



**TOWN OF REDINGTON BEACH
BOARD REGULAR MEETING AGENDA
Hybrid Meeting
Wednesday, December 16, 2020
5:30 P.M.**

Town Hall

Assembly Hall

- 1. CALL TO ORDER**
- 2. PLEDGE OF ALLEGIANCE**
- 3. ROLL CALL**
- 4. APPROVAL OF AGENDA**
- 5. PUBLIC FORUM: Non-Agenda Items Only NOTE:** A three minute time limit applies to all comments from the public on non-agenda items only. If a person wishes to address the Board of Commissioners, please fill out a "Speakers Card" and give it to the Town Clerk prior to the start of the meeting.
- 6. REPORTS**

Public Safety	Commissioner Kornijtschuk
Building/Code	Commissioner Will
Public Works/Parks	Commissioner Steiermann
Finance	Vice Mayor Dorgan
Mayor	
Town Clerk	
Attorney Daigneault	
Boards & Committees	
- 7. CONSENT AGENDA**
 - A. Board Regular Meeting Minutes, December 2, 2020**
 - B. Bill List for Day Ending December 11, 2020**
- 8. UNFINISHED BUSINESS**
 - A. Ordinance 2020-02: An Ordinance of the Town of Redington Beach, Pinellas County Florida, Amending the Town's 2008 Comprehensive Plan's Conservation and Coastal Management and Intergovernmental Coordination elements to Incorporate Goals, Objectives, and Policies related to Mitigating the Effects of Climate Change, Sea Level Rise, Extreme High tides, and Storm Surge, in accordance with the mandates set forth in Chapter 163, Florida Statutes, Specifically Section 163.3178 (f) (1)-(4), and based on updated data and analyses; Providing for Severability; and Establishing an Effective Date.**



9. NEW BUSINESS

- A. First Reading Ordinance 2020-12: An Ordinance of the Town of Redington Beach, Pinellas County Florida, Amending Town Code Chapter 6, Buildings and Building Regulations, Article III, Division 3, Site Plans, by Amending the Guidelines for the Preparation of Site Plans, Making Related Findings; Providing for Severability; and Establishing an Effective Date.**
- B. First Reading: Ordinance 2020-13: An Ordinance of the Town of Redington Beach, Pinellas County, Florida, Repealing and Replacing Town Code Chapter 10, Floodplain Management, By Creating New Administration Requirements, New Definitions and New Provisions for Flood Resistant Development, Making Related Findings; Providing for Severability; and Establishing an Effective Date.**
- C. First Reading: Ordinance 2020-14: An Ordinance of the Town of Redington Beach, Pinellas County Florida, Repealing and Replacing Town Code Chapter 18.5, Stormwater, Establishing New General Provisions, New Definitions and New Operating Requirements; Updating the Provisions for Stormwater Management Utility Fees and for the Stormwater Utility Fee, Making Related Findings; Providing for Severability; and Establishing an Effective Date.**
- D. Resolution 2020-13: A Resolution of the Town Commission of the Town of Redington Beach, Pinellas County, Florida Setting the Stormwater Utility Management Fee Pursuant to Town Code Chapter 18.5, Article II, Making Related Findings; Providing for Conflicts; Providing for Severability and Establishing an Effective Date.**
- E. First Reading: Ordinance 2020-03: An Ordinance of the Town of Redington Beach, Pinellas County, Florida, Amending Town Code, Chapter 18.5, Stormwater, By Creating and Inserting Article IV, Adopting a Standard Details Manual for Public Works and Private Property Improvements which Manual Establishes Standard for all works within the Town's Public Rights of Way and for Collection, Retention and Treatment of Stormwater Runoff on Private properties, Providing for Severability; and Establishing an Effective Date.**
- F. First Reading: ordinance 2020-10: An Ordinance of the Town of Redington Beach, Pinellas County, Florida, Amending Chapter 9, (fire Prevention and Protection) of the Town Code to Remove Outdated, Preempted, or Unenforceable Provisions, and to Incorporate Current State and Federal Law Requirements; Making Related Findings; Providing for Codification, Severability, and an Effective Date.**
- G. Design Plan for SWFWMD Project**

10. OTHER BUSINESS

11. ADJOURNMENT

Note: The Town of Redington Beach Board of Commissioners meet the First and Third Wednesday of each month beginning at 6:30 p.m.

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

Minutes of the Board of Commissioners meeting may be obtained from the Town Clerk's office. The meetings may be recorded. The Minutes are not transcribed verbatim. It is the policy of the Board of Commissioners to make "action minutes" of all meetings

Persons requiring a verbatim transcript of any Town meeting (for purposes of appeal or otherwise) should make arrangements to have a certified Court Reporter, at their own cost and expense, present at the meeting.

Persons who wish to appeal any decision made by the Board of Commissioners with respect to any matter considered at this meeting will need a record of the proceedings, and for such purpose may need to ensure that a verbatim record of the proceedings is made, which record includes the testimony and evidence upon which the appeal is based. (F.S. 286.0105) **Notice Regarding Special Accommodations: (F.S. 286.26)**



Missy Clarke is inviting you to a scheduled Zoom meeting.

Topic: BOC Regular Meeting

Time: Dec 16, 2020 05:30 PM Eastern Time (US and Canada)

Join Zoom Meeting

<https://us02web.zoom.us/j/82344470388?pwd=a1hxK3pCVkhoWXdQajUycU1hQkRuZz09>

Meeting ID: 823 4447 0388

Passcode: 470601

One tap mobile

+13017158592,,82344470388#,,,,,0#,,470601# US (Washington D.C)

+13126266799,,82344470388#,,,,,0#,,470601# US (Chicago)

Dial by your location

+1 301 715 8592 US (Washington D.C)

+1 312 626 6799 US (Chicago)

+1 929 205 6099 US (New York)

+1 253 215 8782 US (Tacoma)

+1 346 248 7799 US (Houston)

+1 669 900 6833 US (San Jose)

Meeting ID: 823 4447 0388

Passcode: 470601

Find your local number: <https://us02web.zoom.us/j/kcRfBUv0yE>



TOWN OF REDINGTON BEACH, FLORIDA
BOARD REGULAR MEETING MINUTES
Wednesday, December 2, 2020
6:30 p.m.

Having been duly advertised as required by law, the **Regular Meeting** of the Board of Commissioners of the Town of Redington Beach, Florida, was held on **Wednesday, December 2, 2020, 6:30 p.m.**, in Redington Beach Town Hall at 105 164th Avenue, Redington Beach Florida.

Mayor Simons called the **Regular Meeting** to order and led the pledge of allegiance.

Roll Call

	Present	Absent
Commissioner Kornijtschuk	X	
Commissioner Steiermann	X	
Commissioner Will	X	
Vice Mayor Dorgan	X	
Mayor Simons	X	
Town Attorney Daigneault	X	
Town Clerk Clarke	X	

Agenda: A motion by Commissioner Kornijtschuk and seconded by Commissioner Steiermann to accept the agenda as presented. No public comment. Motion passed with all ayes.

Public Forum: No public comment.

Reports

Public Safety

- Nothing to Report

Building/Code

- Worked with staff and Safebuilt to put together a step by step process to get a permit quickly due to Tropical Storm Eta. The turn around time for a permit is one day.

Public Works/Parks

- Wanted to thank Waste Connections for the great job they have been doing in picking up the remnants from the storm and for emptying the dumpsters and bringing back an empty one for the residents to use. Mayor Simons noted that a letter is being written to send to Ian Boyle for the great job they have been doing. Commissioner Steiermann also noted that resident Barry Scarr was instrumental in helping out the residents after the storm.

Finance

- Nothing to Report

Mayor

- Reported that the Big C met for the first time in person and the representative from Visit St Pete Clearwater spoke on the affects on tourism due to COVID-19.

Town Clerk

- Qualifying opens on Friday, December 4, at 9:00 a.m. for two commission seats and the mayor seat. Lynn Burnett will be hosting a neighborhood workshop on December 15th at 5:00 p.m. at Redington Drive and 3rd Street at 163rd Avenue to inform the neighbors on the stormwater project with details, timing, the scope of work and locations.

Town Attorney

- Nothing to Report

Boards and Committees

- Nothing to Report

CONSENT AGENDA: A motion by Vice Mayor Dorgan and seconded by Commissioner Kornijtschuk to approve the consent agenda as presented. No public comment. Motion passed with all ayes.

	Motion	Second	Aye	Nay	Absent
Commissioner Kornijtschuk		X	X		
Commissioner Steiermann			X		
Commissioner Will			X		
Vice Mayor Dorgan	X		X		
Mayor Simons			X		

UNFINISHED BUSINESS**NEW BUSINESS**

- A. Discussion: Code Revision Chapter 8 Elections:** Attorney Daigneault noted that the chapter is outdated and will now comply with current Florida Statutes. The phrase "absentee balloting" will be changed to "vote by mail" to be consistent with the Florida Election Code. Also changed was a cross reference in the Florida Statues and Florida Statute 101.70 in section 8-2 will be removed as it refers to a non-existent statute. Rich Cariello, 16001 2nd Street agrees that there are no major changes, but requested the commission to put this ordinance aside until after the elections in March. The consensus of the board was to have the first reading of the ordinance at the first meeting in January.
- B. Discussion: Code Revision Chapter 11 Miscellaneous Offenses:** Attorney Daigneault reviewed the changes made to Chapter 11 including adding new articles to divide the chapter into focused topics, revisions to delete unnecessary citations to legal authorities, which were outdated or no longer applicable. Also included in the changes were sleeping in certain places, trespassing, and false alarms. Commissioner Will questioned section 11-20 in regards to daylight hours. Attorney Daigneault indicated that this is best practices and that it can be revisited if there becomes an issue in the future. Rich Cariello 16001 2nd Street addressed the commission regarding Section 11-30 in regards to the definition of residential and commercial in the alarm section. He also addressed the section regarding "responsible Party" and stated he believed the highlighted areas should be deleted. The town clerk will send this to the commission via email for their review. The consensus of the commission was to move forward with first reading at the January 6th meeting.

Other Business

With no further business, a motion was made by Commissioner Kornijtschuk and seconded by Commissioner Steiermann to adjourn. Regular meeting was adjourned at 6:58 p.m.

Adopted: December , 2020

Missy Clarke, CMC, Town Clerk

INVOICE APPROVAL LIST BY FUND REPORT

Date: 12/11/2020

Time: 12:29 pm

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Town of Redington Beach

Fund/Dept/Acct	Vendor Name	Invoice #	Invoice Desc.	Check #	Due Date	Posting Date	Amount
Fund: 101 General Fund							
Dept: 512 Town Clerk							
101-512-512.130	Holiday Bonus MISSY CLARKE	2020-12-11	2020 Holiday Bonus	0	12/11/2020	12/11/2020	500.00
							500.00
101-512-512.240	Worker's Comp II FLORIDA MUN INSURANCE	INV-32419-J8Q4	2nd Installment Billing	0	12/01/2020	12/01/2020	368.87
							368.87
101-512-512.260	General Liability I FLORIDA MUN INSURANCE	INV-32419-J8Q4	2nd Installment Billing	0	12/01/2020	12/01/2020	2,134.88
							2,134.88
101-512-512.265	Property Insurance FLORIDA MUN INSURANCE	INV-32419-J8Q4	2nd Installment Billing	0	12/01/2020	12/01/2020	1,353.13
							1,353.13
101-512-512.315	Temporary Service M. T. CAUSLEY, LLC	81973	ETA Damage assessment	0	11/30/2020	11/30/2020	1,350.00
							1,350.00
101-512-512.420	Postage CHASE CARD SERVICES	11202020	Postage	0	11/20/2020	11/20/2020	50.00
							50.00
101-512-512.421	Stamps.com CHASE CARD SERVICES	2020-12-11	Dec. 2020 Stamps.com	0	12/11/2020	12/11/2020	17.99
							17.99
101-512-512.440	Utilities- Water/EI PINELLAS COUNTY UTILITIE	Oct 3 to Dec 3	Oct 3 to Dec 3	0	12/10/2020	12/10/2020	369.33
							369.33
101-512-512.490	Advertising TIMES PUBLISHING COMPAN	125121	PB Hearing Notice	0	11/25/2020	11/25/2020	246.80
	TIMES PUBLISHING COMPAN	126312	LDR Advertisement	0	12/02/2020	12/02/2020	206.00
							452.80
101-512-512.510	Office Supplies APEX OFFICE PRODUCTS	2142572-0	Paper	0	12/08/2020	12/08/2020	79.98
	APEX OFFICE PRODUCTS	2143015-0	Soap, paper towels	0	12/09/2020	12/09/2020	49.27
	CHASE CARD SERVICES	112-4176574-3729068	Soap Refill	0	11/07/2020	11/07/2020	21.95
	CHASE CARD SERVICES	112-5571874-3459464	Restroom Supplies	0	11/17/2020	11/17/2020	21.59
	CHASE CARD SERVICES	112-2517412-1749030	Speakers/Webcam	0	12/08/2020	12/08/2020	135.23
	CHASE CARD SERVICES	112-2442766-5311453	Chairs for Assembly Hall	0	12/08/2020	12/08/2020	279.98
	WATER BOY INC	61037699	November	0	11/17/2020	11/17/2020	23.25
							611.25
101-512-512.542	Dues & Subscrip CHASE CARD SERVICES	56499944	Zoom 12/8/20 to 12/7/2021	0	12/08/2020	12/08/2020	149.90
							149.90
Total Dept. Town Clerk:							7,358.15
Dept: 513 Finance & Admin							
101-513-513.130	Finance Holiday I ADRIANA NIEVES	2020-12-11	2020 Holiday Bonus	0	12/11/2020	12/11/2020	500.00
							500.00
101-513-513.240	Worker's Comp II FLORIDA MUN INSURANCE	INV-32419-J8Q4	2nd Installment Billing	0	12/01/2020	12/01/2020	368.87
							368.87
101-513-513.495	Janitorial Service						

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Fund/Dept/Acct	Vendor Name	Invoice #	Invoice Desc.	Check #	Due Date	Posting Date	Amount
	HIP CLEANING SERVICE	94	November	0	12/07/2020	12/07/2020	135.00
							135.00
						Total Dept. Finance & Admin:	1,003.87
Dept: 514 Legal Counsel							
101-514-514.124	Town Attorney						
	TRASK, DAIGNEAULT, LLP A	4491	General November	0	12/10/2020	12/10/2020	1,242.50
							1,242.50
101-514-514.310	Legislative Couns						
	TRASK, DAIGNEAULT, LLP A	4492	Code Revision	0	12/10/2020	12/10/2020	5,530.00
							5,530.00
						Total Dept. Legal Counsel:	6,772.50
Dept: 515 Comprehensive Planni							
101-515-515.310	Planning						
	BRUCE MCLAUGHLIN CONS	2020-12-11	11/25/2020-12/10/2020	0	12/11/2020	12/11/2020	1,552.50
							1,552.50
						Total Dept. Comprehensive Planning:	1,552.50
Dept: 524 Protective Services							
101-524-524.310	Code Enforceme						
	PINELLAS COUNTY SHERIFF	951083	Code Enforcemetn November	0	12/04/2020	12/04/2020	1,723.68
							1,723.68
101-524-524.421	Attorney Fees						
	TRASK, DAIGNEAULT, LLP A	4556	Code Stolz November	0	12/02/2020	12/02/2020	140.00
							140.00
						Total Dept. Protective Services:	1,863.68
Dept: 539 Department of Public V							
101-539-539.130	Holiday Bonus - I						
	CHRISTIAN WITTMAN	2020-12-11	2020 Holiday Bonus	0	12/11/2020	12/11/2020	500.00
	DAVID POOLE	2020-12-11	2020 Holiday Bonus	0	12/11/2020	12/11/2020	500.00
							1,000.00
101-539-539.233	Vehicle Insurance						
	FLORIDA MUN INSURANCE	INV-32419-J8Q4	2nd Installment Billing	0	12/01/2020	12/01/2020	544.50
							544.50
101-539-539.240	Workers Comp -						
	FLORIDA MUN INSURANCE	INV-32419-J8Q4	2nd Installment Billing	0	12/01/2020	12/01/2020	737.76
							737.76
						Total Dept. Department of Public Works:	2,282.26
Dept: 572 Parks and Recreation							
101-572-572.260	General Liability						
	FLORIDA MUN INSURANCE	INV-32419-J8Q4	2nd Installment Billing	0	12/01/2020	12/01/2020	2,134.87
							2,134.87
101-572-572.265	Property Insuran						
	FLORIDA MUN INSURANCE	INV-32419-J8Q4	2nd Installment Billing	0	12/01/2020	12/01/2020	1,353.12
							1,353.12
101-572-572.341	Storm Debris Col						
	CHASE CARD SERVICES	5351815	PC Solid Waste TS Eta	0	11/13/2020	11/13/2020	101.58
	CHASE CARD SERVICES	ETA 2020-11-24	TS ETA Dump fee	0	11/24/2020	11/24/2020	73.61
	CHASE CARD SERVICES	5377324	PC Solid Waste TS Eta	0	12/04/2020	12/04/2020	25.29
	HOME DEPOT CREDIT SERV	278851	Bob Cat Rental TS Eta	0	11/23/2020	11/23/2020	710.70
	WASTE CONNECTIONS OF F	3150923	TS Eta Dumpsters	0	11/30/2020	11/30/2020	4,780.02

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Fund/Dept/Acct	Vendor Name	Invoice #	Invoice Desc.	Check #	Due Date	Posting Date	Amount
							5,691.20
101-572-572.430	Utilities PINELLAS COUNTY UTILITIE	Oct 3 to Dec 3	Oct 3 to Dec 3	0	12/10/2020	12/10/2020	737.86
							737.86
101-572-572.460	Maint - Automotiv CHASE CARD SERVICES	6690	AutoZone Battery Tractor	0	11/30/2020	11/30/2020	108.60
							108.60
101-572-572.462	Maintenance - Gr BEACH HARDWARE	146	Oct-Nov Supplies	0	12/01/2020	12/01/2020	253.57
							253.57
101-572-572.510	Maintenance Equ EVERGLADES FARM EQUIPI	W46999	Starter for Tractor	0	12/09/2020	12/09/2020	872.12
							872.12
101-572-572.522	Gasoline & Oil BEACH HARDWARE	146	Oct-Nov Supplies	0	12/01/2020	12/01/2020	5.99
	CHASE CARD SERVICES	237291	Speedway Diesel	0	11/17/2020	11/17/2020	27.50
	CHASE CARD SERVICES	9060801	Gas Shell	0	11/24/2020	11/24/2020	16.72
	CHASE CARD SERVICES	236026	Gas Shell	0	11/24/2020	11/24/2020	48.40
	CHASE CARD SERVICES	07236G	Diesel fuel	0	12/11/2020	12/11/2020	25.33
	WEX BANK	251488	Fuel	0	12/07/2020	12/07/2020	34.86
							158.80
101-572-572.527	Tools & Equipme BEACH HARDWARE	146	Oct-Nov Supplies	0	12/01/2020	12/01/2020	165.67
							165.67
Total Dept. Parks and Recreation:							11,475.81
Total Fund General Fund:							32,308.77
Fund: 300 Capital Accounts							
Dept: 590 Capital Outlay							
300-590-590.001	Capital Outlay						
	CHASE CARD SERVICES	203705	Installation of Sail Shade	0	12/07/2020	12/07/2020	500.00
	SPECIALTY FENCE WHOLES	50298	Friendship Park Pergola	0	12/07/2020	12/07/2020	5,250.85
							5,750.85
Total Dept. Capital Outlay:							5,750.85
Total Fund Capital Accounts:							5,750.85
Fund: 400 Storm Water							
Dept: 535 Storm Water							
400-535-535.548	NPDES Drain Cle PINELLAS COUNTY OFFICE	12082020	MS4 Permit Fee	0	12/08/2020	12/08/2020	59.69
							59.69
400-535-535.650	Engineering Expe LTA ENGINEERS, LLC	2198	11/1/2020-11/30/2020	0	12/17/2020	12/17/2020	10,905.84
							10,905.84
Total Dept. Storm Water:							10,965.53
Dept: 541 Roads & Streets							
400-541-541.468	Maintenance - St US FOUNDRY	SLI100292925	Grate	0	11/23/2020	11/23/2020	265.10
							265.10

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Town of Redington Beach

Fund/Dept/Acct	Vendor Name	Invoice #	Invoice Desc.	Check #	Due Date	Posting Date	Amount
Total Dept. Roads & Streets:							265.10
Total Fund Storm Water:							11,230.63
Grand Total:							49,290.25

12/2/2020

9580 Payroll
9581 Payroll
9582 Payroll
9583 Payroll

2,324.28
1,415.48
1,384.00
985.00

6,108.76

MAYOR SIMONS

COMMISSIONER WILL

COMMISSIONER KORNIJTSCHUK

VICE MAYOR DORGAN

ATTEST:

COMMISSIONER STEIERMANN

Missy Clarke, CMC, Town Clerk

Regular Meeting of December 16, 2020



FLORIDA MUNICIPAL SERVICES
c/o 17425 Gulf Blvd.
Redington Shores, FL 33708
(727) 202-6825

December 10, 2020

Meeting Date: December 16, 2020
Agenda Items 8A, 8B, 9A, 9B, 9C, 9D, 9E

MEMORANDUM

TO: Honorable Mayor and Members, Redington Beach Town Commission

FROM: Bruce Cooper, CBO, CFM, Building Official
R. Bruce McLaughlin, AICP, MCIP, Town Planner

SUBJECT: Agenda Introduction, December 16, 2020, Items 8A, 8B, 9A, 9B, 9C, 9D, 9E

On the December 16, 2020 Agenda are five ¹ closely related items:

Ordinance 2020-02, Peril of Flood Comprehensive Plan Amendment
Ordinance 2020-12, new Site Plan Requirements
Ordinance 2020-14, amending the Stormwater Management Code
Ordinance 2020-03, creating a Standard Details Manual
Resolution 2020-13, establishing the framework for the establishment of the Stormwater Management Utility Fee

Given the passage of time since the Board last dealt with these and related issues, this Memo is respectfully provided as background to the agenda.

¹ The Notice of Public Hearing and the Agenda also include a rewrite of Code Chapter 10, the Floodplain Management Code. Further review revealed that no amendments to this Code Chapter were necessary to implement the ISR change or the Peril of Flood Comprehensive Plan Amendment. However, the Chapter rewrite is still required. See staff report on Ordinance 2020-13.

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Since at least the 1989 adoption of the Town's Comprehensive Plan mandated by the 1985 Growth Management Act, the maximum permitted impervious surface ratio (ISR) in the Town was 0.40. Notwithstanding this limit, irregular administration of the regulation and unpermitted work lead to an average ISR in the Town of 0.52.

In 2016, the then Building Official recommended that the ISR be increased to 0.65 to be more consistent with the permitted ISRs in the other Pinellas County beach communities. The Town attempted to implement the Building Official's recommendation through the adoption of Ordinance 2016-04. However, Ordinance 2016-04 was not adopted in accordance with State law and never took effect.²

In 2018 the Town initially decided to re-establish the 0.65 ISR it attempted to set by Ordinance 2016-04. Staff, (the Town Planner and the then Building Official Darin Cushing), initially recommended approval of what was identified as Ordinance 2018-08 which initially re-established the 0.65 ISR and re-enacted the emergency housing and mobility management policies of the companion ordinances attempted to be adopted in 2016.

However, as Messrs. Cushing and McLaughlin further examined the adverse impact of the higher ISR, they recommended deleting the ISR increase from Ordinance 2018-08. The Town Commission, acting on the advice of the Planning Board, agreed with the new staff recommendation and Ordinance 2018-08 was adopted dealing with only the emergency housing and mobility management issues.

Subsequently, as the Building Department continued to properly enforce the 0.40 ISR that had been in effect since at least 1989, public opposition arose along with a stated public desire to increase the permitted ISR to 0.65 to be more in keeping with that of the other Beach communities. This Board agreed, and with the ultimate endorsement of the Planning Board, adopted Ordinance 2019-10, prepared by the Town Planner, Assistant Town Attorney Erica Augello, and the Town's special stormwater engineer, Lynn Townsend Burnett. Ordinance 2019-10 raised the permitted ISR to 0.65 but imposed the following requirements on new development:

... The land development regulations implementing this Policy shall:

1. reaffirm the Building Official's authority to enforce this Policy;

² Two other amendments dealing with emergency housing and mobility management were adopted at the same time and suffered from the same defects.

December 10, 2020

2. provide that the Building Official may confer with engineers and with professionals in other relevant fields to provide comprehensive review and approval of drainage plans and specifications for any project that increases the impervious surface ratio on the subject property.
3. The drainage design, construction and inspection requirements shall be consistent with the Town's land development regulations, and with the Pinellas County Stormwater Manual (February 1, 2017).
4. More generally, the goals of stormwater management are to minimize the adverse effects of urban development on communities, watersheds, water bodies, wetlands, floodplains and other natural systems. These goals should be applied to redevelopment situations so that existing stormwater conditions are appropriately improved with reconstruction. More specifically, these goals include:
 - a. Reducing pollutant concentrations and loadings to a level to ensure that discharges do not cause or contribute to violations of State water quality standards.
 - b. Preventing or reducing on-site and off-site flooding.
 - c. Maintaining or restoring the hydrologic integrity of wetlands and aquatic habitats.
 - d. Maintaining and promoting groundwater recharge.
 - e. Promoting the reuse of rainfall and stormwater.
 - f. Minimizing erosion and sedimentation.
 - g.. Accounting for impacts to the project based on sea level rise projections.
5. The Town shall adopt, implement and maintain a Standard Details Manual to supplement the Pinellas County Stormwater Manual in order to provide guidance and criteria to the design and building community for best management practices unique to the Town's character.

In its Objections, Recommendations and Comments (ORC) report on Ordinance 2019-10, the Florida Department of Economic Opportunity³ noted that the Town's statutorily mandated comprehensive plan amendment on Peril of Flood (see staff report on Ordinance 2020-02) was

³ Charged with reviewing and approving comprehensive plan amendments.

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overdue. Since the increased ISR, at least without the mitigative measures required by the Ordinances under consideration at the Board's December 16, 2020, meeting, has the potential to further increase the peril of flood, the Ordinance amending the Comprehensive Plan with the Peril of Flood policies is properly considered as part of the general package of ordinances dealing with the ISR issue.

Finally, the Town is embarking on a number of pro-active tasks related to stormwater management, including seeking grants to assist in stormwater management. As the stormwater remedial work progresses, its relationship to both the increased ISR and to the Peril of Flood is obvious. One element of implementing the stormwater improvement program is a re-evaluation of the Stormwater Management Utility Fee which was last set in 2006.

Accordingly, this package of four Ordinances (2020-02, 2020-03, 2020-12 and 2020-14) and the companion Resolution 2020-13 (submitted now primarily to show how the amended Chapter 18.5 will establish the Stormwater Management Utility Fee), provide the mitigation techniques mandated by Ordinance 2019-10, address the State's objections to the proposed Peril of Flood policies, and show the framework for the Stormwater Management Utility Fee.

December 10, 2020

MEMORANDUM

TO: Town of Redington Beach Town Commission
FROM: Sarah Propst, AICP, PMP, LTA Engineers
SUBJECT: Proposed Ordinance 2020-02: Peril of Flood Comprehensive Plan Amendment:

EXECUTIVE SUMMARY

In 2015, the Florida Legislature adopted Chapter 2015-69, Laws of Florida, which requires every local government with a Comprehensive Plan Coastal Management Element to amend said Element which must now include policies related to the “Peril of Flood.” Proposed Ordinance 2020-02 fulfills the statutory mandate in C. 2015-69. **STAFF RESPECTFULLY REQUESTS THAT THE BOARD OF COMMISSIONERS APPROVE ORDINANCE 2020-02 AT THE SECOND HEARING AND SUBMIT THE AMENDED COMPREHENSIVE PLAN TO THE FLORIDA DEPARTMENT OF ECONOMIC OPPORTUNITY FOR REVIEW.**

BACKGROUND

Applicant: Town of Redington Beach

Affected Area: Entire Town

THE ISSUE

To come into compliance with state law by inserting mandatory policies into the Town Comprehensive Plan’s Conservation and Coastal Management Element (CCME) related to the “Peril of Flood.”

HISTORY

In 2015, a local senator, Senator Brandes, introduced Senate Bill 1094 which had two components: mandating the inclusion of “Peril of Flood” policies in the CCME of the comprehensive plans of coastal communities, and amending legislation related to flood insurance, elevation certificates and related issues. The law is found as Appendix C, but the final legislative summary of the law bears reproduction here:

Section 1 amends s. 163.3178(2)(f), F.S., to require local governments when drafting their comprehensive coastal management plans to:

- Include development and redevelopment principles, strategies, and engineering solutions that reduce the flood risk in coastal areas which results from high-tide events, storm surge, flash floods, stormwater runoff, and the related impacts of sea-level rise.
- Encourage the use of best practices development and redevelopment principles, strategies, and engineering solutions that will result in the removal of coastal real property from flood zone designations established by the FEMA.
- Identify site development techniques and best practices that may reduce losses due to flooding and claims made under flood insurance policies issued in this state.
- Be consistent with, or more stringent than, the flood-resistant construction requirements in the Florida Building Code and applicable flood plain management regulations set forth in 44 C.F.R. part 60.
- Require construction activities seaward of the coastal construction control lines established pursuant to s. 161.053, F.S., be consistent with ch. 161, F.S.
- Encourage local governments to participate in the National Flood Insurance Program Community Rating System administered by the Federal Emergency Management Agency to achieve flood insurance premium discounts for their residents.

The Bill went through the normal legislative process, including reviews by the Senate Rules, Community Affairs, and Banking and Insurance Committees, and by the House. The Bill passed the House by a vote of 89 - 26 and passed the Senate unanimously. It was affirmatively approved by then Governor Scott on May 21, 2015.

NOTICE

The Clerk's office will advise as to the notice given of this advertised public hearing.

AUTHORITY

The Peril of Flood policies will take the form of a Comprehensive Plan Amendment (and perhaps an amendment to the Town's land development regulations).

Pursuant to §§ 4 and 5 of the Town Charter, the Town is governed by the Board of Commissioners which may exercise all powers available to a municipality under the Constitution and laws of the State of Florida. These powers include preparing and adopting (via § 15-56 of the Town Code), a comprehensive plan for the Town and, therefore, amendments to said Plan.

Concomitant with the power to adopt a comprehensive plan comes the authority to otherwise fully comply with Part II, Chapter 163, Florida Statutes, the Community Planning Act (formerly known as the Local Government Comprehensive Planning and Land Development Regulation). Included in this authority is the authority to amend the Comprehensive Plan in accordance with Florida Law.

The governing statute (§ 163.3178)(2)(f) requires the Coastal Management Element to include:

(f) A redevelopment component that outlines the principles that must be used to eliminate inappropriate and unsafe development in coastal areas when opportunities arise. The component must:

1. Include development and redevelopment principles, strategies, and engineering solutions that reduce the flood risk in coastal areas which results from high-tide events, storm surge, flash floods, stormwater runoff, and the related impacts of sea-level rise.
2. Encourage the use of best practices development and redevelopment principles, strategies, and engineer solutions that will result in the removal of coastal real property from flood zone designations established by the Federal Emergency Management Agency.
3. Identify site development techniques and best practices that may reduce losses due to flooding and claims made under flood insurance policies issued in this state.
4. Be consistent with, or more stringent than, the flood-resistant construction requirements in the Florida Building Code and applicable flood plain management regulations set forth in 44 C.F.R. part 60.
5. Require that any construction activities seaward of the coastal construction control lines established pursuant to s. 161.053 be consistent with chapter 161.
6. Encourage local governments to participate in the National Flood Insurance Program Community Rating System administered by the Federal Emergency Management Agency to achieve flood insurance premium discounts for their residents.

ANALYSIS

The previous version of the CCME, which was before this body and recommended for approval at the February 26, 2020 Planning Board Hearing, contained one additional goal, along with objectives and policies. The new, Goal 4 was provided to meet the six statutory requirements and provide the basis for implementation through the Town Standard Details Manual and Capital Improvement Projects initiated by the Town.

Council approved Ordinance 2020-02 on its first reading at the March 4, 2020 Council meeting. The ordinance was then transmitted to the Florida Department of Economic Opportunity for review. In August the Town received an Objections, Recommendations, and Comments (ORC) Report from the Department of Economic Opportunity. The ORC Report, attached as Exhibit B, includes two objections to the Comprehensive Plan update for Peril of Flood.

The CCME, attached as exhibit A, has been updated to address the objections. The original 2008 Comprehensive Plan goals, objectives and policies are in plain, black text. The language approved by Council on March 4, 2020 is shown as underlined, black text. The proposed

modifications to address the ORC Report are included as red, underlined and strike-through text.

At the December 8, 2020 Planning Board hearing the Planning Board recommended approval of Ordinance 2020-02, by a vote of 5-0. There have been no changes since that Planning Board hearing.

RECOMMENDATION

STAFF RESPECTFULLY REQUESTS THAT THE BOARD OF COMMISSIONERS APPROVE ORDINANCE 2020-02 AT THE SECOND HEARING AND SUBMIT THE AMENDED COMPREHENSIVE PLAN TO THE FLORIDA DEPARTMENT OF ECONOMIC OPPORTUNITY FOR REVIEW.

ATTACHMENTS:

EXHIBIT A – COMPLETE CCME WITH PROPOSED CHANGES

EXHIBIT B – ORC REPORT FROM DEO

EXHIBIT C – CHAPTER 2015-69 LAWS OF FLORIDA

EXHIBIT D – ORDINANCE 2020-02 WITH CHANGES TO ADDRESS ORC

ORDINANCE 2020-02

AN ORDINANCE OF THE TOWN OF REDINGTON BEACH, PINELLAS COUNTY, FLORIDA, AMENDING THE TOWN'S 2008 COMPREHENSIVE PLAN'S CONSERVATION AND COASTAL MANAGEMENT AND INTERGOVERNMENTAL COORDINATION ELEMENTS TO INCORPORATE GOALS, OBJECTIVES AND POLICIES RELATED TO MITIGATING THE EFFECTS OF CLIMATE CHANGE, SEA LEVEL RISE, EXTREME HIGH TIDES, AND STORM SURGE, IN ACCORDANCE WITH THE MANDATES SET FORTH IN CHAPTER 163, FLORIDA STATUTES, SPECIFICALLY SECTION 163.3178(f)(1)-(4), AND BASED ON UPDATED DATA AND ANALYSES; PROVIDING FOR SEVERABILITY; AND ESTABLISHING AN EFFECTIVE DATE.

WHEREAS, Section 163, Part II, Florida Statutes, establishes the requirements of the Community Planning Act and governs local government comprehensive planning and land development regulation; and

WHEREAS, The Town of Redington Beach adopted its Comprehensive Plan in October 1989, and has periodically revised and amended the Plan in order to ensure it remains current and responds to current needs and opportunities; and

WHEREAS, the Town Board of Commissioners desires to adopt development and redevelopment principles and strategies that reduce the risk of flooding from sea level rise, extreme high tides and storm surge, and

WHEREAS, the Town Board of Commissioners wishes to include a redevelopment component in its Coastal Management and Conservation Element of its Comprehensive Plan that specifically complies with Section 163.3178, F.S. and

WHEREAS, the Town has reviewed the proposed amendments to the Comprehensive Plan and said proposed amendments were reviewed by the Town's Local Planning Agency (LPA) at a duly advertised public hearing which determined such amendments to be consistent with the Comprehensive Plan; and

WHEREAS, the Town Board of Commissioners has agreed with the recommendations of the Local Planning Agency that the proposed amendments comply with the requirements of Chapter 163, Florida Statutes, and that the proposed amendments are consistent with the Comprehensive Plan; and

WHEREAS, The Building Official and Town Planner of the Town of Redington Beach recommended that the Comprehensive Plan be amended to include Goals, Objectives and

Policies related to high tide events, storm surge, flash floods, stormwater runoff and sea-level rise; and

WHEREAS, the Board of Commissioners of the Town of Redington Beach desires to implement the recommendations of the Planning Board to adopt Comprehensive Plan policies related to the peril of flood.

NOW THEREFORE BE IT ORDAINED, by the Commissioners of the Town of Redington Beach, Florida, in its regular meeting duly assembled on this ____ day of ____, 2020:

Section 1. Section 3.6 of the Town's Comprehensive Plan, the Conservation and Coastal Management Element, as adopted by Ordinance 08-12 amended by the insertion of Goal 4 and its implementing Objectives and Policies to read as follows:

CCME GOAL 4: **Protect and enhance the Town's natural and built environment to avoid or withstand the effects of climate change, rising sea level, extreme high tides and storm surge to ensure net zero loss of buildable properties.**

CCME Objective 4.1

Increase the Town's resiliency to the impacts of climate change and rising sea levels by developing and implementing adaption strategies and measures in order to protect human life, natural systems and resources and public infrastructure, services, and public and private property.

CCME Policy 4.1.1:

Based on rising seas data as they evolve and associated vulnerabilities, to allow for flexible adjustments, preserve future strategic adaptation implementation options to maintain maximum resiliency in response to new risks and vulnerabilities; the Town will take advantage of new emerging data and technological opportunities. The Town's basis for measuring sea level rise shall be as per the Recommended Projection of Sea Level Rise in the Tampa Bay Region, as may be revised from time-to-time by the Tampa Bay Climate Science Advisory Panel.

CCME Policy 4.1.2

The Town will identify public investments and infrastructure at risk to sea level rise and other climate related impacts. The Town will assess the vulnerability to public facilities and services, including but not limited to County water and waste water facilities, stormwater systems, roads, bridges, governmental buildings, transit infrastructure and other assets.

Evaluation Measure: Collaborating with regional partners, Town shall identify public

investments, infrastructure, and assets at risk from rising sea levels by 2020. Thereafter, this assessment will be performed every five (5) years.

CCME Policy 4.1.3

As per Section 163.3164(1) and Section 163.3177(6)(g)(10), Florida Statutes, an Adaptation Action Area (AAA) is an optional designation within the coastal management element of a local government's comprehensive plan which identifies one or more areas that experience coastal flooding due to extreme high tides and storm surge, and that are vulnerable to the related impacts of rising sea levels for the purpose of prioritizing funding for infrastructure and adaptation planning.

The entire Town is hereby designated as an AAA, as all areas meet considerations for AAA designation, which include the following:

- a. Areas which experience tidal flooding, storm surge, or both;
- b. Areas which have a hydrological connection to coastal waters;
- c. Locations which are within areas designated as evacuation zones for storm surge;
and
- d. Other areas impacted by stormwater/flood control issues.

CCME Policy 4.1.4

The Town will develop and implement adaptation strategies for areas vulnerable to coastal flooding, tidal events, storm surge, flash floods, stormwater runoff, salt water intrusion and other impacts related to climate change or exacerbated by sea level rise, with the intent to increase the community's adaptability and resiliency capacities.

The Town will include areas which experience tidal flooding, storm surge, or both as the priority for development and implementation of adaption strategies. Other areas will be included as the second priority for the development and implementation of adaptation strategies.

CCME Policy 4.1.5

Adaptation strategies may apply to the following:

- a. Public infrastructure planning, siting, construction, replacement, operation and maintenance;
- b. Emergency management;
- c. Stormwater management;
- d. Land Development Regulations;
- e. Building Codes;
- f. Comprehensive Planning; and
- g. Other functions

CCME Policy 4.1.6

AAAs adaptation strategy options include:

- a. Protection: Strategies that involve "hard" and "soft" structurally defensive measures to mitigate impacts of rising seas in order to decrease vulnerability while allowing structures and infrastructure to remain unaltered. Two examples are shoreline armoring and beach re-nourishment. Protection strategies may be targeted for areas of a community that are location-dependent and cannot be significantly altered or relocated, such as areas of historical significance, or water-dependent uses.
- b. Accommodation: Strategies that do not act as a barrier, but rather alter the design through measures such as elevation or stormwater improvements, to allow the structure of infrastructure system to stay intact. Rather than preventing flooding or inundation, these strategies aim to reduce potential risks.
- c. Management Strategies: Strategies that involve the actual removal of existing development, their possible relocation to other areas, and/or prevention of further development in high-risk areas.
- d. Avoidance: Strategies that involve ensuring development does not take place in areas subject to coastal hazards associated with sea level rise or where the risk is low at present but will increase over time.
- e. Environmental sustainability strategies.
- f. Other options.

CCME Policy 4.1.7

The Town shall pursue funding sources for the implementation of AAA adaptation strategies including the following:

- a. Federal and State grants and technical expertise assistance (in-kind)
- b. Local Stormwater Utility Fees and CIP (Capital Improvement Plan) prioritization
- c. Prioritization/Private Partnerships
- d. Pinellas County Local Mitigation Strategy (Hazard Mitigation Grant Program)
- e. Other sources

CCME Policy 4.1.8

The Town shall integrate AAAs into existing and future Town processes and Town-wide plans and documents which may include:

- a. Strategic Plan;
- b. Sustainability Plan;
- c. Resiliency Plan;
- d. Transportation Master Plan in conjunction with Forward Pinellas;
- e. Stormwater Master Plan;
- f. All Hazards Transportation Recovery Plan;
- g. Land Development Regulations;
- h. Capital Improvement Plan;
- i. Local Mitigation Strategy;
- j. Agreements with Public or Private Utility and Infrastructure Providers;

- k. Agreements with Public Health Providers;
- l. Interlocal Agreements with Other Government Agencies; and
- m. Other processes, plans and documents.

CCME Policy 4.1.9

The Town shall align and be consistent with, to the extent possible, relevant and current national, state, and regional adaptation strategy documents such as the Recommended Projection of Sea Level Rise in the Tampa Bay Region, UF/GEO Plan Center's Sea Level Scenario Sketch Planning Tool, and The President's Climate Action Plan as well as other regional strategic plans, disaster mitigation plans, water management plans, transportation/transit plans, and climate change plans.

CCME Policy 4.1.10

The Town shall participate in, when appropriate, coordinated governmental, non-governmental and other appropriate agencies' proposed application requests for funding adaptation implementation projects.

CCME Policy 4.1.11

The Town shall collaborate and coordinate with appropriate local, regional, State, and national governmental agencies, to the extent possible, toward the implementation of AAA adaptation strategies and to identify risks, vulnerabilities and opportunities associated with coastal hazards and the impacts from sea level rise.

CCME Objective 4.2

The Town will encourage the use of best practices development and redevelopment principles, strategies, and engineering solutions that will result in the removal of coastal real property from flood zone designations established by the Federal Emergency Management Agency.

CCME Policy 4.2.1

As procurement opportunities arise (such as through the use of grants or tax deed sales) the Town will consider acquiring for use as public open space, severe repetitive loss properties which have sustained repeated flood losses, thereby reducing potential losses due to flooding.

CCME Policy 4.2.2

Continue site plan review for new construction with the requirement that the minimum first floor elevation for habitable space in residential and commercial buildings be at least at the Town of Redington Beach Freeboard, which is above the minimum FEMA requirement, to allow for maximum protection during flood conditions and from sea level rise.

CCME Objective 4.3

The Town will identify site and development techniques and best practices that may reduce losses due to flooding and claims made under flood insurance policies issued in the State of Florida.

CCME Policy 4.3.1

Maximize unpaved landscape to allow for more stormwater infiltration.

CCME Policy 4.3.2

Encourage planting of vegetation that is highly water absorbent, can withstand the marine environment and the impacts of tropical storm winds, and incorporate provisions for the care and maintenance of trees and plants into the Town's Land Development Code.

CCME Policy 4.3.3

The Town shall support development measures which integrate innovative climate adaptation and mitigation designs such as low impact development (LID) practices to better manage storm water runoff.

CCME Policy 4.3.4

Incorporate stormwater storage and infiltration into all infrastructure replacement activities.

CCME Policy 4.3.5

The Town will adopt a Town Standard Details Manual for guidance on approved means and methods of construction and redevelopment on private properties and within public rights of way. Manual will be adopted by Resolution and reviewed on a bi-annual basis with updates as needed.

CCME Policy 4.3.6

The Town will implement a capital improvement program to install and maintain tide control valves on all Town owned and maintained outfall pipes.

CCME Policy 4.3.7

The Town shall encourage private developments to adopt and implement a capital improvement program to install and maintain tide control valves on all privately owned and maintained outfall pipes.

CCME Policy 4.3.8

The Town shall assess the natural shoreline areas vulnerable to sea level rise and adopt standard means and methods to protect and preserve the upland areas immediately adjacent to these areas in cooperation with FDEP, ACOE and SWFWMD.

CCME Objective 4.4

The Town will be consistent with or more stringent than, the flood resistant construction requirements in the Florida Building Code and applicable flood plain management regulations set forth in 44 C.F.R. part 60.

CCME Policy 4.4.1

The Town will review its Land Development Code and other related codes, and amend as necessary, to ensure will that the Town's development regulations applicable to development and redevelopment in the Town will consistent with, or more stringent than, the flood-resistant construction requirements in the Florida Building Code and applicable floodplain management regulations set forth in 44 C.F.R. part 60.

Section 2. The portions of the Town's Comprehensive Plan lawfully adopted and not expressly altered by this Ordinance remain in full force and effect.

Section 3. If any section, subsection, sentence, clause, provision or word of this Ordinance is held unconstitutional or otherwise legally invalid, same shall be severable and the remainder of this Ordinance shall not be affected by such invalidity, such that any remainder of the Ordinance shall withstand any severed provision, as the Board of Commissioners would have adopted the Ordinance and its regulatory scheme even absent the invalid part.

Section 4. The effective date of this Ordinance, if the plan amendment adopted hereby is not timely challenged, shall be the date the state land planning agency posts a notice of intent determining that this amendment is in compliance. If the amendment is timely challenged, or if the state land planning agency issues a notice of intent determining that this amendment is not in compliance, this amendment shall become effective on the date the state land planning agency or the Administration Commission enters a final order determining this adopted amendment to be in compliance. No development orders, development permits, or development dependent on this amendment may be issued or commence before it has become effective.

PASSED AND ADOPTED by the Board of Commissioners of the Town of Redington Beach, Pinellas County, Florida, on this _____ day of _____, 2020.

ATTEST:

Missy Clarke, CMC Town Clerk

Nick Simons, Mayor

	Motion	Seconded	Aye	Nay	Absent
Vice-Mayor Dorgan					
Commissioner Kornijtschuk					
Commissioner Steiermann					
Commissioner Will					
Mayor Simons					

LTB/RBMcL/m
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FLORIDA MUNICIPAL SERVICES
c/o 17425 Gulf Blvd.
Redington Shores, FL 33708
(727) 202-6825

December 10, 2020

Meeting Date: December 16, 2020
Agenda Item 9A
Advertised Public Hearing

MEMORANDUM

TO: Honorable Mayor and Members, Redington Beach Town Commission

FROM: Bruce Cooper, CBO, CFM, Building Official
R. Bruce McLaughlin, AICP, MCIP, Town Planner

SUBJECT: Proposed Ordinance 2020-12, Site Plan Requirements

EXECUTIVE SUMMARY

Ordinance 2019-10 imposes certain mitigative stormwater techniques on site development proposals. These techniques are applied in part through the site plan approval process. The current site plan regulations also required rewriting to remove archaic and onerous requirements and to clarify and add certain requirements with respect to stormwater management, landscaping and traffic circulation. Ordinance 2020-12 implements and is consistent with Ordinance 2019-10 and resolves numerous problems in the current code. The LPA found the Ordinance consistent with the Comprehensive Plan and recommended its approval. **STAFF RECOMMENDS THAT THE BOARD ADOPT ORDINANCE 2020-12 ON FIRST READING.**

BACKGROUND

Applicant	Town of Redington Beach
Affected Area	Entire Town

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THE REQUEST

That the Board of Commissioners adopt proposed Ordinance 2020-12 on first reading.

NOTICE

The Clerk's office will advise as to the notice given of this advertised public hearing.

AUTHORITY

Pursuant to §§ 4 and 5 of the Town Charter, the Town is governed by the Board of Commissioners which may exercise all powers available to a municipality under the Constitution and laws of the State of Florida. Those powers include preparing, adopting and amending land development regulations, including the regulation of stormwater management, drainage, landscaping, and related issues, and including requiring prescriptive measures to mitigate the impacts of higher ISRs.

ANALYSIS

Article III, Division 3 of Chapter 6 of the Town Code is problematic in several respects. For one thing, it requires a site plan whenever a building permit is issued, regardless of whether that permit entails any exterior work. It also theoretically requires the same level of detail for a window replacement as would be required for a newly constructed house. That is obviously inappropriate and is remedied by the adoption of Ordinance 2020-12.

The Ordinance establishes a statement of intent for the site plan process, defines "development," and defines "site plans" and "site sketches." The last is a new concept for the Town Code.

Staff wish to still be able to require a full site plan, prepared by an engineer, and with the level of detail to properly evaluate a major project. At the same time, staff acknowledge that smaller projects often need not be supported by a full site plan.

Accordingly, the Ordinance introduces the concept of a site sketch to be submitted with smaller projects. The Ordinance calls out the required contents of a site plan or site sketch and includes the requirement for both documents:

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All information reasonably required by the Building Code Administrator to determine compliance with the regulations governing the proposed development.

This is not an arbitrary provision allowing the Building Official to demand items be shown on the site plan or site sketch at will. Rather, the code provisions for various types of development: swimming pools, fences, seawalls, docks, etc., spell out the information needed to support each type of application.

More importantly, the Ordinance permits the Building Official to waive the requirement for any particular item required to be on a site plan or site sketch.

COMPREHENSIVE PLAN CONSISTENCY

First, Ordinance 2020-12 implements the mandate of the Comprehensive Plan Amendment adopted by Ordinance 2019-10:

- .. The land development regulations implementing this Policy shall:
 - 1. reaffirm the Building Official's authority to enforce this Policy;
 - 2. provide that the Building Official may confer with engineers and with professionals in other relevant fields to provide comprehensive review and approval of drainage plans and specifications for any project that increases the impervious surface ratio on the subject property.
 - 3. The drainage design, construction and inspection requirements shall be consistent with the Town's land development regulations, and with the Pinellas County Stormwater Manual (February 1, 2017).
 - 4. More generally, the goals of stormwater management are to minimize the adverse effects of urban development on communities, watersheds, water bodies, wetlands, floodplains and other natural systems. These goals should be applied to redevelopment situations so that existing stormwater conditions are appropriately improved with reconstruction. More specifically, these goals include:

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- a. Reducing pollutant concentrations and loadings to a level to ensure that discharges do not cause or contribute to violations of State water quality standards.
 - b. Preventing or reducing on-site and off-site flooding.
 - c. Maintaining or restoring the hydrologic integrity of wetlands and aquatic habitats.
 - d. Maintaining and promoting groundwater recharge.
 - e. Promoting the reuse of rainfall and stormwater.
 - f. Minimizing erosion and sedimentation.
 - g.. Accounting for impacts to the project based on sea level rise projections.
5. The Town shall adopt, implement and maintain a Standard Details Manual to supplement the Pinellas County Stormwater Manual in order to provide guidance and criteria to the design and building community for best management practices unique to the Town's character.

The Ordinance is also consistent with and implements the following Comprehensive Plan Policies:

[FLU] Policy 1.1.2

Residential areas shall be located and designed to protect life and property from natural and manmade hazards such as flooding, excessive traffic, subsidence, noxious odors, and noise.

[FLU] Policy 1.1.4

The Town shall continue to implement performance standards, such as buffering and open space requirements, within the land development regulations, as appropriate.

[FLU] Objective 1.5

All development orders and permits for development and redevelopment activities shall be issued only if the public facilities necessary to meet the level-of-service standards as adopted pursuant to this comprehensive plan, are available concurrent with the impacts of the development.

[FLU] Policy 2.3.1

The Town of Redington Beach, acknowledging its particular

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vulnerability to coastal hazards as a barrier island community, recognizes the entire town as within the Coastal Storm Area ...

[FLU] Policy 3.1.3

All applications for development approval shall be subject to site plan review.

[FLU] Policy 3.1.4

The land development regulations shall contain specific and detailed provisions required to implement this comprehensive plan, which, at a minimum:

...

7. Provide for drainage and stormwater management, based on the minimum criteria established by the Southwest Florida Water Management District, the Town of Redington Beach or other appropriate governmental agencies;
8. Provide requirements for the provision of open space, and safe and convenient on-site traffic flow and parking requirements;
9. Encourage the use of native vegetation in the landscaping of multi-family and commercial developments; and
10. Provide provisions for the control of erosion and runoff from construction sites.

IE Policy 1.2.4

The Town shall continue to promote the use of native and drought-tolerant landscaping as a means of conserving water.

IE Goal 2:

To endeavor to provide an efficient drainage system which protect human life, minimizes property damage, and improves stormwater quality and on-site retention.

IE Objective 2.1

The Town shall seek to improve the stormwater drainage system located within its municipal boundaries.

IE Policy 2.1.1

Ensure that surface cover vegetation loss during construction is minimized or replaced to reduce erosion and flooding.

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IE Policy 2.1.2

Ensure that the developer or owner of any new development or redevelopment site is responsible for the on-site management of stormwater runoff so that post-development runoff rates, volumes, and pollutant loads do not exceed predevelopment conditions.

IE Policy 2.1.3

Future drainage outfalls associated with either new development or redevelopment, shall be designed to prevent the direct discharge of runoff into Boca Ciega Bay or the Gulf of Mexico.

IE Policy 2.1.4

Implement the town's Watershed Management Plan in conjunction with the Southwest Florida Water Management District to address existing drainage and flooding conditions.

IE Objective 2.2

All development within the Town of Redington Beach shall meet the adopted level-of-service standard for stormwater drainage.

IE Policy 2.2.1

All development activity shall adhere to the level-of-service standard for drainage requirements of the 25 year, 24 hour rainfall storm design standard.

IE Policy 2.2.2

New development, redevelopment, and rehabilitation shall meet and maintain the standards established by the Florida Department of Environmental Regulation for the Outstanding Florida Waters and Aquatic Preserve designations of Boca Ciega Bay that require an additional fifty percent storage and treatment on site.

IE Policy 2.2.3

The following management techniques shall be used to reduce stormwater runoff:

1. Expansion and regular maintenance of retention swales adjacent to town roadways; and
2. Use of front, rear and side lot line swales for new construction or redevelopment;

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3. Use of erosion and runoff control devices during construction/

IE Policy 2.2.4

The land development regulations shall continue to enforce provisions which, at a minimum, protect natural drainage features found within the Town as follows:

1. All applications for development approval within those areas identified as coastal high hazard area shall undergo site plan review;
2. The flood-carrying and flood storage capacity of the 100-year floodplain shall be maintained;
3. Development along Boca Ciega Bay shall maintain adequate setbacks to maintain any existing areas of natural coastal/marine habitat;
4. The prevention of erosion, retardation of runoff and protection of natural functions and values of the floodplain shall be considered while promoting public usage; and
5. The Town shall require development or redevelopment proposals to be consistent with the performance standards regulating development within the designated floodplain.

IE Objective 2.3

The Town shall take positive steps to implement its Watershed Management Plan.

IE Policy 2.3.1

The Town shall assess existing conditions and recommend modifications or cures to relieve existing drainage problems.

IE Policy 2.3.2

Consistent with budget allocations, the Town shall continue to retrofit the existing drainage system in conjunction with the Southwest Florida Water Management District.

Accordingly, the proposed ordinance is consistent with, and implements, numerous Goals, Objectives and Policies of the Town of Redington Beach Comprehensive Plan.

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Ordinance 2020-12 also provides specific regulation for landscaping requirements, rather than the generic “guidance” found in the current code. Landscaping is generally not an issue because quality landscaping adds to the value of a project but the new landscaping requirements provide enforceable specificity if it is ever needed.

RECOMMENDATION

THAT ORDINANCE 2020-12 BE ADOPTED ON FIRST READING.

1
ORDINANCE 2020-12

AN ORDINANCE OF THE TOWN OF REDINGTON BEACH, PINELLAS COUNTY FLORIDA, AMENDING TOWN CODE CHAPTER 6, BUILDINGS AND BUILDING REGULATIONS, ARTICLE III, DIVISION 3, SITE PLANS, BY AMENDING THE REQUIRED CONTENTS OF A SITE PLAN AND BY AMENDING THE GUIDELINES FOR THE PREPARATION OF SITE PLANS, MAKING RELATED FINDINGS; PROVIDING FOR SEVERABILITY; AND ESTABLISHING AN EFFECTIVE DATE.

WHEREAS, Section 163, Part II, Florida Statutes, establishes the requirements of the Community Planning Act and governs local government comprehensive planning and land development regulation; and

WHEREAS, The Town of Redington Beach adopted its Comprehensive Plan in October 1989, and has periodically revised and amended the Plan in order to ensure it remains current and responds to current needs and opportunities; and

WHEREAS, by Ordinance 2019-10, the Town Amended its Comprehensive Plan to permit an Impervious Surface Ratio of 0.65 (65%) in the Town's Residential Designations; and

WHEREAS, The Building Official and Town Planner of the Town of Redington Beach recommended that the Comprehensive Plan be amended to update the impervious surface ratio requirement subject to the adoption of mitigating requirements for stormwater management; and

WHEREAS, those mitigative measures are implemented in part through the site plan approval process; and

WHEREAS, those mitigative measures are implemented in part through the landscaping requirements of the Town Code; and

WHEREAS, the Town recognizes that different development activities require different levels of site plan review; and

WHEREAS, the Town's Comprehensive Plan mandates that all development proposals be subjected to site plan review, and

WHEREAS, the Town of Redington Beach Planning Board, in its capacity as the Town's Local Planning Agency has reviewed this Ordinance, found it to be consistent with the Town's Comprehensive Plan and recommended its approval; and

WHEREAS, the Board of Commissioners of the Town of Redington Beach desires to implement the recommendations of the Planning Board to update the site plan requirements of the Town Code;

WHEREAS, the Commission therefore finds that it is in the best interests of the Town, and its citizens and property owners to adopt this Ordinance.

NOW, THEREFORE BE IT ORDAINED by the Board of Commissioners of the Town of Redington Beach, Florida, that:

Section 1. Division 3 of Article III of Chapter 6 of the Town Code of the Town of Redington Beach is hereby amended to read as follows:

DIVISION 3. - SITE PLANS AND SITE SKETCHES

Sec. 6-101 - Purpose.

The purpose of requiring a site plan or a site sketch is to ensure that any site or building construction or alterations done in the Town are done in compliance with the Town Code, the Town's Comprehensive Plan and all relevant State laws, rules and regulations.

Sec. 6-102 - Definitions.

For the purposes of this Code the following definitions apply:

(a) "Development" is the alteration of the physical characteristics of land or the construction or alteration of a structure.

(b) A "site plan" is a detailed diagram specifically demonstrating the physical changes to a property proposed as part of a development application for alteration of a lot or for the construction or alteration of a building on a lot. Unless waived by the Building Code Administrator or his designee, the site plan shall include all the information required by section 6-104 of this Code.

(c) A "site sketch" is a generalized drawing depicting the information necessary to evaluate a development where a site plan is not required.

~~Sec. 6-101. - Required.~~

~~All uses requiring building permits shall be subject to site plan review by the building~~

~~department.~~

6-103 - Site Plan or Site Sketch Required.

Except as provided herein, all applications for development approvals shall be accompanied by a site plan.

(a) Where the proposed development does not affect the lot outside the footprint of an existing structure, no site plan or site sketch shall be required.

(b) A site sketch shall be submitted with any application for approval of a fence or of a seawall. The Building Code Administrator may also require submittal of a survey as part of any application for approval of any exterior development.

Sec. 6-102.—Contents.

6-104 - Site Plan Submittal Requirements.

A site plan submitted pursuant to this division shall be signed and sealed by a registered engineer ~~or architect~~ and shall depict the following:

- (a) The name and owner of the proposed development.
- (b) The name and contact information of the preparer of the site plan.
- (c) A vicinity map for the site.
- (d) The land use designation and zoning district applicable to the site.
- (e) Date, north arrow and a graphic scale not less than 1" = 50'.
- (f) A statement of the general character of the proposed development.
- (g) All information reasonably required by the Building Code Administrator to determine compliance with the regulations governing the proposed development.
- (h) The locations of buildings and structures and their relation to property lines, the dimensions of each property line and all proposed improvements and alterations to the property including the proposed development as defined herein.

- (I) Driveways and parking areas.
- (j) Pedestrian walks and landscaping.
- (k) Elevations and renderings, if required.
- (l) Locations of all utilities, existing and proposed.
- (m) Spot locations of major trees in excess of eight inches in diameter, ~~and~~
waterways.
- (n) ~~Topography to the one-foot contour interval.~~ Existing and proposed spot elevations at 1/10th (one tenth) foot intervals with sufficient spacing to determine existing and future drainage patterns and the existing and proposed elevations of the four principal corners of each structure on the lot.
- (o) The elevation of the lowest habitable floor of the building in relation to ~~mean sea-level~~ NAVD88.
- (p) ~~When appropriate~~ For all properties on the west side of Gulf Boulevard, the coastal construction control line.
- (q) Facilities for control of stormwater runoff ~~water~~.
- (r) A statement that post-development runoff will not exceed pre-development runoff.
- (s) The crown of the adjacent road(s).
- (t) The flood zone applicable to the property and the base flood elevation.
- (u) A table showing the existing and proposed impervious surface ratios.
- (v) All site plans shall be prepared at an engineer's scale.
- (w) All site plans shall be provided to the Building Code Administrator in electronic form in PDF format suitable for printing at 11" x 17". On request of the Building Code Administrator, paper copies at 24" x 36" shall be provided.

6-105 - Site Sketch Submittal Requirements.

A site sketch submitted pursuant to this division shall depict the following:

- (a) The name and owner of the proposed development.
- (b) The name and contact information of the preparer of the site sketch.
- (c) Date, north arrow and a graphic scale not less than 1" = 50'.
- (d) A statement of the general character of the proposed development.
- (e) All information reasonably required by the Building Code Administrator to determine compliance with the regulations governing the proposed development.
- (f) All proposed improvements and alterations to the property including the proposed development as defined herein.
- (g) For all properties on the west side of Gulf Boulevard, the coastal construction control line.
- (h) Facilities for control of stormwater runoff.
- (i) All site sketches shall be prepared at an engineer's scale.
- (j) All site sketches shall be provided to the Building Code Administrator in electronic form in PDF format suitable for printing at 11" x 17". On request of the Building Code Administrator, paper copies at 24" x 36" shall be provided.

~~Sec. 6-103. Guidelines.~~

~~The following criteria shall serve as guidelines for site plans:~~

Sec. 6-106 - Design Requirements.

- (a) Impervious surface.
Impervious surface shall not exceed the allowable impervious lot coverage established in the future land use element of the adopted comprehensive plan. Subject to the provisions of Chapter 18.5 of this Code, properties presently developed with an impervious surface ratio greater than that permitted by the Comprehensive Plan may maintain their current ratio but may not increase their impervious area.
- (b) Traffic circulation.

- I. The Standard Details Manual found in Article IV of Chapter 18.5 of this Code shall govern traffic circulation design.
- ii. Unrestricted access to streets is not allowed. ~~Generally, e Curb cuts are limited to a maximum of one every 25 feet and~~ shall comply with Chapter 19.5 of this Code.
- iii. Access to streets ~~should~~ shall take into consideration sight distance and alignment.
- iv. All sites must provide for emergency vehicle access.
- v. Separate ingress and egress is encouraged.
- vi. Traffic collection to reduce access points to Gulf Boulevard is encouraged.
- vii. Maneuvering lanes between rows of parked automobiles shall be at least 20 feet in width.
- viii. Traffic lanes shall conform to the same design standards as public streets with regard to alignment at intersections.
- ix. All buildings, exclusive of single-family dwellings, must provide for pedestrian circulation. Hard-surfaced pedestrian walks a minimum of four feet wide shall be provided generally as follows:
 1. Along public rights-of-way.
 2. Along access corridors to buildings.
 3. At interconnecting points where significant numbers of people will seek to walk.

(c) Landscaping.

All uses shall be landscaped. Required landscaping may encompass the following:

- I. Street trees or shrubs
- ii Foundation planting.
- iii Planting islands to define curb cuts.
- iv. Perimeter plantings to define and beautify sites.
- v. Parking lot and walkway landscaping.
- vi. Buffer strips and screening for privacy.
- ~~vii. Landscaping for underutilized acreage.~~
- viii. Landscaping for erosion control.
- ix. Landscaping for recreation space.

Landscaping shall consist of 25 percent native plantings as presently defined by the University of Florida, Institute of Food and Agricultural Sciences. The use of punk trees, Australian pines and Brazilian pepper trees is prohibited. ~~The following listing provides a representative sample of native vegetation:~~

Common Name	Scientific Name
Railroad vine	Ipomoea pes-caprae

1	Firebush	<i>Hamelia patens</i>
2	Swamp hibiscus	<i>Hibiscus coccineus</i>
3	Cocoplum	<i>Chrysobalanus icaco</i>
4	Southern wax myrtle	<i>Myrica cerifera</i>
5	Sand live oak	<i>Quercus geminata</i>
6	Sea grape	<i>Coccoloba uvifera</i>
7	Southern red cedar	<i>Juniperus siliceicola</i>
8	Bald cypress	<i>Taxodium distichum</i>
9	Dahoon holly	<i>Ilex cassine</i>
10	Live oak	<i>Quercus virginiana</i>
11	Longleaf pine	<i>Pinus palustris</i>
12	Sand pine	<i>Pinus clausa</i>
13	Slash pine	<i>Pinus elliotii</i>
14	Sweet gum	<i>Liquidambar styraciflua</i>
15	Gallberry	<i>Ilex glabra</i>
16	Cabbage palm	<i>Sabal palmetto</i>
17	Saw cabbage palm	<i>Acroelorrhaphis wrightii</i>
18	Saw palmetto	<i>Serenoa repens</i>

Plant material and installation standards.

I Quality. Plant materials used to meet the requirements of this section shall meet the standards for Florida No. 1 or better, as set out in Grades and Standards for Nursery Plants, part I and part II, Department of Agriculture, State of Florida. Root ball sizes on all transplanted plant materials shall also meet state standards.

a. At least 50 percent of the trees and 50 percent of the shrubs used to fulfill these requirements shall be native or naturalized Southern Floridian species, as determined by accepted valid scientific reference. The "Recommended Trees and Shrubs for the Town of Redington Beach List" is available for reference at town hall.

b. In addition, for all sites, at least 50 percent of the trees and shrubs used to fulfill these requirements shall be drought-tolerant species as listed in the South Florida Water Management District's Plants for Your Florida-Friendly Landscape.

c. Where Florida-friendly plants are to be utilized, planting and maintenance shall comply with The Florida-Friendly Landscaping Guide to Plant Selection & Landscape Design.

ii Trees and palms. All required new individual trees shall be species having an average mature spread or crown of greater than 20 feet and having trunk(s), which can be maintained in a clean condition with over ten feet of clear wood. Trees adjacent to walkways, bike paths and rights-of-way shall be maintained in a clean condition with over ten feet of clear

wood. Trees having an average mature spread or crown less than 20 feet may be substituted by grouping the same so as to create the equivalent of a 20-foot crown spread. For code-required trees, at least 50 percent of the trees shall be canopy type trees and 50 percent may be palms. The minimum size of the trees at the time of installation shall be as follows:

Canopy trees:

(25 percent) Twelve to 14 feet on average height, six-foot spread, three-inch caliper, seven-foot clear trunk, 65-gallon minimum. Container or ball and burlaped (B&B).

(25 percent) Sixteen to 18 feet on average height, seven-foot spread, four-inch caliper, seven-foot clear trunk, 100 gallon minimum. Container or ball and burlaped (B&B).

Palms:

(25 percent) Twelve-foot clear trunk height minimum with 15-foot minimum mature clear trunk height.

(25 percent) Fifteen-foot clear trunk height minimum with 18-foot minimum mature clear trunk height.

A grouping of three palm trees will be equivalent to one canopy tree. Exceptions will be made for Roystonea spp. (Florida Royal Palm) and Phoenix spp. (Canary Island Date Palm not including Roebelenii) which shall count one palm tree for one canopy tree. Also, exceptions will be made for Cocos spp. (Coconut Palm) and Arecastrum spp. (Queen Palm) which shall count two palm trees for one canopy tree. In side and rear yard locations, palms can only be substituted for 50 percent of the canopy tree requirement. Front yards may have 75 percent palms

- (iii) Tree species mix. When trees are required to be planted to meet the requirements of this code, a mix of species shall be provided. The number of species to be planted shall vary according to the overall number of trees required to be planted. The minimum numbers of species to be planted are indicated below.

<u>Required Species Mix</u>	
<u>Required Number of Trees</u>	<u>Minimum Number of Species</u>
<u>2-10</u>	<u>2</u>
<u>11-20</u>	<u>3</u>
<u>21-30</u>	<u>4</u>
<u>31+</u>	<u>5</u>

(iv) Ground covers. Prior to the issuance of a certificate of occupancy for any single-family residence, multifamily, or commercial, development, ground coverings, as described below, shall be installed.

- a. Lawn grass. Lawn areas may be sodded and/or planted with turf species normally grown as permanent lawns within the Southwest Florida. The use of drought-tolerant species is required. Solid sod shall be used in swales or other areas subject to erosion;
- b. Landscape aggregate with less than 10% fines; or.
- c. Artificial turf or similar synthetic turf materials which comply with the impervious surface ratio.
- d. Florida-friendly landscape. Florida-friendly landscape practices are required in all zoning districts. Landscape areas utilizing Florida-friendly designs are those that comply with the principles of Florida-Friendly Landscape consistent with the standards provided in the following publications:
 - "Florida Yards and Neighborhoods (FAN) and Environmental Landscape Management (ELM)," the University of Florida Cooperative Extension Service (UP- IAS)
 - "Florida-Friendly Best Management Practices for Protection of Water Resources by the Green Industries (2008)," Florida Water Management Districts
 - "The Florida Yards & Neighborhoods Handbook", Florida Water Management Districts
 - "Waterline Florida Landscape Guide," Xeric Landscaping with Florida Native Plants," Association of Florida Nurseries
 - "Waterfront Property Owner's Guide," Florida Department of Environmental Protection

Landscape designs utilizing the Florida-friendly landscape principles shall be employed for the protection of water quality and water conservation and shall incorporate the following principles:

- 1. The right plant in the right place;
- 2. Efficient watering with properly zoned irrigation systems;
- 3. Appropriate fertilization;

4. Mulching properly;
5. Responsible management of yard pests with limited use of chemicals;
6. Recycling yard waste;
7. Reduction of stormwater runoff; and
8. Waterfront protection.

Minimum landscaping requirements.

Landscaping for all new development, including single-family, multifamily, office and commercial, uses shall include as a minimum, the number of trees set forth below. When calculating minimum tree requirements, a fractional unit of 0.50 or greater shall require an additional tree.

- (1) Single-family homes: One canopy tree per 2,500 square feet of lot area. One or more canopy trees, palms, or grouping of palms meeting the code requirements shall be located within ten feet of the front property line.
- (2) Multifamily developments. One canopy tree per 1,500 square feet of pervious site area. This is in addition to other landscaping requirements.
- (3) Commercial and institutional developments. One canopy tree per 3,000 square feet of pervious site areas. This is in addition to other landscaping requirements.
- (4) Building perimeter plantings. All commercial and multifamily developments shall provide building perimeter plantings in the amount of 100 square feet per 1,000 square feet of proposed building ground level floor area. These planting areas shall be located adjacent to the building and shall consist of landscape areas, raised planters, or planter boxes that are a minimum of five feet wide.

Section 2. For purposes of codification of any existing section of the Redington Beach Code herein amended, words underlined represent additions to original text, words ~~stricken~~ are deletions from the original text, and words neither underlined nor stricken remain unchanged.

Section 3. If any section, subsection, sentence, clause, provision or word of this Ordinance is held unconstitutional or otherwise legally invalid, same shall be severable and the remainder of this Ordinance shall not be affected by such invalidity, such that any remainder of the Ordinance shall withstand any severed provision, as the Board of Commissioners would have adopted the Ordinance and its regulatory scheme even absent the invalid part.

Section 4. The Codifier shall codify the substantive amendments to the Redington

Beach Town Code contained in Section 1 of this Ordinance as provided for therein, and shall not codify the exordial clauses nor any other sections not designated for codification.

Section 5. Pursuant to Florida Statutes § 166.041(4), this Ordinance shall take effect immediately upon adoption.

ADOPTED ON FIRST READING on the ____ day of _____, 2020, by the Board of Commissioners of the Town of Redington Beach, Florida.

ADOPTED ON SECOND AND FINAL READING on the ____ day of _____, 2021, by the Board of Commissioners of the Town of Redington Beach, Florida.

James Simons, Mayor
Attest:

Missy Clarke, CMC, Town Clerk

Approved as to form:

Jay Daigneault, Town Attorney



FLORIDA MUNICIPAL SERVICES
c/o 17425 Gulf Blvd.
Redington Shores, FL 33708
(727) 202-6825

December 10, 2020

Meeting Date: December 16, 2020
Agenda Item 9B
Advertised Public Hearing

MEMORANDUM

TO: Honorable Mayor and Members, Redington Beach Town Commission

FROM: Bruce Cooper, CBO, CFM, Building Official
R. Bruce McLaughlin, AICP, MCIP, Town Planner

SUBJECT: Proposed Ordinance 2020-13. Floodplain Management Code Rewrite

On the December 16, 2020, agenda is an advertised public hearing for the repeal and replacement of the Floodplain Management Code, Town Code Chapter 10. This item was scheduled in anticipation that amendments to this Chapter would be required to fulfill the mandate of Ordinance 2019-10 for mitigative techniques to offset the higher impervious surface ratio permitted by Ordinance 2019-10. However, on closer review, no amendments to Chapter 10 are required to fulfill the mandate of Ordinance 2019-10.

However, that closer review indicated that the repeal and replacement of the Chapter are still warranted. In addition to a significant scrivener's error related to a reporting location, Chapter 10 is presently an omnibus floodplain management ordinance with provisions governing mountain gorges in the Pacific Northwest, riverine situations in the plains states, and the Gulf Coast. The Code also references land uses not extant in Redington Beach such as industrial uses and mobile home parks.

This surplus language is potentially problematic because, for example, it could lead a developer to believe that, since Chapter 10 regulates mobile home parks, such a use is permitted in the

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Town of Redington Beach, even though the zoning code prohibits such a use. Accordingly, the repeal and replacement of Chapter 10 with a code much more narrowly tailored to the Town of Redington Beach is appropriate. However, this effort should occur independently of the package of ordinances creating the mitigative techniques required by Ordinance 2019-10.

The Planning Board opened its public hearing on this Ordinance on December 8, 2020 and continued that public hearing until January 19, 2021.

Accordingly, staff recommends that the public hearing on Ordinance 2020-13 be opened and continued to a date certain after January 19, 2021 so as to preserve the published public hearing date. At the continued public hearing Staff will present a revised Chapter 10 that is narrowly tailored to the Town of Redington Beach.



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December 10, 2020

Meeting Date: December 16, 2020
Agenda Items 9C, 9D
Advertised Public Hearing

MEMORANDUM

TO: Honorable Mayor and Members, Redington Beach Town Commission

FROM: Bruce Cooper, CBO, CFM, Building Official
R. Bruce McLaughlin, AICP, MCIP, Town Planner

SUBJECT: Proposed Ordinance 2020-14, Stormwater Management Requirements: Proposed
Resolution 2020-13 - Stormwater Management Utility Fee

EXECUTIVE SUMMARY

Ordinance 2019-10 imposes mitigative stormwater techniques on site development, applied in part through the stormwater management process. The current stormwater regulations also required updating and clarification. Ordinance 2020-14 implements and is consistent with Ordinance 2019-10 and resolves numerous problems in the current code. The companion Resolution 2020-13 is provided for information only to demonstrate how the Stormwater Management Utility Fee will ultimately be established. The LPA found the Ordinance consistent with the Comprehensive Plan and recommended its adoption. **STAFF RECOMMENDS THAT THE BOARD ADOPT ORDINANCE 2020-14 ON FIRST READING AND DEFER CONSIDERATION OF RESOLUTION 2020-13.**

BACKGROUND

Applicant

Town of Redington Beach

December 10, 2020

Affected Area Entire Town

THE REQUEST

To adopt Ordinance 2020-14 on first reading.

NOTICE

The Clerk's office will advise as to the notice given of this advertised public hearing.

AUTHORITY

Pursuant to §§ 4 and 5 of the Town Charter, the Town is governed by the Board of Commissioners which may exercise all powers available to a municipality under the Constitution and laws of the State of Florida. Those powers include preparing and adopting (via § 15-56 of the Town Code), a comprehensive plan for the Town and related land development and other, related, regulations.

The proposed amendment to the Town's Stormwater Code is an amendment to a land development regulation as defined by § 163.3164(26), F.S. Accordingly, this Board has the authority to adopt Ordinance 2020-14.

ANALYSIS

As a preliminary note, it should be pointed out that draft Ordinance 2020-14's Articles I, II and III, were reviewed and approved by the Town's National Pollution Discharge Elimination System (NPDES) Consultant.

The first substantive change in the Ordinance is the prohibition of discharges into the stormwater system from lots built at an illegal impervious surface ratio (ISR). While hopefully this situation will be prevented by the building permit approval process, it provides an additional sanction

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against any person who illicitly adds to the impervious surface of his lot.

Likewise, the ban on discharges from construction sites implements Ordinance 2019-10 since a construction site could have a temporary ISR of greater than 0.65.

Ordinance 2020-14 also revises the language dealing with the collection of the Stormwater Management Utility Fee to reflect the reality of how the fee is administered by Pinellas County Utilities. The Ordinance takes out the fee currently set in the Code and provides for setting the fee by Resolution. So as not to leave a vacuum where the fee will be set, a draft of Resolution 2020-13 is provided for the Board's review. Comments on the form of the Resolution are sought but the fee itself will not be set until later when an accurate fee can be determined and reviewed by the Town's Finance Committee and Planning Board.

The Ordinance also establishes stormwater management requirements with a statement of intent, performance standards, design standards, and prescriptive design requirements. These requirements import into the Town Code and codify best stormwater management practices to help mitigate the impact of the higher ISR permitted by Ordinance 2019-10. These requirements are consistent with and implement State and Federal law.

COMPREHENSIVE PLAN CONSISTENCY

First, Ordinance 2020-14 implements the mandate of the Comprehensive Plan Amendment adopted by Ordinance 2019-10:

- .. The land development regulations implementing this Policy shall:
 - 1. reaffirm the Building Official's authority to enforce this Policy;
 - 2. provide that the Building Official may confer with engineers and with professionals in other relevant fields to provide comprehensive review and approval of drainage plans and specifications for any project that increases the impervious surface ratio on the subject property.
 - 3. The drainage design, construction and inspection requirements shall be consistent with the Town's land development regulations, and with the Pinellas County Stormwater Manual (February 1, 2017).

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4. More generally, the goals of stormwater management are to minimize the adverse effects of urban development on communities, watersheds, water bodies, wetlands, floodplains and other natural systems. These goals should be applied to redevelopment situations so that existing stormwater conditions are appropriately improved with reconstruction. More specifically, these goals include:
 - a. Reducing pollutant concentrations and loadings to a level to ensure that discharges do not cause or contribute to violations of State water quality standards.
 - b. Preventing or reducing on-site and off-site flooding.
 - c. Maintaining or restoring the hydrologic integrity of wetlands and aquatic habitats.
 - d. Maintaining and promoting groundwater recharge.
 - e. Promoting the reuse of rainfall and stormwater.
 - f. Minimizing erosion and sedimentation.
 - g.. Accounting for impacts to the project based on sea level rise projections.
5. The Town shall adopt, implement and maintain a Standard Details Manual to supplement the Pinellas County Stormwater Manual in order to provide guidance and criteria to the design and building community for best management practices unique to the Town's character.

The Ordinance is also consistent with and implements the following Comprehensive Plan Policies:

[FLU] Policy 1.1.2

Residential areas shall be located and designed to protect life and property from natural and manmade hazards such as flooding, excessive traffic, subsidence, noxious odors, and noise.

[FLU] Policy 1.1.4

The Town shall continue to implement performance standards, such as buffering and open space requirements, within the land development regulations, as appropriate.

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[FLU] Objective 1.5

All development orders and permits for development and redevelopment activities shall be issued only if the public facilities necessary to meet the level-of-service standards as adopted pursuant to this comprehensive plan, are available concurrent with the impacts of the development.

[FLU] Policy 2.3.1

The Town of Redington Beach, acknowledging its particular vulnerability to coastal hazards as a barrier island community, recognizes the entire town as within the Coastal Storm Area ...

[FLU] Policy 3.1.4

The land development regulations shall contain specific and detailed provisions required to implement this comprehensive plan, which, at a minimum:

...

7. Provide for drainage and stormwater management, based on the minimum criteria established by the Southwest Florida Water Management District, the Town of Redington Beach or other appropriate governmental agencies;
8. Provide requirements for the provision of open space, and safe and convenient on-site traffic flow and parking requirements;
9. Encourage the use of native vegetation in the landscaping of multi-family and commercial developments; and
10. Provide provisions for the control of erosion and runoff from construction sites.

IE Policy 1.2.4

The Town shall continue to promote the use of native and drought-tolerant landscaping as a means of conserving water.

IE Goal 2:

To endeavor to provide an efficient drainage system which protects human life, minimizes property damage, and improves stormwater quality and on-site retention.

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IE Objective 2.1

The Town shall seek to improve the stormwater drainage system located within its municipal boundaries.

IE Policy 2.1.1

Ensure that surface cover vegetation loss during construction is minimized or replaced to reduce erosion and flooding.

IE Policy 2.1.2

Ensure that the developer or owner of any new development or redevelopment site is responsible for the on-site management of stormwater runoff so that post-development runoff rates, volumes, and pollutant loads do not exceed predevelopment conditions.

IE Policy 2.1.3

Future drainage outfalls associated with either new development or redevelopment, shall be designed to prevent the direct discharge of runoff into Boca Ciega Bay or the Gulf of Mexico.

IE Policy 2.1.4

Implement the town's Watershed Management Plan in conjunction with the Southwest Florida Water Management District to address existing drainage and flooding conditions.

IE Objective 2.2

All development within the Town of Redington Beach shall meet the adopted level-of-service standard for stormwater drainage.

IE Policy 2.2.1

All development activity shall adhere to the level-of-service standard for drainage requirements of the 25 year, 24 hour rainfall storm design standard.

IE Policy 2.2.2

New development, redevelopment, and rehabilitation shall meet and maintain the standards established by the Florida Department of Environmental Regulation for the Outstanding Florida Waters and Aquatic Preserve designations of Boca Ciega Bay that require an additional fifty percent storage and treatment on site.

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IE Policy 2.2.3

The following management techniques shall be used to reduce stormwater runoff:

1. Expansion and regular maintenance of retention swales adjacent to town roadways; and
2. Use of front, rear and side lot line swales for new construction or redevelopment;
3. Use of erosion and runoff control devices during construction/

IE Policy 2.2.4

The land development regulations shall continue to enforce provisions which, at a minimum, protect natural drainage features found within the Town as follows:

1. All applications for development approval within those areas identified as coastal high hazard area shall undergo site plan review;
2. The flood-carrying and flood storage capacity of the 100-year floodplain shall be maintained;
3. Development along Boca Ciega Bay shall maintain adequate setbacks to maintain any existing areas of natural coastal/marine habitat;
4. The prevention of erosion, retardation of runoff and protection of natural functions and values of the floodplain shall be considered while promoting public usage; and
5. The Town shall require development or redevelopment proposals to be consistent with the performance standards regulating development within the designated floodplain.

IE Objective 2.3

The Town shall take positive steps to implement its Watershed Management Plan.

IE Policy 2.3.1

The Town shall assess existing conditions and recommend modifications or cures to relieve existing drainage problems.

IE Policy 2.3.2

Consistent with budget allocations, the Town shall continue to

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retrofit the existing drainage system in conjunction with the
Southwest Florida Water Management District.

Accordingly, the proposed ordinance is consistent with, and implements, numerous Goals, Objectives and Policies of the Town of Redington Beach Comprehensive Plan.

RECOMMENDATION

**THAT ORDINANCE 2020-14 BE ADOPTED ON FIRST READING AND THAT
FURTHER CONSIDERATION OF RESOLUTION 2020-13 BE DEFERRED PENDING A
FEE ANALYSIS BY THE TOWN'S STORMWATER ENGINEER, REVIEW BY THE
FINANCE COMMITTEE AND FURTHER REVIEW BY THE PLANNING BOARD.**

1
ORDINANCE 2020-14

AN ORDINANCE OF THE TOWN OF REDINGTON BEACH, PINELLAS COUNTY FLORIDA, REPEALING AND REPLACING TOWN CODE CHAPTER 18.5, STORMWATER, ESTABLISHING NEW GENERAL PROVISIONS, NEW DEFINITIONS AND NEW OPERATING REQUIREMENTS; UPDATING THE PROVISIONS FOR STORMWATER MANAGEMENT UTILITY FEES AND FOR THE STORMWATER UTILITY FEE, MAKING RELATED FINDINGS; PROVIDING FOR SEVERABILITY; AND ESTABLISHING AN EFFECTIVE DATE.

WHEREAS, Section 163, Part II, Florida Statutes, establishes the requirements of the Community Planning Act and governs local government comprehensive planning and land development regulation; and

WHEREAS, The Town of Redington Beach adopted its Comprehensive Plan in October 1989, and has periodically revised and amended the Plan in order to ensure it remains current and responds to current needs and opportunities; and

WHEREAS, by Ordinance 2019-10, the Town Amended its Comprehensive Plan to permit an Impervious Surface Ratio of 0.65 (65%) in the Town's Residential Designations; and

WHEREAS, The Building Official and Town Planner of the Town of Redington Beach recommended that the Comprehensive Plan be amended to update the impervious surface ratio requirement subject to the adoption of mitigating requirements for stormwater management; and

WHEREAS, those mitigative measures are implemented in part through the stormwater management process; and

WHEREAS, the Town of Redington Beach Planning Board, in its capacity as the Town's Local Planning Agency has reviewed this Ordinance, found it to be consistent with the Town's Comprehensive Plan and recommended its approval; and

WHEREAS, the Board of Commissioners of the Town of Redington Beach desires to implement the recommendations of the Planning Board to update the stormwater management requirements of the Town Code;

WHEREAS, the Commission therefore finds that it is in the best interests of the Town, and its citizens and property owners to adopt this Ordinance.

NOW, THEREFORE BE IT ORDAINED by the Board of Commissioners of the Town of Redington Beach, Florida, that:

Section 1. Chapter 18.5, Articles I, II and III are hereby amended to read as follows:

Chapter 18.5 - STORMWATER

ARTICLE I. - IN GENERAL

Sec. 18.5-1. - Intent.

This chapter is adopted by the Town of Redington Beach for the purpose of maintaining efficient, economic and safe operation of the separate storm sewers, and for the protection of the health, safety, and general welfare of the public. This chapter is intended to prevent and abate pollution through the regulation and control of connections and discharges to the town's separate storm systems and to limit the use of the separate storm sewer system to the collection, conveyance, treatment, and disposal of stormwater through appropriate regulation and enforcement. The prohibitive discharge standards contained herein were developed under the authority of Section 5 of the Clean Water Act and 40 CFR 122 applicable ~~DER~~, Florida Department of Environmental Protection (FDEP), Southwest Florida Water Management District (SWFWMD) regulations and applicable home rule power.

Sec. 18.5-2. - Definitions.

The following definitions shall apply to the provisions of this article:

Authorized official means any employee or agent of the Town of Redington Beach authorized in writing by the mayor to administer or enforce the provisions of this article.

Discharge means any direct or indirect introduction of any solid, liquid or gaseous matter.

Illicit discharge means any discharge to a separate storm sewer that is not composed entirely of stormwater except discharges pursuant to a National Pollution Discharge Elimination System (NPDES) permit (other than NPDES permit for discharges from the separate storm sewer) and discharges resulting from firefighting activities.

Person means any natural individual, corporation, partnership, institution or other entity.

Site of industrial activity means any ~~are~~ area or facility used for manufacturing,

processing or raw materials storage, as defined under 40 CFR Section 122.26(b)(14) of regulations of the U.S. Environmental Protection Agency ~~as amended~~.

Separate stormwater system means the system of conveyances used for collecting, storing and transporting stormwater owned by the Town of Redington Beach but not included any facilities intended to be used in accordance with applicable law for collecting and transporting sanitary or other waste water.

Stormwater means any stormwater runoff, and surface runoff and drainage.

Sec. 18.5-3. - Illicit discharges.

(a) *General prohibitions.* Except as set forth under subsection (c) of this section or as in accordance with a valid NPDES permit, any discharge to the separate stormwater system that is not composed entirely of stormwater is prohibited.

(b) *Specific prohibitions.*

(i) Any discharge to the separate stormwater system containing any sewage, industrial waste or other waste materials, or containing any materials in violation of federal, state, county, municipal, or other laws, rules, regulations, orders or permits, is prohibited.

(ii) Any discharge from a lot developed after the effective date of Ordinance 2020-14 which is developed with an impervious surface ratio greater than 0.65 is prohibited.

(iii) Any discharge from a construction site is prohibited.

(c) *Authorized exceptions.* The following discharges are exempt from the general prohibition set forth under subsection (a) of this section, flows from firefighting, waterline flushing and other contributions from potable water sources, landscape irrigation and lawn watering, irrigation water, ~~diverted stream flows~~, tidal backflows, rising groundwater, direct infiltration to the separate stormwater system, uncontaminated pumped groundwater, foundation and footing drains, water from crawl space pumps, air conditioning condensation, springs, individual residential car washing, flows from riparian habitats and wetlands.

(d) *Illicit connections.* No person may maintain, use or establish any direct or indirect connection to the separate stormwater system that results in any discharge in violation of this chapter. This prohibition applies to connections made in the past, regardless of whether made under a permit, or other authorization, or whether permissible under laws or practices applicable or prevailing at the time the connection was made.

Sec. 18.5-4. - Spills and dumping.

(a) *General prohibitions.* Except as set forth under subsection 18.5-3(c) of this chapter or as in accordance with a valid NPDES permit, any discharge to the separate stormwater system that is not composed entirely of stormwater is prohibited.

(b) *Specific prohibitions.*

(i) Any discharge to the separate stormwater system containing any sewage, industrial waste or other waste materials, or containing any materials in violation of federal, state, county, municipal, or other laws, rules, regulations, orders or permits, is prohibited.

(ii) Any discharge from a lot developed after the effective date of Ordinance 2020-14 which is developed with an impervious surface ratio greater than 0.65 is prohibited.

(iii) Any discharge from a construction site is prohibited.

(c) *Notification of spills.* As soon as any person has knowledge of any discharge to the correct separate stormwater system in violation of this chapter, such person shall immediately notify the town clerk or his/her designee by telephoning (727) 391-3875, and if such person is directly or indirectly responsible for such discharge, then such person shall also take immediate action to ensure the containment and clean up of such discharge and shall confirm such telephone notification in writing to the town clerk or his/her designee at Town Hall, 105 164th Avenue, Redington Beach, Florida 33708, within three calendar days.

Sec. 18.5-5. - Inspections and monitoring.

(a) *Authority for inspections.* Whenever necessary to make an inspection to enforce any of the provisions of this chapter, or regulation or permit issued hereunder, or whenever an authorized official has reasonable cause to believe there exists any condition constituting a violation of any of the provisions of this chapter, or regulation or permit issued hereunder, any authorized official may enter any property, building or facility at any reasonable time to inspect the same or to perform any duty related to enforcement of the provisions of this chapter or any regulations or permits issued hereunder; provided that (1) if such property, building or facility is occupied, such authorized official shall first present proper credentials and request permission to enter, and (2) if such property, building or facility is unoccupied, such authorized official shall make a reasonable effort to locate the owner or other person having charge or control of the property, building or facility, and shall request permission to enter. Any request for permission to enter made hereunder shall state that the owner or person in control has the right to refuse entry, and that in such event that entry is refused, the authorized official may enter to make

inspection only upon issuance of a search warrant by a duly authorized magistrate. If the owner or person in control refuses permission to enter after such request has been made, the authorized official is hereby authorized to seek assistance from any court of competent jurisdiction in obtaining entry. Routine or area-wide inspections shall be based upon such reasonable selection processes as may be necessary to carry out the purposes of this chapter, including but not limited to random sampling and sampling in areas with evidence of stormwater contamination, nonstormwater discharges, or similar factors.

(b) *Authority for monitoring and sampling.* Any authorized official may install and maintain such devices as are necessary to conduct sampling or metering of discharges to the separate stormwater system. During any inspections made to enforce the provisions of this chapter, or regulations or permits issued hereunder, any authorized official may take any samples deemed necessary.

(c) *Requirements for monitoring.* The ~~director of public works~~ Town Building Official may require any person engaging in any activity or owning any property, building or facility to undertake such reasonable monitoring of any discharge(s) to the separate stormwater system and to furnish periodic reports.

Sec. 18.5-6. - Administrative order.

The town clerk or his/her designee may issue an order to any person to immediately cease any discharge, or eliminate any connection to the separate storm sewer system, determined by the town clerk or his/her designee to be in violation of any provision of this chapter, or in violation of any regulation or permit issued hereunder.

Sec. 18.5-7. - Penalties.

Failure to comply with the requirements of this chapter or any permit or approval granted or authorized hereunder shall constitute a violation of this chapter. Violations of the provisions of this chapter shall, upon conviction, be punished by a fine not to exceed \$500.00 per day or by imprisonment in the county jail, not to exceed 60 days or by both fine and imprisonment pursuant to the provisions of ~~F.S. § 125.69~~ Florida Law. If a violation be continued, each day of such violation shall constitute a separate offense.

Sec. 18.5-8. - Civil remedies.

In addition to the penalties provided in section 18.5-6, the board of commissioners is

hereby authorized to institute any appropriate action or proceeding, including suit for injunctive relief, in order to prevent or abate violations of this chapter.

Secs. 18.5-9—18.5-19. - Reserved.

ARTICLE II. - STORMWATER MANAGEMENT UTILITY FEES

Sec. 18.5-20. - Created.

A stormwater management utility fee, also referred to hereinafter as "fee," is hereby created and imposed on all developed property within the town for services and facilities provided by the stormwater management program. For the purpose of imposing the fee, all developed property within the town shall be classified as residential property.

Sec. 18.5-21. - Schedule of rates.

(a) The fee for "residential property" ~~is the rate of \$7.50 per month multiplied by the number of dwelling units, hotel or motel units and/or business units existing on the property.~~ (b) Public rights of way and other public properties are exempt from the fee shall be set by the board of commissioners by resolution from time to time.

Sec. 18.5-22. - Billing, payment, penalties and enforcement.

(a) Bills for stormwater service shall be rendered bimonthly by ~~the Pinellas County Water System~~ Utilities as agent for the town. The fixed monthly charge shall take effect ~~October 1, 1995~~ as provided by resolution.

(b) If any bills shall not be paid ~~within seven days after the date it has been declared delinquent, in accordance with the policies and practices of Pinellas County Utilities, water service to the premises shall be disconnected until such delinquent account is paid in full, including all applicable disconnection and reconnection charges enforcement shall occur in accordance with the policies and practices of Pinellas County Utilities.~~

(c) Statements for the stormwater management utility fee shall be ~~payable at the same time and in the same manner and subject to the same penalties as are otherwise set forth for the utility fees administered by the town. The property owner or fee payer will be notified of any delinquency in the payment of the stormwater management utility fee in the same manner that~~

~~they are notified for delinquent water, garbage and sewer bills. Failure to pay such fee as is otherwise provided in the statement rendered to the payer shall subject the property to the discontinuance of water, garbage and sewer services and shall subject the fee payer to all other penalties and charges provided relative to the discontinuance of such utility services~~ processed in accordance with the policies and practices of Pinellas County Utilities.

Secs. 18.5-23—18.5-29. - Reserved.

ARTICLE III. - STORMWATER UTILITY FUND

Sec. 18.5-30. - Created.

There ~~shall be~~ is established a stormwater management utility fund for the deposit of all fees collected pursuant to this chapter. The fund will be used exclusively to provide services and facilities related to the stormwater management program. The funds shall be used only for the following expenditures and shall be held as trust funds of the town.

- (1) Operation and maintenance of stormwater management facilities under the jurisdiction of the town;
- (2) Costs for the evaluation, design, construction management, and construction of major and minor structural improvements of the stormwater management infrastructure;
- (3) Administrative costs related to the management of the stormwater program;
- (4) Management services such as permit review and planning and development review related to the stormwater management program; and
- (5) Debt service financing of capital improvements related to the stormwater management program in accordance with F.S. §§ 403.0891 and 403.0893.

Section 2. Chapter 18.5 of the Town Code, as amended, is further amended by the insertion therein of a new Article V following Article IV as inserted by Ordinance 2020-03, to read as follows:

ARTICLE V STORMWATER MANAGEMENT REQUIREMENTS

Sec. 18.5-50 - Intent.

It is the intent of this article to define when and how stormwater improvements will be required of development. The Town of Redington Beach recognizes that development has an impact on

the amount of stormwater generated and that development should accommodate any additional stormwater that is created.

Sec. 18.5-51 - Applicability.

Development and redevelopment of a site shall be required to create infiltration adequate to accommodate any newly created impervious surface. Infiltration shall be designed in compliance with the Town Standard Details (Article IV). A development may offset the creation of impervious surface with the removal of existing impervious surface in the same amount.

Sec. 18.5-52 - Performance standards.

All development must be designed, constructed and maintained to meet the following performance standards:

1. Stormwater runoff. While development activity is under way and after it is completed, the characteristics of stormwater runoff shall approximate the rate, volume, quality, and timing of stormwater runoff that occurred under the site's natural unimproved state. The onsite stormwater system shall be designed to accommodate the 25-year, 24-hour storm event (9 inches in a 24-hour period). Where minor additions of impervious surface are created, at a minimum, the first one inch of stormwater runoff shall be treated in an off-line retention system or according to other best management practices, as prescribed by all applicable rules and regulations of the Florida Department of Environmental Protection (FDEP) and the Southwest Florida Water Management District (SWFWMD).
2. Water quality. The proposed development and development activity shall not violate the water quality standards as set forth in the Florida Administrative Code.
3. Retention areas and controls. Adequate retention areas and controls, and swales along front, rear and side yard lot lines, as appropriate, shall be designed into new development, and shall be so designed as to ensure the probability of flooding either upstream or downstream owners' property is not increased.
4. Erosion, runoff control during construction. The use of erosion and runoff control devices is required while development activity is underway.

Sec. 18.5-54 - Design standards.

To comply with the foregoing performance standards, the proposed stormwater management

system shall conform to the following design standards:

1. Detention and retention systems shall be designed in conformance with the rules and regulations of FDEP and SWFWMD.
2. To the maximum extent practicable, natural systems shall be used to accommodate stormwater.
3. The proposed stormwater management system shall be designed to accommodate the stormwater that originates within the development and the stormwater that flows onto or across the development from adjacent lands.
4. The proposed stormwater management system shall be designed to function properly for a minimum of a 20-year life.
5. The Building Code Administrator may require the design and construction of the proposed stormwater management system to be certified as meeting the requirements of this ordinance by a professional engineer registered in the State of Florida.
6. No surface water may be channeled or directed into a sanitary sewer.
7. The proposed stormwater management system shall be compatible with the drainage systems or drainageways on surrounding property or streets, taking into account the possibility that substandard systems may be improved in the future.
8. Water reuse and conservation shall, to the maximum extent practicable, be achieved, by incorporating the stormwater management system into irrigation systems serving the development.
9. Notwithstanding any other provision of this ordinance, no new point sources shall be permitted to discharge from the Town of Redington Beach into Boca Ciega Bay or into ditches or canals that flow into the bay.

Sec. 18.5-55 - Prescriptive Design.

For all developments the Town Standard Details sheets 700.1-700.8 (Sec. 18.5-^) shall control the design concept.

The following formula for providing infiltration shall be deemed adequate by the Town:

1. Development of a new building: (length of lot + width of lot + length of lot) * 3.5 = total square feet of infiltration trench required on lot (utilizing the Town Standard Detail for Typical Infiltration Trench, sheet 700.6 or Heavy Duty Infiltration Trench,

sheet 700.7.)

2. Additional development on an existing building site may be addressed in one of the following ways:

- a. (length of new impervious surface + width of new impervious surface + length of new impervious surface) * 3.5 = total square feet of infiltration trench required on lot (utilizing the Town Standard Detail for Typical Infiltration Trench, sheet 700.6 or Heavy Duty Infiltration Trench, sheet 700.7. installed to a depth of two feet)
- b. 9 inches * the surface area of the new impervious surface = total square feet of infiltration trench required on lot (utilizing the Town Standard Detail for Typical Infiltration Trench, sheet 700.6 or Heavy Duty Infiltration Trench, sheet 700.7. installed to a depth of two feet)

3. All stormwater shall be directed towards infiltration.

Section 3. For purposes of codification of any existing section of the Redington Beach Code herein amended, words underlined represent additions to original text, words ~~stricken~~ are deletions from the original text, and words neither underlined nor stricken remain unchanged.

Section 4. If any section, subsection, sentence, clause, provision or word of this Ordinance is held unconstitutional or otherwise legally invalid, same shall be severable and the remainder of this Ordinance shall not be affected by such invalidity, such that any remainder of the Ordinance shall withstand any severed provision, as the Board of Commissioners would have adopted the Ordinance and its regulatory scheme even absent the invalid part.

Section 5. The Codifier shall codify the substantive amendments to the Redington Beach Town Code contained in Section 1 of this Ordinance as provided for therein, and shall not codify the exordial clauses nor any other sections not designated for codification.

Section 6. Pursuant to Florida Statutes § 166.041(4), this Ordinance shall take effect immediately upon adoption.

ADOPTED ON FIRST READING on the ____ day of _____, 2020, by the Board of Commissioners of the Town of Redington Beach, Florida.

ADOPTED ON SECOND AND FINAL READING on the ____ day of _____, 2021, by the Board of Commissioners of the Town of Redington Beach, Florida.

1 James Simons, Mayor

2 Attest:

3
4
5
6 Missy Clarke, CMC, Town Clerk

7
8 Approved as to form:

9
10
11
12 Jay Daigneault, Town Attorney

**FOR DISCUSSION PURPOSES ONLY AS COMPANION TO ORDINANCE 2020-14
RESOLUTION TO BE REFERRED TO FINANCE COMMITTEE AND RE-REVIEWED
BY PLANNING BOARD PRIOR TO ENACTMENT**

RESOLUTION 2020-13

**A RESOLUTION OF THE TOWN COMMISSION OF THE TOWN OF
REDINGTON BEACH, PINELLAS COUNTY, FLORIDA, SETTING THE
STORMWATER UTILITY MANAGEMENT FEE PURSUANT TO TOWN
CODE CHAPTER 18.5, ARTICLE II, MAKING RELATED FINDINGS;
PROVIDING FOR SEVERABILITY AND ESTABLISHING AN
EFFECTIVE DATE**

WHEREAS, Article II of Chapter 18.5 of the Town Code establishes and provides for the collection of Stormwater Management Utility Fees; and

WHEREAS, the current Stormwater Management Utility Fee was set in 2006, has not been amended since, and is found in Section 18.5-21 of the Town Code; and

WHEREAS, Section 18.5-21 has been amended to require the Town Board of Commissioners to set the Stormwater Management Fee by resolution; and

WHEREAS, the imposition of a Stormwater Management Fee is an equitable and efficient method of allocating and apportioning the cost of the Town's Stormwater Management Service among parcels of property that are burdening the Town's Stormwater System and thus specially benefitted by provision of the Stormwater Utility; and

WHEREAS, the Town has embarked on a program of capital improvements to its stormwater system, is seeking and has sought and obtained grants for said improvements; and

WHEREAS, the fee established by this Resolution has been reviewed by the Town's Finance Committee and recommended for adoption; and

WHEREAS, the fee established by this Resolution has been reviewed by the Town's Planning Board acting as the Local Planning Agency, and recommended for adoption; and

WHEREAS, this Resolution has been presented to property owners in, and residents of, the Town at public hearings on December 8, 2020, December 16, 2020, *.

NOW THEREFORE BE IT RESOLVED BY THE BOARD OF

**FOR DISCUSSION PURPOSES ONLY AS COMPANION TO ORDINANCE 2020-14
RESOLUTION TO BE REFERRED TO FINANCE COMMITTEE AND RE-REVIEWED
BY PLANNING BOARD PRIOR TO ENACTMENT**

**COMMISSIONERS FOR THE TOWN OF REDINGTON BEACH, FLORIDA IN A
MEETING DULY ADVERTISED AND REGULARLY ASSEMBLED AS FOLLOWS:**

Section 1 - Findings.

1. The foregoing recitals are affirmed as findings of fact by the Town Board.
2. The Town's stormwater engineer has calculated a fee of * per unit to be equitable and appropriate taking into account the proposed expenditures for the stormwater system set out in the Town's Schedule of Capital Improvements in the Capital Improvements Element of the Town's Comprehensive Plan and in the Town's stormwater system planning.
3. The Town's Finance Committee and Planning Board concur that the fee established by this Resolution is equitable and appropriate.

Section 2 - Fee Established,

The Stormwater Utility Fee established by established by Article II of Chapter 18.5 of the Town Code is the rate of * per month multiplied by the number of dwelling units, hotel or motel units, and/or business units existing on each parcel of record.

Section 3 - Severability.

Any portion of this Resolution deemed unconstitutional or otherwise invalid at law is severable from the remainder hereof.

Section 4 - Effective Date

This Resolution shall become effective immediately upon final passage and adoption.

PASSED AND ADOPTED by the Board of Commissioners of the Town of Redington Beach, Pinellas County, Florida, on this ____ day of _____, 2021.



Meeting Date December 16, 2020
Advertised Public Hearing
Agenda Item 8.b.

December 10, 2020

MEMORANDUM

TO: Town of Redington Beach Town Commission
FROM: Sarah Propst, AICP, PMP, LTA Engineers
SUBJECT: Proposed Ordinance 2020-03: Adoption of Town Standard Details Manual

EXECUTIVE SUMMARY

In February of 2020, the Town of Redington Beach Board of Commissioners adopted Ordinance 2019-10, increasing the allowable impervious surface ratio in the Comprehensive Plan. This amendment included Policy 2.1.2 which stated "The Town shall adopt, implement and maintain a Standard Details Manual to supplement the Pinellas County Stormwater Manual in order to provide guidance and criteria to the design and building community for best management practices unique to the Town's character." Proposed Ordinance 2020-03 fulfills that Comprehensive Plan requirement. **STAFF RESPECTFULLY REQUESTS THAT THE BOARD OF COMMISSIONERS APPROVE ORDINANCE 2020-03 AND THE ATTACHED STANDARD DETAILS ON FIRST HEARING.**

BACKGROUND

Applicant: Town of Redington Beach

Affected Area: Entire Town

THE ISSUE

To come into compliance with the Town's Comprehensive Plan, a Town Standard Details Manual must be adopted.

HISTORY

In 2019 the Town of Redington Beach recognized there had been an error in the adoption of an impervious surface coverage ratio. An ordinance had been adopted without an update to the Comprehensive Plan. This was resolved by the adoption of Ordinance 2019-10 and a Comprehensive Plan update.

One of the concerns in adopting an increased allowable impervious surface was that additional stormwater would be created. The comprehensive plan included several requirements in Policy 2.1.2 that would ameliorate the increased stormwater generated by additional impervious surface and one of those solutions was to adopt a Town Standard Details Manual. Adoption of the manual ensures that all

development applicants have access to best management practices and designs that meet the specifications of the Town.

Policy 2.1.2. of the Comprehensive Plan follows (all language underlined was added to the Comprehensive Plan by Ordinance 2019-10):

Ensure that the developer or owner of any new development or redevelopment site is responsible for the on-site management of stormwater runoff so that post-development runoff rates, volumes, and pollutant loads do not exceed predevelopment conditions. The land development regulations implementing this Policy shall:

1. reaffirm the Building Official's authority to enforce this Policy;
2. provide that the Building Official may confer with engineers and with professionals in other relevant fields to provide comprehensive review and approval of drainage plans and specifications for any project that increases the impervious surface ratio on the subject property.
3. The drainage design, construction and inspection requirements shall be consistent with the Town's land development regulations, and with the Pinellas County Stormwater Manual (February 1, 2017).
4. More generally, the goals of stormwater management are to minimize the adverse effects of urban development on communities, watersheds, water bodies, wetlands, floodplains and other natural systems. These goals should be applied to redevelopment situations so that existing stormwater conditions are appropriately improved with reconstruction. More specifically, these goals include:
 - a. Reducing pollutant concentrations and loadings to a level to ensure that discharges do not cause or contribute to violations of State water quality standards.
 - b. Preventing or reducing on-site and off-site flooding.
 - c. Maintaining or restoring the hydrologic integrity of wetlands and aquatic habitats.
 - d. Maintaining and promoting groundwater recharge.
 - e. Promoting the reuse of rainfall and stormwater.
 - f. Minimizing erosion and sedimentation.
 - g. Accounting for impacts to the project based on sea level rise projections.
5. The Town shall adopt, implement and maintain a Standard Details Manual to supplement the Pinellas County Stormwater Manual in order to provide guidance and criteria to the design and building community for best management practices unique to the Town's character.

NOTICE

The Clerk's office will advise as to the notice given of this advertised public hearing.

ANALYSIS

The Town of Redington Beach has adopted a maximum impervious surface ratio of 65% for residential lots and 85% for nonresidential lots. The attached Town Standard Details Manual (Exhibit A) and the existing Pinellas County Stormwater Manual (Exhibit A-1) were developed to accommodate the stormwater runoff that will result from higher impervious surface percentages. Adoption of Town Standard Details will ensure that all new development and redevelopment is designed to accommodate stormwater that will be generated on site and that infrastructure is developed for safety and functionality.

The attached Town Standard Details include specifications for many types of infrastructure found in the town: driveways, drainage structures, sidewalks, roadways, Wastop valves and lot drainage designs. The adoption of acceptable standard details is a benefit to the Town and to residents and developers in several ways. The standard details will allow residents to do work on their property without having an engineer design each component. The homeowner will be able to rely on the details to know, for instance, what the radius of the drive will need to be or how to accommodate the swale along the right of way.

Standard details will provide acceptable, engineered solutions to common infrastructure needs in the Town. This saves time and money for residents and developers and it saves the Town time and money for staff reviews. When an applicant submits a plan and uses the Town Standard Detail, the Town can feel secure in the knowledge that the engineering is correct and will work as long as it is implemented as designed.

At the Planning Board hearing held on December 8, 2020 the Board recommended approval of Ordinance 2020-03, by a vote of 5-0. Changes since the Planning Board hearing include the addition of a Dewatering detail which was reviewed and recommended for approval by the Planning Board but was not included in the Town Standard Details at that hearing and reorganization of the Town Standard Details Manual to include a section for Erosion and Sediment Control

RECOMMENDATION

STAFF RESPECTFULLY REQUESTS THAT THE BOARD OF COMMISSIONERS APPROVE ORDINANCE 2020-03 AND THE ATTACHED STANDARD DETAILS ON FIRST HEARING.

ATTACHMENTS:

EXHIBIT A – TOWN STANDARD DETAILS MANUAL

EXHIBIT A-1 – EXCERPT FROM PINELLAS COUNTY STORMWATER MANUAL

EXHIBIT B – ORDINANCE 2020-03

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PROPOSED ORDINANCE 2020-03

AN ORDINANCE OF THE TOWN OF REDINGTON BEACH, PINELLAS COUNTY, FLORIDA, AMENDING TOWN CODE, CHAPTER 18.5, STORMWATER, BY CREATING AND INSERTING ARTICLE IV, ADOPTING A STANDARD DETAILS MANUAL FOR PUBLIC WORKS AND PRIVATE PROPERTY IMPROVEMENTS WHICH MANUAL ESTABLISHES STANDARD DETAILS FOR ALL WORKS WITHIN THE TOWN'S PUBLIC RIGHTS OF WAY AND FOR COLLECTION, RETENTION AND TREATMENT OF STORMWATER RUNOFF ON PRIVATE PROPERTIES, PROVIDING FOR SEVERABILITY; AND ESTABLISHING AN EFFECTIVE DATE.

WHEREAS, Section 163, Part II, Florida Statutes, establishes the requirements of the Community Planning Act and governs local government comprehensive planning and land development regulation; and

WHEREAS, The Town of Redington Beach adopted its Comprehensive Plan in October 1989, and has periodically revised and amended the Plan in order to ensure it remains current and responds to current needs and opportunities; and

WHEREAS, the Town of Redington Beach is responsible for the maintenance and expansion of the existing stormwater system which has been developed over a number of years for the purpose of collecting and disposing of stormwater; and

WHEREAS, pursuant to the Federal Clean Water Act, 33 U.S.C. 1251 *et seq.*, the United States Environmental Protection Agency has published rules for stormwater discharge permits; and

WHEREAS, the Town of Redington Beach has been issued a stormwater discharge permit, as co-permittee, with Pinellas County (FLS 648477) by the United States Environmental Protection Agency, that requires the Town to control pollution caused by stormwater runoff; and

WHEREAS, as a coastal community, bounded on the west by the Gulf of Mexico, the east by waters of Boca Ciega Bay, in an identified evacuation zone, the Town recognizes that the current stormwater system is antiquated and inadequate to control and manage stormwater runoff within the Town limits; and

WHEREAS, all real property within the Town receives a specific and direct benefit from the Town adopting a Public Works Standard Details Manual; and

WHEREAS, the Town desires to provide necessary and essential improvements and

1 extensions to the existing infrastructure within the incorporated Town limits to protect the health,
2 safety and welfare of the citizens of the Town of Redington Beach and water quality in the
3 surrounding waters of Boca Ciega Bay; and
4

5 **WHEREAS**, Infrastructure Element Policy 2.1.2 of the Redington Beach Comprehensive
6 Plan, as amended by Ordinance 2019-10, states that through site plan review, provisions
7 contained in the Town's Land Development Code or the permitting process of the appropriate
8 regulatory agency, new development shall be required to adhere to the provisions of the Town's
9 stormwater drainage program; and
10

11 **WHEREAS**, Infrastructure Element Policy Goal 2 and the implementing Objectives and
12 Policies set standards for the onsite management of stormwater, sets a level of service standards
13 of new development or redevelopment treating the 25-year, 24-hour storm; and requires that
14 post-development (or redevelopment) stormwater flows do not exceed the pre-development
15 flows from a site; and
16

17 **WHEREAS**, Infrastructure Element Policy 2.1.2 of the Redington Beach Comprehensive
18 Plan, as adopted by Ordinance 2019-10, states that in recognition of the difficulties of
19 maintaining an effective and efficient drainage system on a barrier island, the Town shall enforce
20 the drainage provisions found in the Land Development Code; and
21

22 **WHEREAS**, the Town Commission of the Town of Redington Beach has held hearings
23 on this matter and finds the creation of a Standard Details Manual is in the best interest of the
24 citizens, residents and others with interests within the Town of Redington Beach and
25

26 **WHEREAS**, by Ordinance 2019-10, the Town Amended its Comprehensive Plan to
27 permit an Impervious Surface Ratio of 0.65 (65%) in the Town's Residential Designations; and
28

29 **WHEREAS**, Ordinance 2019-10 also requires the adoption of a Standard Details Manual
30 to establish mitigation techniques to mitigate the higher runoff created by the increased permitted
31 Impervious Surface Ratio; and
32

33 **WHEREAS**, The Building Official and Town Planner of the Town of Redington Beach
34 recommended that the Comprehensive Plan be amended to update the impervious surface ratio
35 requirement subject to the adoption of a Standard Details Manual to create mitigating
36 requirements for stormwater management; and
37

38 **WHEREAS**, The Planning Board of the Town of Redington Beach, acting in its capacity
39 as Local Planning Agency, recommends the adoption of the Standard Details Manual; and
40

41 **WHEREAS**, the Board of Commissioners of the Town of Redington Beach desires to
42 implement the recommendations of the Planning Board to adopt a Standard Details Manual;
43

1 **NOW THEREFORE BE IT ORDAINED**, by the Commissioners of the Town of
2 Redington Beach, Florida, in its regular meeting duly assembled on this ____ day of ____, 2020,

3
4 **Section 1.** Chapter 18.5 of the Town Code of the Town of Redington Beach is amended
5 by the insertion of Article IV, Standard Details Manual, to read as follows:
6

7
8 **ARTICLE IV. STANDARD DETAILS MANUAL**

9
10 **Sec. 18.5-40. Adopted.**

11
12 The Standard Details Manual for the Town of Redington Beach, Attached as Exhibits A and
13 -A-1 to Ordinance 2020-03 is adopted as the Standard Details Manual for the Town and shall
14 have the full force and effect of law.
15

16 **Sec. 18.5-41. Enforcement by Building Official.**

17
18 The Building Official is charged with the enforcement of the Standard Details Manual and of
19 Comprehensive Plan Infrastructure Element Policy 2.1.2 as adopted by Ordinance 2019-10.
20

21 **Sec. 18.5-42. Professional Assistance to Building Official.**

22
23 The Building Official may confer with engineers and with professionals in other relevant fields
24 to provide comprehensive review and approval of drainage plans and specifications for any
25 project that increases the impervious surface ratio on any subject property.
26

27
28 **Section 2.** If any section, subsection, sentence, clause, provision or word of this
29 Ordinance is held unconstitutional or otherwise legally invalid, same shall be severable and the
30 remainder of this Ordinance shall not be affected by such invalidity, such that any remainder of
31 the Ordinance shall withstand any severed provision, as the Board of Commissioners would have
32 adopted the Ordinance and its regulatory scheme even absent the invalid part.
33

34 **Section 3.** This Ordinance shall become effective immediately upon final passage
35 and adoption.
36

37
38
39 **PASSED AND ADOPTED** by the Board of Commissioners of the Town of Redington Beach,
40 Pinellas County, Florida, on this ____ day of ____, 2020.
41

42 **ATTEST:**
43

Missy Clarke, CMC Town Clerk

Nick Simons, Mayor

	Motion	Seconded	Aye	Nay	Absent
Vice-Mayor Dorgan					
Commissioner Kornijtschuk					
Commissioner Steiermann					
Commissioner Will					
Mayor Simons					

TOWN OF REDINGTON BEACH

TOWN STANDARD DETAILS MANUAL



February 24, 2020

SUBSTANTIAL EFFORT HAS BEEN MADE TO ENSURE THE INFORMATION CONTAINED IN THESE STANDARDS IS ACCURATE. HOWEVER, THE TOWN OF REDINGTON BEACH CANNOT ACCEPT RESPONSIBILITY FOR ANY ERRORS OR OVERSIGHTS IN THE USE OF THE MATERIAL OR IN THE PREPARATION OF THE ENGINEERING PLANS. THIS PUBLICATION IS INTENDED FOR USE BY PROFESSIONAL PERSONNEL COMPETENT TO EVALUATE THE SIGNIFICANCE AND LIMITATIONS OF ITS CONTENTS AND BE ABLE TO ACCEPT RESPONSIBILITY FOR THE APPLICATION OF THE MATERIAL IT CONTAINS.

THE DESIGNER MUST RECOGNIZE THAT NO HANDBOOK OR CODE CAN SUBSTITUTE FOR EXPERIENCED ENGINEERING JUDGEMENT. SOME OF THE RECOMMENDATIONS ARE UNDER FURTHER REVIEW AND MAY BE UPDATED LATER. USERS OF THESE STANDARDS ARE ENCOURAGED TO OFFER COMMENTS TO TOWN OF REDINGTON BEACH PUBLIC WORKS DEPT ON THE CONTENTS OF THIS PUBLICATION AND SUGGESTIONS FOR CHANGES IN FUTURE EDITIONS.

THESE STANDARDS ARE UNDER CONSTANT REVIEW AND ARE SUBJECT TO CHANGES APPROVED BY THE TOWN BUILDING OFFICIAL. THE TOWN BUILDING OFFICIAL SHALL INTERPRET THESE STANDARDS, AS NEEDED, FOR APPLICATION AND RESOLUTION OF CONFLICTS.

NOTE: ALL CONSTRUCTION AND STANDARDS REFERENCED WITHIN

SHALL MEET OR EXCEED F.D.O.T. ROADWAY AND TRAFFIC DESIGN STANDARDS (LATEST REVISION) AND F.D.O.T. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST REVISION), UNLESS OTHERWISE NOTED.

TOWN OF REDINGTON BEACH			DISCLAIMER SHEET	1.0
REV.BY	DATE			
		DATE OF ADOPTION		

GENERAL INDEX

SECTION		SHEET NO. SERIES
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TOWN OF REDINGTON BEACH

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GENERAL INDEX

2.0

DRIVEWAYS INDEX

	<u>SHEET NO.</u>
100 DRIVEWAYS	100.0
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B. RESIDENTIAL DRIVEWAY - CURB	101.1
C. CURB CUT & TRANSITION W/T- FLARE FOR RESIDENTIAL DRIVEWAY	101.2
D. COMMERCIAL & INDUSTRIAL DRIVEWAY	101.3
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F. MITERED END SECT. FOR ELIPTICAL, SINGLE AND MULTIPLE PIPES	102.1
G. MITERED END SECT. FOR ROUND, SINGLE AND MULTIPLE PIPES	102.2
H. DRIVEWAY PIPE/MITERED END SECTION	103.0
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J. PERVIOUS/PERMEABLE DRIVEWAY OPTIONS WITHIN CITY RIGHTS OF WAY	105.0

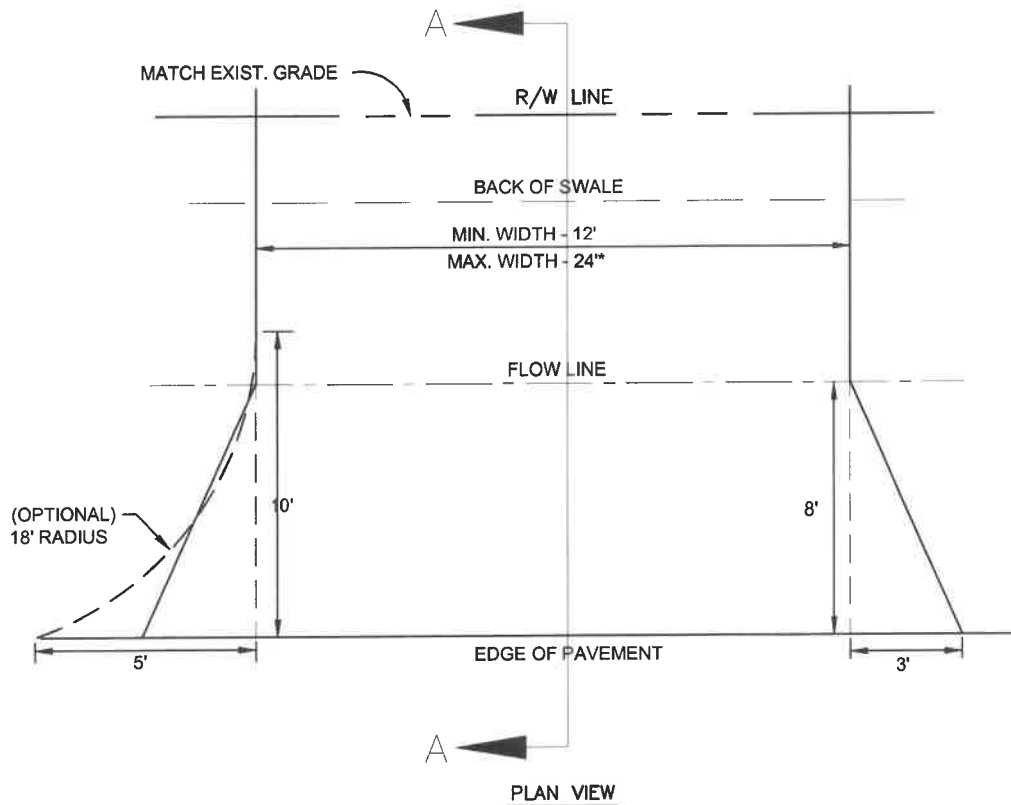
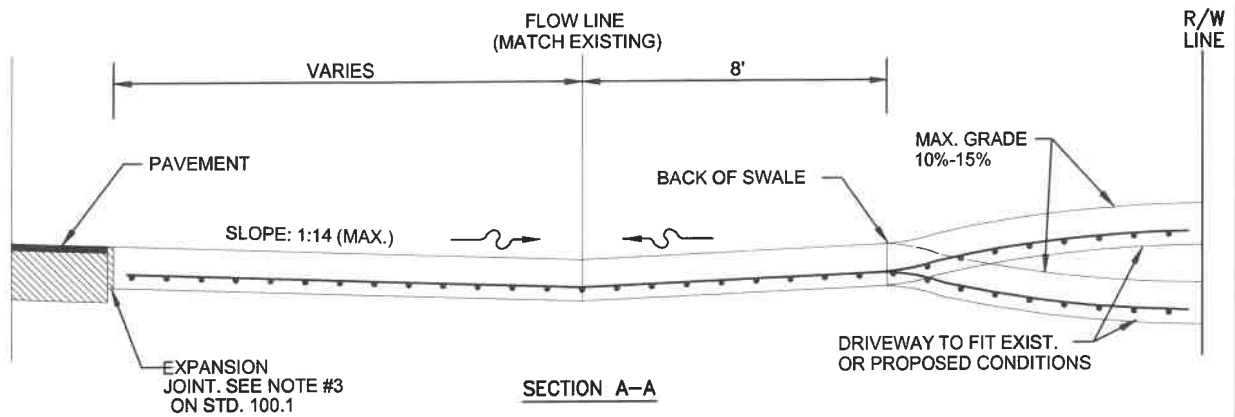
TOWN OF REDINGTON BEACH

REV.BY DATE

DATE OF APPROVAL

DRIVEWAY INDEX

100.0



* For driveways that can demonstrate the need for additional width, the width may not be greater than the LESSER of:

- 30' total at the R/W line
- 30% of the front footage as defined on the survey (or field measurements, 36' max.)

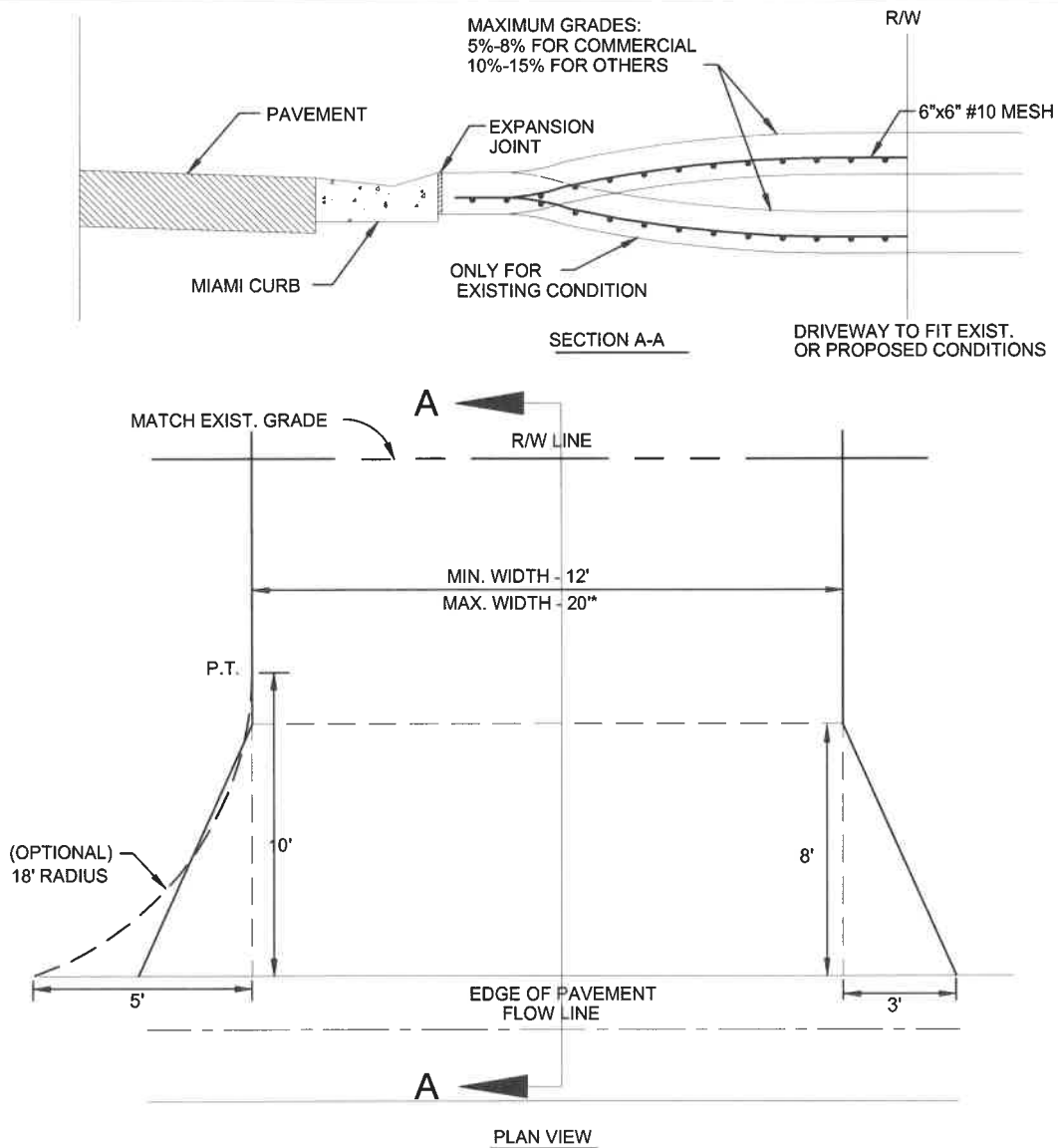
- CONSTRUCT WITH 6" REINFORCED CONCRETE (3,000 psi @ 28 DAYS) WITH 6"x6" #10 MESH OR FIBERMESH FROM EDGE OF PAVEMENT TO THE RIGHT-OF-WAY LINE.
- DRIVEWAYS ADJACENT TO A PAVED ROADWAY MUST HAVE THE APRON CONSTRUCTED IN COMPLIANCE WITH THE NOTE (A) ABOVE.
- EXISTING DRAINAGE FLOWLINE TO BE MAINTAINED. PIPING MAY BE REQUIRED AT THE COUNTY'S DISCRETION.
- 3'x8' FLARED APRON IS MINIMAL, OR 18' RADIUS.
- TOWN ENGINEER A=OR SUPERINTENDENT OF PUBLIC WORKS MAY APPROVE THE USE OF A SWALE DRIVE, IF ON-SITE CONDITIONS ARE FAVORABLE.

TOWN OF REDINGTON BEACH

REV.BY	DATE	
		DATE OF APPROVAL

RESIDENTIAL
(SWALE DRIVE)

101.0



* For driveways that can demonstrate the need for additional width, the width may not be greater than the LESSER of:

- a.) 30' total at the R/W line
- b.) 30% of the front footage as defined on the survey (or field measurement, 36' max.)

* OR AS OTHERWISE DETERMINED BY LDC. SECTION 8.15.B.3.b

- (A) CONSTRUCT WITH 6" REINFORCED CONCRETE 3000 PSI @ 28 DAYS, 6"x6" #10 WIRE MESH FROM BACK OF CURB- TO R/W LINE.
- (B) DRIVEWAYS ADJACENT TO A PAVED ROADWAY MUST HAVE THE APRON CONSTRUCTED IN COMPLIANCE WITH THE NOTE (A) ON PREVIOUS PAGE (STD. 101.0)
- (C) MAINTAIN EXISTING DRAINAGE FLOWLINE. FOR PIPING SPECIFICATIONS REFER TO F.D.O.T. STANDARD SPECIFICATIONS SECTION 430. SEE NOTE 4, PAGE 100.1. SEE SECTION 200- DRAINAGE (STD. 200.0, 202.5).
- (D) 3'x8' FLARE OR 18' RADIUS WITH CURB TRANSITION (TRANSITION FROM TYPE "F" CURB TO MIAMI CURB) SEE STD. 102.2 NO CHANGE WITH 3' VALLEY CROSSINGS - SEE STDS. 201.0, 201.1, 201.2, 201.4, 201.5, 201.6.
- (E) EXPANSION JOINT 0.50" PREFORMED JOINT FILLER OR APPROVED ALTERNATE, DRIVES WIDER THAN 12' (BEYOND FLARE) PLACE JOINT ON 10' CENTER.
- (F) LATERAL ALIGNMENT 45 DEGREES FOR DOUBLE DRIVE PER LOT, 90 DEGREES FOR SINGLE DRIVE, OFF CENTER LINE.

TOWN OF REDINGTON BEACH

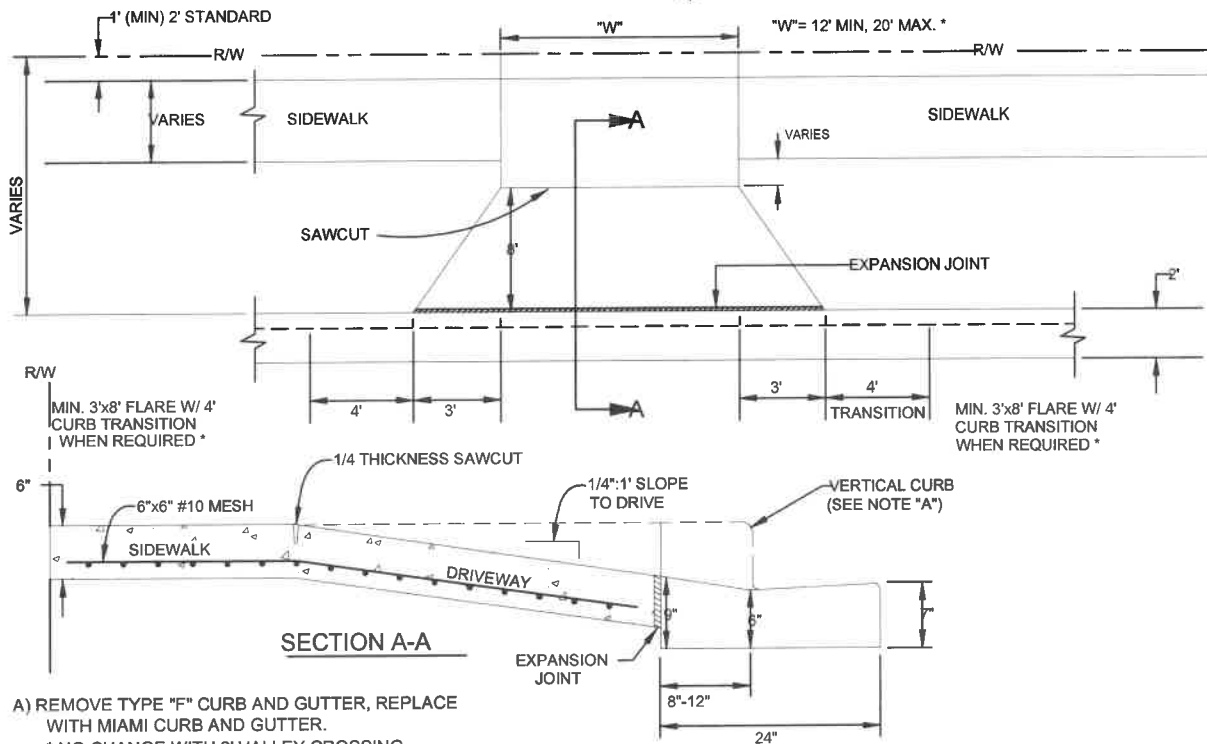
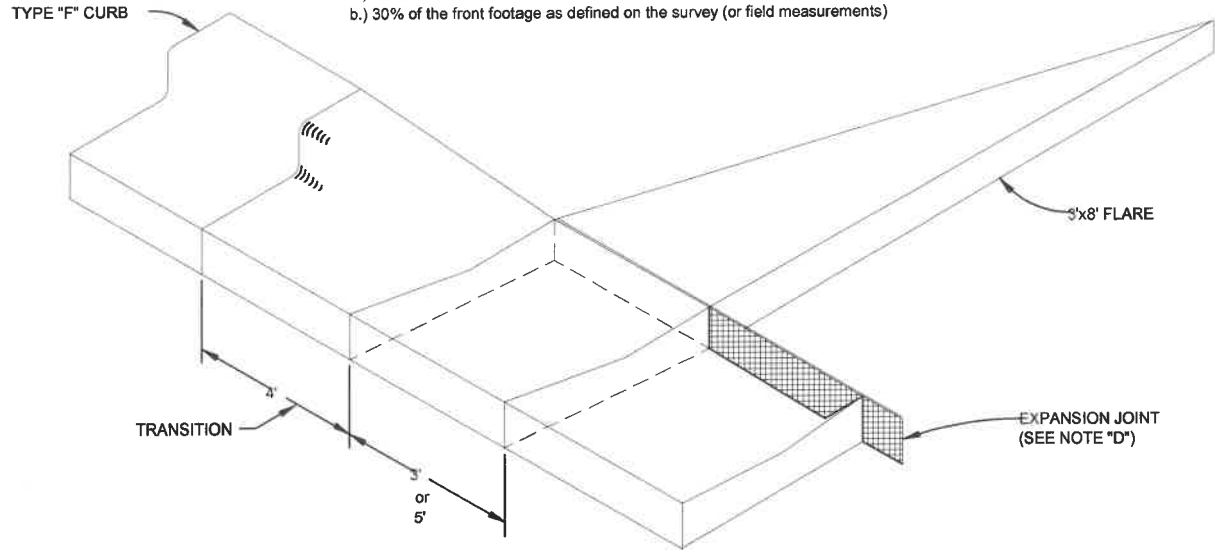
REV.BY	DATE	
		DATE OF APPROVAL

RESIDENTIAL (CURB DRIVE)

101.1

TYPE "F" CURB For * driveways that can demonstrate the need for additional width, the width may not be greater than the LESSER of:

- a.) 30' total at the R/W line
- b.) 30% of the front footage as defined on the survey (or field measurements)



A) REMOVE TYPE "F" CURB AND GUTTER, REPLACE WITH MIAMI CURB AND GUTTER.

* NO CHANGE WITH 3' VALLEY CROSSING

B) REMOVE EXISTING SIDEWALK, REPLACE WITH 6" CONCRETE, 6"x6" #10 MESH 3000 PSI AT 28 DAYS.

* OR AS DETERMINED BY LDC. SECTION 8.15B3b

C) DRIVEWAY CONSTRUCTED WITH 6" CONCRETE WITH 6"x6" #10 MESH OR FIBERMESH, 3000 PSI AT 28 DAYS

D) EXPANSION JOINT 1/2" PREFORMED JOINT FILLER PER FDOT SECTION 932-1.1 OR APPROVED ALTERNATE

E) 5' SIDEWALK ON LOCAL STREETS, 5' SIDEWALK ON THOROUGHFARES. MIXED USE PATHS MAY REQUIRE 8' SIDEWALKS PER LAND DEVELOPMENT CODE.

F) SAWCUT (1/4 THICKNESS MINIMUM) ON 10' CENTERS. IF DRIVE IS WIDER THAN 12', ADD JOINTS AT 10' CENTERS.

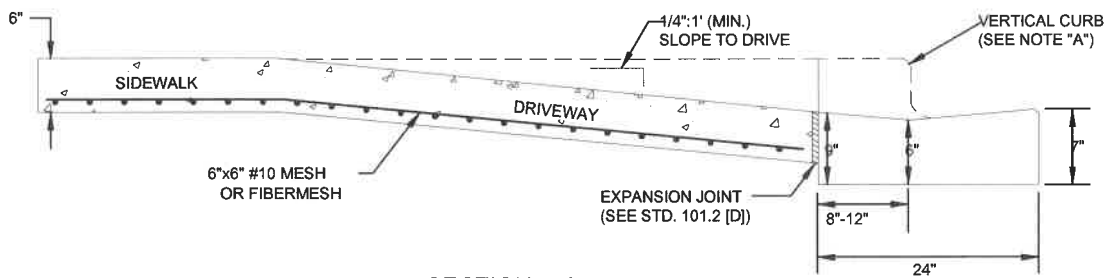
TOWN OF REDINGTON BEACH

CURB CUT &
TRANSITION W/ T-FLARE
FOR RESIDENTIAL
DRIVES

101.2

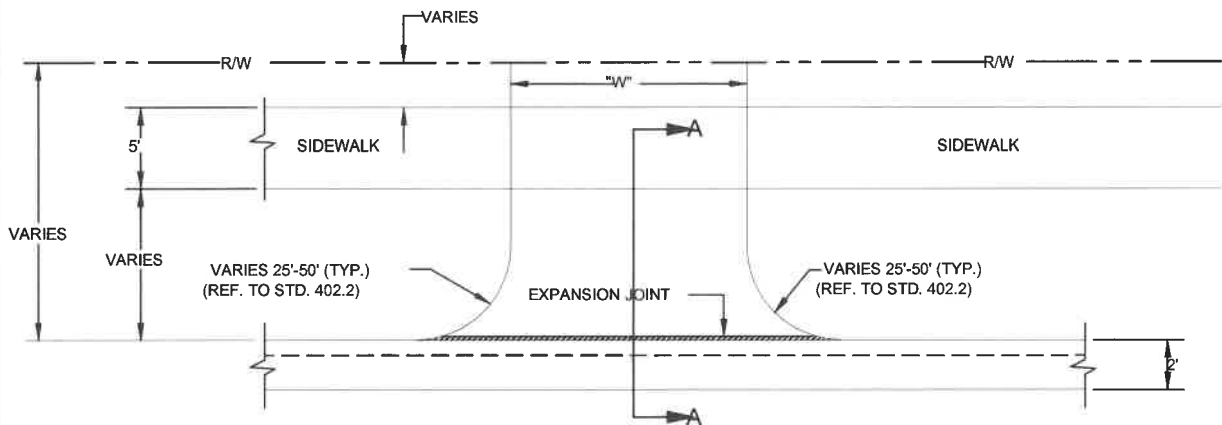
REV.BY	DATE

DATE OF APPROVAL



SECTION A-A

NOTE: WIDTH PER LDC. SECTION 8.15B3b



PLAN VIEW

- A) IF REPLACING VERTICAL CURB AND GUTTER, REPLACE WITH MIAMI CURB AND GUTTER.
* NO CHANGE WITH 3' VALLEY CROSSING
- B) SIDEWALK, CONSTRUCT WITH 6" CONCRETE, 6"x6" #10 MESH OR FIBERMESH, 3000 PSI AT 28 DAYS.
- C) DRIVEWAY CONSTRUCTED WITH 6" CONCRETE WITH 6"x6" #10 MESH OR FIBERMESH, 3000 PSI AT 28 DAYS.
- D) EXPANSION JOINT 1/2" PREFORMED JOINT FILLER PER FDOT SECTION 932-1.1 OR APPROVED ALTERNATE.
* IF DRIVE IS WIDER THAN 12', ADD JOINTS AT 10' CENTERS
- E) 5' SIDEWALK ON LOCAL STREETS, 5' SIDEWALK ON THOROUGHFARES.
(MIXED USE PATHS MAY REQUIRE 8' SIDEWALKS PER LAND DEVELOPMENT CODE.)

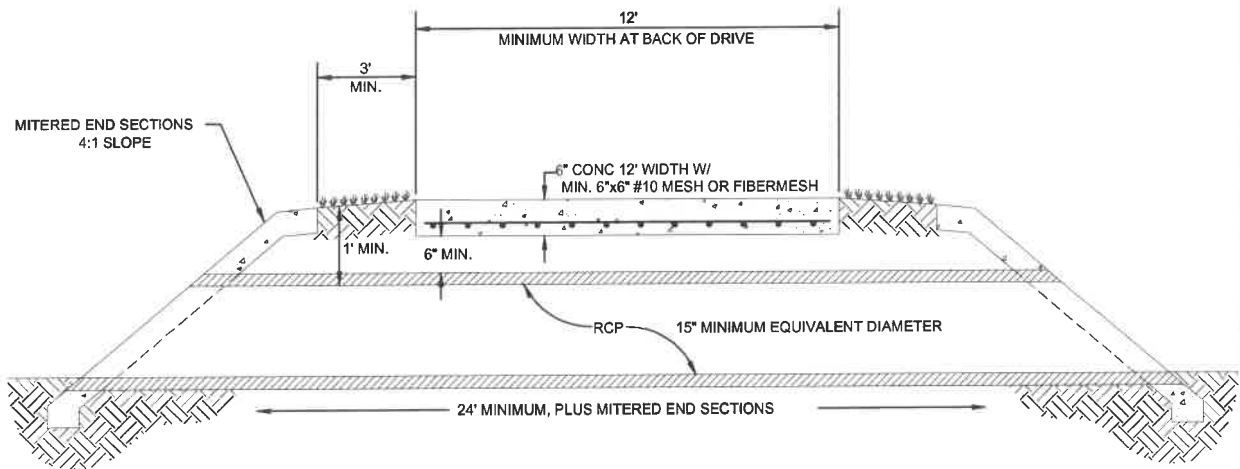
TOWN OF REDINGTON BEACH

REV.BY DATE

DATE OF APPROVAL

COMMERCIAL &
INDUSTRIAL DRIVE

101.3



TYPICAL DRIVEWAY

VARIABLES: C.M.P. WILL NOT BE ALLOWED WITHIN THE RIGHT-OF-WAY.
 R.C.P. WILL REQUIRE A MINIMUM 6" OF COVER BENEATH BOTTOM OF DRIVEWAY, FOR A TOTAL OF 1' OF COVER. HDPE PIPE IS ACCEPTABLE IN LIEU OF RCP.
 ALTERNATIVE DRIVEWAY MATERIALS MAY BE UTILIZED IN ACCORDANCE WITH THESE STANDARDS.

- NOTE:** 1) GRADES AND LOCATIONS MUST BE REVIEWED AND APPROVED BY PUBLIC WORKS FOR ALL PIPE INSTALLATIONS
- 2) ACTUAL REQUIRED PIPE DIAMETER WILL BE BASED ON THE FLOW RATE REQUIRED TO PASS THROUGH PIPE SO AS NOT TO IMPOUND WATER UPSTREAM.
- 3) PIPE SIZE TO BE DETERMINED AND APPROVED BY PUBLIC WORKS.

TOWN OF REDINGTON BEACH

REV. BY	DATE	

DATE OF APPROVAL

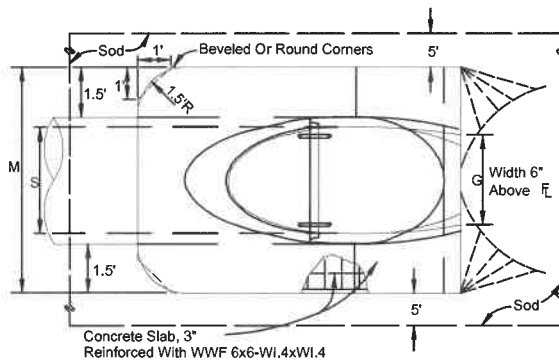
**TYPICAL DRIVEWAY
PIPE CROSS SECTION**

102.0

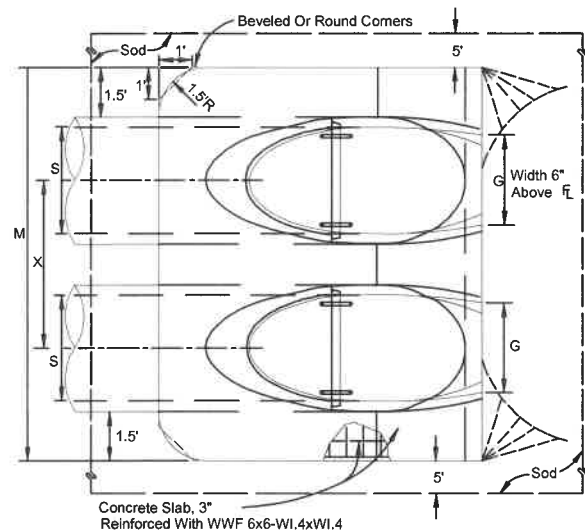
ELLIPTICAL PIPE

DIMENSIONS & QUANTITIES

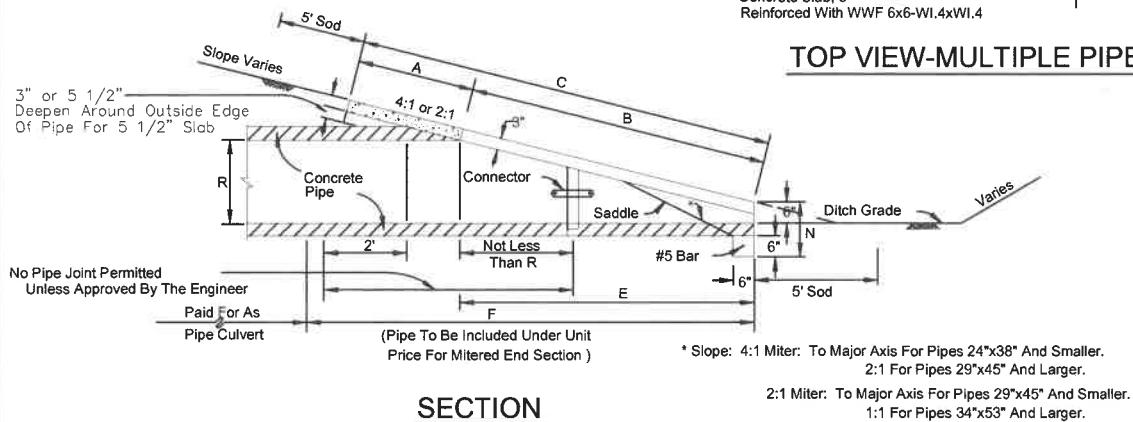
	Rise R	Span S	X	A	B	C	E	F	G	M			
										Single Pipe	Double Pipe	Triple Pipe	Quad. Pipe
2:1 Slope	12"	18"	2'-10"	1.97'	1.62'	3.59'	1.56'	4'	1.50'	4.92'	7.75'	10.58'	13.42'
	14"	23"	3'-4"	2.01'	1.99'	4.00'	1.89'	5'	1.90'	5.38'	8.71'	12.04'	15.38'
	19"	30"	4'-0"	2.11'	2.92'	5.03'	2.73'	6'	2.37'	6.04'	10.04'	14.04'	18.04'
	24"	38"	5'-0"	2.20'	3.85'	6.05'	3.56'	7'	2.85'	6.79'	11.79'	16.79'	21.79'
	29"	45"	5'-11"	2.34'	4.79'	7.13'	4.39'	8'	3.19'	7.50'	13.42'	19.33'	25.25'
	34"	53"	7'-0"	2.43'	5.72'	8.15'	5.23'	9'	3.57'	8.25'	15.25'	22.25'	29.25'
	38"	60"	7'-10"	2.52'	6.46'	8.98'	5.89'	9'	3.95'	8.92'	16.75'	24.58'	32.42'
	43"	68"	8'-11"	2.62'	7.39'	10.01'	6.73'	10'	4.28'	9.67'	18.58'	27.50'	36.42'
	48"	76"	9'-11"	2.71'	8.33'	11.04'	7.56'	11'	4.59'	10.42'	20.33'	30.25'	40.17'
	53"	83"	10'-8"	2.80'	9.26'	12.06'	8.39'	12'	4.77'	11.08'	21.75'	32.42'	43.08'
4:1 Slope	12"	18"	2'-10"	2.36'	3.06'	5.42'	3.03'	5'	1.50'	4.92'	7.75'	10.58'	13.42'
	14"	23"	3'-4"	2.44'	3.75'	6.19'	3.70'	6'	1.90'	5.38'	8.71'	12.04'	15.38'
	19"	30"	4'-0"	2.62'	5.47'	8.09'	5.36'	8'	2.37'	6.04'	10.04'	14.04'	18.04'
	24"	38"	5'-0"	2.79'	7.18'	9.97'	7.03'	10'	2.85'	6.79'	11.79'	16.79'	21.79'
	29"	45"	5'-11"	3.05'	8.90'	11.95'	8.70'	12'	3.19'	7.50'	13.42'	19.33'	25.25'
	34"	53"	7'-0"	3.22'	10.62'	13.84'	10.36'	13'	3.57'	8.25'	15.25'	22.25'	29.25'
	38"	60"	7'-10"	3.39'	11.99'	15.38'	11.70'	15'	3.95'	8.92'	16.75'	24.58'	32.42'
	43"	68"	8'-11"	3.56'	13.71'	17.27'	13.36'	17'	4.28'	9.67'	18.58'	27.50'	36.42'
	48"	76"	9'-11"	3.73'	15.43'	19.16'	15.03'	19'	4.59'	10.42'	20.33'	30.25'	40.17'
	53"	83"	10'-8"	3.91'	17.15'	21.06'	16.70'	20'	4.77'	11.08'	21.75'	32.42'	43.08'
	58"	91"	11'-8"	4.08'	18.87'	22.95'	18.36'	22'	5.01'	11.83'	23.50'	35.17'	46.83'



TOP VIEW-SINGLE PIPE



TOP VIEW-MULTIPLE PIPE



SECTION

TOWN OF REDINGTON BEACH

REV. BY	DATE

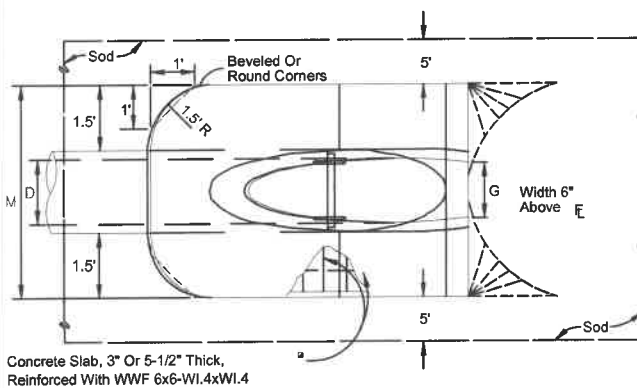
DATE OF APPROVAL _____

**MITERED END SECTION
FOR ELLIPTICAL, SINGLE,
AND MULTIPLE PIPES**

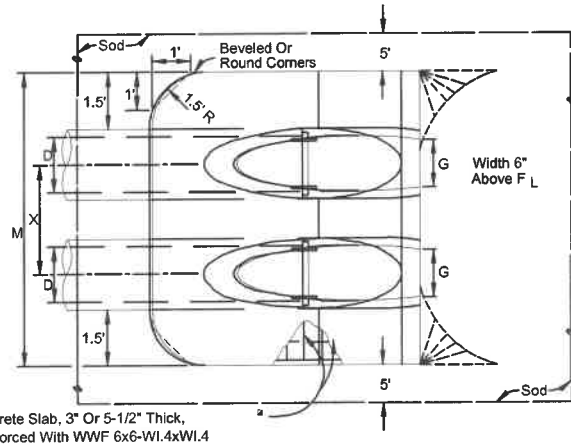
102.1

ROUND PIPE

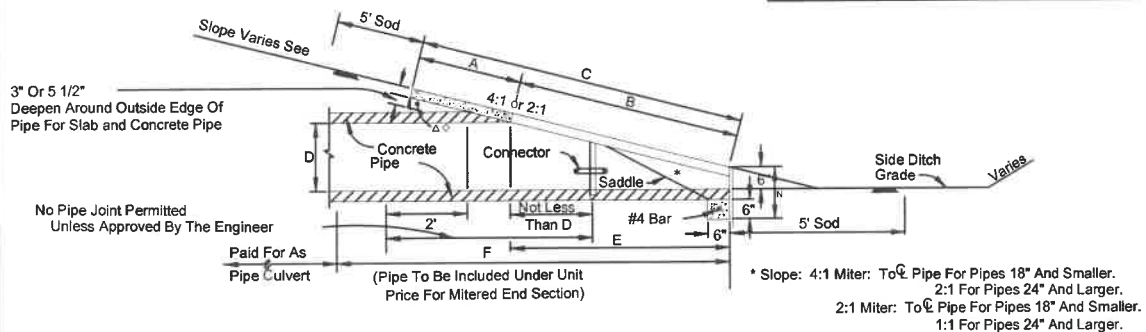
DIMENSIONS AND QUANTITIES												
	D	X	A	B	C	E	F	G	M			
									Single	Double	Triple	Quad.
									Pipe	Pipe	Pipe	Pipe
2:1 Slope	15"	2'-7"	1.92'	2.18'	4.10'	2.06'	5'	1.22'	4.63'	7.21'	9.79'	12.37'
	18"	2'-10"	1.97'	2.74'	4.71'	2.56'	6'	1.41'	4.92'	7.75'	10.58'	13.42'
	24"	3'-5"	2.06'	3.85'	5.91'	3.56'	7'	1.73'	5.50'	8.92'	12.33'	15.75'
	30"	4'-3"	2.15'	4.95'	7.10'	4.56'	8'	2.00'	6.08'	10.33'	14.58'	18.83'
	36"	5'-1"	2.25'	6.08'	8.33'	5.56'	9'	2.24'	6.67'	11.75'	16.83'	21.92'
	42"	6'-0"	2.34'	7.21'	9.55'	6.56'	10'	2.45'	7.25'	13.25'	19.25'	25.25'
	48"	6'-9"	2.43'	8.33'	10.76'	7.56'	11'	2.65'	7.83'	14.58'	21.33'	28.08'
	54"	7'-8"	2.52'	9.44'	11.96'	8.56'	12'	2.83'	8.42'	16.08'	23.75'	31.42'
	60"	8'-6"	2.62'	10.56'	13.18'	9.56'	14'	3.00'	9.00'	17.50'	26.00'	34.50'
	66"	9'-2"	2.71'	11.68'	14.39'	10.56'	15'	3.18'	9.58'	18.75'	27.92'	37.08'
72"	10'-0"	2.80'	12.80'	15.60'	11.56'	16'	3.30'	10.16'	20.16'	30.16'	40.16'	
4:1 Slope	15"	2'-7"	2.27'	4.09'	6.36'	4.03'	8'	1.22'	4.63'	7.21'	9.79'	12.37'
	18"	2'-10"	2.36'	5.12'	7.48'	5.03'	9'	1.41'	4.92'	7.75'	10.58'	13.42'
	24"	3'-5"	2.53'	7.18' Δ	9.71'	7.03' Δ	11'	1.73'	5.50'	8.92'	12.33'	15.75'
	30"	4'-3"	2.70'	9.25'	11.95'	9.03'	13'	2.00'	6.08'	10.33'	14.58'	18.83'
	36"	5'-1"	2.87'	11.31' ◇	14.18'	11.03' ◇	15'	2.24'	6.67'	11.75'	16.83'	21.92'
	42"	6'-0"	3.05'	13.37'	16.42'	13.03'	17'	2.45'	7.25'	13.25'	19.25'	25.25'
	48"	6'-9"	3.22'	15.43'	18.65'	15.03'	19'	2.65'	7.83'	14.58'	21.33'	28.08'
	54"	7'-8"	3.39'	17.49'	20.88'	17.03'	21'	2.83'	8.42'	16.08'	23.75'	31.42'
	60"	8'-6"	3.56'	19.55'	23.11'	19.03'	23'	3.00'	9.00'	17.50'	26.00'	34.50'
	66"	9'-2"	3.73'	21.62'	25.35'	21.03'	25'	3.18'	9.58'	18.75'	27.92'	37.08'
72"	10'-0"	3.91'	22.68'	26.59'	23.03'	27'	3.30'	10.16'	20.16'	30.16'	40.16'	



TOP VIEW-SINGLE PIPE



TOP VIEW-MULTIPLE PIPE



SECTION

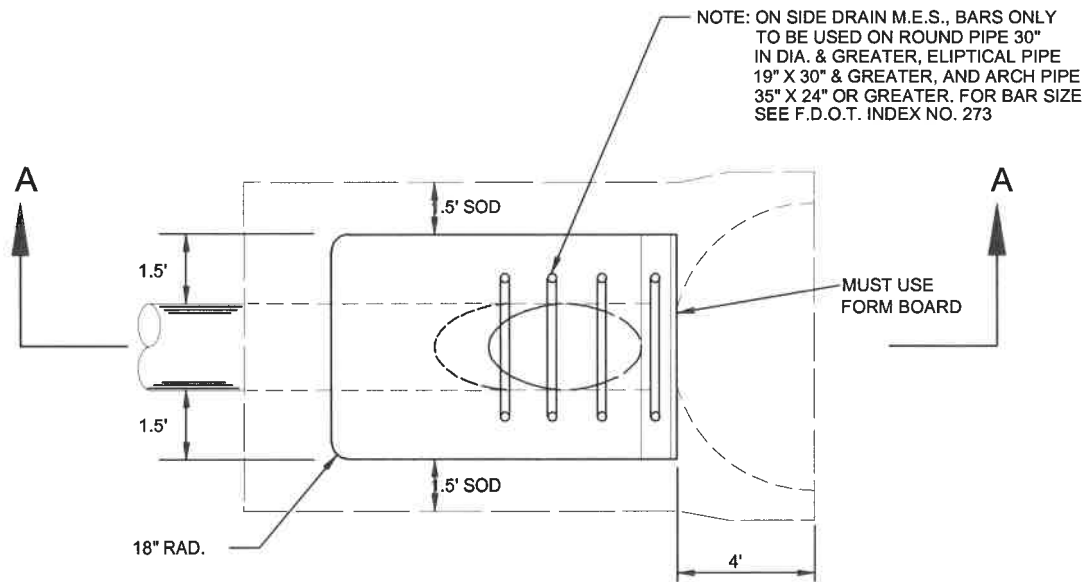
TOWN OF REDINGTON BEACH

REV.BY DATE

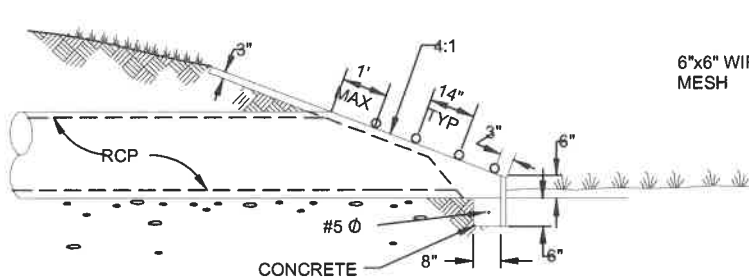
DATE OF APPROVAL

**MITERED END
SECTION FOR ROUND,
SINGLE & MULTIPLE
PIPES**

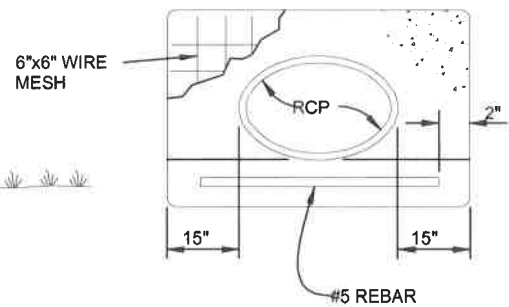
102.2



PLAN VIEW



SECTION A-A



END VIEW

SOD TO BE PLACED 1.5 FT AROUND THE PERIMETER OF THE WALL, SOD TO BE BAHIA; ST. AUGUSTINE SOD WHERE THERE IS TIDAL, HEAVY CONCENTRATION OF SALT, OR SURROUNDING PROPERTY IS ST. AUGUSTINE.

TOWN OF REDINGTON BEACH

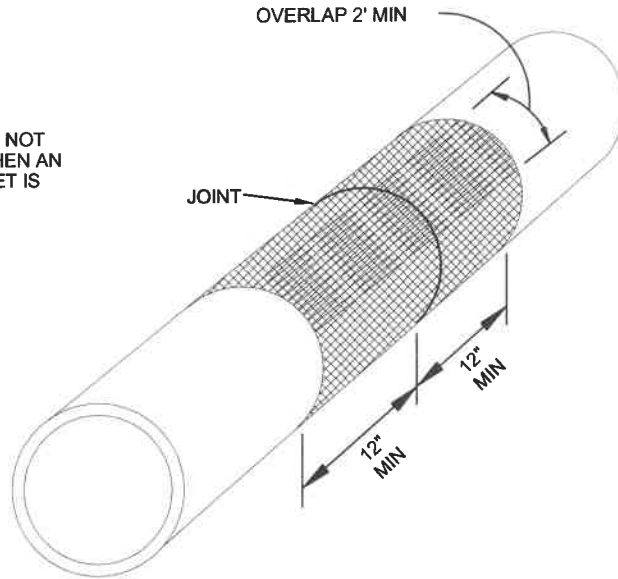
REV.BY DATE

DATE OF APPROVAL

**DRIVEWAY AND
ROAD PIPE MITERED
END SECTION**

103.0

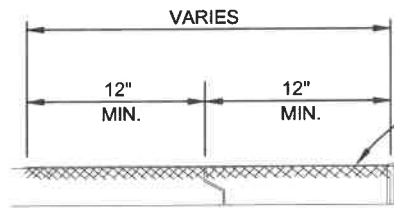
NOTE: FILTER FABRIC NOT
REQUIRED WHEN AN
O-RING GASKET IS
USED.



ISOMETRIC VIEW

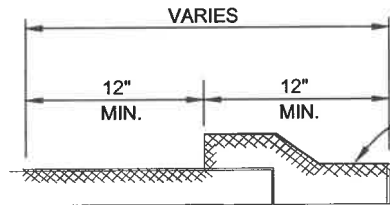
NOTE: FILTER FABRIC MATERIAL
MUST MEET THE FOLLOWING
ASTM REQUIREMENTS:

ASTM D 4595
ASTM D 4632
ASTM D 4533
ASTM D 4833
ASTM D 4491



BUTT JOINT

WOVEN OR NON-WOVEN
FILTER FABRIC
NOTE: NOT NECESSARY
WITH O-RING GASKET



BELL JOINT

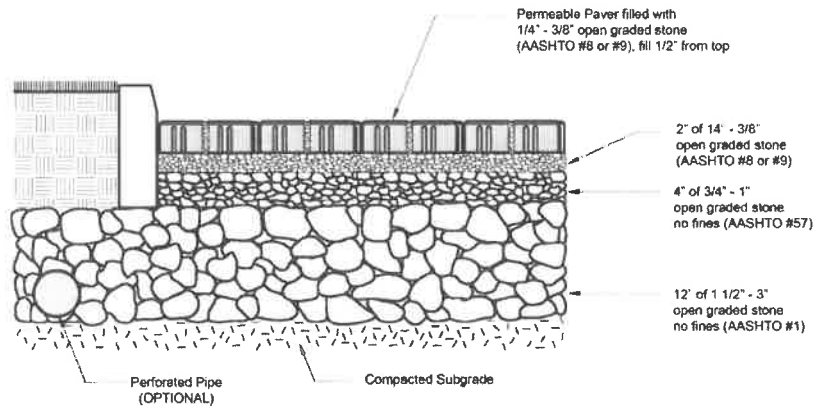
WOVEN OR NON-WOVEN
FILTER FABRIC

TOWN OF REDINGTON BEACH

REV.BY	DATE	
		DATE OF APPROVAL

**FILTER FABRIC
JACKET**

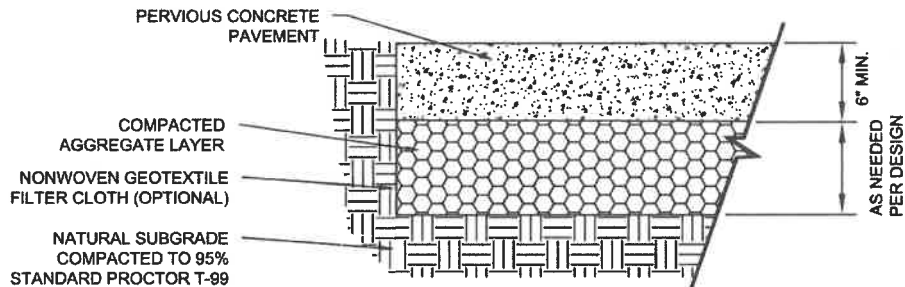
104.0



1. 6" POURED CONCRETE BOND BAND SHALL BE INSTALLED WHERE CURB IS NOT PRESENT WITH 3/4" REVEAL AT EDGE OF TRAVEL WAY.
2. 6" POURED CONCRETE BOND BAND SHALL BE INSTALLED ON ALL OUTSIDE EDGES WHERE NO EXISTING OR NEW SOLID STRUCTURE IS PRESENT TO HOLD PAVERS IN PLACE.
3. ALL PAVERS WITHIN TRAFFIC AREAS MUST BE TRAFFIC BEARING.
4. A RIGHT OF WAY USE PERMIT AND AN APPROVED LICENSE AGREEMENT MUST BE OBTAINED IF PAVERS ARE TO BE INSTALLED IN CITY RIGHT OF WAY.
5. PAVER INSTALLATION SPECIFICATIONS APPLY TO PUBLIC AND PRIVATE IMPROVEMENTS EXCEPT FOR NON-TRAFFIC BEARING SIDEWALKS CONSTRUCTED ENTIRELY ON PRIVATE PROPERTY.
6. DRIVEWAY REPAIRS DUE TO FUTURE RIGHT OF WAY UTILITY AND/OR ROAD WORK ARE THE FULL RESPONSIBILITY OF THE OWNER.

PERMEABLE PAVER INSTALLATION DETAIL

N.T.S.



1. FOR USE IN PARKING AREAS AND LOW VOLUME ACCESSWAYS ONLY.
2. ENGINEER OF RECORD SHALL SUBMIT PERVIOUS PAVEMENT DESIGN AND SPECIFICATIONS BASED ON THE SITE SPECIFIC SOIL CONDITIONS, STORMWATER STORAGE REQUIREMENTS AND THE ANTICIPATED TRAFFIC LOADINGS.
3. PERVIOUS CONTRACTORS SHALL BE NRMCA CERTIFIED CRAFTSMEN.
4. PERVIOUS PRODUCER/SUPPLIERS AND TESTING FIRMS SHALL USE NRMCA CERTIFIED TECHNICIANS.
5. POROUS ASPHALT MAY BE USED AS AN ALTERNATIVE MATERIAL AS DESIGNED BY THE EOR.
6. A RIGHT OF WAY USE PERMIT AND AN APPROVED LICENSE AGREEMENT MUST BE OBTAINED IF PAVERS ARE TO BE INSTALLED IN CITY RIGHT OF WAY.
7. DRIVEWAY REPAIRS DUE TO FUTURE RIGHT OF WAY UTILITY AND/OR ROAD WORK ARE THE FULL RESPONSIBILITY OF THE OWNER

PERVIOUS CONCRETE PAVEMENT DETAIL

N.T.S.

TOWN OF REDINGTON BEACH

REV.BY DATE

DATE OF APPROVAL

**PAVER AND
PREVIOUS CONCRETE**

105.0

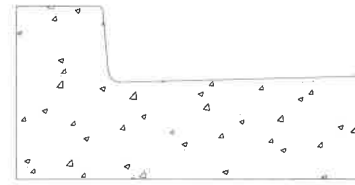
CURB & GUTTER AND DRAINAGE STRUCTURES & PIPE INDEX

	<u>SHEET NO.</u>
200 CURB & GUTTER, DRAINAGE	200.0
A. CURB & GUTTER (CONTROL SHEET)	201.0
1. TYPE "A" MIAMI CURB & GUTTER	201.1
2. TYPE "F"	201.2
3. MODIFIED TYPE "AB"	201.3
4. TYPE "D"	201.4
5. INVERTED CROWN GUTTER	201.5
6. VALLEY CROSSING	201.6
B. DRAINAGE (CONTROL SHEET)	202.0
1. TYPICAL CONCRETE BLOCK BOX	202.1
2. CURB INLET	202.2
3. DROP INLET	202.3
4. NON TRAFFIC BEARING GRATE INLET	202.4
5. TRAFFIC BEARING GRATE INLET	202.5
6. ACCESS COVER FOR STORMWATER JUNCTION BOX (PRIVATE)	203.0
7. ACCESS COVER FOR STORMWATER JUNCTION BOX (PUBLIC)	203.1
8. ACCESS COVER FOR CATCH BASIN AND THROAT INLET (PUBLIC)	203.2
9. UNDERDRAIN GENERAL NOTES	204.0
10. UNDERDRAIN TYPICAL LAYOUT	204.1
11. UNDERDRAIN CLEANOUTS (FLEXIBLE & RIGID)	204.2
12. STORM SEWER PIPE - GENERAL NOTES	205.0
13. CONCRETE BLOCK HEADWALL	205.1

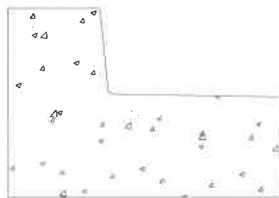
TOWN OF REDINGTON BEACH		CURB & GUTTER, DRAINAGE STRUCTURES & PIPE INDEX	200.0
REV.BY	DATE		
DATE OF APPROVAL			



TYPE "A"
MIAMI CURB & GUTTER
 STD. 201.1



TYPE "F"
CURB & GUTTER
 STD. 201.2



TYPE "AB"
MODIFIED CURB & GUTTER
 STD. 201.3



TYPE "D"
CURB
 STD. 201.4



INVERTED CROWN
CURB & GUTTER
 STD. 201.5

1. ALL CURB & GUTTER SHALL PROVIDE A 0.125" TO 0.25" CONTRACTION JOINT AT 10' CENTERS.
2. ALL CURB & GUTTER SHALL BE CONSTRUCTED IN COMPLIANCE WITH FLORIDA D.O.T. STANDARD SPECIFICATIONS PER F.D.O.T. ROADWAY AND TRAFFIC DESIGN STANDARDS INDEX NO. 300, LATEST REVISION.
3. TOP OF FINISHED PAVEMENT SHALL BE 0.25" ABOVE LIP OF GUTTER, LOW SIDE.

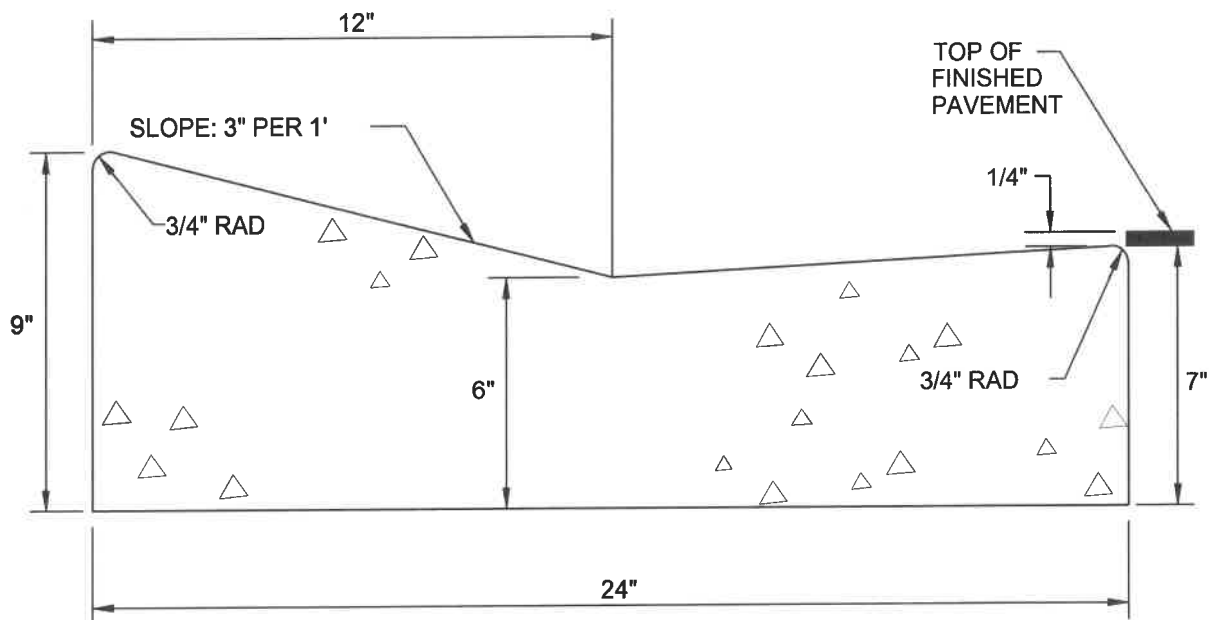
TOWN OF REDINGTON BEACH

REV.BY DATE

DATE OF APPROVAL

CURB & GUTTER
CONTROL SHEET

201.0



TYPE "A"
MIAMI CURB & GUTTER

- A) CLASS 1 CONCRETE 3,000 P.S.I. AT 28 DAYS.
- B) CURB AND GUTTER SHALL MEET THE SPECIFICATIONS ESTABLISHED BY FLORIDA D.O.T. STANDARD SPECIFICATIONS PER F.D.O.T. ROADWAY AND TRAFFIC DESIGN STANDARDS INDEX NO. 300, LATEST REVISION.

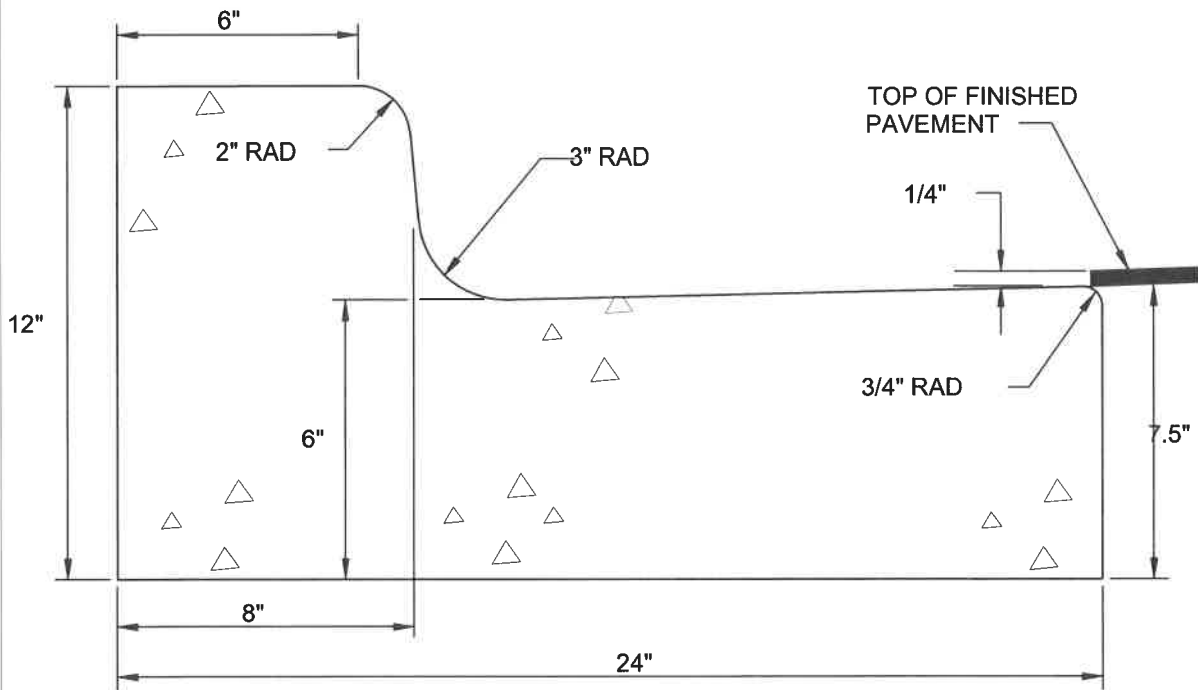
TOWN OF REDINGTON BEACH

REV.BY DATE

DATE OF APPROVAL

TYPE A
MIAMI
CURB & GUTTER

201.1



TYPE "F" BARRIER CURB & GUTTER

A) CLASS 1 CONCRETE 3,000 P.S.I. AT 28 DAYS.

B) CURB AND GUTTER SHALL MEET THE SPECIFICATIONS ESTABLISHED BY FLORIDA D.O.T. STANDARD SPECIFICATIONS PER F.D.O.T. ROADWAY AND TRAFFIC DESIGN STANDARDS INDEX NO. 300, LATEST REVISION.

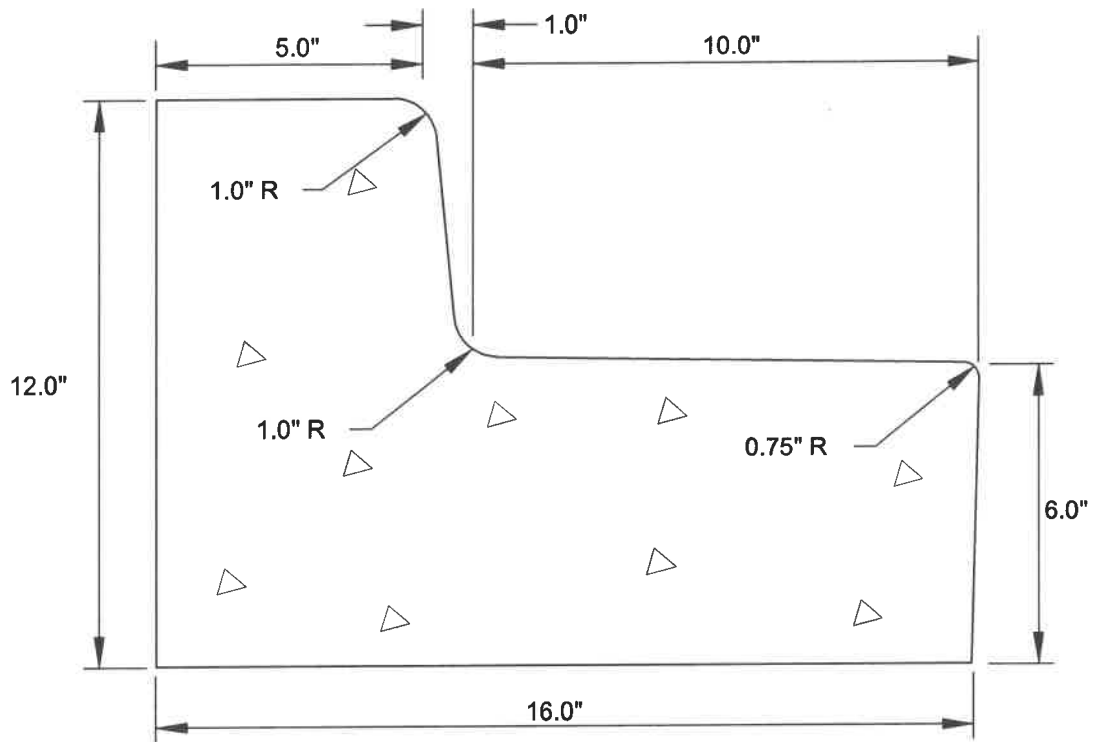
TOWN OF REDINGTON BEACH

REV.BY DATE

DATE OF APPROVAL

TYPE F
CURB & GUTTER

201.2



TYPE "AB"
MODIFIED CURB & GUTTER

A) CLASS 1 CONCRETE 3,000 PSI AT 28 DAYS.

B) CURB AND GUTTER SHALL MEET THE SPECIFICATIONS ESTABLISHED BY FLORIDA D.O.T.
STANDARD SPECIFICATIONS PER F.D.O.T. ROADWAY AND TRAFFIC DESIGN STANDARDS
STANDARDS INDEX NO. 300, LATEST REVISION.

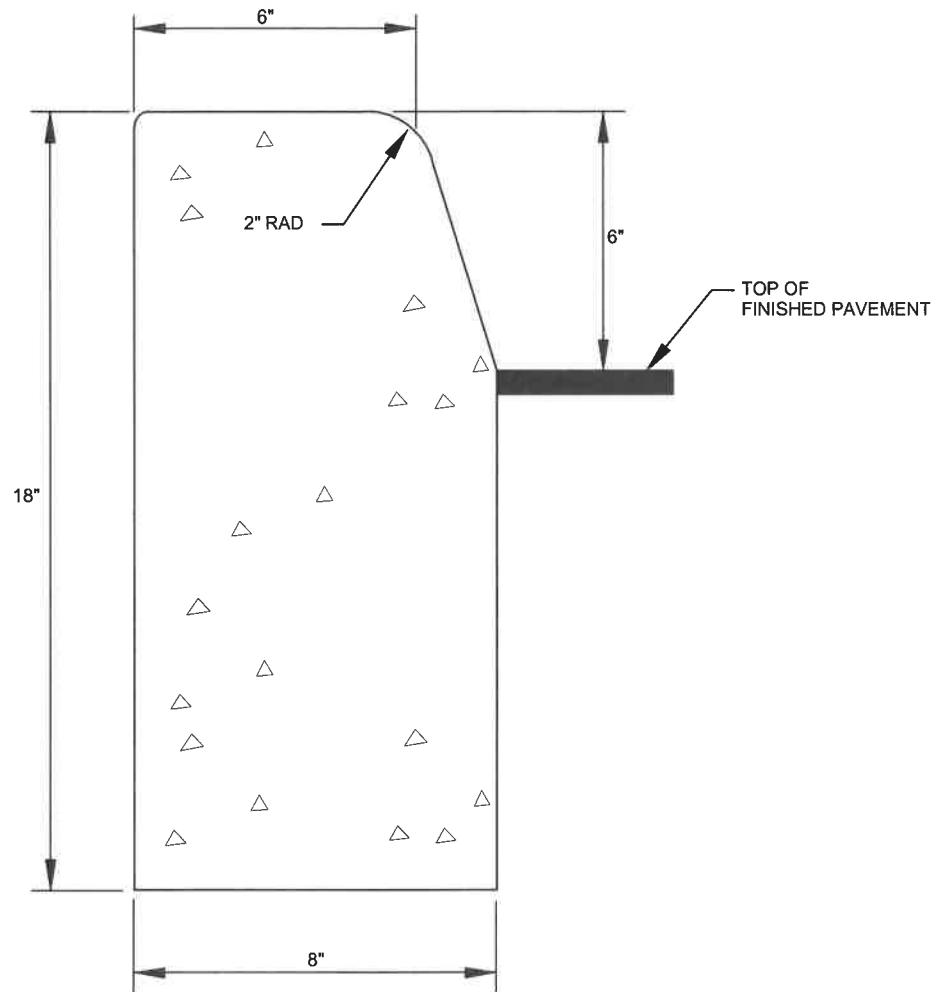
TOWN OF REDINGTON BEACH

REV.BY DATE

DATE OF APPROVAL

**TYPE "AB" MODIFIED
CURB & GUTTER**

201.3



TYPE "D"
HIGH BACK CURB

A) CLASS 1 CONCRETE, 3,000 P.S.I. AT 28 DAYS.

B) CURB SHALL MEET THE SPECIFICATIONS ESTABLISHED BY F.D.O.T. STANDARD SPECIFICATIONS
PER F.D.O.T. ROADWAY AND TRAFFIC DESIGN STANDARDS INDEX NO. 300, LATEST REVISION.

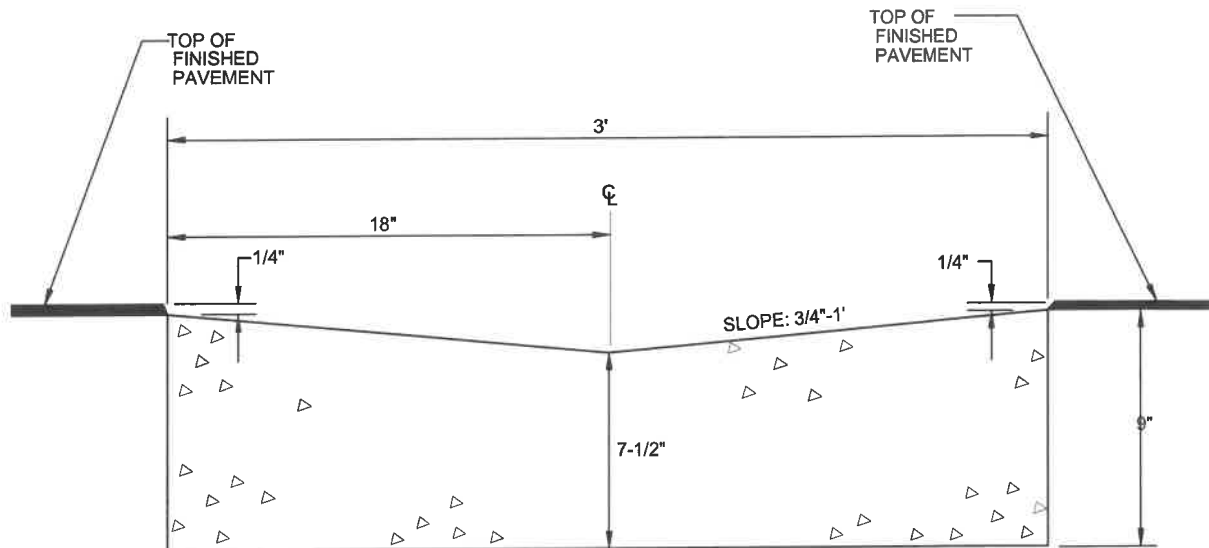
TOWN OF REDINGTON BEACH

REV.BY DATE

DATE OF APPROVAL

TYPE D CURB

201.4



INVERTED CROWN GUTTER

A) CLASS 1 CONCRETE, 3,000 P.S.I. AT 28 DAYS.

B) CURB SHALL MEET SPECIFICATIONS ESTABLISHED BY FLORIDA D.O.T. STANDARD SPECIFICATIONS, PER F.D.O.T. ROADWAY AND TRAFFIC DESIGN STANDARDS INDEX NO. 300, LATEST REVISION.

C) SEE SHEET 401.9 FOR INVERTED CROWN APPLICATION.

NOTE: THIS TYPICAL SECTION SHALL BE CONSIDERED FOR PRIVATE ROAD USAGE ONLY! IT MUST BE APPROVED THRU THE PLANNING & TRANSPORTATION DEPARTMENTS, JOINTLY.

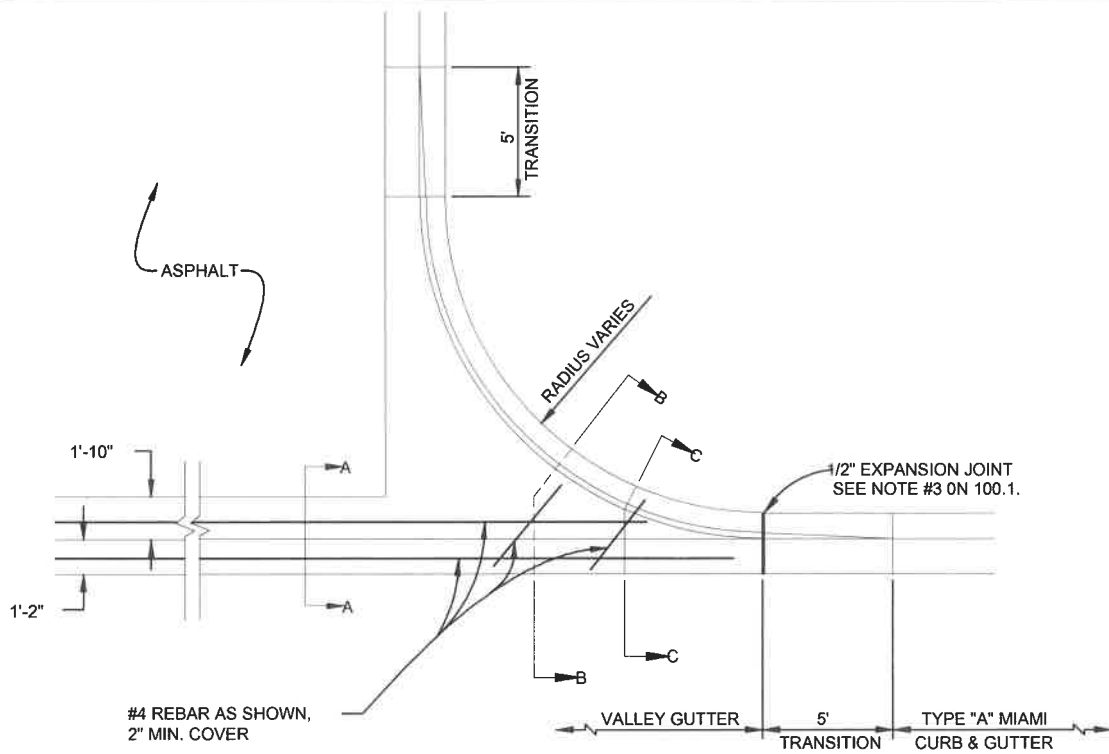
TOWN OF REDINGTON BEACH

REV.BY DATE

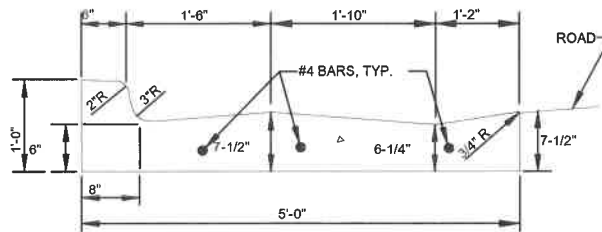
DATE OF APPROVAL

INVERTED CROWN

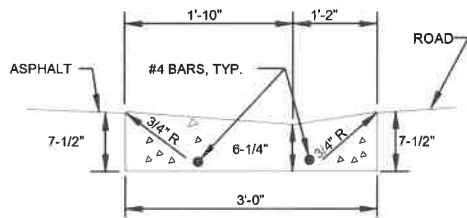
201.5



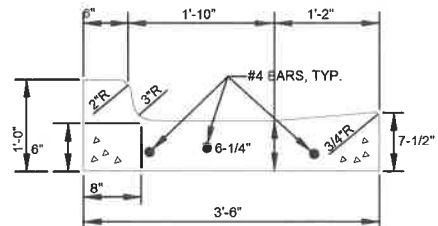
PLAN VIEW



SECTION "B-B"



SECTION "A-A"



SECTION "C-C"

3' VALLEY CROSSING

* CLASS 1 CONCRETE, 3,000 P.S.I. AT 28 DAYS.

TOWN OF REDINGTON BEACH

REV. BY DATE

DATE OF APPROVAL

VALLEY CROSSING

201.6

GENERAL NOTES

1. ALL REFERENCED STANDARDS SHALL BE LATEST REVISION.
2. CONCRETE SHALL BE CLASS "1" AS SPECIFIED IN SECTION 345 OF F.D.O.T. SPECIFICATIONS
3. SEE SECTION 425-2.2 "MORTAR" OF FLORIDA D.O.T. SPECIFICATIONS.
4. IRON CASTING SHALL BE AS SPECIFIED IN SECTION 962-8 OF F.D.O.T. SPECIFICATIONS. SEE SECTION 425-5.
5. ALL REINFORCEMENT STEEL SHALL BE AS SPECIFIED IN SECTIONS 415 & 931.1 OF F.D.O.T. SPECIFICATIONS.
6. SEE FLORIDA D.O.T. SPECIFICATIONS FOR GRATINGS.
7. SEE FLORIDA D.O.T. SPECIFICATIONS FOR SECTION 125 "EXCAVATION FOR STRUCTURES."
8. PRECAST TOP AND BOTTOM TO BE F.D.O.T. STANDARDS WITH MINIMUM TRAFFIC BEARING 8" THICKNESS.
9. ALL STORMWATER PIPE SHALL BE INSTALLED BEHIND THE CURB OR EDGE OF PAVEMENT AND WITHIN THE RIGHT OF WAY AND WITHIN THE DRAINAGE EASEMENTS.
10. THE FOLLOWING IS THE DRAINAGE STRUCTURE WALL MINIMUM THICKNESS:

<u>PRECAST</u>	<u>BLOCK</u>
NON-TRAFFIC 6"	8" EITHER WAY

NOTE: FOR DRAINAGE STRUCTURES WITH PIPE DIAMETERS UP TO AND INCLUDING 24".
6" PRECAST WALLS ARE ACCEPTABLE FOR TRAFFIC BEARING.

DIMENSION INDEX

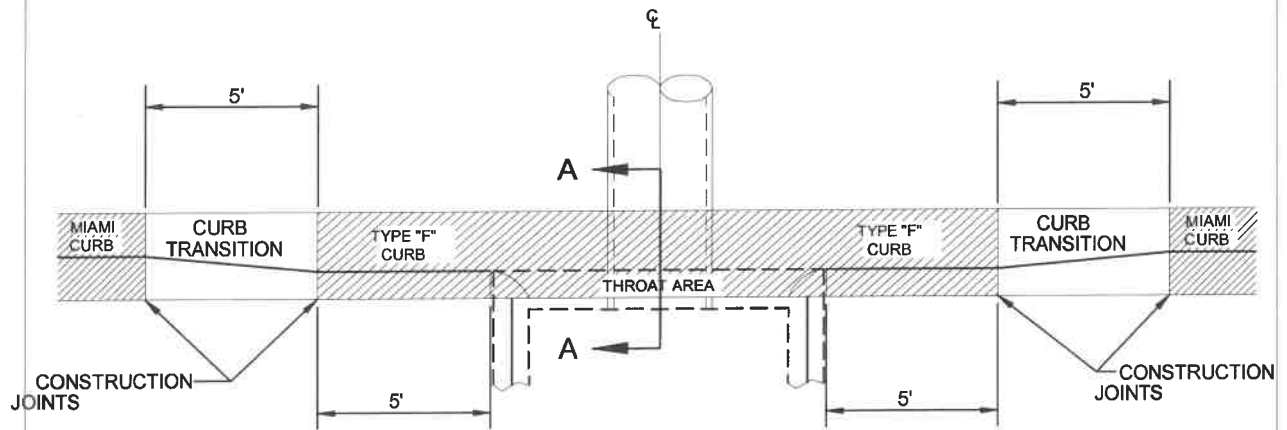
PIPE SIZE	TYPE	"C"	"D"	"E"	"F"	"G"	"H"
15"	RCP	2'8"	4'	5'	4'	5'4"	6'4"
12"x18"	RCP	"	"	"	"	"	"
18"	RCP	"	"	"	"	"	"
14"x23"	RCP	"	"	"	"	"	"
24"	RCP	3'4"	4'8"	5'8"	"	"	"
19"x30"	RCP	4'	5'4"	6'4"	"	"	"
30"	RCP	"	"	"	"	"	"
24"x38"	RCP	5'	6'4"	7'4"	"	"	"
36"	RCP	5'	6'4"	"	"	"	"
66"	RCP	8'5"	9'9"	10'9"	4'8"	6'0"	7'0"

TOWN OF REDINGTON BEACH

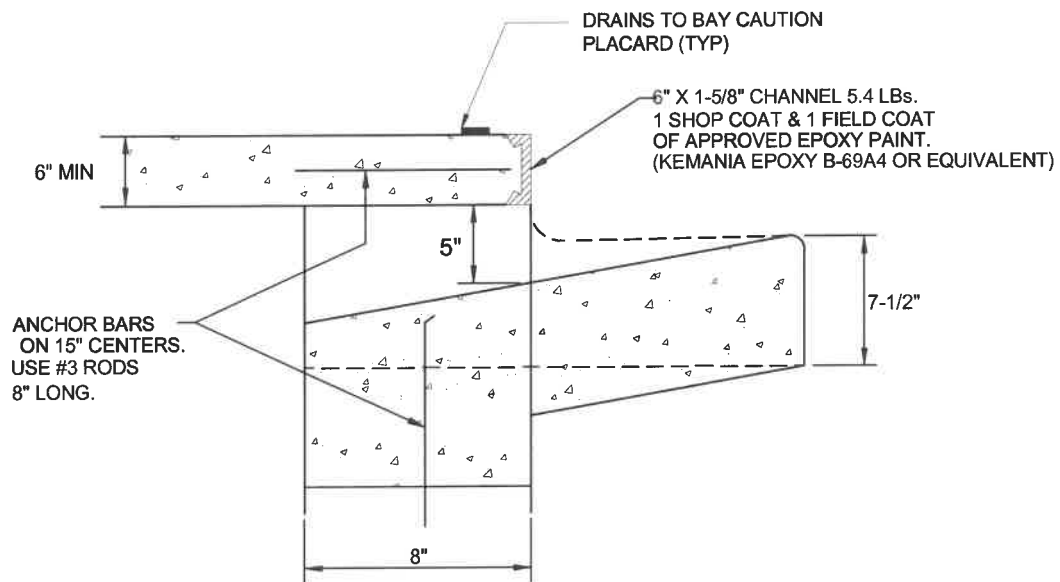
REV. BY	DATE	
		DATE OF APPROVAL

**DRAINAGE
CONTROL SHEET**

202.0



PLAN VIEW



SECTION A-A

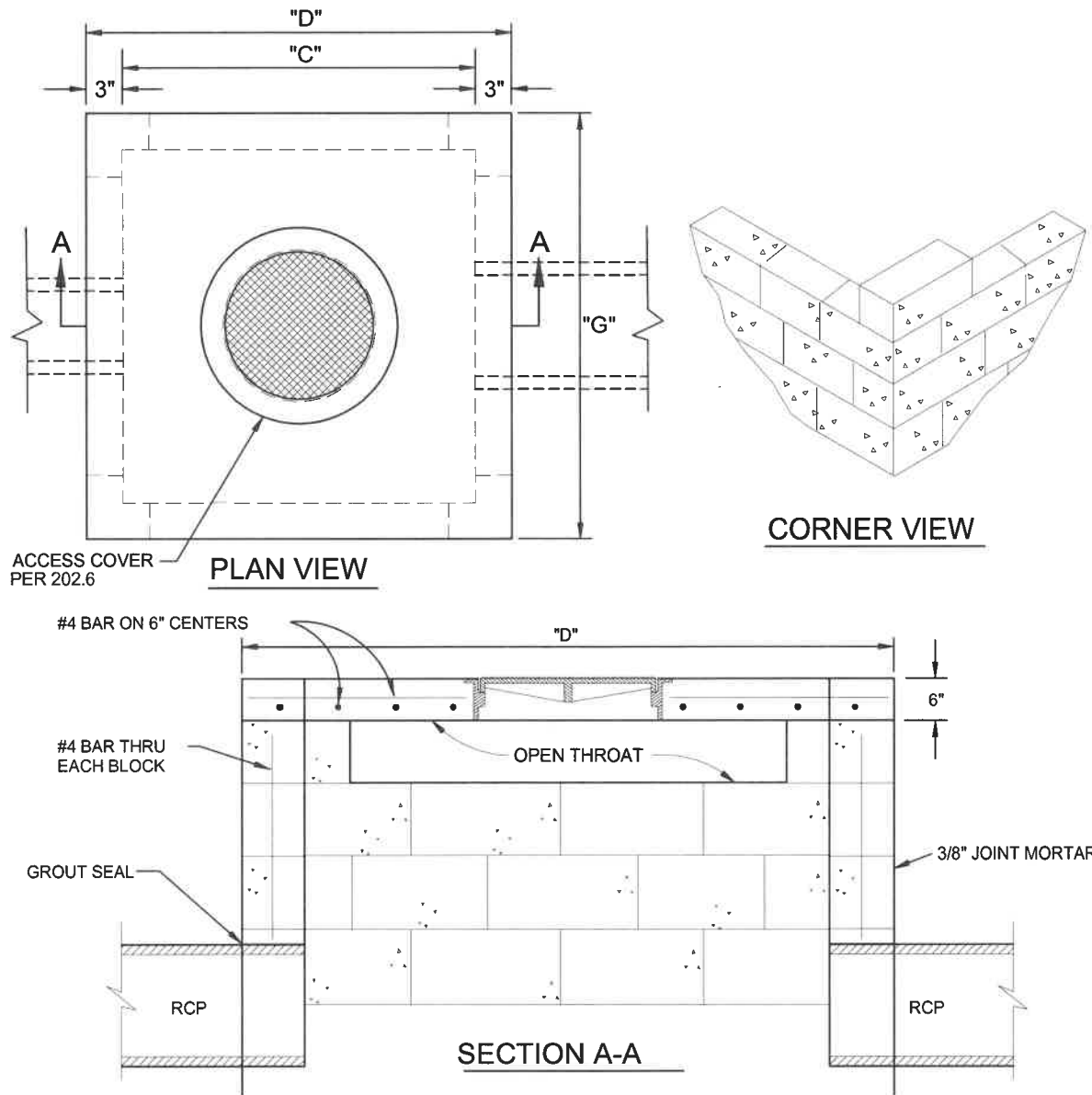
- A) USE STANDARD CATCH BASIN & JUNCTION BOX DIMENSION INDEX (SHEET # 202.0) DETAILS AND COVER (SHEET # 202.6).
- B) SEE CURB & GUTTER INDEX (SHEET # 201.0) FOR APPLICABLE CURB TYPE.
- C) SEE SHEET # 202.0 "GENERAL NOTES" FOR APPLICABLE INFORMATION.
- D) PRECAST BOXES AS SPECIFIED IN F.D.O.T. ROADWAY AND TRAFFIC DESIGN STANDARDS (2006) ARE AN ACCEPTABLE ALTERNATIVE AS APPROVED BY THE DIRECTOR OR HIS DESIGNEE.
- E) ANGLE BRACKETS SHOWN ON 202.1 NOT REQUIRED.

TOWN OF REDINGTON BEACH

REV.BY	DATE	
		DATE OF APPROVAL

CURB INLET

202.2



- A) DROP INLET IS NOT DESIGNED TO BE SUBJECTED TO VEHICULAR TRAFFIC.
- B) NUMBER OF SIDES OPEN FOR DRAINAGE DEPENDS UPON FLOW VOLUME REQUIREMENTS.
- C) THE FOLLOWING MATERIALS SHALL BE AS SPECIFIED IN FLORIDA D.O.T. SPEC'S., 2000. SEC 346 CONCRETE, SEC 962-8 IRON CASTING, SEC 931-1 REINFORCED STEEL.
- D) FILL BLOCKS WITH 3,000 P.S.I. CONCRETE (EACH CELL), USE #4 ROD IN EACH BLOCK, 16" O/C.
- E) USE #4 ROD ON 6" CENTERS BOTH WAYS ON LID.
- F) SEE SHEET # 202.0 GENERAL NOTES AND DIMENSIONS INDEX, ALSO SHEET 202.1 TYP. CONC. BOX.
- G) PRECAST BOXES TO F.D.O.T. SPECIFICATIONS ARE AN ACCEPTABLE ALTERNATE.
- H) INVERT TO BE GROUTED (SEE 202.1).
- I) PRECAST BOXES AS SPECIFIED IN F.D.O.T. ROADWAY AND TRAFFIC DESIGN STANDARDS ARE AN ACCEPTABLE ALTERNATIVE AS APPROVED BY THE TRANSPORTATION DIRECTOR OR HIS DESIGNEE.
- J) ANGLE BRACKETS SHOWN ON 202.1 NOT REQUIRED.

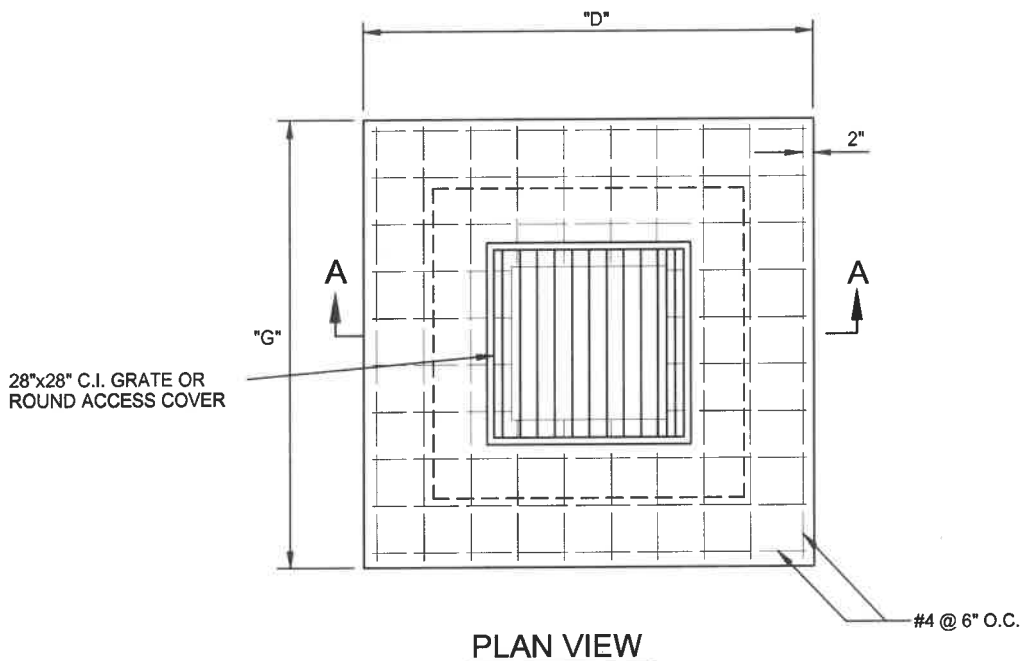
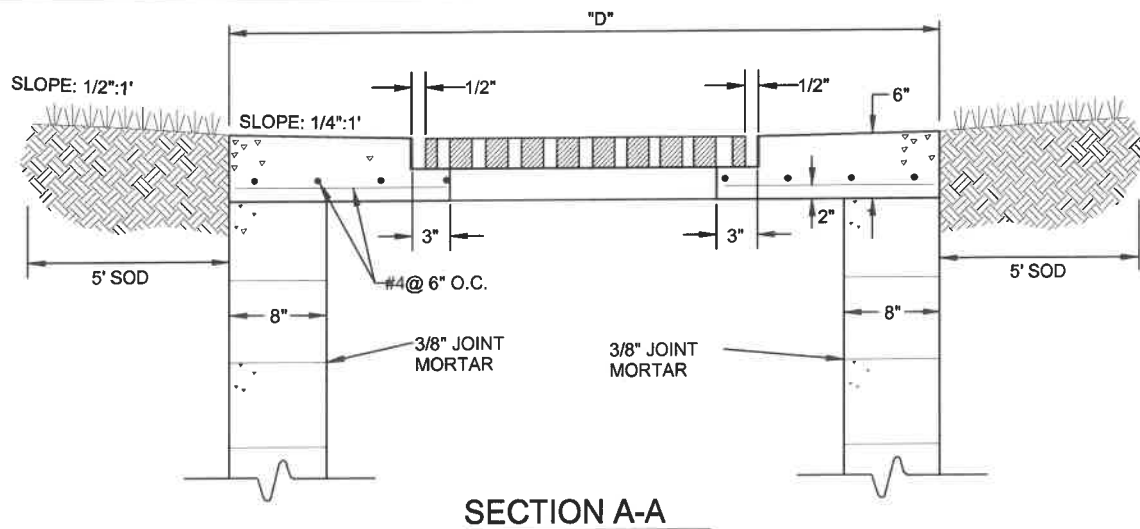
TOWN OF REDINGTON BEACH

REV. BY DATE

DATE OF APPROVAL

THROAT DETAIL FOR DROP INLET

202.3



NOTE: DIMENSIONS "D" & "G" PER SECTION 202.0

- A) ALTERNATE C.I. GRATES, 18"X 24", 24"X 24", 28"X 36".
- B) SOD TO BE PLACED A MINIMUM OF 5' AROUND BOX.
- C) THE FOLLOWING MATERIALS SHALL BE AS SPECIFIED IN FLORIDA D.O.T. SPEC'S., 2000. SEC 346 CONCRETE, SEC 962-8 IRON CASTING, SEC 931-1 REINFORCED STEEL.
- D) FILL BLOCKS WITH 3,000 P.S.I. CONCRETE (EACH CELL), USE # 4 ROD IN EACH BLOCK, 16" O/C.
- E) USE #4 ROD ON 6" CENTERS BOTH WAYS ON LID.
- F) SEE SHEET # 202.0 GENERAL NOTES AND DIMENSIONS INDEX, ALSO SHEET 202.1 TYP. CONC. BOX.
- G) PRECAST BOXES AS SPECIFIED IN F.D.O.T. ROADWAY AND TRAFFIC DESIGN STANDARDS ARE AN ACCEPTABLE ALTERNATIVE AS APPROVED BY THE TRANSPORTATION DIRECTOR OR HIS DESIGNEE.
- H) ANGLE BRACKETS SHOWN ON 202.1 NOT REQUIRED.

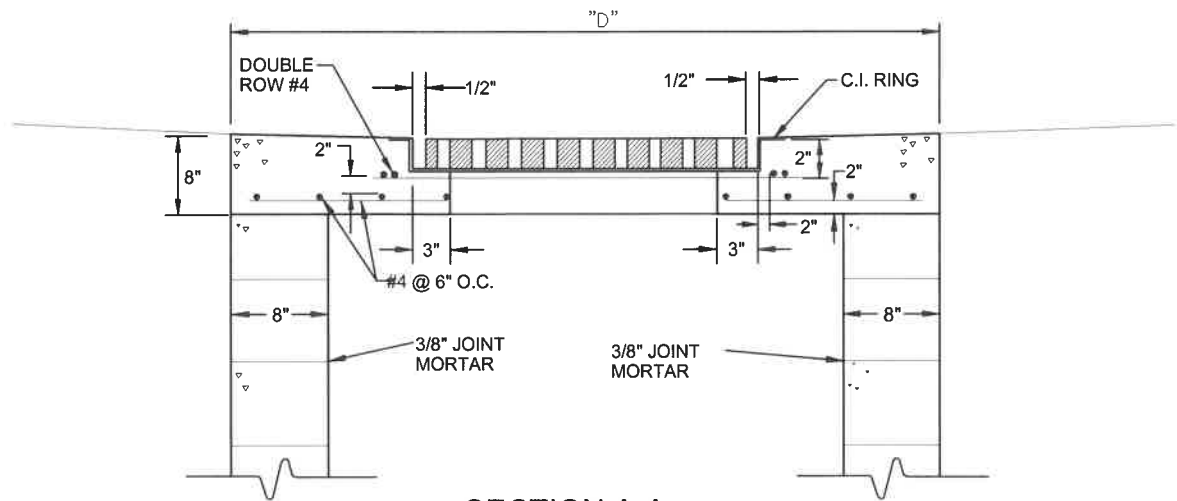
TOWN OF REDINGTON BEACH

NON-TRAFFIC
BEARING
BOX LID

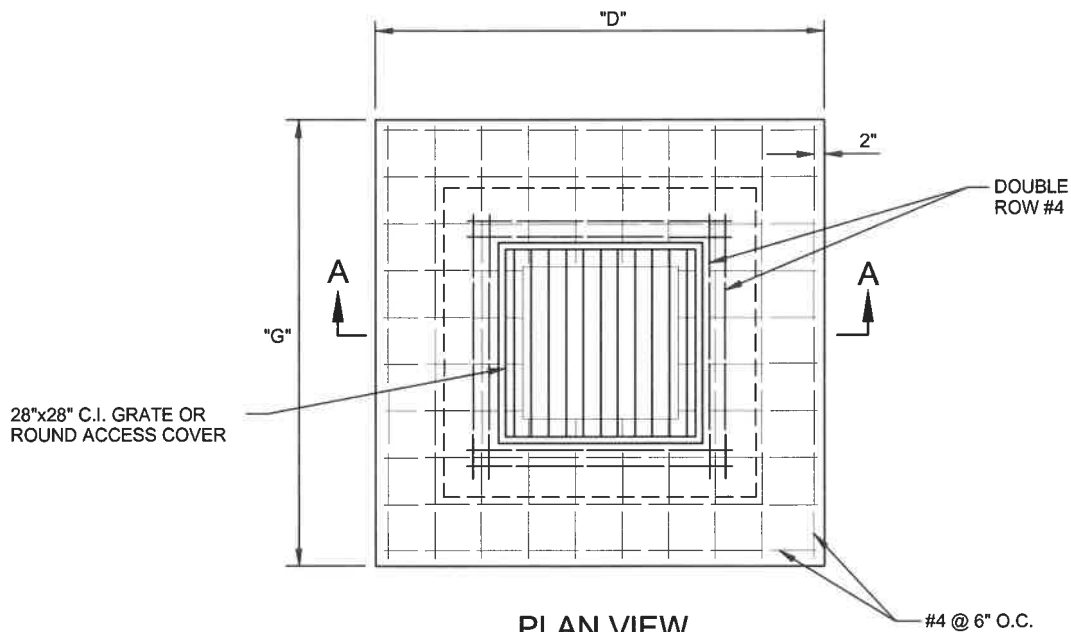
202.4

REV. BY	DATE

DATE OF APPROVAL



SECTION A-A



PLAN VIEW

NOTE: DIMENSIONS "D" & "G" PER SECTION 202.0

- A) ALTERNATE C.I. GRATES, 18"x 24", 24"x 24", 28"x 36" OR ACCESS COVER (202.6).
- B) 8" TRAFFIC BEARING LID W/ REINFORCING C.I. RING & DOUBLE ROW OF #4 REBAR.
- C) FOLLOWING MATERIALS ARE SPECIFIED IN FLORIDA D.O.T. SPEC'S., 2000. SEC 346 CONCRETE, SEC 962-8 IRON CASTING, SEC 931-1 REINFORCED STEEL.
- D) FILL BLOCKS WITH 3,000 P.S.I. CONCRETE (EACH CELL), USE #4 ROD IN EACH BLOCK, 16" O/C.
- E) USE #4 ROD ON 6" CENTERS BOTH WAYS ON LID. (SEE 202.3 E)
- F) SEE SHEET # 202.0 GENERAL NOTES AND DIMENSIONS INDEX, ALSO SHEET 202.1 TYP. CONC. BOX.
- G) INVERT TO BE GROUTED (SEE 202.1).
- H) PRECAST BOXES AS SPECIFIED IN F.D.O.T. ROADWAY AND TRAFFIC DESIGN STANDARDS ARE AN ACCEPTABLE ALTERNATIVE AS APPROVED BY THE TRANSPORTATION DIRECTOR OR HIS DESIGNEE.
- I) ANGLE BRACKETS SHOWN ON 202.1 NOT REQUIRED.

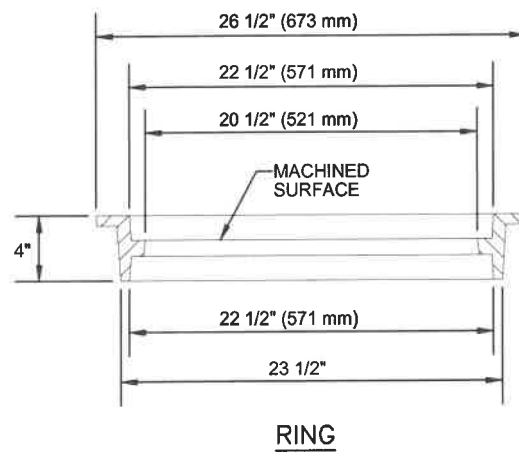
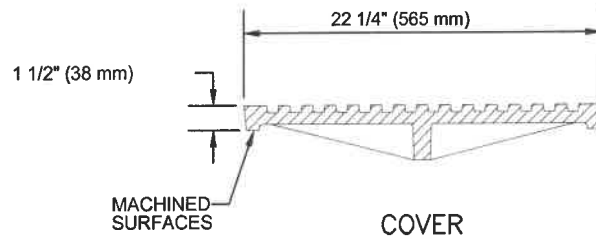
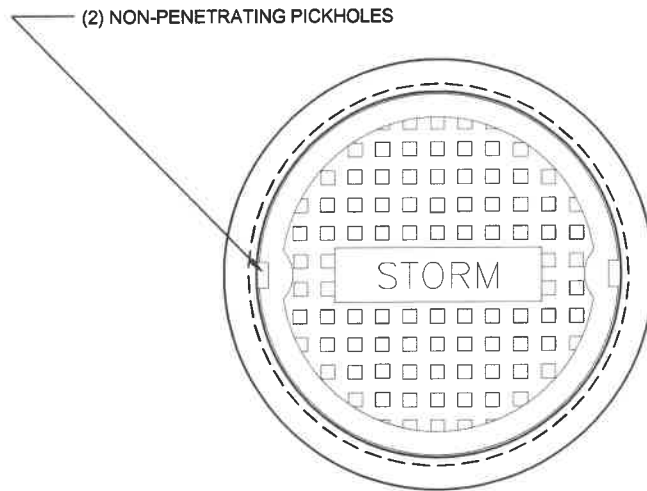
TOWN OF REDINGTON BEACH

REV.BY DATE

DATE OF APPROVAL

**TRAFFIC BEARING
BOX LID**

202.5



USF 1110 RING & PROPOSED COVER

NOTE:

- 1 - MATERIAL: ASTM-A48 CLASS 30B GRAY IRON.
- 2 - COVER WEIGHT: 105 LBS. APPROX.
- 3 - RING WEIGHT: 90 LBS. APPROX.

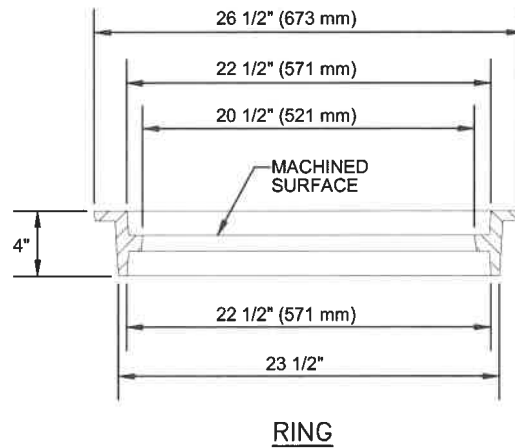
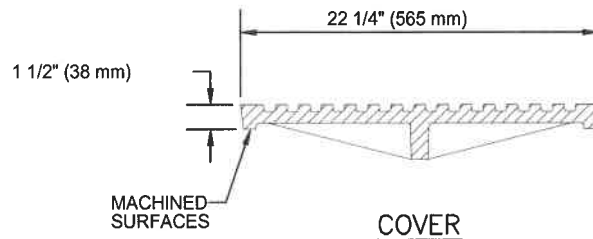
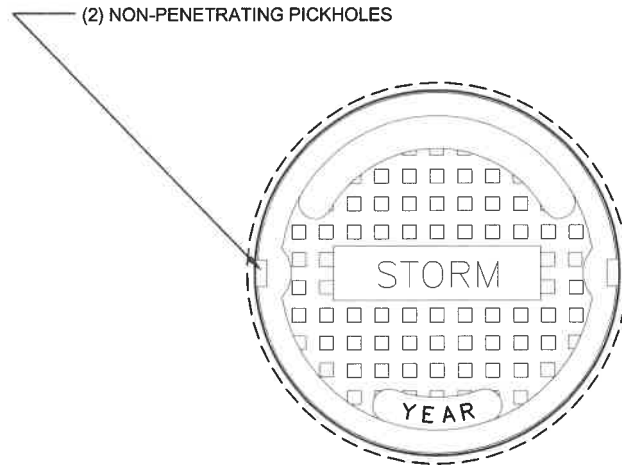
TOWN OF REDINGTON BEACH

REV. BY DATE

DATE OF APPROVAL

ACCESS COVER
FOR STORMWATER
JUNCTION BOX
(PRIVATE)

203.0



USF 1110 RING & PROPOSED COVER

NOTE:

- 1 - MATERIAL; ASTM-A48 CLASS 30B GRAY IRON.
- 2 - COVER WEIGHT: 105 LBS. APPROX.
- 3 - RING WEIGHT: 90 LBS. APPROX.

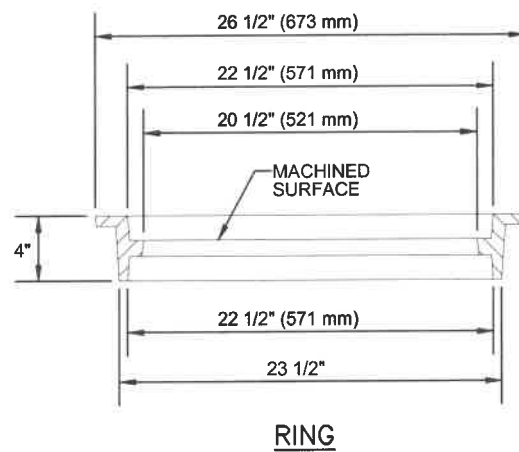
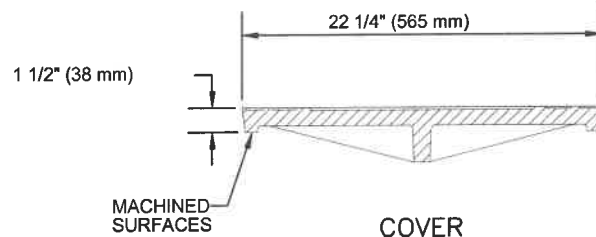
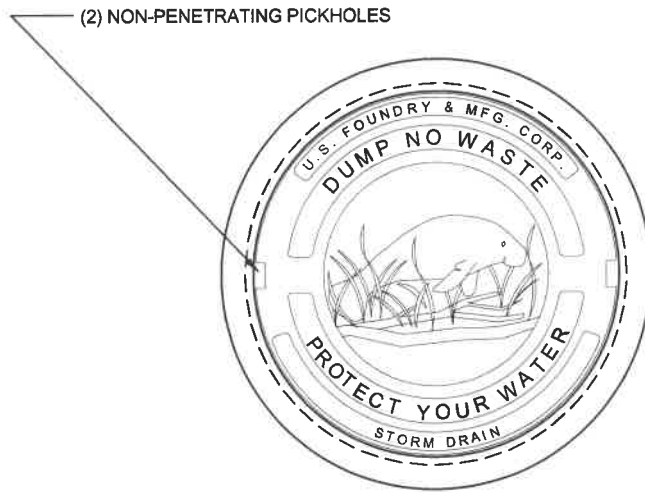
TOWN OF REDINGTON BEACH

REV.BY DATE

DATE OF APPROVAL

ACCESS COVER
FOR STORMWATER
JUNCTION BOX
(PUBLIC)

203.1



USF 1110 RING & PROPOSED COVER

NOTE:

- 1 - MATERIAL; ASTM-A48 CLASS 30B GRAY IRON.
- 2 - COVER WEIGHT: 105 LBS. APPROX.
- 3 - RING WEIGHT: 90 LBS. APPROX.

TOWN OF REDINGTON BEACH

REV.BY	DATE	
		DATE OF APPROVAL

**ACCESS COVER
FOR CATCH BASIN
& THROAT INLET
(PUBLIC)**

203.2

UNDERDRAIN

1. CORRUGATED POLYETHYLENE TUBING

CORRUGATED POLYETHYLENE TUBING WITH A FILTER FABRIC WRAP, UNLESS OTHERWISE NOTED, MAY BE USED FOR UNDERDRAIN APPLICATIONS ASSOCIATED WITH ROADWAY CONSTRUCTION PROVIDING THE FOLLOWING SPECIFICATIONS ARE MET:

- A) THE CORRUGATED POLYETHYLENE TUBING SHALL MEET THE REQUIREMENTS OF ASTM F-405.
- B) THE CORRUGATED POLYETHYLENE TUBING SHALL HAVE A FILTER FABRIC SOCK MEETING F.D.O.T. SPEC. 948-3, LATEST REVISION. IF PERFORATIONS IN PIPE ARE LESS THAN 3/4", THEN FILTER FABRIC SOCK MAY BE OMITTED.
- C) THE ENVELOPE MATERIAL SURROUNDING THE TUBING SHALL BE CRUSHED STONE OR WASHED SHELL. THE THICKNESS OF THE ENVELOPE MATERIAL SHALL BE EQUAL TO OR GREATER THAN THE DIAMETER OF THE TUBING, PLUS 12".
- D) CORRUGATED POLYETHYLENE TUBING SHALL NOT BE ACCEPTABLE UNDER ROADWAYS.
- E) EXTRA CARE SHALL BE TAKEN DURING PLACEMENT TO MAINTAIN PROPER LINE AND GRADE, TO BE PLACED W/ SLOPE OF ROAD.
- F) A CLEAN-OUT SHALL BE CONSTRUCTED AT THE END OF EACH RUN OF UNDER-DRAIN. MAXIMUM SPACING EVERY 100 FEET.
- G) SOD 3' AROUND 18" CONC. SQUARE.

*NOTE: TRANSPORTATION DIRECTOR OR HIS DESIGNEE'S APPROVAL IS REQUIRED FOR THE USE OF FLEXIBLE UNDERDRAIN PIPE.

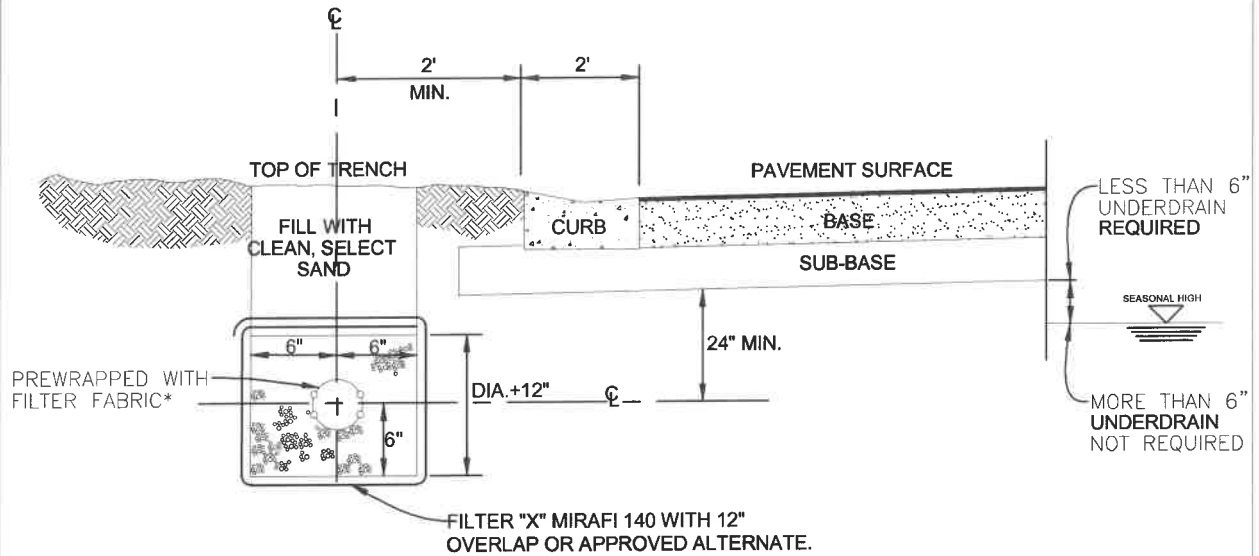
TOWN OF REDINGTON BEACH

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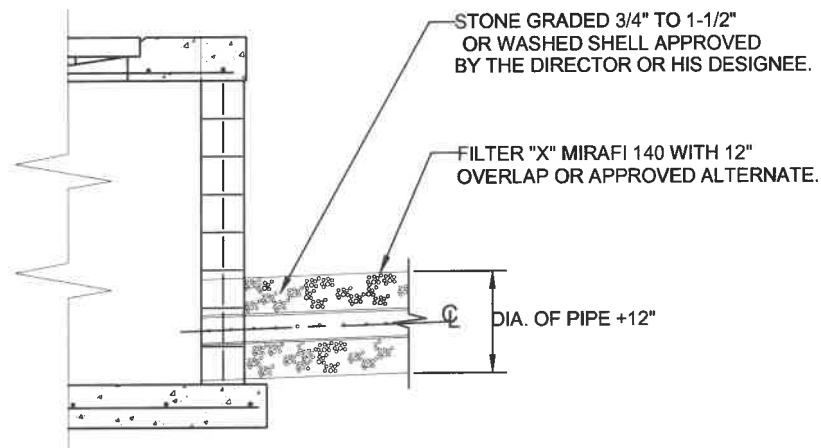
DATE OF APPROVAL

UNDERDRAIN
GENERAL NOTES

204.0



UNDERDRAIN PLACEMENT



UNDERDRAIN TIE TO INLET

- A) LOCATION OR NEED FOR UNDERDRAIN TO BE APPROVED BY THE DIRECTOR OR HIS DESIGNEE.
- B) UNDERDRAIN SHALL BE AS SPECIFIED IN SECTION 440 OF FLORIDA DEPT. OF TRANSPORTATION SPEC. (2000 OR LATEST REVISION).
- C) 6" TO 8" PERFORATED PIPE AS REQUIRED.
- D) BACKFILL WITH CLEAN, SELECT SAND TO LINES SHOWN ON PLANS.

* IF PIPE PERFORATIONS ARE SMALLER THAN 3/4", THEN FILTER FABRIC SOCK MAY OMITTED.

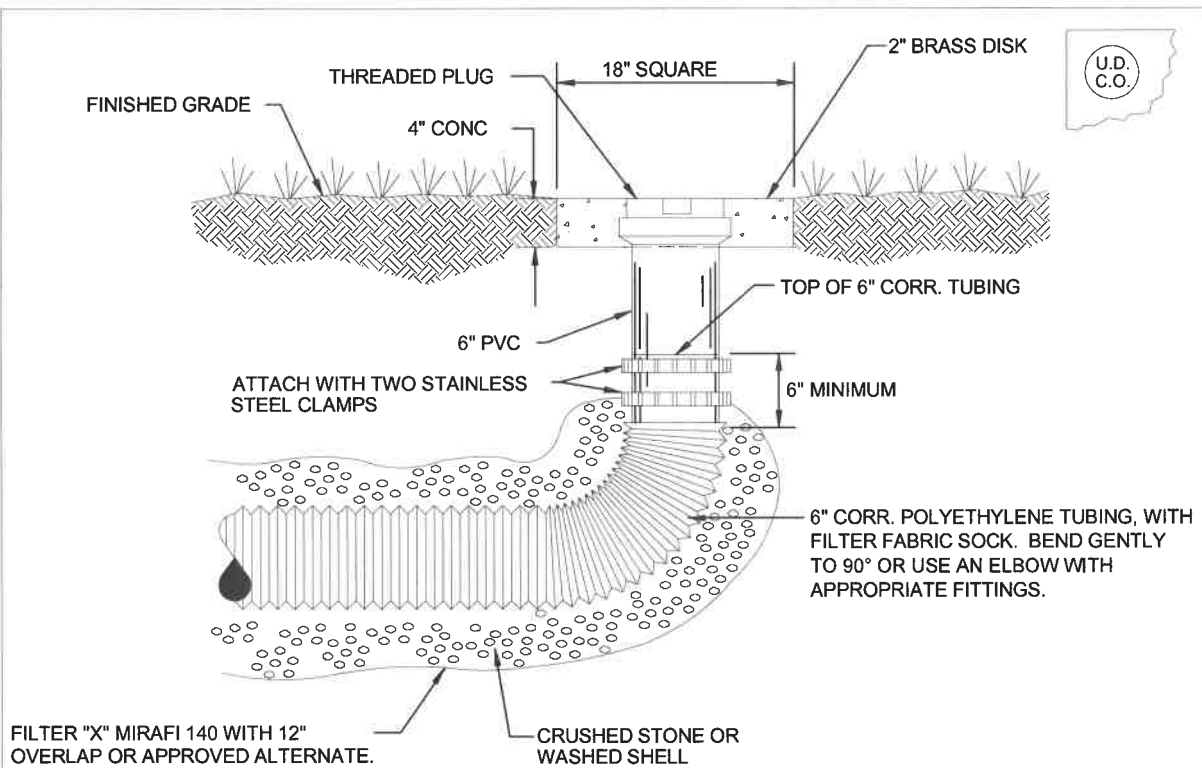
TOWN OF REDINGTON BEACH

REV. BY DATE

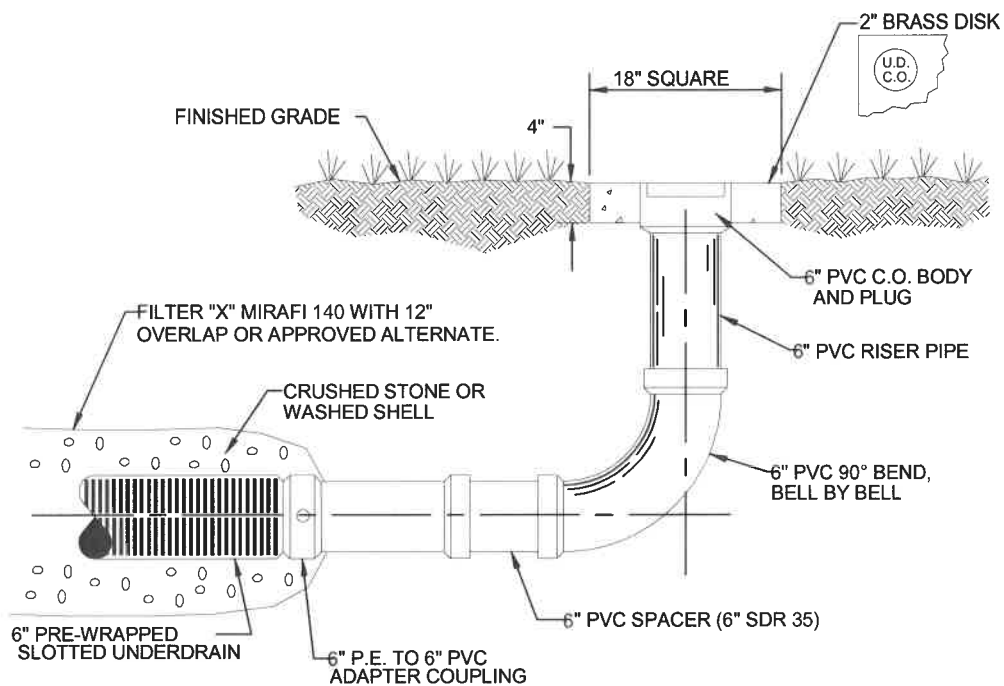
DATE OF APPROVAL

TYPICAL
UNDERDRAIN
LAYOUT

204.1



**UNDERDRAIN CLEAN-OUT DETAIL
CORRUGATED POLYETHYLENE TUBING**



UNDERDRAIN CLEAN-OUT DETAIL - RIGID

* MAXIMUM SPACING EVERY 100 FEET.

TOWN OF REDINGTON BEACH

REV. BY	DATE

DATE OF APPROVAL

**UNDERDRAIN
CLEAN-OUTS
(FLEXIBLE & RIGID)**

204.2

METAL STORM SEWER PIPE, GENERAL NOTES

- A. SHALL MEET REQUIREMENTS OF SECTION 430 AND 943 OF THE F.D.O.T.'s LATEST REVISION/UPDATE SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND ITS SUPPLEMENT. ALL PIPE SHALL BE TYPE 'A', FULLY BITUMINOUS COATED.
- B. SHALL HAVE GASKETED WATER TIGHT JOINTS AT ALL LOCATIONS.
- C. SHALL HAVE THE PROJECT SITE TESTED BY A CERTIFIED LAB FOR pH, RESISTIVITY, SULFATES AND CHLORIDES. TESTS SHALL BE IN ACCORDANCE WITH FLORIDA METHOD OF TEST FM 5-550, 551, 552 & 553 AND SUBMITTED TO THE TRANSPORTATION DEPARTMENT FOR REVIEW.
- D. SHALL HAVE A MINIMUM COVER OF 18".
- E. SHALL NOT BE ALLOWED WITHIN THE ROAD RIGHT-OF-WAY OR CARRY RIGHT-OF-WAY RUNOFF.
- F. ALL STORMWATER PIPE SHALL BE INSTALLED BEHIND THE CURB OR EDGE OF PAVEMENT AND WITHIN THE RIGHT OF WAY.

HDPE STORM SEWER PIPE GENERAL NOTES

- A. HDPE SHALL MEET CURRENT F.D.O.T. STANDARD SPECIFICATIONS.
- B. MINIMUM COVER - 9" (TOP OF PIPE TO BOTTOM OF RIDGED PAVEMENT OF DRIVEWAY)
- 15" (TOP OF PIPE TO BOTTOM OF FLEXIBLE BASE OF DRIVEWAY)
- C. SIZES ARE LIMITED TO CURRENT F.D.O.T. STANDARD SPECIFICATIONS UNLESS OTHERWISE APPROVED BY CITY ENGINEER OR SUPERINTENDENT OF PUBLIC WORKS.
- D. HDPE PIPE IS NOT ALLOWED UNDER ROADWAY. UNLESS OTHERWISE APPROVED BY CITY ENGINEER OR SUPERINTENDENT OF PUBLIC WORKS.

FIBER OR WIRED REINFORCED CONC. PIPE, GENERAL NOTES

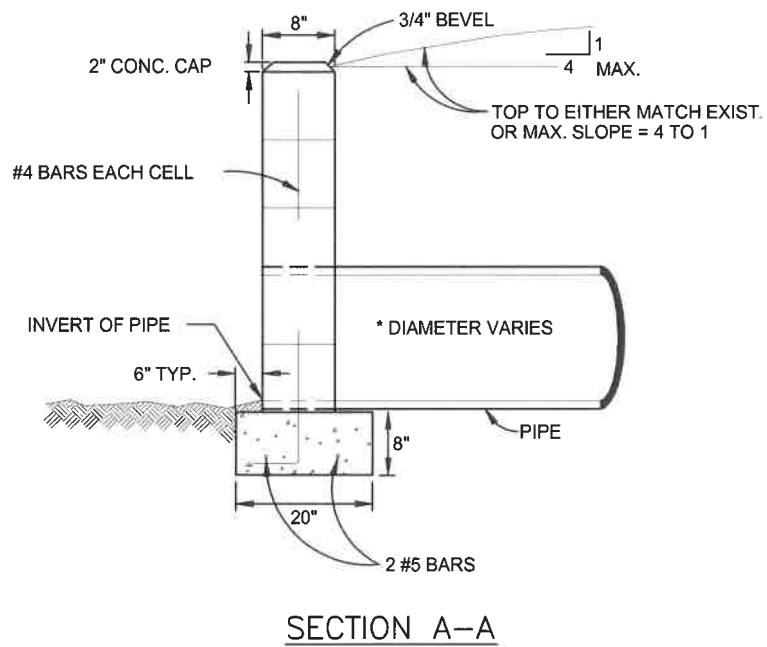
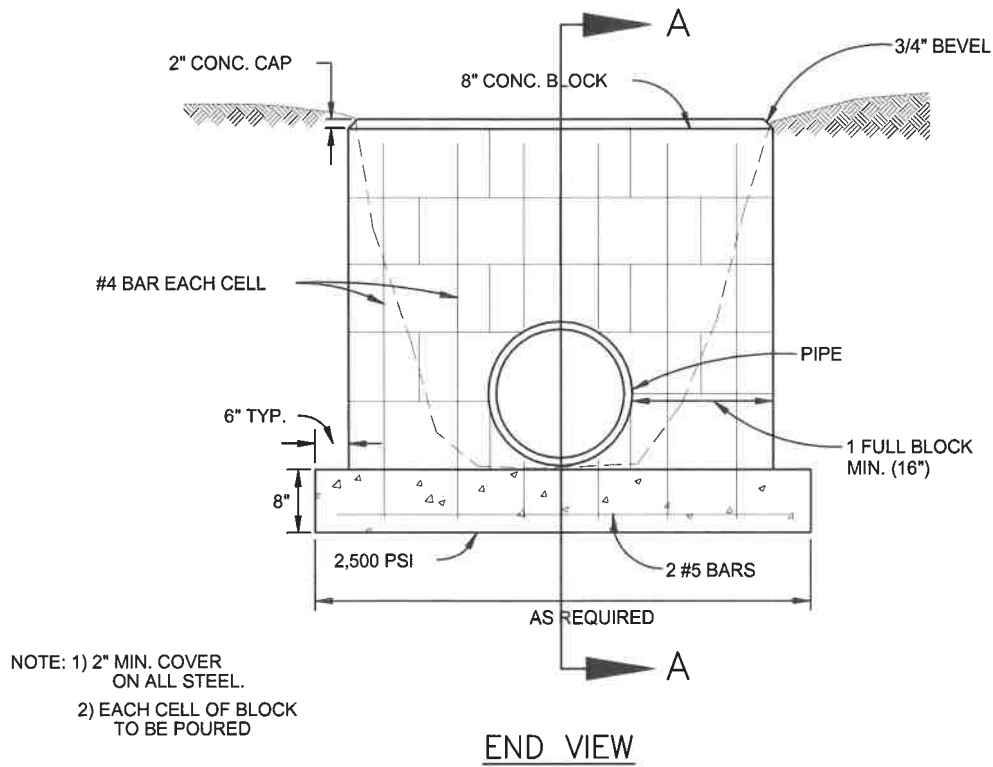
- A. FRCP SHALL MEET CURRENT F.D.O.T. STANDARD SPECIFICATIONS. UNLESS OTHERWISE APPROVED BY CITY ENGINEER OR SUPERINTENDENT OF PUBLIC WORKS.
- B. SIZES LIMITED TO F.D.O.T. CURRENT STANDARD SPECIFICATIONS.

TOWN OF REDINGTON BEACH

REV.BY	DATE	
		DATE OF APPROVAL

STORM SEWER PIPE
GENERAL NOTES

205.0



TOWN OF REDINGTON BEACH

REV. BY	DATE

DATE OF APPROVAL

CONCRETE BLOCK
HEADWALL

205.1

SIDEWALKS INDEX

	<u>SHEET NO.</u>
300 SIDEWALKS	300.0
1. SIDEWALK REQUIREMENTS	301.1
2. HANDICAPPED RAMP SHEET #1	302.1
3. HANDICAPPED RAMP SHEET #2	302.2
4. CURB RAMP DETECTABLE WARNINGS	302.3

TOWN OF REDINGTON BEACH

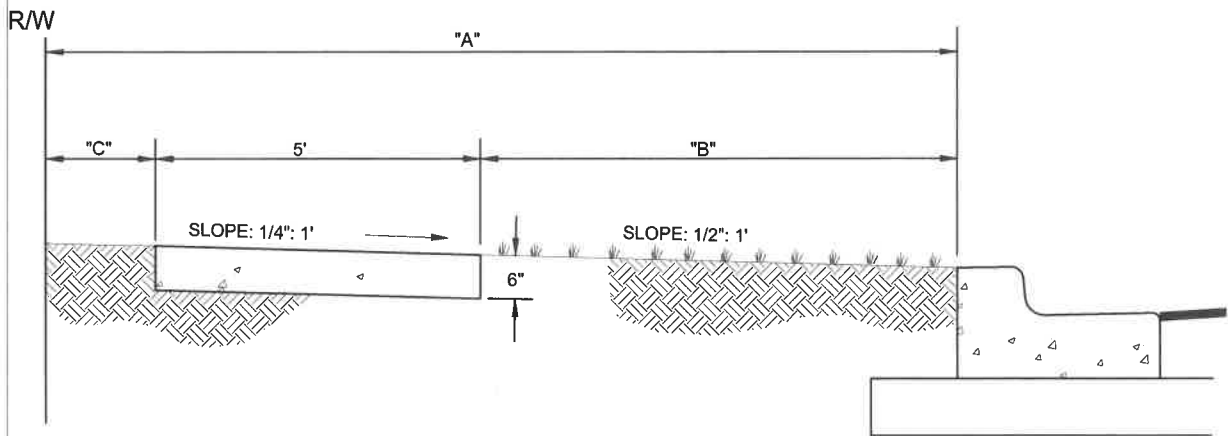
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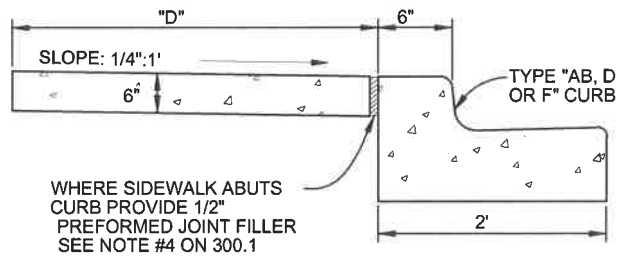
SIDEWALKS
INDEX

300.0



A= BACK OF CURB TO R/W (VARIES)
 B= UNPAVED AREA (VARIES). REFER TO
 F.D.O.T. GREEN BOOK, TABLE 3-12, LATEST REVISION.
 C= VARIES, SEE 401 SERIES

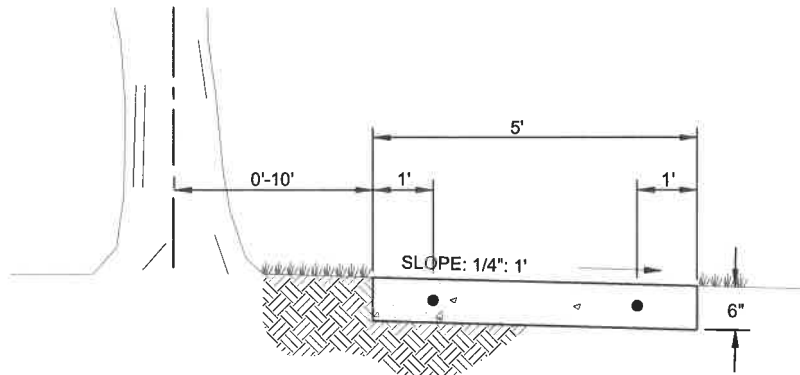
TYPICAL SIDEWALK LOCATION



D= SIDEWALK WIDTH SHALL BE 6' STANDARD, WHERE WALK ABUTS TYPE "AB, D OR F" CURB. WHERE SPEED LIMIT IS 25 MPH OR LESS, WIDTH CAN BE 5'-6".

* SEE SHEET 300.1 "GENERAL NOTES" FOR FURTHER INFORMATION

ALTERNATE SIDEWALK LOCATION



SIDEWALK LOCATION CLOSE TO TREES

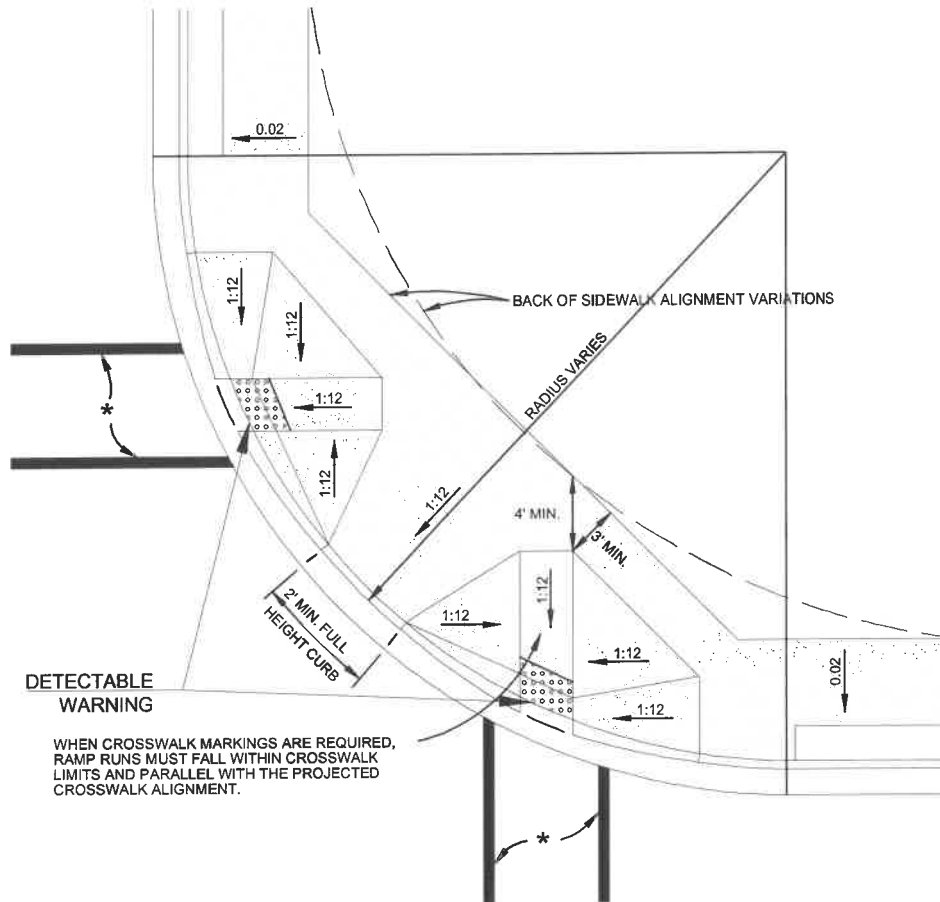
TOWN OF REDINGTON BEACH

REV.BY DATE

DATE OF APPROVAL

**SIDEWALK
 REQUIREMENTS**

301.1



- 1) CURB CUT RAMPs ARE TO BE LOCATED AS SHOWN ON PLANS.
- 2) SEE SHEETS # 300.1 "GENERAL NOTES" & # 301.2 "HANDICAPPED RAMP" SHT 2 FOR FURTHER REQUIREMENTS.
- 3) RADIUS OF CURB VARIES AS FOLLOWS:
 - A) 25' RAD. LOCAL STREET WITH ALLEY.
 - B) 25' RAD. LOCAL STREET WITH LOCAL STREET.
 - C) 35' RAD. LOCAL STREET WITH THOROUGHFARE OR COLLECTOR.
 - D) 50' RAD. THOROUGHFARE WITH THOROUGHFARE
- 4) CURB RADIUS SHOULD BE A MINIMUM OF 50' WHERE INDUSTRIAL AND BUS TRAFFIC (5% OR MORE) IS ANTICIPATED ON LOWER CLASSIFICATION ROADWAYS.
- 5) BOTH LOCATION OPTIONS FOR HANDICAPPED RAMP ARE SHOWN. ENGINEER MAY SELECT EITHER, WHICHEVER FITS THE SITUATION.

NOTE: FOR COMPLETE HANDICAP, PUBLIC SIDEWALK AND CURB RAMP DETAILS, SEE F.D.O.T. DESIGN STANDARDS, 2006 EDITION, INDEX 304, SHEETS 1 THROUGH 6.

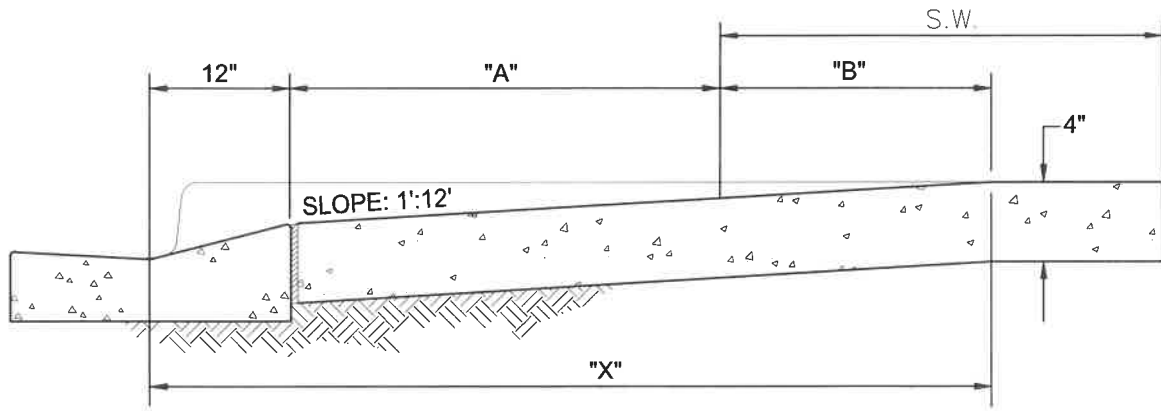
TOWN OF REDINGTON BEACH

REV.BY	DATE

DATE OF APPROVAL

HANDICAPPED RAMP SHEET 1

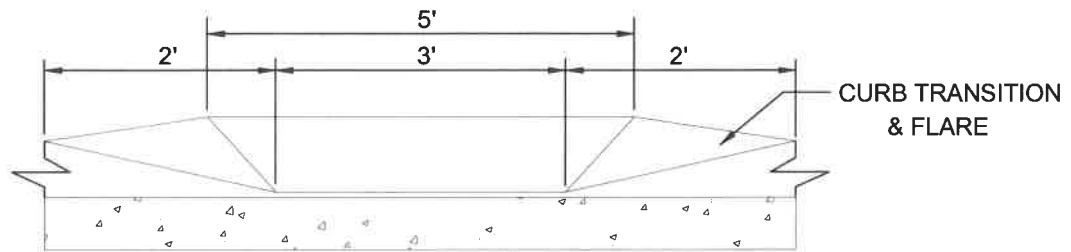
302.1



SECTION A-A

(SEE SHEET 301.0)

S.W.= SIDEWALK	"A"	S.W.+ A + 10"	"X"	"B"
5' ——— 0	5.8'	5.8'	5'	
6' ——— 0	6.8'	6.8'	6'	
7' ——— 0	7.8'	7.3'	6.5'	
8' ——— 0	8.8'	7.3'	6.5'	
5' ——— 2'	7.8'	7.8'	5'	
5' ——— 2.5'	8.3'	8.1'	4.8'	
5' ——— 3'	8.8'	8.2'	4.4'	
5' ——— 3.5'	9.3'	8.4'	4.1'	
5' ——— 4'	9.8'	8.6'	3.8'	
5' ——— 4.5'	10.3'	8.7'	3.4'	
5' ——— 5'	10.8'	9.1'	3.1'	



SECTION B-B

(SEE SHEET 301.0)

NOTE: FOR COMPLETE HANDICAP, PUBLIC SIDEWALK AND CURB RAMP DETAILS, SEE F.D.O.T. DESIGN STANDARDS, 2006 EDITION, INDEX 304, SHEETS 1 THROUGH 6.

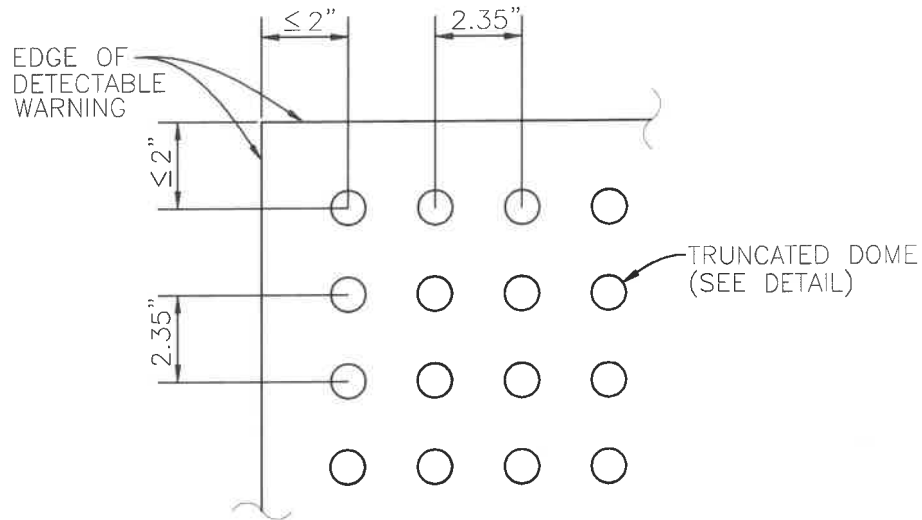
TOWN OF REDINGTON BEACH

REV.BY DATE

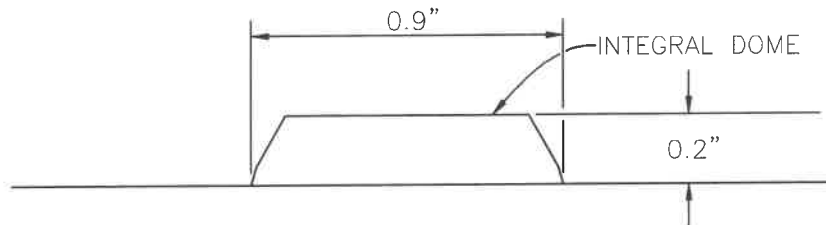
DATE OF APPROVAL

HANDICAPPED
RAMP SHEET 2

302.2



PLAN VIEW



TRUNCATED DOME

CURB RAMP DETECTABLE WARNING DETAIL

NOTES:

DETECTABLE WARNINGS ON WALKING SURFACES

THE DETECTABLE WARNING SHALL EXTEND THE FULL WIDTH AND DEPTH OF THE CURB RAMP.

DETECTABLE WARNINGS SHALL CONSIST OF RAISED TRUNCATED DOMES WITH A DIAMETER OF NOMINAL 0.9 INCH, A HEIGHT OF NOMINAL 0.2 INCH AND A CENTER-TO-CENTER SPACING OF NOMINAL 2.35 INCH AND SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT.

THE MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE. DETECTABLE WARNINGS USED ON INTERIOR SURFACES SHALL DIFFER FROM ADJOINING WALKING SURFACES IN RESILIENCY OR SOUND-ON-CANE CONTACT.

THE MATERIAL USED TO PROVIDE CONTRAST SHOULD CONTRAST BY AT LEAST 70%. CONTRAST IN PERCENT IS DETERMINED BY:

$$\text{CONTRAST} = [(B1-B2)/B1] \times 100$$

WHERE B1 = LIGHT REFLECTANCE VALUE (LRV) OF THE LIGHTER AREA AND B2 = LIGHT REFLECTANCE VALUE (LRV) OF THE DARKER AREA.

NOTE THAT IN ANY APPLICATION BOTH WHITE AND BLACK ARE NEVER ABSOLUTE; THUS, B1 NEVER EQUALS 100 AND B2 IS ALWAYS GREATER THAN 0.

TOWN OF REDINGTON BEACH

REV.BY DATE

DATE OF APPROVAL

**CURB RAMP
DETECTABLE
WARNINGS**

302.3

ROAD STANDARD INDEX

SHEET NO.

400 ROAD STANDARDS

400

A. GENERAL NOTES

1. RESERVED	401.0
2. RESERVED	401.1
3. RESERVED	401.2
4. RESERVED	401.3
5. RESERVED	401.4
6. RESERVED	401.5
7. RESERVED	401.6
8. TYPICAL LOCAL RESIDENTIAL SWALE CROSSING	401.7
9. TYPICAL LOCAL RESIDENTIAL CURB CROSSING	401.8
10. TYPICAL LOCAL SHELL ROAD	401.9
11. RESIDENTIAL & INDUSTRIAL CUL-DE-SAC	401.10
12. RESIDENTIAL & INDUSTRIAL CUL-DE-SAC WITH MEDIAN	401.11
13. MINIMUM CURB RADIUS	402.0
14. MINIMUM CLEAR ZONE WIDTHS	402.1
15. MEDIAN REQUIREMENTS	402.2
16. LOCAL STREET TO THOROUGHFARE SEPARATION REQUIREMENTS	402.3
17. RESERVED	402.4
18. DRIVEWAY SETBACK DISTANCE	402.5
B. SOIL CEMENT SPECIFICATIONS	403.0
C. CEMENT TREATED BASE	403.1
D. UTILITY ROAD CUT REPLACEMENT	403.2
E. ROAD CONNECTION DETAIL	403.3
G. TYPICAL RESIDENTIAL STREET ROUNDABOUT	404.0
H. SPEED TABLE DETAIL	405.0

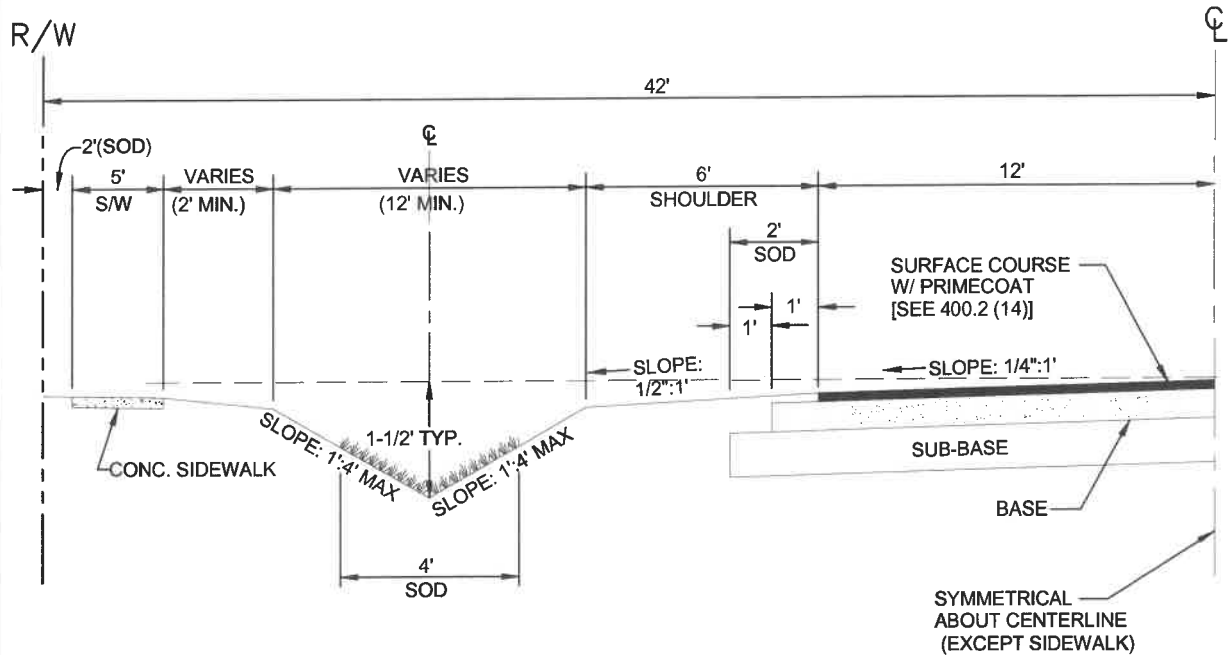
TOWN OF REDINGTON BEACH

REV.BY DATE

DATE OF APPROVAL

ROAD STANDARDS
INDEX

400.0



NOTES:

- A) Asphaltic concrete surface course 1-3/4" minimum thickness (Type S). Two lifts of asphalt shall be considered acceptable, however a performance bond shall be required if second lift is delayed. The first lift shall be 1" of S-I, the second lift shall be 3/4" of S-III.
 - B) Base Course shall consist of 4-1/2" compacted sand asphalt (1200 lbs. stabilized), 6" base course 600 lbs. per square yard limrock compacted to 98% AASHTO T-180 density, or 6" soil cement* (6" Caloosahatchee Shell LBR 100).
 - C) 6" stabilized sub-base shell marl blended with sandy sub-base minimum LBR 40, 98% T180 AASHTO.
 - D) Shoulder, slopes and ditch bottom to have a minimum of 2" topsoil, bottom 4' of area to be sodded, and the balance is to be seeded and mulched per section 400.1 (8)
 - E) The slope of contiguous property may not exceed 1' to 4'.
 - F) 12" cover on storm sewers, no portion of pipe to be into sub-base.
 - G) Laboratory tests are required to substantiate structural section design. Specifications shown on this sheet are minimum.
- * Or approved equal, meeting same structural number.

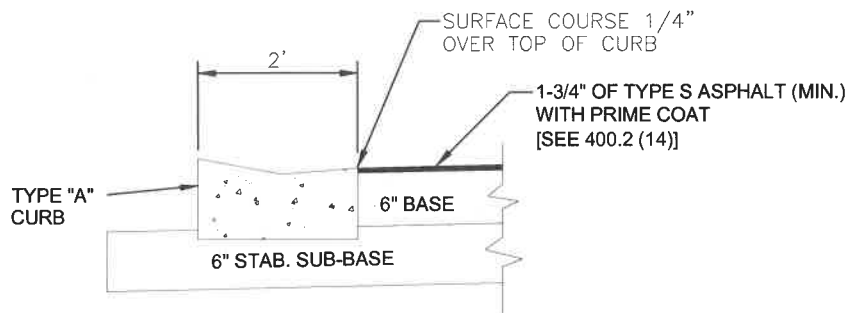
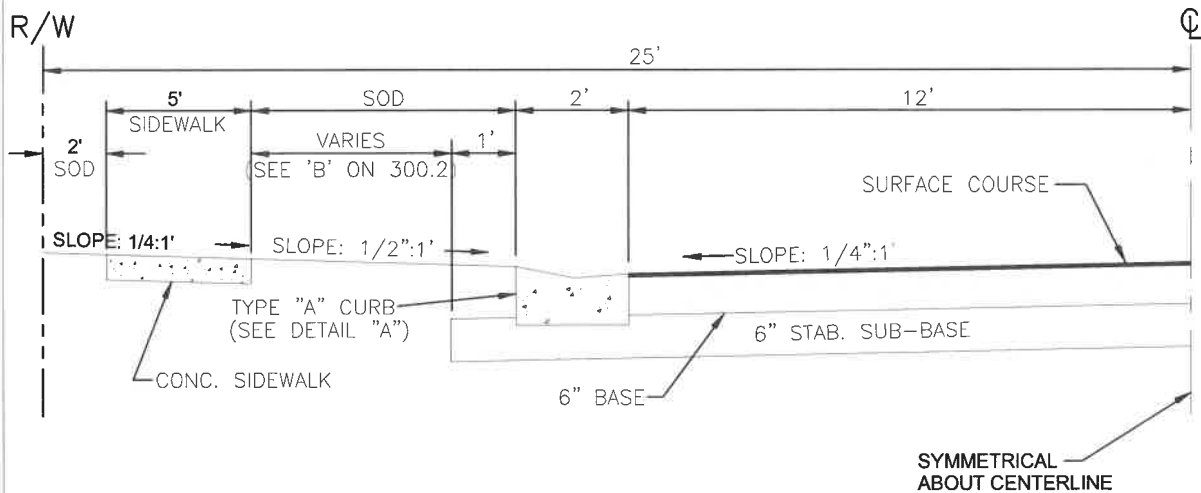
TOWN OF REDINGTON BEACH

REV.BY DATE

DATE OF APPROVAL

**LOCAL
RESIDENTIAL
SWALE CROSSING**

401.7



DETAIL "A"

NOTES:

- A) Asphaltic concrete surface course shall be laid in two lifts. The first lift shall be 1" Type S-I or S-III. The second lift shall be 3/4" Type S-III. A performance bond shall be required if the second lift is delayed beyond acceptance of the road.
- B) Base course shall consist of 4-1/2" compacted sand asphalt base (1200 lbs. stab.) or 6" Caloosahatchee shell compacted to 98% AASHTO T-180 density LBR 100 or 6" soil cement.*
- C) 6" stabilized sub-base shell marl blended with sandy sub-grade minimum LBR 40, 98% T180 AASHTO.
- D) On new construction, sanitary sewer may be placed on centerline of R/W if desired. All laterals to be installed at the same time as sanitary sewer main line.
- E) See section 201.0 for curb and gutter types.
- F) No portion of drainage pipe shall be allowed in sub-base. 12" minimum cover is required on storm drain.
- G) Sidewalk shall be 1' or 2' inside R/W line, with 2' preferable. To be constructed per section 300.1
- H) Laboratory tests are required to substantiate structural section design. Specifications shown on this sheet are minimum requirements.
- I) If sidewalks are not required, only 2' of sod is required back of curb. Hydromulch balance of right-of-way.
- J) Sodding shall be installed per section 400.1 (8)

* Or approved equal, meeting same structural number.

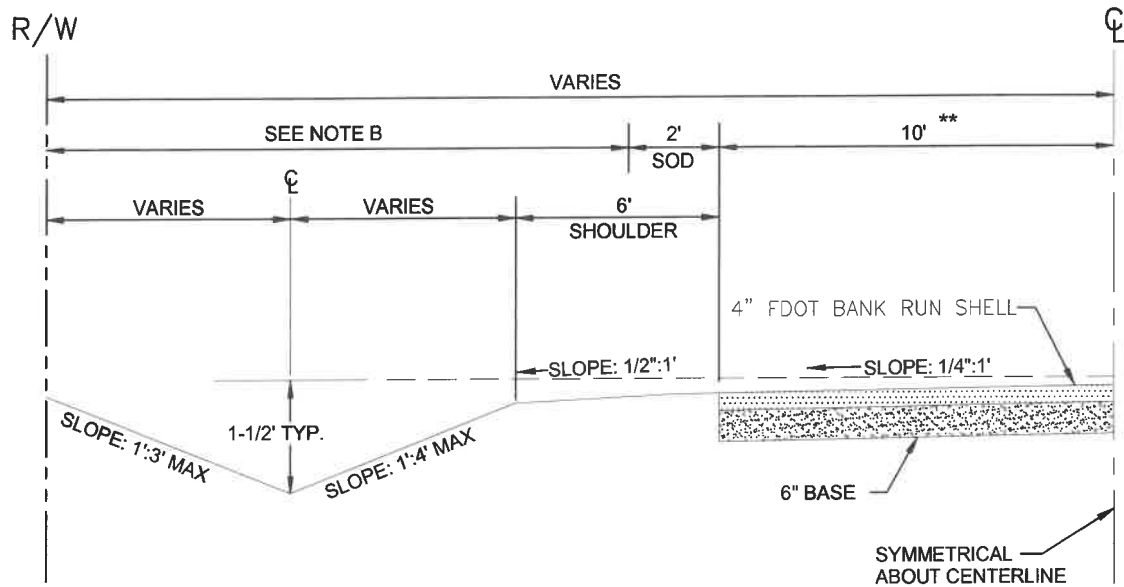
TOWN OF REDINGTON BEACH

REV. BY	DATE

DATE OF APPROVAL

**LOCAL
RESIDENTIAL
CURB CROSSING**

401.8



Note: These roads may only be approved for use in Ag-rural designated areas on rights-of-way dedicated prior to Oct. 15, 1990.
Roads will be classified as "Emergency Maintained Only."
Local residents are required to perform routine maintenance.

NOTES:

- *A) Clean, stabilized 6" base. Minimum LBR 40, 98% T180 AASHTO. This requires raking and removal of plant material before compaction, if plant material exists within the right of way.
- B) Road shall be finished with 4" FDOT bank run shell, then leveled and compacted.
- C) Side 2' of road shoulder shall be sodded and if there is no substantial existing grass, remaining shoulder, slopes and ditch bottom shall have a minimum of 2" topsoil, and shall be seeded and mulched. Areas susceptible to erosion must be sodded.
- D) The slope of contiguous property may not exceed 3' to 1'.
- E) 12" cover on storm sewers, no portion of pipe allowed in base.
- F) Laboratory tests are required to substantiate structural section design.
Specifications shown on this sheet are minimum requirements.

* Or approved equal.

** Road may be 12' in width, (6' half width) on non-through roads (Dead Ends) serving 4 or fewer lots.
Shoulders shall be a minimum of 6' in width and constructed of a stabilized or compacted soil with a minimum LBR OF 40.
The Transportation Director may allow variance to the road standards for certain circumstances.

** Road may be 16' in width (8' half width) on non-through roads (Dead Ends) serving 5 to 8 lots.

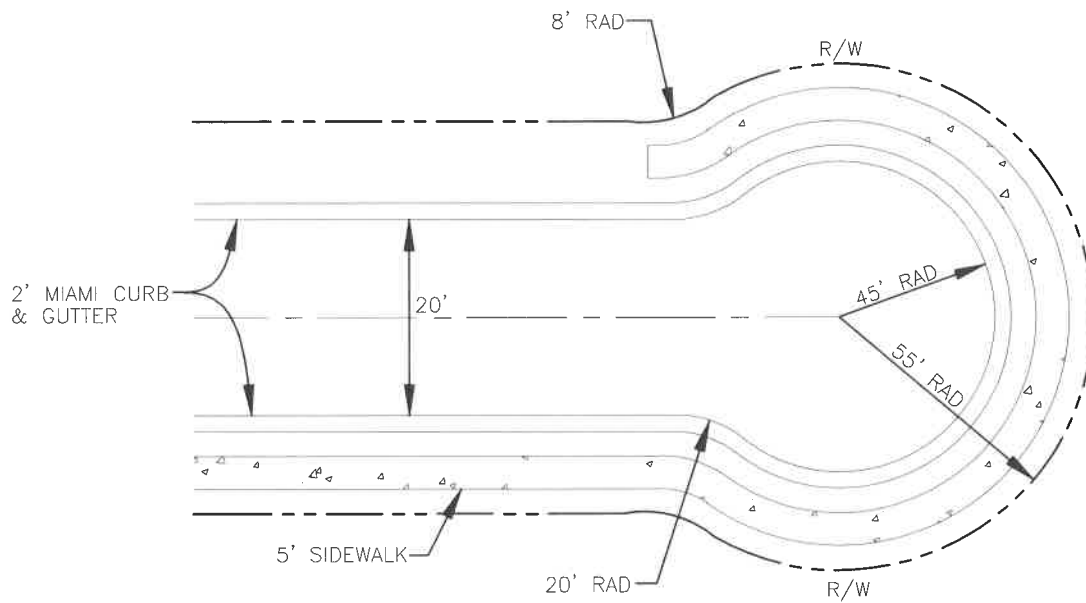
TOWN OF REDINGTON BEACH

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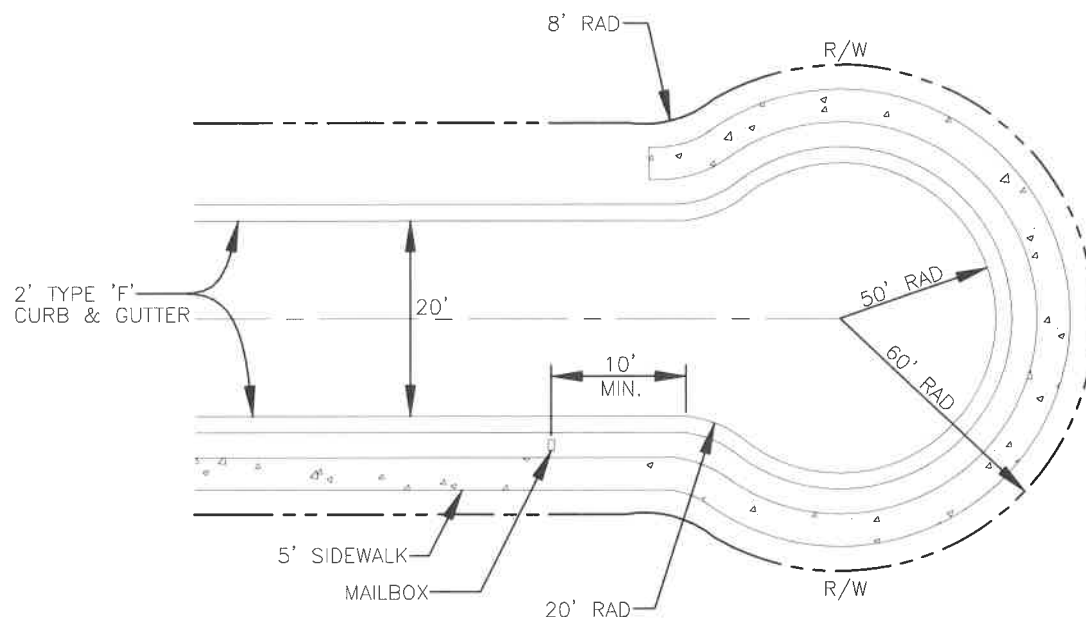
DATE OF APPROVAL

**LOCAL SHELL
ROAD**

401.9



RESIDENTIAL CUL-DE-SAC



INDUSTRIAL CUL-DE-SAC

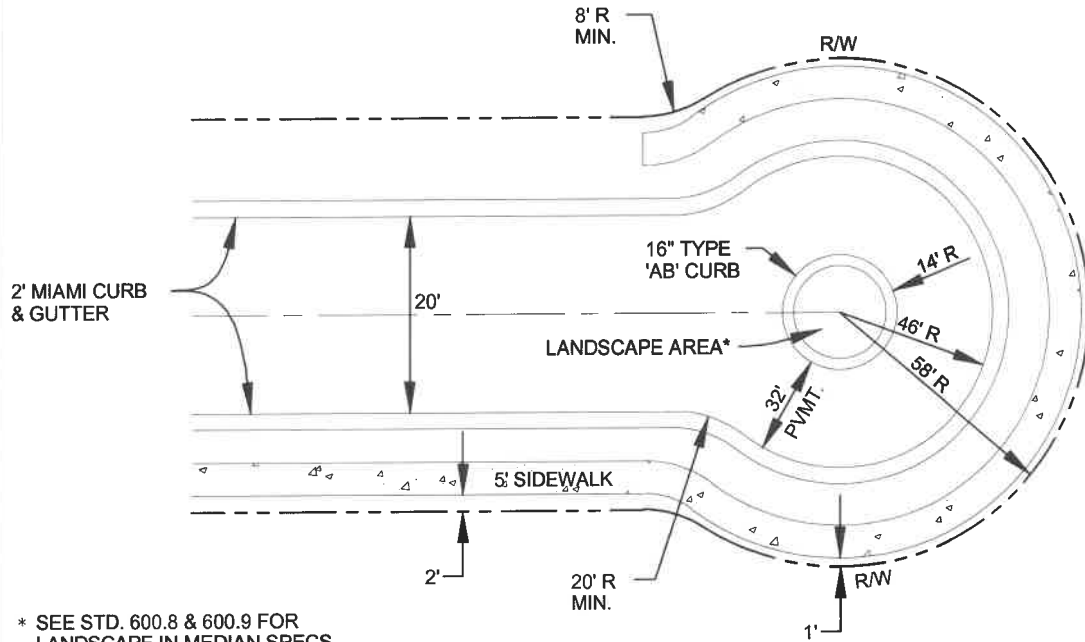
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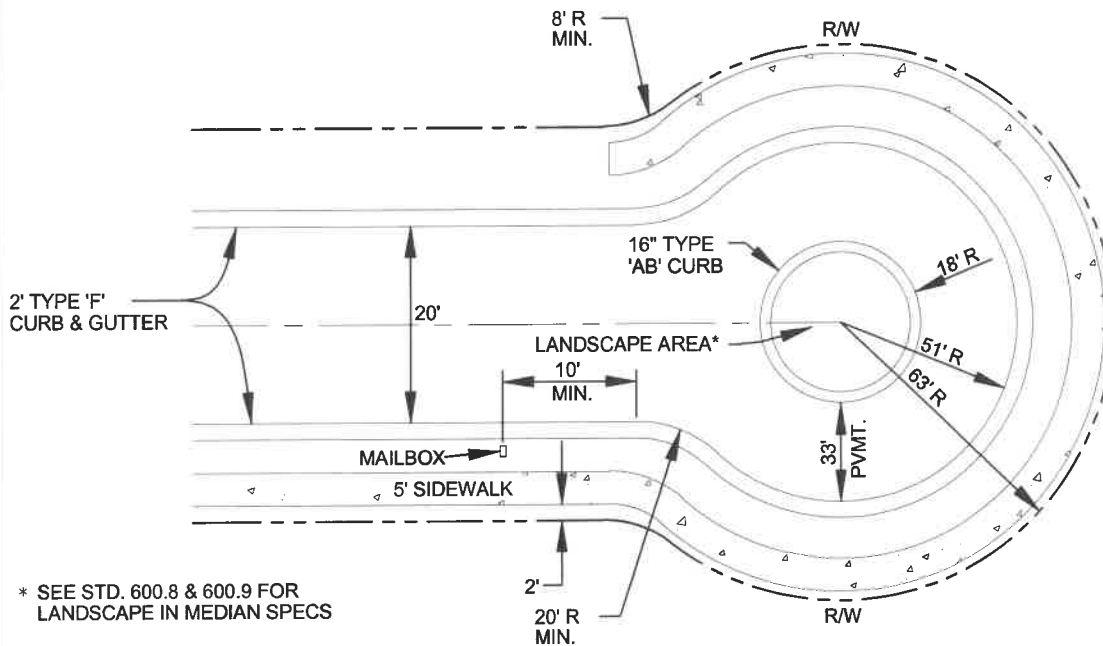
DATE OF APPROVAL

RESIDENTIAL
AND INDUSTRIAL
CUL-DE-SAC

401.10



RESIDENTIAL CUL-DE-SAC



INDUSTRIAL CUL-DE-SAC

ALTERNATE:

TRUCK COLLAR DESIGN MAY BE USED BETWEEN RADIUS OF 16-1/2' AND 30' (SEE 404.2).

TOWN OF REDINGTON BEACH

REV. BY DATE

DATE OF APPROVAL

RESIDENTIAL
AND INDUSTRIAL
CUL-DE-SAC
WITH MEDIAN

401.11

REV.BY	DATE

TOWN OF REDINGTON BEACH

DATE OF APPROVAL

MINIMUM
CURB RADIUS

402.0

MINIMUM FACE OF CURB RADIUS FOR INTERSECTING ROADS

ROAD CLASSIFICATION		ROAD CLASSIFICATION				
LOCAL RESIDENTIAL (URBAN & RURAL)	LOCAL RESIDENTIAL (URBAN & RURAL)	INDUSTRIAL (URBAN & RURAL)	MINOR COLLECTOR	MAJOR COLLECTOR	ARTERIAL	
LOCAL RESIDENTIAL (URBAN & RURAL)	25'	40'	35'	35'	35'	
INDUSTRIAL (URBAN & RURAL)	40'	50'	50'	50'	50'	
MINOR COLLECTOR	35'	50'	50'	50'	50'	
MAJOR COLLECTOR	35'	50'	50'	50'	50'	
ARTERIAL	35**	50'	50'	50'	50'	

INCREASE PER MPO FREIGHT MANAGEMENT STUDY

* WITHOUT TURN LANE = 50'

TOWN OF REDINGTON BEACH

REV.BY DATE

DATE OF APPROVAL

MINIMUM CLEAR ZONE WIDTHS

402.1

MINIMUM WIDTH OF CLEAR ZONE

TYPE OF FACILITY	DESIGN SPEED (MPH)						
	25 AND BELOW	30	35	40	45	50	55
MINIMUM CLEAR ZONE (FEET)							
RURAL •	6	6 LOCAL 10 COLLECTORS 14 ARTERIALS	6 LOCAL 10 COLLECTORS 14 ARTERIALS	10 COLLECTORS 14 ARTERIALS	14 ARTERIALS AND COLLECTORS ADT < 1500	14 ARTERIALS AND COLLECTORS ADT < 1500	18 ARTERIALS AND COLLECTORS ADT < 1500
					18 ARTERIALS AND COLLECTORS ADT ≥ 1500	18 ARTERIALS AND COLLECTORS ADT ≥ 1500	24 ARTERIALS AND COLLECTORS ADT ≥ 1500
URBAN *	1-1 2	4 **	4 **	4 **	4 **	N/A ••	N/A ••

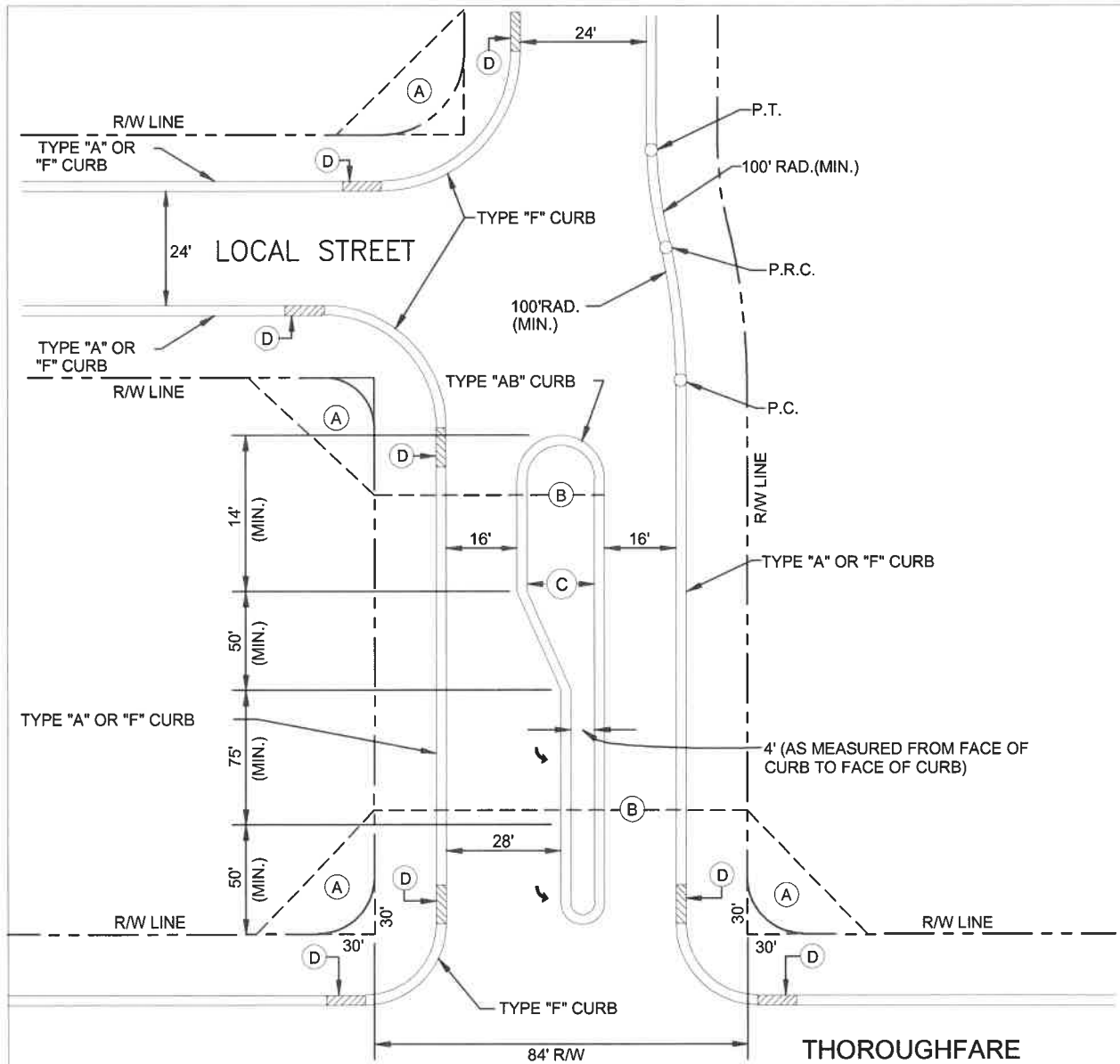
* FROM FACE OF CURB.

** ON PROJECTS WHERE THE 4' MINIMUM OFFSET CANNOT BE REASONABLY OBTAINED AND OTHER ALTERNATIVES ARE DEEMED IMPRACTICAL, THE MINIMUM MAY BE REDUCED TO 1-1/2'.

• USE RURAL FOR URBAN FACILITIES WHEN NO CURB AND GUTTER IS PRESENT. MEASURED FROM THE EDGE OF THROUGH TRAVEL LANE ON RURAL SECTION.

•• CURB AND GUTTER NOT TO BE USED ON FACILITIES WITH DESIGN SPEED > 45 MPH.

NOTE: ADT IN TABLE REFERS TO DESIGN YEAR ADT.



- * (A) VISIBILITY TRIANGLE, 30' X 30' AREA PERMITTING NO OBSTRUCTION (1.0 FT. DIA. OR LESS) HIGHER THAN 2' NOR LOWER THAN 8.5', TO ASSURE PROPER VISIBILITY. (SEE L.D.C. 713).
- (B) EXTENSION OF VISIBILITY TRIANGLE ACROSS MEDIAN STRIP TO COMPLY WITH STANDARD ABOVE.
- (C) MEDIAN STRIP MINIMUM WIDTH 19.33' FROM BACK OF CURB TO BACK OF CURB, LENGTH - 300' MAX NOT EXTENDING BEYOND P.C. OF PAVEMENT INTERSECTION RADIUS OR R/W LINE OF INTERSECTING STREET.
- (D) MINIMUM 5' CURB TRANSITION.
SEE SECTION 200 "CURB & GUTTER" SHEET 201.0 FOR CURB TYPE.
SEE SHEET 400.1 "GENERAL NOTES"
RADIUS AS REQUIRED BY ROAD DESIGNATION, LOCAL TO LOCAL 25' R., LOCAL TO THOROUGHFARE 35' R., THOROUGHFARE TO THOROUGHFARE 50' R.

* 30' IS A MINIMUM, MAY BE GREATER, VISIBILITY TRIANGLE TO BE DESIGNED PER F.D.O.T. MANUAL OF UNIFORM MINIMUM STANDARDS FOR DESIGN, CONST. & MAIN. FOR STREETS & HIGHWAYS (GREEN BOOK), LATEST REVISION.

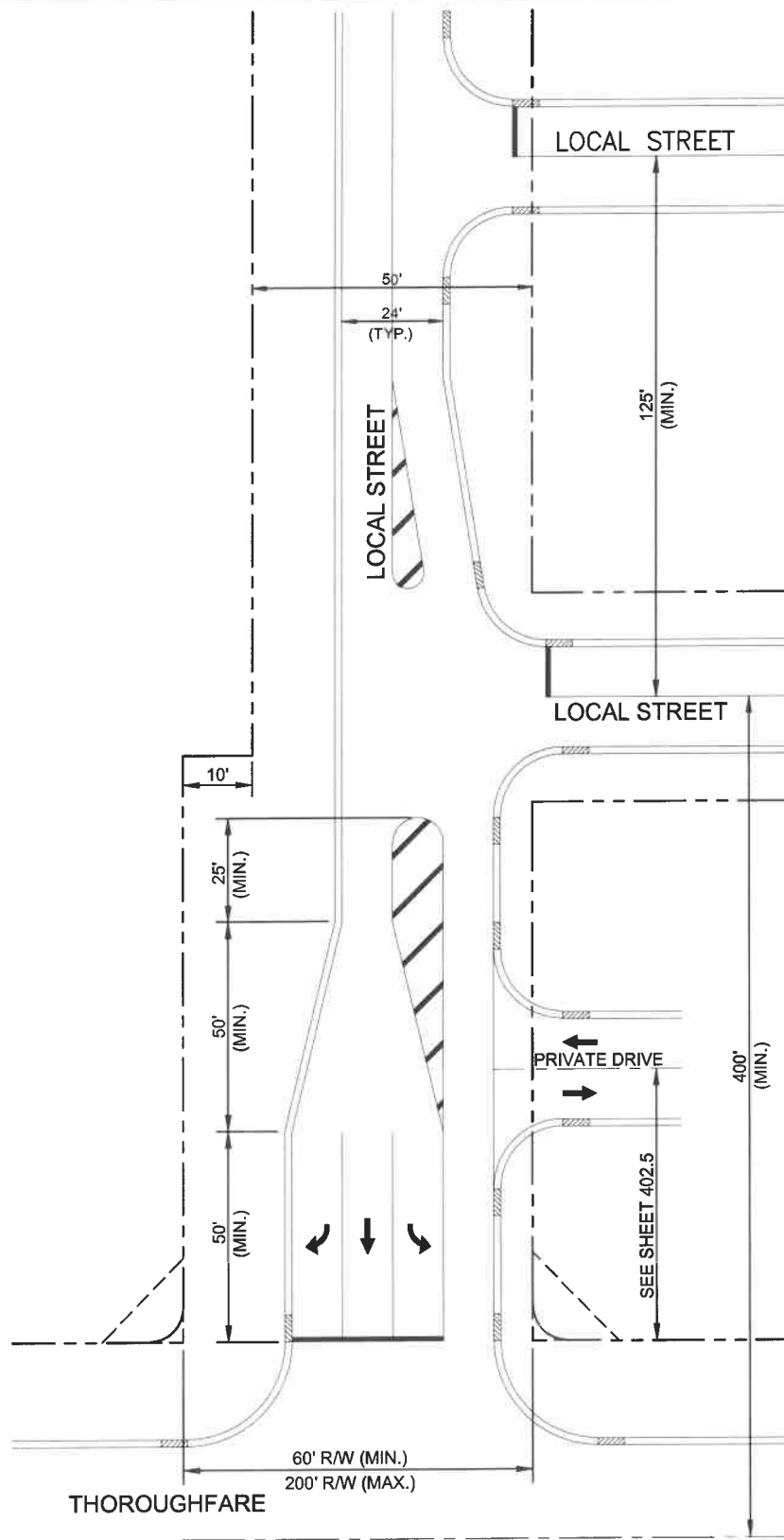
TOWN OF REDINGTON BEACH

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MEDIAN REQUIREMENTS

402.2



TOWN OF REDINGTON BEACH

REV.BY DATE

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LOCAL STREET TO
THOROUGHFARE
SEPARATION
REQUIREMENTS

402.3

DRIVEWAY SETBACK DISTANCE

PRINCIPAL USE OF LOT SERVICED	HIGHEST CLASSIFICATION OF INTERSECTING STREETS	MINIMUM REQUIRED DISTANCE (FEET)
RESIDENTIAL	ARTERIAL - THOROUGHFARE	60'
	MAJOR COLLECTOR - THOROUGHFARE	40'
	MINOR COLLECTOR - THOROUGHFARE	30'
	LOCAL	30'
ALL OTHER USES	ARTERIAL - THOROUGHFARE	75'
	MAJOR COLLECTOR - THOROUGHFARE	60'
	MINOR COLLECTOR - THOROUGHFARE	50'
	LOCAL	50'

TOWN OF REDINGTON BEACH

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DATE OF APPROVAL

**DRIVEWAY
SETBACK
DISTANCE**

402.5

SOIL CEMENT SPECIFICATIONS

1. DESIGN MIX:

- A.) 300 P.S.I. (7 DAYS) LAB DESIGN.
- B.) CEMENT CONTENT BY WEIGHT MUST BE A MINIMUM OF 5% AND A MAXIMUM OF 8%.
- C.) SOIL, CEMENT AND WATER SHALL BE CENTRAL PLANT MIX ONLY.

2. PROJECT TEST SAMPLES:

- A.) THE PILLS CAST FROM PROJECT OPERATIONS MUST BREAK AT 200 P.S.I. OR HIGHER AT 7 DAYS.
- B.) CORES MAY BE TAKEN AT 14 DAYS TO PROVIDE ADDITIONAL INFORMATION REGARDING A SOIL CEMENT SECTION.
- C.) CORE BREAKS BELOW 150 P.S.I. WILL NOT BE ACCEPTABLE.
- D.) IN PLACE DENSITY TESTS SHALL BE MADE IN THE SUB-BASE AND BASE COURSE. FREQUENCY OF TESTING SHALL BE AT LEAST ONE TEST FOR EVERY 500 L.F. OF PAVEMENT. IF PROJECT IS LESS THAN 500 L.F., THEN A MINIMUM OF TWO DENSITY TESTS SHALL BE TAKEN.
- E.) ALL CORES SHALL BE 6" DIAMETER.
- F.) SUB-BASE TO BE A MINIMUM OF LBR 40 (UNLESS OTHERWISE NOTED).

3. CONSTRUCTION METHODS:

- A.) CONSTRUCTION METHODS SHALL IN ACCORDANCE WITH F.D.O.T. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2000 EDITION, SECTION 270 EXCLUDING SUB-SECTION 270-4.3.1 ("MIX IN PLACE"). ALL OTHER SUB-SECTIONS OF SECTION ARE APPLICABLE.

*NOTE: SOIL CEMENT CAN ONLY BE USED WITH SPECIFIC APPROVAL OF DIRECTOR.

TOWN OF REDINGTON BEACH

REV.BY	DATE	

DATE OF APPROVAL

**SOIL CEMENT
SPECIFICATIONS**

403.0

CEMENT TREATED BASE CONSTRUCTION

GENERAL:

- 1.1 THE CONSTRUCTION OF THE CEMENT TREATED BASE SHALL IN ACCORDANCE WITH F.D.O.T. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2000 EDITION, SECTION 270 EXCLUDING SUB-SECTION 270-4.3.1 ("MIX IN PLACE"). ALL OTHER SUB-SECTIONS OF SECTION ARE APPLICABLE.
- 1.2 THE SUBGRADE IS TO BE CONSTRUCTED TO F.D.O.T. SPECIFICATION SECTION 270-4, 2000 EDITION AND BE COMPACTED TO 98 PERCENT AASHTO T-180 DENSITY. THE SUB-BASE TO BE CONSTRUCTED OF MATERIAL HAVING A MINIMUM LBR OF 40.
- 1.3 THE CEMENT TREATED BASE IS TO HAVE A MINIMUM LABORATORY CURED FIELD MIX 7-DAY COMPRESSIVE STRENGTH OF 200 PSI, BY BAG SAMPLE.
- 1.4 SHELL MATERIAL SHALL BE MIXED WITH A MINIMUM CEMENT CONTENT BY WEIGHT OF 2%, BUT NOT TO EXCEED 4%. THE INTENT OF A 2% MIX IS NOT PRIMARILY TO GENERATE STRENGTH BUT TO ENHANCE A SHELL BASE WITH THE RESILIENCY AND WATER RESISTANCE CHARACTERISTICS OF SOIL CEMENT, WITHOUT GENERATING THE PROBLEMATIC CRACKING CHARACTERISTICS GENERALLY ASSOCIATED WITH NORMAL SOIL CEMENT MIXES. THEREFORE, THE CONTRACTOR IS INSTRUCTED TO GENERATE A MIX CAPABLE OF ACHIEVING A FIELD TEST 7-DAY COMPRESSIVE STRENGTH IN THE RANGE OF 200 PSI TO 300 PSI, BY BAG SAMPLE.
- 1.5 BASE MATERIAL SHALL BE F.D.O.T. SHELL AND HAVE A MINIMUM LBR OF 100 AND +/-2% OPTIMUM MOISTURE PRIOR TO MIXING WITH CEMENT.
- 1.6 ANY AREA REPRESENTED BY A 400 PSI 7-DAY BREAK OR GREATER IS SUBJECT TO REJECTION BY THE OWNER OR OWNER'S REPRESENTATIVE AFTER OBSERVATION, EVALUATION AND TESTING. VALUES FROM 300 PSI TO 400 PSI SHALL BE SUBJECT TO REVIEW AND COMPARISON TO THE DESIGN MIX.
- 1.7 IT SHOULD BE NOTED THAT MOISTURE CONTENT, RAPIDITY OF COMPACTION EFFORT AND FINAL COMPACTION RESULTS HAVE AS MUCH, IF NOT MORE, INFLUENCE ON THE COMPRESSIVE STRENGTH AS DOES THE CEMENT CONTENT. IN ORDER TO GIVE THE CONTRACTOR A REFERENCED ACCEPTANCE STANDARD, LOWER AND UPPER VALUES OF 200 PSI AND 300 PSI HAVE BEEN ESTABLISHED. THESE VALUES ARE ALSO GIVEN SOME SUBJECTIVE LEEWAY IN THE INSPECTION OF THE FINAL PRODUCT.
- 1.8 ALL MATERIAL SHALL BE COLLECTED BY THE SACK METHOD, TRANSPORTED TO LAB IN SEALED/MOISTURE RETAINING ENCLOSURE AND TESTED WITHIN 2 HOURS OF FIELD SAMPLING.

TESTING AND INSPECTION:

- 2.1 ALL TESTING AND INSPECTION SHALL BE PERFORMED BY AN INDEPENDENT LABORATORY APPROVED BY THE ENGINEER/COUNTY.
- 2.2 THE CONTRACTOR SHALL MAKE AVAILABLE ALL MATERIALS TO THE LABORATORY FOR THE PURPOSE OF PERFORMING ROUTINE TESTS AS SPECIFIED. THIS INCLUDES SAMPLES FOR CEMENT TREATED BASE MIXTURE DESIGN, MAXIMUM DENSITY DETERMINATION, SIEVE ANALYSIS OR OTHER TESTS AS DIRECTED BY THE ENGINEER.
- 2.3 THE PILLS CAST FROM PROJECT OPERATIONS MUST BREAK AT 200 PSI OR HIGHER AT 7 DAYS.
- 2.4 TEST SAMPLES MAY BE TAKEN AT 14 DAYS TO PROVIDE ADDITIONAL INFORMATION REGARDING A CEMENT TREATED SECTION. SAMPLES SHALL BE SAWCUT, FULL DEPTH AND BE A MINIMUM OF 12"x12".
- 2.5 SAMPLE BREAKS BELOW 150 PSI WILL NOT BE ACCEPTABLE. ALL CORES SHALL BE 6 INCHES IN DIAMETER.
- 2.6 IN PLACE DENSITY TESTS SHALL BE MADE IN THE SUB-BASE AND BASE COURSE. FREQUENCY OF TESTING SHALL BE AT LEAST ONE TEST FOR EVERY 500 L.F. OF PAVEMENT. IF PROJECT IS LESS THAN 500 L.F., THEN A MINIMUM OF TWO DENSITY TESTS SHALL BE TAKEN. A MINIMUM OF TWO STRENGTH TEST VALUE SPECIMENS SHALL BE TAKEN EACH DAY (ONE IN THE MORNING, AND ONE IN THE AFTERNOON)
- 2.7 TEST RESULTS SHALL BE REPORTED IN WRITING TO THE COUNTY.
- 2.8 F.D.O.T. SHELL BASE MATERIALS WILL BE ONLY BASE MATERIAL ACCEPTED.
- 2.9 CRUSHED CONCRETE BASE MATERIAL REQUIRES DIRECTOR'S APPROVAL.

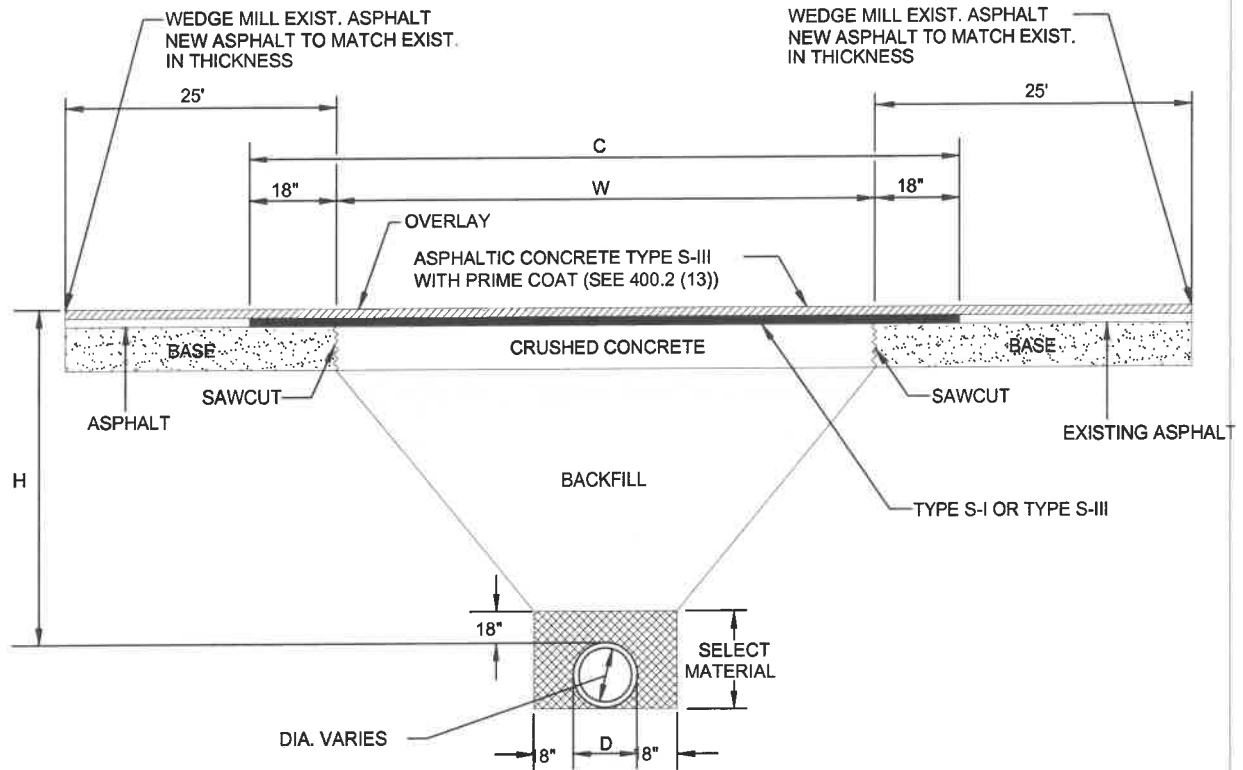
TOWN OF REDINGTON BEACH

REV.BY	DATE

DATE OF APPROVAL _____

**CEMENT TREATED
BASE**

403.1



- A. CRUSHED CONCRETE BASE SHALL BE A MINIMUM OF 8" THICK AND A MINIMUM OF "W" IN WIDTH, OR GREATER, WHERE DISTURBED AREA IS GREATER THAN "W" FROM EQUATION: $W=(2 \times H) + D + (2 \times 18")$. SAND ASPHALT BASE WILL BE AN ACCEPTABLE ALTERNATE.
- B. BACKFILL, AASHTO M145-66 SHALL BE PLACED IN LAYERS NOT TO EXCEED 6", EACH LAYER WILL BE THOROUGHLY TAMPED AND/OR ROLLED TO 98% OF MODIFIED PROCTOR MAXIMUM DENSITY (AASHTO T-180). NON-SHRINK, HIGH SLUMP, 1,500 PSI CONC. BACKFILL MAY BE USED AS AN ALTERNATIVE IF APPROVED BY TRANSPORTATION DEPARTMENT.
- C. SELECT MATERIAL, AASHTO M-146-70, SHALL BE PLACED ON BOTH SIDES OF THE PIPE SIMULTANEOUSLY, COMPACT AREA UNDER HAUNCHES OF THE PIPE W/ MECHANICAL TAMPERS, AND THROUGHOUT THE REMAINDER OF THE SELECT MATERIAL.
- D. ASPHALTIC CONCRETE FRICTION COURSE, SHALL BE THE SAME DEPTH AND TYPE AS EXISTING OR A MINIMUM OF ONE INCH, WHICHEVER IS GREATER. $C = W+36$
- E. "H" = THE DEPTH FROM TOP OF PIPE TO THE CENTERLINE OF THE ROAD (MINIMUM OF 36")
MINIMUM OF 30" UNDER FLOWLINE OF SIDE DITCHES.
- F. RESTORE EXISTING SIGNAGE & MARKING WITH THERMOPLASTIC PER F.D.O.T. STANDARDS.

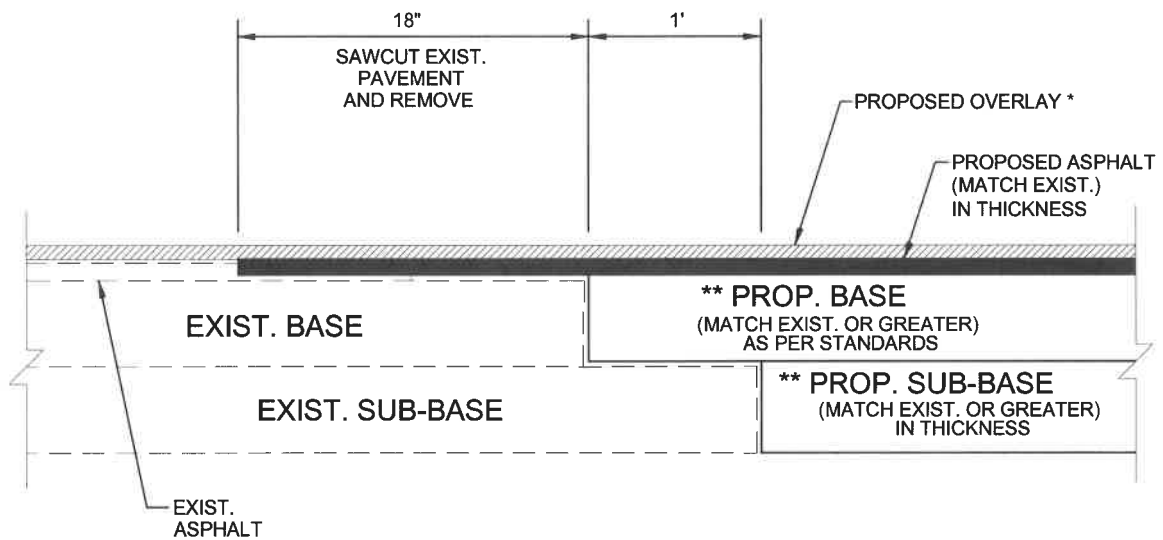
TOWN OF REDINGTON BEACH

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DATE OF APPROVAL

UTILITY ROAD
CUT REPLACEMENT

403.2



* NOTE: LIMITS OF OVERLAY - EDGE OF PAVEMENT TO EDGE OF PAVEMENT AND 25' BEYOND LIMITS OF CONSTRUCTION.

** NOTE: CONNECTION TO OLDER (SUBSTANDARD THICKNESS) ROADS MAY REQUIRE THICKER PROPOSED BASE AND SUB-BASE TO MEET CURRENT STANDARDS.

SIGNAGE AND MARKING PLAN SHALL ACCOMPANY CONSTRUCTION PLAN.

ROAD CONNECTION DETAIL

N.T.S.

(NEW CONSTRUCTION TO EXISTING FOR WIDENING OR EXTENSION)

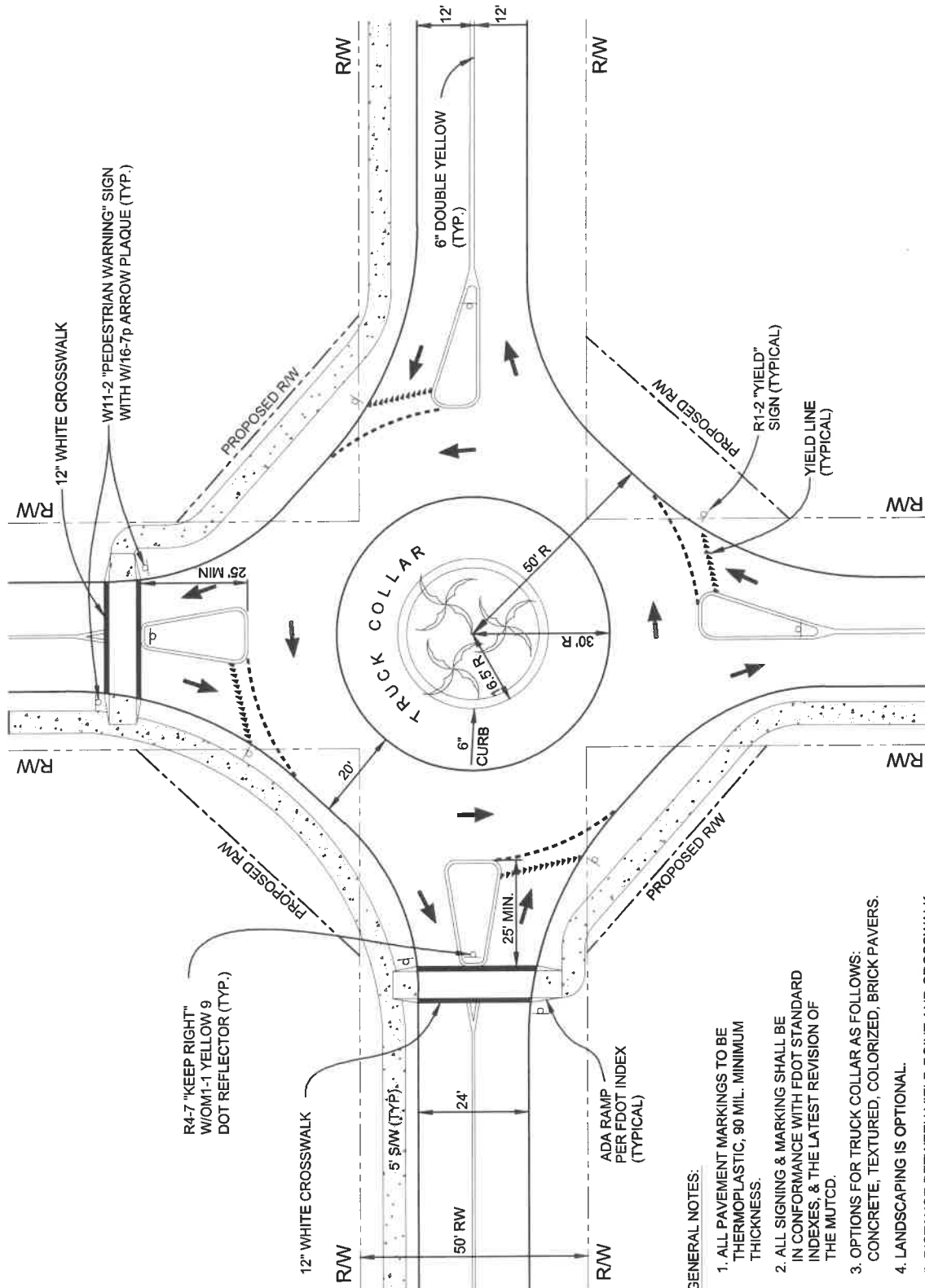
TOWN OF REDINGTON BEACH

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ROAD CONNECTION
DETAIL

403.3



GENERAL NOTES:

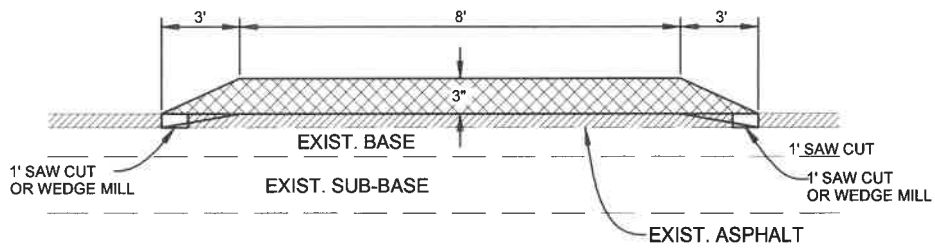
1. ALL PAVEMENT MARKINGS TO BE THERMOPLASTIC, 90 MIL. MINIMUM THICKNESS.
2. ALL SIGNING & MARKING SHALL BE IN CONFORMANCE WITH FDOT STANDARD INDEXES, & THE LATEST REVISION OF THE MUTCD.
3. OPTIONS FOR TRUCK COLLAR AS FOLLOWS:
CONCRETE, TEXTURED, COLORED, BRICK PAVERS.
4. LANDSCAPING IS OPTIONAL.
5. DISTANCE BETWEEN YIELD POINT AND CROSSWALK IS 25' MINIMUM.

TOWN OF REDINGTON BEACH

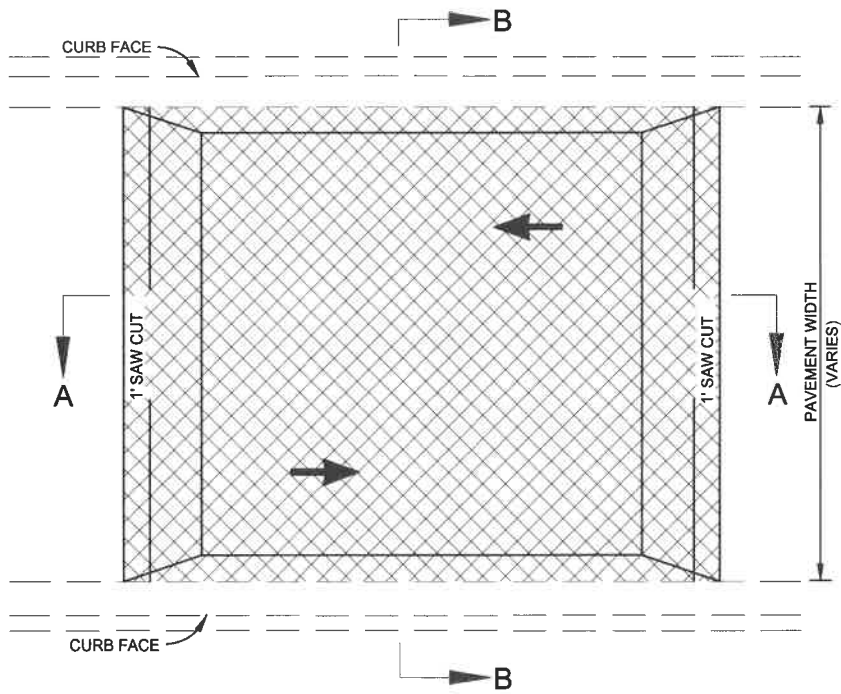
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TYP. ROUNDABOUT
FOR LOCAL &
RESIDENTIAL STREETS

404.0

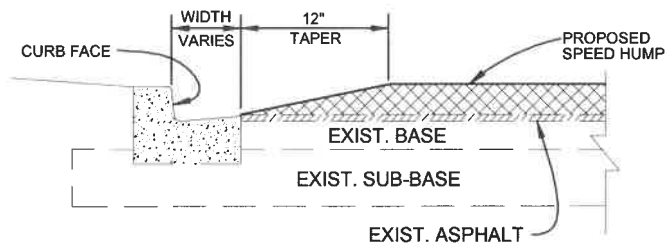


SECTION A-A

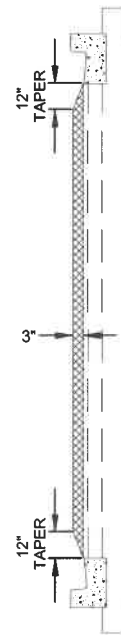


PLAN VIEW

NOTE: ALL PAVEMENT MARKINGS PER MUTCD.
DETAIL IS FOR APPLICATION TO EXISTING ROAD.



SPEED HUMP TAPER AT CURB



SECTION B-B

TOWN OF REDINGTON BEACH

REV. BY DATE

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**SPEED TABLE
DETAIL**

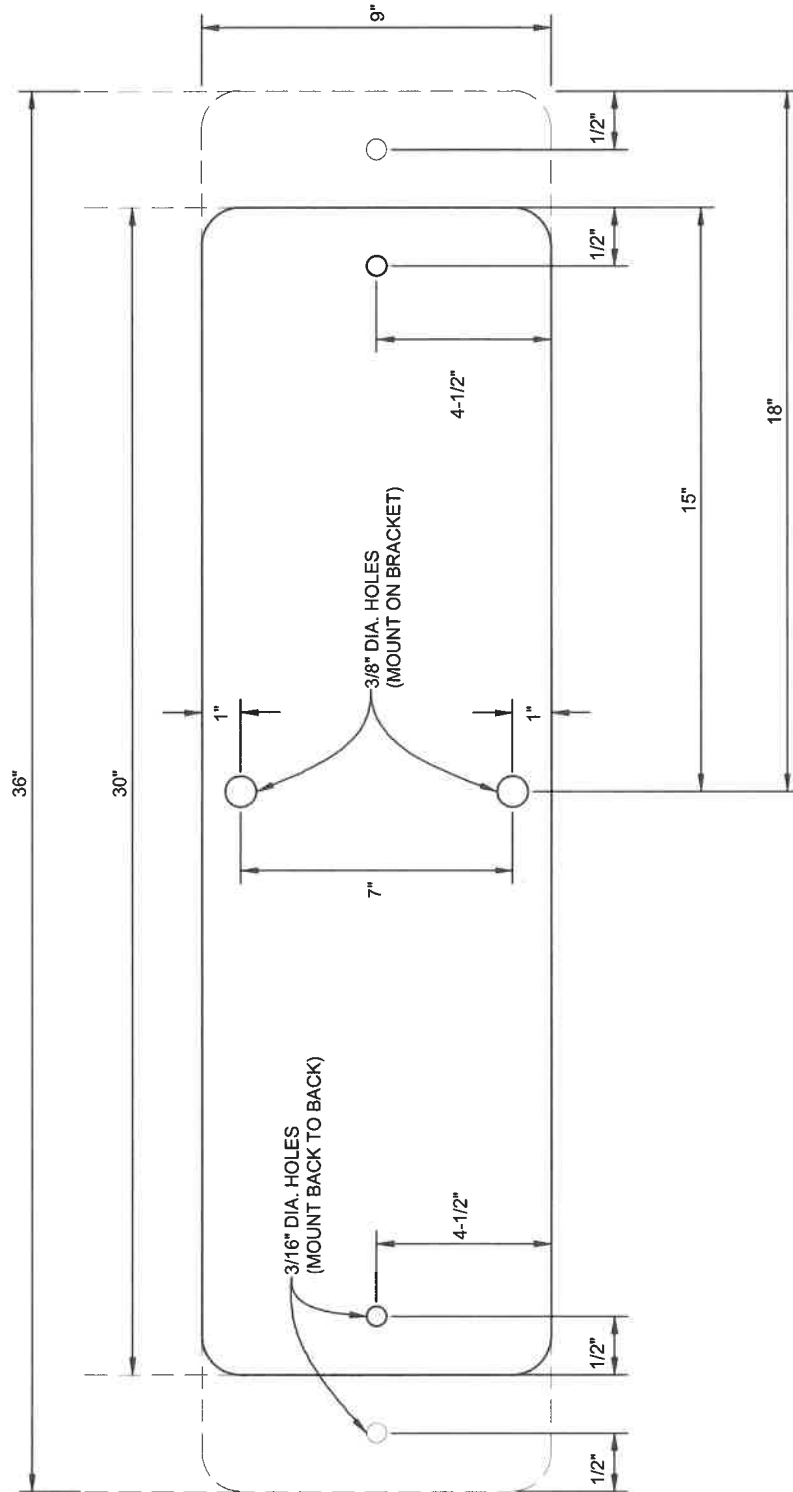
405.0

INDEX

	<u>SHEET NO.</u>
500 TRAFFIC SIGNAL SUPPLEMENTAL SPECIFICATIONS	500.0
1) INDEX SHEET	500.1
2) RESERVED	500.2
3) RESERVED	501.0
4) RESERVED	502.0-502.4
5) RESERVED	503.0
6) RESERVED	504.0-504.2
7) RESERVED	505.0
8) RESERVED	506.0
9) RESERVED	507.0
10) RESERVED	508.0
11) RESERVED	509.0-514.0
12) RESERVED	515.0
13) RESERVED	516.0
14) RESERVED	517.0
15) RESERVED	518.0-521.0
16) RESERVED	522.1-522.6
17) RESERVED	523.0-523.6
18) RESERVED	551.0
19) RESERVED	552.0
20) STREET NAME SIGNING (GROUND MOUNTED) HARDWARE/MATERIALS SPECIFICATIONS	553.0-3
21) RESERVED	554.0
22) RESERVED	555.0
23) RESERVED	556.0
24) RESERVED	557.0
25) RESERVED	557.1

TOWN OF REDINGTON BEACH		TRAFFIC SUPPLEMENTAL SPECIFICATIONS	500.1
REV.BY	DATE		
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FIGURE 553-A



ALUMINUM STREET NAME SIGN BLANK

TOWN OF REDINGTON BEACH

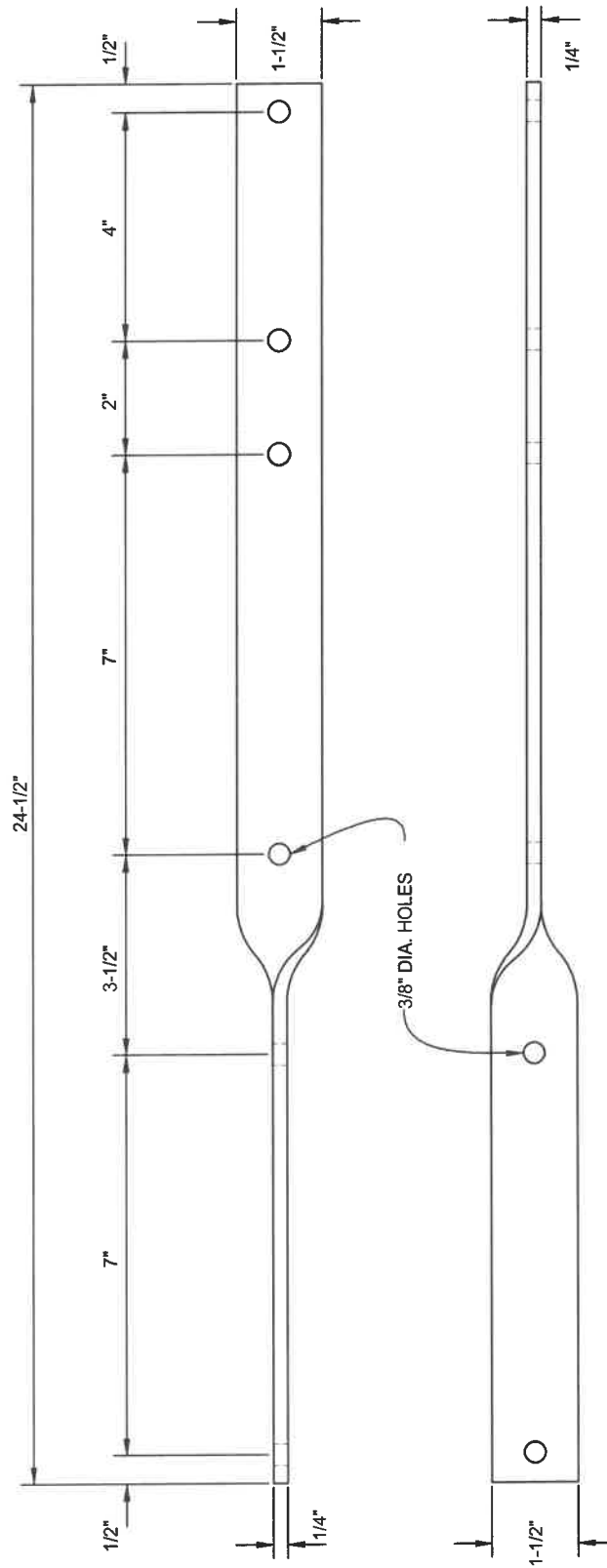
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DATE OF APPROVAL

STREET NAME SIGNS
(GROUND MOUNTED)
HARDWARE/MATERIAL
SPECIFICATIONS

553.2

FIGURE 553-B



GALVANIZED STEEL STREET NAME SIGN BRACKET

TOWN OF REDINGTON BEACH

REV. BY DATE

DATE OF APPROVAL

**STREET NAME SIGNS
(GROUND MOUNTED)
HARDWARE/MATERIAL
SPECIFICATIONS**

553.3

WASTOP VALVE INDEX

	<u>SHEET NO.</u>
600 WASTOP VALVES	600.0
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B. WASTOP INSTALLATION, GENERAL NOTES CONTINUED	601.1
C. WASTOP INSTALLATION, GENERAL NOTES CONTINUED	601.2
D. WASTOP INSTALLATION, GENERAL NOTES CONTINUED	601.3
E. WASTOP VALVE INSTALLATION PREPARATION	602.0
F. WASTOP VALVE GENERAL INFORMATION	603.0
G. WASTOP VALVE INSTALL INLET INTO CHAMBER	604.0
H. WASTOP VALVE INSTALL OUTLET FROM CHAMBER	605.0
I. WASTOP VALVE FLEXIBLE COUPLING INSTALL	606.0
J. WASTOP VALVE FLANGE INSTALLATION	607.0
K. WASTOP VALVE PVC INLINE INSTALLATION	608.0

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WASTOP VALVE
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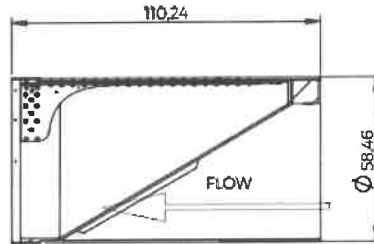
600.0

WASTOP DETAILED INSTRUCTIONS

The following Installation Guide is designed to provide the customers of Wapro with sufficient information to successfully install our WaStop check valve. Typically, our customers were provided with Shop Drawings prior to manufacture for both review and authorization to manufacture. These documents alone, however, may not provide all the guidance needed to install the WaStop.

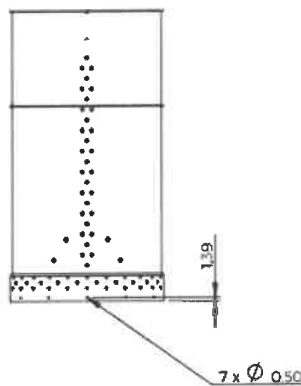
Orientation

The WaStop should always be installed with the 'spine' of the membrane upwards. Depending on the dimension the WaStop could be pushed in place by hand or using lifting equipment and slings.



Fastener

Wapro recommends the use of concrete anchor bolts or threaded rods secured with chemical anchors. Bolted into the non-shrink grout, or concrete surrounding the WaStop valve body.



Sealant

A WaStop secured by expansion bolts through the pre-drilled holes in the bell of the WaStop is sealed by applying non-shrink grout between the id of the host pipe and the od of the WaStop valve body.

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Installation

This section aims to outline the steps of the installation method when the WaStop is sealed by non-shrinking grout and secured with concrete anchors. WaPro supplies neither grout nor anchors and the respective manufacturers recommendation should be followed.

The steps installing a WaStop with this method are:

- 1) Clean out the host pipe and inspect for irregularities.
- 2) Position the WaStop: flow direction as well as 'this side up' is noted on the label of the WaStop.
- 3) Apply non-shrink grout underneath the WaStop using spacers to create about 1" space between the WaStop and the host pipe, remove the spacer and fill up the rest of the area around the WaStop and allow the grout to set. It is recommended to form at least a 10" long 1/2" thick lining around the WaStop with grout. Mixing the grout to a semi-solid to plastic consistency will ease application.
- 4) Once the grout has set, secure the WaStop utilizing concrete anchor bolts.

If the bolts can be anchored in place prior to applying grout it's recommended to do so. It will allow for a thrust nut to be used providing an adjustable surface against which the valve body will rest. Adjust the nut leaving about 1/2" space between the valve body and the host pipe before applying the grout.

Installation method using flange or angle brackets for grooved pipes.

Introduction

The following Installation Guide is designed to provide the customers of Wapro with sufficient information to successfully install our WaStop check valve. Typically, our customers were provided with Shop Drawings of their WaStops prior to manufacture for both review and authorization to manufacture. These documents alone, however, may not provide all the guidance needed to install the WaStop.

The WaStop

Regardless of dimension all WaStop share some features, and there are two main methods of installing a WaStop in grooved pipes; inside the pipe with angle brackets and sealant or with a flange. The dimension of the bolt holes is noted on the shop drawings.

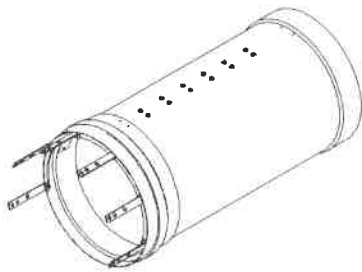


fig 1. Angle brackets and rubber seal.

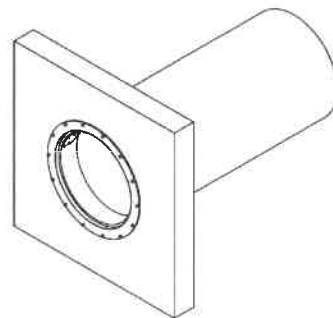


fig 2. Flange

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Orientation

The WaStop should always be installed with the 'spine' of the membrane upwards. Depending on the dimension the WaStop could be pushed in place by hand or using lifting equipment and slings.

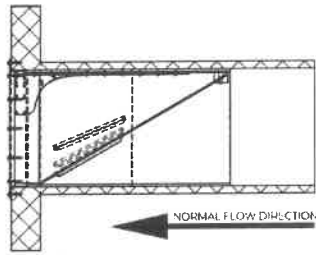


fig 3. Orientation and flow direction.

Fastener

Wapro recommends the use of concrete anchor bolts or threaded rods secured with chemical anchors when flange is used. Different applications might warrant other fasteners.

Wapro recommends bolted connection through the grooved pipe when fastening inside the grooved pipe using angle brackets. Material of the bolt, washer, screw and nut should be AISI 316 / EN1.4404.

Sealant

WaStop with angle brackets and rubber seal comes with the rubber seal fitted on the WaStop. Damaged, out of round or otherwise irregular pipes might require additional sealing material.

WaStop with flange do generally not include any sealing material due to the variations of sealants different installations require.

Recommended sealant depends on the application, guidelines:

- 1) If the concrete wall is in good shape with no cracks, flush and otherwise not damaged it's usually enough with epdm tape, silicone sealant or similar attached to the flange to seal between the flange and the concrete mounting surface.
- 2) If the Concrete has minor irregularities: hydrophilic systems; swellable profiles or sealants such as sikaswell are recommended which can fill up minor cracks.
- 3) If the concrete has cracks or irregularities a non-shrinking grout is recommended to fill up the voids between the flange and the concrete wall.
- 4) If the rubber seal does not seal properly and there is a gap between inner pipe and rubber seal, sealant such as Sikaswell is recommended.

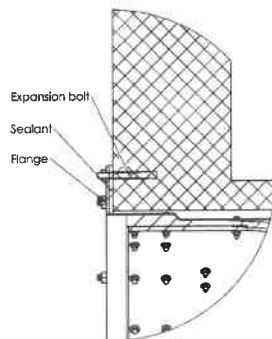


fig 4. Flange with applied sealant fastened with expansion bolt.

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Angle brackets and rubber seal

The rubber seal should be positioned half way up the collar of the valve body, creating a step (diameter increase).

In case of cracks or out of round pipes, there might be need for additional sealant according to section 'Sealants'.

Angle brackets should be close to the inner surface of the grooved pipe and attached with bolted connection through the pipe, preferable on the smaller outside diameter.

Flange

Larger WaStops are installed using flanges. Once the host pipe is cleaned out and inspected for irregularities, the following steps outlines an installation.

- 1) Position the WaStop. The first step in installing a WaStop is to position the valve. Flange bolt holes are sized to allow anchor bolts to pass through the flange to the mounting surface.
- 2) Place Anchors. If threaded rod is to be used for anchors, install stainless steel threaded rods cut to appropriate length using a two-part epoxy glue to secure the rods in the concrete. Allow time to set, according to the manufacturer's recommendation. Expansion anchors are installed according to the manufacturer's recommendation.
- 3) In the case of an irregular mounting surface, a thrust nut can be used to provide an adjustable surface against which the flange will rest (see fig. 5). Adjust the nut leaving about 10mm space between the flange and the mounting surface. In case of a flush surface apply sealant and push flange firmly against the mounting surface.
- 4) Place jam nut on each anchor, then firmly tighten jam nuts to permanently secure the gate.
- 5) In case of voids between the mounting surface and the flange; mix a non-shrinking grout and fill the space between the mounting surface and the flange that make a seal.

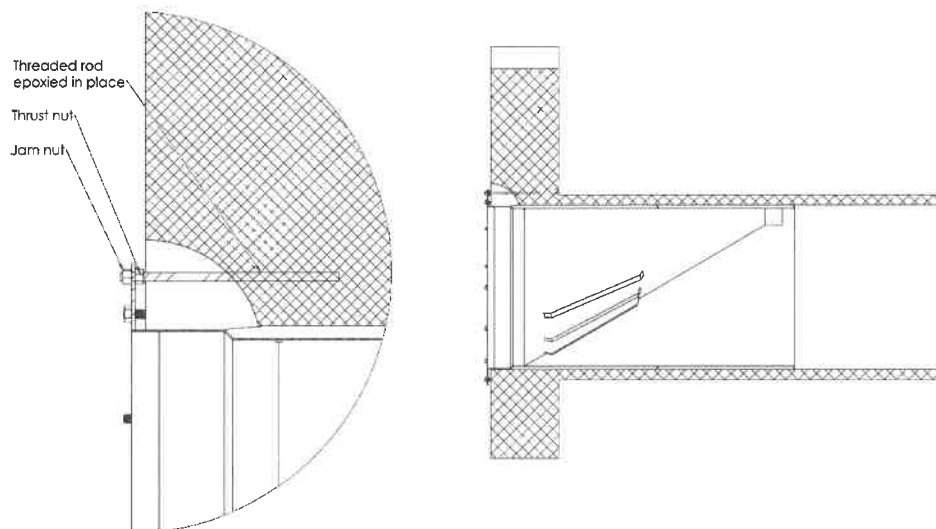


fig 5. WaStop with flange, mounting surface with crack.

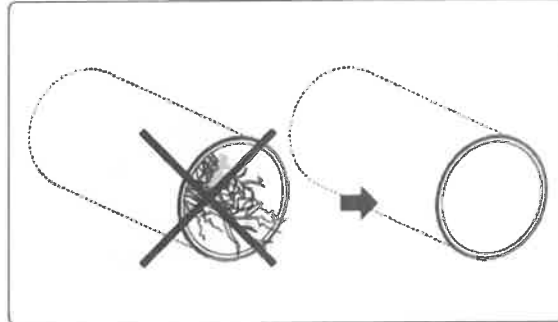
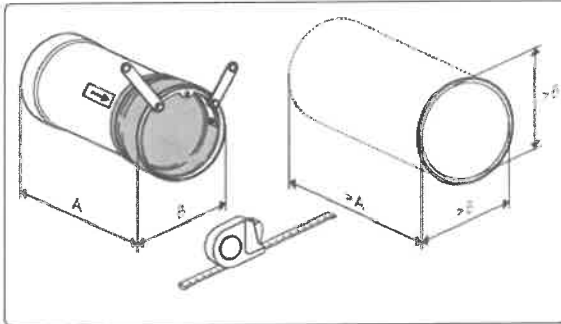
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WASTOP INSTALLATION GENERAL NOTES

601.3

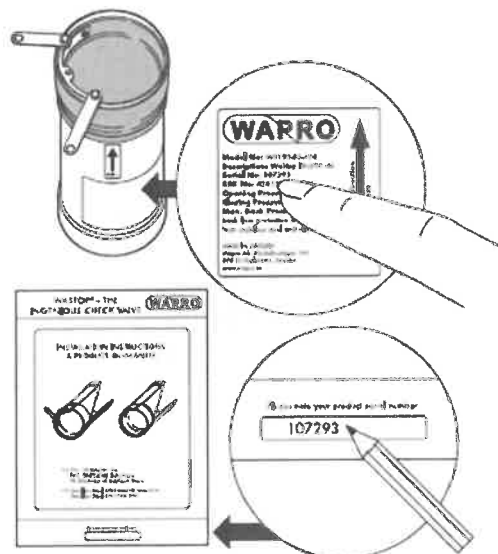
Preparation for Installation



Note Opening Pressure



Document Serial Number



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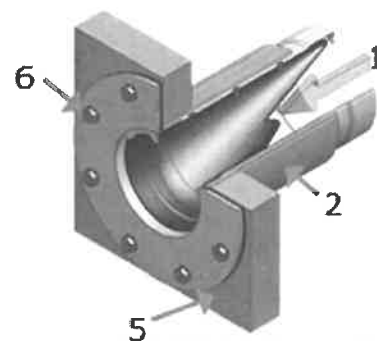
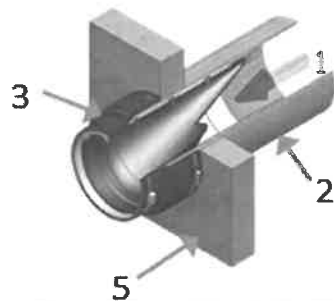
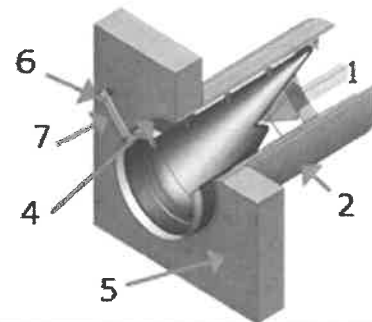
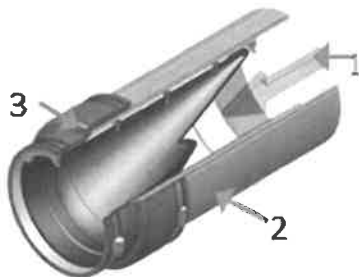
WASTOP
INSTALLATION
PREPARATION

602

Membrane Spine Must Be Installed Upwards



Components: 1) Flow Direction 2) Existing Pipe 3) Flexible Coupling 4) Rubber Seal 5) Head Wall/Chamber 6) Bolts 7) Flat Iron



TOWN OF REDINGTON BEACH

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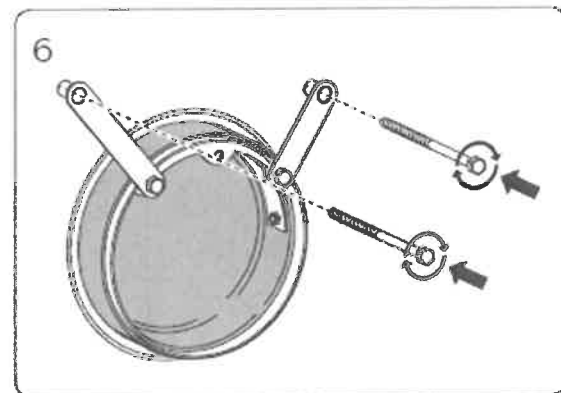
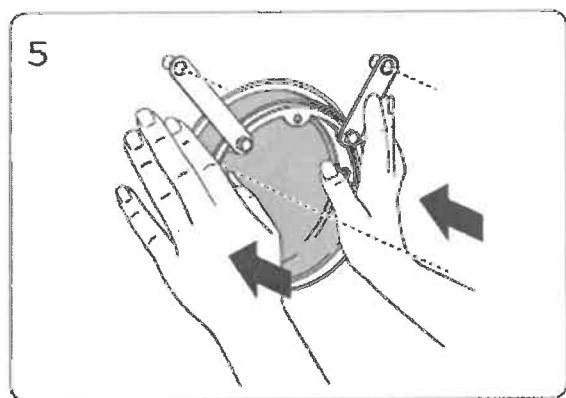
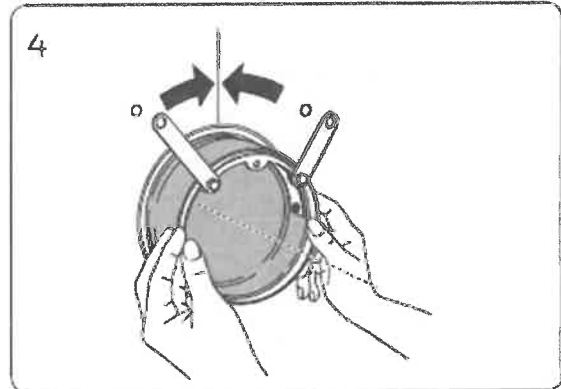
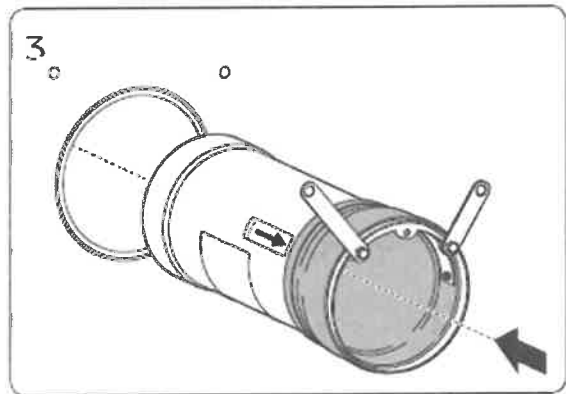
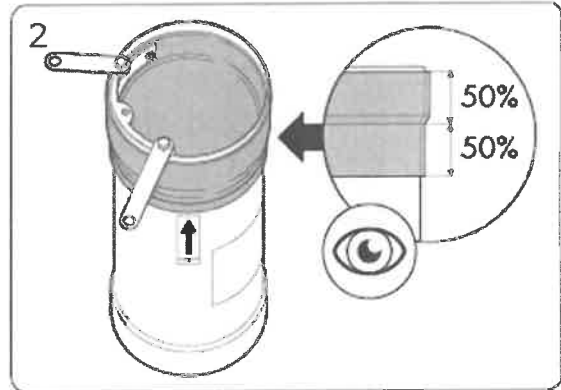
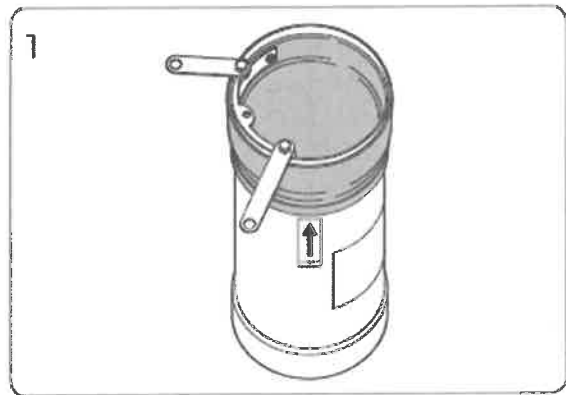
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DATE OF APPROVAL

WASTOP VALVE
GENERAL
INFORMATION

603

OUTLET INSTALLATION STAINLESS STEEL (INLET INTO CHAMBER)



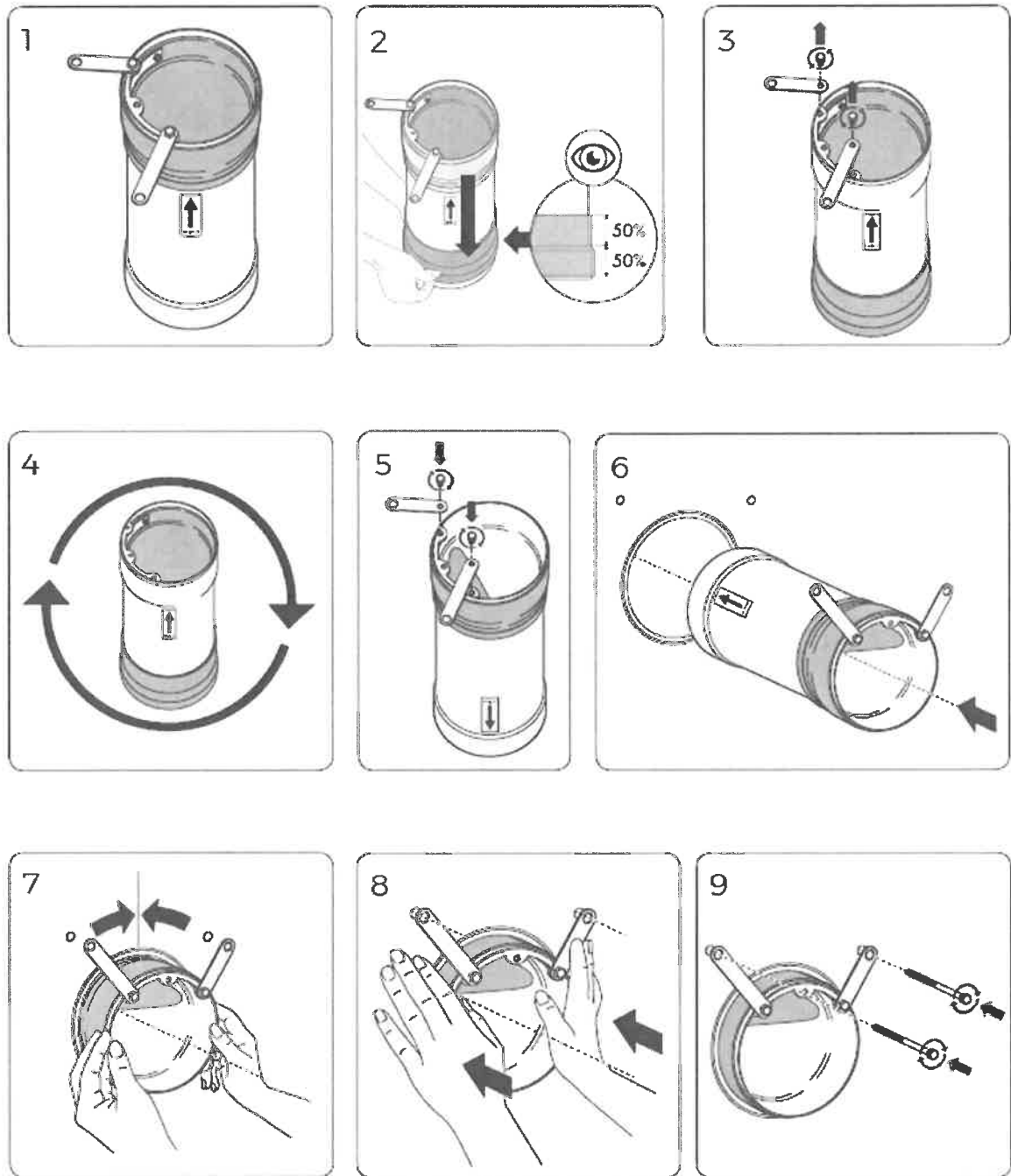
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WASTOP INSTALL
INLET INTO
CHAMBER

604

INLET INSTALLATION STAINLESS STEEL (OUTLET FROM CHAMBER)



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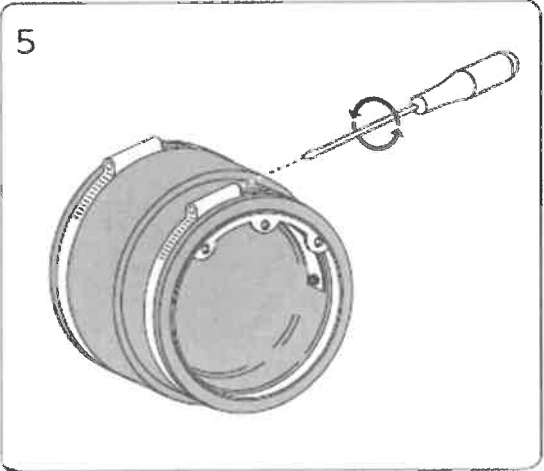
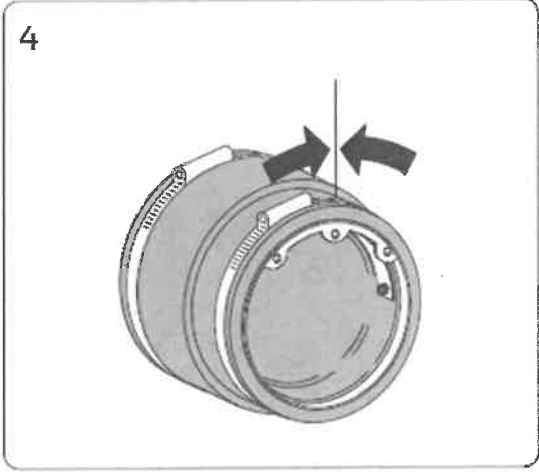
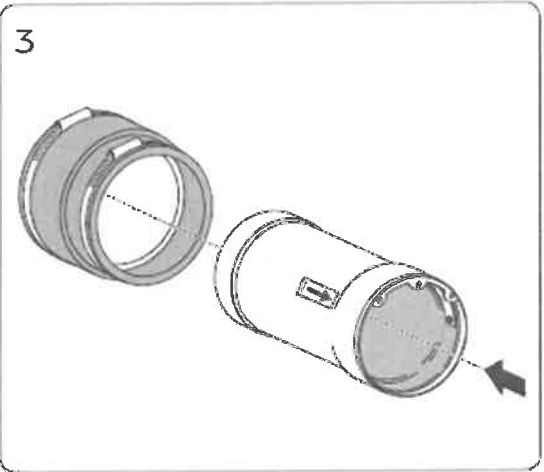
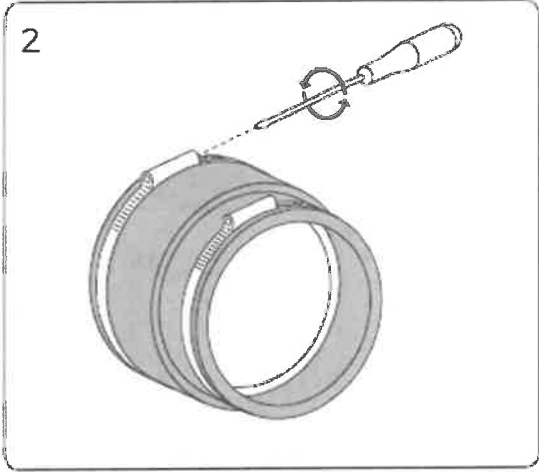
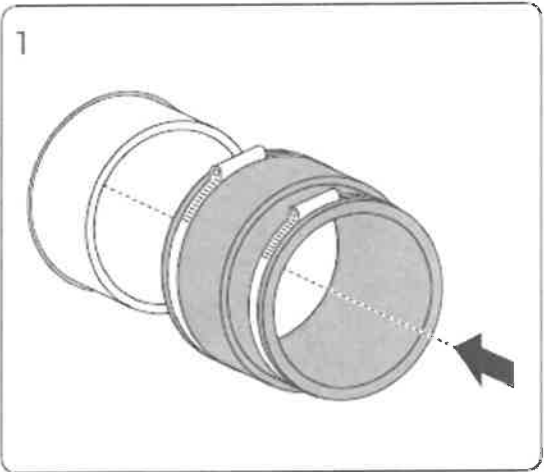
DATE

DATE OF APPROVAL

WASTOP INSTALL
OUTLET FROM
CHAMBER

605

FLEXIBLE COUPLING INSTALLATION



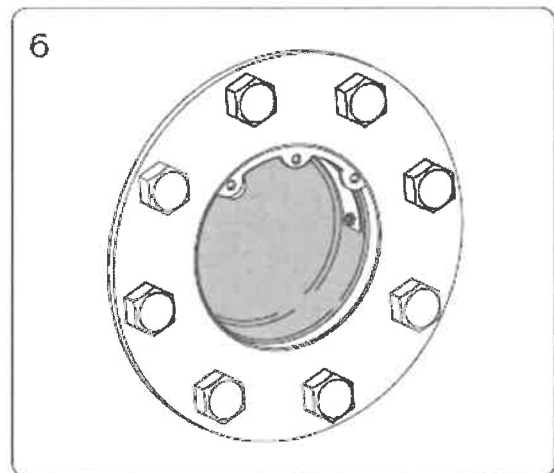
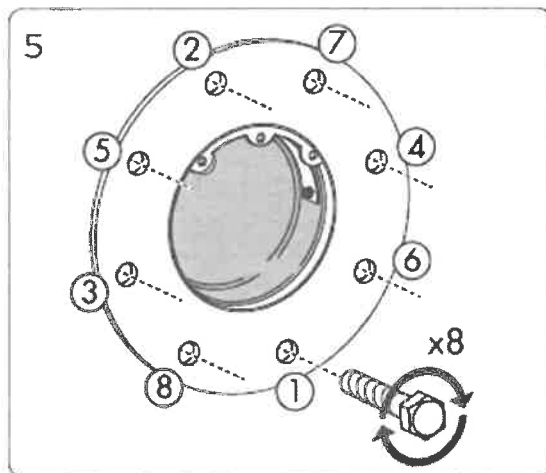
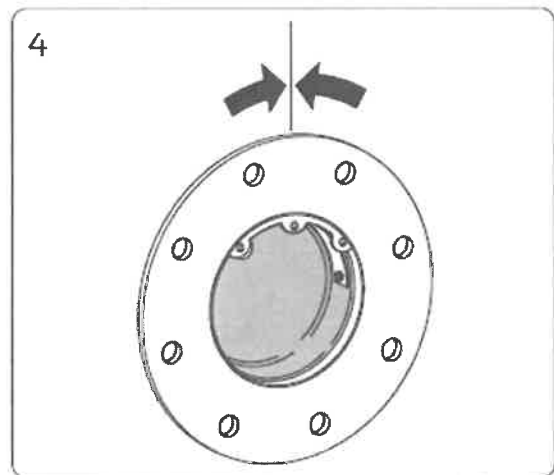
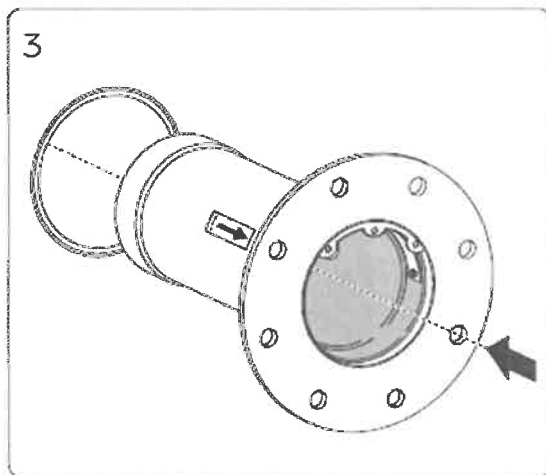
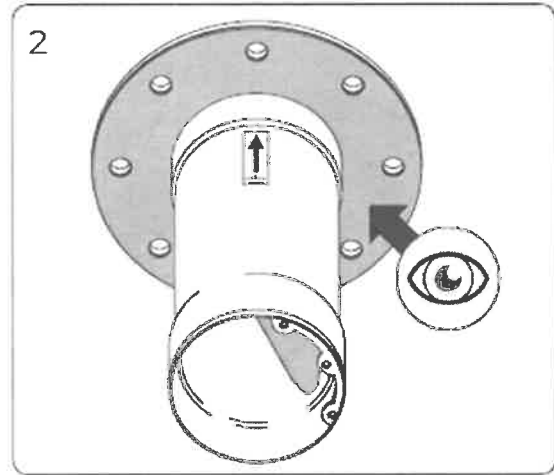
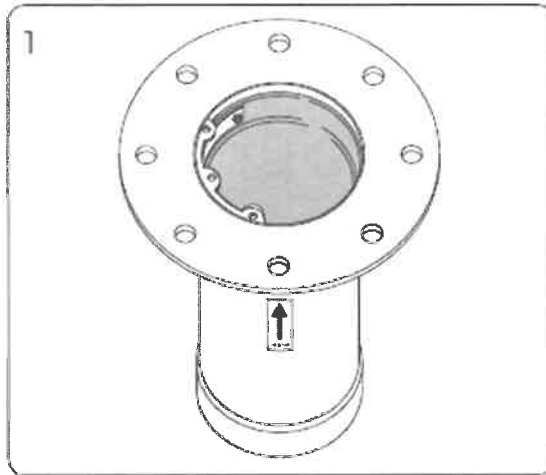
TOWN OF REDINGTON BEACH

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		DATE OF APPROVAL

WASTOP FLEXIBLE
COUPLING INSTALL

606

FLANGE INSTALLATION STAINLESS STEEL



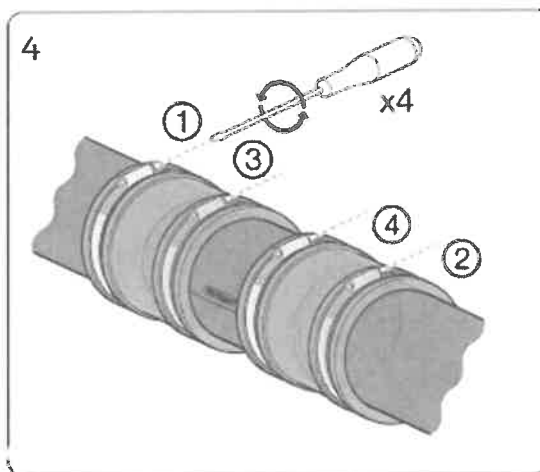
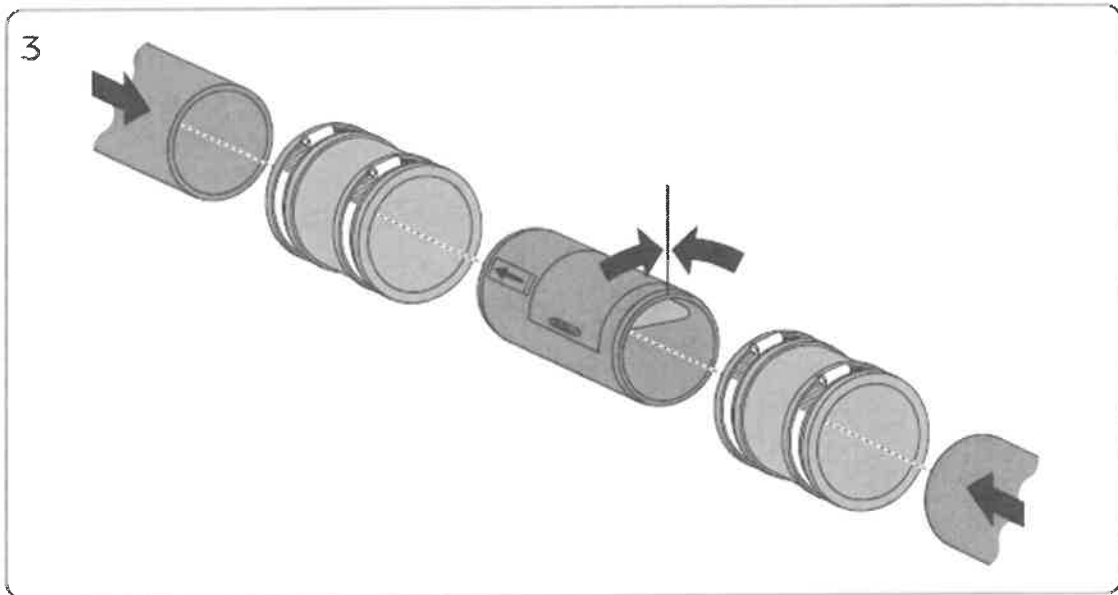
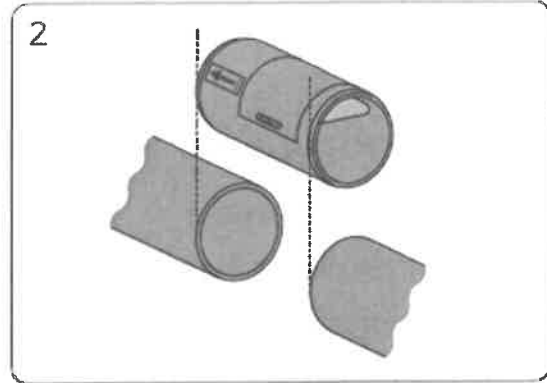
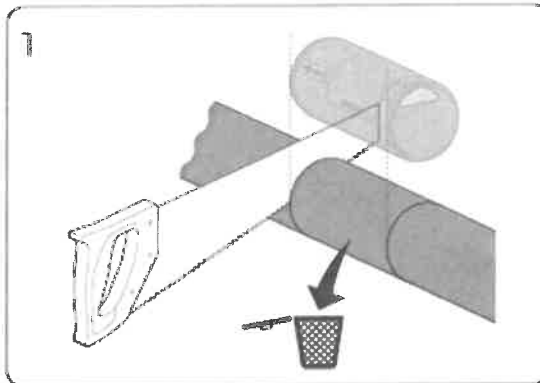
TOWN OF REDINGTON BEACH

REV.BY	DATE	
		DATE OF APPROVAL

WASTOP FLANGE
INSTALLATION

607

PVC INLINE INSTALLATION



TOWN OF REDINGTON BEACH

REV.BY	DATE	
		DATE OF APPROVAL

WASTOP PVC INLINE
INSTALLATION

608

LOT DRAINAGE INDEX

SHEET NO.

700 LOT DRAINAGE SPECIFICATIONS	700.0
1) GENERAL NOTES	700.1
2) LOT DRAINAGE PATTERN EXAMPLE FOR SITE	700.2
3) RESERVED	700.3
4) RESERVED	700.4
5) LOT GRADING RECORD DRAWING/AS-BUILT CERTIFICATION	700.5
6) TYPICAL INFILTRATION TRENCH (NTS)	700.6
7) HEAVY DUTY INFILTRATION TRENCH (NTS)	700.7
8) TYPICAL SWALE DETAIL	700.8

TOWN OF REDINGTON BEACH

REV.BY DATE

DATE OF APPROVAL

LOT DRAINAGE
INDEX

700.0

GENERAL NOTES:

- 1.) FOR CLOSED DRAINAGE, SHOW CURBS, GUTTERS AND SIDEWALKS, IF APPLICABLE.
- 2.) EXISTING DRAINAGE SHALL BE MAINTAINED OR IMPROVED.
- 3.) MINIMUM DRIVEWAY RISE FROM CURB TO GARAGE IS 1%.
- 4.) SHOW ALL EASEMENTS.
- 5.) MINIMUM GRADE SLOPES ARE AS FOLLOWS: FRONT YARD - 2.0%; REAR AND SIDE YARDS - 1.5%; SWALES - 1.0%.
- 6.) MINOR MODIFICATIONS TO ACCOMMODATE SPECIAL CONDITIONS SUCH AS TREES MAY BE APPROVED BY THE ACCESS/DRAINAGE INSPECTOR.
- 7.) LOTS WITH SPECIAL CONDITIONS MAY HAVE SLOPES BASED ON AN ENGINEER'S DETAILED DESIGN APPROVED BY THE TRANSPORTATION DIRECTOR OR A DESIGNEE.
- 8.) DEVIATIONS DUE TO EXISTING TREES, VEGETATION OR OTHER EXTENUATING CIRCUMSTANCES MAY BE APPROVED. DIFFICULTIES ARISING FROM SUCH DEVIATIONS ARE THE RESPONSIBILITY OF THE PROPERTY OWNER TO SATISFACTORILY RESOLVE.
- 9.) LOT SLOPES APPLY TO A 75' RADIUS FROM THE EDGE OF HOUSE. THE INTENT IS TO ALLOW FLEXABILITY ON LARGER LOTS.
- 10.) ALL CONFLICTS SHALL BE REMEDIED TO THE SATISFACTION OF THE PUBLIC WORKS DEPARTMENT.
- 11.) PERMITTEE SHALL SUBMIT A COPY OF THE APPROVED SUBDIVISION DRAINAGE PLAN. SIZE REQUIREMENTS ARE 8-1/2"x11", 8-1/2"x14" OR 11"x17" AT A SCALE OF 1"=100' OR 1"=200' FOR LOTS OF 5 ACRES OR MORE.

TOWN OF REDINGTON BEACH

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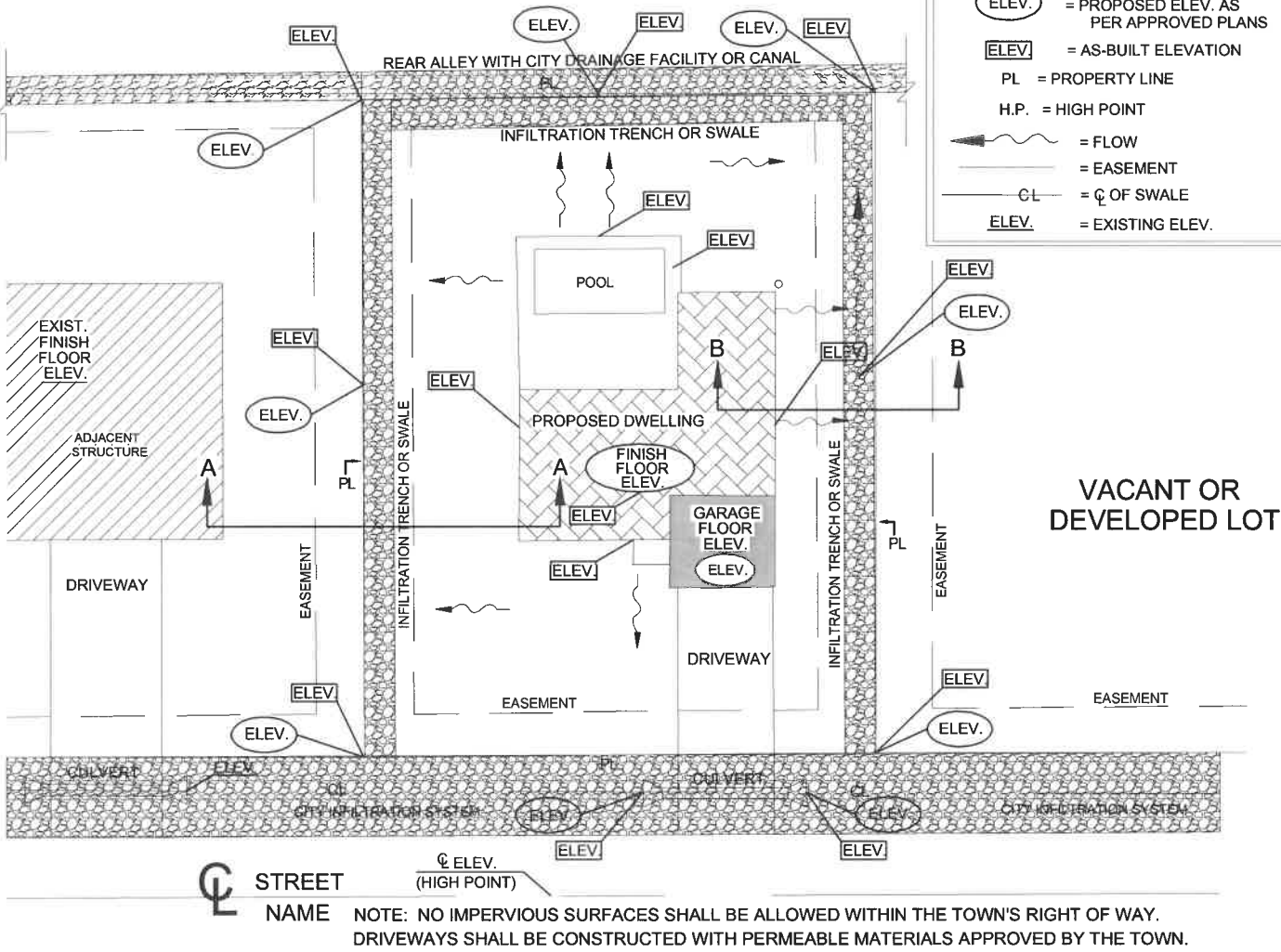
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**LOT DRAINAGE
GENERAL NOTES**

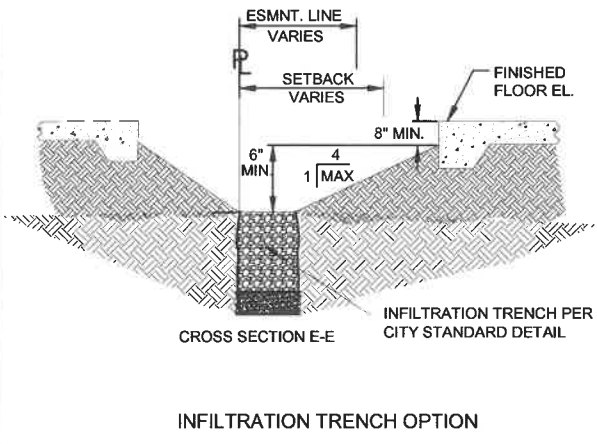
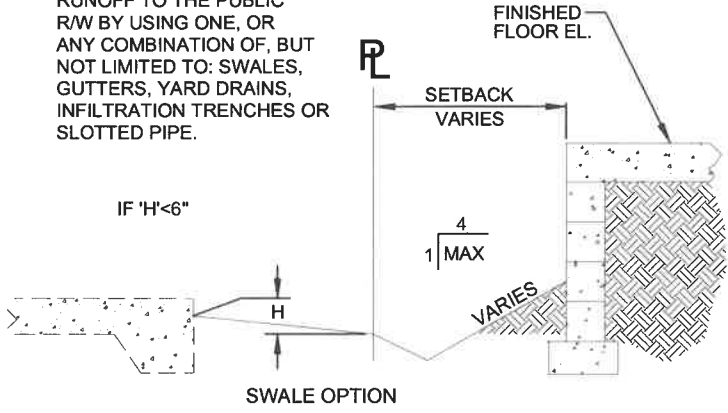
700.1

LEGEND

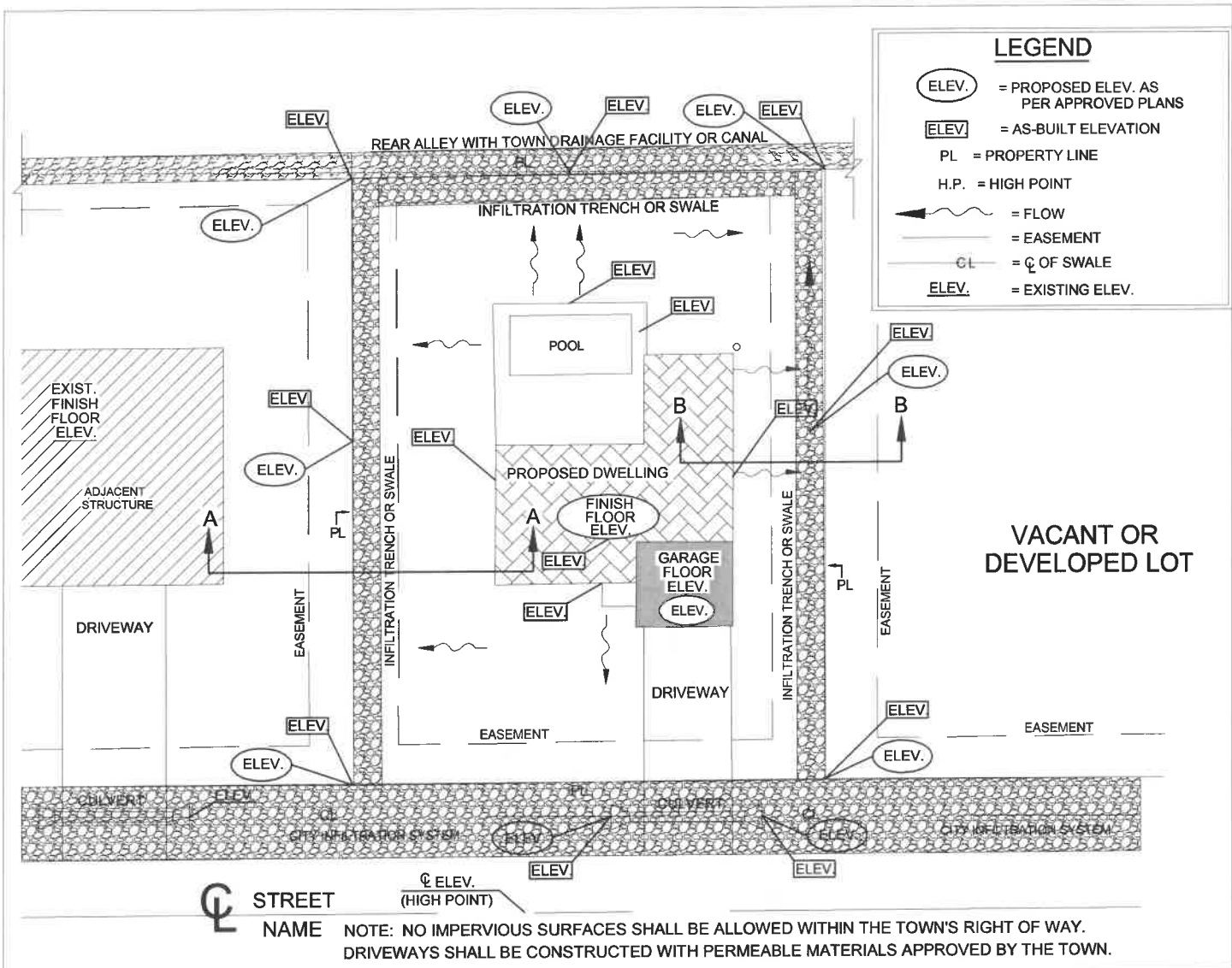
- ELEV. = PROPOSED ELEV. AS PER APPROVED PLANS
- ELEV = AS-BUILT ELEVATION
- PL = PROPERTY LINE
- H.P. = HIGH POINT
- = FLOW
- = EASEMENT
- CL = ϕ OF SWALE
- ELEV. = EXISTING ELEV.



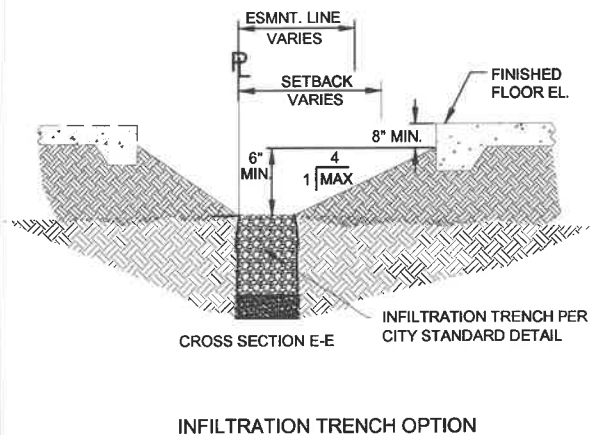
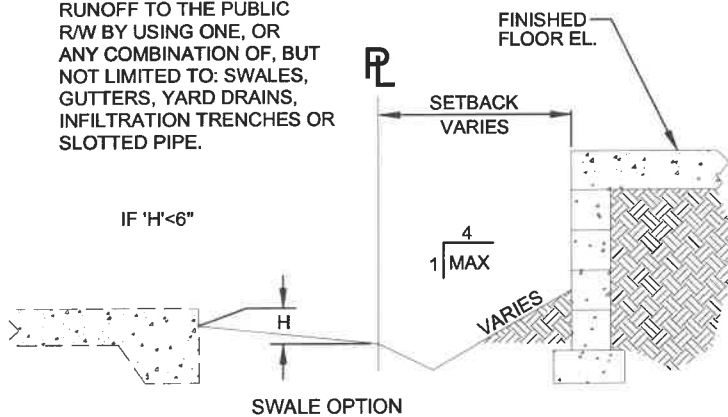
NOTE: THE INTENT IS TO CONVEY RUNOFF TO THE PUBLIC R/W BY USING ONE, OR ANY COMBINATION OF, BUT NOT LIMITED TO: SWALES, GUTTERS, YARD DRAINS, INFILTRATION TRENCHES OR SLOTTED PIPE.



TOWN OF REDINGTON BEACH			LOT DRAINAGE PATTERN EXAMPLE FOR SITE	700.2
REV. BY	DATE			
		DATE OF APPROVAL		



NOTE: THE INTENT IS TO CONVEY RUNOFF TO THE PUBLIC R/W BY USING ONE, OR ANY COMBINATION OF, BUT NOT LIMITED TO: SWALES, GUTTERS, YARD DRAINS, INFILTRATION TRENCHES OR SLOTTED PIPE.



TOWN OF REDINGTON BEACH

REV. BY	DATE
DATE OF APPROVAL	

LOT GRADING RECORD
DRAWING/AS-BUILT
CERTIFICATION

700.5

MATCH EX.
GRADE

42" WIDTH

42" DEPTH (28" MIN)

1-3 INCH MEDIUM
WASHED SHELL

RECYCLED
CONCRETE (NO. 57
STONE EQUIV.)

INSTALL FILTER FABRIC (MIRAFI
N SERIES FABRIC OR EQUIV)
ON BOTH SIDES OF TRENCH
AND WITHIN TOP 4-6". TOP
SURFACE MAY BE 89 ROCK
(PEA GRAVEL), RIVER ROCK OR
OTHER PERVIOUS LANDSCAPE
MATERIALS AS APPROVED BY
PUBLIC WORKS DEPARTMENT.

OVEREXCAVATE TO WATER LEVEL OR UNTIL
CLEAN SAND IS ENCOUNTERED AND BACKFILL
TRENCH WITH CLEAN SAND OR SHELL

TYPICAL INFILTRATION TRENCH

NTS

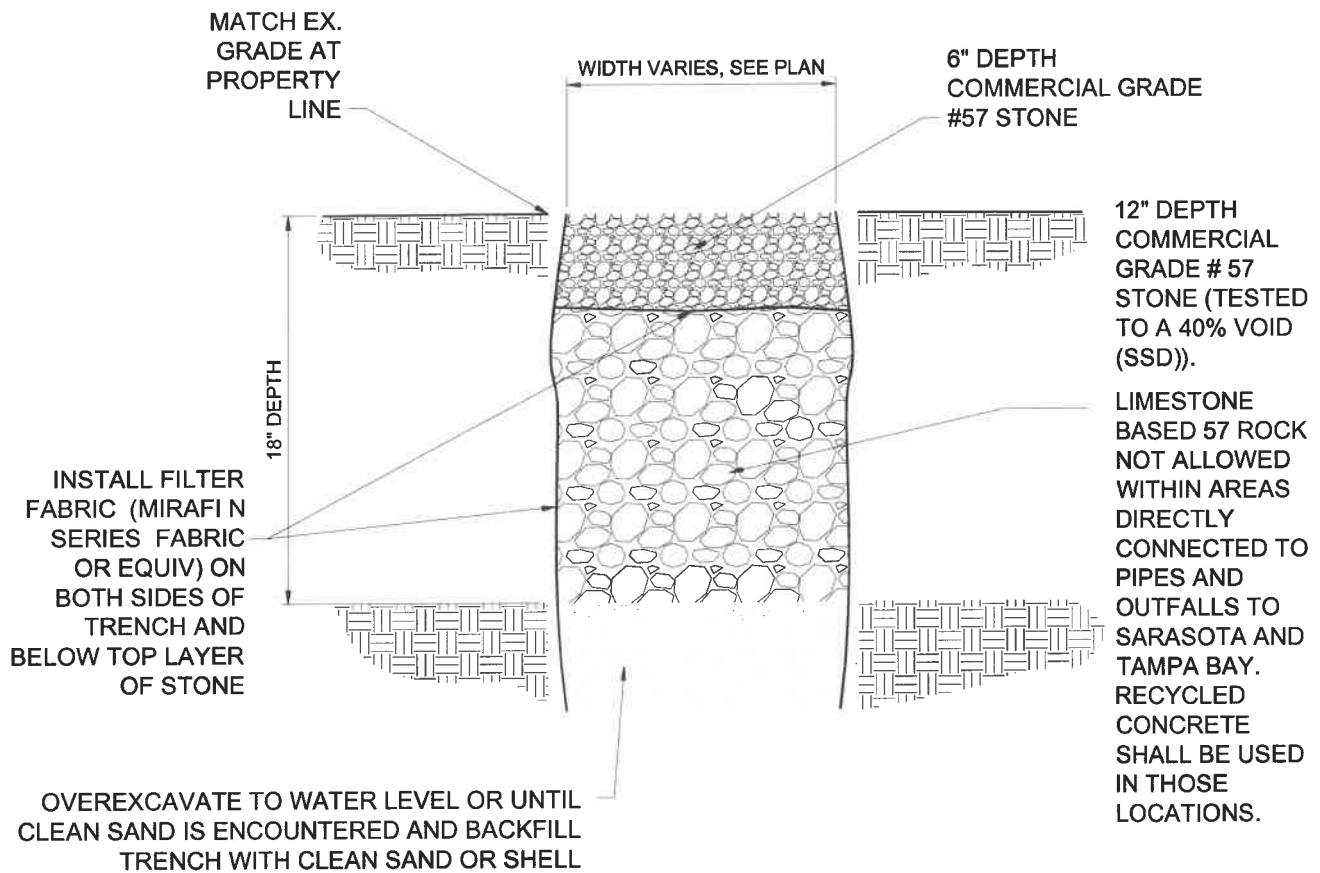
TOWN OF REDINGTON BEACH

REV.BY DATE

DATE OF APPROVAL

TYPICAL
INFILTRATION TRENCH

700.6



HEAVY DUTY INFILTRATION TRENCH

NTS

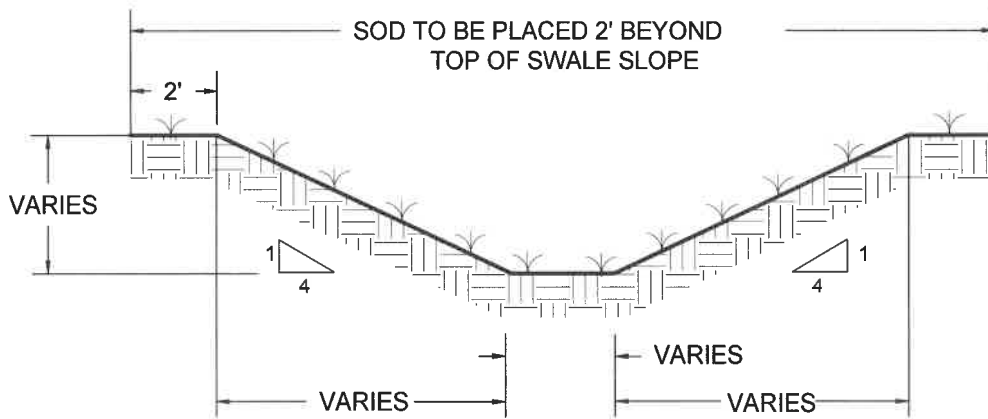
TOWN OF REDINGTON BEACH

REV.BY DATE

DATE OF APPROVAL

HEAVY DUTY
INFILTRATION TRENCH

700.7



TYPICAL SWALE SECTION

N.T.S.

TOWN OF REDINGTON BEACH

REV. BY	DATE

DATE OF APPROVAL _____

**TYPICAL
SWALE DETAIL**

700.8

EROSION & SEDIMENT CONTROL INDEX

	<u>SHEET NO.</u>
800 EROSION AND SEDIMENT CONTROL	800.0
1. SILT FENCE INSTALLATION	801.0
2. DEWATERING/FILTER BAG	802.0
3. RESERVED	803.0
4. RESERVED	804.0

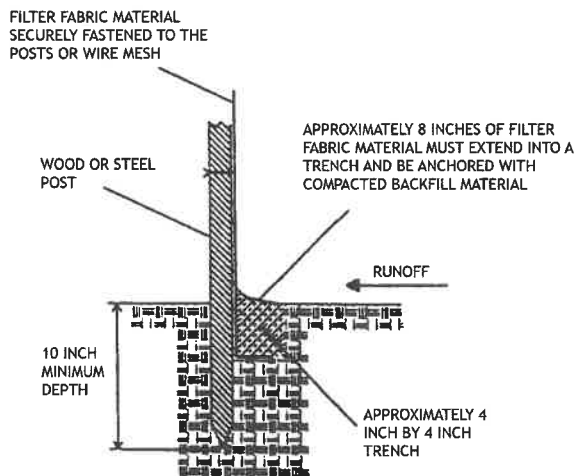
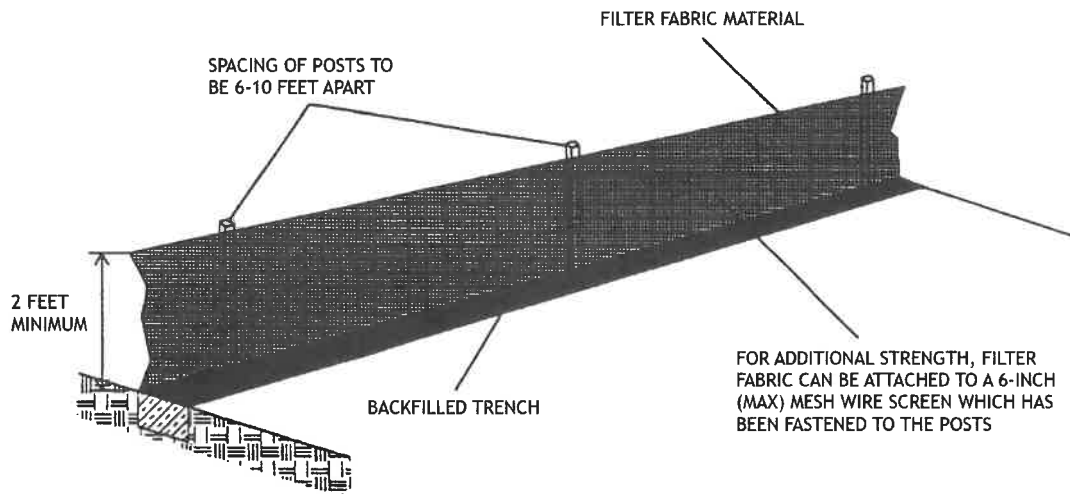
TOWN OF REDINGTON BEACH

REV.BY	DATE

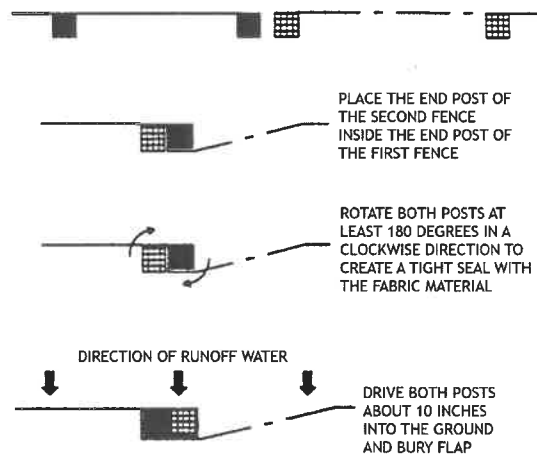
DATE OF APPROVAL

EROSION & SEDIMENT
INDEX

800.0



ATTACHING TWO SILT FENCES

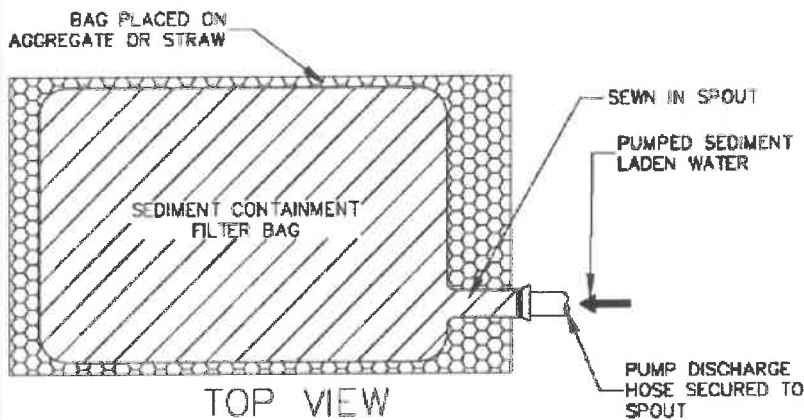
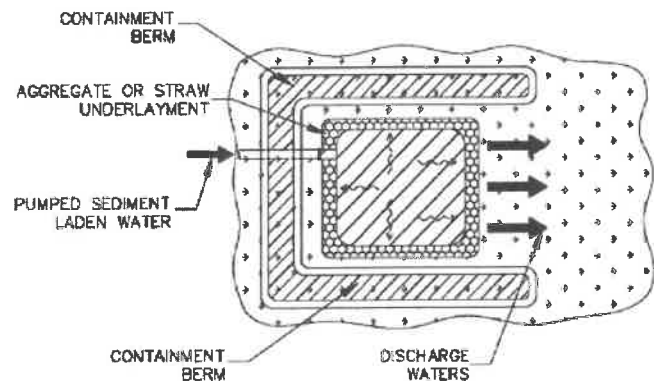
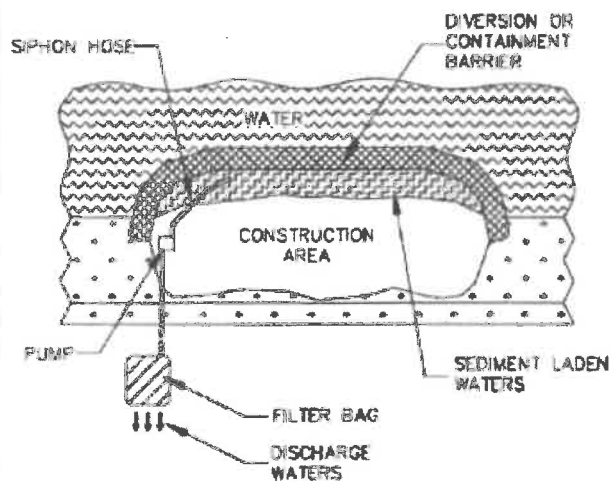


TOWN OF REDINGTON BEACH

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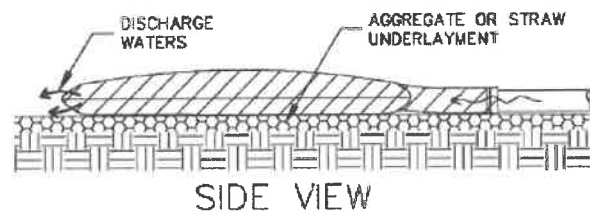
SILT FENCE INSTALLATION

801.0



NOTES

1. DISCHARGE WATER ONTO A GRASS LINE SWALE, GRASS FIELD, OR INTO A SECONDARY SEDIMENT CONTAINMENT SYSTEM.
2. DISCHARGE WATER MUST FLOW AWAY FROM THE CONSTRUCTION AREA.
3. SEDIMENT CAPTURED BY THE FILTER BAG MUST BE REMOVED AND STABILIZED.



TOWN OF REDINGTON BEACH

REV.BY DATE

DATE OF ADOPTION

DEWATERING
/FILTER BAG

802.0

EXHIBIT A-1

STANDARD DETAILS FROM



PINELLAS COUNTY

STORMWATER MANUAL

FEBRUARY 1, 2017



6.2.2. Required Level of Treatment and Associated Treatment Volume

The Required Treatment Volume (RTV) necessary to achieve the required treatment efficiency shall be routed to the exfiltration trench and percolated into the ground. The required nutrient load reduction is set forth in the performance standards in **Section 5.1.1.** of this Manual.

Treatment volumes to achieve the necessary efficiencies shall be determined based on the percentage of directly connected impervious area (DCIA) and the weighted curve number for non-DCIA areas as set forth in Table 6.1.1 and Table 6.1.2.

Exfiltration trenches must be designed to have the capacity to retain the required treatment volume without discharging to surface waters.

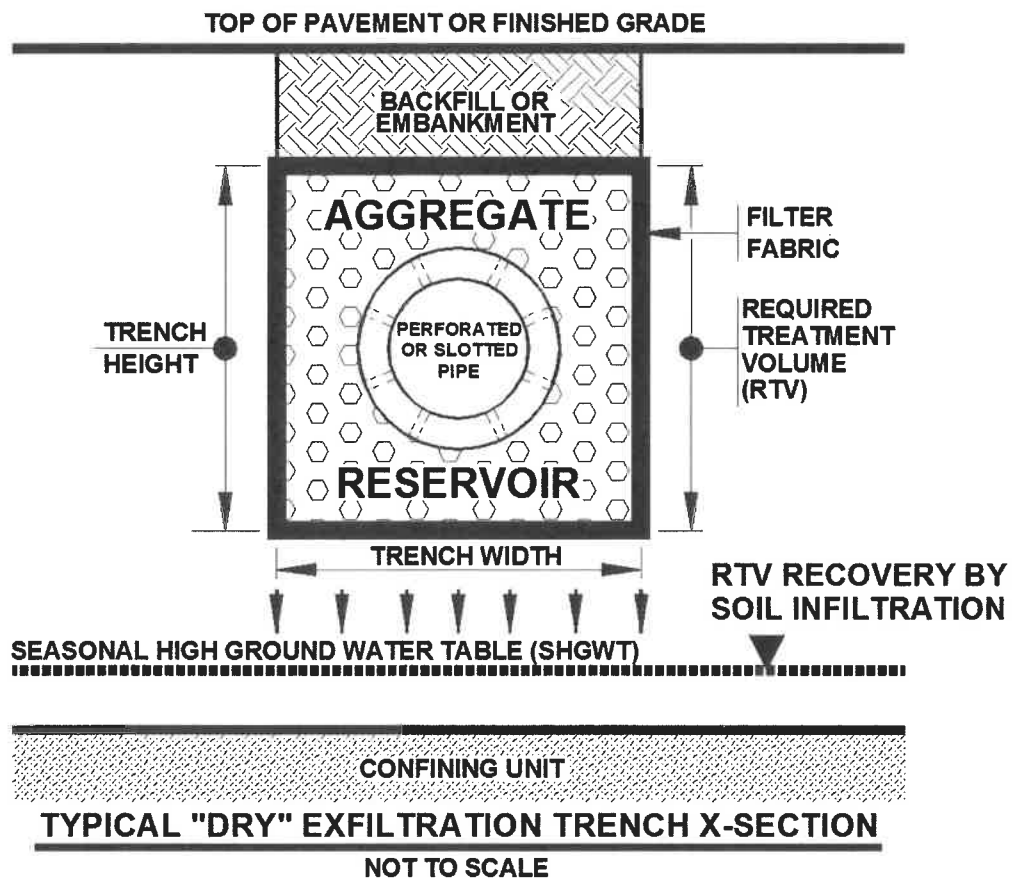
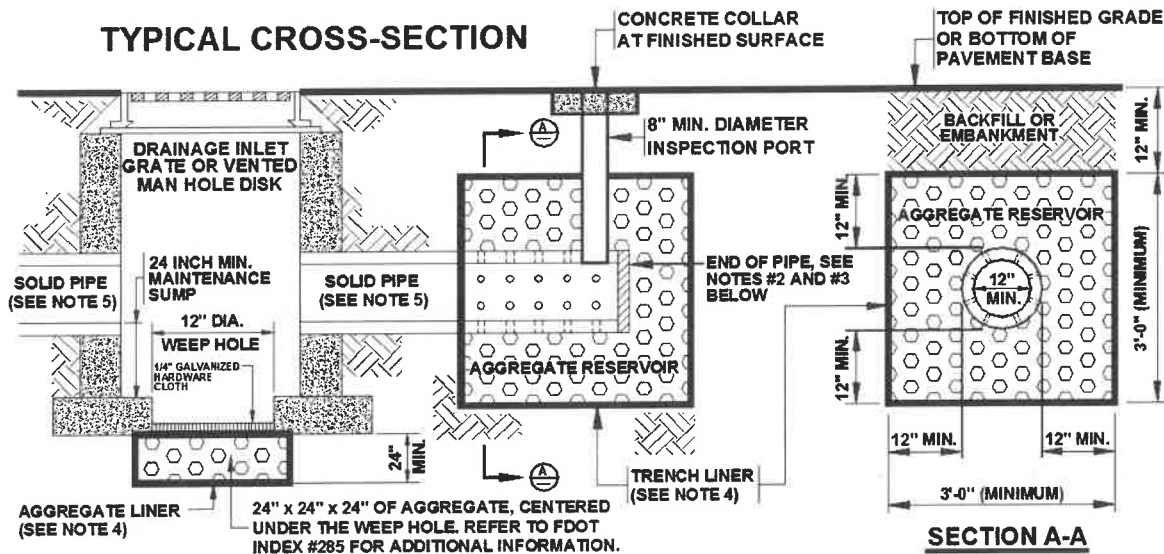


Figure 6.2.1 Cross-section of a "DRY" Exfiltration Trench (N.T.S.)



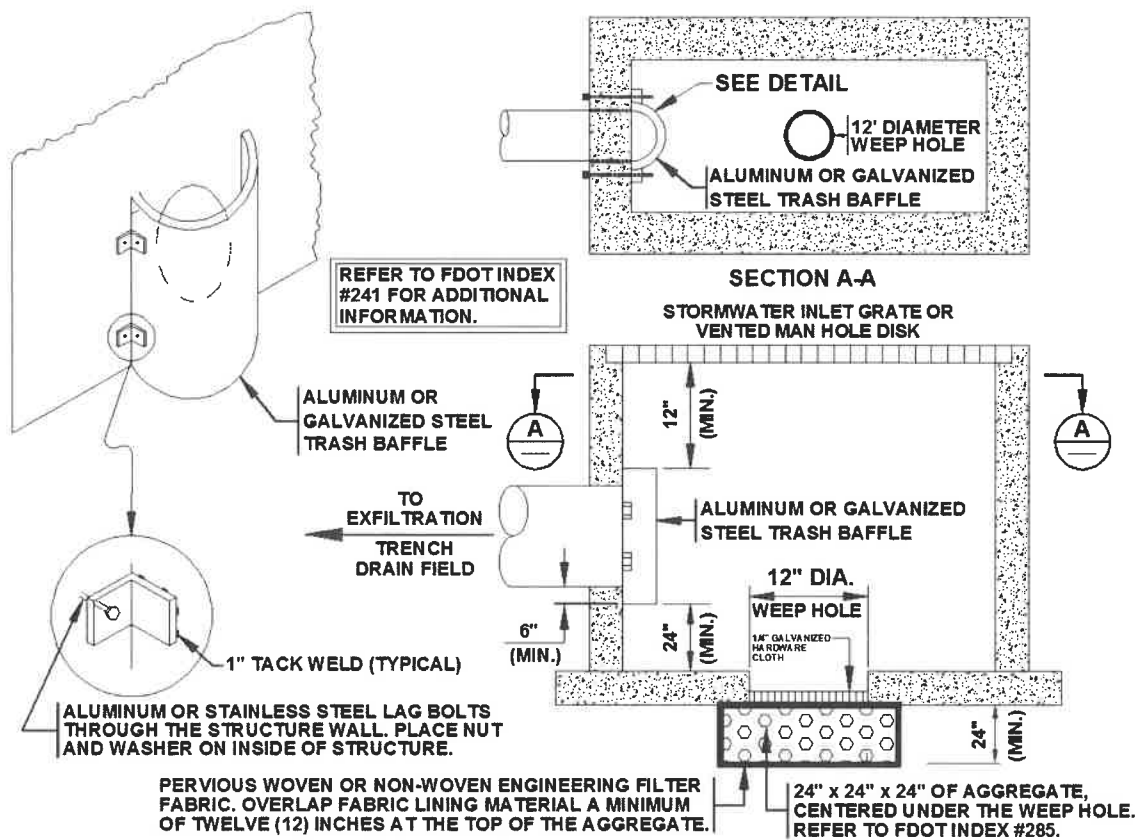
NOTES:

1. SEE THE SEPARATE DETAIL SKETCHES FOR SEDIMENT / TRASH BAFFLES & TEES, OR OTHER EQUIVALENT DEVICES.
2. PERFORATED OR SLOTTED PIPES SHALL TERMINATE A MINIMUM OF TWO (2) FEET FROM THE END OF THE EXFILTRATION TRENCH, OR CONNECT TO ADDITIONAL INLETS OR MANHOLES.
3. PIPE "DEAD ENDS" (IF UTILIZED) SHALL TERMINATE INTO A SOLID PLUG OR END CAP.
4. SIDES, TOP, BOTTOM, AND ENDS OF TRENCH (AND AGGREGATE BELOW DRAIN HOLE) SHALL BE LINED WITH A PERVIOUS WOVEN OR NON-WOVEN ENGINEERING FILTER FABRIC. OVERLAP FABRIC LINING MATERIAL A MINIMUM OF TWELVE (12) INCHES AT THE TOP OF THE AGGREGATE.
5. REFER TO FDOT INDEX #285 FOR ADDITIONAL INFORMATION ON THE MINIMUM LENGTHS OF SOLID PIPE EXITING THE ACCESS MANHOLE OR DRAINAGE INLET, AND THE MINIMUM CROSS SECTIONAL DIMENSIONS OF THE AGGREGATE RESERVOIR.

"GENERIC" EXFILTRATION TRENCH SUMPS & DEAD END DETAILS

NOT TO SCALE

Figure 6.2.3. Typical Exfiltration Trench Sumps and Dead End Details



"GENERIC" DETAIL FOR AN EXFILTRATION TRENCH SEDIMENT / TRASH BAFFLE

NOT TO SCALE

Figure 6.2.4. Detail for Exfiltration Trench Trash Baffle

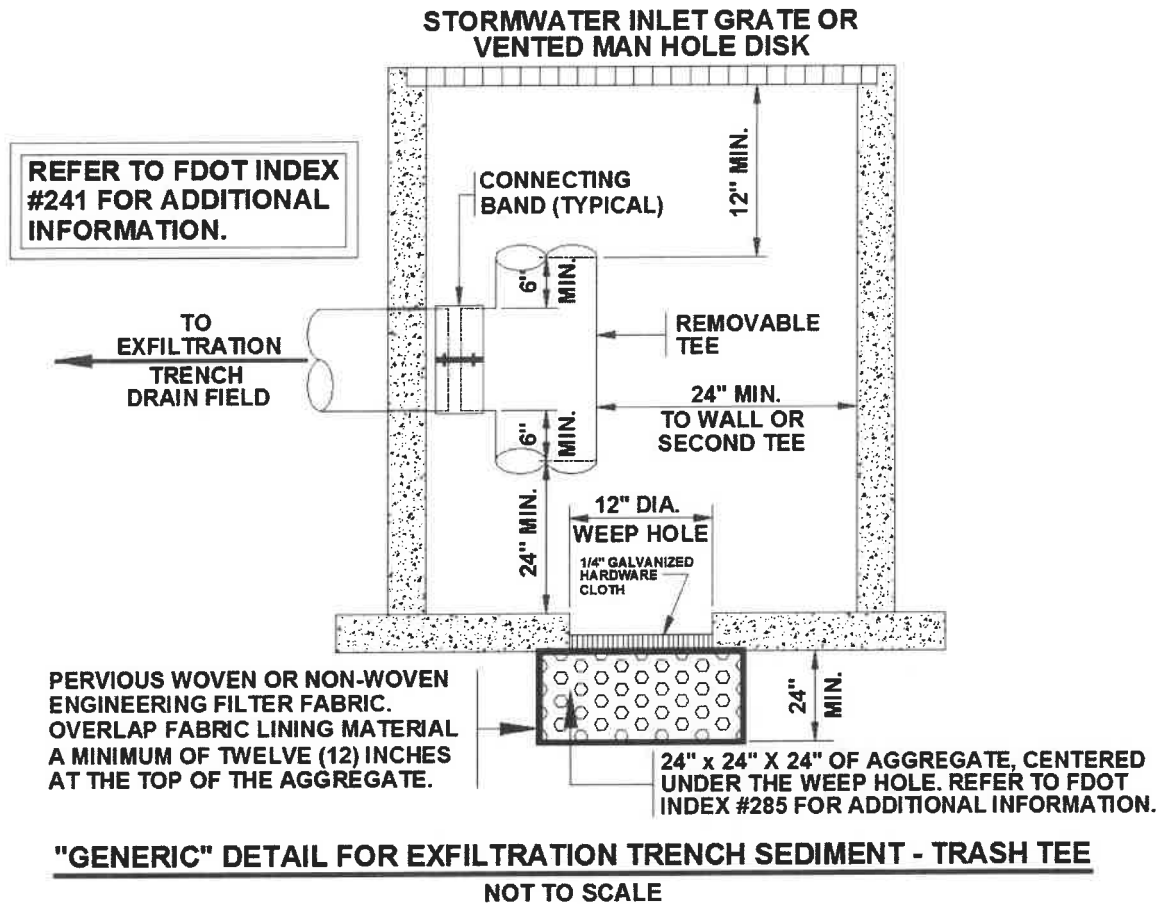


Figure 6.2.5. Generic Detail for a Typical Exfiltration Trench Trash Tee

6.2.6. Construction requirements

During construction, every effort should be made to limit the parent soil and debris from entering the trench. Any method used to reduce the amount of fines entering the exfiltration trench during construction will extend the life of the system.

- The location and dimensions of the exfiltration trench shall be verified onsite prior to trench construction. All design requirements including trench dimensions and distances to foundations, septic systems, wells, etc., need to be verified.
- To minimize sealing of the soil surface, the trench shall be excavated with a backhoe rather than front-end loaders or bulldozers whose blades will seal the infiltration soil surface.
- Excavated materials shall be placed a sufficient distance from the sides of the excavated area to minimize the risk of sidewall cave-ins and prevent the material from re-entering the trench.
- The trench bottom and side walls shall be inspected for materials that could puncture or tear the filter fabric, such as tree roots, and assure they are not present.

6.3. Underground Storage and Retention Systems design criteria

6.3.1. Description

Underground storage and retention systems are special types of retention systems that capture the Required Treatment Volume (RTV) in an underground storage system and “drainfield.” Generally, these systems consist of lightweight, high strength modular units with “open” bottoms to allow for soil infiltration (refer to Figure 6.3.1 below). These systems are sometimes used where land values are high, and the owner/applicant desires to minimize the potential loss of usable land with other types of retention Best Management Practices (BMPs). Underground retention systems are not intended to have human access for maintenance.

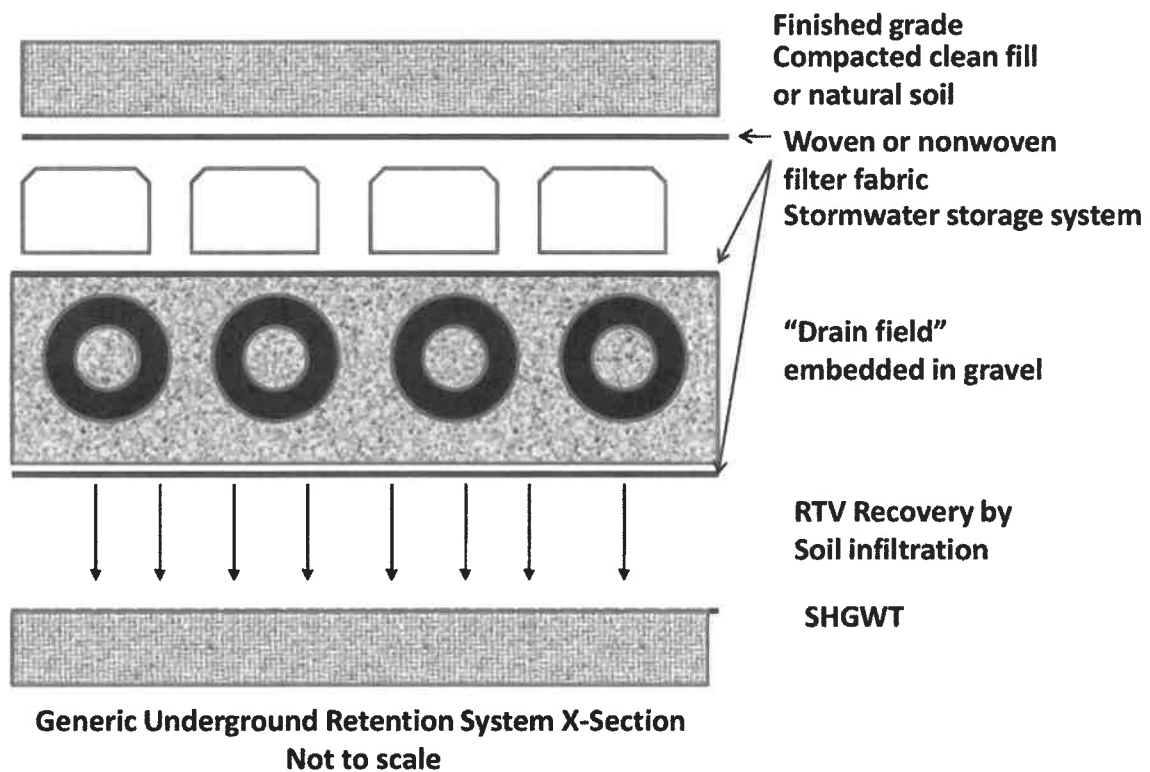


Figure 6.3.1. Generic Underground Retention System

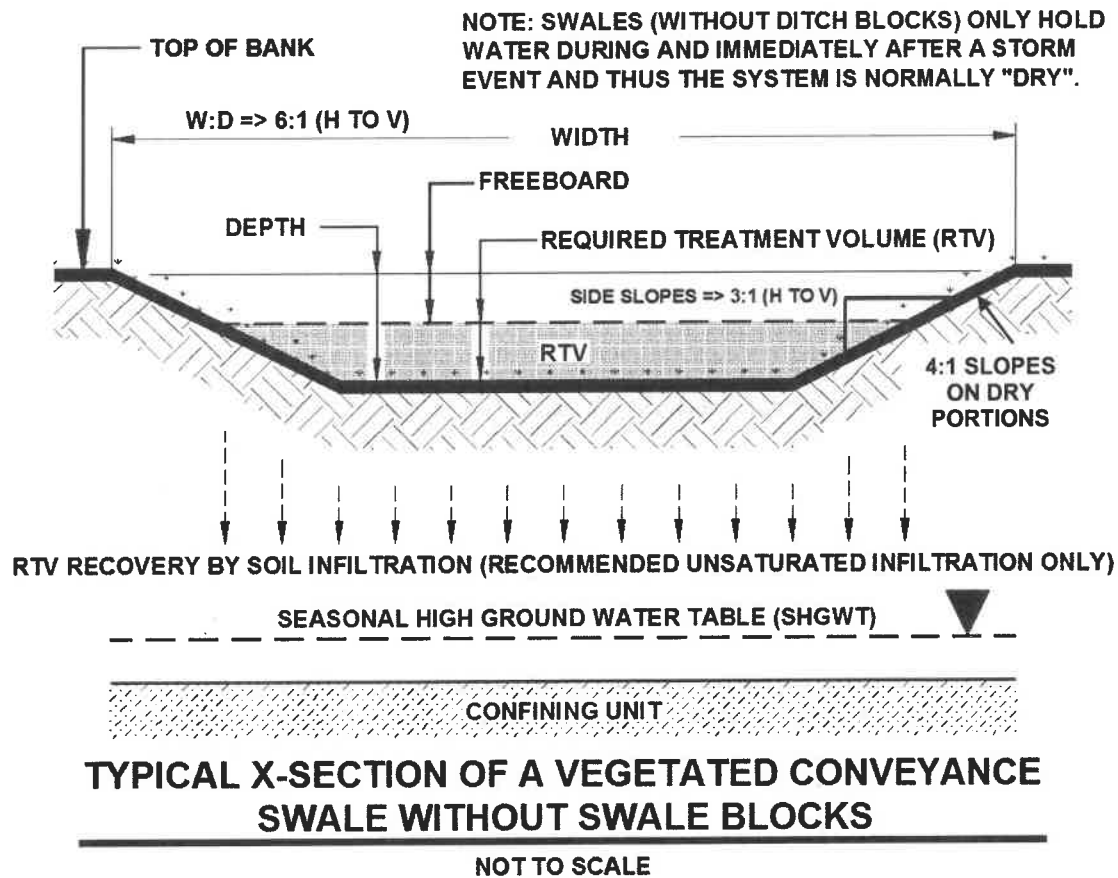


Figure 6.4.1. Typical Cross-section of a Conveyance Swale without Swale Blocks

6.4.5. Calculating the Swale Length for Swales without Blocks

The average flow rate through the swale and the length of swale needed to percolate a given volume of stormwater can be calculated using the two equations below.

Equation 6.4.1 Calculating the average flow rate:

This is calculated using the rational formula with the peak rate divided by 2 (average of triangular hydrograph).

$$Q = 0.5 CIA$$

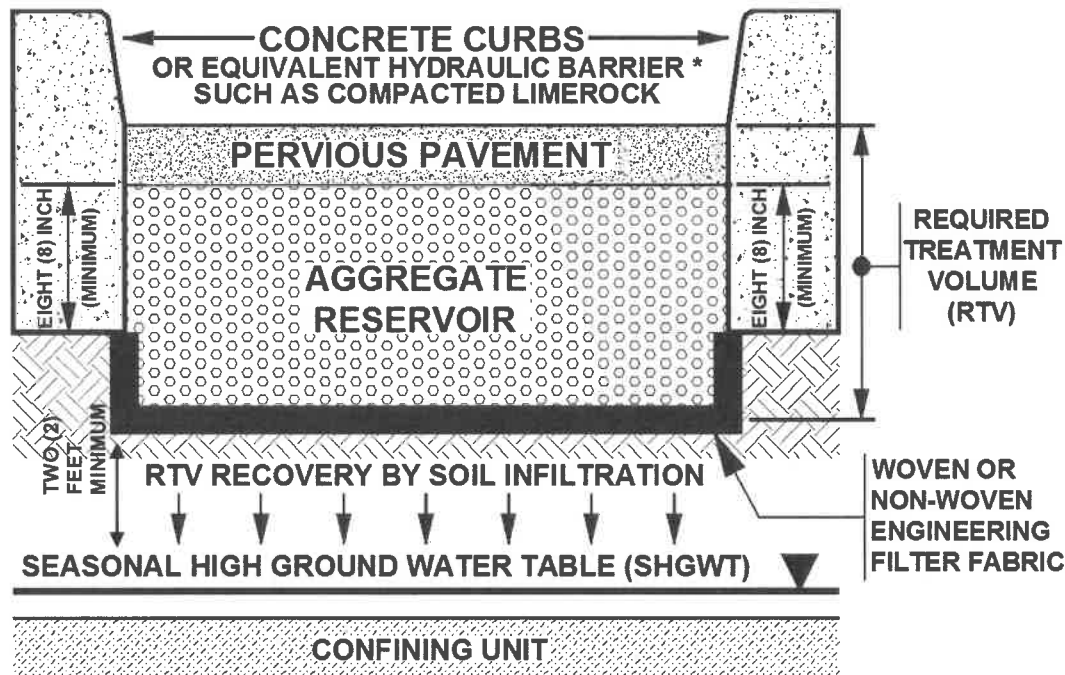
Where:

Q = Average flow rate

C = runoff coefficient

I = rainfall intensity (inches/hour) for the time of concentration

A = area of the swale being used for infiltration



* THE PURPOSE OF THE PERIMETER CONCRETE CURBING (OR EQUIVALENT BARRIER) IS TWOFOLD. FIRST, CONCRETE CURBING (IF UTILIZED) CAN ALLOW NUISANCE PONDING ABOVE THE PERVIOUS PAVEMENT. SECOND, CONCRETE CURBING WILL REDUCE HORIZONTAL SCOUR EROSION SHOULD THE SYSTEM FAIL.

TYPICAL PERVIOUS PAVEMENT CROSS SECTION

NOT TO SCALE

FIGURE 6.6.1. Typical Pervious Pavement Cross Section

6.6.3. Required Treatment Volume

The treatment volume necessary to achieve the required treatment efficiency shall be routed to the pervious pavement system and percolated into the ground. The required nutrient load reduction is set forth in the performance standards in **Section 5.1.1** of this Manual.

Treatment volumes to achieve the necessary efficiencies shall be determined based on the percentage of directly connected impervious area (DCIA) and the weighted curve number for non-DCIA areas as set forth in Table 6.1.1 and Table 6.1.2.

6.6.4. Calculating Load Reduction Efficiency for a Given Retention Volume

Use **Table 6.1.1** to determine the treatment volume needed to achieve an 80% pollutant load reduction

If pervious pavements are being used in a BMP treatment train to achieve part of the required pollutant load reduction use **Table 6.1.2** to determine the percent reduction associated with various treatment volumes. Also use Table 6.1.2 to determine the treatment volume associated with the required nutrient load reduction to achieve the performance standard of reducing nutrient loads by at least 10% from current discharges.

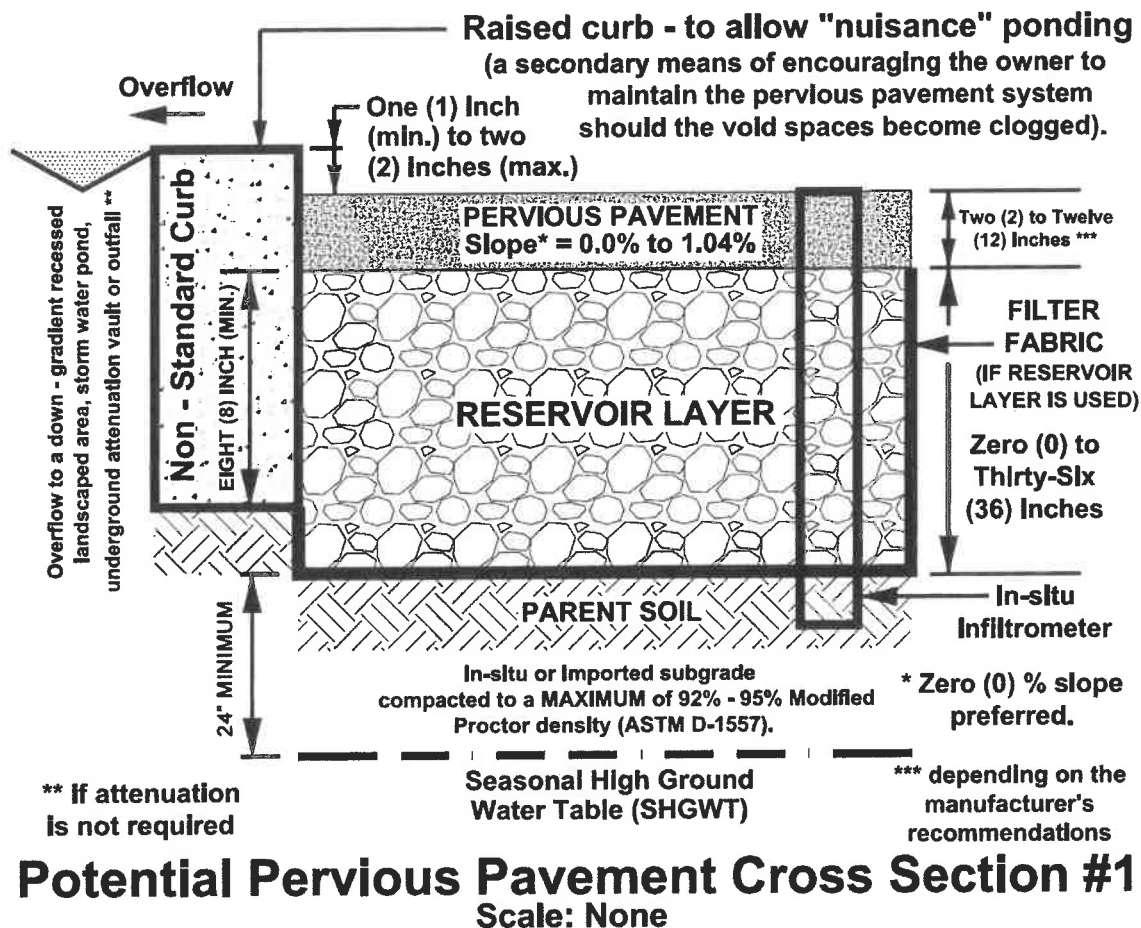
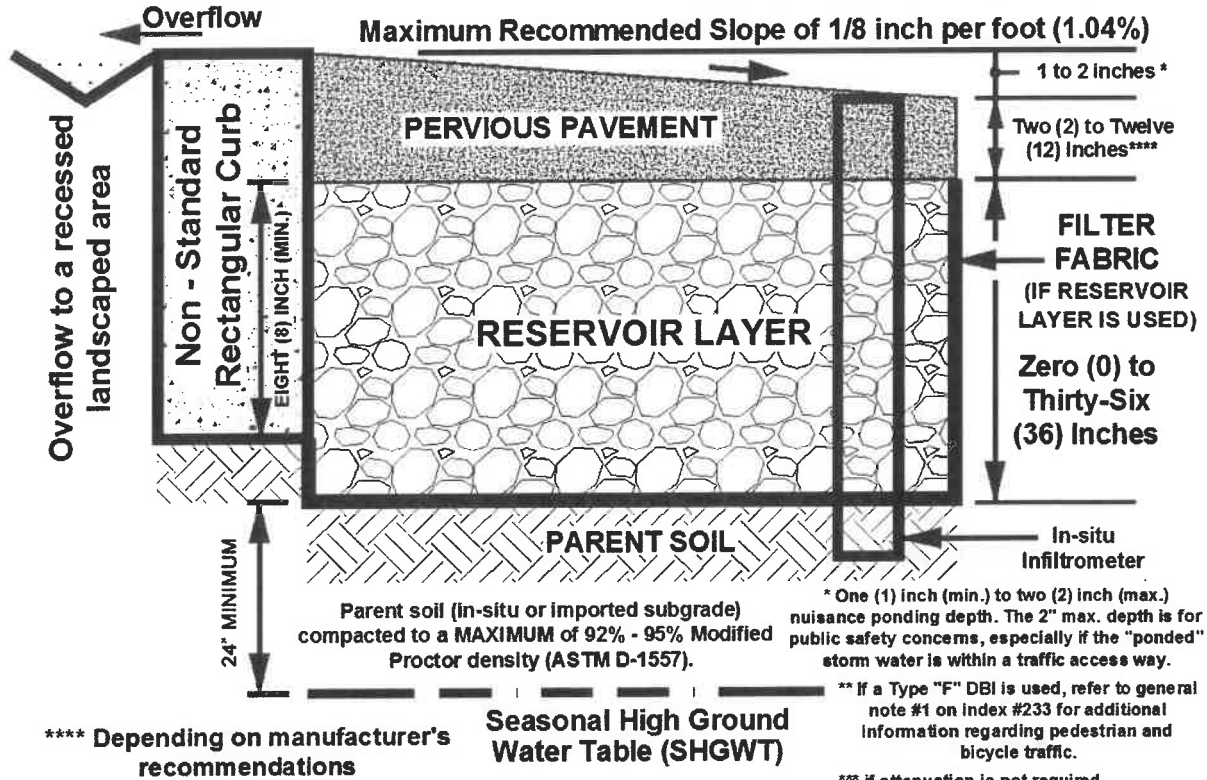


FIGURE 6.6.2. Pervious Pavement System Cross Section #1.

Slope to center of Parking area to allow "nuisance" ponding *
 As an option, a FDOT Type "F" DBI ** [with a one (1) to two (2) inch high raised grate] can be utilized to allow overflow to a down gradient storm water pond, underground attenuation vault or outfall ***



Potential Pervious Pavement Cross Section #3

Scale: None

FIGURE 6.6.4. Typical Pervious Pavement System Cross Section #3.

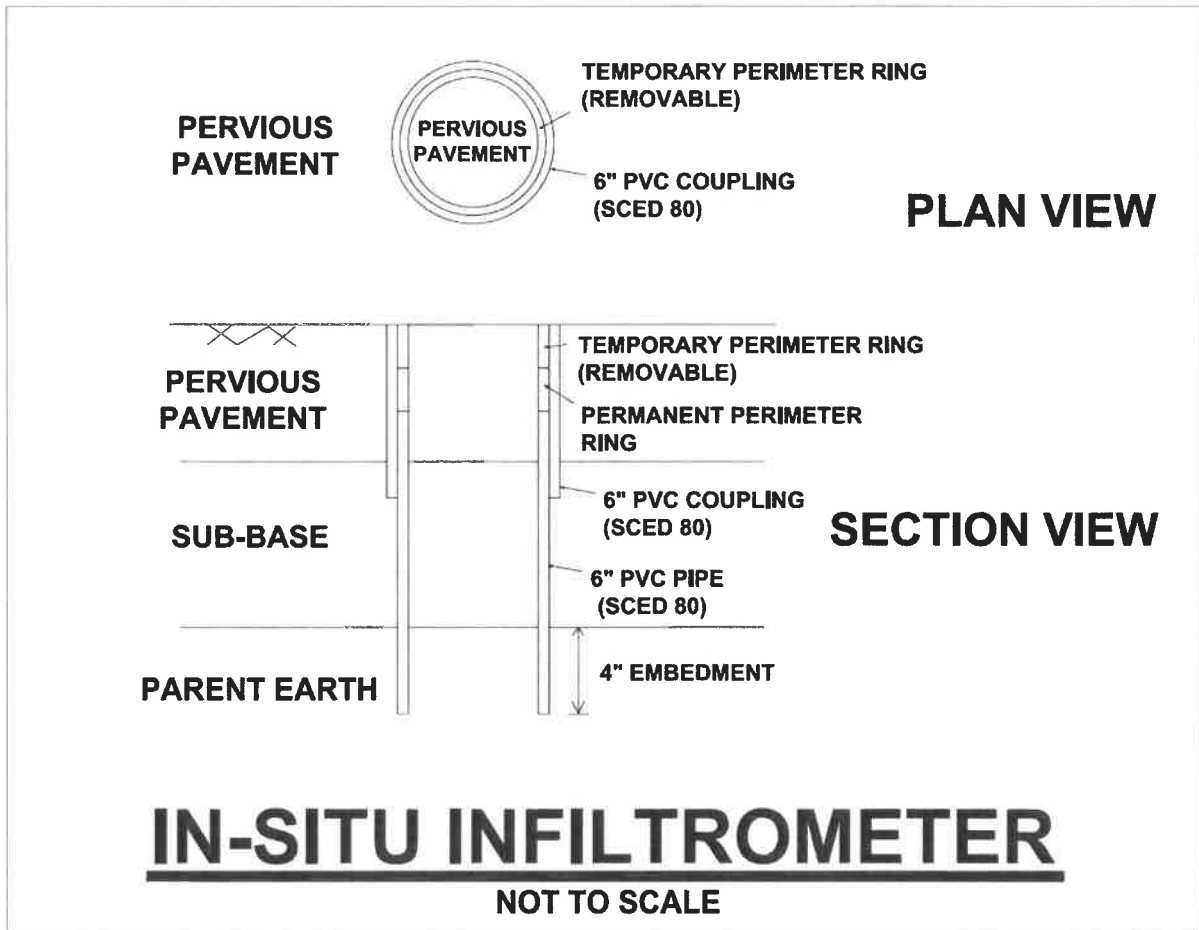


Figure 6.6.5. Plan View of ERIK In-Situ Infiltrrometer - (Embedded Ring Infiltration Kit).

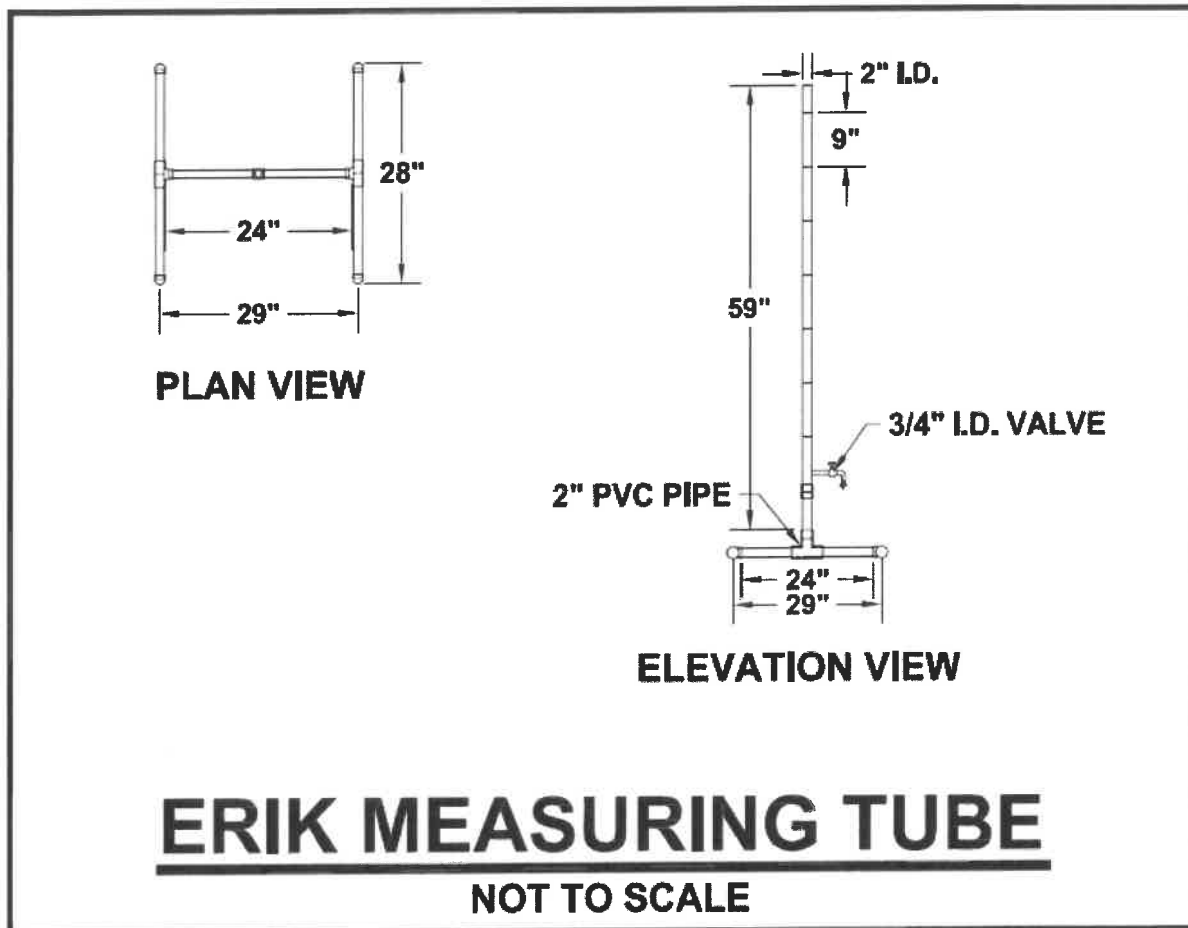


Figure 6.6.6. ERIK Measuring Tube.

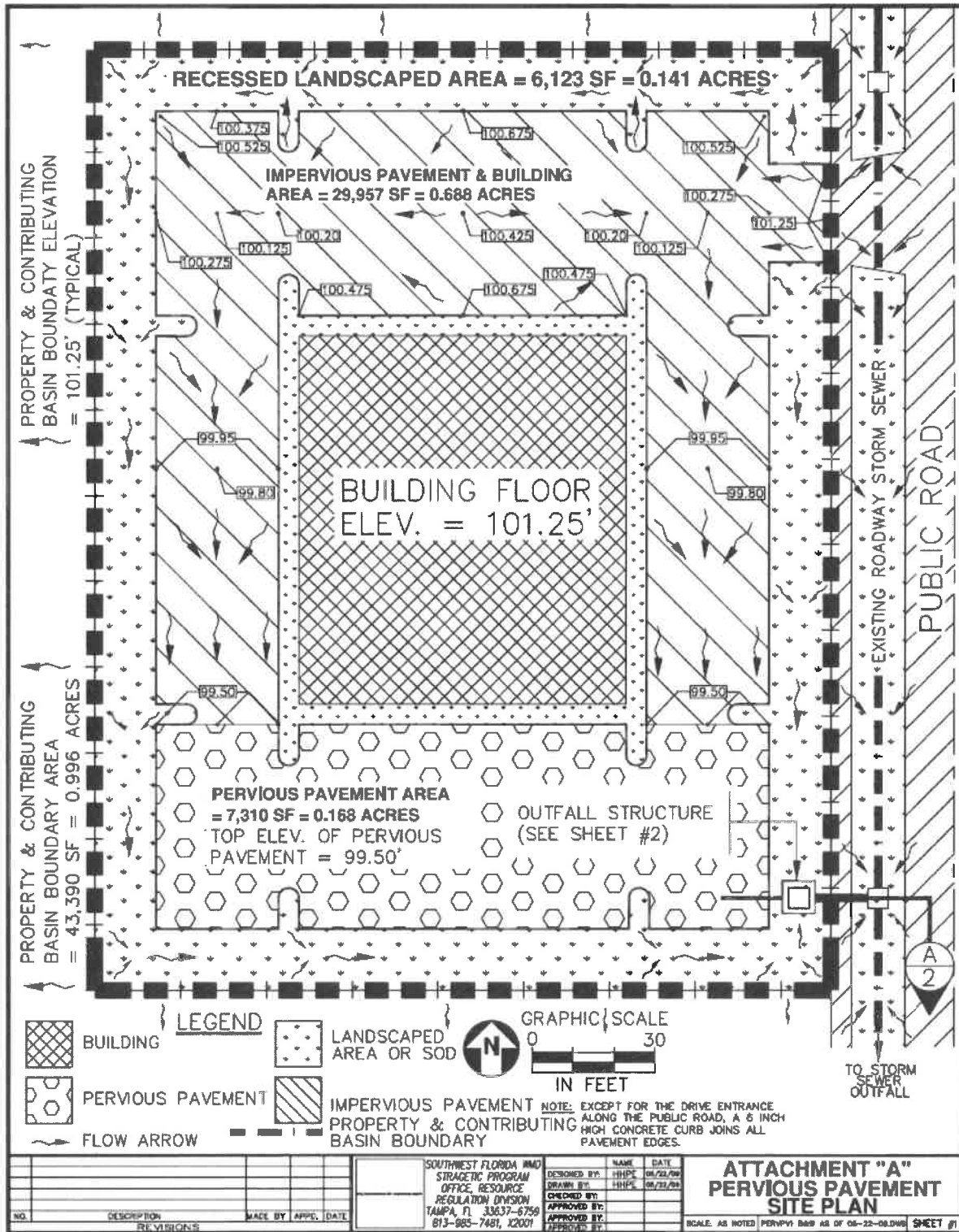


Figure 6.6.7. Pervious Pavement Site Plan.

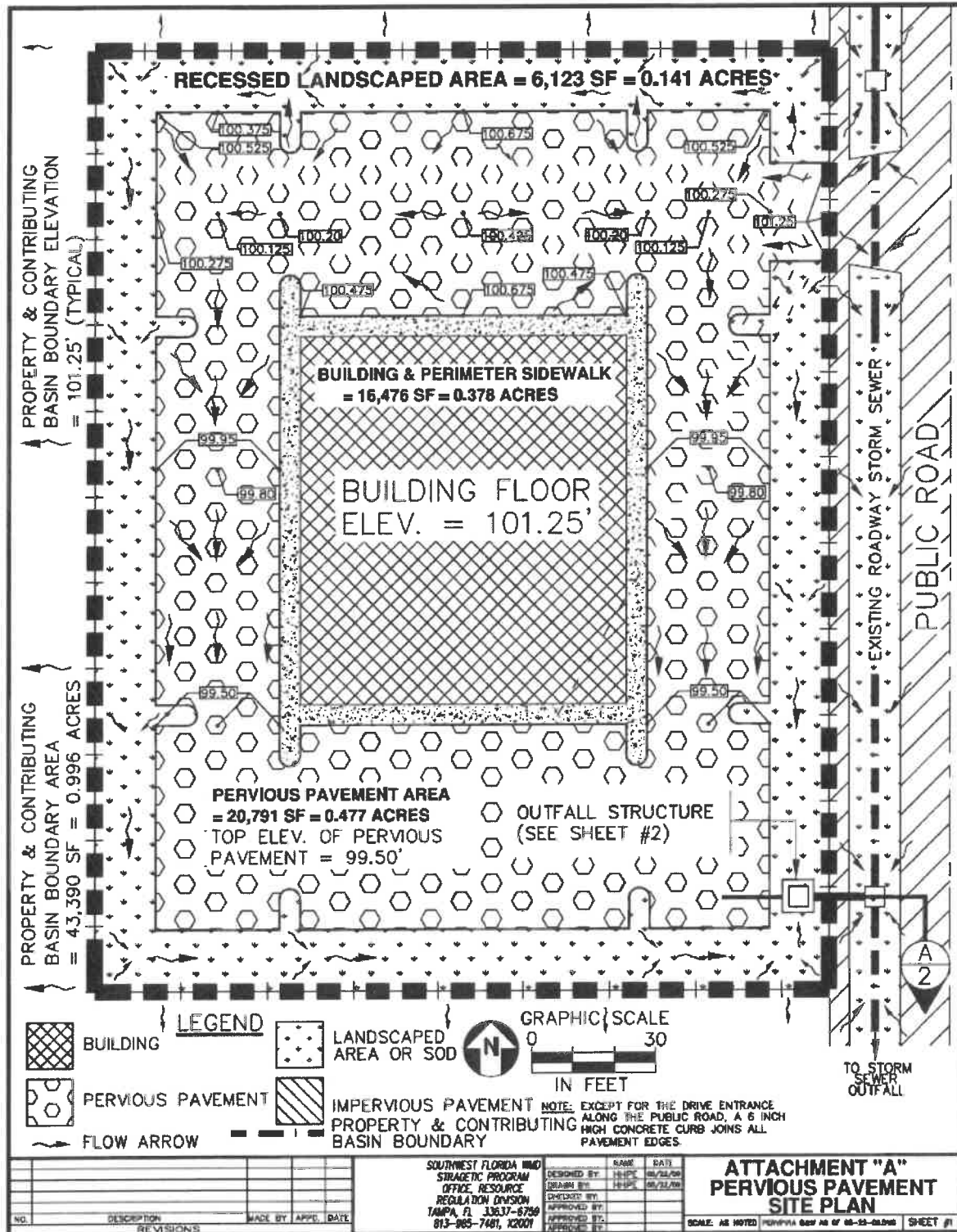


Figure 6.6.8. Pervious Pavement Site Plan.

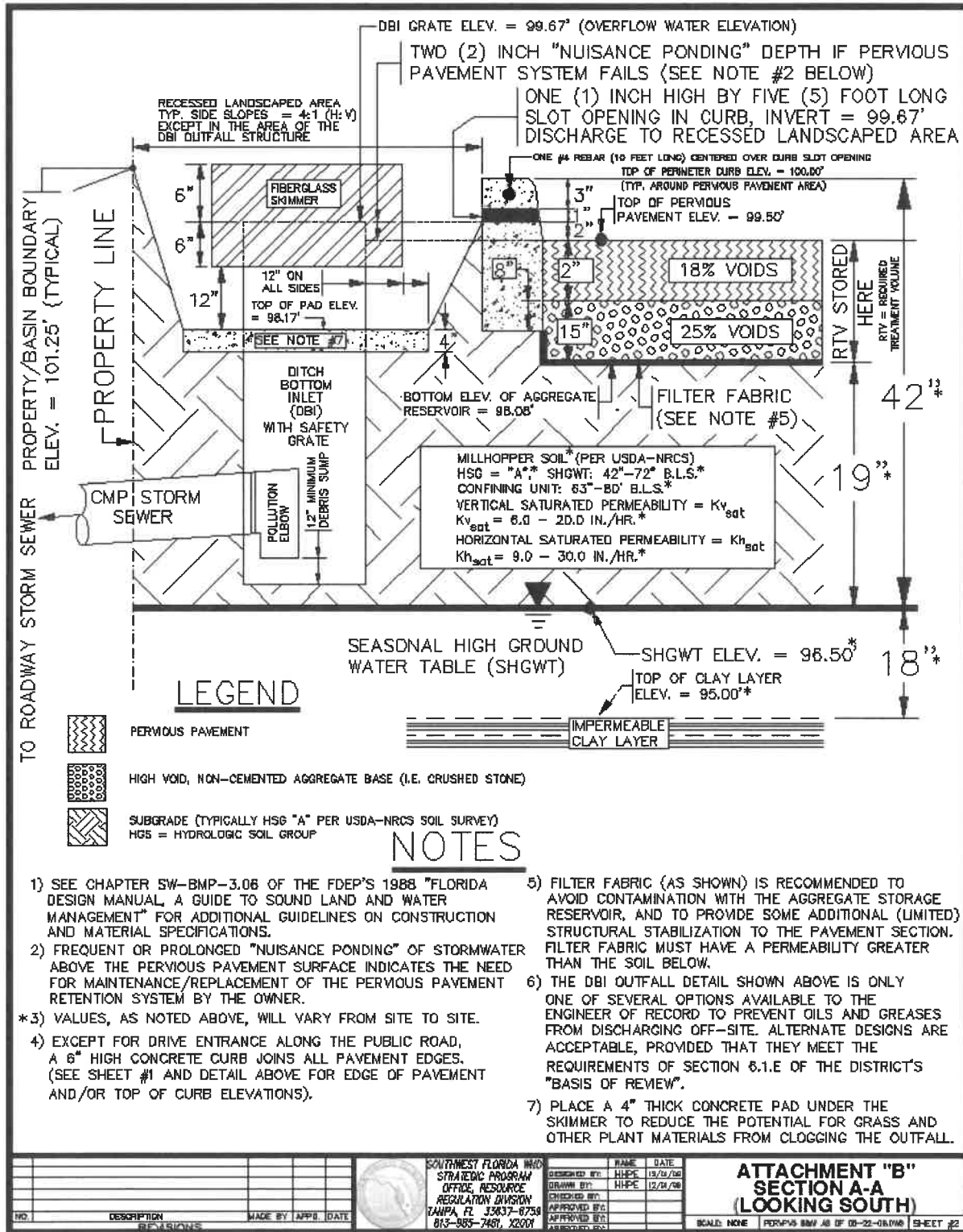


Figure 6.6.9. Pervious Pavement Site Plan

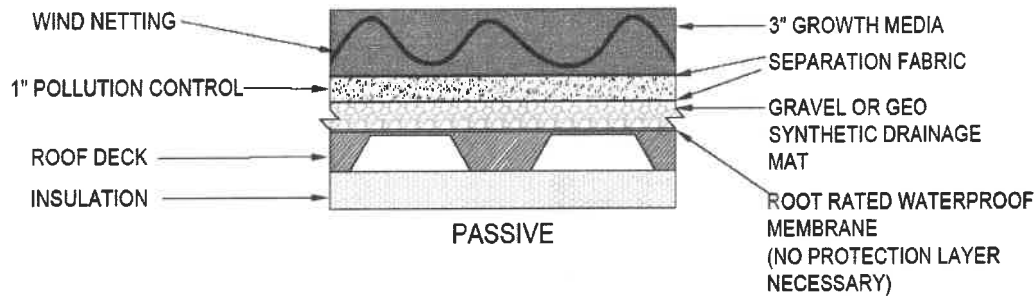


Figure 6.7.1a. Extensive Greenroof Section (Usually Passive Function)

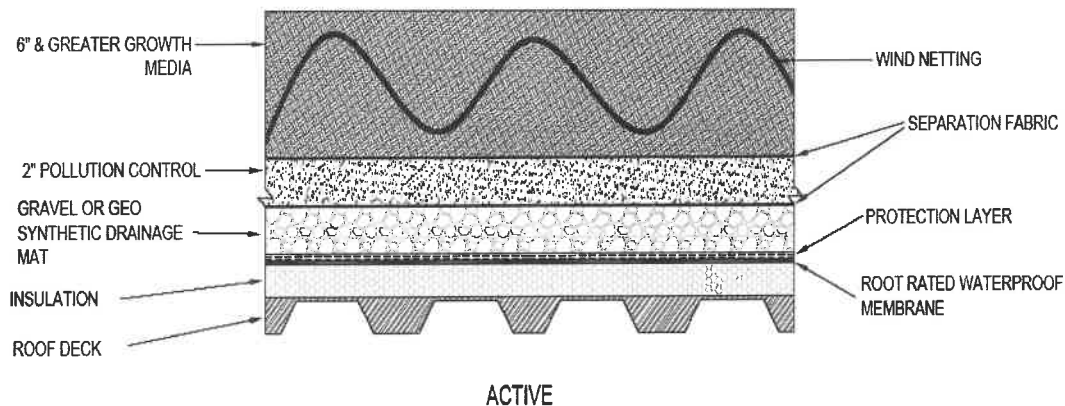


Figure 6.7.1b. Intensive Greenroof Section (Usually Active Function)

6.7.5. Design Criteria

- (a) Greenroof/cistern systems shall be designed to capture and use the required treatment volume for irrigation without discharge except to downstream BMPs if used as part of a BMP treatment train.
- (b) **Structural Integrity** – a structural engineer must certify that the roof can support the weight load of the greenroof system.
- (c) **Waterproof Membrane** - A waterproof membrane layer must be incorporated into the roof system to protect the structure from moisture damage. There are several options for this layer such as, polypropylene or polyethylene membrane, polyvinyl chloride, or spray applied elastomeric waterproofing membrane as well as others. The applicant must check with the membrane manufacturer to ensure that the membrane is rated as a root protection material. All permitted design specifications and manufacturer's installation directions shall be followed to ensure that the proposed product will function as intended with greenroof overburden.
- (d) **Drainage Layer** - The major function of the drainage layer is to facilitate lateral movement of the filtrate to the point of drainage to ensure no standing water is present. The drainage layer can consist of several different materials such as gravel, recycled products, or geo-synthetic drainage mats. It is important to

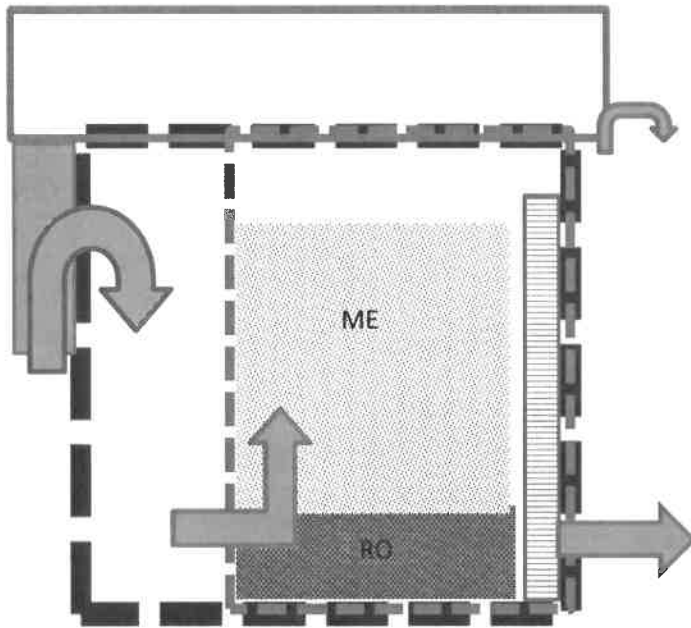


Figure 6.10.2. Typical Schematic of an Up-flow Filter after Wet Detention with Water Flow Direction.

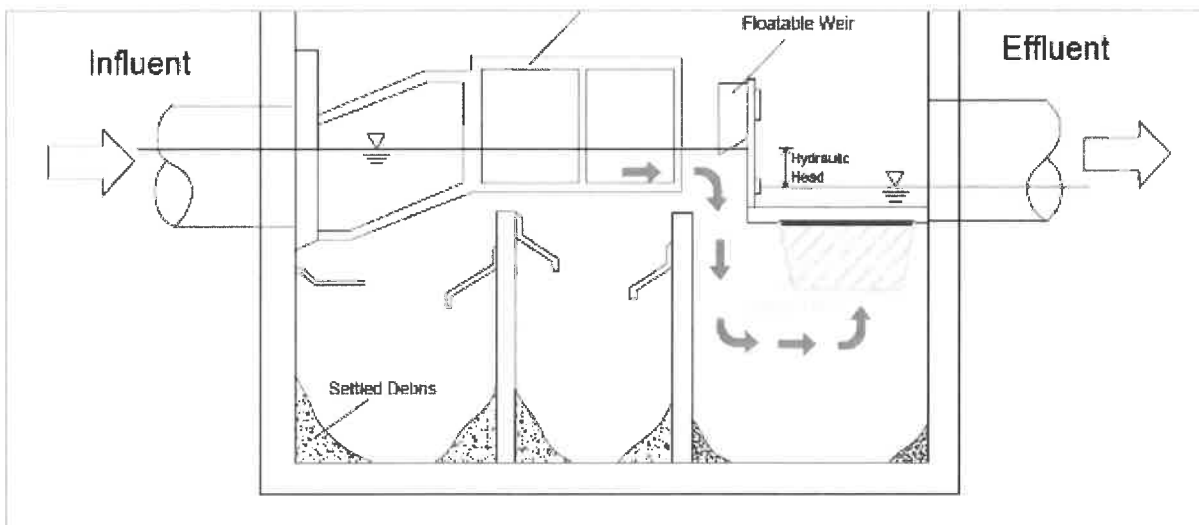


Figure 6.10.3. Typical Schematic of an Up-flow Filter after Vault Detention with Water Flow Direction.

6.12.3. Applicability

1. Water quantity control

Biofiltration systems are designed primarily as BMPs for addressing stormwater quality. Although biofiltration systems will provide some attenuation of peak flows, they will most likely not provide sufficient storage capacity to meet County or SWFWMD water quantity control criteria.

2. Water quality control

Biofiltration systems use the chemical, biological, and physical properties of plants, microbes, and soils or engineered media (BAM) to remove stormwater pollutants. Treating stormwater by biofiltration can be very effective due to the variety of chemical, physical, and biological removal mechanisms.

Biofilters may be especially useful in highly urban areas where land for wet detention systems is scarce and soils are inappropriate for retention systems. Biofilters may be especially useful in highly urban areas where land for retention or wet detention systems is scarce and soils are inappropriate for retention systems. For example, roof runoff can be effectively detained and treated in a containerized biofilters such as a planter box. Parking lot runoff can be routed into shallow depressed landscape islands with curb cuts or into biofilters integrated into the landscaping adjacent to the parking lot. Figures 6.12.1 through 6.12.5 provide illustrations of the several types of biofiltration systems.

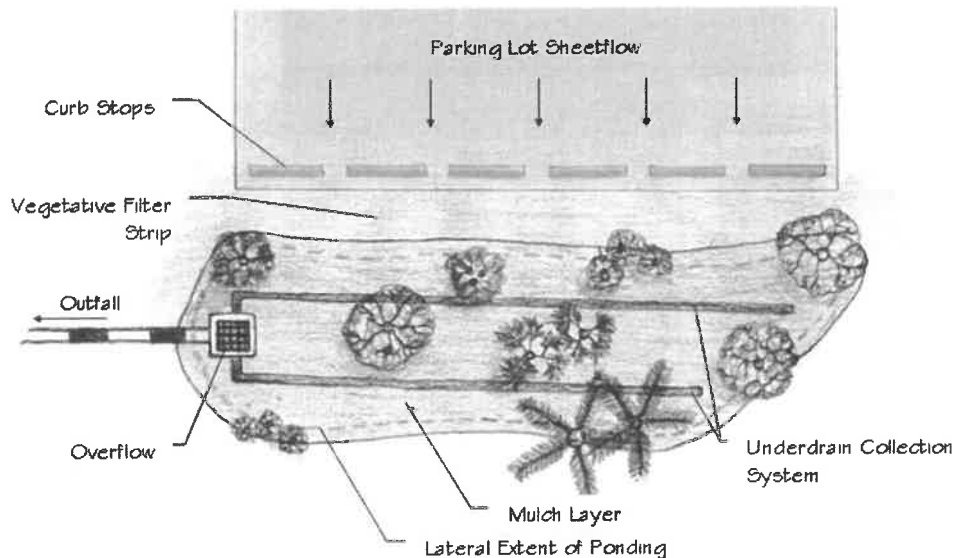
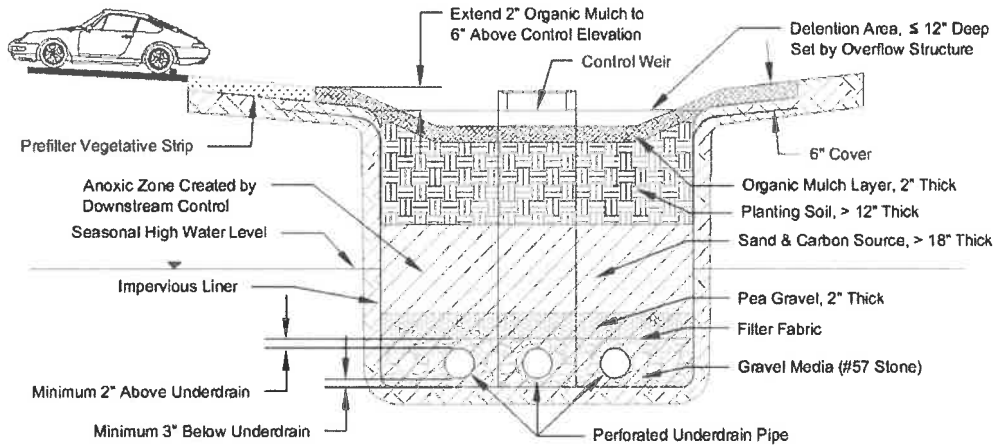
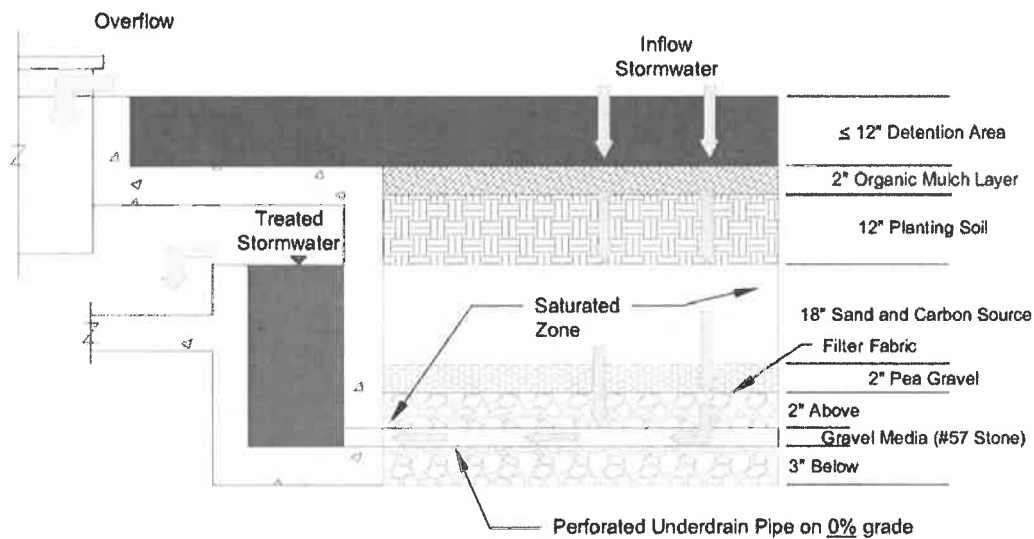


Figure 6.12.1. Plan View Illustrating a Biofiltration System.



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Figure 6.12.2. Cross Section View of a Biofiltration System.



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Figure 6.12.3. Cross Section View of System with Overflow.

Stormwater Planter CD

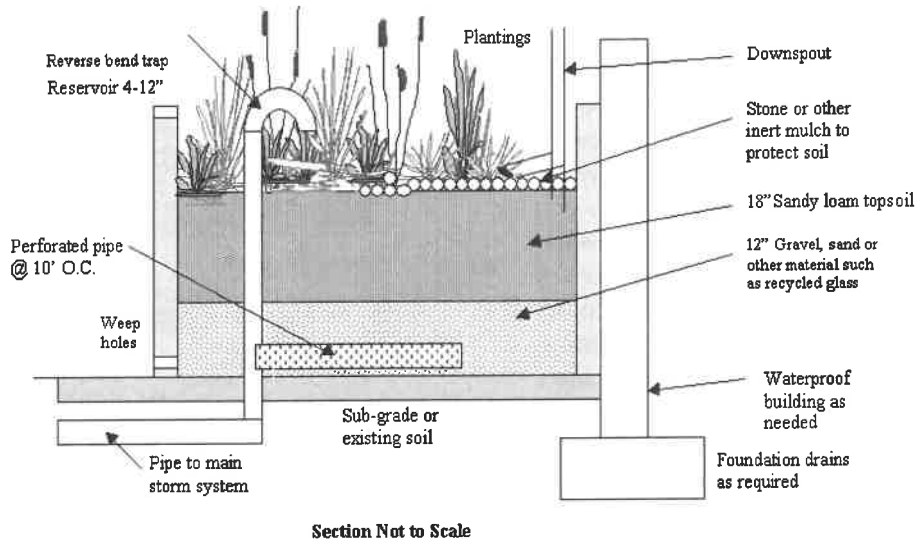


Figure 6.12.4. Stormwater Planter Box Biofiltration System.

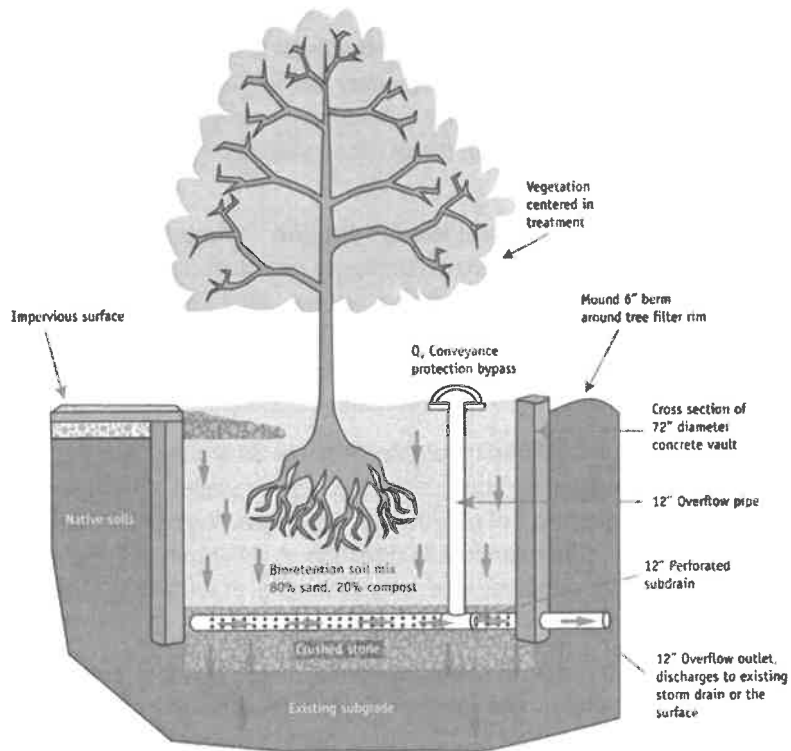
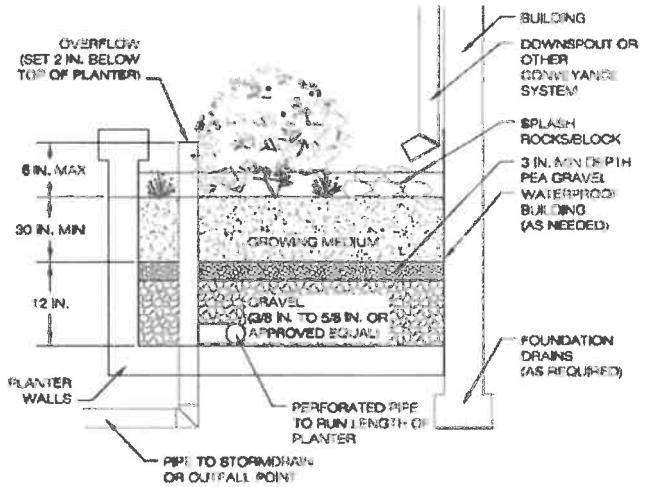


Figure 6.12.5. Stormwater Tree Box Filter System.

6.12.8 Planter Box Biofiltration Systems

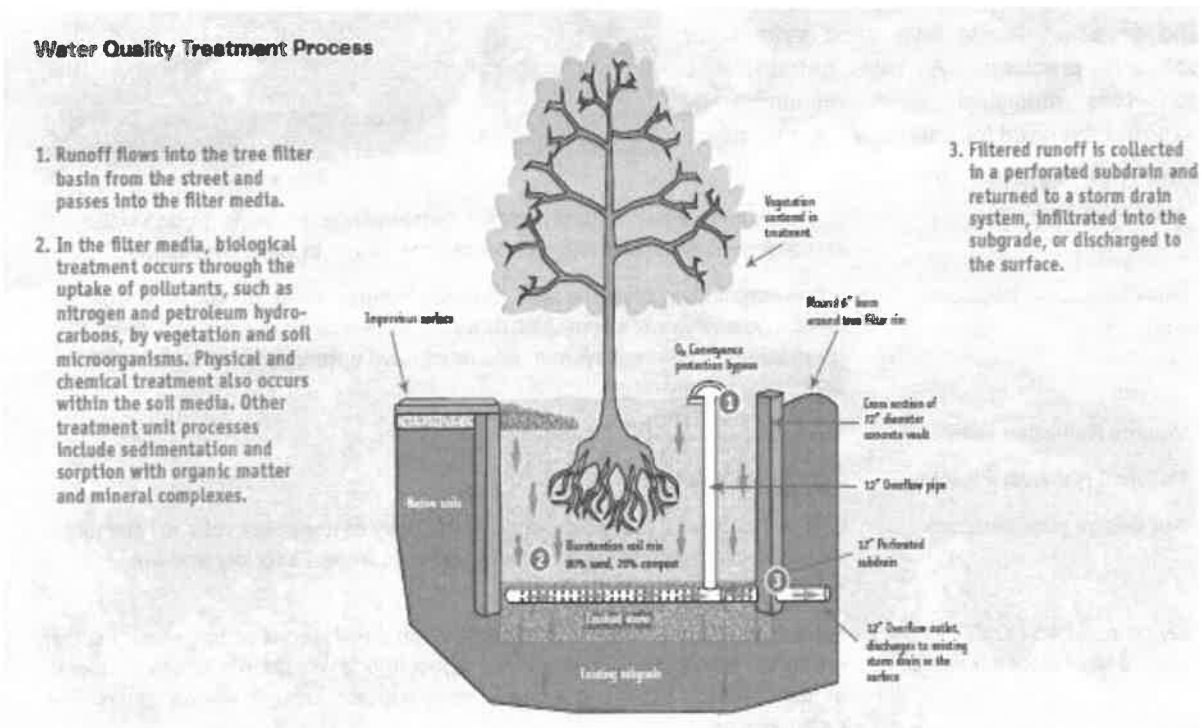
All of the above requirements for biofiltration systems apply to Planter Box biofilters unless they are superseded by specific requirements below.

1. **Description** - Planter box biofilters are structural landscaped reservoirs used to collect and filter stormwater, allowing pollutants to settle and filter out as the water percolates through the vegetation, growing medium, and gravel. Excess stormwater collects in a perforated pipe at the bottom of the flow through planter and drains to an approved discharge point and conveyance. Planters can be used to help fulfill a site's required landscaping area requirement and should be integrated into the overall site design. Numerous design variations of shape, wall treatment, and planting scheme can be used to fit the character of a site. Because flow-through planters can be constructed immediately next to buildings, they are ideal for sites with setback requirements, poorly draining soils, or other constraints.
2. **Setbacks** - Biofiltration planters that rely on infiltration are typically set back 5 feet from property lines and 10 feet from building foundations. No setbacks are required for lined flow-through planters where the height above finished grade is 30 inches or less. Lined flow-through planters can be used next to foundation walls, adjacent to property lines, or on slopes when they include a waterproof lining.
3. **Contributing drainage area** - The maximum contributing drainage area is 2,500 sq. ft. However, this is considered a general rule. Larger drainage areas may be allowed by Pinellas County if the biofiltration system has sufficient flow controls and other mechanisms to ensure proper function, safety, and community acceptance. The drainage areas in these urban settings are typically considered to be 100% impervious.
4. **Planter biofiltration system sizing and pollutant load reduction** - Planter biofiltration systems that use infiltration and are not underdrained can be sized similar to retention basins by using Table 6.1.2 to determine the desired treatment volume. The treatment volume will then determine the annual load reduction percentage. If the biofiltration system requires an underdrain and discharge off-site, the area of the biofiltration system will be determined by the desired treatment volume and the biofiltration media characteristics. These, in turn, will determine the pollutant load reduction.
5. **Dimensions and slopes** - The minimum infiltration planter width is 30 inches, and the minimum flow-through planter width is 18 inches (measured from inside the planter walls). Storage depth must be between 6 and 12 inches (from inlet elevation of overflow to top of growing medium). Planters are flat facilities that do not slope more than 0.5 percent in any direction. A minimum of 2 inches of freeboard (vertical distance between the design water surface elevation and overtopping elevation) shall be provided.
4. **Planter walls** - Planter walls shall be made of stone, concrete, brick, or other durable material. For planters that require an impervious bottom, a single-pour concrete solution is preferred. Chemically treated wood that can leach out toxic chemicals and contaminate stormwater shall not be used.



5. **Liners** - Flow-through facilities that require an impervious bottom can be achieved through either a waterproof liner (geomembrane) or a single-pour concrete box. If lined, there are many liner options, and installation varies. Liners should be installed to the high water mark. Liner shall be 30 to 40- mil PVC or HDPE as appropriate or approved equivalent.
6. **Vegetation** - The entire planter box filter must be planted with vegetation. The facility area is equivalent to the total area of the planter, as developed in the sizing calculations. The entire surface area of a planter is inundated with water and therefore requires plants that will survive such conditions. Minimum quantities are shown below:

Minimum Vegetation Quantities				
NUMBER OF PLANTS	TYPE OF PLANTS	PER SQUARE FEET	SIZE	SPACING ON CENTER
115	Herbaceous	100	1 gallon	1'
OR				
100	Herbaceous	100	1 gallon	1'
4	Small shrubs	100	1 gallon	2'



Note: Tree planting is not required in planters but is encouraged where practical. Tree planting is also encouraged near planters.

7. **Construction Considerations** - Special attention should be paid to the structural waterproofing if the planter is constructed adjacent to building structures.

6.13. Rain Gardens

6.13.1. Description

Rain gardens are small retention basins that can be integrated into a site's landscaping. A rain garden is a shallow, constructed depression that is planted with deep-rooted Florida-Friendly™ plants. It is located in the landscape to receive runoff from hard surfaces such as a roof, a sidewalk, a driveway, or parking area. Rain gardens slow down the rush of water from these impervious surfaces, holds the water for a short period of time and allows it to naturally infiltrate into the ground.

Rain gardens have multiple functions. They recharge the local aquifer by increasing the amount of water that filters into the ground; reduce the amount of stormwater pollutants – fertilizer, pesticides, car oil, etc. – that enter nearby surface water bodies; provide habitat for birds, butterflies, and beneficial insects; and improve property value by adding curb appeal to the landscape. Rain gardens are a beautiful and colorful way for homeowners, businesses and municipalities to help ease stormwater pollution problems. A rain garden also conserves municipal water resources by reducing the need for potable water irrigation.



RAIN GARDEN SUMMARY

Advantages/Benefits	Reduces stormwater volume and pollutant loadings; provides ground water recharge and enhanced site aesthetics; integrate into site's landscaping.
Disadvantages/Limitations	Small contributing drainage area. Do not construct within 50 feet of a public or private potable water supply well or within 15 feet of an onsite wastewater disposal and treatment system. Site must have appropriate soil and SHGWT conditions for infiltration.
Volume Reduction Potential	Medium
Pollutant Removal Potential	High for all pollutants
Key design considerations	SHGWT at least 2 feet below bottom; recovery of treatment volume within 24 – 72 hours; plant with Florida-Friendly plants appropriate for dry and wet conditions.
Key construction and maintenance considerations	Minimize soil compaction and sedimentation during construction; ensure design infiltration is met after construction; inspect during wet season to see if water is ponding and not infiltrating properly; restore mulch, remove weeds, and replant as necessary.

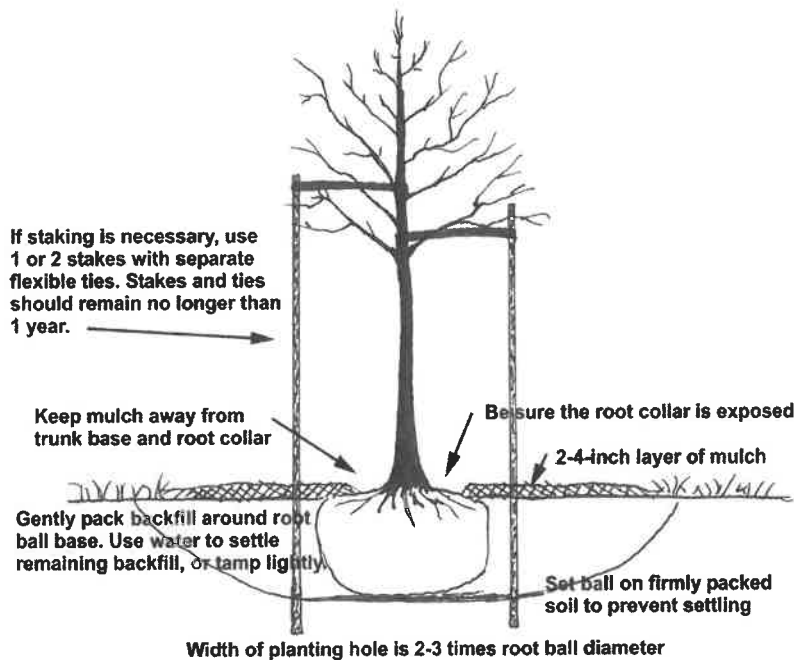


Figure 6.15.1. Tree planting guidelines. (Adapted from Flott, 2004 and ISA, 2003b).

9. **Post-Planting Tree Protection.** Once the tree has been properly planted, 2 to 4 inches of organic mulch must be spread over the soil surface out to the drip line of the tree. If planting a cluster of trees, mulch the entire planting area. Slow-decomposing organic mulches, such as shredded bark, compost, leaf mulch, or wood chips provide many added benefits for trees. Mulch that contains a combination of chips, leaves, bark, and twigs is ideal for reforestation sites. Grass clippings and sawdust are not recommended as mulches because they decompose rapidly and require frequent application, resulting in reduced benefits.

For well-drained sites up to 4 inches of mulch may be applied, and for poorly drained sites a thinner layer of mulch should be applied. Mulch should never be more than 4 inches deep or applied right next to the tree trunk; however, a common sight in many landscaped areas is the —mulch volcano. This over-mulching technique can cause oxygen and moisture-level problems, and decay of the living bark at the base of the tree. A mulch-free area, 2- to 3-inches wide at the base of the tree, must be provided to avoid moist bark conditions and prevent decay (ISA, 2003a).

10. **Limitations:** Tree credits may not be allowed if site circumstances or system limitations exist.

6.15.6. Construction considerations

1. New trees

- Do not allow soil in planter areas to be compacted during construction.
- Do not allow soil in planter areas to become contaminated with construction related materials such as lime or limestone gravel, concrete, sheetrock, or paint.
- Install irrigation system according to proper specifications.

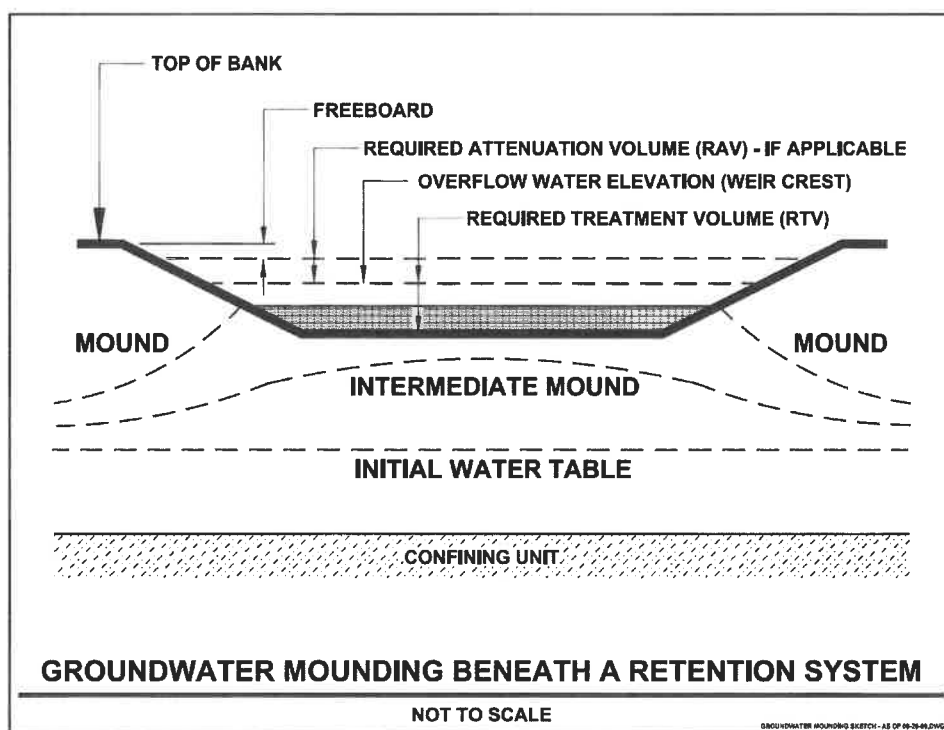
- The depths to the water table and confining unit (i.e., clay or hardpan) below the bottom of the retention BMP, and
- The soil's saturated hydraulic conductivity.

The following paragraph briefly describes the two stages of infiltration, and subsequent subsections present accepted methodologies for calculating infiltration rates and recovery times for unsaturated vertical (Stage One) and saturated horizontal (Stage Two) flow.

Initially, the subsurface conditions are assumed to be:

- The depth to the initial water table below the bottom of the BMP.
- Unsaturated soils above the water table.

When the water begins to infiltrate, it is driven downward as unsaturated flow by the combined forces of gravity and capillary action. Once the unsaturated soil below the BMP becomes saturated (fills the voids in the soil), the water table begins to "mound" (refer to **Figure A.1.1, Ground Water Mounding Beneath a Retention System, below.**



A.1.5. Accepted Methodologies for Determining Retention BMP Recovery

- A. Acceptable methodologies for calculating retention BMP recovery are presented below in **Table A.1.1.**

Table A.1.1. Accepted Methodologies for Retention BMP Recovery	
Vertical Unsaturated Flow	Horizontal Saturated Flow
Green and Ampt Equation	Simplified Analytical Method
Hantush Equation	PONDFLOW
Horton Equation	Modified MODRET
Darcy Equation	
Holton Equation	

Several of these methodologies are available in commercial software products. The Agencies can neither endorse any software program nor certify software results.

B. Additional requirements for calculating retention BMP recovery

Unless the normal Seasonal High Ground Water Table (SHGWT) is greater than or equal to 2 feet below the bottom of the BMP system, unsaturated vertical flow prior to saturated horizontal mounding shall be conservatively ignored in the recovery analyses. This is not an unrealistic assumption since the height of the capillary fringe in fine sands is on the order of six (6) inches, and a partially mounded water table condition may be remnant from a previous storm event.

A.1.6. Requirements, Guidance and Recommendations for Manual Computations or Computer Simulations

Computer-based ground water flow models are routinely used by practicing engineers and hydrogeologists to predict the time for percolation of the Required Treatment Volume (RTV). The reliability of the output of these models cannot exceed the reliability of the input data. **Input data assessment is probably the most neglected single task in the ground water modeling process.** The accuracy of computer simulations hinges on the quality and completeness of the input data.

The computer models listed in the previous section require input values of the retention BMP dimensions, retained stormwater runoff volume (the RTV) and the following set of aquifer parameters:

- Thickness or elevation of base of mobilized (or effective) aquifer
- Weighted horizontal saturated hydraulic conductivity of mobilized aquifer
- Fillable porosity of mobilized aquifer
- Ambient water table elevation which, for design purposes, is usually the normal Seasonal High Ground Water Table (SHGWT)

Calculated recovery times are most sensitive to the input value for the aquifer's **saturated hydraulic conductivity**.

A. Determination of Aquifer Thickness

Standard Penetration Test (SPT) borings are recommended for definition of the aquifer thickness, especially where the ground water table is deep. This type of boring provides a continuous measure



FLORIDA MUNICIPAL SERVICES
c/o 17425 Gulf Blvd.
Redington Shores, FL 33708
(727) 202-6825

December 10, 2020

Meeting Date: December 16, 2020
Agenda Item 9E
Advertised Public Hearing

M E M O R A N D U M

TO: Honorable Mayor and Members, Redington Beach Town Commission

FROM: Bruce Cooper, CBO, CFM, Building Official
R. Bruce McLaughlin, AICP, MCIP, Town Planner

SUBJECT: Proposed Ordinance 2020-10, Fire Code Amendment

Ordinance 2020-10 adopting the current Florida Fire Prevention Code is a land development regulation:

(26) "Land development regulations" means ordinances enacted by governing bodies for the regulation of any aspect of development and includes any local government zoning, rezoning, subdivision, **building construction**, or sign regulations or any other regulations controlling the development of land, except that this definition does not apply in s. 163.3213. [Emphasis Added]

Section 162.3164(26), F.S.

In turn, "development" is defined:

(1) The term "**development**" means the carrying out of any **building activity** or mining operation, the making of any material

December 10, 2020

change in the use or appearance of any structure or land, or the
dividing of land into three or more parcels. [Emphasis Added]

Section 380.04(1), F.S.

Ordinance 2020-10 was advertised for a December 16, 2020 public hearing to avoid the cost of a separate newspaper ad, even though it is unrelated to the package of other ordinances on the same agenda. Further, Staff were just recently authorized to meet with the Madeira Beach Fire Chief to discuss the substance of the Town's Fire Code and whether the Town wishes to adopt any local amendments to the Florida Fire Prevention Code.

Accordingly, staff recommends that the public hearing on Ordinance 2020-10 be opened and continued to a date certain so as to preserve the published public hearing date. The Redington Beach Planning Board, acting as the Local Planning Agency, opened its public hearing on this Ordinance on December 8, 2020 and continued that public hearing to the date certain of January 19, 2021.

At the continued public hearing Staff will present the results of their meeting(s) with Madeira Beach Fire officials and any changes to the code as proposed or any local amendments to the Florida Fire Prevention Code that those officials may wish to propose.

BOCA CIEGA BAY WATER QUALITY STORMWATER IMPROVEMENT PROJECT

FOR THE TOWN OF REDINGTON BEACH

SEC. 5, TWP. 31 S, RGE. 15 E

PROJECT # 450.01.01.20

INDEX:	SHT. NO.	CONTENTS
1	1	COVER SHEET
2	2	NOTES AND SPECIFICATIONS
3	3	GENERAL NOTES
4	4	DRAINAGE PLAN SHEET
5	5	STORMWATER PRACTICES PLAN SHEET
6	6	BEST MANAGEMENT PRACTICES PLAN SHEET
7	7	BEST MANAGEMENT PRACTICES DETAILS



OCTOBER 2020

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FL STATUTE 553.851 (1979) REQUIRES
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Civil Engineers & Land Planners
P.O. Box 789, Cortez, FL 34215
Phone 941.756.9100 Fax 941.756.9119



60% PLAN NOT APPROVED FOR CONSTRUCTION	1
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LYNN T. BURNETT, P.E., CFM
Florida Certificate No. 53228
C.A. No. 28044
DME

BOCA CIEGA BAY STORMWATER QUALITY
IMPROVEMENT PROJECT
SEC 5, TWP 31S, RNG 15E, REDINGTON BEACH, FL
OVERALL BASIN MAP

OVERALL BASIN MAP

LTA ENGINEERS, LLC
Civil Engineers & Planners

CADD File	TORR Drainage Planning
Date: 1/11/2020	SCALE: SEE SCALE
Drawn By: LB	Design By: LB
Drawn By: LTB	Checked By: KT
Project No.: 450.01.02.20	

Stormwater Treatment volume is provided in the drainage retention area for 1" of Rainfall over the project area. The treatment area bottom elevations are set a Minimum of 1 foot above the average water table elevations delineated in the SCS Soil Survey.

Project Name: REDINGTON BEACH BOCA CIEGA BAY

TOTAL PROJECT AREA

224334 Square Feet
5.15 Acre(s)

WATER QUALITY FOR BOCA CIEGA BAY

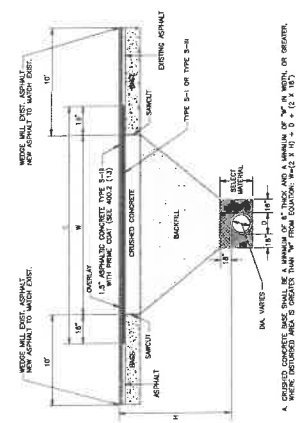
1 inches(s) of rainfall over project area

$$(\text{Inches}) \text{ of rainfall over project area} \times (\text{Total project area in square feet}) \times (1/12) = \text{Treatment Volume Required}$$

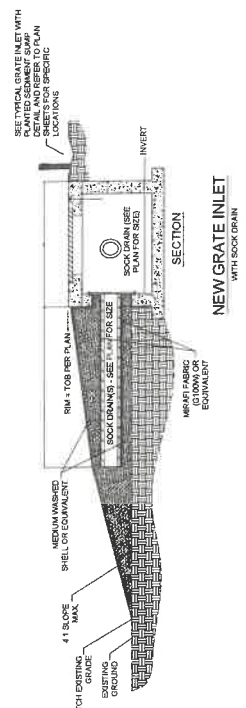
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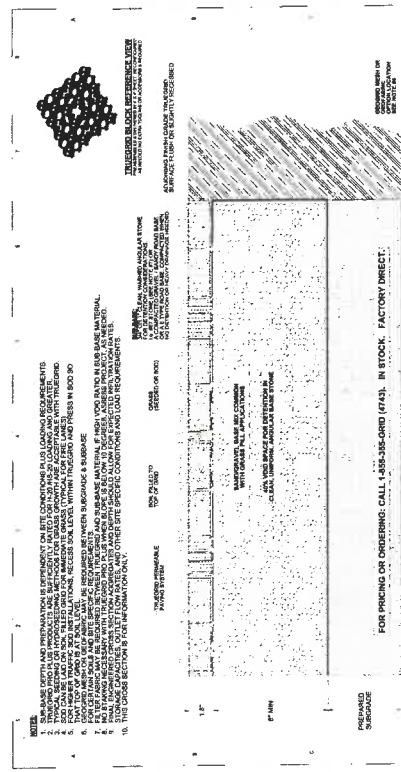
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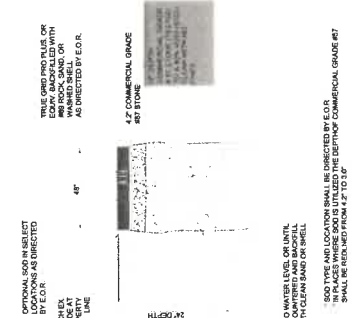
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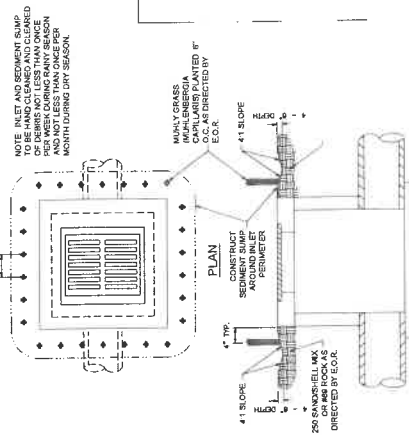
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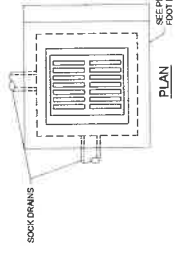
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¹⁰ GOD TYPE AND LOCATION
¹¹ IN PLACES WHERE GOD IS

FOOT TYPE 'C' INLET



SOCK DRAIN



MUHY GRASS
(MULLENBERGIA
CAPILLARIS) PLANTED IN
C. & G. PLOT



11

INSTALLED

