Community Development Department

Office of the Director

4100 Indian Bayou Trail | Destin, FL 32541 | Phone: 850-654-1119| Email: planning@cityofdestin.com

October 22, 2025 **Development Order No. 25-22**

Final Development Order:

SHORES AT CRYSTAL BEACH
A MAJOR DEVELOPMENT ORDER
(DEV-001655-2025)

Based upon the City's approval and issuance of this Development Order on October 22, 2025, this document will serve as the Final Development Order for the proposed subject project(s) and includes all the provisions and conditions in the attached Technical Review Committee Report.

The approved project scope includes the expansion of the existing parking lot and the construction of an additional parking lot for the Shores at Crystal Beach Access. This will consist of expanding the existing western parking lot to include 19 standard parking spaces and one ADA accessible spot, while adding 34 Low-Speed Vehicle (LSV) parking spaces in the new eastern lot, along with a restroom facility, a dune walkover, and the associated infrastructure. This approved Development Order is for the property located and described below:

2942, 2966, & 2970 Scenic Highway 98
Parcel IDs: 00-2S-22-0590-0000-00CA,
00-2S-22-0584-0000-0010,
& 00-2S-22-0584-0000-0030

DETERMINATIONS:

1. This final development order is in accordance with the approved construction documents, which is inclusive of the Technical Review Committee Report (Exhibit A), Destin Water Users (DWU) approval with conditions (Exhibit B), Civil Plans (Exhibit C), Architectural Plans (Exhibit D), Landscape & Lighting Plans (Exhibit E), and Okaloosa Gas District Review (Exhibit F), dated approved October 22, 2025.

2. All the findings and requirements of the Technical Review Committee Report are incorporated herein.

CONDITIONS OF APPROVAL:

SPECIFIC CONDITIONS:

1. Prior to the issuance of a Certificate of Occupancy, the developer/owner, engineer of record and

the contractor shall make themselves familiar with ***Land Development Code (LDC) Section 11.09.00***, Illicit Discharge, and shall comply with the codes, or be subject to enforcement.

2. Any sidewalk damaged during construction shall be replaced from joint to joint. Four inch (4”) thick minimum, 4000 psi with fiber, and a light broom finish. Where a sidewalk cuts through a driveway, concrete shall be a minimum of 6" thick, per ***LDC Section 8.01.00.G.6.g***.

3. Any infrastructure damaged within the right-of-way during construction shall be repaired to original or better condition, per ***LDC Section 8.01.00.A.***

4. Ensure public sidewalk crossing driveway meets ADA cross slope requirements of 2% maximum, per ***LDC Section 8.05.03.A***.

5. No overnight storage of construction equipment, materials, or vehicles within the right-of-way. All construction related vehicles can temporarily park (not overnight) within the right-of-way (only along the projects frontage) if the vehicles are a minimum of four feet from the edge of pavement and not blocking any sidewalk, per ***LDC Section 8.01.00.A.3***.

6. Okaloosa Gas District will "Locate and Protect" its facilities in the area of construction. Contractor must call Sunshine 811 (72 hours) prior to construction to have underground utilities located. Please note: The provided Okaloosa Gas District Review (Exhibit G) is for reference, and the locations should be considered approximate for planning purposes only.

7. No work is to be conducted waterward of the mean high-water line.

8. Property is in White Sand Zone 1: White sand must be used as fill material which is to remain uncovered in Zone 1. Other materials may be used under special conditions stipulated by ***LDC Section 11.07.05.*** Prior to bringing any fill material on site, a sample of the proposed white sand fill must be provided and approved by the planning division. Per ***LDC Section 11.07.06***, if at the time of reconstruction or redevelopment of the site, materials and/or soils previously used in development which are not indigenous to Zone 1 are disturbed and or located on the site, the nonconforming materials/soils shall be immediately removed from the site and from the zone using safeguards to prevent discoloring the natural sand at the site and adjacent properties.

9. The location of property pins shall be staked at the beginning of all projects involving site or building improvements that affect structure footprint, impervious surface, or any other improvement that modifies the site. The stakes shall be maintained on site throughout the entire project timeline up to issuance of the Certificate of Occupancy or Completion.

10. The applicant shall comply with all Destin Water Users (DWU) and Destin Fire Control District conditions of approval outlined in the corresponding approval letters.

11. Project must comply with the standards in ***LDC Section 7.17.00.*** to include ***Section 7.17.04*** - Outdoor *Lighting Standards for the Marine Turtle Conservation Zone.*

12. The general contractor will submit a detailed construction vehicle parking plan prior to the commencement of construction and include it when applying for building permits.

13. Per Florida Power and Light (FPL), the contractor shall contact the area service planner at 850-833-4814 for any required services.

GENERAL CONDITIONS:

1. Pursuant to the City of Destin Land Development Code:

   Construction of infrastructure must commence within one (1) year of approval date (date from which the Final Development Order is issued by the Community Development Department) of the Final Development Order on **October 22, 2025** (no later than **October 22, 2026**) and must be completed as shown on plans approved by the Technical Review Committee.

   WARNING: If the applicant/owner has not obtained a building permit(s) for either the construction of infrastructure or construction of the entire project and that construction has not commenced within one (1) year of issuance of the final development order, the final development order will become null and void and the application for development order approval must be re-initiated (*Land Development Code (LDC) Section 2.21.00*).

   NOTE: Construction of infrastructure shall be defined as site work, grading, or other construction activity (not including clearing and grubbing or demolition of existing structures) related to installation of roadways, access drives, parking lots, underground utilities, stormwater or drainage facilities, or building foundations (*LDC Section 2.21.00*).

   NOTE: An applicant/owner who desires to extend the twelve (12) month (1 year) deadline for either the construction of infrastructure or construction of the entire project must submit a written request to the Community Development Department, no less than thirty (30) days prior to the expiration of the twelve (12) month deadline to obtain a building permit and commence construction of infrastructure or construction of the entire project. The applicant may receive only one extension, and such extension shall not exceed one year. The applicant/owner should review *LDC Section 2.21.00* for further explanation of the Development Order extension process.

2. If the applicant fully complies with the requirements of Condition No. 1. above, the concurrency capacity allocation status for **"Shores at Crystal Beach**" will be protected. **However, the protected concurrency status will be lost and the application for development order approval must be re-initiated if:**

   A. Construction permits(s) in association with construction of infrastructure or construction of the entire project are not obtained in accordance with *LDC Section 2.10.00* to maintain concurrency, or

   B. Construction activity ceases for a period of one (1) year after a building permit for construction of infrastructure or construction of the entire project has been issued so that concurrency is not maintained under *LDC Article 6*.

3. The applicant must obtain City of Destin permits for the following activities on and off site (these may require bonding):

   A. Disturbance of the City's Right-Of-Way.
   B. Pavement cuts.

C. Construction of any kind.
D. Clearing, grubbing, or demolition.
E. Paving, grading, drainage, sidewalks.
F. Signage.
G. Installation of utilities.
H. Construction trailers.
I. Site Screening.

4. The following items must be addressed in the appropriate order:

A. **Prior to the issuance of any City Permit,** a sign must be posted on the subject property notifying the public of emergency contact information of the person responsible for the project. Refer to ***LDC 7.01.02(B)*** for details on the size, location and contents of the sign. Additionally, a posting of emergency contact information sign affidavit must be submitted to the Planning Division prior to the issuance of any permits.

B. **Prior to the Commencement of Construction,** a fence permit, with a copy of the approved Erosion Control, Staging, and Construction Parking Plan for the site must be submitted and approved by the City. The submitted plan shall also indicate the location of the Construction Site Screening. Said screening must meet the requirements set forth in ***Destin Code of Ordinances, Section 6-51 Screen Criteria***.

C. **Prior to the issuance of any City Permit,** obtain a Florida Department of Environmental Protection (FDEP) National Pollutant Discharge Elimination System (NPDES) permit and submit a copy to the City Engineer, if applicable. Provide a copy of the Stormwater Pollution Prevention Plan (SWPPP) as required for the NPDES permit for all construction disturbance over 1 acre.

D. **Prior to the issuance of any City Permit,** a copy of the Northwest Florida Water Management District (NWFWMD) storm water permit and a NPDES storm water construction generic Permit (if applicable) approval shall be provided.

E. **Prior to the issuance of a Certificate of Occupancy,** the developer/owner, engineer of record and the contractor shall make themselves familiar with ***LDC Article 11.09.00., Illicit Discharge***, and shall comply with the codes, or be subject to enforcement.

F. **Prior to the issuance of a Certificate of Occupancy,** all applicable Impact Fees and other outstanding costs associated with this project that are owed to the City must be paid in full. The fee below is an ***estimate only*** and represents the Impact Fee rate as currently adopted. The fee will be reevaluated and assessed based on the fees adopted at the time of Building Permit application submittal.

Estimated impact fee total: $0. ***Per LDC Section 19.01.01.D, impact fees shall not apply to development for which the City of Destin is the applicant.***

G. **Prior to the issuance of a Certificate of Occupancy**, the site layout, landscaping, outdoor lighting and architectural design must be inspected and approved by the Community Development Department.

H. **Prior to the issuance of a Certificate of Occupancy,** all assigned address number(s) for the principal building(s) shall be installed in accordance with ***LDC Section 7.18.04***.

10/22/25

David Prichard
Community Development Director
City of Destin

Date

10-22-25

Jeffrey Cozadd
Projects/Grants/Contracts Manager, Applicant
City of Destin

Date

EXHIBIT A
TECHNICAL REVIEW COMMITTEE REPORT
SHORES AT CRYSTAL BEACH
MAJOR DEVELOPMENT ORDER (DEV-001331-2024)

Applicant:	City of Destin
Agent:	Jeffrey Petermann, P.E.
Location:	2942, 2966, & 2970 Scenic Highway 98
Request:	Expansion of the existing western parking lot to include 19 standard parking spaces, and one ADA accessible spot, while adding 34 Low-Speed Vehicle (LSV) parking spaces in the new eastern lot, along with a restroom facility, a dune walkover, and the associated infrastructure.
Parcel Size:	±1.80 acres, ±78,429.45 square feet
Future Land Use:	Recreation (REC)
Zoning District:	Recreation (REC)
Density:	N/A
Intensity:	FAR: 0.20 Allowed; 0.0352 Proposed
Application Date:	July 31, 2025
Approved Site Plan Date:	October 22, 2025

DISCUSSION/FINDINGS

The approved project scope includes the expansion to the existing parking lot and the construction of an additional parking lot for the Shores at Crystal Beach Access. This will consist of expanding the existing western parking lot to include 19 standard parking spaces and one ADA accessible spot, while adding 34 Low-Speed Vehicle (LSV) parking spaces in the new eastern lot, along with a restroom facility, a dune walkover, and the associated infrastructure. The subject project is located at 2942, 2966, & 2970 Scenic Highway 98 (Parcel IDs: 00-2S-22-0590-0000-00CA, 00-2S-22-0584-0000-0010, & 00-2S-22-0584-0000-0030), totaling approximately 1.80 acres in total.

COMPREHENSIVE PLAN/LAND DEVELOPMENT CODE

The subject property is within the **Crystal Beach Planning Area.** Also, the property has a Future Land Use Map Designation of **Recreation (REC)** and a Zoning Designation of **Recreation (REC).** The proposed use is consistent with these land use regulations. The project, as required by the Comprehensive Plan and the Land Development Code, has undergone a compatibility review and meets the minimum requirements.

EXISTING USES

Nature Parks and Other Similar Institutions (NAICs 712190)

PROPOSED USES

Nature Parks and Other Similar Institutions (NAICs 712190)

INTENSITY

Maximum allowed:	0.20 FAR
Provided:	0.0352 FAR

HEIGHT

Maximum allowed:	35’ / 3 stories
Approved:	15’ / 1 story

SETBACKS

WESTERN PROPERTIES (00-2S-22-0590-0000-00CA, 00-2S-22-0584-0000-0010)

Front required:	None
Front approved:	±106.4’
Side minimum required (east):	None
Side approved (east):	±4.5’
Side minimum required (west):	None
Side approved (west):	±56.2’
Rear minimum required:	None
Rear approved:	>100’

EASTERN PROPERTY (00-2S-22-0584-0000-0030)

Front required:	None
Front approved:	±115.8’
Side minimum required (east):	None
Side approved (east):	±11.7’
Side minimum required (west):	None
Side approved (west):	±27.1’
Rear minimum required:	None
Rear approved:	>100’

OPEN SPACE

Minimum required:	25%
Provided:	74%

PLATTING

There is no platting associated with this application.

CONCURRENCY MANAGEMENT

Concurrency requirements have been met:

Potable Water/Sanitary Sewer: Signed September 24, 2025
Solid Waste: September 3, 2025

AIRPORT PROTECTION

As proposed, this project is not affected by nor affects the Destin Executive Airport. The applicant has indicated on the development order application that the proposed project is not within the Airport impact area.

NOTE: Per Okaloosa County Airports, all contractors that will require a crane to hang any material will need to file notice with the Federal Aviation Administration’s (FAA) Obstruction Evaluation Group (OEG) and obtain an Aeronautical Study Number (ASN). File Notice by submitting FAA

Form 7460-1 at https://oeaaa.faa.gov/oeaaa/external/portal.jspb. The general contractor can obtain the ASN for the entirety of the project and all subcontractors can fall under their ASN.

RIGHT-OF-WAY DEDICATION

The project does not include any right-of-way dedication.

INGRESS/EGRESS

Vehicular access to the property is provided from the Scenic Highway 98 and Hutchinson Street public rights-of-way (ROWs).

PEDESTRIAN NETWORK

The project provides a complete pedestrian network as required in ***LDC 8.09.03.A(6)***. A continuous internal sidewalk is provided throughout the development.

PARKING:

Required vehicle parking spaces for use

Park – 1 space:	*1*
Required vehicle parking spaces for entire site:	1
Provided vehicle parking spaces for entire site:	20
Provided Low Speed Vehicle (LSV) parking spaces:	34
Required bicycle parking spaces for use (10%):	1
Provided bicycle parking spaces:	10

UTILITIES:

All new utilities are required to be underground.

STORMWATER:

The City Manager's Stormwater designee approved the stormwater plan on September 29, 2025.

REFUSE COLLECTION:

Trash receptacles are located throughout the park and inside the restrooms. Trash is collected by City of Destin Employees 7 days a week. All non-construction related dumpsters, trashcans, and recycling bins shall be placed in solid waste collection areas or inside a building.

WHITE SANDS ZONE

The proposed project is located within White Sand Zone 1. Therefore, only white sand shall be utilized as fill on site, per ***LDC Section 11.07.02.A***. Prior to bringing any fill onto the site, the applicant shall provide Staff with a sample of the proposed fill for review and approval. 1. Per ***LDC Section 11.07.06***, if at the time of reconstruction or redevelopment of the site, materials and/or soils previously used in development which are not indigenous to Zone 1 are disturbed and or located on the site, the nonconforming materials/soils shall be immediately removed from the site and from the zone using safeguards to prevent discoloring the natural sand at the site and adjacent properties.

LANDSCAPING

Street Trees Required (Sabal Palms): 8 trees

Reforestation Trees Required: 18 trees
Front Perimeter Landscape Buffer Required (1 per 25 linear feet): 6 trees
Interior Parking Islands Required: 5 trees

Total required trees:	**37**
Total trees provided*:	**78**

***Modification/alteration to any approved species of trees or shrubs shall be reviewed and approved by the Community Development Director or their designee prior to installation. A Development Order (DO) Deviation may be required if the proposed changes do not substantially meet the originally approved landscape plan.**

SIGNS

No signs were reviewed for permitting or compliance with the Development Order application. All proposed signs must be permitted through a sign permit and shall comply with the sign code section of the Destin Land Development Code in effect at the time a sign application is submitted.

IMPACT FEES:

Per ***LDC Section 19.01.01.D***, impact fees shall not apply to development for which the City of Destin is the applicant.

OTHER FEES:

NONE

OTHER COMMENTS:

Staff received public comment from and responded to one citizen inquiring about the scope of work, followed up by questions regarding the pedestrian and vehicular flow.

Exhibit B

APPROVED
By Jesse Hernandez at 9:03 am, Oct 22, 2025

DESTIN WATER USERS INC.

P.O. BOX 308 DESTIN, FL. 32540-0308 (850)-837-6146

DATE: 9/24/2025

TO: THE CITY OF DESTIN – COMMUNITY DEVELOPMENT
4200 TWO TREES ROAD
DESTIN, FLORIDA 32541

PROJECT: The Shores at Crystal Beach Expansion

PROJECT NUMBER: DEV-001655-2025

CONTACT: Jesse Hernandez

LOCATION: 4100 Indian Bayou Trail Destin, Florida 32541

[X] **PROJECT QUESTIONNAIRE WAS COMPLETED AND RETURNED TO DESTIN WATER USERS.**

THIS LETTER CERTIFIES THAT THIS PROJECT HAS BEEN REVIEWED BY DESTIN WATER USERS INC. AT A TECHNICAL REVIEW COMMITTEE MEETING AND IS CONCEPTUALLY:

[X] **APPROVED**

(Subject to the following, which shall be a condition of the Developmental Order with the City of Destin)

1. *ALL REVISIONS TO THE WATER AND/OR SEWER UTILITIES OF ANY PREVIOUSLY APPROVED PROJECT MUST BE REAPPROVED BY DESTIN WATER USERS, INC. IN WRITING AT LEAST 24 HOURS PRIOR TO IMPLEMENTATION.*
2. ***FIELD VERIFIED AND SCALED "AS-BUILT" PLANS INCLUDING ALL UTILITY INFRASTRUCTURES MUST BE SUBMITTED TO THE CITY OF DESTIN AND FORWARDED TO DESTIN WATER USERS, INC. FOR FINAL INSPECTION BY DESTIN WATER USERS, INC. A WRITTEN APPROVAL SHALL THEN BE SUBMITTED TO THE CITY OF DESTIN PRIOR TO THE ISSUANCE OF CERTIFICATE OF OCCUPANCY BY THE CITY OF DESTIN IF THERE ARE NO OUTSTANDING ISSUES.***
3. WATER
   a. Please confirm size of meter and BFP for east parcel on CU-101. Size may change service connection.
   b. No FDEP permits are needed for a single service to a lot (east side).
   c.

IF YOU HAVE QUESTIONS OR CONCERNS, PLEASE CONTACT MONICA WALLIS AT mwallis@dwuinc.com OR 850-837-6146 EXT. 3945 OR BY FAX AT 850-654-5173

_____
Signed

APPROVED
By Jesse Hernandez at 9:03 am, Oct 22, 2025

d.

e.

f.

4. SEWER

a. East side will use existing service that was in place for previous residential home on the east side of lot, provided the elevations work for gravity flow. Elevations should be verified by contractor.

b. If elevations do not allow for gravity flow, then a private grinder pump station shall be installed.

c.

d.

e.

f.

5.

a.

b.

c.

d.

e.

f.

IF YOU HAVE QUESTIONS OR CONCERNS, PLEASE CONTACT MONICA WALLIS AT mwallis@dwuinc.com OR 850-837-6146 EXT. 3945 OR BY FAX AT 850-654-5173

Monica Wallis
Signed

Type text here

APPROVED
By Jesse Hernandez at 9:03 am, Oct 22, 2025

CITY OF DESTIN
CONCURRENCY EVALUATION CERTIFICATION
SANITARY SEWER

The following certificate must be completed in full, returned to and certified by one of the following sewer providers, and returned signed and dated to the City of Destin's Community Development Department:

Destin Water Users, Inc.
Attn: Mr. Steven Schmitt
218 Main St.
Destin, Florida 32541
Phone: (850) 337-3937 ext 3937
Fax: (850) 837-4165

South Walton Utility Company, Inc.
Attn: Ms. Alicia Keeter
369 Miramar Beach Drive
Miramar Beach, FL 32550
Phone: (850) 837-2988
Fax: (850) 837-7648

This section is to be completed in full by the project representative (i.e. Engineer of record):

Project Name: Shores at Crystal Beach Park Expansion

Project Address: Intersection of Huchison and Scenic 98

Project Representative: Baskerville Donovan, Inc. Phone: 251-380-0311

Square Footage and Type of Usage: 603.6SF Recreational (restroom facility)

Number of Units: 1

Signature: Raven S. Roberts Digitally signed by Raven S. Roberts DN: C=US, E=roberts@baskervilledonovan.com, CN=Raven S. Roberts Date: 2025.08.15 11:28:30-05'00' Date: 08.15.2025

This section to be completed by Sewer Provider:

Is this site within an existing service area? Yes [X] No [ ] If no, will the service area be extended? Yes [ ] No [ ]

If no, how will sanitary sewer be provided: _____

Adopted Level of Service (LOS):

<u>128 gallons per capita per day (Land Development Code: Article 6, Section 6.04.02.B.1)</u>

Demand Generated by this project: 1,700 GPD

Will the project demand cause the plant to reach 85% of its operating capacity: Yes [ ] or No [X]? If yes, attach details of plans for upgrading facility including time schedules, etc.

Based on the methodology specified in Article 6, Section 6.04.00 of the City of Destin Land Development Code, the adopted LOS for sanitary sewer as stated above ***IS*** *or* ***IS NOT*** *(circle one) maintained for this development.*

Signature	Title	Date
Monica M Wallis	General Manager	9/24/25

APPROVED
By Jesse Hernandez at 9:03 am, Oct 22, 2025

CITY OF DESTIN
CONCURRENCY EVALUATION CERTIFICATION
POTABLE WATER

The following certificate must be completed in full, returned to and certified by one of the following water providers, and returned signed and dated to the City of Destin's Community Development Department:

Destin Water Users, Inc.
Attn: Mr. Steven Schmitt
218 Main St.
Destin, Florida 32541
Phone: (850) 337-3937 ext 3937
Fax: (850) 837-4165

South Walton Utility Company, Inc.
Attn: Ms. Alicia Keeter
369 Miramar Beach Drive
Miramar Beach, Florida 32550
Phone: (850) 837-2988
Fax: (850) 837-7648

This section is to be completed in full by the project representative (i.e. Engineer of record):

Project Name: Shores at Crystal Beach Park Expansion

Project Location: Hutchison and Scenic 98 **Lot/Block:** 3/B

Project Representative(s) Name: Baskerville Donovan, Inc. **Phone #:** 251-380-0311

Square Footage and Type of Usage: 603.6 Recreational (restroom facility)

Number of Units: 1

Signature: Raven S. Roberts Digitally signed by Raven S. Roberts DN: C=US, E=roberts@baskervilledonovan.com, CN=Raven S. Roberts Date: 2025.08.15 11:41:52 -05'00' Date: 08.15.2025

This section to be completed by the Water Provider:

Is this site within an existing service area? Yes [X] No [ ] If no, will the service area be extended? Yes [ ] No [ ] If no, how will potable water be provided: _____

Adopted Level of Service (LOS): 125 gallons per capita per day (average) (Land Development Code: Article 6, Section 6.04.02.B.5)

Demand Generated by this project: 1,700 GPD

Will the project demand cause the plant to reach 85% of its operating capacity: Yes [ ] No [X] If yes, attach details of plans for upgrading facility including time schedules, etc.

Based on the methodology specified in Article 6, Section 6.04.00 of the City of Destin Land Development Code, the adopted LOS for potable water as stated above ***IS*** *or* ***IS NOT*** *(circle one) maintained for this development.*

Signature	Title	Date
[signature]	General Manager	9/24/25

Exhibit C

APPROVED
By Jesse Hernandez at 9:03 am, Oct 22, 2025

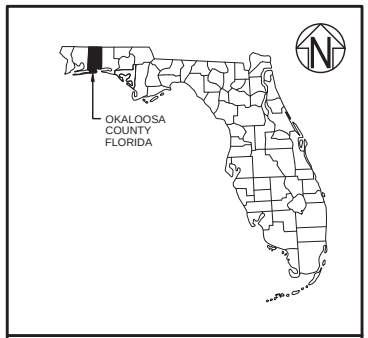
CONSTRUCTION PLANS FOR

SHORES AT CRYSTAL BEACH PARK EXPANSION

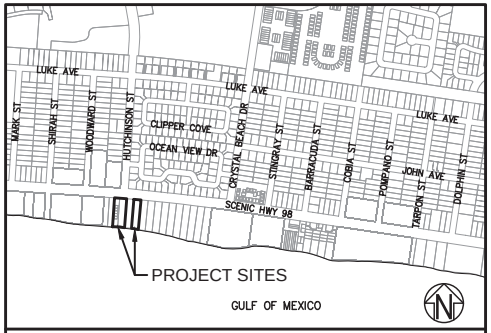
AUGUST 2025

PREPARED FOR:

OKALOOSA COUNTY



VICINITY MAP



LOCATION MAP

OKALOOSA COUNTY
COMMISSIONERS

PAUL MIXON (CHAIRMAN)	COMMISSIONER DISTRICT 1
CAROLYN KETCHEL	COMMISSIONER DISTRICT 2
SHERRI COX	COMMISSIONER DISTRICT 3
TREY GOODWIN	COMMISSIONER DISTRICT 4
DREW PALMER	COMMISSIONER DISTRICT 5

PREPARED BY:

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
14101 PANAMA CITY BEACH PARKWAY, SUITE 110,
PANAMA CITY BEACH, FL 32413 (850) 230-6150
ENGINEERING BUSINESS: EB-0000340
PENSACOLA - PANAMA CITY BEACH - TALLAHASSEE - MOBILE

ENGINEER'S PROJECT NO. 12105.02

RAVEN SIMPSON ROBERTS
LICENSE
No. 89932
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

THIS ITEM (G-001 THRU CU-507) HAS BEEN DIGITALLY SIGNED AND SEALED BY RAVEN SIMPSON ROBERTS 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.

48 HOURS BEFORE YOU DIG
CALL SUNSHINE
1-800-432-4770
IT'S THE LAW IN FLORIDA
FL STATUTE 553.851 (1979) REQUIRES MIN. OF 2 DAYS AND MAX. OF 5 DAYS NOTICE BEFORE YOU EXCAVATE.

SHEET INDEX

G-000	COVER SHEET
G-001 - G-002	GENERAL NOTES
C-100	PROJECT OVERVIEW
C-101	EXISTING CONDITIONS
C-101 A	SURVEY CONTROL PLAN AND EXISTING CONDITIONS
C-102	DEMOLITION PLAN
C-103	GEOMETRY PLAN
C-104	GEOMETRIC DATA TABLES
C-105 - C-106	GRADING AND STORM DRAINAGE PLAN
C-107	STORM DRAINAGE DATA TABLES AND NOTES
C-108	GRADING OVERVIEW
C-109	SITE SECTION 'A'
C-110	SITE SECTION 'B'
C-300	TYPICAL PAVEMENT SECTIONS
C-500 - C-501	MISCELLANEOUS DETAILS
C-502	BIKE RACK DETAILS
C-503	ADS STORM TECH CHAMBER SYSTEM NOTES (EAST ASPHALT GOLF CART/LOW SPEED VEHICLE (LSV) PARKING LOT)
C-504 - C-507	ADS STORM TECH CHAMBER SYSTEM DETAILS (EAST ASPHALT GOLF CART/LOW SPEED VEHICLE (LSV) PARKING LOT)
C-508	ADS STORM TECH CHAMBER SYSTEM NOTES (WEST ASPHALT PARKING LOT)
C-509 - C512	ADS STORM TECH CHAMBER SYSTEM DETAILS (WEST ASPHALT PARKING LOT)
C-513 - C-516	MISCELLANEOUS STANDARD FDOT DETAILS
C-700	STRIPING AND SIGNAGE PLAN
C-701	MISCELLANEOUS STRIPING AND SIGNAGE DETAILS
C-702 - C-705	MISCELLANEOUS STANDARD FDOT DETAILS
C-800	EROSION CONTROL PLAN
C-801 - C-802	BEST MANAGEMENT PRACTICES DETAILS
CU-101	WATER AND SANITARY SEWER PLAN
CU-501	MISCELLANEOUS WATER DETAILS
CU-502	DWU TYPICAL SPECIFICATIONS 1
CU-503	DWU TYPICAL SPECIFICATIONS 2
CU-504	DWU TYPICAL SPECIFICATIONS 3
CU-505	DWU TYPICAL POTABLE DETAILS
CU-506	DWU TYPICAL SANITARY SEWER DETAILS
CU-507	DWU TYPICAL DETAILS
S-001	GENERAL NOTES & TYPICAL DETAILS
S-101	FOUNDATION AND ROOF FRAMING PLAN
S-102	DUNE WALKOVER PILE LAYOUT
S-201	SECTIONS AND DETAILS
S-301	SPECIFICATIONS
A-101	SITE PLAN
A-102	DUNE WALKOVER, RAMPS AND STAIRS
A-103	RAMP AND STAIR DETAILS
A-104	FLOOR PLANS, ELEVATIONS, BUILDING SECTIONS
A-105	WALL SECTIONS, DOORS AND WINDOWS
A-106	PHOTOS
M-001	MECHANICAL LEGEND AND NOTES
M-002	MECHANICAL SCHEDULE AND DETAILS
M-101	MECHANICAL AND PLUMBING PLANS
M-201	MECHANICAL DETAILS
E-001	LEGEND, ABBREVIATIONS, AND SPECIFICATIONS
E-101	SITE PLAN
E-211	RESTROOM BUILDING PLAN
E-311	LUMINAIRE SCHEDULE AND SPECIFICATION SHEETS
EC-100	EXISTING CONDITIONS PLAN
EX-100	EXISTING VEGETATION PLAN
LP-100	LANDSCAPE PLANTING PLAN
LP-500	LANDSCAPE PLANTING DETAILS
LI-100	IRRIGATION PLAN
LI-500	IRRIGATION DETAILS
LE-100	SITE LIGHTING PLAN
LE-500	SITE LIGHTING DETAILS

1 2 3 4 5 6 7 8 9 10

G F E D C B A

GENERAL NOTES:

1. THE CONTRACTORS SHALL NOTIFY OKALOOSA COUNTY MANAGER OR DESIGNEE 48 HOURS PRIOR TO CONSTRUCTION.
2. ALL CONDITIONS AND STIPULATIONS OF THE CONSTRUCTION PERMITS AND THE APPROVALS ISSUED BY OKALOOSA COUNTY SHALL BE COMPLIED WITH IN EVERY DETAIL.
3. ALL ROADS DAMAGED BY CONSTRUCTION OPERATIONS ARE TO BE PATCHED OR RECONSTRUCTED AS DIRECTED BY OKALOOSA COUNTY MANAGER OR DESIGNEE.
4. THE CONTRACTOR SHALL TAKE STEPS NECESSARY TO PREVENT EROSION AND ANY OFF SITE SEDIMENT TRANSPORT RESULTING FROM INCREASED RUNOFF DURING CONSTRUCTION BY PROVIDING EROSION CONTROL MEASURES CONSISTENT WITH THE FLORIDA STORMWATER, EROSION, AND SEDIMENT CONTROL INSPECTOR'S MANUAL, 2018 EDITION, OR AS INDICATED ON THE PLANS. ALL EROSION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL ASSOCIATED DISTURBED AREAS ARE STABILIZED AS TO REDUCE SEDIMENT RUNOFF, UNLESS OTHERWISE DIRECTED BY THE ENGINEER OR DESIGNEE.
5. THE CONTRACTOR SHALL EMPLOY THE USE OF SILT FENCES, HAY BALES, DITCHES OR WHATEVER MEANS NECESSARY TO CONTROL EROSION AND SEDIMENTATION AT ALL TIMES. WATERS OF THE STATE, ADJACENT PROPERTIES, AND ANY NEW DRAINAGE CONSTRUCTION SHALL BE PROTECTED DURING THE CONSTRUCTION PERIOD. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF CONSTRUCTION AND SHALL REMAIN UNTIL THE COMPLETION OF CONSTRUCTION AND ACCEPTANCE BY THE OWNER.
6. ANY NECESSARY PERMITS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
7. THE CONTRACTOR IS CAUTIONED TO VISIT THE SITE AND FAMILIARIZE HIMSELF WITH THE PROJECT PRIOR TO BIDDING AND/OR CONSTRUCTION.
8. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO PRESERVE OR RELOCATE ALL BENCHMARKS (VERTICAL CONTROL) AS NEEDED DURING CONSTRUCTION. ALL PUBLIC OR PRIVATE CORNER MONUMENTATION SHALL BE PROTECTED. IF A PUBLIC OR PRIVATE CORNER MONUMENTATION IS IN DANGER OF BEING DESTROYED AND HAS NOT BEEN PROPERLY REFERENCED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OR DESIGNEE IMMEDIATELY. ANY OKALOOSA COUNTY/CITY HARN/GPS NETWORK MONUMENTS OR BUREAU OF SURVEY AND MAPPING GPS NETWORK MONUMENTS WITHIN THE LIMITS OF CONSTRUCTION SHALL BE PROTECTED. IF A HARN/GPS NETWORK MONUMENTS OR BUREAU OF SURVEY AND MAPPING GPS NETWORK MONUMENTS ARE DISTURBED OR DESTROYED THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACEMENT OF THE MONUMENTS AND HAVE THE MONUMENTS POSITION DETERMINED BY A FLORIDA LICENSED PROFESSIONAL SURVEYOR AND MAPPER USING GUIDELINES AS ESTABLISHED BY NATIONAL GEODETIC SURVEY FOR BLUE BOOKING AND APPROVAL.
9. EXISTING DRAINAGE FEATURES WITHIN CONSTRUCTION LIMITS SHALL REMAIN UNLESS OTHERWISE NOTED.
10. THE CONTRACTOR SHALL MATCH EXISTING CONDITIONS AT THE BEGINNING AND END OF CONSTRUCTION AS DIRECTED BY THE ENGINEER OR DESIGNEE.
11. EXISTING STREETS AND DRIVES SHALL BE MAINTAINED TO LOCAL TRAFFIC AND PROPERTY OWNERS.
12. ONLY ACCESS TO THE ROAD R/W AS SHOWN IS GUARANTEED BY OKALOOSA COUNTY. PRIVATE R/W REQUIRED BY THE CONTRACTOR TO FACILITATE CONSTRUCTION SHALL BE ACQUIRED BY THE CONTRACTOR WITH NO ADDITIONAL COMPENSATION OR ASSISTANCE FROM THE CITY.
13. VEGETATION ON R/W AND EASEMENTS SHALL BE RESTORED TO ORIGINAL CONDITION UNLESS OTHERWISE NOTED ON THE PLAN SHEETS. COST OF SAID RESTORATION SHALL BE CONSIDERED INCIDENTAL TO OTHER PAY ITEMS.
14. GRADED AGGREGATE BASE SHALL BE REQUIRED WHERE THE SEASONAL HIGH GROUND WATER ENCROACHES WITHIN TWO (2) FEET OF THE BOTTOM OF BASE.
15. ALL COMPACTED FILL SHALL BE PLACED IN 4" LIFTS FOR HAND POWERED TAMPERS AND 8" LIFTS FOR HEAVY EQUIPMENT OPERATED TAMPERS.
16. THE CONTRACTOR SHALL, AT A MINIMUM, MATCH EXISTING SIGNING AND PAVEMENT MARKINGS. ALL SIGNING AND PAVEMENT MARKINGS SHALL BE PLACED IN ACCORDANCE WITH THE LATEST FDOT DESIGN STANDARDS. THE CONTRACTOR SHALL CONTACT THE COUNTY AND CITY TRAFFIC DEPARTMENT PRIOR TO INSTALLATION OF ANY SIGNING AND PAVEMENT MARKINGS.
17. WHERE UNSUITABLE MATERIAL IS ENCOUNTERED IN THE AREAS PROPOSED FOR PAVING, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE COUNTY ENGINEER OR DESIGNEE PRIOR TO ANY EXCAVATION.
18. ALL DISTURBED AREAS WHICH ARE NOT PAVED SHALL BE STABILIZED WITH STAKED SOD. UNLESS NOTED OTHERWISE.
19. CONTRACTOR SHALL MAINTAIN RECORD DRAWINGS DURING CONSTRUCTION WHICH SHOW "AS-BUILT" CONDITIONS OF ALL WORK INCLUDING PIPING, DRAINAGE STRUCTURES, TOPO OF POND(S), OUTLET STRUCTURES, DIMENSIONS, ELEVATIONS, GRADING ETC. RECORD DRAWINGS SHALL BE PROVIDED TO THE ENGINEER OF RECORD PRIOR TO REQUESTING FINAL INSPECTION.
20. THE CONTRACTOR SHALL ARRANGE/SCHEDULE WITH OKALOOSA COUNTY A FINAL INSPECTION OF THE DEVELOPMENT UPON COMPLETION AND ANY INTERMEDIATE INSPECTIONS. AS-BUILT CERTIFICATION IS REQUIRED PRIOR TO REQUEST FOR FINAL INSPECTION/APPROVAL.
21. ALL ASPECTS OF THE STORMWATER/DRAINAGE COMPONENTS AND/OR TRANSPORTATION COMPONENTS SHALL BE COMPLETED PRIOR TO REQUESTING A FINAL INSPECTION.
22. NO DEVIATIONS OR REVISIONS FROM THESE PLANS BY THE CONTRACTOR SHALL BE ALLOWED WITHOUT PRIOR APPROVAL FROM BOTH THE DESIGN ENGINEER AND OKALOOSA COUNTY. ANY DEVIATIONS MAY RESULT IN DELAYS OF COUNTY ACCEPTANCE.
23. CONTRACTOR SHALL SAFETY-BARRICADE ALL EXCAVATIONS AND OTHER HAZARDS.
24. CONTRACTOR SHALL PROVIDE ACCESS TO PROPERTIES ADJACENT TO THE CONSTRUCTION AREAS, ADEQUATE BARRICADES, CONSTRUCTION SIGNAGE AND OTHER TRAFFIC CONTROL DEVICES SHALL BE PROVIDED IN ACCORDANCE WITH FDOT CONSTRUCTION STANDARDS. DRIVEWAY ACCESS TO ADJACENT PROPERTY SHALL BE MAINTAINED AT ALL TIMES.
25. ADEQUATE PROVISIONS SHALL BE MADE FOR THE FLOW OF SEWERS, DRAINS, WATER COURSES AND OTHER UTILITIES ENCOUNTERED DURING CONSTRUCTION.
26. ALL NEW CONCRETE FOR SITE WORK SHALL ACHIEVE A 28 DAY STRENGTH OF 3000 PSI (MIN.), UNLESS OTHERWISE SPECIFIED.
27. ALL SIDEWALKS, DRIVEWAYS AND BOARDWALKS MUST BE BUILT TO ADA STANDARDS, LATEST EDITION OF DESIGN STANDARDS AND TRANSIT FACILITY GUIDELINES.
28. THE CONTRACTOR IS RESPONSIBLE TO DETERMINE THE EXACT LOCATIONS AND DEPTHS OF ALL UTILITIES INCLUDING, BUT NOT LIMITED TO, WATER LINES, BURIED TELEPHONE LINES, BURIED ELECTRICAL LINES AND GAS MAINS PRIOR TO COMMENCEMENT OF CONSTRUCTION. CONTRACTOR IS TO COORDINATE WITH UTILITY COMPANIES FOR REMOVAL AND/OR RELOCATION OF EXISTING UTILITY POLES, AERIAL LINES, BURIED CABLE AND OTHER UTILITIES.

APPROVED
By Jesse Hernandez at 9:03 am, Oct 22, 2025

33. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY CONFLICTS BETWEEN CONTRACT DOCUMENTS AND EXISTING CONDITIONS. THESE DRAWINGS REPRESENT KNOW STRUCTURES AND UTILITIES LOCATED IN THE PROJECT AREA. THE CONTRACTOR IS CAUTIONED THAT OTHER STRUCTURES AND UTILITIES, ABOVE OR BELOW GROUND, MAY BE ENCOUNTERED DURING THE COURSE OF THE PROJECT. THE CONTRACTOR SHOULD NOTIFY THE UTILITY COMPANY, THEN THE ENGINEER, IMMEDIATELY UPON ENCOUNTERING ANY UNEXPECTED STRUCTURE, UTILITY LINE, OR OTHER UNUSUAL CONDITION. EXISTING CONDITIONS ARE BASED ON SURVEYS BY BASKERVILLE-DONOVAN, INC.
34. ALL CONSTRUCTION RELATED ACTIVITIES SHALL BE CONDUCTED UPLAND OF THE MEAN HIGH WATER LINE. SHOULD THERE BE ANY CONFUSION IN REGARDS TO THE RELATION OF CONSTRUCTION RELATED ACTIVITIES TO THE ESTABLISHED MEAN HIGH WATER LINE, THE CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY.
35. ALL PAVEMENT CUTS SHALL BE SAW CUT WITH A WET SAW TO LIMIT DUST.
36. ALL TREES IN THE PROJECT AREA ARE TO REMAIN UNDAMAGED UNLESS NOTED FOR REMOVAL OR APPROVED BY THE ENGINEER.
37. DIESEL FUEL IS NOT TO BE USED AS A RELEASE FOR HAND TOOLS AND TRUCKS PER FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION 2017-2018. NO RELEASE AGENT SHOULD BE POURED ONTO SOILS OVER ASPHALT SURFACES.
38. NOTIFY SUNSHINE UTILITIES 48 HOURS IN ADVANCE PRIOR TO DIGGING WITHIN R/W; 1-800-432-4770. CONTRACTOR SHALL VERIFY DEPTH AND LOCATION AND IMMEDIATELY NOTIFY ENGINEER OF CONFLICTS.
39. POWER COMPANY TO REVIEW ALL EXISTING POWER POLES PRIOR TO CONSTRUCTION FOR POSSIBLE RELOCATION/REPLACEMENT.
40. CONTRACTOR SHALL FIELD VERIFY THE CROSS SLOPES OF ALL EXISTING DRIVEWAYS TO ENSURE ADA MAXIMUM CROSS SLOPE COMPLIANCE OF TWO PERCENT (2%).
41. CONTRACTOR SHALL FIELD VERIFY DROP-OFF HEIGHTS AT ALL NOTED PEDESTRIAN HAZARD AREAS AND INSTALL APPROPRIATE MATERIAL AS FOLLOWS:
    <5.0 FT DROP-OFF USE GUIDE RAIL FDOT INDEX 515-052 (STEEL)
    >5.0 FT DROP-OFF USE PEDESTRIAN/BICYCLE RAILINGS INDEX 515-052 (STEEL)
42. CITY SHALL OBTAIN ANY/ALL TEMPORARY CONSTRUCTION EASEMENTS NECESSARY FOR PRIVATE PROPERTY IMPACTS BEYOND THE RIGHT-OF-WAY.
43. THE CONTRACTOR SHALL EMPLOY THE USE OF SILT FENCES, HAY BALES, DITCHES OR WHATEVER MEANS NECESSARY TO CONTROL EROSION AND SEDIMENTATION AT ALL TIMES. WATERS OF THE STATE, ADJACENT PROPERTIES, AND ANY NEW DRAINAGE CONSTRUCTION SHALL BE PROTECTED DURING THE CONSTRUCTION PERIOD. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF CONSTRUCTION AND SHALL REMAIN UNTIL THE COMPLETION OF CONSTRUCTION AND ACCEPTANCE BY THE OWNER.
44. ALL ON-SITE GRADING, DRAINAGE AND PAVEMENT WORK SHALL BE IN ACCORDANCE WITH FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
45. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DUST CONTROL.
46. THE CONTRACTOR SHALL RESTORE ALL DISTURBED RIGHTS-OF-WAY IN ACCORDANCE WITH THE EDITION OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.
47. THE CONTRACTOR SHALL HIRE A SURVEYOR LICENSED IN THE STATE OF FLORIDA IN ACCORDANCE WITH SECTION 12.0 OF THE GENERAL CONDITIONS.
48. THE CONTRACTOR SHALL ENSURE THAT ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL LAWS.
49. CONTRACTOR SHALL COMPLY FULLY WITH ALL PERMIT REQUIREMENTS IMPOSED BY THE REGULATORY AUTHORITIES.
50. TYPE B STABILIZATION IS INCIDENTAL TO EARTHWORK.

UTILITY NOTES:

1. THE LOCATION SHOWN FOR EXISTING UNDERGROUND UTILITIES IS APPROXIMATE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK IN EACH AREA. THE CONTRACTOR AGREES TO BE COMPLETELY RESPONSIBLE FOR ALL DAMAGES WHICH MIGHT OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ALL UTILITIES.
2. UTILITY OWNERS SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO ANY CONSTRUCTION SO THAT THE UTILITY OWNER CAN SPOT VERIFY AND/OR EXPOSE THEIR UTILITIES.
3. POWER COMPANY WILL COMPLETE ALL WORK DURING THE HOURS OF 7:30 AM – 4:30 PM, MONDAY THRU FRIDAY. NO NIGHT OR WEEKEND WORK.
4. ALL CABLE DAMAGE MUST BE REPORTED TO THE ATT FLORIDA REPAIR SERVICE DEPARTMENT AT 611 FROM A LAND LINE OR 877-737-2478 IF USING A CELL PHONE.
5. CONTRACTOR IS TO USE CAUTION WHEN WORKING IN OR AROUND AREAS OF OVERHEAD TRANSMISSION LINES AND UNDERGROUND UTILITIES.
6. UTILITIES TO REMAIN AND BE PROTECTED DURING CONSTRUCTION. NECESSARY REPAIRS SHALL BE CONSIDERED INCIDENTAL TO OTHER PAY ITEMS AND SHALL BE TO THE SATISFACTION OF UTILITY OWNERS.
7. AT&T FLORIDA WILL COMPLETE ALL WORK DURING THE HOURS OF 7:30 AM – 4:30 PM, MONDAY THRU FRIDAY. NO NIGHT OR WEEKEND WORK.

UTILITY CONTACT INFORMATION			
UTILITY	ADDRESS	CONTACT NAME	PHONE NUMBER
WATER AND SANITARY SEWER	P.O. BOX 308, DESTIN, FL 32541	DESTIN WATER USERS	(850) 837-6146
POWER	34854 EMERALD COAST PARKWAY, DESTIN, FL 32541	FLORIDA POWER & LIGHT	(800) 225-5797
NATURAL GAS	364 VALPARAISO PARKWAY, VALPARAISO, FL 32580	OKALOOSA GAS DISTRICT	(850) 729-4700
TELECOMMUNICATIONS	3405 MCLEMORE DRIVE, PENSACOLA, FL 32514	COX COMMUNICATIONS, INC.	(850) 857-4571

STORMWATER NOTES:

1. CONTRACTOR SHALL OBTAIN A NPDES PERMIT FROM FDEP PRIOR TO COMMENCEMENT WORK.
2. ALL PIPE JOINTS, INCLUDING CONNECTIONS TO STRUCTURES, SHALL BE WRAPPED WITH FILTER FABRIC IN ACCORDANCE WITH FDOT DESIGN STANDARDS AND THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
14101 PANAMA CITY BEACH PARKWAY, SUITE 110,
PANAMA CITY BEACH, FL 32413 (850) 230-6150
ENGINEERING BUSINESS: EB-0000340
PENSACOLA - PANAMA CITY BEACH - TALLAHASSEE - MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of BASKERVILLE-DONOVAN, INC. and is not to be reproduced in whole or in part. It is not to be used on any other project and is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

GENERAL NOTES

G-001

DUST CONTROL METHODS:

CONTRACTOR TO USE METHOD OR COMBINATION OF METHODS LISTED BELOW AND TO PREVENT PARTICULATE MATTER FROM BECOMING AIRBORNE AND BEING TRANSPORTED OFF-SITE:

1. PHASING: ONLY DISTURB AREAS LESS THAN ONE ACRE AT ONE TIME. BEGIN CONSTRUCTION ACTIVITIES AT WEST SIDE OF SITE AND PROCEED TO EAST TO PROVIDE BUFFER AREA WHERE SHIFTING SOIL CAN BE ARRESTED.
2. SCHEDULE: DELAY EARTHWORK AND OTHER ACTIVITIES GENERATING PARTICULATE MATTER WHEN WIND VELOCITY IS GREATER THAN 30 MPH.
3. RESTRICTING VEHICLES: USE SIGNS AND OTHER TRAFFIC CONTROLS TO LIMIT SPEED AND ACCESS OF JOB SITE VEHICLES. LIMIT SPEED TO 10 MPH MAXIMUM. RESTRICT VEHICLE TRAFFIC IN DUST STABILIZED AREAS.
4. EXCAVATED MATERIAL: KEEP OUT OF ACTIVE TRAFFIC LANES. IMMEDIATELY REMOVE EXCAVATED MATERIAL DEPOSITED IN ROADWAYS BY EROSION OR SPILLAGE. COVER LOADS TRANSPORTED IN EARTH-MOVING EQUIPMENT.
5. WATERING: USE SPRINKLER SYSTEM OR WATER TRUCK WITH SPRAY BOOM TO WATER DISTURBED AREA, AS NEEDED, TO ADEQUATELY CONTROL DUST.
6. WINDBREAKS: ERECT SNOW FENCES OR SIMILAR WINDBREAKS UPWIND AND WITHIN DISTURBED AREAS. PLACE FENCES PERPENDICULAR TO PREVAILING WINDS AS APPROPRIATE.
7. PALLIATIVES: APPLY DUST PALLIATIVE TO STABILIZE SOILS AFTER EARTHWORK IS COMPLETED AND TO SANDY SOILS WHERE WATERING IS INEFFECTIVE. DO NOT USE PALLIATIVE DETRIMENTAL TO VEGETATION IN AREAS OF FUTURE PLANT LANDSCAPING.
8. OTHER METHODS THAT SUBSTANTIALLY AND EFFECTIVELY REDUCE TRANSPORTED MATERIAL OR EMISSION OF PARTICULATE MATTER INTO ATMOSPHERE.
9. IF WATER TRUCK IS USED TO CONTROL DUST ON DIRT/GRADED AREAS ONLY, WATER TRUCK WILL ONLY DROP ENOUGH WATER TO CONTROL THE DUST OR REACH THE OPTIMUM MOISTURE CONTENT OF THE SOIL FOR COMPACTION. NO RUN-OFF IS TO BE GENERATED.
10. CONTROLLING DUST ON PAVED ROADWAYS WILL BE DONE BY USE OF SWEEPER WITH WATER-JET SPRAYERS. ONLY ENOUGH WATER SHOULD BE APPLIED TO CONTROL DUST WHILE SWEEPING. DO NO GENERATE RUN-OFF FROM SPRAYERS THAT RUNS INTO CATCH BASINS.
11. CONTRACTOR TO PROVIDE OPACITY MONITORING BY A PROPERLY TRAINED AND CERTIFIED INDIVIDUAL IN ORDER TO MAKE SURE THAT DUST EMISSIONS DO NOT EXCEED 30 PERCENT OVER A SIX-MINUTE PERIOD; AND HOW REMEDIAL ACTIONS TO ADDRESS OPACITY WILL BE IMMEDIATELY MANAGED AND DOCUMENTED.
12. CONTRACTOR TO FAMILIARIZE THEMSELVES WITH SECTION 11.10.00 – AIR QUALITY, IN THE CITY OF DESTIN LAND DEVELOPMENT CODE.
13. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, A PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN SEVEN CALENDAR DAYS ON ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); EMBANKMENTS OF PONDS, BASINS, AND TRAPS; AND WITHIN
14. CALENDAR DAYS ON ALL OTHER DISTURBED OR GRADED AREAS.; THE REQUIREMENTS OF SECTION 11.09.03 OF THE DESTIN LAND DEVELOPMENT CODE DO NOT APPLY TO THOSE AREAS WHICH ARE SHOWN ON THE PLAN AND ARE CURRENTLY BEING PERFORMED.
15. ALL BARE GROUND, STRIPPED OF VEGETATION DURING THE CLEARING/GRADING PROCESS, SHALL BE COVERED TO THE MAXIMUM EXTENT PRACTICABLE.
16. ALL DISTURBED AREAS SHALL BE COVERED AND/OR MULCHED WITHIN 12 HOURS, IF THEY ARE TO REMAIN UN-WORKED FOR MORE THAN 2 CALENDAR DAYS.
17. AREAS NOT BEING WORKED FOR 30 CALENDAR DAYS OR MORE SHALL BE VEGETATED, UNLESS THE CITY DETERMINES THAT WINTER WEATHER MAKES VEGETATION ESTABLISHMENT INFEASIBLE. IF THIS IS THE CASE, IT MUST STILL BE MORE PERMANENTLY STABILIZED, USING METHODS SUCH AS BONDED FIBER MATRIX, OR OTHER MORE STABLE BMPS.
18. SLOPES & STOCKPILES 3H:1V OR STEEPER AND MORE THAN 10 FEET OF VERTICAL RELIEF SHALL BE COVERED IF THEY ARE UN-WORKED FOR MORE THAN 48 HOURS.
19. AREAS THAT ARE BEING HYDRO-SEEDED SHALL HAVE A TACKIFIER MIXED INTO THE HYDRO-SEED TO HELP STABILIZE MIXTURE ONTO THE SOIL.
20. ENOUGH COVER MATERIAL TO SUFFICIENTLY PROTECT ALL DISTURBED AREAS SHALL BE STOCKPILED ON THE SITE AT THE BEGINNING OF THE WET SEASON.
21. ROADS AND PARKING AREAS SHALL BE STABILIZED IMMEDIATELY AFTER THE INITIAL GRADING.
22. ADDITIONAL TECHNIQUES TO REDUCE SOIL TRACKING OFF OF A SITE AND ONTO A ROADWAY SUCH AS WHEEL WASHING STATIONS MAY BE REQUIRED.
23. THE PAVEMENT SHALL NOT BE CLEANED BY WASHING/FLUSHING STREETS.
24. ANY SEDIMENT THAT IS TRACKED ONTO ROAD PAVEMENT SHALL BE REMOVED IMMEDIATELY (PRIOR TO THE END OF THE WORK DAY) BY SWEEPING. THE SEDIMENT COLLECTED BY SWEEPING SHALL BE REMOVED FROM THE ROADWAY AND STABILIZED ON-SITE.

VIBRATION IMPACT MITIGATION METHODS

APPROVED
By Jesse Hernandez at 9:03 am, Oct 22, 2025

DESIGN CONSIDERATIONS AND PROJECT LAYOUT:

1. ROUTE HEAVILY LOADED TRUCKS AWAY FROM RESIDENTIAL STREETS, IF POSSIBLE. SELECT STREETS WITH FEWEST HOMES, IF NO ALTERNATIVES ARE AVAILABLE.
2. OPERATE EARTHMOVING EQUIPMENT ON THE CONSTRUCTION LOT AS FAR AWAY FROM VIBRATION-SENSITIVE SITES AS POSSIBLE.

SEQUENCE OF OPERATIONS:

1. PHASE DEMOLITION, EARTHMOVING AND GROUND-IMPACTING OPERATIONS SO AS NOT TO OCCUR IN THE SAME TIME PERIOD. UNLIKE NOISE, THE TOTAL VIBRATION LEVEL PRODUCED COULD BE SIGNIFICANTLY LESS WHEN EACH VIBRATION SOURCE OPERATES SEPARATELY. CONTRACTOR SHALL MINIMIZE IMPACTS ON SURROUNDING AREAS FOR ANY ACTIVITY EXCEEDING THE APPROXIMATE FTA VIBRATION ANNOYANCE THRESHOLD OF 80 VDB.
2. AVOID NIGHTTIME ACTIVITIES. PEOPLE ARE MORE AWARE OF VIBRATION IN THEIR HOMES DURING THE NIGHTTIME HOURS.

ALTERNATIVE CONSTRUCTION METHODS:

1. SELECT DEMOLITION METHODS NOT INVOLVING IMPACT, WHERE POSSIBLE. FOR EXAMPLE, MILLING GENERATES LOWER VIBRATION LEVELS THAN EXCAVATION USING CLAM SHELL OR CHISEL DROPS. VIBRATIONS TO SENSITIVE RECEPTOR STRUCTURES SHALL NOT EXCEED THE VIBRATION DAMAGE THRESHOLD OF 95 VDB.
2. AVOID VIBRATORY ROLLERS AND PACKERS NEAR SENSITIVE AREAS.

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
14775 PANAMA CITY BEACH PARKWAY (32413)
PANAMA CITY BEACH (850) 234-5135
ENGINEERING BUSINESS: EB-0000349
PENSACOLA • PANAMA CITY BEACH • TALLAHASSEE • MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of BASKERVILLE-DONOVAN, INC. and is not to be reproduced in whole or in part, or found to be used on any other project and is to be returned upon request.

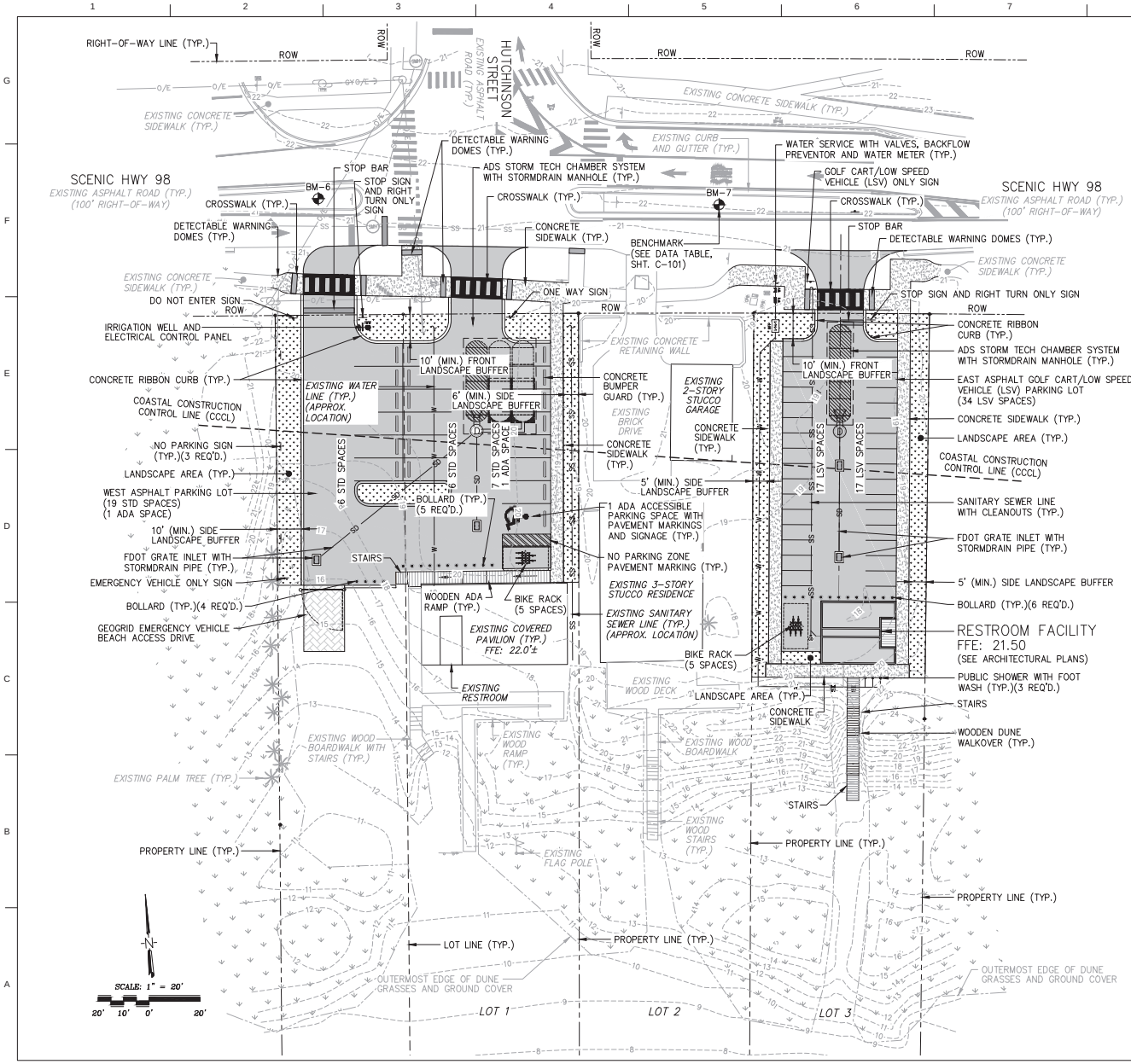
NOT RELEASED FOR CONSTRUCTION

PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

GENERAL NOTES

G-002

100% SUBMITTAL



LEGEND

- ASPHALT PAVEMENT
- CONCRETE PAVEMENT
- GEOGRID
- LANDSCAPED AREA
- WOODEN BOARDWALK
- ADS STORM TECH CHAMBER SYSTEM

SITE DATA TABLE

PARCEL ID:
00-2S-22-0590-000-00CA, 00-2S-22-0584-0000-0010,
00-2S-22-0584-0000-0030

LAND USE:
SITE ZONING: RECREATION
FUTURE LAND USE: RECREATION

FLOOD ZONE: X * & ZONE VE 16

APPROVED
By Jesse Hernandez at 9:03 am, Oct 22, 2025

BUILDING SETBACKS REQUIRED:
FRONT = NONE
SIDE = NONE
REAR = NONE
(DESTIN LAND DEVELOPMENT CODE SECTION 7.12.08 DIMENSIONAL REQUIREMENTS. TABLE 7-3 FOR REC ZONE.)

BUILDING SETBACKS PROVIDED FOR EXISTING WEST BUILDING:
ROW TO NORTH SIDE OF BLDG = 106.4± FEET
EAST PROPERTY LINE TO EAST SIDE OF BLDG = 4.5± FEET
WEST PROPERTY LINE TO WEST SIDE OF BLDG = 56.2± FEET

BUILDING SETBACKS PROVIDED FOR EAST BUILDING:
ROW TO NORTH SIDE OF BLDG = 115.8± FEET
EAST PROPERTY LINE TO EAST SIDE OF BLDG = 11.7± FEET
WEST PROPERTY LINE TO WEST SIDE OF BLDG = 27.1± FEET

BUILDING INFORMATION: PROPOSED RESTROOM FACILITY
BUILDING HEIGHT:
ALLOWED: 35'
PROPOSED: 15'
BUILDING STORIES:
ALLOWED: 3
PROPOSED: 1

GROSS FLOOR AREA: (WEST: 2158.3± SQ. FT.)
(EAST: 603.6± SQ. FT.)

TOTAL SITE AREA: (WEST: 47796.83 SQ. FT. OR 1.10 AC.)
(EAST: 30632.62 SQ. FT. OR 0.70 AC.)

MAX. FLOOR AREA RATIO: 20%

FLOOR AREA RATIO PROPOSED: (WEST: 4.5%) (EAST: 2.0%)

IMPERVIOUS AREA ALLOWED: (WEST: 35847.62 SQ. FT. OR 75%)
(EAST: 22974.47 SQ. FT. OR 75%)

IMPERVIOUS AREA PROPOSED: (WEST: 12885.86 SQ. FT. OR 27%)
(EAST: 7494.62 SQ. FT. OR 24%)

OPEN SPACE PROVIDED: (WEST: 34910.97 SQ. FT. OR 73%)
(EAST: 23182.00 SQ. FT. OR 76%)

PARKING

PARKING REQUIRED:
1 SPACE PER 150 SQ. FT. OF GROSS FLOOR AREA: (WEST: 13 SPACES)
(EAST: 5 SPACES)

PARKING PROVIDED:
REGULAR SPACES: (WEST: 19 SPACES)
ADA SPACES: (WEST: 1 SPACE)
LSV SPACES: (EAST: 32 SPACES)
BICYCLE PARKING SPACES: (WEST: 5 SPACES) (EAST: 5 SPACES)

* THIS PARCEL APPEARS TO LIE IN FLOOD ZONE X (NO MINIMUM FLOOD ELEVATION REQUIRED) AS DETERMINED FROM FEMA FLOOD INSURANCE RATE MAP COMMUNITY PANEL NUMBER 12091C0493J, REVISED MARCH 9, 2021.

SIGNS

SIGNS PROVIDED:
DO NOT ENTER SIGNS: (WEST: 2 SIGNS)
RIGHT TURN ONLY SIGN: (WEST: 1 SIGN) (EAST: 1 SIGN)
(R7-8) ADA HANDICAPPED PARKING SIGN: (WEST: 1 SIGN)
(R8-3A) NO PARKING SIGN: (WEST: 3 SIGNS)
EMERGENCY VEHICLE ACCESS ONLY SIGN: (WEST: 1 SIGN)
(R1-1) STOP SIGN: (WEST: 1 SIGNS) (EAST: 1 SIGN)
LOW SPEED VEHICLE (LSV) PARKING ONLY SIGN: (EAST: 1 SIGN)

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
14151 PANAMA CITY BEACH PARKWAY, SUITE 110.
PANAMA CITY BEACH, FLORIDA 32413-7553
(850) 235-1557
ENGINEERING BUSINESS - EB-0000345
PENSACOLA • PANAMA CITY BEACH • TALLAHASSEE • MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of Baskerville-Donovan, Inc. and is not to be reproduced in whole or in part. It is not to be used on any other project and is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

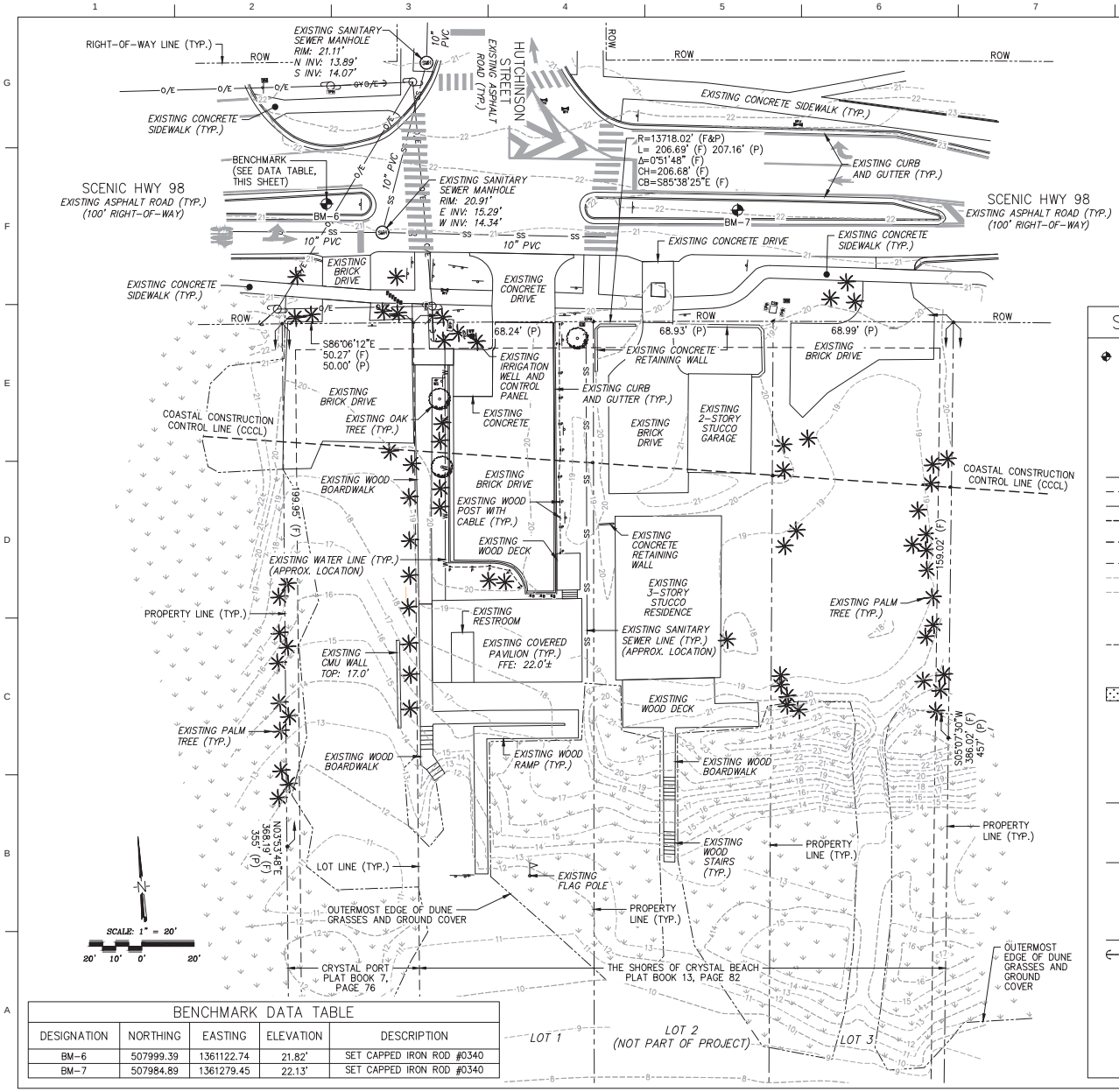
PROJECT NO:	12105.02
DESIGNED BY:	RAS
DRAWN BY:	JJ
CHK'D BY:	RLW
PROJ. MGR:	JCP
DATE:	AUGUST 2025

PROJECT OVERVIEW

C-100

L:\121 Okaloosa County\12105.02 Shore at Crystal Beach Park Amendment\DWG\12105.02-Project Overview.dwg, Aug 12, 2025 - 1:01:05PM, slucia

100% SUBMITTAL



BENCHMARK DATA TABLE

DESIGNATION	NORTHING	EASTING	ELEVATION	DESCRIPTION
BM-6	507999.39	1361122.74	21.82'	SET CAPPED IRON ROD #0340
BM-7	507984.89	1361279.45	22.13'	SET CAPPED IRON ROD #0340

APPROVED
By Jesse Hernandez at 9:03 am, Oct 22, 2025

ABBREVIATION LEGEND

ROW OR R/W		RIGHT OF WAY
INV		INVERT
EL OR ELEV		ELEVATION
O.R.		OFFICIAL RECORDS BOOK
(P)		PLAT
(F)		FIELD
(D)		DEED
R		RADIUS
Δ		DELTA
L		LENGTH
C		CHORD
CH		CHORD BEARING

SURVEY SYMBOL LEGEND

- SET CAPPED IRON ROD #0340
- FOUND IRON ROAD AND CAP
- FOUND IRON ROD AND CAP
- FOUND CRIMP TOP PIPE
- FOUND IRON ROD
- FOUND OPEN TOP PIPE
- FOUND CONCRETE MONUMENT
- SET NAIL AND DISK
- RIGHT OF WAY
- PROPERTY LOT LINE
- PROPERTY LINE
- MEAN HIGH WATER LINE
- COASTAL CONSTRUCTION CONTROL LINE (CCCL)
- LANDSCAPE BUFFER SETBACK
- EXISTING MAJOR CONTOUR LINE
- EXISTING MINOR CONTOUR LINE
- SIGN (SINGLE SUPPORT)
- SIGN (MULTI SUPPORT)
- WOODEN POST CONNECTION CABLE
- WOODEN POST
- BOLLARD
- DUNE GRASS
- TREE – OAK
- TREE – PINE
- FLAG POLE
- SANITARY SEWER LINE
- SANITARY SEWER MANHOLE
- IRRIGATION VALVE
- WATER LINE
- WATER BACKFLOW PREVENTOR
- WATER VALVE
- WATER METER
- WATER SHOWER STATION
- OVERHEAD ELECTRICAL LINE
- GUYWIRE
- ELECTRICAL POWER POLE
- ELECTRICAL WIRE PULL BOX
- ELECTRICAL SERVICE BOX
- TELEPHONE WIRE PULL BOX
- FIBER OPTIC WIRE PULL BOX
- CABLE TV WIRE PULL BOX

SURVEYOR'S NOTES:

1. NORTH AND THE SURVEY DATUM SHOWN HEREON ARE BASED ON THE FLORIDA STATE PLANE COORDINATE SYSTEM, NORTH ZONE, NORTH AMERICAN DATUM OF 1983 (NAD83) AND EXISTING FIELD MONUMENTATION.
2. THE ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
3. NO TITLE SEARCH, TITLE OPINION, OR ABSTRACT WAS PERFORMED BY NOR PROVIDED TO THIS FIRM FOR THE SUBJECT PROPERTY. THERE MAY BE DEEDS OF RECORD, UNRECORDED DEEDS, EASEMENTS, RIGHTS-OF-WAY, BUILDING SETBACKS, RESTRICTIVE COVENANTS OR OTHER INSTRUMENTS WHICH COULD AFFECT THE BOUNDARIES OR USE OF THE SUBJECT PROPERTY.
4. THE FIELD SURVEY SHOWN HEREON WAS PERFORMED IN AUGUST 2021 AND RECORDED IN FIELD BOOK 21-06, PAGES 12-18.
5. THE ABOVE GROUND UTILITIES SHOWN HEREON WERE BASED ON VISIBLE FIELD LOCATION. ANY SUBSURFACE UTILITIES SHOWN HEREIN SHOULD BE VERIFIED BY THE CONTRACTOR.
6. ALL DISTANCES ARE EXPRESSED IN FEET AND DECIMAL PARTS THEREOF.
7. SOIL BORING AND TEST PIT LOGS AND LABORATORY DATA CAN BE FOUND IN THE GEOTECHNICAL REPORT.

PROPERTY DESCRIPTIONS:

(O.R. BOOK 3502, PAGE 1397)
UNITS A, B, C, D, E, AND COMMON AREA OF CRYSTAL PORT, ACCORDING TO THE PLAT THEREOF AS RECORDED IN PLAT BOOK 7, PAGE 76, OF THE PUBLIC RECORD OF OKALOOSA COUNTY, FLORIDA.

AND ALSO:

(O.R. BOOK 2517, PAGE 3684)
LOT 1, THE SHORES OF CRYSTAL BEACH, A PLANNED UNIT DEVELOPMENT, A RESUBDIVISION OF A PORTION OF BLOCK B, CRYSTAL BEACH SUBDIVISION ACCORDING TO THE PLAT THEREOF AS RECORDED IN PLAT BOOK 13, PAGE 82 OF THE PUBLIC RECORD OF OKALOOSA COUNTY, FLORIDA.

AND ALSO:

(O.R. BOOK 3506, PAGE 695)
LOT 3, THE SHORES OF CRYSTAL BEACH, A PLANNED UNIT DEVELOPMENT, A RESUBDIVISION OF A PORTION OF BLOCK B, CRYSTAL BEACH SUBDIVISION ACCORDING TO THE PLAT THEREOF AS RECORDED IN PLAT BOOK 13, PAGE 82 OF THE PUBLIC RECORD OF OKALOOSA COUNTY, FLORIDA.
PARCEL ID NO.
00-2S-22-0584-0000-0030

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
14101 PANAMA CITY BEACH PARKWAY, SUITE 110.
PANAMA CITY BEACH, FLORIDA 32413
PHONE: (850) 235-1557 FAX: (850) 235-0168
ENGINEERING BUSINESS: EB-0000345
PENSACOLA • PANAMA CITY BEACH • TALLAHASSEE • MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of Baskerville-Donovan, Inc. and is not to be reproduced in whole or in part. It is not to be used on other projects or is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

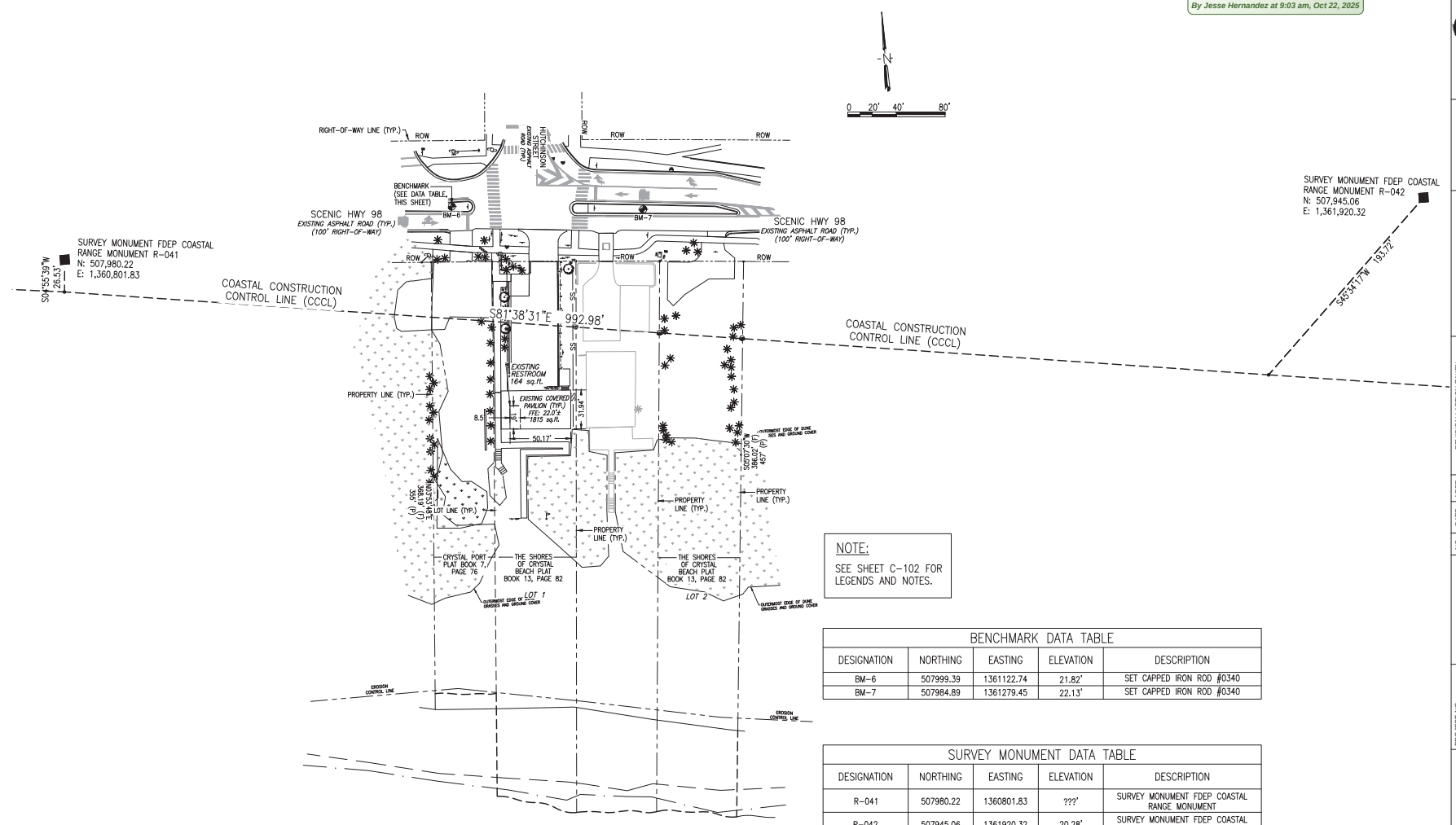
EXISTING CONDITIONS

C-101

L:\121 Okaloosa County\12105.02 Shore at Crystal Beach Park Amendment\DWG\12105.02-Ex Conditions.dwg, Aug 12, 2025 – 11:05:27AM, slucia

100% SUBMITTAL

APPROVED
By Jesse Hernandez at 9:03 am, Oct 22, 2025



NOTE:

SEE SHEET C-102 FOR LEGENDS AND NOTES.

BENCHMARK DATA TABLE				
DESIGNATION	NORTHING	EASTING	ELEVATION	DESCRIPTION
BM-6	507999.39	1361122.74	21.82'	SET CAPPED IRON ROD #0340
BM-7	507984.89	1361279.45	22.13'	SET CAPPED IRON ROD #0340

SURVEY MONUMENT DATA TABLE				
DESIGNATION	NORTHING	EASTING	ELEVATION	DESCRIPTION
R-041	507980.22	1360801.83	???'	SURVEY MONUMENT FDEP COASTAL RANGE MONUMENT
R-042	507945.06	1361920.32	20.28'	SURVEY MONUMENT FDEP COASTAL RANGE MONUMENT

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
14151 PANAMA CITY BEACH PARKWAY, SUITE 110.
PANAMA CITY BEACH, FL 32413-0505
(850) 235-1396
ENGINEERING BUSINESS - EB-0000340
PENSACOLA • PANAMA CITY BEACH • TALLAHASSEE • MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of Baskerville-Donovan, Inc. and is not to be reproduced in whole or in part. It is not to be used on other projects and is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

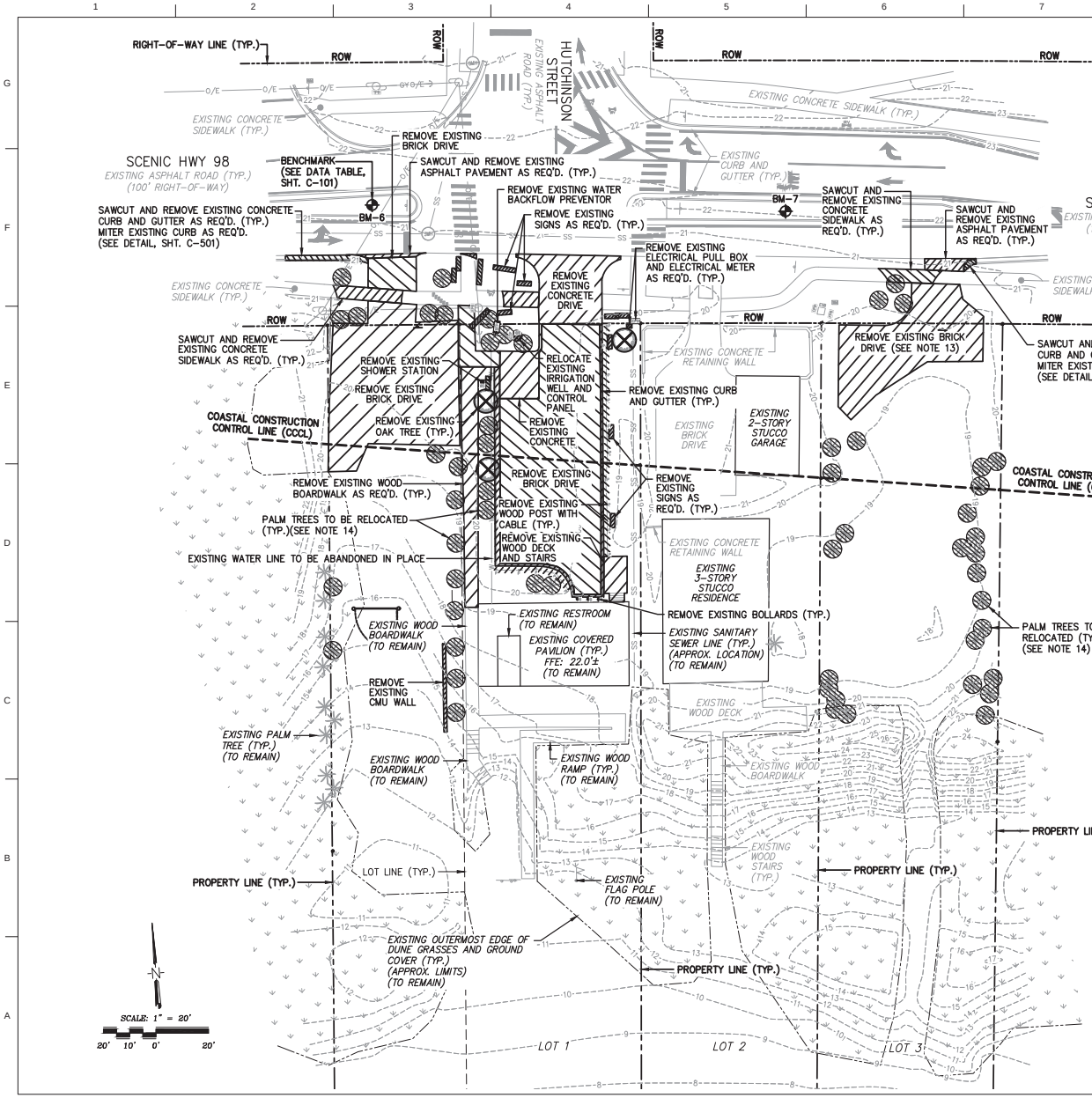
PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

SURVEY CONTROL PLAN AND EXISTING CONDITIONS

C-101A

L:\121 Okaloosa County\12105.02 Shore at Crystal Beach Park Amendment\DWG\12105.02-Survey Control & Ex Conditions.dwg, Aug 14, 2025 - 10:02:06AM, slucia

100% SUBMITTAL



APPROVED
By Jesse Hernandez at 9:03 am, Oct 22, 2025

DEMOLITION NOTES:

1. SEE SHEET C-101 FOR SURVEY BENCHMARKS, SURVEY SYMBOL LEGEND AND ABBREVIATION LEGEND.
2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE ACCURACY OF THE EXISTING SITE INFORMATION SHOWN HERE IN. ANY CHANGED OR ALTERED SITE CONDITION SHALL BE BROUGHT TO THE ATTENTION OF THE COUNTY AND CITY IMMEDIATELY.
3. ALL EXISTING DEBRIS AND DEBRIS FROM CONSTRUCTION OPERATIONS SHALL BE DISPOSED OF OFF-SITE AT THE CONTRACTOR'S EXPENSE.
4. TOPSOIL SUITABLE FOR REUSE SHALL BE STOCKPILED ON-SITE IN AN APPROVED LOCATION AND REDISTRIBUTED OVER ALL DISTURBED AREAS IN ONE 4" LAYER, (LOOSE THICKNESS).
5. ALL WORK ADJACENT TO OR ON EXISTING ROADWAYS SHALL COMPLY WITH CURRENT FLORIDA DEPARTMENT OF TRANSPORTATION STANDARDS FOR TRAFFIC CONTROL AND SAFETY. THE CONTRACTOR SHALL HOLD THE COUNTY AND CITY HARMLESS FOR ANY INCIDENT OCCURRING ON OR ADJACENT TO THE PROJECT SITE.
6. EXISTING TREES SHOWN OUTSIDE THE LIMITS OF CLEARING AND GRUBBING ARE TO REMAIN. PRIOR TO SITE CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL CLEARLY IDENTIFY THE CLEARING LIMITS.
7. CLEARING AND GRUBBING OF TREES AND SHRUBS NOT OTHERWISE IDENTIFIED SHALL BE LIMITED TO THAT WHICH IS ABSOLUTELY REQUIRED FOR NEW CONSTRUCTION. ANY ADDITIONAL CLEARING AND/OR GRUBBING OF TREES SHALL BE COMPLETED AS APPROVED BY THE COUNTY AND CITY.
8. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL LOCATE ALL UTILITIES. ANY UTILITY ADJUSTMENTS, EXISTING OR PROPOSED, REQUIRED TO COMPLETE CONSTRUCTION UNDER THIS CONTRACT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THIS ITEM INCLUDES, BUT IS NOT LIMITED TO, THE TEMPORARY RELOCATION OF EXISTING OVERHEAD POWER LINES. ALL WORK IN THE VICINITY OF OVERHEAD POWER LINES SHALL CONFORM TO APPLICABLE (LOCAL) SAFETY REQUIREMENTS. THE CONTRACTOR IS TO REPAIR DAMAGES TO EXISTING UTILITIES THAT ARE TO REMAIN IN SERVICE IMMEDIATELY AT NO ADDITIONAL COSTS OR EXPENSE TO THE COUNTY AND CITY.
9. REFER TO ELECTRICAL, COMMUNICATIONS AND OTHER DISCIPLINES FOR UTILITIES REQUIRING REMOVAL, COORDINATION AND/OR RELOCATION.
10. THE CONSTRUCTION CONTRACTOR SHALL INVESTIGATE, MARK, AND PROTECT IN PLACE, AS NEEDED, ALL APPLICABLE EXISTING UNDERGROUND UTILITIES THAT ARE TO REMAIN IN PLACE/SERVICE DURING CONSTRUCTION OPERATIONS THAT MAY BE SUBJECT TO DAMAGE DUE TO THE ONGOING CONSTRUCTION OPERATIONS.
11. CONTRACTOR SHALL SAW CUT THE LIMITS OF ASPHALT PAVEMENT TO BE REMOVED AND PROTECT EDGE OF ASPHALT FROM DAMAGE. ANY DAMAGE TO THE SAW CUT LINE SHALL REQUIRE THE CONTRACTOR TO RE-SAW CUT A NEW LINE BEFORE PLACEMENT OF NEW ASPHALT PAVEMENT.
12. ACTUAL AMOUNT OF ASPHALT PAVEMENT REMOVAL WILL VARY DEPENDING ON THE TYPE OF EQUIPMENT AND CONSTRUCTION TECHNIQUE USED BY THE CONTRACTOR FOR INSTALLATION OF THE NEW SITE LAYOUT.
13. THERE ARE STRUCTURES THAT HAVE BEEN PREVIOUSLY DEMOLISHED AS SHOWN ON THE CRITERIA DOCUMENT. IT IS NOT KNOWN TO WHAT EXTENT THAT DEMOLITION OCCURRED. REMAINING PORTIONS OF THOSE STRUCTURES MAY INTERFERE WITH THE CONSTRUCTION OF THE NEW LAYOUT AND MUST BE REMOVED TO THE EXTENT NECESSARY TO ACCOMPLISH THE NEW WORK.
14. CONTRACTOR SHALL RELOCATE ALL PALM TREES WHICH IS ABSOLUTELY REQUIRED FOR NEW CONSTRUCTION. PALM TREES SHALL BE RELOCATED AND APPROVED BY THE COUNTY AND CITY.

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
14151 PANAMA CITY BEACH PARKWAY, SUITE 110.
PANAMA CITY BEACH, FLORIDA 32413
(850) 235-1929
ENGINEERING BUSINESS - EB-0000345
PENSACOLA • PANAMA CITY BEACH • TALLAHASSEE • MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of Baskerville-Donovan, Inc. and is not to be reproduced in whole or in part. It is not to be used on other projects nor is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

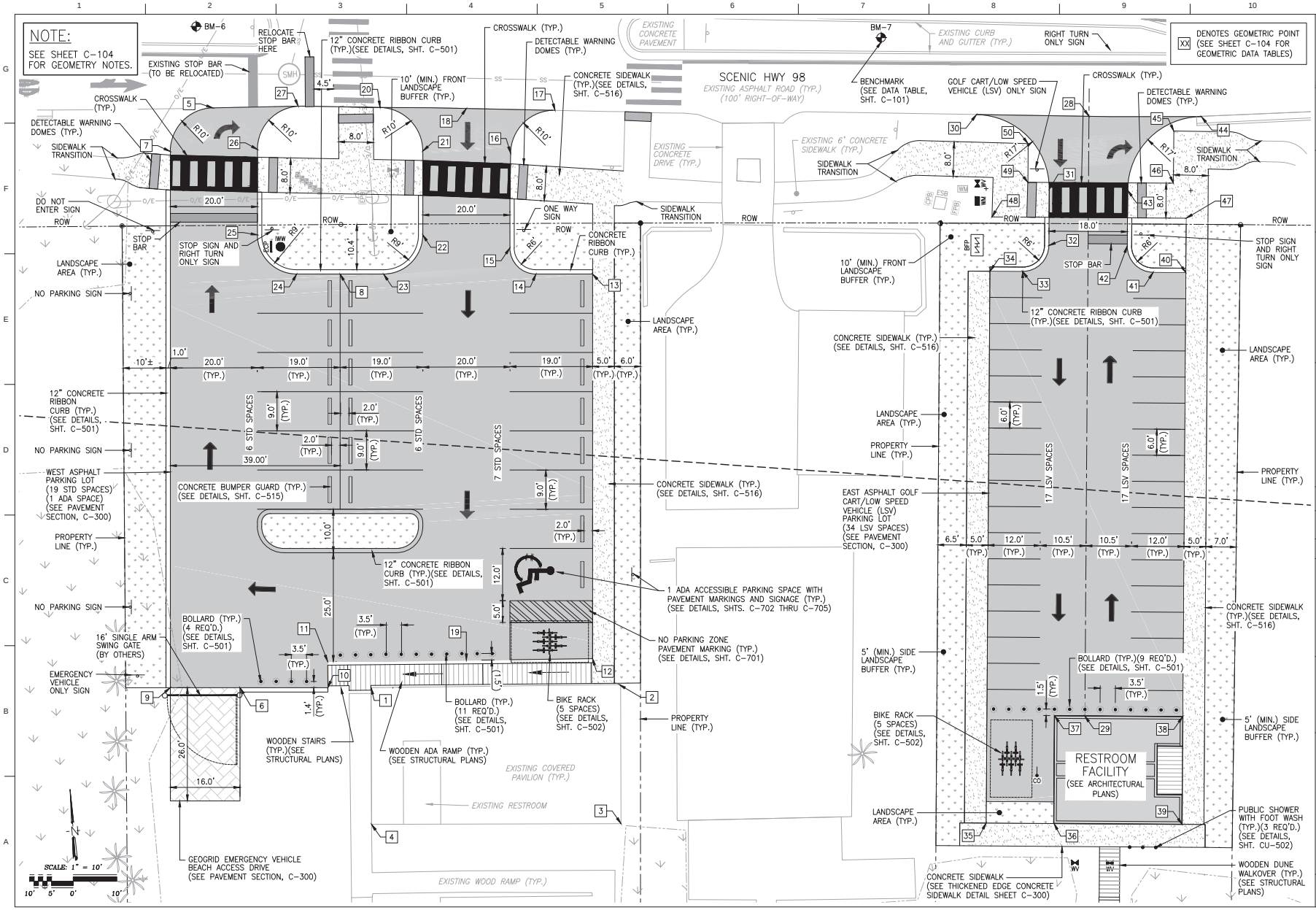
DEMOLITION PLAN

C-102

APPROVED
By Jesse Hernandez at 9:04 am, Oct 22, 2025

NOTE:
SEE SHEET C-104 FOR GEOMETRY NOTES.

XX DENOTES GEOMETRIC POINT (SEE SHEET C-104 FOR GEOMETRIC DATA TABLES)



BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
14151 PANAMA CITY BEACH PARKWAY, SUITE 110.
PANAMA CITY BEACH, FLORIDA 32413-7160
PH: (850) 235-1929 FAX: (850) 235-1930
ENGINEERING BUSINESS - EB4200340
PENSACOLA • PANAMA CITY BEACH • TALLAHASSEE • MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of Baskerville-Donovan, Inc. and is not to be reproduced in whole or in part. It is not to be used on other projects and is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

GEOMETRY PLAN

C-103

L:\121 Okaloosa County\12105.02 Shore at Crystal Beach Park Amendment\DWG\12105.02-Geometry.dwg, Aug 15, 2025 – 10:19:02AM, slucia

100% SUBMITTAL

GEOMETRIC POINT DATA TABLE

SYMBOL NO. XX	NORTHING	EASTING	DESCRIPTION
1	507844.94	1361151.28	CORNER OF EXISTING COVERED PAVILION
2	507841.30	1361208.51	CORNER OF EXISTING COVERED PAVILION
3	507809.44	1361206.18	CORNER OF EXISTING COVERED PAVILION
4	507813.64	1361149.01	CORNER OF EXISTING COVERED PAVILION
5	507980.41	1361125.16	℄ OF WEST ENTRANCE OF WEST ASPHALT PARKING LOT, TIE TO EXISTING SCENIC HWY 98 ASPHALT ROAD
6	507847.23	1361121.26	℄ OF WEST ENTRANCE OF WEST ASPHALT PARKING LOT AND EDGE OF BEACH ACCESS
7	507971.20	1361114.67	PC/PT OF 10' RADIUS FOR WEST ENTRANCE OF WEST ASPHALT PARKING LOT
8	507940.13	1361151.36	℄ OF WEST PARKING LOT STRIPING FOR WEST PARKING AREA
9	507848.41	1361105.30	WEST ASPHALT PARKING LOT AND FACE OF RIBBON CURB
10	507845.67	1361141.37	WEST ASPHALT PARKING LOT, FACE OF RIBBON CURB AND WOODEN BOARDWALK STAIRS
11	507851.63	1361141.81	WEST ASPHALT PARKING LOT AND WOODEN BOARDWALK STAIRS
12	507847.68	1361202.52	WEST ASPHALT PARKING LOT, CONCRETE SIDEWALK AND WOODEN BOARDWALK ADA RAMP
13	507935.79	1361209.25	WEST ASPHALT PARKING LOT, CONCRETE SIDEWALK AND FACE OF RIBBON CURB
14	507936.74	1361196.27	PC/PT OF 6' RADIUS FOR EAST ENTRANCE OF WEST ASPHALT PARKING LOT AND FACE OF RIBBON CURB
15	507943.19	1361190.72	PC/PT OF 6' RADIUS FOR EAST ENTRANCE OF WEST ASPHALT PARKING LOT AND FACE OF RIBBON CURB
16	507964.77	1361192.52	PC/PT OF 10' RADIUS FOR EAST ENTRANCE OF WEST ASPHALT PARKING LOT
17	507973.89	1361203.41	PC/PT OF 10' RADIUS FOR EAST ENTRANCE OF WEST ASPHALT PARKING LOT, TIE TO EXISTING SCENIC HWY 98 ASPHALT ROAD
18	507975.90	1361183.19	℄ OF EAST ENTRANCE OF WEST ASPHALT PARKING LOT, TIE TO EXISTING SCENIC HWY 98 ASPHALT ROAD
19	507849.53	1361173.59	℄ OF EAST ENTRANCE OF WEST ASPHALT PARKING LOT AND WOODEN BOARDWALK ADA RAMP
20	507977.59	1361163.36	PC/PT OF 10' RADIUS FOR EAST ENTRANCE OF WEST ASPHALT PARKING LOT, TIE TO EXISTING SCENIC HWY 98 ASPHALT ROAD
21	507966.91	1361172.48	PC/PT OF 10' RADIUS FOR EAST ENTRANCE OF WEST ASPHALT PARKING LOT
22	507947.74	1361171.05	PC/PT OF 9' RADIUS FOR EAST ENTRANCE OF WEST ASPHALT PARKING LOT AND FACE OF RIBBON CURB
23	507939.35	1361161.39	PC/PT OF 9' RADIUS FOR EAST ENTRANCE OF WEST ASPHALT PARKING LOT AND FACE OF RIBBON CURB
24	507940.91	1361141.40	PC/PT OF 9' RADIUS FOR WEST ENTRANCE OF WEST ASPHALT PARKING LOT AND FACE OF RIBBON CURB
25	507950.56	1361133.14	PC/PT OF 9' RADIUS FOR WEST ENTRANCE OF WEST ASPHALT PARKING LOT AND FACE OF RIBBON CURB
26	507970.07	1361134.66	PC/PT OF 10' RADIUS FOR WEST ENTRANCE OF WEST ASPHALT PARKING LOT AND FACE OF EXISTING CONCRETE SIDEWALK

GEOMETRIC POINT DATA TABLE

SYMBOL NO. XX	NORTHING	EASTING	DESCRIPTION
27	507979.35	1361144.71	PC/PT OF 10' RADIUS FOR WEST ENTRANCE OF WEST ASPHALT PARKING LOT, TIE TO EXISTING SCENIC HWY 98 ASPHALT ROAD
28	507826.04	1361314.30	℄ OF EAST ASPHALT GOLF CART/LOW SPEED VEHICLE (LSV) PARKING LOT, TIE TO EXISTING SCENIC HWY 98 ASPHALT ROAD
29	507823.32	1361314.08	℄ OF EAST ASPHALT GOLF CART/LOW SPEED VEHICLE (LSV) PARKING LOT AND RESTROOM FACILITY
30	507965.62	1361299.94	PC/PT OF 17' RADIUS FOR EAST ASPHALT GOLF CART/LOW SPEED VEHICLE (LSV) PARKING LOT, TIE TO EXISTING SCENIC HWY 98 ASPHALT ROAD
31	507947.25	1361315.34	PC/PT OF 17' RADIUS FOR EAST ASPHALT GOLF CART/LOW SPEED VEHICLE (LSV) PARKING LOT AND FACE OF RIBBON CURB
32	507934.33	1361314.25	PC/PT OF 6' RADIUS FOR EAST ASPHALT GOLF CART/LOW SPEED VEHICLE (LSV) PARKING LOT AND FACE OF RIBBON CURB
33	507928.89	1361307.82	PC/PT OF 6' RADIUS FOR EAST ASPHALT GOLF CART/LOW SPEED VEHICLE (LSV) PARKING LOT AND FACE OF RIBBON CURB
34	507929.50	1361300.30	EAST ASPHALT GOLF CART/LOW SPEED VEHICLE (LSV) PARKING LOT, CONCRETE SIDEWALK AND FACE OF RIBBON CURB
35	507803.25	1361289.84	CONCRETE SIDEWALK, LANDSCAPED AREA AND WOODEN BOARDWALK
36	507801.96	1361305.37	LANDSCAPED AREA, WOODEN BOARDWALK AND CORNER OF RESTROOM FACILITY
37	507826.59	1361307.34	EAST ASPHALT GOLF CART/LOW SPEED VEHICLE (LSV) PARKING LOT AND CORNER OF RESTROOM FACILITY
38	507824.16	1361336.72	EAST ASPHALT GOLF CART/LOW SPEED VEHICLE (LSV) PARKING LOT, CONCRETE SIDEWALK AND CORNER OF RESTROOM FACILITY
39	507799.53	1361334.68	CONCRETE SIDEWALK, WOODEN BOARDWALK AND CORNER OF RESTROOM FACILITY
40	507925.79	1361345.15	EAST ASPHALT GOLF CART/LOW SPEED VEHICLE (LSV) PARKING LOT, CONCRETE SIDEWALK AND FACE OF RIBBON CURB
41	507926.36	1361337.65	PC/PT OF 6' RADIUS FOR EAST ASPHALT GOLF CART/LOW SPEED VEHICLE (LSV) PARKING LOT AND FACE OF RIBBON CURB
42	507932.87	1361332.18	PC/PT OF 6' RADIUS FOR EAST ASPHALT GOLF CART/LOW SPEED VEHICLE (LSV) PARKING LOT AND FACE OF RIBBON CURB
43	507945.66	1361333.25	PC/PT OF 17' RADIUS FOR EAST ASPHALT GOLF CART/LOW SPEED VEHICLE (LSV) PARKING LOT AND FACE OF RIBBON CURB
44	507961.20	1361351.48	PC/PT OF 17' RADIUS FOR EAST ASPHALT GOLF CART/LOW SPEED VEHICLE (LSV) PARKING LOT, TIE TO EXISTING SCENIC HWY 98 ASPHALT ROAD
45	507958.35	1361344.87	CORNER OF PROPOSED CONCRETE SIDEWALK
46	507946.47	1361343.85	CORNER OF PROPOSED CONCRETE SIDEWALK
47	507938.18	1361346.17	CORNER OF PROPOSED CONCRETE SIDEWALK
48	507941.88	1361301.66	CORNER OF PROPOSED CONCRETE SIDEWALK
49	507949.16	1361310.53	CORNER OF PROPOSED CONCRETE SIDEWALK
50	507958.04	1361311.23	CORNER OF PROPOSED CONCRETE SIDEWALK

NOTES:

1. SEE SHEET C-101 FOR SURVEY BENCHMARKS, SURVEY SYMBOL LEGEND AND ABBREVIATION LEGEND.
2. SEE SHEETS C-103 AND C-104 FOR GEOMETRY PLANS AND DATA TABLES.
3. SEE SHEETS C-105 THRU C-107 FOR GRADING AND DRAINAGE PLANS AND DATA TABLES.
4. SEE SHEETS C-513 THRU C-516 FOR FDOT STANDARD DETAILS.
5. SEE STRUCTURAL PLANS FOR WOODEN BOARDWALK GEOMETRY AND DETAILS.
6. SEE SHEETS C-700 THRU C-705 FOR STRIPING AND SIGNAGE PLAN AND FDOT STANDARD DETAILS.
7. SEE SHEETS CU-101 THRU CU-504 FOR WATER AND SANITARY SEWER PLAN AND DETAILS.

APPROVED
By Jesse Hernandez at 9:04 am, Oct 22, 2025

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
14151 PANAMA CITY BEACH PARKWAY, SUITE 110.
PANAMA CITY BEACH, FLORIDA 32413
(850) 235-1396 - FAX (850) 235-0160
ENGINEERING BUSINESS: EB-0000345
PENSACOLA • PANAMA CITY BEACH • TALLAHASSEE • MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

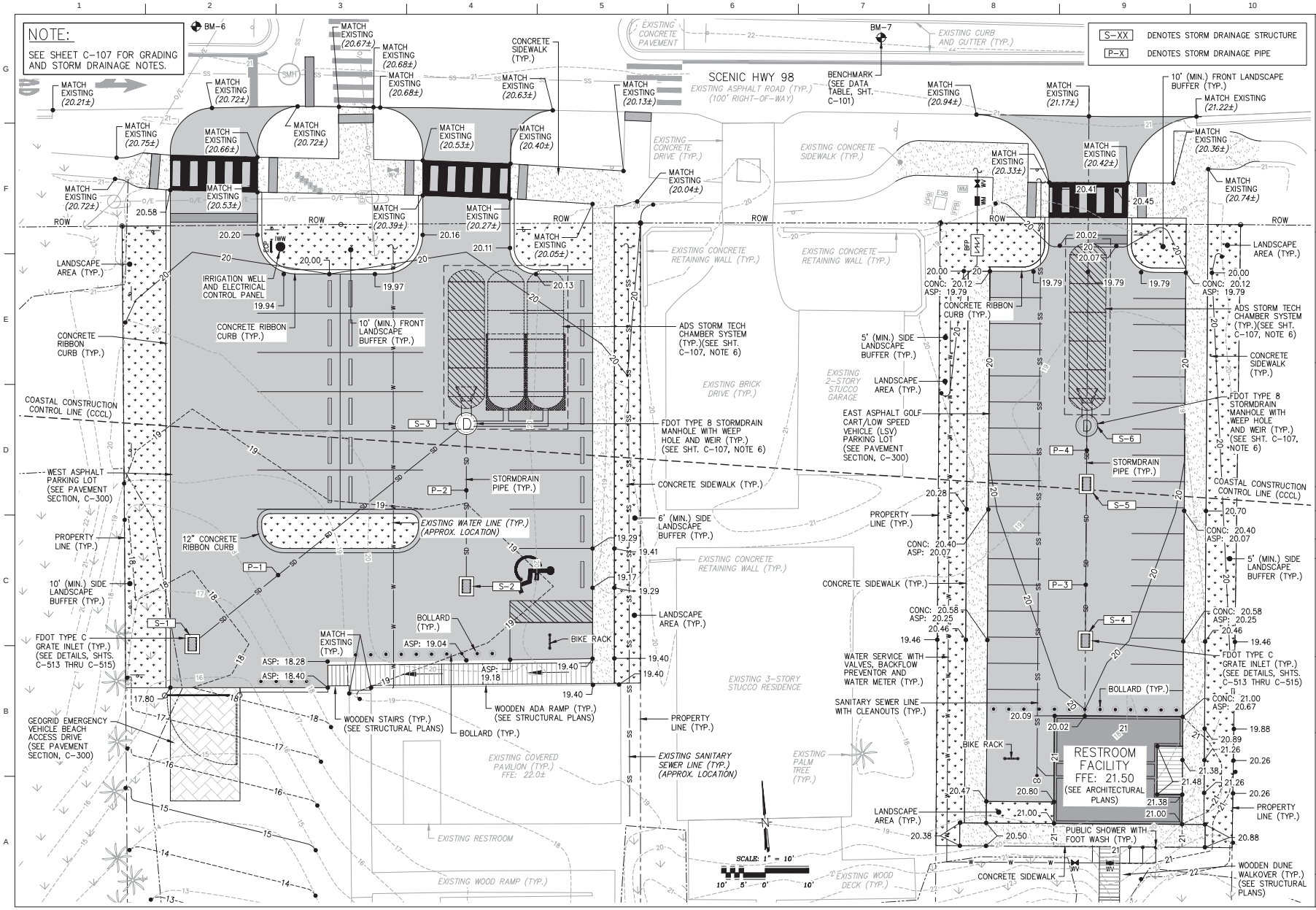
This drawing is the property of BASKERVILLE-DONOVAN, and is not to be reproduced in whole or in part, it is not to be used on any other project and is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

GEOMETRIC DATA TABLES

C-104



BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
14151 PANAMA CITY BEACH PARKWAY, SUITE 110
PANAMA CITY BEACH, FLORIDA 32413-7160
PHONE: (850) 235-1929
ENGINEERING BUSINESS: EB-0000345
PENSACOLA • PANAMA CITY BEACH • TALLAHASSEE • MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of Baskerville-Donovan, Inc. and is not to be reproduced in whole or in part. It is not to be used on other projects nor is it to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

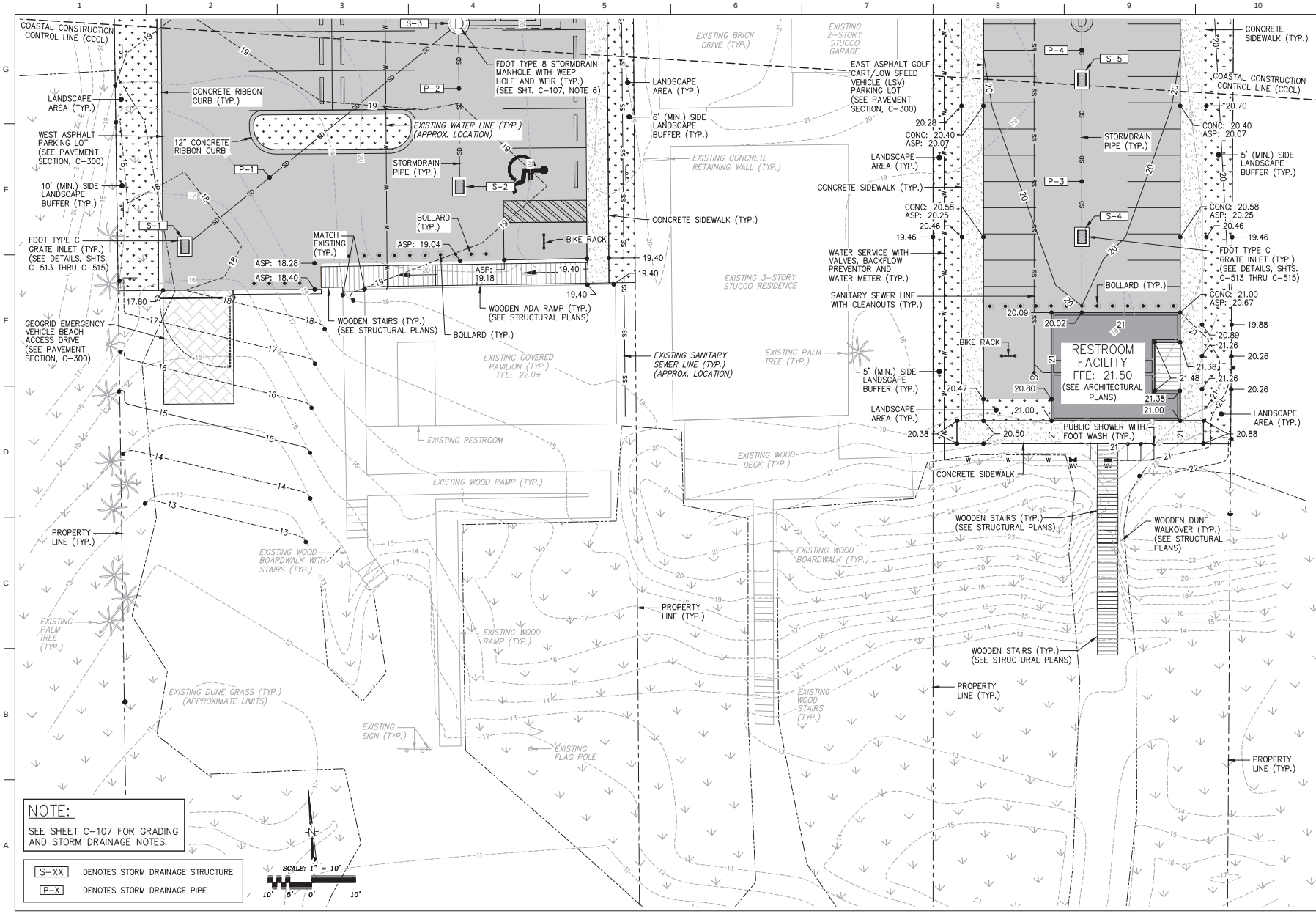
GRADING AND STORM DRAINAGE PLAN

C-105

L:\121 Okaloosa County\12105.02 Shore at Crystal Beach Park Amendment\DWG\12105.02-Grading and Drainage.dwg, Aug 12, 2025 - 1:43:28PM, slucia

APPROVED
By Jesse Hernandez at 9:04 am, Oct 22, 2025

100% SUBMITTAL



BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
1410 PANAMA CITY BEACH PARKWAY, SUITE 110
PANAMA CITY BEACH, FLORIDA 32407-7183
ENGINEERING BUSINESS - EB-0000345
PENSACOLA • PANAMA CITY BEACH • TALLAHASSEE • MOBILE

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of Baskerville-Donovan, Inc. and is not to be reproduced in whole or in part. It is not to be used on any other project and is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

GRADING AND STORM DRAINAGE PLAN

C-106

L:\121 Okaloosa County\12105.02 Shore at Crystal Beach Park Amendment\DWG\12105.02-Grading and Drainage.dwg, Aug 12, 2025 - 1:43:49PM, slucia

APPROVED
By Jesse Hernandez at 9:04 am, Oct 22, 2025

100% SUBMITTAL

STORM DRAINAGE PIPE DATA TABLE							
PIPE NO. P-XX	SIZE (IN)	TYPE	LENGTH (FT)	SLOPE (%)	INV. US (FT)	INV. DS (FT)	PIPE CLASS
P-1	15	RCP	80.78	0.5	13.20	12.80	III
P-2	15	RCP	37.34	0.5	14.50	14.31	III
P-3	15	RCP	36.00	0.5	15.50	15.37	III
P-4	15	RCP	13.40	0.75	15.37	15.27	III

INV. US – DENOTES INVERT UP STREAM

INV. DS – DENOTES INVERT DOWN STREAM

RCP – DENOTES REINFORCED CONCRETE PIPE

NOTES:

1. SEE SHEET C-101 FOR SURVEY BENCHMARKS, SURVEY SYMBOL LEGEND AND ABBREVIATION LEGEND.
2. SEE SHEETS C-105 AND C-106 FOR GRADING AND STORM DRAINAGE PLANS.
3. CONTRACTOR TO USE CAUTION WHEN DIGGING NEAR EXISTING UTILITIES AND MAY BE REQUIRED TO HAND DIG IN SOME AREAS. CONTRACTOR MAY BE REQUIRED TO TEMPORARILY SUPPORT EXISTING UTILITIES WHILE INSTALLING STORM DRAINAGE PIPES.
4. NORTHING AND EASTING COORDINATES BASED ON CENTER OF INLETS AND CENTER OF MANHOLES.
5. PIPE LENGTHS SHOWN ARE FROM CENTER TO CENTER OF STRUCTURES.
6. CONTRACTOR SHALL PROVIDE FDOT STORMDRAIN MANHOLE WITH WEEP HOLE. STRUCTURE INVERT ELEVATION SHALL BE AS IDENTIFIED IN THE STORM DRAINAGE STRUCTURE DATA TABLE. SEE SHEETS C-513 AND C-514 FOR FDOT TYPE 8 STORMDRAIN MANHOLE DETAILS, SEE SHEETS C-503 THRU C-512 FOR ADS STORM TECH CHAMBER SYSTEM DETAILS, AND SEE SHEET C-513 FOR WEEP HOLE DETAILS.

S-XX — DENOTES STORM DRAINAGE STRUCTURE (SEE TABLE FOR TYPE AND LOCATION)

P-X — DENOTES STORM DRAINAGE PIPE (SEE TABLE FOR TYPE AND SIZE)

STORM DRAINAGE STRUCTURE DATA TABLE								
STRUCTURE NO. S-XX	TYPE	NORTHING	EASTING	TOP (T); GRATE (G); (FT)	NORTH INV. (FT)	SOUTH INV. (FT)	SOUTH WEST INV. (FT)	NORTH EAST INV. (FT)
S-1	FDOT TYPE C GRATE INLET	507858.02	1361111.09	(G) 17.48	–	–	–	13.20
S-2	FDOT TYPE C GRATE INLET	507866.48	1361174.87	(G) 18.70	14.50	–	–	–
S-3 (SEE NOTE 9)	FDOT TYPE 8 STORMDRAIN MANHOLE WITH WEEP HOLE AND WEIR	507903.71	1361177.71	(T) 19.32	10.82	14.31	12.80	–
S-4	FDOT TYPE C GRATE INLET	507843.25	1361315.73	(G) 19.80	15.50	–	–	–
S-5	FDOT TYPE C GRATE INLET	507879.12	1361318.70	(G) 19.20	15.37	15.37	–	–
S-6 (SEE NOTE 9)	FDOT TYPE 8 STORMDRAIN MANHOLE WITH WEEP HOLE AND WEIR	507892.46	1361319.84	(T) 19.36	10.94	15.27	–	–

ADS – DENOTES ADVANCED DRAINAGE SYSTEM (ADS) PIPES FOR ADS STORM TECH CHAMBER SYSTEM. SEE DETAILS, SHTS. C-503 THRU C-512.

APPROVED
By Jesse Hernandez at 9:04 am, Oct 22, 2025

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
14151 PANAMA CITY BEACH PARKWAY, SUITE 110.
PANAMA CITY BEACH, FL 32413 (850) 235-1165
ENGINEERING BUSINESS: EB-0000345
PENSACOLA • PANAMA CITY BEACH • TALLAHASSEE • MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

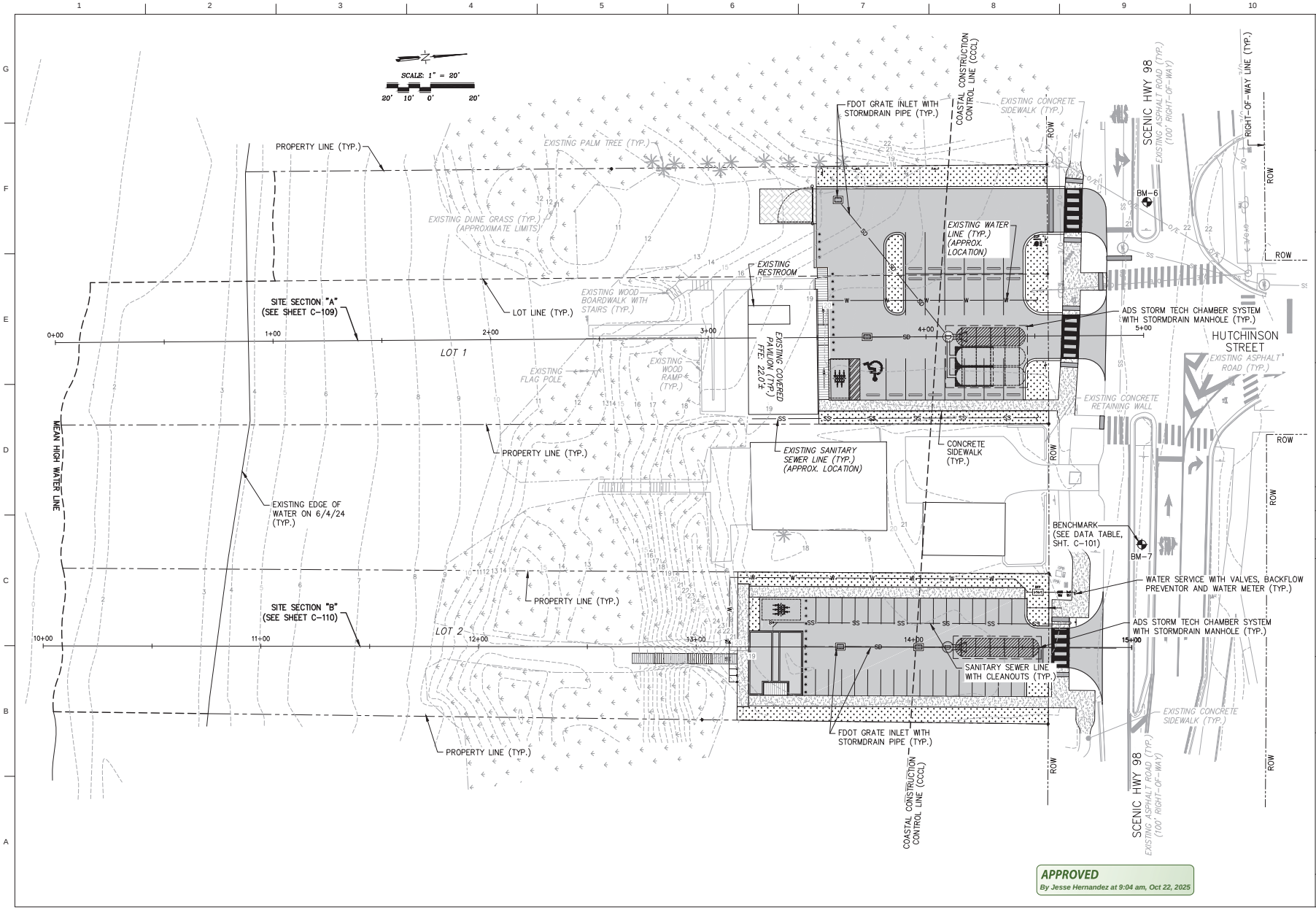
This drawing is the property of Baskerville-Donovan, Inc. and is not to be reproduced in whole or in part. It is not to be used on other projects nor is it to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

STORM DRAINAGE DATA TABLES AND NOTES

C-107



APPROVED
By Jesse Hernandez at 9:04 am, Oct 22, 2025

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
14151 PANAMA CITY BEACH PARKWAY, SUITE 110
PANAMA CITY BEACH, FLORIDA 32413-7553
(850) 235-1929
ENGINEERING BUSINESS - EB-0000345
PENSACOLA • PANAMA CITY BEACH • TALLAHASSEE • MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of Baskerville-Donovan, Inc. and is not to be reproduced in whole or in part. It is not to be used on any other project and is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

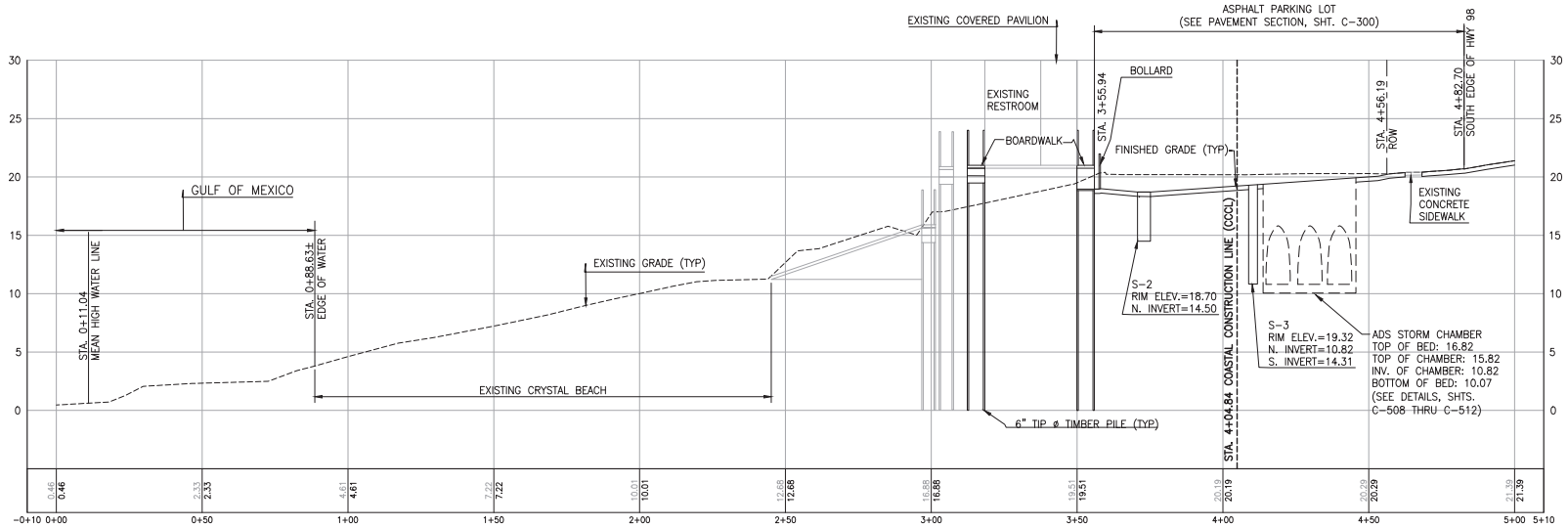
GRADING OVERVIEW

C-108

L:\121 Okaloosa County\12105.02 Shore at Crystal Beach Park Amendment\DWG\12105.02-Grading Overview.dwg, Aug 13, 2025 - 3:00:03PM, slucia

100% SUBMITTAL

APPROVED
By Jesse Hernandez at 9:04 am, Oct 22, 2025



SITE SECTION "A"

SCALE: 1" = 20' HORIZ.
1" = 5' VERT.

EARTHWORK DATA TABLE	
EXCAVATION	12,000 CF
FILL	12,000 CF

NOTE: EXCAVATION AND FILL QUANTITIES ARE WORKS PERFORMED SEAWARD OF COASTAL CONSTRUCTION CONTROL LINE (CCCL)

HORIZONTAL
SCALE: 1" = 20'
20' 10' 0' 20'

VERTICAL
SCALE: 1" = 5'
5' 2.5' 0' 5'

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
14151 PANAMA CITY BEACH PARKWAY, SUITE 110.
PANAMA CITY BEACH, FL 32413-7553
(850) 235-1396
ENGINEERING BUSINESS: EB-0000345
PENSACOLA • PANAMA CITY BEACH • TALLAHASSEE • MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of Baskerville-Donovan, Inc. and is not to be reproduced in whole or in part. It is not to be used on other projects and is to be returned upon request.

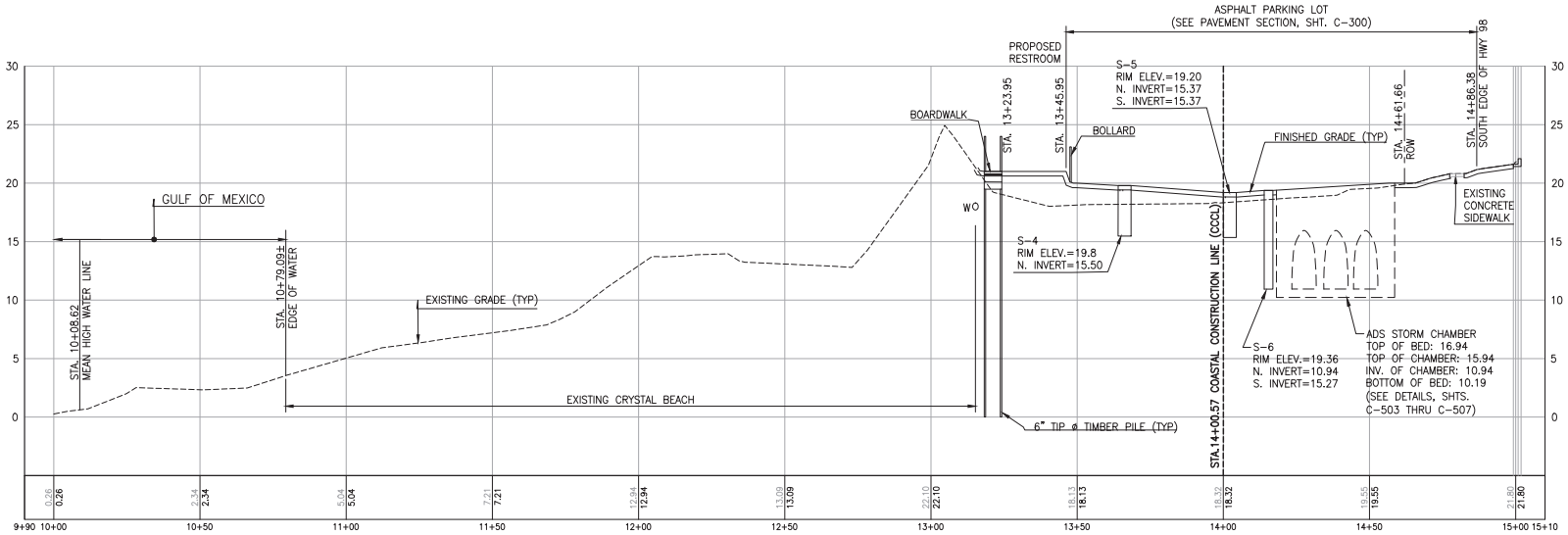
NOT RELEASED FOR CONSTRUCTION

PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

SITE SECTION 'A'

C-109

APPROVED
By Jesse Hernandez at 9:04 am, Oct 22, 2025



SITE SECTION "B"

SCALE: 1" = 20' HORIZ.
1" = 5' VERT.

HORIZONTAL
SCALE: 1" = 20'
20' 10' 0' 20'

VERTICAL
SCALE: 1" = 5'
5' 2.5' 0' 5'

EARTHWORK DATA TABLE	
EXCAVATION	11,100 CF
FILL	11,100 CF

NOTE: EXCAVATION AND FILL QUANTITIES ARE WORKS PERFORMED SEAWARD OF COASTAL CONSTRUCTION CONTROL LINE (CCCL)

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
14151 PANAMA CITY BEACH PARKWAY, SUITE 110.
PANAMA CITY BEACH, FL 32413-7555
(850) 235-1396
ENGINEERING BUSINESS - EB-0000345
PENSACOLA • PANAMA CITY BEACH • TALLAHASSEE • MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of Baskerville-Donovan, Inc. and is not to be reproduced in whole or in part. It is not to be used on any other work and is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

SITE SECTION 'B'

C-110

100% SUBMITTAL

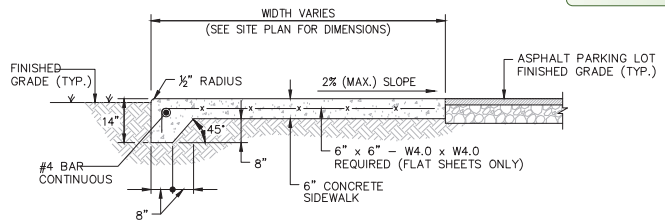
GENERAL NOTES:

1. ASPHALT (FLEXIBLE PAVEMENT) SHALL BE SP12.5 SUPER PAVE WITH REINFORCING FIBER (1LB./TON)

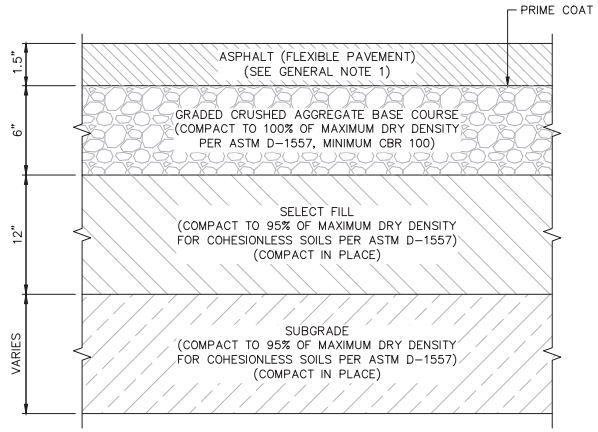
NOTES TO CONTRACTOR:

1. IN THE AREAS OF NEW PAVEMENTS WHERE THERE ARE NO EXISTING PAVEMENTS; CUT AND FILL MUST BE CONSIDERED. VOLUMES OF EARTHWORK MATERIAL TO BE CUT OR FILLED IN THESE AREAS ARE BASED ON NEW PAVEMENT, BASE COURSE AND COMPACTED SUBGRADE REQUIREMENTS. IF THE AREA IS IN CUT, ADDITIONAL EARTHWORK MATERIAL MUST BE REMOVED EQUAL TO THE NEW PAVEMENT STRUCTURE INCLUDING THE COMPACTED SUBGRADE. IF THE AREA IS IN FILL (BASED ON THE PROFILES AND FINISHED GRADES SHOWN) ADDITIONAL EXCAVATION MAYBE NECESSARY TO REACH THE REQUIRED DEPTH FOR THE NEW PAVEMENT STRUCTURE UNDERCUT REQUIREMENT(S).

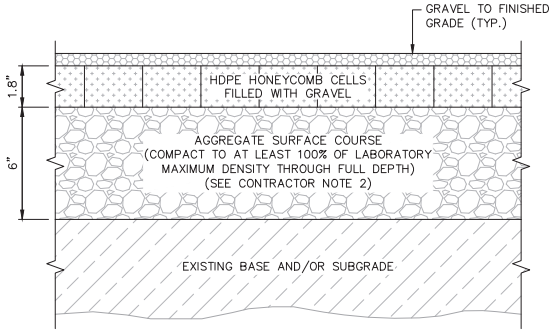
APPROVED
By Jesse Hernandez at 9:04 am, Oct 22, 2025



THICKENED EDGE CONCRETE SIDEWALK DETAIL
N.T.S.



WEST ASPHALT PARKING LOT AND
EAST ASPHALT GOLF CART/LOW SPEED (LSV) PARKING LOT
PAVEMENT SECTION
N.T.S.



GEOGRID EMERGENCY VEHICLE
BEACH ACCESS DRIVE
PAVEMENT SECTION
N.T.S.

NOTES:

1. SEE *TRUEGRIDPAVER.COM* FOR MATERIAL AND INSTALLATION GUIDELINES (TRUEGRID PAVERS BASIS OF DESIGN OR APPROVED EQUAL).

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
1414 MAIN ST. (P.O. BOX 1369) (32549)
PENSACOLA, FLORIDA
(850) 433-1234 (FAX: 850) 432-1769
ENGINEERING BUSINESS: EB-0000340
PENSACOLA • PANAMA CITY BEACH • FT. WALTON BEACH • MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of BASKERVILLE-DONOVAN, INC. and is not to be reproduced in whole or in part, or to be used on any other project and is to be returned upon request.

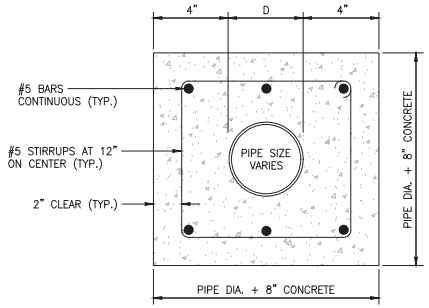
NOT RELEASED FOR CONSTRUCTION

PROJECT NO. 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

TYPICAL PAVEMENT SECTIONS

C-300

100% SUBMITTAL

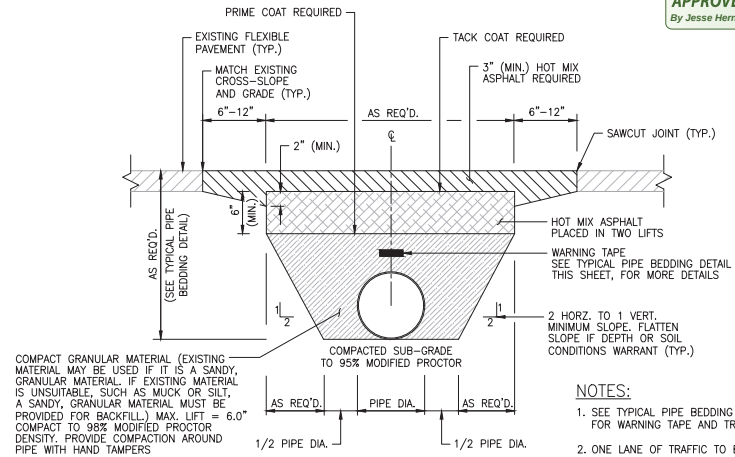


NOTES:

1. ALL ENCASEMENTS SHALL EXTEND 3 FEET BEYOND THE EDGE OF ALL ASPHALT SHOULDERS.
2. FOR PIPE LESS THAN 6" ø, ADJUST DIMENSIONS OF ENCASEMENT TO ENSURE A MINIMUM OF 4" OF CONCRETE ON ALL SIDES OF PIPE.

REINFORCED CONCRETE ENCASEMENT DETAIL

N.T.S.

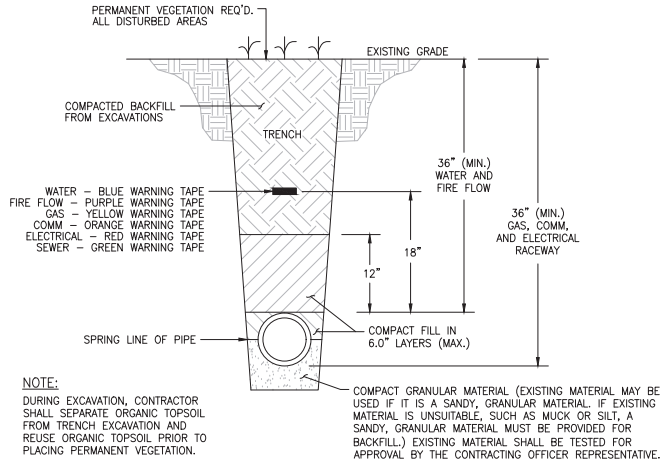


NOTES:

1. SEE TYPICAL PIPE BEDDING DETAIL FOR WARNING TAPE AND TRACER WIRE.
2. ONE LANE OF TRAFFIC TO BE LEFT OPEN AT ALL TIMES. SEE LANE CLOSURE DETAILS THIS SHEET.

OPEN CUT AND PATCH DETAIL; EXISTING FLEXIBLE PAVEMENT

N.T.S.



NOTE:

DURING EXCAVATION, CONTRACTOR SHALL SEPARATE ORGANIC TOPSOIL FROM TRENCH EXCAVATION AND REUSE ORGANIC TOPSOIL PRIOR TO PLACING PERMANENT VEGETATION.

TYPICAL PIPE BEDDING NON-PAVED AREAS

N.T.S.

APPROVED
By Jesse Hernandez at 9:04 am, Oct 22, 2025

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
14151 PANAMA CITY BEACH PARKWAY, SUITE 110.
PANAMA CITY BEACH, FLORIDA 32413
(850) 235-0293
ENGINEERING BUSINESS: EB-0000345
PENSACOLA • PANAMA CITY BEACH • TALLAHASSEE • MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of Baskerville-Donovan, Inc. and is not to be reproduced in whole or in part. It is not to be used on any other project and is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

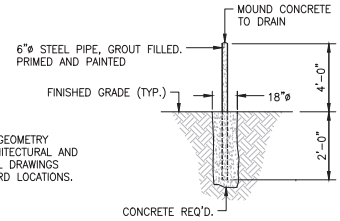
PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

MISCELLANEOUS DETAILS

C-500

100% SUBMITTAL

APPROVED
By Jesse Hernandez at 9:04 am, Oct 22, 2025

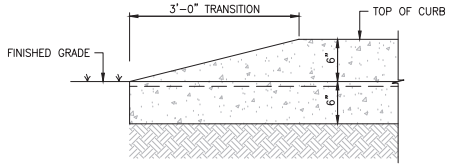


NOTE:

REFER TO GEOMETRY PLAN, ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR BOLLARD LOCATIONS.

ELEVATION
N.T.S.

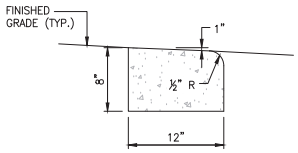
PIPE BOLLARD DETAILS
N.T.S.



NOTE:

PROVIDE MITER AT END OF CURB NOT JOINED TO EXISTING CURB OR SIDEWALK (TYP.) ALL LOCATIONS.

MITERED CURB DETAIL
N.T.S.



CONCRETE RIBBON CURB DETAIL
N.T.S.

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
14151 PANAMA CITY BEACH PARKWAY, SUITE 110.
PANAMA CITY BEACH, FL 32413-7553
(850) 235-1661
ENGINEERING BUSINESS: EB-0000345
PENSACOLA • PANAMA CITY BEACH • TALLAHASSEE • MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of BASKERVILLE-DONOVAN, INC. and is not to be reproduced in whole or in part. It is not to be used on other projects and is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

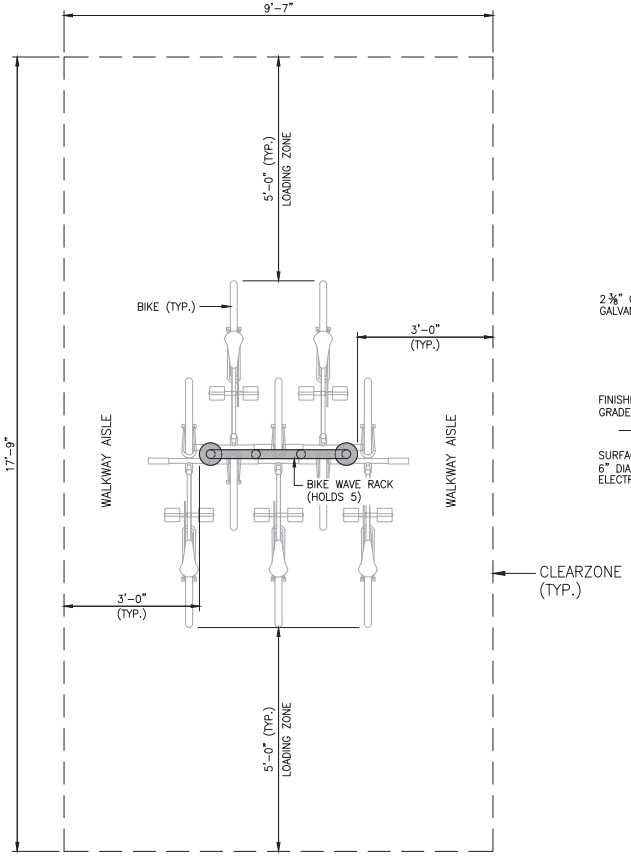
PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

MISCELLANEOUS DETAILS

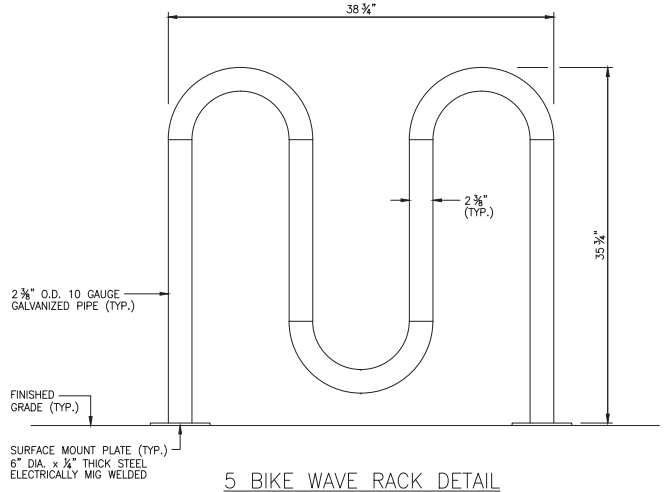
C-501

100% SUBMITTAL

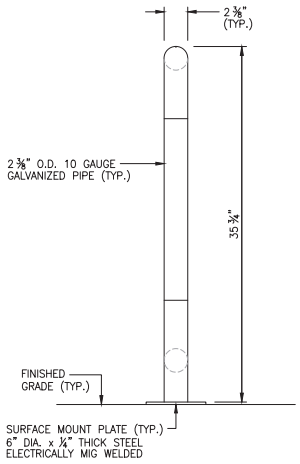
APPROVED
By Jesse Hernandez at 9:04 am, Oct 22, 2025



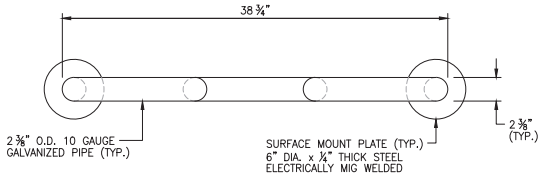
5 BIKE WAVE RACK
CLEARZONE DETAIL
(PLAN VIEW)
N.T.S.



5 BIKE WAVE RACK DETAIL
(FRONT ELEVATION)
N.T.S.



5 BIKE WAVE RACK DETAIL
(SIDE ELEVATION)
N.T.S.



5 BIKE WAVE RACK DETAIL
(PLAN VIEW)
N.T.S.

NOTES:

1. RECOMMENDED SURFACE MOUNT HARDWARE: ⅜" x 3½" CONCRETE EXPANSION ANCHOR BOLTS.
2. FRAMEWORK SHALL BE FABRICATED FROM 2 ⅜" O.D. 10 GAUGE GALVANIZED PIPE.
3. POWDER COATED OR HOT DIPPED GALVANIZED.

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
14151 PANAMA CITY BEACH PARKWAY, SUITE 110.
PANAMA CITY BEACH, FL 32413-7553
PH: (850) 235-1688 FX: (850) 235-1690
ENGINEERING BUSINESS: EB-0000345
PENSACOLA • PANAMA CITY BEACH • TALLAHASSEE • MOBILE

SEAL

SHORE AT CRYSTAL
BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of BASKERVILLE-DONOVAN, INC. and is not to be reproduced in whole or in part. It is not to be used on other projects and is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

BIKE RACK DETAILS

C-502

100% SUBMITTAL

PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER	
ADS SALES REP	
PROJECT NO.	

Advanced Drainage Systems, Inc.

APPROVED
By Jesse Hernandez at 9:04 am, Oct 22, 2025

SiteAssist™
FOR STORMTECH INSTALLATION INSTRUCTIONS VISIT OUR APP

CRYSTAL BEACH - EAST

DESTIN, FL, USA

MC-7200 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH MC-7200.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 60x101.
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 500 LBS/FT/%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
   - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.
10. MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH NOTE #6.32 FOR MANIFOLD SIZING GUIDANCE. DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
11. ADS DOES NOT DESIGN OR PROVIDE MEMBRANE LINER SYSTEMS. TO MINIMIZE THE LEAKAGE POTENTIAL OF LINER SYSTEMS, THE MEMBRANE LINER SYSTEM SHOULD BE DESIGNED BY A KNOWLEDGEABLE GEOTEXTILE PROFESSIONAL AND INSTALLED BY A QUALIFIED CONTRACTOR.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-7200 CHAMBER SYSTEM

1. STORMTECH MC-7200 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH MC-7200 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-7200 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 9" (230 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.
8. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE; AASHTO M43 #3, 357, 4, 467, 5, 56, OR 57.
9. STONE SHALL BE BROUGHT UP EVENLY AROUND CHAMBERS SO AS NOT TO DISTORT THE CHAMBER SHAPE. STONE DEPTHS SHOULD NEVER DIFFER BY MORE THAN 12" (300 mm) BETWEEN ADJACENT CHAMBER ROWS.
10. STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING.
11. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIAL BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
12. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH MC-7200 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-7200 CONSTRUCTION GUIDE".
2. THE USE OF EQUIPMENT OVER MC-7200 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADER, DUMP TRUCK, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-7200 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH MC-7200 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-800-821-6710 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

NOTES

THE BASIS OF DESIGN FOR THE UNDERGROUND STORMWATER DETENTION SYSTEM IS THE ADS MC-7200 STORMTECH CHAMBER SYSTEM. IF A DIFFERENT UNDERGROUND STORMWATER DETENTION SYSTEM IS SELECTED, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSURE THE OVERALL FUNCTION OF THE SYSTEM.

4640 TRUEMAN BLVD
HILLIARD, OH 43026
1-800-733-7473

StormTech®
Chamber System
888-892-2694 | WWW.STORMTECH.COM

©2025 ADS, INC.

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
1142 WEST 23rd STREET, SUITE 1 (850) 785-1616
PANAMA CITY BEACH, FL 32410 (850) 234-5150
ENGINEERING BUSINESS: EB-0000340
PENSACOLA • PANAMA CITY BEACH • FALLAHASSEE • MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of BASKERVILLE-DONOVAN, INC. and is not to be reproduced in whole or in part, or to be used on any other project and is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

ADS STORM TECH CHAMBER SYSTEM NOTES (EAST ASPHALT PARKING LOT)

C-503

L:\121 Okaloosa County\12105.02 Shore at Crystal Beach Park Amendment\DWG\12105.02-Storm Chamber Detail_East.dwg, Aug 11, 2025 - 10:36:16AM, slucia

100% SUBMITTAL

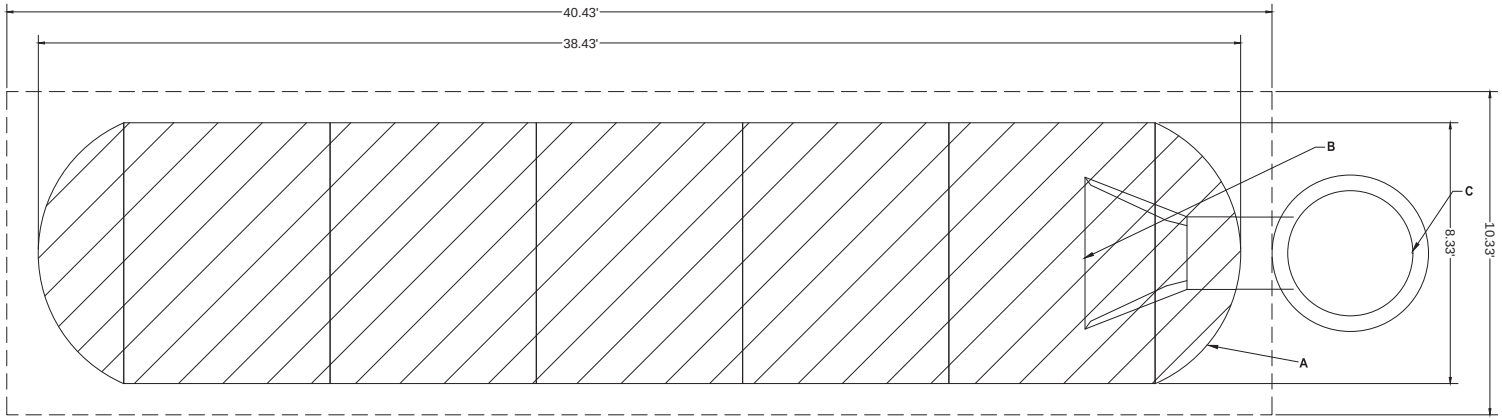
PROPOSED LAYOUT	
5	STORMTECH MC-7200 CHAMBERS
2	STORMTECH MC-7200 END CAPS
12	STONE ABOVE (in)
9	STONE BELOW (in)
40	STONE VOID
1703	INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED) (COVER STONE INCLUDED) (BASE STONE INCLUDED)
418	SYSTEM AREA (SF)
101.5	SYSTEM PERIMETER (ft)

CONCEPTUAL ELEVATIONS	
MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	12.75
MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	8.25
MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC):	7.75
MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):	7.75
MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	7.75
TOP OF STONE:	6.75
TOP OF MC-7200 CHAMBER:	5.75
24" ISOLATOR ROW PLUS INVERT:	0.94
BOTTOM OF MC-7200 CHAMBER:	0.75
BOTTOM OF STONE:	0.00

*INVERT ABOVE BASE OF CHAMBER

PART TYPE	ITEM ON LAYOUT	DESCRIPTION	INVERT*	MAX FLOW
PREFABRICATED END CAP	A	24" BOTTOM PARTIAL CUT END CAP, PART#: MC7200IEPP24B / TYP OF ALL 24" BOTTOM CONNECTIONS AND ISOLATOR PLUS ROWS	2.26"	
FLAMP	B	INSTALL FLAMP ON 24" ACCESS PIPE / PART#: MCFLAMP		
CONCRETE STRUCTURE	C	(DESIGN BY ENGINEER / PROVIDED BY OTHERS)		

APPROVED
By Jesse Hernandez at 9:04 am, Oct 22, 2025



ISOLATOR ROW PLUS (SEE DETAIL)

NO WOVEN GEOTEXTILE

BED LIMITS

ADS
4640 TRUEMAN BLVD
HILLIARD, OH 43026
1-800-733-7473

StormTech
Chamber System
888-892-2694 | WWW.STORMTECH.COM

NOTES

- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
- **NOT FOR CONSTRUCTION**: THIS LAYOUT IS FOR DIMENSIONAL PURPOSES ONLY TO PROVE CONCEPT & THE REQUIRED STORAGE VOLUME CAN BE ACHIEVED ON SITE.

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
MAIN OFFICE: 251 EAST ZARAGOZA ST. PENSACOLA, FL 32502 (850) 433-1801
PANAMA CITY BEACH: FL 32413 (850) 234-5150
ENGINEERING BUSINESS: EB-0000340
PENSACOLA • PANAMA CITY BEACH • FALLS CHURCH • MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of BASKERVILLE-DONOVAN, INC. and is not to be reproduced in whole or in part, or used for any other project and is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHKD BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

ADS STORM TECH CHAMBER SYSTEM DETAILS (EAST ASPHALT PARKING LOT)

C-504

L:\121 Okaloosa County\12105.02 Shore at Crystal Beach Park Amendment\DWG\12105.02-Storm Chamber Detail_East.dwg, Aug 11, 2025 - 10:36:57AM, slucia

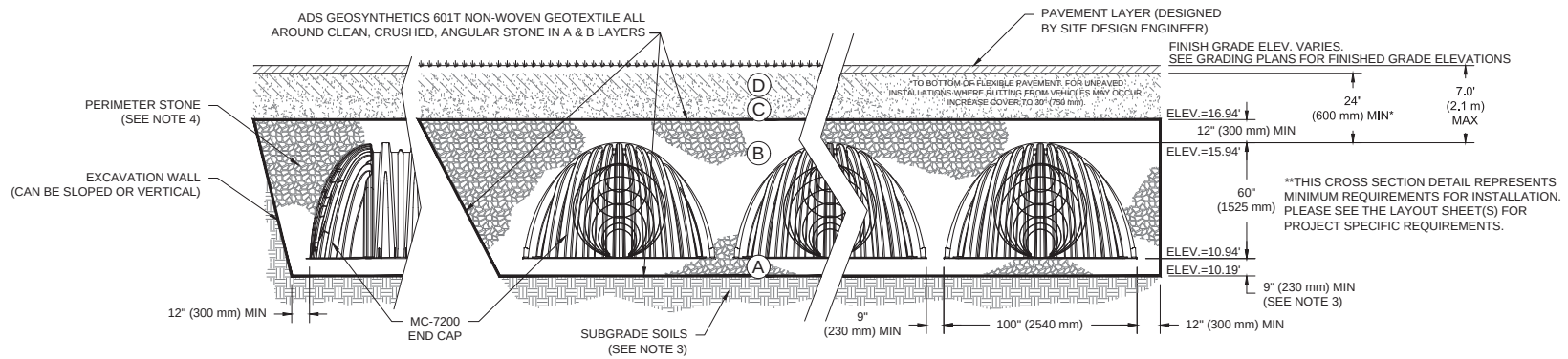
100% SUBMITTAL

ACCEPTABLE FILL MATERIALS: STORMTECH MC-7200 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.
5. WHERE RECYCLED CONCRETE AGGREGATE IS USED IN LAYERS 'A' OR 'B' THE MATERIAL SHOULD ALSO MEET THE ACCEPTABILITY CRITERIA OUTLINED IN TECHNICAL NOTE 6.20 "RECYCLED CONCRETE STRUCTURAL BACKFILL".

APPROVED
By Jesse Hernandez at 9:04 am, Oct 22, 2025



NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 60x101
2. MC-7200 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS. REFERENCE STORMTECH DESIGN MANUAL FOR BEARING CAPACITY GUIDANCE.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 500 LBS/FT/%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

ADS
4640 TRUEMAN BLVD
HILLIARD, OH 43026
1-800-733-7473

StormTech
Chamber System
888-892-2694 | WWW.STORMTECH.COM

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
1615 METROPOLITAN BLVD. (850) 477-0717
PANAMA CITY BEACH, FL 32408 (850) 234-5816
ENGINEERING BUSINESS: EB-0000340
PENSACOLA • PANAMA CITY BEACH • TALLAHASSEE • MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of BASKERVILLE-DONOVAN, INC. and is not to be reproduced in whole or part, or to be used on any other project and is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

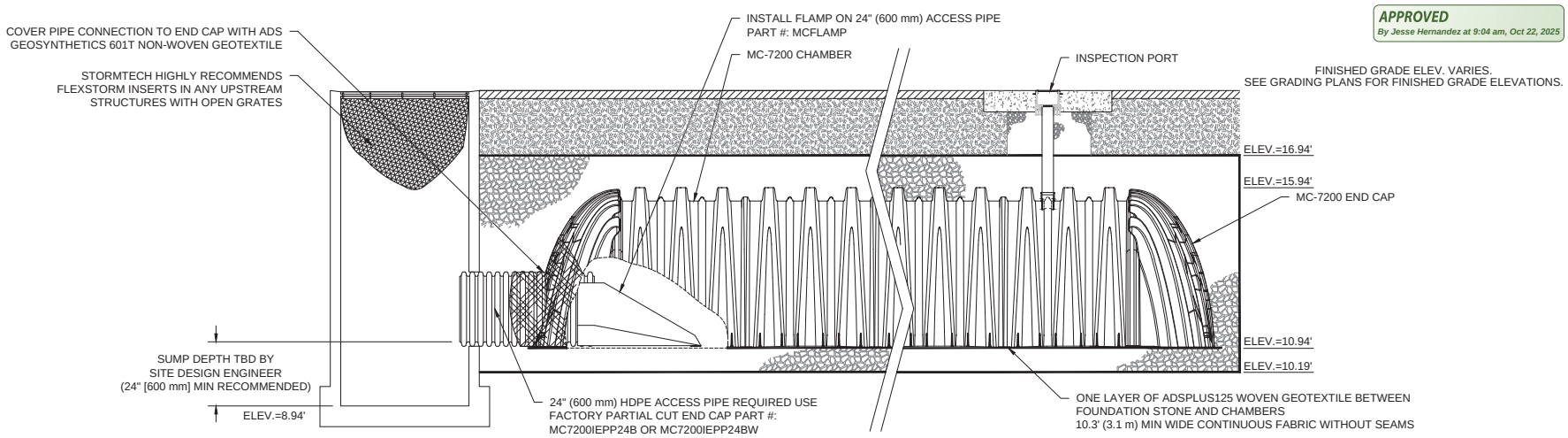
PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

ADS STORM TECH CHAMBER SYSTEM DETAILS (EAST ASPHALT PARKING LOT)

C-505

L:\121 Okaloosa County\12105.02 Shore at Crystal Beach Park Amendment\DWG\12105.02-Storm Chamber Detail_East.dwg, Aug 12, 2025 - 3:32:05PM, slucia

100% SUBMITTAL



APPROVED
By Jesse Hernandez at 9:04 am, Oct 22, 2025

MC-7200 ISOLATOR ROW PLUS DETAIL

NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

ADS
4640 TRUEMAN BLVD
HILLIARD, OH 43026
1-800-733-7473

StormTech
Chamber System
888-892-2694 | WWW.STORMTECH.COM

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
1142 WEST 23rd STREET (850) 785-4578
PANAMA CITY BEACH, FL 32410 (850) 234-5150
ENGINEERING BUSINESS: EB-0000340
PENSACOLA • PANAMA CITY BEACH • TALLAHASSEE • MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of BASKERVILLE-DONOVAN, INC. and is not to be reproduced in whole or in part, or to be used on any other project and is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHKD BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

ADS STORM TECH CHAMBER SYSTEM DETAILS (EAST ASPHALT PARKING LOT)

C-506

4640 TRUEMAN BLVD
HILLIARD, OH 43026
1-800-733-7473

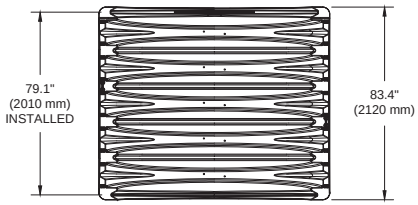
StormTech
Chamber System

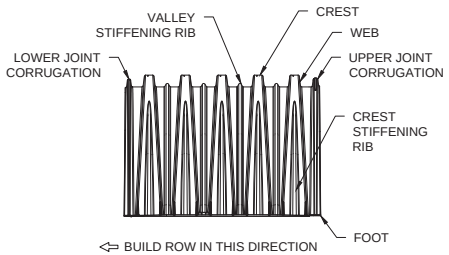
888-892-2694 | WWW.STORMTECH.COM

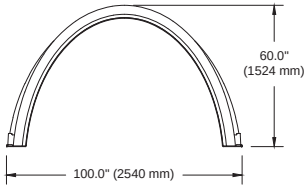
MC-7200 TECHNICAL SPECIFICATION

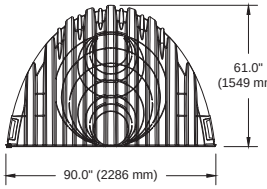
NTS

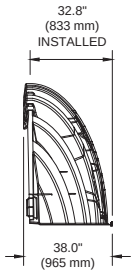
APPROVED
By Jesse Hernandez at 9:04 am, Oct 22, 2025











NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	100.0" X 60.0" X 79.1"	(2540 mm X 1524 mm X 2010 mm)
CHAMBER STORAGE	175.9 CUBIC FEET	(4.98 m³)
MINIMUM INSTALLED STORAGE*	267.3 CUBIC FEET	(7.56 m³)
WEIGHT (NOMINAL)	205 lbs.	(92.9 kg)

NOMINAL END CAP SPECIFICATIONS

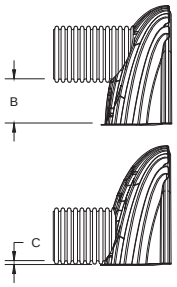
SIZE (W X H X INSTALLED LENGTH)	90.0" X 61.0" X 32.8"	(2286 mm X 1549 mm X 833 mm)
END CAP STORAGE	39.5 CUBIC FEET	(1.12 m³)
MINIMUM INSTALLED STORAGE*	115.3 CUBIC FEET	(3.26 m³)
WEIGHT (NOMINAL)	90 lbs.	(40.8 kg)

*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION AND BETWEEN CHAMBERS, 12" (305 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY.

PARTIAL CUT HOLES AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
PARTIAL CUT HOLES AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
END CAPS WITH A PREFABRICATED WELDED STUB END WITH "W"

PART #	STUB	B	C
MC7200IEPP06T	6" (150 mm)	42.54" (1081 mm)	---
MC7200IEPP06B		---	0.86" (22 mm)
MC7200IEPP08T	8" (200 mm)	40.50" (1029 mm)	---
MC7200IEPP08B		---	1.01" (26 mm)
MC7200IEPP10T	10" (250 mm)	38.37" (975 mm)	---
MC7200IEPP10B		---	1.33" (34 mm)
MC7200IEPP12T	12" (300 mm)	35.69" (907 mm)	---
MC7200IEPP12B		---	1.55" (39 mm)
MC7200IEPP15T	15" (375 mm)	32.72" (831 mm)	---
MC7200IEPP15B		---	1.70" (43 mm)
MC7200IEPP18T	18" (450 mm)	29.36" (746 mm)	---
MC7200IEPP18TW			
MC7200IEPP18B		---	1.97" (50 mm)
MC7200IEPP18BW			
MC7200IEPP24T	24" (600 mm)	23.05" (585 mm)	---
MC7200IEPP24TW			
MC7200IEPP24B		---	2.26" (57 mm)
MC7200IEPP24BW			
MC7200IEPP30BW	30" (750 mm)	---	2.95" (75 mm)
MC7200IEPP36BW	36" (900 mm)	---	3.25" (83 mm)
MC7200IEPP42BW	42" (1050 mm)	---	3.55" (90 mm)

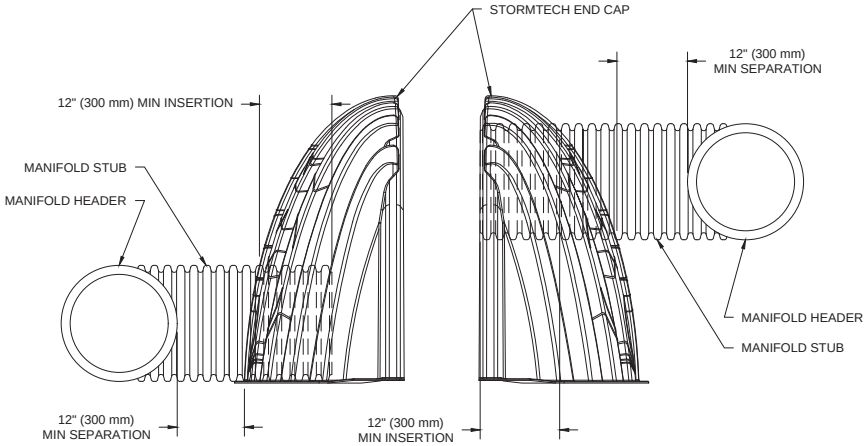
NOTE: ALL DIMENSIONS ARE NOMINAL



CUSTOM PREFABRICATED INVERTS ARE AVAILABLE UPON REQUEST. INVENTORIED MANIFOLDS INCLUDE 12-24" (300-600 mm) SIZE ON SIZE AND 15-48" (375-1200 mm) ECCENTRIC MANIFOLDS. CUSTOM INVERT LOCATIONS ON THE MC-7200 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10" (250 mm). THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHEST POSSIBLE FOR THE PIPE SIZE.

MC-SERIES END CAP INSERTION DETAIL

NTS



NOTE: MANIFOLD STUB MUST BE LAID HORIZONTAL FOR A PROPER FIT IN END CAP OPENING.

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
MAIN OFFICE: 251 EAST ROMANA STREET (32501)
PANAMA CITY BEACH, FL 32413 (850) 234-5150
ENGINEERING BUSINESS: EB-0000340
PENSACOLA • PANAMA CITY BEACH • FALLAHASSEE • MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of BASKERVILLE-DONOVAN, INC. and is not to be reproduced in whole or in part or used for use on any other project and is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

ADS STORM TECH CHAMBER SYSTEM DETAILS (EAST ASPHALT PARKING LOT)

C-507

L:\121 Okaloosa County\12105.02 Shore at Crystal Beach Park Amendment\DWG\12105.02-Storm Chamber Detail_East.dwg, Aug 11, 2025 - 10:39:10AM, slucia

100% SUBMITTAL

PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER	
ADS SALES REP	
PROJECT NO.	

Advanced Drainage Systems, Inc.

SiteAssist™
FOR STORMTECH INSTALLATION INSTRUCTIONS VISIT OUR APP

APPROVED
By Jesse Hernandez at 9:04 am, Oct 22, 2025

CRYSTAL BEACH - WEST

DESTIN, FL, USA

MC-7200 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH MC-7200.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 60x101.
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 500 LBS/FT/%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
   - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.
10. MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH NOTE #6.32 FOR MANIFOLD SIZING GUIDANCE. DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
11. ADS DOES NOT DESIGN OR PROVIDE MEMBRANE LINER SYSTEMS. TO MINIMIZE THE LEAKAGE POTENTIAL OF LINER SYSTEMS, THE MEMBRANE LINER SYSTEM SHOULD BE DESIGNED BY A KNOWLEDGEABLE GEOTEXTILE PROFESSIONAL AND INSTALLED BY A QUALIFIED CONTRACTOR.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-7200 CHAMBER SYSTEM

1. STORMTECH MC-7200 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH MC-7200 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-7200 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 9" (230 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.
8. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE; AASHTO M43 #3, 357, 4, 467, 5, 56, OR 57.
9. STONE SHALL BE BROUGHT UP EVENLY AROUND CHAMBERS SO AS NOT TO DISTORT THE CHAMBER SHAPE. STONE DEPTHS SHOULD NEVER DIFFER BY MORE THAN 12" (300 mm) BETWEEN ADJACENT CHAMBER ROWS.
10. STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING.
11. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIAL BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
12. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH MC-7200 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-7200 CONSTRUCTION GUIDE".
2. THE USE OF EQUIPMENT OVER MC-7200 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADER, DUMP TRUCK, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-7200 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH MC-7200 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-800-821-6710 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

NOTES

THE BASIS OF DESIGN FOR THE UNDERGROUND STORMWATER DETENTION SYSTEM IS THE ADS MC-7200 STORMTECH CHAMBER SYSTEM. IF A DIFFERENT UNDERGROUND STORMWATER DETENTION SYSTEM IS SELECTED, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSURE THE OVERALL FUNCTION OF THE SYSTEM.

4640 TRUEMAN BLVD
HILLIARD, OH 43026
1-800-733-7473

StormTech®
Chamber System
888-892-2694 | WWW.STORMTECH.COM

©2025 ADS, INC.

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
1142 WEST 23rD STREET (850) 785-1616
PANAMA CITY BEACH, FL 32410 (850) 234-5150
ENGINEERING BUSINESS: EB-0000340
PENSACOLA • PANAMA CITY BEACH • FALLAHASSEE • MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of BASKERVILLE-DONOVAN, INC. and is not to be reproduced in whole or in part, or to be used on any other project and is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHKD BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

ADS STORM TECH CHAMBER SYSTEM NOTES (WEST ASPHALT PARKING LOT)

C-508

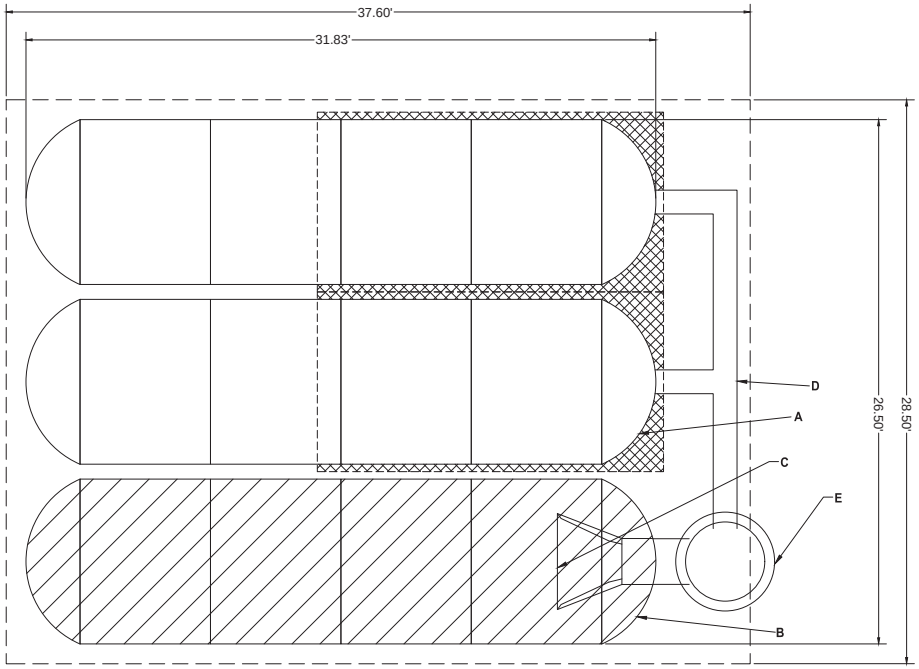
L:\121 Okaloosa County\12105.02 Shore at Crystal Beach Park Amendment\DWG\12105.02 Storm Chamber Detail_West.dwg, Aug 11, 2025 – 10:39:48AM, slucia

100% SUBMITTAL

PROPOSED LAYOUT		CONCEPTUAL ELEVATIONS	
12	STORMTECH MC-7200 CHAMBERS	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	12.75
6	STORMTECH MC-7200 END CAPS	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	8.25
12	STONE ABOVE (in)	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC):	7.75
9	STONE BELOW (in)	MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):	7.75
40	STONE VOID	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	7.75
4302	INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED) (COVER STONE INCLUDED) (BASE STONE INCLUDED)	TOP OF STONE:	6.75
		TOP OF MC-7200 CHAMBER:	5.75
		12" x 12" TOP MANIFOLD INVERT:	3.72
		24" ISOLATOR ROW PLUS INVERT:	0.94
1072	SYSTEM AREA (SF)	BOTTOM OF MC-7200 CHAMBER:	0.75
132.2	SYSTEM PERIMETER (ft)	BOTTOM OF STONE:	0.00

*INVERT ABOVE BASE OF CHAMBER

PART TYPE	ITEM ON LAYOUT	DESCRIPTION	INVERT*	MAX FLOW
PREFABRICATED END CAP	A	12" TOP PARTIAL CUT END CAP, PART#: MC7200IEPP12T / TYP OF ALL 12" TOP CONNECTIONS	35.69"	
PREFABRICATED END CAP	B	24" BOTTOM PARTIAL CUT END CAP, PART#: MC7200IEPP24B / TYP OF ALL 24" BOTTOM CONNECTIONS AND ISOLATOR PLUS ROWS	2.26"	
FLAMP	C	INSTALL FLAMP ON 24" ACCESS PIPE / PART#: MCFLAMP		
MANIFOLD	D	12" x 12" TOP MANIFOLD, ADS N-12	35.69"	
CONCRETE STRUCTURE	E	(DESIGN BY ENGINEER / PROVIDED BY OTHERS)		5.0 CFS IN



APPROVED
By Jesse Hernandez at 9:04 am, Oct 22, 2025

ISOLATOR ROW PLUS (SEE DETAIL)

PLACE MINIMUM 17.50' OF ADSPLUS125 WOVEN GEOTEXTILE OVER BEDDING STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS

BED LIMITS

ADS
4640 TRUEMAN BLVD
HILLIARD, OH 43026
1-800-733-7473

StormTech
Chamber System
888-892-2694 | WWW.STORMTECH.COM

NOTES

- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
- **NOT FOR CONSTRUCTION**: THIS LAYOUT IS FOR DIMENSIONAL PURPOSES ONLY TO PROVE CONCEPT & THE REQUIRED STORAGE VOLUME CAN BE ACHIEVED ON SITE.

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
1715 HARRISON STREET (850) 785-4497
PANAMA CITY BEACH, FL 32413 (850) 234-5150
ENGINEERING BUSINESS: EB-0000340
PENSACOLA • PANAMA CITY BEACH • TALLAHASSEE • MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of BASKERVILLE-DONOVAN, INC. and is not to be reproduced in whole or part, or used for any other project and is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHKD BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

ADS STORM TECH CHAMBER SYSTEM DETAILS (WEST ASPHALT PARKING LOT)

C-509

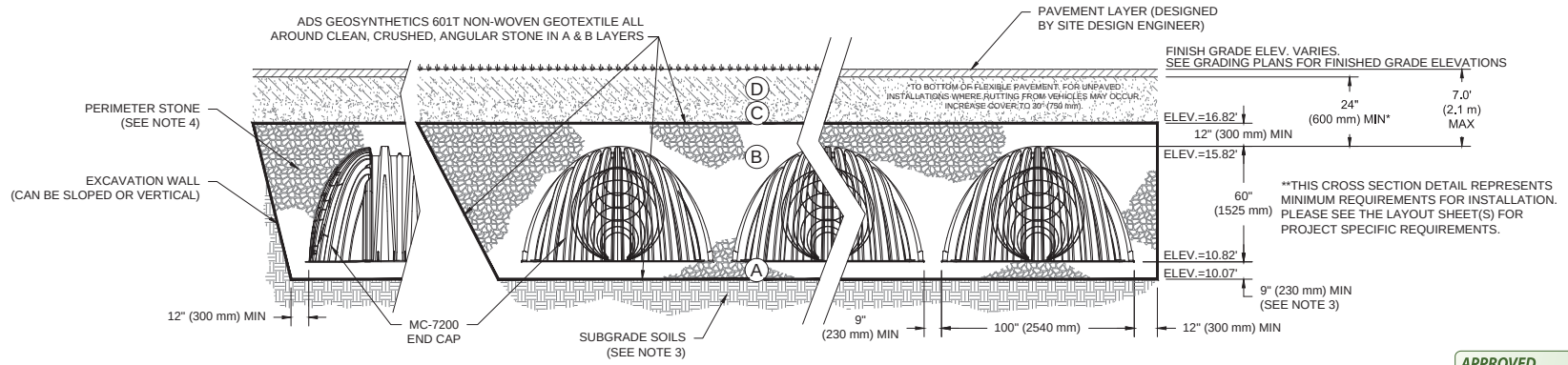
L:\121 Okaloosa County\12105.02 Shore at Crystal Beach Park Amendment\DWG\12105.02 Storm Chamber Detail_West.dwg, Aug 11, 2025 – 10:45:33AM, slucia

100% SUBMITTAL

ACCEPTABLE FILL MATERIALS: STORMTECH MC-7200 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.
5. WHERE RECYCLED CONCRETE AGGREGATE IS USED IN LAYERS 'A' OR 'B' THE MATERIAL SHOULD ALSO MEET THE ACCEPTABILITY CRITERIA OUTLINED IN TECHNICAL NOTE 6.20 "RECYCLED CONCRETE STRUCTURAL BACKFILL".



APPROVED
By Jesse Hernandez at 9:04 am, Oct 22, 2025

NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 60x101
2. MC-7200 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS. REFERENCE STORMTECH DESIGN MANUAL FOR BEARING CAPACITY GUIDANCE.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 500 LBS/FT/%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

ADS
4640 TRUEMAN BLVD
HILLIARD, OH 43026
1-800-733-7473

StormTech
Chamber System
888-892-2694 | WWW.STORMTECH.COM

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
1142 WEST 23rd STREET (32405)
PANAMA CITY BEACH, FL 32413 (850) 234-5816
ENGINEERING BUSINESS: EB-0000340
PENSACOLA • PANAMA CITY BEACH • TALLAHASSEE • MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of BASKERVILLE-DONOVAN, INC. and is not to be reproduced in whole or in part, or to be used on any other project and is to be returned upon request.

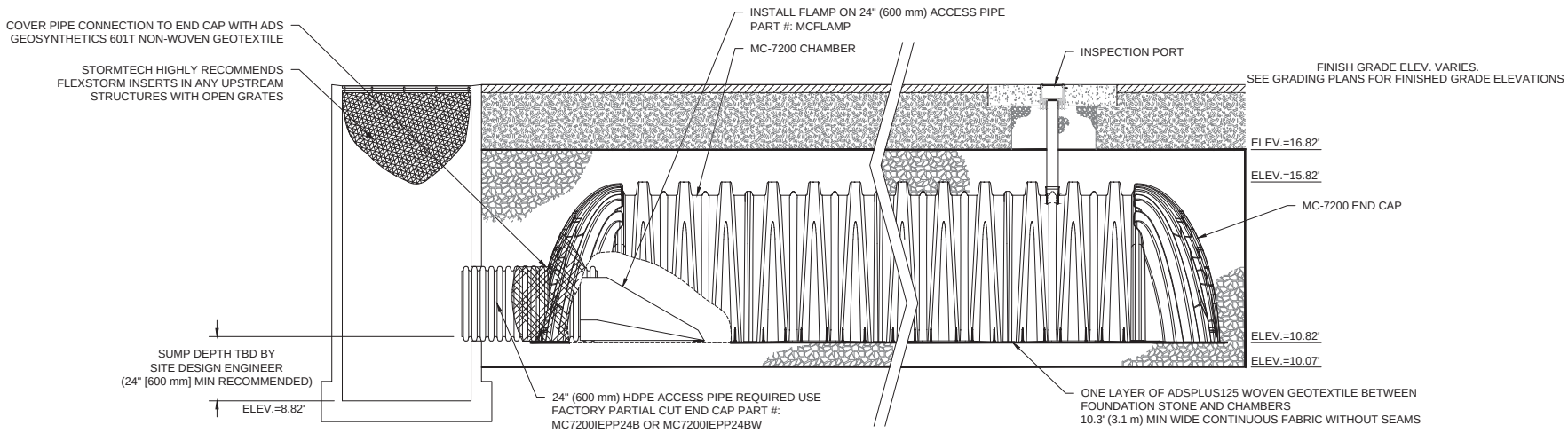
NOT RELEASED FOR CONSTRUCTION

PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHKD BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

ADS STORM TECH CHAMBER SYSTEM DETAILS (WEST ASPHALT PARKING LOT)

C-510

100% SUBMITTAL



MC-7200 ISOLATOR ROW PLUS DETAIL
NTS

APPROVED
By Jesse Hernandez at 9:04 am, Oct 22, 2025

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.

2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
14775 PANAMA CITY BEACH PKWY, PANAMA CITY BEACH, FL 32413 (850) 234-5150
ENGINEERING BUSINESS: EB-0000340
PENSACOLA • PANAMA CITY BEACH • TALLAHASSEE • MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of BASKERVILLE-DONOVAN, INC. and is not to be reproduced in whole or in part, or to be used on any other project and is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHKD BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

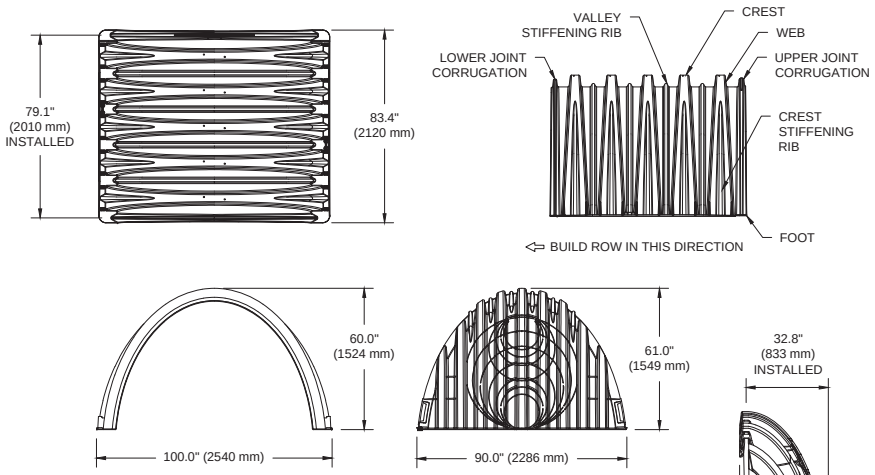
ADS STORM TECH CHAMBER SYSTEM DETAILS (WEST ASPHALT PARKING LOT)

C-511

100% SUBMITTAL

MC-7200 TECHNICAL SPECIFICATION

NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	100.0" X 60.0" X 79.1"	(2540 mm X 1524 mm X 2010 mm)
CHAMBER STORAGE	175.9 CUBIC FEET	(4.98 m³)
MINIMUM INSTALLED STORAGE*	267.3 CUBIC FEET	(7.56 m³)
WEIGHT (NOMINAL)	205 lbs.	(92.9 kg)

NOMINAL END CAP SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	90.0" X 61.0" X 32.8"	(2286 mm X 1549 mm X 833 mm)
END CAP STORAGE	39.5 CUBIC FEET	(1.12 m³)
MINIMUM INSTALLED STORAGE*	115.3 CUBIC FEET	(3.26 m³)
WEIGHT (NOMINAL)	90 lbs.	(40.8 kg)

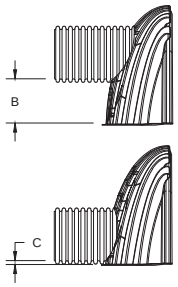
*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION AND BETWEEN CHAMBERS, 12" (305 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY.

PARTIAL CUT HOLES AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
PARTIAL CUT HOLES AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
END CAPS WITH A PREFABRICATED WELDED STUB END WITH "W"

PART #	STUB	B	C
MC7200IEPP06T	6" (150 mm)	42.54" (1081 mm)	---
MC7200IEPP06B		---	0.86" (22 mm)
MC7200IEPP08T	8" (200 mm)	40.50" (1029 mm)	---
MC7200IEPP08B		---	1.01" (26 mm)
MC7200IEPP10T	10" (250 mm)	38.37" (975 mm)	---
MC7200IEPP10B		---	1.33" (34 mm)
MC7200IEPP12T	12" (300 mm)	35.69" (907 mm)	---
MC7200IEPP12B		---	1.55" (39 mm)
MC7200IEPP15T	15" (375 mm)	32.72" (831 mm)	---
MC7200IEPP15B		---	1.70" (43 mm)
MC7200IEPP18T	18" (450 mm)	29.36" (746 mm)	---
MC7200IEPP18TW			
MC7200IEPP18B		---	1.97" (50 mm)
MC7200IEPP18BW			
MC7200IEPP24T	24" (600 mm)	23.05" (585 mm)	---
MC7200IEPP24TW			
MC7200IEPP24B		---	2.26" (57 mm)
MC7200IEPP24BW			
MC7200IEPP30BW	30" (750 mm)	---	2.95" (75 mm)
MC7200IEPP36BW	36" (900 mm)	---	3.25" (83 mm)
MC7200IEPP42BW	42" (1050 mm)	---	3.55" (90 mm)

NOTE: ALL DIMENSIONS ARE NOMINAL

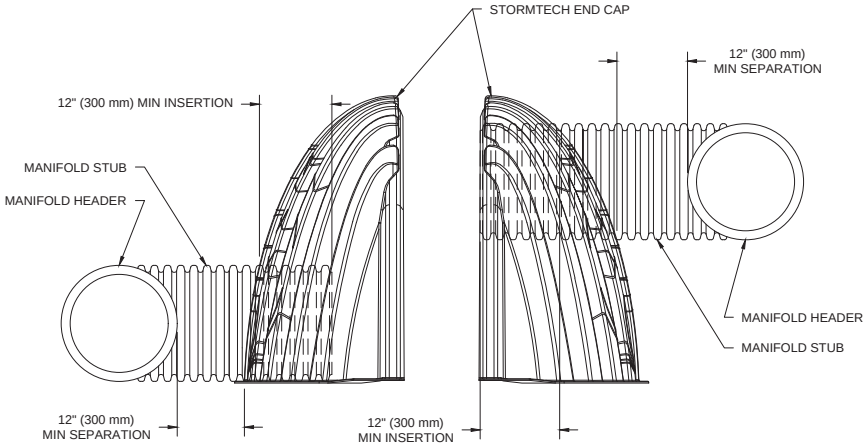
APPROVED
By Jesse Hernandez at 9:04 am, Oct 22, 2025



CUSTOM PREFABRICATED INVERTS ARE AVAILABLE UPON REQUEST. INVENTORIED MANIFOLDS INCLUDE 12-24" (300-600 mm) SIZE ON SIZE AND 15-48" (375-1200 mm) ECCENTRIC MANIFOLDS. CUSTOM INVERT LOCATIONS ON THE MC-7200 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10" (250 mm). THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHEST POSSIBLE FOR THE PIPE SIZE.

MC-SERIES END CAP INSERTION DETAIL

NTS



NOTE: MANIFOLD STUB MUST BE LAID HORIZONTAL FOR A PROPER FIT IN END CAP OPENING.

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
1615 MIDDLE MOBILE ROAD (251) 433-1927
PANAMA CITY BEACH, FL 32413 (850) 234-5150
ENGINEERING BUSINESS: EB-0000340
PENSACOLA • PANAMA CITY BEACH • FALLS CHURCH • MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of BASKERVILLE-DONOVAN, INC. and is not to be reproduced in whole or in part or used for any other project and is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHKD BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

ADS STORM TECH CHAMBER SYSTEM DETAILS (WEST ASPHALT PARKING LOT)

C-512

L:\121 Okaloosa County\12105.02 Shore at Crystal Beach Park Amendment\DWG\12105.02 Storm Chamber Detail_West.dwg, Aug 11, 2025 – 10:47:27AM, slucia

100% SUBMITTAL

1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10

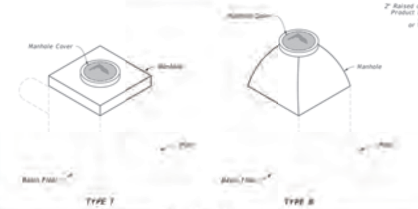
G F E D C B A

GENERAL NOTES:

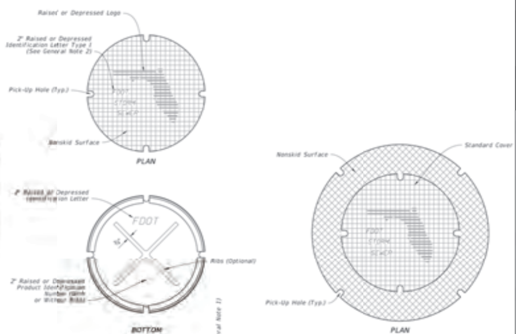
1. Use a 1-piece cover, unless the 2-piece cover is called for in the Plans, except at inlets and manholes with sump bottoms. Use the 2-piece cover when the sump depth exceeds 2', unless otherwise noted.
2. Include "adjustable" on the cover for Type 1 manhole adjustable frames.
3. For square or rectangular precast drainage structures, use either deformed or smooth WWR meeting the requirements of Specification 931. WWR must be continuous around the box and lapped in accordance with Option 1 or 3 as shown in the Wall Reinforcing Splice Details.
4. Lap splice horizontal steel in the walls of rectangular structures in accordance with Option 1, 2 or 3 as shown in the Wall Reinforcing Splice Details.
5. Welding of splices and laps is permitted. Use AASHTO M259 requirements and restrictions on welds.
6. Rebar straight end embedment of peripheral reinforcement may be used in lieu of ACI standard hooks for top and bottom slabs, except when hooks are specifically called for in the Plans.
7. Precast opening for pipe must be the pipe OD plus 6" (± 2" tolerance). Use mortar to seal the pipe into the opening of such a mix that shrinkage will not cause leakage into or out of the structure. Dry pack mortar may be used to seal openings less than 2½" wide.

TABLE OF CONTENTS:

Sheet	Description
1	General Notes, Contents, Manhole Top Overview, and Manhole Covers
2	Manhole Frames and Manhole Tops
3	Joint Locking Grates, Subgrade and Base Tributary Drains, and Pipe to Structure Geotextile Wrap
4	Drainage Structure Invert, Sump Bottom, Wall Reinforcing Splice Details, and Typical Slab to Wall Details
5	Precast Option and Equivalent Reinforcement Substitution
6	Construction Joints and Minimum Box Riser Segment Dimensions
7	Skewed Pipe in Rectangular Structures
8	Miscellaneous Pipe Connection Details

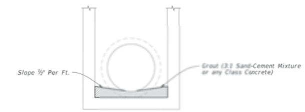


MANHOLE TOPS



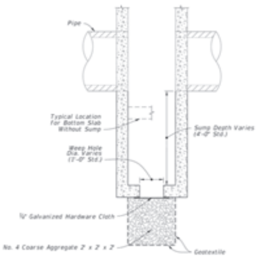
MANHOLE COVERS

LAST REVISION 11/01/23	REVISION	DESCRIPTION:	FDOT	FY 2025-26 STANDARD PLANS	SUPPLEMENTARY DETAILS FOR DRAINAGE STRUCTURES	INDEX 425-001	SHEET 1 of 8



NOTE: For all structures unless excluded by special detail.

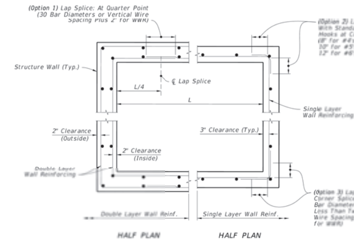
DRAINAGE STRUCTURE INVERT



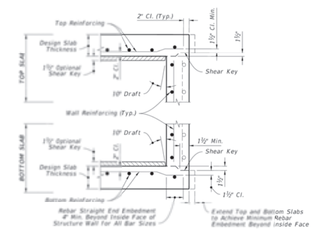
NOTES:

1. Construct sumps in inlets and manholes connecting to French Drains unless excluded in the Plans.
2. Construct sumps only where called for in the Plans, as per other locations.
3. Construct weep holes in sump bottoms only where called for in the Plans.
4. Install Type D-3 geotextile in accordance with Specification 514.

SUMP BOTTOM



WALL REINFORCING SPLICE DETAILS



NOTES:

1. See Sheet 6 for optional construction joints.
2. Bend bars as required to maintain cover.

TYPICAL SLAB TO WALL DETAILS
(PRECAST STRUCTURE SHOWN)

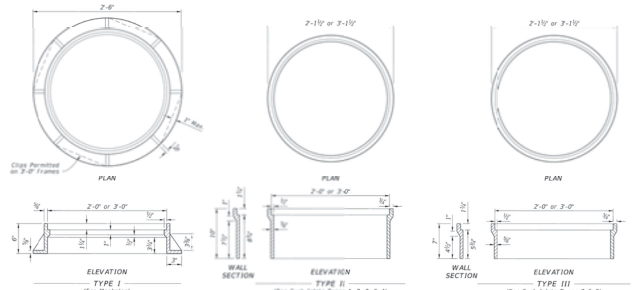
DRAINAGE STRUCTURE INVERT, SUMP BOTTOM, WALL REINFORCING SPLICE DETAILS, AND TYPICAL SLAB TO WALL DETAILS

LAST REVISION 11/01/23	REVISION	DESCRIPTION:	FDOT	FY 2025-26 STANDARD PLANS	SUPPLEMENTARY DETAILS FOR DRAINAGE STRUCTURES	INDEX 425-001	SHEET 4 of 8

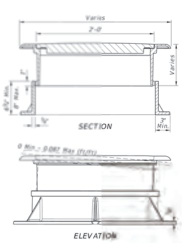
TABLE 1
WEIGHT OF CASTINGS (lb)

Frame Type	2'-0" OPENING Frame	2'-0" OPENING Cover (Std.)	3'-0" OPENING Frame	3'-0" OPENING 2-Piece Cover Inside	2-Piece Cover Outside	2-Piece Cover Total
I	155	190	220	190	220	410
II	145	190	255	190	220	410
III	90	190	180	190	220	410

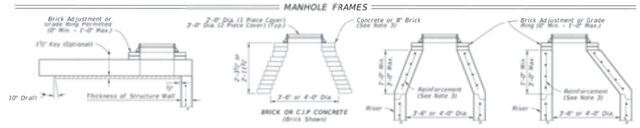
NOTE:
Frame Type I in Table 1, includes Adjustable Frames.



MANHOLE FRAMES



TYPE I ADJUSTABLE FRAME



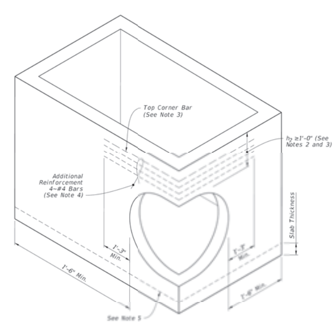
NOTES:

1. Use Class II concrete for Manhole top Type 7 slabs.
2. Manhole top Type 7 slabs may be of cast-in-place or precast construction. The optional key is for precast tops and in lieu of dowels. Omit frames and slab openings when top is used over a junction box.
3. Manhole top Type 8 may be of cast-in-place, precast concrete construction, or brick construction. For concrete construction, use the same concrete and steel reinforcement as the supporting wall unit. An eccentric cone may be used.
4. Use construction joint options, as shown on Sheet 6 to secure manhole tops to structures.
5. Frames may be adjusted to a maximum 12" height with brick or precast ASTM C478 grade rings.
6. Manhole top Type 8 may be substituted for a Type 7, if the minimum dimensions are not reduced.
7. Manhole top Type 7 may be substituted for Type 8, if the minimum thickness (h) above pipe opening cannot be maintained with Type 8.

MANHOLE TOPS

MANHOLE FRAMES AND MANHOLE TOPS

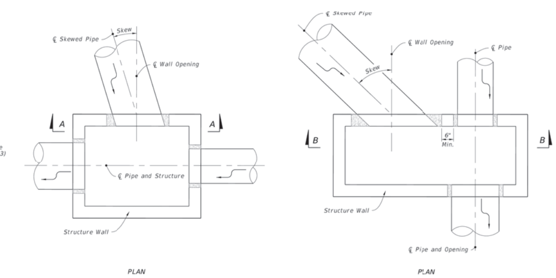
LAST REVISION 11/01/20	REVISION	DESCRIPTION:	FDOT	FY 2025-26 STANDARD PLANS	SUPPLEMENTARY DETAILS FOR DRAINAGE STRUCTURES	INDEX 425-001	SHEET 2 of 8

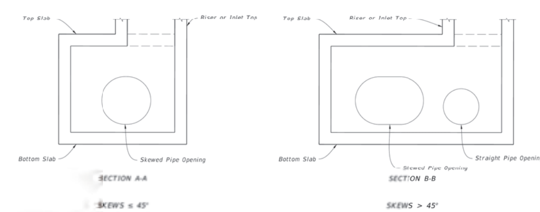


NOTES:

1. Submit Shop Drawings of corner openings for approval by the Engineer.
2. h_2 may be less than 1'-0" when a minimum 1'-0" deep segment, 8" slab or curb inlet is provided above the corner opening.
3. For inlet segments at finish grade elevation, substitute a #8 Bar for the top corner bar when 1'-0" ≤ h_2 < 2'-0".
4. Install bars continuously around corner and evenly spaced. Tie additional reinforcement to the outside of vertical wall reinforcement.
5. Dowel construction joint or monolithically cast wall and base.

PIPE OPENING AT CORNER





SKEWED PIPE IN RECTANGULAR STRUCTURES
(See Table 4 on Sheet 8)

SKEWED PIPE IN RECTANGULAR STRUCTURES

LAST REVISION 11/01/20	REVISION	DESCRIPTION:	FDOT	FY 2025-26 STANDARD PLANS	SUPPLEMENTARY DETAILS FOR DRAINAGE STRUCTURES	INDEX 425-001	SHEET 7 of 8

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
14101 PANAMA CITY BEACH PARKWAY, SUITE 110, PANAMA CITY BEACH, FL 32413 (850) 230-6150
ENGINEERING BUSINESS: EB-0000340
PENSACOLA - PANAMA CITY BEACH - TALLAHASSEE - MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of BASKERVILLE-DONOVAN, INC. and is not to be reproduced in whole or in part. It is not to be used on any other project and is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

MISCELLANEOUS STANDARD FDOT DETAILS

C-513

L:\121 Okaloosa County\12105.02 Shore at Crystal Beach Park Amendment\DWG\12105.02-FDOT Details.dwg, Aug 11, 2025 - 10:49:17AM, slucia

APPROVED
By Jesse Hernandez at 9:04 am, Oct 22, 2025

100% SUBMITTAL

GENERAL NOTES:

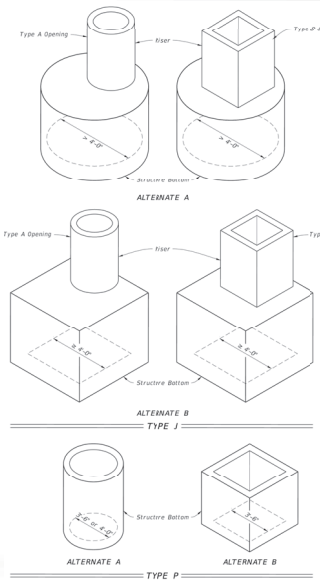
1. Work this Index with Specification 425 and Index 425-001.
2. Type P standard structure bottoms are 4'-0"diameter and smaller (Alt. A) and 3'-6" square (Alt. B) . Larger standard structure bottoms are designated Type J. Risers are permitted for all structures.
3. Walls of circular structures (Alt. A) constructed in place may be of brick or reinforced concrete. Construct precast and rectangular structures (Alt. B) with reinforced concrete only.
4. Wall thickness and reinforcement are for either reinforced cast-in-place or precast concrete units except that precast circular units may be furnished with walls in accordance with ASTM C478 (See Table 1).
5. Top and bottom slab thickness and reinforcement are for precast and cast-in-place construction. Use Class II concrete, except when Class IV concrete is shown in the Plans.
6. Alt. A or Alt. B structure bottoms may be used in conjunction with curb inlet tops Types 1, 2, 3, 4, 5, 6, 9, and 10, and any manhole or junction box. Alt. B structure bottoms may be used in conjunction with curb inlet Types 7, 8, 8, or any ditch bottom inlet.
7. Rectangular structures may be rotated as directed by the Engineer in order to facilitate connections between the structure walls and pipes.
8. Use straight embedment reinforcement in top and bottom slabs ,except when ACI hooks are specifically required.
9. Construct corner fillets as shown for rectangular structures used with circular risers and inlet throats, and when used on skew with rectangular risers, inlets, and inlet throats. Construct fillets in the top slab of the Alt. A structure bottoms when used with the Type B risers. Reinforce each fillet with two #5 bars.
10. Units larger than specified standards may be substituted at the contractor's option when these units will not cause or increase the severity of utility conflicts. Furnish such larger units at no additional cost to the Department. Larger Alt. A units cannot replace Alt. B units without approval of the Engineer. This Note applies to this Index only.

REINFORCEMENT NOTES:

1. Locate wall reinforcement in rectangular structures as shown in the WALL REINFORCEMENT SPLICE DETAILS in Index 425-001.
2. Provide a minimum 2"clear cover for all reinforcement unless otherwise noted and except for 36"diameter ASTM C478 units.
3. Additional bars used to restrain hole formers for precast structures with grouted pipe connections may be left flush with the hole surface
4. Cut or bend reinforcement at pipe openings to maintain cover.
5. Remove exposed ends of reinforcing at precast pipe openings and grouted joints to 1" below the concrete surface and seal with a Type I Epoxy meeting the requirements of Specification 926.
6. Equivalent area smooth or deformed welded wire reinforcement may be substituted in accordance with Index 425-001.

TABLE OF CONTENTS:

Sheet	Description
1	General Notes and Comments
2	Dimensional and Reinforcing Details
3	Tables 1, 2, 3, and 4
4	Tables 5 and 6



LAST REVISION 11/01/20 | REVISION | DESCRIPTION: | FY 2025-26 STANDARD PLANS | STRUCTURE BOTTOMS TYPE J AND P | INDEX 425-010 | SHEET 1 of 4

TABLE 1 - ALTERNATE A - STRUCTURES

TYPE	STRUCTURE/RISER DIAMETER (ft)	CAST-IN-PLACE TYPE CLASS II CONCRETE t_1	t_2	A_s (in²/ft)	PRECAST ITEMS CLASS II CONCRETE RISER t_1 (in.)	BOTTOM t_2 (in.)	A_s (in²/ft)	ASTM C478 WALL THICKNESS (t_1) t_1 or t_2 (in.)	A_s*** (in²/ft)
P	3'-0"	6	8	0.20	6	8	0.20	4**	0.105
P	4'-0"	6	8	0.20	6	8	0.20	5**	0.120
J	5'-0"	-	8	0.20	-	8	0.20	6**	0.150
J	6'-0"	-	8	0.20	-	8	0.20	6	0.180
J	7'-0"	-	8	0.20	-	8	0.20	7	0.210
J	8'-0"	-	8	0.20	-	8	0.20	8	0.240
J	10'-0"	-	10	0.40##	-	10	0.40##	10	0.300
J	12'-0"	-	10	0.40##	-	12	0.40##	12	0.360

$t_1$and t_2– Wall Thickness.
A_s– Vertical and horizontal areas of reinforcement.
##Provide 0.20 sq. in./ft. at each face, 12" max. bar spacing.
**Modified minimum wall thickness.
***Min. total circumferential reinforcement for continuous steel hoops:
A_s = 0.40 sq. in. for riser section height equal or less than 2'-0" (3 hoop min.)
A_s = 0.60 sq. in. for riser section height more than 2'-0" up to 4'-0" (3 hoop min.)
Areas of reinforcing for precast items are based on Grade 60 reinforcing.
No reduction in the area of reinforcement is allowed for welded wire fabric in Table 1.
Area of vertical reinforcing may be reduced in accordance with ASTM C478.

TABLE 2 - ALTERNATE B SQUARE AND RECTANGULAR STRUCTURES

TYPE	WALL LENGTH (ft)	MAX. DEPTH (ft)	WALL THICKNESS (t_1) CAST-IN-PLACE (in.)	PRECAST (in.)
P	≤3'-6"	40	6 Riser 8 Bottom	6
J	4'-0"	40	8	6
J	5'-0"	22	-	6
J	6'-0"	15	-	6
J	5'-0"to9'-0"	40	8	8
J	10'-0"	26	8	8
J	10'-0"to12'-0"	40	10	9
J	16'-0"	35	-	9
J	16'-0"	40	10	10
J	20'-0"	25	-	9
J	20'-0"	30	10	10

See Table 4 for Reinforcing Schedule.

TABLE 3 - REINFORCING SCHEDULE

SCHEDULE	GRADE 60 AREA (in²/ft)	GRADE 60 BARS OR 65 KSI & 10 KSI WELDED WIRE REINFORCING MAXIMUM SPACING GR 60 BARS (in.)	65 KSI (in.)	70 KSI (in.)
A12	0.20	12	8	8
A6	0.20	6	5	4½
B10	0.24	10	8	7½
B5.5	0.24	5½	5	4
C6.5	0.37	6½	6	5
C3.5	0.37	3½	3	2½
D7	0.53	7	6	5
D4.5	0.53	4½	4	3½
E5	0.73	5	4	4
E3	0.73	3	3	3
F5	1.06	5	4	4
F3.5	1.06	3½	3	3
G5	1.45	5	4	4
G3.5	1.45	3½	3	3
H4	1.75	4	3	3

TABLE 4 - WALL DESIGNS - RECTANGULAR STRUCTURES

VERTICAL REINFORCING WALL DEPTH	VERTICAL REINFORCING SCHEDULE	HORIZONTAL REINFORCING WALL DEPTH	HORIZONTAL REINFORCING SCHEDULE	WALL THICKNESS
SIZE: 3'-6" & RISER				
≥1.17' - 40'	A12	≥1.17' < 10'	B10	6"/8"
		10' < 18'	B5.5	6"/8"
		18' < 29'	C6.5	6"/8"
		29' - 40'	C3.5	6"/8"
SIZE: 4'-6"				
≥1.17' - 40'	A12	≥1.17' < 6'	B10	6"/8"
		6' < 10'	B5.5	6"/8"
		10' < 20'	C6.5	6"/8"
		20' < 28'	C3.5	6"/8"
		28' - 40'	D4.5	6"/8"
SIZE: 5'-6"				
≥1.17' - 40'	A12	≥1.17' < 5'	B5.5	6"/8"
		5' < 9'	C6.5	6"/8"
		9' < 13'	C3.5	6"/8"
		13' < 17'	D4.5	6"/8"
		17' - 40'	E3	8"
SIZE: 6'-6"				
≥1.17' < 26'	A12	≥1.17' < 9'	C3.5	6"/8"
		9' < 13'	D4.5	6"/8"
		13' < 26'	E3	8"
	Inside/Outside		Inside/Outside	
26' - 40'	A12	A12	26' - 40'	D7	D7	8"
SIZE: 7'-6"				
	Inside/Outside		Inside/Outside	
≥1.17' < 29'	A12	A12	≥1.17' < 7'	B10	B10	8"
26' - 40'	B10	B10	7' < 10'	B5.5	B5.5	8"
			10' < 20'	C6.5	C6.5	8"
			20' < 30'	D7	D7	8"
			30' - 40'	E3	E3	8"
SIZE: 8'-6"				
	Inside/Outside		Inside/Outside	
≥1.17' < 12'	A12	A12	≥1.17' < 8'	C6.5	C6.5	8"
12' < 28'	C6.5	C6.5	8' < 13'	D7	D7	8"
28' - 40'	D7	D7	13' < 23'	E5	E5	8"
			23' - 40'	F5	F5	8"
SIZE: 9'-6"				
	Inside/Outside		Inside/Outside	
≥1.17' < 10'	B10	B10	≥1.17' < 10'	D7	D7	8"
10' < 21'	C6.5	C6.5	10' < 17'	E5	E5	8"
21' < 26'	D7	D7	17' < 26'	F5	F5	8"
26' - 40'	C6.5	C6.5	26' - 40'	F5	F5	10"

VERTICAL REINFORCING WALL DEPTH	VERTICAL REINFORCING SCHEDULE	HORIZONTAL REINFORCING WALL DEPTH	HORIZONTAL REINFORCING SCHEDULE	WALL THICKNESS
SIZE: 10'-6" (Precast Only)				
	Inside/Outside		Inside/Outside	
26' - 40'	D7	D7	26' - 40'	F5	F5	9"
SIZE: 12'-6"				
	Inside/Outside		Inside/Outside	
≥1.17' < 14'	B10	B10	≥1.17' < 10'	C6.5	C6.5	10"
14' < 29'	C6.5	C6.5	10' < 17'	D7	D7	10"
29' - 40'	D7	D7	17' < 24'	E5	E5	10"
			24' - 40'	F5	F5	10"
SIZE: 12'-6" (Precast Only)				
	Inside/Outside		Inside/Outside	
≥1.17' < 12'	B10	B10	≥1.17' < 10'	D7	D7	9"
12' < 24'	C6.5	C6.5	10' < 17'	D4.5	D4.5	9"
24' - 40'	D7	D7	17' < 23'	E5	E5	9"
			23' < 32'	F5	F5	9"
			32' - 40'	G5	G5	9"
SIZE: 16'-6"				
	Inside/Outside		Inside/Outside	
≥1.17' < 11'	C6.5	C6.5	≥1.17' < 13'	D7	D7	10"
11' < 20'	D7	D7	13' < 20'	E5	E5	10"
20' < 28'	E5	E5	20' < 28'	F5	F5	10"
28' - 40'	F5	F5	28' - 40'	G5	G5	10"
SIZE: 16'-6" (Precast Only)				
	Inside/Outside		Inside/Outside	
≥1.17' < 10'	C6.5	C6.5	≥1.17' < 9'	D7	D7	9"
10' < 18'	D7	D7	9' < 13'	D4.5	D4.5	9"
18' < 25'	E5	E5	13' < 19'	E5	E5	9"
25' - 35'	F5	F5	19' < 27'	F5	F5	9"
			27' - 35'	G5	G5	9"
SIZE: 20'-6"				
	Inside/Outside		Inside/Outside	
≥1.17' < 10'	C6.5	C6.5	≥1.17' < 8'	D7	D7	10"
10' < 17'	D7	D7	8' < 12'	E5	E5	10"
17' - 30'	E5	E5	12' < 20'	F5	F5	10"
			20' - 30'	G5	G5	10"
SIZE: 20'-6" (Precast Only)				
	Inside/Outside		Inside/Outside	
≥1.17' < 8'	C6.5	C6.5	≥1.17' < 8'	D4.5	D4.5	9"
8' < 13'	D7	D7	8' < 12'	E5	E5	9"
13' - 25'	E5	E5	12' < 19'	F5	F5	9"
			19' - 25'	G5	G5	9"

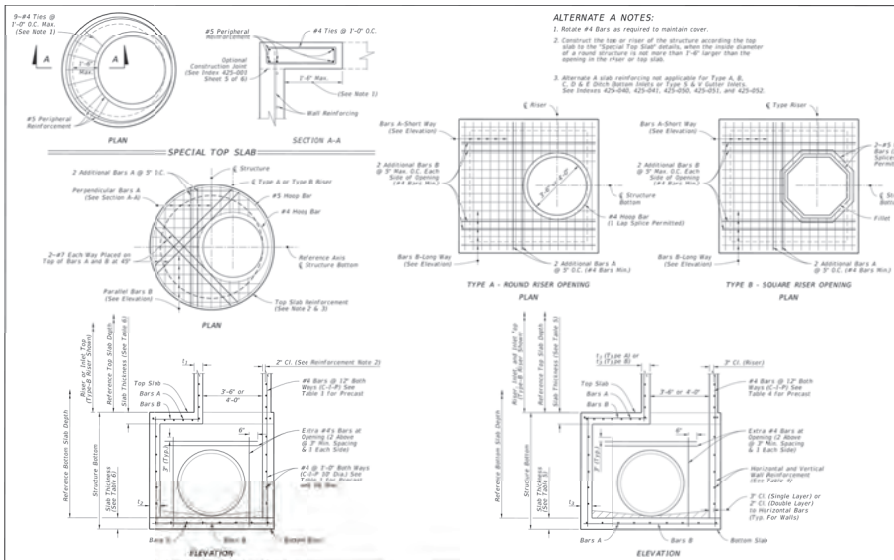
TABLE 4 NOTES:

1. Wall depth is measured to the top of the bottom slab for boxes and to the top of the intermediate slab for risers.
2. Wall height is the distance between top of lower slab to bottom of upper slab. Maximum wall height is 12' for wall lengths exceeding 3', or 10' for wall lengths exceeding 12'.
3. Wall lengths exceeding 6'-0" require two layers of reinforcing (See Table 4) with 2" of cover from the horizontal bars to the inside and outside faces for each layer.
4. Wall lengths exceeding the dimensions or depths shown in Table 4, or 12'-0" diameter require a special design.
5. Wall thickness and reinforcing for rectangular structures is based on the longer wall length.

APPROVED
By Jesse Hernandez at 9:04 am, Oct 22, 2025

TABLES 1, 2, 3, AND 4

LAST REVISION 11/01/20 | REVISION | DESCRIPTION: | FY 2025-26 STANDARD PLANS | STRUCTURE BOTTOMS TYPE J AND P | INDEX 425-010 | SHEET 3 of 4



DIMENSIONAL AND REINFORCING DETAILS

LAST REVISION 11/01/20 | REVISION | DESCRIPTION: | FY 2025-26 STANDARD PLANS | STRUCTURE BOTTOMS TYPE J AND P | INDEX 425-010 | SHEET 2 of 4

TABLE 5 - SLAB DESIGNS - SQUARE AND RECTANGULAR STRUCTURES
(ALL SLABS 8" THICK EXCEPT AS NOTED - REINFORCING PARALLEL TO SHORT WAY AND LONG WAY)

SHORT-WAY SLAB DEPTH	SHORT-WAY SCHEDULE (Bars A)	LONG-WAY SLAB DEPTH	LONG-WAY SCHEDULE (Bars B)
SIZE: 7'-6" x UNLIMITED			
≥0.5' < 8'	B10	≥0.5' < 24'	B10
8' < 13'	B5.5	24'-40'	B5.5
13' < 31'	C6.5		
31'-40'	D7		
SIZE: 4' x UNLIMITED			
≥0.5' < 7'	B5.5	≥0.5' < 13'	B10
7' < 19'	C6.5	13' < 29'	B5.5
19' < 31'	D7	29'-40'	C6.5
31'-40'	E3		
SIZE: 5' x 5'			
≥0.5' < 3'	C6.5	≥0.5' < 3'	C6.5
3' < 7'	B5.5	3' < 13'	C6.5
7' < 22'	C6.5	13' < 22'	D7
22' < 29'	D7	22' < 29'	D4.5
29'-40'	E5	29'-40'	E5
SIZE: 5' x 6'			
≥0.5' < 12'	C6.5	≥0.5' < 3'	C6.5
12' < 26'	D7	3' < 9'	B5.5
26'-40'	E5	9' < 23'	C3.5
		23' < 35'	D4.5
		35'-40'	E5
SIZE: 5' x 7'			
≥0.5' < 10'	C6.5	≥0.5' < 10'	B5.5
10' < 20'	D7	10' < 31'	C3.5
20' < 34'	E5	31'-40'	D4.5
34'-40'	F5		
SIZE: 5' x 8'			
≥0.5' < 8'	C6.5	≥0.5' < 8'	B10
8' < 14'	D7	8' < 17'	B5.5
14' < 25'	E5	17' < 25'	C6.5
25'-40'	F5	25'-40'	C3.5
SIZE: 5' x 9'			
≥0.5' < 8'	C6.5	≥0.5' < 14'	B10
8' < 14'	D7	14' < 24'	B5.5
14' < 25'	E5	24' < 34'	C6.5
25'-40'	F5	34'-40'	C3.5
SIZE: 5' x UNLIMITED			
≥0.5' < 8'	C6.5	≥0.5' < 14'	B10
8' < 14'	D7	14' < 24'	B5.5
14' < 25'	E5	24' < 34'	C6.5
25'-40'	F5	34'-40'	C3.5

SHORT-WAY SLAB DEPTH	SHORT-WAY SCHEDULE (Bars A)	LONG-WAY SLAB DEPTH	LONG-WAY SCHEDULE (Bars B)
SIZE: 6' x 6'			
≥0.5' < 13'	C6.5	≥0.5' < 10'	C3.5
13' < 23'	D7	10' < 18'	D4.5
23'-40'	E5	18' < 27'	E5
		27' < 33'	E3
		33'-40'	F5
SIZE: 6' x 7'			
≥0.5' < 8'	C6.5	≥0.5' < 8'	C6.5
8' < 16'	D7	8' < 12'	C3.5
16' < 28'	E5	12' < 21'	D4.5
28'-40'	F5	21' < 28'	E5
		28' < 35'	E3
		35'-40'	F5
SIZE: 6' x 8'			
≥0.5' < 6'	C6.5	≥0.5' < 6'	B5.5
6' < 13'	D7	6' < 11'	C6.5
13' < 22'	E5	11' < 17'	C3.5
22' < 30'	F5	17' < 22'	D4.5
30'-40'	G5	22' < 32'	E5
		32'-40'	E3
SIZE: 6' x 9'			
≥0.5' < 6'	D7	≥0.5' < 8'	B5.5
6' < 14'	E5	8' < 14'	C6.5
14' < 24'	F5	14' < 21'	C3.5
24'-34'	G5	21' < 29'	D4.5
		29'-34'	E5
SIZE: 6' x UNLIMITED			
≥0.5' < 8'	D7	≥0.5' < 8'	B5.5
8' < 14'	E5	8' < 14'	C6.5
14' < 24'	F5	14' < 21'	C3.5
24'-34'	G5	21' < 29'	D4.5
		29'-34'	E5
SIZE: 7' x 7'			
≥0.5' < 8'	C6.5	≥0.5' < 4'	C6.5
8' < 13'	D7	4' < 7'	C3.5
13' < 26'	E5	7' < 11'	D4.5
		11' < 22'	E3
		22' < 32'	F3.5
		32'-40'	G3.5
SIZE: 7' x 8'			
≥0.5' < 9'	C6.5	≥0.5' < 5'	C6.5
9' < 13'	D7	5' < 8'	C3.5
13' < 26'	E5	8' < 16'	D4.5
26' - 30'	F5	16' < 24'	E3
		24' - 32'	F3.5
		32'-40'	G3.5
SIZE: 7' x 9'			
≥0.5' < 9'	D7	≥0.5' < 7'	D7
9' < 14'	E5	7' < 15'	E5
14' < 22'	F5	15' < 17'	F3.5
22' - 30'	G5	17' < 22'	G3.5
SIZE: 9'x9'x30" SLAB THICKNESS			
22' < 30'	F5	22' < 31'	F3.5
30'-40'	G5	31'-40'	G3.5
SIZE: 10'x10'x30" SLAB THICKNESS			
≥0.5' < 7'	C6.5	0.5' < 6'	C6.5
7' < 10'	D7	6' < 9'	D4.5
10' < 18'	E5	9' < 15'	E5
18' < 27'	F5	15' < 22'	F5
27'-32'	G5	22'-32'	G3.5
SIZE: 12'x12'x12" SLAB THICKNESS			
≥0.5' < 10'	D7	≥0.5' < 8'	D7
10' < 16'	E5	8' < 14'	E5
16' < 25'	F5	14' < 22'	F5
25'-32'	G5	22' < 30'	G5
		30'-32'	H4

SLAB AND WALL DESIGN TABLE NOTES

1. Size is the inside dimension(s) of a structure.
2. Slab reinforcement is appropriate for top, intermediate, and bottom slabs.
3. Bottom slabs for precast 3'-6" x 3'-6" rectangular structures at 15' depth or less, may be 6" thick.
4. Slab depth is measured from finished grade to top of slab.
5. Reinforcing schedules with larger areas of steel may be substituted for schedules with smaller bar or wire spacing, except that Schedule B10 may not be substituted for Schedule A6. See Index 425-001 for allowable bar spacing adjustments when larger areas of reinforcing are substituted.

TABLE 6 - SLAB DESIGNS ROUND STRUCTURES

SLAB DEPTH	SLAB THICKNESS	REINF. (2-WAY) SCHEDULE
SIZE: 3'-6" DIAMETER		
3'-19'	5" Precast	C6.5
0.5' < 30'	8"	A6
30'-40'	8"	B5.5
SIZE: 4'-6" DIAMETER		
≥0.5' < 19'	8"	A6
19' < 30'	8"	B5.5
30'-40'	8"	C6.5
SIZE: 5'-6" DIAMETER		
≥0.5' < 15'	8"	B5.5
15' < 26'	8"	C6.5
26' < 35'	8"	D7
35'-40'	8"	D4.5
SIZE: 5'-6" DIAMETER		
≥0.5' < 9'	8"	B5.5
9' < 15'	8"	C6.5
15' < 22'	8"	C3.5
22' < 30'	8"	D4.5
30'-40'	8"	E5
SIZE: 7'-0" DIAMETER		
≥0.5' < 8'	8"	C3.5
8' < 16'	8"	D4.5
16' < 23'	8"	E5
23' < 27'	8"	E3
27'-40'	8"	F3.5
SIZE: 9'-0" DIAMETER		
≥0.5' < 10'	8"	D4.5
10' < 16'	8"	E5
16' < 19'	8"	E3
19' < 29'	8"	F3.5
29'-40'	10"	F5
SIZE: 0'-0" DIAMETER		
≥0.5' < 12'	10"	D4.5
12' < 20'	10"	E5
20' < 28'	10"	F5
28'-40'	10"	G3.5
SIZE: 2'-0" DIAMETER		
≥0.5' < 8'	10"	D4.5
8' < 13'	10"	E5
13' < 18'	10"	F5
18' < 26'	10"	G3.5
26'-40'	12"	G3.5

TABLES 5 AND 6

LAST REVISION 11/01/20 | REVISION | DESCRIPTION: | FY 2025-26 STANDARD PLANS | STRUCTURE BOTTOMS TYPE J AND P | INDEX 425-010 | SHEET 4 of 4

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
14 NORTH BOYLE STREET, SUITE 900
NEW ORLEANS, LA 70116 (504) 582-2691
FIRM NO. EF-1927 ENGINEERING BUSINESS: EB-000340
PERSACOLA • PANAMA CITY • MOBILE • TALLAHASSEE • MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

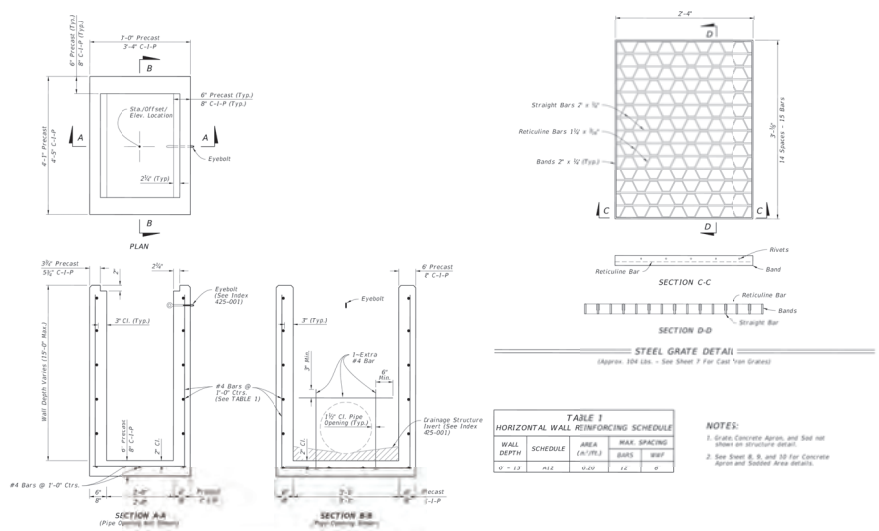
This drawing is the property of BASKERVILLE-DONOVAN, INC. and is not to be reproduced in whole or in part, nor is it to be used on any other project and is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

MISCELLANEOUS STANDARD FDOT DETAILS

C-514



STEEL GRATE DETAIL

(Approx. 104 Lbs. - See Sheet 7 For Cast Iron Grates)

DIMENSIONAL AND REINFORCING DETAILS

TABLE 1
HORIZONTAL WALL REINFORCING SCHEDULE

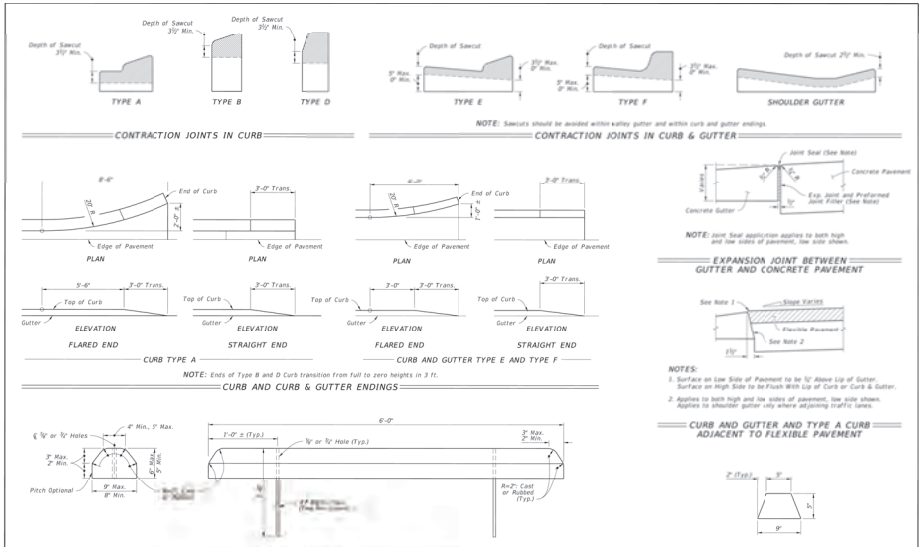
WALL DEPTH	SCHEDULE	AREA (in²/ft.)	MAX. SPACING	
			BARS	WWF
1' - 13'	#12	0.24	12	8

NOTES:

1. Grate, Concrete Apron, and Sod not shown on structure detail.
2. See Sheet 8, 9, and 10 for Concrete Apron and Sodded Area details.

TYPE C - DIMENSIONAL, REINFORCING, AND STEEL GRATE DETAILS

LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
11/01/20			FDOT FY 2025-26 STANDARD PLANS	DITCH BOTTOM INLET TYPES C, D, E, AND H	425-052	2 of 14



CONTRACTION JOINTS IN CURB

NOTE: Sawcuts should be avoided within valley gutter and within curb and gutter endings.

CONTRACTION JOINTS IN CURB & GUTTER

NOTE: Joint Seal application applies to both high and low sides of pavement, low side shown.

EXPANSION JOINT BETWEEN GUTTER AND CONCRETE PAVEMENT

NOTE: Ends of Type B and D Curb transition from full to zero heights in 3 ft.

CURB TYPE A — CURB AND GUTTER TYPE E AND TYPE F

CURB AND CURB & GUTTER ENDINGS

NOTES:

1. Surface on Low Side of Pavement to be ½" Above Lip of Gutter. Surface on High Side to be Flush With Lip of Curb or Curb & Gutter.
2. Applies to both high and low sides of pavement, low side shown. Applies to shoulder gutter only where adjoining traffic lanes.

CURB AND GUTTER AND TYPE A CURB ADJACENT TO FLEXIBLE PAVEMENT

CONCRETE BUMPER GUARD

ASPHALTIC CONCRETE CURB

CURB AND GUTTER JOINTS AND ENDINGS, CONCRETE BUMPER GUARD, AND ASPHALTIC CONCRETE CURB

LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
11/01/21			FDOT FY 2025-26 STANDARD PLANS	CURB AND GUTTER	520-001	3 of 3

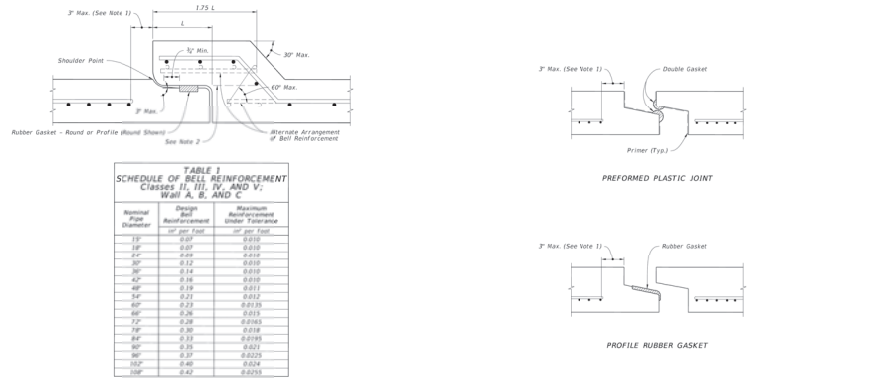


TABLE 1
SCHEDULE OF BELL REINFORCEMENT
Classes II, III, IV, and V;
Wall A, B, and C

Nominal Pipe Diameter	Design Bell Reinforcement	Maximum Reinforcement Under Tolerance
	in² per foot	in² per foot
15"	0.07	0.010
18"	0.07	0.010
24"	0.09	0.010
30"	0.12	0.010
36"	0.14	0.010
42"	0.16	0.010
48"	0.19	0.011
54"	0.21	0.012
60"	0.23	0.0135
66"	0.26	0.015
72"	0.28	0.0165
78"	0.30	0.018
84"	0.33	0.0195
90"	0.35	0.021
96"	0.37	0.0225
102"	0.40	0.024
108"	0.42	0.0255

PREFORMED PLASTIC JOINT

PROFILE RUBBER GASKET

NOTES:

1. Locate the last full wrap of reinforcement within 3 inches of the spigot shoulder and meet ASTM C76 for round pipe.
2. All circumferential steel located about 1/6 the wall width from 1.75 L in depth to bell reinforcement.

NOTES:

1. Locate the last full wrap of reinforcement within 3 inches of the spigot shoulder and meet ASTM C507 for elliptical pipe.
2. Type D-3 Geotextile Jacket is required on both type of joints.
3. Details shown before joint is homed.

ROUND CONCRETE PIPE JOINT DETAIL

ELLIPTICAL CONCRETE PIPE JOINT DETAIL

ROUND AND ELLIPTICAL CONCRETE PIPE JOINT

LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
11/01/23			FDOT FY 2025-26 STANDARD PLANS	MISCELLANEOUS DRAINAGE DETAILS	430-001	2 of 7

APPROVED
By Jesse Hernandez at 9:04 am, Oct 22, 2025

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
14775 BEACH BLVD., SUITE 201
JACKSONVILLE, FLORIDA 32250
(904) 641-1925 (904) 641-1926
ENGINEERING BUSINESS: EB-0000340
PENSACOLA • PANAMA CITY • DESTIN • FT. WALTON BEACH • MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of BASKERVILLE-DONOVAN, INC. and is not to be reproduced in whole or in part, nor shall it be used on any other project and is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

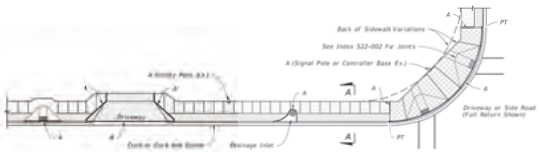
PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

MISCELLANEOUS STANDARD FDOT DETAILS

C-515

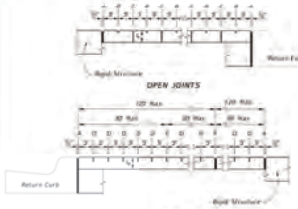
GENERAL NOTES:

1. Construct sidewalks in accordance with Specification 522. Use 6" concrete for Sidewalks and Curb Ramps located within Curb Returns (See Plan View). Install all other concrete curb thickness as shown, unless otherwise detailed in the Plans.
2. Include detectable warnings on sidewalk curb ramps in accordance with Index 522-002.
3. For Driveways see Index 522-003.
4. Bond Breaker Material (as in any impermeable coated or sheet membrane or preformed bituminous fiber) having a thickness of not less than 6 mils and not more than ½".
5. Continuous sidewalks with Edge Beam through the limits of any surface mounted Pedestrian/Bicycle Railing or Post Guardrail shown in the plans. (See RAILING DETAIL)



PLAN

SIDEWALK WITH UTILITY STRIP

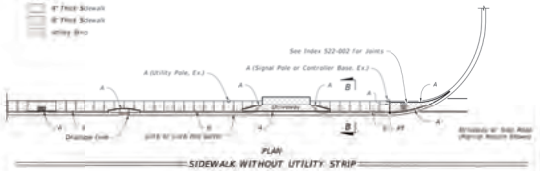


SAWED JOINTS

LONGITUDINAL SECTION

LEGEND:

4" Thick Sidewalk
6" Thick Sidewalk
Utility Strip



PLAN

SIDEWALK WITHOUT UTILITY STRIP

LEGEND:

A- ½" Expansion Joints (Preformed Joint Filler) between the sidewalk and driveways, sidewalk-intersections, and all other fixed objects (e.g. drainage inlets and utility poles).

B- ½" Dummy Joints, Tooled

C- ½" Formed Open Joints

D- 5/32" Saw Cut Joints, 1½" Deep (within 90 feet) Max. 5' Centers

E- 5/32" Saw Cut Joints, 1½" Deep (within 12 feet) Max. 30' Centers (only Required When Length Exceeds 30')

F- ½" Expansion Joint When Run Of Sidewalk Exceeds 120'. Intermediate locations when called for in the plans or as directed by the Engineer.

G- Cold Joint With Bond Breaker, Tooled

SIDEWALK JOINTS

SECTION A-A

SECTION B-B

RAILING DETAIL

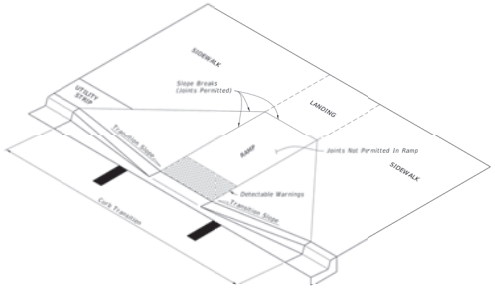
GENERAL NOTES AND CONCRETE SIDEWALK ON CURBED ROADWAYS

LAST REVISION 11/01/18	REVISION	DESCRIPTION:	FDOT FY 2025-26 STANDARD PLANS	CONCRETE SIDEWALK	INDEX 522-001	SHEET 1 of 2

APPROVED
By Jesse Hernandez at 9:04 am, Oct 22, 2025

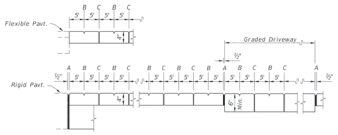
GENERAL NOTES:

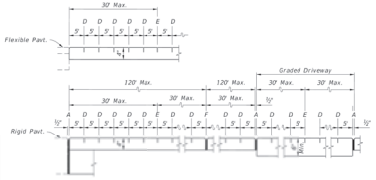
1. Cross Slopes and Grades:
   A. Sidewalk, ramp, and landing slopes (i.e. 0.02, 0.05, and 1:12) shown in this Index are maximums. With approval of the Engineer, provide the minimum feasible slope where the requirements cannot be met.
   B. Landings must have cross-slopes less than or equal to 0.02 in any direction.
   C. Maintain a single longitudinal slope along each side of the curb ramp. Ramp slopes are not required to exceed 15 feet in length.
   D. Joints permitted at the location of Slope Breaks. Otherwise locate joints in accordance with Index 522-001. No joints are permitted within the ramp portion of the Curb Ramp.
2. Curb, Curb and Gutter and/or Sidewalk:
   A. Refer to Index 522-001 for concrete thickness and sidewalk details.
   B. Remove any existing curb, curb and gutter, or sidewalk to the nearest joint beyond the curb transition or to the extent that no remaining section is less than 5 feet long.
   C. Width of Curb Ramp is 4'-0" minimum. Match sidewalk or Shared Use Path width as shown in the Plans.
3. Curb Ramp Alpha-Identification:
   A. Sidewalk curb ramp alpha-identifications (e.g. CR-A) are provided for reference purposes in the Plans.
   B. Alpha-identifications CR-I and CR-J are intentionally omitted.
4. Detectable Warnings:
   A. Install detectable warnings in accordance with Specification 527.
   B. Place detectable warnings across the full width of the ramp or landing, to a minimum depth of 2 (ed measured perpendicular to the curb line and no greater than 5 feet from the back of the curb or edge of pavement.
   C. If detectable warnings are shown in the Plans on slopes greater than 5%, align the truncated domes will the centerline of the ramp; otherwise, the truncated domes are not required to be aligned.



CURB RAMP NOMENCLATURE

LAST REVISION 11/01/21	REVISION	DESCRIPTION:	FDOT FY 2025-26 STANDARD PLANS	DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS	INDEX 522-002	SHEET 1 of 7





SAWED JOINTS

LONGITUDINAL SECTION

LEGEND:

A- ½" Expansion Joints (Preformed Joint Filler) between the sidewalk and driveways, sidewalk-intersections, and all other fixed objects (e.g. drainage inlets and utility poles).

B- ½" Dummy Joints, Tooled

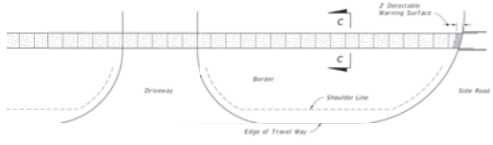
C- ½" Formed Open Joints

D- 5/32" Saw Cut Joints, 1½" Deep (within 90 feet) Max. 5' Centers

E- 5/32" Saw Cut Joints, 1½" Deep (within 12 feet) Max. 30' Centers (only Required When Length Exceeds 30')

F- ½" Expansion Joint When Run Of Sidewalk Exceeds 120'. Intermediate locations when called for in the plans or as directed by the Engineer.

SIDEWALK JOINTS

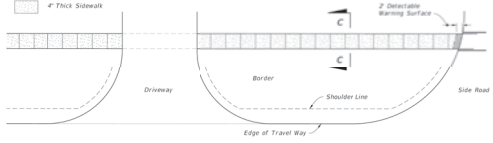


PLAN

CONTINUOUS SIDEWALK

LEGEND

4" Thick Sidewalk



PLAN

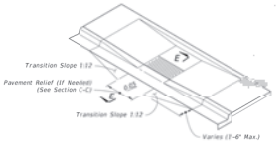
DISCONTINUOUS SIDEWALK

SECTION C-C

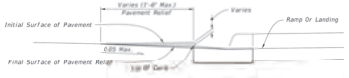
CONCRETE SIDEWALK ON FLUSH SHOULDER ROADWAYS

LAST REVISION 11/01/18	REVISION	DESCRIPTION:	FDOT FY 2025-26 STANDARD PLANS	CONCRETE SIDEWALK	INDEX 522-001	SHEET 2 of 2

LANDINGS FOR CURB RAMPS WITHOUT SIDEWALKS
(See CR-R, CR-G & CR-K Respectively For Detectable Warning Details/Options)



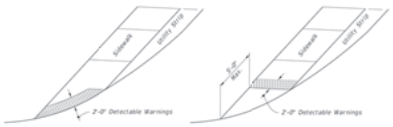
ISOMETRIC VIEW
(CR-C Shown, Other Similar)



NOTE: Remove Excess Pavement By Sawing And Pulling Smooth Joints, or Grinding.

SECTION E-E

PAVEMENT RELIEF DETAILS



OPTION A

OPTION B

DETECTABLE WARNING ON FLUSH SHOULDER SIDEWALKS

CURB RAMPS WITHOUT SIDEWALKS AND FLUSH SHOULDER SIDEWALKS

LAST REVISION 11/01/20	REVISION	DESCRIPTION:	FDOT FY 2025-26 STANDARD PLANS	DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS	INDEX 522-002	SHEET 6 of 7

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
14775 BEACH BLVD., SUITE 201
JACKSONVILLE, FLORIDA 32250
PHONE: (904) 641-1925 FAX: (904) 641-1930
ENGINEERING BUSINESS: EB-0000340
PENSACOLA • PANAMA CITY • TALLAHASSEE • MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of BASKERVILLE-DONOVAN, INC. and is not to be reproduced in whole or in part, nor shall it be used on any other project and is to be returned upon request.

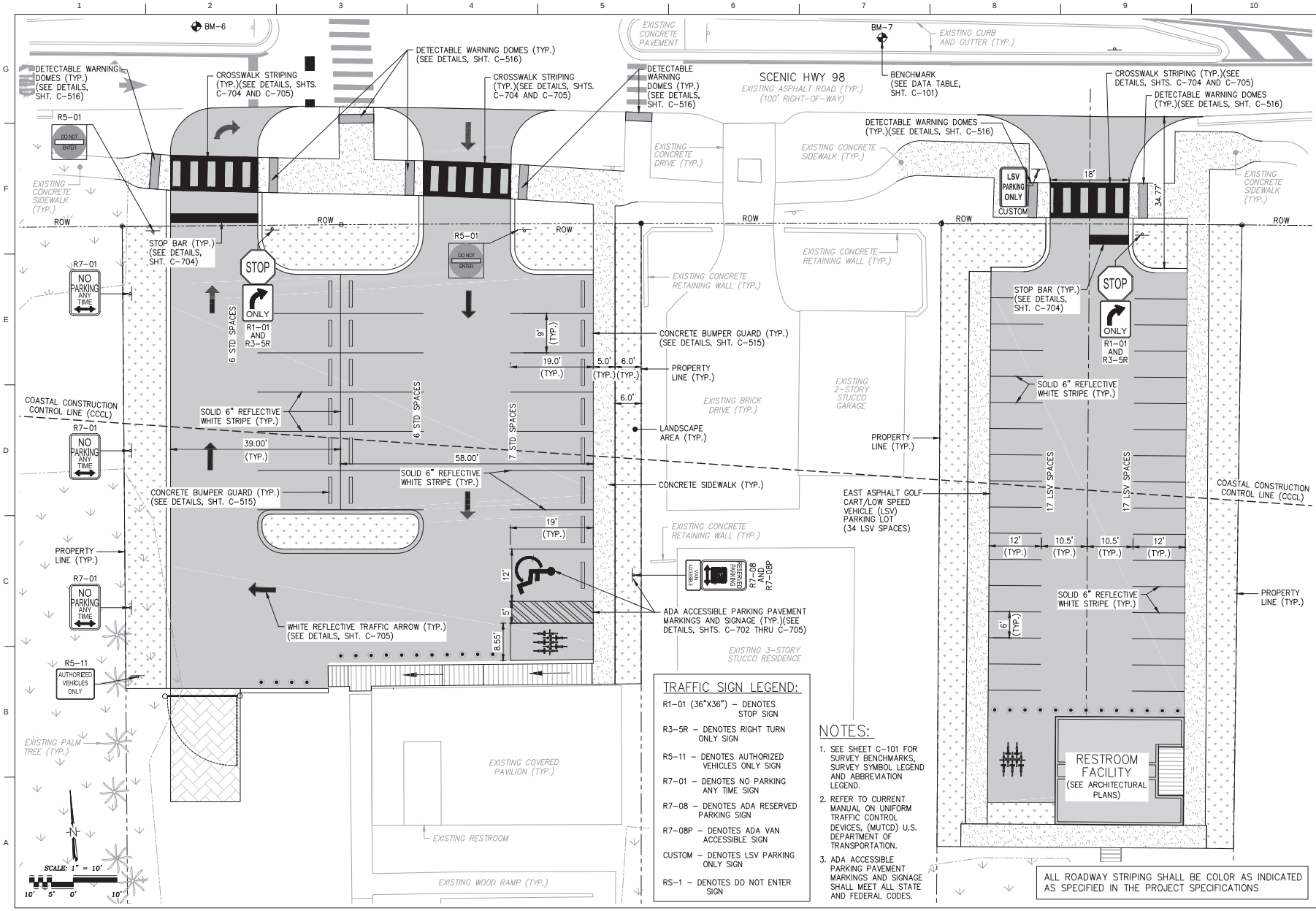
NOT RELEASED FOR CONSTRUCTION

PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

MISCELLANEOUS STANDARD FDOT DETAILS

C-516

APPROVED
By Jesse Hernandez at 9:04 am, Oct 22, 2025



TRAFFIC SIGN LEGEND:

- R1-01 (36"X36") – DENOTES STOP SIGN
- R3-5R – DENOTES RIGHT TURN ONLY SIGN
- R5-11 – DENOTES AUTHORIZED VEHICLES ONLY SIGN
- R7-01 – DENOTES NO PARKING ANY TIME SIGN
- R7-08 – DENOTES ADA RESERVED PARKING SIGN
- R7-08P – DENOTES ADA VAN ACCESSIBLE SIGN
- CUSTOM – DENOTES LSV PARKING ONLY SIGN
- RS-1 – DENOTES DO NOT ENTER SIGN

NOTES:

1. SEE SHEET C-101 FOR SURVEY BENCHMARKS, SURVEY SYMBOL LEGEND AND ABBREVIATION LEGEND.
2. REFER TO CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, (MUTCD) U.S. DEPARTMENT OF TRANSPORTATION.
3. ADA ACCESSIBLE PARKING PAVEMENT MARKINGS AND SIGNAGE SHALL MEET ALL STATE AND FEDERAL CODES.

ALL ROADWAY STRIPING SHALL BE COLOR AS INDICATED AS SPECIFIED IN THE PROJECT SPECIFICATIONS

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
14151 PANAMA CITY BEACH PARKWAY, SUITE 110.
PANAMA CITY BEACH, FLORIDA 32413-7553
(850) 235-1396 - FAX (850) 235-1593
ENGINEERING BUSINESS - EB0003040
PENSACOLA • PANAMA CITY BEACH • TALLAHASSEE • MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of Baskerville-Donovan, Inc. and is not to be reproduced in whole or in part. It is not to be used on other projects and is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

STRIPING AND SIGNAGE PLAN

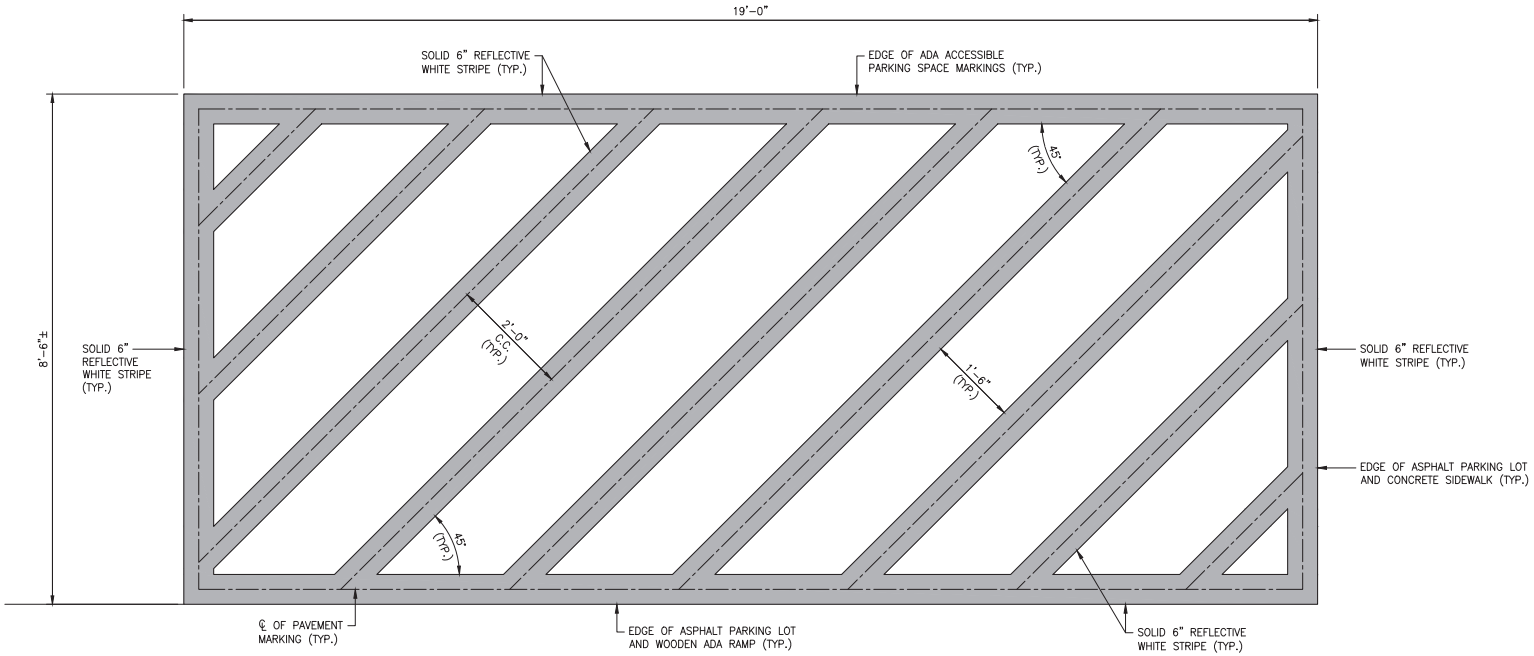
C-700

L:\121 Okaloosa County\12105.02 Shore at Crystal Beach Park Amendment\DWG\12105.02-Striping and Signage.dwg, Aug 12, 2025 – 3:53:14PM, slucia

100% SUBMITTAL

ALL ROADWAY STRIPING SHALL BE COLOR AS INDICATED AS SPECIFIED IN THE PROJECT SPECIFICATIONS

APPROVED
By Jesse Hernandez at 9:04 am, Oct 22, 2025



TYPICAL NO PARKING ZONE PAVEMENT MARKING DETAIL

N.T.S.

NOTES:

1. REFER TO CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, (MUTCD) U.S. DEPARTMENT OF TRANSPORTATION.
2. CONTRACTOR TO ADJUST PAVEMENT MARKING IF REQUIRED.

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
1410 I PANAMA CITY BEACH PARKWAY, SUITE 110.
PANAMA CITY BEACH, FLORIDA 32413
(850) 235-1557
ENGINEERING BUSINESS - EB-0000345
PENSACOLA • PANAMA CITY BEACH • TALLAHASSEE • MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of BASKERVILLE-DONOVAN, INC. and is not to be reproduced in whole or in part. It is not to be used on other projects and is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

MISCELLANEOUS STRIPING AND SIGNAGE DETAILS

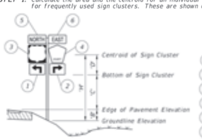
C-701

100% SUBMITTAL

1 2 3 4 5 6 7 8 9 10

SINGLE COLUMN GROUND SIGNS — INDEX 700-010, SHEET 1 of 10

STEP 1: Calculate the area and the centroid for an individual sign or a sign cluster. Note that the centroid and areas have been calculated for frequently used sign clusters. These are shown on Sheets 7, 8, and 9.



	Size a x h	Local 'Yn'	Global 'Xn' (Centroid)	Global 'Yn' (Centroid)	'An'	'Xn' x 'An'	'Yn' x 'An'
	(in. x in.)	(in.)	(in.)		(in.²)	(in.³)	(in.³)
1	21 x 15	7.5	-10.5-1.5-1.5 = -13.5	7.5	315	-4,252.5	2,362.5
2	21 x 15	7.5	10.5+1.5+1.5 = 13.5	7.5	315	+4,252.5	2,362.5
3	24 x 24	12	-12-1.5 = -13.5	15+1+12 = 28	576	-7,776	16,128
4	24 x 24	12	12+1.5 = 13.5	15+1+12 = 28	436	5,886	12,208
5	24 x 12	6	-12-1.5 = -13.5	15+1+24+1+6 = 47	288	-3,888	13,536
6	24 x 12	6	12+1.5 = 13.5	15+1+24+1+6 = 47	288	3,888	13,536
				TOTALS	2,218	-1,890	60,133

Σ('An') = 2,218 in.² = 15.4 ft.²   Σ('Xn' x 'An') = -1,890 in.³ = -1.09 ft.³   Σ('Yn' x 'An') = 60,133 in.³ = 34.8 ft.³

$'X_c' = \frac{\Sigma('X_n' \times 'A_n')}{\Sigma 'A_n'} = -0.1$ ft. $'Y_c' = \frac{\Sigma('Y_n' \times 'A_n')}{\Sigma 'A_n'} = 2.26$ ft.

STEP 2: Determine the height 'H' from groundline to the centroid of the individual sign or sign cluster.

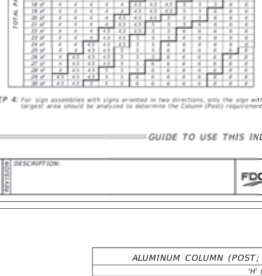
Assume: 'B' = 1 ft., 'C' = 7 ft.

Calculated: X_c = -0.1 ft., Y_c = 'D' 2.26 ft.

'H' = 'B' + 'C' + 'D' = 10.26 ft. ==> USE 11 ft.   Σ('An') = 15.4 ft.² ==> USE 16 ft.²

STEP 3: Refer to the Aluminum Column (Post) Selection Tables and find the intersection point. See Sheet 3.

ALUMINUM COLUMN (POST) SELECTION TABLE



For 'H' = 11 ft., Area = 16 ft.²

- Refer to the Aluminum Column (Post) Selection Table, Sheet 3 and shown here for reference.
- To determine the required post size, find the intersection of the row labeled "16 SF" and the column labeled "11 FT". The post size at the intersection is "4" (4" OD).
- In the Column (Post) Foundation Table, the value "4" shows the design requires a 4.0" diameter and ¼" thick Aluminum Column (Post) and a 2.0' diameter and 3.5' deep concrete foundation with 3.0' stub.

STEP 4: For sign assemblies with signs oriented in two directions, only the sign with the largest area should be analyzed to determine the Column (Post) requirements.

GUIDE TO USE THIS INDEX

SHEET	CONTENTS
1	General Notes and Design Example
2	Design Example - Centroid
3	Column and Foundation Tables
4	Slip Base and Foundation Details
5	Driven Post, Concrete Stub, and Soil Plate Details
6	Wind Beam Connection
7, 8 & 9	Frequently Used Sign Clusters

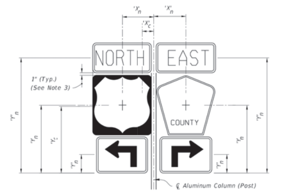
GENERAL NOTES:

1. Shop Drawings:
   This Index is considered fully detailed. Submit Shop Drawings only for minor modifications not detailed in the Plans.
2. Aluminum Sign, Wind Beams and Column (Post) Materials:
   A. Aluminum Plates: ASTM B209, Alloy 6061-T6
   B. Aluminum Bars and Extruded Shapes: ASTM B221, Alloy 6061-T6
   C. Aluminum Structural Shapes: ASTM B221 Alloy 6061-T6
   D. Cast Aluminum: ASTM B26 Alloy A356-T6
   E. Aluminum Weld Material: ER 5556 or 5356
3. Galvanized Steel Slip Base Stub Materials:
   A. Steel Plate and Structural Shapes: ASTM A36 or ASTM A709, Grade 36
   B. Steel Weld Metal: E70XX
4. Sign Mounting Bolts, Nuts and Washers:
   A. Aluminum Button Head and Flat Head Bolts: ASTM F468 Alloy 2024-T4
   B. Aluminum Hex Nuts: ASTM F467 Alloy 6061-T6 or 6262-T9
   C. Aluminum Washers: ASTM B221, Alloy 7075-T6
5. Stainless Steel Bolts, Nuts and Washers may be used in lieu of the Aluminum button head and flat head bolts as follows:
   A. Stainless Steel Bolts: ASTM F1 593 Alloy Group 1, Condition A, CW1 or SH1
   B. Stainless Steel Nuts: ASTM F594
6. Sign Column (Post) Bolts, Nuts and Washers:
   A. Galvanized U-Bolt (Column): ASTM A449 or ASTM A193 B7 according to ASTM F2329 with double nuts (nut and lock washer optional).
   B. Aluminum Bolts (Sleeve): ASTM F468, Alloy 6061-T6 or 2024-T4 with Hex Nuts F467 6061-T6 or 6262-T9 and Washers B221, Al clad 2024-T4
   C. Galvanized High Strength Hex Head Bolts (Base Bolts): ASTM F3125, Grade A325, Type 1
   D. Galvanized Hex Nuts: ASTM A563 Grade D
   E. Galvanized Washers: ASTM F436
   F. Galvanized Bolts (Sleeve): ASTM A307 with Galvanized Hex Nuts and Washers
7. Coatings:
   A. Aluminum Fasteners: Anodic coating (0.0002 inches min.) and chromate sealed
   B. High Strength Steel Bolts Nuts and Washers: ASTM F2329
   C. All other steel items (excluding stainless steel): Hot-dip Galvanize-ASTM A123
   D. Repair damaged galvanizing in accordance with Specification 562
8. BREAKAWAY SUPPORTS REQUIREMENTS: Install non-frangible aluminum column (post) (larger than 3½") with breakaway supports as shown on Sheet 4. Signs shielded by barrier wall or guardrail do not require breakaway support.

GENERAL NOTES AND DESIGN EXAMPLE

LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2022-23 STANDARD PLANS	SINGLE COLUMN GROUND SIGNS	INDEX	SHEET
11/01/20						700-010	1 of 10

SHEET 2 of 10



SIGN CLUSTER

$'X_c' = \frac{\Sigma('X_n' \times 'A_n')}{\Sigma 'A_n'}$ $'C' = 'Y_c' = \frac{\Sigma('Y_n' \times 'A_n')}{\Sigma 'A_n'}$

'An' = Area of individual sign

'B' = Height of the edge of pavement from the mounting elevation

'C' = Height of the the bottom of the sign or cluster from the edge of pavement elevation

'D' = Height of the centroid of the sign or cluster from the bottom of the sign or cluster

h = Individual sign height

'H' = Height of sign or cluster centroid from groundline

a = Individual sign width

'Xc' = Centroid horizontal location of sign or cluster from ℄ Aluminum Column (Post)

'Yc' = Centroid height of sign or cluster from bottom of sign cluster

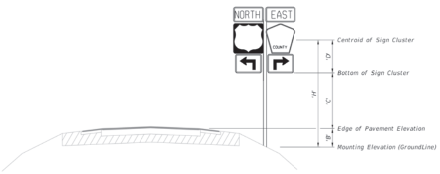
'Xn' = Individual sign centroid horizontal location from ℄ Aluminum Column (Post)

'Yn' = Individual Sign centroid height from bottom of sign cluster

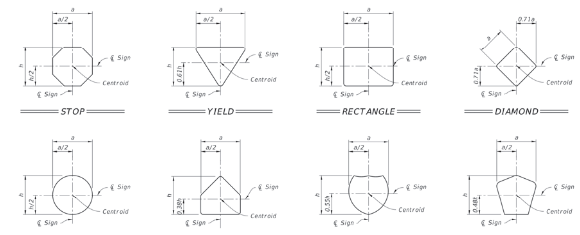
NOTES:

1. For 'B' & 'C' see Index 700-101 and Roadway Plans.
2. Do not exceed an area of 30 SF or a width of 60 inches for a sign or a sign cluster, including rotated sign panels.
3. Vertical sign spacing (1" shown on Sign Cluster detail) also applies to rotated signs.

CALCULATION OF SIGN CLUSTER CENTROID



TYPICAL SECTION



DESIGN EXAMPLE - CENTROID

LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2022-23 STANDARD PLANS	SINGLE COLUMN GROUND SIGNS	INDEX	SHEET
11/01/19						700-010	2 of 10

SHEET 3 of 10

ALUMINUM COLUMN (POST) SELECTION TABLE (O.D. in.)

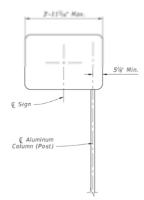
TOTAL PANEL AREA (SF) / 'H' (FT)

	8 ft	9 ft	10 ft	11 ft	12 ft	13 ft	14 ft	15 ft	16 ft	17 ft	18 ft	19 ft	20 ft
3 sf	2	2.5	2.5	2.5	3	3	3	3	3.5	3.5	3.5	3.5	3.5
4 sf	2.5	2.5	3	3	3	3	3.5	3.5	3.5	3.5	3.5	3.5	3.5
5 sf	2.5	3	3	3	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4	4
6 sf	3	3	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4	4	4
7 sf	3	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4	4	4	4	4
8 sf	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4	4	4	4	4	4
9 sf	3.5	3.5	3.5	3.5	3.5	3.5	4	4	4	4	4	4	4
10 sf	3.5	3.5	3.5	3.5	3.5	4	4	4	4	4	4	4.5	4.5
11 sf	3.5	3.5	3.5	3.5	4	4	4	4	4	4	4.5	4.5	4.5
12 sf	3.5	3.5	3.5	4	4	4	4	4	4	4	4.5	4.5	4.5
13 sf	3.5	3.5	4	4	4	4	4	4	4	4.5	4.5	4.5	5
14 sf	3.5	3.5	4	4	4	4	4	4	4.5	4.5	4.5	5	5
15 sf	3.5	4	4	4	4	4	4	4.5	4.5	4.5	5	5	5
16 sf	3.5	4	4	4	4	4	4	4.5	4.5	5	5	5	6
17 sf	4	4	4	4	4	4	4.5	4.5	4.5	5	5	6	6
18 sf	4	4	4	4	4	4.5	4.5	4.5	5	5	5	6	6
19 sf	4	4	4	4	4	4.5	4.5	4.5	5	5	6	6	6
20 sf	4	4	4	4	4.5	4.5	4.5	5	5	5	6	6	6
21 sf	4	4	4	4	4.5	4.5	5	5	5	6	6	6	6
22 sf	4	4	4	4.5	4.5	4.5	5	5	6	6	6	6	6
23 sf	4	4	4	4.5	4.5	5	5	5	6	6	6	6	6
24 sf	4	4	4.5	4.5	4.5	5	5	6	6	6	6	6	6
25 sf	4	4	4.5	4.5	5	5	5	6	6	6	6	6	8
26 sf	4	4.5	4.5	4.5	5	5	5	6	6	6	6	8	8
27 sf	4	4.5	4.5	4.5	5	5	6	6	6	6	6	8	8
28 sf	4	4.5	4.5	5	5	5	6	6	6	6	6	8	8
29 sf	4.5	4.5	4.5	5	5	6	6	6	6	6	8	8	8
30 sf	4.5	4.5	5	5	5	6	6	6	6	6	8	8	8

FOUNDATION TABLE

Column (Post) Size: Outside Diameter (in)	Wall Thk. (in)	Driven Post *: Embedment Depth (ft) without Soil Plate	Driven Post *: Embedment Depth (ft) with Soil Plate	Concrete (Class II): Diameter (ft)	Concrete (Class II): Embedment Depth (ft)	Concrete (Class II): Stub Length (ft)
2.0	1/8	4.5	2.5	---	---	---
2.5	1/8	5.0	3.0	---	---	---
3.0	1/8	5.0	3.5	---	---	---
3.5	3/16	6.0	4.5	---	---	---
4.0	1/4	---	---	2.0	3.5	3.0
4.5	1/4	---	---	2.0	4.0	3.0
5.0	1/4	---	---	2.0	4.5	3.0
6.0	1/4	---	---	2.0	5.0	3.0
8.0	1/4	---	---	2.0	5.5	3.0

* INSTALLING FRANGIBLE COLUMN SUPPORTS:
Columns (posts) 3½" O.D. and less are considered frangible and may be installed either by driving the post or setting the posts in preformed holes. Backfill preformed holes with suitable material tamped in layers not thicker than 6" (to provide adequate compaction) or filled with flowable fill or bagged concrete.



OFFSET SIGN

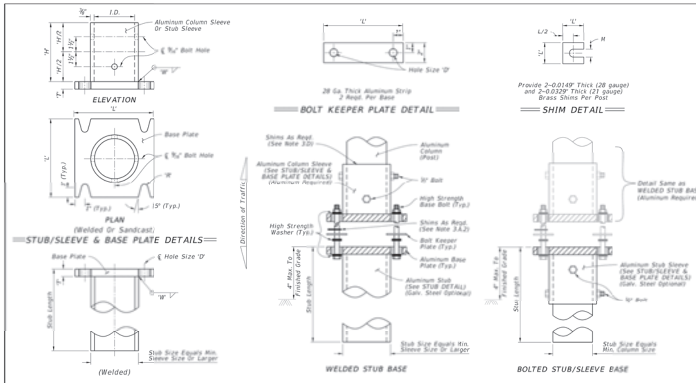
NOTES:

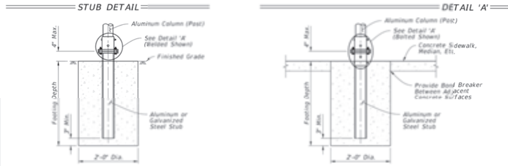
1. For offset sign placement see Index 700-101.
2. For signs with widths greater than 4' see Index 700-011.
3. Offset signs with driven posts require a soil plate

COLUMN AND FOUNDATION TABLES

LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2022-23 STANDARD PLANS	SINGLE COLUMN GROUND SIGNS	INDEX	SHEET
11/01/19		Renumbered Sheet.				700-010	3 of 10

SHEET 4 of 10





SLIP BASE AND FOUNDATION DETAIL (Non-Frangible Column, Typ.)

SLIP BASE AND FOUNDATION DETAIL IN CONCRETE (Non-Frangible Column In Crossovers, Medians & Sidewalks)

NOTES:

1. Foundation Notes for Slip Base:
   A. Place Stub into concrete foundation given in the FOUNDATION TABLE using Class II Concrete.
2. Slip Base Fabrication Notes:
   A. The difference between the O.D. of the post and I.D. of the Sleeve must be 1/16" or less.
   B. The WELDED STUB BASE and lower STUB/SLEEVE BASE PLATE may be fabricated using galvanized steel as an option to aluminum. The upper portion of the SLIP BASE must be aluminum.
   C. Either a Welded Stub Base or Bolted Stub/Sleeve Base may be used in Slip Base.
   D. For cast base plates bolted to foundation stubs, use a foundation stub the same size as the sign column (Post).
3. Slip-Base Assembly Instructions:
   A. Assemble the Slip Base as follows:
      1. Insert Post into Sleeve and connect using 2 ~ ½" diameter Sleeve Bolts.
      2. Assemble top base plate to bottom Base Plate using Base Bolts (High strength) with 3 washers per bolt. (See Detail 'A'):
         a. Place one washer on each Base Bolt between the bottom Base Plate and the Base Bolt head.
         b. Place the next washer between the Bottom Base Plate and the Bolt Keeper Plate.
         c. Use brass or galvanized steel shims to plumb the post.
         d. Add the top base plate section.
         e. Place the third washer between the Top Base Plate and the Nut.
   B. Orient the Bolt Keeper Plates in the Direction of Traffic.
   C. Tighten Base Bolts as follows:
      1. Tighten Base Bolts to the maximum possible with a 12" to 15" wrench (this will bed the washers and shims and clear the bolt threads).
      2. Loosen each Base Bolt one turn.
      3. Under the supervision of the Engineer, use a calibrated wrench to tighten bolts to the torque prescribed in the SLIP BASE DETAILS Table. Over tightened Base Bolts are not permitted.
      4. Distort bolt threads at the junction with nuts to prevent loosening. Repair damaged galvanizing.
   D. Obtain a tight sleeve connection by placing 4 galvanized steel shims between the column (post) and sleeve. Space the shims evenly around the perimeter of the column (1 between each bolt hole, 4 total). Use shims that are 1" shorter than the height of the sleeve.

SLIP BASE DETAILS

Column (Post) Size: Outside Dia.	Wall Thickness	Sleeve I.D. (Max.)	Sleeve Height 'H'	Weld 'W'	Base Plate 'L'	Base Plate 'T'	Radius 'R'	Base Bolt Size	Base Bolt Length	Base Plate Torque ft-lbs	Base Plate Torque in.-lbs	Hole Size 'D'	SHIM L	SHIM M
4"	1/4"	4-1/16"	6"	1/4"	8"	3/4"	1-1/32"	5/8"	3"	29	345	1-1/16"	1-3/8"	1-1/16"
4½"	1/4"	4-9/16"	6"	1/4"	8"	7/8"	1-1/32"	5/8"	3-1/4"	29	345	1-1/16"	1-3/8"	1-1/16"
5"	1/4"	5-1/16"	7"	1/4"	8"	7/8"	1-1/32"	5/8"	3-1/4"	29	345	1-1/16"	1-3/8"	1-1/16"
6"	1/4"	6-1/16"	8"	1/4"	9"	1"	1-3/32"	3/4"	3-1/2"	46	554	1-3/16"	1-3/4"	1-3/16"
8"	1/4"	8-1/16"	10"	1/4"	11"	1"	1-5/32"	7/8"	3-3/4"	53	640	1-5/16"	2-3/8"	1-1/2"

APPROVED
By Jesse Hernandez at 9:04 am, Oct 22, 2025

SLIP BASE AND FOUNDATION DETAILS

LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2022-23 STANDARD PLANS	SINGLE COLUMN GROUND SIGNS	INDEX	SHEET
11/01/21						700-010	4 of 10

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
14101 PANAMA CITY BEACH PARKWAY, SUITE 110,
PANAMA CITY BEACH, FL 32413 (850) 230-6150
ENGINEERING BUSINESS: EB-0000340
PENSACOLA - PANAMA CITY BEACH - TALLAHASSEE - MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

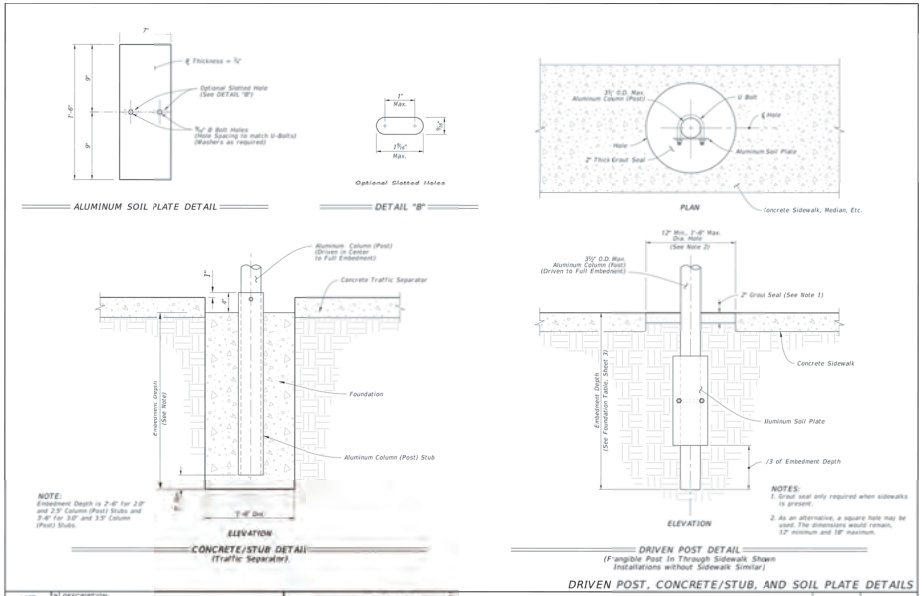
This drawing is the property of BASKERVILLE-DONOVAN, INC. and is not to be reproduced in whole or in part. It is not to be used on any other project and is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

MISCELLANEOUS STANDARD FDOT DETAILS

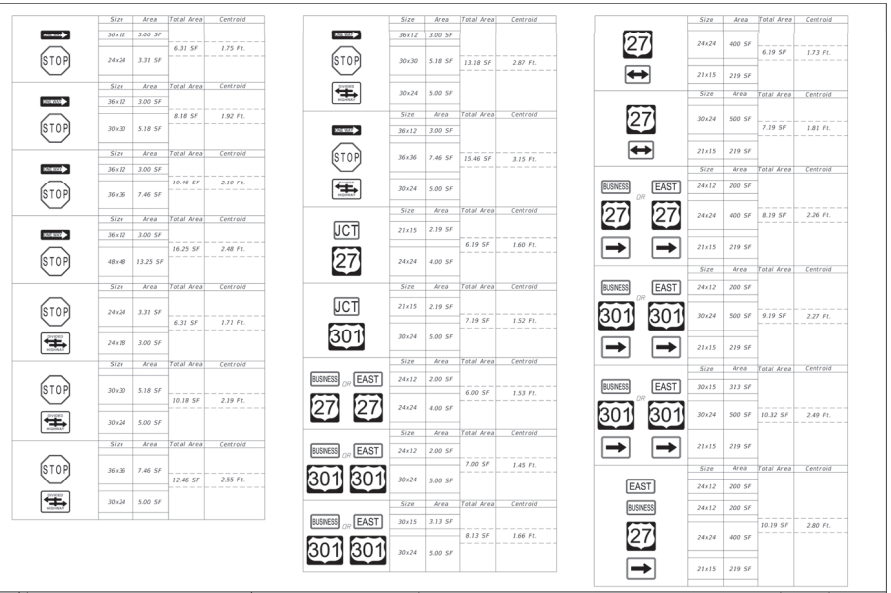
C-702



DRIVEN POST, CONCRETE/STUB, AND SOIL PLATE DETAILS

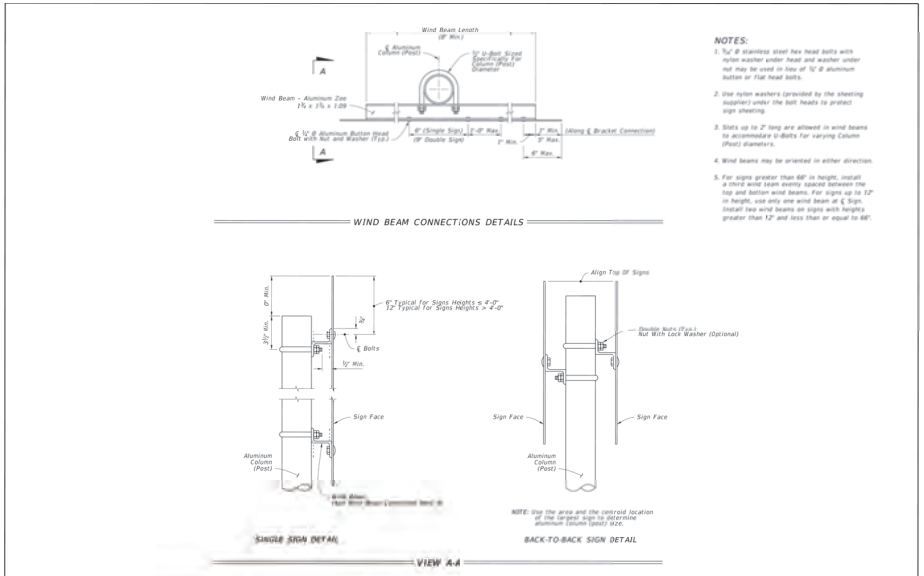
LAST REVISION 11/01/23 | REVISION | DESCRIPTION:

FDOT FY 2025-26 STANDARD PLANS | SINGLE COLUMN GROUND SIGNS | INDEX 700-010 | SHEET 5 of 11



LAST REVISION 11/01/19 | REVISION | DESCRIPTION:

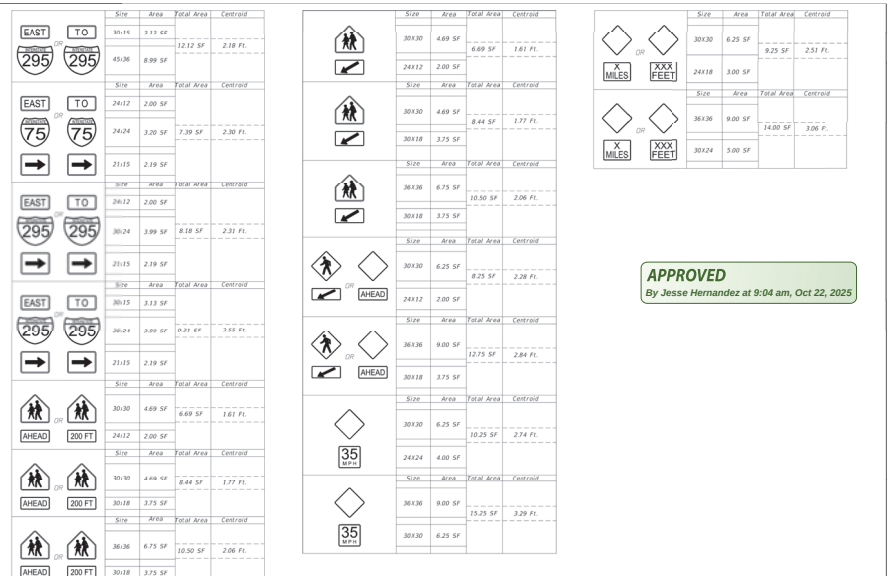
FDOT FY 2022-23 STANDARD PLANS | SINGLE COLUMN GROUND SIGNS | INDEX 700-010 | SHEET 8 of 10



WIND BEAM CONNECTION

LAST REVISION 11/01/22 | REVISION | DESCRIPTION:

FDOT FY 2025-26 STANDARD PLANS | SINGLE COLUMN GROUND SIGNS | INDEX 700-010 | SHEET 6 of 11



LAST REVISION 11/01/19 | REVISION | DESCRIPTION:

FDOT FY 2022-23 STANDARD PLANS | SINGLE COLUMN GROUND SIGNS | INDEX 700-010 | SHEET 10 of 10

APPROVED
By Jesse Hernandez at 9:04 am, Oct 22, 2025

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
140 WYNDWARD CITY BEACH PARKWAY, SUITE 10
PANAMA CITY BEACH, FLORIDA 32413
ENGINEERING BUSINESS: EB-000340
PENSACOLA • PANAMA CITY BEACH • TALLAHASSEE • MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of BASKERVILLE-DONOVAN, INC. and is not to be reproduced in whole or in part, nor is it to be used on any other project and is to be returned upon request.

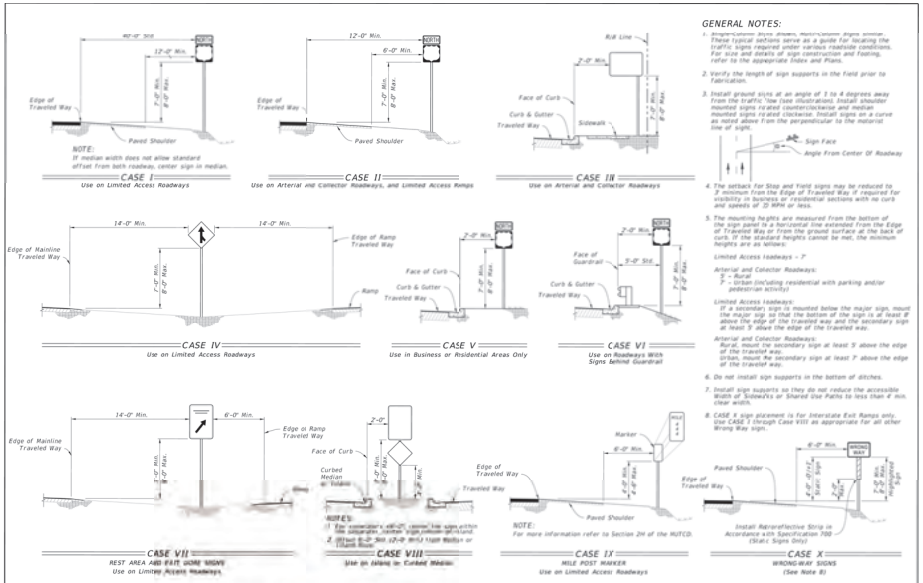
NOT RELEASED FOR CONSTRUCTION

PROJECT NO. 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

MISCELLANEOUS STANDARD FDOT DETAILS

C-703

100% SUBMITTAL

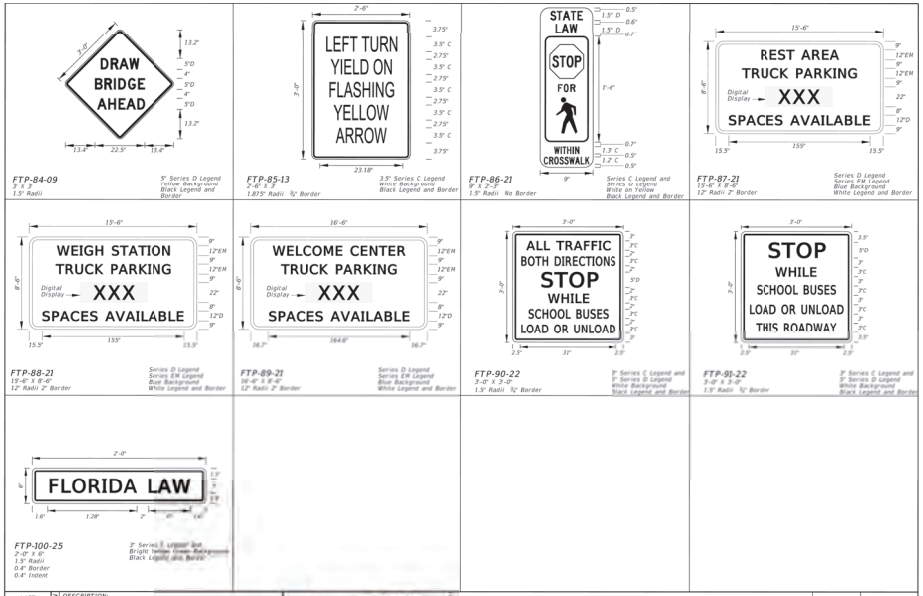


LAST REVISION 11/01/23 | REVISION | DESCRIPTION:

FDOT FY 2025-26 STANDARD PLANS

TYPICAL SECTIONS FOR PLACEMENT OF SINGLE AND MULTI-COLUMN SIGNS

INDEX 700-101 | SHEET 1 of 1

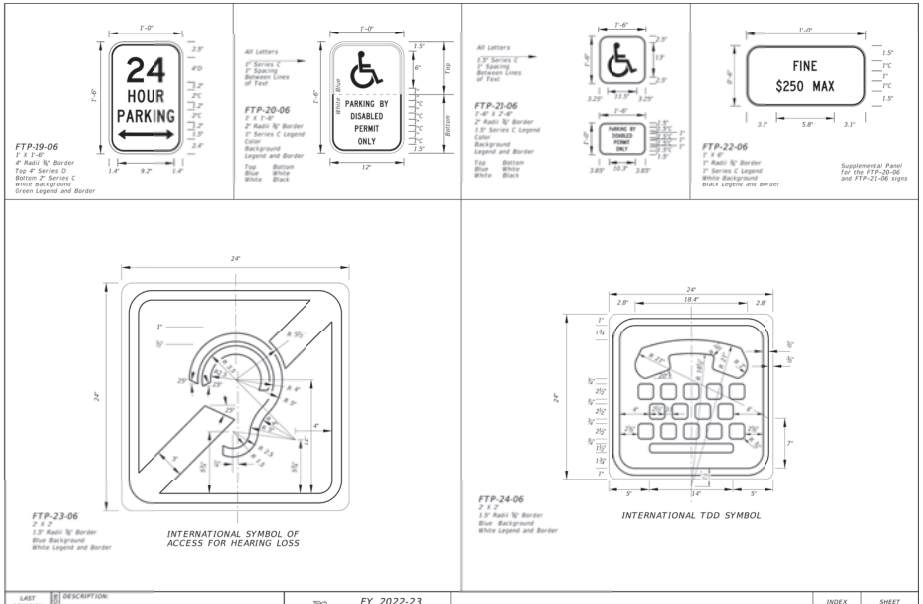


LAST REVISION 11/01/24 | REVISION | DESCRIPTION:

FDOT FY 2025-26 STANDARD PLANS

SPECIAL SIGN DETAILS

INDEX 700-102 | SHEET 10 of 12



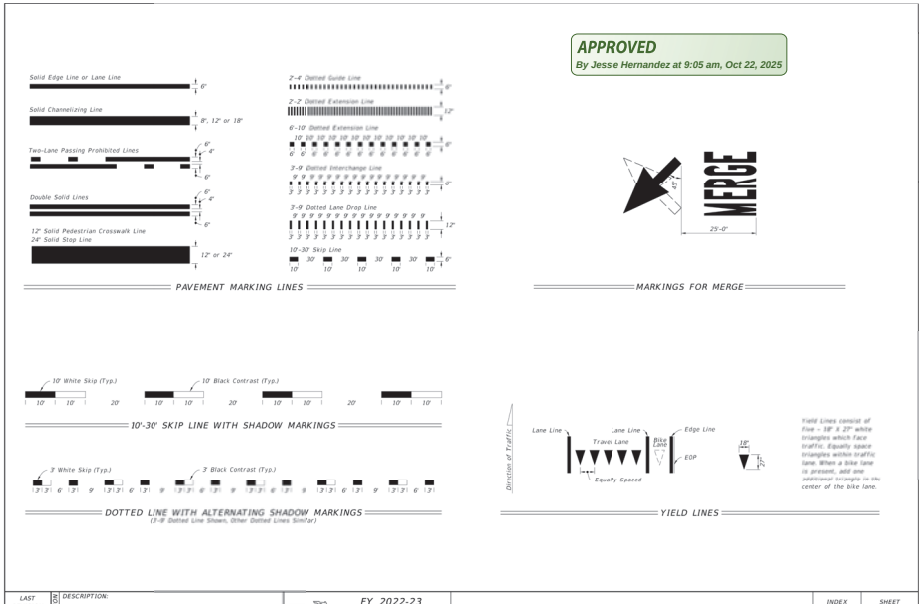
LAST REVISION 11/01/20 | REVISION | DESCRIPTION:

FDOT FY 2022-23 STANDARD PLANS

SPECIAL SIGN DETAILS

INDEX 700-102 | SHEET 4 of 12

APPROVED
By Jesse Hernandez at 9:05 am, Oct 22, 2025



LAST REVISION 11/01/21 | REVISION | DESCRIPTION:

FDOT FY 2022-23 STANDARD PLANS

PAVEMENT MARKINGS

INDEX 711-001 | SHEET 2 of 13

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
1400 MIRACLE STRIP PARKWAY (SUITE 1)
FORT WALTON BEACH, FLORIDA 32548
ENGINEERING BUSINESS: EB-000340
PENSACOLA • PANAMA CITY BEACH • FELLSMERE • MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of BASKERVILLE-DONOVAN, INC. and is not to be reproduced in whole or in part, nor shall it be used on any other project and is to be returned upon request.

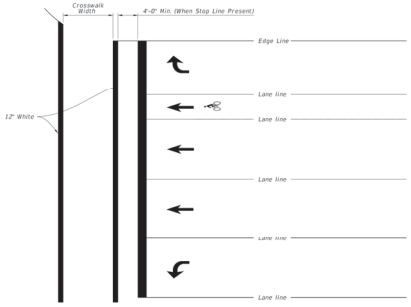
NOT RELEASED FOR CONSTRUCTION

PROJECT NO. 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

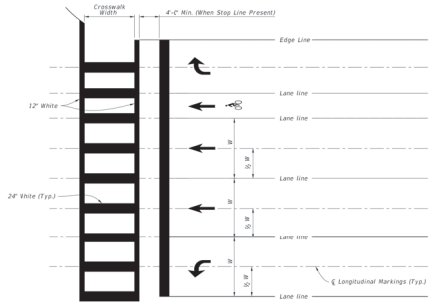
MISCELLANEOUS STANDARD FDOT DETAILS

C-704

100% SUBMITTAL



STANDARD CROSSWALK DETAILS

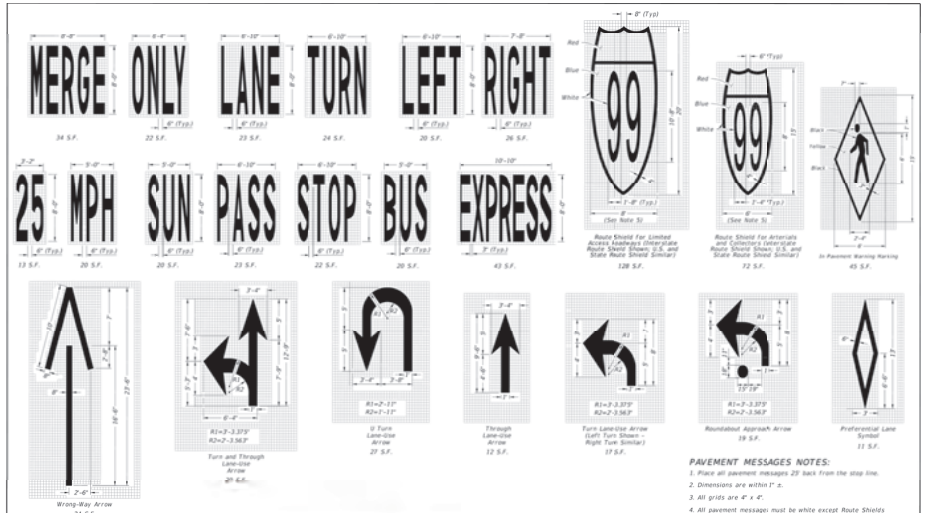


SPECIAL EMPHASIS CROSSWALK DETAILS

NOTES:

1. For crosswalk width, exceed width of the adjacent sidewalk, but do not make width less than 6' for intersection crosswalks and 10' for midblock crosswalks. Measure width from the inside of the transverse crosswalk markings.
2. When the Special Emphasis Crosswalk is not perpendicular to the lane lines, make the longitudinal markings parallel to the lane lines.
3. Refer to Index 522-002 when Curb Ramps are present.

LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
11/01/21			FDOT FY 2022-23 STANDARD PLANS	PAVEMENT MARKINGS	711-001	9 of 13

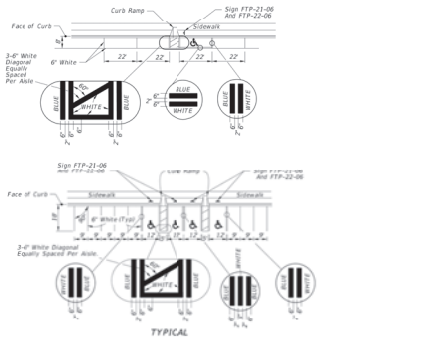


PAVEMENT MESSAGE AND ARROW DETAILS

PAVEMENT MESSAGES NOTES:

1. Place all pavement messages 25' back from the stop line.
2. Dimensions are within 1" ±.
3. All grids are 4" x 4".
4. All pavement messages must be white except Route Shields and in Pavement Warning Markings.
5. Increase width of route shield for routes with three digits.

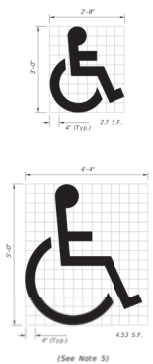
LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
11/01/21			FDOT FY 2023-24 STANDARD PLANS	PAVEMENT MARKINGS	711-001	1 of 13



*FOR ACCESSIBLE MARKINGS - SEE ABOVE

DIMENSIONS						
4.8	"A"	"B"	"C"	"D"	"E"	"F"
45°	17'-0"	12'-9"	7'-0"	24'-0"	17'-0"	

PAVEMENT MARKING FOR PARKING



UNIVERSAL SYMBOL OF ACCESSIBILITY

NOTES:

1. Dimensions are to the centerline of markings.
2. An Access Aisle is required for each accessible space when angle parking is used.
3. Criteria for pavement markings only, not public sidewalk curb ramp locations. For ramp locations refer to plans.
4. Mount FTP-22-06 sign below the FTP-21-06 sign.
5. Use of the pavement symbol in accessible parking spaces is optional. When pavement symbol is used, the symbol is either 3'-0" or 5'-0" high and white in color.

LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
11/01/21			FDOT FY 2022-23 STANDARD PLANS	PAVEMENT MARKINGS	711-001	11 of 13

APPROVED
By Jesse Hernandez at 9:05 am, Oct 22, 2025

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
14775 PLANTATION ROAD, PENSACOLA BEACH (PARK AVE.) (SUITE 1)
PENSACOLA, FLORIDA 32504 - (850) 477-1020 - FAX (850) 477-1030
ENGINEERING BUSINESS: EB-0000340
PENSACOLA • PANAMA CITY BEACH • TALLAHASSEE • MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of BASKERVILLE-DONOVAN, INC. and is not to be reproduced in whole or in part, nor is it to be used on any other project and is to be returned upon request.

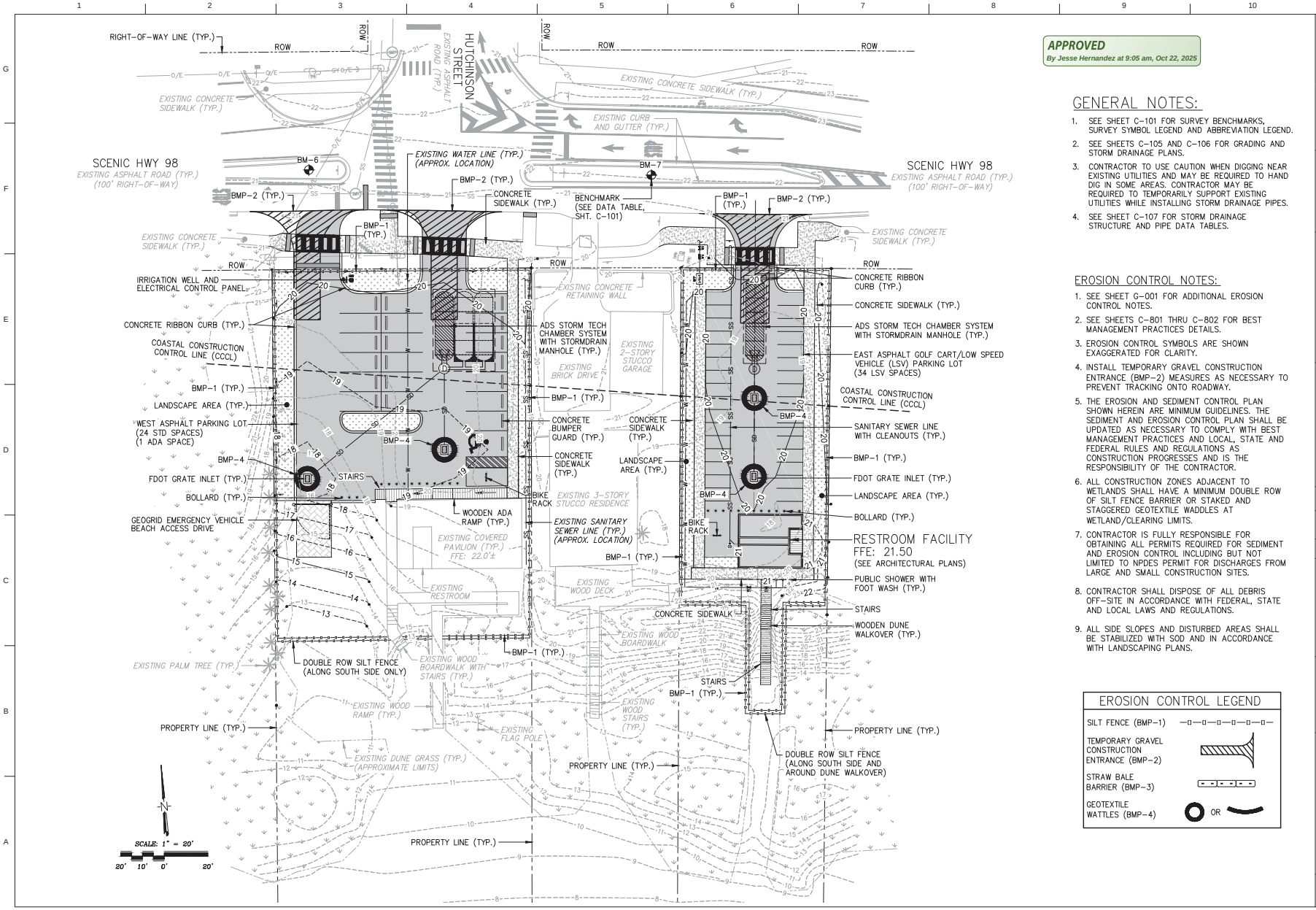
NOT RELEASED FOR CONSTRUCTION

PROJECT NO. 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

MISCELLANEOUS STANDARD FDOT DETAILS

C-705

100% SUBMITTAL



APPROVED
By Jesse Hernandez at 9:05 am, Oct 22, 2025

GENERAL NOTES:

1. SEE SHEET C-101 FOR SURVEY BENCHMARKS, SURVEY SYMBOL LEGEND AND ABBREVIATION LEGEND.
2. SEE SHEETS C-105 AND C-106 FOR GRADING AND STORM DRAINAGE PLANS.
3. CONTRACTOR TO USE CAUTION WHEN DIGGING NEAR EXISTING UTILITIES AND MAY BE REQUIRED TO HAND DIG IN SOME AREAS. CONTRACTOR MAY BE REQUIRED TO TEMPORARILY SUPPORT EXISTING UTILITIES WHILE INSTALLING STORM DRAINAGE PIPES.
4. SEE SHEET C-107 FOR STORM DRAINAGE STRUCTURE AND PIPE DATA TABLES.

EROSION CONTROL NOTES:

1. SEE SHEET G-001 FOR ADDITIONAL EROSION CONTROL NOTES.
2. SEE SHEETS C-801 THRU C-802 FOR BEST MANAGEMENT PRACTICES DETAILS.
3. EROSION CONTROL SYMBOLS ARE SHOWN EXAGGERATED FOR CLARITY.
4. INSTALL TEMPORARY GRAVEL CONSTRUCTION ENTRANCE (BMP-2) MEASURES AS NECESSARY TO PREVENT TRACKING ONTO ROADWAY.
5. THE EROSION AND SEDIMENT CONTROL PLAN SHOWN HEREIN ARE MINIMUM GUIDELINES. THE SEDIMENT AND EROSION CONTROL PLAN SHALL BE UPDATED AS NECESSARY TO COMPLY WITH BEST MANAGEMENT PRACTICES AND LOCAL, STATE AND FEDERAL RULES AND REGULATIONS AS CONSTRUCTION PROGRESSES AND IS THE RESPONSIBILITY OF THE CONTRACTOR.
6. ALL CONSTRUCTION ZONES ADJACENT TO WETLANDS SHALL HAVE A MINIMUM DOUBLE ROW OF SILT FENCE BARRIER OR STAKED AND STAGGERED GEOTEXTILE WADDLES AT WETLAND/CLEARING LIMITS.
7. CONTRACTOR IS FULLY RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FOR SEDIMENT AND EROSION CONTROL INCLUDING BUT NOT LIMITED TO NPDES PERMIT FOR DISCHARGES FROM LARGE AND SMALL CONSTRUCTION SITES.
8. CONTRACTOR SHALL DISPOSE OF ALL DEBRIS OFF-SITE IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS.
9. ALL SIDE SLOPES AND DISTURBED AREAS SHALL BE STABILIZED WITH SOD AND IN ACCORDANCE WITH LANDSCAPING PLANS.

EROSION CONTROL LEGEND

SILT FENCE (BMP-1)	
TEMPORARY GRAVEL CONSTRUCTION ENTRANCE (BMP-2)	
STRAW BALE BARRIER (BMP-3)	
GEOTEXTILE WATTLES (BMP-4)	OR

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
14151 PANAMA CITY BEACH PARKWAY, SUITE 110.
PANAMA CITY BEACH, FLORIDA 32413-7183
PHONE: (850) 235-1557 FAX: (850) 235-1559
ENGINEERING BUSINESS - EB-0003345
PENSACOLA • PANAMA CITY BEACH • TALLAHASSEE - MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of Baskerville-Donovan, Inc. and is not to be reproduced in whole or in part. It is not to be used on other projects and is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

PROJECT NO:	12105.02
DESIGNED BY:	RAS
DRAWN BY:	JJ
CHK'D BY:	RLW
PROJ. MGR:	JCP
DATE:	AUGUST 2025

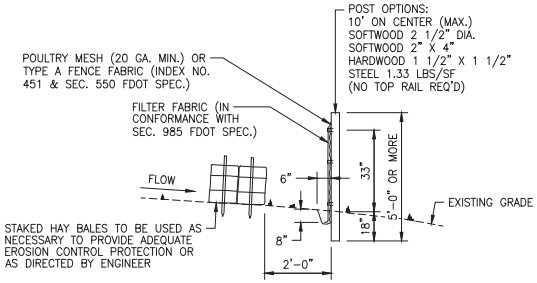
EROSION CONTROL PLAN

C-800

L:\121 Okaloosa County\12105.02 Shore at Crystal Beach Park Amendment\DWG\12105.02-Erosion Control Plan.dwg, Aug 15, 2025 - 1:41:15PM, slucia

100% SUBMITTAL

APPROVED
By Jesse Hernandez at 9:05 am, Oct 22, 2025



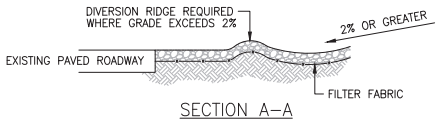
SILT FENCE NOTES:

1. FABRIC TO BE PLACED FACING DRAINAGE FLOW.
2. FABRIC TO BE PLACED IN A 6" WIDE X 8" DEEP CONTINUOUS TRENCH, THEN BACKFILLED.
3. ALL LUMBER TO BE PRESSURE/PRESERVATIVE TREATED.
4. SILT FENCE TO BE INSTALLED PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES. SILT FENCE TO REMAIN UNTIL 100% PROJECT GRASSING (STABILIZATION) IS ACHIEVED.
5. PREFABRICATED SILT FENCES ARE PERMITTED AS LONG AS THEY MEET OR EXCEED FDOT SPECIFICATIONS.

TYPE IV SILT FENCE DETAIL

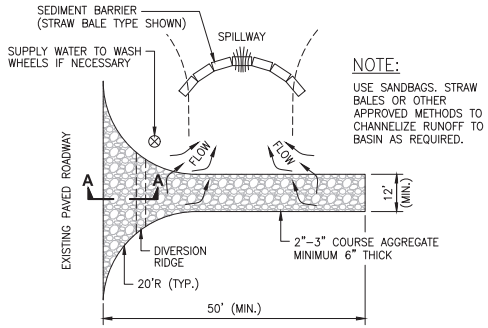
N.T.S.

BMP 1



SECTION A–A

N.T.S.



NOTE:

USE SANDBAGS. STRAW BALES OR OTHER APPROVED METHODS TO CHANNELIZE RUNOFF TO BASIN AS REQUIRED.

PLAN

N.T.S.

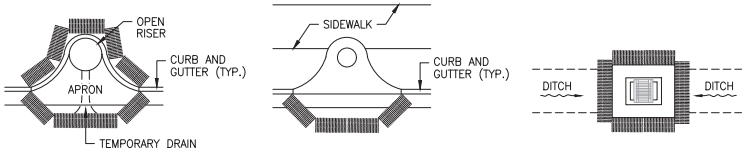
NOTES:

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS–OF–WAY. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT–OF–WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE DETAIL

N.T.S.

BMP 2



PARTIAL INLET
N.T.S.

COMPLETED INLET
N.T.S.

DITCH BOTTOM INLET
N.T.S.

ANCHOR BALES WITH 2 – 2"x2"x4' STAKES PER BALE

PROTECTION AROUND INLETS OR SIMILAR STRUCTURES

N.T.S.

BMP 3

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
141 MARINA CITY BEACH PARK WAY, SUITE 10
PANAMA CITY BEACH, FLORIDA 32413
ENGINEERING BUSINESS: EB-000340
PENSACOLA • PANAMA CITY BEACH • TALLAHASSEE • MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of BASKERVILLE-DONOVAN, INC. and is not to be reproduced in whole or in part, nor is it to be used on any other project and is to be returned upon request.

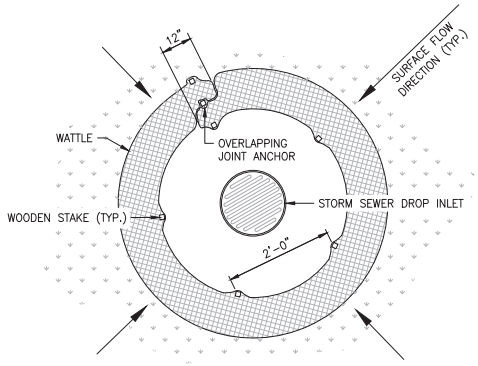
NOT RELEASED FOR CONSTRUCTION

PROJECT NO. 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

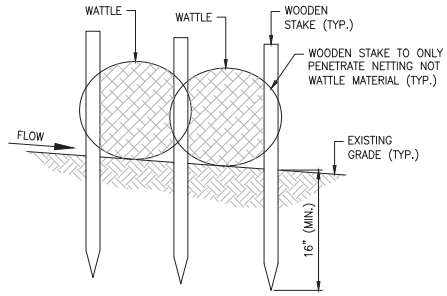
BEST MANAGEMENT PRACTICES DETAILS

C-801

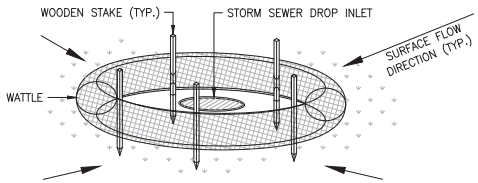
APPROVED
By Jesse Hernandez at 9:05 am, Oct 22, 2025



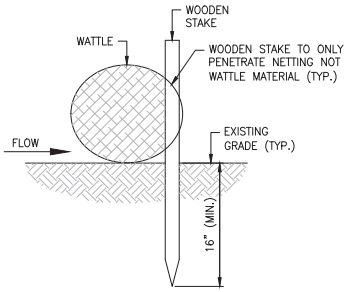
WATTLE DROP INLET PROTECTION DETAIL – PLAN VIEW
N.T.S.



WATTLE OVERLAPPING JOINT ANCHOR STAKE DETAIL
N.T.S.



WATTLE DROP INLET PROTECTION DETAIL
N.T.S.



WATTLE STAKE DETAIL
N.T.S.

WATTLE DETAILS
N.T.S.

BMP 4

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
1400 WOODLAND PARKWAY, SUITE 110
PENSACOLA, FLORIDA 32514 (850) 476-0480
ENGINEERING BUSINESS: EB-0000340
PENSACOLA • PANAMA CITY BEACH • TALLAHASSEE • MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of BASKERVILLE-DONOVAN, INC. and is not to be reproduced in whole or in part, or to be used on any other project and is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

PROJECT NO. 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

BEST MANAGEMENT PRACTICES DETAILS

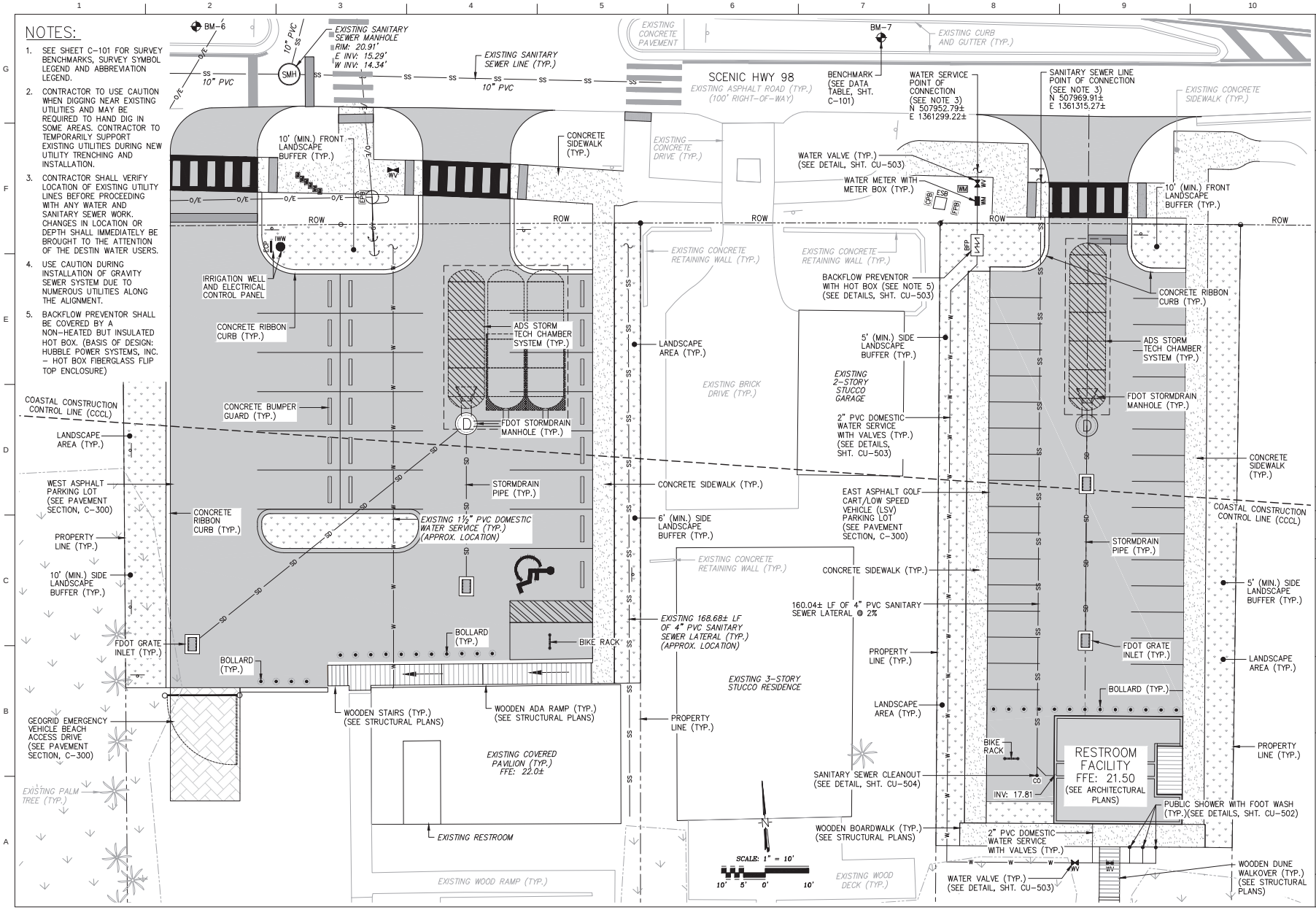
C-802

L:\121 Okaloosa County\12105.02 Shore at Crystal Beach Park Amendment\DWG\12105.02–Misc Erosion Control Details.dwg, Aug 11, 2025 – 1:57:42PM, slucia

100% SUBMITTAL

NOTES:

1. SEE SHEET C-101 FOR SURVEY BENCHMARKS, SURVEY SYMBOL LEGEND AND ABBREVIATION LEGEND.
2. CONTRACTOR TO USE CAUTION WHEN DIGGING NEAR EXISTING UTILITIES AND MAY BE REQUIRED TO HAND DIG IN SOME AREAS. CONTRACTOR TO TEMPORARILY SUPPORT EXISTING UTILITIES DURING NEW UTILITY TRENCHING AND INSTALLATION.
3. CONTRACTOR SHALL VERIFY LOCATION OF EXISTING UTILITY LINES BEFORE PROCEEDING WITH ANY WATER AND SANITARY SEWER WORK. CHANGES IN LOCATION OR DEPTH SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE DESTIN WATER USERS.
4. USE CAUTION DURING INSTALLATION OF GRAVITY SEWER SYSTEM DUE TO NUMEROUS UTILITIES ALONG THE ALIGNMENT.
5. BACKFLOW PREVENTOR SHALL BE COVERED BY A NON-HEATED BUT INSULATED HOT BOX. (BASIS OF DESIGN: HUBBLE POWER SYSTEMS, INC. - HOT BOX FIBERGLASS FLIP TOP ENCLOSURE)



BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
1410 PANAMA CITY BEACH PARKWAY, SUITE 110
PANAMA CITY BEACH, FLORIDA 32407-7100
ENGINEERING BUSINESS: EB-0000345
PENSACOLA • PANAMA CITY BEACH • TALLAHASSEE • MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of B&D Consultants, LLC, Inc. and is not to be reproduced in whole or in part. It is not to be used on any other project and is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

WATER AND SANITARY SEWER PLAN

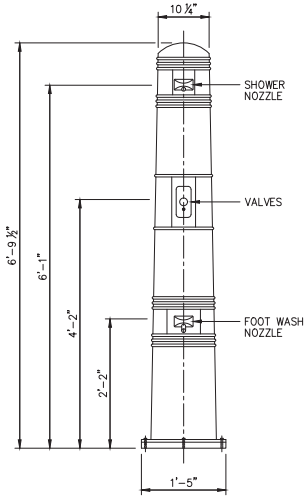
CU-101

L:\121 Okaloosa County\12105.02 Shore at Crystal Beach Park Amendment\DWG\12105.02-Utility Plan.dwg, Aug 15, 2025 - 1:45:49PM, slucia

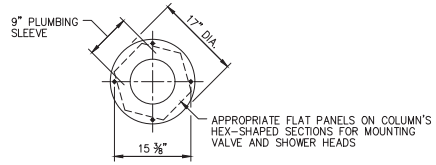
100% SUBMITTAL

APPROVED
By Jesse Hernandez at 9:05 am, Oct 22, 2025

APPROVED
By Jesse Hernandez at 9:05 am, Oct 22, 2025



SHOWER TOWER®–
OUTDOOR SHOWER DETAIL
(ELEVATION)
N.T.S.



SHOWER TOWER®–
OUTDOOR SHOWER DETAIL
(BOTTOM VIEW OF MOUNTING FLANGE)
N.T.S.

NOTES:

1. THE BASIS OF DESIGN IS THE SHOWER TOWER–OUTDOOR SHOWER.
2. ONE PIECE CONSTRUCTION WITH HIGH–GRADE POLYMER – NON POROUS PLASTIC.
3. SPRAY HEADS AT 1.5 GPM AT 60 PSI.
4. PROVIDE WITH LEAD FREE WATER SUPPLY.
5. SURFACE MOUNT INSTALLATION. PROVIDE WITH SURFACE MOUNT CARRIER, VANDAL RESISTANT S.S. BOLTS AND WASHER TO ANCHOR, SHUT OFF WATER AND DRAIN DOWN.
6. ONE YEAR WARRANTY.
7. CONTROL VALVES EQUAL TO SYMMONS INDUSTRIES "SHOWER–OFF" VALVES WITH BRASS AND CHROME PLATED BRASS COMPONENTS WITH PUSH BUTTON OPERATION.
8. SHOWER AND FOOT WASH NOZZLES EQUAL TO BRADLEY CORP. SEVERE SERVICE, HEAVY DUTY FIXTURES.
9. SHOWER NOZZLES SET AT APPROX. 73" AND FOOT WASHES AT APPROX. 26". REFER TO DRAWINGS FOR TOWER CONFIGURATION.

BASKERVILLE–DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
14151 PANAMA CITY BEACH PARKWAY, SUITE 110.
PANAMA CITY BEACH, FL 32413-7553
PHONE: (850) 235-1396
ENGINEERING BUSINESS: EB-0000345
PENSACOLA • PANAMA CITY BEACH • TALLAHASSEE • MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of BASKERVILLE–DONOVAN, and is not to be reproduced in whole or in part. It is not to be used on other projects and is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

MISCELLANEOUS WATER DETAILS

CU-501

100% SUBMITTAL

APPROVED
By Jesse Hernandez at 9:05 am, Oct 22, 2025

SECTION 1 - POTABLE WATER SYSTEM

1-1 DESCRIPTION

THE WORK SPECIFIED IN THIS SECTION CONSISTS OF THE CONSTRUCTION OF A POTABLE WATER SYSTEM, WHICH INCLUDES THE POTABLE WATER DISTRIBUTION MAINS, VALVING, FIRE HYDRANTS, AND SERVICE PIPING. THE POTABLE WATER SYSTEM SHALL BE CONSTRUCTED IN CONFORMITY WITH THE PLANS AND IN ACCORDANCE WITH THESE SPECIFICATIONS, OR THE SPECIFICATIONS AND REQUIREMENTS OF THE DESTIN WATER USERS, INC. (UTILITY COMPANY), WHICHEVER IS MORE STRINGENT.

1-2 CODES AND STANDARDS

THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF CHAPTER 62-555 OF THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION RULES AND THE APPLICABLE PORTIONS OF THE NATIONAL STANDARD PLUMBING CODE PERTAINING TO THE INSTALLATION OF POTABLE WATER SYSTEMS. ADDITIONALLY, THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE LOCAL FIRE MARSHALL AND UTILITY COMPANY REGULATIONS PERTAINING TO FIRE HYDRANTS, INCLUDING HOSE UNIT THREADING AND SIMILAR MATCHING OF CONNECTIONS. THE CONTRACTOR SHALL OBTAIN REQUIRED PERMITS AND INSPECTIONS AND SHALL COORDINATE TAPPING OF EXISTING WATER MAINS WITH THE UTILITY COMPANY.

1-3 MATERIALS

1-3.1 DETECTOR WIRE

NO. 12 COPPER TRACER WIRE SHALL BE REQUIRED FOR ALL NON-METALLIC WATER MAINS. TRACER WIRE SHALL BE WELL CONNECTED TO FIRE HYDRANTS AND SHALL BE PROTECTED DURING BACKFILLING OPERATIONS TO PREVENT BREAKAGE.

1-3.2 PIPING AND PIPE FITTINGS

1-3.2.1 WATER MAINS

WATER MAIN PIPING SHALL BE POLYVINYL CHLORIDE (PVC) PIPE. WATER MAIN PIPING 1-1/2" THROUGH 3" IN SIZE SHALL CONFORM TO ASTM D 2241, SDR 26 (PVC MATERIAL 12454-B) WITH PUSH-ON JOINTS CONFORMING TO ASTM D 3139 AND ELASTOMERIC GASKETS CONFORMING TO ASTM F 477. WATER MAIN PIPING 4" THROUGH 12" IN SIZE SHALL CONFORM TO AWWA C 900-89, DR 18, AND SHALL BE FURNISHED IN CAST-IRON PIPE EQUIVALENT OUTSIDE DIAMETERS WITH RUBBER GASKETED JOINTS AS AWWA C 900 LISTED. ALL WATER MAIN PIPING SHALL BE STAMPED "NSF-PW". ALL WATER MAIN FITTINGS SHALL BE CONSTRUCTED OF EITHER DUCTILE IRON OR CAST IRON CONFORMING TO AWWA C 110 OR ANSI A 21.10, RESPECTIVELY, BLUE IN COLOR.

SUITABLE CONCRETE REACTION OR THRUST BLOCKS (OR APPROVED EQUAL (MEGA LUGS, BELL RESTRAINTS, ETC.) SHALL BE APPLIED ON ALL TEES, PLUGS, CAPS, AND BENDS DEFLECTING 22-1/2 DEGREES OR MORE, OR MOVEMENT SHALL BE PREVENTED BY ATTACHING METAL RODS OR STRAPS APPROVED BY THE ENGINEER. UNLESS OTHERWISE DIRECTED, THE PIPE SHALL BE LAID WITH BELL ENDS FACING IN THE DIRECTION OF LAYING. WHENEVER IT IS NECESSARY TO DEFLECT THE PIPE FROM A STRAIGHT LINE (EITHER IN THE VERTICAL OR HORIZONTAL PLANE) TO AVOID OBSTRUCTION, TO PLUMB STEMS, OR WHERE LONG RADIUS CURVES ARE PERMITTED, THE DEGREE OF DEFLECTION SHALL BE AS RECOMMENDED BY THE MANUFACTURER OF THE PIPE.

1-3.2.2 WATER SERVICE PIPING

ALL WATER SERVICE PIPING SHALL BE POLYETHYLENE (PEMUNICIPEX AND MANUFACTURED BY REHAU OR APPROVED EQUAL. BLUE IN COLOR.

1-3.3 VALVES

1-3.3.1 GATE VALVES

GATE VALVES SHALL BE OF CAST IRON BODY, RESILIENT SEAT DESIGN. GATE VALVES SHALL HAVE A MINIMUM WORKING PRESSURE OF 175 PSI, AND SHALL COMPLY WITH AWWA C 500. GATE VALVES SHALL OPEN BY COUNTERCLOCKWISE ROTATION OF THE VALVE STEM AND SHALL BE FITTED WITH HUB-TYPE HAND OPERATORS. GATE VALVES SHALL BE SIZED AND LOCATED AS INDICATED ON THE PLANS. ALL GATE VALVES 4" AND LARGER SHALL BE AMERICAN FLOW CONTROL SERIES 2500 MECHANICAL JOINT DUCTILE IRON OPEN LEFT RESILIENT WEDGE WITH 2"X2" OPERATING NUT OR APPROVED EQUAL.

1-3.3.2. ARV

SEE DETAILS

1-3.3.3. TAP VALVES

ALL TAP VALVES 4" AND LARGER SHALL BE AMERICAN FLOW CONTROL SERIES 2500 FLANGED X MECHANICAL JOINT DUCTILE IRON FLANGED WATERWORKS TAPPING VALVE, BLUE IN COLOR.

1-3.3.4 WATER SERVICE CLAMPS AND STOPS

1-3.3.4.1 TAPPING SLEEVE

ALL TAPS OF 4" OR GREATER SHALL BE STAINLESS STELE TAP-ON PIPE SLEEVE (FAST) MANUFACTURED BY FORD METER BOX.CO.

1-3.3.4.2 TAPPING SADDLE

ALL TAPPING SADDLES SHALL BE STAINLESS STEEL IRON PIPE THREADED TAP-ON PIPE (FS 313) AND MANUFACTURED BY FORD METERING, CO.

1-3.3.4.3 CORPORATION STOPS

CORPORATION STOPS SHALL BE FORD MODEL NO. F-1000, OR APPROVED EQUAL. INLETS SHALL HAVE IRON PIPE THREADS AND OUTLETS SHALL HAVE COMPRESSION CONNECTIONS. 2" CORP STOPS SHALL HAVE IRON PIPE INLETS AND OUTLETS SHALL BE DECIDED BY MATERIAL ON PRINTS. ON 2" BALL VALVES NO PVC SCHEDULE 40 MALE OR FEMALE ADAPTERS SHALL BE USED. CONNECTION TO THREADED BALL VALVES SHALL BE BRASS TRANSITIONS TO FPVC.

1-3.3.4.4 CURB STOPS

1" AND ¾" CURB STOPS SHALL BE FORD METER BOX GRIP JOINT X METER SWIVEL NUT BRASS STRAIGHT BALL METER VALVE. 2" CURB STOPS SHALL BE FORD METER BOX WITH LOCK WING CONTROL VALVE AND INLETS AND OUTLETS WILL BE DETERMINED BY MATERIALS ON PLANS. NO PVC SCHEDULE 40 MALE OR FEMALE ADAPTERS SHALL BE USED. CONNECTIONS TO THREADED BALL VALVES SHALL BE BRASS TRANSITIONS TO PVC.

1-3.3.5 VALVE BOXES

AN ADJUSTABLE CAST-IRON VALVE BOX OF SUITABLE SIZE SHALL BE PROVIDED AT EACH GATE VALVE. THE HEAD SHALL BE ROUND AND THE LID SHALL HAVE THE WORD "WATER" CAST ON IT. THE LEAST DIMENSION OF THE SHAFT OF THE BOX SHALL BE 5-1/4". A 2'-0" DIAMETER BY 6" CONCRETE COLLAR SHALL BE POURED AROUND THE SHAFT AT THE VALVE BOX SURFACE. THE VALVE BOXES SHALL BE CLOW F-2452, OR APPROVED EQUAL.

1-3.4 FIRE HYDRANTS

FIRE HYDRANTS SHALL BE DRY-BARREL TYPE CONFORMING TO AWWA C 502. HYDRANTS SHALL HAVE 6" OUTLET, ONE 5-1/4" PUMPER CONNECTION, AND TWO 2-1/2" HOSE CONNECTIONS. THE SIZE AND SHAPE OF OPERATING NUTS AND THREADS ON HOSE AND PUMPER CONNECTIONS SHALL BE AS REQUIRED BY THE UTILITY COMPANY. THE HYDRANTS SHALL BE AMERICA DARLING, (MODEL B84B-5) WITH TAMPER PROOF BONNET.

1-3.5 ANCHORAGES

THE CONTRACTOR SHALL PROVIDE ANCHORAGES FOR TEES, WYES, CROSSES, PLUGS, CAPS, BENDS, VALVES, AND HYDRANTS AS REQUIRED. AFTER INSTALLATION. ANCHORAGE TYPES ARE AS FOLLOWS:

(1) CLAMPS, STRAPS, AND WASHERS: STEEL, ASTM A 506.
(2) RODS: STEEL, ASTM A 575.
(3) ROD COUPLINGS: MALLEABLE-IRON, ASTM A 197.
(4) BOLTS: STEEL, ASTM A 307.
(5) THRUST BLOCKS: CONCRETE, 2500 PSI, SIZED AS INDICATED OR APPROVED EQUAL.

1-3.6 WATER METERS

WATER METERS FOR BILLING ARE TO BE PROCURED FROM DESTIN WATER USERS, INC.

1-4 INSTALLATION

1-4.1 PIPE LAYING AND JOINTING

PIPE, FITTINGS, VALVES AND ACCESSORIES SHALL BE CAREFULLY INSPECTED BEFORE AND AFTER INSTALLATION AND THOSE FOUND DEFECTIVE SHALL BE REJECTED AND REPLACED. BEFORE PLACING IN POSITION, CONTRACTOR TO CLEAN PIPE, FITTINGS, VALVES AND ACCESSORIES AND MAINTAIN IN CLEAN CONDITION.

CUT PIPE ACCURATELY TO MEASUREMENTS ESTABLISHED AT THE SITE AND WORK INTO PLACE WITHOUT SPRINGING OR FORCING. SUPPORT PIPE AT ITS PROPER ELEVATION AND GRADE, TAKING CARE TO SECURE FIRM AND UNIFORM SUPPORT. LAY PIPE SO THAT THE FULL LENGTH OF EACH SECTION OF PIPE AND EACH FITTING WILL REST SOLIDLY ON THE PIPE BEDDING; EXCAVATE RECESSES TO ACCOMMODATE BELLS, JOINTS, AND COUPLINGS. PROVIDE ANCHORS AND SUPPORTS WHERE NECESSARY FOR FASTENING WORK INTO PLACE. CONCRETE REACTION, THRUST BLOCKS OR RESTRAINED JOINTS SHALL BE APPLIED FOR ALL TEES, PLUGS, CAPS AND BENDS DEFLECTING 22-1/2 DEGREES OR MORE. KEEP TRENCHES FREE OF WATER UNTIL JOINTS HAVE BEEN PROPERLY MADE. AT THE END OF EACH DAY'S WORK, CLOSE OPEN ENDS OF PIPE TEMPORARILY WITH WOOD BLOCKS OR BULKHEADS. DO NOT LAY PIPE WHEN CONDITIONS OF TRENCH OR WEATHER ARE UNSUITABLE. IN ADDITION TO THE ABOVE, PVC PIPE AND FITTINGS INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF UNI B-3.

WATER MAINS SHALL BE LAID AT LEAST 10' HORIZONTALLY FROM ANY EXISTING OR PROPOSED SEWER. THE DISTANCE SHALL BE MEASURED EDGE TO EDGE. IN CASES WHERE IT IS NOT PRACTICAL TO MAINTAIN A TEN FOOT SEPARATION, AND WHEN APPROVED BY D.E.P., DWU, AND THE ENGINEER, THE WATER MAIN MAY BE INSTALLED CLOSER TO THE SEWER, PROVIDED THAT THE WATER MAIN IS LAID IN A SEPARATE TRENCH OR ON AN UNDISTURBED EARTH SHELF LOCATED ON ONE SIDE OF THE SEWER AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 18" ABOVE THE TOP OF THE SEWER.
BETWEEN THE INVERT OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE. WHERE THIS MINIMUM SEPARATION CANNOT BE MAINTAINED, THE CROSSING SHALL BE ARRANGED SO THAT THE SEWER PIPE JOINTS AND WATER MAIN JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING WITH NO LESS THAN 10' BETWEEN JOINTS. ALTERNATIVELY, THE SEWER MAIN BE PLACED IN A SLEEVE OR ENCASED IN CONCRETE TO OBTAIN THE EQUIVALENT OF THE REQUIRED 10' SEPARATION.

EXCAVATION AND BACKFILLING OF WATER MAIN TRENCHES SHALL CONFORM TO SECTION 2 OF THESE SPECIFICATIONS. PROVIDE A MINIMUM OF 36" OF COVER OVER WATER MAINS.

1-4.2 HOT TAPPING

TAP SLEEVE SHOULD BE MOUNTED ON CLEAN PIPE WITH TEST HOLE AT THE TOP AND NOT BE ANY CLOSER THAN 1 FOOT FROM ANY JOINT OR FITTING. AFTER SLEEVE IS MOUNTED THEN VALVE CAN BE PLACED ON FACE OF SLEEVE. FACE OF VALVE SHOULD BE LEVEL TO FACILITATE THE TAPPING TOOL FITTING CORRECTLY. TESTING OF SLEEVE AND TAPPING OF PIPE IS TO BE COORDINATED WITH UTILITY 24-48 HOURS IN ADVANCE OF PLACEMENT.

1-4.3 GATE VALVES

INSTALL GATE VALVES IN ACCORDANCE WITH THE REQUIREMENTS OF AWWA C 600 FOR VALVE-AND-FITTING INSTALLATION. VALVE BOXES SHALL BE PLACED CONCENTRICALLY OVER THE VALVE OPERATING NUT.

1-4.4 FIRE HYDRANTS

INSTALL FIRE HYDRANTS IN ACCORDANCE WITH THE REQUIREMENTS OF AWWA C 600 AND AWWA M 17, "INSTALLATION, OPERATION, AND MAINTENANCE OF FIRE HYDRANTS".

1-4.5 CONNECTION TO EXISTING WATER SYSTEM

COORDINATE AND MAKE CONNECTIONS TO THE EXISTING WATER SYSTEM IN A MANNER APPROVED BY THE UTILITY COMPANY, AND WITH A MINIMUM INTERRUPTION OF SERVICE ON THE EXISTING SYSTEM.

1-5 FIELD TESTING

1-5.1 GENERAL

CONDUCT PIPING TESTS BEFORE JOINTS ARE COVERED, AND AFTER THRUST BLOCKS HAVE SUFFICIENTLY HARDENED. FILL PIPELINE WITH WATER 24 HOURS PRIOR TO TESTING, AND APPLY TEST PRESSURE TO STABILIZED SYSTEM.

1-5.2 HYDROSTATIC TESTS

1-5.2.1 PRESSURE DURING TEST

AFTER THE PIPE HAS BEEN LAID AND BACKFILLED AS SPECIFIED, EACH VALVED SECTION OF NEWLY LAID PIPE SHALL, UNLESS OTHERWISE SPECIFIED, BE SUBJECTED TO A HYDROSTATIC PRESSURE EQUAL TO 150 PSI. THE CONTRACTOR SHALL RECORD THE TESTING BY THE USE OF A PRESSURE RECORDING GAUGE, AND AFTER ALL TESTING IS COMPLETE, THE RECORDING SHALL BE TURNED OVER TO THE ENGINEER FOR HIS FILES.

1-5.2.2 DURATION OF PRESSURE TEST

THE DURATION OF EACH PRESSURE TEST SHALL BE AT LEAST 2 HOURS.

1-5.2.3 PROCEDURE

EACH SECTION OF PIPE SHALL BE SLOWLY FILLED WITH WATER AND THE SPECIFIED TEST PRESSURE, MEASURED AT THE LOWEST POINT OF THE ELEVATION, SHALL BE APPLIED BY MEANS OF A PUMP CONNECTED TO THE PIPE IN A SATISFACTORY MANNER. THE PUMP, PIPE CONNECTION, GAUGES METER, AND ALL NECESSARY APPARATUS SHALL BE FURNISHED BY THE CONTRACTOR. THE TEST SHALL BE APPLIED TO EACH VALVED SECTION IN ORDER TO CHECK THE LEAKAGE THROUGH ALL VALVES.

1-5.2.4 EXPELLING AIR BEFORE TEST

BEFORE APPLYING THE SPECIFIED TEST PRESSURE, ALL AIR SHALL BE EXPELLED FROM THE PIPE. TO ACCOMPLISH THIS, TAPS SHALL BE MADE, IF NECESSARY, AT POINTS OF HIGHEST ELEVATION AND AFTERWARDS TIGHTLY PLUGGED.

1-5.2.5 DEFINITION OF LEAKAGE

LEAKAGE IS DEFINED AS THE QUANTITY OF WATER TO BE SUPPLIED INTO THE NEWLY LAID PIPE, OR ANY VALVED SECTION OF IT, NECESSARY TO MAINTAIN THE SPECIFIED LEAKAGE TEST PRESSURE AFTER THE PIPE HAS BEEN FILLED WITH WATER AND THE AIR EXPELLED.

1-5.2.6 PERMISSIBLE LEAKAGE

SUITABLE MEANS SHALL BE PROVIDED BY THE CONTRACTOR FOR DETERMINING THE QUANTITY OF WATER LOST BY LEAKAGE UNDER NORMAL OPERATING PRESSURE. NO PIPE INSTALLATION WILL BE ACCEPTED UNTIL OR UNLESS THIS LEAKAGE (EVALUATED AT 150 PSI) IS LESS THAN THE FIGURE STATED BELOW:

	GAL'S/1000'/24 HRS.	GAL'S/1000'/1 HR.
2"	3.8 GAL.	0.16 GAL.
3"	5.7 GAL.	0.24 GAL.
4"	7.6 GAL.	0.32 GAL.
6"	11.4 GAL.	0.47 GAL.
8"	15.2 GAL.	0.63 GAL.
10"	18.9 GAL.	0.79 GAL.
12"	22.7 GAL.	0.95 GAL.

1-5.2.7 VARIATION FROM PERMISSIBLE LEAKAGE

SHOULD ANY TEST OF COMBINED SECTIONS OF PIPE LAID DISCLOSE LEAKAGE GREATER THAN THE SPECIFIED LIMIT, THE CONTRACTOR SHALL, AT HIS EXPENSE, LOCATE AND REPAIR THE DEFECTIVE JOINTS UNTIL THE LEAKAGE IS WITHIN THE SPECIFIED ALLOWANCE.

1-5.2.8 WATER FOR TESTING

WATER FOR TESTING SHALL BE PROVIDED BY THE CONTRACTOR AT HIS EXPENSE.

1-5.2.9 TIME FOR MAKING TEST

PIPE MAY BE SUBJECTED TO HYDROSTATIC PRESSURE, INSPECTED, AND TESTED FOR LEAKAGE AT ANY CONVENIENT TIME AFTER PARTIAL COMPLETION OF BACKFILL. THE CONTRACTOR MAY TEST THE SYSTEM WITH JOINTS EXPOSED OR WITH BACKFILLING COMPLETE AT HIS OPTION. THE ENGINEER AND THE UTILITY COMPANY SHALL BE NOTIFIED AT LEAST 24 HOURS BEFORE SCHEDULING TESTING WITH A UTILITY COMPANY REPRESENTATIVE PRESENT.

1-5.3 OPERATING TESTS

OPEN AND CLOSE ALL VALVES AND HYDRANTS UNDER SYSTEM WATER PRESSURE. CHECK DRY BARREL HYDRANTS FOR PROPER DRAINAGE.

1-6 DISINFECTION

FLUSH AND DISINFECT THE NEW POTABLE WATER SYSTEM IN ACCORDANCE WITH AWWA C 601 TO THE SATISFACTION OF THE ENGINEER AND THE UTILITY COMPANY. IN THE PROCESS OF CHLORINATING WATER, ALL VALVES OR OTHER APPURTENANCES SHALL BE OPERATED WHILE THE PIPE LINE IS FILLED WITH THE CHLORINATING AGENT.

1-7 FINAL FLUSHING AND TESTING

FOLLOWING DISINFECTION, ALL TREATED WATER SHALL BE THOROUGHLY FLUSHED FROM THE NEWLY LAID PIPE SYSTEM AT ITS EXTREMITIES UNTIL THE REPLACEMENT WATER THROUGHOUT ITS LENGTH SHALL UPON TEST, BOTH CHEMICALLY AND BACTERIOLOGICALLY, BE APPROVED BY THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ARRANGING AND PAYING FOR THE TEST SAMPLES.

1-8 AS-BUILT CERTIFICATION

IN ACCORDANCE WITH THE RULES OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, CHAPTER 62-555, THE ENGINEER OF RECORD WILL BE RESPONSIBLE FOR OBSERVATION OF THE CONSTRUCTION OF THE POTABLE WATER SYSTEM TO ASSURE COMPLIANCE WITH PLANS AND SPECIFICATIONS, AND SAID ENGINEER WILL REPORT TO DEP UPON COMPLETION OF THE CONSTRUCTION AND CLEANING AND DISINFECTING DESCRIBED ABOVE BEFORE THE SYSTEM CAN BE PLACED INTO SERVICE. THE CONTRACTOR SHALL NOTIFY THE ENGINEER A MINIMUM OF 24 HOURS BEFORE BEGINNING CONSTRUCTION ON THE POTABLE WATER SYSTEM.

1-9 AS-BUILT DRAWINGS

THE CONTRACTOR SHALL FURNISH THE ENGINEER AT THE CLOSE OF THE PROJECT, WITH ONE (1) SET OF MARKED-UP CONSTRUCTION PLANS DEPICTING AS-BUILT CONDITIONS OF THE POTABLE WATER SYSTEM. THE AS-BUILT PLANS SHALL SHOW THE LOCATION OF WATER SERVICES, WATER VALVES, AND FIRE HYDRANTS. ENGINEERING APPROVAL OF THE POTABLE WATER SYSTEM WILL NOT BE MADE UNTIL ACCURATE AND LEGIBLE AS-BUILT PLANS ARE RECEIVED.

END OF SECTION

SECTION 2 - RECLAIMED WATER DISTRIBUTION SYSTEM (A.K.A. REUSE WATER)

2-1 DESCRIPTION

THE WORK SPECIFIED IN THIS SECTION CONSISTS OF THE CONSTRUCTION OF RECLAIMED WATER SERVICES AND OTHER APPURTENANCES, IN CONFORMITY WITH THE PLANS AND IN ACCORDANCE WITH THESE SPECIFICATIONS, OR THE GENERAL UTILITY SPECIFICATIONS OF DESTIN WATER USERS, INC. (UTILITY COMPANY), WHICHEVER IS MORE STRINGENT.

2-2 CODES AND STANDARDS

THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF CHAPTER 62-604 AND 62-610 OF THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION RULES, THE APPLICABLE PORTIONS OF THE NATIONAL STANDARD PLUMBING CODE AND TEN STATE STANDARDS PERTAINING TO THE INSTALLATION OF RECLAIMED WATER SYSTEMS, AND THE UTILITY ACCOMMODATION MANUAL OF THE FLORIDA DEPARTMENT OF TRANSPORTATION, LATEST EDITION. THE CONTRACTOR SHALL OBTAIN REQUIRED PERMITS AND INSPECTIONS FROM THE UTILITY COMPANY.

2-3 MATERIALS

2-3.1 DETECTOR WIRE

NO. 12 COPPER TRACER WIRE SHALL BE REQUIRED FOR ALL NON-METALLIC SERVICES AND SHALL BE PROTECTED DURING BACKFILLING OPERATIONS TO PREVENT BREAKAGE.

2-3.2 GATE VALVES

GATE VALVES SHALL BE OF CAST IRON BODY, RESILIENT SEAT DESIGN. GATE VALVES SHALL HAVE A MINIMUM WORKING PRESSURE OF 175 PSI, AND SHALL COMPLY WITH AWWA C 500. GATE VALVES SHALL OPEN BY COUNTERCLOCKWISE ROTATION OF THE VALVE STEM AND SHALL BE FITTED WITH HUB-TYPE HAND OPERATORS. GATE VALVES SHALL BE SIZED AND LOCATED AS INDICATED ON THE PLANS. ALL GATE VALVES 4" AND LARGER SHALL BE AMERICAN FLOW CONTROL SERIES 2500 MECHANICAL JOINT DUCTILE IRON OPEN LEFT RESILIENT WEDGE WITH 2"X2" OPERATING NUT OR APPROVED EQUAL.

2-3.3 ARV

SEE DETAILS

2-3.4 PIPING AND PIPE FITTINGS

PIPE, FITTINGS, VALVES AND ACCESSORIES SHALL BE CAREFULLY INSPECTED BEFORE AND AFTER INSTALLATION AND THOSE FOUND DEFECTIVE SHALL BE REJECTED AND REPLACED. BEFORE PLACING IN POSITION, CONTRACTOR TO CLEAN PIPE, FITTINGS, VALVES AND ACCESSORIES AND MAINTAIN IN CLEAN CONDITION.

2-3.4.1 RECLAIMED WATER MAINS

WATER MAIN PIPING SHALL BE POLYVINYL CHLORIDE (PVC) PIPE. WATER MAIN PIPING 1-1/2" THROUGH 3" IN SIZE SHALL CONFORM TO ASTM D 2241, SDR 26 (PVC MATERIAL 12454-B) WITH PUSH-ON JOINTS CONFORMING TO ASTM D 3139 AND ELASTOMERIC GASKETS CONFORMING TO ASTM F 477. WATER MAIN PIPING 4" THROUGH 12" IN SIZE SHALL CONFORM TO AWWA C 900-89, DR 18, AND SHALL BE FURNISHED IN CAST-IRON PIPE EQUIVALENT OUTSIDE DIAMETERS WITH RUBBER GASKETED JOINTS AS AWWA C 900 LISTED. ALL WATER MAIN PIPING SHALL BE STAMPED "NSF-PW". ALL WATER MAIN FITTINGS SHALL BE CONSTRUCTED OF EITHER DUCTILE IRON OR CAST IRON CONFORMING TO AWWA C 110 OR ANSI A 21.10, RESPECTIVELY, PURPLE IN COLOR.

SUITABLE CONCRETE REACTION OR THRUST BLOCKS (OR APPROVED EQUAL (MEGA LUGS, BELL RESTRAINTS, ETC.) SHALL BE APPLIED ON ALL TEES, PLUGS, CAPS, AND BENDS DEFLECTING 22-1/2 DEGREES OR MORE, OR MOVEMENT SHALL BE PREVENTED BY ATTACHING METAL RODS OR STRAPS APPROVED BY THE ENGINEER. UNLESS OTHERWISE DIRECTED, THE PIPE SHALL BE LAID WITH BELL ENDS FACING IN THE DIRECTION OF LAYING. WHENEVER IT IS NECESSARY TO DEFLECT THE PIPE FROM A STRAIGHT LINE (EITHER IN THE VERTICAL OR HORIZONTAL PLANE) TO AVOID OBSTRUCTION, TO PLUMB STEMS, OR WHERE LONG RADIUS CURVES ARE PERMITTED, THE DEGREE OF DEFLECTION SHALL BE AS RECOMMENDED BY THE MANUFACTURER OF THE PIPE.

2-3.4.2 RECLAIMED WATER SERVICE PIPING

ALL WATER SERVICE PIPING SHALL BE POLYETHYLENE (PEMUNICIPEX AND MANUFACTURED BY REHAU OR APPROVED EQUAL. PURPLE IN COLOR.

2-3.4.3 RECLAIMED WATER SERVICE CLAMPS AND STOPS

2-3.4.3.1 TAPPING SADDLE

ALL TAPPING SADDLES SHALL BE STAINLESS STEEL IRON PIPE THREADED TAP-ON PIPE (FS 313) AND MANUFACTURED BY FORD METERING, CO.

2-3.4.3.2 CORPORATION STOPS

CORPORATION STOPS SHALL BE FORD MODEL NO. F-1000, OR APPROVED EQUAL. INLETS SHALL HAVE IRON PIPE THREADS AND OUTLETS SHALL HAVE COMPRESSION CONNECTIONS. 2" CORP STOPS SHALL HAVE IRON PIPE INLETS AND OUTLETS SHALL BE DECIDED BY MATERIAL ON PRINTS. ON 2" BALL VALVES NO PVC SCHEDULE 40 MALE OR FEMALE ADAPTERS SHALL BE USED. CONNECTION TO THREADED BALL VALVES SHALL BE BRASS TRANSITIONS TO FPVC.

2-3.4.3.3 CURB STOPS

1" AND 3/4" CURB STOPS SHALL BE FORD METER BOX GRIP JOINT X METER SWIVEL NUT BRASS STRAIGHT BALL METER VALVE. 2" CURB STOPS SHALL BE FORD METER BOX WITH LOCK WING CONTROL VALVE AND INLETS AND OUTLETS WILL BE DETERMINED BY MATERIALS ON PLANS. NO PVC SCHEDULE 40 MALE OR FEMALE ADAPTERS SHALL BE USED. CONNECTIONS TO THREADED BALL VALVES SHALL BE BRASS TRANSITIONS TO PVC.

2-3.4.4 VALVE BOXES - SEE BASKERVILLE-DONOVAN PLANS AND SPECIFICATIONS

AN ADJUSTABLE CAST-IRON VALVE BOX OF SUITABLE SIZE SHALL BE PROVIDED AT EACH GATE VALVE. THE HEAD SHALL BE ROUND AND THE LID SHALL HAVE THE WORD "RECLAIM" CAST ON IT. THE LEAST DIMENSION OF THE SHAFT OF THE BOX SHALL BE 5-1/4". A 2'-0" DIAMETER BY 6" CONCRETE COLLAR SHALL BE POURED AROUND THE SHAFT AT THE VALVE BOX SURFACE. THE VALVE BOXES SHALL BE CLOW F-2452, OR APPROVED EQUAL.

2-3.5 ANCHORAGES - SEE BASKERVILLE-DONOVAN PLANS AND SPECIFICATIONS

THE CONTRACTOR SHALL PROVIDE ANCHORAGES FOR TEES, WYES, CROSSES, PLUGS, CAPS, BENDS, VALVES, AND HYDRANTS AS REQUIRED. AFTER INSTALLATION. ANCHORAGE TYPES ARE AS FOLLOWS:

(1) CLAMPS, STRAPS, AND WASHERS: STEEL, ASTM A 506.
(2) RODS: STEEL, ASTM A 575.
(3) ROD COUPLINGS: MALLEABLE-IRON, ASTM A 197.
(4) BOLTS: STEEL, ASTM A 307.
(5) THRUST BLOCKS: CONCRETE, 2500 PSI, SIZED AS INDICATED OR APPROVED EQUAL.

2-5 INSTALLATION

2-5.1 PIPE LAYING AND JOINTING

PIPE, FITTINGS, VALVES AND ACCESSORIES SHALL BE CAREFULLY INSPECTED BEFORE AND AFTER INSTALLATION AND THOSE FOUND DEFECTIVE SHALL BE REJECTED AND REPLACED. BEFORE PLACING IN POSITION, CONTRACTOR TO CLEAN PIPE, FITTINGS, VALVES AND ACCESSORIES AND MAINTAIN IN CLEAN CONDITION.

CUT PIPE ACCURATELY TO MEASUREMENTS ESTABLISHED AT THE SITE AND WORK INTO PLACE WITHOUT SPRINGING OR FORCING. SUPPORT PIPE AT ITS PROPER ELEVATION AND GRADE, TAKING CARE TO SECURE FIRM AND UNIFORM SUPPORT. LAY PIPE SO THAT THE FULL LENGTH OF EACH SECTION OF PIPE AND EACH FITTING WILL REST SOLIDLY ON THE PIPE BEDDING; EXCAVATE RECESSES TO ACCOMMODATE BELLS, JOINTS, AND COUPLINGS. PROVIDE ANCHORS AND SUPPORTS WHERE NECESSARY FOR FASTENING WORK INTO PLACE. CONCRETE REACTION, THRUST BLOCKS OR RESTRAINED JOINTS SHALL BE APPLIED FOR ALL TEES, PLUGS, CAPS AND BENDS DEFLECTING 22-1/2 DEGREES OR MORE. KEEP TRENCHES FREE OF WATER UNTIL JOINTS HAVE BEEN PROPERLY MADE. AT THE END OF EACH DAY'S WORK, CLOSE OPEN ENDS OF PIPE TEMPORARILY WITH WOOD BLOCKS OR BULKHEADS. DO NOT LAY PIPE WHEN CONDITIONS OF TRENCH OR WEATHER ARE UNSUITABLE. IN ADDITION TO THE ABOVE, PVC PIPE AND FITTINGS INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF UNI B-3.

WATER MAINS SHALL BE LAID AT LEAST 10' HORIZONTALLY FROM ANY EXISTING OR PROPOSED SEWER. THE DISTANCE SHALL BE MEASURED EDGE TO EDGE. IN CASES WHERE IT IS NOT PRACTICAL TO MAINTAIN A TEN FOOT SEPARATION, AND WHEN APPROVED BY D.E.P., DWU, AND THE ENGINEER, THE WATER MAIN MAY BE INSTALLED CLOSER TO THE SEWER, PROVIDED THAT THE WATER MAIN IS LAID IN A SEPARATE TRENCH OR ON AN UNDISTURBED EARTH SHELF LOCATED ON ONE SIDE OF THE SEWER AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 18" ABOVE THE TOP OF THE SEWER.
BETWEEN THE INVERT OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE. WHERE THIS MINIMUM SEPARATION CANNOT BE MAINTAINED, THE CROSSING SHALL BE ARRANGED SO THAT THE SEWER PIPE JOINTS AND WATER MAIN JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING WITH NO LESS THAN 10' BETWEEN JOINTS. ALTERNATIVELY, THE SEWER MAIN BE PLACED IN A SLEEVE OR ENCASED IN CONCRETE TO OBTAIN THE EQUIVALENT OF THE REQUIRED 10' SEPARATION.

EXCAVATION AND BACKFILLING OF WATER MAIN TRENCHES SHALL CONFORM TO SECTION 2 OF THESE SPECIFICATIONS. PROVIDE A MINIMUM OF 36" OF COVER OVER WATER MAINS.

2-5.2 HOT TAPPING

TAP SLEEVE SHOULD BE MOUNTED ON CLEAN PIPE WITH TEST HOLE AT THE TOP AND NOT BE ANY CLOSER THAN 1 FOOT FROM ANY JOINT OR FITTING. AFTER SLEEVE IS MOUNTED THEN VALVE CAN BE PLACED ON FACE OF SLEEVE. FACE OF VALVE SHOULD BE LEVEL TO FACILITATE THE TAPPING TOOL FITTING CORRECTLY. TESTING OF SLEEVE AND TAPPING OF PIPE IS TO BE COORDINATED WITH UTILITY 24-48 HOURS IN ADVANCE OF PLACEMENT.

2-5.3 GATE VALVES

INSTALL GATE VALVES IN ACCORDANCE WITH THE REQUIREMENTS OF AWWA C 600 FOR VALVE-AND-FITTING INSTALLATION. VALVE BOXES SHALL BE PLACED CONCENTRICALLY OVER THE VALVE OPERATING NUT.

2-5.4 FIRE HYDRANTS

INSTALL FIRE HYDRANTS IN ACCORDANCE WITH THE REQUIREMENTS OF AWWA C 600 AND AWWA M 17, "INSTALLATION, OPERATION, AND MAINTENANCE OF FIRE HYDRANTS".

DESTIN WATER USERS, INC.
14 INDUSTRIAL PARK LANE,
DESTIN, FL 32541
(850) 837-6146

NOTES:

DWU TYPICAL SPECIFICATIONS 1

REV #	DATE	BY	REASON
1			
2			
3			
4			

DATE: July 11, 2023
REVISION DATE: ___ 2023
DRAWN BY: ER
REVIEWED BY: MA/SS
SHEET: X OF X

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
14101 PANAMA CITY BEACH PARKWAY, SUITE 110,
PANAMA CITY BEACH, FL 32413 (850) 230-6150
ENGINEERING BUSINESS: EB-0000340
PENSACOLA - PANAMA CITY BEACH - TALLAHASSEE - MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of BASKERVILLE-DONOVAN, INC. and is not to be reproduced in whole or in part. It is not to be used on any other project and is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

TYPICAL SPECIFICATIONS 1

CU-502

100% SUBMITTAL

1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10

G F E D C B A

2-5.5 CONNECTION TO EXISTING WATER SYSTEM

COORDINATE AND MAKE CONNECTIONS TO THE EXISTING WATER SYSTEM IN A MANNER APPROVED BY THE UTILITY COMPANY, AND WITH A MINIMUM INTERRUPTION OF SERVICE ON THE EXISTING SYSTEM.

2-6 FIELD TESTING

2-6.1 GENERAL

CONDUCT PIPING TESTS BEFORE JOINTS ARE COVERED, AND AFTER THRUST BLOCKS HAVE SUFFICIENTLY HARDENED. FILL PIPELINE WITH WATER 24 HOURS PRIOR TO TESTING, AND APPLY TEST PRESSURE TO STABILIZED SYSTEM.

2-6.2 HYDROSTATIC TESTS

2-6.2.1 PRESSURE DURING TEST

AFTER THE PIPE HAS BEEN LAID AND BACKFILLED AS SPECIFIED, EACH VALVED SECTION OF NEWLY LAID PIPE SHALL, UNLESS OTHERWISE SPECIFIED, BE SUBJECTED TO A HYDROSTATIC PRESSURE EQUAL TO 150 PSI. THE CONTRACTOR SHALL RECORD THE TESTING BY THE USE OF A PRESSURE RECORDING GAUGE, AND AFTER ALL TESTING IS COMPLETE, THE RECORDING SHALL BE TURNED OVER TO THE ENGINEER FOR HIS FILES.

2-6.2.2 DURATION OF PRESSURE TEST

THE DURATION OF EACH PRESSURE TEST SHALL BE AT LEAST 2 HOURS.

2-6.2.3 PROCEDURE

EACH SECTION OF PIPE SHALL BE SLOWLY FILLED WITH WATER AND THE SPECIFIED TEST PRESSURE, MEASURED AT THE LOWEST POINT OF THE ELEVATION, SHALL BE APPLIED BY MEANS OF A PUMP CONNECTED TO THE PIPE IN A SATISFACTORY MANNER. THE PUMP, PIPE CONNECTION, GAUGES METER, AND ALL NECESSARY APPARATUS SHALL BE FURNISHED BY THE CONTRACTOR. THE TEST SHALL BE APPLIED TO EACH VALVED SECTION IN ORDER TO CHECK THE LEAKAGE THROUGH ALL VALVES.

2-6.2.4 EXPELLING AIR BEFORE TEST

BEFORE APPLYING THE SPECIFIED TEST PRESSURE, ALL AIR SHALL BE EXPELLED FROM THE PIPE. TO ACCOMPLISH THIS, TAPS SHALL BE MADE, IF NECESSARY, AT POINTS OF HIGHEST ELEVATION AND AFTERWARDS TIGHTLY PLUGGED.

2-6.2.5 DEFINITION OF LEAKAGE

LEAKAGE IS DEFINED AS THE QUANTITY OF WATER TO BE SUPPLIED INTO THE NEWLY LAID PIPE, OR ANY VALVED SECTION OF IT, NECESSARY TO MAINTAIN THE SPECIFIED LEAKAGE TEST PRESSURE AFTER THE PIPE HAS BEEN FILLED WITH WATER AND THE AIR EXPELLED.

2-6.2.6 PERMISSIBLE LEAKAGE

SUITABLE MEANS SHALL BE PROVIDED BY THE CONTRACTOR FOR DETERMINING THE QUANTITY OF WATER LOST BY LEAKAGE UNDER NORMAL OPERATING PRESSURE. NO PIPE INSTALLATION WILL BE ACCEPTED UNTIL OR UNLESS THIS LEAKAGE (EVALUATED AT 150 PSI) IS LESS THAN THE FIGURE STATED BELOW:

	GAL'S/1000'/24 HRS.	GAL'S/1000'/1 HR.
2"	3.8 GAL.	0.16 GAL.
3"	5.7 GAL.	0.24 GAL.
4"	7.6 GAL.	0.32 GAL.
6"	11.4 GAL.	0.47 GAL.
8"	15.2 GAL.	0.63 GAL.
10"	18.9 GAL.	0.79 GAL.
12"	22.7 GAL.	0.95 GAL.

2-6.2.7 VARIATION FROM PERMISSIBLE LEAKAGE

SHOULD ANY TEST OF COMBINED SECTIONS OF PIPE LAID DISCLOSE LEAKAGE GREATER THAN THE SPECIFIED LIMIT, THE CONTRACTOR SHALL, AT HIS EXPENSE, LOCATE AND REPAIR THE DEFECTIVE JOINTS UNTIL THE LEAKAGE IS WITHIN THE SPECIFIED ALLOWANCE.

2-6.2.8 WATER FOR TESTING

WATER FOR TESTING SHALL BE PROVIDED BY THE CONTRACTOR AT HIS EXPENSE.

2-6.2.9 TIME FOR MAKING TEST

PIPE MAY BE SUBJECTED TO HYDROSTATIC PRESSURE, INSPECTED, AND TESTED FOR LEAKAGE AT ANY CONVENIENT TIME AFTER PARTIAL COMPLETION OF BACKFILL. THE CONTRACTOR MAY TEST THE SYSTEM WITH JOINTS EXPOSED OR WITH BACKFILLING COMPLETE AT HIS OPTION. THE ENGINEER AND THE UTILITY COMPANY SHALL BE NOTIFIED AT LEAST 24 HOURS BEFORE SCHEDULING TESTING WITH A UTILITY COMPANY REPRESENTATIVE PRESENT.

2-7 AS-BUILT CERTIFICATION

IN ACCORDANCE WITH THE RULES OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, CHAPTER 62-604, THE ENGINEER OF RECORD WILL BE RESPONSIBLE FOR OBSERVATION OF THE CONSTRUCTION OF THE RECLAIMED WATER SYSTEM TO ASSURE COMPLIANCE WITH PLANS AND SPECIFICATIONS, AND SAID ENGINEER WILL REPORT TO DEP UPON COMPLETION OF THE CONSTRUCTION BEFORE THE SYSTEM CAN BE PLACED INTO SERVICE. THE CONTRACTOR SHALL NOTIFY THE ENGINEER A MINIMUM OF 24 HOURS BEFORE BEGINNING CONSTRUCTION ON THE RECLAIMED WATER SYSTEM.

2-8 AS-BUILT DRAWINGS

THE CONTRACTOR SHALL FURNISH THE ENGINEER AT THE CLOSE OF THE PROJECT, WITH ONE (1) SET OF MARKED-UP CONSTRUCTION PLANS DEPICTING AS-BUILT CONDITIONS OF THE RECLAIMED WATER SYSTEM. THE AS-BUILT PLANS SHALL SHOW THE LOCATION OF WATER SERVICES, BENDS AND VALVES. ENGINEERING APPROVAL OF THE RECLAIMED WATER SYSTEM WILL NOT BE MADE UNTIL ACCURATE AND LEGIBLE AS-BUILT PLANS ARE RECEIVED.

END OF SECTION

SECTION 3 - SANITARY SEWAGE SYSTEM

3-1 DESCRIPTION

THE WORK SPECIFIED IN THIS SECTION CONSISTS OF THE CONSTRUCTION OF A GRAVITY SANITARY SEWER COLLECTION SYSTEM, INCLUDING SANITARY SEWER COLLECTION LINES, SERVICE LINES, SANITARY SEWER MANHOLES, AND OTHER APPURTENANCES, IN CONFORMITY WITH THE PLANS AND IN ACCORDANCE WITH THESE SPECIFICATIONS, OR THE SPECIFICATIONS AND REQUIREMENTS OF THE DESTIN WATER USERS, INC. (UTILITY COMPANY), WHICHEVER IS MORE STRINGENT.

3-2 CODES AND STANDARDS

THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF CHAPTER 62-604 OF THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION RULES AND THE APPLICABLE PORTIONS OF THE NATIONAL STANDARD PLUMBING CODE AND TEN STATE STANDARDS, PERTAINING TO THE INSTALLATION OF GRAVITY SANITARY SEWER COLLECTION SYSTEMS. THE CONTRACTOR SHALL OBTAIN REQUIRED PERMITS FROM DEP AND INSPECTIONS REQUIRED BY THE UTILITY COMPANY.

3-3 MATERIALS

3-3.1 GRAVITY SEWER COLLECTION LINES AND FITTINGS

GRAVITY SEWER COLLECTION LINE PIPING AND FITTINGS (6" THROUGH 12") SHALL BE POLYVINYL CHLORIDE (PVC) CONFORMING TO ASTM D 3034, TYPE PSM, SDR 35. JOINTING SHALL BE ACCOMPLISHED BY MEANS OF ELASTOMERIC GASKET JOINTS CONFORMING TO ASTM D 3212. GASKET MATERIAL SHALL BE SUITABLE FOR USE WITH DOMESTIC SEWAGE AND SHALL CONFORM TO ASTM F 477.

3-3.2 SEWER SERVICE LINES

SEWER SERVICE PIPING AND FITTINGS (4"AND SMALLER) SHALL BE POLYVINYL CHLORIDE (PVC) CONFORMING TO ASTM D 3034, TYPE PSM, SDR 35. JOINTING SHALL BE ACCOMPLISHED BY MEANS OF ELASTOMERIC GASKET JOINTS CONFORMING TO ASTM 3212. GASKET MATERIAL SHALL BE SUITABLE FOR DOMESTIC SEWAGE AND SHALL CONFORM TO ASTM F 477 (SEE DETAIL).

3-3.3 MANHOLES

SANITARY SEWER MANHOLES SHALL BE CONSTRUCTED OF PRECAST REINFORCED CONCRETE, SIZED AS INDICATED, AND COMPLYING WITH ASTM C 478. MANHOLE TOPS SHALL BE ECCENTRIC CONE TYPE AND MANHOLE BASES SHALL BE BASE RISER SECTIONS WITH INTEGRAL FLOORS. NO STEPS SHALL BE PROVIDED IN ANY SANITARY SEWER MANHOLES OF ANY DEPTH.

SANITARY SEWER MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY-DUTY CAST IRON CONSTRUCTION, SIZED AS INDICATED. THE MANHOLE COVER SHALL BE OF INDENTED TOP DESIGN WITH LETTERING CAST INTO THE TOP READING "SEWER". MANHOLE FRAMES AND COVERS SHALL BE VULCAN FOUNDRY NO. VM-37, NEENAH FOUNDRY NO. R-1600, OR APPROVED EQUAL.

ANY SEWER FORCE MAINS THAT DISCHARGE INTO MANHOLES, THE MANHOLE SHALL BE COATED WITH HDPE LINER OR A SPRAY LINER APPROVED BY DWU.

3-3.4 CLEANOUTS

SANITARY SEWER CLEANOUTS SHALL BE CONSTRUCTED OF PVC PIPE AND EXTENDED TO THE GROUND SURFACE WITH PVC PLUGS. SEE DETAIL.

3-4 INSTALLATION

3-4.1 GRAVITY COLLECTION AND SERVICE LINES

EACH SECTION OF PIPE SHALL BE CAREFULLY INSPECTED BEFORE AND AFTER IT IS IN- STALLED AND DEFECTIVE PIPE SHALL BE REJECTED AND REMOVED. SEWER LINES SHALL BE LAID BEGINNING AT THE LOW POINT OF THE SYSTEM, TRUE TO THE GRADE AND ALIGNMENT INDICATED, WITH UNBROKEN CONTINUITY OF INVERT. CLEAR INTERIOR OF PIPING OF DIRT AND OTHER SUPERFLUOUS MATERIAL AS WORK PROGRESSES. OPEN ENDS OF PIPE AT THE END OF EACH DAY'S WORK SHALL BE CLOSED TEMPORARILY WITH WOOD BLOCKS OR BULKHEADS. IN ADDITION TO THE ABOVE, PVC GRAVITY SEWER LINES SHALL BE INSTALLED IN ACCORDANCE WITH UNI-B-5.

SEWERS SHALL BE LAID AT LEAST 10' HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER MAIN. THE DISTANCE SHALL BE MEASURED EDGE TO EDGE. IN CASES WHERE IT IS NOT PRACTICAL TO MAINTAIN A TEN FOOT SEPARATION, AND WHEN APPROVED BY D.E.P., DWU, AND THE ENGINEER, THE SEWER MAY BE INSTALLED CLOSER TO THE WATER MAIN, PROVIDED THAT THE WATER MAIN IS IN A SEPARATE TRENCH OR ON AN UNDISTURBED EARTH SHELF LOCATED ON ONE SIDE OF THE SEWER AT AN ELEVATION SO THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 18" ABOVE THE TOP OF THE SEWER.

SEWERS CROSSING UNDER WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18" BETWEEN THE INVERT OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE. WHERE THIS MINIMUM SEPARATION CANNOT BE MAINTAINED, THE CROSSING SHALL BE ARRANGED SO THAT THE SEWER PIPE JOINTS AND WATER MAIN JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING WITH NO LESS THAN 10' BETWEEN ANY TWO JOINTS. ALTERNATIVELY, THE SEWER MAIN MAY BE PLACED IN A SLEEVE OR ENCASED IN CONCRETE TO OBTAIN THE EQUIVALENT OF THE REQUIRED 11' SEPARATION.

EXCAVATION OF PIPE TRENCHES SHALL CONFORM TO SECTION 2 OF THESE SPECIFICATIONS.

3-4.2 SEWER MANHOLES

SANITARY SEWER MANHOLES SHALL BE INSTALLED IN ACCORDANCE WITH ASTM C 891. WHERE MANHOLES OCCUR IN PAVEMENTS, SET TOP OF FRAMES AND COVERS FLUSH WITH THE FINISHED SURFACE. ELSEWHERE, SET TOPS 3" ABOVE FINISHED SURFACE, UNLESS OTHERWISE INDICATED. GROUT INVERTS OF MANHOLES TO PROVIDE CONTINUITY OF GRADE AND DIRECTION CHANGE THROUGH MANHOLE. THE EXTERIOR OF THE MANHOLE SHALL BE GIVEN TWO COATS OF KOPPERS 300M, OR EQUAL, BEFORE BACKFILLING OPERATION.

SEWER MANHOLES SHALL BE COATED WITH A SELF-PRIMING HEAVY DUTY COLD APPLIED COAL TAR MATERIAL SIMILAR AND EQUAL TO KOPPERS "BITUMASTIC SUPER SERVICE BLACK". PROVIDE A MINIMUM OF TWO (2) COATS AT A RATE OF 50 TO 60 SQUARE FEET PER GALLON PER COAT.

ANY MANHOLE, EXISTING OR NEW, THAT HAS A PRESSURIZED SEWER PIPE BEING TIED INTO IT WILL NEED TO BE LINED WITH HDPE OR LINER APPROVED BY DWU.

3-4.3 FRAMES AND COVERS

FRAMES AND COVERS ARE TO BE PLACE AND SEALED ON THE MANHOLE DURING CONSTRUCTION AS TO NOT LET ANY DEBRIS OR WATER TO ENTER SYSTEM. ALL FRAMES SHALL HAVE A STAINLESS STEEL RAIN GUARD INSTALLED, MANUFACTURED BY PORT CITY PIPE OR AN APPROVED EQUAL.

3-5 BACKFILLING

BACKFILL PIPE TRENCHES AND AROUND STRUCTURES IN ACCORDANCE WITH SECTION 2 OF THESE SPECIFICATIONS.

3-6 INSPECTION AND TESTING

INSPECT PIPING TO DETERMINE WHETHER LINE DISPLACEMENT OR OTHER DAMAGE HAS OCCURRED. MAKE INSPECTIONS AFTER LINES BETWEEN MANHOLES, OR MANHOLE LOCATIONS, HAVE BEEN INSTALLED AND APPROXIMATELY 2' OF BACKFILL IS IN PLACE, AND AGAIN AT THE COMPLETION OF THE PROJECT. IF INSPECTION INDICATES POOR ALIGNMENT, DEBRIS, DIS- PLACEMENT, OR OTHER DEFECTS, CORRECT SUCH DEFECTS AND REINSPECT.

LEAKAGE TESTS MAY INCLUDE APPROPRIATE WATER OR LOW PRESSURE AIR TESTING. THE LEAKAGE OUTWARD OR INWARD (EXFILTRATION OR INFILTRATION) SHALL NOT EXCEED 50 GALLONS PER INCH OF PIPE DIAMETER PER MILE PER DAY FOR ANY SECTION OF THE SYSTEM. AN EXFILTRATION OR INFILTRATION TEST AS APPROPRIATE SHALL BE PERFORMED WITH A MINIMUM POSITIVE HEAD OF 2'. THE WATER TEST, IF USED, SHALL BE RUN CONTINUOUSLY FOR A PERIOD OF NOT LESS THAN 3 HOURS, WITH WEIR READING TAKEN AT 20 MINUTE INTERVALS. THE AIR TEST, IF USED, SHALL, AS A MINIMUM, CONFORM TO THE TEST PROCEDURE DESCRIBED IN ASTM F1417-92 (1998) "STANDARD TEST METHOD FOR INSTALLATION ACCEPTANCE OF PLASTIC GRAVITY SEWER LINES USING LOW-PRESSURE AIR". ALL TEST TIMES SHALL BE CALCULATED USING RAMSEIER'S EQUATION T = 0.085 (DK/Q) WHERE

T = SHORTEST TIME, IN SECONDS ALLOWED FOR THE AIR PRESSURE TO DROP 1.0 PSIG
K = 0.000419 DL, BUT NOT LESS THAN 1.0
Q = 0.0015 CUBIC FEET/MINUTE/ SQUARE FEET OF INTERNAL SURFACE
D = NOMINAL PIPE DIAMETER IN INCHES
L = LENGTH OF PIPE BEING TESTED IN FEET

FOR MORE EFFICIENT TESTING OF LONG TEST SECTIONS AND /OR SECTIONS OF LARGER DIAMETER PIPES A TIMED PRESSURE DROP OF 0.5 PSIG MAY BE USED IN LIEU OF THE 1.0 PSIG DROP. IF 0.5 PSIG PRESSURE DROP IS USED, APPROPRIATE REQUIRED TEST TIMES SHALL BE EXACTLY HALF AS LONG AS THOSE OBTAINED USING RAMSEIER'S EQUATION FOR T CITED ABOVE.

THE TESTING METHODS PROVIDED SHOULD TAKE INTO CONSIDERATION THE RANGE IN GROUNDWATER ELEVATIONS PROJECTED AND THE SITUATION DURING THE TEST.

THE TEST SHALL BE MADE BY THE CONTRACTOR WITH THE UTILITY COMPANY REPRESENTATIVE BEING PRESENT TO VERIFY THE TEST ACCURACY. THE ENGINEER AND THE UTILITY COMPANY SHALL BE NOTIFIED 24 HOURS IN ADVANCE. WHERE INFILTRATION OCCURS IN EXCESS OF THE SPECIFIED AMOUNT, THE DEFECTIVE PIPE OR JOINTS SHALL BE LOCATED AND REPAIRED AT THE EXPENSE OF THE CONTRACTOR. IF THE DEFECTIVE PORTIONS CANNOT BE SO LOCATED, THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL REMOVE AND RECONSTRUCT AS MUCH OF THE ORIGINAL WORK AS NECESSARY TO OBTAIN A SEWER SYSTEM WITHIN THE ALLOWABLE INFILTRATION LIMITS.

THE SEWER OR SEWERS SHALL BE PUMPED OUT AND NORMAL INFILTRATION CONDITIONS PREVAIL BEFORE TESTING SHALL BE STARTED.

ALL SEWER MAINS AND SERVICES SHALL BE PRESSURE TESTED AS SPECIFIED IN THIS SECTION OR AS REQUIRED BY THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION AND THE UTILITY COMPANY.

ALL SANITARY SEWER MAINS AND MANHOLES MUST BE VIDEO TAPED AND PROVIDED TO THE UTILITY COMPANY BEFORE ACCEPTED FOR SERVICE.

3-7 AS-BUILT CERTIFICATION

IN ACCORDANCE WITH THE RULES OF THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, CHAPTER 62-604, THE ENGINEER OF RECORD WILL BE RESPONSIBLE FOR OBSERVATION OF THE CONSTRUCTION OF THE SANITARY SEWER COLLECTION SYSTEM TO ASSURE COMPLIANCE WITH THE PLANS AND SPECIFICATIONS, AND SAID ENGINEER WILL REPORT TO DEP UPON COMPLETION OF THE CONSTRUCTION BEFORE THE SYSTEM CAN BE PLACED INTO OPERATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER A MINIMUM OF 24 HOURS BEFORE BEGINNING CONSTRUCTION ON THE SEWER COLLECTION SYSTEM.

3-8 AS-BUILT DRAWINGS

THE CONTRACTOR SHALL FURNISH THE ENGINEER AT THE CLOSE OF THE PROJECT, WITH THREE (3) SETS OF MARKED-UP CONSTRUCTION PLANS DEPICTING AS-BUILT CONDITIONS OF THE SANITARY SEWER SYSTEM. THE AS-BUILT PLANS SHALL SHOW THE LOCATION OF SANITARY SEWER SERVICES AND THE LOCATION AND ELEVATION OF SANITARY SEWER MANHOLES. ELEVATIONS SHALL BE RELATIVE TO PROJECT DATUM. ENGINEERING APPROVAL OF THE SANITARY SEWER SYSTEM WILL NOT BE MADE UNTIL ACCURATE AND LEGIBLE AS-BUILT PLANS ARE RECEIVED. THE UTILITY COMPANY REQUIRES AN ELECTRONIC CAD FILE IN ADDITION TO CERTIFIED RECORD DRAWINGS.

END OF SECTION

SECTION 4 - SANITARY SEWER PUMPING SYSTEM

4-1 DESCRIPTION

THE WORK SPECIFIED IN THIS SECTION CONSISTS OF THE CONSTRUCTION OF A SANITARY SEWER PUMPING SYSTEM, INCLUDING LIFT STATION, CONTROL PANELS, PRESSURE CONDUIT AND VALVES, AND OTHER APPURTENANCES IN CONFORMITY WITH THE PLANS AND IN ACCORDANCE WITH THESE SPECIFICATIONS, OR THE REQUIREMENTS OF THE DESTIN WATER USERS, INC. (UTILITY COMPANY), WHICHEVER IS MORE STRINGENT.

4-2 CODES AND STANDARDS

THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF CHAPTER 62-604 OF THE FLORIDA D.E.P. RULES AND THE APPLICABLE PORTIONS OF THE NATIONAL STANDARDS PLUMBING CODE AND TEN STATE STANDARDS, PERTAINING TO THE INSTALLATION OF SANITARY SEWER SYSTEMS. ALL ELECTRICAL WORK SHALL BE PERFORMED IN THE NATIONAL ELECTRIC CODE. THE CONTRACTOR SHALL OBTAIN REQUIRED PERMITS AND INSPECTIONS FROM THE UTILITY COMPANY.

4-3 SUBMITTALS

THE CONTRACTOR SHALL SUBMIT MANUFACTURER'S PRODUCT DATA AND INSTALLATION INSTRUCTION FOR CONDUIT AND FITTINGS, VALVES, AND ACCESSORIES. IN ADDITION, SHOP DRAWINGS AND/OR CATALOG PERFORMANCE (INCLUDING INSTALLATION DRAWINGS, WIRING DIAGRAMS, OPERATION AND MAINTENANCE INSTRUCTION) FOR PUMP STATION, AND CERTIFIED PUMP PERFORMANCE CURVES SHALL BE SUBMITTED. THE CONTRACTOR SHALL NOT SHIP NOR INSTALL EQUIPMENT PRIOR TO RECEIPT OF SHOP DRAWINGS STAMPED "FOR JOB USE" OR "APPROVED FOR CONSTRUCTION" FROM THE ENGINEER.

4-4 PRODUCTS/MATERIALS

4-4.1 PUMPS

PUMP MOTORS SHALL BE SIZED AS REQUIRED TO BE NON-OVERLOADING AT ANY POINT ON THE PUMP PERFORMANCE CURVE. THE PUMPS SHALL BE WILO, KSB OR GRUNDFOS SEWER PUMPS. THE PUMPS SHALL BE EQUIPPED WITH SUBMERSIBLE MOTORS, SUITABLE FOR OPERATION IN DOMESTIC SEWAGE, BUT WITH THE CAPACITY TO RUN "DRY" WITHOUT DAMAGE. THE PUMPS SHALL BE DESIGNED FOR REMOVAL FROM ABOVE USING A 2"Ø GUIDE RAIL SYSTEM. PUMPS MUST BE ABLE TO PASS MINIMUM SPHERE OF 3.0". REFER TO LIFT STATION DETAILS FOR PUMP MODEL AND SPECIFICATIONS.

4-4.2 ELECTRICAL SECTION

THIS SECTION APPLIES TO LIFT STATION DISCHARGING 300 GALLONS PER MINUTE OR LESS. ALL OTHERS SHALL BE SUBMITTED TO DESTIN WATER USERS FOR APPROVAL.

4-4.3 CONTROL PANEL

PROVIDED BY THE UTILITY COMPANY.

4-4.4 POWER SUPPLY AND MAIN DISCONNECT

POWER SUPPLY TO THE CONTROL PANEL SHALL BE EITHER 240 VOLT, 3 PHASE, 4 WIRE OR 480 VOLT, 3 PHASE, 4 WIRE. MINIMUM SERVICE SHALL BE 240 VOLT 200 AMP. A 3" RIGID SCHEDULE 40 CONDUIT FOR INCOMING POWER FROM TRANSFORMER TO METER SHALL BE PROVIDED. SINGLE PHASE WILL NOT BE ACCEPTED.

FUSIBLE SAFETY DISCONNECT OF RATED INCOMING AMPERAGE SHALL BE MANUFACTURED BY SQUARE D (MODEL #H324NRB). ALL DISCONNECTS SHALL BE INSTALLED BETWEEN METER AND DOUBLE THROW SAFETY SWITCH.

4-4.5 CONDUIT

ALL CONDUIT SHALL BE 2" RIGID SCHEDULE 40 (EXCEPT AS STATED IN 4.4). A SEAL OFF IS REQUIRED FOR ALL CONDUITS BETWEEN THE WET WELL AND CONTROL PANEL. THE SEAL OFF SHALL BE FILLED WITH APPLETON DUC SEAL NON-HARDENING COMPOUND. THESE SHALL BE MOUNTED 12" OFF THE CONCRETE PAD. EACH CONDUIT SHALL ENTER THE CONTROL PANEL DIRECTLY UNDER THE CORRESPONDING CONTROL POINT.

4-5 WETWELL SECTION

THIS SECTION APPLIES TO LIFT STATIONS DISCHARGING 300 GALLONS PER MINUTES OR LESS. ALL LIFT STATIONS WILL BE A DUPLEX PUMP STYLE. ALL OTHERS MUST BE SUBMITTED FOR APPROVAL.

4-5.1 WET WELL

MINIMUM INSIDE DIAMETER OF 4' AND SHALL NOT HAVE LESS THAN 7' OF DEPTH FROM BOTTOM OF THE LOWEST INVERT TO TOP OF GROUT. THE WET WELL FLOOR SHALL BE FILLED WITH GROUT UP TO BOTTOM OF THE BASE ELLS. ALL INSIDE SEAMS SHALL BE FILLED WITH NON-SHRINK GROUT. WET WELL SHALL BE COATED WITH HDPE LINER OR SPRAY LINER APPROVED BY DWU.

4-5.2 PIPING

ALL PIPING SHALL BE 4" OR GREATER DUCTILE IRON. ALL CONNECTIONS WILL BE MADE BY MEANS OF FLAT FLANGE TYPE. DISCHARGE PIPES SHALL BE ONE CONTINUOUS PIECE FROM THE BASE ELL TO THE 90 DEGREE ELBOW THAT EXITS WET WELL. FOR DISCHARGE PIPES THAT HAVE A LENGTH GREATER THAN 15', A SOLID SLEEVE COUPLING SHALL BE USED. THE COUPLING WILL BE MOUNTED SO IT WILL NOT BE SUBMERSED EXCEPT UNDER A FLOODED CONDITION.

4-5.3 BASE ELLS

BASE ELLS SHALL BE HIGH PRESSURE COUPLING STYLE AS MANUFACTURED BY APPROVED PUMP MANUFACTURER. IT SHALL BE A HIGH PRESSURE COUPLING STYLE THAT UTILIZES A SINGLE STAINLESS STEEL 2"Ø RAIL SYSTEM. THE RAIL SHALL BE CONTINUOUS FROM BASE ELL TO 6" ABOVE 90 DEGREE ELBOW. THE RAILS SHALL BE MOUNTED TO THE 90 DEGREE ELBOWS BY AN INTERMEDIATE GUIDE RAIL SUPPORT FLANGE MOUNT.

4-5.4 GROUT

THE FLOOR SHALL BE POURED WITH GROUT UP TO THE BOTTOM OF BASE ELLS, AT A 1 TO 1 SLOPE ON THE SIDES FOR CHAMFER (ROLLOC) BUT IS NOT TO INTERFERE WITH PUMP OPERATION.

4-5.5 FLOAT HANGER

PROVIDED BY DWU.

4-5.6 AIR VENT

A 4" ALUMINUM AIR VENT IS REQUIRED. IT IS TO BE STUB ON OPPOSITE SIDE AS THE CONDUIT FROM WET WELL UNDER THE CONTROL PANEL A MINIMUM OF 18" ABOVE ELEVATION OF WET WELL.

4-5.7 CROSS BRACE

A CROSS BRACE MADE OF 3"X3"X1/2" ALUMINUM ANGLE SHALL BE USED TO BRACE THE DISCHARGE PIPES TO THE WET WELL. IT WILL BE MOUNTED BEHIND THE PIPES TO THE WET WELL WALL WITH A BASE PLATE MEASURING 6"X9"X3/8". THE BASE PLATE SHALL BE ALUMINUM FLAT STOCK AND SHALL BE SECURED TO WALL WITH TWO 3/8" ANCHOR BOLTS STAINLESS STEEL. THE BRACE SHALL BE CONNECTED TO THE DISCHARGE PIPES WITH A 4"X3/16" STAINLESS STEEL U-BOLT. THE BRACE SHALL BE MOUNTED 18" BELOW THE 90 DEGREE ELBOWS OF THE DISCHARGE PIPES.

4-5.8 ACCESS COVER

THE ACCESS COVER SHALL BE MANUFACTURED BY HALLIDY OR THOMSON FAB. FOR DWU 36X48 ALUMINUM WITH SLAMLOCK & ANCHORS. ACCESS COVER SHALL OPEN TOWARD THE DRYWELL.

4-6 DRYWELL SECTION

THIS SECTION APPLIES TO LIFT STATIONS DISCHARGING 300 GALLONS PER MINUTE OR LESS. ALL OTHERS WILL BE SUBMITTED FOR APPROVAL.

4-6.1 DRYWELL

A PRECAST CONCRETE UTILITY BOX WITH OUTSIDE DIMENSION OF 6'X5'X4' IS REQUIRED. A MINIMUM CLEARANCE OF 6" FROM INSIDE WALL OR FLOOR AND ANY ASSEMBLY IS REQUIRED. A 48"X42" DOUBLE DOOR ACCESS HATCH WITH RECESSED HANDLE AND SLAM LOCK, NO PADLOCK TAB. AS MANUFACTURED BY HALLIDY OR THOMPSON FAB FOR DESTIN WATER USERS WILL BE USED.

4-6.2 ACCESS COVER

THE ACCESS COVER SHALL BE MANUFACTURED BY HALLIDY OR THOMPSON FAB FOR DWU 48X42 ALUMINUM WITH SLAMLOCK AND ANCHORS. ACCESS COVER SHALL BE ON CENTER WITH DISCHARGE PIPES AND SHALL SLAMLOCK TO WET WELL SIDE.

4-6.3 PIPE

ALL PIPING SHALL BE 4" OR GREATER DUCTILE IRON. ALL CONNECTIONS SHALL BE OF FLAT FLANGE TYPE. PIPE FROM WET WELL TO CHECK VALVE WILL BE CONTINUOUS AND WILL TERMINATE NO CLOSER THAN 6" FROM INSIDE WALL.

4-6.4 CHECK VALVE

CHECK VALVES SHALL BE OUTSIDE SPRING AND LEVER 4" FLAT FLANGE STYLE AS MANUFACTURED BY AVK. TWO ARE REQUIRED.

4-6.5 PLUG VALVE

PLUG VALVES SHALL BE 1/4 TURN FLAT FLANGE STYLE AS MANUFACTURED BY VAL MATIC.

4-6.6 GATE VALVES

GATE VALVES SHALL BE OF CAST IRON BODY, RESILIENT SEAT DESIGN. GATE VALVES SHALL HAVE A MINIMUM WORKING PRESSURE OF 175 PSI, AND SHALL COMPLY WITH AWWA C 500. GATE VALVES SHALL OPEN BY COUNTERCLOCKWISE ROTATION OF THE VALVE STEM AND SHALL BE FITTED WITH HUB-TYPE HAND OPERATORS. GATE VALVES SHALL BE SIZED AND LOCATED AS INDICATED ON THE PLANS. ALL GATE VALVES 4" AND LARGER SHALL BE AMERICAN FLOW CONTROL SERIES 2500 MECHANICAL JOINT DUCTILE IRON OPEN LEFT RESILIENT WEDGE WITH 2"X2" OPERATING NUT OR APPROVED EQUAL.

4-6.7 BYPASS

THE BYPASS SHALL BE A 4" MALE QUICK DISCONNECT WITH DUST PLUG. IT SHALL BE MOUNTED TO A 4" CAST IRON FLAT FLANGE FEMALE ADAPTER WITH A 4" GALVANIZED CLOSE NIPPLE 6" IN LENGTH.

4-6.8 FORCEMAIN

DUCTILE IRON PIPE SHALL BE USED TO EXIT THE DRYWELL TO A POINT 18" PAST OUTSIDE WALL. A MECHANICAL JOINT TRANSITION COUPLING SHALL BE USED TO CONNECT TO THE PVC FORCEMAIN.

4-6.9 PRESSURE GAUGE

ONE LIQUID FILLED, STAINLESS STEEL, 0 TO 100 PSI PRESSURE GAUGE WITH 3-1/2" FACE SHALL BE USED ON EACH DISCHARGE PIPE WITH A PETCOCK VALVE.

4-6.10 DRAIN

THE DRAIN FROM DRYWELL TO WET WELL SHALL BE A 3" PVC PIPE, ON A 1/2" FALL PER FOOT SLOPE, EXTENDED A MINIMUM OF 6" INTO WET WELL. A GRAVITY FLOW PVC CHECK VALVE WITH REMOVABLE TOP SHALL BE USED. CHECK VALVE SHALL BE MANUFACTURED BY PLASTIC ODDITIES (MODEL #PSF 300).

4-6.11 MISCELLANEOUS HARDWARE

THE CONTRACTOR SHALL SUPPLY ALL MISCELLANEOUS HARDWARE. ALL MISCELLANEOUS HARDWARE SHALL BE OF TYPE 304 ALLOY, STAINLESS STEEL CONSTRUCTION.

4-7 WATER SERVICE

A 3/4" WATER SERVICE SHALL BE SUPPLIED. LOCATION TO BE COORDINATED WITH DESTIN WATER USERS.

4-8 ACCESS

ACCESS SHALL BE PROVIDED FOR OPERATION AND MAINTENANCE ON A 24-HOUR BASIS. IF A DRIVEWAY IS USED, IT MUST BE CONSTRUCTED AT A MINIMUM OF 12' WIDE AND BE ABLE TO SUPPORT A HEAVY-DUTY VEHICLE WITH TRAILER MOUNTED 100 KV GENERATOR. LOCATION OF DRIVE TO BE COORDINATED WITH DWU.

APPROVED
By Jesse Hernandez at 9:05 am, Oct 22, 2025

DESTIN WATER USERS, INC.
14 INDUSTRIAL PARK LANE,
DESTIN, FL 32541
(850) 837-6146

NOTES:

DWU TYPICAL SPECIFICATIONS 2

REV #	DATE	BY	REASON
1			
2			
3			
4			

DATE: July 11, 2023
REVISION DATE: ___ 2023
DRAWN BY: ER
REVIEWED BY: MA/SS
SHEET: X OF X

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
14101 PANAMA CITY BEACH PARKWAY, SUITE 110,
PANAMA CITY BEACH, FL 32413 (850) 230-6150
ENGINEERING BUSINESS: EB-0000340
PENSACOLA - PANAMA CITY BEACH - TALLAHASSEE - MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of BASKERVILLE-DONOVAN, INC. and is not to be reproduced in whole or in part. It is not to be used on any other project and is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

TYPICAL SPECIFICATIONS 2

CU-503

4-9 EASEMENT

A RECORDED EASEMENT SHALL BE REQUIRED FOR ALL LIFT STATIONS AND FORCEMAINS THAT ARE NOT ON RIGHTS OF WAY. ALL COSTS OF RECORDING EASEMENT SHALL BE THE RESPONSIBILITY OF THE OWNER.

4-10 ELECTRICAL SERVICE

OWNER SHALL INITIATE ACCOUNT, PRIOR TO ANY PUMP DOWN TEST OR ACCEPTANCE BY DWU. OWNER SHALL INCUR ANY COST PRIOR TO ACCEPTANCE BY DWU.

4-11 PIPING AND PIPE FITTINGS

4-11.1 CAST IRON PIPE

ALL CAST-IRON SHALL BE CENTRIFUGALLY CAST CONFORMING TO ANSI A21.8, AND MEETING ALL THE QUALITY AND METALLURGICAL PROVISIONS OF ANSI STANDARD SPECIFICATION A 21.10 "THICKNESS DESIGN OF CAST-IRON PIPE". LINING AND COATING SHALL BE P-401 OR APPROVED EQUAL.

4-11.1.1 FLANGED JOINTS

ANSI STANDARD SPECIFICATIONS B16.1, CAST-IRON PIPE FLANGES AND FLANGED FITTINGS, 125 POUNDS, SCREWED ON FLANGES, FACED AND DRILLED TO ANSI CLASS 125 POUND TEMPLATE WITH RED SHEET RUBBER GASKETS.

4-11.1.2 FITTINGS

FITTINGS SHALL MEET ANSI STANDARD SPECIFICATION A21.10, CAST-IRON FITTINGS, 2-INCH THROUGH 48-INCH FOR WATER AND OTHER LIQUIDS. MINIMUM PRESSURE RATING SHALL BE EQUAL TO THAT OF THE PIPE SPECIFIED. ALL FITTINGS SHALL BE COATED ON INSIDE WITH PERMOX OR APPROVED EQUAL.

4-11.2 COATING FOR WASTEWATER LINES

ALL CAST IRON PIPE AND FITTINGS TO BE INSTALLED UNDERGROUND SHALL BE COATED EXTERIOR WITH HOT-DIP COAL-TAR. THE EXTERIOR OF ALL ABOVE GROUND PIPE SHALL RECEIVE A COAT OF RUST INHIBITOR PRIME COMPATIBLE WITH THE FINISH PAINT SCHEDULE. INTERIOR SHALL BE P-401 OR APPROVED EQUAL.

4-11.3 DETECTOR TAPE

ALL NON-METALLIC SEWER FORCE MAIN LINES SHALL BE MARKED WITH DETECTOR TAPE AND 12 GAUGE TRACER WIRE TO ENABLE LOCATION WITH A FERROUS METAL DETECTOR. THE DETECTOR TAPE SHALL BE PLACED APPROXIMATELY 12" ABOVE THE PIPE AND THROUGHOUT THE ENTIRE PIPE LENGTH. CARE SHALL BE TAKEN TO AVOID DAMAGE TO THE DETECTOR TAPE DURING THE BACKFILLING OPERATION.

4-12 INSTALLATION

4-12.1 LIFT STATION AND APPURTENANCES

4-12.1.1 GENERAL

THE LIFT STATION AND APPURTENANCES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS OR THE REQUIREMENTS OF DESTIN WATER USERS, WHICHEVER IS MORE STRINGENT.

4-12.1.2 OPERATION OF SYSTEM

OPERATION OF THE STATION SHALL BE AS FOLLOWS: WATER LEVEL RISES TO LEAD PUMP ON LEVEL; THE LEAD PUMP STARTS AND LOWERS THE LEVEL TO PUMP(S) OFF LEVEL; THE PUMP STOPS AND AUTOMATICALLY ALTERNATES TO POSITION THE SECOND (LAG) PUMP AS LEAD PUMP FOR THE NEXT CYCLE. IF THE LEAD PUMP STARTS AND THE WATER LEVEL CONTINUES TO RISE TO THE LAG PUMP ON LEVEL, THE LAG PUMP WILL THEN START AND BOTH PUMPS WILL OPERATE TOGETHER UNTIL THE WATER LEVEL IS LOWERED TO THE PUMP'S OFF LEVEL. IF THE LEAD PUMP FAILS FOR ANY REASON, AN OVERRIDE CONTROL SHALL BEGIN OPERATING THE LAG PUMP.

4-12.1.3 START-UP, INITIAL OPERATION

THE CONTRACTOR SHALL START UP AND PROVIDE INITIAL TESTING BEFORE OPERATION OF THE COMPLETED PUMPING STATION. THE INITIAL OPERATION SHALL INCLUDE FILLING (USING POTABLE WATER, IF NECESSARY) OF THE WET WELL AS NECESSARY, TO CYCLE AND TEST THE PUMPS AND CONTROLS, INCLUDING SIMULATED PUMP FAILURE, AND HIGH WATER ALARM, PUMP ALTERNATION, AND OTHER FEATURES OF THE SPECIFIED EQUIPMENT. TESTING OF THE STATION SHALL BE COORDINATED WITH THE ENGINEER AND THE UTILITY COMPANY.

4-12.2 PRESSURE PIPING

4-12.2.1 GENERAL

FORCE MAIN PIPING SHALL BE POLYVINYL CHLORIDE (PVC) PIPE. FORCE MAIN PIPING 1-1/2" THROUGH 3" IN SIZE SHALL CONFORM TO ASTM D 2241, SDR 26 (PVC MATERIAL 12454-B) WITH PUSH-ON JOINTS CONFORMING TO ASTM D 3139 AND ELASTOMERIC GASKETS CONFORMING TO ASTM F 477. FORCE MAIN PIPING 4" THROUGH 12" IN SIZE SHALL CONFORM TO AWWA C 900-89, DR 18, AND SHALL BE FURNISHED IN CAST-IRON PIPE EQUIVALENT OUTSIDE DIAMETERS WITH RUBBER GASKETED JOINTS AS AWWA C 900 LISTED. ALL FORCE MAIN PIPING SHALL BE STAMPED "NSF-PW". ALL FORCE MAIN FITTINGS SHALL BE CONSTRUCTED OF EITHER DUCTILE IRON OR CAST IRON CONFORMING TO AWWA C 110 OR ANSI A 21.10, RESPECTIVELY, BLUE[illegible].

PRESSURE PIPING SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS. THE TRENCH SHALL BE GRADED SO THAT WHEN THE PIPE RESTS ON THE TRENCH BOTTOM IT WILL HAVE A UNIFORM BEARING FOR ITS ENTIRE LENGTH. THE PIPE SHALL BE CAREFULLY EXAMINED FOR DEFECTS AND THE INSIDE CLEANED. AFTER PLACING THE PIPE IN THE TRENCH, THE ENDS SHALL BE WIPED FREE FROM ALL DIRT, SAND AND FOREIGN MATERIAL. THE JOINTS SHALL BE MADE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE PIPE MANUFACTURER.

SUITABLE CONCRETE REACTION OR THRUST BLOCKS (OR APPROVED EQUAL (MEGA LUGS, BELL RESTRAINTS, ETC.) SHALL BE APPLIED ON ALL TEES, PLUGS, CAPS, AND BENDS DEFLECTING 22-1/2 DEGREES OR MORE. (IR MOVEMENT SHALL BE PREVENTED BY ATTACHING METAL RODS OR STRAPS APPROVED BY THE ENGINEER. UNLESS OTHERWISE DIRECTED, THE PIPE SHALL BE LAID WITH BELL ENDS FACING IN THE DIRECTION OF LAYING. WHENEVER IT IS NECESSARY TO DEFLECT THE PIPE FROM A STRAIGHT LINE (EITHER IN THE VERTICAL OR HORIZONTAL PLANE) TO AVOID OBSTRUCTION, TO PLUMB STEMS, OR WHERE LONG RADIUS CURVES ARE PERMITTED, THE DEGREE OF DEFLECTION SHALL BE AS RECOMMENDED BY THE MANUFACTURER OF THE PIPE.

PRESSURE PIPING CROSSING UNDER WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18" BETWEEN THE INVERT OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE. WHERE THIS MINIMUM SEPARATION CANNOT BE MAINTAINED, THE CROSSING SHALL BE ARRANGED SO THAT THE SEWER PRESSURE PIPING JOINTS AND WATER MAIN JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING WITH NO LESS THAN 10' BETWEEN ANY TWO JOINTS. ALTERNATIVELY, THE SEWER PRESSURE PIPING MAY BE PLACED IN A SLEEVE OR ENCLOSED IN CONCRETE TO OBTAIN THE EQUIVALENT OF THE '2' SEPARATION.

EXCAVATION AND BACKFILLING OF SEWER PRESSURE PIPING SHALL CONFORM TO SECTION 2 OF THESE SPECIFICATIONS. PROVIDE A MINIMUM OF 30" OF COVER OVER SEWER PRESSURE PIPING.

4-13 TESTING

TESTING OF THE PRESSURE CONDUIT SHALL CONFORM TO SECTION 1-5 UNDER POTABLE WATER SYSTEM OF THESE SPECIFICATIONS.

4-13 TESTING

TESTING OF THE PRESSURE CONDUIT SHALL CONFORM TO SECTION 1-5 UNDER POTABLE WATER SYSTEM OF THESE SPECIFICATIONS.

4-14 AS-BUILT CERTIFICATION

IN ACCORDANCE WITH THE RULES OF THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, CHAPTER 62-604, THE ENGINEER OF RECORD WILL BE RESPONSIBLE FOR OBSERVATION OF THE CONSTRUCTION OF THE SANITARY SEWER PUMPING SYSTEM TO ASSURE COMPLIANCE WITH THE PLANS AND SPECIFICATIONS, AND SAID ENGINEER WILL REPORT TO DEP UPON COMPLETION OF THE CONSTRUCTION BEFORE THE SYSTEM CAN BE PLACED INTO OPERATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER A MINIMUM OF 24 HOURS BEFORE BEGINNING CONSTRUCTION ON THE SANITARY SEWER PUMPING SYSTEM.

4-15 AS-BUILT DRAWINGS

THE CONTRACTOR SHALL FURNISH THE ENGINEER AT THE CLOSE OF THE PROJECT WITH ONE (1) SET OF MARKED-UP CONSTRUCTION PLANS DEPICTING AS-BUILT CONDITIONS OF THE SANITARY SEWER PUMPING SYSTEM. THE AS-BUILT PLANS SHALL SHOW THE LOCATION AND ELEVATIONS OF THE SANITARY SEWER PUMPING SYSTEM. ELEVATIONS SHALL BE RELATIVE TO PROJECT DATUM. ENGINEERING APPROVAL OF THE SANITARY SEWER PUMPING SYSTEM WILL NOT BE MADE UNTIL ACCURATE AND LEGIBLE AS-BUILT PLANS ARE RECEIVED. THE UTILITY COMPANY REQUIRES AN ELECTRONIC CAD FILE IN ADDITION TO CERTIFIED RECORD DRAWINGS.

END OF SECTION

APPROVED
By Jesse Hernandez at 9:05 am, Oct 22, 2025

DATE:	July 11, 2023	REV #	DATE	BY	REASON
REVISION DATE:	— 2023	1			
DRAWN BY:	ER	2			
REVIEWED BY:	MA/RB	3			
SHEET:	X OF X	4			

DWU TYPICAL SPECIFICATIONS 3

NOTES:

DESTIN WATER USERS, INC.
14 INDUSTRIAL PARK LANE,
DESTIN, FL 32541
(850) 837-6146

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of BASKERVILLE-DONOVAN, INC. and is not to be reproduced in whole or in part. It is not to be used on other projects and is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

TYPICAL SPECIFICATIONS 3

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
14151 PANAMA CITY BEACH PARKWAY, SUITE 110.
PANAMA CITY BEACH, FL 32413-0510
ENGINEERING BUSINESS: EB-0000345
PENSACOLA • PANAMA CITY BEACH • TALLAHASSEE • MOBILE

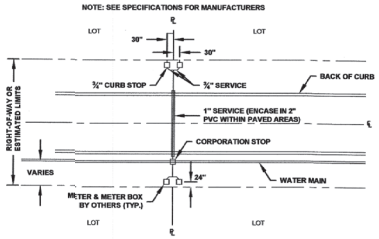
SHORE AT CRYSTAL BEACH EXPANSION

SEAL

CU-504

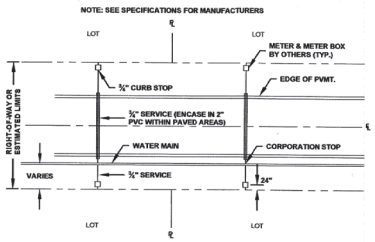
L:\121 Okaloosa County\12105.02 Shore at Crystal Beach Park Amendment\DWG\12105.02-CU-501 - CU-507 - Misc Water and Sewer Details.dwg, Aug 13, 2025 - 4:27:43PM, slucia

100% SUBMITTAL



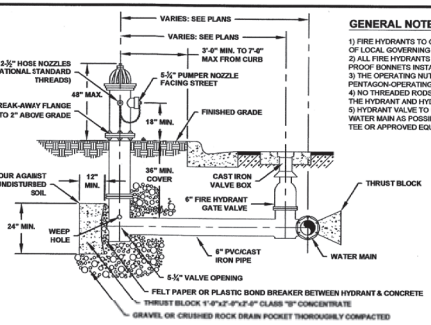
DOUBLE WATER SERVICE CONNECTION PLAN

SCALE: 1" = 20'



SINGLE WATER SERVICE CONNECTION PLAN

SCALE: 1" = 20'



FIRE HYDRANT CONNECTION DETAIL

SCALE: 1" = 2'

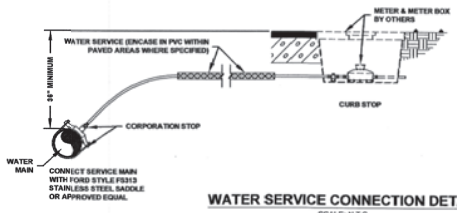
GENERAL NOTES:

1) FIRE HYDRANTS TO COMPLY TO REQUIREMENTS OF LOCAL GOVERNING AUTHORITY.
2) ALL FIRE HYDRANTS MUST HAVE TAMPER PROOF BONNETS INSTALLED.
3) THE OPERATING NUT MUST BE A 1.5" PENTAGON-OPERATING NUT.
4) NO THREADED RODS ARE ALLOWED BETWEEN THE HYDRANT AND HYDRANT ISOLATION VALVE.
5) HYDRANT VALVE TO BE AS CLOSE TO THE WATER MAIN AS POSSIBLE BY USE OF A HYDRANT TEE OR APPROVED EQUAL.

APPROVED
By Jesse Hernandez at 9:05 am, Oct 22, 2025

GENERAL NOTES:

1) THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING BACTERIOLOGICAL EXAMINATIONS ON ALL NEW WATER MAINS (AS REQUIRED BY AND TO THE SATISFACTION OF) THE DEPARTMENT OF HEALTH AND REHABILITATIVE SERVICES. THESE REQUIREMENTS NECESSITATE A SATISFACTORY SAMPLE AT EACH SAMPLE LOCATION FOR TWO CONSECUTIVE DAYS. IF THE EXAMINATION IS BY PERSONS OTHER THAN THE LOCAL HEALTH DEPARTMENT, THEN THE CONTRACTOR SHALL BE RESPONSIBLE FOR DELIVERING THE LABORATORY REPORTS TO THE ENGINEER FOR SUBMITTAL TO THE STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION (D.E.P.).
2) INSTALLATION OF WATER MAINS AND SERVICES SHALL COMPLY WITH ALL GOVERNING AUTHORITIES.
3) THE CONTRACTOR SHALL VERIFY ALL FIELD DIMENSIONS AND REPORT ANY DISCREPANCIES PRIOR TO COMMENCING WORK.
4) ALL PIPES SHALL BE PVC UNLESS OTHERWISE NOTED OR REQUIRED. ALL MAINS TO BE MARKED WITH NO. 12 INSULATED COPPER TRACER WIRE TO FACILITATE THEIR LOCATIONS AND METALLIC WARNING TAPE.
5) THE CONTRACTOR SHALL PROVIDE A MINIMUM OF 36" OF COVER OVER WATER MAINS WITHIN PAVED AND UNPAVED AREAS.

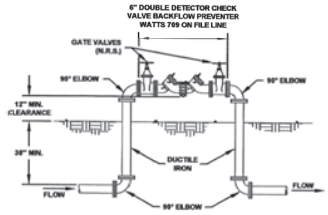


WATER SERVICE CONNECTION DETAIL

SCALE: N.T.S.

GENERAL NOTES:

1) ALL FITTINGS SHALL BE CAST OR DUCTILE IRON.
2) PROVIDE THRUST BLOCKS FOR BELOW GROUND FITTINGS, SEE THRUST BLOCK DETAIL.
3) PROVIDE SUPPORTS UNDER BACKFLOW PREVENTER AS REQUIRED.



BACKFLOW PREVENTER DETAIL

SCALE: 1" = 2'

LOCATION OF PUBLIC WATER SYSYEM MAINS IN ACCORDANCE WITH F.A.C. RULE 62-555.314

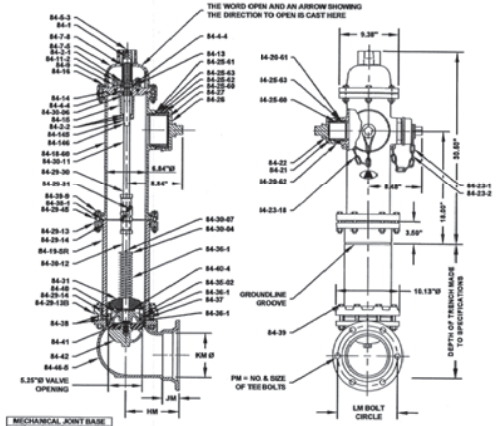
Other Pipe	Horizontal Separation	Crossings (1)	Joint Spacing @ Crossings (Full Joint Centered)
Storm Sewer, Stormwater Force Main, Reclaimed Water (2)	Water Main — 3 ft. minimum	Water Main — 12 inches in the minimum, except for storm sewer, then 6 inches is the minimum and 12 inches is preferred	Alternate 3 ft. minimum — Water Main
Vacuum Sanitary Sewer	Water Main — 10 ft. preferred, 3 ft. minimum	Water Main — 12 inches preferred, 6 inches minimum	Alternate 3 ft. minimum — Water Main
Gravity or Pressure Sanitary Sewer, Sanitary Sewer Force Main, Reclaimed Water (4)	Water Main — 10 ft. preferred, 6 ft. minimum (3)	Water Main — 12 inches in the minimum, except for gravity sewer, then 6 inches is the minimum and 12 inches is preferred	Alternate 6 ft. minimum — Water Main
On-Site Sewage Treatment & Disposal System	10 ft. minimum	—	—

(1) Water main should cross above other pipe. When water main must be below other pipe, the minimum separation is 12 inches.
(2) Reclaimed water regulated under Part III of Chapter 62-610, F.A.C.
(3) 3 ft. for gravity sanitary sewer where the bottom of the water main is laid at least 6 inches above the top of the gravity sanitary sewer.
(4) Reclaimed water not regulated under Part III of Chapter 62-610, F.A.C.

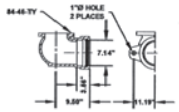
Disclaimer – This document is provided for your convenience only. Please refer to F.A.C. Rule 62-555.314 for additional construction requirements.

DEP WATER SEPARATION DETAILS

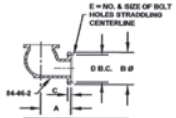
SCALE: N.T.S.



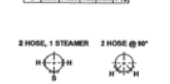
MECHANICAL JOINT BASE					
SIZE	HM	JM	KM	LM	E
4	5.50	2.50	4.91	7.50	4-¾
6	5.50	2.50	7.06	9.50	6-¾



6" TYTON WITH LUGS



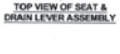
FLANGED BASE						
SIZE	A	B	C	D	E	
4	5.00	9.00	3.34	7.50	8-¾	
6	5.50	11.00	1.00	9.50	8-¾	



NOZZLE ARRANGEMENTS

PARTS LIST			
PART NO.	QTY.	PART NAME	MATERIAL & ASTM NO.
84-1	1	OPERATING NUT	BRONZE, B763 ALLOY 865
84-2-1	2	COVER O-RING	BUNA N
84-2-2	2	HOUSING O-RING	BUNA N
84-4-4	1	THRUST WASHER	NYLATRON
84-5-3	1	PIPE PLUG	STEEL
84-7-5	1	TAMPER RESISTANT COVER	DUCTILE IRON
84-7-6	1	O-RING	BUNA N
84-9	1	HOUSING COVER	GRAY IRON
84-11-2	4	COVER CAP SCREWS	SEE NOTE 4
84-13	1	COVER GASKET	FIBER
84-14	1	HOUSING GASKET	COMPOSITION RUBBER
84-15	1	HOUSING	DUCTILE IRON
84-16	8	HOUSING BOLTS & NUTS	SEE NOTE 4
84-18-60	1	UPPER BARREL	DUCTILE IRON
84-19-091	1	LOWER BARREL	DUCTILE IRON A536
84-20-60	2	HOSE NOZZLE	BRONZE B763 ALLOY 876
84-20-61	2	HOSE NOZZLE SEAL	BUNA N
84-20-62	2	HOSE NOZZLE RETAINER	DUCTILE IRON
84-20-63	2	HOSE NOZZLE RETAINER WASHER	TEFLON
84-21	2	HOSE CAPS	GRAY IRON
84-22	2	HOSE CAP GASKETS	RUBBER
84-23-1	2	HOSE CAP CHAINS WITH S HOOK	STEEL
84-23-2	1	E HOOK	STEEL
84-23-18	1	PUMPER CAP CHAIN WITH S-HOOK	STEEL
84-25-60	1	PUMPER NOZZLE	BRONZE B763 ALLOY 867
84-25-61	1	PUMPER NOZZLE SEAL	BUNA N
84-25-62	1	PUMPER NOZZLE RETAINER	DUCTILE IRON
84-25-63	1	PUMPER NOZ RETAINER WASHER	TEFLON
84-26	1	PUMPER CAP	GRAY IRON
84-27	1	PUMPER CAP GASKET	RUBBER
84-29-13	1	BARREL FLANGE	DUCTILE IRON A536
84-29-13B	1	BASE FLANGE	DUCTILE IRON A536
84-29-14	2	SNAP RINGS	STAINLESS STEEL
84-29-30	1	ROD COUPLING	GRAY IRON
84-29-40	1	COUPLING & CLIP PINS	STAINLESS STEEL
84-29-45	1	BREAKABLE FLANGE	GRAY IRON
84-30-03	1	HYDRANT SPRING	STAINLESS STEEL
84-30-04	1	SPRING PLATE	STAINLESS STEEL
84-30-06	1	TRAVEL STOP NUT	BRONZE B283 ALLOY 377
84-30-07	1	SPRING PLATE PIN	STAINLESS STEEL
84-30-11	1	UPPER ROD	STEEL
84-30-12	1	LOWER ROD	STEEL
84-31	1	DRAIN LEVER	BRONZE B584 ALLOY 922
84-35-02	1	HYDRANT SEAT	BRONZE B584 ALLOY 922
84-36-1	2	SEAT O-RINGS	BUNA N
84-37	1	DRAIN RING	BRONZE B763 ALLOY 876
84-38	2	DRAIN RING GASKETS	COMPOSITION RUBBER
84-38-1	1	BARREL GASKET	COMPOSITION RUBBER
84-39	8	BASE BOLTS & NUTS	STAINLESS STEEL 304
84-39-9	8	BARREL BOLTS & NUTS	SEE NOTE 4
84-40	1	VALVE TOP	GRAY IRON
84-40-4	1	VALVE TOP CLEVIS & CLIP PIN	STAINLESS STEEL
84-41	1	HYDRANT VALVE	RUBBER
84-42	1	VALVE BOTTOM	DUCTILE IRON
84-46-2	1	FLANGED BASE	DUCTILE IRON
84-46-5	1	MECHANICAL JOINT BASE	DUCTILE IRON
84-46-TY	1	TYTON BASE	DUCTILE IRON
84-145	1	ROD SLEEVE	BRONZE
84-146	2	SLEEVE O-RINGS	BUNA N

TOP VIEW OF SEAT & DRAIN LEVER ASSEMBLY



TOP VIEW OF CLEVIS PIN & CLIP PIN USED TO SECURE HYDRANT VALVE ASSEMBLY

GENERAL NOTES:

1) SIZE AND SHAPE OF OPERATING NUT AND NUT ON CAPS, THREADING ON NOZZLES AND CAPS AND THE DIRECTION OF OPENING MADE TO SPECIFICATIONS.
2) CAP CHAINS ARE NOT FURNISHED UNLESS SPECIFIED.
3) ALL GRAY IRON IS ASTM A126 CLASS B.
4) BOLTS AND NUTS ARE RUSTPROOFED STEEL ASTM A307 OR EQUIVALENT IN ACCORDANCE WITH AWWA C502.
5) WORKING PRESSURE: 250 P.S.I. AWWA 200 P.S.I. FACTORY MUTUAL & UNDERWRITERS LAB. TEST PRESSURE: 500 P.S.I.
6) HYDRANT CONFORMS TO AWWA STANDARD C502.
7) UPPER BARREL CAN BE ROTATED 360°.
8) FACTORY MUTUAL APPROVED AND UNDERWRITERS LABORATORIES LISTED IF MARKED.

5-¼" B84B-5 AMERICAN DARLING HYDRANT WITH TAMPER PROOF COVER

SCALE: N.T.S.

DESTIN WATER USERS, INC.
14 INDUSTRIAL PARK LANE,
DESTIN, FL 32541
(850) 837-6146

NOTES: SCALE AS SHOWN

DWU TYPICAL POTABLE WATER DETAILS

DATE:	REASON	BY:
REVISION DATE: July 11, 2023	REV # 1	DATE 2/2/23
DRAWN BY: BR		BR 2/2/23
REVIEWED BY: RA-SG		RA-SG 2/2/23
SHEET: X of X		X of X

PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

TYPICAL POTABLE WATER DETAILS

This drawing is the property of BASKERVILLE-DONOVAN, INC. and is not to be reproduced in whole or in part. It is not to be used on any other projects and is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

SEAL

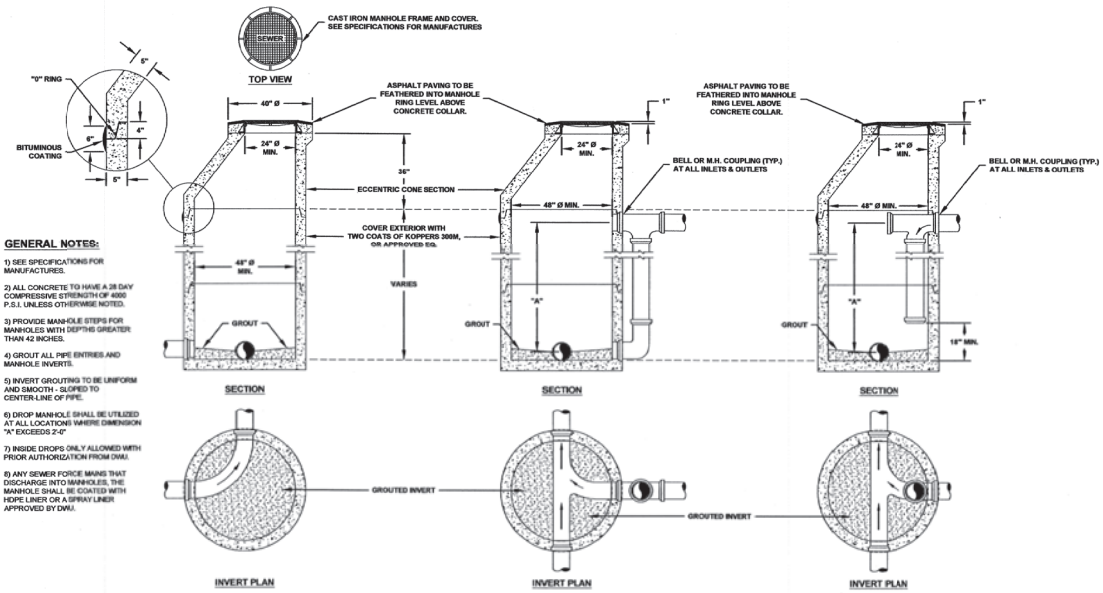
BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
14101 PANAMA CITY BEACH PARKWAY, SUITE 110.
PANAMA CITY BEACH, FLORIDA 32413-7160
ENGINEERING BUSINESS: EB-0000345
PENSACOLA • PANAMA CITY BEACH • TALLAHASSEE • MOBILE

SHORE AT CRYSTAL BEACH EXPANSION

CU-505

100% SUBMITTAL

APPROVED
By Jesse Hernandez at 9:05 am, Oct 22, 2025



GENERAL NOTES:

1) SEE SPECIFICATIONS FOR MANUFACTURES.

2) ALL CONCRETE TO HAVE A 28 DAY COMPRESSIVE STRENGTH OF 4000 P.S.I. UNLESS OTHERWISE NOTED.

3) PROVIDE MANHOLE STEPS FOR MANHOLES WITH DEPTHS GREATER THAN 42 INCHES.

4) GROUT ALL PIPE ENTRIES AND MANHOLE INVERTS.

5) INVERT GROUTING TO BE UNIFORM AND SMOOTH - SLOPED TO CENTER-LINE OF PIPE.

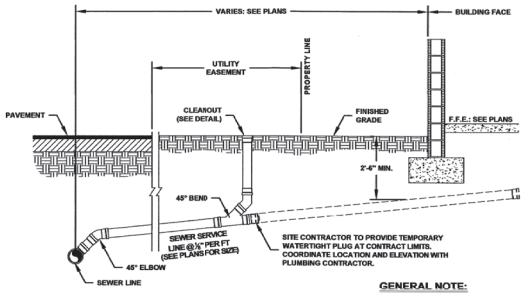
6) DROP MANHOLE SHALL BE UTILIZED AT ALL LOCATIONS WHERE DIMENSION "A" EXCEEDS 2'-0"

7) INSIDE DROPS ONLY ALLOWED WITH PRIOR AUTHORIZATION FROM DWU.

8) ANY SEWER FORCE MAINS THAT DISCHARGE INTO MANHOLES, THE MANHOLE SHALL BE COATED WITH HDPE LINER OR A SPRAY LINER APPROVED BY DWU.

STANDARD MANHOLE DETAIL
SCALE: 1" = 2'

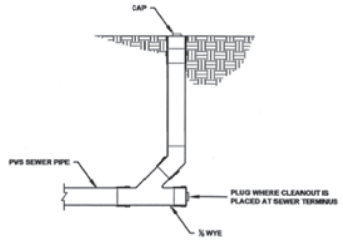
DROP MANHOLE DETAIL
SCALE: 1" = 2'



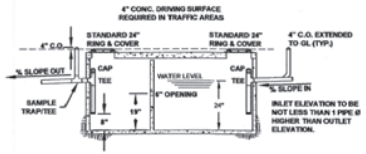
GENERAL NOTE:

1) SEWER CONNECTION TO BE MADE OF MANUFACTURED WYES. INVERT OF CONNECTION TO BE AT ELEVATION OF TOP OF MAIN WHERE ALLOWED.

SEWER SERVICE DETAIL
SCALE: 1" = 2'



CLEANOUT DETAIL
SCALE: 1" = 1'



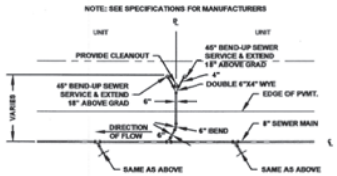
GENERAL NOTES:

1) STRUCTURAL DESIGN OF GREASE TRAP SHALL BE IN ACCORDANCE WITH CHAPTER 10D-5 OF FLORIDA ADMINISTRATIVE CODES.

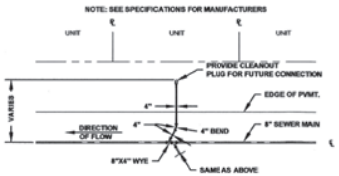
2) ACCESS FOR MONITORING THE INLET AND OUTLET PIPE FITTINGS OR BAFFLES SHALL BE PROVIDED FROM MANHOLES. CLEANOUTS SHALL BE INSTALLED BEFORE THE FIRST GREASE INTERCEPTOR AND WITHIN TWO FEET AFTER THE LAST INTERCEPTOR IN THE SERIES.

3) GREASE INTERCEPTOR (OR INTERCEPTORS) SHALL BE DESIGNED TO PRODUCE A CLARIFIED EFFLUENT ACCEPTABLE TO THE CITY OF GROVELAND STANDARDS.

TYPICAL RESTAURANT GREASE INTERCEPTOR
SCALE: N.T.S.



DOUBLE SANITARY SEWER SERVICE CONNECTION PLAN
SCALE: 1" = 20'



SINGLE SANITARY SEWER SERVICE CONNECTION PLAN
SCALE: 1" = 20'

DATE:	July 11, 2023	REV #	DATE	BY	REASON
REVISION DATE:	___, 2023	1			
DRAWN BY:	BR	2			
REVIEWED BY:	MA/BB	3			
SHEET:	X OF X	4			

NOTES: SCALE AS SHOWN

DWU TYPICAL SANITARY SEWER DETAILS

DESTIN WATER USERS, INC.
14 INDUSTRIAL PARK LANE,
DESTIN, FL 32541
(850) 837-8148

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
14101 PANAMA CITY BEACH PARKWAY, SUITE 110.
PANAMA CITY BEACH, FL 32413-7553
ENGINEERING BUSINESS - EB-0000345
PENSACOLA • PANAMA CITY BEACH • TALLAHASSEE • MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of BASKERVILLE-DONOVAN, INC. and is not to be reproduced in whole or in part. It is not to be used on other projects and is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

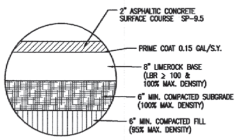
TYPICAL SANITARY SEWER DETAILS

CU-506

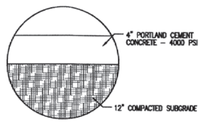
100% SUBMITTAL

1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10

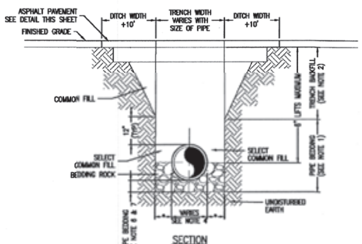
G F E D C B A



2" ASPHALT PAVEMENT DETAIL



SIDEWALK DETAIL



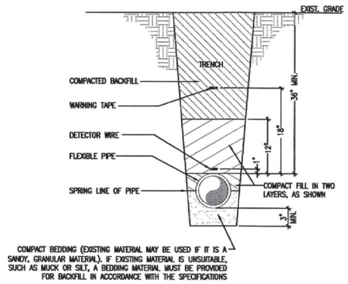
SECTION

NOTES:

1. PIPE BEDDING: SELECT COMMON FILL COMPACTED TO 90% OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
2. TRENCH BACKFILL: COMMON FILL COMPACTED TO 95% OF THE MAXIMUM DENSITY AS PER AASHTO T-180
3. USE TYPE A BEDDING TO BE DETERMINED IN THE FIELD AS DIRECTED BY THE CITY.
4. (*): 15" MAX. FOR PIPE DIAMETER LESS THAN 24", AND 24" MAX. FOR PIPE DIAMETER 24" AND LARGER.
5. ALL PIPE TO BE INSTALLED WITH BELL FACING UPSTREAM TO THE DIRECTION OF THE FLOW.
6. GRAVITY SEWERS SHALL UTILIZE TYPE A BEDDING. IF REQUIRED BY THE CITY, BEDDING DEPTH SHALL BE 4" MINIMUM FOR PIPE DIAMETER LESS THAN 15", AND 6" MINIMUM PIPE DIAMETER 16" AND LARGER.
7. DEPTH FOR REMOVAL OF UNSUITABLE MATERIAL SHALL GOVERN DEPTH OF BEDDING ROCK BELOW THE PIPE. CITY SHALL DETERMINE, IN THE FIELD REQUIRED REMOVAL OF UNSUITABLE MATERIAL TO REACH SUITABLE FOUNDATION.

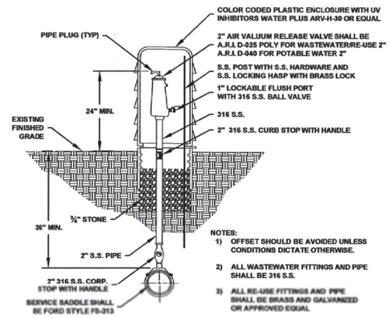
PAVEMENT PATCH DETAIL

SCALE: N.T.S.



TYPICAL PIPE BEDDING

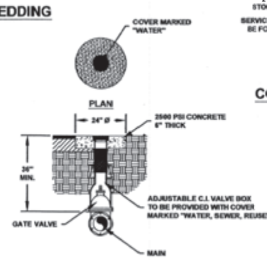
SCALE: N.T.S.



NOTES:
1) OFFSET SHOULD BE AVOIDED UNLESS CONDITIONS DICTATE OTHERWISE.
2) ALL WASTEWATER FITTINGS AND PIPE SHALL BE 316 S.S.
3) ALL RE-USE FITTINGS AND PIPE SHALL BE BRASS AND GALVANIZED OR APPROVED EQUAL

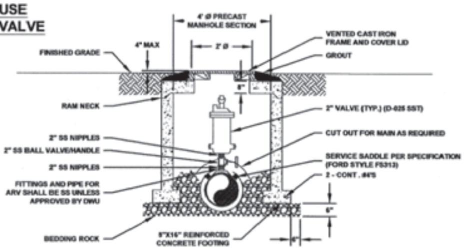
ABOVE GROUND WASTEWATER/RE-USE COMBINATION AIR/VACUUM RELEASE VALVE

SCALE: 1" = 2'



GATE VALVE AND VALVE BOX DETAIL

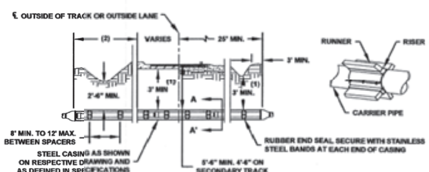
SCALE: 1" = 2'



NOTES:
1) PROCAST MANHOLE OR APPROVED EQUAL
2) ALL FITTINGS TO BE 316 SS
3) IF ARV IS ON A POTABLE WATERMAIN THEN USE ARI D-040 2"

GATE VALVE AND VALVE BOX DETAIL

SCALE: 1" = 2'



SECTION A-A'

PRESSURE MAIN TO BE RESTRAINED WITH MANUFACTURERS RESTRAINED JOINTS THROUGH CASING. USE (3) SS CASING SPACER CENTERED ON EACH PIPE LENGTH. TIMBER SKIDS ARE OPTIONAL.

GENERAL NOTES:

(1) VERTICAL DIMENSIONS TYPICAL FOR CASINGS

(2) WITH CURB: 6' STATE & 2' CITY ROADS MINIMUM WITHOUT CURB: 8' STATE & 4' CITY ROADS MINIMUM

(3) STEEL CASING PIPE SHALL CONFORM TO THE REQUIREMENTS OF AWWA C-200 AND ASTMA-139, GRADE B.

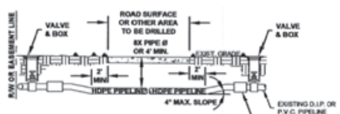
(4) WHEN CASING IS INSTALLED WITHOUT BENEFIT OF A PROTECTIVE COATING, AND SAID CASING IS NOT CATHODICALLY PROTECTED, THE WALL THICKNESS SHOWN SHALL BE INCREASED TO THE NEAREST STANDARD SIZE WHICH IS A MINIMUM OF 0.063" GREATER THAN THE THICKNESS SHOWN EXCEPT FOR DIAMETERS LESS THAN 12.75".

(5) FOR REFERENCE ONLY.

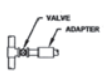
	MINIMUM CASING SIZE AND THICKNESS																		
D.I.P.-M.J.	-	-	-	4"	6"	-	8"	10"	12"	14"	16"	18"	20"	-	24"	30"	36"	42"	48"
D.I.P.-P.O.	-	-	4"	-	6"	8"	10"	12"	-	14"	16"	18"	20"	24"	-	30"	36"	42"	48"
P.V.C.	-	-	4"	6"	-	8"	10"	12"	-	-	-	-	-	-	-	-	-	-	-
(3) STEEL CASING PIPE (D2)	8"(5)	10"	12"	14"	16"	18"	20"	24"	24"	30"	30"	30"	36"	36"	42"	48"	54"	60"	66"
WALL THICKNESS (T) ROADS	.188"	.188"	.188"	.250"	.250"	.250"	.250"	.250"	.250"	.312"	.312"	.312"	.375"	.375"	.500"	.500"	.500"	.500"	.500"
(4) WALL THICKNESS (T) R.R.	.188"	.188"	.188"	.219"	.219"	.250"	.281"	.344"	.344"	.406"	.406"	.406"	.469"	.469"	.500"	-	-	-	-

JACK AND BORE DETAIL

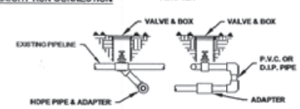
SCALE: N.T.S.



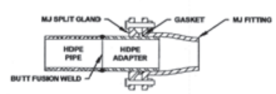
STRAIGHT RUN CONNECTION



PERPENDICULAR CONNECTION PLAN VIEW



LIMITED ACCESS CONNECTION



HDPE-MJ ADAPTER

GENERAL NOTES:

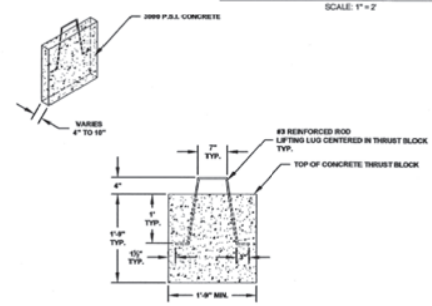
1) DIRECTIONAL DRILLS SHALL BE COMPLETED USING FPVC PIPE, DUCTILE IRON SIZE OR APPROVED EQUIVALENT.

2) ALL DIRECTIONAL DRILLS SHALL BE AT A DEPTH OF 8X PIPE DIAMETER BELOW THE ROADWAY SURFACE OR 4' WHICHEVER IS GREATER.

3) ALL HDPE MUST BE COLOR CODED (SAFETY BLUE-WATER, SAFETY GREEN FOR SEWER AND PANTONE PURPLE FOR RECLAIMED WATER); BUTT FUSION WELDED; AND CONNECTED WITH HDPE-MJ ADAPTER.

DIRECTIONAL DRILLING DETAIL

SCALE: N.T.S.



GENERAL NOTES:

1) ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST DESTIN WATER USERS APPROVED MATERIAL SPECIFICATION MANUAL.

THRUST BLOCK DETAIL

SCALE: N.T.S.

APPROVED
By Jesse Hernandez at 9:05 am, Oct 22, 2025

DESTIN WATER USERS, INC.
14 INDUSTRIAL PARK LANE, DESTIN, FL 32541 (850) 837-6146

NOTES: SCALE AS SHOWN

DWU TYPICAL DETAILS

DATE:	July 11, 2023	REV #	DATE	BY	REASON
REVISION DATE:	___ 2023	△			
DRAWN BY:	ER	△			
REVIEWED BY:	MA/BB	△			
SHEET:	X of X	△			

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
14101 PANAMA CITY BEACH PARKWAY, SUITE 110, PANAMA CITY BEACH, FL 32413 (850) 230-6150
ENGINEERING BUSINESS: EB-0000340
PENSACOLA - PANAMA CITY BEACH - TALLAHASSEE - MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of BASKERVILLE-DONOVAN, INC. and is not to be reproduced in whole or in part. It is not to be used on any other project and is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

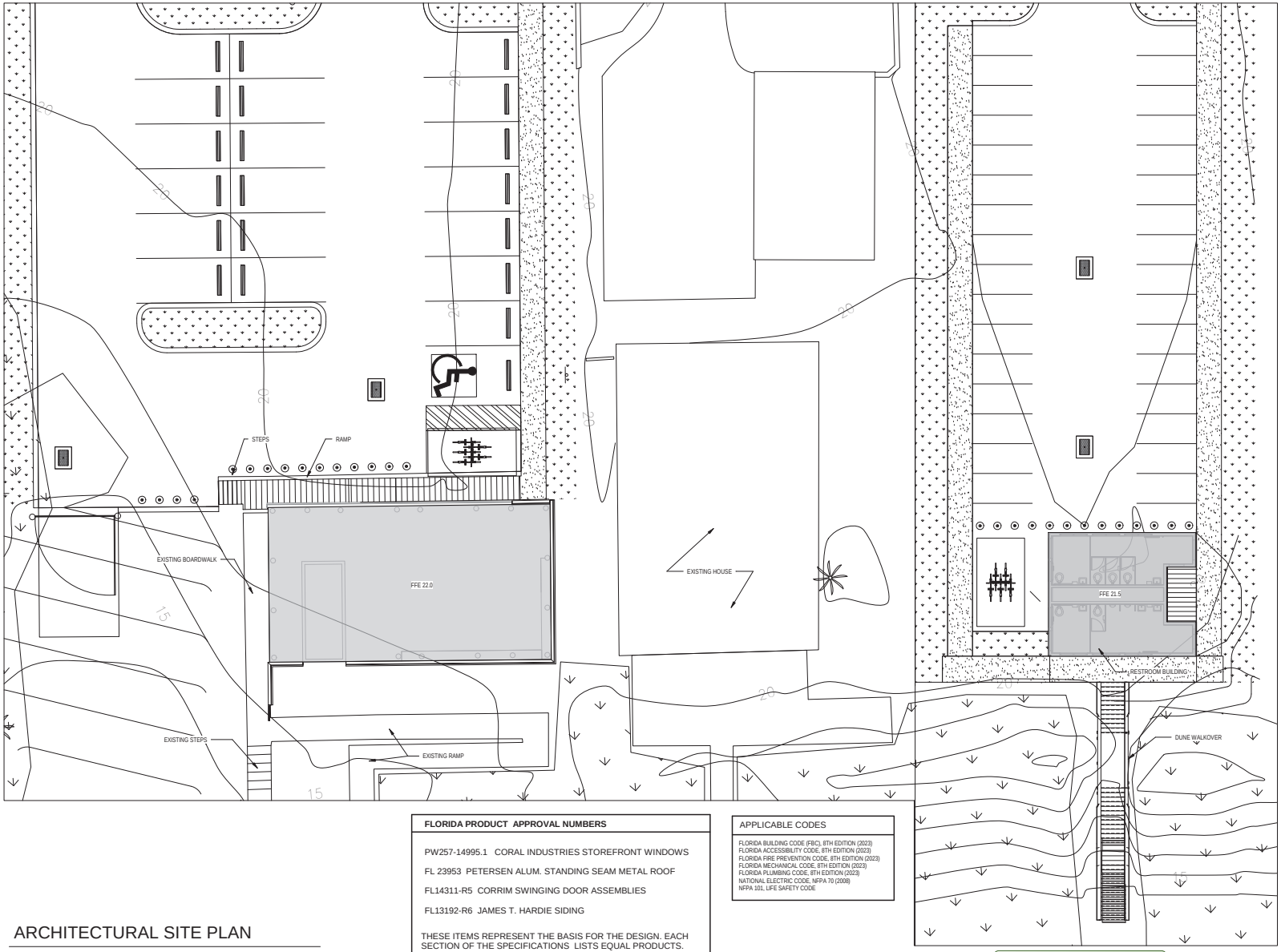
PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: AUGUST 2025

TYPICAL DETAILS

CU-507

100% SUBMITTAL

EXHIBIT D



NORTH

ARCHITECTURAL SITE PLAN

SCALE: 1" = 10'

FLORIDA PRODUCT APPROVAL NUMBERS
PW257-14995.1 CORAL INDUSTRIES STOREFRONT WINDOWS
FL 23953 PETERSEN ALUM. STANDING SEAM METAL ROOF
FL14311-R5 CORRIM SWINGING DOOR ASSEMBLIES
FL13192-R6 JAMES T. HARDIE SIDING

THESE ITEMS REPRESENT THE BASIS FOR THE DESIGN. EACH SECTION OF THE SPECIFICATIONS LISTS EQUAL PRODUCTS. THE EQUALS ARE REQUIRED TO HAVE PRODUCT APPROVAL NUMBERS SUBMITTED AS WELL.

APPLICABLE CODES
FLORIDA BUILDING CODE (FBC), 8TH EDITION (2023) FLORIDA ACCESSIBILITY CODE, 8TH EDITION (2023) FLORIDA FIRE PREVENTION CODE, 8TH EDITION (2023) FLORIDA MECHANICAL CODE, 8TH EDITION (2023) FLORIDA PLUMBING CODE, 8TH EDITION (2023) NATIONAL ELECTRIC CODE, NFPA 70 (2008) NFPA 101, LIFE SAFETY CODE

APPROVED
By Jesse Hernandez at 9:05 am, Oct 22, 2025

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
4019 MINNESOTA AVE. PANAMA CITY, FL 32303
P: PANAMA CITY BEACH, FL 1.(813.855).230.6150
ENGINEERING BUSINESS EB-0000340
PENSACOLA | PANAMA CITY BEACH | TALLAHASSEE | MOBILE

STATE OF FLORIDA
LICENSED ARCHITECT

SHORE AT CRYSTAL BEACH EXPANSION\

NO.	DATE	APPR.	REVISION / ACTION TAKEN

This drawing is the property of BASKERVILLE-DONOVAN, INC. and is not to be reproduced in whole or in part or used on any other project and is to be returned upon request.

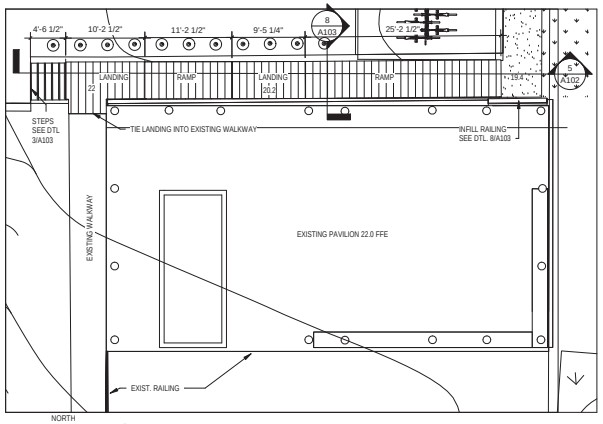
NOT RELEASED FOR CONSTRUCTION

PROJECT NO: 12105.01	
DESIGNED BY:	MM
DRAWN BY:	MM
CHK'D BY: RLW	
PROJ. MGR: JCP	
DATE: JULY, 2025	

SITE PLAN

A101

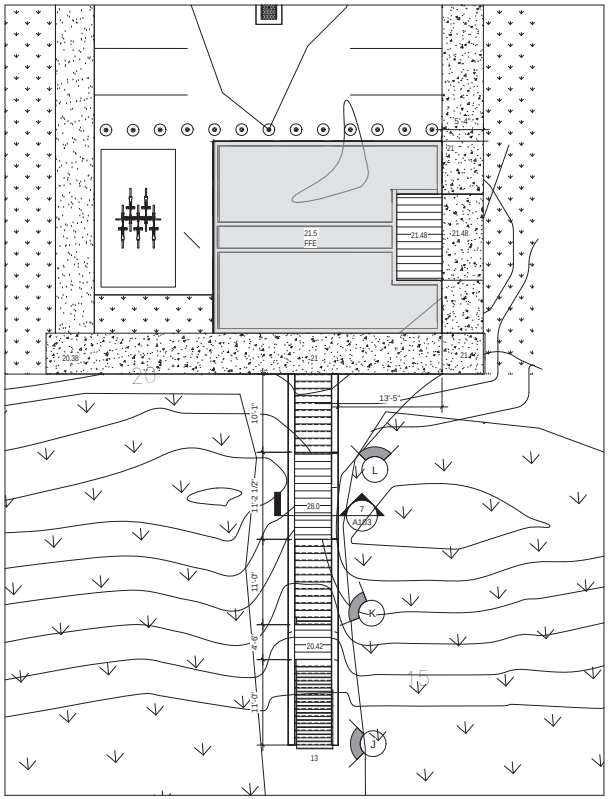
100% SUBMITTAL



NORTH

3 PAVILION PLAN

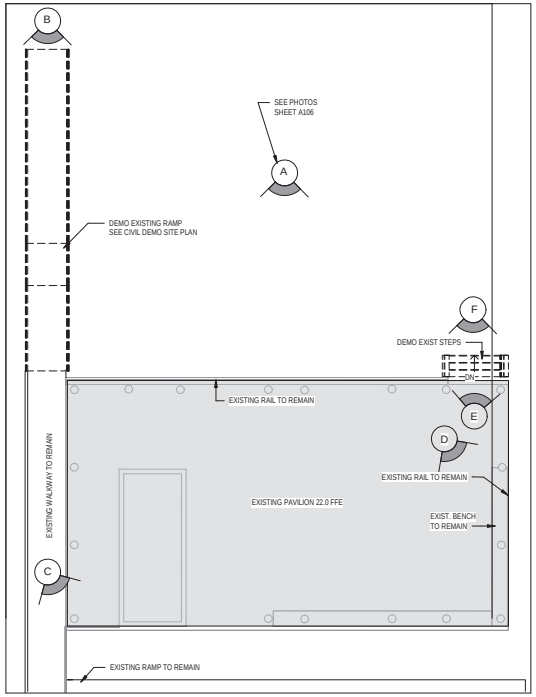
1/8" = 1'-0"



NORTH

1 RESTROOM SITE PLAN

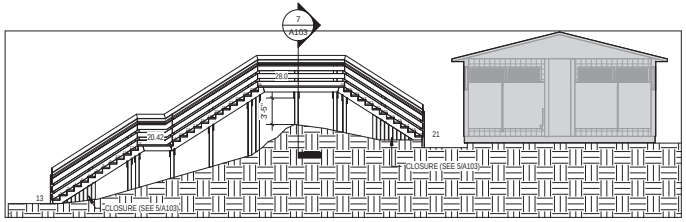
1/8" = 1'-0"



NORTH

4 PAVILION DEMO PLAN

1/8" = 1'-0"



2 DUNE WALKOVER SECTION

1/8" = 1'-0"

5 RAMP AND STEPS SECTION

1/8" = 1'-0"

APPROVED
By Jesse Hernandez at 9:05 am, Oct 22, 2025

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
EB 0000243 LB 0000243
P.NAMA CITY BEACH, FL 32413 (850) 230-6150
ENGINEERING BUSINESS EB-0000243
PENSACOLA | PANAMA CITY | DESTIN | TALLAHASSEE | MOBILE

SHORE AT CRYSTAL BEACH EXPANSION\

NO.	DATE	APPR.	REVISION / ACTION TAKEN

This drawing is the property of BASKERVILLE-DONOVAN, INC. and is not to be reproduced in whole or in part or used for any purpose in connection with any other project and is to be returned upon request.

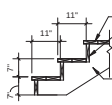
NOT RELEASED FOR CONSTRUCTION

PROJECT NO: 12105.01
DESIGNED BY: MM
DRAWN BY: MM
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: JULY 2025

DUNE WALKOVER, RAMPS AND STAIRS

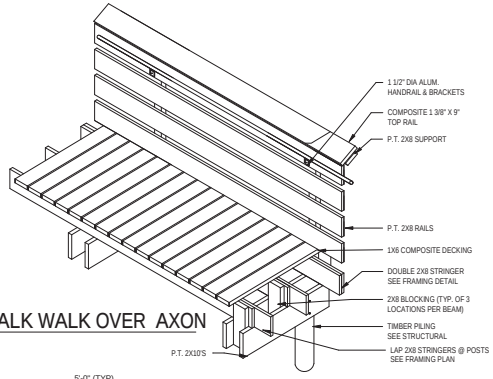
A102

100% SUBMITTAL



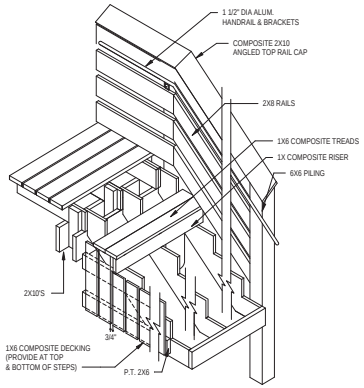
10 STEPS DETAIL

1/2" = 1'-0"



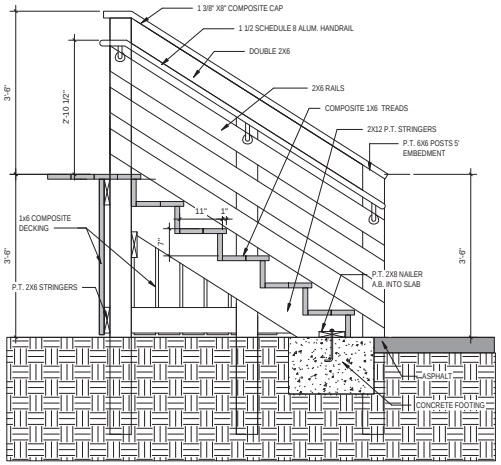
4 BOARDWALK WALK OVER AXON

1/2" = 1'-0"



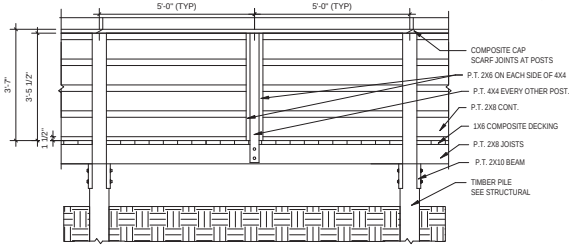
5 TYPICAL STEPS AXON VIEW

1/2" = 1'-0"



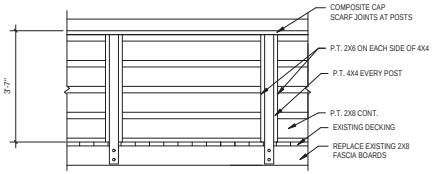
11 STAIR SECTION

3/4" = 1'-0"



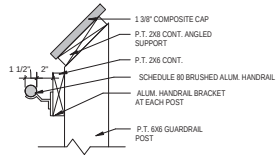
3 TYPICAL BOARDWALK FRAMING ELEVATION

1/2" = 1'-0"



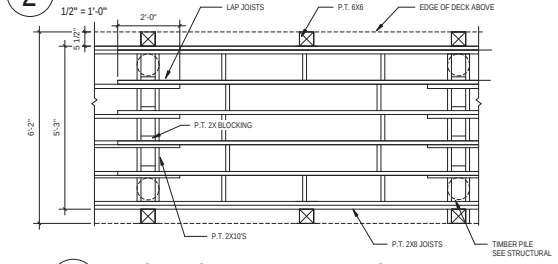
6 TYPICAL REPLACEMENT RAILING ELEVATION

1/2" = 1'-0"



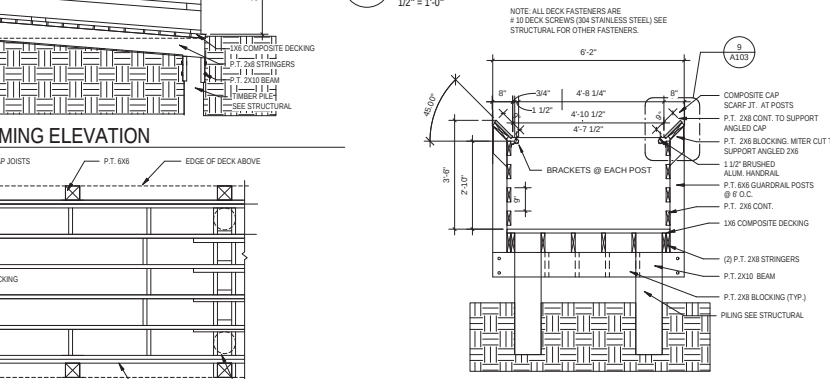
9 TYPICAL COLUMN CAP DETAIL

1 1/2" = 1'-0"



1 TYPICAL BOARDWALK FRAMING PLAN

1/2" = 1'-0"



2 TYPICAL RAMP FRAMING ELEVATION

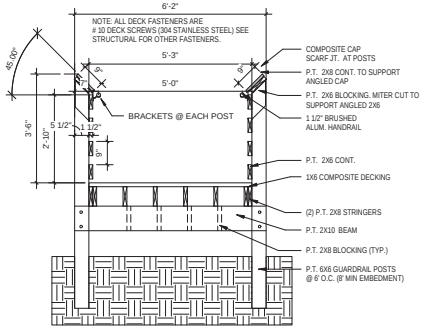
1/2" = 1'-0"

NOTE: ALL DECK FASTENERS ARE # 10 DECK SCREWS (304 STAINLESS STEEL) SEE STRUCTURAL FOR OTHER FASTENERS.

7 BOARDWALK DETAIL

1/2" = 1'-0"

NOTE: ALL DECK FASTENERS ARE # 10 DECK SCREWS (304 STAINLESS STEEL) SEE STRUCTURAL FOR OTHER FASTENERS.



8 RAMP DETAIL

1/2" = 1'-0"

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
400 WEST ROBINSON STREET, SUITE 1010
ORLANDO, FL 32801
P: (407) 843-5120
FAX: (407) 839-1801
PANAMA CITY BEACH, FL: (850) 235-5050
ENGINEERING BUSINESS: EB 0000340
PENSACOLA | PANAMA CITY BEACH | ORLANDO | MOBILE

SHORE AT CRYSTAL BEACH EXPANSION\

NO.	DATE	APPR.	REVISION / ACTION TAKEN

This drawing is the property of BASKERVILLE-DONOVAN, INC. and is not to be reproduced in whole or in part or used for any question any other project and is to be returned upon request.

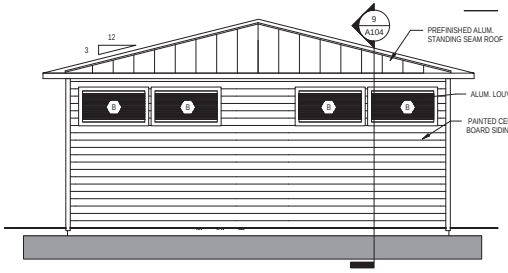
NOT RELEASED FOR CONSTRUCTION

PROJECT NO:	12105.01
DESIGNED BY:	MM
DRAWN BY:	MM
CHK'D BY:	RLW
PROJ. MGR:	JCP
DATE:	JULY, 2025

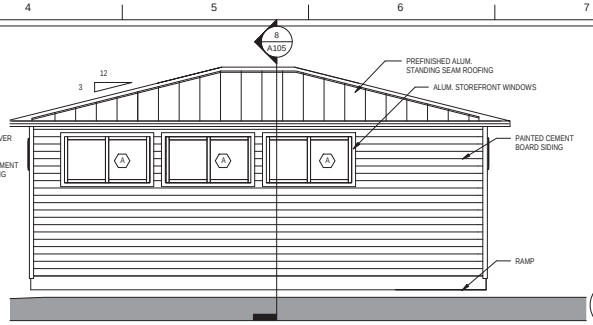
RAMP AND STAIR DETAILS

A103

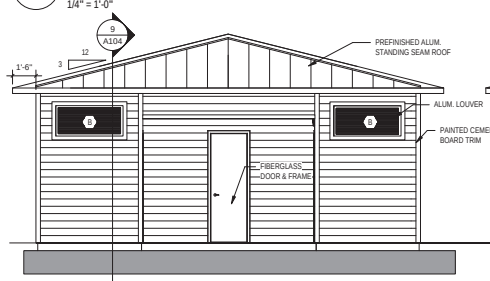
100% SUBMITTAL



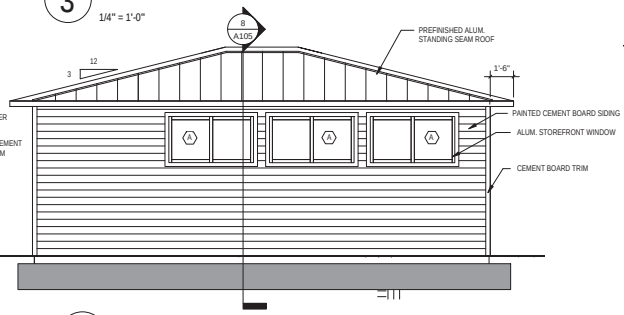
2 EAST ELEVATION
1/4" = 1'-0"



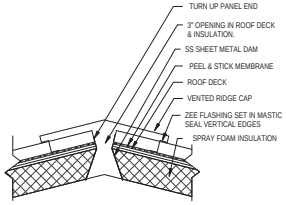
3 NORTH ELEVATION
1/4" = 1'-0"



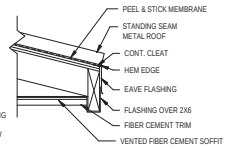
4 WEST ELEVATION
1/4" = 1'-0"



5 SOUTH ELEVATION
1/4" = 1'-0"

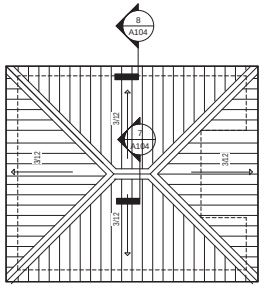


7 VENTED RIDGE CAP DETAIL
1 1/2" = 1'-0"



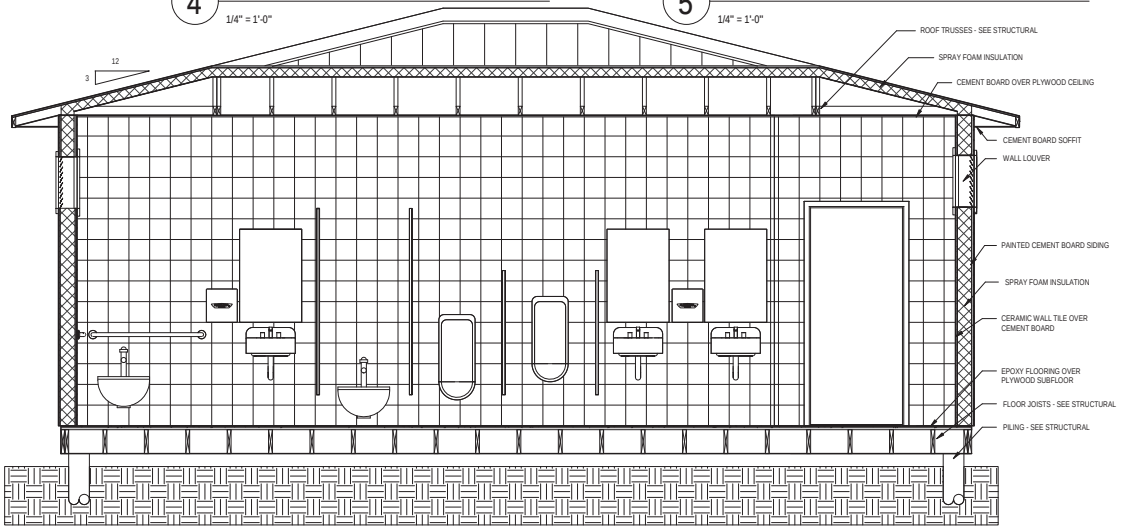
8 EAVE DETAIL
1 1/2" = 1'-0"

APPROVED
By Jesse Hernandez at 9:05 am, Oct 22, 2025

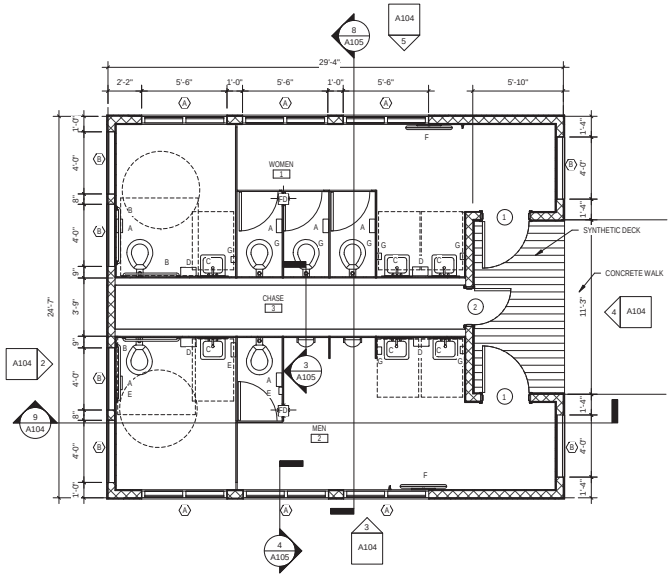


NORTH

6 ROOF PLAN.
1/8" = 1'-0"



9 BUILDING SECTION.
1/2" = 1'-0"



NORTH

1 FLOOR PLAN
1/4" = 1'-0"

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
4019 WESTERN AVENUE PANAMA CITY, FL 32405 (850) 785-4578
P.O. BOX 1010 PANAMA CITY BEACH, FL 32413 (850) 230-4150
ENGINEERING BUSINESS EB-0000340
PENSACOLA | PANAMA CITY | DESTIN | CRESTVIEW | DEFUNIAK SPRINGS | MOBILE

STATE OF FLORIDA
JESSE D. HERNANDEZ
NO. 76000
REGISTERED ARCHITECT

SHORE AT CRYSTAL BEACH EXPANSION\

NO.	DATE	APPR.	REVISION / ACTION TAKEN

This drawing is the property of BASKERVILLE-DONOVAN, INC. and is not to be reproduced in whole or in part or used for any question any other project and is to be returned upon request.

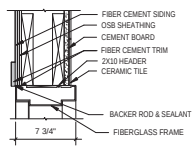
NOT RELEASED FOR CONSTRUCTION

PROJECT NO: 12105.01
DESIGNED BY: MM
DRAWN BY: MM
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: JULY 2025

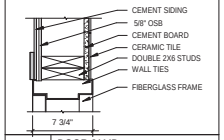
FLOOR PLAN, ELEVATIONS, BUILDING SECTION

A104

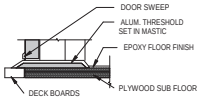
100% SUBMITTAL



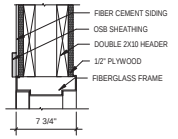
A DOOR HEAD



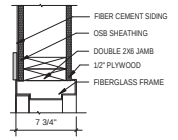
B DOOR JAMB



C DOOR SILL



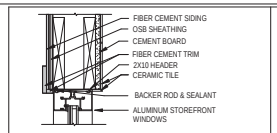
D DOOR HEAD



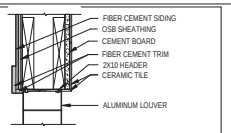
E DOOR JAMB

6 DOOR DETAILS

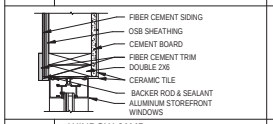
1 1/2" = 1'-0"



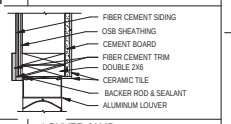
F WINDOW HEAD



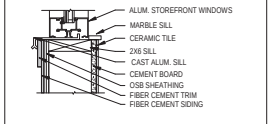
I LOUVER HEAD



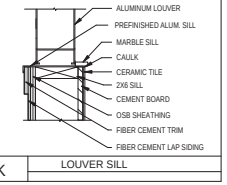
G WINDOW JAMB



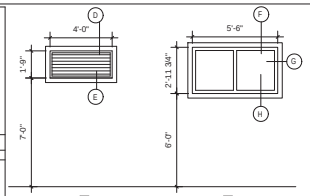
J LOUVER JAMB



H WINDOW SILL

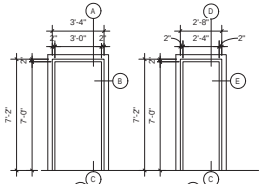


K LOUVER SILL



B ALUM. LOUVER W/ FIBER CEMENT TRIM

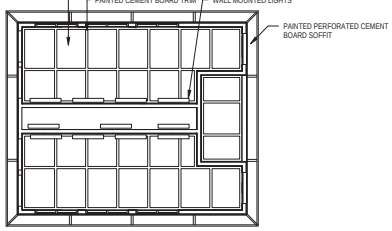
A ALUMINUM STOREFRONT INSULATED IMPACT OBSCURE GLASS (VISUAL LIGHT TRANSMITTANCE OF 45%) W/ FIBER CEMENT TRIM



C 1 FIBERGLASS DOOR FIBERGLASS FRAME W/ PAINTED FIBER CEMENT TRIM HDW SET #1

C 2 FIBERGLASS DOOR FIBERGLASS FRAME W/ PAINTED FIBER CEMENT TRIM HDW SET #2

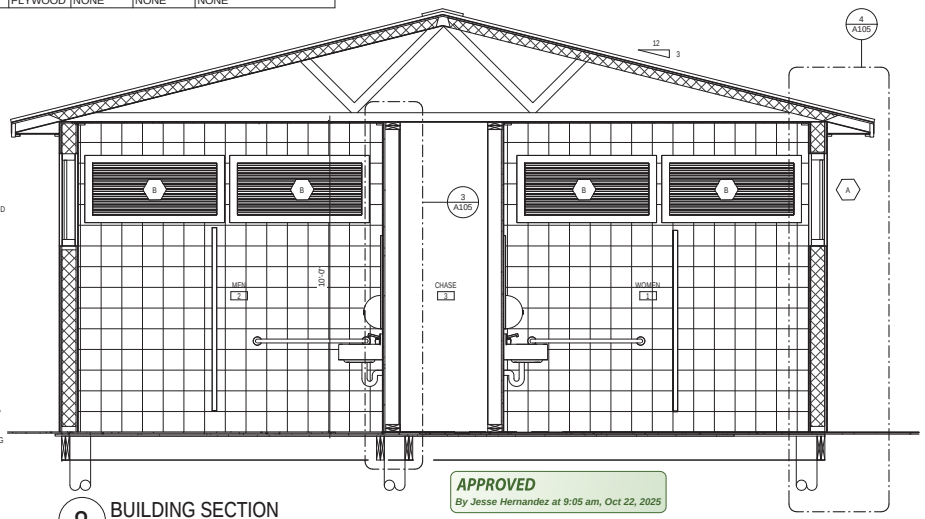
ROOM FINISH SCHEDULE					
Name	Number	Floor Finish	Base Finish	Wall Finish	Ceiling Finish
WOMEN	1	EPOXY	EPOXY	CT	PAINTED CEMENT BD.
MEN	2	EPOXY	EPOXY	CT	PAINTED CEMENT BD.
CHASE	3	PLYWOOD	NONE	NONE	NONE



NORTH

9 REFLECTED CEILING PLAN

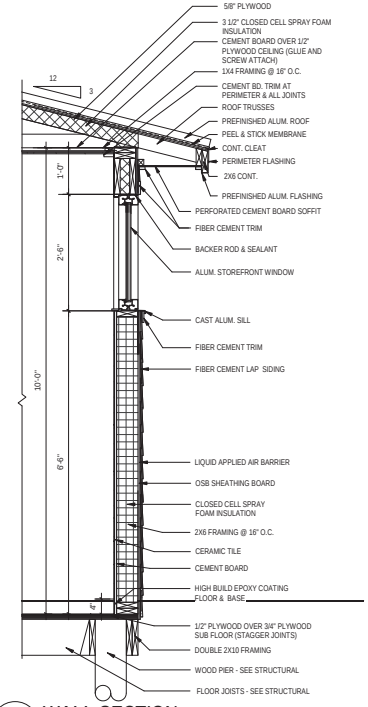
1/8" = 1'-0"



APPROVED
By Jesse Hernandez at 9:05 am, Oct 22, 2025

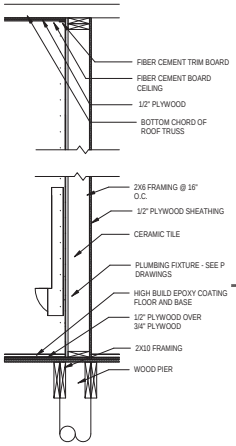
8 BUILDING SECTION

1/2" = 1'-0"



4 WALL SECTION

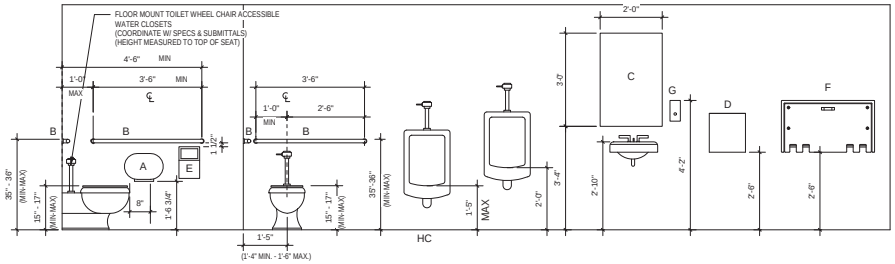
3/4" = 1'-0"



3 CHASE WALL SECTION

3/4" = 1'-0"

TOILET ACCESSORIES	
A	TOILET PAPER DISPENSER
B	HORIZONTAL GRAB BAR (42" LONG)
C	24"X 36"TILT MIRROR
D	SURFACE MOUNTED HAND DRYER
E	SURFACE MOUNTED NAPKIN DISPOSAL
F	CHANGING STATION
G	SURFACE MOUNTED SOAP DISPENSER



1 RESTROOM MOUNTING HEIGHTS

1/2" = 1'-0"

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
621 NW 53rd STREET, SUITE 100
P.O. BOX 12965
PANAMA CITY BEACH, FL 32413 (850) 230-6150
ENGINEERING BUSINESS EB-0000340
PENSACOLA • PANAMA CITY • DESTIN • TALLAHASSEE • MOBILE

STATE OF FLORIDA
REGISTERED ARCHITECT

SHORE AT CRYSTAL BEACH EXPANSION\

NO.	DATE	APPR.	REVISION / ACTION TAKEN

This drawing is the property of BASKERVILLE-DONOVAN, INC. and is not to be reproduced in whole or in part or used for any question any other project and is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

PROJECT NO:	12105.01
DESIGNED BY:	MM
DRAWN BY:	MM
CHK'D BY:	RLW
PROJ. MGR:	JCP
DATE:	JULY, 2025

WALL SECTIONS DOORS, & WINDOWS

A105

100% SUBMITTAL

A - EXISTING PAVILION

B - RAMP TO BE DEMOLISHED

C - RAILING TO BE DEMOLISHED

D - RAILING AND BENCH TO REMAIN

E - STEPS TO BE DEMOLISHED

APPROVED
By Jesse Hernandez at 9:05 am, Oct 22, 2025

F - STEPS TO BE DEMOLISHED

G - RESTROOM BOARDWALK LANDING AREA

H - RESTROOM BOARDWALK DUNE

I - RESTROOM AREA

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
501 MAGNOLIA AVENUE PANAMA CITY, FL 32401-2510
P PANAMA CITY BEACH, FL (850) 235-5200 F (850) 235-5210
ENGINEERING BUSINESS #B-0000040
PENSACOLA | PANAMA CITY | DESTIN | TALLAHASSEE | MOBILE

STATE OF FLORIDA
JESSE J. MARTIN
LICENSED ARCHITECT

SHORE AT CRYSTAL BEACH EXPANSION\

NO.	DATE	APPR.	REVISION / ACTION TAKEN

This drawing is the property of BASKERVILLE-DONOVAN, INC. and is not to be reproduced in whole or in part or used for any question any other project and is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

PROJECT NO: 12105.01
DESIGNED BY: MM
DRAWN BY: MM
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: JULY, 2025

PHOTOS

A106

100% SUBMITTAL

EXHIBIT E

1 EXISTING CONDITIONS PLAN
Scale: 1" = 30'

0 30' 60'

NORTH

landscape architecture
land planning
placemaking

Foley, Alabama
P. 251.948.7181
Mobile, Alabama
P. 251.344.4023
Jackson, Mississippi
P. 601.790.0781
Pensacola, Florida
P. 850.203.4252
www.was-design.com

NOT
FOR CONSTRUCTION
THESE PLANS HAVE NOT BEEN APPROVED AND ARE SUBJECT TO CHANGE.

A Landscape Development Plan for
Shores at Crystal Beach
Park Expansion
Destin, Florida

Revisions

No.	Date	Revisions / Submissions
	02.26.25	PRELIMINARY DESIGN – PD100
	03.25.25	REVIEW SET–CD095
	05.23.25	CD100
	07.21.25	CD100 – REV 01

© Copyright 2025 WAS Design Inc. These documents and their contents are the property of WAS Design. Any reproductions, revisions, modifications or use of these documents without the express written consent of WAS Design is prohibited by law.

FA
Drawn
DM
Project Manager
CW
Principal
252066-004
Project No.
02.11.25
Date

Registration – FL LA6666896

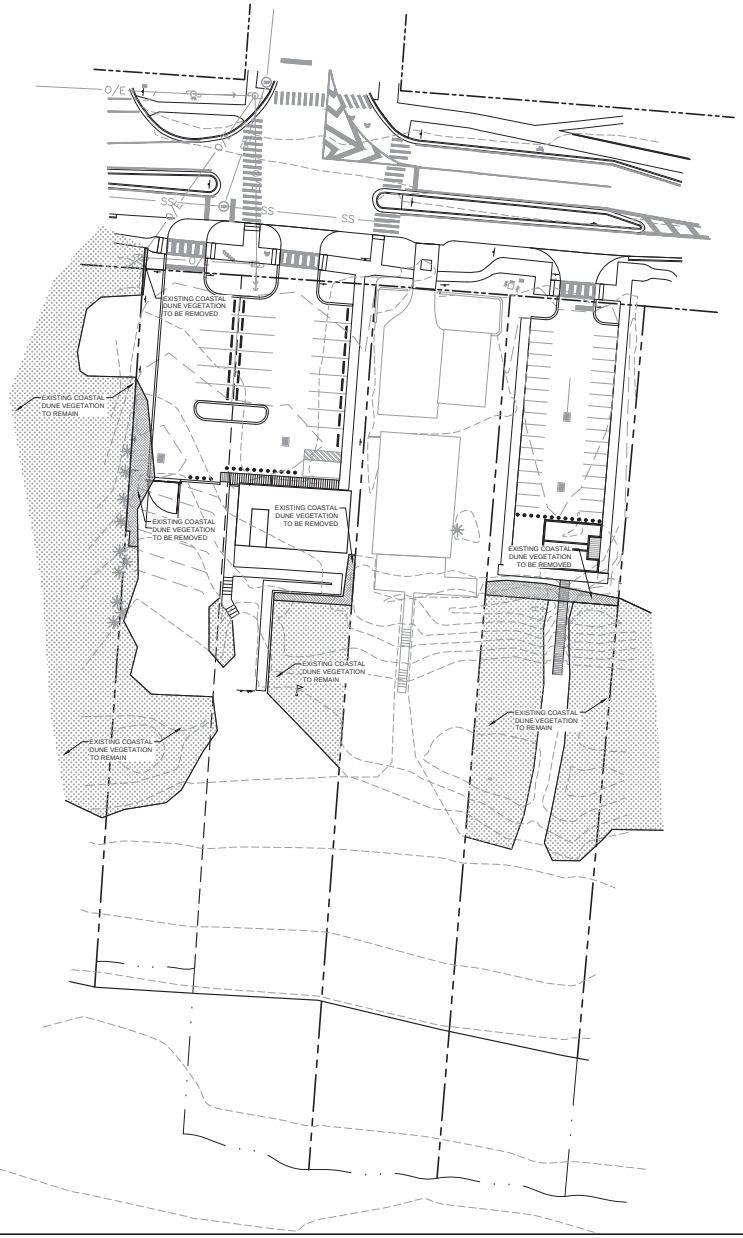
Drawings not valid without seal

Sheet Title

EXISTING CONDITIONS PLAN

Sheet No.

EC100



APPROVED
By Jesse Hernandez at 9:05 am, Oct 22, 2025

EXISTING VEGETATION

EXISITING COASTAL DUNE VEGETATION TO REMAIN

EXISITING COASTAL DUNE VEGETATION TO BE REMOVED

1 EXISTING VEGETATION PLAN
Scale: 1" = 30'

0 30' 60'

NORTH

landscape architecture
land planning
placemaking

Foley, Alabama
P. 251.948.7181
Mobile, Alabama
P. 251.344.4023
Jackson, Mississippi
P. 601.790.0781
Pensacola, Florida
P. 850.203.4252
www.was-design.com

NOT
FOR CONSTRUCTION
THESE PLANS HAVE NOT BEEN APPROVED AND ARE SUBJECT TO CHANGE.

A Landscape Development Plan for
Shores at Crystal Beach
Park Expansion
Destin, Florida

Revisions

No.	Date	Revisions / Submissions
	02.26.25	PRELIMINARY DESIGN – PD100
	03.25.25	REVIEW SET–CD095
	05.23.25	CD100
	07.21.25	CD100 – REV 01

© Copyright 2025 WAS Design Inc. These documents and their contents are the property of WAS Design. Any reproductions, revisions, modifications or use of these documents without the express written consent of WAS Design is prohibited by law.

FA
Drawn
DM
Project Manager
CW
Principal
252066-004
Project No.
02.11.25
Date

Registration – FL LA6666896

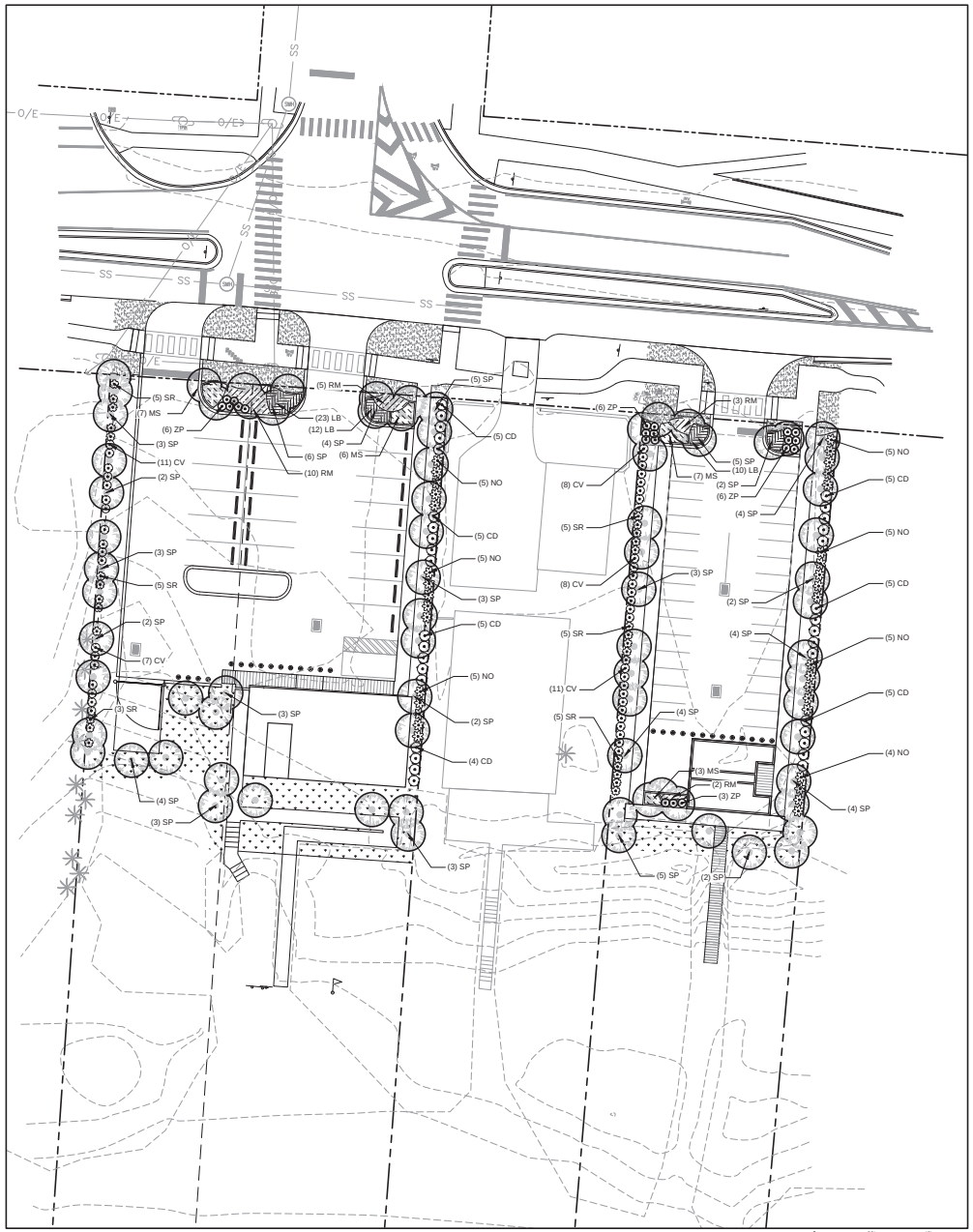
Drawings not valid without seal

Sheet Title

EXISTING
VEGETATION PLAN

Sheet No.

EX100



1 LANDSCAPE PLANTING PLAN
Scale: 1" = 20'

0 20' 40'

PLANT SCHEDULE EAST

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	HT	SPACING
PALM TREES							
	SP	35	SABAL PALMETTO / SABAL PALM CLEAR-TRUNK HEIGHT NOTED	FG	2.5" CAL	14-16` H	
SHRUBS							
	CD	15	CALLISTEMON VIMINALIS `LIGHT SHOW` / LIGHT SHOW RED BOTTLEBRUSH	3 GAL			48" o.c.
	CV	27	CALLISTEMON VIMINALIS 'LITTLE JOHN' / LITTLE JOHN WEEPING BOTTLEBRUSH	3 GAL			36" o.c.
	NO	19	NERIUM OLEANDER / OLEANDER	3 GAL			48" o.c.
	SR	15	SERENOA REPENS / GREEN SAW PALMETTO	3 GAL			36" o.c.
	ZP	15	ZAMIA FLORIDANA / COONTIE	3 GAL			36" o.c.
SHRUB AREAS							
	LB	19	LOMANDRA LONGIFOLIA `BREEZE` / BREEZE GRASS	3 GAL			24" o.c.
	MS	10	MISCANTHUS SINENSIS `ADAGIO` / ADAGIO MAIDEN GRASS	3 GAL			36" o.c.
GROUND COVERS							
	RM	5	ROSA X 'MEIDRIFORA' / CORAL DRIFT ROSE	3 GAL			36" o.c.
	DM	198	SEA OATS & BEACH MORNING GLORY / DUNE MIX UNIOLA PANICULATA/IPOMOEA IMPERATI RATE - 2 OATS PER 1 MORNING GLORY	2" PLUG			24" o.c.
SOD/SEED							
	SOD	619 SF	CYNODON DACTYLON `TIFWAY 419` / TIFWAY 419 BERMUDA GRASS	SOD			

PLANT SCHEDULE WEST

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	HT	SPACING
PALM TREES							
	SP	43	SABAL PALMETTO / SABAL PALM CLEAR-TRUNK HEIGHT NOTED	FG	2.5" CAL	14-16` H	
SHRUBS							
	CD	19	CALLISTEMON VIMINALIS `LIGHT SHOW` / LIGHT SHOW RED BOTTLEBRUSH	3 GAL			48" o.c.
	CV	18	CALLISTEMON VIMINALIS 'LITTLE JOHN' / LITTLE JOHN WEEPING BOTTLEBRUSH	3 GAL			36" o.c.
	NO	15	NERIUM OLEANDER / OLEANDER	3 GAL			48" o.c.
	SR	13	SERENOA REPENS / GREEN SAW PALMETTO	3 GAL			36" o.c.
	ZP	6	ZAMIA FLORIDANA / COONTIE	3 GAL			36" o.c.
SHRUB AREAS							
	LB	35	LOMANDRA LONGIFOLIA `BREEZE` / BREEZE GRASS	3 GAL			24" o.c.
	MS	13	MISCANTHUS SINENSIS `ADAGIO` / ADAGIO MAIDEN GRASS	3 GAL			36" o.c.
GROUND COVERS							
	RM	15	ROSA X 'MEIDRIFORA' / CORAL DRIFT ROSE	3 GAL			36" o.c.
	DM	600	SEA OATS & BEACH MORNING GLORY / DUNE MIX UNIOLA PANICULATA/IPOMOEA IMPERATI RATE - 2 OATS PER 1 MORNING GLORY	2" PLUG			24" o.c.
SOD/SEED							
	SOD	1,253 SF	CYNODON DACTYLON `TIFWAY 419` / TIFWAY 419 BERMUDA GRASS	SOD			

APPROVED
By Jesse Hernandez at 9:05 am, Oct 22, 2025

landscape architecture
land planning
placemaking
Foley, Alabama
P. 251.948.7181
Mobile, Alabama
P. 251.344.4023
Jackson, Mississippi
P. 601.790.0781
Pensacola, Florida
P. 850.203.4252
www.was-design.com

NOT FOR CONSTRUCTION
THESE PLANS HAVE NOT BEEN APPROVED AND ARE SUBJECT TO CHANGE.

A Landscape Development Plan for
Shores at Crystal Beach Park Expansion
Destin, Florida

Revisions

No.	Date	Revisions / Submissions
	02.26.25	PRELIMINARY DESIGN – PD100
	03.25.25	REVIEW SET–CD095
	05.23.25	CD100
	07.21.25	CD100 – REV 01

© Copyright 2025 WAS Design Inc. These documents and their contents are the property of WAS Design. Any reproductions, revisions, modifications or use of these documents without the express written consent of WAS Design is prohibited by law.

Registration – FL LA6666896

Drawn: FA
Project Manager: DM
Principal: CW
Project No.: 252066-004
Date: 02.11.25

Drawings not valid without seal

Sheet Title
LANDSCAPE PLANTING PLAN

Sheet No.
LP100

Wheeler's dwarf pittosporum

Tifway 419 Bermuda Grass

Adagio Maiden Grass

Light Show Red Bottlebrush

Blanket flower

Sabal Palm

Hardy Red Oleander

Sweet Viburnum

Shore juniper

Saw Palmetto

Coontie

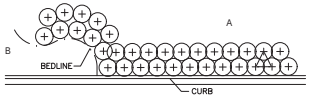
Purple Trailing Lantana

Dwarf Yaupon Holly

Dune Sunflower

Dune Mix

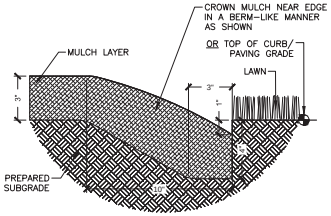
APPROVED
By Jesse Hernandez at 9:05 am, Oct 22, 2025



A SHRUBS AND GROUNDCOVERS ADJACENT TO STRAIGHT EDGES SHALL BE TRIANGULAR – SPACED IN ROWS PARALLED TO THE STRAIGHT EDGE.

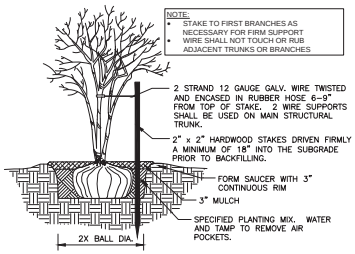
B SHRUBS AND GROUNDCOVERS ADJACENT TO CURVED EDGES SHALL BE PLANTED IN ROWS PARALLEL TO THE CURVED EDGES. CURVED EDGES TO BE VERY SMOOTH RADII.

5 TYPICAL PLANT SPACING
NOT TO SCALE 329399-04

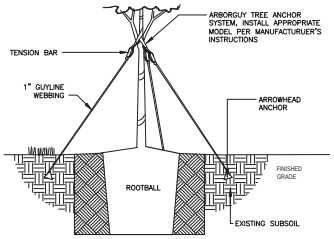


NOTE: TRENCH EDGE TO BE LOCATED BETWEEN ALL PLANTING BED AREAS AND ADJACENT TURF AREAS, UNLESS NOTED OTHERWISE.

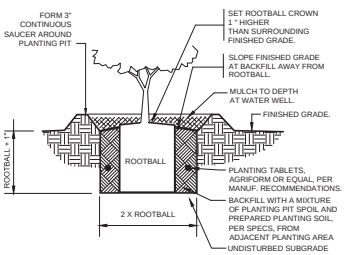
6 TRENCH EDGE
3" = 1'-0" 329413.23-02



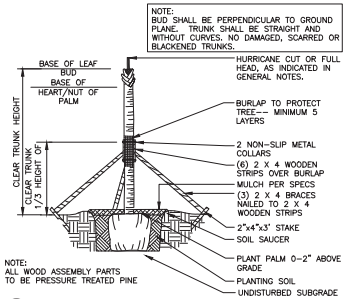
7 MULTI-TRUNK TREE STAKING
1/2" = 1'-0" 329343-01



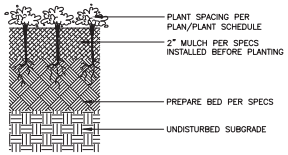
STAKING DETAIL



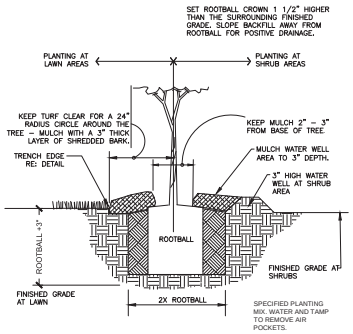
1 SHRUB PLANTING
1" = 1'-0" 329333.13-01



2 PALM TREE PLANTING
3/8" = 1'-0" 329343-02



3 GROUNDCOVER PLANTING
3" = 1'-0" 329313-01



PLANT PIT DETAIL

4 TREE PLANTING - GUY STRAP
1" = 1'-0" 329343.26-02

landscape architecture
land planning
placemaking
Foley, Alabama
P. 251.948.7181
Mobile, Alabama
P. 251.344.4023
Jackson, Mississippi
P. 601.790.0781
Pensacola, Florida
P. 850.203.4252
www.was-design.com

NOT FOR CONSTRUCTION
THESE PLANS HAVE NOT BEEN APPROVED AND ARE SUBJECT TO CHANGE.

A Landscape Development Plan for
Shores at Crystal Beach Park Expansion
Destin, Florida

Revisions

No.	Date	Revisions / Submissions
	02.26.25	PRELIMINARY DESIGN – PD100
	03.25.25	REVIEW SET-CD095
	05.23.25	CD100
	07.21.25	CD100 – REV 01

© Copyright 2025 WAS Design Inc. These documents and their contents are the property of WAS Design. Any reproductions, revisions, modifications or use of these documents without the express written consent of WAS Design is prohibited by law.

FA
Drawn
DM
Project Manager
CW
Principal
252066-004
Project No.
02.11.25
Date

Registration – FL LA6666896

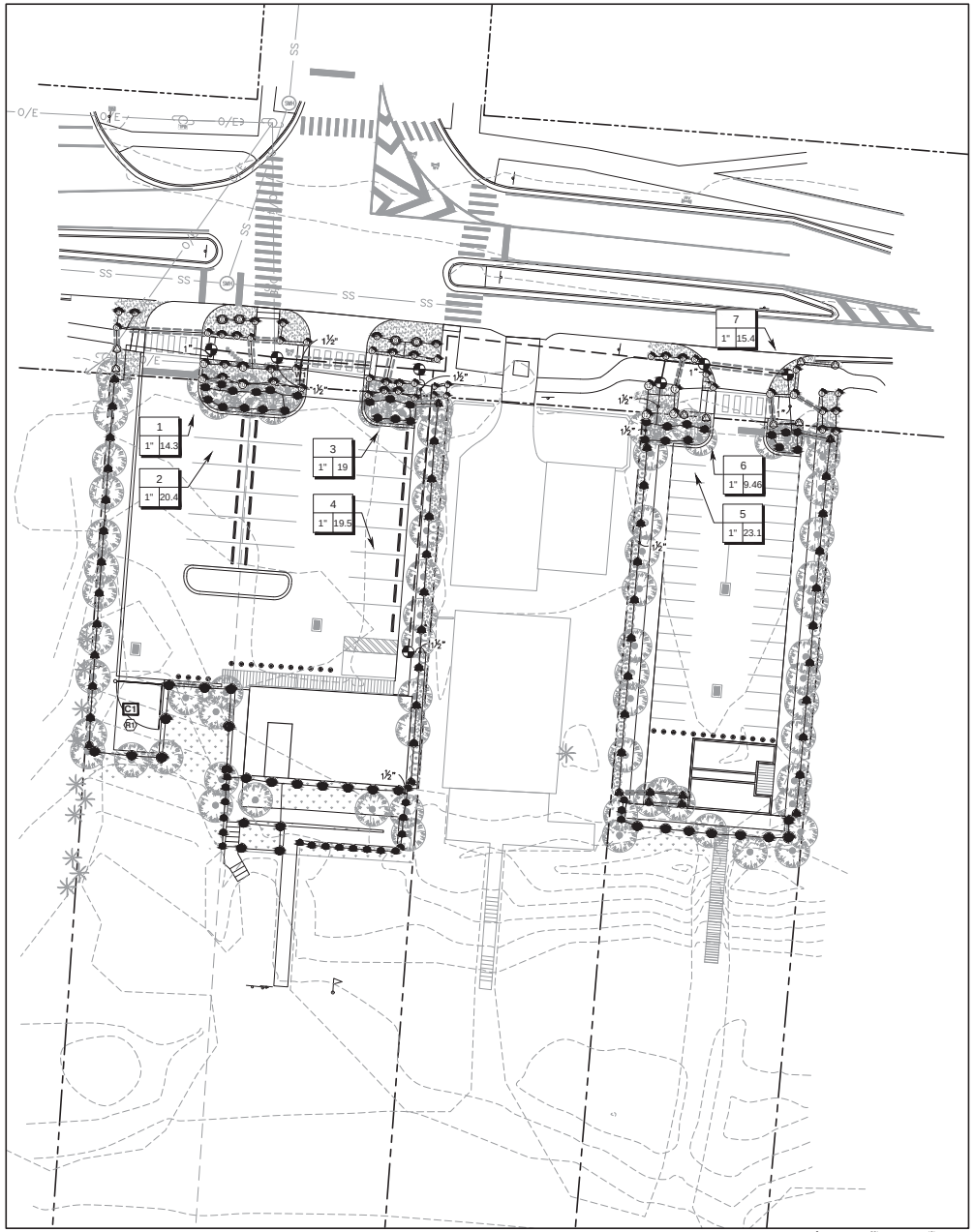
Drawings not valid without seal

Sheet Title

LANDSCAPE PLANTING DETAILS

Sheet No.

LP500



1 IRRIGATION PLAN
Scale: 1" = 20'

0 20 40

800-432-4770

Always call 811 two full business days before you dig to have underground utilities located & marked.

Sunshine811.com

IRRIGATION GRAPHICS NOTES

IRRIGATION SYSTEM DESIGN GRAPHICS ARE DIAGRAMMATIC IN NATURE, AND INTENDED TO INDICATE GENERAL LOCATION AND PROXIMITY TO OTHER ELEMENTS OF THE DRAWING. AS SUCH, MAINLINE AND/OR VALVES ARE OFTEN SHOWN OUTSIDE OF TRENCH FOR GRAPHIC CLARITY. ALL EQUIPMENT AND PIPE SHALL BE WITHIN PROPERTY BOUNDARIES UNLESS OTHERWISE NOTED. SLEEVE SIZES TO BE DETERMINED BY CONTRACTOR UNLESS NOTED ON THE DRAWINGS.

APPROVED
By Jesse Hernandez at 9:05 am, Oct 22, 2025

WAS DESIGN
landscape architecture
land planning
placemaking

Foley, Alabama
P. 251.948.7181
Mobile, Alabama
P. 251.344.4023
Jackson, Mississippi
P. 601.790.0781
Pensacola, Florida
P. 850.203.4252
www.was-design.com

NOT
FOR CONSTRUCTION
THESE PLANS HAVE NOT BEEN APPROVED AND ARE SUBJECT TO CHANGE.

A Landscape Development Plan for
Shores at Crystal Beach Park Expansion
Destin, Florida

Revisions

No.	Date	Revisions / Submissions
	02.26.25	PRELIMINARY DESIGN – PD100
	03.25.25	REVIEW SET–CD095
	05.23.25	CD100
	07.21.25	CD100 – REV 01

© Copyright 2025 WAS Design Inc. These documents and their contents are the property of WAS Design. Any reproductions, revisions, modifications or use of these documents without the express written consent of WAS Design is prohibited by law.

AS
Drawn
DM
Project Manager
CW
Principal
252066-004
Project No.
02.11.25
Date

Registration – FL LA6666896

Drawings not valid without seal

Sheet Title

IRRIGATION PLAN

Sheet No.

LI100

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI
EST LCS RCS CST SST	RAIN BIRD 1806-SAM-PRS 15 STRIP SERIES TURF SPRAY 6.0" POP-UP SPRINKLER WITH CO-MOLDED WIPER SEAL. 1/2" NPT FEMALE THREADED INLET. WITH SEAL-A-MATIC CHECK VALVE, AND PRESSURE REGULATING.	8	30
Q H P	RAIN BIRD 1806-SAM-PRS 5 SERIES MPR TURF SPRAY 6.0" POP-UP SPRINKLER WITH CO-MOLDED WIPER SEAL. 1/2" NPT FEMALE THREADED INLET. WITH SEAL-A-MATIC CHECK VALVE, AND PRESSURE REGULATING.	4	30
Q T H P	RAIN BIRD 1806-SAM-PRS 8 SERIES MPR TURF SPRAY 6.0" POP-UP SPRINKLER WITH CO-MOLDED WIPER SEAL. 1/2" NPT FEMALE THREADED INLET. WITH SEAL-A-MATIC CHECK VALVE, AND PRESSURE REGULATING.	48	30
Q T H P	RAIN BIRD 1806-SAM-PRS 10 SERIES MPR TURF SPRAY 6.0" POP-UP SPRINKLER WITH CO-MOLDED WIPER SEAL. 1/2" NPT FEMALE THREADED INLET. WITH SEAL-A-MATIC CHECK VALVE, AND PRESSURE REGULATING.	6	30
Q T H P	RAIN BIRD 1806-SAM-PRS 12 SERIES MPR TURF SPRAY 6.0" POP-UP SPRINKLER WITH CO-MOLDED WIPER SEAL. 1/2" NPT FEMALE THREADED INLET. WITH SEAL-A-MATIC CHECK VALVE, AND PRESSURE REGULATING.	4	30
EST LCS RCS CST SST	RAIN BIRD 1812-SAM-PRS 15 STRIP SERIES SHRUB SPRAY 12.0" POP-UP SPRINKLER WITH CO-MOLDED WIPER SEAL. 1/2" NPT FEMALE THREADED INLET. WITH SEAL-A-MATIC CHECK VALVE, AND PRESSURE REGULATING DEVICE.	49	30
Q H P	RAIN BIRD 1812-SAM-PRS 5 SERIES MPR SHRUB SPRAY 12.0" POP-UP SPRINKLER WITH CO-MOLDED WIPER SEAL. 1/2" NPT FEMALE THREADED INLET. WITH SEAL-A-MATIC CHECK VALVE, AND PRESSURE REGULATING DEVICE.	22	30
Q T H P	RAIN BIRD 1812-SAM-PRS 8 SERIES MPR SHRUB SPRAY 12.0" POP-UP SPRINKLER WITH CO-MOLDED WIPER SEAL. 1/2" NPT FEMALE THREADED INLET. WITH SEAL-A-MATIC CHECK VALVE, AND PRESSURE REGULATING DEVICE.	29	30
Q T H P	RAIN BIRD 1812-SAM-PRS 10 SERIES MPR SHRUB SPRAY 12.0" POP-UP SPRINKLER WITH CO-MOLDED WIPER SEAL. 1/2" NPT FEMALE THREADED INLET. WITH SEAL-A-MATIC CHECK VALVE, AND PRESSURE REGULATING DEVICE.	20	30
Q T H P	RAIN BIRD 1812-SAM-PRS 12 SERIES MPR SHRUB SPRAY 12.0" POP-UP SPRINKLER WITH CO-MOLDED WIPER SEAL. 1/2" NPT FEMALE THREADED INLET. WITH SEAL-A-MATIC CHECK VALVE, AND PRESSURE REGULATING DEVICE.	6	30
Q T H P	RAIN BIRD 1812-SAM-PRS 15 SERIES MPR SHRUB SPRAY 12.0" POP-UP SPRINKLER WITH CO-MOLDED WIPER SEAL. 1/2" NPT FEMALE THREADED INLET. WITH SEAL-A-MATIC CHECK VALVE, AND PRESSURE REGULATING DEVICE.	2	30

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	RAIN BIRD PGA ANGLE 1" 1IN., 1-1/2IN., 2IN. ELECTRIC REMOTE CONTROL VALVE, ANGLE.	7
C1	RAIN BIRD ESP4ME3 WITH (1) ESP-SM3 7 STATION, HYBRID MODULAR OUTDOOR CONTROLLER. FOR RESIDENTIAL OR LIGHT COMMERCIAL USE. LNK WIFI MODULE AND FLOW SENSOR READY.	1
R1	RAIN BIRD RSD-BEX RAIN SENSOR, WITH METAL LATCHING BRACKET, EXTENSION WIRE.	1
W1	POINT OF CONNECTION 3" EXISTING IRRIGATION WELL BASIS OF DESIGN: 25 GPM @ 60 PSI, CONTRACTOR TO VERIFY.	1
	IRRIGATION LATERAL LINE: PVC CLASS 200 SDR 21 1" ONLY LATERAL TRANSITION PIPE SIZES 1 1/4" AND ABOVE ARE INDICATED ON THE PLAN, WITH ALL OTHERS BEING 1" IN SIZE.	1,752 LF
	IRRIGATION LATERAL LINE: PVC CLASS 200 SDR 21 1 1/2" ONLY LATERAL TRANSITION PIPE SIZES 1 1/4" AND ABOVE ARE INDICATED ON THE PLAN, WITH ALL OTHERS BEING 1" IN SIZE.	152.7 LF
	IRRIGATION MAINLINE: PVC CLASS 200 SDR 21 1 1/2"	330.7 LF
	PIPE SLEEVE: PVC SCHEDULE 40	150.1 LF

Valve Callout

Valve Number

Valve Flow

Valve Size

QUANTITY TAKEOFF DISCLAIMER:

QUANTITIES NOTED ON PLANS ARE OFFERED AS A CONVENIENCE TO THE CONTRACTOR FOR BID PURPOSES ONLY. CONTRACTOR SHALL VERIFY ALL QUANTITIES AND REPORT ANY DISCREPANCIES TO THE LANDSCAPE ARCHITECT.

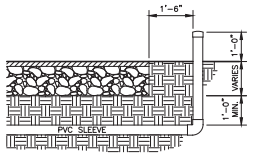
800-432-4770

Always call 811 two full business days before you dig to have underground utilities located & marked.

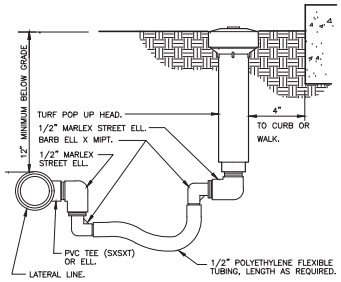
Sunshine811.com

APPROVED
By Jesse Hernandez at 9:05 am, Oct 22, 2025

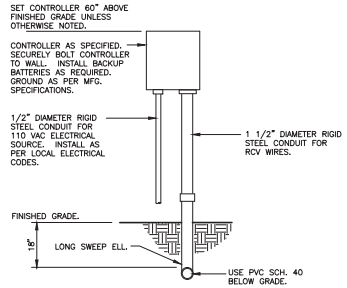
NOTE:
INSTALLER OF SLEEVES SHALL BE RESPONSIBLE TO LOCATE SLEEVES IF NOT PROPERLY INSTALLED.



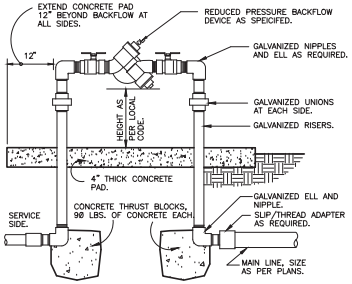
7 SLEEVING DETAIL
1/2" = 1'-0" 328409.76-05



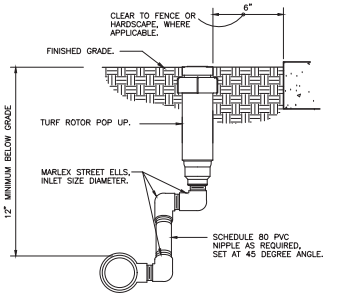
4 TURF SPRAY FLEX ASSEMBLY
3" = 1'-0" 328403.13-02



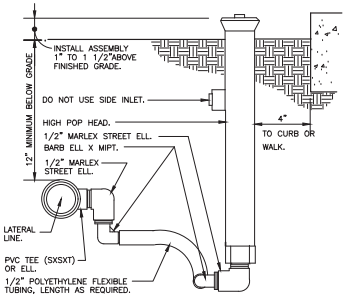
5 WALL MOUNT CONTROLLER
1" = 1'-0" 328409.13-01



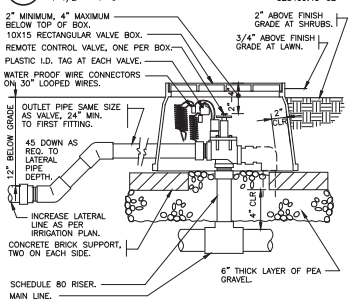
6 REDUCED PRESSURE BACKFLOW
1 1/2" = 1'-0" 328409.43-02



1 TURF ROTOR MARLEX ASSEMBLY
3" = 1'-0" 328403.16-01



2 SHRUB SPRAY HIGHPOP W/ FLEX ASSEMBLY
3" = 12" 328403.29-01



3 ELECTRIC REMOTE CONTROL VALVE
1 1/2" = 1'-0" 328406.13-01

was DESIGN landscape architecture
landscape architecture
land planning
placemaking
Foley, Alabama
P. 251.948.7181
Mobile, Alabama
P. 251.344.4023
Jackson, Mississippi
P. 601.790.0781
Pensacola, Florida
P. 850.203.4252
www.was-design.com

NOT
FOR CONSTRUCTION
THESE PLANS HAVE NOT BEEN APPROVED AND ARE SUBJECT TO CHANGE.

A Landscape Development Plan for
Shores at Crystal Beach Park Expansion
Destin, Florida

Revisions

No.	Date	Revisions / Submissions
	02.26.25	PRELIMINARY DESIGN - PD100
	03.25.25	REVIEW SET-CD095
	05.23.25	CD100
	07.21.25	CD100 - REV 01

© Copyright 2025 WAS Design Inc. These documents and their contents are the property of WAS Design. Any reproductions, revisions, modifications or use of these documents without the express written consent of WAS Design is prohibited by law.

AS
Drawn
DM
Project Manager
CW
Principal
252066-004
Project No.
02.11.25
Date

Registration - FL LA6666896

Drawings not valid without seal

Sheet Title

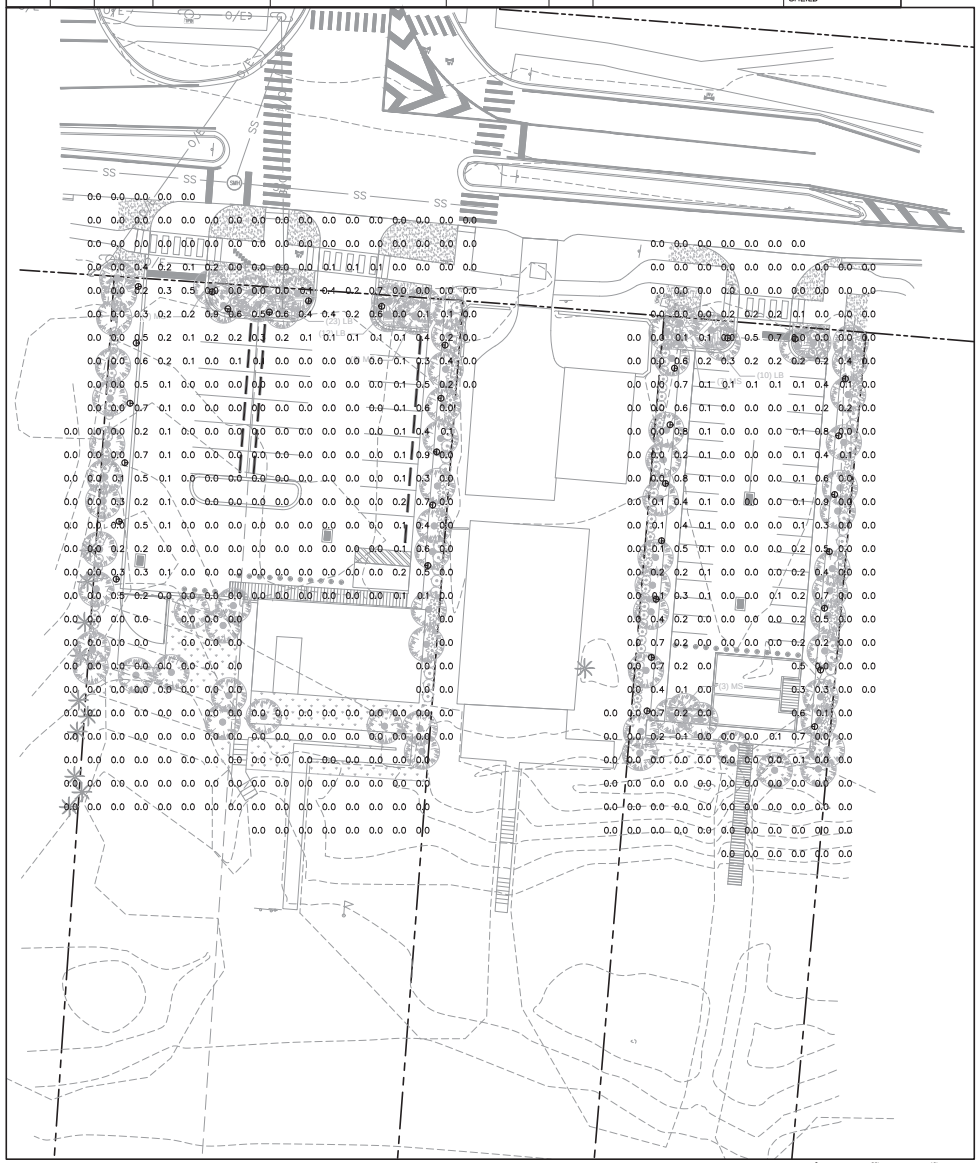
IRRIGATION DETAILS

Sheet No.

LI500

LUMINAIRE SCHEDULE

CALLOUT	SYMBOL	QUANTITY	LAMP	DESCRIPTION	MODEL	COLOR (CCT)	NOTE 1	NOTE 2
BLS	⊕	32	(1) 4 LED chips, 4COB	9-1/2"DIA. X 35-1/2"H. LED LUMINAIRE DIFFUSED LENS	Hydrel, 3100C 4COB AMBLW BSH AMBER	AMBER	INPUT: 120-277VAC, 0.7A, 50/60Hz OUTPUT: 200-1050mA, 48W , eldoLED SOLOdriver 561/s	FWC APPROVED SEA TURTLE BOLLARD LIGHT WITH BEACHSIDE SHEILD



1 SITE LIGHTING PLAN
Scale: 1" = 20'

GENERAL LIGHTING NOTES

- FIXTURE SPECIFICATIONS & LOCATIONS SHOWN ON LANDSCAPE ARCHITECT'S LIGHTING PLANS SUPERCEDE ANY OTHER INFORMATION THAT MAY ALSO BE INCLUDED IN ARCHITECTURAL, ELECTRICAL ENGINEER'S PLANS, ETC. CONTRACTOR TO NOTIFY LA OF ANY INCONSISTENCIES.
- LIGHTING PLANS ARE SUBJECT TO REVIEW & APPROVAL FROM AUTHORITIES-HAVING-JURISDICTION (AHJ'S) I.E. CITIES, AGENCIES ETC. CHANGES TO FIXTURE SPECIFICATIONS AND/OR LOCATIONS SHALL BE SUBMITTED TO LA AND MAY REQUIRE FURTHER PERMITTING & APPROVAL FROM AHJ'S. FAILURE TO DO SO MAY RESULT IN AHJ'S REJECTING THE FIXTURE UPON PROJECT COMPLETION INSPECTION, WHICH SHALL BE CORRECTED AT CONTRACTOR'S EXPENSE.
- STRUCTURAL ENGINEERING DESIGN IS NEITHER EXPRESSED NOR IMPLIED IN THIS DRAWING. STRUCTURAL ENGINEERING DESIGN RESPONSIBILITY IS DELEGATED TO THE CONTRACTOR, AND SHALL BE DONE BY A PROFESSIONAL ENGINEER OR OTHER QUALIFIED PROFESSIONAL AS REQUIRED FOR CODE COMPLIANCE, PERMITTING, ETC.
- FOR LIGHTING PLANS INCLUDING PHOTOMETRIC CALCULATIONS, FOOTCANDLE CALCULATIONS ARE INTENDED TO IMITATE FINAL INSTALLED VALUES. FACTORS THAT MAY AFFECT THESE VALES INCLUDE BUT ARE NOT LIMITED TO MANUFACTURER'S IES FILE VALIDITY, LIGHT LOSS FACTORS, BUILDING MATERIAL REFLECTIVITY, TREE AND FURNITURE PLACEMENT, ETC. CARE WAS TAKEN TO PREPARE PLANS TO ACCOUNT FOR THE ABOVE FACTORS, BUT FINAL CONDITIONS & EXTERNAL FACTORS ARE SUBJECT TO MINOR CHANGES. CONTRACTOR SHALL INSTALL FIXTURES AS INDICATED ON THE CONSTRUCTION DOCUMENTS AND PER MANUFACTURER'S RECOMMENDATIONS TO ENSURE VARIANCES DUE TO INSTALLATION ISSUES ARE KEPT TO A MINIMUM.

GENERAL NOTES

1. EXTERIOR LIGHTS SHALL BE ARRANGED TO SHIELD OR DEFLECT LIGHT AWAY FROM ADJOINING PROPERTIES, PUBLIC STREETS AND BEACH, AND SHALL NOT HAVE AN ADVERSE IMPACT OF THE SURROUNDING PROPERTIES, ROADWAYS, AND BEACHES.
2. VOLTAGE TO BE VERIFIED BY ELECTRICAL CONTRACTOR AND APPROVED BY CLIENT.
3. TINTED GLASS OR FILM WITH A VISIBLE LIGHT TRANSMITTANCE VALUE OF FORTY-FIVE (45) PERCENT OR LESS SHALL BE APPLIED TO ALL WINDOWS AND DOORS WITHIN LINE OF SIGHT OF THE BEACH. THIS INCLUDES THE SEAWARD AND SHORE-PERPENDICULAR SIDES OF THE STRUCTURE. THIS MAY BE SPECIFIED IN THE NOTES SECTION ON THE DRAWING.
4. NO FIXTURE SUBSTITUTIONS OR ALTERATIONS ARE ALLOWED WITHOUT PRIOR FWC REVIEW AND THE EXTERIOR LIGHTING SHALL BE INSTALLED AND MAINTAINED AS DEPICTED.

APPROVED
By Jesse Hernandez at 9:05 am, Oct 22, 2025

WAS DESIGN landscape architecture
landscape architecture
land planning
placemaking
Foley, Alabama
P. 251.948.7181
Mobile, Alabama
P. 251.344.4023
Jackson, Mississippi
P. 601.790.0781
Pensacola, Florida
P. 850.203.4252
www.was-design.com

NOT
FOR CONSTRUCTION
THESE PLANS HAVE NOT BEEN APPROVED AND ARE SUBJECT TO CHANGE.

A Landscape Development Plan for
Shores at Crystal Beach Park Expansion
Destin, Florida

Revisions

No.	Date	Revisions / Submissions
	02.26.25	PRELIMINARY DESIGN - PD100
	03.25.25	REVIEW SET-CD095
	05.23.25	CD100
	07.21.25	CD100 - REV 01

© Copyright 2025 WAS Design Inc. These documents and their contents are the property of WAS Design. Any reproductions, revisions, modifications or use of these documents without the express written consent of WAS Design is prohibited by law.

AS
Drawn
DM
Project Manager
CW
Principal
252066-004
Project No.
02.11.25
Date

Registration - FL LA6666896

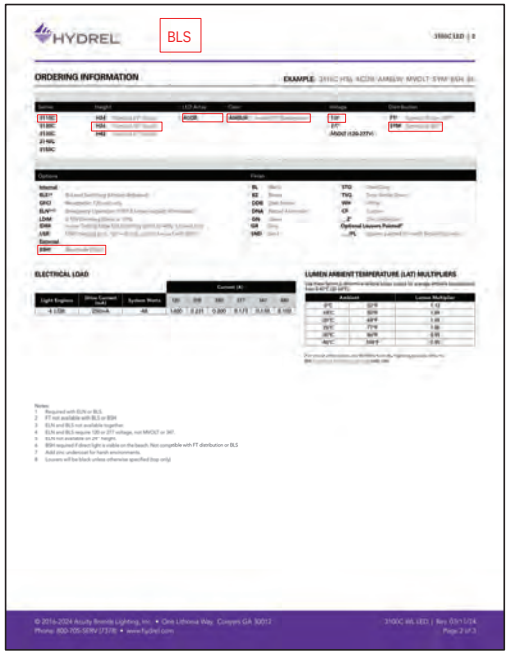
Drawings not valid without seal

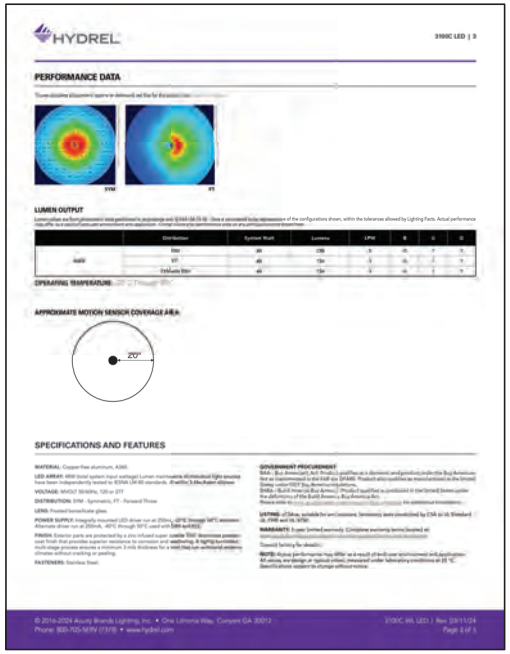
Sheet Title

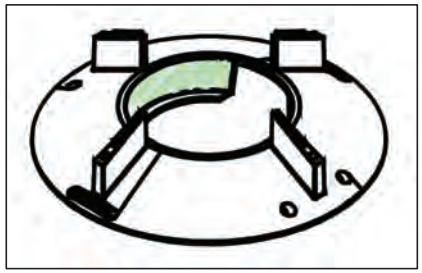
SITE LIGHTING PLAN

Sheet No.

LE100







MANUFACTURER PROVIDED DIAGRAM OF BEACH-SIDE SHIELD, ADD-ON COMPONENT FOR ALL FIXTURES REQUIRED BEACH-SIDE SHIELDING

APPROVED
By Jesse Hernandez at 9:05 am, Oct 22, 2025

WAS DESIGN
landscape architecture
land planning
placemaking
Foley, Alabama
P. 251.948.7181
Mobile, Alabama
P. 251.344.4023
Jackson, Mississippi
P. 601.790.0781
Pensacola, Florida
P. 850.203.4252
www.was-design.com

NOT
FOR CONSTRUCTION
THESE PLANS HAVE NOT BEEN APPROVED AND ARE SUBJECT TO CHANGE.

A Landscape Development Plan for
Shores at Crystal Beach
Park Expansion
Destin, Florida

Revisions

No.	Date	Revisions / Submissions
	02.26.25	PRELIMINARY DESIGN – PD100
	03.25.25	REVIEW SET–CD095
	05.23.25	CD100
	07.21.25	CD100 – REV 01

© Copyright 2025 WAS Design Inc. These documents and their contents are the property of WAS Design. Any reproductions, revisions, modifications or use of these documents without the express written consent of WAS Design is prohibited by law.

AS
Drawn
DM
Project Manager
CW
Principal
252066–004
Project No.
02.11.25
Date

Registration – FL LA6666896

Drawings not valid without seal

Sheet Title

SITE LIGHTING DETAILS

Sheet No.

LE500

EXHIBIT F

OGD REVIEW
9/22/2025 C.W.

EXISITNG 5/8" PE GAS S/L, POTENTIAL CONFLICT WITH LANDSCAPE AND WATER SERVICE, LOCATE AND PROTECT

CONSTRUCTION PLANS FOR

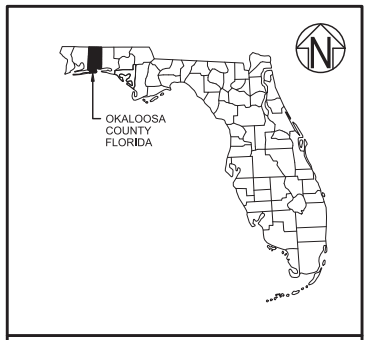
SHORES AT CRYSTAL BEACH PARK EXPANSION

JULY 2025

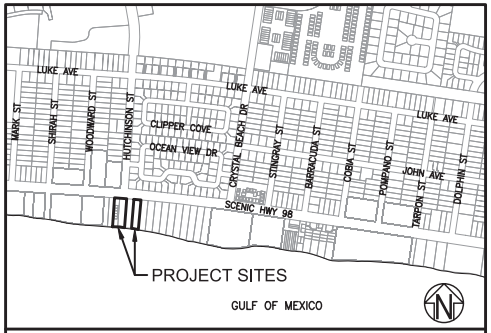
PREPARED FOR:

OKALOOSA COUNTY

APPROVED
By Jesse Hernandez at 9:05 am, Oct 22, 2025



VICINITY MAP



LOCATION MAP

OKALOOSA COUNTY
COMMISSIONERS

PAUL MIXON (CHAIRMAN)	COMMISSIONER DISTRICT 1
CAROLYN KETCHEL	COMMISSIONER DISTRICT 2
SHERRI COX	COMMISSIONER DISTRICT 3
TREY GOODWIN	COMMISSIONER DISTRICT 4
DREW PALMER	COMMISSIONER DISTRICT 5

PREPARED BY:

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
14101 PANAMA CITY BEACH PARKWAY, SUITE 110,
PANAMA CITY BEACH, FL 32413 (850) 230-6150
ENGINEERING BUSINESS: EB-0000340
PENSACOLA - PANAMA CITY BEACH - TALLAHASSEE - MOBILE

ENGINEER'S PROJECT NO. 12105.02

48 HOURS BEFORE YOU DIG
CALL SUNSHINE
1-800-432-4770
IT'S THE LAW IN FLORIDA
FL STATUTE 553.851 (1979) REQUIRES MIN. OF 2 DAYS AND MAX. OF 5 DAYS NOTICE BEFORE YOU EXCAVATE.

SHEET INDEX

G-000 COVER SHEET
G-001 GENERAL NOTES
C-100 PROJECT OVERVIEW
C-101 EXISTING CONDITIONS
C-102 DEMOLITION PLAN
C-103 GEOMETRY PLAN
C-104 GEOMETRIC DATA TABLES
C-105 GRADING AND STORM DRAINAGE PLAN
C-106 GRADING AND STORM DRAINAGE PLAN
C-107 STORM DRAINAGE DATA TABLES AND NOTES
C-300 TYPICAL PAVEMENT SECTIONS
C-500 MISCELLANEOUS DETAILS
C-501 MISCELLANEOUS DETAILS
C-502 BIKE RACK DETAILS
C-503 ADS STORM TECH CHAMBER SYSTEM NOTES
C-504 ADS STORM TECH CHAMBER SYSTEM DETAILS (WEST ASPHALT PARKING LOT)
C-505 ADS STORM TECH CHAMBER SYSTEM DETAILS (EAST ASPHALT GOLF CART/LOW SPEED VEHICLE (LSV) PARKING LOT)
C-506 ADS STORM TECH CHAMBER SYSTEM DETAILS
C-507 ADS STORM TECH CHAMBER SYSTEM DETAILS
C-508 ADS STORM TECH CHAMBER SYSTEM DETAILS
C-509 MISCELLANEOUS STANDARD FDOT DETAILS
C-510 MISCELLANEOUS STANDARD FDOT DETAILS
C-511 MISCELLANEOUS STANDARD FDOT DETAILS
C-512 MISCELLANEOUS STANDARD FDOT DETAILS
C-700 STRIPING AND SIGNAGE PLAN
C-701 MISCELLANEOUS STRIPING AND SIGNAGE DETAILS
C-702 MISCELLANEOUS STANDARD FDOT DETAILS
C-703 MISCELLANEOUS STANDARD FDOT DETAILS
C-704 MISCELLANEOUS STANDARD FDOT DETAILS
C-705 MISCELLANEOUS STANDARD FDOT DETAILS
C-800 EROSION CONTROL PLAN
C-801 BEST MANAGEMENT PRACTICES DETAILS
C-802 BEST MANAGEMENT PRACTICES DETAILS
CU-101 WATER AND SANITARY SEWER PLAN
CU-501 MISCELLANEOUS WATER AND SANITARY SEWER DETAILS
CU-502 MISCELLANEOUS WATER DETAILS
CU-503 MISCELLANEOUS WATER DETAILS
CU-504 MISCELLANEOUS SANITARY SEWER DETAILS
S-001 GENERAL NOTES & TYPICAL DETAILS
S-101 FOUNDATION AND ROOF FRAMING PLAN
S-102 DUNE WALKOVER PILE LAYOUT
S-201 SECTIONS AND DETAILS
S-301 SPECIFICATIONS
A-101 SITE PLAN
A-102 DUNE WALKOVER, RAMPS AND STAIRS
A-103 RAMP AND STAIR DETAILS
A-104 FLOOR PLANS, ELEVATIONS, BUILDING SECTIONS
A-105 WALL SECTIONS, DOORS AND WINDOWS
A-106 PHOTOS
M-001 MECHANICAL LEGEND AND NOTES
M-002 MECHANICAL SCHEDULE AND DETAILS
M-101 MECHANICAL AND PLUMBING PLANS
M-201 MECHANICAL DETAILS
E-001 LEGEND, ABBREVIATIONS, AND SPECIFICATIONS
E-101 SITE PLAN
E-211 RESTROOM BUILDING PLAN
E-311 LUMINAIRE SCHEDULE AND SPECIFICATION SHEETS
EC-100 EXISTING CONDITIONS PLAN
EX-100 EXISTING VEGETATION PLAN
LP-100 LANDSCAPE PLANTING PLAN
LP-500 LANDSCAPE PLANTING DETAILS
LI-100 IRRIGATION PLAN
LI-500 IRRIGATION DETAILS
LE-100 SITE LIGHTING PLAN
LE-500 SITE LIGHTING DETAILS

1 2 3 4 5 6 7 8 9 10

GENERAL NOTES:

1. THE CONTRACTORS SHALL NOTIFY OKALOOSA COUNTY MANAGER OR DESIGNEE 48 HOURS PRIOR TO CONSTRUCTION.
2. ALL CONDITIONS AND STIPULATIONS OF THE CONSTRUCTION PERMITS AND THE APPROVALS ISSUED BY OKALOOSA COUNTY SHALL BE COMPLIED WITH IN EVERY DETAIL.
3. ALL ROADS DAMAGED BY CONSTRUCTION OPERATIONS ARE TO BE PATCHED OR RECONSTRUCTED AS DIRECTED BY OKALOOSA COUNTY MANAGER OR DESIGNEE.
4. THE CONTRACTOR SHALL TAKE STEPS NECESSARY TO PREVENT EROSION AND ANY OFF SITE SEDIMENT TRANSPORT RESULTING FROM INCREASED RUNOFF DURING CONSTRUCTION BY PROVIDING EROSION CONTROL MEASURES CONSISTENT WITH THE FLORIDA STORMWATER, EROSION, AND SEDIMENT CONTROL INSPECTOR'S MANUAL, 2018 EDITION, OR AS INDICATED ON THE PLANS. ALL EROSION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL ASSOCIATED DISTURBED AREAS ARE STABILIZED AS TO REDUCE SEDIMENT RUNOFF, UNLESS OTHERWISE DIRECTED BY THE ENGINEER OR DESIGNEE.
5. THE CONTRACTOR SHALL EMPLOY THE USE OF SILT FENCES, HAY BALES, DITCHES OR WHATEVER MEANS NECESSARY TO CONTROL EROSION AND SEDIMENTATION AT ALL TIMES. WATERS OF THE STATE, ADJACENT PROPERTIES, AND ANY NEW DRAINAGE CONSTRUCTION SHALL BE PROTECTED DURING THE CONSTRUCTION PERIOD. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF CONSTRUCTION AND SHALL REMAIN UNTIL THE COMPLETION OF CONSTRUCTION AND ACCEPTANCE BY THE OWNER.
6. ANY NECESSARY PERMITS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
7. THE CONTRACTOR IS CAUTIONED TO VISIT THE SITE AND FAMILIARIZE HIMSELF WITH THE PROJECT PRIOR TO BIDDING AND/OR CONSTRUCTION.
8. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO PRESERVE OR RELOCATE ALL BENCHMARKS (VERTICAL CONTROL) AS NEEDED DURING CONSTRUCTION. ALL PUBLIC OR PRIVATE CORNER MONUMENTATION SHALL BE PROTECTED. IF A PUBLIC OR PRIVATE CORNER MONUMENTATION IS IN DANGER OF BEING DESTROYED AND HAS NOT BEEN PROPERLY REFERENCED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OR DESIGNEE IMMEDIATELY. ANY OKALOOSA COUNTY/CITY HARN/GPS NETWORK MONUMENTS OR BUREAU OF SURVEY AND MAPPING GPS NETWORK MONUMENTS WITHIN THE LIMITS OF CONSTRUCTION SHALL BE PROTECTED. IF A HARN/GPS NETWORK MONUMENTS OR BUREAU OF SURVEY AND MAPPING GPS NETWORK MONUMENTS ARE DISTURBED OR DESTROYED THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACEMENT OF THE MONUMENTS AND HAVE THE MONUMENTS POSITION DETERMINED BY A FLORIDA LICENSED PROFESSIONAL SURVEYOR AND MAPPER USING GUIDELINES AS ESTABLISHED BY NATIONAL GEODETIC SURVEY FOR BLUE BOOKING AND APPROVAL.
9. EXISTING DRAINAGE FEATURES WITHIN CONSTRUCTION LIMITS SHALL REMAIN UNLESS OTHERWISE NOTED.
10. THE CONTRACTOR SHALL MATCH EXISTING CONDITIONS AT THE BEGINNING AND END OF CONSTRUCTION AS DIRECTED BY THE ENGINEER OR DESIGNEE.
11. EXISTING STREETS AND DRIVES SHALL BE MAINTAINED TO LOCAL TRAFFIC AND PROPERTY OWNERS.
12. ONLY ACCESS TO THE ROAD R/W AS SHOWN IS GUARANTEED BY OKALOOSA COUNTY. PRIVATE R/W REQUIRED BY THE CONTRACTOR TO FACILITATE CONSTRUCTION SHALL BE ACQUIRED BY THE CONTRACTOR WITH NO ADDITIONAL COMPENSATION OR ASSISTANCE FROM THE CITY.
13. VEGETATION ON R/W AND EASEMENTS SHALL BE RESTORED TO ORIGINAL CONDITION UNLESS OTHERWISE NOTED ON THE PLAN SHEETS. COST OF SAID RESTORATION SHALL BE CONSIDERED INCIDENTAL TO OTHER PAY ITEMS.
14. GRADED AGGREGATE BASE SHALL BE REQUIRED WHERE THE SEASONAL HIGH GROUND WATER ENCROACHES WITHIN TWO (2) FEET OF THE BOTTOM OF BASE.
15. ALL COMPACTED FILL SHALL BE PLACED IN 4" LIFTS FOR HAND POWERED TAMPERS AND 8" LIFTS FOR HEAVY EQUIPMENT OPERATED TAMPERS.
16. THE CONTRACTOR SHALL, AT A MINIMUM, MATCH EXISTING SIGNING AND PAVEMENT MARKINGS. ALL SIGNING AND PAVEMENT MARKINGS SHALL BE PLACED IN ACCORDANCE WITH THE LATEST FDOT DESIGN STANDARDS. THE CONTRACTOR SHALL CONTACT THE COUNTY AND CITY TRAFFIC DEPARTMENT PRIOR TO INSTALLATION OF ANY SIGNING AND PAVEMENT MARKINGS.
17. WHERE UNSUITABLE MATERIAL IS ENCOUNTERED IN THE AREAS PROPOSED FOR PAVING, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE COUNTY ENGINEER OR DESIGNEE PRIOR TO ANY EXCAVATION.
18. ALL DISTURBED AREAS WHICH ARE NOT PAVED SHALL BE STABILIZED WITH STAKED SOD. UNLESS NOTED OTHERWISE.
19. CONTRACTOR SHALL MAINTAIN RECORD DRAWINGS DURING CONSTRUCTION WHICH SHOW "AS-BUILT" CONDITIONS OF ALL WORK INCLUDING PIPING, DRAINAGE STRUCTURES, TOPO OF POND(S), OUTLET STRUCTURES, DIMENSIONS, ELEVATIONS, GRADING ETC. RECORD DRAWINGS SHALL BE PROVIDED TO THE ENGINEER OF RECORD PRIOR TO REQUESTING FINAL INSPECTION.
20. THE CONTRACTOR SHALL ARRANGE/SCHEDULE WITH OKALOOSA COUNTY A FINAL INSPECTION OF THE DEVELOPMENT UPON COMPLETION AND ANY INTERMEDIATE INSPECTIONS. AS-BUILT CERTIFICATION IS REQUIRED PRIOR TO REQUEST FOR FINAL INSPECTION/APPROVAL.
21. ALL ASPECTS OF THE STORMWATER/DRAINAGE COMPONENTS AND/OR TRANSPORTATION COMPONENTS SHALL BE COMPLETED PRIOR TO REQUESTING A FINAL INSPECTION.
22. NO DEVIATIONS OR REVISIONS FROM THESE PLANS BY THE CONTRACTOR SHALL BE ALLOWED WITHOUT PRIOR APPROVAL FROM BOTH THE DESIGN ENGINEER AND OKALOOSA COUNTY. ANY DEVIATIONS MAY RESULT IN DELAYS OF COUNTY ACCEPTANCE.
23. CONTRACTOR SHALL SAFETY-BARRICADE ALL EXCAVATIONS AND OTHER HAZARDS.
24. CONTRACTOR SHALL PROVIDE ACCESS TO PROPERTIES ADJACENT TO THE CONSTRUCTION AREAS, ADEQUATE BARRICADES, CONSTRUCTION SIGNAGE AND OTHER TRAFFIC CONTROL DEVICES SHALL BE PROVIDED IN ACCORDANCE WITH FDOT CONSTRUCTION STANDARDS. DRIVEWAY ACCESS TO ADJACENT PROPERTY SHALL BE MAINTAINED AT ALL TIMES.
25. ADEQUATE PROVISIONS SHALL BE MADE FOR THE FLOW OF SEWERS, DRAINS, WATER COURSES AND OTHER UTILITIES ENCOUNTERED DURING CONSTRUCTION.
26. ALL NEW CONCRETE FOR SITE WORK SHALL ACHIEVE A 28 DAY STRENGTH OF 3000 PSI (MIN.), UNLESS OTHERWISE SPECIFIED.
27. ALL SIDEWALKS, DRIVEWAYS AND BOARDWALKS MUST BE BUILT TO ADA STANDARDS, LATEST EDITION OF DESIGN STANDARDS AND TRANSIT FACILITY GUIDELINES.
28. THE CONTRACTOR IS RESPONSIBLE TO DETERMINE THE EXACT LOCATIONS AND DEPTHS OF ALL UTILITIES INCLUDING, BUT NOT LIMITED TO, WATER LINES, BURIED TELEPHONE LINES, BURIED ELECTRICAL LINES AND GAS MAINS PRIOR TO COMMENCEMENT OF CONSTRUCTION. CONTRACTOR IS TO COORDINATE WITH UTILITY COMPANIES FOR REMOVAL AND/OR RELOCATION OF EXISTING UTILITY POLES, AERIAL LINES, BURIED CABLE AND OTHER UTILITIES.
33. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY CONFLICTS BETWEEN CONTRACT DOCUMENTS AND EXISTING CONDITIONS. THESE DRAWINGS REPRESENT KNOW STRUCTURES AND UTILITIES LOCATED IN THE PROJECT AREA. THE CONTRACTOR IS CAUTIONED THAT OTHER STRUCTURES AND UTILITIES, ABOVE OR BELOW GROUND, MAY BE ENCOUNTERED DURING THE COURSE OF THE PROJECT. THE CONTRACTOR SHOULD NOTIFY THE UTILITY COMPANY, THEN THE ENGINEER, IMMEDIATELY UPON ENCOUNTERING ANY UNEXPECTED STRUCTURE, UTILITY LINE, OR OTHER UNUSUAL CONDITION. EXISTING CONDITIONS ARE BASED ON SURVEYS BY BASKERVILLE-DONOVAN, INC.
34. ALL CONSTRUCTION RELATED ACTIVITIES SHALL BE CONDUCTED UPLAND OF THE MEAN HIGH WATER LINE. SHOULD THERE BE ANY CONFUSION IN REGARDS TO THE RELATION OF CONSTRUCTION RELATED ACTIVITIES TO THE ESTABLISHED MEAN HIGH WATER LINE, THE CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY.
35. ALL PAVEMENT CUTS SHALL BE SAW CUT WITH A WET SAW TO LIMIT DUST.
36. ALL TREES IN THE PROJECT AREA ARE TO REMAIN UNDAMAGED UNLESS NOTED FOR REMOVAL OR APPROVED BY THE ENGINEER.
37. DIESEL FUEL IS NOT TO BE USED AS A RELEASE FOR HAND TOOLS AND TRUCKS PER FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION 2017-2018. NO RELEASE AGENT SHOULD BE POURED ONTO SOILS OVER ASPHALT SURFACES.
38. NOTIFY SUNSHINE UTILITIES 48 HOURS IN ADVANCE PRIOR TO DIGGING WITHIN R/W; 1-800-432-4770. CONTRACTOR SHALL VERIFY DEPTH AND LOCATION AND IMMEDIATELY NOTIFY ENGINEER OF CONFLICTS.
39. POWER COMPANY TO REVIEW ALL EXISTING POWER POLES PRIOR TO CONSTRUCTION FOR POSSIBLE RELOCATION/REPLACEMENT.
40. CONTRACTOR SHALL FIELD VERIFY THE CROSS SLOPES OF ALL EXISTING DRIVEWAYS TO ENSURE ADA MAXIMUM CROSS SLOPE COMPLIANCE OF TWO PERCENT (2%).
41. CONTRACTOR SHALL FIELD VERIFY DROP-OFF HEIGHTS AT ALL NOTED PEDESTRIAN HAZARD AREAS AND INSTALL APPROPRIATE MATERIAL AS FOLLOWS:
    <5.0 FT DROP-OFF USE GUIDE RAIL FDOT INDEX 515-052 (STEEL)
    >5.0 FT DROP-OFF USE PEDESTRIAN/BICYCLE RAILINGS INDEX 515-052 (STEEL)
42. CITY SHALL OBTAIN ANY/ALL TEMPORARY CONSTRUCTION EASEMENTS NECESSARY FOR PRIVATE PROPERTY IMPACTS BEYOND THE RIGHT-OF-WAY.
43. THE CONTRACTOR SHALL EMPLOY THE USE OF SILT FENCES, HAY BALES, DITCHES OR WHATEVER MEANS NECESSARY TO CONTROL EROSION AND SEDIMENTATION AT ALL TIMES. WATERS OF THE STATE, ADJACENT PROPERTIES, AND ANY NEW DRAINAGE CONSTRUCTION SHALL BE PROTECTED DURING THE CONSTRUCTION PERIOD. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF CONSTRUCTION AND SHALL REMAIN UNTIL THE COMPLETION OF CONSTRUCTION AND ACCEPTANCE BY THE OWNER.
44. ALL ON-SITE GRADING, DRAINAGE AND PAVEMENT WORK SHALL BE IN ACCORDANCE WITH FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
45. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DUST CONTROL.
46. THE CONTRACTOR SHALL RESTORE ALL DISTURBED RIGHTS-OF-WAY IN ACCORDANCE WITH THE EDITION OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.
47. THE CONTRACTOR SHALL HIRE A SURVEYOR LICENSED IN THE STATE OF FLORIDA IN ACCORDANCE WITH SECTION 12.0 OF THE GENERAL CONDITIONS.
48. THE CONTRACTOR SHALL ENSURE THAT ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL LAWS.
49. CONTRACTOR SHALL COMPLY FULLY WITH ALL PERMIT REQUIREMENTS IMPOSED BY THE REGULATORY AUTHORITIES.
50. TYPE B STABILIZATION IS INCIDENTAL TO EARTHWORK.

UTILITY NOTES:

1. THE LOCATION SHOWN FOR EXISTING UNDERGROUND UTILITIES IS APPROXIMATE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK IN EACH AREA. THE CONTRACTOR AGREES TO BE COMPLETELY RESPONSIBLE FOR ALL DAMAGES WHICH MIGHT OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ALL UTILITIES.
2. UTILITY OWNERS SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO ANY CONSTRUCTION SO THAT THE UTILITY OWNER CAN SPOT VERIFY AND/OR EXPOSE THEIR UTILITIES.
3. POWER COMPANY WILL COMPLETE ALL WORK DURING THE HOURS OF 7:30 AM – 4:30 PM, MONDAY THRU FRIDAY. NO NIGHT OR WEEKEND WORK.
4. ALL CABLE DAMAGE MUST BE REPORTED TO THE ATT FLORIDA REPAIR SERVICE DEPARTMENT AT 611 FROM A LAND LINE OR 877-737-2478 IF USING A CELL PHONE.
5. CONTRACTOR IS TO USE CAUTION WHEN WORKING IN OR AROUND AREAS OF OVERHEAD TRANSMISSION LINES AND UNDERGROUND UTILITIES.
6. UTILITIES TO REMAIN AND BE PROTECTED DURING CONSTRUCTION. NECESSARY REPAIRS SHALL BE CONSIDERED INCIDENTAL TO OTHER PAY ITEMS AND SHALL BE TO THE SATISFACTION OF UTILITY OWNERS.
7. AT&T FLORIDA WILL COMPLETE ALL WORK DURING THE HOURS OF 7:30 AM – 4:30 PM, MONDAY THRU FRIDAY. NO NIGHT OR WEEKEND WORK.

UTILITY CONTACT INFORMATION

UTILITY	ADDRESS	CONTACT NAME	PHONE NUMBER
WATER AND SANITARY SEWER	P.O. BOX 308, DESTIN, FL 32541	DESTIN WATER USERS	(850) 837-6146
POWER	34854 EMERALD COAST PARKWAY, DESTIN, FL 32541	FLORIDA POWER & LIGHT	(800) 225-5797
NATURAL GAS	364 VALPARAISO PARKWAY, VALPARAISO, FL 32580	OKALOOSA GAS DISTRICT	(850) 729-4700
TELECOMMUNICATIONS	3405 MCLEMORE DRIVE, PENSACOLA, FL 32514	COX COMMUNICATIONS, INC.	(850) 857-4571

APPROVED
By Jesse Hernandez at 9:05 am, Oct 22, 2025

STORMWATER NOTES:

1. CONTRACTOR SHALL OBTAIN A NPDES PERMIT FROM FDEP PRIOR TO COMMENCEMENT WORK.
2. ALL PIPE JOINTS, INCLUDING CONNECTIONS TO STRUCTURES, SHALL BE WRAPPED WITH FILTER FABRIC IN ACCORDANCE WITH FDOT DESIGN STANDARDS AND THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
14101 PANAMA CITY BEACH PARKWAY, SUITE 110,
PANAMA CITY BEACH, FL 32413 (850) 230-6150
ENGINEERING BUSINESS: EB-0000340
PENSACOLA - PANAMA CITY BEACH - TALLAHASSEE - MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

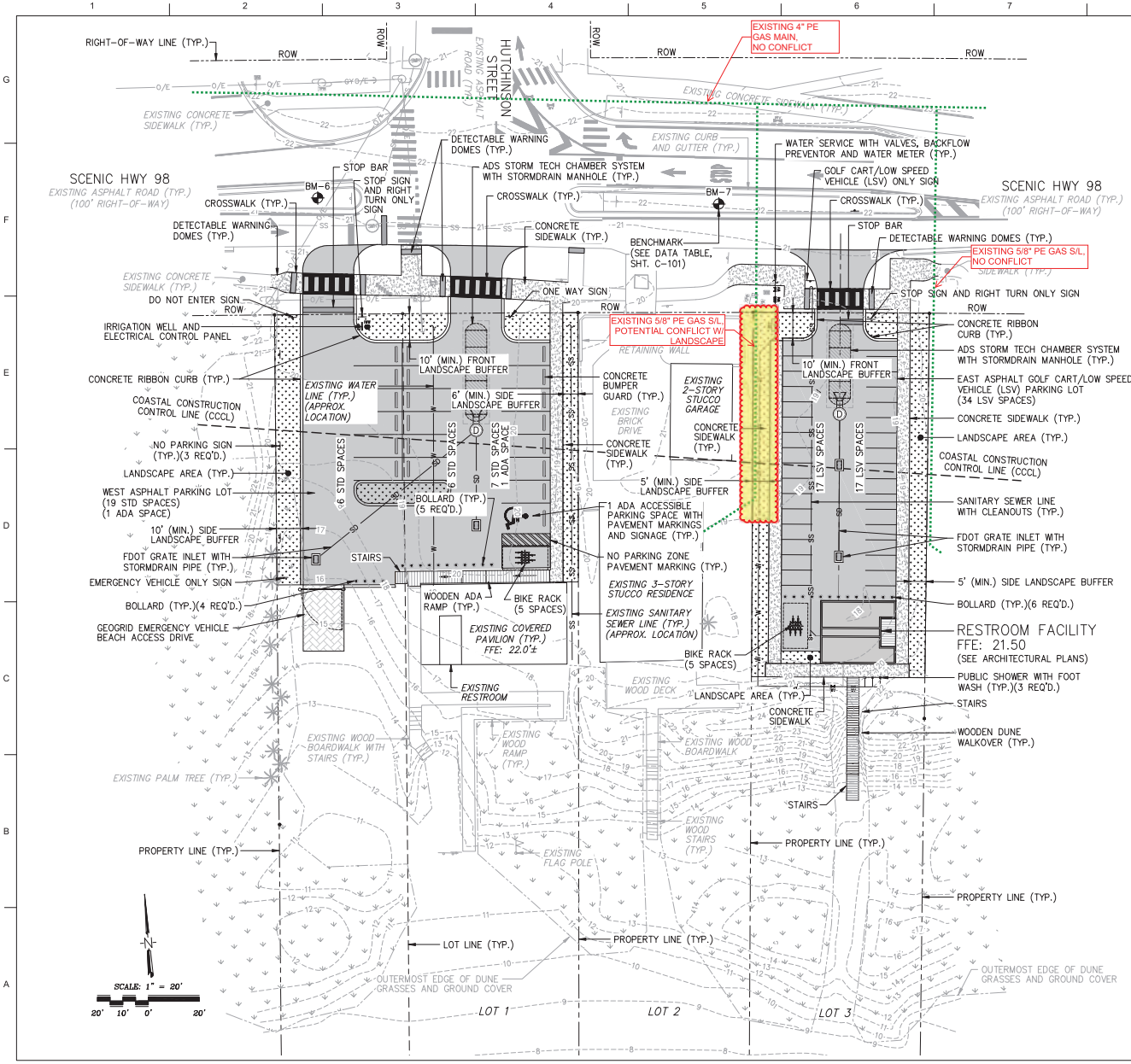
This drawing is the property of BASKERVILLE-DONOVAN, INC. and is not to be reproduced in whole or in part. It is not to be used on any other project and is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: JULY 2025

GENERAL NOTES

G-001



LEGEND

- ASPHALT PAVEMENT
- CONCRETE PAVEMENT
- GEOGRID
- LANDSCAPED AREA
- WOODEN BOARDWALK
- ADS STORM TECH CHAMBER SYSTEM

SITE DATA TABLE

PARCEL ID:
00-2S-22-0590-000-00CA, 00-2S-22-0584-0000-0010,
00-2S-22-0584-0000-0030

LAND USE:
MIXED USE: (CURRENT)
MIXED USE: (FUTURE)
ZONING: COASTAL CENTER

FLOOD ZONE: X * & ZONE VE 16

BUILDING SETBACKS REQUIRED:
FRONT = NONE
SIDE = NONE
REAR = NONE
(DESTIN LAND DEVELOPMENT CODE SECTION 7.12.08 DIMENSIONAL REQUIREMENTS. TABLE 7-3 FOR REC ZONE.)

BUILDING SETBACKS PROVIDED FOR EXISTING WEST BUILDING:
ROW TO NORTH SIDE OF BLDG = 106.4± FEET
EAST PROPERTY LINE TO EAST SIDE OF BLDG = 4.5± FEET
WEST PROPERTY LINE TO WEST SIDE OF BLDG = 56.2± FEET

BUILDING SETBACKS PROVIDED FOR EAST BUILDING:
ROW TO NORTH SIDE OF BLDG = 115.8± FEET
EAST PROPERTY LINE TO EAST SIDE OF BLDG = 11.7± FEET
WEST PROPERTY LINE TO WEST SIDE OF BLDG = 27.1± FEET

BUILDING INFORMATION: PROPOSED RESTROOM FACILITY
BUILDING HEIGHT:
ALLOWED: 35'
PROPOSED: 15'
BUILDING STORIES:
ALLOWED: 3
PROPOSED: 1

GROSS FLOOR AREA: (WEST: 2158.3± SQ. FT.)
(EAST: 603.6± SQ. FT.)

TOTAL SITE AREA: (WEST: 47796.83 SQ. FT. OR 1.10 AC.)
(EAST: 30632.62 SQ. FT. OR 0.70 AC.)

MAX. FLOOR AREA RATIO: 20%

FLOOR AREA RATIO PROPOSED: (WEST: 4.5%) (EAST: 2.0%)

IMPERVIOUS AREA ALLOWED: (WEST: 35847.62 SQ. FT. OR 75%)
(EAST: 22974.47 SQ. FT. OR 75%)

IMPERVIOUS AREA PROPOSED: (WEST: 12885.86 SQ. FT. OR 27%)
(EAST: 7494.62 SQ. FT. OR 24%)

OPEN SPACE PROVIDED: (WEST: 34910.97 SQ. FT. OR 73%)
(EAST: 23182.00 SQ. FT. OR 76%)

PARKING

PARKING REQUIRED:
1 SPACE PER 150 SQ. FT. OF GROSS FLOOR AREA: (WEST: 13 SPACES)
(EAST: 5 SPACES)

PARKING PROVIDED:
REGULAR SPACES: (WEST: 19 SPACES)
ADA SPACES: (WEST: 1 SPACE)
LSV SPACES: (EAST: 32 SPACES)
BICYCLE PARKING SPACES: (WEST: 5 SPACES) (EAST: 5 SPACES)

* THIS PARCEL APPEARS TO LIE IN FLOOD ZONE X (NO MINIMUM FLOOD ELEVATION REQUIRED) AS DETERMINED FROM FEMA FLOOD INSURANCE RATE MAP COMMUNITY PANEL NUMBER 12091C0493J, REVISED MARCH 9, 2021.

SIGNS

SIGNS PROVIDED:
DO NOT ENTER SIGNS: (WEST: 2 SIGNS)
RIGHT TURN ONLY SIGN: (WEST: 1 SIGN) (EAST: 1 SIGN)
(R7-8) ADA HANDICAPPED PARKING SIGN: (WEST: 1 SIGN)
(R8-3A) NO PARKING SIGN: (WEST: 3 SIGNS)
EMERGENCY VEHICLE ACCESS ONLY SIGN: (WEST: 1 SIGN)
(R1-1) STOP SIGN: (WEST: 1 SIGNS) (EAST: 1 SIGN)
LOW SPEED VEHICLE (LSV) PARKING ONLY SIGN: (EAST: 1 SIGN)

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
14151 PANAMA CITY BEACH PARKWAY, SUITE 110.
PANAMA CITY BEACH, FLORIDA 32413-7553
ENGINEERING BUSINESS: EB-0000340
PENSACOLA • PANAMA CITY BEACH • TALLAHASSEE • MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of Baskerville-Donovan, Inc. and is not to be reproduced in whole or in part. It is not to be used on other projects and is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: JULY 2025

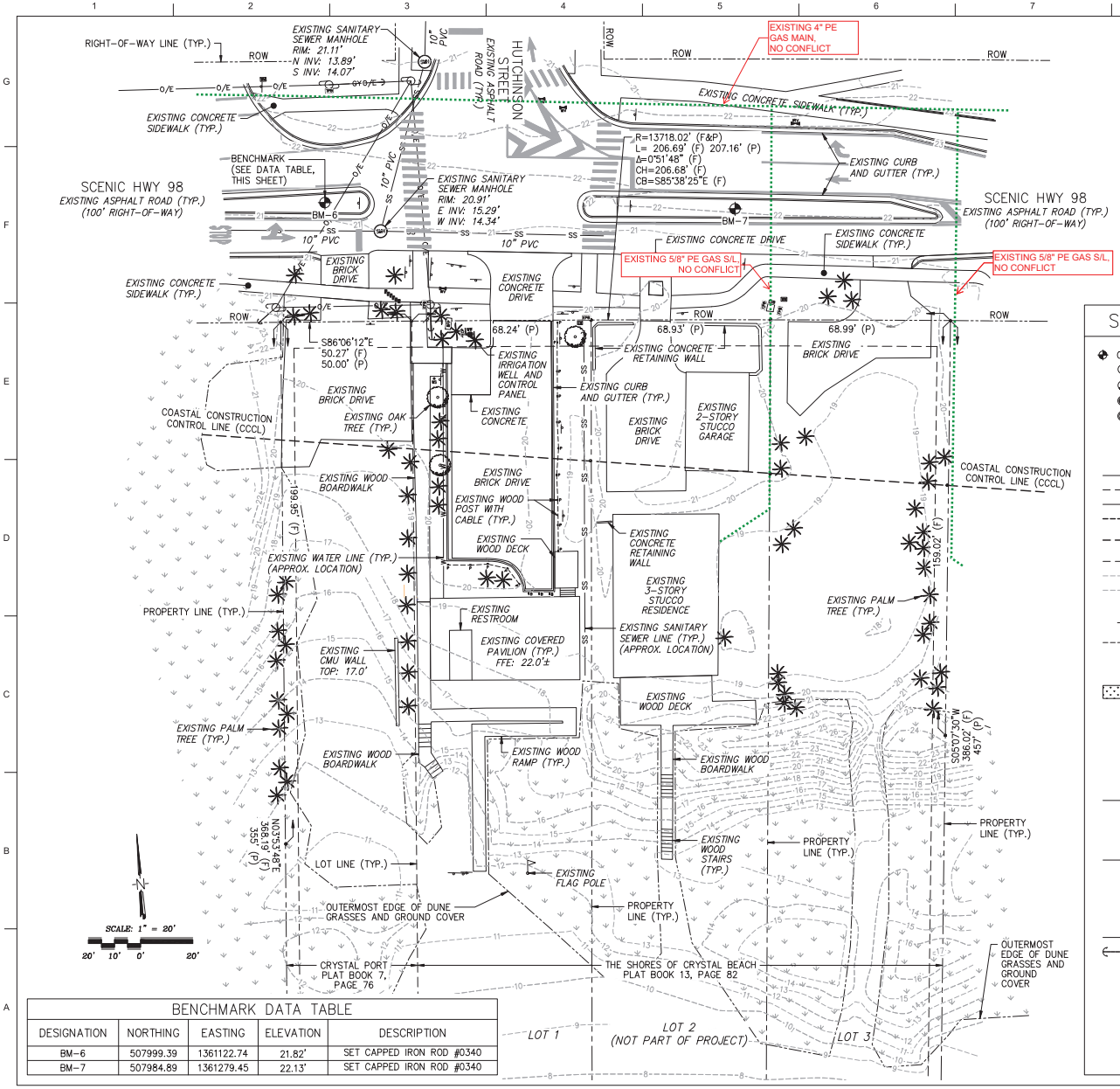
PROJECT OVERVIEW

C-100

L:\121 Okaloosa County\12105.02 Shore at Crystal Beach Park Amendment\DWG\C-100 – Project Overview.dwg, Jul 18, 2025 – 10:17:56AM, slucia

APPROVED
By Jesse Hernandez at 9:05 am, Oct 22, 2025

100% SUBMITTAL



BENCHMARK DATA TABLE

DESIGNATION	NORTHING	EASTING	ELEVATION	DESCRIPTION
BM-6	507999.39	1361122.74	21.82'	SET CAPPED IRON ROD #0340
BM-7	507984.89	1361279.45	22.13'	SET CAPPED IRON ROD #0340

ABBREVIATION LEGEND

ROW OR R/W		RIGHT OF WAY
INV		INVERT
EL OR ELEV		ELEVATION
O.R.		OFFICIAL RECORDS BOOK
(P)		PLAT
(F)		FIELD
(D)		DEED
R		RADIUS
Δ		DELTA
L		LENGTH
C		CHORD
CH		CHORD BEARING

SURVEY SYMBOL LEGEND

- SET CAPPED IRON ROD #0340
- FOUND IRON ROAD AND CAP
- FOUND IRON ROD AND CAP
- FOUND CRIMP TOP PIPE
- FOUND IRON ROD
- FOUND OPEN TOP PIPE
- FOUND CONCRETE MONUMENT
- SET NAIL AND DISK
- RIGHT OF WAY
- PROPERTY LOT LINE
- PROPERTY LINE
- MEAN HIGH WATER LINE
- COASTAL CONSTRUCTION CONTROL LINE (CCCL)
- LANDSCAPE BUFFER SETBACK
- EXISTING MAJOR CONTOUR LINE
- EXISTING MINOR CONTOUR LINE
- SIGN (SINGLE SUPPORT)
- SIGN (MULTI SUPPORT)
- WOODEN POST CONNECTION CABLE
- WOODEN POST
- BOLLARD
- DUNE GRASS
- TREE – OAK
- TREE – PINE
- FLAG POLE
- SANITARY SEWER LINE
- SANITARY SEWER MANHOLE
- IRRIGATION VALVE
- WATER LINE
- WATER BACKFLOW PREVENTOR
- WATER VALVE
- WATER METER
- WATER SHOWER STATION
- OVERHEAD ELECTRICAL LINE
- GUYWIRE
- ELECTRICAL POWER POLE
- ELECTRICAL WIRE PULL BOX
- ELECTRICAL SERVICE BOX
- TELEPHONE WIRE PULL BOX
- FIBER OPTIC WIRE PULL BOX
- CABLE TV WIRE PULL BOX

SURVEYOR'S NOTES:

1. NORTH AND THE SURVEY DATUM SHOWN HEREON ARE BASED ON THE FLORIDA STATE PLANE COORDINATE SYSTEM, NORTH ZONE, NORTH AMERICAN DATUM OF 1983 (NAD83) AND EXISTING FIELD MONUMENTATION.
2. THE ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
3. NO TITLE SEARCH, TITLE OPINION, OR ABSTRACT WAS PERFORMED BY NOR PROVIDED TO THIS FIRM FOR THE SUBJECT PROPERTY. THERE MAY BE DEEDS OF RECORD, UNRECORDED DEEDS, EASEMENTS, RIGHTS-OF-WAY, BUILDING SETBACKS, RESTRICTIVE COVENANTS OR OTHER INSTRUMENTS WHICH COULD AFFECT THE BOUNDARIES OR USE OF THE SUBJECT PROPERTY.
4. THE FIELD SURVEY SHOWN HEREON WAS PERFORMED IN AUGUST 2021 AND RECORDED IN FIELD BOOK 21-06, PAGES 12-18.
5. THE ABOVE GROUND UTILITIES SHOWN HEREON WERE BASED ON VISIBLE FIELD LOCATION. ANY SUBSURFACE UTILITIES SHOWN HEREIN SHOULD BE VERIFIED BY THE CONTRACTOR.
6. ALL DISTANCES ARE EXPRESSED IN FEET AND DECIMAL PARTS THEREOF.
7. SOIL BORING AND TEST PIT LOGS AND LABORATORY DATA CAN BE FOUND IN THE GEOTECHNICAL REPORT.

PROPERTY DESCRIPTIONS:

(O.R. BOOK 3502, PAGE 1397) UNITS A, B, C, D, E, AND COMMON AREA OF CRYSTAL PORT, ACCORDING TO THE PLAT THEREOF AS RECORDED IN PLAT BOOK 7, PAGE 76, OF THE PUBLIC RECORD OF OKALOOSA COUNTY, FLORIDA.

AND ALSO:

(O.R. BOOK 2517, PAGE 3684) LOT 1, THE SHORES OF CRYSTAL BEACH, A PLANNED UNIT DEVELOPMENT, A RESUBDIVISION OF A PORTION OF BLOCK B, CRYSTAL BEACH SUBDIVISION ACCORDING TO THE PLAT THEREOF AS RECORDED IN PLAT BOOK 13, PAGE 82 OF THE PUBLIC RECORD OF OKALOOSA COUNTY, FLORIDA.

AND ALSO:

(O.R. BOOK 3506, PAGE 695) LOT 3, THE SHORES OF CRYSTAL BEACH, A PLANNED UNIT DEVELOPMENT, A RESUBDIVISION OF A PORTION OF BLOCK B, CRYSTAL BEACH SUBDIVISION ACCORDING TO THE PLAT THEREOF AS RECORDED IN PLAT BOOK 13, PAGE 82 OF THE PUBLIC RECORD OF OKALOOSA COUNTY, FLORIDA. PARCEL ID NO. 00-2S-22-0584-0000-0030

APPROVED
By Jesse Hernandez at 9:06 am, Oct 22, 2025

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
1410 I PANAMA CITY BEACH PARKWAY, SUITE 110.
PANAMA CITY BEACH, FLORIDA 32413
PHONE: (850) 235-1557
ENGINEERING BUSINESS: EB-0000340
PENSACOLA • PANAMA CITY BEACH • TALLAHASSEE • MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of Baskerville-Donovan, Inc. and is not to be reproduced in whole or in part. It is not to be used on other projects and is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

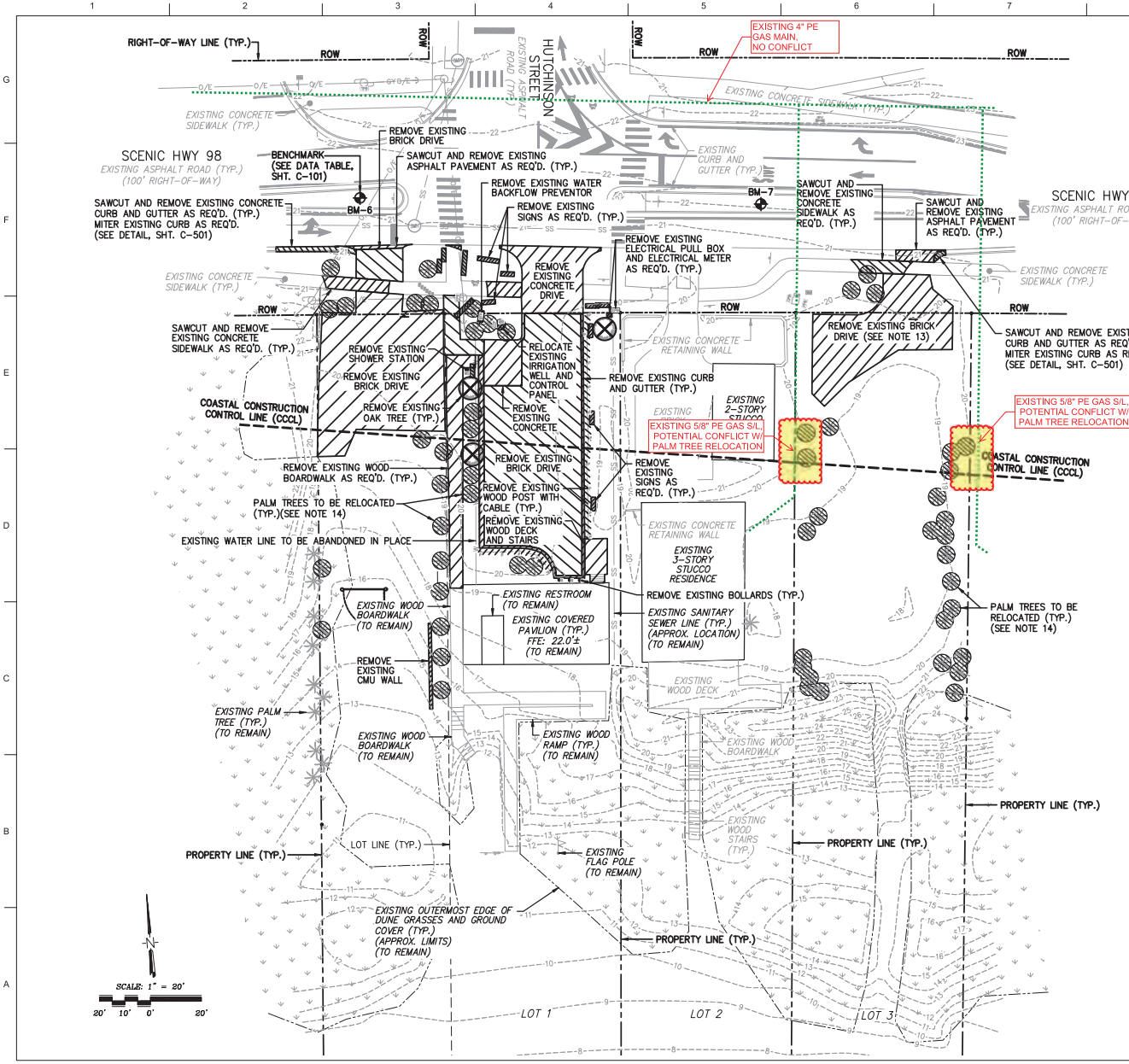
PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: JULY 2025

EXISTING CONDITIONS

C-101

L:\121 Okaloosa County\12105.02 Shore at Crystal Beach Park Amendment\DWG\C-101 – Ex Conditions.dwg, Jul 17, 2025 – 3:53:06PM, slucia

100% SUBMITTAL



DEMOLITION NOTES:

1. SEE SHEET C-101 FOR SURVEY BENCHMARKS, SURVEY SYMBOL LEGEND AND ABBREVIATION LEGEND.
2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE ACCURACY OF THE EXISTING SITE INFORMATION SHOWN HERE IN. ANY CHANGED OR ALTERED SITE CONDITION SHALL BE BROUGHT TO THE ATTENTION OF THE COUNTY AND CITY IMMEDIATELY.
3. ALL EXISTING DEBRIS AND DEBRIS FROM CONSTRUCTION OPERATIONS SHALL BE DISPOSED OF OFF-SITE AT THE CONTRACTOR'S EXPENSE.
4. TOPSOIL SUITABLE FOR REUSE SHALL BE STOCKPILED ON-SITE IN AN APPROVED LOCATION AND REDISTRIBUTED OVER ALL DISTURBED AREAS IN ONE 4" LAYER, (LOOSE THICKNESS).
5. ALL WORK ADJACENT TO OR ON EXISTING ROADWAYS SHALL COMPLY WITH CURRENT FLORIDA DEPARTMENT OF TRANSPORTATION STANDARDS FOR TRAFFIC CONTROL AND SAFETY. THE CONTRACTOR SHALL HOLD THE COUNTY AND CITY HARMLESS FOR ANY INCIDENT OCCURRING ON OR ADJACENT TO THE PROJECT SITE.
6. EXISTING TREES SHOWN OUTSIDE THE LIMITS OF CLEARING AND GRUBBING ARE TO REMAIN. PRIOR TO SITE CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL CLEARLY IDENTIFY THE CLEARING LIMITS.
7. CLEARING AND GRUBBING OF TREES AND SHRUBS NOT OTHERWISE IDENTIFIED SHALL BE LIMITED TO THAT WHICH IS ABSOLUTELY REQUIRED FOR NEW CONSTRUCTION. ANY ADDITIONAL CLEARING AND/OR GRUBBING OF TREES SHALL BE COMPLETED AS APPROVED BY THE COUNTY AND CITY.
8. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL LOCATE ALL UTILITIES. ANY UTILITY ADJUSTMENTS, EXISTING OR PROPOSED, REQUIRED TO COMPLETE CONSTRUCTION UNDER THIS CONTRACT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THIS ITEM INCLUDES, BUT IS NOT LIMITED TO, THE TEMPORARY RELOCATION OF EXISTING OVERHEAD POWER LINES. ALL WORK IN THE VICINITY OF OVERHEAD POWER LINES SHALL CONFORM TO APPLICABLE (LOCAL) SAFETY REQUIREMENTS. THE CONTRACTOR IS TO REPAIR DAMAGES TO EXISTING UTILITIES THAT ARE TO REMAIN IN SERVICE IMMEDIATELY AT NO ADDITIONAL COSTS OR EXPENSE TO THE COUNTY AND CITY.
9. REFER TO ELECTRICAL, COMMUNICATIONS AND OTHER DISCIPLINES FOR UTILITIES REQUIRING REMOVAL, COORDINATION AND/OR RELOCATION.
10. THE CONSTRUCTION CONTRACTOR SHALL INVESTIGATE, MARK, AND PROTECT IN PLACE, AS NEEDED, ALL APPLICABLE EXISTING UNDERGROUND UTILITIES THAT ARE TO REMAIN IN PLACE/SERVICE DURING CONSTRUCTION OPERATIONS THAT MAY BE SUBJECT TO DAMAGE DUE TO THE ONGOING CONSTRUCTION OPERATIONS.
11. CONTRACTOR SHALL SAW CUT THE LIMITS OF ASPHALT PAVEMENT TO BE REMOVED AND PROTECT EDGE OF ASPHALT FROM DAMAGE. ANY DAMAGE TO THE SAW CUT LINE SHALL REQUIRE THE CONTRACTOR TO RE-SAW CUT A NEW LINE BEFORE PLACEMENT OF NEW ASPHALT PAVEMENT.
12. ACTUAL AMOUNT OF ASPHALT PAVEMENT REMOVAL WILL VARY DEPENDING ON THE TYPE OF EQUIPMENT AND CONSTRUCTION TECHNIQUE USED BY THE CONTRACTOR FOR INSTALLATION OF THE NEW SITE LAYOUT.
13. THERE ARE STRUCTURES THAT HAVE BEEN PREVIOUSLY DEMOLISHED AS SHOWN ON THE CRITERIA DOCUMENT. IT IS NOT KNOWN TO WHAT EXTENT THAT DEMOLITION OCCURRED. REMAINING PORTIONS OF THOSE STRUCTURES MAY INTERFERE WITH THE CONSTRUCTION OF THE NEW LAYOUT AND MUST BE REMOVED TO THE EXTENT NECESSARY TO ACCOMPLISH THE NEW WORK.
14. CONTRACTOR SHALL RELOCATE ALL PALM TREES WHICH IS ABSOLUTELY REQUIRED FOR NEW CONSTRUCTION. PALM TREES SHALL BE RELOCATED AND APPROVED BY THE COUNTY AND CITY.

BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
14101 PANAMA CITY BEACH PARKWAY, SUITE 110
PANAMA CITY BEACH, FLORIDA 32413-7103
ENGINEERING BUSINESS: EB-0000340
PENSACOLA • PANAMA CITY BEACH • TALLAHASSEE • MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of Baskerville-Donovan, Inc. and is not to be reproduced in whole or in part. It is not to be used on other projects and is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: JULY 2025

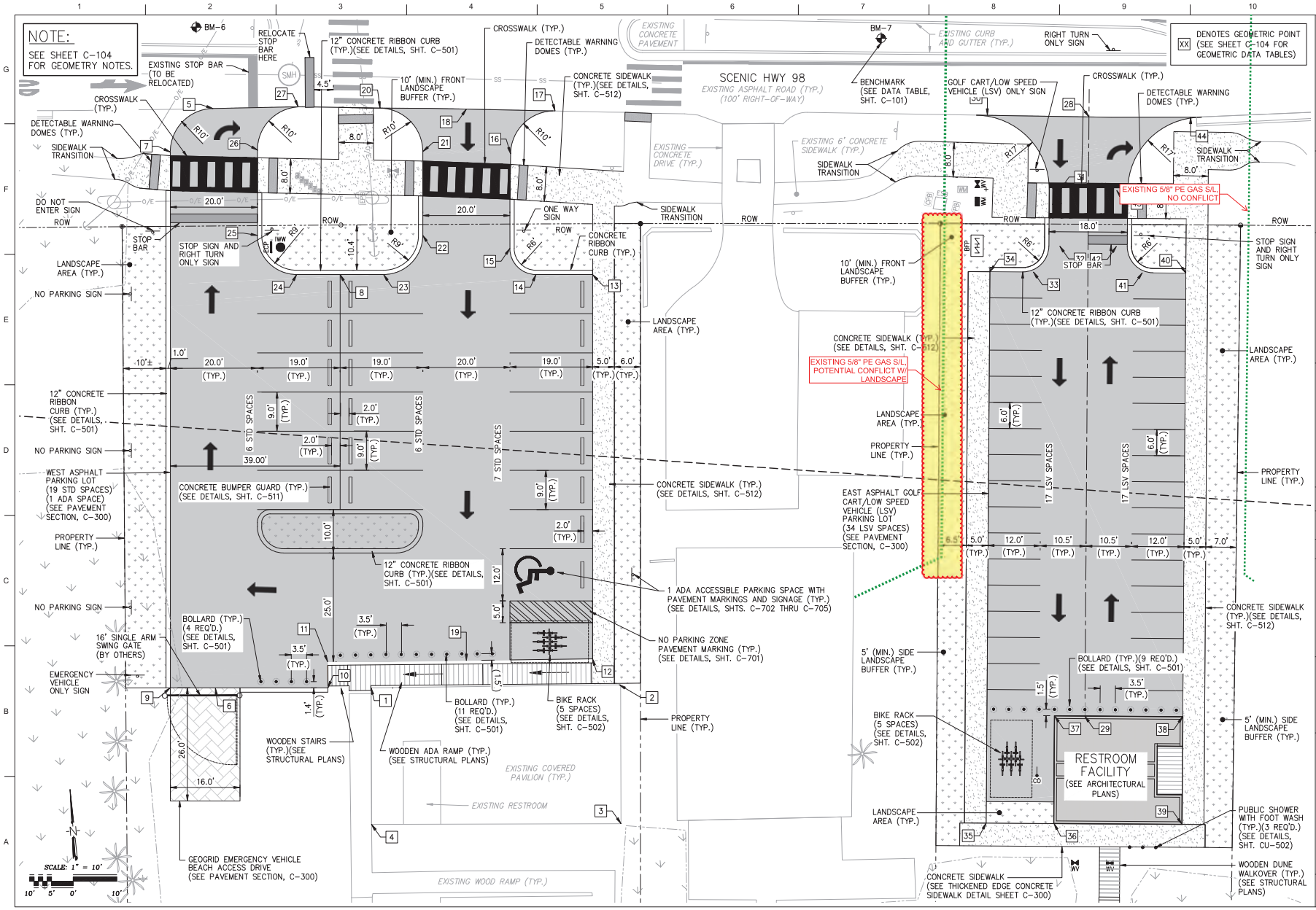
DEMOLITION PLAN

C-102

L:\121 Okaloosa County\12105.02 Shore at Crystal Beach Park Amendment\DWG\C-102 – Demolition.dwg, Jul 17, 2025 – 3:54:30PM, slucia

APPROVED
By Jesse Hernandez at 9:06 am, Oct 22, 2025

100% SUBMITTAL



BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
1410 I PANAMA CITY BEACH PARKWAY, SUITE 110
PANAMA CITY BEACH, FLORIDA 32407-7160
PH: (850) 235-1557 FAX: (850) 235-1559
ENGINEERING BUSINESS - EB0003040
PENSACOLA • PANAMA CITY BEACH • TALLAHASSEE • MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of BASKERVILLE-DONOVAN, INC. and is not to be reproduced in whole or in part. It is not to be used on other projects and is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: JULY 2025

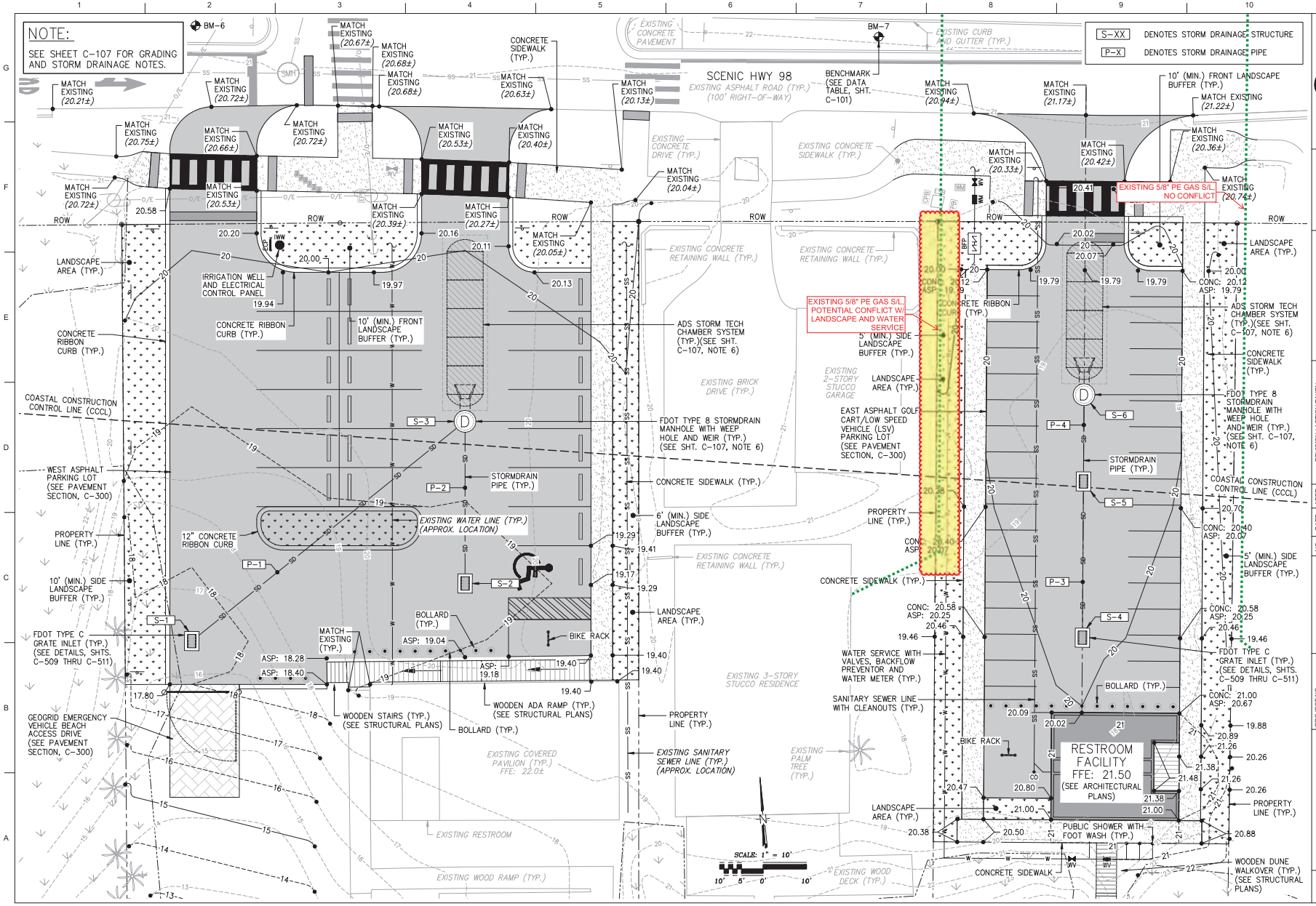
GEOMETRY PLAN

C-103

L:\121 Okaloosa County\12105.02 Shore at Crystal Beach Park Amendment\DWG\C-103 – C-104 – Geometry.dwg, Jul 18, 2025 – 10:18:44AM, slucia

APPROVED
By Jesse Hernandez at 9:06 am, Oct 22, 2025

100% SUBMITTAL



BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
14151 PANAMA CITY BEACH PARKWAY, SUITE 110
PANAMA CITY BEACH, FLORIDA 32413-7160
(850) 235-1929 FAX
ENGINEERING BUSINESS - EB-0000345
PENSACOLA • PANAMA CITY BEACH • TALLAHASSEE • MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of Baskerville-Donovan, Inc. and is not to be reproduced in whole or in part. It is not to be used on other projects and is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: JULY 2025

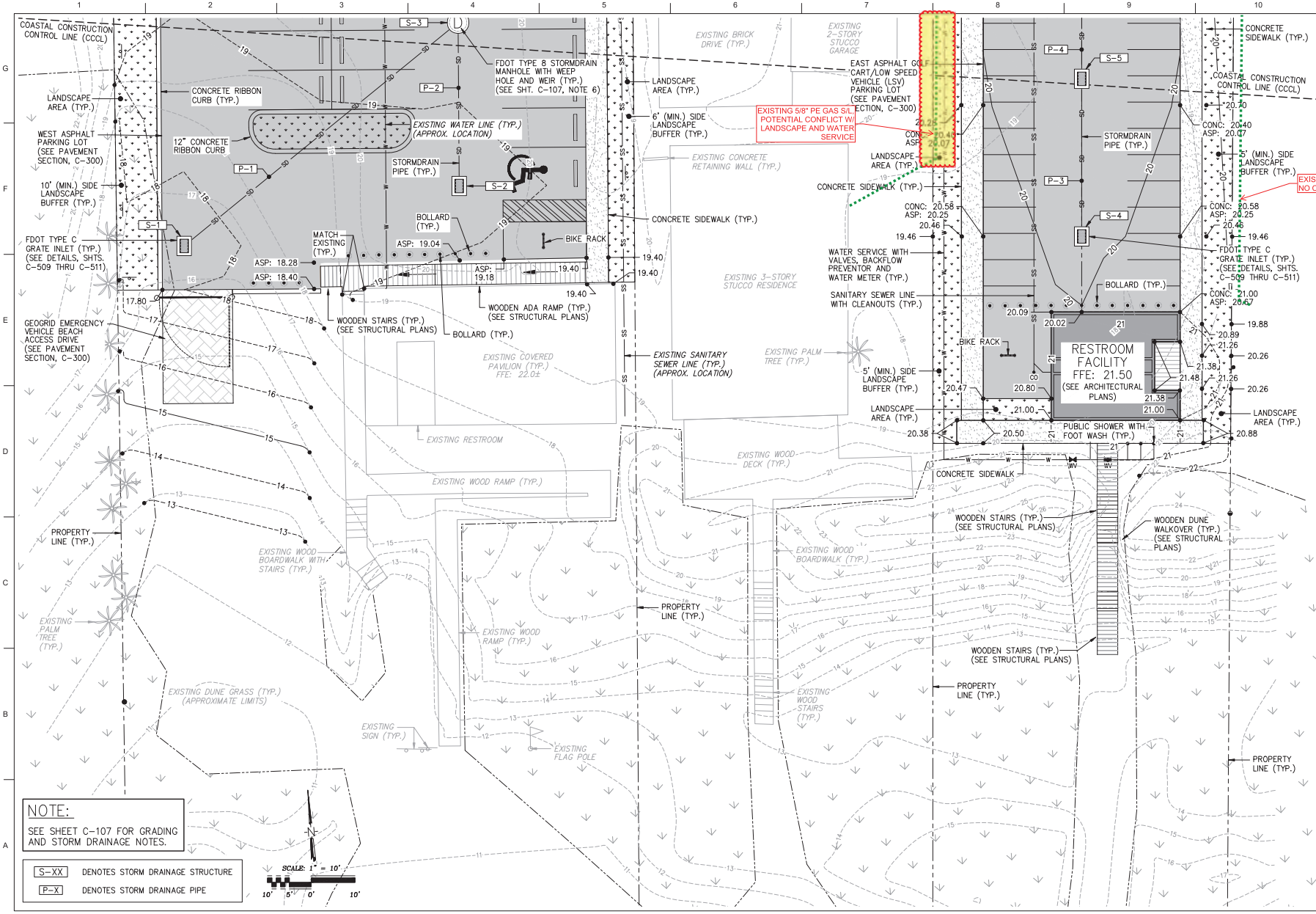
GRADING AND STORM DRAINAGE PLAN

C-105

L:\121 Okaloosa County\12105.02 Shore at Crystal Beach Park Amendment\DWG\C-105 – C-107 – Grading and Drainage.dwg, Jul 18, 2025 – 10:19:18AM, slucia

100% SUBMITTAL

APPROVED
By Jesse Hernandez at 9:06 am, Oct 22, 2025



BASKERVILLE-DONOVAN, INC.
ENGINEERING THE SOUTH SINCE 1927
1410 PANAMA CITY BEACH PARKWAY, SUITE 110
PANAMA CITY BEACH, FLORIDA 32407
ENGINEERING BUSINESS: EB-0000340
PENSACOLA • PANAMA CITY BEACH • TALLAHASSEE • MOBILE

SEAL

SHORE AT CRYSTAL BEACH EXPANSION

NO.	DATE	APPR.	REVISION / ACTION TAKEN
1	05/2025	JCP	SITE LAYOUT REVISED PER CITY & COUNTY COMMENTS

This drawing is the property of Baskerville-Donovan, Inc. and is not to be reproduced in whole or in part. It is not to be used on other projects and is to be returned upon request.

NOT RELEASED FOR CONSTRUCTION

PROJECT NO: 12105.02
DESIGNED BY: RAS
DRAWN BY: JJ
CHK'D BY: RLW
PROJ. MGR: JCP
DATE: JULY 2025

GRADING AND STORM DRAINAGE PLAN

C-106

L:\121 Okaloosa County\12105.02 Shore at Crystal Beach Park Amendment\DWG\C-105 – C-107 – Grading and Drainage.dwg, Jul 18, 2025 – 10:19:38AM, slucia

APPROVED
By Jesse Hernandez at 9:06 am, Oct 22, 2025

100% SUBMITTAL