MINUTES
MANASOTA KEY STREET & DRAINAGE
MUNICIPAL SERVICE TAXING UNIT (MSTU)

ADVISORY BOARD SPECIAL MEETING
WEDNESDAY, NOVEMBER 5, 2025

9:30 a.m. – 11:11 a.m.
Mac V. Horton West County Annex
6868 San Casa Drive, Englewood, Florida

Members Present:	Heather Harper-Nibert, Chair Derek Pinkerton Linda Powers
County Staff:	Lorraine Moneypenny, Community Liaison Ray Slade, Projects Manager Candice White, Senior Financial Analyst (by Teams)

Call to Order / Roll Call:
The meeting was called to order at 9:30 a.m. A quorum was present.

Changes to the Agenda / Motion to Approve Changes:

None.

Citizen Input on Agenda Items Only (3 Minute Limit):
None.

North Beach Road Multiuse Pathway Project:
This special meeting was called to decide whether the sidewalk construction budget be amended to account for the addition of drainage option C1 ($112,311) or C2 ($300,305). If so, an amendment ($39,030) shall be added to the sidewalk engineering design, which is in progress but on hold.

The Advisory Board discussed the cost of maintaining the sidewalk once constructed, the cost of electricity for project's lighting component, and the post-hurricane work still needed on the south side of the island, including lighting. Ms. White cautioned that spending more than budgeted on maintenance would impact the size of the loan necessary to build the sidewalk. There is 32% in reserve; the minimum is 10%. Once a scenario is chosen, the Fiscal Services department can do an analysis in time for the March 2026 meeting.

The Advisory Board discussed the budget, reserve requirements, the sufficiency of the $3.6 million loan, lengthening payoff period to cover an increased loan, and the possibility of saving up rather than borrowing. They asked if the construction can be pushed forward to another year. Yes, but the price will rise, warned Mr. Slade. He suggested the engineering design may go forward, as it is budgeted. If the sidewalk were to be built later, the design would be in place, only requiring a little tweak. The price of construction will, of course, be higher in the future. Construction cost estimates are included in the engineering design plans at 60% and at 90%

complete.

Ms. Powers wondered if the sidewalks are still desirable. Mr. Pinkerton said circumstances and demographics have changed since the *Manasota & Sandpiper Key Master Plan was* written in 2013.

Drainage had not been taken into account ahead of sidewalk construction on Gulf Blvd., Ms. Harper-Nibert said, and this Board feels a responsibility to ensure that mistake is not made on N. Beach Rd.

The Advisory Board asked Mr. Slade many questions about the relative merits of drainage construction options B, C (Minimum) and C (Maximum). Mr. Slade said this sidewalk will not add that much impervious surface. All the drainage options would help in varying degrees to detain water after a rain. Option C-Maximum creates storage under sidewalks; over time, those sidewalks might need expensive maintenance. Option C-Minimum might be the most cost effective. The pipes would be "taco-wrapped" to guard against sand infiltration. Still, eventually the pipe loses its absorption rate.

OPTION B -TOTAL STORMWATER STORAGE PROVIDED = 589 CY				
	Price/Unit	Qty	Unit	Unit Total
ITEM	$			
Channel Excavation	$26.94	737	CY	$19,855
TOTAL				$19,855

OPTION C - MINIMUM STORMWATER STORAGE POTENTIAL = 807 CY				
	Price/Unit	Qty	Unit	Unit Total
ITEM				
Channel Excavation	$26.94	737	CY	$19,855
1 runs of 18" Perforated Piping	$56.64	1650	LF	$93,456
TOTAL				$113,311

OPTION C - MAXIMUM STORMWATER STORAGE POTENTIAL = 1,242 CY				
	Price/Unit	Qty	Unit	Unit Total
ITEM				
Channel Excavation	$26.94	737	CY	$19,855
3 runs of 18" Perforated Piping	$169.97	1650	LF	$280,451
TOTAL				$300,305

Mr. Pinkerton asked if swales could be added after the sidewalk construction, if drainage issues are identified. Mr. Slade said probably; a stormwater engineer would make a plan.

Ms. Harper-Nibert motioned to adopt Option B for the sidewalk design, if the design is to go forward. Mr. Pinkerton seconded, and the motion passed. Mr. Slade approved of the intention to address drainage. During permitting Southwest Florida Water Management District (SWFWMD) would analyze drainage impacts as well. He said a scope change would require the approval of the Board of County Commissioners (BCC). As would a motion to cancel the sidewalk project.

Mr. Pinkerton recalled that many residents arrayed against a sidewalk at a public meeting were told that it would go forward as part of the County's commitment to phase four of the community plan. Ms. Harper-Nibert speculated that the BCC might not be swayed if public opinion were to coalesce around canceling the sidewalk project. Still, citizen input is necessary. The Advisory Board discussed ways to solicit public opinion – at next week's South Manasota Sandpiper Key (SMSK) Association meeting or at the December MSBU meeting or at a community input meeting or by mailed survey. The Board would start with SMSK. To comply with Sunshine Law, Ms.

Harper-Nibert will attend on her own.

Ms. Harper-Nibert motioned to pause the sidewalk engineering design process while the Advisory Board collects community input. The motion passed by acclamation.

The meeting adjourned at 11:11 a.m.

Submitted by Lorraine Moneypenny
Public Works Department

Chair Signature

12.3.2025
Date

CHARLOTTE COUNTY
FLORIDA

Manasota Key Street & Drainage
Municipal Service Taxing Unit

Advisory Board Meeting Attendance
SPECIAL MEETING
Wednesday, November 5, 2024

9:30 a.m., West County Annex
6868 San Casa Drive, Englewood, Florida

INFORMATION SUPPLIED ON THIS FORM BECOMES PUBLIC RECORD

NAME (please print)	Email Address	Phone Number
Heather Harper Nibert	heather@flondaham.com	407 383 7574
Linda Powers	linda.powers1@gmail.com	941.441.5923
Derek Pinkerton	derek.pinkerton12@gmail.com	610.223.7354

AGENDA

MANASOTA KEY STREET & DRAINAGE MUNICIPAL SERVICE TAXING UNIT (MSTU)

ADVISORY BOARD SPECIAL MEETING WEDNESDAY, NOVEMBER 5, 2025

9:30 a.m., Mac V. Horton, West County Annex
6868 San Casa Drive, Englewood, Florida

BOARD MEMBERS:	Heather Harper-Nibert, Chair
	Derek Pinkerton
	Linda Powers
COUNTY STAFF:	Lorraine Moneypenny, Community Liaison
	Ray Slade, Project Manager
PURPOSE:	Regular Meeting

1. Call to Order / Roll Call
2. Pledge of Allegiance
3. Citizen Input on Agenda Items (3 Minute Limit)
4. Changes to the Agenda / Motion to Approve Changes
5. North Beach Road Sidewalk Project / Drainage Feasibility Study
6. Motion to Adjourn

ESTIMATED COST SUMMARY

STORMWATER IMPROVEMENTS

Please note all pricing data is per FDOT pricing history for 2023-2024. The following estimates provided are based on preliminary design, information collected and shall be considered a rough estimate. Once an option is selected a more comprehensive design can be completed with a more exact and detailed cost estimate. Please note cost is only for added stormwater improvements.

OPTION A - NO STORMWATER STORAGE PROVIDED				
	Price/Unit	Qty	Unit	Unit Total
ITEM	$			
NONE	$0.00			
TOTAL	$0.00			$0.00

OPTION B -TOTAL STORMWATER STORAGE PROVIDED = 589 CY				
	Price/Unit	Qty	Unit	Unit Total
ITEM	$			
Channel Excavation	$26.94	737	CY	$19,855
TOTAL				$19,855

OPTION C - MINIMUM STORMWATER STORAGE POTENTIAL = 807 CY				
	Price/Unit	Qty	Unit	Unit Total
ITEM				
Channel Excavation	$26.94	737	CY	$19,855
1 runs of 18" Perforated Piping	$56.64	1650	LF	$93,456
TOTAL				$113,311

OPTION C - MAXIMUM STORMWATER STORAGE POTENTIAL = 1,242 CY				
	Price/Unit	Qty	Unit	Unit Total
ITEM				
Channel Excavation	$26.94	737	CY	$19,855
3 runs of 18" Perforated Piping	$169.97	1650	LF	$280,451
TOTAL				$300,305

OPTION D - STORAGE POTENTIAL = 1,242 CY (OPTION DEEMED INFEASIBLE DUE TO				
	Price/Unit	Qty	Unit	Unit Total
ITEM				
Channel Excavation	$26.94	737	CY	$19,855
3 runs of 18" Perforated Piping	$169.97	1650	LF	$280,451
12" Pipe Culvert	$122.06	1200	LF	$146,472
12" Mitered End Sections	$3,500.00	66	EA	$231,000
Modified Manhole Control Structure	$15,400.00	4	EA	$61,600
ROW Acquisition	Unknown	TBD	Placeholder	$500,000
Underdrain, Type III	$30.84	600	LF	$18,504
Manatee Grate	$2,400.00	1	EA	$2,400
Manhole Structure	$8,975.13	4	EA	$35,901
TOTAL				$1,296,182

NORTH BEACH MULTIUSE PATHWAY AND LIGHTING IMPROVEMENT PROJECT

STORMWATER FEASIBILITY STUDY

CHAROLOTTE COUNTY - NORTH BEACH ROAD

PREPARED FOR:

CHARLOTTE COUNTY BOARD OF COUNTY COMMISSIONERS
18500 MURDOCK CIRCLE
SUITE 536
PORT CHARLOTTE, FLORIDA 33948

PREPARED BY:

AXIS INFRASTRUCTURE
70 MANSELL COURT
SUITE 200
ROSWELL, GEORGIA 30076

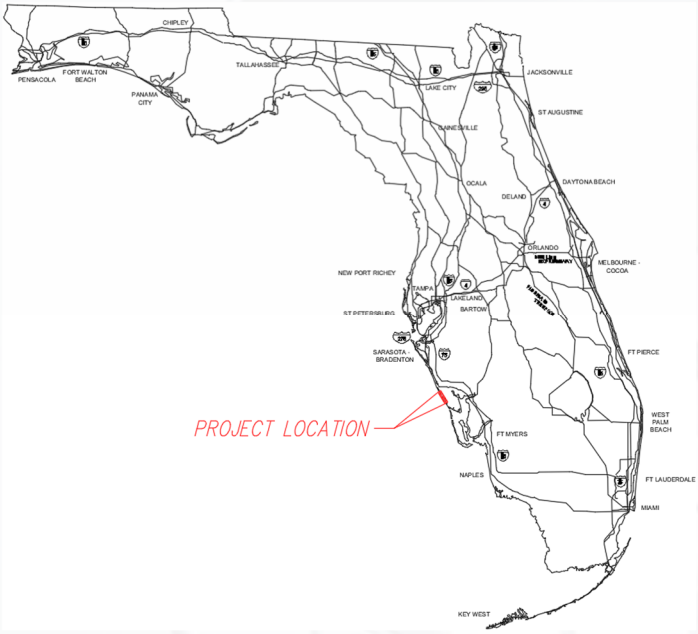
ORIGINAL SUBMISSION: 02/03/2025

REVISIONS:
02/18/2025

AXIS INFRASTRUCTURE

TABLE OF CONTENTS

LOCATION MAP



STATE MAP
N.T.S.

LOCATION MAP
N.T.S.

PROJECT OVERVIEW

The project area is located in Charlotte County in the right-of-way (ROW) of North Beach Road north of Englewood Beach Park and south of the Charlotte County / Sarasota County border. The total area is approximately 12.32 acres and is owned entirely by Charlotte County. The project plans to add a 8-foot multiuse pathway, decorative lighting, and one of several potential stormwater management options along the west side of North Beach Road for approximately 7,387 LF. North Beach Road will also be reconfigured to reduce the road width and provide more green space. The purpose of this study is to analyze the efficiency and feasibility of several potential stormwater management systems as compared to each other and the requirements of the Southwest Florida Water Management District (SWFWMD) and Charlotte County.

EXISTING CONDITIONS

The existing conditions of the site include a 2-lane road with variable width and ROW with striped bicycle lanes on each side. For the majority of the site, the width of the roadway pavement is 34 feet and the roadway drains via sheet flow to grass (pervious) areas. The elevation of the roadway's centerline is between 5 feet and 8.5 feet for the project area. There is no existing conveyance system on either side of the road or between the ROW and the Gulf of Mexico (America) or the Intercoastal Waterway (Lemon Bay). It is important to note that 2024 hurricane events have deposited an enormous amount of sand / sediment in the area and there are virtually no roadside swales, conveyance ditches, or positive drainage relief from the ROW. Charlotte County Public Works crews are actively working this area to reestablish the roadway / roadside stormwater system.

For the focus of this study, the west side of the road / ROW will be the primary focus. The project area consists of *Canaveral fine sand-Urban land complex soil* based on the USDA Natural Resources Conservation Service's Web Soil Survey. This soil type has great infiltration properties which can be seen in Appendix A.

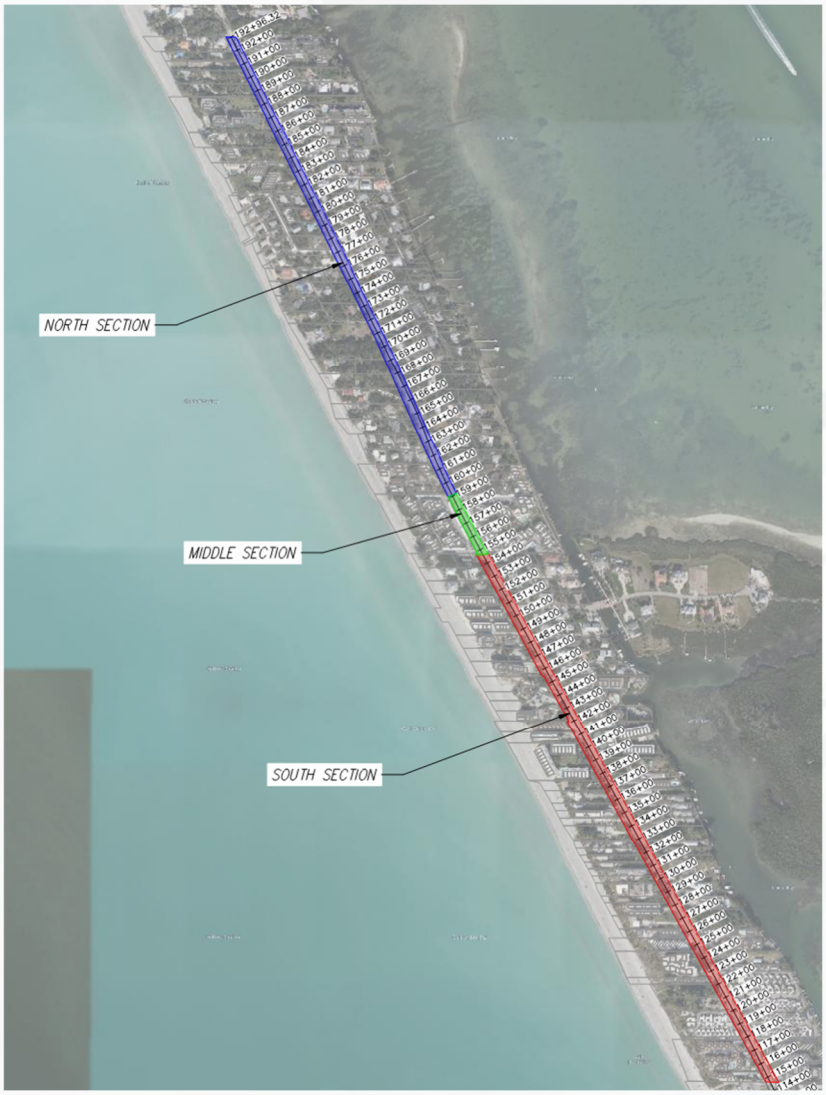
The project can be divided into three sections, definitions and a map of which follows:

- The South section can be defined as north of Englewood Beach Park (Ray St.) and south of Tamarind Gulf & Bay Condominiums (Driftwood Dr.).
- The Middle section consists of the area known as Tamarind Gulf & Bay Condominiums between the following boundaries: the south boundary street being Driftwood Dr. and the north boundary being the parking lot of previously named condominiums.
- The North section can be defined as north of Tamarind Gulf & Bay Condominiums and south of the Charlotte County / Sarasota County border.

Project Sections Summary

Section	Start Station	End Station	Length	Typical Road Width	Typical ROW Width
South	114+77	154+77	4,000 LF	34 FT	75 FT
Middle	154+77	159+09	432 LF	42 FT	60 FT
North	159+09	192+96	3,387 LF	34 FT	60-65 FT

The Middle section's ROW is almost entirely impervious due to an existing sidewalk, center turn lane, and parking lot bordering the roadway on each side of the road.



SECTIONS MAP
N.T.S.

PROPOSED CONDITIONS

The proposed conditions include alterations to the South and North sections of the project to reduce the width of the roadway to 29 feet with proposed improvements to the west side of the road including a 8-foot multiuse pathway, decorative lighting and one of several potential stormwater management options. Additionally, driveways in the South and North sections will be replaced using Charlotte County Standard Detail R-3, which can be seen in Appendix D. Due to the lack of cover and shallow elevation relief from the existing pavement elevations, no pipe culverts are being proposed under these driveways in most of the stormwater management options. The Middle section of the project will not be altered due to the lack of ROW on the west side of the roadway and the existing conditions providing a sidewalk for pedestrian traffic. No additional ROW acquisition is being considered by the county for this project.

STORMWATER MANAGEMENT – OVERVIEW

There are multiple stormwater management options that were explored for the project, a breakdown of which can be seen below:

- Option A: Disturbs the existing conditions of the project area as little as possible and any disturbed area will be replaced to match as-is conditions. This option does not offer substantial improvements to the existing conditions and also does not provide additional storage and/or strormwater treatment for the area. See page 8 for additional details.
- Option B: Provides additional storage and stormwater treatment for the area using shallow swales between the edge of the roadway and the proposed 8-foot multiuse pathway. This can provide up to 58 unique swales for the project. This option does not include providing an outfall or stormwater conveyance between the swales. See page 9 for additional details.
- Option C: Includes the improvements described in Option B while also providing one of several additional storage options in specific areas. This option also does not provide an outfall or stormwater conveyance between the swales and these additional storage options rely on detention and infiltration into the natural ground. See page 11 for additional details.
- Option D: Will provide the improvements as described in Option B as well as providing stormwater conveyance and an outfall into the Intercoastal Waterway (Lemon Bay). While this option was explored, due to multiple factors, the feasibility of this option does not seem to be reasonable for the scope of this project. See page 12 for additional details.

These options were individually analyzed using a variety of methods for their potential benefits. These methods include researching the existing conditions / previous work in the area, reviewing the existing conditions and current design drawings for the feasibility of these potential stormwater management options, and comparing these options to each other as well as the existing conditions. After this analysis was performed, a report was created and the design team met with the Southwest Florida Water Management District (SWFWMD) to discuss these potential options as well as the requirements for the project area. A summary of these meeting can be seen in Appendix E. The design team then used all this information to update this report and provide a recommendation for the project, which can be seen in the conclusion of this report.

An additional analysis of potential additional cost for Option C and D was also performed using data from FDOT and manufacturer suppliers. This data is an estimate and should be considered as approximate. The cost information has been provided on a linear foot basis for comparison with each other. This information can be seen in Appendix F.

STORMWATER MANAGEMENT – OPTION A

Option A for stormwater management involves the least amount of impact to existing conditions. This option involves reducing the roadway width to 29', installing the proposed 8-foot multiuse pathway and decorative lighting, and leaving the current drainage conditions as-is (sheet flow from the road to green spaces).

This should suffice in the South section of the project because there is extra green space that will provide more area for infiltration. This extra green area is accomplished by both reducing the roadway width and reducing driveways to conform with Charlotte County Standard Detail R-3 which can be seen in Appendix D. Due to the increase in impervious area in the North section of the project, there will be some increased runoff from the new multiuse pathway, but this increase when spread throughout the entire length is minimal (0.21 CF per LF which is distributed from the edge of the roadway to the ROW line). Please see the tables below for more information. The impervious area shown below is west of the proposed roadway edge.

Green Spaces Overview

Section	Existing Grass Area (SF)	Proposed Grass Area (SF)	Difference (SF)
South	52,007	52,870	+863
North	35,301	26,618	-8,883

Impervious Area Overview

Section	Existing Impervious Area* (SF)	Proposed Impervious Area (SF)	Difference (SF)
South	49,308	48,445	-863
North	25,054	33,737	+8,883

*There are multiple brick / shell driveways in this project area. To be conservative these driveways have been considered as impervious

Impervious Area Breakdown

Section	New Multiuse Pathway (SF)	New Driveways / Side Street Intersections (SF)	Removed Roadway (SF)	Removed Driveways / Side Street Intersections (SF)	Total New Impervious (SF)*
South	32,050	16,395	17,821	31,487	-863
North	27,209	6,728	14,984	10,070	8,883

* Total New Impervious = (New Multiuse Pathway + New Driveways / Street Intersections) – (Removed Roadway + Removed Driveways / Street Intersections)

Water Quality Treatment Volume – Option A

Section	Provided Storage (CF)
South	0
North	0

STORMWATER MANAGEMENT – OPTION B

Option B for stormwater management includes reducing the roadway width to 29', installing the proposed 8-foot multiuse pathway and decorative lighting, and adding a system of shallow swales to the North and South sections of the project. The South section consists of 33 distinctive swales ranging in size and depth. These swales are at least 0.6 feet in depth and 2 feet above sea level. The North section of the stormwater management system has 25 unique swales that range in size and depth, with a minimum depth of 0.26 feet in depth and at least 4.13 feet above sea level. Swales in both sections are created using 4:1slopes from the roadway edge west and the multiuse pathway's edge east. These slopes either converge into a triangular-shaped or trapezoidal-shaped cross section. There is no distinct outfall conveying the swale drainage from the ROW. A typical cross section of existing and proposed conditions can be seen in Appendix C.

Neither the South or North section of the project is being designed to discharge into Gulf of Mexico (America) waters or Intercoastal waterway (Lemon Bay) in this option. Both sections of the project are being designed to withhold water in the provided drainage swales and discharge the water over time through natural infiltration. These swales are intended to act as above ground dry retention areas and are intended to treat the captured water for removal of nitrogen and phosphorous nutrients as well.

The following tables contain summaries of the South and North sections' stormwater management systems and their results. The amount of storage shown is at a minimum 6" below roadway and/or 3" below the multiuse pathway, whichever is lower, to ensure that reported quantities do not reflect overflow conditions. Additionally, the SWFWMD requires the bottom elevation of dry retention ponds must be at least 1' above Mean High Water Elevation (MHW). This requirement has been met. See Appendix B for more information.

Water Quality Treatment Volume – Option B

Section	Provided Storage (CF)
South	13,928
North	1,980

AXIS INFRASTRUCTURE

SOUTH SECTION - STORMWATER MANAGEMENT - OPTION B SUMMARY

Name	Top Area (SF)	Bottom Area (SF)	Depth (FT)	Storage (CF)	Name	Top Area (SF)	Bottom Area (SF)	Depth (FT)	Storage (CF)
S-01	211	11.3	1.35	120	S-18	521	24	1.62	353
S-02	571	39	1.25	305	S-19	341	21	0.9	130
S-03	871	21	1.25	446	S-20	859	30	1.52	541
S-04	487	74	1.0	224	S-21	1260	23	1.6	821
S-05	583	31	1.0	246	S-22	850	30	1.75	616
S-06	304	34	1.25	169	S-23	1808	42	1.9	1406
S-07	1199	36	1.5	741	S-24	709	61	1.0	308
S-08	896	33	1.25	465	S-25	266	62	0.5	66
S-09	785	123	1.15	418	S-26	319	21	0.5	68
S-10	950	123	1.25	537	S-27	618	81	0.85	238
S-11	676	35	1.15	327	S-28	367	11	1.35	204
S-12	805	93	1.0	359	S-29	2543	128	1.8	1923
S-13	159	38	0.6	47	S-30	622	20	1.75	449
S-14	154	3	1.25	79	S-31	781	135	1.25	458
S-15	894	69	1.12	431	S-32	723	41	1.25	382
S-16	495	35	1.32	280	S-33	536	35	0.75	171
S-17	961	74	1.45	600					

NORTH SECTION - STORMWATER MANAGEMENT – OPTION B SUMMARY

Name	Top Area (SF)	Bottom Area (SF)	Depth (FT)	Storage (CF)	Name	Top Area (SF)	Bottom Area (SF)	Depth (FT)	Storage (CF)
N-01	324	32	0.45	64	N-14	115	7	0.58	28
N-02	408	13	0.54	91	N-15	226	71	0.38	45
N-03	884	130	0.6	243	N-16	489	68	0.64	143
N-04	446	8	0.81	147	N-17	113	11	0.72	36
N-05	413	64	0.46	88	N-18	426	7	0.78	135
N-06	241	21	0.34	36	N-19	407	42	0.54	97
N-07	357	22	0.26	39	N-20	479	28	0.5	101
N-08	389	9	0.64	102	N-21	144	18	0.27	17
N-09	126	8	0.62	33	N-22	246	9	0.45	46
N-10	271	17	0.75	86	N-23	412	39	0.47	85
N-11	252	17	0.68	73	N-24	266	56	0.41	53
N-12	285	10	0.59	70	N-25	209	10	0.72	63
N-13	209	5	0.68	58					

STORMWATER MANAGEMENT SYSTEM – OPTION C

Option C for stormwater management includes reducing the roadway width to 29', installing the proposed 8-foot multiuse pathway and decorative lighting, adding the same swales as defined in Option B, and using an additional stormwater management system to provide additional storage / infiltration. This additional stormwater management system includes using one of the following: an underdrain system under the bottom of the ditch, a run (or multiple) of perforated piping under the multiuse pathway, or a run (or multiple) of ADS Stormtech chambers. This additional storage has been analyzed for capacity on a linear foot basis and can be used in areas where the swales provided in Option B are relatively small or any additional area of concern. This would primarily be in the North section of the project. Selection of a specific system would occur at a later date after further analysis is completed if this is the chosen option. A generalized cross section of each of these options can be seen in Appendix C. See the table below for more information on the potential storage of each system on a linear foot basis. Please note that for the perforated piping and ADS Stormtech chambers system, the minimum number of runs and the maximum number of runs is shown.

Option C – Storage of Preliminary Systems on a Linear Foot Basis

System	Storage per LF (CF)
Underdrain (similar to FDOT Type II)	1.69
1 run of 18" Perforated Piping	3.56
3 runs of 18" Perforated Piping	10.69
1 run of ADS Stormtech SC-310 Chamber	5.33
2 runs of ADS Stormtech SC-310 Chambers	9.94

STORMWATER MANAGEMENT SYSTEM – OPTION D

Option D for stormwater management involves reducing the roadway width to 29', constructing the proposed 8-foot multiuse pathway and decorative lighting, providing the same swales as defined in Option B and using additional stormwater conveyance to provide an outfall to the Intercoastal Waterway (Lemon Bay). The concept for this option includes adding pipe culverts under the driveways and additional piping to provide an outfall to the Intercoastal Waterway (Lemon Bay).

This option was conceptually analyzed and found to lack feasibility due to the following conditions: the shallowness of the proposed swales limit the ability to convey water throughout the entire corridor, the lack of cover available and the limiting ROW width present in the majority of the corridor, the general topography of the corridor (having crested elevations in the middle section) necessitate two outfalls, and the scarcity of adequate outfall locations readily available for use, which would necessitate potential property acquisition. These issues do not have practical solutions and would limit the effectiveness of this option for stormwater management.

Additionally, after meeting and discussing the project with the SWFWMD, additional requirements would be necessary if this option was pursued. These additional requirements include additional permits, additional design demands for Mantatee protection, and additional stormwater requirements due to the Intercoastal Waterway (Lemon Bay) being considered impaired for multiple pollutants. These requirements would greatly increase the scope, cost, and disturbance of the project.

Because of the feasibility issues with this option and the additional requirements expanding the scope and cost of the project, the design team does not recommend this option for stormwater management.

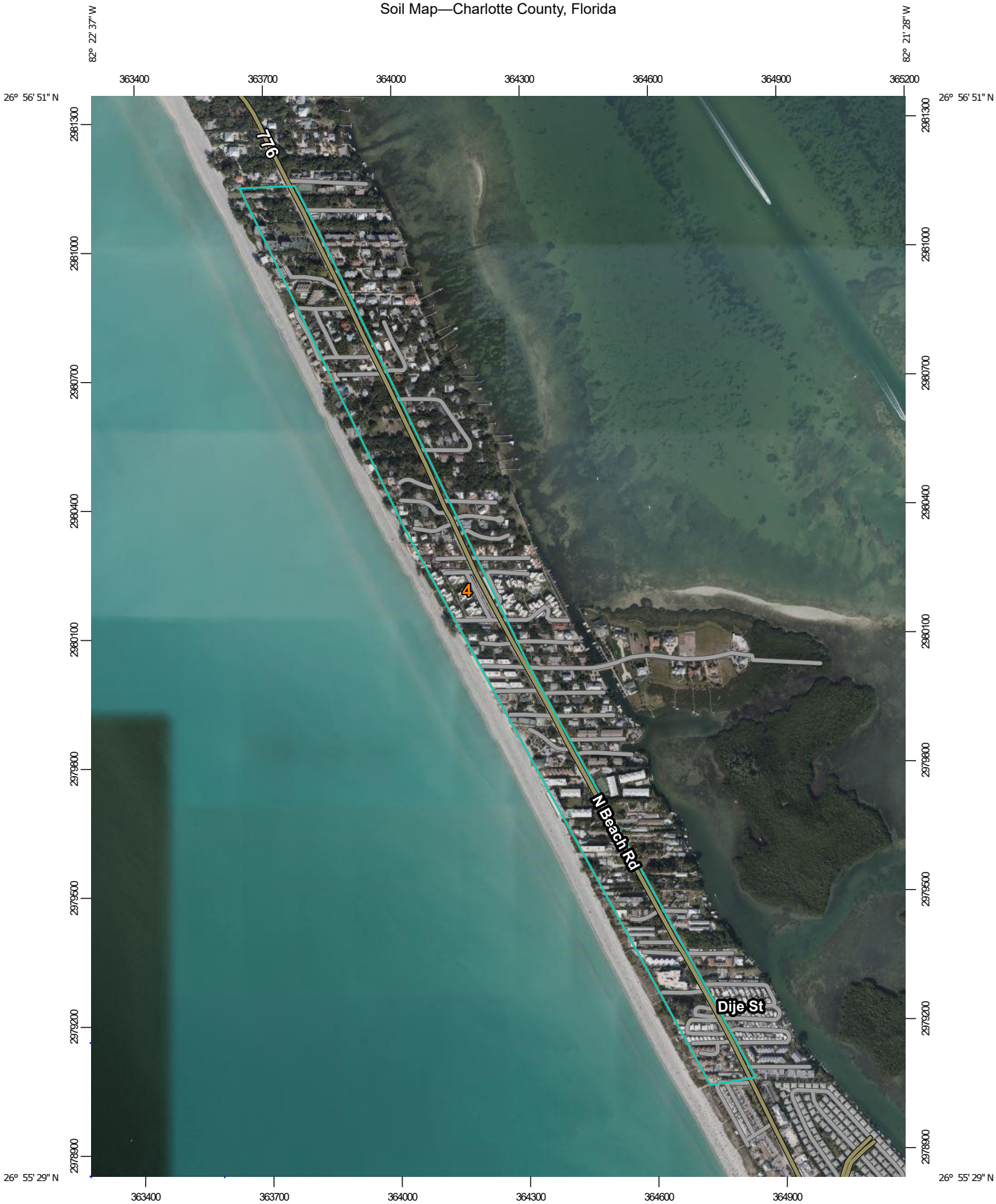
CONCLUSION

The project has multiple options for stormwater management, none of which impact the flow of water in a meaningful way when compared to existing conditions.

- Option A is the simplest option and involves matching existing conditions between the new edge of roadway and the new multiuse pathway. However this option provides no additional storage or treatment of runoff which could cause a minor impact to the North section of the project. This impact should be manageable through infiltration and existing stormwater management systems.
- Option B involves adding shallow swales between the new roadway edge and the new multiuse pathway and provides storage / treatment exceeding what would be required.
- Option C includes the improvements of Option B as well as adding additional storage if desired using underground storage systems. This system would provide the most storage possible but also involves additional cost and schedule for the project.
- Option D proposes the same improvements as described in Option B as well as providing conveyance to an outfall to the Intercoastal Waterway (Lemon Bay). This option is not considered feasible by the design team and would expand the scope and breadth of the project greatly.

Recommendation: The design team feels Options A, B, and C can provide adequate stormwater management when compared to existing conditions and recommends Option B as it would provide additional storage / treatment in a cost-efficient way. The design team does not recommend pursuing Option D due to its limitations in effectiveness and feasibility as well as the momentous changes to the scope of the project.

APPENDIX A



Map Scale: 1:12,300 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 150 300 600 900

Feet
0 500 1000 2000 3000

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 1:20,000.

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: Charlotte County, Florida
Survey Area Data: Version 23, Aug 20, 2024

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

Date(s) aerial images were photographed: Dec 27, 2020—Nov 23, 2021

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
4	Canaveral fine sand-Urban land complex, 0 to 2 percent slopes	64.1	100.0%
Totals for Area of Interest		**64.1**	**100.0%**

TABLE 15.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS

[The symbol < means less than; > means more than. Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Organic matter" apply only to the surface layer. Absence of an entry indicates that data were not available or were not estimated]

Map symbol and soil name	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Salinity	Shrink-swell potential	Erosion factors		Wind erodibility group	Organic matter
									K	T		
	In	Pct	G/cm³	In/hr	In/in	pH	Mmhos/cm					Pct
2----------	0-15	<2	1.25-1.50	>20	0.02-0.05	6.6-8.4	<2	Very low	0.10	5	2	<1
Canaveral	15-80	<2	1.25-1.50	>20	0.02-0.05	6.6-8.4	<2	Very low	0.10			
4:												
Canaveral-------	0-15	<2	1.25-1.50	>20	0.02-0.05	6.6-8.4	<2	Very low	0.10	5	2	<1
	15-80	<2	1.25-1.50	>20	0.02-0.05	6.6-8.4	<2	Very low	0.10			
Urban land.												
5----------	0-6	1-3	1.30-1.55	6.0-20	0.10-0.15	7.4-7.8	<2	Low-------	0.10	5	2	---
Captiva	6-15	1-3	1.45-1.65	>20	0.05-0.10	7.9-8.4	<2	Low-------	0.10			
	15-26	1-3	1.50-1.65	>20	0.05-0.10	7.9-8.4	<2	Low-------	0.10			
	26-30	1-3	1.55-1.70	>20	<0.05	7.9-8.4	<2	Low-------	0.10			
	30-80	1-3	1.60-1.75	>20	<0.05	7.9-8.4	<2	Low-------	0.10			
6----------	0-2	<3	1.35-1.45	6.0-20	0.05-0.11	5.1-6.5	<2	Low-------	0.10	2	2	2-5
Hallandale	2-7	<3	1.50-1.60	6.0-20	0.03-0.08	6.1-6.5	<2	Low-------	0.10			
	7-12	<3	1.50-1.60	0.6-6.0	0.03-0.08	5.6-8.4	<2	Low-------	0.10			
	12	---	---	---	---	---	---	----------	----			
7:												
Matlacha--------	0-40	3-8	1.65-1.75	2.0-6.0	0.05-0.08	5.6-8.4	<2	Low-------	0.10	5	2	---
	40-80	1-2	1.50-1.65	6.0-20	0.03-0.05	5.6-7.3	<2	Low-------	0.17			
Urban land.												
8----------	0-2	1-3	1.55-1.65	6.0-20	0.03-0.05	7.4-8.4	>16	Low-------	0.10	2	2	1-3
Hallandale	2-16	2-4	1.60-1.70	2.0-6.0	0.05-0.10	7.4-8.4	>16	Low-------	0.10			
	16-19	1-3	1.65-1.75	6.0-20	0.03-0.05	7.4-8.4	>16	Low-------	0.10			
	19	---	---	---	---	---	---	----------	----			
9----------	0-22	<5	1.25-1.50	6.0-20	0.02-0.07	4.5-6.0	<2	Low-------	0.10	5	2	2-8
EauGallie	22-27	1-8	1.45-1.60	0.6-6.0	0.15-0.25	4.5-6.5	<2	Low-------	0.15			
	27-58	1-5	1.45-1.65	6.0-20	0.02-0.05	5.1-7.8	<2	Low-------	0.10			
	58-80	13-31	1.55-1.70	0.06-2.0	0.10-0.20	5.1-7.8	<2	Low-------	0.20			
10---------	0-80	<5	1.30-1.65	6.0-20	0.02-0.05	4.5-7.8	<2	Low-------	0.10	5	2	1-5
Pompano												
11---------	0-26	<2	1.35-1.55	6.0-20	0.02-0.05	3.6-6.5	<2	Low-------	0.10	5	2	<2
Myakka	26-63	1-8	1.45-1.60	0.6-6.0	0.10-0.20	3.6-6.5	<2	Low-------	0.15			
	63-80	<2	1.48-1.70	6.0-20	0.02-0.10	3.6-6.5	<2	Low-------	0.10			
12---------	0-22	1-3	1.40-1.55	6.0-20	0.02-0.05	5.1-7.8	<2	Low-------	0.10	5	2	1-4
Pelda	22-38	13-30	1.50-1.65	0.6-6.0	0.10-0.15	6.1-7.8	<2	Low-------	0.24			
	38-80	1-10	1.50-1.65	6.0-20	0.02-0.05	6.1-8.4	<2	Low-------	0.10			
13---------	0-3	<2	1.30-1.55	6.0-20	0.05-0.10	5.1-8.4	<2	Low-------	0.10	5	2	1-3
Boca	3-25	<2	1.50-1.60	6.0-20	0.02-0.05	5.1-8.4	<2	Low-------	0.17			
	25-30	14-30	1.55-1.65	0.6-2.0	0.10-0.15	5.1-8.4	<2	Low-------	0.20			
	30	---	---	---	---	---	---	----------	----			
14---------	0-2	1-3	1.35-1.50	6.0-20	0.05-0.10	5.1-7.3	<2	Low-------	0.10	5	1	1-4
Valkaria	2-7	<2	1.45-1.60	6.0-20	0.03-0.08	5.1-7.3	<2	Low-------	0.10			
	7-80	2-5	1.45-1.60	6.0-20	0.05-0.10	5.1-8.4	<2	Low-------	0.10			
15---------	0-5	---	0.25-0.35	6.0-20	0.20-0.35	6.6-8.4	>16	Low-------	0-10	2	2	---
Estero	5-13	1-6	1.55-1.70	6.0-20	0.10-0.15	6.6-8.4	>16	Low-------	0.10			
	13-33	2-7	1.60-1.70	6.0-20	0.07-0.13	6.6-8.4	>16	Low-------	0.10			
	33-55	2-7	1.55-1.65	2.0-6.0	0.10-0.15	4.5-5.5	>16	Low-------	0.10			
	55-80	1-4	1.60-1.70	6.0-20	0.05-0.10	4.5-5.5	>16	Low-------	0.10			

APPENDIX B

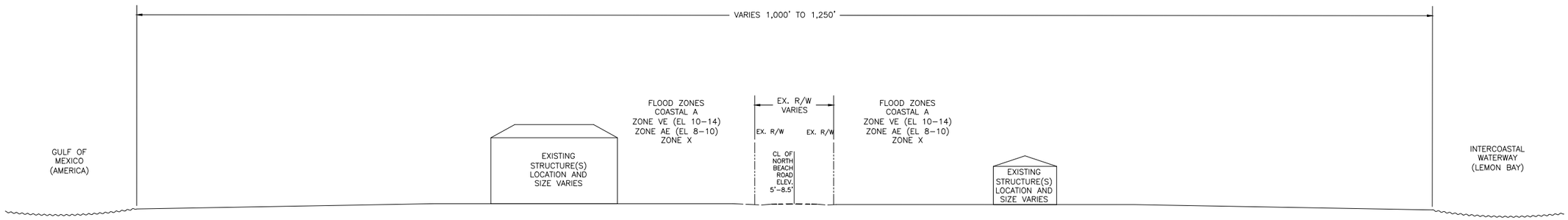
LABINS DATA

To find the MHW elevation for the project area, LABINS - Land Boundary Information System: Online Information and Maps for the State of Florida was consulted. This data can be found online at the following link: https://www.labins.org/map/. Please see below for the data that was collected.

Tidal Area	Tide Interpolation Points	MHW (FT)*
Lemon Bay	274	-0.10
Gulf of Mexico	100175	0.30
Gulf of Mexico	100176	0.31

* Vertical Datum: NAVD88, Tidal Datum: NTDE: 1983-2001

APPENDIX C



OVERVIEW OF EXISTING CONDITIONS
NTS

AXIS INFRASTRUCTURE
70 MANSELL CT., STE. 200
ROSWELL, GEORGIA 30076
PHONE: 678.395.4920

Charlotte County Board of County Commissioners
Charlotte County, Florida

Charlotte Harbor Community Redevelopment Agency
Improvements
North Beach Rd - Sidewalk & Decorative Lighting

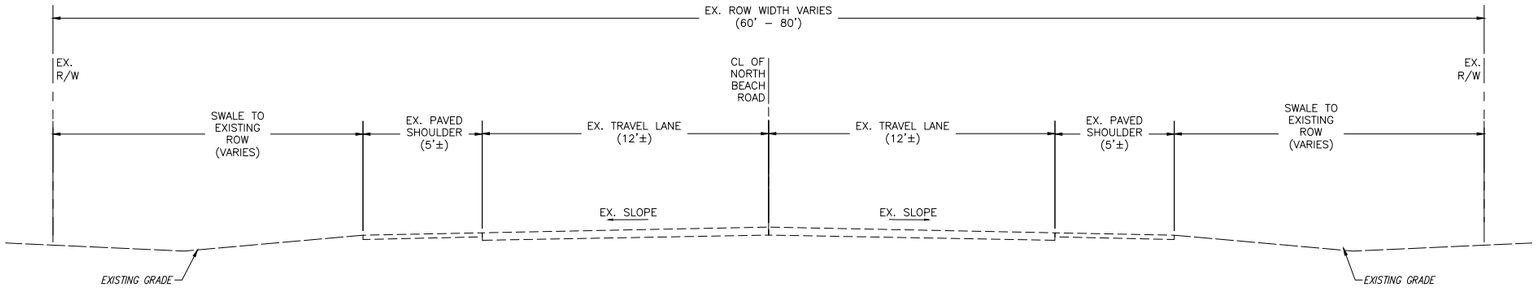
REVISIONS

NO.	DESCRIPTION	DATE

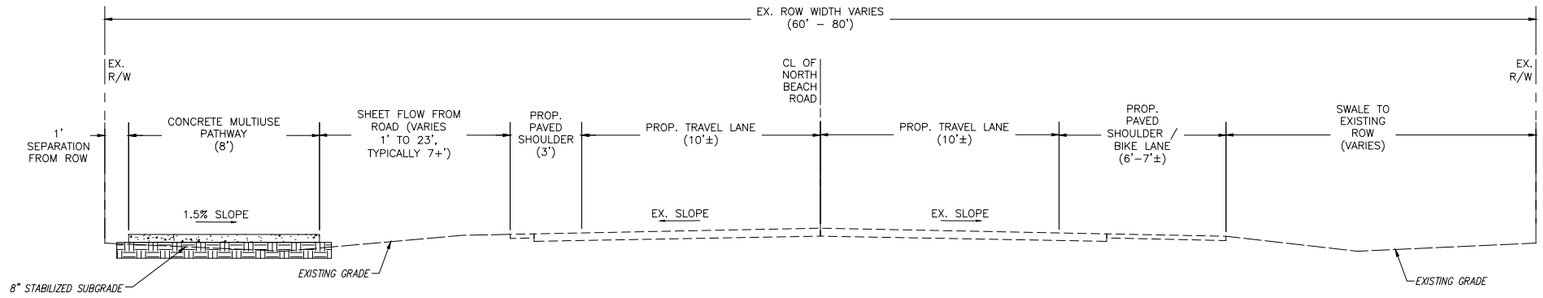
DATE: FEBRUARY 2024
PROJECT NO.SAN002200846
FILE NO.
SCALE: AS NOTED

TYPICAL DETAILS AND SECTIONS

SHEET NUMBER
C-5.01

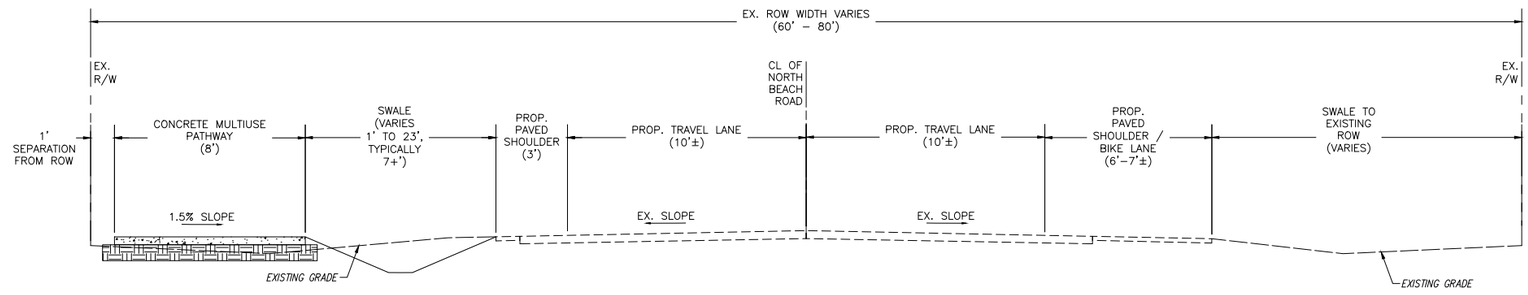


EXISTING TYPICAL SECTION
STA. 114+77 TO STA. 154+77
STA. 159+09 TO STA. 192+96
NTS



PROPOSED TYPICAL SECTION – NO SWALES
STA. 114+77 TO STA. 154+77
STA. 159+09 TO STA. 192+96
NTS

NOTE:
1. PROPOSD LANES ARE TO BE PAINTED ON EXISTING ASPHALT, MAINTAINING THE SAME CENTERLINE AS EXISTING.
2. PROPOSED SHOULDERS ARE TO BE PAINTED ON EXISTING LANE AND SHOULDER PAVEMENT. EXISTING SHOULDER TO BE SAWCUT AT EDGE OF PROPOSED SHOULDER.



PROPOSED TYPICAL SECTION – SWALES
STA. 114+77 TO STA. 154+77
STA. 159+09 TO STA. 192+96
NTS

NOTE:
1. PROPOSD LANES ARE TO BE PAINTED ON EXISTING ASPHALT, MAINTAINING THE SAME CENTERLINE AS EXISTING.
2. PROPOSED SHOULDERS ARE TO BE PAINTED ON EXISTING LANE AND SHOULDER PAVEMENT. EXISTING SHOULDER TO BE SAWCUT AT EDGE OF PROPOSED SHOULDER.

AXIS INFRASTRUCTURE
70 MANSELL CT., STE. 200
ROSWELL, GEORGIA 30076
PHONE: 678.395.4920

Charlotte County Board of
County Commissioners
Charlotte County, Florida

Charlotte Harbor Community
Redevelopment Agency
Improvements
North Beach Rd - Sidewalk &
Decorative Lighting

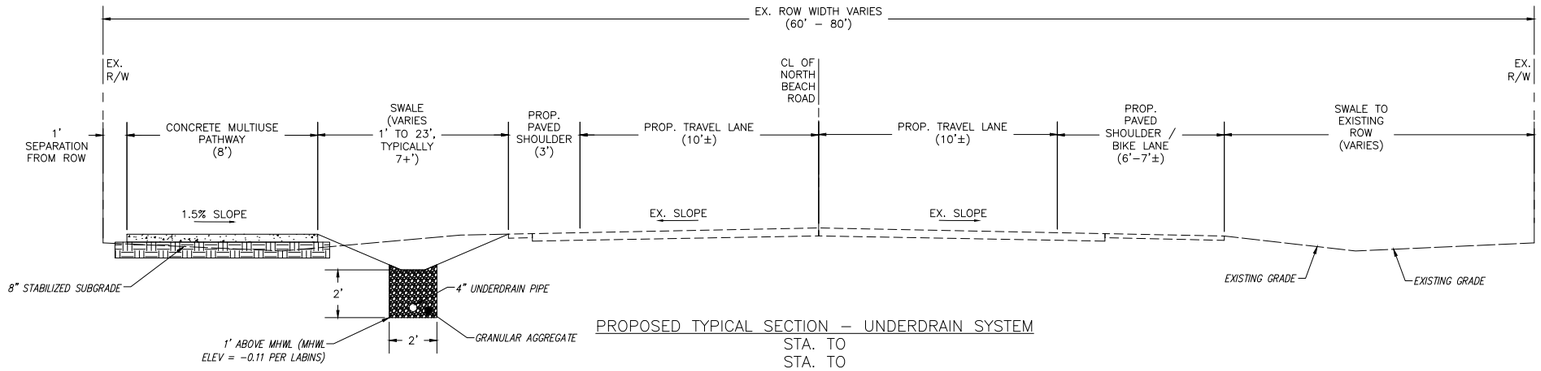
REVISIONS

NO.	DESCRIPTION	DATE

DATE: FEBRUARY 2024
PROJECT NO.SAN002200846
FILE NO.
SCALE: AS NOTED

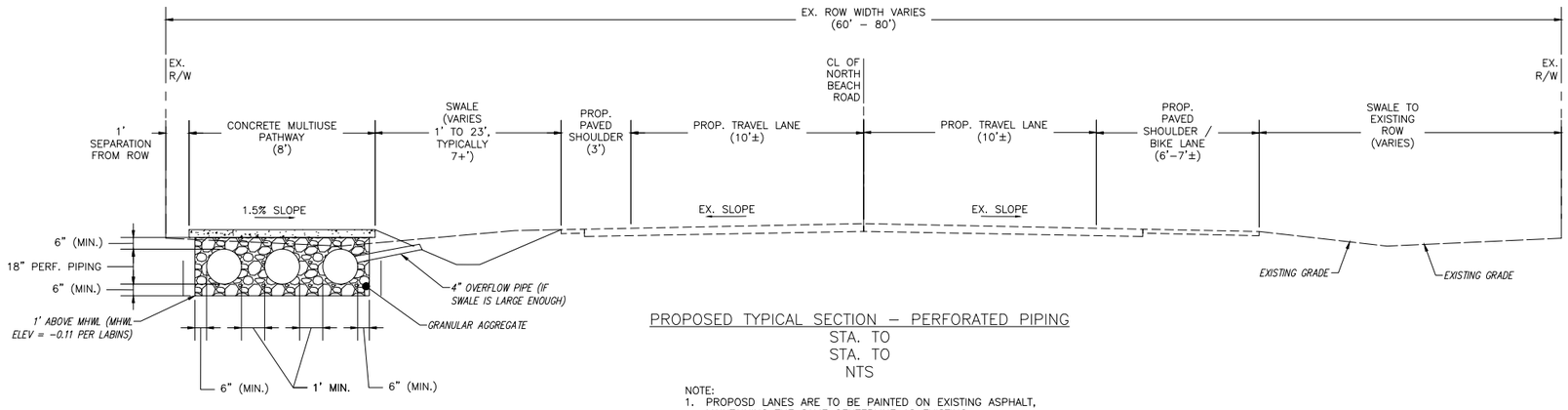
TYPICAL DETAILS
AND SECTIONS

SHEET NUMBER
C-5.01



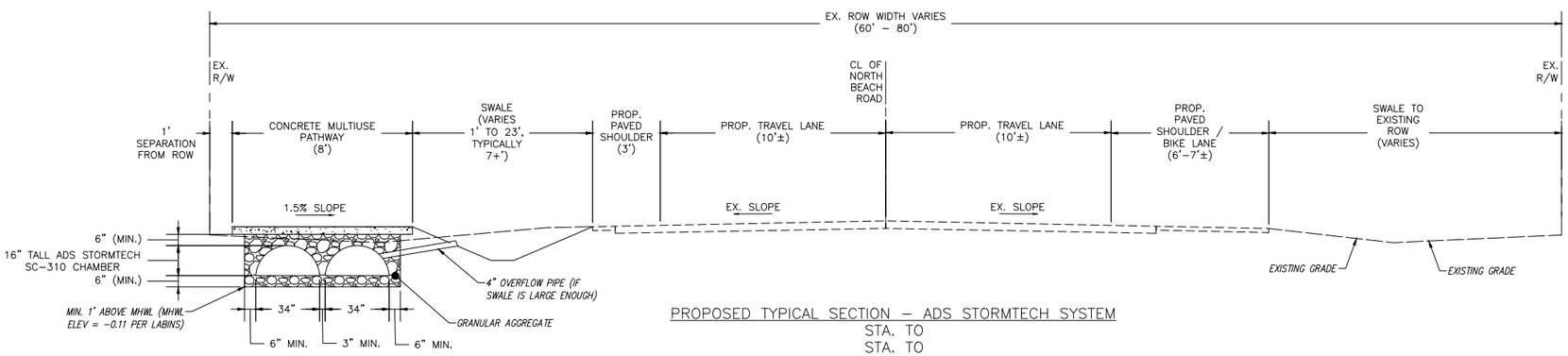
PROPOSED TYPICAL SECTION – UNDERDRAIN SYSTEM
STA. TO
STA. TO
NTS

NOTE:
1. PROPOSD LANES ARE TO BE PAINTED ON EXISTING ASPHALT, MAINTAINING THE SAME CENTERLINE AS EXISTING.
2. PROPOSED SHOULDERS ARE TO BE PAINTED ON EXISTING LANE AND SHOULDER PAVEMENT. EXISTING SHOULDER TO BE SAWCUT AT EDGE OF PROPOSED SHOULDER.



PROPOSED TYPICAL SECTION – PERFORATED PIPING
STA. TO
STA. TO
NTS

NOTE:
1. PROPOSD LANES ARE TO BE PAINTED ON EXISTING ASPHALT, MAINTAINING THE SAME CENTERLINE AS EXISTING.
2. PROPOSED SHOULDERS ARE TO BE PAINTED ON EXISTING LANE AND SHOULDER PAVEMENT. EXISTING SHOULDER TO BE SAWCUT AT EDGE OF PROPOSED SHOULDER.



PROPOSED TYPICAL SECTION – ADS STORMTECH SYSTEM
STA. TO
STA. TO
NTS

NOTE:
1. PROPOSD LANES ARE TO BE PAINTED ON EXISTING ASPHALT, MAINTAINING THE SAME CENTERLINE AS EXISTING.
2. PROPOSED SHOULDERS ARE TO BE PAINTED ON EXISTING LANE AND SHOULDER PAVEMENT. EXISTING SHOULDER TO BE SAWCUT AT EDGE OF PROPOSED SHOULDER.

AXIS INFRASTRUCTURE
70 MANSELL CT., STE. 200
ROSWELL, GEORGIA 30076
PHONE: 678.395.4920

Charlotte County Board of County Commissioners
Charlotte County, Florida

Charlotte Harbor Community Redevelopment Agency Improvements
North Beach Rd - Sidewalk & Decorative Lighting

REVISIONS

NO.	DESCRIPTION	DATE

DATE: FEBRUARY 2024
PROJECT NO.SAN002200846
FILE NO.
SCALE: AS NOTED

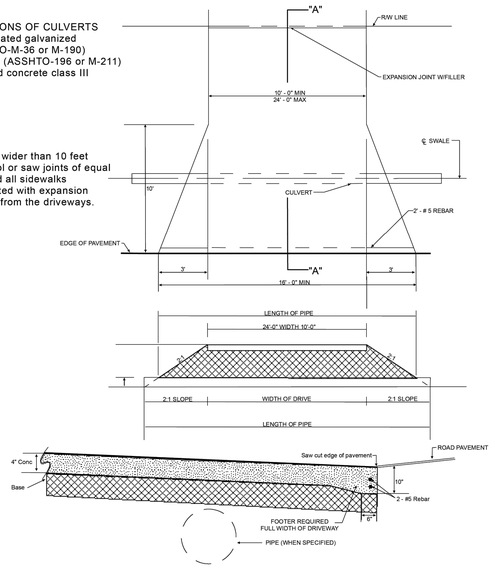
TYPICAL DETAILS AND SECTIONS

SHEET NUMBER
C-5.01

APPENDIX D

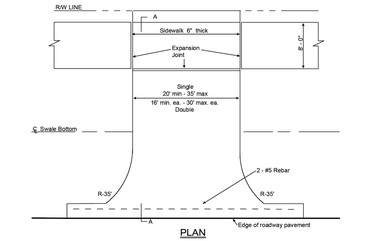
SPECIFICATIONS OF CULVERTS
A. Asphalt coated galvanized steel (ASSHTO-M-36 or M-190)
B. Aluminium (ASSHTO-196 or M-211)
C. Reinforced concrete class III
D. A-2000

All driveways wider than 10 feet shall have tool or saw joints of equal segments and all sidewalks shall be isolated with expansion joint material from the driveways.

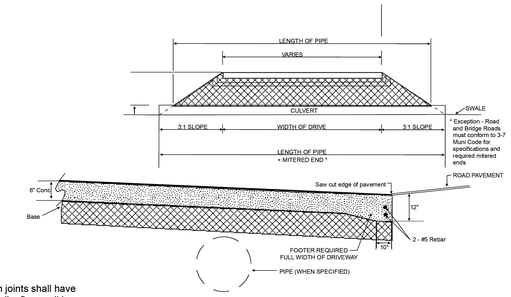


SECTION "A - A"
N.T.S.

NOTE:
1. THE CULVERT SIZE TO BE SPECIFIED BY THE COUNTY INSPECTOR.



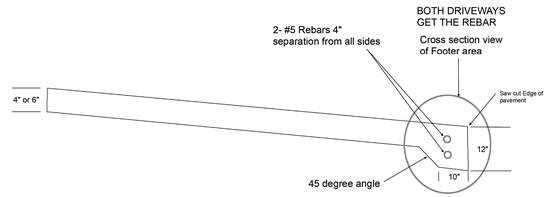
PLAN



SECTION A - A

NOTE:
All expansion joints shall have zip strip and sika flex caulking

All driveways over 10' shall have tool or saw joints at equal segments not to exceed 10' intervals for all directions.



Entire Driveway shall be 3000PSI Concrete with fiber mesh additive.

Commercial Driveway Footer dimensions as shown 12" by 10"

Residential Driveway Footer dimensions are 10" by 6"

CHARLOTTE COUNTY ENGINEERING DESIGN STANDARD

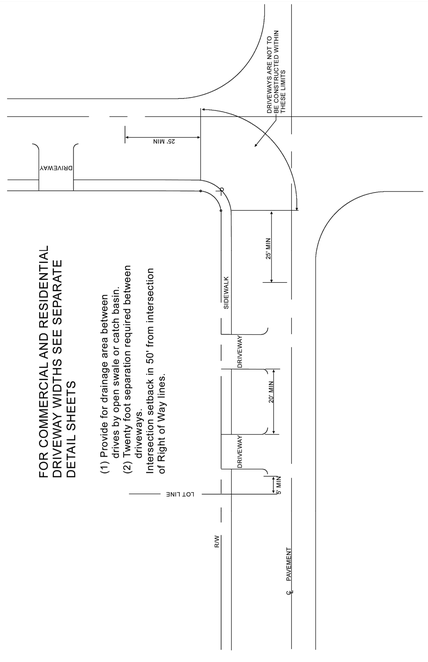
CHARLOTTE COUNTY FLORIDA			STANDARD DETAIL RESIDENTIAL DRIVEWAY	R-3 Sheet 1 of 4

CHARLOTTE COUNTY ENGINEERING DESIGN STANDARD

CHARLOTTE COUNTY FLORIDA			STANDARD DETAIL COMMERCIAL DRIVEWAY	R-3 Sheet 2 of 4

CHARLOTTE COUNTY ENGINEERING DESIGN STANDARD

CHARLOTTE COUNTY FLORIDA			RESIDENTIAL OR COMMERCIAL CONCRETE DRIVEWAY CROSS SECTION	R-3 Sheet 3 of 4



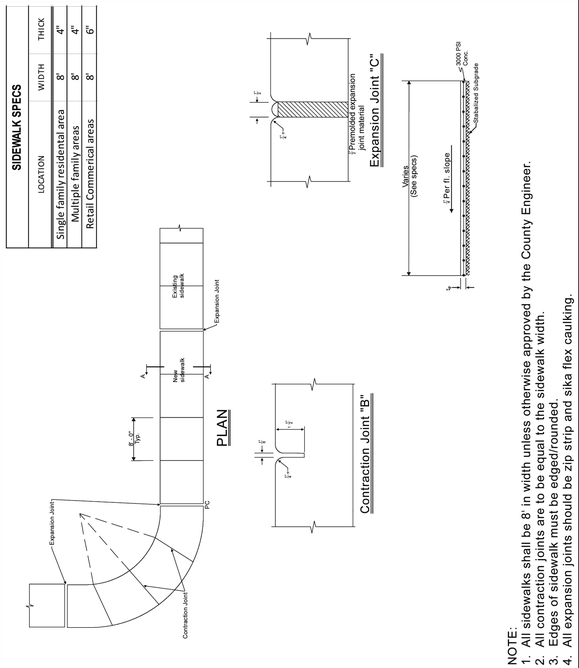
FOR COMMERCIAL AND RESIDENTIAL DRIVEWAY WIDTHS SEE SEPARATE DETAIL SHEETS

(1) Provide for drainage area between drives by open swale or catch basin.
(2) There is no separation required between driveways.
Intersection setback in 50' from intersection of Right of Way lines.

CHARLOTTE COUNTY ENGINEERING DESIGN STANDARD

CHARLOTTE COUNTY FLORIDA			STANDARD ROAD DETAIL COMMERCIAL AND INDUCTRIAL DRIVEWAY SPACING	R-3 Sheet 4 of 4

SIDEWALK SPECS		
LOCATION	WIDTH	THICK
Single family residental area	8'	4"
Multiple family areas	8'	4"
Retail Commerical areas	8'	6"



NOTE:
1. All sidewalks shall be 8' in width unless otherwise approved by the County Engineer.
2. All contraction joints are to be equal to the sidewalk width.
3. Edges of sidewalk must be edged/rounded.
4. All expansion joints should be zip strip and sika flex caulking.

CHARLOTTE COUNTY ENGINEERING DESIGN STANDARD

CHARLOTTE COUNTY FLORIDA			STANDARD DETAIL SIDEWALK CONSTRUCTION	R-6 Sheet 1

AXIS INFRASTRUCTURE
70 MANSELL CT., STE. 200
ROSWELL, GEORGIA 30076
PHONE: 678.395.4920

Charlotte County Board of County Commissioners
Charlotte County, Florida

Charlotte Harbor Community Redevelopment Agency
Improvements
North Beach Rd - Sidewalk & Decorative Lighting

REVISIONS		
NO.	DESCRIPTION	DATE

DATE: FEBRUARY 2024
PROJECT NO.SAN002200846
FILE NO.
SCALE: AS NOTED

TYPICAL DETAILS AND SECTIONS

SHEET NUMBER
C-5.03

APPENDIX E

THIS FORM IS INTENDED TO FACILITATE AND GUIDE THE DIALOGUE DURING A PRE-APPLICATION MEETING BY PROVIDING A PARTIAL "PROMPT LIST" OF DISCUSSION SUBJECTS. IT IS NOT A LIST OF REQUIREMENTS FOR SUBMITTAL BY THE APPLICANT.

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
RESOURCE REGULATION DIVISION
PRE-APPLICATION MEETING NOTES

FILE NUMBER:

PA 412142

Date:	2/6/25
Time:	11 am
Project Name:	BAR PA 412142 - N. Beach Road on Manasota Key - Drainage Feasibility Study
District Engineer:	Bob Dasta
District ES:	Russell Martin
Attendees:	Teresa Curry, Garrett Brogdon, Luke Wemette, Jason Green

County:	Charlotte	**Sec/Twp/Rge:**	1,2,12/41/19
Total Land Acreage:		**Project Acreage:**	Acres

Prior On-Site/Off-Site Permit Activity:

- Pre App 409788, 400128, 401277

Project Overview:

- Study of drainage improvements within the Charlotte County Public R/W & County owned facilities to assist better drainage for N. Beach Rd from Manasota Beach to the Sarasota County Line. Charlotte County has engaged consultants to complete a drainage Feasibility Study on this corridor. This Pre-app is to gain info from SWFWMD on guidance as far as required permitting.
- N. Beach Rd & Gulf Blvd, 2100-6000 N Beach Rd, Englewood, FL 34223
- Mangrove Impacts Anticipated
- 8 ft wide multi-use path. ~7,400 LF of path. Will reduce width of existing North Beach Road.
- Also looking into drainage improvements too. New swales possibly. Perforated pipes. Appears to qualify under: 62-330.451, General Permit to Counties, Municipalities, and other Agencies to Conduct Stormwater Retrofit Activities

62-330.451 General Permit to Counties, Municipalities, and other Agencies to Conduct Stormwater Retrofit Activities.

(1) A general permit is granted to counties, municipalities, state agencies and water management districts to construct, operate, and maintain stormwater retrofit activities as authorized below for improving existing surface water and stormwater systems. This general permit may be used in conjunction with exempt activities.

(2) Types of stormwater retrofit activities authorized under this general permit are:

(a) Construction or alteration that will add additional treatment or attenuation capacity and capability to an existing stormwater management system;

(b) The modification, reconstruction, or relocation of an existing stormwater management system or stormwater discharge facility;

(c) Stabilization of eroding banks, and installation of structures such as gabions to limit bank erosion; or

(d) Excavation or dredging to remove sediments or other pollutants that have accumulated in existing surface waters as a result of stormwater runoff and stormwater discharges, provided the material removed is not deposited in existing wetlands or other surface waters.

(3) Stormwater retrofit activities shall not:

(a) Be proposed or implemented for the purpose of providing the water quality treatment or flood control needed to serve new development or redevelopment; or

(b) Include a dam that has more than 50 acre-feet of storage capacity if the dam is more than five feet high, nor a dam having a height of ten or more feet, regardless of storage capacity. Height is measured from the top of the dam to the natural bed of the stream or watercourse at the downward toe of the dam, or from the lowest elevation of the outside limit of the dam to the maximum elevation of the dam.

(4) There is no limit to the acreage of stormwater retrofit activities in artificial waters. Work in wetlands and non-artificial surface waters shall be limited to no more than 0.5 acre.

(5) A stormwater quality retrofit activity must result in at least one of the following:

(a) Addition of treatment capacity to an existing stormwater management system such that it reduces stormwater pollutant loadings to receiving waters;

(b) Addition of treatment or attenuation capability to an existing developed area when either the existing stormwater management system or the developed area has substandard stormwater treatment or attenuation capabilities, compared to what

would be required for a new system requiring a permit under Part IV of Chapter 373, F.S.; or

(c) Removal of pollutants generated by, or resulting from, previous stormwater discharges.

(6) A water quantity retrofit project proposed to reduce existing flooding problems must be designed in such a way that the project does not:

(a) Result in a net reduction in water quality treatment provided by the existing stormwater management system; nor

(b) Increase discharges of untreated stormwater entering receiving waters.

(7) The project must be designed, constructed, and implemented as a complete, stand-alone project within the construction phase duration of a general permit, and such that it will not at any time during its construction or operation:

(a) Cause or contribute to any water quality violations;

(b) Contribute to any existing violation if it discharges pollutants into waters where existing ambient water quality does not meet water quality standards for those pollutants. In such a case, the project must include measures that will cause a net improvement in the receiving waters for those pollutants in accordance with Section 373.414(1)(b)3., F.S.;

(c) Adversely affect the value of functions provided to fish and wildlife by wetlands or other surface waters;

(d) Adversely affect the hydroperiod of wetlands on adjacent lands or the hydroperiod of other wetlands upstream, downstream, or adjoining to the work area under subsection (4), above;

(e) Cause or contribute to increased flooding of adjacent lands or cause new adverse water quantity impacts to receiving waters;

(f) Add or increase any chemical treatment;

(g) Be operated by pumps or other mechanical or adjustable features; nor

(h) Adversely impact the maintenance of surface or ground water levels or surface water flows established pursuant to Section 373.042, F.S.

(8) The entity conducting this general permit must conduct at least one pre-notice meeting with Agency staff having responsibility for the review of the proposed activities. The notice required in Rule 62-330.402, F.A.C., shall include materials reflecting the recommendations of the Agency discussed during that meeting, and demonstrating compliance with the above, including a certification by a registered professional that the proposed activity will meet the criteria specified above. Such certification shall include appropriate design analyses, pollutant loading analyses, modeling and other engineering calculations, drawings, specifications and other information to support, describe, verify, and document the registered professional's certification.

(9) Nothing in this general permit will preclude a county or municipality from obtaining and implementing a Basin Management Action Plan with water quality credits for activities performed under this authorization.

(10) Within 30 days after completion of construction, a registered professional shall submit certification that construction was completed in substantial conformance with the plans and calculations that were submitted in the notice to use this general permit.

Rulemaking Authority 373.026(7), 373.043, 373.118(1), 373.118(6), 373.406(5), 373.4131, 373.414(9), 373.418, 403.805(1) FS. Law Implemented 373.118(1), (6), 373.406(5), 373.413, 373.4131, 373.414(9), 373.416, 373.418 FS. History–New 10-1-13, Amended 6-1-18.

- 62-330.051,(10) F.A.C.
- Note that this exemption only applies if no wetland (i.e., mangrove) impacts

(10) The construction, alteration, maintenance, removal or abandonment of recreational paths for pedestrians, bicycles, and golf carts, provided:

(a) There is no work in, on, or over wetlands or other surface waters other than those in drainage ditches constructed in uplands;

(b) There is no reduction in the capacity of existing swales, ditches, or other stormwater management systems legally in existence under Chapter 403 or Part IV of Chapter 373, F.S.;

(c) The paths have a width of eight feet or less for pedestrian paths, and 14 feet or less for multi-use recreational paths;

(d) The paths are not intended for use by motorized vehicles powered by internal combustion engines or electric-powered roadway vehicles, except when needed for maintenance or emergency purposes; and

(e) The paths comply with the limitations and restrictions in subsection 62-330.050(9), F.A.C.

- An Individual permit could be required

Environmental Discussion: (Wetlands On-Site, Wetlands on Adjacent Properties, Delineation, T&E species, Easements, Drawdown Issues, Setbacks, Justification, Elimination/Reduction, Permanent/Temporary Impacts, Secondary and Cumulative Impacts, Mitigation Options, SHWL, Upland Habitats, Site Visit, etc.)

- Upland data point. No wetland impacts anticipated. For option with new outfalls, may need manatee grates or SSL authorization. Sea turtle lighting conditions from FWC for multi-use path likely.

- Provide the limits of jurisdictional wetlands and surface waters. Roadside ditches or other water conveyances, including permitted and constructed water conveyance features, can be claimed as surface waters per Chapter 62-340 F.A.C. if they do not meet the definition of a swale as stated under Rule 403.803 (14) F.S.
- The proposed project is located within 2500 feet of a beach system. Pursuant to section 10.2.7 of Applicant's Handbook Volume 1, the applicant will be required to provide reasonable assurance that the project will not cause adverse impacts to marine turtles. It is advisable that the applicant coordinate with the Florida Fish and Wildlife Conservation Commission (FWC) early in the design phase of the project to ensure that there are no adverse secondary impacts to the marine turtle. Marine Turtle lighting guidelines can be found at: https://myfwc.com/wildlifehabitats/wildlife/sea-turtle/lighting/
- A site visit by District staff will be required to verify the presence or absence of wetlands and/or surface waters. Prior to the site visit, District staff will contact the applicant or authorized agent to provide an approximate date of the site visit and to ensure that the project area is accessible. If wetlands or surface waters are discovered during the site visit, additional information may be required. A site visit will not be scheduled until the appropriate signatures on the application and the fee is submitted.
- On February 15, 2024, the U.S. District Court for the District of Columbia issued a decision vacating the U.S. Environmental Protection Agency's approval of Florida's application to assume Clean Water Act Section 404 permitting responsibilities in certain waters in Florida. In light of this decision, the U.S. Army Corps of Engineers (USACE) is currently the only entity in the State of Florida with authority to issue permits under Section 404 of the Clean Water Act. The USACE recognizes that either the District Court or an Appellate Court may issue a full or partial stay of the February 15th order at some point. In the interim, applicants may submit applications to the USACE for activities involving the discharge of dredged or fill material into formerly state-assumed waters. The USACE will begin processing any applications it receives, however applicants and stakeholders should recognize the uncertainty surrounding the current litigation. Further information can be found at these two links:

  https://floridadep.gov/water/submerged-lands-environmental-resources-coordination/content/state-404-program

  https://www.saj.usace.army.mil/Missions/Regulatory/

Site Information Discussion: (SHW Levels, Floodplain, Tailwater Conditions, Adjacent Off-Site Contributing Sources, Receiving Waterbody, etc.)

- Stormwater retention and detention systems are classified as moderate sanitary hazards with respect to public and private drinking water wells. Stormwater treatment facilities shall not be constructed within 100 feet of an existing public water supply well and shall not be constructed within 75 feet of an existing private drinking water well. Subsection 4.2, A.H.V.II.
- Any wells on site should be identified and their future use/abandonment must be designated.

Water Quantity Discussions: (Basin Description, Storm Event, Pre/Post Volume, Pre/Post Discharge, etc.)

- If Individual Permit required:
  - Demonstrate that post development peak discharges from proposed project area will not cause an adverse impact for a 25-year, 24-hour storm event.
  - For projects or portions of projects that discharge to a closed basin, limit the post-development 100-year discharge volume to the pre-development 100-year, 24-hour volume.
  - Demonstrate that site will not impede the conveyance of contributing off-site flows.
  - Demonstrate that the project will not increase flood stages up- or down-stream of the project area(s).
  - Watershed Model information may be available for download using the following link: https://watermatters.sharefile.com/d-s8c9019e00fd243908654e733a6b2016c
  - Provide equivalent compensating storage for all 100-year, 24-hour riverine floodplain impacts if applicable. Providing cup-for-cup storage in dedicated areas of excavation is the preferred method of compensation, if no impacts to flood conveyance are proposed and storage impacts and compensation occur within the same basin. In this case, tabulations should be provided at 0.5-foot increments to demonstrate encroachment and compensation occur at the same levels. Otherwise, storage modeling will be required to demonstrate no increase in flood stages will occur on off-site properties, using the mean annual, 10-year, 25-year, and 100-year storm events for the pre- and post-development conditions.

- Please be aware that if there is credible historical evidence of past flooding or the physical capacity of the downstream conveyance or receiving waters indicates that the conditions for issuance will not be met without consideration of storm events of different frequency or duration, applicants shall be required to provide additional analyses using storm events of different duration or frequency than the 25-year 24-hour storm event, or to adjust the volume, rate or timing of discharges. [Section 3.0 Applicant's Handbook Volume II]
- On June 28, 2024, Senate Bill 7040, which updates Florida's stormwater rules and design criteria, was signed into law. The updates affect the water quality treatment performance standards, Operation & Maintenance (O&M) requirements, and Dam Safety requirements. Further information regarding the updated rules and design criteria, implementation timeline and grandfathering provisions can be found at the following link: https://floridadep.gov/water/engineering-hydrology-geology/content/erp-stormwater-resource-center

Water Quality Discussions: (Type of Treatment, Technical Characteristics, Non-presumptive Alternatives, etc.)

- On June 28, 2024, Senate Bill 7040, which updates Florida's stormwater rules and design criteria, was signed into law. The updates affect the water quality treatment performance standards, Operation & Maintenance (O&M) requirements, and Dam Safety requirements. Further information regarding the updated rules and design criteria, implementation timeline and grandfathering provisions can be found at the following link: https://floridadep.gov/water/engineering-hydrology-geology/content/erp-stormwater-resource-center

Sovereign Lands Discussion: (Determining Location, Correct Form of Authorization, Content of Application, Assessment of Fees, Coordination with FDEP)

- The project (for proposed outfall pipes into intercoastal waterway) may be located within state owned sovereign submerged lands (SSSL). Be advised that a title determination will be required from FDEP to verify the presence and/or location of SSSL.
- If use of SSSL is proposed, authorization will be required. Refer to Chapter 18-21, F.A.C. and Chapter 18-20, F.A.C. for guidance on projects that impact SSSL and Aquatic Preserves.

Operation and Maintenance/Legal Information: (Ownership or Perpetual Control, O&M Entity, O&M Instructions, Homeowner Association Documents, Coastal Zone requirements, etc.)

- The permit must be issued to entity that owns or controls the property.
- Provide evidence of ownership or control by deed, easement, contract for purchase, etc. Evidence of ownership or control must include a legal description. A Property Appraiser summary of the legal description is NOT acceptable.
- Provide Homeowners Association (HOA) or Property Owners Association (POA) documents meeting requirements of the ERP A.H.V.I, Subsection 12.3.4.
- The HOA/POA documents, covenants, and deed restrictions will need to address any docking facility, boat uses, wetland, wetland mitigation, and all other applicable regulatory and proprietary restrictions that are a result of the requested uses.

Application Type and Fee Required:

- General Permit Fee is $250
- Exemption determination request is $100

Other: (Future Pre-Application Meetings, Fast Track, Submittal Date, Construction Start Date, Required District Permits – WUP, WOD, Well Construction, etc.)

- An application for an individual permit to construct or alter a dam, impoundment, reservoir, or appurtenant work, requires that a notice of receipt of the application must be published in a newspaper within the affected area. Provide documentation that such noticing has been accomplished. Note that the published notices of receipt for an ERP can be in accordance with the language provided in Rule 40D-1.603(10), F.A.C.

- Provide a copy of the legal description (of all applicable parcels within the project area) in one of the following forms:
  a. Deed with complete Legal Description attachment.
  b. Plat.
  c. Boundary survey of the property(ies) with a sketch.

- The plans and drainage report submitted electronically must include the appropriate information required under Rules 61G15-23.005 and 61G15-23.004 (Digital), F.A.C. The following text is required by the Florida

Board of Professional Engineers (FBPE) to meet this requirement when a digitally created seal is not used and must appear where the signature would normally appear:

ELECTRONIC (Manifest): *[NAME] State of Florida, Professional Engineer, License No. [NUMBER] This item has been electronically signed and sealed by [NAME] on the date indicated here using a SHA authentication code. Printed copies of this document are not considered signed and sealed and the SHA authentication code must be verified on any electronic copies*

DIGITAL: *[NAME] State of Florida, Professional Engineer, License No. [NUMBER]; This item has been digitally signed and sealed by [NAME] on the date indicated here; Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.*

- Provide soil erosion and sediment control measures for use during construction. Refer to ERP Applicant's Handbook Vol. 1 Part IV Erosion and Sediment Control.
- Demonstrate that excavation of any stormwater ponds does not breach an aquitard (see Subsection 2.1.1, A.H.V.II) such that it would allow for lesser quality water to pass, either way, between the two systems. In those geographical areas of the District where there is not an aquitard present, the depth of the pond(s) shall not be excavated to within two (2) feet of the underlying limestone which is part of a drinking water aquifer. [Refer to Subsection 5.4.1(b), A.H.V.II]
- If lowering of SHWE is proposed, then burden is on Applicant to demonstrate no adverse onsite or offsite impacts as per Subsection 3.6, A.H.V.II. Groundwater drawdown 'radius of influence' computations may be required to demonstrate no adverse onsite or offsite impacts. Please note that new roadside swales or deepening of existing roadside swales may result in lowering of SHWE. Proposed ponds with control elevation less than SHWE may result in adverse lowering of onsite or offsite groundwater.
- On February 15, 2024, the U.S. District Court for the District of Columbia issued a decision vacating the U.S. Environmental Protection Agency's approval of Florida's application to assume Clean Water Act Section 404 permitting responsibilities in certain waters in Florida. In light of this decision, the U.S. Army Corps of Engineers (USACE) is currently the only entity in the State of Florida with authority to issue permits under Section 404 of the Clean Water Act. The USACE recognizes that either the District Court or an Appellate Court may issue a full or partial stay of the February 15th order at some point. In the interim, applicants may submit applications to the USACE for activities involving the discharge of dredged or fill material into formerly state-assumed waters. The USACE will begin processing any applications it receives, however applicants and stakeholders should recognize the uncertainty surrounding the current litigation. Further information can be found at these two links:

  https://floridadep.gov/water/submerged-lands-environmental-resources-coordination/content/state-404-program

  https://www.saj.usace.army.mil/Missions/Regulatory/

APPENDIX F

Option C Cost Analysis	
System	**Price per LF**
Underdrain (similar to FDOT Type II)*	$ 68.51
1 run of 18" Perforated Piping**	$ 56.64
3 runs of 18" Perforated Piping**	$ 169.97
1 run of ADS Stormtech SC-310 Chamber**	$ 80.28
2 runs of ADS Stormtech SC-310 Chambers**	$ 150.46
*Pricing acquired using FDOT pricing history for 2023-2024. **Pricing for stone based on FDOT pricing history for 2023-2024 and pricing for stormwater management system based on manufacturer input. A 50% markup has been added as an estimate for construction cost & fee.	

Option D Cost Analysis	
Potential Conveyance Pipe / Structures	**Price per Unit**
12" Pipe Culvert	$ 122.06/LF
15" Ellip/Arch Pipe Culvert	$ 184.31/LF
12" Mitered End Section	$ 3,500.00/EA
Modified Manhole Control Structure	$ 15,400.00/EA
Manhole Structure	$ 8,975.13/EA
Manatee Grate	$ 2,400.00/EA
*All pricing shown per FDOT pricing history 2023-2024 and items most probable to be used. This is not a comprehensive list.	