

N.T.S.

6:45-8:45 AM



4:00-6:15 PM

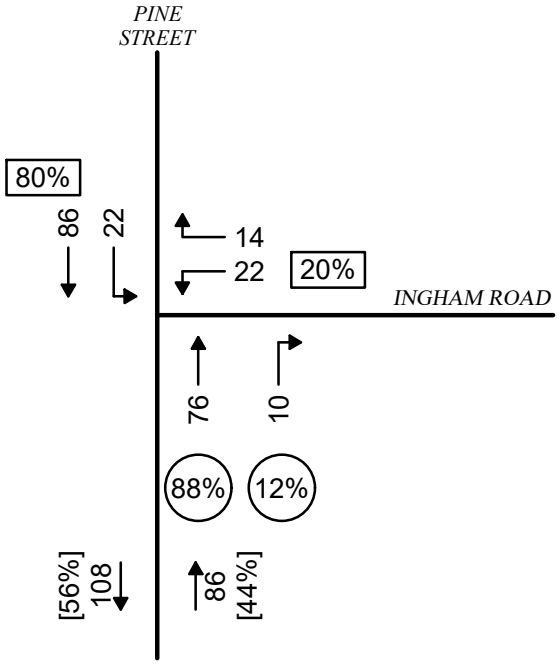


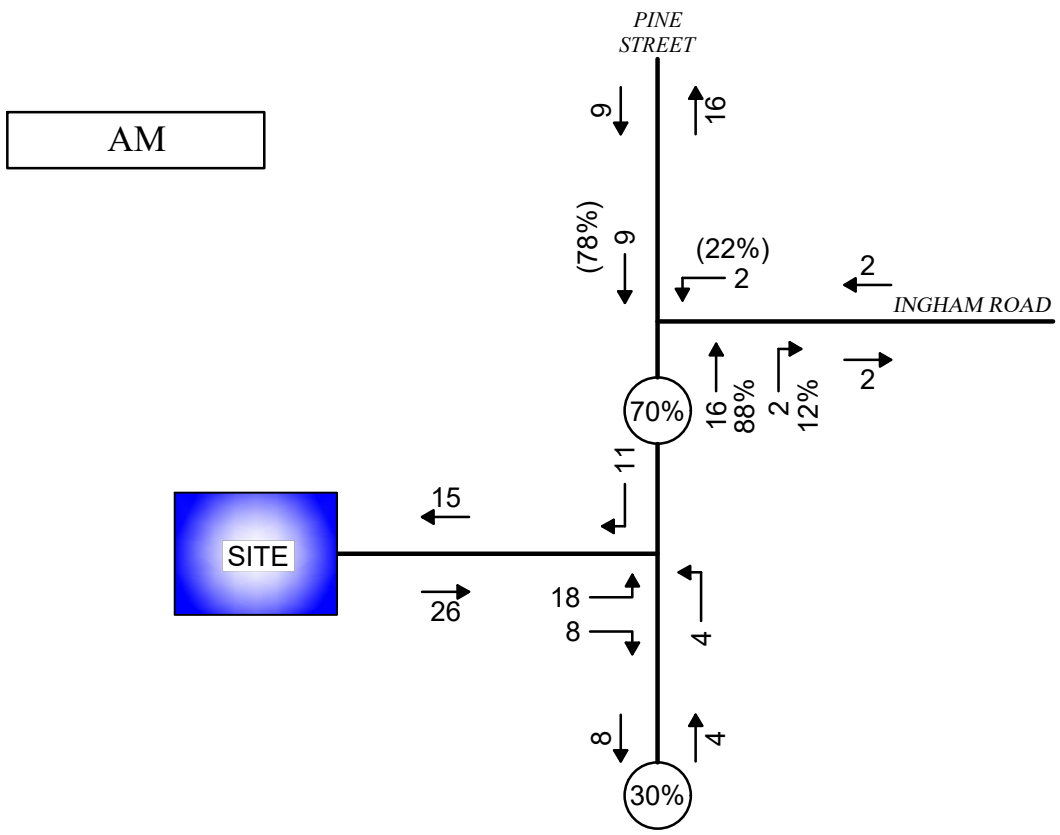
FIGURE 3

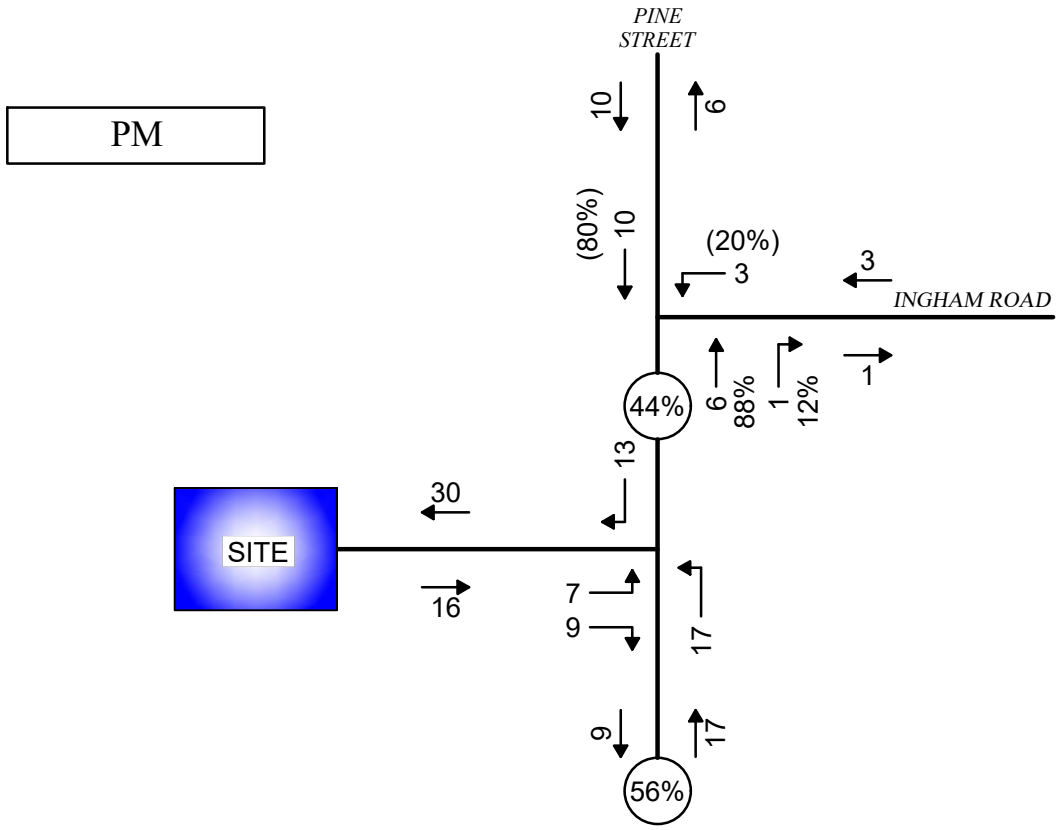
TRAFFIC COUNTS

WEEKDAY PEAK PERIODS

Buckholz Traffic

M:\2022\22-1771\cad\FIG_03.dwg Date:08-30-22 T:17:29 By:AVDelacruz





ITEM-3

N.T.S.

FIGURE 4

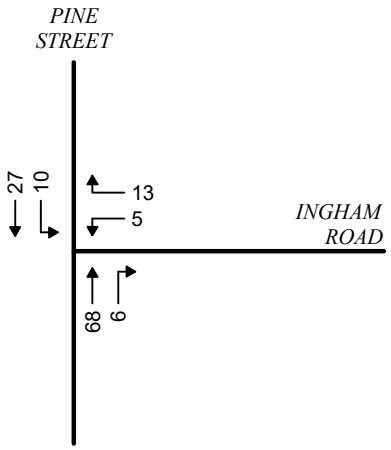
SITE TRAFFIC ASSIGNMENT

WEEKDAY PEAK HOURS

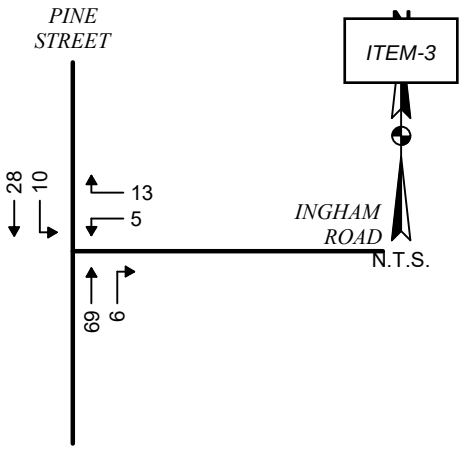
Buckholz Traffic

153

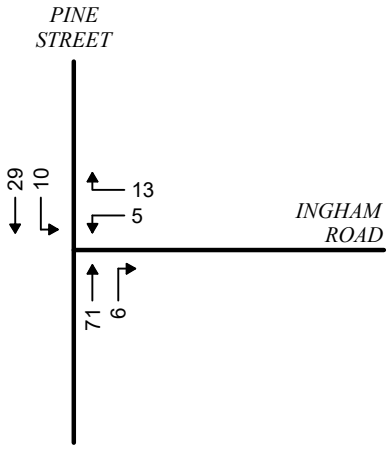
M:\2022\22-1771\cad\FIG_04.dwg Date:08-30-22 T:17:38 By:AVDelacruz



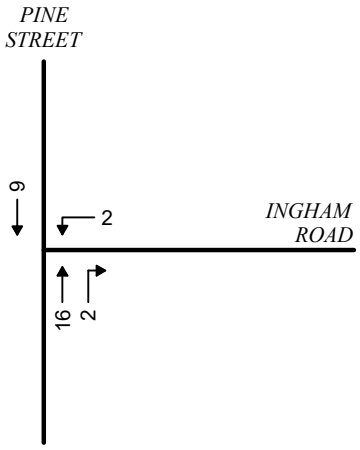
EXISTING TRAFFIC
08/23/22
7:00-8:00 AM



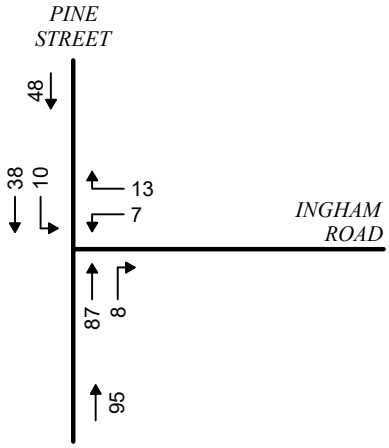
2022 SEASONALLY ADJUSTED TRAFFIC
FDOT SEASONAL CORRECTION FACTOR = 1.02



2023 NO BUILD TRAFFIC
AVERAGE ANNUAL GROWTH RATE = 3.0%



SITE TRAFFIC



2023 BUILD TRAFFIC

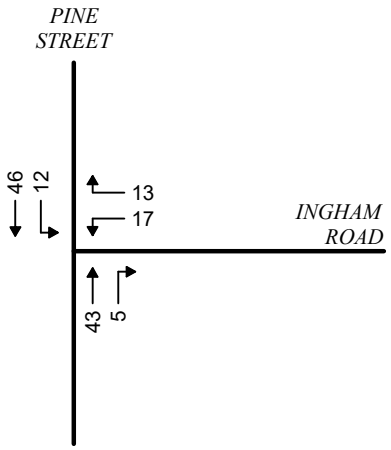
Buckholz Traffic

FIGURE 5

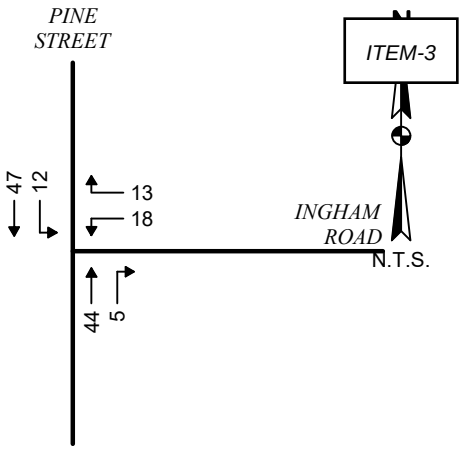
2023 BUILD TRAFFIC
PINE STREET / INGHAM ROAD

WEEKDAY AM PEAK HOUR

M:\2022\22-1771\cad\FIG_05.dwg Date:08-30-22 T:16:22 By:AVDelacruz



EXISTING TRAFFIC
08/18/22
5:15-6:15 PM



2022 SEASONALLY ADJUSTED TRAFFIC
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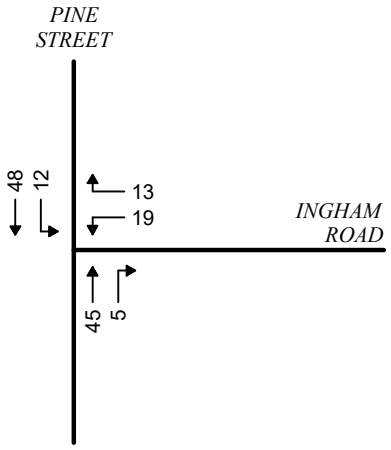
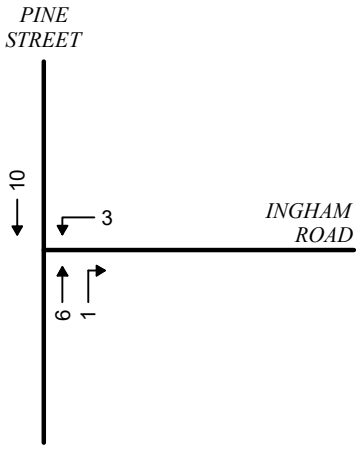
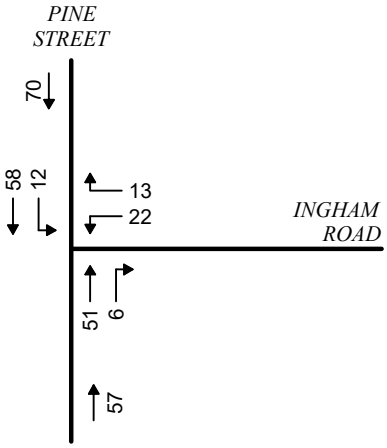


2023 NO BUILD TRAFFIC
AVERAGE ANNUAL GROWTH RATE = 3.0%



SITE TRAFFIC



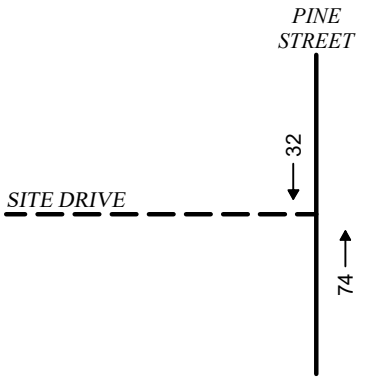
2023 BUILD TRAFFIC

Buckholz Traffic

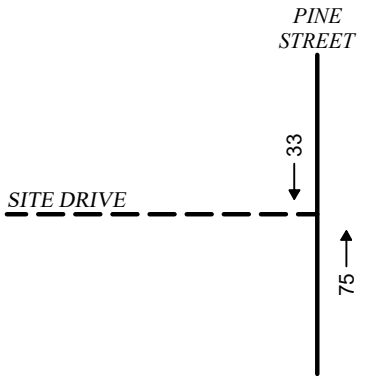
FIGURE 6

2023 BUILD TRAFFIC
PINE STREET / INGHAM ROAD

WEEKDAY PM PEAK HOUR



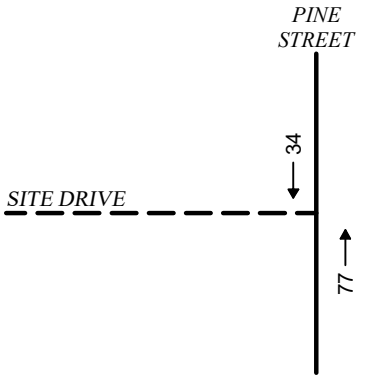
EXISTING TRAFFIC
08/23/22
7:00-8:00 AM



ITEM-3

N.T.S.

2022 SEASONALLY ADJUSTED TRAFFIC
FDOT SEASONAL CORRECTION FACTOR = 1.02



2023 NO BUILD TRAFFIC
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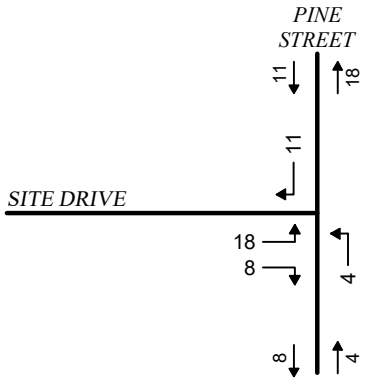
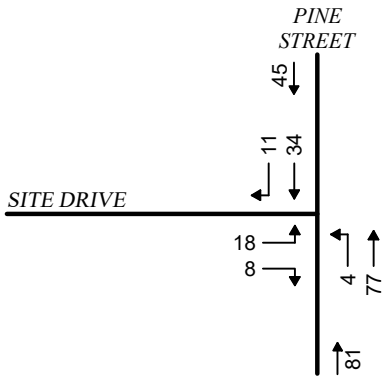


SITE TRAFFIC



2023 BUILD TRAFFIC

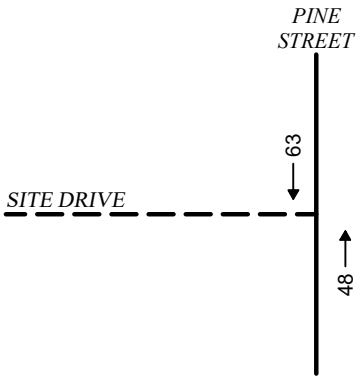
Buckholz Traffic

FIGURE 7

2023 BUILD TRAFFIC
PINE STREET / SITE DRIVE

WEEKDAY AM PEAK HOUR

M:\2022\22-1771\cad\FIG_07.dwg Date:08-30-22 T:16:56 By:AVDelacruz



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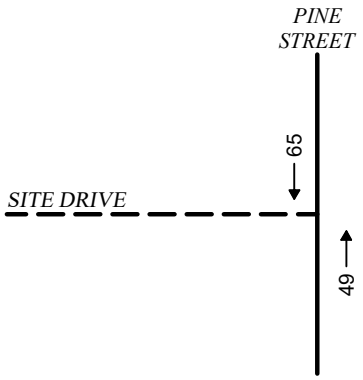
08/18/22
5:15-6:15 PM



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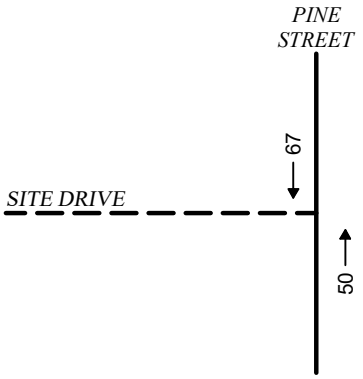
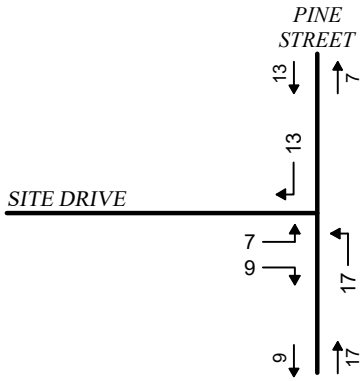
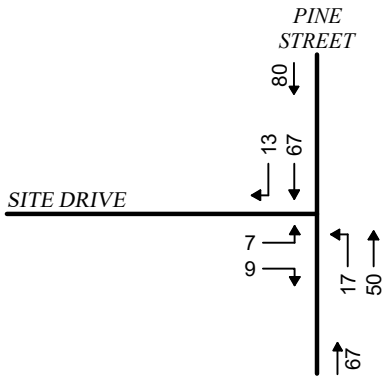


2023 NO BUILD TRAFFIC
AVERAGE ANNUAL GROWTH RATE = 3.0%



SITE TRAFFIC



2023 BUILD TRAFFIC

Buckholz Traffic

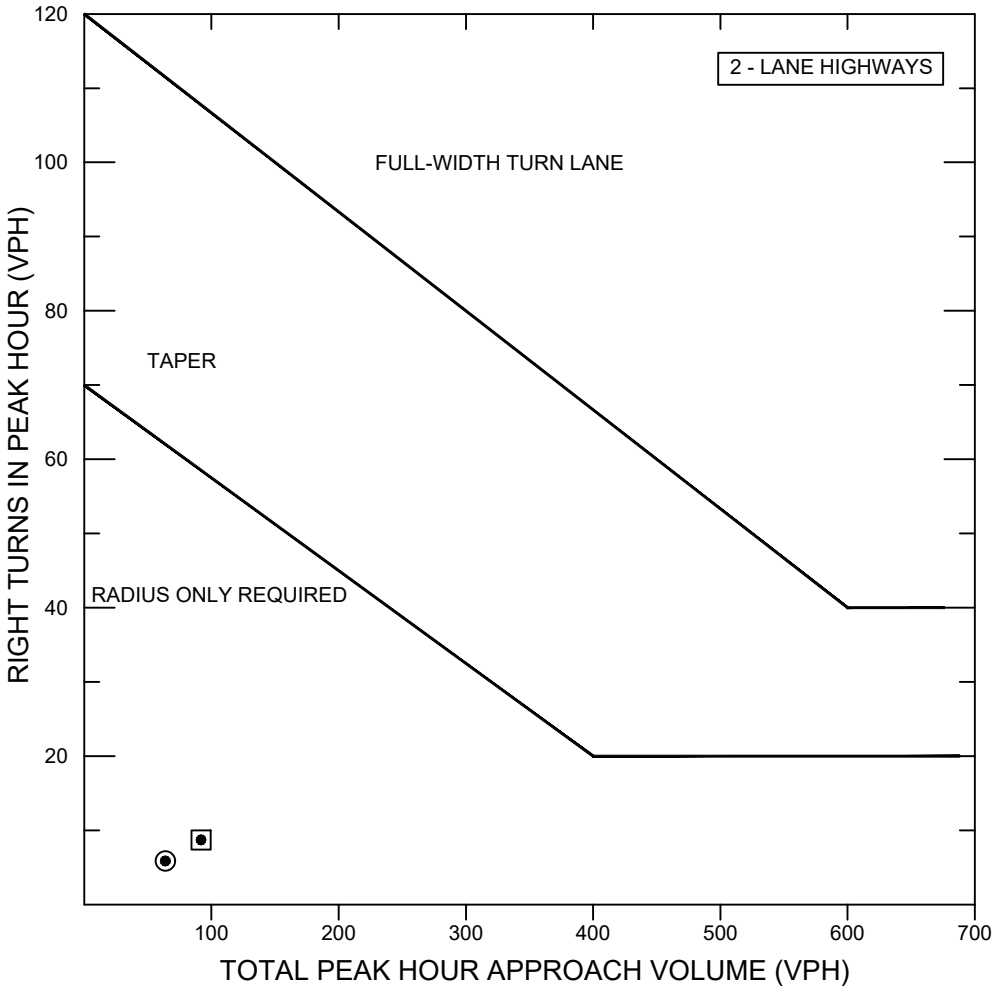
FIGURE 8

2023 BUILD TRAFFIC
PINE STREET / SITE DRIVE

WEEKDAY PM PEAK HOUR

M:\2022\22-1771\cad\FIG_08.dwg Date:08-30-22 T:17:14 By:AVDelacruz

NORTHBOUND PINE STREET @ INGHAM ROAD



NOMOGRAPH FOR RIGHT TURN LANES

SOURCE: TRANSPORTATION RESEARCH BOARD NCHRP REPORT #279

⊡ AM PEAK HOUR	
V_A	95
V_R	8

⊙ PM PEAK HOUR	
V_A	57
V_R	6

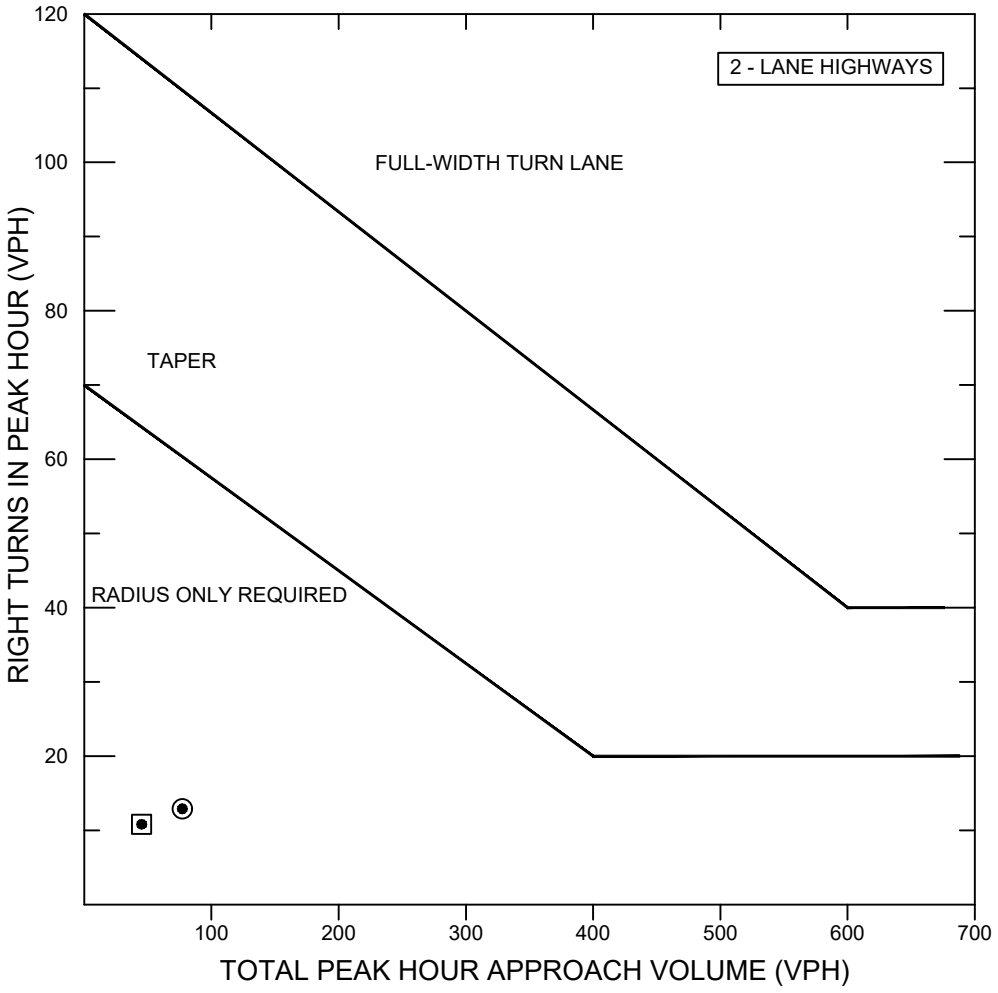
NCHRP 420	
2-LANE	≤ 45 MPH

8 & 6 < 80 REQUIRED

FIGURE 9

RIGHT TURN
LANE ANALYSIS

SOUTHBOUND PINE STREET @ SITE DRIVEWAY



NOMOGRAPH FOR RIGHT TURN LANES

SOURCE: TRANSPORTATION RESEARCH BOARD NCHRP REPORT #279

⊡ AM PEAK HOUR

V_A	45
V_R	11

◉ PM PEAK HOUR

V_A	80
V_R	13

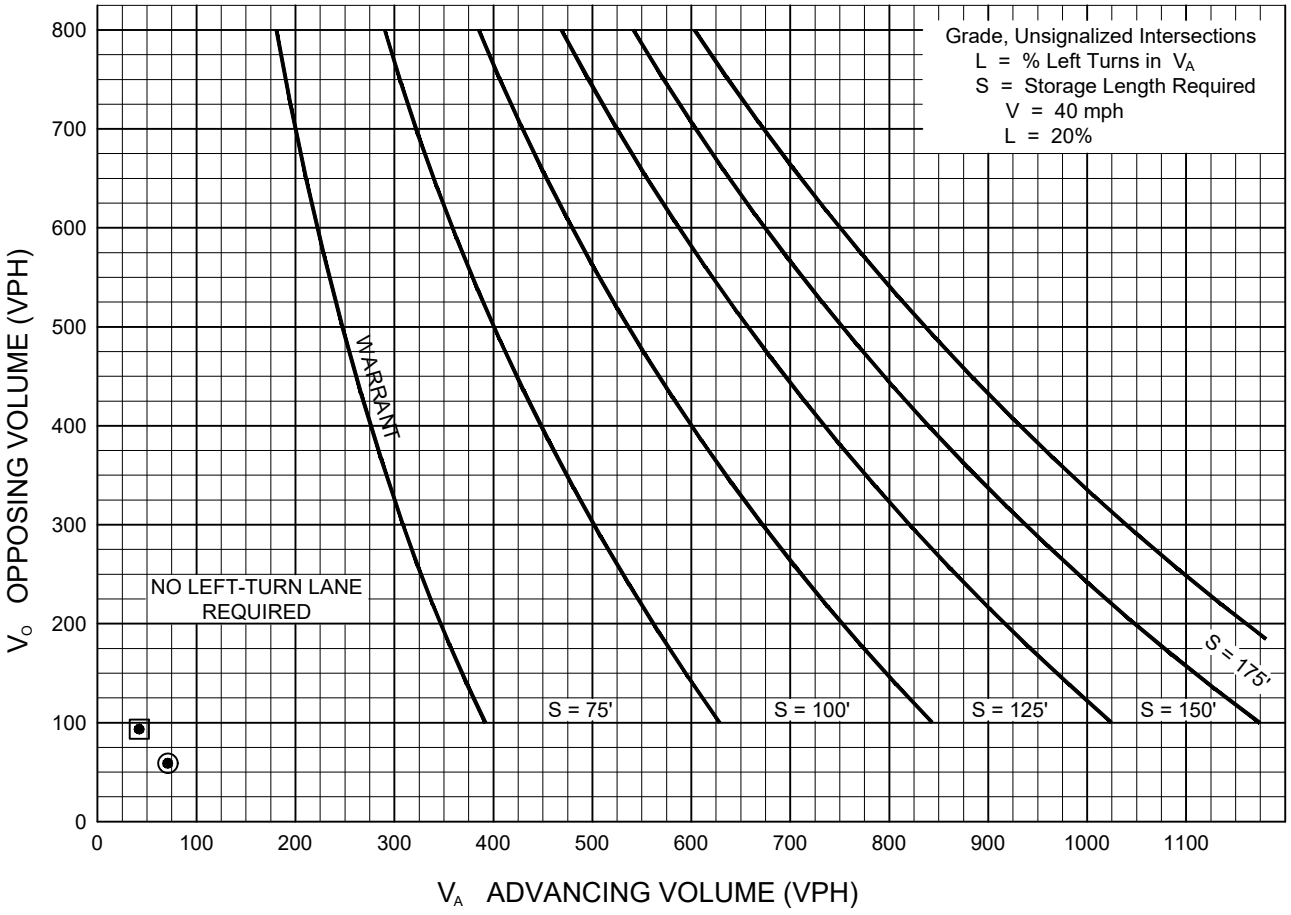
NCHRP 420	
2-LANE	≤ 45 MPH

11 & 13 < 80 REQUIRED

FIGURE 10

RIGHT TURN
LANE ANALYSIS

SOUTHBOUND PINE STREET @ INGHAM ROAD



WARRANT FOR LEFT-TURN STORAGE LANES ON TWO-LANE HIGHWAYS

▣ AM PEAK HOUR
V_A = 48
V_O = 95
V_L = 10
%LT = $\frac{V_L}{V_A}$ = 20.8%

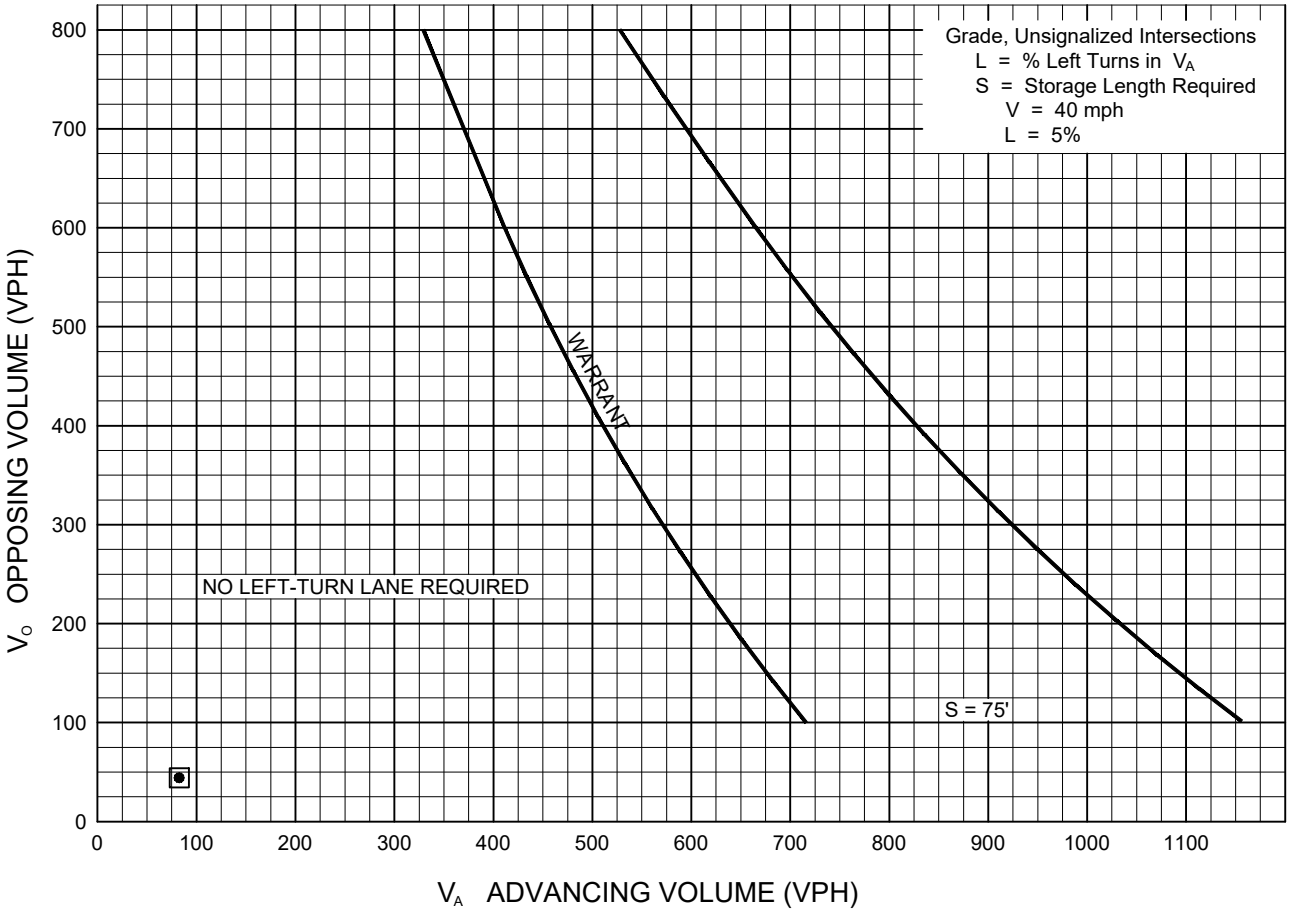
◉ PM PEAK HOUR
V_A = 70
V_O = 57
V_L = 12
%LT = $\frac{V_L}{V_A}$ = 17.1%

FIGURE 11

LEFT TURN
LANE ANALYSIS

SOURCE: HARMELINK

NORTHBOUND PINE STREET @ SITE DRIVE



WARRANT FOR LEFT-TURN STORAGE LANES ON TWO-LANE HIGHWAYS

◉ AM PEAK HOUR

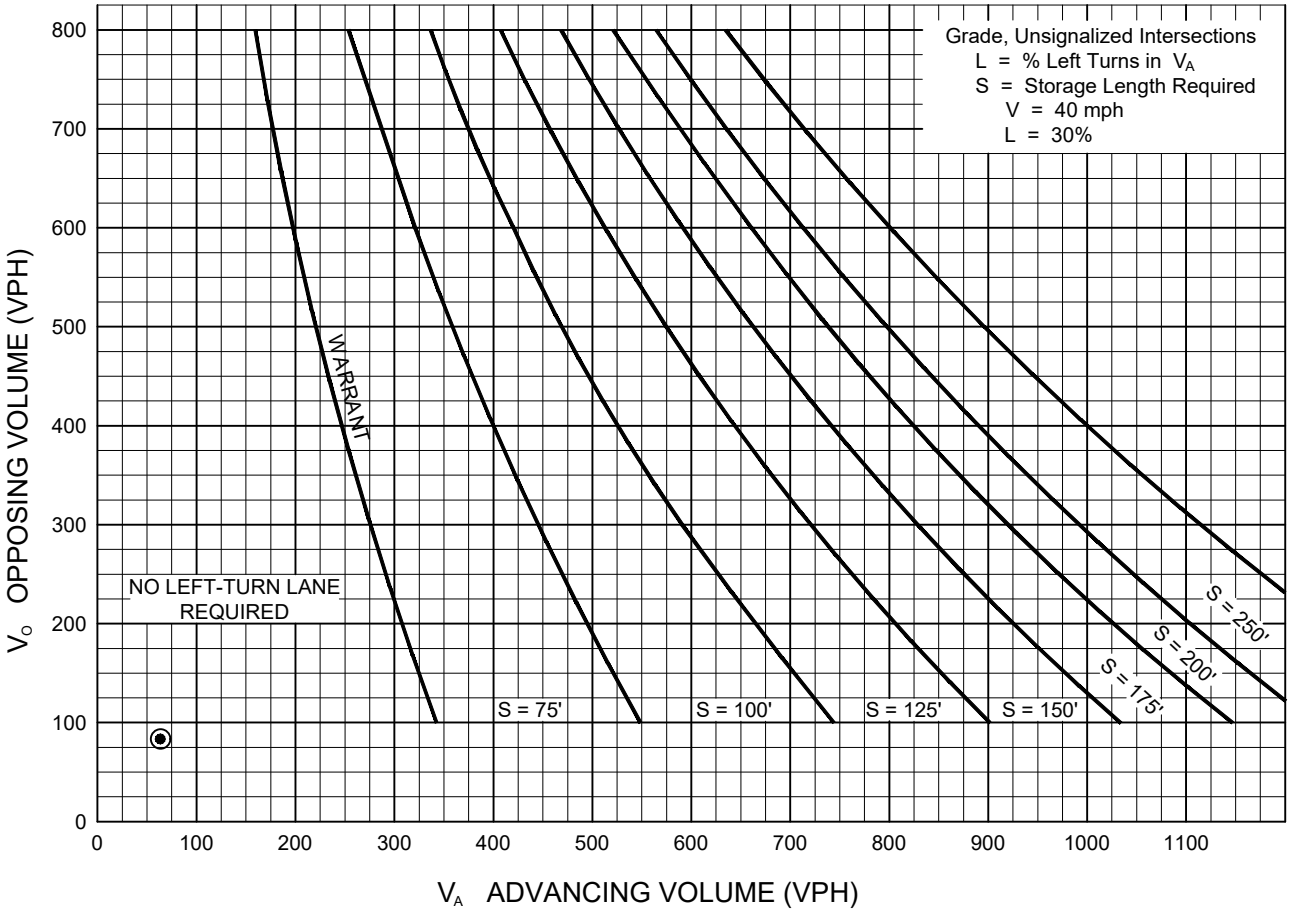
V_A = 81
V_O = 45
V_L = 4
%LT = $\frac{V_L}{V_A}$ = 4.9%

FIGURE 12

LEFT TURN
LANE ANALYSIS

SOURCE: HARMELINK

NORTHBOUND PINE STREET @ SITE DRIVE



WARRANT FOR LEFT-TURN STORAGE LANES ON TWO-LANE HIGHWAYS

◉PM PEAK HOUR

V_A = 67
V_O = 80
V_L = 17
%LT = $\frac{V_L}{V_A}$ = 25.4%

FIGURE 13

LEFT TURN
LANE ANALYSIS

SOURCE: HARMELINK

TABLE 1

WEEKDAY TRIP GENERATION CALCULATIONS

CAMPGROUND/RECREATIONAL VEHICLE PARK

Land Use Code 416

T = Number of Vehicle Trip Ends

X = Number of Occupied Camp Sites = 240

TIME PERIOD	TOTAL TRIP GENERATION EQUATION	TOTAL TRIP ENDS	PERCENT ENTERING	PERCENT EXITING	TOTAL TRIP ENDS ENTERING	TOTAL TRIP ENDS EXITING
AVERAGE WEEKDAY						
Daily	T = 7.12 (0.27/0.58) (X)	1708	50%	50%	854	854
AM Peak Hour	T = 0.16 (X) + 2.93	41	36%	64%	15	26
PM Peak Hour	Ln(T) = 0.71 Ln(X) - 0.06	46	65%	35%	30	16

NOTE: Daily trip generation rate estimated using LUC 240 (Mobile Home Park)

SOURCE: Institute of Transportation Engineers, "Trip Generation", 11th Edition (2021)

BUCKHOLZ TRAFFIC

TABLE 2
UNSIGNALIZED INTERSECTION CAPACITY RESULTS

2022 EXISTING CONDITIONS

PINE STREET / INGHAM ROAD	AM PEAK HOUR			
	LOS	Delay	v/c Ratio	95th % Queue (veh.)
Southbound Left Turn	A	7.5 sec/veh	0.01	1
Side Street Approach	A	9.1 sec/veh	0.02	1

PINE STREET / INGHAM ROAD	PM PEAK HOUR			
	LOS	Delay	v/c Ratio	95th % Queue (veh.)
Southbound Left Turn	A	7.4 sec/veh	0.01	1
Side Street Approach	A	9.3 sec/veh	0.05	1

2023 BUILD CONDITIONS

PINE STREET / INGHAM ROAD	AM PEAK HOUR			
	LOS	Delay	v/c Ratio	95th % Queue (veh.)
Southbound Left Turn	A	7.6 sec/veh	0.01	1
Side Street Approach	A	9.3 sec/veh	0.03	1

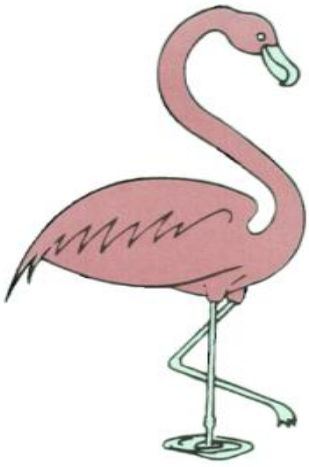
PINE STREET / INGHAM ROAD	PM PEAK HOUR			
	LOS	Delay	v/c Ratio	95th % Queue (veh.)
Southbound Left Turn	A	7.4 sec/veh	0.01	1
Side Street Approach	A	9.5 sec/veh	0.06	1

PINE STREET / SITE DRIVE	AM PEAK HOUR			
	LOS	Delay	v/c Ratio	95th % Queue (veh.)
Northbound Left Turn	A	7.3 sec/veh	0.00	1
Site Driveway Left Turn	A	9.4 sec/veh	0.03	1
Site Driveway Right Turn	A	8.6 sec/veh	0.01	1

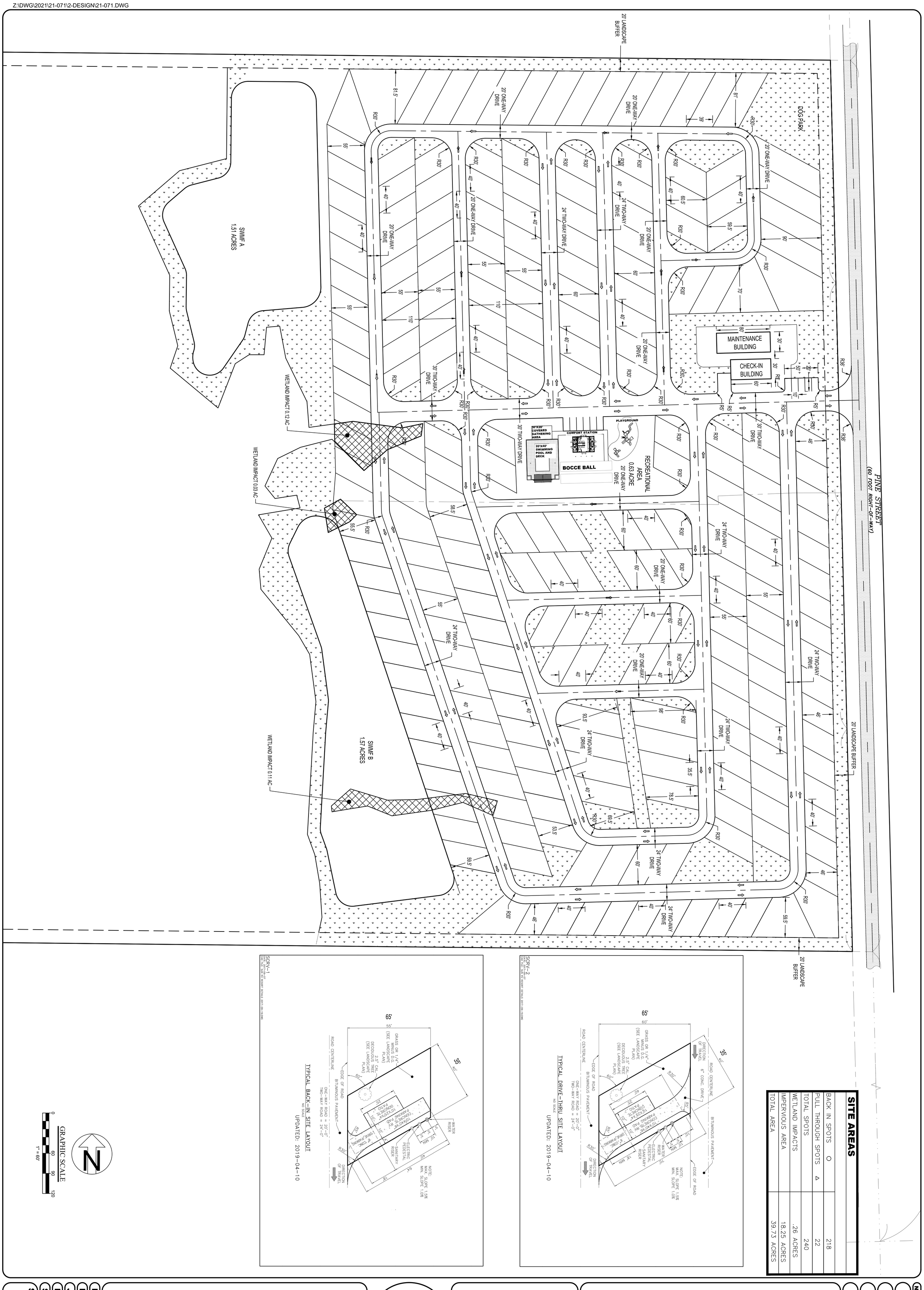
PINE STREET / SITE DRIVE	PM PEAK HOUR			
	LOS	Delay	v/c Ratio	95th % Queue (veh.)
Northbound Left Turn	A	7.5 sec/veh	0.02	1
Site Driveway Left Turn	A	9.8 sec/veh	0.01	1
Site Driveway Right Turn	A	8.8 sec/veh	0.01	1

APPENDIX A

SITE PLAN



Z:\DWG\2021\21-071\2-DESIGN\21-071.DWG



SITE AREAS

BACK IN SPOTS	O	218
PULL THROUGH SPOTS	Δ	22
TOTAL SPOTS		240
WETLAND IMPACTS		.26 ACRES
IMPERVIOUS AREA		18.25 ACRES
TOTAL AREA		39.73 ACRES

HILLIARD RV

SITE PLAN

NASSAU FLORIDA

Date: 06/2022
Designer: HAV
Job #: 21-071
Drawn: TRB
Scale: 1:60
Sheet: 6 of 19

UNLESS THIS DRAWING BEARS THE EMBOSSED SEAL OF A FLORIDA REGISTERED ENGINEER ACTING AS AN AUTHORIZED AGENT FOR AVA ENGINEERS, INC., IT IS FOR INFORMATION PURPOSES ONLY AND IS NOT VALID.

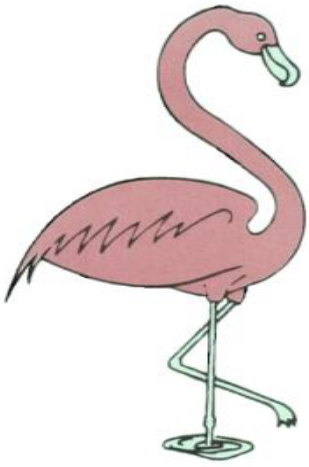
THE STORMWATER SYSTEM AS SHOWN ON THESE PLANS HAS BEEN PREPARED IN ACCORDANCE WITH STANDARD, ACCEPTED ENGINEERING PRACTICE, HOWEVER, CERTAIN DESIGN CRITERIA, RULES OR LAWS THAT ARE MANDATED BY OTHERS (ie CITY, COUNTY, STATE, FEDERAL, etc.) HAVE BEEN USED TO DETERMINE THE FINAL DESIGN FOR SUCH STORMWATER FACILITIES. THE ENGINEER DOES NOT ACCEPT RESPONSIBILITY FOR POSSIBLE FUTURE CONTAMINATION RESULTING FROM THE REQUIREMENT FOR RETENTION AND TREATMENT OF STORMWATER.

AVA ENGINEERS, INC.
Commercial | Residential | Marine
Florida Certificate No. 00008161
4201 BAYMEADOWS RD. SUITE 3 | JACKSONVILLE, FLORIDA 32217
Ph. (904) 730-3223 | Fx. (904) 730-3226
Henry A. Vorpe Jr. No. 49049

No.	Revisions	By

APPENDIX B

TURNING MOVEMENT COUNTS



JW BUCKHOLZ TRAFFIC ENGINEERING INC.

DAY: TUESDAY
DATE: 08/23/22
WEATHER: CLEAR & DRY
BEGIN TIME (MILITARY): 06:45 Hrs

MANUAL TURNING MOVEMENTS COUNT
PINE STREET @ INGHAM ROAD
NASSAU COUNTY, FLORIDA

Site Code [redacted]
Start Dat[redacted]
File I.D. : 08232201
Page : 1

ITEM-3

AUTOMOBILES, COMMERCIAL VEHICLES

	PINE STREET From North				INGHAM ROAD From East				PINE STREET From South				From West				
	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other	Total
Date 08/23/22																	
06:45	2	2	0	0	1	0	0	0	0	12	1	0	0	0	0	0	18
07:00	1	6	0	0	3	0	4	0	0	21	1	0	0	0	0	0	36
07:15	2	7	0	0	1	0	5	0	0	23	2	0	0	0	0	0	40
07:30	3	5	0	0	0	0	2	0	0	15	3	0	0	0	0	0	28
Hr Total	8	20	0	0	5	0	11	0	0	71	7	0	0	0	0	0	122
07:45	4	9	0	0	1	0	2	0	0	9	0	0	0	0	0	0	25
08:00	1	4	0	0	3	0	1	0	0	16	4	0	0	0	0	0	29
08:15	0	4	0	0	0	0	1	0	0	7	2	0	0	0	0	0	14
08:30	3	8	0	0	4	0	6	0	0	16	3	0	0	0	0	0	40
Hr Total	8	25	0	0	8	0	10	0	0	48	9	0	0	0	0	0	108
TOTAL	16	45	0	0	13	0	21	0	0	119	16	0	0	0	0	0	230

Peak Hour Analysis By Entire Intersection for the Period: 07:00 to 08:00 on 08/23/22

Peak start	07:00				07:00				07:00				07:00				
Volume	10	27	0	0	5	0	13	0	0	68	6	0	0	0	0	0	
Percent	27%	73%	0%	0%	28%	0%	72%	0%	0%	92%	8%	0%	0%	0%	0%	0%	
Pk total	37				18				74				0				
Highest	07:45				07:00				07:15				06:45				
Volume	4	9	0	0	3	0	4	0	0	23	2	0	0	0	0	0	
Hi total	13				7				25				0				
PHF	.71				.64				.74				.0				

JW BUCKHOLZ TRAFFIC ENGINEERING INC.

DAY: TUESDAY
DATE: 08/23/22
WEATHER: CLEAR & DRY
BEGIN TIME (MILITARY): 06:45 Hrs

MANUAL TURNING MOVEMENTS COUNT
PINE STREET @ INGHAM ROAD
NASSAU COUNTY, FLORIDA

Site Code 1
Start Dat 2
File I.D. : 08232201
Page : 1

ITEM-3

AUTOMOBILES

	PINE STREET From North				INGHAM ROAD From East				PINE STREET From South				From West				
	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other	Total
Date 08/23/22																	
06:45	1	2	0	0	1	0	0	0	0	11	1	0	0	0	0	0	16
07:00	1	6	0	0	3	0	3	0	0	20	0	0	0	0	0	0	33
07:15	1	7	0	0	1	0	3	0	0	23	2	0	0	0	0	0	37
07:30	3	4	0	0	0	0	2	0	0	13	3	0	0	0	0	0	25
Hr Total	6	19	0	0	5	0	8	0	0	67	6	0	0	0	0	0	111
07:45	4	9	0	0	1	0	2	0	0	7	0	0	0	0	0	0	23
08:00	1	4	0	0	3	0	0	0	0	12	4	0	0	0	0	0	24
08:15	0	3	0	0	0	0	1	0	0	7	1	0	0	0	0	0	12
08:30	3	7	0	0	1	0	5	0	0	14	2	0	0	0	0	0	32
Hr Total	8	23	0	0	5	0	8	0	0	40	7	0	0	0	0	0	91
TOTAL	14	42	0	0	10	0	16	0	0	107	13	0	0	0	0	0	202

Peak Hour Analysis By Entire Intersection for the Period: 07:00 to 08:00 on 08/23/22

Peak start 07:00					07:00				07:00				07:00				
Volume	9	26	0	0	5	0	10	0	0	63	5	0	0	0	0	0	
Percent	26%	74%	0%	0%	33%	0%	67%	0%	0%	93%	7%	0%	0%	0%	0%	0%	
Pk total	35				15				68				0				
Highest	07:45				07:00				07:15				06:45				
Volume	4	9	0	0	3	0	3	0	0	23	2	0	0	0	0	0	
Hi total	13				6				25				0				
PHF	.67				.62				.68				.0				

JW BUCKHOLZ TRAFFIC ENGINEERING INC.

DAY: TUESDAY
DATE: 08/23/22
WEATHER: CLEAR & DRY
BEGIN TIME (MILITARY): 06:45 Hrs

MANUAL TURNING MOVEMENTS COUNT
PINE STREET @ INGHAM ROAD
NASSAU COUNTY, FLORIDA

Site Code : 1
Start Dat : 2
File I.D. : 08232201
Page : 1

ITEM-3

COMMERCIAL VEHICLES

	PINE STREET From North				INGHAM ROAD From East				PINE STREET From South				From West				
	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other	Total
Date 08/23/22																	
06:45	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
07:00	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	3
07:15	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	3
07:30	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	0	3
Hr Total	2	1	0	0	0	0	3	0	0	4	1	0	0	0	0	0	11
07:45	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
08:00	0	0	0	0	0	0	1	0	0	4	0	0	0	0	0	0	5
08:15	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2
08:30	0	1	0	0	3	0	1	0	0	2	1	0	0	0	0	0	8
Hr Total	0	2	0	0	3	0	2	0	0	8	2	0	0	0	0	0	17
TOTAL	2	3	0	0	3	0	5	0	0	12	3	0	0	0	0	0	28

Peak Hour Analysis By Entire Intersection for the Period: 07:00 to 08:00 on 08/23/22

Peak start	07:00				07:00				07:00				07:00				
Volume	1	1	0	0	0	0	3	0	0	5	1	0	0	0	0	0	
Percent	50%	50%	0%	0%	0%	0%	100%	0%	0%	83%	17%	0%	0%	0%	0%	0%	
Pk total	2				3				6				0				
Highest	07:15				07:15				07:00				06:45				
Volume	1	0	0	0	0	0	2	0	0	1	1	0	0	0	0	0	
Hi total	1				2				2				0				
PHF	.50				.38				.75				.0				

JW BUCKHOLZ TRAFFIC ENGINEERING INC.

DAY: TUESDAY
DATE: 08/23/22
WEATHER: CLEAR & DRY
BEGIN TIME (MILITARY): 06:45 Hrs

MANUAL TURNING MOVEMENTS COUNT
PINE STREET @ INGHAM ROAD
NASSAU COUNTY, FLORIDA

Site Code [illegible]
Start Dat [illegible]2
File I.D. : 08232201
Page : 1

ITEM-3

PEDESTRIAN & BICYCLES

	PINE STREET From North				INGHAM ROAD From East				PINE STREET From South				From West				
	Left	Thru	Right	PEDS	Left	Thru	Right	PEDS	Left	Thru	Right	PEDS	Left	Thru	Right	PEDS	Total
Date 08/23/22																	
06:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hr Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hr Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak Hour Analysis By Entire Intersection for the Period: 07:00 to 08:00 on 08/23/22

Peak start	07:00				07:00				07:00				07:00				
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Percent	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Pk total	0				0				0				0				
Highest	06:45				06:45				06:45				06:45				
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hi total	0				0				0				0				
PHF	.0				.0				.0				.0				

JW BUCKHOLZ TRAFFIC ENGINEERING INC.

DAY: THURSDAY | MANUAL TURNING MOVEMENTS COUNT | Site Code : 1

DATE: 08/18/22 | PINE STREET @ INGHAM ROAD | Start Dat : 2

WEATHER: CLOUDY & RAIN | NASSAU COUNTY, FLORIDA | File I.D. : 08182201

BEGIN TIME (MILITARY): 16:00 Hrs | Page : 1

ITEM-3

AUTOMOBILES, COMMERCIAL VEHICLES

	PINE STREET From North				INGHAM ROAD From East				PINE STREET From South				From West				
	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other	Total
Date 08/18/22																	
16:00	3	9	0	0	0	0	5	0	0	4	1	0	0	0	0	0	22
16:15	0	13	0	0	2	0	2	0	0	5	2	0	0	0	0	0	24
16:30	1	7	0	0	2	0	5	0	0	5	2	0	0	0	0	0	22
16:45	3	4	0	0	1	0	5	0	0	13	0	0	0	0	0	0	26
Hr Total	7	33	0	0	5	0	17	0	0	27	5	0	0	0	0	0	94
17:00	3	7	0	0	0	0	4	0	0	6	0	0	0	0	0	0	20
17:15	2	5	0	0	0	0	3	0	0	7	4	0	0	0	0	0	21
17:30	7	11	0	0	5	0	7	0	0	8	0	0	0	0	0	0	38
17:45	3	17	0	0	8	0	3	0	0	17	0	0	0	0	0	0	48
Hr Total	15	40	0	0	13	0	17	0	0	38	4	0	0	0	0	0	127
18:00	0	13	0	0	4	0	0	0	0	11	1	0	0	0	0	0	29
Hr Total	0	13	0	0	4	0	0	0	0	11	1	0	0	0	0	0	29
TOTAL	22	86	0	0	22	0	34	0	0	76	10	0	0	0	0	0	250

Peak Hour Analysis By Entire Intersection for the Period: 17:15 to 18:15 on 08/18/22

Peak start	17:15				17:15				17:15				17:15				
Volume	12	46	0	0	17	0	13	0	0	43	5	0	0	0	0	0	
Percent	21%	79%	0%	0%	57%	0%	43%	0%	0%	90%	10%	0%	0%	0%	0%	0%	
Pk total	58				30				48				0				
Highest	17:45				17:30				17:45				16:00				
Volume	3	17	0	0	5	0	7	0	0	17	0	0	0	0	0	0	
Hi total	20				12				17				0				
PHF	.72				.62				.71				.0				

JW BUCKHOLZ TRAFFIC ENGINEERING INC.

DAY: THURSDAY | MANUAL TURNING MOVEMENTS COUNT | Site Code 1

DATE: 08/18/22 | PINE STREET @ INGHAM ROAD | Start Dat 2

WEATHER: CLOUDY & RAIN | NASSAU COUNTY, FLORIDA | File I.D. : 08182201

BEGIN TIME (MILITARY): 16:00 Hrs | Page : 1

ITEM-3

AUTOMOBILES

	PINE STREET From North				INGHAM ROAD From East				PINE STREET From South				From West				
	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other	Total
Date 08/18/22																	
16:00	2	9	0	0	0	0	5	0	0	4	1	0	0	0	0	0	21
16:15	0	12	0	0	2	0	2	0	0	4	1	0	0	0	0	0	21
16:30	1	7	0	0	2	0	5	0	0	5	1	0	0	0	0	0	21
16:45	3	4	0	0	1	0	5	0	0	13	0	0	0	0	0	0	26
Hr Total	6	32	0	0	5	0	17	0	0	26	3	0	0	0	0	0	89
17:00	3	7	0	0	0	0	3	0	0	6	0	0	0	0	0	0	19
17:15	2	5	0	0	0	0	2	0	0	6	3	0	0	0	0	0	18
17:30	7	11	0	0	5	0	7	0	0	8	0	0	0	0	0	0	38
17:45	3	16	0	0	8	0	3	0	0	16	0	0	0	0	0	0	46
Hr Total	15	39	0	0	13	0	15	0	0	36	3	0	0	0	0	0	121
18:00	0	13	0	0	4	0	0	0	0	11	1	0	0	0	0	0	29
Hr Total	0	13	0	0	4	0	0	0	0	11	1	0	0	0	0	0	29
TOTAL	21	84	0	0	22	0	32	0	0	73	7	0	0	0	0	0	239
Peak Hour Analysis By Entire Intersection for the Period: 17:15 to 18:15 on 08/18/22																	
Peak start	17:15				17:15				17:15				17:15				
Volume	12	45	0	0	17	0	12	0	0	41	4	0	0	0	0	0	
Percent	21%	79%	0%	0%	59%	0%	41%	0%	0%	91%	9%	0%	0%	0%	0%	0%	
Pk total	57				29				45				0				
Highest	17:45				17:30				17:45				16:00				
Volume	3	16	0	0	5	0	7	0	0	16	0	0	0	0	0	0	
Hi total	19				12				16				0				
PHF	.75				.60				.70				.0				

JW BUCKHOLZ TRAFFIC ENGINEERING INC.

DAY: THURSDAY
DATE: 08/18/22
WEATHER: CLOUDY & RAIN
BEGIN TIME (MILITARY): 16:00 Hrs

MANUAL TURNING MOVEMENTS COUNT
PINE STREET @ INGHAM ROAD
NASSAU COUNTY, FLORIDA

Site Code : 1
Start Dat : 2
File I.D. : 08182201
Page : 1

ITEM-3

COMMERCIAL VEHICLES

	PINE STREET From North				INGHAM ROAD From East				PINE STREET From South				From West				
	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other	Left	Thru	Right	Other	Total
Date 08/18/22																	
16:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
16:15	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	3
16:30	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hr Total	1	1	0	0	0	0	0	0	0	1	2	0	0	0	0	0	5
17:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
17:15	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	3
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
Hr Total	0	1	0	0	0	0	2	0	0	2	1	0	0	0	0	0	6
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hr Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	1	2	0	0	0	0	2	0	0	3	3	0	0	0	0	0	11

Peak Hour Analysis By Entire Intersection for the Period: 17:15 to 18:15 on 08/18/22

Peak start	17:15				17:15				17:15				17:15				
Volume	0	1	0	0	0	0	1	0	0	2	1	0	0	0	0	0	
Percent	0%	100%	0%	0%	0%	0%	100%	0%	0%	67%	33%	0%	0%	0%	0%	0%	
Pk total	1				1				3				0				
Highest	17:45				17:15				17:15				16:00				
Volume	0	1	0	0	0	0	1	0	0	1	1	0	0	0	0	0	
Hi total	1				1				2				0				
PHF	.25				.25				.38				.0				

JW BUCKHOLZ TRAFFIC ENGINEERING INC.

DAY: THURSDAY
DATE: 08/18/22
WEATHER: CLOUDY & RAIN
BEGIN TIME (MILITARY): 16:00 Hrs

MANUAL TURNING MOVEMENTS COUNT
PINE STREET @ INGHAM ROAD
NASSAU COUNTY, FLORIDA

ITEM-3

Site Code : 1
Start Dat 2
File I.D. : 08182201
Page : 1

PEDESTRIAN & BICYCLES

	PINE STREET From North				INGHAM ROAD From East				PINE STREET From South				From West				
	Left	Thru	Right	PEDS	Left	Thru	Right	PEDS	Left	Thru	Right	PEDS	Left	Thru	Right	PEDS	Total
Date 08/18/22																	
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	3
16:30	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hr Total	1	2	0	0	0	0	0	1	0	1	0	0	0	0	0	0	5
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hr Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Hr Total	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
TOTAL	1	2	0	0	0	0	0	1	0	2	0	0	0	0	0	0	6

Peak Hour Analysis By Entire Intersection for the Period: 17:15 to 18:15 on 08/18/22

Peak start	17:15				17:15				17:15				17:15				
Volume	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
Percent	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	
Pk total	0				0				1				0				
Highest	16:00				16:00				18:00				16:00				
Volume	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
Hi total	0				0				1				0				
PHF	.0				.0				.25				.0				

APPENDIX C

FDOT TRAFFIC DATA

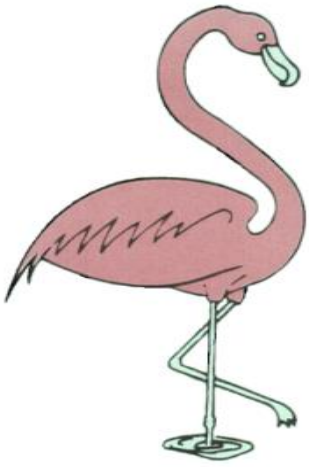
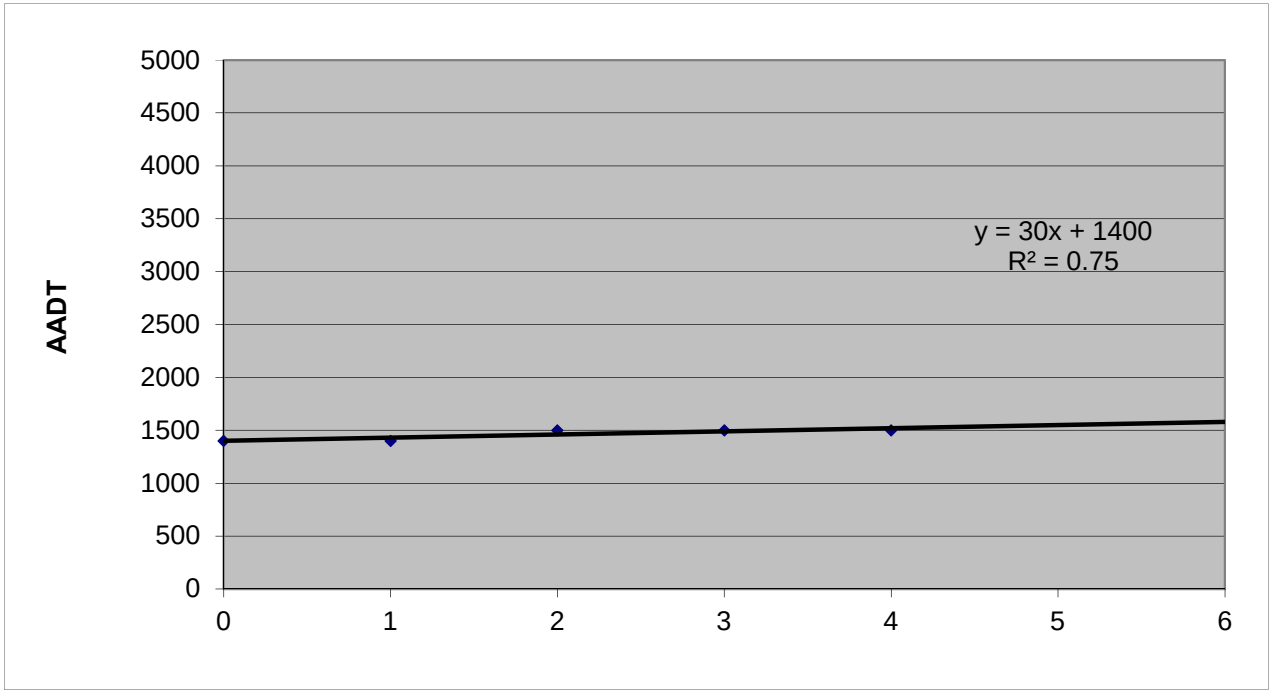


TABLE C-1
LINEAR REGRESSION ANALYSIS

Bay Road (CR 115), West of CR 108

Year	X	Actual AADT (Y)	**Predicted AADT**
2017	0	1400	**1400**
2018	1	1400	1430
2019	2	1500	1460
2020	3	1500	1490
2021	4	1500	1520
2022	5		1550
2023	6		**1580**

i = 2.0%



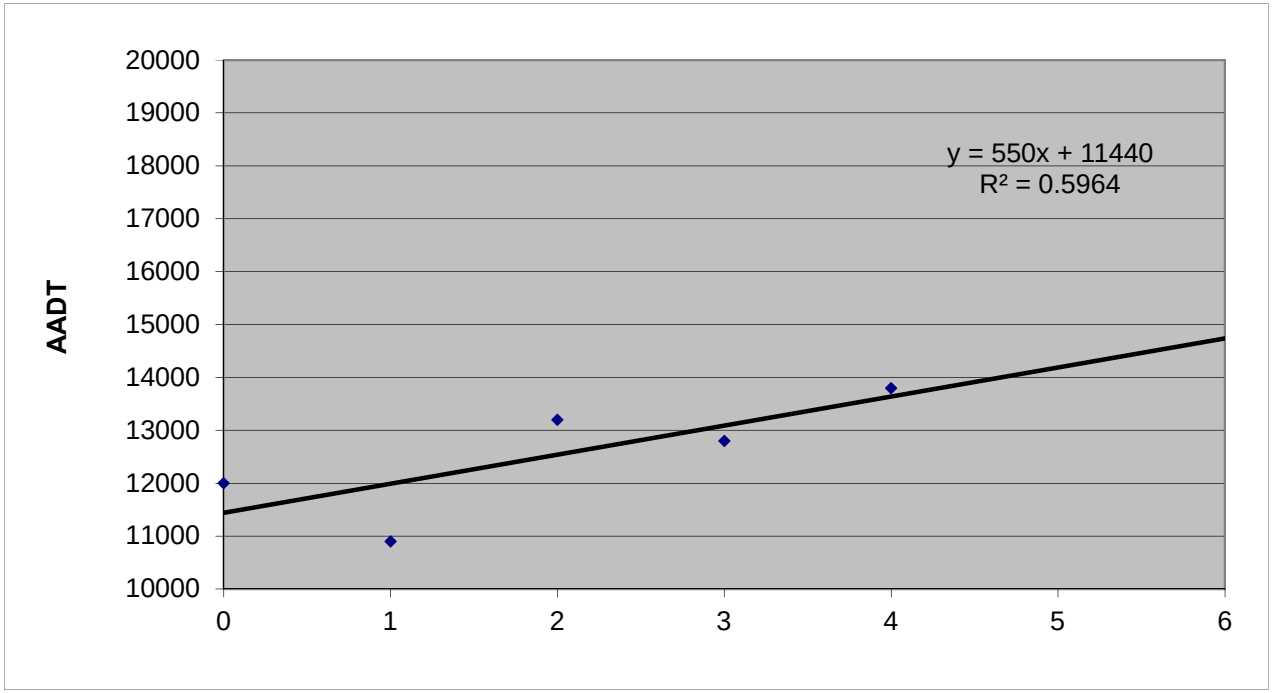
BUCKHOLZ TRAFFIC

TABLE C-2
LINEAR REGRESSION ANALYSIS

US 1, North of Eastwood Avenue

Year	X	Actual AADT (Y)	**Predicted AADT**
2017	0	12000	**11440**
2018	1	10900	11990
2019	2	13200	12540
2020	3	12800	13090
2021	4	13800	13640
2022	5		14190
2023	6		**14740**

i = 4.3%



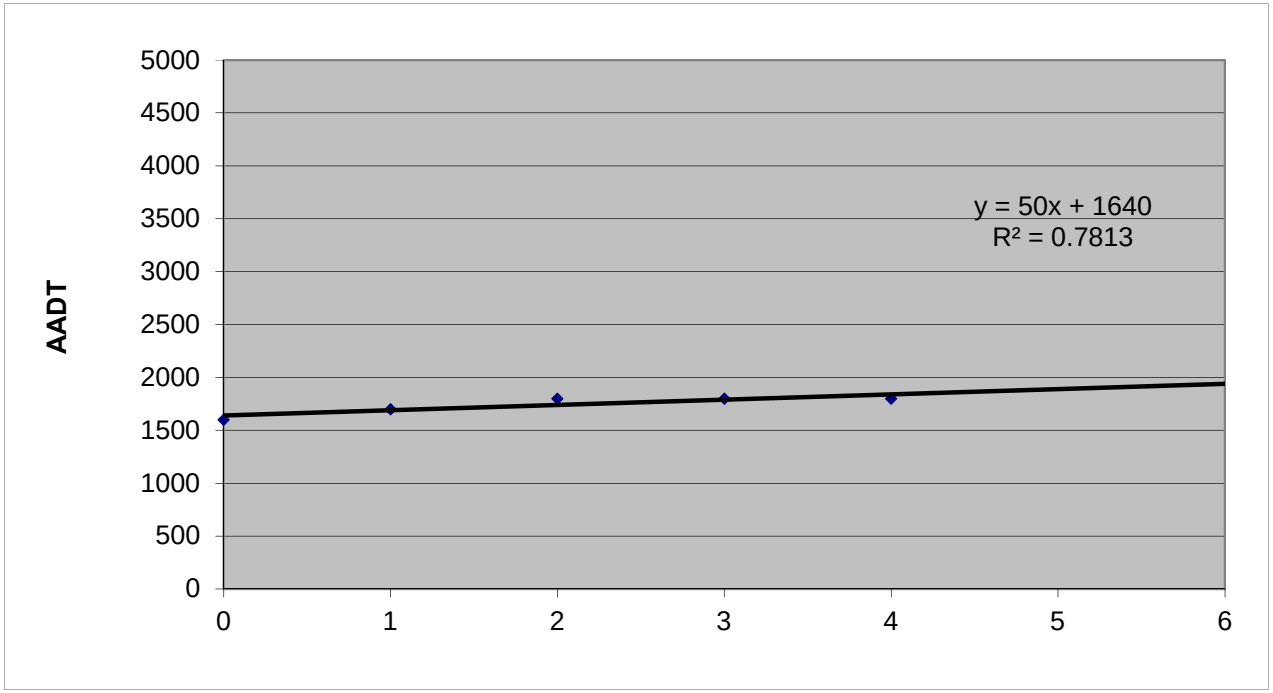
BUCKHOLZ TRAFFIC

TABLE C-3
LINEAR REGRESSION ANALYSIS

Henrey Smith Road, Southwest of US 1

Year	X	Actual AADT (Y)	**Predicted AADT**
2017	0	1600	**1640**
2018	1	1700	1690
2019	2	1800	1740
2020	3	1800	1790
2021	4	1800	1840
2022	5		1890
2023	6		**1940**

i = 2.8%



BUCKHOLZ TRAFFIC

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2021 HISTORICAL AADT REPORT

COUNTY: 74 - NASSAU

SITE: 9130 - CR 115(BAY RD) .1 MI. W. OF CR 108

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2021	1500 R	0	0	9.50	53.80	4.50
2020	1500 T	0	0	9.50	53.70	4.60
2019	1500 S	0	0	9.50	54.30	3.40
2018	1400 F	0	0	9.50	54.50	4.50
2017	1400 C	E 0	W 0	9.50	55.10	4.00
2016	1600 R	0	0	9.50	56.00	5.90
2015	1500 T	0	0	9.50	55.30	3.50
2014	1500 S			9.50	55.10	4.30
2013	1500 F	0	0	9.50	56.90	4.10
2012	1500 C	E 0	W 0	9.50	54.70	4.50

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2021 HISTORICAL AADT REPORT

COUNTY: 74 - NASSAU

SITE: 0019 - SR 15 .1 MI. N. OF EASTWOOD RD.(HILLIARD)

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2021	13800 S	N 6900	S 6900	9.50	63.10	17.80
2020	12800 F	N 6400	S 6400	9.50	57.10	17.80
2019	13200 C	N 6600	S 6600	9.50	55.30	16.90
2018	10900 C	N 5400	S 5500	9.50	55.20	17.40
2017	12000 C	N 6000	S 6000	9.50	55.40	18.60
2016	10900 C	N 5400	S 5500	9.50	56.20	18.20
2015	11500 C	N 5700	S 5800	9.50	54.00	18.60
2014	11100 C	N 5500	S 5600	9.50	54.30	18.50
2013	12200 C	N 6000	S 6200	9.50	56.10	21.50
2012	11500 C	N 5700	S 5800	9.50	53.30	19.30
2011	12300 C	N 6100	S 6200	9.50	55.00	19.40
2010	12000 C	N 5800	S 6200	10.24	59.82	18.90
2009	13400 C	N 6600	S 6800	10.19	57.33	18.50
2008	13300 C	N 6600	S 6700	10.24	60.66	19.80
2007	12300 C	N 6100	S 6200	10.80	60.00	18.30
2006	15200 C	N 7600	S 7600	11.27	59.33	19.20

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2021 HISTORICAL AADT REPORT

COUNTY: 74 - NASSAU

SITE: 9115 - HENRY SMITH RD. .1 MI. S. OF US 1

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2021	1800 R	0	0	9.50	53.80	4.50
2020	1800 T	0	0	9.50	53.70	4.60
2019	1800 S	0	0	9.50	54.30	3.40
2018	1700 F	0	0	9.50	54.50	4.50
2017	1600 C N	0	S 0	9.50	55.10	4.00
2016	1800 R	0	0	9.50	56.00	5.90
2015	1700 T	0	0	9.50	55.30	3.50
2014	1700 S			9.50	55.10	4.30
2013	1700 F	0	0	9.50	56.90	4.10
2012	1700 C N	0	S 0	9.50	54.70	4.50

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

2021 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
CATEGORY: 7400 NASSAU COUNTYWIDE

MOCF: 0.93

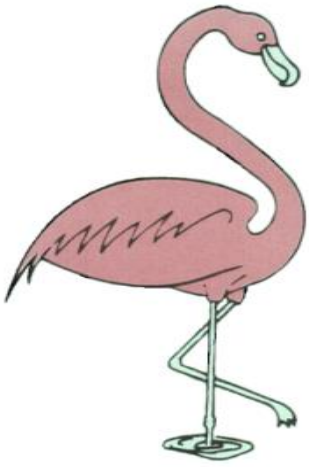
WEEK	DATES	SF	PSCF
1	01/01/2021 - 01/02/2021	0.99	1.06
2	01/03/2021 - 01/09/2021	1.12	1.20
3	01/10/2021 - 01/16/2021	1.25	1.34
4	01/17/2021 - 01/23/2021	1.23	1.32
5	01/24/2021 - 01/30/2021	1.21	1.30
6	01/31/2021 - 02/06/2021	1.20	1.29
7	02/07/2021 - 02/13/2021	1.18	1.27
8	02/14/2021 - 02/20/2021	1.16	1.25
9	02/21/2021 - 02/27/2021	1.11	1.19
10	02/28/2021 - 03/06/2021	1.06	1.14
11	03/07/2021 - 03/13/2021	1.01	1.09
12	03/14/2021 - 03/20/2021	0.97	1.04
13	03/21/2021 - 03/27/2021	0.96	1.03
14	03/28/2021 - 04/03/2021	0.96	1.03
15	04/04/2021 - 04/10/2021	0.96	1.03
16	04/11/2021 - 04/17/2021	0.96	1.03
*17	04/18/2021 - 04/24/2021	0.94	1.01
*18	04/25/2021 - 05/01/2021	0.93	1.00
*19	05/02/2021 - 05/08/2021	0.91	0.98
*20	05/09/2021 - 05/15/2021	0.90	0.97
*21	05/16/2021 - 05/22/2021	0.90	0.97
*22	05/23/2021 - 05/29/2021	0.91	0.98
*23	05/30/2021 - 06/05/2021	0.92	0.99
*24	06/06/2021 - 06/12/2021	0.93	1.00
*25	06/13/2021 - 06/19/2021	0.94	1.01
*26	06/20/2021 - 06/26/2021	0.95	1.02
*27	06/27/2021 - 07/03/2021	0.95	1.02
*28	07/04/2021 - 07/10/2021	0.96	1.03
*29	07/11/2021 - 07/17/2021	0.96	1.03
30	07/18/2021 - 07/24/2021	0.97	1.04
31	07/25/2021 - 07/31/2021	0.99	1.06
32	08/01/2021 - 08/07/2021	1.00	1.08
33	08/08/2021 - 08/14/2021	1.02	1.10
34	08/15/2021 - 08/21/2021	1.03	1.11
35	08/22/2021 - 08/28/2021	1.02	1.10
36	08/29/2021 - 09/04/2021	1.01	1.09
37	09/05/2021 - 09/11/2021	1.00	1.08
38	09/12/2021 - 09/18/2021	0.99	1.06
39	09/19/2021 - 09/25/2021	0.98	1.05
40	09/26/2021 - 10/02/2021	0.97	1.04
41	10/03/2021 - 10/09/2021	0.96	1.03
42	10/10/2021 - 10/16/2021	0.95	1.02
43	10/17/2021 - 10/23/2021	0.97	1.04
44	10/24/2021 - 10/30/2021	0.98	1.05
45	10/31/2021 - 11/06/2021	0.99	1.06
46	11/07/2021 - 11/13/2021	1.00	1.08
47	11/14/2021 - 11/20/2021	1.01	1.09
48	11/21/2021 - 11/27/2021	1.01	1.09
49	11/28/2021 - 12/04/2021	1.00	1.08
50	12/05/2021 - 12/11/2021	1.00	1.08
51	12/12/2021 - 12/18/2021	0.99	1.06
52	12/19/2021 - 12/25/2021	1.12	1.20
53	12/26/2021 - 12/31/2021	1.25	1.34

* PEAK SEASON

08-MAR-2022 12:36:25 830UPD 2_7400_PKSEASON.TXT

APPENDIX D

UNSIGNALIZED INTERSECTION CAPACITY CALCULATIONS



AM PEAK HOUR

HCS Two-Way Stop-Control Report

ITEM-3

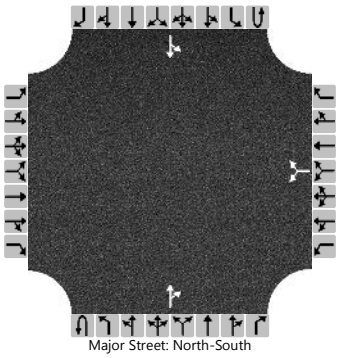
General Information

Analyst	J. Buckholz
Agency/Co.	BUCKHOLZ TRAFFIC
Date Performed	8/30/2022
Analysis Year	2022
Time Analyzed	AM Peak Hour Traffic
Intersection Orientation	North-South
Project Description	#22-1771

Site Information

Intersection	Pine Street/Ingham Road
Jurisdiction	Nassau County
East/West Street	Ingham Road
North/South Street	Pine Street
Peak Hour Factor	0.81
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						5		13			68	6		10	27	
Percent Heavy Vehicles (%)						0		23						10		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage						Undivided										

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.40		6.43						4.20		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.50		3.51						2.29		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							22							12		
Capacity, c (veh/h)							895							1455		
v/c Ratio							0.02							0.01		
95% Queue Length, Q_{95} (veh)							0.1							0.0		
Control Delay (s/veh)							9.1							7.5	0.1	
Level of Service (LOS)							A							A	A	
Approach Delay (s/veh)						9.1								2.1		
Approach LOS						A								A		

HCS Two-Way Stop-Control Report

ITEM-3

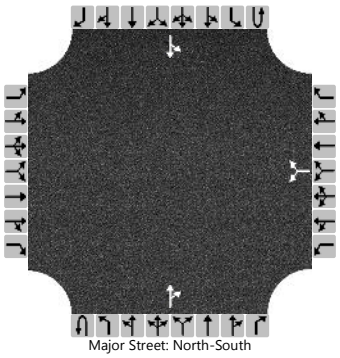
General Information

Analyst	J. Buckholz
Agency/Co.	BUCKHOLZ TRAFFIC
Date Performed	9/6/2022
Analysis Year	2023
Time Analyzed	AM Peak Hr BUILD Traffic
Intersection Orientation	North-South
Project Description	#22-1771

Site Information

Intersection	Pine Street/Ingham Road
Jurisdiction	Nassau County
East/West Street	Ingham Road
North/South Street	Pine Street
Peak Hour Factor	0.81
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						7		13			87	8		10	38	
Percent Heavy Vehicles (%)						0		23						10		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage						Undivided										

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.40		6.43						4.20		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.50		3.51						2.29		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							25							12		
Capacity, c (veh/h)							855							1423		
v/c Ratio							0.03							0.01		
95% Queue Length, Q_{95} (veh)							0.1							0.0		
Control Delay (s/veh)							9.3							7.6	0.1	
Level of Service (LOS)							A							A	A	
Approach Delay (s/veh)						9.3								1.6		
Approach LOS						A								A		

HCS Two-Way Stop-Control Report

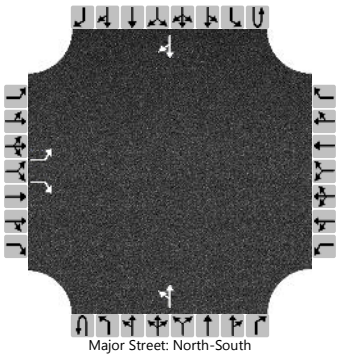
General Information

Analyst	J. Buckholz
Agency/Co.	BUCKHOLZ TRAFFIC
Date Performed	9/6/2022
Analysis Year	2023
Time Analyzed	AM Peak Hr BUILD Traffic
Intersection Orientation	North-South
Project Description	#22-1771

Site Information

Intersection	Pine Street/Site Drive
Jurisdiction	Nassau County
East/West Street	Site Drive
North/South Street	Pine Street
Peak Hour Factor	0.81
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		1	0	1		0	0	0	0	0	1	0	0	0	1	0
Configuration		L		R						LT						TR
Volume (veh/h)		18		8						4	77				34	11
Percent Heavy Vehicles (%)		2		2						2						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		No														
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.42		6.22						4.12						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.52		3.32						2.22						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		22		10						5						
Capacity, c (veh/h)		835		1020						1549						
v/c Ratio		0.03		0.01						0.00						
95% Queue Length, Q_{95} (veh)		0.1		0.0						0.0						
Control Delay (s/veh)		9.4		8.6						7.3	0.0					
Level of Service (LOS)		A		A						A	A					
Approach Delay (s/veh)		9.2								0.4						
Approach LOS		A								A						

PM PEAK HOUR

HCS Two-Way Stop-Control Report

ITEM-3

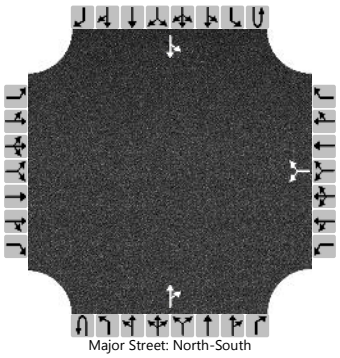
General Information

Analyst	J. Buckholz
Agency/Co.	BUCKHOLZ TRAFFIC
Date Performed	8/30/2022
Analysis Year	2022
Time Analyzed	PM Peak Hour Traffic
Intersection Orientation	North-South
Project Description	#22-1771

Site Information

Intersection	Pine Street/Ingham Road
Jurisdiction	Nassau County
East/West Street	Ingham Road
North/South Street	Pine Street
Peak Hour Factor	0.71
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						17		13			43	5		12	46	
Percent Heavy Vehicles (%)						0		8						0		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.40		6.28						4.10		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.50		3.37						2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							42							17		
Capacity, c (veh/h)							886							1547		
v/c Ratio							0.05							0.01		
95% Queue Length, Q_{95} (veh)							0.2							0.0		
Control Delay (s/veh)							9.3							7.4	0.1	
Level of Service (LOS)							A							A	A	
Approach Delay (s/veh)					9.3								1.6			
Approach LOS					A								A			

HCS Two-Way Stop-Control Report

ITEM-3

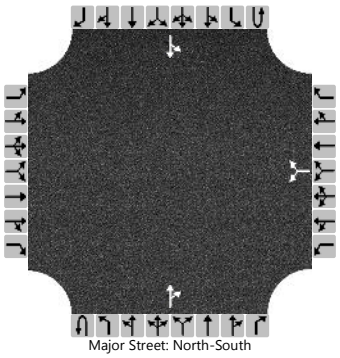
General Information

Analyst	J. Buckholz
Agency/Co.	BUCKHOLZ TRAFFIC
Date Performed	9/6/2022
Analysis Year	2023
Time Analyzed	PM Peak Hr BUILD Traffic
Intersection Orientation	North-South
Project Description	#22-1771

Site Information

Intersection	Pine Street/Ingham Road
Jurisdiction	Nassau County
East/West Street	Ingham Road
North/South Street	Pine Street
Peak Hour Factor	0.71
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	0	1	0
Configuration							LR					TR		LT		
Volume (veh/h)						22		13			51	6		12	58	
Percent Heavy Vehicles (%)						0		8						0		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.40		6.28						4.10		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.50		3.37						2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							49							17		
Capacity, c (veh/h)							850							1530		
v/c Ratio							0.06							0.01		
95% Queue Length, Q_{95} (veh)							0.2							0.0		
Control Delay (s/veh)							9.5							7.4	0.1	
Level of Service (LOS)							A							A	A	
Approach Delay (s/veh)						9.5								1.3		
Approach LOS						A								A		

HCS Two-Way Stop-Control Report

ITEM-3

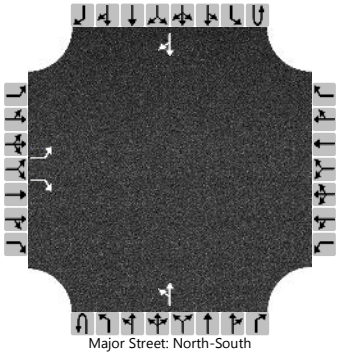
General Information

Analyst	J. Buckholz
Agency/Co.	BUCKHOLZ TRAFFIC
Date Performed	9/6/2022
Analysis Year	2023
Time Analyzed	PM Peak Hr BUILD Traffic
Intersection Orientation	North-South
Project Description	#22-1771

Site Information

Intersection	Pine Street/Site Drive
Jurisdiction	Nassau County
East/West Street	Site Drive
North/South Street	Pine Street
Peak Hour Factor	0.71
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		1	0	1		0	0	0	0	0	1	0	0	0	1	0
Configuration		L		R						LT						TR
Volume (veh/h)		7		9						17	50				67	13
Percent Heavy Vehicles (%)		2		2						2						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		No														
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.42		6.22						4.12						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.52		3.32						2.22						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		10		13						24						
Capacity, c (veh/h)		753		951						1477						
v/c Ratio		0.01		0.01						0.02						
95% Queue Length, Q_{95} (veh)		0.0		0.0						0.0						
Control Delay (s/veh)		9.8		8.8						7.5	0.1					
Level of Service (LOS)		A		A						A	A					
Approach Delay (s/veh)		9.3								2.0						
Approach LOS		A								A						

Hi Lee Anne:

Thanks for working to get us onto the agenda!

With regard to the SJRWMD permit, the last remaining item was their legal office review of the Title Commitment to ensure that our Conservation Easement isn't otherwise encumbered (which it is not). We haven't seen the actual permit drop, but we are hopeful it is imminent. Our Environmental consultant who is handling the permit is Jon Napier who may seek a statement from SJRWMD staff to the points above if that helps with the staff report.

Many thanks,
Jade Brown

B. Jade Brown, P.E., CGC

WOODLAND CAPITAL

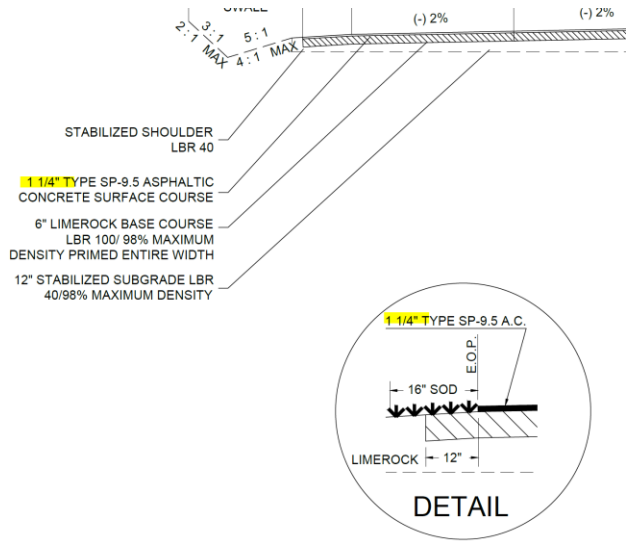
Woodland Capital, LLC
8280 Princeton Square Boulevard W#8
Jacksonville, FL 32256 USA
Mob: +321 403 2777
Jade@woodlandcapital.org

All,

Only a small revision is needed on Sheet 15. Revise 1-¼" to 1-½" in two places. See image below. Once revised and sent back to me, I'll add an approval stamp to the plans.

You'll receive the ROW permit once you conduct a pre-con with the Construction Inspector. I've copied Rich Yeater to this email. Please coordinate the pre-con with Rich.

Let me know if you have any questions.



Thanks,

Gabe Porter
Development Review Engineer
Nassau County Development Services
96161 Nassau Place | Yulee, FL 32097
O: 904-530-6225 | E: gporter@nassaucountyfl.com
PLEASE SEND ALL DRC SUBMITTALS TO DevelopmentReview@nassaucountyfl.com

HILLIARD PLANNING AND ZONING BOARD MEETING

Hilliard Town Hall / Council Chambers
15859 West County Road 108
Post Office Box 249
Hilliard, FL 32046

BOARD MEMBERS
Harold "Skip" Frey, Chair
Wendy Prather, Vice Chair
Charles A. Reed, Board Member
Josetta Lawson, Board Member
Kevin Webb, Board Member

ADMINISTRATIVE STAFF
Lee Anne Wollitz
Land Use Administrator

PLANNING AND ZONING ATTORNEY
Christian Waugh

MINUTES
TUESDAY, JANUARY 16, 2024, 7:00 PM

NOTICE TO PUBLIC

Anyone wishing to address the Planning & Zoning Board regarding any item on this agenda is requested to complete an agenda item sheet in advance and give it to the Land Use Administrator. The sheets are located next to the printed agendas in the back of the Council Chambers. Speakers are respectfully requested to limit their comments to three (3) minutes. A speaker's time may not be allocated to others.

PLEDGE OF CIVILITY

WE WILL BE RESPECTFUL OF ONE ANOTHER
EVEN WHEN WE DISAGREE.
WE WILL DIRECT ALL COMMENTS TO THE ISSUES.
WE WILL AVOID PERSONAL ATTACKS.
"Politeness costs so little." – ABRAHAM LINCOLN

CALL TO ORDER
PRAYER & PLEDGE OF ALLEGIANCE
ROLL CALL

PRESENT
Chair Harold "Skip" Frey
Vice Chair Wendy Prather
Planning and Zoning Board Member Charles A. Reed
Planning and Zoning Board Member Josetta Lawson

ABSENT
Planning and Zoning Board Member Kevin Webb

CHAIR To call on members of the audience wishing to address the Board on matters not on the Agenda.

REGULAR MEETING

ITEM-1 Additions/Deletions to Agenda

No Additions and Deletions to the agenda.

ITEM-2 Planning and Zoning Board Selection of Chair and Vice Chair
Lee Anne Wollitz – Land Use Adminstrator

A motion was made for Wendy Prather to serve as Chairperson.

Motion made by Planning and Zoning Board Member Reed, Seconded by Chair Frey.
Voting Yea: Chair Frey, Vice Chair Prather, Planning and Zoning Board Member Reed, Planning and Zoning Board Member Lawson

A motion was made for Charles Reed to serve as Vice Chairperson.

Motion made by Planning and Zoning Board Vice Chair Prather, Seconded by Member Lawson.
Voting Yea: Chair Frey, Vice Chair Prather, Planning and Zoning Board Member Reed, Planning and Zoning Board Member Lawson

ITEM-3 Acknowledge change of Legal Representative for the Planning and Zoning Board.
Lee Anne Wollitz – Land Use Administrator

Lee Anne Wollitz, Land Use Administrator, leads a discussion concerning a recommendation to Town council regarding having legal representative for each meeting. As well as the boards need to acknowledge the change in current legal representation.

Motion made by Vice Chair Prather, Seconded by Planning and Zoning Board Member Reed.
Voting Yea: Chair Frey, Vice Chair Prather, Planning and Zoning Board Member Reed, Planning and Zoning Board Member Lawson

ITEM-4 Planning and Zoning Board approval of the Minutes from December 12, 2023, Regular Meeting.

Motion made by Planning and Zoning Board Member Lawson, Seconded by Vice Chair Prather.
Voting Yea: Chair Frey, Vice Chair Prather, Planning and Zoning Board Member Reed, Planning and Zoning Board Member Lawson

ADDITIONAL COMMENTS

PUBLIC

No public wish to address the Board.

BOARD MEMBERS

Skip Frey, Chair- Thanks the Board for the chance to serve as Chair.

LAND USE ADMINISTRATOR

Lee Anne Wollitz, Land Use Administrator- Reminds the Board of the Public Hearing on January 18th as well as the Joint Workshop on January 29th.

PLANNING AND ZONING ATTORNEY

No Attorney present at meeting.

ADJOURNMENT

Motion to adjourn at 7:14pm.

Motion made by Planning and Zoning Board Member Reed, Seconded by Planning and Zoning Board Member Lawson.
Voting Yea: Chair Frey, Vice Chair Prather, Planning and Zoning Board Member Reed, Planning and Zoning Board Member Lawson

Approved this 13th day of February 2024, by the Hilliard Planning & Zoning Board, Hilliard, Florida

_____
Wendy Prather, Chair
Hilliard Planning & Zoning Board