

VARIANCE

Property address or Location Surfside Drive, Fort Pierce, FL
 Parcel ID #(s) 2412-501-0132-000-3
 Project description Four (4) Multi-Family Units

Surfside Land, LLC
Property Owner(s)
 9481 Campi Drive
 Street Address
 Lake Worth FL 33467-6998
 City State Zip
 Phone Number
 ramy.gali@gmail.com; danlei.keoskes@gmail.com
 Email Address

Schulke, Bittle & Stoddard, LLC
Applicant/Representative, Title, Company
 1717 Indian River Boulevard, Suite 201
 Street Address
 Vero Beach FL 32960
 City State Zip
 772-770-9622
 Phone Number
 jbittle@sbsengineers.com
 Email Address

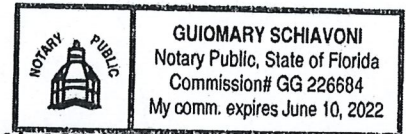
Property Owner(s) Acknowledgements: - This application will not be considered complete without the signature of all property owners of record, which shall serve as an acknowledgement of the submission of this application. The property owner's signature below shall also authorize the Applicant (if other than the property owner) and/or Representative to act in his/her behalf for the purposes of seeking approval for the application described herein.

Property Owner(s) Signature(s)

STATE OF FL -- COUNTY Palm Beach
 The foregoing Instrument was acknowledged before me this 26 day of April, 2021, by
Ramy Gali who is personally known to me or has produced
FL Driver License as identification.

[Signature]
 Signature of Notary

(seal)



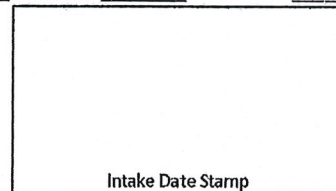
INTAKE MEETINGS ARE REQUIRED FOR ALL SUBMITTALS. CALL (772) 467-3737

TO BE COMPLETED BY STAFF

Zoning	Future Land Use	Total Acres	Historic District	Historic Designation	
				Contributing	Individual
				Non-Contributing	None

Pre-Application Meeting Date _____
 Intake Planner _____
 Planner Assigned _____
 Approved By _____ Date _____
 Comments _____

Fees _____ Control # _____ B. Permit # _____



Intake Date Stamp

VARIANCE

Submit eight (8) hard copies and one (1) CD of the following for initial submittal, subsequent submittals will be required:

- Site plan, to scale, including all relevant improvements:
 - Existing & proposed structures
 - Landscaping & parking,
 - Fencing, signs, etc.
- As-built Survey
- Criteria Narrative
- Complete, notarized application

Description of request: 6' Building setback instead of 10' along north property line

Reason for request: The above variance request is needed in order to construct the proposed four (4) multi-family units

Existing Use : Vacant Date Property was Purchased: July 23, 2020

Alterations made to the site since purchase: N/A

Has a request for this variance been denied in the past? Yes No

If yes, what has changed since the denial? _____

Application Outlook

Pre-Application Meeting
Wednesday Afternoons

Application Intake Meeting
Call to schedule

Technical Review Committee
3rd Thursday

Board of Adjustment
4th Thursday

Criteria:

In order to determine whether your request for Variance meets all the criteria in Section 22-108 of the City Code, please answer the following questions. Please provide answers of questions on separate pages:

1. Describe those conditions peculiar to the specific property and not applicable to other lands, structures, or buildings in the same zoning district.
2. Do special conditions or circumstances result from actions other than that of yours? Please explain
3. Identify any undue hardships or deprivation of commonly enjoyed property rights that would result in the literal interpretation of the code for the zoning district.
4. What is the minimum variance that would give the reasonable use of the land, building, or structure?
5. Explain how the variance request would not impair the intent of the zoning ordinance or be detrimental to the general public welfare:

April 30, 2021

Revised: May 3, 2021

Brandon Creagan, MCRP, LEED Green Associate
Planner
City of Fort Pierce
100 North US Highway 1
Fort Pierce, FL 34950

RE: Surfside Quadplex
Variance Criteria Questions

In response to the variance criteria questions listed on Page 2 of the application, we offer the following responses:

1. Describe those conditional peculiarities to the specific property and not applicable to other lands, structures or buildings in the same zoning district.
 - a. Building Setback Variance: Uniquely & atypically narrow for Multi Family parcel. The lot is also decreased by Coastal Construction Control Line, "VE" Flood Zone and Seaward limits of construction restrictions for this lot. Therefore, to make a comfortable width for the residences we must decrease the setback from 10' to 6'. Only requesting on North Side with the minimum variance possible and placed in the least obtrusive location for the adjacent lots.

2. Do special conditions or circumstances result from actions other than that of yours? Please explain.
 - a. Building Setback Variance: Uniquely & atypically narrow for Multi Family parcel. The lot is also decreased by Coastal Construction Control Line, "VE" Flood Zone and Seaward limits of construction restrictions for this lot. Therefore, to make a comfortable width for the residences we must decrease the setback from 10' to 6'. Only requesting on North Side with the minimum variance possible and placed in the least obtrusive location for the adjacent lots.

3. Identify any undue hardships or deprivation of commonly enjoyed property rights that would result in the literal interpretation of the code for the zoning district.
 - a. Building Setback Variance: Uniquely & atypically narrow for Multi Family parcel. The lot is also decreased by Coastal Construction Control Line, "VE" Flood Zone and Seaward limits of construction restrictions for this lot. Therefore, to make a comfortable width for the residences we must decrease the setback from 10' to 6'. Only requesting on North Side with the minimum variance possible and placed in the least obtrusive location for the adjacent lots.

4. What is the minimum variance that would give the reasonable use of the land, building or structure?
 - a. Building Setback Variance: The variance from 10' to 6' is the least amount required for this site. We are placing this Variance on one side due to the adjacent property to the north being setback so far from this property.

5. Explain how the variance request would not impair the intent of the zoning ordinance or be detrimental to the general public welfare
 - a. Building Setback Variance: The 60 feet side setback property to north Building spacing remains much more than 20 foot Code intention. We are proposing a privacy wall and enhances landscaping on BOTH Sides. Eliminate pedestrians cutting through, damaging the Dune Ecosystem; Allows floor plans that are not so narrow as to be marginally functionally obsolete. Helps to Provide closure to a longstanding Developmental challenge unique to this property that has precluded and prevented needed infill for 20 years or longer

Project will provide solution to "dead end sidewalk" danger & liability.

Project will add more than 3 Million dollars to the Tax Roles of the-City & County, potentially totaling an additional \$75,000-\$100,000 annual Ad Valorem Property Tax Revenue increase, compounding to Millions over the next few decades.

If you have any questions, please contact me at our office. Thank you.

Sincerely,



Jodah B. Bittle, P.E.



28 APRIL 2021

SURFSIDE QUADPLEX TOWNHOME PROJECT

The 1700 Surfside Townhomes project is a multi-family development that includes 4 townhome type dwelling units and are 4 stories high. This project is a fee simple ownership located on a vacant oceanfront lot at the North end of Surfside Drive just East of South Ocean Drive, Fort Pierce, Florida.

The ground floor has the car garages facing Surfside Drive with one driveway for the 2 north units and another driveway for the 2 south units. Above that ground level are 3 floors consisting of the townhome dwelling units. There will be stair access to the roofs where there will be patio areas.

The property is zoned R4A and this property is being designed with consideration of transitioning from multifamily condominiums to the North and single-family homes to the South. The proposed development is located seaward of the coastal construction control line and is being designed in accordance with rules and regulations of 62B-33 Florida Administrative Code. Since the project is seaward of the coastal construction control line a conditional use approval will be required from the City of Fort Pierce.

The existing project to the north of this project are 4-story condominium residential apartment buildings with parking on the ground level of the building. The existing property to the south of this project is a single-family single story residential structure.

This development will have a contemporary design style and includes secured garage parking and an elevated swimming pool for each unit. The developer intends to begin construction as soon as all the required permits have been secured.

This Document Prepared By and Return to:
Christopher J. Twohey, PA
844 SE Ocean Blvd. Suite A
Stuart, Florida 34994

Parcel ID Number: 2412-501-0132-000/3

Warranty Deed

This Indenture, Made this 23rd day of July, 2020 A.D., Between
L & K Developers, LLC, an Illinois limited liability company
of the County of Cook, State of Illinois, grantor, and
Surfside Land, LLC, a Florida limited liability
whose address is: 9481 Campi Dr., Lake Worth, FL 33467
of the County of Palm Beach, State of Florida, grantee.

Witnesseth that the GRANTOR, for and in consideration of the sum of
TEN DOLLARS (\$10)

and other good and valuable consideration to GRANTOR in hand paid by GRANTEE, the receipt whereof is hereby
acknowledged, has granted, bargained and sold to the said GRANTEE and GRANTEE'S heirs, successors and assigns
forever, the following described land, situate, lying and being in the County of Saint Lucie
State of Florida to wit:

**Lot 13, Block 11, SURFSIDE UNIT ONE, according to the Plat thereof, as recorded in Plat Book 10, Page
17, Public Records of Saint Lucie County, Florida.**

SUBJECT TO:

1. Taxes for the year 2020, and all subsequent years;
2. Zoning restrictions, prohibitions and other requirements imposed by governmental authority;
3. Restrictions and matters appearing on the Plat or otherwise common to the subdivision; and
4. Public utility easements of record, if any.

and the grantor does hereby fully warrant the title to said land, and will defend the same against lawful claims of all persons
whomsoever.

Warranty Deed - Page 2

Parcel ID Number: 2412-501-0132-000/3

In Witness Whereof, the grantor has hereunto set his hand and seal the day and year first above written.

Signed, sealed and delivered in our presence:

Witness
Notary

Eileen M. Keating
Printed Name:
Witness

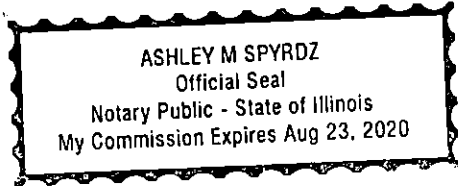
Robert A. Bosco
Printed Name:
Witness

L & K Developers, LLC
By: Robert H. Lohens (Seal)
Robert H. Lohens, Member
P.O. Address: 1237 S. Delphis Ave., Park Ridge, IL 60068

State of Illinois
County of Cook

The foregoing instrument was acknowledged before me by means of physical presence or online notarization, this 23 day of July, 2020, by Robert H. Lohens, Member of L & K Developers, LLC, an Illinois limited liability company on behalf of the limited liability company who is personally known to me or who has produced his driver's license as identification.

Ashley M. Spyrdz
Printed Name:
Notary Public Ashley Spyrzdz
My Commission Expires: 8/23/2020



Property Identification

Site Address: Surfside DR Parcel ID: 2412-501-0132- Account #: 24058 Sec/Town/Range: 07/35S/41E
 Use Type: 0000 Jurisdiction: Fort Pierce Map ID: 25/07N Zoning: HI Medium

Ownership

Surfside Land LLC
 9481 Campi DR
 Lake Worth, FL 33467

Legal Description

SURFSIDE-UNIT ONE- BLK 11 LOT 13(0.54 AC)

Current Values

Just/Market: \$405,300 Assessed: \$405,300
 Exemptions: \$0 Taxable: \$405,300

Historical Values 3-year

Year	Just/Market	Assessed	Exemptions	Taxable
2020	\$405,300	\$405,300	\$0	\$405,300
2019	\$452,000	\$452,000	\$0	\$452,000
2018	\$435,800	\$435,800	\$0	\$435,800

Sale History

Date	Book/Page	Sale Code	Deed	Grantor	Price
07-23-2020	4454 / 2102	0001	WD	L and K Developers	\$567,500
02-04-2016	3834 / 2662	0001	WD	Marchiori Frank A	\$490,000
04-21-2005	2242 / 2471	XX00	WD	Consalo Augustus	\$1,075,000

Primary Building Information

Finished Area of this building: 0 SF
 Gross Sketched Area: 0 SF

Exterior Data

View:	Roof Cover:	Roof Structure:	Building Type:
Year Built: N/A	Frame:	Grade:	Effective Year: N/A
Primary Wall:	Story Height:	No. Units: 0	Secondary Wall:

Interior Data

Bedrooms: 0	A/C %: 0%	Electric:	Primary Int Wall:
Full Baths: 0	Heated %: N/A%	Heat Type:	Avg Hgt/Floor: 0
Half Baths: 0	Sprinkled %: 0%	Heat Fuel:	Primary Floors:



Image
 or
 Sketch
 unavailable
 for display

Total Areas

Finished/Under Air (SF):	0
Gross Sketched Area (SF):	0
Land Size (acres):	0.54
Land Size (SF):	23,500
Total Building Count:	1

Special Features and Yard Items

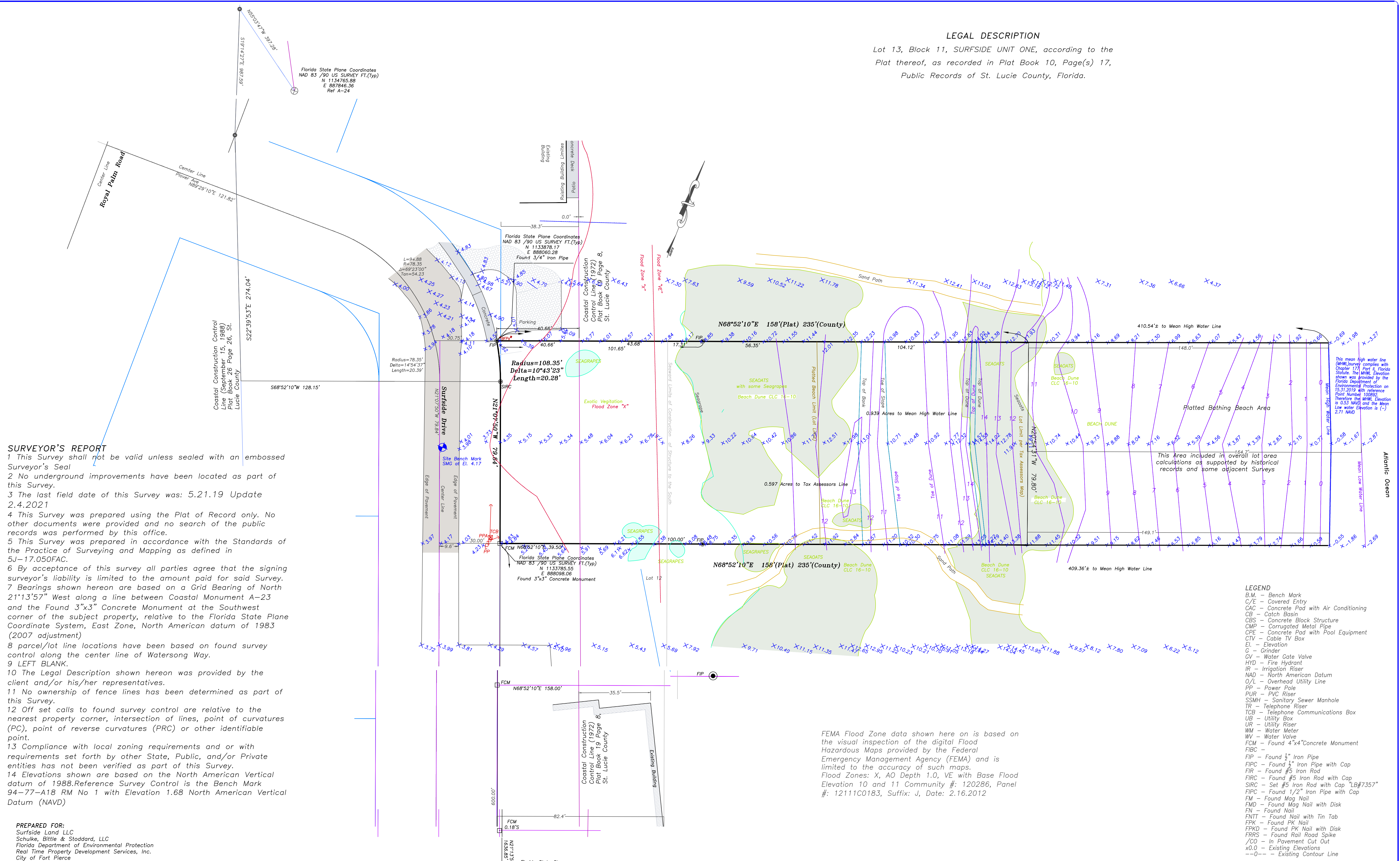
Type	Qty	Units	Year Blt
------	-----	-------	----------

LEGAL DESCRIPTION
 Lot 13, Block 11, SURFSIDE UNIT ONE, according to the
 Plat thereof, as recorded in Plat Book 10, Page(s) 17,
 Public Records of St. Lucie County, Florida.

SURVEYOR'S REPORT
 1 This Survey shall not be valid unless sealed with an embossed Surveyor's Seal
 2 No underground improvements have been located as part of this Survey.
 3 The last field date of this Survey was: 5.21.19 Update 2.4.2021
 4 This Survey was prepared using the Plat of Record only. No other documents were provided and no search of the public records was performed by this office.
 5 This Survey was prepared in accordance with the Standards of the Practice of Surveying and Mapping as defined in 5J-17.050FAC.
 6 By acceptance of this survey all parties agree that the signing surveyor's liability is limited to the amount paid for said Survey.
 7 Bearings shown hereon are based on a Grid Bearing of North 21°13'57" West along a line between Coastal Monument A-23 and the Found 3"x3" Concrete Monument at the Southwest corner of the subject property, relative to the Florida State Plane Coordinate System, East Zone, North American datum of 1983 (2007 adjustment)
 8 parcel/lot line locations have been based on found survey control along the center line of Watersong Way.
 9 LEFT BLANK.
 10 The Legal Description shown hereon was provided by the client and/or his/her representatives.
 11 No ownership of fence lines has been determined as part of this Survey.
 12 Off set calls to found survey control are relative to the nearest property corner, intersection of lines, point of curvatures (PC), point of reverse curvatures (PRC) or other identifiable point.
 13 Compliance with local zoning requirements and or with requirements set forth by other State, Public, and/or Private entities has not been verified as part of this Survey.
 14 Elevations shown are based on the North American Vertical datum of 1988. Reference Survey Control is the Bench Mark 94-77-A18 RM No 1 with Elevation 1.68 North American Vertical Datum (NAVD)

PREPARED FOR:
 Surfside Land LLC
 Schulke, Brittle & Stoddard, LLC
 Florida Department of Environmental Protection
 Real Time Property Development Services, Inc.
 City of Fort Pierce

Prepared By: Regina C. Karner, PSM#4363
 Karner Surveying, Inc. LB#7357



- LEGEND**
- B.M. - Bench Mark
 - C/E - Covered Entry
 - CAC - Concrete Pad with Air Conditioning
 - CB - Catch Basin
 - CBS - Concrete Block Structure
 - CMP - Corrugated Metal Pipe
 - CPE - Concrete Pad with Pool Equipment
 - CTV - Cable TV Box
 - EL - Elevation
 - G - Grinder
 - GV - Water Gate Valve
 - HYD - Fire Hydrant
 - IR - Irrigation Riser
 - NAD - North American Datum
 - O/L - Overhead Utility Line
 - PP - Power Pole
 - PUR - PVC Riser
 - SSMH - Sanitary Sewer Manhole
 - TR - Telephone Riser
 - TCB - Telephone Communications Box
 - UB - Utility Box
 - UR - Utility Riser
 - WM - Water Meter
 - WV - Water Valve
 - FCM - Found 4"x4" Concrete Monument
 - FIBC - Found 1/2" Iron Pipe
 - FIPC - Found 1/2" Iron Pipe with Cap
 - FIR - Found #5 Iron Rod
 - FIRC - Found #5 Iron Rod with Cap
 - SIRC - Set #5 Iron Rod with Cap "LB#7357"
 - FIPC - Found 1/2" Iron Pipe with Cap
 - FM - Found Mag Nail
 - FMD - Found Mag Nail with Disk
 - FN - Found Nail
 - FNIT - Found Nail with Tin Tab
 - FPK - Found PK Nail
 - FPKD - Found PK Nail with Disk
 - FRRS - Found Rail Road Spike
 - /CO - In Pavement Cut Out
 - x0.0 - Existing Elevations
 - 0-- - Existing Contour Line

FEMA Flood Zone data shown here on is based on the visual inspection of the digital Flood Hazardous Maps provided by the Federal Emergency Management Agency (FEMA) and is limited to the accuracy of such maps.
 Flood Zones: X, AO Depth 1.0, VE with Base Flood Elevation 10 and 11 Community #: 120286, Panel #: 12111C0183, Suffix: J, Date: 2.16.2012

Prepared For:
Surfside Land LLC
 St. Lucie County Florida

KARNER SURVEYING, INC.
 Residential & Commercial Surveying Services
 2740 SW Martin Downs Blvd.#333, Palm City, FL 34990
 Phone: (772)288 7206 Fax:(772)223 8181
 WWW.KARNERSURVEYING.COM karner@comcast.net

Date	Revision/Description	Sheet Title
8.18.19	Centerline	Boundary Survey

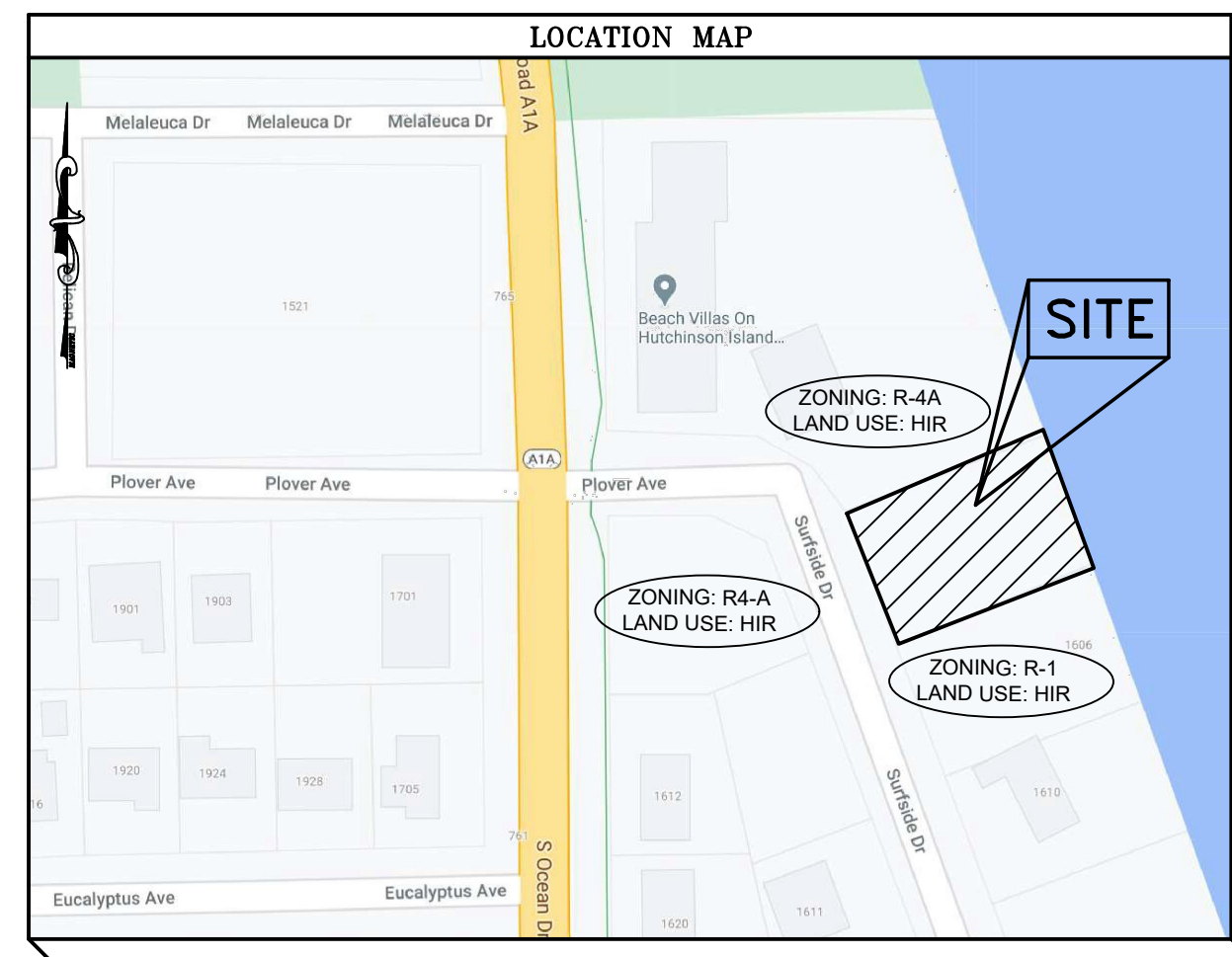
CONDITIONAL USE SITE PLAN/ PRELIMINARY PLAT

FOR

SURFSIDE QUAD PLEX

SECTION 07, TOWNSHIP 35 S, RANGE 41 E
CITY OF FT. PIERCE, FLORIDA

LEGAL DESCRIPTION
SURFSIDE - UNIT ONE - BLK 11 LOT 13



DRAWING INDEX	
SHEET	DESCRIPTION
1	COVER SHEET
2	EXISTING CONDITIONS AND POLLUTION PREVENTION
3	POLLUTION PREVENTION DETAILS
4	SOIL BORINGS
5	PRELIMINARY PLAT
6	SITE PLAN
7	PAVING, GRADING AND DRAINAGE PLAN
8	CROSS SECTIONS
9-12	MISCELLANEOUS DETAILS
13	LIGHTING PLAN
14	AERIAL
ATTACHED	SURVEY LANDSCAPE PLAN ARCHITECTURAL PLAN

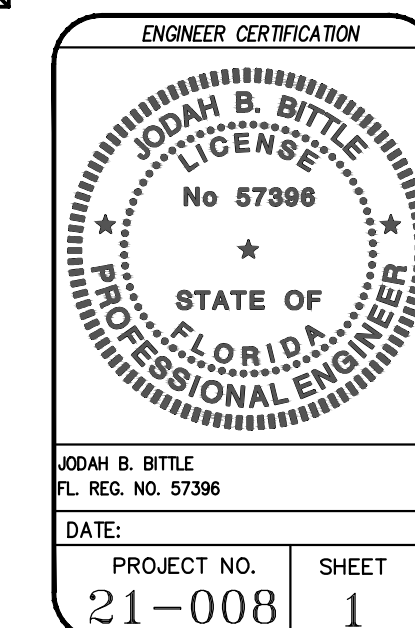
SITE DATA		
OWNER/DEVELOPER	SURFSIDE LAND LLC 9481 CAMP DR LAKE WORTH, FL 33467-6998	
ENGINEER	SCHULKE, BITTLE & STODDARD, L.L.C. JODAH B. BITTLE, P.E. 57396 1717 INDIAN RIVER BLVD., SUITE 201 VERO BEACH, FL 32960 (772) 770-9622	
SURVEYOR	KARNER SURVEYING, INC. REGINA KARNER, PSN #4363 2740 SW MARTIN DOWNS BLVD. #333 PALM CITY, FL 34990 PH: (772) 288-7206	
EXISTING USE	UNDEVELOPED	
PROPOSED USE	FOUR (4) MULTI-FAMILY UNITS	
PROJECT LOCATION	SECOND LOT FROM THE CORNER OF SR A-1-A AND SURFSIDE DRIVE	
SITE ADDRESS	SURFSIDE DRIVE, FT. PIERCE, FL	
PARCEL I.D. NUMBER	2412-501-0132-000-3	
CURRENT LAND USE	HIR (HUTCHINSON ISLAND RESIDENTIAL)	
CURRENT ZONING	R-4A (HUTCHINSON ISLAND MEDIUM DENSITY RESIDENTIAL)	
PROPOSED ZONING	R-4A (HUTCHINSON ISLAND MEDIUM DENSITY RESIDENTIAL)	
DEVELOPMENT PARAMETERS:	EXISTING	PROPOSED
MIN. LOT AREA	R-4A ZONING 5,000 SF PER UNIT	40,902 SF
MIN. OVERALL LOT WIDTH	75'	100'
MIN. INTERIOR LOT DEPTH	70'	235'
MIN. YARD SETBACKS:		
FRONT (WEST)	25'	25.9'
SIDE (NORTH)	10'	6.0'
SIDE (SOUTH)	10'	10.0'
REAR (WEST)	20'	327.1'
MAX. LOT COVERAGE BY BLDGS	40%	10.7%
MIN. OPEN SPACE	25%	82.0%
MAX. IMPERVIOUS AREA	75%	18.0%
MAXIMUM DENSITY	8 UNITS/ACRE	4.3 UNITS/ACRE
MAX. BLDG. HEIGHT	45'	45'
AREA CALCULATIONS:		
SITE AREAS:	EXISTING	PROPOSED
DEVELOPABLE AREA:	40,902 SF	0.94 AC
IMPERVIOUS AREA:	7,374 SF	0.17 AC
BUILDING AREA:	4,387 SF	0.10 AC
PAVING AREA:	2,275 SF	0.05 AC
CONCRETE/PATIO AREA:	712 SF	0.02 AC
PERVIOUS AREA:	33,526 SF	0.77 AC
GREEN SPACE:	33,526 SF	0.77 AC
NATIVE VEGETATION/PRESERVATION:	SEE SURVEY FOR DUNE VEGETATION	
PARKING CALCULATIONS:	REQUIRED: 2 SPACE PER UNIT 4 UNITS X 2 SPACES/UNIT = 8 SPACES PROVIDED: 8 INTERIOR DRIVEWAY PARKING SPACES	
AVERAGE DAILY TRIPS:	PROPOSED USE: PER ITE 9TH EDITION TRIP GENERATION MANUAL, LAND USE 230 4 MULTI-FAMILY UNITS X 7.78 TRIPS/UNIT = 31.1 OR 32 TRIPS	
CONSTRUCTION SCHEDULE:	DATE OF COMMENCEMENT	DATE OF COMPLETION
	1/22	1/23
VARIANCES FOR THIS PROJECT:	1. REQUIRED: 10 FOOT SETBACK FROM NORTH PROPERTY LINE PROPOSED: 6 FOOT BUILDING SETBACK FROM NORTH PROPERTY LINE	
GENERAL NOTES:	1. PROPOSED PUBLIC WATER SUPPLY - FT. PIERCE UTILITY AUTHORITY 2. PROPOSED PUBLIC SEWER - FT. PIERCE UTILITY AUTHORITY 3. GARBAGE IS HANDLED WITH CANS STORED IN THE UNITS. NO DUMPSTER PROPOSED. 4. THE PARCEL OF LAND SHOWN HEREON APPEARS TO BE IN FLOOD ZONE X (2%), & VE-8 PER FLOOD INSURANCE RATE MAP #12111C0183 J, DATED FEBRUARY 16TH, 2012. 5. ALL CONSTRUCTION ON SITE TO BE DONE PER ALL CITY OF FT. PIERCE STANDARDS AND SPECIFICATIONS. 6. ALL UTILITY CONSTRUCTION ON SITE TO BE DONE PER F.P.U.A. UTILITY STANDARDS AND SPECIFICATIONS, LATEST EDITION. 7. ALL SIGNS AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE LATEST VERSIONS OF THE M.U.T.C.D., FLORIDA DEPARTMENT OF TRANSPORTATION DESIGN STANDARDS, AND CITY OF FT. PIERCE TYPICAL PAVEMENT MARKINGS AND SIGNING DETAILS. IN ADDITION, ALL PAVEMENT MARKINGS WITHIN THE RIGHT-OF-WAY SHALL BE INSTALLED IN THERMO-PLASTIC. 8. EXISTING DRIVES AND/OR INTERSECTIONS SHOWN ARE WITHIN THE 300' RADIUS REQUIRED FROM THE PROPOSED SITE. 9. THE EXISTING SPEED LIMIT FOR SEAWAY DRIVE IS 35 M.P.H. 10. ALL PROPOSED TRAFFIC CONTROL DEVICES SHOWN ON SITE TO BE PER THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. 11. THE SITE LIGHTING (SOURCE OF ILLUMINATION) CANNOT BE VISIBLE FROM THE SITE. 12. ANY NUISANCE/NOCTURNAL PLANTS IN THE DEVELOPED AREA WILL BE REMOVED. 13. AT INTERSECTIONS, WALLS, FENCES, PLANTS OR SIGHT OBSTRUCTIONS OF ANY KIND OVER 18" IN HEIGHT ARE PROHIBITED WITHIN THE SITE DISTANCE TRIANGLE AS REQUIRED BY FOOT INDEX 546, 2014 EDITION. 14. ANY DISTURBED AREAS ON SITE OR IN THE COUNTY RIGHT-OF-WAY TO BE SOODED. 15. RUN-OFF FROM ROOF TO BE DIRECTED TO STORMWATER SYSTEM. 16. ALL LIGHTS MUST MEET THE FOLLOWING CRITERIA: - ALL POLES MUST BE BLACK OR BRONZE - ALL LIGHTS MUST BE DIRECTED DOWNWARD, WITH A 90 DEG. CUT-OFF - LIGHTS MUST NOT CAUSE GLARE ONTO ADJACENT R/W OR PROPERTIES. 17. ALL STOP SIGNS (R-1) SHALL BE 30" 18. NO DOWNERING BETWEEN 8 PM AND 6 AM WITHOUT CITY OF FT. PIERCE APPROVAL. 19. AN ENTRANCE GATE IS PROPOSED FOR THIS SITE. 20. CITY OF FT. PIERCE OR FDOT MAY HAVE UNDERGROUND CONDUIT FOR TRAFFIC SIGNAL INTERCONNECTIONS IN THIS AREA AS WELL AS OTHER TRAFFIC SIGNAL EQUIPMENT. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT SUNSHINE STATE ONE CALL SYSTEM AT 1-800-432-4770 FOR LOCATIONS OF THIS EQUIPMENT AT LEAST 72 HOURS PRIOR TO ANY CONSTRUCTION. 21. ALL SOLID, NON-BREAKAWAY OBJECTS (GATE POSTS/COLUMNS, BOLLARDS, STREET LIGHT POLES, ETC.) ALONGSIDE INTERIOR STREETS AND DRIVING AISLES SHALL BE LOCATED OUTSIDE THE CLEAR ZONE FOR STREETS AND DRIVING AISLES WITH A DESIGN SPEED OF 25 MPH OR LESS, THE MINIMUM CLEAR ZONE IS 2.5 FEET FROM THE FACE OF THE CURB (TYPE 'D' OR 'F') OR 6 FEET FROM THE EDGE OF THE TRAVEL LANE. THIS APPLIES TO PUBLIC AND PRIVATE PROPERTY. 22. THE BEARING BASE FOR THIS SURVEY IS A GRID BEARING OF S46°30'43"W ALONG THE NORTH R/W LINE OF SEAWAY DRIVE AND BASED ON FOUND MONUMENTATION. 23. THE ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988. THE BENCHMARK IS CGS MONUMENT C 231 1965, ELEVATION 4.47 NAVD. SECONDARY BENCHMARK IS AS SHOWN HEREON. THE CONVERSION TO NAVD'89 IS BY ADDING 1.499 FT. 24. ALL CONSTRUCTION WILL COMPLY WITH SECTIONS 17 AND 22 OF THE CITY OF FT. PIERCE CODE OF ORDINANCES. 25. ANY ABANDONED FLOW WELLS FOUND ON SITE SHALL BE PLUGGED PURSUANT TO D.O.H. AND SPWMD REGULATIONS. 26. ALL PAVEMENT MARKINGS IN THE RIGHT-OF-WAY SHALL BE 90 MIL., EXTRUDED TYPE, ALYD BASE THERMOPLASTIC. 27. ALL HANDICAPPED PARKING SPACES SHALL BE PROPERLY SIGNED AND STRIPPED IN ACCORDANCE WITH THE FDOT STANDARD INDEX 17346, 2014 EDITION. 28. ALL STOP SIGNS SHALL BE HIGH INTENSITY RETRO-REFLECTIVITY 29. ALL UTILITIES MUST BE PLACED UNDERGROUND. 30. THE CONTRACTOR SHALL FIELD LOCATE ALL EXISTING UTILITY LINES AND STRUCTURES PRIOR TO CONSTRUCTION. 31. FIRE SPRINKLER SYSTEM IS PROPOSED FOR THIS BUILDING.	

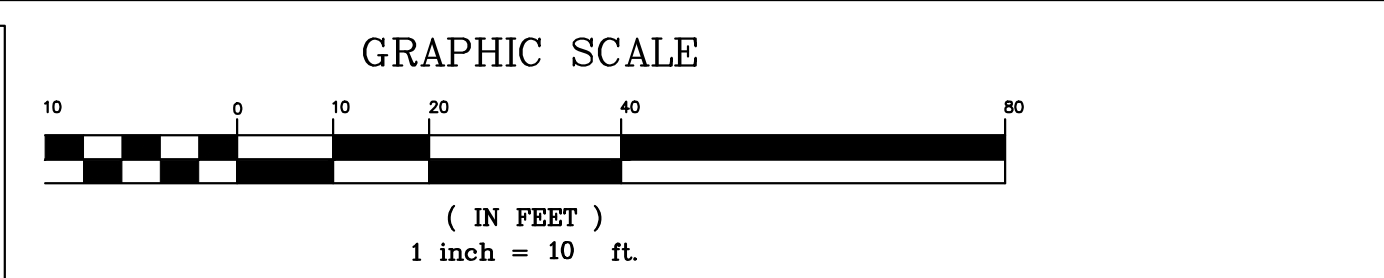
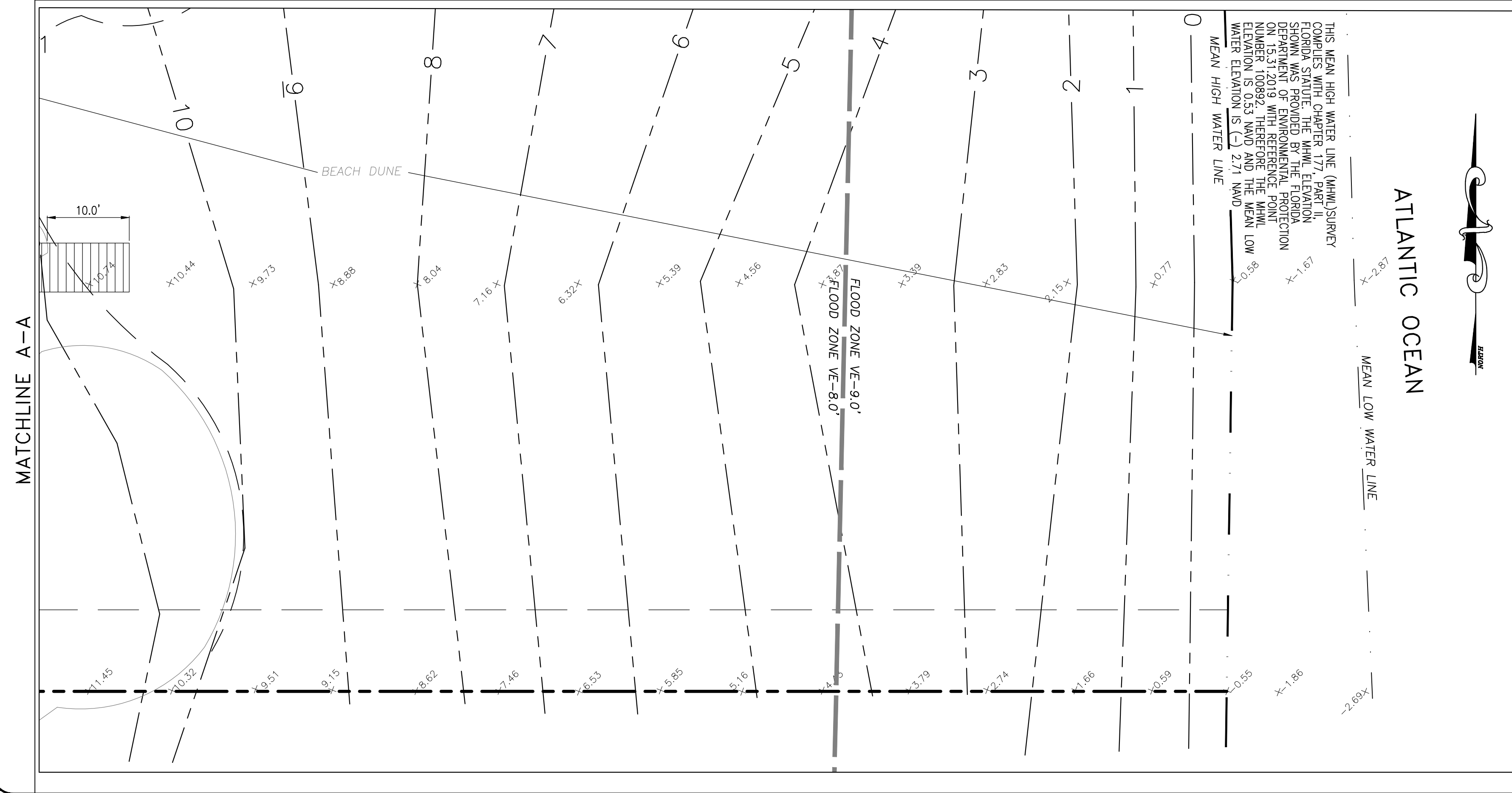
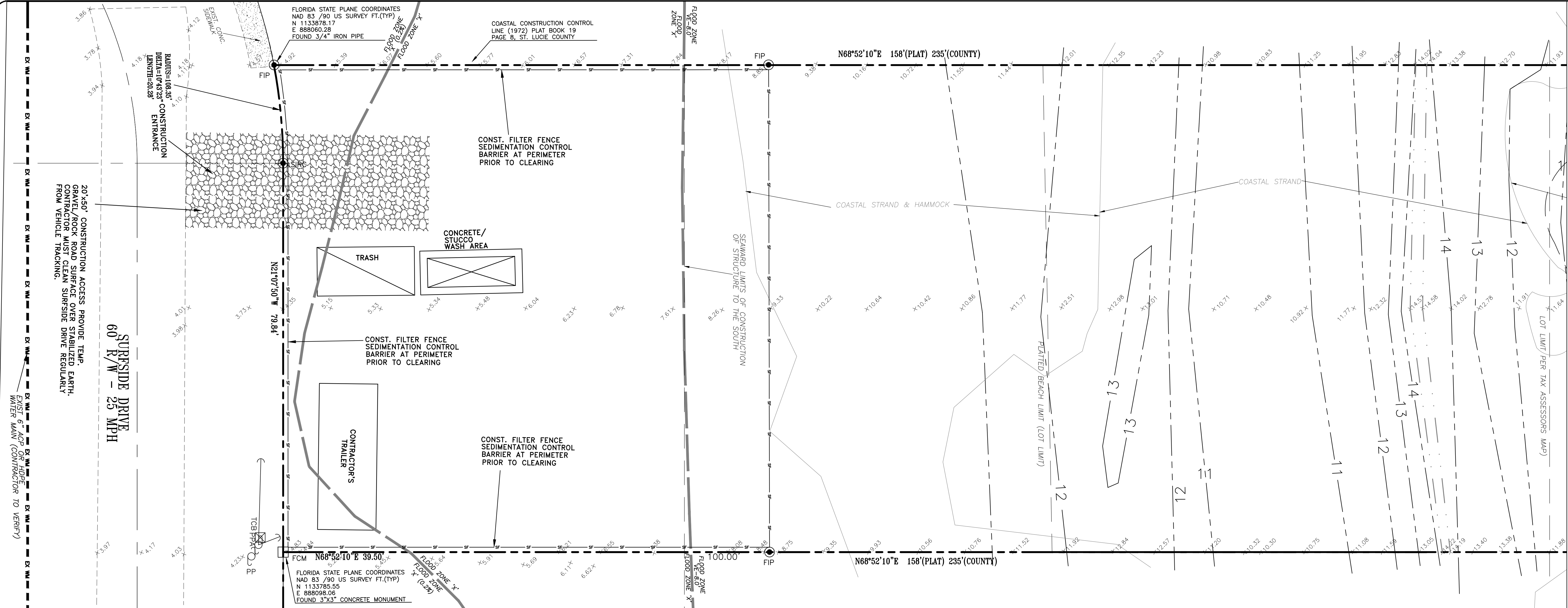
CONSTRUCTION NOTES		
1. SUBMITTALS		
A. PRODUCT DATA AND SHOP DRAWINGS		
1. FOR ALL SITE WORK CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT PRODUCT DATA IN THE FORM OF MANUFACTURERS' CUT SHEETS AND CATALOG DATA FOR ALL PRODUCTS, MATERIAL AND EQUIPMENT CLEARLY INDICATING THE SPECIFIC PART OR PRODUCT CATALOG NUMBERS FOR APPROVAL.		
2. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL PRODUCTS, MATERIALS AND EQUIPMENT REQUIRED TO BE FABRICATED, OR WHEN STANDARD PUBLISHED PRODUCT DATA IS NOT SUITABLE FOR USE.		
3. SUBMIT 6 COPIES OF REQUESTED INFORMATION, NEATLY BOUND AND INDEXED PER CATEGORY FOR THE FOLLOWING:		
A. UTILITIES:		
ALL PIPE, FITTINGS, VALVES, OTHER MISCELLANEOUS APPURTENANCES, CONTROLS, PUMP STATION EQUIPMENT, COMPONENTS AND STRUCTURES, AND ALL OTHER UTILITY SYSTEM PRODUCTS, MATERIALS AND COMPONENTS AND SIMILAR CONTROLS.		
B. DRAINAGE:		
ALL PIPE, FITTINGS, AND COMPONENTS THEREOF: STRUCTURES, FRAMES, GRATES, LIDS, GASKETS, FASTENERS, COUPLINGS AND SIMILAR, AND ALL OTHER DRAINAGE SYSTEM PRODUCTS, MATERIALS, AND COMPONENTS AND SIMILAR CONTROLS.		
C. PAVING AND GRADING:		
FDOT CERTIFICATIONS AND LAB ANALYSIS/RESULTS FOR PAVEMENT, BASE, SUBGRADE, AND FILL MATERIALS. INCLUDE EVIDENCE (CERTIFICATIONS) THAT THE MATERIALS PROPOSED TO BE USED MEET OR EXCEED FOOT SPECIFICATIONS AND THE CONTRACT DOCUMENTS.		
D. SIGNING AND PAVEMENT MARKINGS:		
SIGN AND PAVEMENT MARKING PRODUCTS AND MATERIALS, AND EVIDENCE THAT THE PRODUCTS AND MATERIALS PROPOSED TO BE USED MEET OR EXCEED REQUIREMENTS SPECIFIED IN THE CONTRACT DOCUMENTS, LOCAL ENGINEERING DEPARTMENT, MUTCO AND FOOT SPECIFICATIONS.		
E. IRRIGATION:		
ALL PIPE, FITTINGS, VALVES, OTHER MISCELLANEOUS APPURTENANCES, CONTROLS, PUMP STATION EQUIPMENT, COMPONENTS AND STRUCTURES, AND ALL OTHER UTILITY SYSTEM PRODUCTS, MATERIALS AND COMPONENTS AND SIMILAR CONTROLS, WELLS, AND/OR OTHER IRRIGATION SOURCES. THE CONTRACTOR SHALL SUBMIT AN IRRIGATION COORDINATION DRAWING, INDICATING CONTRACTOR'S PROPOSED LOCATION OF MAIN LINES, SECONDARY LINES, HEAD LOCATIONS, WELLS, PUMP, CONTROL PANELS, SENSORS, CONTROL VALVE AND VALVE LOCATIONS. THIS DRAWING SHOULD CLEARLY DEPICT ADJUSTMENTS OR CHANGES THE CONTRACTOR PROPOSES. THE DRAWINGS SHALL INDICATE ALL PROPOSED SUBSTITUTIONS OF SIZE, MATERIAL AND/OR MANUFACTURER.		
4. ALLOW TWO WEEKS FOR THE ENGINEER TO COMPLETE REVIEW OF PRODUCT DATA AND SHOP DRAWINGS. ENGINEER WILL NOT BE RESPONSIBLE FOR PROJECT DELAYS RELATED TO DELIVERY AND TRANSMISSION OF THE DOCUMENTS ONCE INFORMATION HAS LEFT ENGINEER'S OFFICE. ITEMS REQUIRING A LONG LEAD TIME SHOULD BE SUBMITTED AS SOON AS POSSIBLE.		
5. THE CONTRACTOR SHALL PROVIDE A STAMP INDICATING ITS REVIEW AND APPROVAL, INITIALED OR SIGNED CERTIFYING TO REVIEW OF SUBMITTAL, VERIFICATION OF PRODUCTS, FIELD MEASUREMENTS AND FIELD CONSTRUCTION CRITERIA, AND COORDINATION OF THE INFORMATION WITHIN THE SUBMITTAL WITH REQUIREMENTS OF THE WORK AND OF CONTRACT DOCUMENTS, INCLUDING PLANS AND SPECIFICATIONS OF OTHER DESIGN PROFESSIONALS (I.E., ARCHITECT, MECHANICAL, ELECTRICAL, AND STRUCTURAL ENGINEERS).		
B. TESTING		
1. WATER: PRESSURE (MAINS AND TAPS), BACTERIOLOGICAL, BACKFILL DENSITIES, BACKFLOW PREVENTOR TESTS AND CERTIFICATION AND AS PER PROJECT SPECIFICATIONS, LOCAL UTILITIES DEPARTMENT, AND FDEP REQUIREMENTS		
2. SEWER: EXFIL, TV, AND BACKFILL DENSITIES, PRESSURE TEST (MAINS AND TAPS) LIFT STATION START-UP, ALL PER PROJECT SPECIFICATIONS, COVE AND FDEP REQUIREMENTS		
3. DRAINAGE: EXFIL, LAMPING (FIELD), AND BACKFILL DENSITIES PER PROJECT SPECIFICATIONS AND LOCAL ENGINEERING REQUIREMENTS		
4. STORMWATER & PAVING: DENSITIES, LBRS AND FBV'S AS PER PROJECT SPECIFICATIONS AND LOCAL ENGINEERING REQUIREMENTS		
5. SUBMIT ALL TEST RESULTS FOR ENGINEERING REVIEW WITHIN 3 DAYS OF TESTING. FAILURE TO PROVIDE TEST RESULTS, OR PROVIDING FAILING TEST RESULTS WILL BE GROUNDS FOR DELAY AND/OR REJECTION OF PAY REQUEST APPLICATIONS.		
C. AS-BUILTS		
1. GRADING: LOCATION AND ELEVATION OF ALL: CONCRETE AND PAVEMENT (VEHICLE USE AND PEDESTRIAN USE IMPROVEMENTS) AT HILOW POINTS, EDGE OF PAVEMENT, AND CENTERLINE AT 50' ON CENTER AND AT CHANGE OF DIRECTION, GRADE BREAKS, PROPERTY LINES (CROSS SECTIONS 50' ON CENTER); TOP OF BANK AND T.O.E. OF SLOPE AND/OR CENTERLINE OF SWALES AND RETENTION AREAS; CROSS SECTIONS 50' ON CENTER ON STORMWATER LAKES FROM TOP TO BOTTOM; MECHANICAL PANS AND FINISHED FLOOR ELEVATIONS; DETAILED LOCATION AND TOPOGRAPHY OF DRIVEWAY TURNOUTS.		
2. WATER AND SEWER FORCE MAINS: LOCATION, TOP ELEVATION AND STATE PLANE COORDINATES AT ALL FITTINGS, VALVES, CHANGE OF DIRECTION AND AT 100' ON CENTER.		
3. GRAVITY SEWER:		
- SEWER STRUCTURES: DIAMETER OR SIZE, AND LOCATION AND ELEVATION OF STRUCTURES, TOP, BOTTOMS, AND SEWER INVERTS.		
- MAINS AND LATERALS: LOCATION AND INVERT ELEVATIONS AT CONNECTIONS, FITTINGS, AND TERMINATION		
- LIFT STATIONS: HORIZONTAL LAYOUT AND LOCATION OF ALL EQUIPMENT, PANELS, VAULTS, WET WELL, VALVES; LOCATION OF CONDUIT RUNS AND WATER SERVICE HOSE BIBS; LOCATION AND INVERT ELEVATIONS OF GRAVITY AND FORCE MAINS TO AND FROM LIFT STATION; WET WELL DIAMETER, TOP AND BOTTOM ELEVATIONS; PUMPS(S) SIZE, TYPE, DISCHARGE DIAMETER, MANUFACTURER AND MODEL #		
4. DRAINAGE: ALL STRUCTURES DIAMETER OR SIZE, LOCATION, AND ELEVATION OF TOP, BOTTOM, AND INVERT ELEVATIONS; ALL PIPES, DIAMETER, TYPE/MATERIAL, LOCATION AND INVERT ELEVATION AT CONNECTIONS, FITTINGS, AND TERMINATION POINTS		
5. IRRIGATION: ALL LINES, SYSTEM EQUIPMENT COMPONENTS, MATERIALS INCLUDING PIPES, VALVES, FITTINGS, SPRINKLER HEADS, AND MISCELLANEOUS APPURTENANCES.		
D. OPERATION AND MAINTENANCE MANUALS		
1. CONTRACTOR SHALL PROVIDE THE OWNER WITH OPERATION AND MAINTENANCE MANUALS FOR ALL OPERABLE EQUIPMENT PUMP STATIONS AND CONTROLS, AUTOMATIC CONTROL VALVES, AND OTHER AUTOMATED EQUIPMENT; CONTROL PANELS, ETC.).		
2. OPERATION AND MAINTENANCE MANUALS SHALL BE SUBMITTED AS A PRE-REQUISITE TO THE PROJECT BEING DEEMED SUBSTANTIALLY COMPLETE.		
E. WARRANTY		
THE CONTRACTOR SHALL PROVIDE ALL WARRANTIES, CERTIFICATIONS, GUARANTEES, AND WARRANTY BONDS AS SPECIFIED IN THE CONTRACT DOCUMENTS AND PERMIT CONDITIONS INCLUDING: - UTILITY MAINTENANCE BOND - FOR ALL PUBLIC WATER AND SEWER UTILITIES INFRASTRUCTURE - (25% OF CONTRACT VALUE) - ENGINEERING MAINTENANCE BOND - FOR ALL PAVING, GRADING, AND DRAINAGE IMPROVEMENTS AND INFRASTRUCTURE (25% OF CONTRACT VALUE)		
F. OWNER TRAINING		
THE CONTRACTOR SHALL INCLUDE 2 HOURS OF OWNER TRAINING FOR EACH WATER, SEWER, DRAINAGE, AND IRRIGATION SYSTEMS FOR ALL OPERABLE EQUIPMENT AND SHALL INCLUDE THE TIME FOR INITIAL ADJUSTMENTS OF EQUIPMENT AND TIME FOR ONE FOLLOW-UP VISIT AND ADJUSTMENTS OF EQUIPMENT 60 DAYS AFTER END USER HAD OPERATIONAL TIME WITH THE EQUIPMENT.		

SCHULKE, BITTLE & STODDARD, L.L.C.

CIVIL & STRUCTURAL ENGINEERING • LAND PLANNING • ENVIRONMENTAL PERMITTING
CERTIFICATION OF AUTHORIZATION NO.: 00008668

1717 INDIAN RIVER BLVD., SUITE 201 VERO BEACH, FLORIDA 32960
TEL 772 / 770-9622 FAX 772 / 770-9496 EMAIL info@sbsengineers.com





- EROSION CONTROL NOTES**
1. SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE ANY SLOPE LAND DISTURBANCE TAKES PLACE.
 2. ALL SEDIMENT CONTROL MEASURES ARE TO BE ADJUSTED TO MEET FIELD CONDITIONS AT THE TIME OF CONSTRUCTION AND BE CONSTRUCTED PRIOR TO ANY GRADING OR DISTURBANCE OF EXISTING SURFACE MATERIAL ON BALANCE OF SITE. PERIMETER SEDIMENT BARRIERS SHALL BE CONSTRUCTED TO PREVENT SEDIMENT OR TRASH FROM FLOWING OR FLOATING ON TO ADJACENT PROPERTIES.
 3. PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN (7) DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN UNDISTURBED FOR LONGER THAN 30 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT UNDISTURBED FOR MORE THAN ONE YEAR.
 4. DURING CONSTRUCTION OF THE PROJECT, SOIL STOCK PILES SHALL BE STABILIZED, COVERED OR CONTAINED WITH SEDIMENT TRAPPING MEASURES. THE CONTRACTOR IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.
 5. A PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON DENUDED AREAS NOT OTHERWISE PERMANENTLY STABILIZED.
 6. AFTER ANY SIGNIFICANT RAINFALL (1/2" OR GREATER) SEDIMENT CONTROL STRUCTURES WILL BE INSPECTED FOR INTEGRITY. ANY DAMAGED DEVICES SHALL BE CORRECTED IMMEDIATELY.
 7. CONCENTRATED RUNOFF SHALL NOT FLOW DOWN OUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME, SLOPE DRAIN STRUCTURE OR APPROVED CONTROL.
 8. SEDIMENT WILL BE PREVENTED FROM ENTERING ANY STORM WATER SYSTEM, DITCH OR CHANNEL. ALL STORM WATER INLETS THAT ARE MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT-LADEN WATER CANNOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.
 9. WHEN WORK IN A LIVE WATERCOURSE IS PERFORMED, PRECAUTIONS SHALL BE TAKEN TO MINIMIZE ENCROACHMENT, CONTROL, SEDIMENT TRANSPORT AND STABILIZE THE WORK AREA TO THE GREATEST EXTENT POSSIBLE DURING CONSTRUCTION.
 10. PERIODIC INSPECTION AND MAINTENANCE OF ALL SEDIMENT CONTROL STRUCTURES MUST BE PROVIDED TO ENSURE INTENDED PURPOSE IS ACCOMPLISHED. THE DEVELOPER, OWNER AND/OR CONTRACTOR SHALL BE CONTINUALLY RESPONSIBLE FOR ALL SEDIMENT CONTROLS. SEDIMENT CONTROL MEASURES SHALL BE IN WORKING CONDITION AT THE END OF EACH WORKING DAY.
 11. WHERE CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED PUBLIC ROADS, PROVISIONS SHALL BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT BY TRACKING ONTO THE PAVED SURFACE. WHERE SEDIMENT IS TRANSPORTED ONTO A PUBLIC ROAD SURFACE, THE ROAD SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER. THIS PROVISION SHALL APPLY TO INDIVIDUAL SUBDIVISION SITS AS WELL AS TO LARGER LAND DISTURBING ACTIVITIES.
 12. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED.
 13. PROPERTIES AND WATERWAYS DOWNSTREAM FROM CONSTRUCTION SITES SHALL BE PROTECTED FROM SEDIMENT DEPOSITION AND EROSION.
 14. EROSION CONTROL DESIGN AND CONSTRUCTION SHALL FOLLOW THE REQUIREMENTS IN INDEX NUMBERS 101, 102 AND 103 OF F.D.O.T. ROADWAY AND TRAFFIC DESIGN STANDARDS, IN ADDITION TO THESE PLANS.
 15. CONTRACTOR IS RESPONSIBLE FOR ALL SURFACE WATER DISCHARGES, RAINFALL RUN-OFF OR DEWATERING ACTIVITIES.
 16. CONTRACTOR MUST INCORPORATE ALL BMPs NECESSARY TO MEET OR EXCEED STATE WATER QUALITY REQUIREMENTS.
 17. POLLUTION PREVENTION PLAN IS A MINIMUM GUIDELINE ONLY. ADDITIONAL BMPs MAY BE NECESSARY AT CONTRACTOR'S EXPENSE. NOI TO BE POSTED ON SITE.
 18. NO TURBID DISCHARGE. TURBIDITY READINGS ARE REQUIRED ONCE A WEEK AND MUST BE REPORTED TO THE PROJECT ENGINEER.
 19. DEWATERING ACTIVITIES:
 - A. DISCHARGE MUST NOT EXCEED STATE WATER QUALITY STANDARDS.
 - B. CONTRACTOR MUST HAVE OR OBTAIN A TRANSFERABLE SURFMD CONSUMPTIVE USE PERMIT KNOWN AS A 'NOTICED GENERAL PERMIT FOR SHORT TERM CONSTRUCTION DE-WATERING' UNLESS DEWATERING ACTIVITIES WILL RESULT IN LESS THAN 300,000 GPD FOR 30 DAYS OR LESS.
 - C. NO HYDRAULIC PUMPS MAY BE USED FOR DEWATERING UNLESS APPROVED BY THE WATER MANAGEMENT DISTRICT FOR THAT AREA. DEWATERING EXISTING STORMWATER RETENTION AREAS (POND/LAKES) MAY BE EXEMPT FROM THIS CONDITION. CONTRACTOR TO CONFIRM WITH SURFMD.
 - D. NO TURBID DISCHARGE. TURBIDITY READINGS ARE REQUIRED ONCE A WEEK AND MUST BE REPORTED TO THE PROJECT ENGINEER AND TO CITY OF FT. PIERCE.
 20. SEE ADDITIONAL DETAILS, SPECIFICATIONS AND REQUIREMENTS OF SHEET 4.11-13.

STORMWATER POLLUTION PREVENTION PLAN

A SITE PLAN MUST BE DEVELOPED AND MUST CONTAIN, AT A MINIMUM, THE FOLLOWING INFORMATION:

1. DRAINAGE PATTERNS - SEE SURVEY AND DRAINAGE PLAN SHEET 3 & 7.
2. APPROXIMATE SLOPES AFTER MAJOR GRADING ACTIVITIES - SEE SHEET 7.
3. AREAS OF SOIL DISTURBANCE - SEE SHEETS 2, AND THIS SHEET.
4. OUTLINE ALL AREAS THAT ARE NOT TO BE DISTURBED - NA.
5. LOCATION OF ALL MAJOR STRUCTURAL AND NON-STRUCTURAL CONTROLS - THIS SHEET.
6. THE LOCATION OF EXPECTED STABILIZATION PRACTICES - THIS SHEET.
7. NO WETLANDS AND SURFACE WATERS.
8. LOCATIONS WHERE STORMWATER MAY DISCHARGE TO A SURFACE WATER OR MS4. SEE SHEET 7.

DESCRIBE THE NATURE OF THE CONSTRUCTION ACTIVITY: DEMOLITION, LAND CLEARING, EARTHWORK, PAVING AND UTILITY WORK FOR BUILDING, PARKING AND SITE IMPROVEMENTS.

DESCRIBE THE INTENDED SEQUENCE OF MAJOR SOIL DISTURBING ACTIVITIES:

1. SITE PREPARATION AND STABILIZE CONSTRUCTION ENTRANCE.
2. INSTALL SILT FENCE AROUND PERIMETER OF SITE. INSTALL TURBIDITY BARRIERS AT ALL OUTFALL LOCATIONS. CLEAR LAND. CONSTRUCT BERM ON PERIMETER AND TEMPORARY SWALES AS SHOWN ON PLANS. BERM SHALL BE CONSTRUCTED USING INITIAL IMPORTED FILL MATERIAL. THE BERM AND SWALE SHALL BE SEEDED.

TOTAL AREA OF THE SITE: 0.84 ACRES
TOTAL AREA OF THE SITE TO BE DISTURBED: 0.25 ACRES

EXISTING DATA DESCRIBING THE SOIL OR QUALITY OF ANY STORMWATER DISCHARGE: SEE SOIL BORINGS BY SHEETS 2. NO DISCHARGE FROM DISTURBED AREAS IS ANTICIPATED.

DRAINAGE AREA SIZE FOR EACH DISCHARGE POINT: ENTIRE SITE = 0.25 ACRES

LATITUDE AND LONGITUDE OF THE SITE:
LATITUDE = N 27° 27' 04.4"
LONGITUDE = W 80° 17' 05.2"

NOTES:

1. THIS PLAN (SHEETS 4 AND 5), COPY OF FDEP NOI (STATE OF FLORIDA GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES) AND ALL REQUIRED INSPECTION REPORTS, TESTS, AND ALL OTHER DOCUMENTATION SHALL BE KEPT AT THE PROJECT SITE.
2. THE FOLLOWING CERTIFICATION SHALL BE COMPLETED BY ALL CONTRACTORS/SUB-CONTRACTORS RESPONSIBLE FOR ANY PORTION OF THE IMPLEMENTATION OF THE S.W.P.P.P.:

CERTIFICATION:

I I CERTIFY UNDER THE PENALTY OF LAW THAT I UNDERSTAND AND SHALL COMPLY WITH THE TERMS AND CONDITIONS OF THE STATE OF FLORIDA GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES AND THIS STORMWATER POLLUTION PREVENTION PLAN PREPARED THEREUNDER:

SWPPP DESCRIPTION OF WORK/ RESPONSIBILITY	NAME TITLE	CONTRACTOR OR SUB CONTRACTOR (NAME, ADDRESS, PHONE)	NAME/SIGNATURE TO CERTIFICATION	DATE
			_____ EL	
			_____ EL	
			_____ EL	

MATCHLINE A-A

DRAWING 21-008 CONST. DESIGNED JBB CHECKED JBB DRAWN JBB DATE 04/16/21

REVISION 7 REVISED BY FDEP COMMENTS DATE 06/12/21

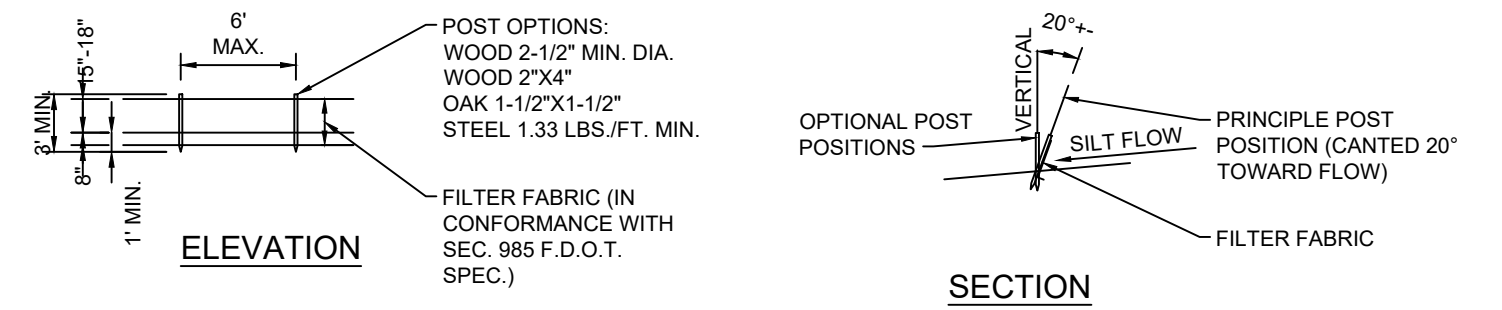
THE DRAWINGS ARE THE PROPERTY OF SCHULKE, BITTLE & STODDARD, L.L.C. FOR WHICH THEY ARE MADE. IS EXECUTED OR NOT. COPY OR USE FOR OTHER UNAUTHORIZED USE WILL BE PROSECUTED PURSUANT TO THE COPYRIGHT LAWS.

SCHULKE, BITTLE & STODDARD, L.L.C.
CIVIL & STRUCTURAL ENGINEERING LAND PLANNING ENVIRONMENTAL PERMITTING
CERTIFICATION OF AUTHORIZATION NO.: 00008668
1717 INDIAN RIVER BLVD., SUITE 201 VERO BEACH, FLORIDA 32960
TEL 772-770-9496 FAX 772-770-9496 EMAIL jbittle@sbsengineers.com
WEBSITE https://www.sbsengineers.com

EXISTING CONDITIONS/ DEMOLITION AND POLLUTION PREVENTION PLAN

SURFSIDE QUAD PLEX

ENGINEER CERTIFICATION
JODAH B. BITTLE
FL REG. NO. 57396
DATE: PROJECT NO. 21-008 SHEET 2



POST OPTIONS:
WOOD 2-1/2" MIN. DIA.
WOOD 2"x4"
OAK 1-1/2"x1-1/2"
STEEL 1.33 LBS./FT. MIN.

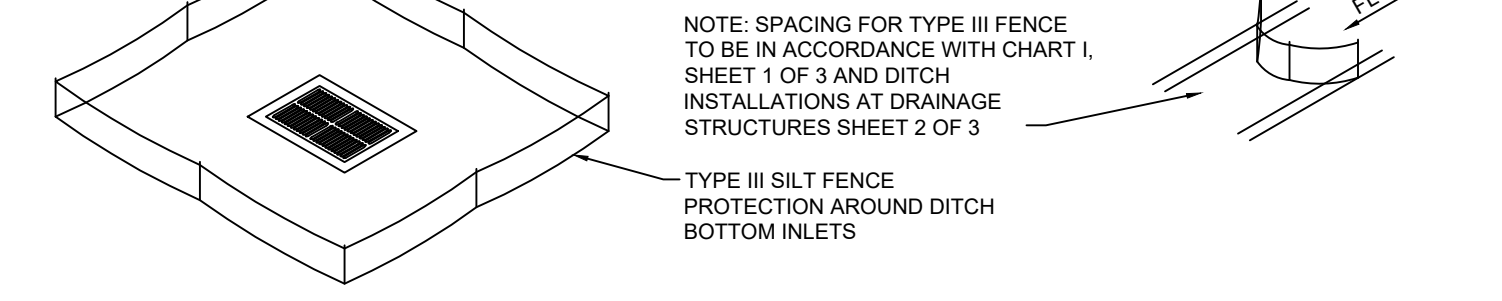
FILTER FABRIC (IN CONFORMANCE WITH SPEC. 985 F.D.O.T. SPEC.)

OPTIONAL POST POSITIONS

PRINCIPLE POST POSITION (CANTED 20° TOWARD FLOW)

FILTER FABRIC

NOTES: SILT FENCE TO BE PAID FOR UNDER THE CONTRACT UNIT PRICE FOR STAKED SILT FENCE (L.F.)

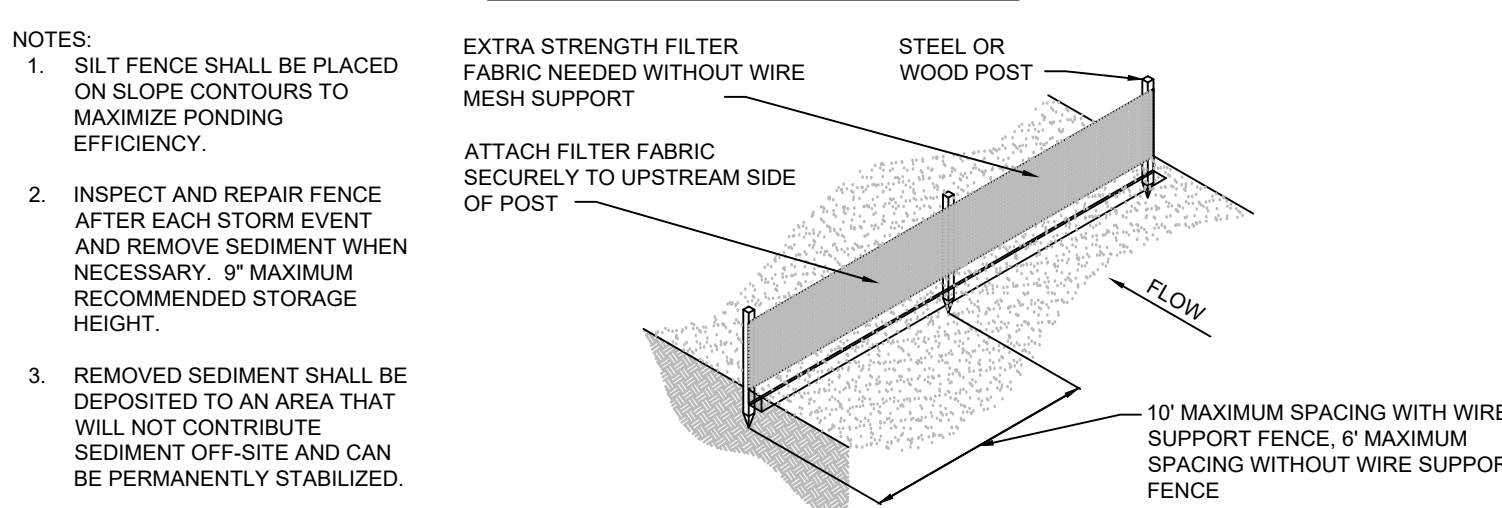


TYPE III SILT FENCE

NOTE: SPACING FOR TYPE III FENCE TO BE IN ACCORDANCE WITH CHART I, SHEET 1 OF 3 AND DITCH INSTALLATIONS AT DRAINAGE STRUCTURES SHEET 2 OF 3

TYPE III SILT FENCE PROTECTION AROUND DITCH BOTTOM INLETS

DO NOT DEPLOY IN A MANNER THAT SILT FENCES WILL ACT AS A DAM ACROSS PERMANENT FLOWING WATERCOURSES. SILT FENCES ARE TO BE USED AT UPLAND LOCATIONS AND TURBIDITY BARRIERS USED AT PERMANENT BODIES OF WATER.



SILT FENCE APPLICATIONS-N.T.S.

EXTRA STRENGTH FILTER FABRIC NEEDED WITHOUT WIRE MESH SUPPORT

ATTACH FILTER FABRIC SECURELY TO UPSTREAM SIDE OF POST

INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY. 9" MAXIMUM RECOMMENDED STORAGE HEIGHT.

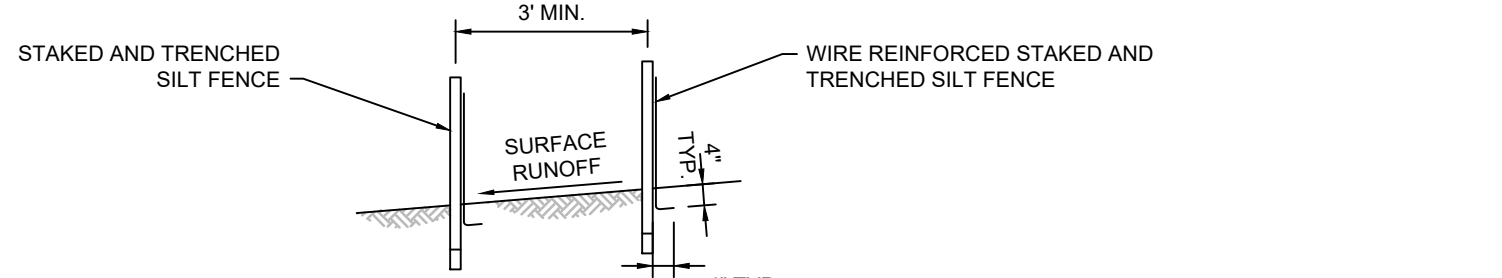
REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.



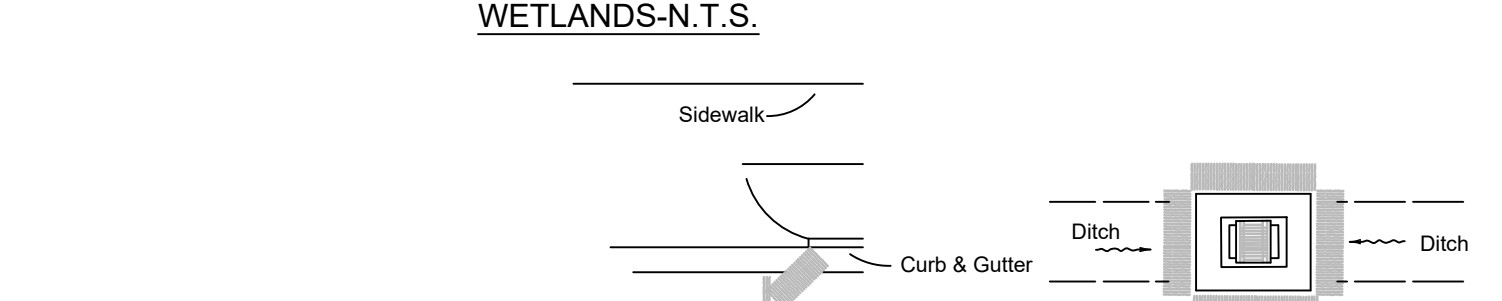
TRENCH DETAIL

INSTALLATION WITHOUT TRENCHING

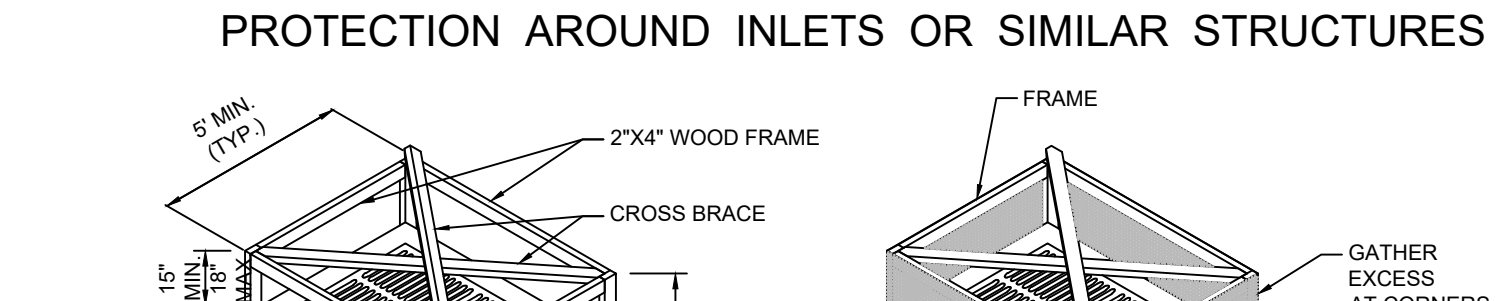
TYPE IV SILT FENCE-N.T.S.



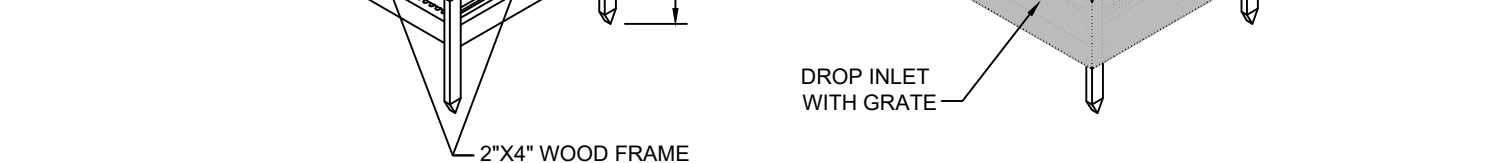
DOUBLE ROW STAKED SILT FENCE FOR USE AROUND WETLANDS-N.T.S.



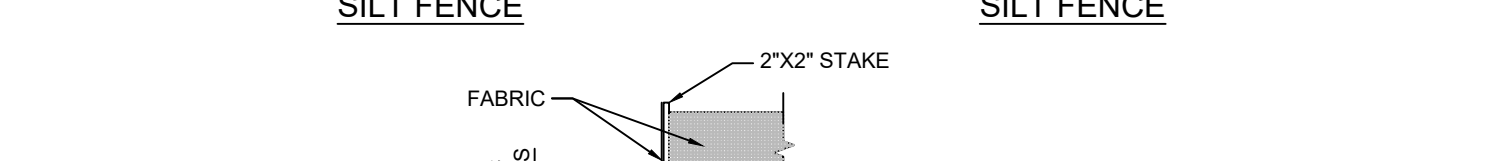
PROTECTION AROUND INLETS OR SIMILAR STRUCTURES



SILT FENCE INLET PROTECTION-N.T.S.



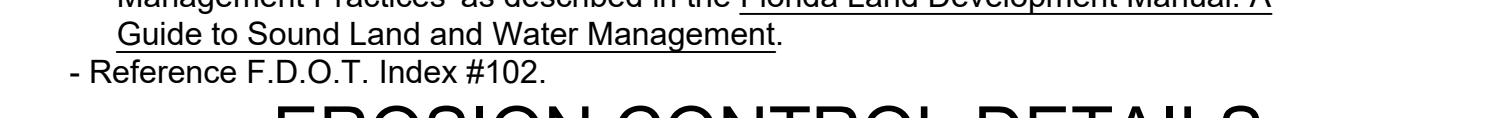
SILT FENCE INLET PROTECTION-N.T.S.



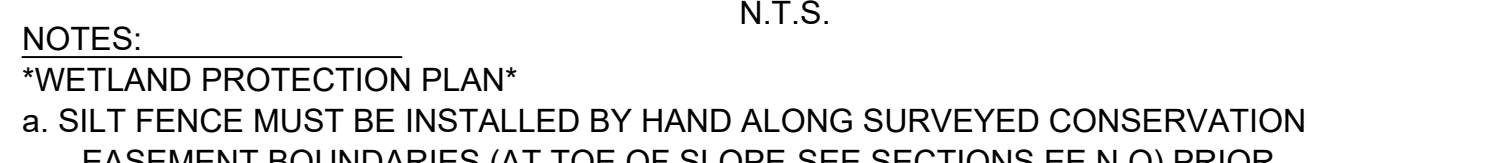
SILT FENCE INLET PROTECTION-N.T.S.

PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D4882	200 LBS
GRAB TENSILE ELONGATION	ASTM D4882	200%
POROSITY	ASTM D4883	120 LBS
MILLER TENSILE	ASTM D4883	120 LBS
TRAPFLOOR TEAR	ASTM D4883	120 LBS
RESISTANCE	ASTM D4883	120 LBS
APPEARANCE OPENING SIZE	ASTM D4883	48 US SIEVE
PERMEABILITY	ASTM D4883	2.5 SEC. - 1
PERMEABILITY	ASTM D4883	2.5 SEC. - 1

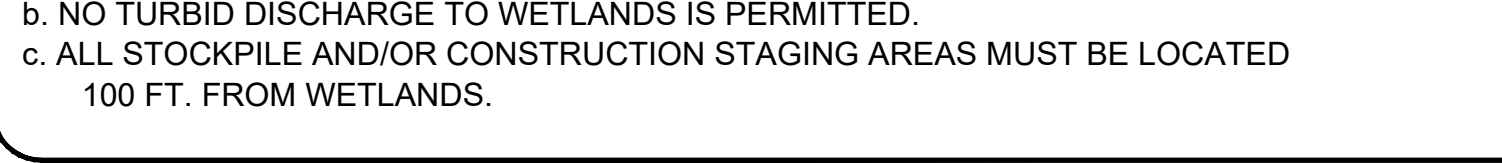
SOCK-PIPE OR ROCK BAG INLET FILTER-N.T.S.



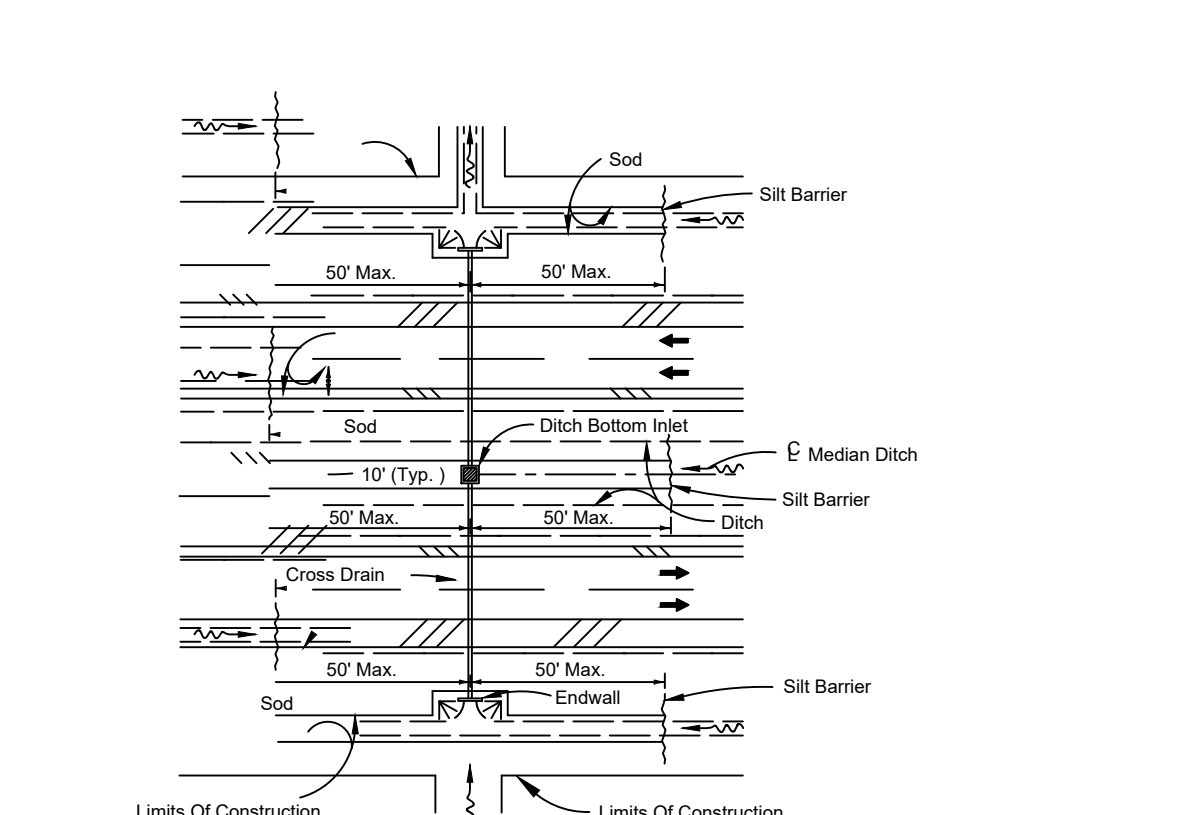
SOCK-PIPE OR ROCK BAG INLET FILTER-N.T.S.



TEMPORARY ADS OUTFALL N.T.S.



TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT-N.T.S.



DITCH INSTALLATIONS AT DRAINAGE STRUCTURES

TYPE 1. DOT FOR WATERS WITH LOW CURRENTS (NO MORE THAN ONE FOOT PER SECOND) AND LIGHT WINDS, LAKES, PONDS, SMALL STREAMS, MARSHES, FLEXIBLE TOP FLOTATION SECTION WITH ENCAPSULATED EPS FOAM FLOTATION LOGS (6"x8"x4")

TYPE 2. DOT FOR HIGHER CURRENT WATERS (UP TO FIVE FEET PER SECOND); DEEPER LAKES, STREAMS, INTERCOASTAL AND TIDAL AREAS. INCLUDES AN ENCAPSULATED STEEL LOAD CABLE ALONG TOP OF BARRIER AND 8"x8"x4" FLOTATION LOGS. WEAR STRESS POINTS ARE REINFORCED WITH SHIELDS.

TYPE 3. DOT IS SIMILAR TO TYPE 2. DOT EXCEPT THAT POLYPROPYLENE FILTER FABRIC IS PERMANENTLY INSERTED INTO THE BARRIER SKIRT TO MEET SOME STATE'S SPECIFICATIONS.



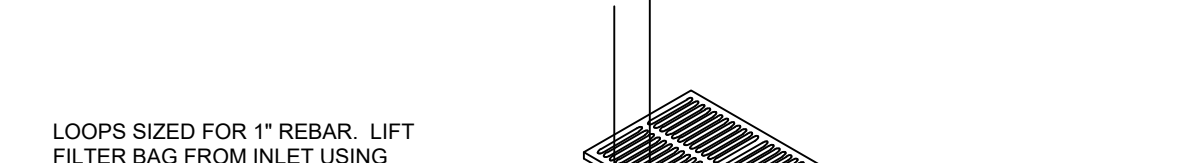
BLOW-UP OF SHACKLE CONNECTION



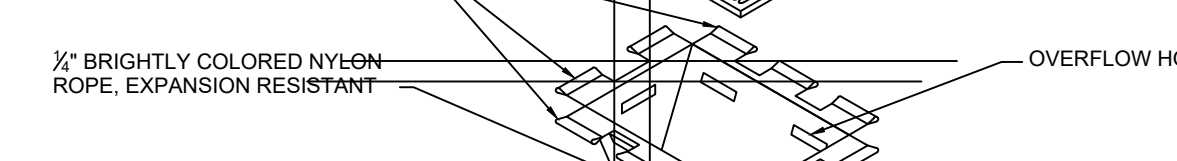
ORIENTATION WHEN INSTALLED (TIDAL SITUATION-TYPE III)-N.T.S.



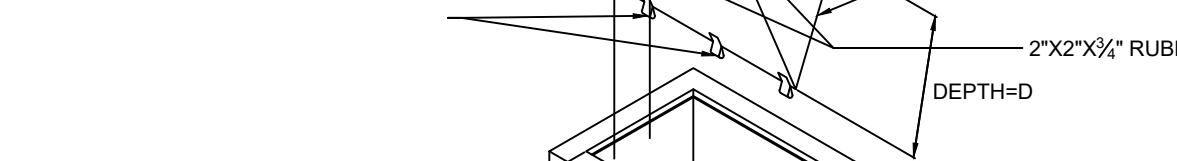
CONCRETE WASHOUT SIGN DETAIL (OR EQUIVALENT)



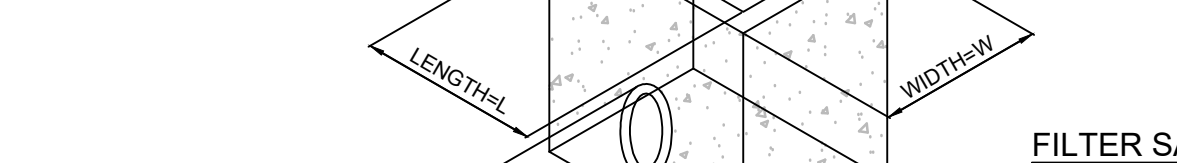
CONCRETE & STUCCO WASTE MANAGEMENT-N.T.S.



FILTER SACKS FOR GRATED INLETS AND STABILIZED ROADWAYS-N.T.S.



POLY WHATTLES OR GEOHAY CURB INLET FILTER-N.T.S.



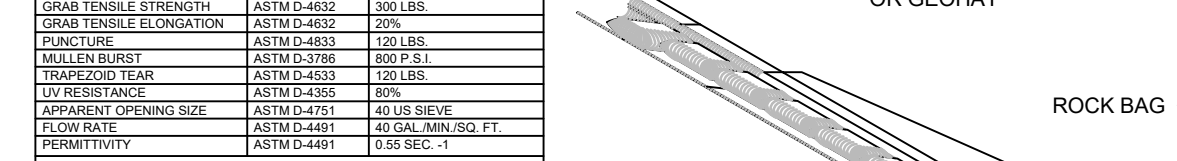
ROCK BAG INLET FILTER-N.T.S.



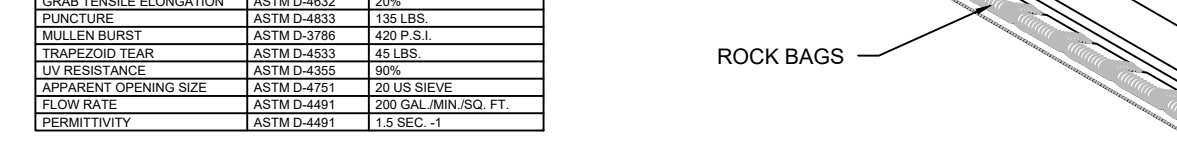
TEMPORARY SEDIMENT SWALE FULLY STABILIZED AND GRASSED PROVIDE ADDITIONAL SILT BARRIER/FILTER ADJACENT TO OUTFALL PIPE.



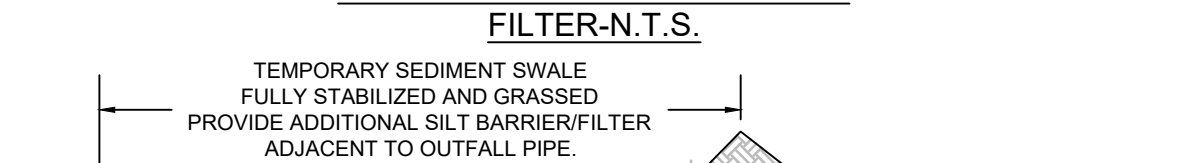
TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT-N.T.S.



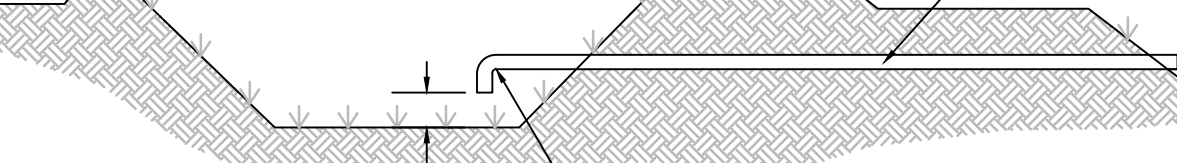
TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT-N.T.S.



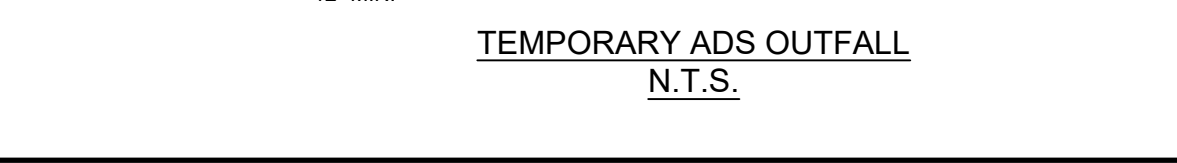
TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT-N.T.S.



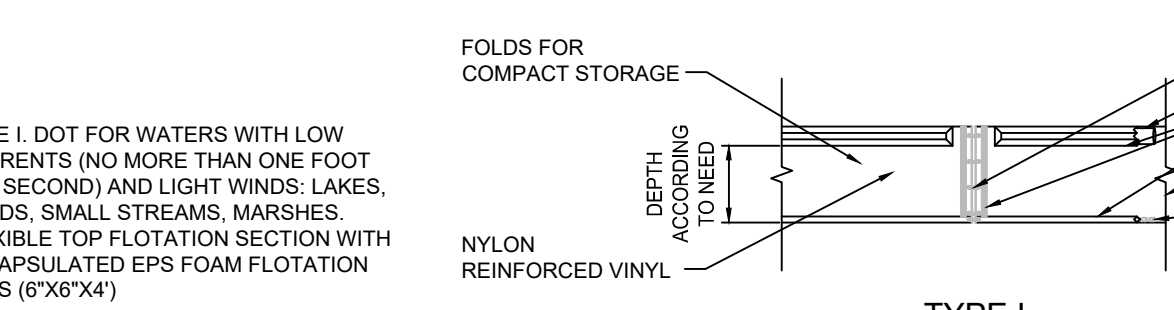
TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT-N.T.S.



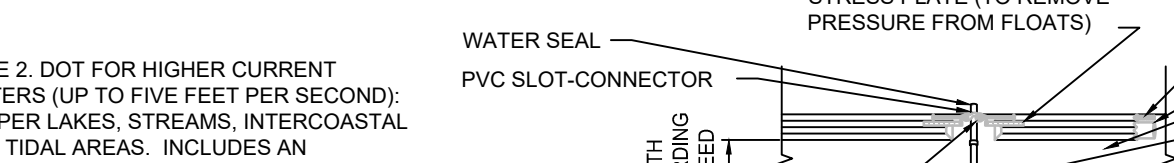
TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT-N.T.S.



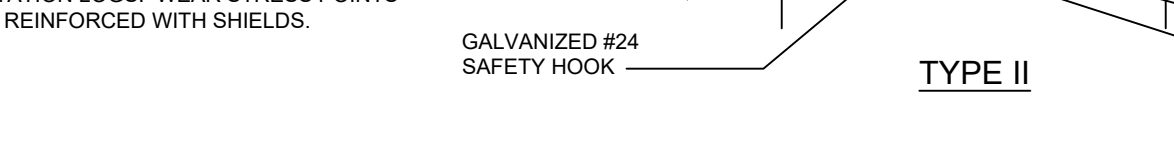
TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT-N.T.S.



TYPE I. DOT FOR WATERS WITH LOW CURRENTS (NO MORE THAN ONE FOOT PER SECOND) AND LIGHT WINDS, LAKES, PONDS, SMALL STREAMS, MARSHES, FLEXIBLE TOP FLOTATION SECTION WITH ENCAPSULATED EPS FOAM FLOTATION LOGS (6"x8"x4")



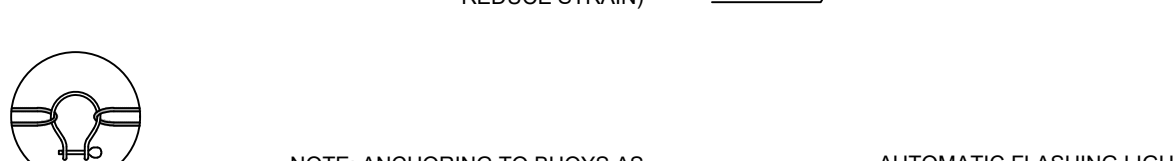
TYPE 2. DOT FOR HIGHER CURRENT WATERS (UP TO FIVE FEET PER SECOND); DEEPER LAKES, STREAMS, INTERCOASTAL AND TIDAL AREAS. INCLUDES AN ENCAPSULATED STEEL LOAD CABLE ALONG TOP OF BARRIER AND 8"x8"x4" FLOTATION LOGS. WEAR STRESS POINTS ARE REINFORCED WITH SHIELDS.



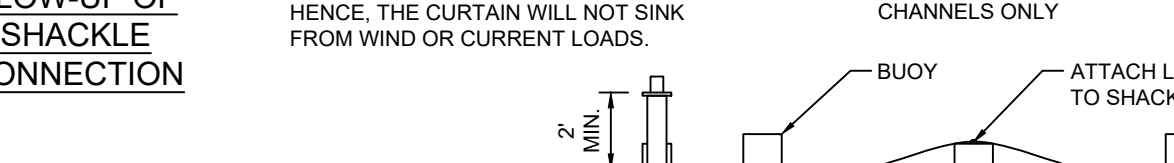
TYPE 3. DOT IS SIMILAR TO TYPE 2. DOT EXCEPT THAT POLYPROPYLENE FILTER FABRIC IS PERMANENTLY INSERTED INTO THE BARRIER SKIRT TO MEET SOME STATE'S SPECIFICATIONS.



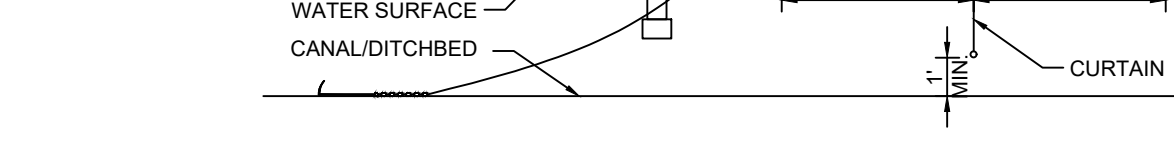
BLOW-UP OF SHACKLE CONNECTION



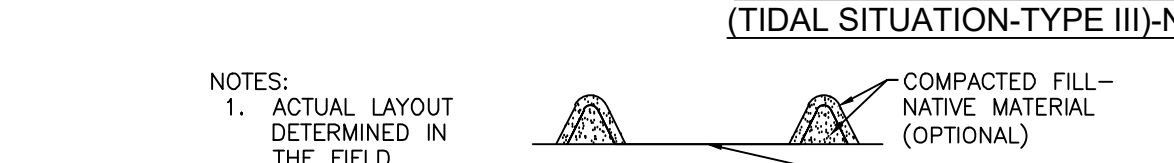
ORIENTATION WHEN INSTALLED (TIDAL SITUATION-TYPE III)-N.T.S.



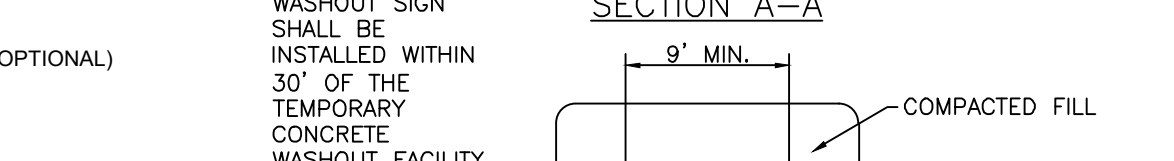
CONCRETE WASHOUT SIGN DETAIL (OR EQUIVALENT)



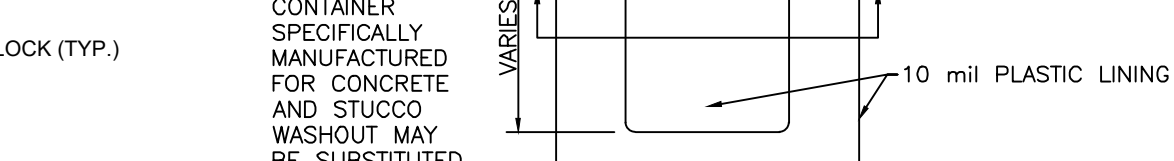
CONCRETE & STUCCO WASTE MANAGEMENT-N.T.S.



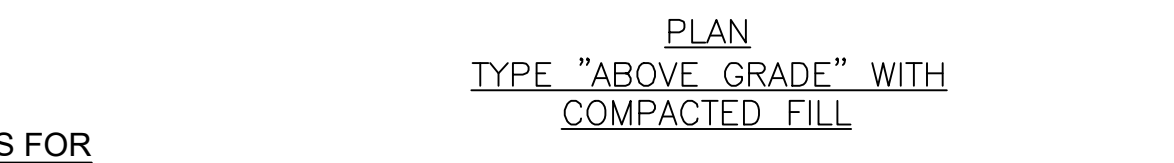
FILTER SACKS FOR GRATED INLETS AND STABILIZED ROADWAYS-N.T.S.



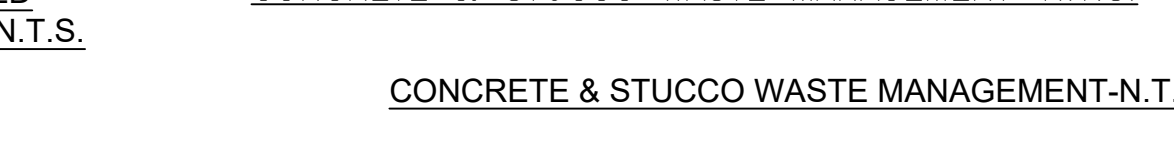
POLY WHATTLES OR GEOHAY CURB INLET FILTER-N.T.S.



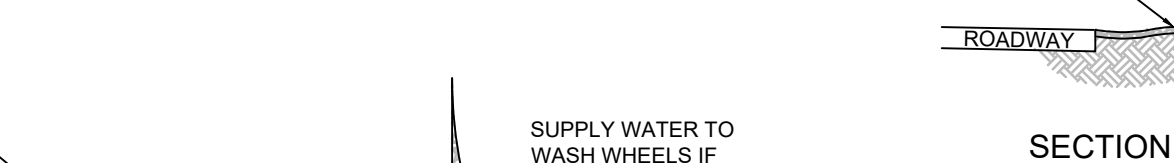
ROCK BAG INLET FILTER-N.T.S.



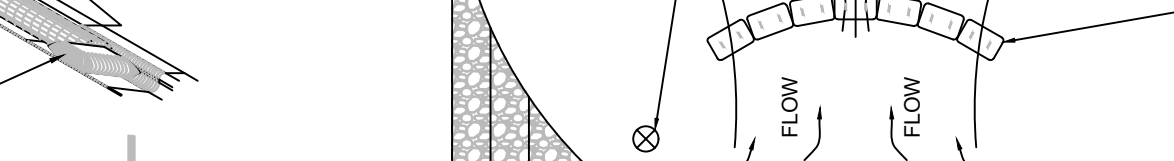
TEMPORARY SEDIMENT SWALE FULLY STABILIZED AND GRASSED PROVIDE ADDITIONAL SILT BARRIER/FILTER ADJACENT TO OUTFALL PIPE.



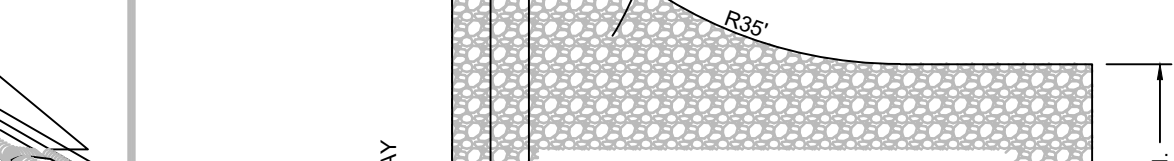
TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT-N.T.S.



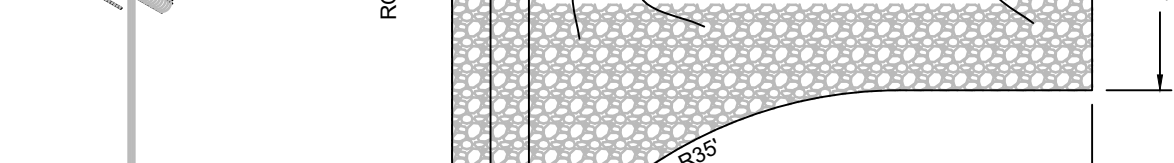
TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT-N.T.S.



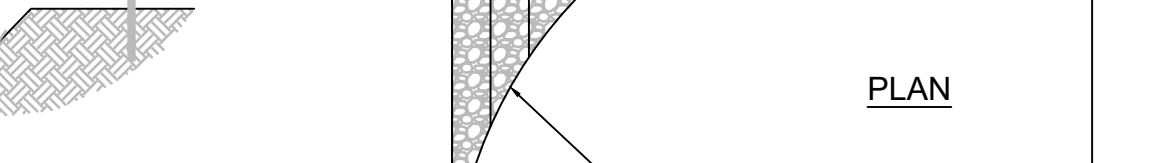
TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT-N.T.S.



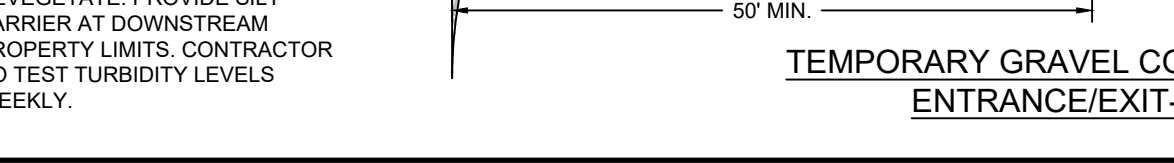
TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT-N.T.S.



TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT-N.T.S.



TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT-N.T.S.



TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT-N.T.S.



TYPE I. DOT FOR WATERS WITH LOW CURRENTS (NO MORE THAN ONE FOOT PER SECOND) AND LIGHT WINDS, LAKES, PONDS, SMALL STREAMS, MARSHES, FLEXIBLE TOP FLOTATION SECTION WITH ENCAPSULATED EPS FOAM FLOTATION LOGS (6"x8"x4")



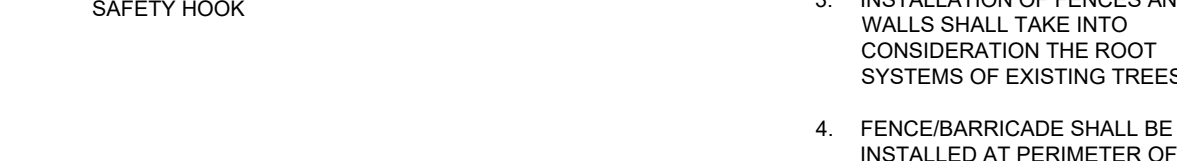
TYPE 2. DOT FOR HIGHER CURRENT WATERS (UP TO FIVE FEET PER SECOND); DEEPER LAKES, STREAMS, INTERCOASTAL AND TIDAL AREAS. INCLUDES AN ENCAPSULATED STEEL LOAD CABLE ALONG TOP OF BARRIER AND 8"x8"x4" FLOTATION LOGS. WEAR STRESS POINTS ARE REINFORCED WITH SHIELDS.



TYPE 3. DOT IS SIMILAR TO TYPE 2. DOT EXCEPT THAT POLYPROPYLENE FILTER FABRIC IS PERMANENTLY INSERTED INTO THE BARRIER SKIRT TO MEET SOME STATE'S SPECIFICATIONS.



BLOW-UP OF SHACKLE CONNECTION



ORIENTATION WHEN INSTALLED (TIDAL SITUATION-TYPE III)-N.T.S.



CONCRETE WASHOUT SIGN DETAIL (OR EQUIVALENT)



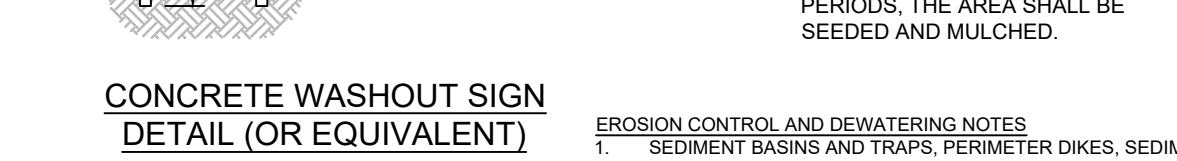
CONCRETE & STUCCO WASTE MANAGEMENT-N.T.S.



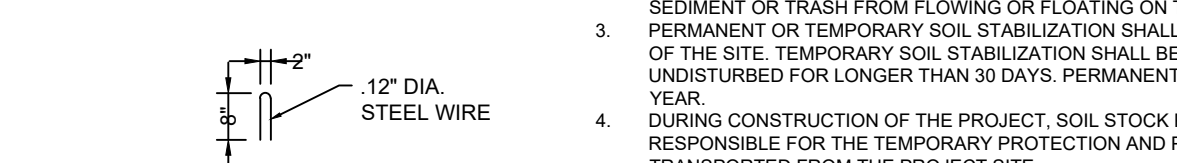
FILTER SACKS FOR GRATED INLETS AND STABILIZED ROADWAYS-N.T.S.



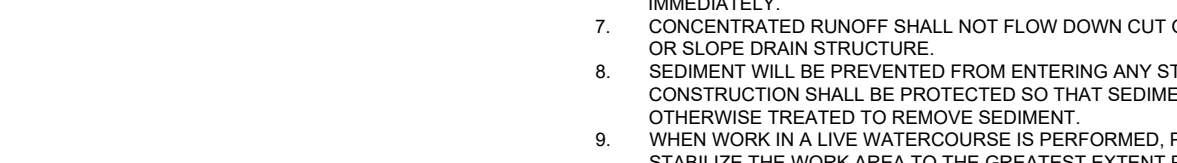
POLY WHATTLES OR GEOHAY CURB INLET FILTER-N.T.S.



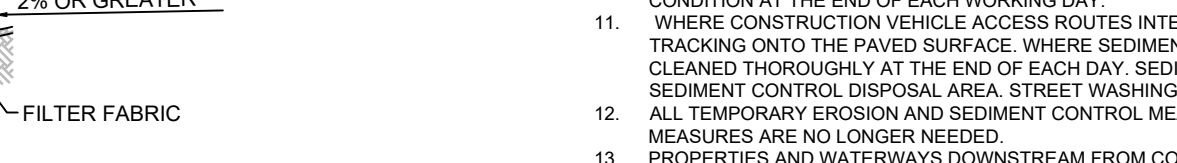
ROCK BAG INLET FILTER-N.T.S.



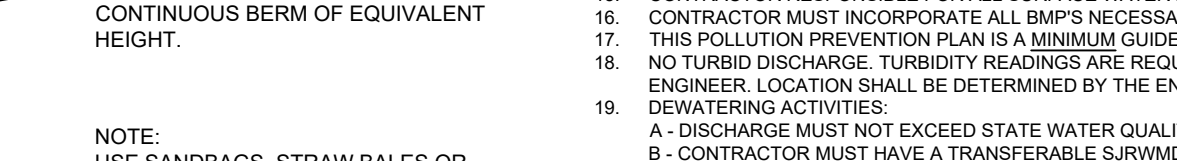
TEMPORARY SEDIMENT SWALE FULLY STABILIZED AND GRASSED PROVIDE ADDITIONAL SILT BARRIER/FILTER ADJACENT TO OUTFALL PIPE.



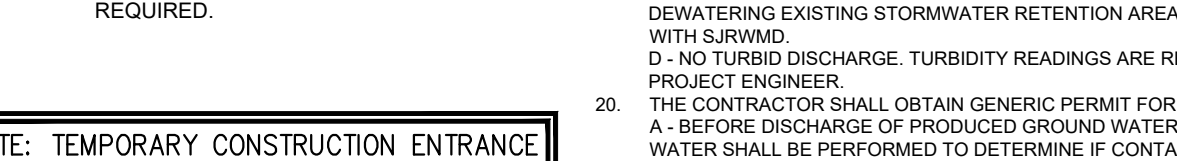
TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT-N.T.S.



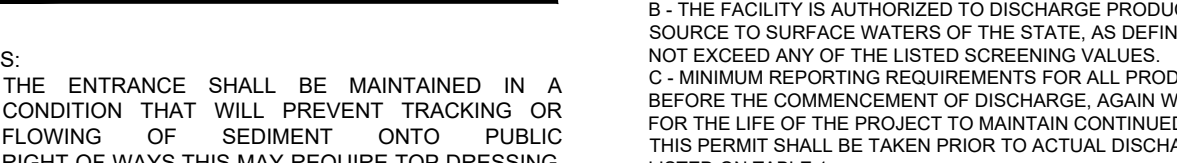
TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT-N.T.S.



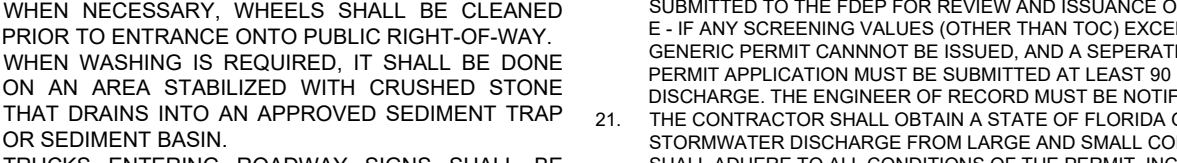
TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT-N.T.S.



TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT-N.T.S.



TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT-N.T.S.



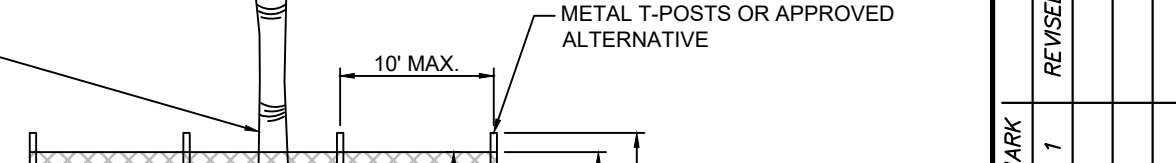
TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT-N.T.S.



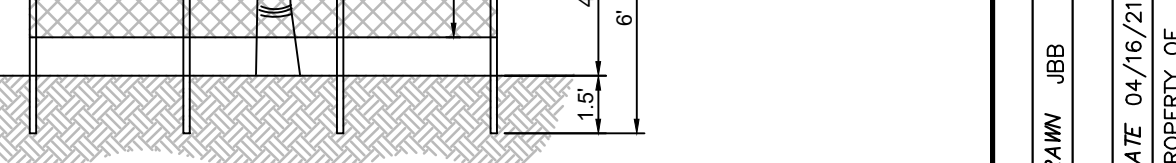
TEMPORARY GRAVEL CONSTRUCTION ENTRANCE/EXIT-N.T.S.



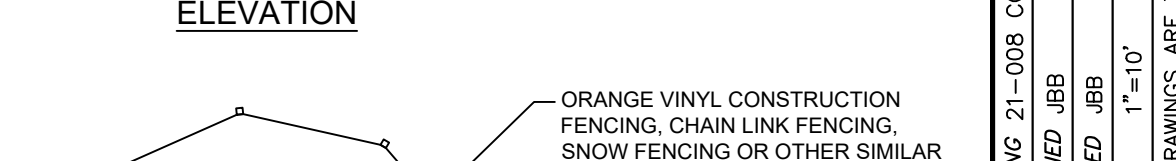
PROTECTIVE FENCING FOR TREES-N.T.S.



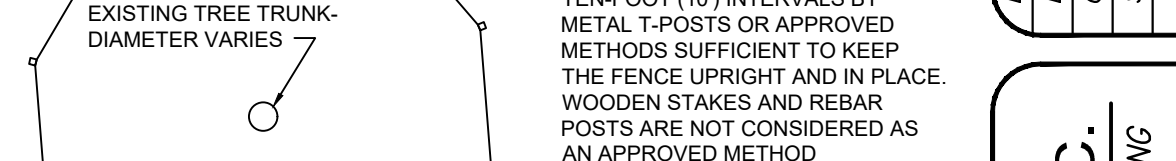
PROTECTIVE FENCING FOR TREES-N.T.S.



PROTECTIVE FENCING FOR TREES-N.T.S.



PROTECTIVE FENCING FOR TREES-N.T.S.



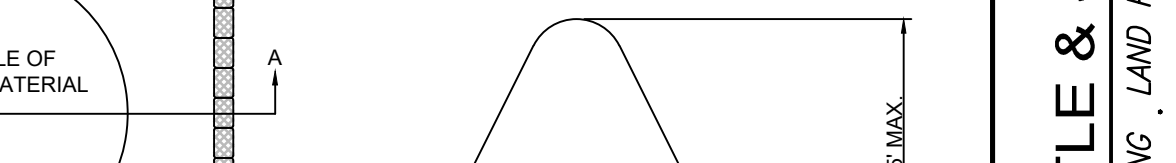
PROTECTIVE FENCING FOR TREES-N.T.S.



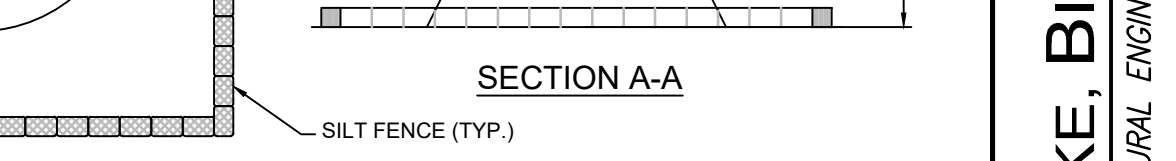
PROTECTIVE FENCING FOR TREES-N.T.S.



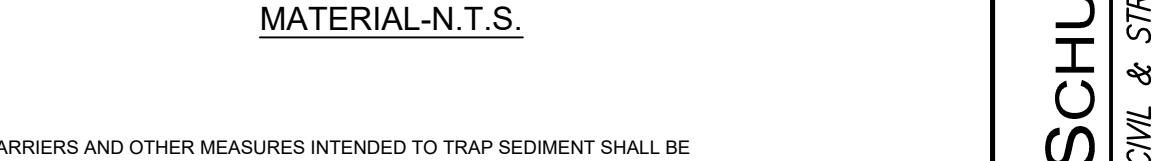
PROTECTIVE FENCING FOR TREES-N.T.S.



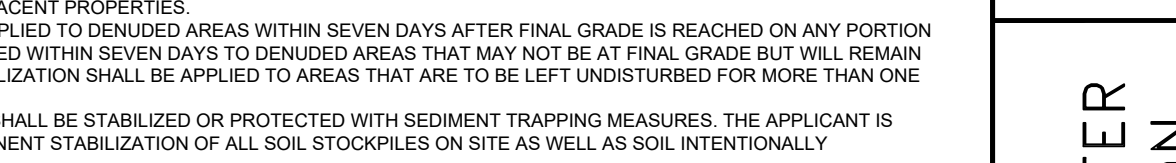
PROTECTIVE FENCING FOR TREES-N.T.S.



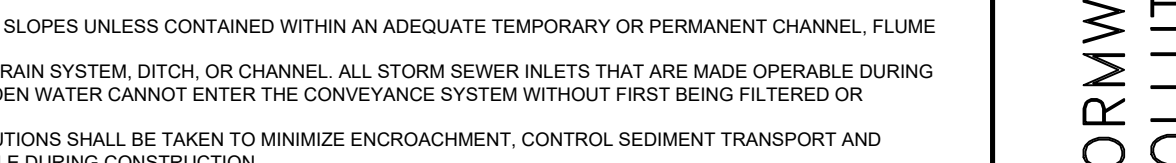
PROTECTIVE FENCING FOR TREES-N.T.S.



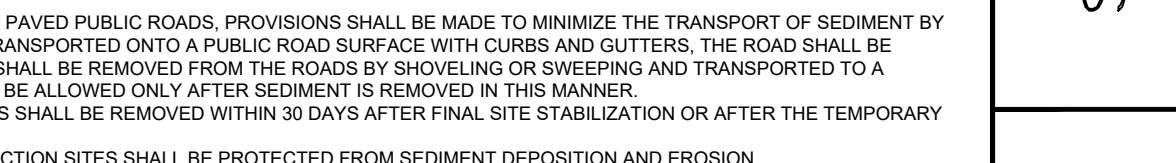
PROTECTIVE FENCING FOR TREES-N.T.S.



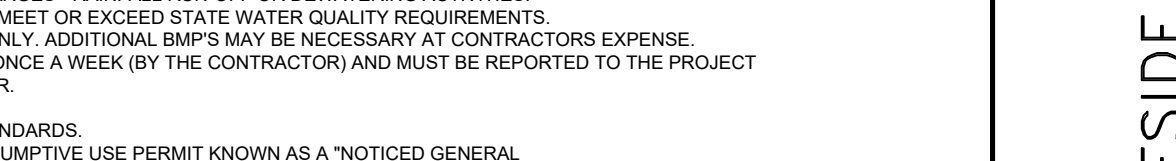
PROTECTIVE FENCING FOR TREES-N.T.S.



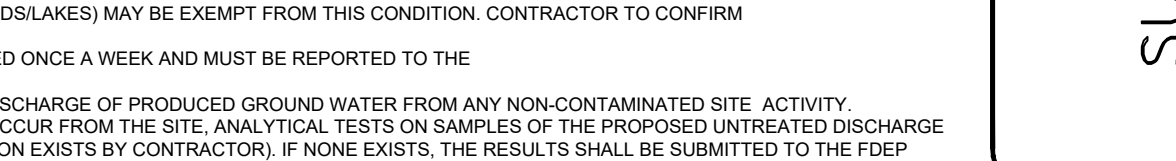
PROTECTIVE FENCING FOR TREES-N.T.S.



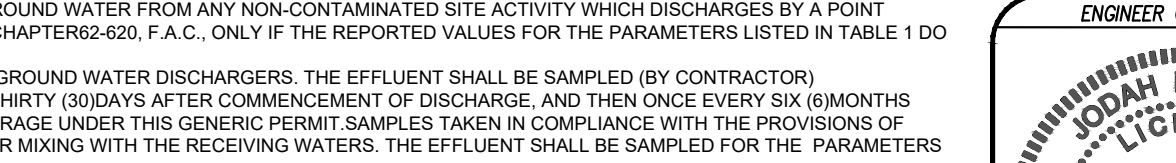
PROTECTIVE FENCING FOR TREES-N.T.S.



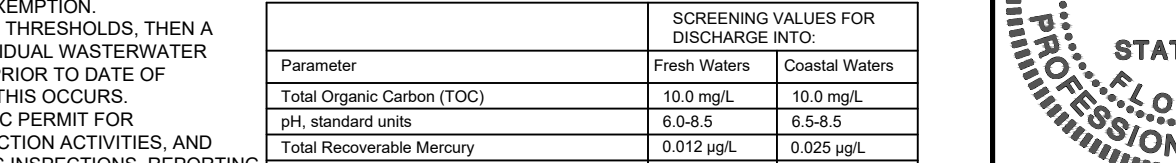
PROTECTIVE FENCING FOR TREES-N.T.S.



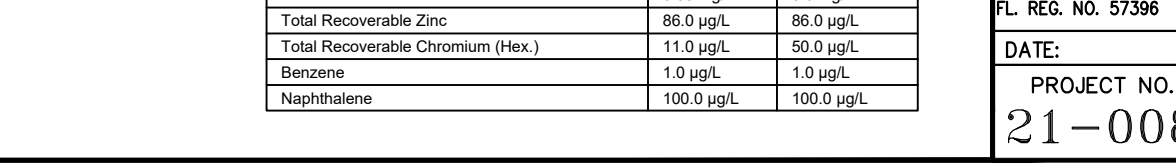
PROTECTIVE FENCING FOR TREES-N.T.S.



PROTECTIVE FENCING FOR TREES-N.T.S.



PROTECTIVE FENCING FOR TREES-N.T.S.



PROTECTIVE FENCING FOR TREES-N.T.S.

DATE	REVISION	MARK	BY	DATE
06/12/21				

DESIGNED BY	DRAWN BY	JOB NO.	DATE	SCALE
			04/16/21	1"=10'

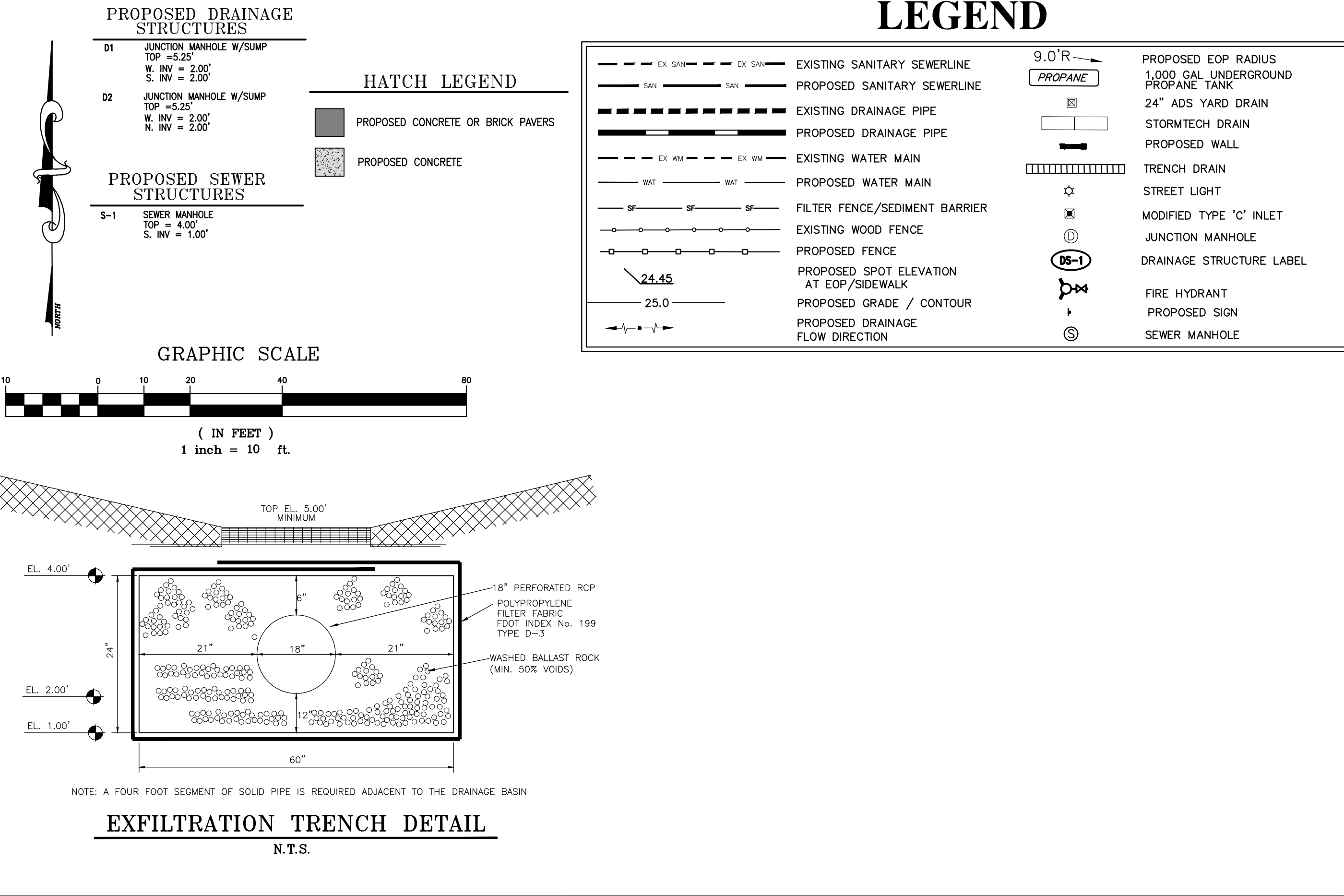
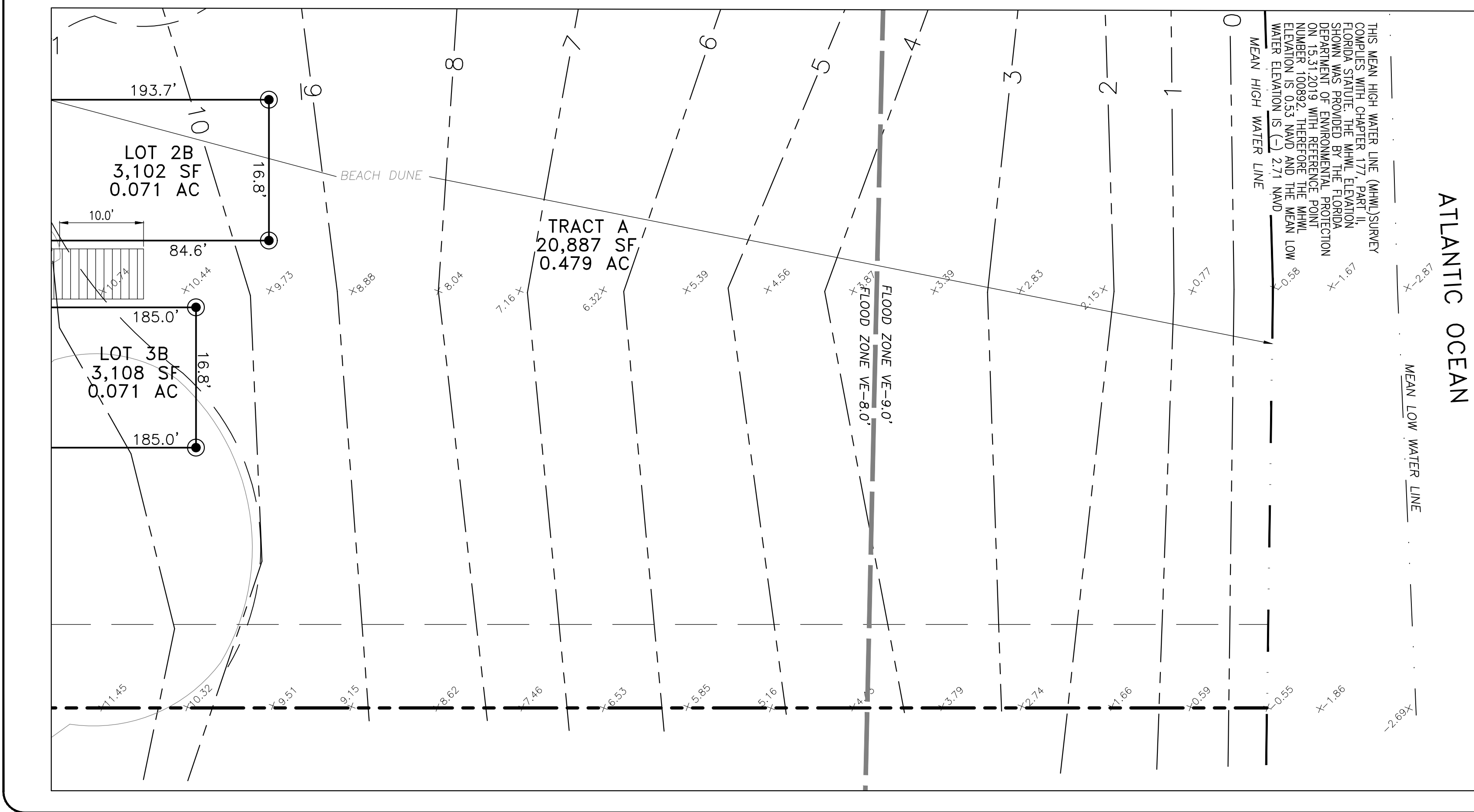
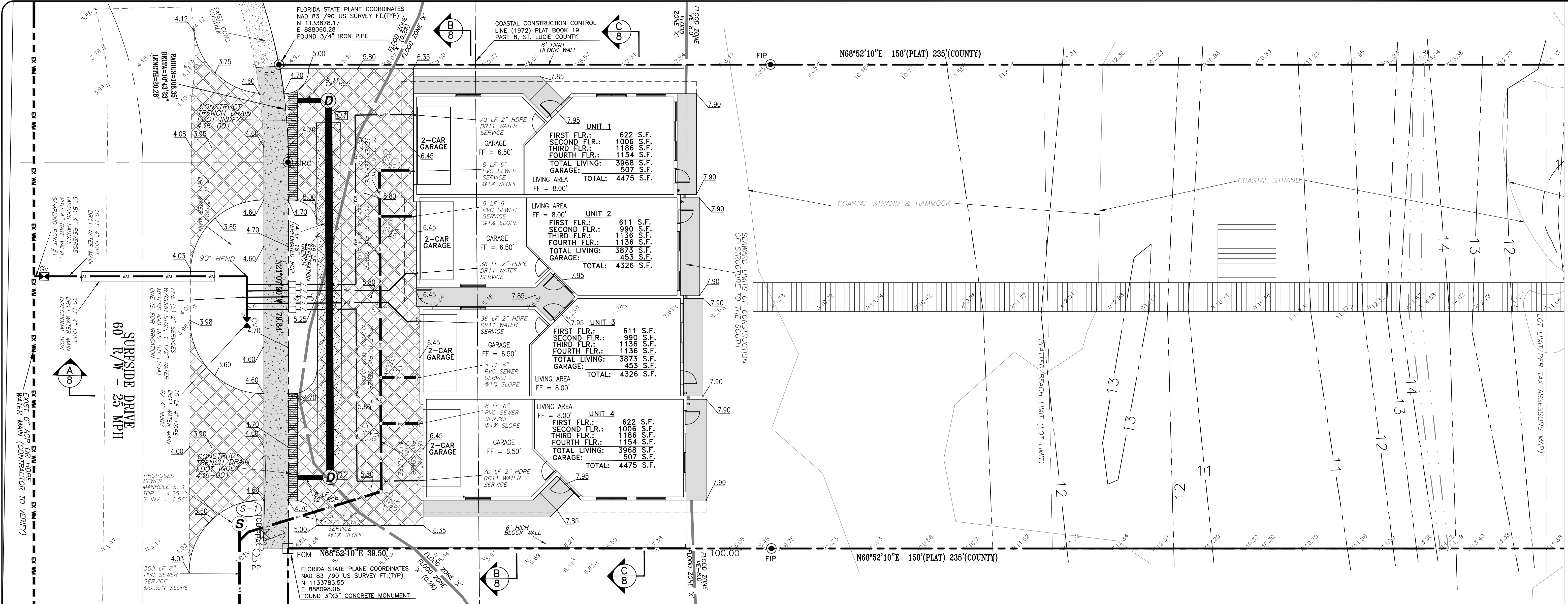
SCHULKE, BITTLE & STODDARD, L.L.C.
 CIVIL & STRUCTURAL ENGINEERING - LAND PLANNING - ENVIRONMENTAL PERMITTING
 CERTIFICATION OF AUTHORIZATION NO.: 00008668
 1717 INDIAN RIVER BLVD., SUITE 201 VERO BEACH, FLORIDA 32960
 TEL 772-770-9622 FAX 772-770-9496 EMAIL jbittle@sbsengineers.com
 WEBSITE https://www.sbsengineers.com

STORMWATER POLLUTION PREVENTION DETAILS

SURFSIDE QUAD PLEX

ENGINEER CERTIFICATION
 JOAH B. BITTLE
 FL REG. NO. 57398
 STATE OF FLORIDA
 PROFESSIONAL ENGINEER

PROJECT NO. 21-008 SHEET 3



MARK

DESIGNED	CHECKED	DRAWN	DATE
LIBB	LIBB	BBB	06/12/21

REVISION

NO.	REASON	DATE
1	REVISION BY FOPP COMMENTS	

SCALE 1"=10'
DATE 04/16/21
 THE ENGINEER HAS REVIEWED THE PROJECT FOR WHICH THEY ARE MADE IS EXECUTED IN ACCORDANCE WITH THE PROFESSIONAL ENGINEERING ACT AND THE PROFESSIONAL ENGINEER'S CONTRACT WITH THE ENGINEER. PROJECTS IS PERMITTED ONLY BY WRITTEN CONTRACT WITH THE ENGINEER. PURSUANT TO THE COPYRIGHT LAWS.

SCHULKE, BITTLE & STODDARD, L.L.C.
 CIVIL & STRUCTURAL ENGINEERING • LAND PLANNING • ENVIRONMENTAL PERMITTING
 CERTIFICATION OF AUTHORIZATION NO.: 00008668
 1717 INDIAN RIVER BLVD., SUITE 201 VERO BEACH, FLORIDA 32960
 TEL 772-770-9622 FAX 772-770-9496 EMAIL jbittle@sbsengineers.com
 WEBSITE https://www.sbsengineers.com

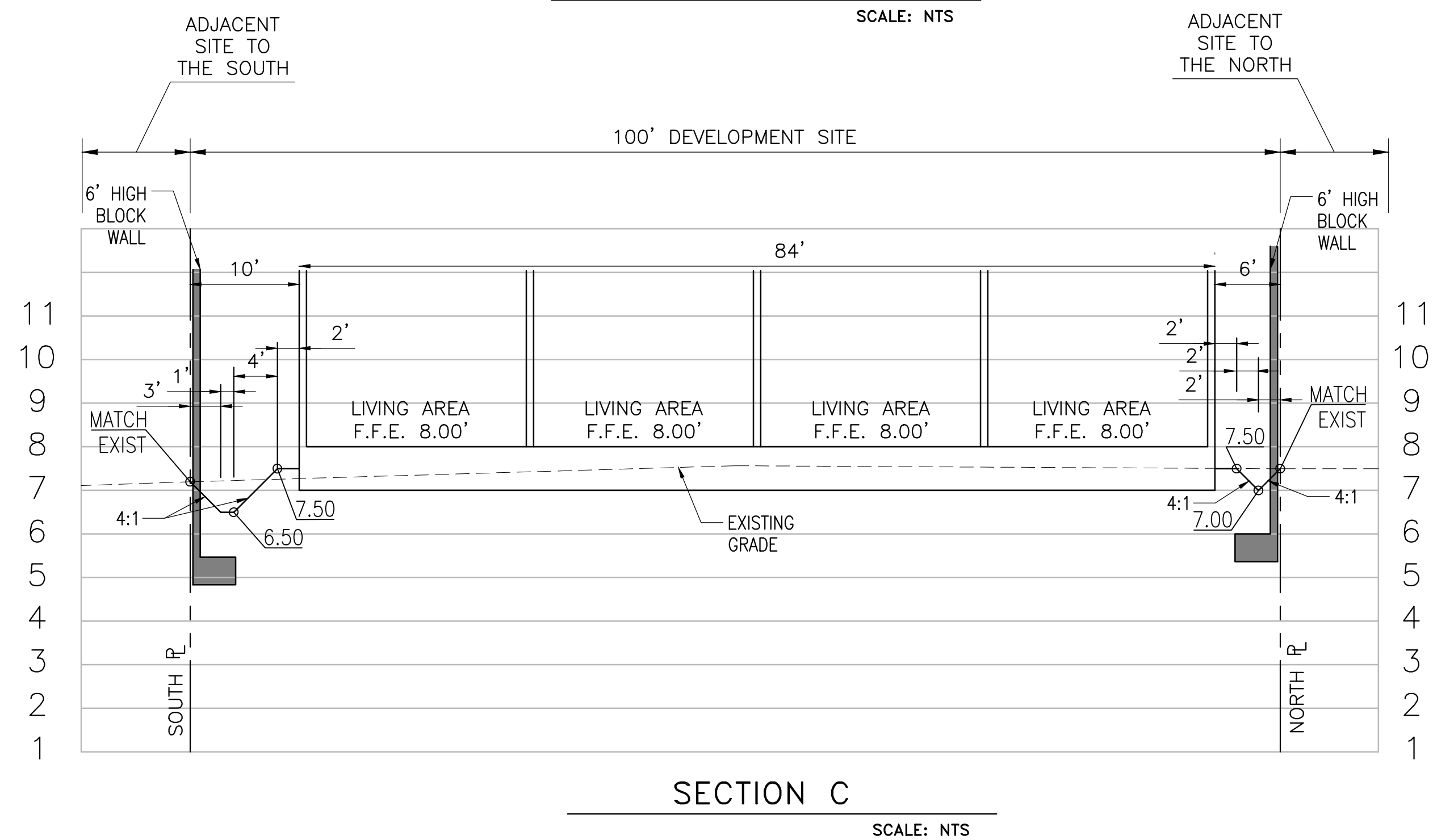
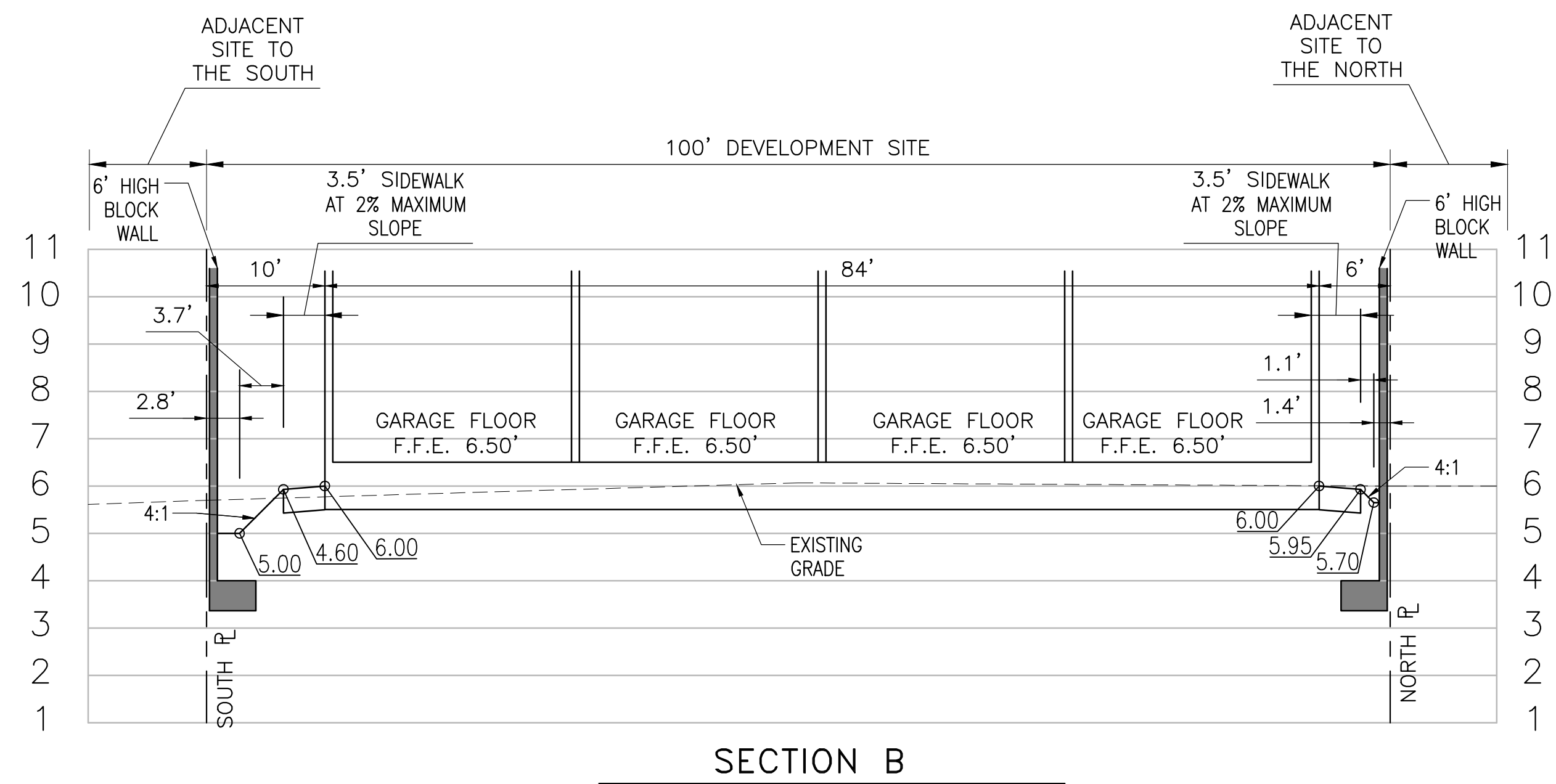
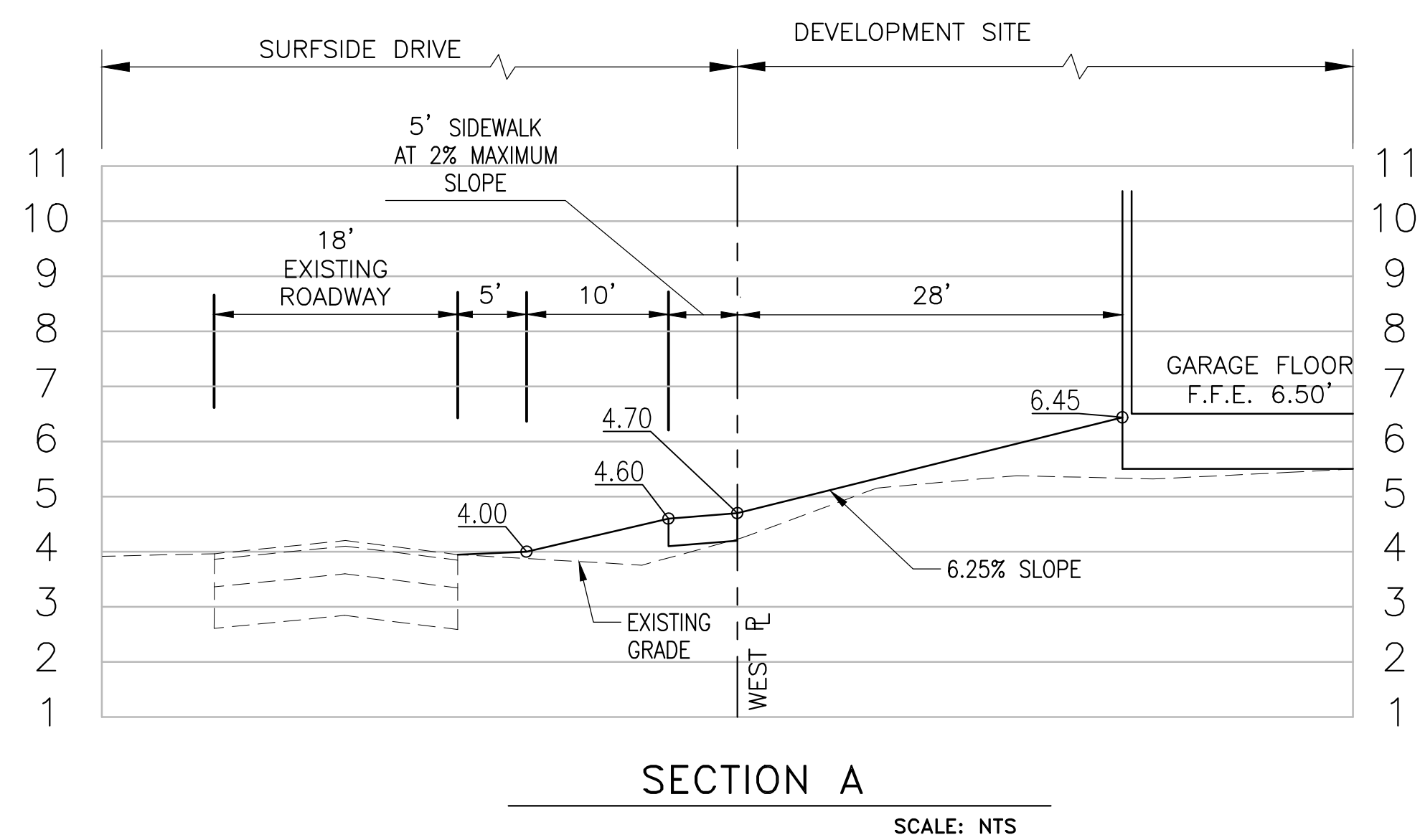
PAVING, GRADING & DRAINAGE PLAN

SURFSIDE QUAD PLEX

ENGINEER CERTIFICATION

JODAH B. BITTLE
 FL. REG. NO. 57398
 No 57398
 STATE OF FLORIDA
 PROFESSIONAL ENGINEER

JODAH B. BITTLE
 FL. REG. NO. 57398
 DATE: _____
 PROJECT NO. 21-008 SHEET 7



MARK	REVISION	DATE
1	REVISED BY PDP COMMENTS	06/12/21

DESIGNED	DRAWN	DATE
JOB CONST	JBB	04/16/21

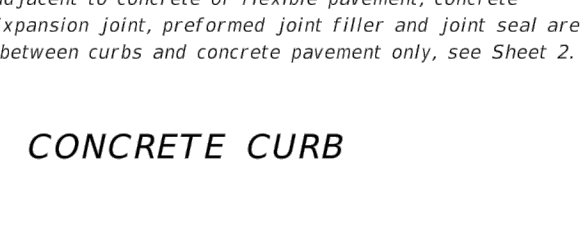
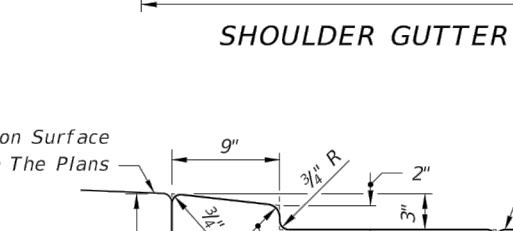
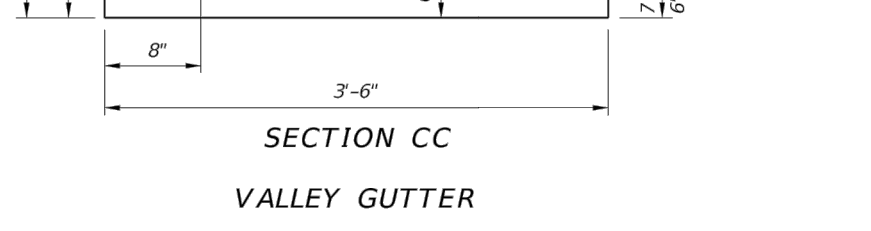
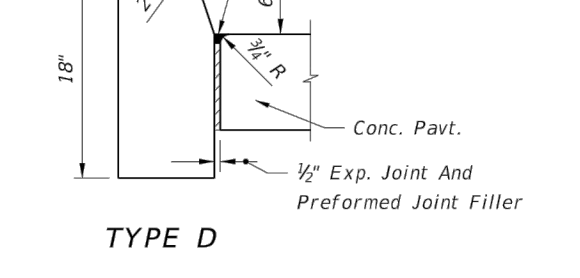
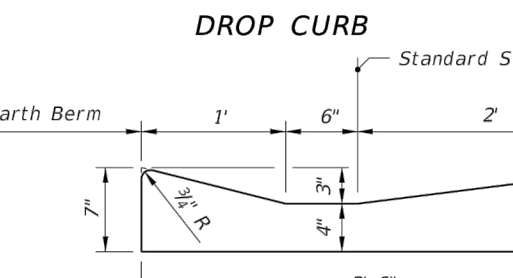
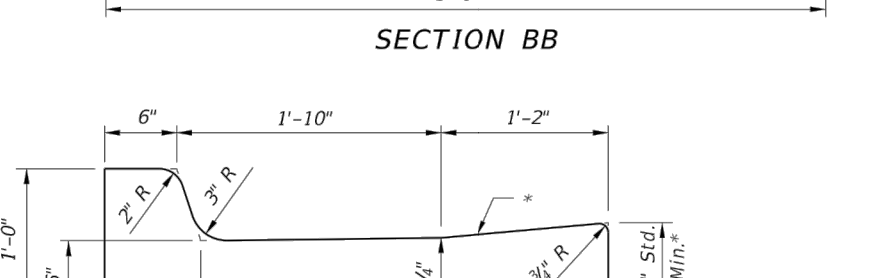
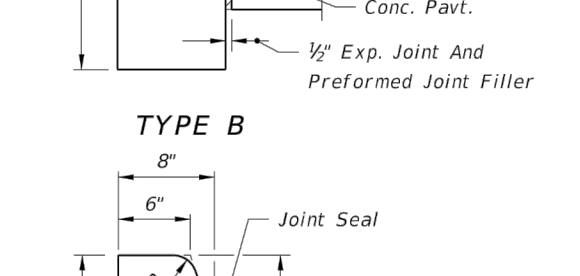
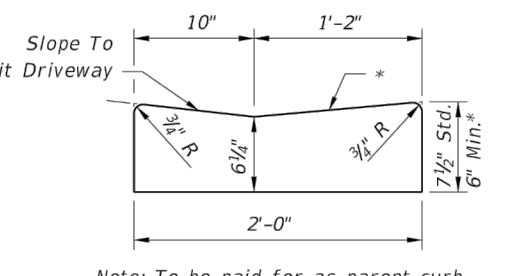
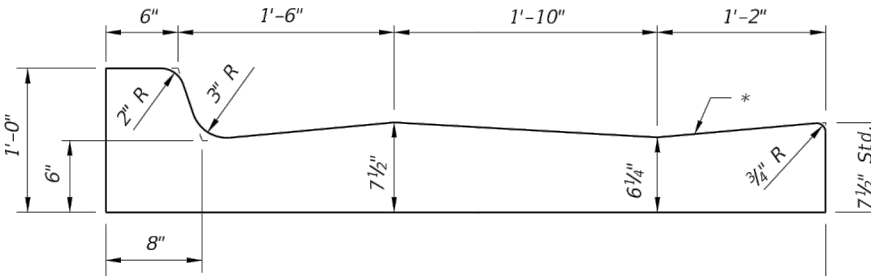
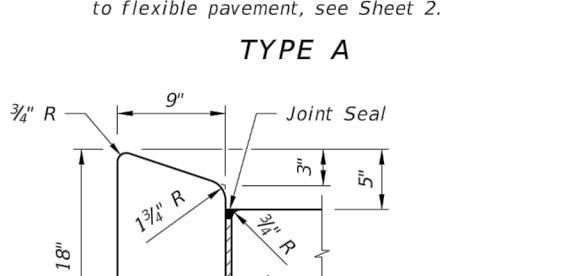
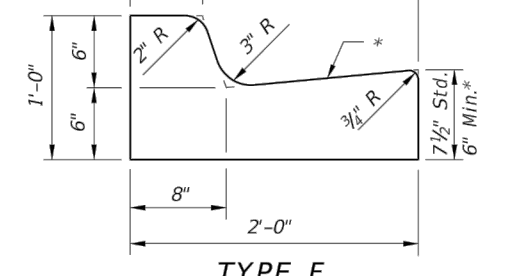
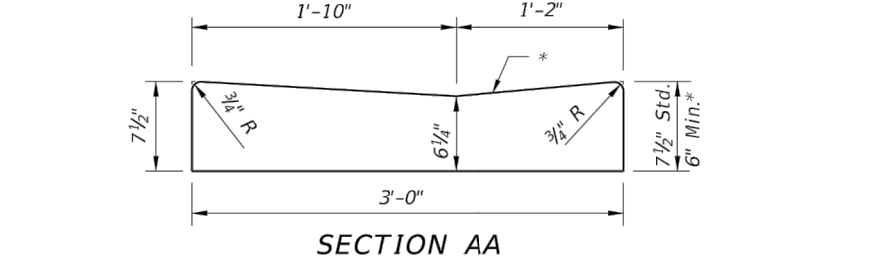
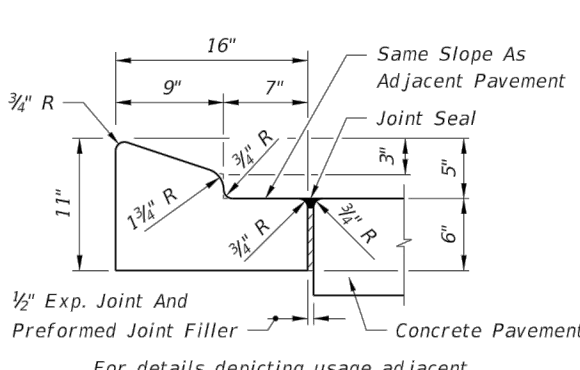
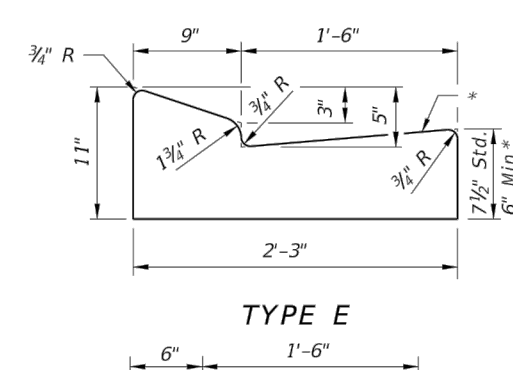
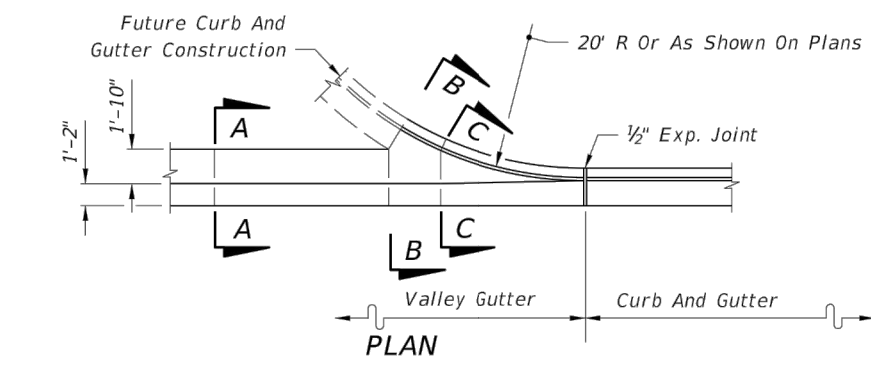
THE DRAWINGS ARE THE PROPERTY OF SCHULKE, BITTLE & STODDARD, L.L.C. FOR WHICH THEY ARE MADE AND ARE NOT TO BE REPRODUCED OR COPIED IN ANY MANNER WITHOUT THE WRITTEN CONTRACT WITH THE ENGINEER. UNAUTHORIZED USE OF THESE DRAWINGS IS PROHIBITED AND SUBJECT TO PROSECUTION PURSUANT TO THE COPYRIGHT LAWS.

SCHULKE, BITTLE & STODDARD, L.L.C.
 CIVIL & STRUCTURAL ENGINEERING - LAND PLANNING - ENVIRONMENTAL PERMITTING
 CERTIFICATION OF AUTHORIZATION NO.: 00008668
 1717 INDIAN RIVER BLVD., SUITE 201 VERO BEACH, FLORIDA 32960
 TEL 772-770-9622 FAX 772-770-9496 EMAIL jbittle@sbsengineers.com
 WEBSITE https://www.sbsengineers.com

CROSS SECTION
 SURFSIDE QUAD PLEX

ENGINEER CERTIFICATION

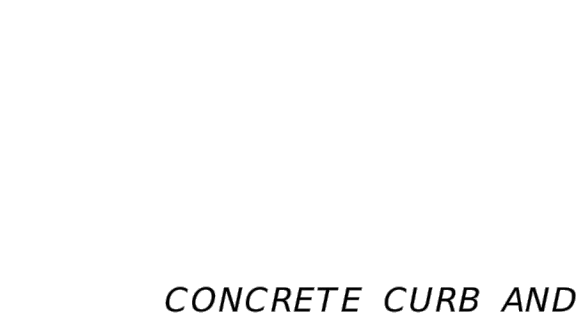
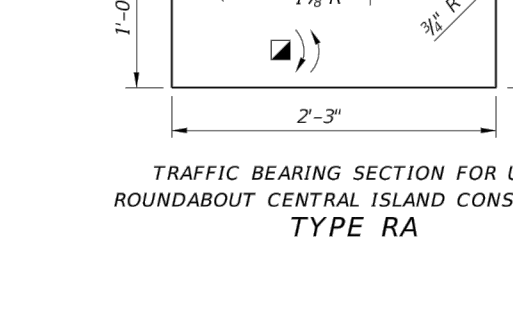
JODAH B. BITTLE
 FL REG. NO. 57396
 DATE: PROJECT NO. SHEET
 21-008 8



* When used on high side of roadways, the cross slope of the gutter shall match the cross slope of the adjacent pavement. The thickness of the lip shall be 6", unless otherwise shown on plans.

Rotate entire section so that gutter cross slope matches slope of adjacent circulating roadway pavement.

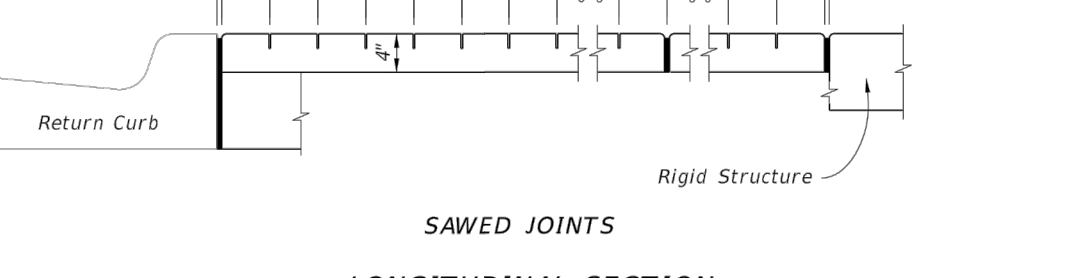
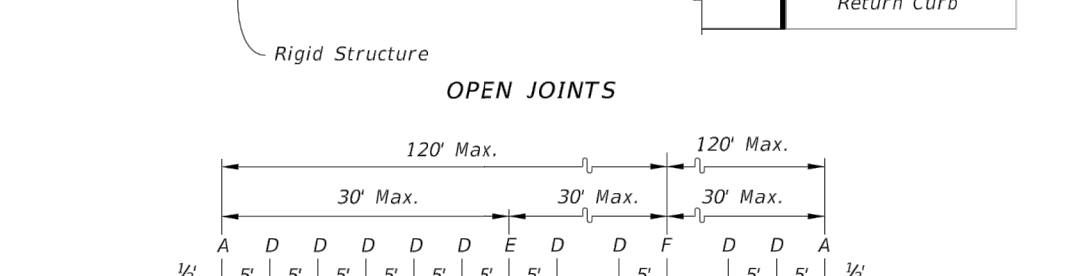
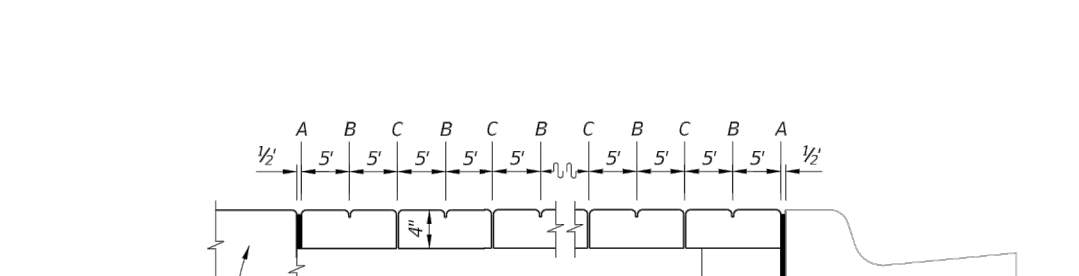
For use adjacent to concrete or flexible pavement. For details depicting usage adjacent to flexible pavement, see Sheet 2. Expansion joint, preformed joint filler and joint seal are required between curb & gutter and concrete pavement only, see Sheet 2.



LAST REVISION 11/01/17	DESCRIPTION:	FDOT	FY 2020-21 STANDARD PLANS	CURB AND GUTTER	INDEX 520-001	SHEET 1 of 2
------------------------	--------------	------	---------------------------	-----------------	---------------	--------------

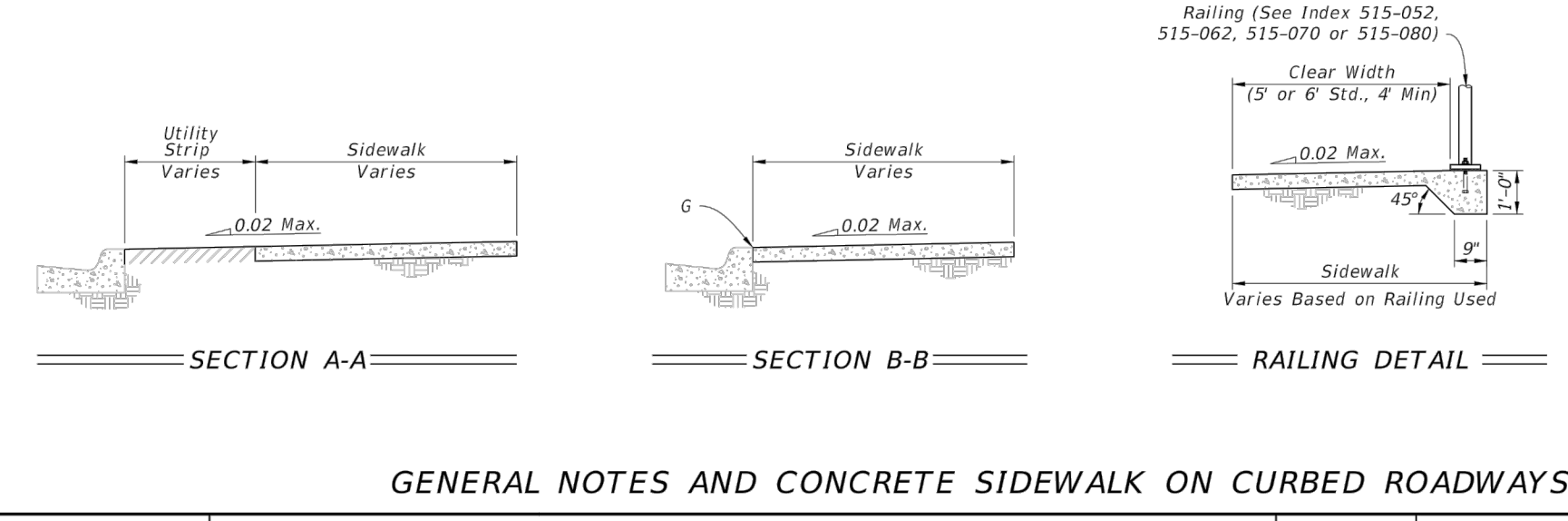
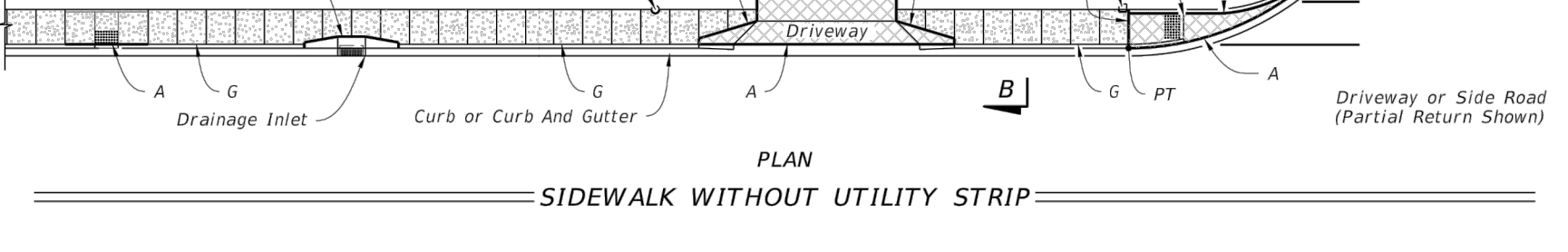
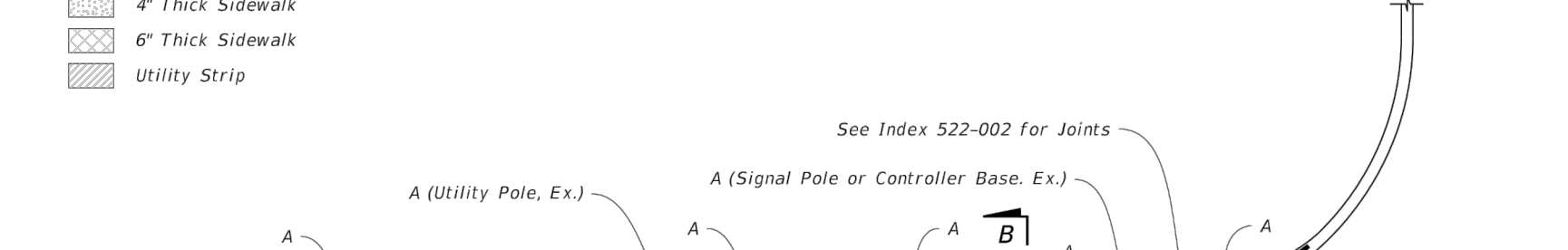
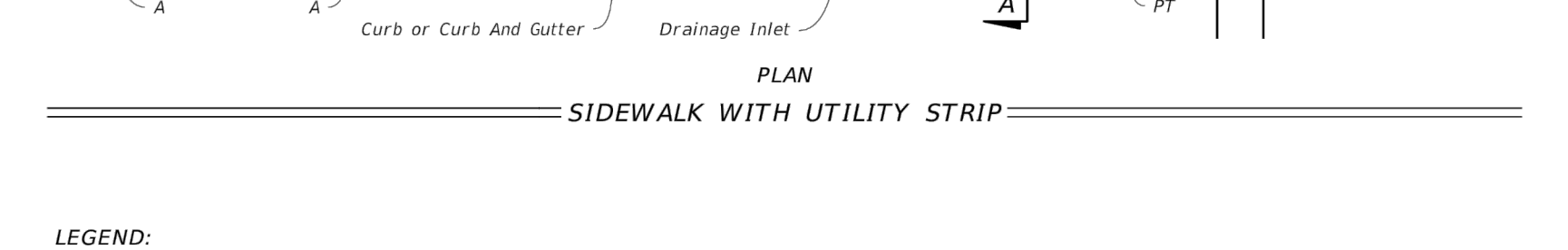
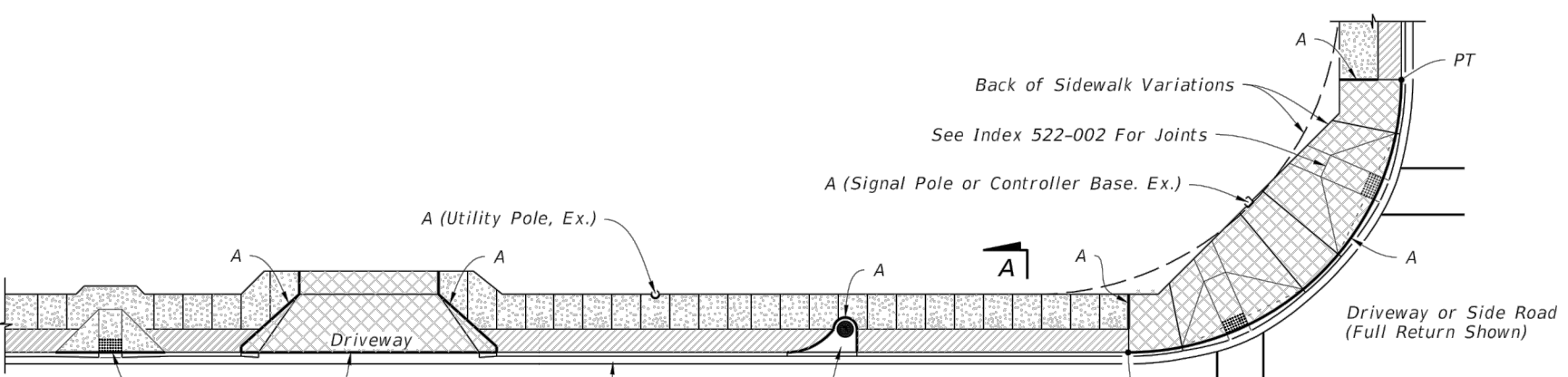
GENERAL NOTES:

- 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 with thickness as shown, unless otherwise detailed in the Plans.
- Include detectable warnings on sidewalk curb ramps in accordance with Index 522-002.
- For Driveways see Index 522-003.
- Bond breaker material can be any impermeable coated or sheet membrane or preformed material having a thickness of not less than 6 mils and not more than 1/2".
- Construct sidewalks with Edge Beam through the limits of any surface mounted Pedestrian/Bicycle Railing or Pipe Guardrail shown in the plans. (See RAILING DETAIL)



LEGEND:

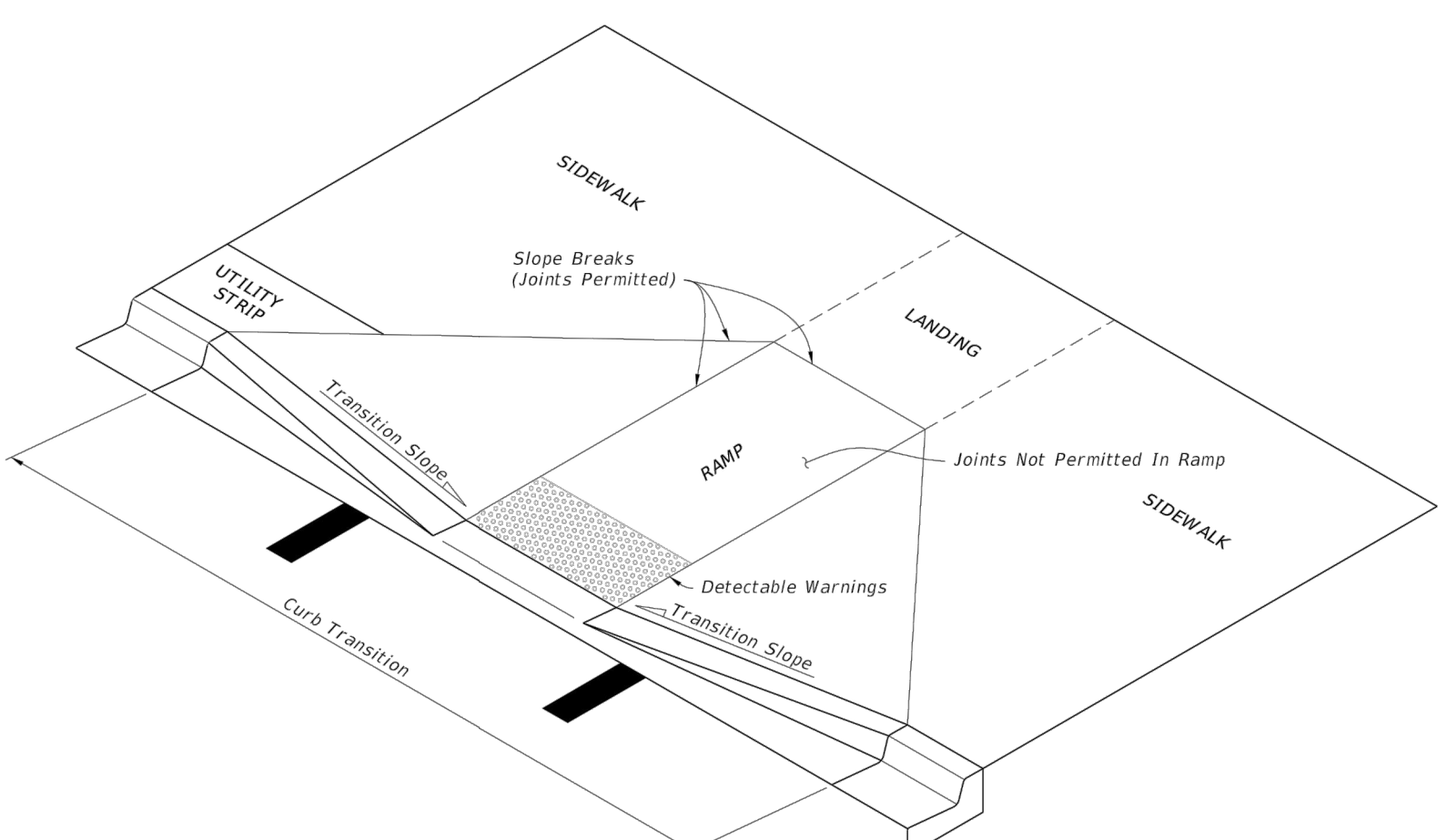
- A- 1/2" Expansion Joints (Preformed Joint Filler) between the sidewalk and driveways, sidewalk-intersections, and all other fixed objects (e.g. drainage inlets and utility poles).
- B- 1/2" Dummy Joints, Tooled
- C- 1/2" Formed Open Joints
- D- 3/8" Saw Cut Joints, 1 1/2" Deep (within 96 hours) Max. 5' Centers
- E- 3/8" Saw Cut Joints, 1 1/2" Deep (within 12 hours) Max. 30' Centers (Joints) Required When Length Exceeds 30'
- F- 1/2" Expansion Joint When Run of Sidewalk Exceeds 120'. Intermediate locations when called for in the plans or at locations as directed by the Engineer.
- G- Cold Joint With Bond Breaker, Tooled



LAST REVISION 11/01/18	DESCRIPTION:	FDOT	FY 2020-21 STANDARD PLANS	CONCRETE SIDEWALK	INDEX 522-001	SHEET 1 of 2
------------------------	--------------	------	---------------------------	-------------------	---------------	--------------

GENERAL NOTES:

- Cross Slopes and Grades:
 - 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.
 - Landings must have cross-slopes less than or equal to 0.02 in any direction.
 - Maintain a single longitudinal slope along each side of the curb ramp. Ramp slopes are not required to exceed 15 feet in length.
 - 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.
- Curb, Curb and Gutter and/or Sidewalk:
 - Refer to Index 522-001 for concrete thickness and sidewalk details.
 - 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.
- Curb Ramp Alpha-Identification:
 - Sidewalk curb ramp alpha-identifications (e.g. CR-A) are provided for reference purposes in the Plans.
 - Alpha-identifications CR-I and CR-J are intentionally omitted.
- Detectable Warnings:
 - Install detectable warnings in accordance with Specification 527.
 - Place detectable warnings across the full width of the ramp or landing, to a minimum depth of 2 feet measured perpendicular to the curb line and no greater than 5 feet from the back of the curb or edge of pavement.
 - If detectable warnings are shown in the Plans on slopes greater than 5%, align the truncated domes with the centerline of the ramp; otherwise, the truncated domes are not required to be aligned.
- Detectable Warnings - Acceptance Criteria:
 - Color and texture shall be complete and uniform.
 - 90% of individual truncated domes shall be in accordance with the Americans with Disabilities Act Standards for Transportation Facilities, Section 705.
 - There shall be no more than 4 non-compliant domes in any one square foot.
 - Non-compliant domes shall not be adjacent to other non-compliant domes.
 - Surfaces shall not deviate more than 0.10" from a true plane.



LAST REVISION 11/01/19	DESCRIPTION:	FDOT	FY 2020-21 STANDARD PLANS	DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS	INDEX 522-002	SHEET 1 of 7
------------------------	--------------	------	---------------------------	---	---------------	--------------

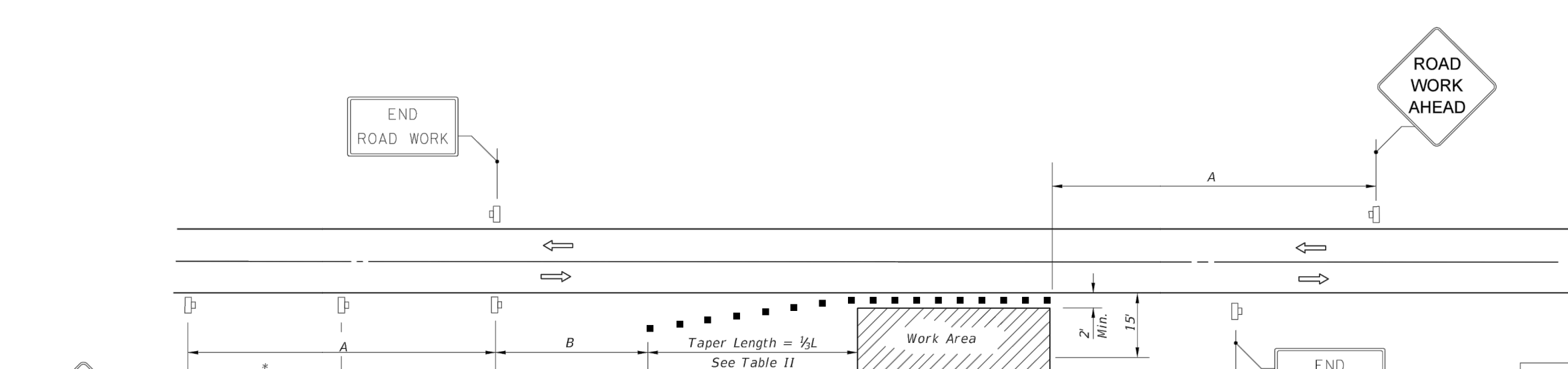


Table I Device Spacing

Speed (mph)	Cones or Tubular Markers		Type I or Type II Barricades or Vertical Panels or Drums	
	Taper	Tangent	Taper	Tangent
25	25	50	25	50
30 to 45	25	50	30	50
50 to 70	25	50	50	100

Table II Taper Length - Shoulder

Speed (mph)	1/4L (ft)			Notes
	8'	10'	12'	
25	28	35	42	L = WS ² / 60
30	40	50	60	
35	55	68	82	L = WS
40	72	90	107	
45	120	150	180	L = WS
50	133	167	200	
55	147	183	220	L = WS
60	160	200	240	
65	173	217	260	L = WS
70	187	233	280	

SYMBOLS

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

GENERAL NOTES

- When four or more work vehicles enter the through traffic lanes in a one hour period or less (excluding establishing and terminating the work area), the advanced FLAGGER sign shall be substituted for the WORKERS sign. For location of flaggers and FLAGGER signs, see Index 102-603.
- SHOULDER WORK sign may be used as an alternate to the WORKER symbol sign only on the side where the shoulder work is being performed.
- When a side road intersects the highway within the TTC zone, additional TTC devices shall be placed in accordance with other applicable TCZ Indexes.
- For general TCZ requirements and additional information, refer to Index 102-600.

DURATION NOTES

- Signs and channelizing devices may be omitted if all of the following conditions are met:
 - Work operations are 60 minutes or less.
 - Vehicles in the work area have high-intensity, rotating, flashing, oscillating, or strobe lights operating.

LAST REVISION 11/01/17	DESCRIPTION:	FDOT	FY 2020-21 STANDARD PLANS	TWO-LANE, TWO-WAY, WORK ON SHOULDER	INDEX 102-602	SHEET 1 of 1
------------------------	--------------	------	---------------------------	-------------------------------------	---------------	--------------

DATE	08/12/21
REVISION	
MARK	
DESIGNED	JBB
CHECKED	JBB
DRAWN	JBB
DATE	04/16/21
SCALE	NTS
THE DRAWINGS ARE THE PROPERTY OF SCHULKE, BITTLE & STODDARD, L.L.C. FOR WHICH THEY ARE MADE OR EXECUTED OR IN CONNECTION WITH OTHER PROJECTS. NO PART OF THESE DRAWINGS OR ANY INFORMATION CONTAINED HEREIN IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN CONSENT OF THE ENGINEER. UNAUTHORIZED USE OF THESE DRAWINGS IS PROHIBITED PURSUANT TO THE COPYRIGHT LAWS.	

SCHULKE, BITTLE & STODDARD, L.L.C.
 CIVIL & STRUCTURAL ENGINEERING LAND PLANNING ENVIRONMENTAL PERMITTING
 CERTIFICATION OF AUTHORIZATION NO.: 00008668
 1717 INDIAN RIVER BLVD., SUITE 201 VERO BEACH, FLORIDA 32960
 TEL 772-770-9622 FAX 772-770-9496 EMAIL jbittle@sbsengineers.com
 WEBSITE https://www.sbsengineers.com

MISCELLANEOUS DETAILS

SURFSIDE QUAD PLEX

ENGINEER CERTIFICATION
 JODAH B. BITTLE
 FL REG. NO. 57398
 No 57398
 STATE OF FLORIDA
 PROFESSIONAL ENGINEER

PROJECT NO.	21-008
SHEET	10

**FORT PIERCE UTILITIES AUTHORITY
WATER DISTRIBUTION NOTES**

- ALL CONSTRUCTION MATERIAL, INSTALLATION AND TESTING SHALL CONFORM TO THE STANDARD SPECIFICATIONS OF THE FORT PIERCE UTILITIES AUTHORITY.
- WATER MAINS WHERE SPECIFIED AS POLYVINYL CHLORIDE (PVC) SHALL CONFORM TO ASTM C-900 OR C-905, PRESSURE CLASS 150 (DR 18). WATER MAINS WHERE SPECIFIED AS POLYETHYLENE (PE) SHALL CONFORM TO ASTM C-901 OR C-906, STANDARD CODE DESIGNATION PE3408, PIPE CLASS 200, DIMENSION RATIO (DR) 17 FOR DIRECT BURY, (DR) 11 FOR DIRECTIONAL BORING, AND (DR) 9 FOR 2 INCH AND SMALLER PIPELINES.
- WATER MAIN, WHERE SPECIFIED AS DUCTILE IRON PIPE, SHALL CONFORM TO ANSI/AWWA C151/A21.51 AND SHALL BE PRESSURE CLASS 250 (MINIMUM).
- POLYVINYL CHLORIDE WATER MAIN SHALL BE BLUE IN COLOR OR WHITE IN COLOR WITH BLUE STRIPES. THE USE OF IDENTIFICATION TAPE ATTACHED TO THE TOP OF THE PIPE MAY BE USED IN LIEU OF MARKING ON THE PIPE. ALSO DIP PIPE SHALL REQUIRE THE USE OF IDENTIFICATION TAPE AND THIN WIRE.
- FITTINGS SHALL BE DUCTILE IRON CONFORMING TO ANSI/AWWA C-110/A21.10, CLASS 250 MIN., CEMENT LINED AND FACTORY COATED.
- GATE VALVES SHALL BE MUELLER RESILIENT SEAT, KENNY KEN-SEAL, AMERICAN OR APPROVED EQUAL. VALVES SHALL CONFORM TO AWWA C-509.
- WATER LINES SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH FPUA DESIGN AND CONSTRUCTION STANDARDS. THE CONTRACTOR SHALL SUBMIT CERTIFIED DENSITY TESTS AS REQUIRED BY FPUA ENGINEERING AND THE CITY, COUNTY, FDOT, IN CASES WHERE PAVED AREAS FALL WITHIN THE JURISDICTION OF LOCAL OR STATE AGENCIES. THE COMPACTION REQUIREMENTS SHALL NOT BE LESS THAN THE MINIMUM REQUIRED BY THE APPROPRIATE RESPONSIBLE AGENCY.
- NO FIELD CHANGES OR DEVIATIONS FROM THE DESIGN SHALL BE MADE WITHOUT PRIOR APPROVAL OF THE FPUA ENGINEER AND CITY/COUNTY/FOOT ENGINEER.
- THE CONTRACTOR SHALL NOTIFY FPUA ENGINEERING AND CITY/COUNTY/FOOT ENGINEERING 48 HOURS PRIOR TO COMMENCING CONSTRUCTION.
- A PRE-CONSTRUCTION CONFERENCE BETWEEN THE ENGINEER, THE CONTRACTOR, FPUA, AND CITY/COUNTY/FOOT ENGINEER SHALL BE MANDATORY PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- TRAFFIC CONTROL, BARRELS, ETC., SHALL BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARDS AND APPROVED BY THE CITY ENGINEER.
- MINIMUM COVER SHALL BE 36 INCHES EXCEPT AS APPROVED BY THE UTILITIES ENGINEER AND CITY/COUNTY/FOOT ENGINEER. PIPES WITH COVER LESS THAN 30 INCHES SHALL BE CONSTRUCTED OF DUCTILE IRON OR IN PVC CASING.
- EXISTING AREAS SHALL BE RESTORED IN CONFORMANCE WITH THE APPLICABLE GOVERNING AGENCY REQUIREMENTS.
- EXISTING UTILITIES AND DRAINAGE SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION AND PROTECTED BY THE CONTRACTOR.
- WATER MAINS SHALL BE TESTED AND DISINFECTED IN ACCORDANCE WITH THE APPLICABLE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION AND AWWA C-651 FOR DISINFECTION.

**FORT PIERCE UTILITIES AUTHORITY
WATER DISTRIBUTION NOTES
CONTINUED**

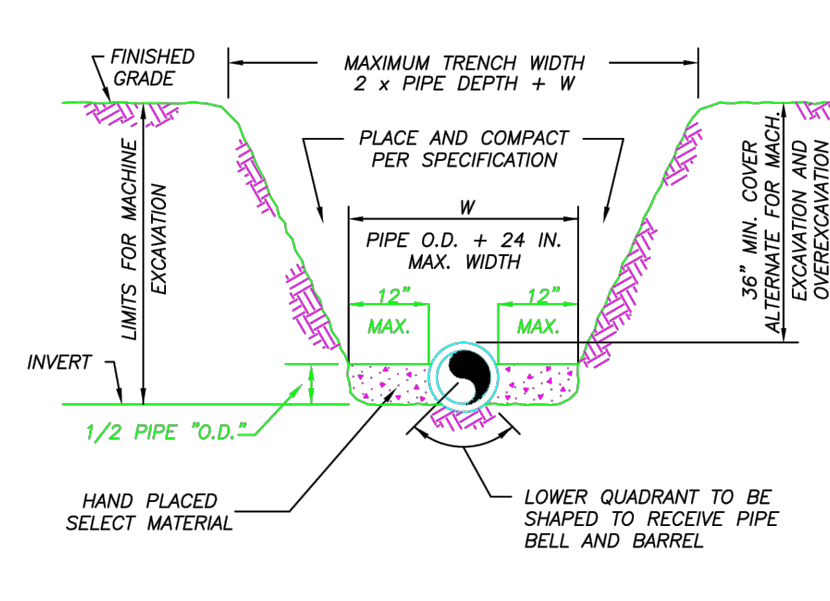
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING EXISTING UTILITIES AND DRAINAGE.
 - THE CONTRACTOR SHALL FURNISH RECORD DRAWING INFORMATION TO THE ENGINEER INCLUDING LOCATIONS OF VALVES, FITTINGS, SERVICE CONNECTIONS, BLOWOFFS, AIR RELEASE VALVES, AND ANY OTHER PERTINENT INFORMATION NECESSARY TO LOCATE ITEMS CONSTRUCTED UNDER THIS PROJECT, AS REQUIRED BY THE UTILITIES ENGINEER.
 - THE CONTRACTOR SHALL TAP EXISTING LINES UNDER THE SUPERVISION OF THE FORT PIERCE UTILITIES AUTHORITY ONLY AFTER TESTING AND DISINFECTION HAS BEEN COMPLETED AND APPROVED ON THE TAPPING VALVE AND SLEEVE.
 - WATER MAIN SHALL BE MARKED BY THE USE OF CONTINUOUS 10 GAUGE THIN MULTI STRANDED WIRE (BLUE IN COLOR) AND IDENTIFICATION TAPE WITH "WATER" MARKED ON TAPE, PERMANENTLY ATTACHED TO THE TOP OF THE WATER MAIN IN ACCORDANCE WITH THE FORT PIERCE UTILITIES AUTHORITY SPECIFICATIONS.
 - SERVICE TAPS SHALL BE PLACED APPROXIMATELY TEN FEET AWAY FROM GATE VALVES, AS SHOWN, FOR TESTING. FOLLOWING TESTING AND STERILIZATION OF WATER LINE, CONTRACTOR SHALL PLACE A BRASS PLUG IN CORPORATION STOPS AND CURB STOPS SHALL BE REMOVED FROM TESTING LOCATIONS.
 - MECHANICAL RESTRAINTS TO BE USED ON ALL FITTINGS AND PLACED IN ACCORDANCE WITH MANUFACTURER'S OR ENGINEER'S RECOMMENDATIONS (WHICHEVER IS MORE STRINGENT) AND FPUA REQUIREMENTS.
 - ALL MAINS SHALL BE TESTED AT A MINIMUM OF 150 PSI. TESTING METHODS SHALL CONFORM TO AWWA C-600 - 2 R MINIMUM TEST
- $L = \frac{SD(P)}{148,000} \times 1/2$
 $L =$ LEAKAGE IN GPH
 $S =$ LENGTH OF PIPE IN FEET
 $D =$ PIPE DIAMETER IN INCHES
 $P =$ TESTING PRESSURE IN PSI
- PRIOR TO ANY TESTING, ALL MAINS 6" IN DIA. AND LARGER SHALL HAVE A SWAB PASSED THRU THE ENTIRE LENGTH OF THE LINE. NOTE: SWAB SHOULD BE PLACED IN 1st JOINT OF NEW LINE. END OF MAIN SHOULD BE "TURNED UP" AT 45° AND EXTENDED SO THAT SWABING AND A FULL BORE FLUSH CAN BE ACCOMPLISHED. BLOW-OFF ASSY CAN THEN BE PLACED. WHERE LINES BRANCH, SWABS WILL BE PLACED IN BRANCH LINES AND SEQUENTIALLY SWABBED AND FLUSHED.
 - A MINIMUM ONE FEET AND PREFERABLY TEN FEET HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN THE WATER MAIN AND ANY WASTEWATER LINES. 6 INCHES MINIMUM VERTICAL SEPARATION IF WATER MAIN IS OVER WASTEWATER AND 12 INCHES IF WATER MAIN IS UNDER SHALL BE MAINTAINED BETWEEN THE WATER MAIN AND ANY WASTEWATER LINES. THE DISTANCE SHALL BE MEASURED FROM OUTSIDE OF PIPE TO OUTSIDE OF PIPE OR STRUCTURE. WHERE THIS MINIMUM SEPARATION CANNOT BE MAINTAINED, THE CROSSING SHALL BE ARRANGED SO THAT THE WASTEWATER PIPE JOINTS AND THE WATER MAIN PIPE JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING, AND THE WATER MAIN SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE (DIP) AT THE CROSSING. SUFFICIENT LENGTHS OF DIP MUST BE USED TO PROVIDE A MINIMUM SEPARATION OF 10 FEET BETWEEN ANY TWO JOINTS. ALL JOINTS ON THE WATER MAIN WITHIN 20 FEET OF THE CROSSING MUST BE MECHANICALLY RESTRAINED. A MINIMUM VERTICAL CLEARANCE OF 6 INCHES MUST BE MAINTAINED AT ALL CROSSINGS.
 - WHERE A WATER MAIN IS TO BE INSTALLED BELOW A STORM DRAIN PIPE, A MINIMUM OF 6 INCHES OF VERTICAL CLEARANCE BETWEEN PIPES SHALL BE CONSTRUCTED OF DIP AT THE CROSSING, AND SHALL BE MECHANICALLY RESTRAINED WITHIN 20 FEET OF THE CROSSING.
 - CONTRACTOR SHALL COMPLY WITH FLORIDA TRENCH SAFETY ACT REQUIREMENTS.

FORT PIERCE UTILITIES AUTHORITY WASTEWATER CONSTRUCTION NOTES

- ALL CONSTRUCTION MATERIAL, INSTALLATION AND TESTING SHALL CONFORM TO THE STANDARD SPECIFICATIONS OF THE FORT PIERCE UTILITIES AUTHORITY.
- GRAVITY SEWER MAIN SHALL BE POLYETHYLENE CHLORIDE (PVC) 26, GREEN OR WHITE IN COLOR. GRAVITY SEWER MAIN SHALL HAVE LOCATOR TAPE WITH "SEWER" MARKED ON TAPE AND SHALL CONFORM TO ASTM D-3034.
- THE MANHOLE BASE SHALL BE SET ON A FIRM, DRY AND STABLE OR A FIRM AND SUITABLE MANHOLE BASE FOUNDATION.
- WASTEWATER LINES SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH FPUA DESIGN AND CONSTRUCTION STANDARDS. THE CONTRACTOR SHALL SUBMIT CERTIFIED DENSITY TESTS AS REQUIRED BY FPUA ENGINEERING AND THE CITY ENGINEERING DEPARTMENT. IN CASES WHERE PAVED AREAS FALL WITHIN THE JURISDICTION OF LOCAL OR STATE AGENCIES, THE COMPACTION REQUIREMENTS SHALL NOT BE LESS THAN THE MINIMUM REQUIRED BY THE APPROPRIATE RESPONSIBLE AGENCY.
- A 1% MINIMUM SLOPE SHALL BE MAINTAINED ON ALL SANITARY SERVICE LATERALS.
- THE CONTRACTOR SHALL FURNISH RECORD DRAWING INFORMATION TO THE ENGINEER CONSISTING OF PIPE SIZES, LOCATION OF SERVICE TEE WYES, DIAMETER OF SERVICES, LOCATION OF ANY FITTINGS, FINAL RIM AND INVERT ELEVATION OF ALL MANHOLES AND ANY OTHER PERTINENT INFORMATION NECESSARY TO LOCATE ITEMS CONSTRUCTED UNDER THIS PROJECT.
- MAINTAIN SIX FEET AND PREFERABLY 10 FEET HORIZONTAL DISTANCE BETWEEN WATER MAINS AND SEWER MAINS AS A MINIMUM.
- WASTEWATER FORCE MAINS, WASTEWATER COLLECTION LINES, AND STORM SEWERS SHOULD CROSS UNDER WATER MAINS WHENEVER POSSIBLE. A MINIMUM VERTICAL DISTANCE OF 12 INCHES BETWEEN THE INVERT OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE SHALL BE PROVIDED WHENEVER POSSIBLE. WHERE THIS MINIMUM SEPARATION CANNOT BE MAINTAINED, THE CROSSING SHALL BE ARRANGED SO THAT THE WASTEWATER PIPE JOINTS AND THE WATER PIPE JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING, AND THE WATER MAIN SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE (DIP) AT THE CROSSING. SUFFICIENT LENGTHS OF DIP MUST BE USED TO PROVIDE A MINIMUM SEPARATION OF 10 FEET BETWEEN ANY TWO JOINTS. ALL JOINTS ON THE WATER MAIN WITHIN 20 FEET OF THE CROSSING MUST BE MECHANICALLY RESTRAINED. A MINIMUM VERTICAL CLEARANCE OF 6 INCHES MUST BE MAINTAINED AT ALL CROSSINGS.
- A PRE-CONSTRUCTION CONFERENCE BETWEEN THE ENGINEER, THE CONTRACTOR, AND FPUA/CITY/COUNTY/FOOT SHALL BE MANDATORY PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
- NO FIELD CHANGES OR DEVIATIONS FROM THE DESIGN SHALL BE MADE WITHOUT PRIOR APPROVAL OF FPUA/CITY/COUNTY/FOOT ENGINEER.
- TRAFFIC CONTROL, BARRELS, ETC. SHALL BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARDS.
- CONTRACTOR SHALL NOTIFY FORT PIERCE UTILITIES AUTHORITY 48 HOURS PRIOR TO COMMENCING CONSTRUCTION.
- WASTEWATER FORCE MAIN SHALL BE POLYVINYL CHLORIDE CONFORMING TO AWWA C-900, AND SHALL BE CLASS 150, DR-18.
- WASTEWATER FORCE MAIN SHALL BE GREEN IN COLOR.
- FITTINGS SHALL BE DUCTILE IRON, CONFORMING TO ANSI/AWWA C-110/A21.10 CLASS 250 MIN. AND INTERIOR EPOXY COATED.
- WASTEWATER FORCE MAIN SHALL BE MARKED BY THE USE OF CONTINUOUS 10 GAUGE THIN WIRE (GREEN IN COLOR) PERMANENTLY ATTACHED TO THE TOP OF THE FORCE MAIN WITH LOCATOR TAPE MARKED "SEWER" ON TAPE IN ACCORDANCE WITH FPUA SPECIFICATIONS.
- MINIMUM COVER SHALL BE 36 INCHES, PIPES WITH COVER LESS THAN 30 INCHES SHALL REQUIRE PRIOR APPROVAL OF THE UTILITIES ENGINEER AND SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE.
- EACH SERVICE LATERAL WILL BE MARKED WITH A LOCATOR BALL AS MANUFACTURED BY SM CORPORATION, OR APPROVED EQUAL AS REQUIRED BY FPUA ENGINEER.
- ALL MANHOLES SHALL HAVE SEWER RAIN GUARDS INSTALLED AS REQUIRED BY FPUA ENGINEER.
- THE CONTRACTOR SHALL COMPLY WITH THE FLORIDA TRENCH SAFETY ACT REQUIREMENTS.

**STANDARD SEPARATION STATEMENT FOR
WATER / SEWER CONFLICTS**

- SANITARY SEWER, FORCE MAINS, AND STORM SEWERS SHOULD CROSS UNDER WATER MAINS WHENEVER POSSIBLE. SANITARY SEWERS, FORCE MAINS AND STORM SEWERS CROSSING UNDER WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 6 INCHES, PREFERABLY 12 INCHES BETWEEN THE INVERT OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE WHEN ABOVE, AND AT LEAST 12 INCHES OF SEPARATION WHEN THE WATER MAIN IS BELOW.
- WHERE SANITARY SEWER, FORCE MAINS, STORM SEWERS MUST CROSS A WATER MAIN WITH LESS THAN 6 INCHES VERTICAL SEPARATION, BOTH THE SEWER AND WATER MAIN SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE (DIP) CENTERED ON THE CROSSING. (DIP IS NOT REQUIRED FOR STORM SEWERS.) SUFFICIENT LENGTHS OF DIP MUST BE USED TO PROVIDE A MINIMUM SEPARATION OF 10 FEET BETWEEN TWO JOINTS. ALL JOINTS ON THE WATER MAIN WITHIN 20 FEET OF THE CROSSING MUST BE MECHANICALLY RESTRAINED.
- ALL CROSSINGS SHALL BE ARRANGED SO THAT THE SEWER PIPE JOINTS AND WATER MAIN PIPE JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING (PIPES CENTERED ON THE CROSSING). AT SUCH CROSSINGS PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, STORM SEWERS, STORMWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C., AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY OR PRESSURE-TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.
- WHERE A NEW PIPE CONFLICTS WITH AN EXISTING PIPE WITH LESS THAN 6 INCHES VERTICAL CLEARANCE, THE NEW PIPE SHALL BE CONSTRUCTED OF DIP (EXCEPT STORM SEWERS) AND NEW PIPES SHALL BE ARRANGED TO MEET THE CROSSING REQUIREMENTS ABOVE.
- A MINIMUM 3-FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN ANY TYPE OF STORM SEWER AND WATER MAIN IN PARALLEL INSTALLATIONS WHENEVER POSSIBLE.
- A MINIMUM 10-FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN "ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM" AND WATER MAIN IN PARALLEL INSTALLATIONS WHENEVER POSSIBLE.
- A MINIMUM 6-FOOT AND PREFERABLY 10-FOOT HORIZONTAL SEPARATION SHALL BE MAINTAINED BETWEEN GRAVITY OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER AND WATER MAIN IN PARALLEL INSTALLATIONS WHENEVER POSSIBLE. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY-TYPE SANITARY SEWERS SHALL BE REDUCED TO 3 FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER.
- IN CASES WHERE IT IS NOT POSSIBLE TO MAINTAIN A 10-FOOT HORIZONTAL SEPARATION, THE WATER MAIN MUST BE LAID IN A SEPARATE TRENCH OR ON A UNDISTURBED EARTH SHELVE LOCATED ON ONE SIDE OF THE SEWER OR WATER MAIN AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 6 INCHES ABOVE THE TOP OF THE SEWER.
- WHERE IT IS NOT POSSIBLE TO MAINTAIN A VERTICAL DISTANCE OF 6 INCHES IN PARALLEL INSTALLATIONS, THE WATER MAIN SHALL BE CONSTRUCTED OF DIP AND THE SEWER OR THE FORCE MAIN SHALL BE CONSTRUCTED OF DIP (EXCEPT STORM SEWER) WITH A MINIMUM VERTICAL DISTANCE OF 6 INCHES. THE WATER MAIN SHOULD ALWAYS BE ABOVE THE SEWER. JOINTS ON THE WATER MAIN SHALL BE LOCATED AS FAR APART AS POSSIBLE FROM JOINTS ON THE SEWER OR FORCE MAIN (STAGGERED JOINTS).
- ALL DIP SHALL BE PRESSURE CLASS 250 MIN., ADEQUATE PROTECTIVE MEASURES AGAINST CORROSION SHALL BE USED AS DETERMINED BY THE DESIGN ENGINEER.



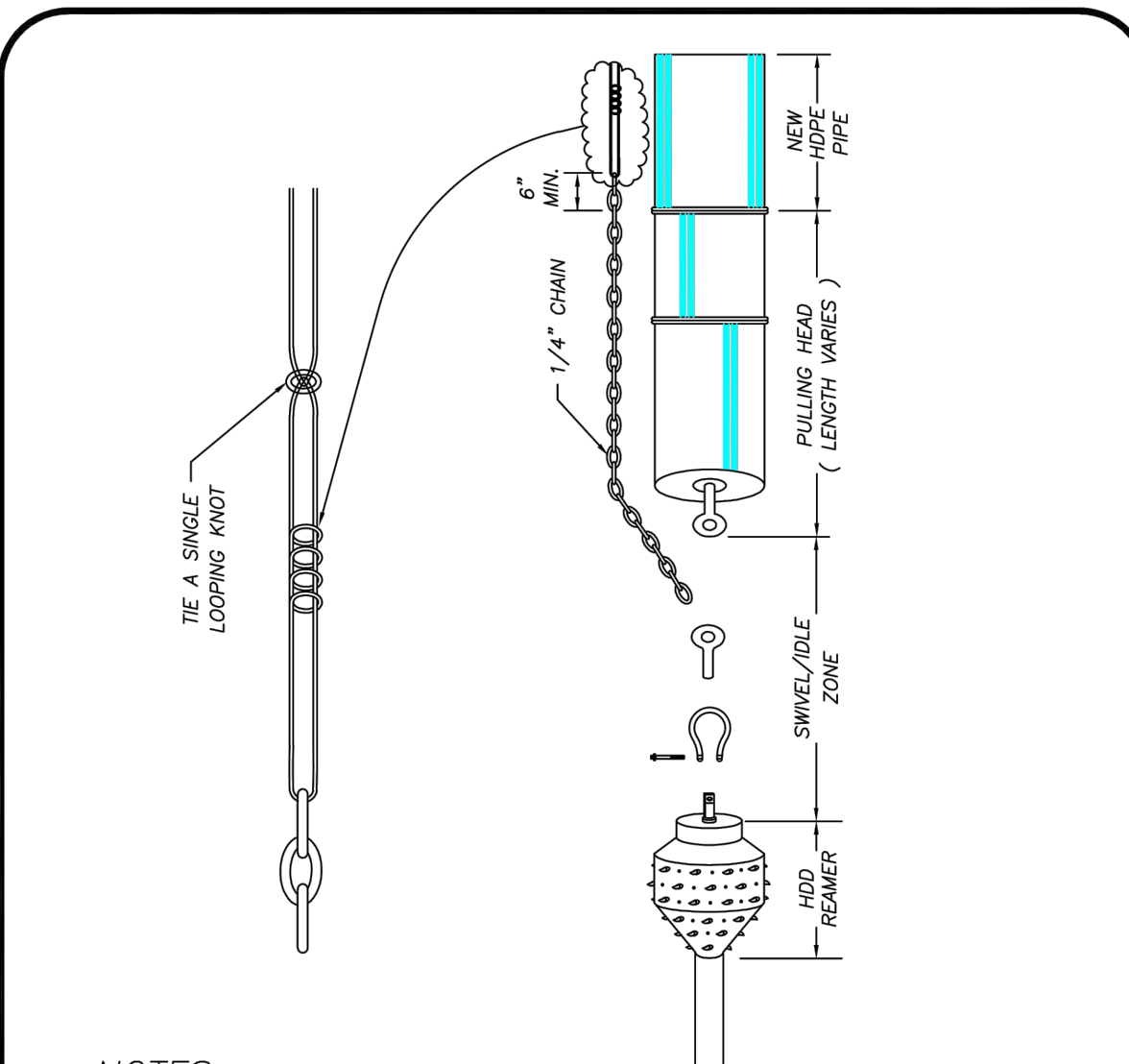
- NOTES:**
- THE CONTRACTOR SHALL COMPLY WITH REQUIREMENTS OF THE FLORIDA TRENCH SAFETY ACT.
 - INITIAL BACKFILL SHALL BE HAND PLACED TO 12" ABOVE THE PIPE. BACKFILL SHALL BE MECHANICALLY TAMPED TO A MINIMUM OF 100% OF MAX. DENSITY AS DETERMINED BY AASHTO METHOD T-99.

TYPICAL TRENCH DETAIL
N.T.S.

REV.	DATE	BY	APP'D.	DESCRIPTION
02-09	CONCRETE SLAB	SEL	JLC	WATER/WASTEWATER ENGINEERING
03-09	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
04-09	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
05-09	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
06-09	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
07-09	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
08-09	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
09-09	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
10-09	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
11-09	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
12-09	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
01-10	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
02-10	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
03-10	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
04-10	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
05-10	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
06-10	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
07-10	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
08-10	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
09-10	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
10-10	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
11-10	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
12-10	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
01-11	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
02-11	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
03-11	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
04-11	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
05-11	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
06-11	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
07-11	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
08-11	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
09-11	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
10-11	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
11-11	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
12-11	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
01-12	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
02-12	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
03-12	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
04-12	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
05-12	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
06-12	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
07-12	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
08-12	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
09-12	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
10-12	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
11-12	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
12-12	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING

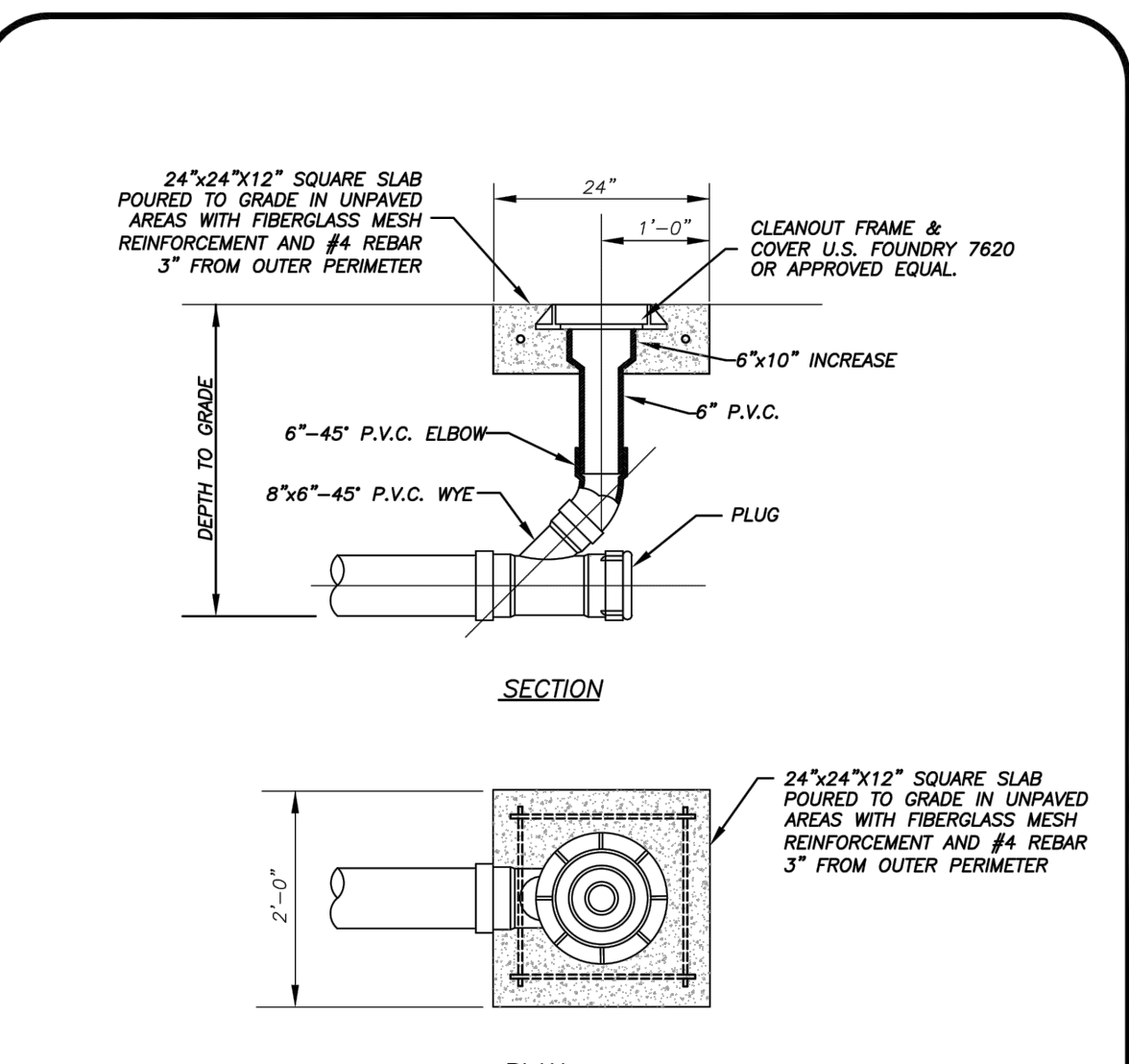
REV.	DATE	BY	APP'D.	DESCRIPTION
02-09	CONCRETE SLAB	SEL	JLC	WATER/WASTEWATER ENGINEERING
03-09	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
04-09	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
05-09	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
06-09	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
07-09	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
08-09	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
09-09	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
10-09	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
11-09	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
12-09	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
01-10	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
02-10	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
03-10	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
04-10	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
05-10	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
06-10	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
07-10	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
08-10	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
09-10	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
10-10	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
11-10	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
12-10	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
01-11	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
02-11	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
03-11	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
04-11	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
05-11	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
06-11	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
07-11	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
08-11	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
09-11	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
10-11	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
11-11	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
12-11	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
01-12	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
02-12	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
03-12	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
04-12	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
05-12	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
06-12	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
07-12	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
08-12	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
09-12	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
10-12	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
11-12	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
12-12	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING

REV.	DATE	BY	APP'D.	DESCRIPTION
02-09	CONCRETE SLAB	SEL	JLC	WATER/WASTEWATER ENGINEERING
03-09	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
04-09	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
05-09	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
06-09	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
07-09	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
08-09	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
09-09	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
10-09	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
11-09	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
12-09	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
01-10	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
02-10	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
03-10	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
04-10	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
05-10	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
06-10	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
07-10	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
08-10	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
09-10	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
10-10	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
11-10	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
12-10	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
01-11	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
02-11	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
03-11	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
04-11	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
05-11	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
06-11	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
07-11	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
08-11	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
09-11	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
10-11	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
11-11	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
12-11	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
01-12	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
02-12	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
03-12	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
04-12	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
05-12	DESIGN	SEL	JLC	WATER/WASTEWATER ENGINEERING
06-12	DESIGN	SEL	JLC	W



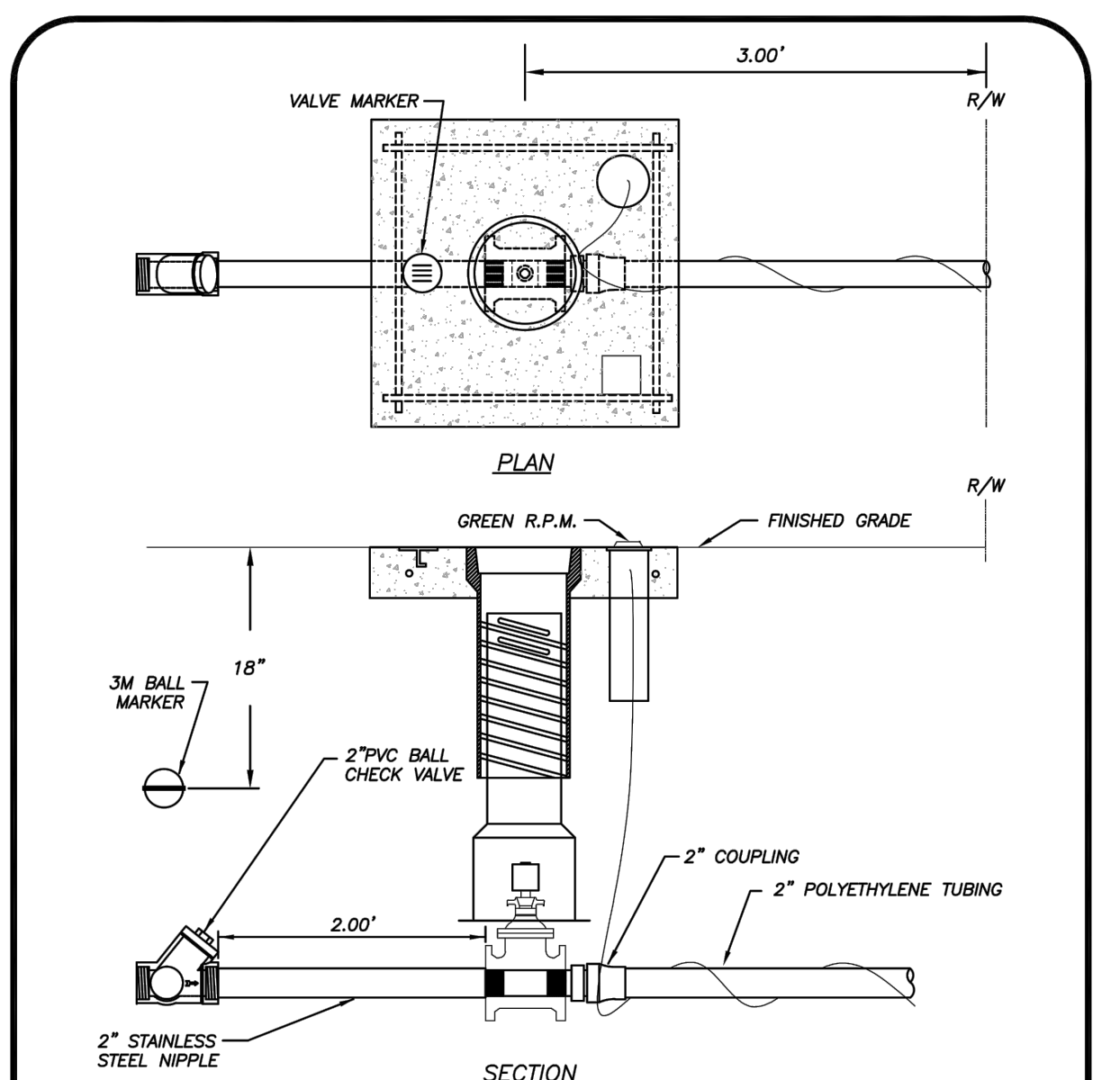
- NOTES:**
- WHERE DIRECTIONAL DRILLING LENGTHS EXCEED 750 LINEAR FEET AND/OR HOPE PIPE DIAMETER EXCEED 12 INCHES, A SECOND LENGTH OF TRACE WIRE SHALL BE INSTALLED.
 - TRACE WIRE SHALL CONFORM TO THE FOLLOWING SPECIFICATION:
 MANUFACTURER - COPPERHEAD INDUSTRIES, LLC
 PART NUMBER - 1245B-EHS-500 / 1245B-EHS-1000 / 1245B-EHS-2500
 PART NUMBER DESCRIPTION - 12 (AWG), 45 (JACKET MIL), B (JACKET COLOR: B=BLUE, G=GREEN, ETC.) - EHS (EXTRA HIGH STRENGTH-HARD DRAWN / 1150F BREAKING LOAD STRENGTH) - 500 (WIRE LENGTH IN FEET)

DIRECTIONAL BORE WIRE ATTACHMENT		M-16	
DATE: 03-09	DESIGNER: J.C.	SCALE: 1/8"=1'-0"	APPROVED: J.C.
DATE: 03-09	DESIGNER: J.C.	SCALE: 1/8"=1'-0"	APPROVED: J.C.
DATE: 03-09	DESIGNER: J.C.	SCALE: 1/8"=1'-0"	APPROVED: J.C.



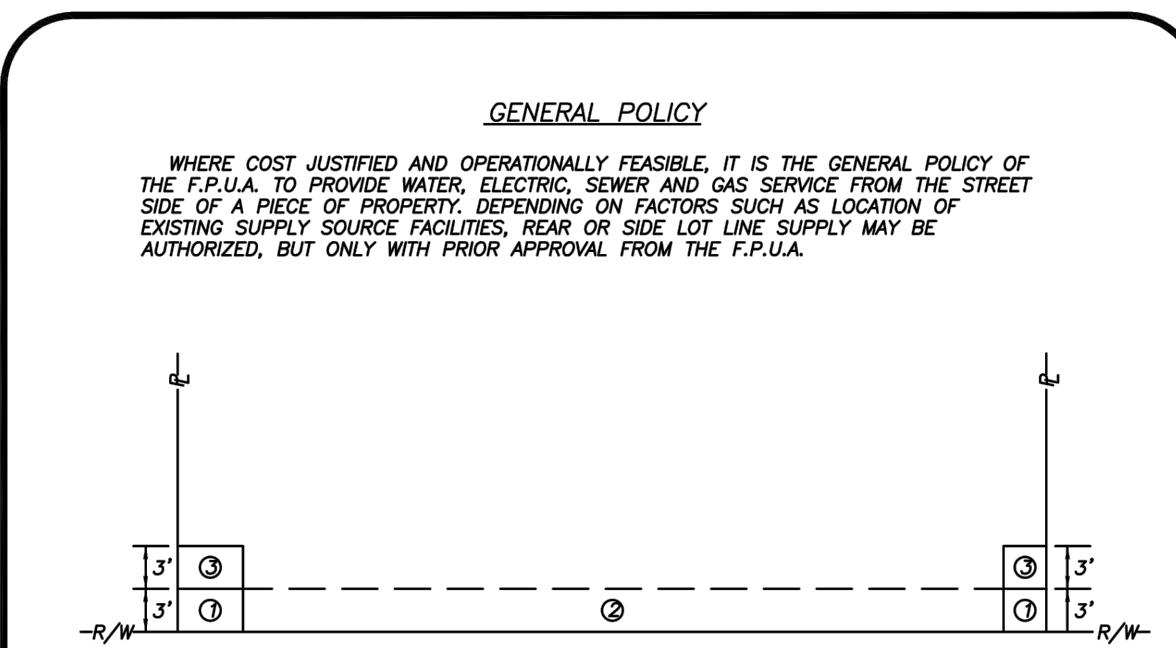
TERMINAL CLEANOUT DETAIL (COMMERCIAL)
(N.T.S.)

TERMINAL CLEANOUT DETAIL WASTEWATER		S-4B	
DATE: 10-09	DESIGNER: J.C.	SCALE: 1/8"=1'-0"	APPROVED: J.C.
DATE: 10-09	DESIGNER: J.C.	SCALE: 1/8"=1'-0"	APPROVED: J.C.
DATE: 10-09	DESIGNER: J.C.	SCALE: 1/8"=1'-0"	APPROVED: J.C.



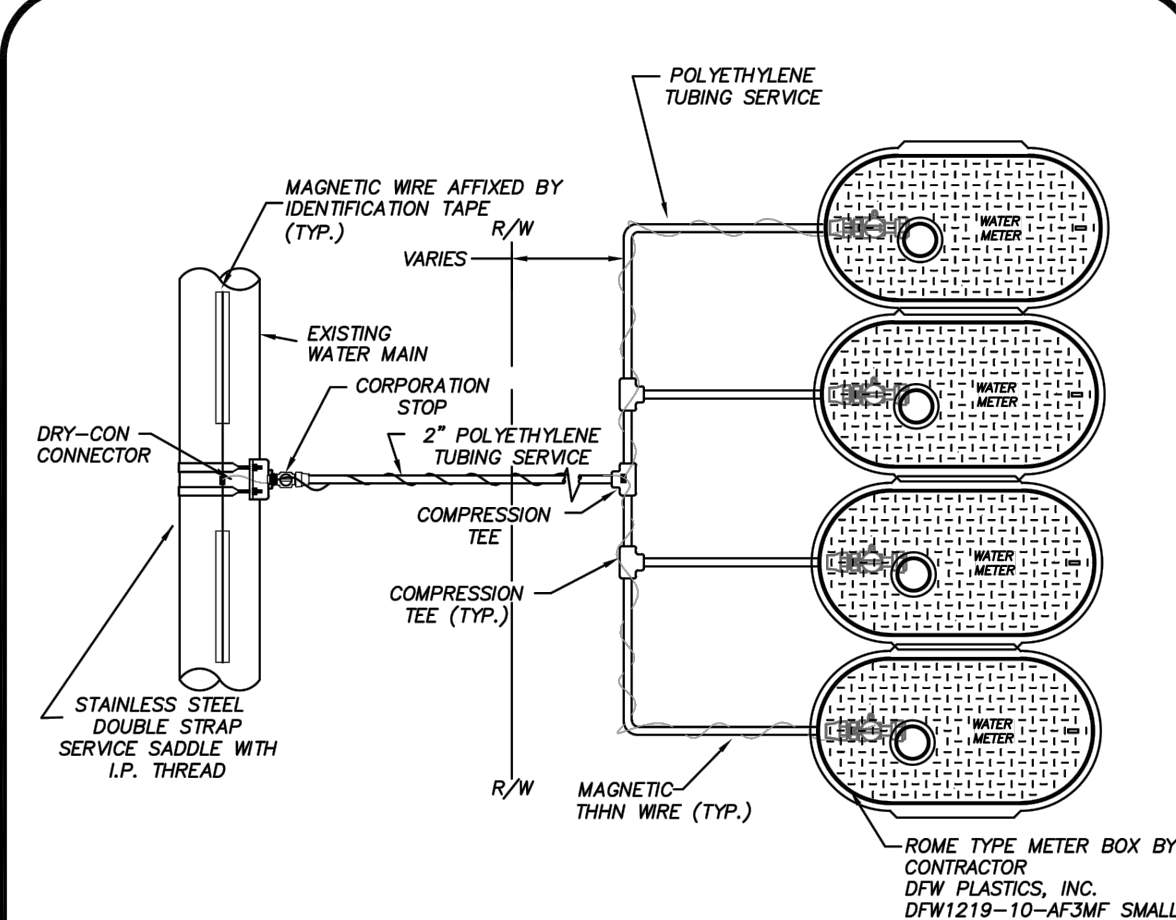
- NOTES:**
- FORCE MAIN CONNECTION SHALL CONSIST OF A 2" TAPPING SADDLE, 2" STAINLESS STEEL NIPPLE AND 2" THREADED RESILIENT SEAT GATE VALVE.
 - GREEN 10 GAUGE THIN WIRE SHALL BE ATTACHED TO THE SERVICE LINE.
 - WHERE SERVICES UNDER PAVEMENT ARE REQUIRED, THE POLYETHYLENE TUBING SHALL BE INSTALLED WITHIN SCHEDULE 40 PVC CASING PIPE.
 - MINIMUM COVER IN UNPAVED AREAS SHALL BE 30", IN PAVED AREAS OR PLANNED ROADWAYS OR SWALES MIN. COVER SHALL BE 36".

GRINDER STATION CONNECTION		S-16	
DATE: 03-09	DESIGNER: J.C.	SCALE: 1/8"=1'-0"	APPROVED: J.C.
DATE: 03-09	DESIGNER: J.C.	SCALE: 1/8"=1'-0"	APPROVED: J.C.
DATE: 03-09	DESIGNER: J.C.	SCALE: 1/8"=1'-0"	APPROVED: J.C.



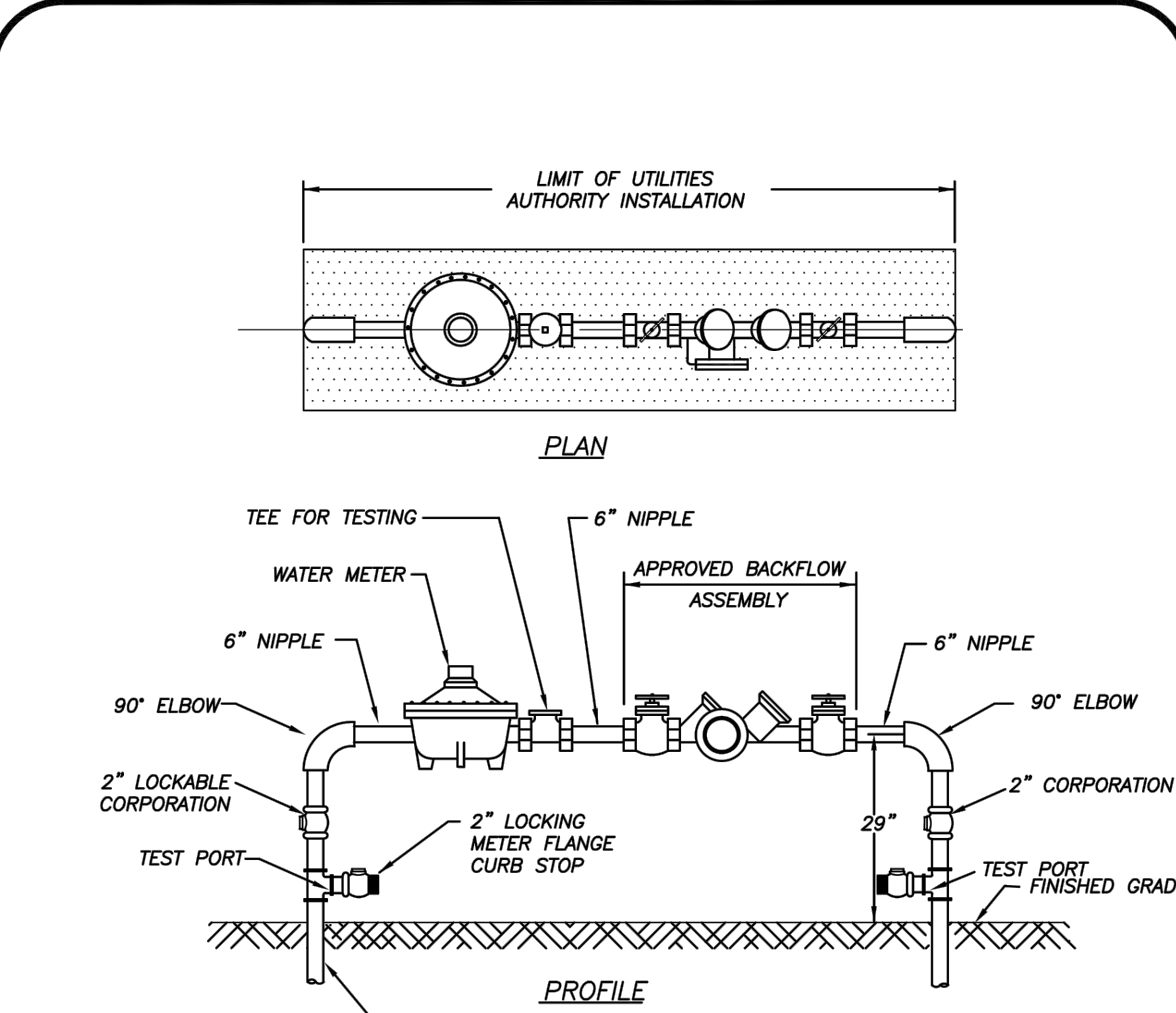
- GENERAL POLICY**
- WHERE COST JUSTIFIED AND OPERATIONALLY FEASIBLE, IT IS THE GENERAL POLICY OF THE F.P.U.A. TO PROVIDE WATER, ELECTRIC, SEWER AND GAS SERVICE FROM THE STREET SIDE OF A PIECE OF PROPERTY, DEPENDING ON FACTORS SUCH AS LOCATION OF EXISTING SUPPLY SOURCE FACILITIES, REAR OR SIDE LOT LINE SUPPLY MAY BE AUTHORIZED, BUT ONLY WITH PRIOR APPROVAL FROM THE F.P.U.A.
- NOTES:**
- THE PREFERRED POINT OF CONNECTION TO THE F.P.U.A. WATER METER, AREA (C) SHALL BE LOCATED IN THE CORNER OF THE PROPERTY SELECTED BY THE F.P.U.A. AS THE BEST LOCATION FOR THE WATER METER. EVERY EFFORT WILL BE MADE TO SELECT THE CORNER WHERE TWO WATER SERVICES AND METERS CAN BE CONNECTED.
 - IF PHYSICAL BARRIERS OR OTHER OBSTACLES PREVENT THE CONNECTION OF THE BUILDING SERVICE LINE TO THE F.P.U.A. WATER SERVICE, WITHIN AREA (C), THE F.P.U.A. ENGINEERING DEPARTMENT MAY AUTHORIZE THE CONNECTION ALONG THE PORTION OF THE R/W LINE MARKED AREA (D), OR ALONG THE PROPERTY LINES MARKED AREA (E).
 - HORIZONTAL SEPARATION OF WATER AND WASTEWATER SERVICES SHOULD BE A MINIMUM OF 6 FEET AND PREFERABLY 10 FEET.
 - ALL METERS SHALL BE INSTALLED IN AN UNRESTRICTED AREA FOLLOWING EASE OF ACCESS AND PROVIDING ADEQUATE PROTECTION.
 - THE F.P.U.A. SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND REPAIR OF THE WATER LATERAL, WITHIN THE EASEMENT OR RIGHT-OF-WAY, UP TO THE POINT OF CONNECTION.

WATER METER PLACEMENT POLICY		W-1	
DATE: 03-09	DESIGNER: J.C.	SCALE: 1/8"=1'-0"	APPROVED: J.C.
DATE: 03-09	DESIGNER: J.C.	SCALE: 1/8"=1'-0"	APPROVED: J.C.
DATE: 03-09	DESIGNER: J.C.	SCALE: 1/8"=1'-0"	APPROVED: J.C.



- NOTES:**
- BLUE 10 GAUGE THIN WIRE SHALL BE ATTACHED TO THE SERVICE LINE AND RAN TO OUTER METERS ONLY.
 - WHERE SERVICES UNDER PAVEMENT ARE REQUIRED, THE POLYETHYLENE TUBING SHALL BE INSTALLED WITHIN SCHEDULE 40 PVC CASING PIPE.
 - ALL METER SIZES SHALL REQUIRE LOCKABLE METER VALVE (CURB STOP).
 - MINIMUM COVER IN UNPAVED AREAS SHALL BE 30", IN PAVED AREAS OR PLANNED ROADWAYS OR SWALES MIN. COVER SHALL BE 36".
 - POLY SERVICE LINE SHALL VARY IN SIZE PER COMMERCIAL USE.
 - F.P.U.A. SHALL REMOVE METER BOXES AND INSTALL STAND PIPES AT THE TIME OF CONNECTION.

TYPICAL MULTIPLE WATER SERVICE CONNECTION (COMMERCIAL)		W-4A	
DATE: 03-09	DESIGNER: J.C.	SCALE: 1/8"=1'-0"	APPROVED: J.C.
DATE: 03-09	DESIGNER: J.C.	SCALE: 1/8"=1'-0"	APPROVED: J.C.
DATE: 03-09	DESIGNER: J.C.	SCALE: 1/8"=1'-0"	APPROVED: J.C.



- NOTES:**
- LANDSCAPING REQUIRED PER CITY OF FORT PIERCE OR ST. LUCIE COUNTY ORDINANCE. NO PLANTS OR TREES WITHIN 18" AROUND METER OR BACKFLOW. NO SOLDER JOINTS.
 - ASSEMBLY TO BE 29" FROM FINISH GRADE TO CENTERLINE OF THE PLANNED 90° BEND.

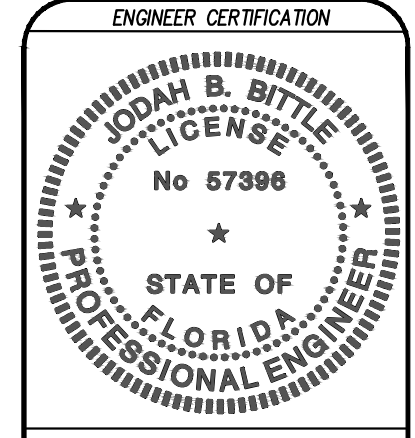
WATER METER/BACKFLOW PREVENTER ASSEMBLY DOMESTIC SERVICE (COMMERCIAL)		W-8	
DATE: 03-09	DESIGNER: J.C.	SCALE: 1/8"=1'-0"	APPROVED: J.C.
DATE: 03-09	DESIGNER: J.C.	SCALE: 1/8"=1'-0"	APPROVED: J.C.
DATE: 03-09	DESIGNER: J.C.	SCALE: 1/8"=1'-0"	APPROVED: J.C.

DATE: 08.12.21	REVISION: 1	REVISION BY: J.C.	COMMENTS:
DATE: 04/16/21	REVISION: 1	REVISION BY: J.C.	COMMENTS:

SCHULKE, BITTLE & STODDARD, L.L.C.
 CIVIL & STRUCTURAL ENGINEERING LAND PLANNING ENVIRONMENTAL PERMITTING
 CERTIFICATION OF AUTHORIZATION NO.: 00008668
 1717 INDIAN RIVER BLVD., SUITE 201 VERO BEACH, FLORIDA 32960
 TEL 772-770-9496 FAX 772-770-9496 EMAIL jbittle@sbsengineers.com
 WEBSITE https://www.sbsengineers.com

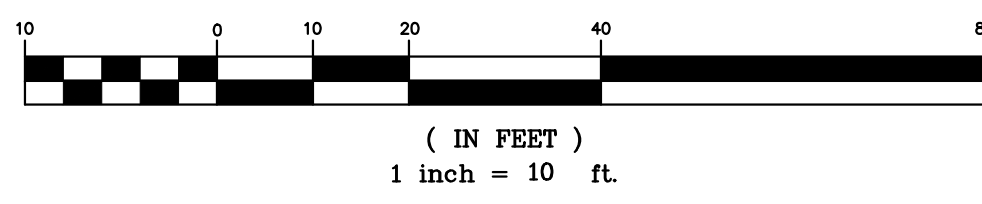
MISCELLANEOUS DETAILS

SURFSIDE QUAD PLEX

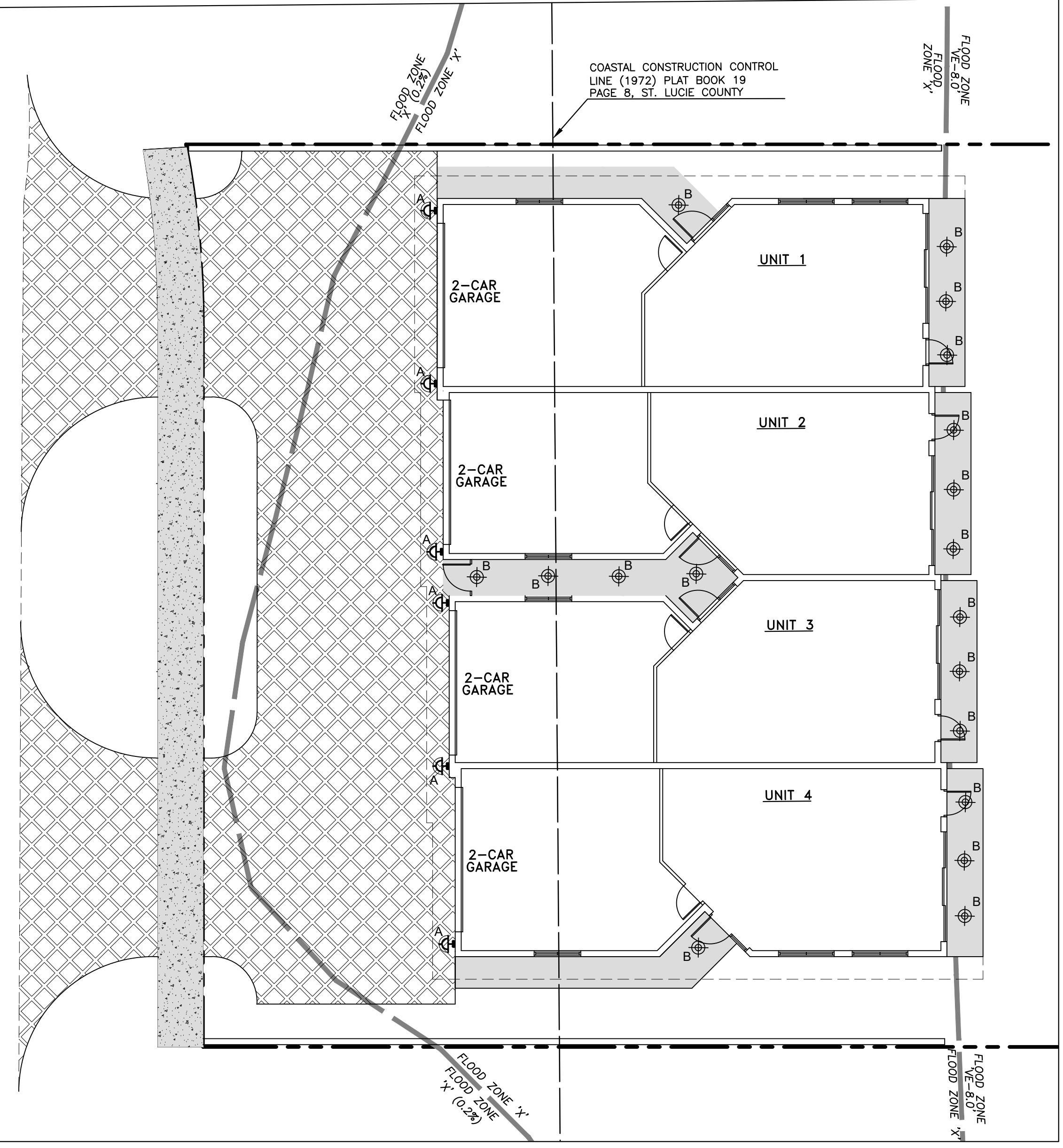


PROJECT NO. 21-008	SHEET 12
--------------------	----------

GRAPHIC SCALE



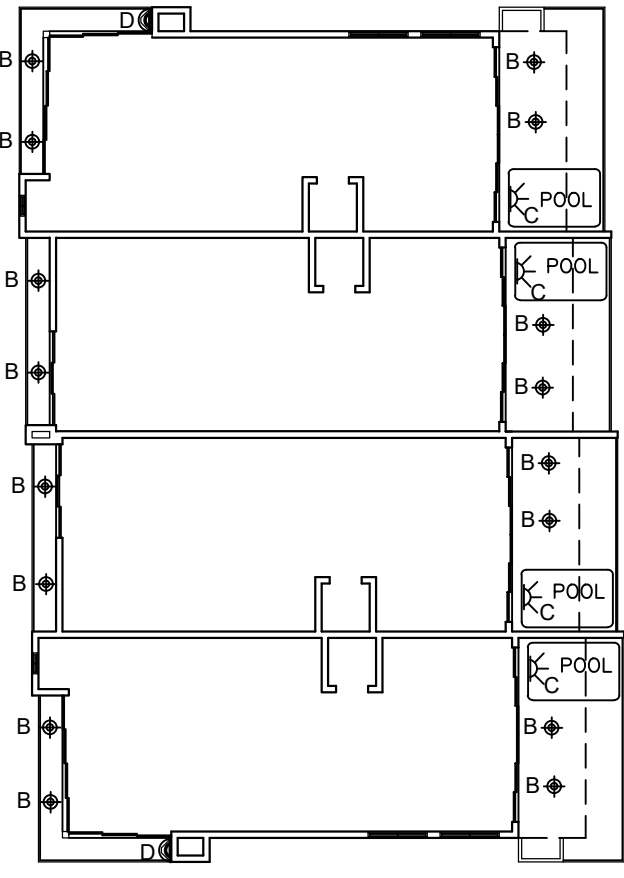
SURFSIDE DRIVE
60' R/W - 25 MPH



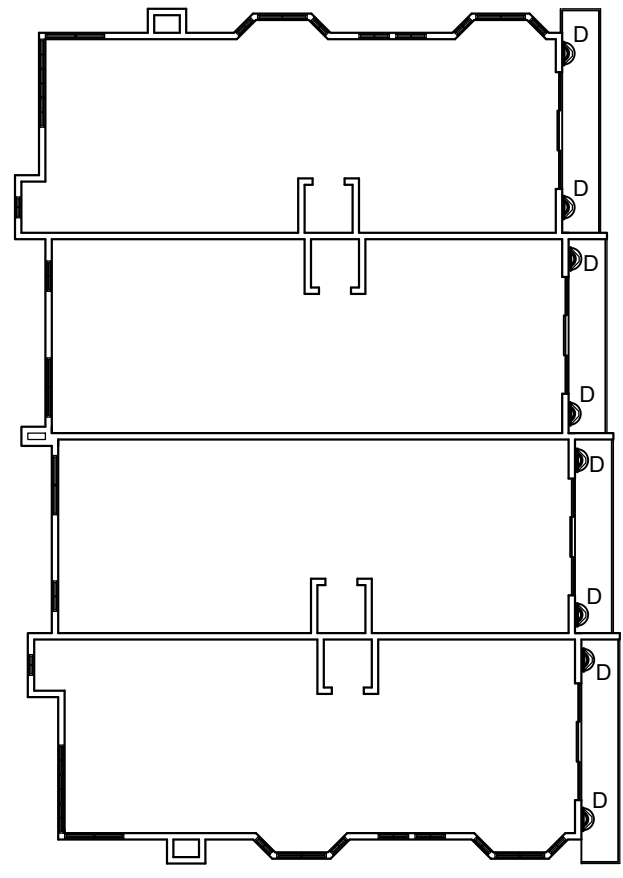
LIGHTING KEY

SYMBOL	FIXTURE	QUANTITY	BULB	MOUNT & HEIGHT	LOCATION	STRUCTURE LEVEL
A	BEACHSIDE LIGHTING E1-2W-A-NO	6	2 WATT LED AMBER	WALL MOUNT MAX 8'-0" AFF	LANDWARD	FIRST FLOOR
B	BEACHSIDE LIGHTING L-016-F-CL-SW-A-NFL	34	5 WATT LED AMBER	RECESSED CEILING ±12.5' ABOVE FINISH GRADE	(2) SHORE PERP (20) BEACHSIDE (12) LANDWARD	(18) FIRST FLOOR (16) SECOND FLOOR
C	LIGMAN BOH-60011	4	11 WATT LED AMBER	UNDERWATER	BELOW WATER	POOL & SPA
D	BEACHSIDE LIGHTING L-018-SW-A-NFL	48	5 WATT LED AMBER	WALL/STEP MOUNT 6' AFF MAX MAY NEED FIELD ADJUST & ADDITIONAL SHIELDING	(32) SHORE PERP (8) FOURTH FLOOR (8) BEACHSIDE (32) ROOFTOP	(8) THIRD FLOOR (8) FOURTH FLOOR (32) ROOFTOP

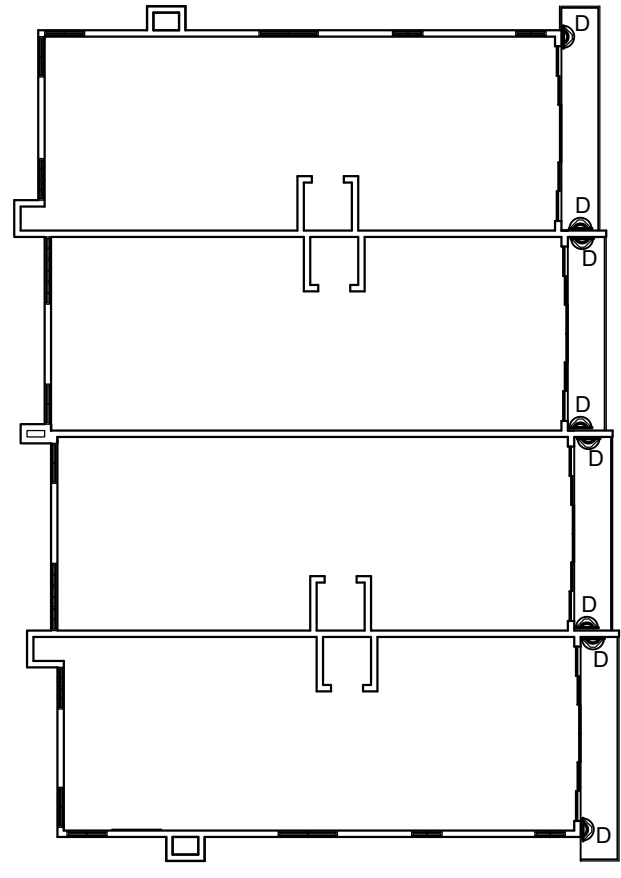
NOTE: ALL WINDOWS, DOORS, AND WALLS ON THE SEAWARD AND SHORE PERPENDICULAR SIDES OF THE BUILDING MUST HAVE TINTED GLASS OR FILM WITH A VISIBLE LIGHT TRANSMITTANCE OF 4% OR LESS (ALTHOUGH A VISIBLE LIGHT TRANSMITTANCE OF 15% OR LESS IS RECOMMENDED).



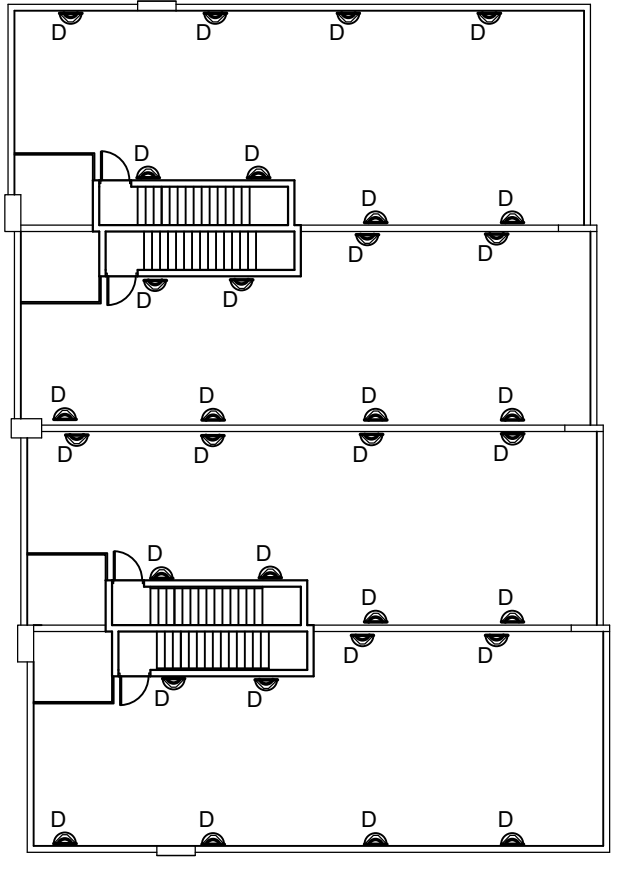
SECOND FLOOR LIGHTING



THIRD FLOOR LIGHTING



FOURTH FLOOR LIGHTING



ROOFTOP LIGHTING

FIXTURE A

E1

The E1 is an unobtrusive, low-voltage, stepdownlight. Its minimalist design brings attention to the lamp's effect, not to the fixture itself.

Construction All brass components. 1/8" (3mm) thick brass housing.

Lens Tempered soda lime glass

Voltage 12 Volt ACDC with integral driver (8-15V input, dimmable below 9V). Remote transformer required.

Mounting Two (2) hidden stainless steel sheet metal screws secure back plate to the mounting surface. Fixture housing is secured to the back plate by stainless steel set screws.

Custom size canopies available using 0.125" thick brass plate. Consult factory regarding custom canopy size, shape, and thru hole positioning needed to mate with recessed joists (if any).

Lamps Triac dimmable: NLY 4% typ. ELY 4% typ.

Beam/Field	Canella	Lumens	Efficacy
2W-A-SP 10" / 20"	1366	65	29
2W-A-NFL 14" / 31"	587	64	29
2W-A-FL 28" / 60"	108	40	16
2W-A-NO 46" / 114"	15	14	0
2W-RO-SP 10" / 15"	2841	123	54
2W-RO-NFL 13" / 28"	1483	119	52
2W-RO-FL 22" / 50"	229	81	35
2W-RO-NO 46" / 114"	32	32	14
3W-SP 13" / 24"	2699	202	69
3W-NFL 17" / 37"	1214	177	61
3W-FL 30" / 62"	391	143	49
3W-NO 47" / 96"	42	37	15
4W-SP 13" / 24"	3399	249	64
4W-NFL 17" / 38"	1514	230	59
4W-FL 30" / 62"	462	194	50
4W-NO 71" / 121"	55	61	21

Optical Accessories Fixture can accommodate up to two 1/8" thick optical accessories or one accessory when used in conjunction with the 1/2" lamp optic option.

- CTO-114-1.36 Color Temperature Orange filter 1/4"
- CTO-124-1.36 Color Temperature Orange filter 1/2"
- CTO-344-1.36 Color Temperature Orange filter 3/4"
- FRB Frosted lens
- HLR Honeycomb louvers, 1/8" (3mm) thick
- KP Extended smooth
- PRB Prismatic spread lens
- RTB Rectilinear spread lens

Finish: Unfinished is standard; no specification required. The fixture will weather to a natural patina. The patina process is natural with brass and copper. Rate of patina and eventual color is dependent upon climate and proximity to the ocean. Thus, Beachside does not guarantee any specific appearance.

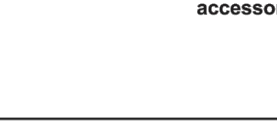
Weight: 1.3 lbs [0.6 kg]

IP 67
CSA Listed, file #100300
10 year fixture warranty
5 year Cree LED module warranty

Project: For ordering purposes, please specify (example: E1-2W-A-FL-FRB) _____
By: _____
Date: _____

Fixture: _____
Lamp: _____
Accessory (ies): _____

BEACHSIDE LIGHTING • 800-405-6732 • www.BeachsideLighting.com • Made in Hawaii, USA 0102021



SUITABLE FOR INDOOR AND OUTDOOR USE

FIXTURE B

L-016-F

The L-016-F recessed fixture combines the flexibility of a standard MR16 lamp with the corrosion resistance expected of a Beachside fixture. The gasket on the brass trim securely seals up against the bottom of the recessed stainless steel can and the frame is powder-coated steel. An internal brass bracket assembly allows 360° rotation and angling up to 28° without an optical accessory (no beam cutoff at 40° flood/spot) or 10° with. The L-016-F is intended for new construction applications and is integrated with magnetic transformers (120V primary, 12V secondary). The "F" designation denotes the flat trim versus the raised trim of the L-016.

Construction Recessed ceiling fixture for new construction.

Mounting Lamp housing is removable through ceiling aperture for access to junction box. Housing can be lowered and adjusted to ceiling thickness. Dual extension hanger bars span from 18" (28.1cm) to 25-1/4" (64.1cm) with reversible placement feature. Bars attach to sides along length or width of mounting frame. Hanger bars may be extended to rest on floor grid. For installed conditions, maintain a minimum 3" clearance around fixture.

Electrical Magnetic Class H transformer with Motor disconnected in J-box is fully dimmable with magnetic low voltage dimmers. Transformer has internal thermal protection. J-box has (4) 1/2" K.O.'s and (2) concentric 1/2" x 3/4" K.O.'s with spring latch access plates. Suitable for Wet Location Use.

Lenses Tempered soda lime glass.

- CL Clear
- FR Frosted

Lamps MR16 LED - GUS-3

Beam/Field	Watt	Foot	Beam	Field	212 lm	884 lm
2W-SP	5	15'	spot	320 lm		
2W-NFL	5	25'	narrow flood	320 lm		
2W-FL	5	40'	flood	320 lm		
2W-FL60	5	60'	flood	320 lm		
2W-FL100	5	100'	wide flood	320 lm		
7W-NFL	7	25'	narrow flood	483 lm		
7W-FL	7	40'	flood	487 lm		
7W-FL	7	60'	wide flood	483 lm		
8W-SP	8	10'	spot			
8W-NFL	8	25'	narrow flood			
8W-FL	8	38'	flood			
8W-NFL	8	25'	narrow flood	83 lm		

One chip LED AMBER (1500K)

Beam/Field	Watt	Foot	Beam	Field	61 lm <th>48 cd</th>	48 cd
7W-A-FL	7	66'	Beam, 109'	Field	61 lm	48 cd
10W-RO-NFL	10	27'	Beam, 43'	Field	212 lm	884 cd
10W-RO-FL	10	51'	Beam, 79'	Field	192 lm	254 cd
11W-NFL	11	30'	Beam, 52'	Field	676 lm	2197 cd
11W-FL	11	49'	Beam, 79'	Field	585 lm	884 cd

Warm White (3000K)

Beam/Field	Watt	Foot	Beam	Field	676 lm <th>2197 cd</th>	2197 cd
11W-NFL	11	30'	Beam, 52'	Field	676 lm	2197 cd
11W-FL	11	49'	Beam, 79'	Field	585 lm	884 cd

*Also available in 2700K. Add color suffix to lamp specification, e.g. "11W-NFL-2700K"

Accessories

- HL-ABT Honeycomb louvers, 1/8" (3mm) thick, for 11W light engine (only one available)
- HL-MR16 Lamp-attached honeycomb louvers, 1/8" (3mm) thick
- PR-MR16 Lamp-attached prismatic spread lens
- FIN-BK Black Acid Finish
- FIN-DB Dark Bronze Acid Finish
- FIN-NA Nickel Acid Finish
- FIN-WP White Powder Coating

Finish: Unfinished is standard; no specification required. The fixture will weather to a natural patina. The patina process is natural with brass and copper. Rate of patina and eventual color is dependent upon climate and proximity to the ocean. Thus, Beachside does not guarantee any specific appearance.

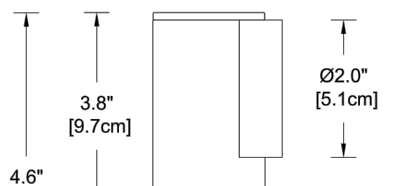
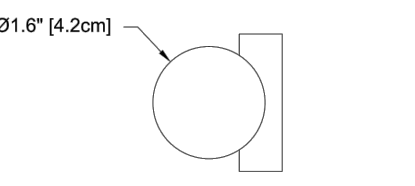
Weight: 7 lbs [3.2 kg]

IP 68
CSA Listed, file #100300
10 year fixture warranty
3 year Cree LED module warranty

Project: For ordering purposes, please specify (example: L-016-F-CL-SW-FL-HL-MR16-FIN-BK) _____
By: _____
Date: _____

Fixture: _____
Lens: _____
Lamp: _____
Accessory: _____
Finish (if any): _____

BEACHSIDE LIGHTING • 800-405-6732 • www.BeachsideLighting.com • Made in Hawaii, USA 0102021



SUITABLE FOR INDOOR AND OUTDOOR USE

FIXTURE C

LIGMAN BORNHOLM 2 (BOH-60011)

Outdoor (Underwater luminaire) BORNHOLM

Light symbol E M N VW

Product colour CR

Technical information

Property	Value	Property	Value
Lamp	4 LED	Luminaire	Power: 11W
Lamp type	LED	Power	79W / 106W lm
Dimming type	DAI 1.1/1V, ON/OFF	Beam	E (1.741) S, M (1.71) N (1.1)
Beam type	A	Efficiency	79 / 91 lm/W
EIC	3	Material	CSA / CUL 3000K CH160, 4000K CH160
Material	Stainless Steel	Weight	1.6 kg
Weight	1.6 kg	Operating temperature	-20 °C to 40 °C
Operating temperature	-20 °C to 40 °C		

Construction Cast brass components

- FR Tempered, frosted glass
- RT Tempered, rectangular spread lens

Lenses For masonry (non-combustible) installation only

Mounting MR16 • Remote transformer required

12V Lamps

Beam/Field	Watt	Foot	Beam	Field	320 lm	884 lm
JR-10/22	10	22'	spot	320 lm		
ESR	20	12'	spot	320 lm		
BBP	20	24'	narrow flood	320 lm		
SAS	20	38'	flood	320 lm		
FMT	35	12'	spot			
FMW	35	24'	narrow flood			
FMW	35	38'	flood			
EXT	50	12'	spot			
EXZ	50	24'	narrow flood			
EXN	50	38'	flood			

One chip LED chipset AMBER (1500K)

Beam/Field	Watt	Foot	Beam	Field	320 lm	884 lm
5W-NFL	5	25'	narrow flood	320 lm		
5W-NFL	5	25'	narrow flood	320 lm		
5W-NFL	5	40'	flood	320 lm		
5W-FL60	5	60'	flood	320 lm		
5W-FL100	5	100'	wide flood	320 lm		
7W-NFL	7	25'	narrow flood	483 lm		
7W-FL	7	40'	flood	487 lm		
7W-FL	7	60'	wide flood	483 lm		
8W-SP	8	10'	spot	500 lm		
8W-NFL	8	25'	narrow flood	525 lm		
8W-FL	8	38'	flood	525 lm		

120V Lamps GU10 • MR16 LED

Beam/Field	Watt	Foot	Beam	Field	83 lm <th>2197 cd</th>	2197 cd
5W-NFL	5	25'	narrow flood	83 lm		
5W-NFL	5	25'	narrow flood	83 lm		

One chip LED AMBER (1500K)

Beam/Field	Watt	Foot	Beam	Field	83 lm <th>2197 cd</th>	2197 cd
8W-SP	8	10'	spot			
8W-NFL	8	25'	narrow flood			
8W-FL	8	38'	flood			

Accessory HL-MR16 Lamp-attached honeycomb louvers, 1/8" (3mm) thick

Finish: Unfinished is standard; no specification required. The fixture will weather to a natural patina. The patina process is natural with brass and copper. Rate of patina and eventual color is dependent upon climate and proximity to the ocean. Thus, Beachside does not guarantee any specific appearance.

Weight: 7 lbs [3.2 kg]

IP 67
10 year fixture warranty
3 year Cree LED module warranty

Project: For ordering purposes, please specify (example: L-018-120V-SW-NFL-HL-MR16) _____
By: _____
Date: _____

Fixture: _____
Lamp: _____
Accessory: _____

BEACHSIDE LIGHTING • 800-405-6732 • www.BeachsideLighting.com • Made in Hawaii, USA 0102021

FIXTURE D

L-018

The L-018 is a cast brass, recessed spotlight with louvers angled at 30° to eliminate glare. Minimal 0.2" extension from wall. Available for 12 Volt and 120 Volt applications.

Construction Cast brass components

- FR Tempered, frosted glass
- RT Tempered, rectangular spread lens

Lenses For masonry (non-combustible) installation only

Mounting MR16 • Remote transformer required

12V Lamps

Beam/Field	Watt	Foot	Beam	Field	320 lm	884 lm
JR-10/22	10	22'	spot	320 lm		
ESR	20	12'	spot	320 lm		
BBP	20	24'	narrow flood	320 lm		
SAS	20	38'	flood	320 lm		
FMT	35	12'	spot			
FMW	35	24'	narrow flood			
FMW	35	38'	flood			
EXT	50	12'	spot			
EXZ	50	24'	narrow flood			
EXN	50	38'	flood			

One chip LED chipset AMBER (1500K)

Beam/Field	Watt	Foot	Beam	Field	320 lm	884 lm
5W-NFL	5	25'	narrow flood	320 lm		
5W-NFL	5	25'	narrow flood	320 lm		
5W-NFL	5	40'	flood	320 lm		
5W-FL60	5	60'	flood	320 lm		
5W-FL100	5	100'	wide flood	320 lm		
7W-NFL	7	25'	narrow flood	483 lm		
7W-FL	7	40'	flood	487 lm		
7W-FL	7	60'	wide flood	483 lm		
8W-SP	8	10'	spot	500 lm		
8W-NFL	8	25'	narrow flood	525 lm		
8W-FL	8	38'	flood	525 lm		

120V Lamps GU10 • MR16 LED

Beam/Field	Watt	Foot	Beam	Field	83 lm <th>2197 cd</th>	2197 cd
5W-NFL	5	25'	narrow flood	83 lm		
5W-NFL	5	25'	narrow flood	83 lm		

One chip LED AMBER (1500K)

Beam/Field	Watt	Foot	Beam	Field	83 lm <th>2197 cd</th>	2197 cd
8W-SP	8	10'	spot			
8W-NFL	8	25'	narrow flood			
8W-FL	8	38'	flood			

Accessory HL-MR16 Lamp-attached honeycomb louvers, 1/8" (3mm) thick

Finish: Unfinished is standard; no specification required. The fixture will weather to a natural patina. The patina process is natural with brass and copper. Rate of patina and eventual color is dependent upon climate and proximity to the ocean. Thus, Beachside does not guarantee any specific appearance.

Weight: 7 lbs [3.2 kg]

IP 67
10 year fixture warranty
3 year Cree LED module warranty

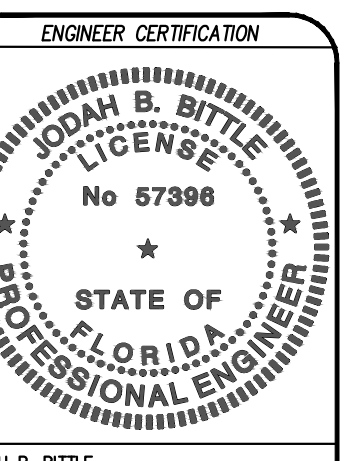
Project: For ordering purposes, please specify (example: L-018-120V-SW-NFL-HL-MR16) _____
By: _____
Date: _____

Fixture: _____
Lamp: _____
Accessory: _____

BEACHSIDE LIGHTING • 800-405-6732 • www.BeachsideLighting.com • Made in Hawaii, USA 0102021

SCHULKE, BITTLE & STODDARD, L.L.C.
 CIVIL & STRUCTURAL ENGINEERING - LAND PLANNING - ENVIRONMENTAL PERMITTING
 CERTIFICATION OF AUTHORIZATION NO.: 0008668
 1717 INDIAN RIVER BLVD., SUITE 201 VERO BEACH, FLORIDA 32960
 TEL 772-770-9622 FAX 772-770-9496 EMAIL jbittle@sbsengineers.com
 WEBSITE https://www.sbsengineers.com

LIGHTING PLAN
 SURFSIDE QUAD PLEX



JODAH B. BITTLE
 P.L. REG. NO. 57396
 DATE: _____
 PROJECT NO. 21-008 SHEET 13

