

# ORIGINATION FORM

Proposed Revisions to a Standard Plans Index  
(Please provide all information – Incomplete forms will be returned)

## Contact Information:

Date: April 2, 2018  
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## Standard Plans:

Index Number: **436-001**  
Sheet Number (s): All  
Index Title: Trench Drain

## Summary of the changes:

Updated and Reorganized Index. Added new Sheet for General Notes.  
Deleted Design Notes. Updated Note language.

## Commentary / Background:

Index reorganized to declutter details. Appropriate locations for Design related information are the Drainage Manual, Drainage Design Guide, FDOT Design Manual, etc.  
Notes language updated to the current standard of first person imperative.

## Other Affected Offices / Documents: (Provide name of responsible personnel)

- | Yes                      | No                       |                             |
|--------------------------|--------------------------|-----------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | Other Standard Plans –      |
| <input type="checkbox"/> | <input type="checkbox"/> | FDOT Design Manual –        |
| <input type="checkbox"/> | <input type="checkbox"/> | Basis of Estimates Manual – |
| <input type="checkbox"/> | <input type="checkbox"/> | Standard Specifications –   |
| <input type="checkbox"/> | <input type="checkbox"/> | Approved Product List –     |
| <input type="checkbox"/> | <input type="checkbox"/> | Construction –              |
| <input type="checkbox"/> | <input type="checkbox"/> | Maintenance –               |

## Origination Package Includes: (Email or hand deliver package to Derwood Sheppard)

- | Yes                                 | N/A                      |   |
|-------------------------------------|--------------------------|---|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Redline Mark-ups                          |
| <input type="checkbox"/>            | <input type="checkbox"/> | Proposed Standard Plan Instructions (SPI) |
| <input type="checkbox"/>            | <input type="checkbox"/> | Revised SPI                               |
| <input type="checkbox"/>            | <input type="checkbox"/> | Other Support Documents                   |

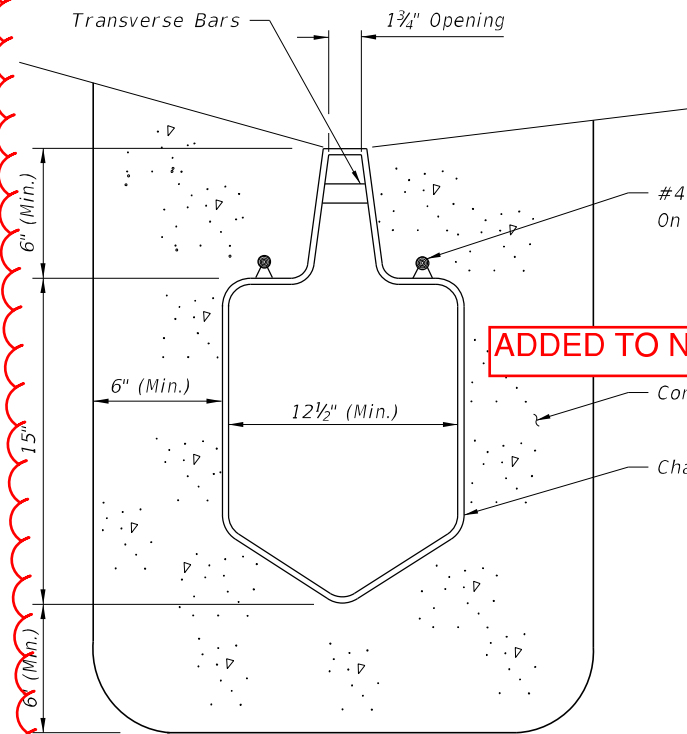
## Implementation:

- Design Bulletin (Interim)    DCE Memo    Program Mgmt. Bulletin    FY-Standard Plans (Next Release)

————— **Contact the Roadway Design Office for assistance in completing this form** —————

NEW SHEET 1 OF 3

"GENERAL NOTES - TABLE OF CONTENTS - TRENCH DRAIN ASSEMBLY



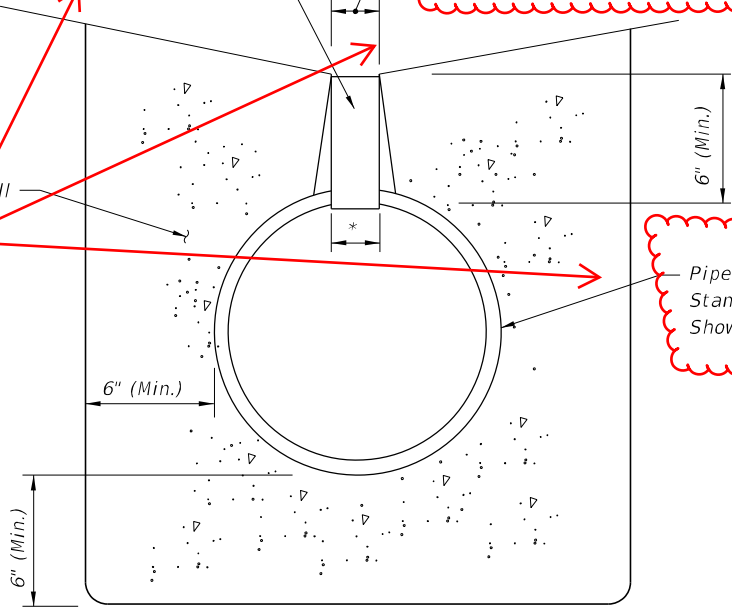
PREFORMED POLYETHYLENE ALTERNATE

SEE SHEET 2 FOR TYPICAL LOCATIONS

Grate Consisting Of Vertical Bars And Transverse Bars (Web Spacers)

\* 1 3/4" Opening For Fixed Height Grates, Opening At the Pipe Can Be 3"

ADDED TO NOTES

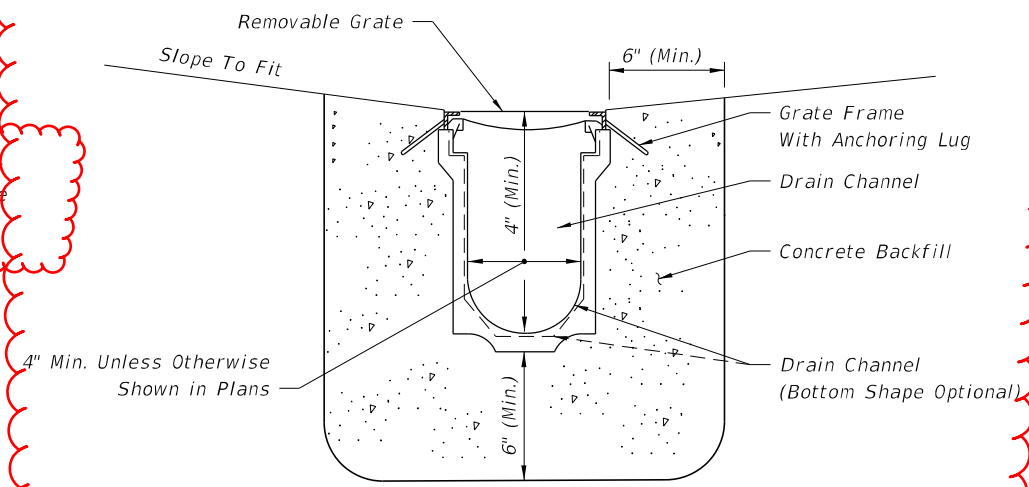


ROUND ALTERNATE

MOVED TO SHEET 2

Pipe Channel 15" Diameter Standard Unless Otherwise Shown in Plans.

MOVED TO SHEET 3



PREFORMED CHANNEL WITH REMOVABLE GRATE

SEE SHEET 2 FOR TYPICAL LOCATIONS

TYPE I (NON-REMOVABLE GRATE)

TYPE II

GENERAL NOTES

UPDATED NOTES

1. Trench drain is intended for use in gutters and driveways as shown on the typical locations on Sheet 2. Type I is intended for use in Type E, F and drop curbing, and adjacent to traffic separators and standard barrier walls. The width of the channel grate for Type I Trench Drain shall be 1 3/4" throughout varying the depth of the channel neck. Type II may also be used in those locations if an independent laboratory certifies that the grating used has an open area equal to at least 0.27 square feet per linear foot. Type II is primarily intended for use in valley gutter across driveway openings and drop curbing; Type I may also be used in those locations. The width of the channel grate for Type II Trench Drain shall be the same as the width of the channel. The linear slope or gradient for Type II may be manufactured by varying the depth of the channel. Trench Drain shall not be placed in pedestrian paths unless ADA compliant grates are used.
2. Unless shown in the plans, outlet pipes and preformed channel inverts shall be sloped 0.6% or steeper toward the outlet regardless of the surface slope.
3. Trench drain may be stubbed directly into drainage structures, or outlet pipes may be used to connect trench drain to drainage structures.
4. A cleanout port compatible with the manufactured system shall be provided for Type I drains at the upstream end and at intervals not to exceed 50 feet. The cleanout port shall provide an opening 6" to 10" wide (transverse to the trench drain length) and 18" to 24" long. Where cleanouts are placed adjacent to raised curb or separator, the curb or separator shall be formed around the cleanout. The cleanout shall have a removable load resistant cover or grate.
5. Trench excavation must allow for a minimum of 6" of concrete to be placed under and alongside the trench drain channel system. Concrete backfill shall meet the requirements of Section 347 of the Standard Specifications. At the end of all units (Type I or II), the concrete backfill shall extend 6" minimum past the end of the drain opening.
6. Transverse bars for Type I Trench Drain shall be spaced 4" to 6" on center.
7. Whenever the work disturbs existing conditions or work already completed, restore the same to its original condition in every detail. All such repair and replacement shall meet the approval of the Engineer.

DESIGN NOTES

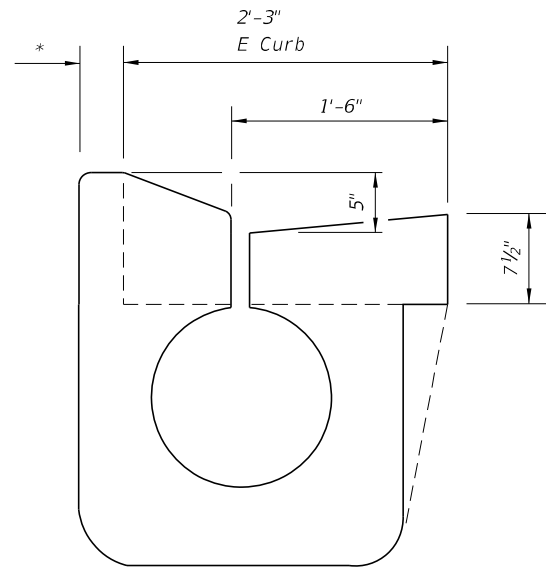
MOVED TO DRAINAGE MANUAL, DRAINAGE DESIGN II detail in the GUIDE, FDOT DESIGN MANUAL.

1. Where placed adjacent to the position of the foundation. (See Index)
2. The designer shall identify the following in the plans:
  - (a) The type of drain at each location.
  - (b) The begin and end locations of the Trench Drain.
  - (c) The location of the outlet pipe if the Trench Drain is not stubbed directly into a drainage structure.
  - (d) The design flow (Q) for the Trench Drain must be shown on the plans.
3. Capture efficiency for Type I Trench Drain may be computed using the equations for slotted drain in FHWA's HEC 12 & 22. Grate Type I and Type II must have at least 30% open area.
4. Round pipe alternate is available in 12, 18, 24 and 36 inch.
5. Type II Preformed Channel with integral anchoring lugs are applicable.

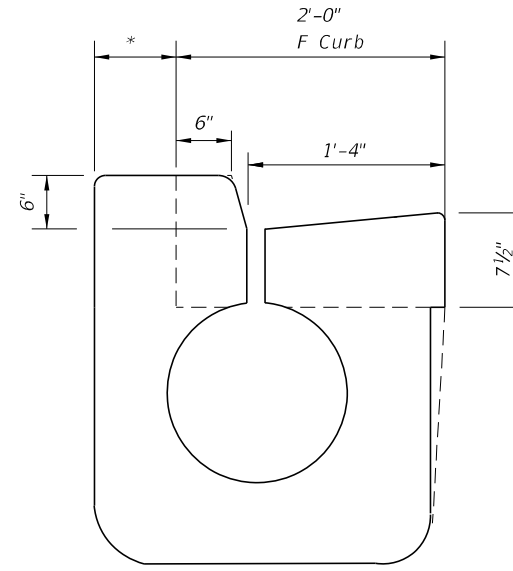
SHEET 2 OF 3

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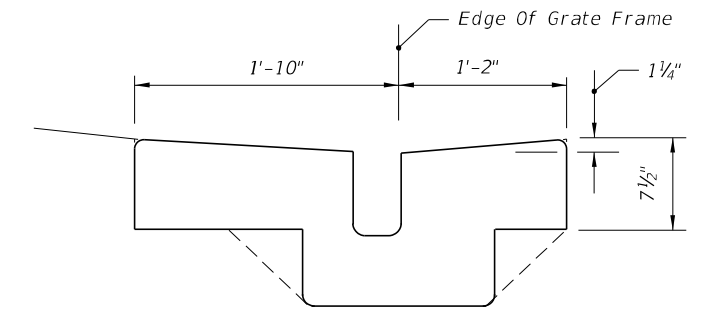
LAST REVISION 11/01/17	DESCRIPTION: 11/01/19	FDOT FY 2019-20 STANDARD PLANS	TRENCH DRAIN	INDEX 436-001	SHEET 1 of 2
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WITHIN TYPE E CURB

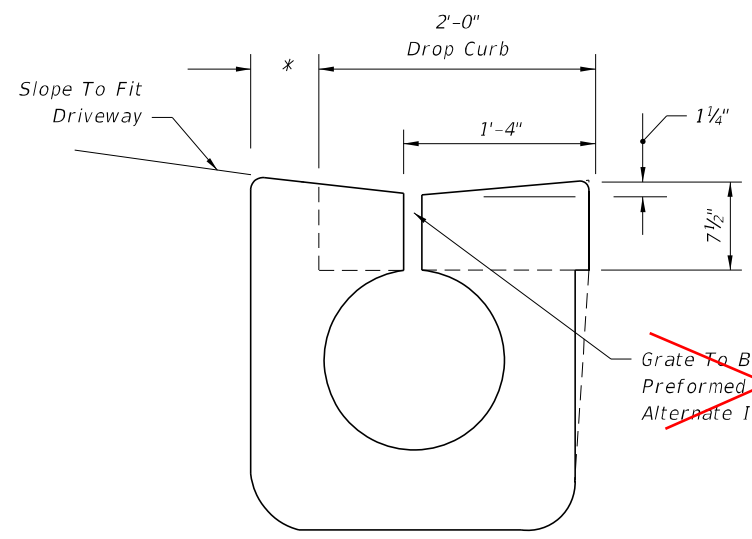


WITHIN TYPE F CURB



WITHIN VALLEY GUTTER

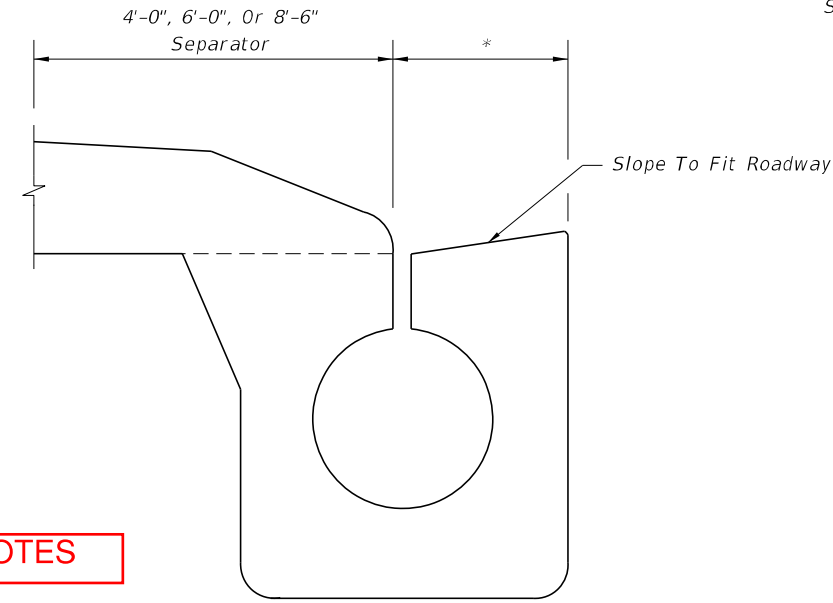
MOVED TO SHEET 3



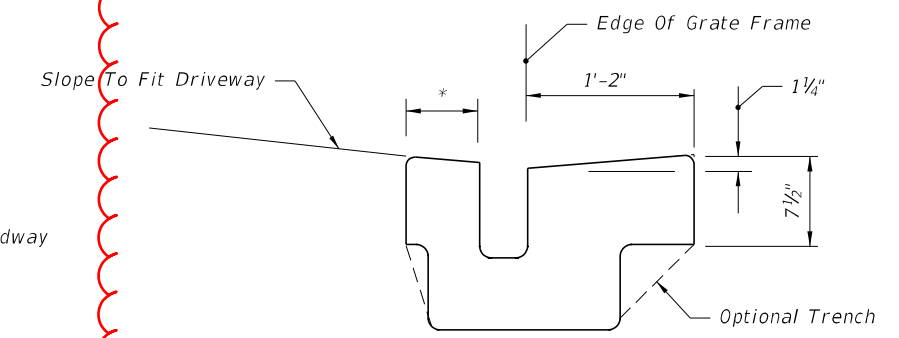
WITHIN DROP CURB

~~Grate To Be Used On  
Preformed Polyethylene  
Alternate In Driveways~~

ADDED TO NOTES



ADJACENT TO TRAFFIC SEPARATOR



WITHIN DROP CURB  
TYPICAL LOCATIONS FOR TYPE II

~~\* As Necessary To Provide 6" Of Concrete  
On This Side Of Drain~~

ADDED TO NOTES

ROUND PIPE ALTERNATE SHOWN, BUT PREFORMED POLYETHYLENE ALTERNATE ACCEPTABLE

TYPICAL LOCATIONS FOR TYPE I

SHEET 2 OF 3

10/24/2018 9:23:47 AM

LAST REVISION 11/01/17	DESCRIPTION: 11/01/19		FY 2019-20 STANDARD PLANS	TRENCH DRAIN	INDEX 436-001	SHEET 2 OF 2
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**GENERAL NOTES:**

1. Install outlet pipes and preformed channel inverts with a slope of 0.6% or steeper toward the outlet regardless of the surface slope, unless shown different in the Plans.
2. Stub trench drain directly into drainage structures or install outlet pipes to connect trench drain to drainage structures.
3. Provide a cleanout port compatible with the manufactured system for Type I drains at the upstream end and at intervals of 50 feet maximum. Provide a cleanout port with an opening of 6" to 10" wide (transverse to the trench drain length) and 18" to 24" long. Form curbs or separators around the cleanout when cleanouts are placed adjacent to raised curb or separator. Install the cleanout with a removable load resistant cover or grate.
4. Excavate trench to allow for a minimum of 6" of concrete to be placed under and alongside the trench drain channel system. Install concrete backfill in accordance with Specification 347. Install concrete backfill extending a minimum of 6" past the end of the drain opening at the end of all Type I or II units.
5. Install transverse bars spaced 4" to 6" on center for Type I Trench Drain.

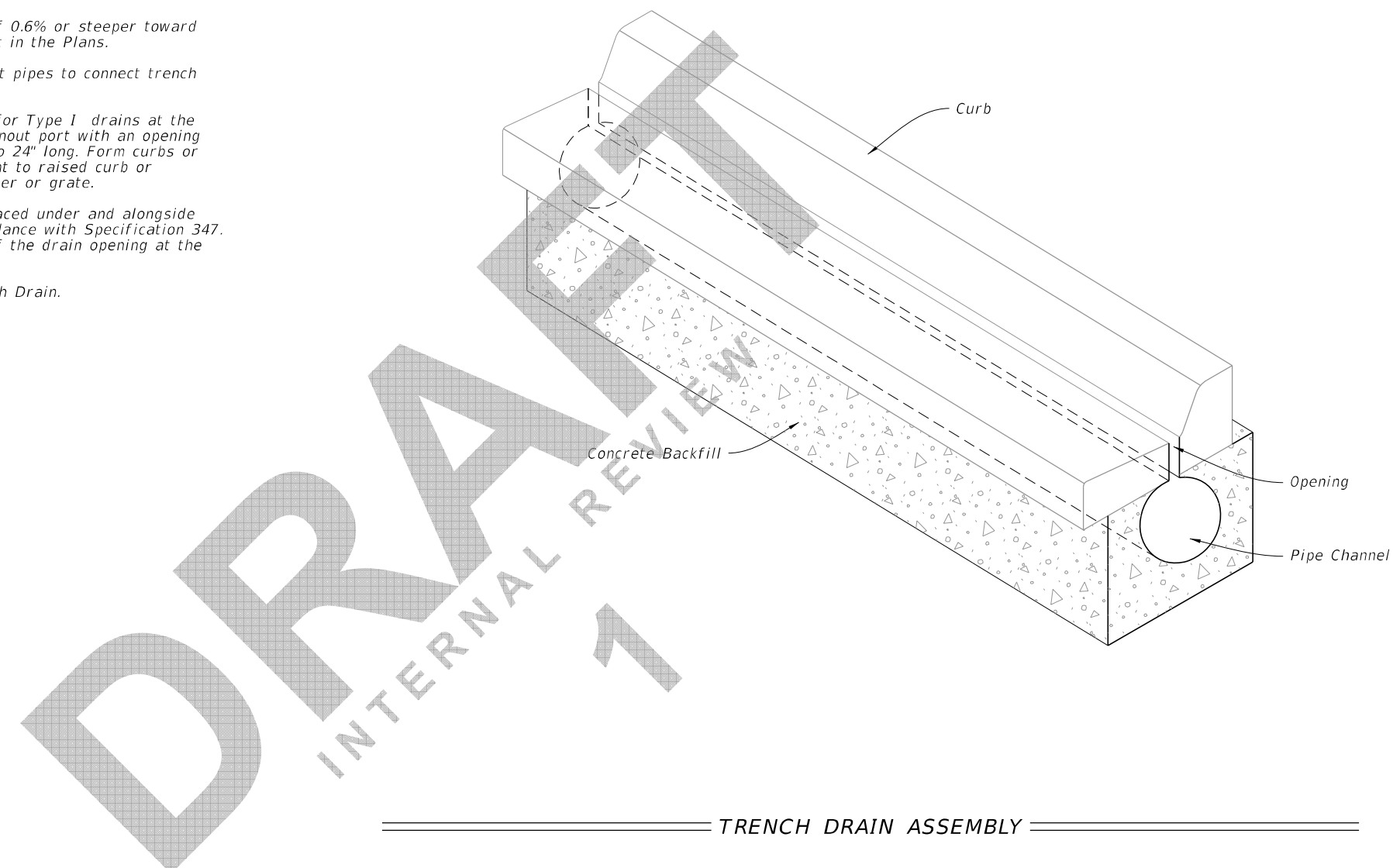
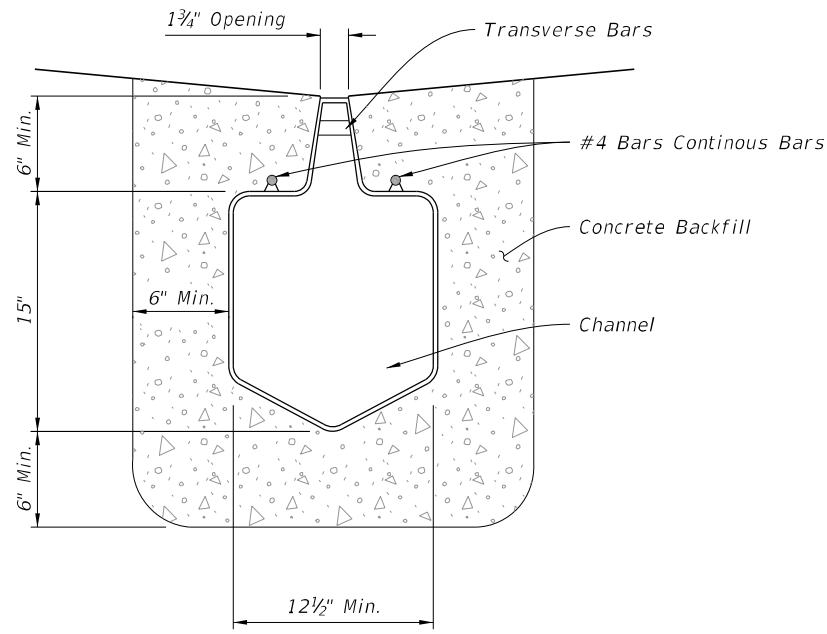
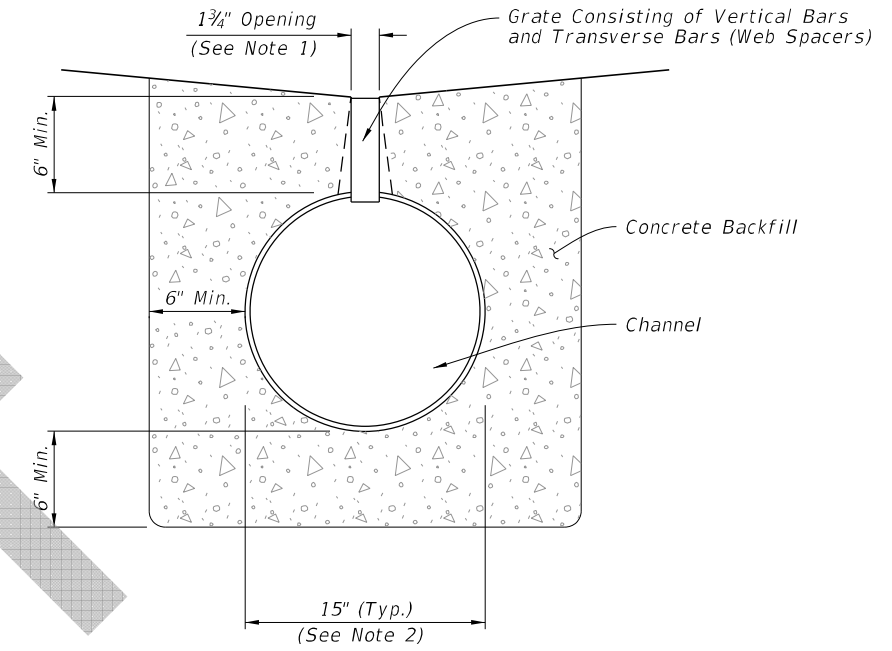


TABLE OF CONTENTS:	
Sheet	Description
1	General Notes and Contents
2	Type I - Nonremovable Grate
3	Type II - Removable Grate

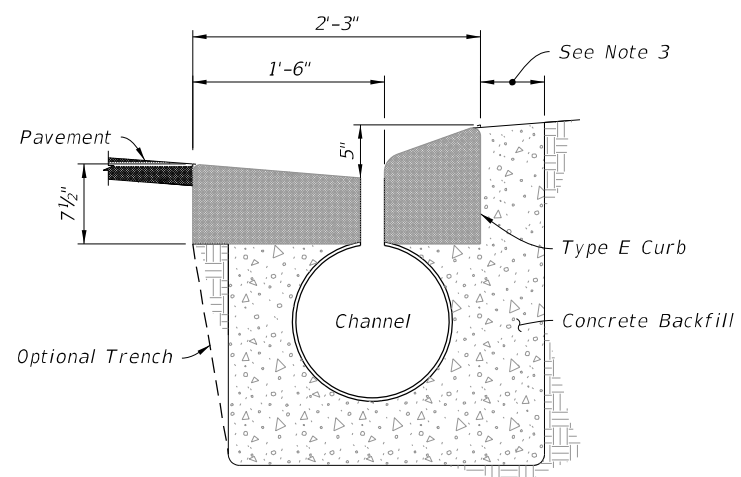
5/9/2019 8:43:55 AM



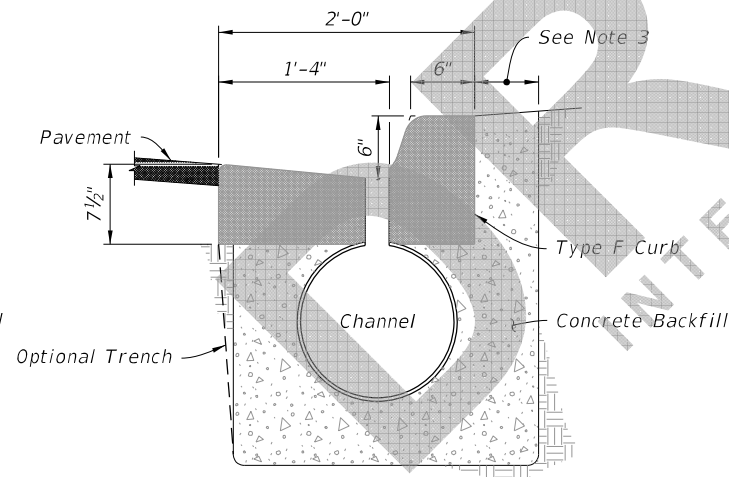
PREFORMED POLYETHYLENE CHANNEL



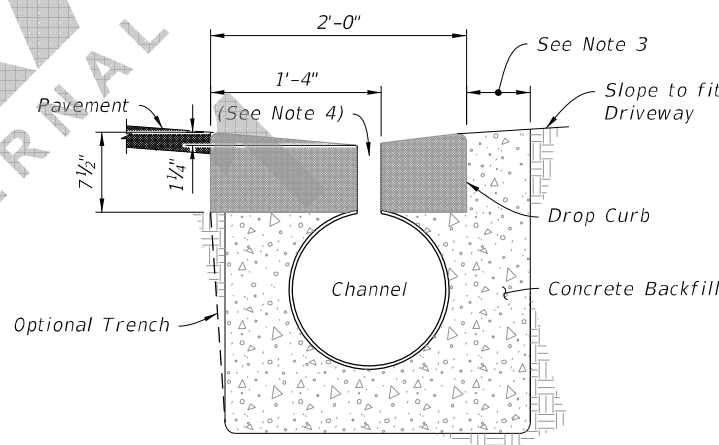
ROUND PIPE CHANNEL



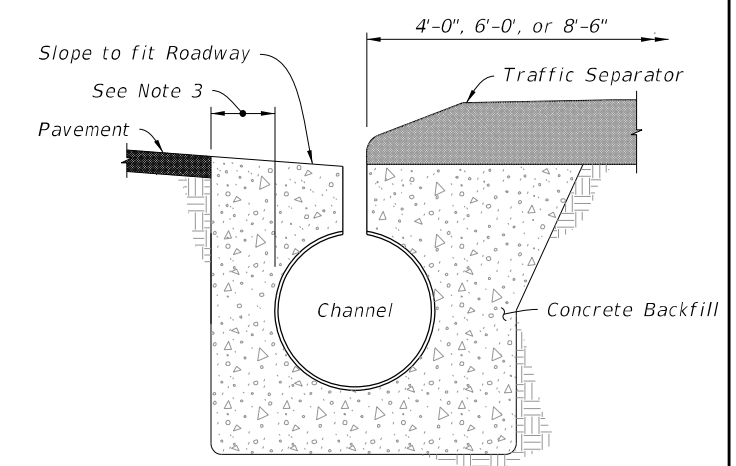
WITHIN TYPE E CURB



WITHIN TYPE F CURB



WITHIN DROP CURB



ADJACENT TO TRAFFIC SEPARATOR

TYPICAL LOCATIONS

(Round Channel Shown, Preformed Polyethylene Similar)

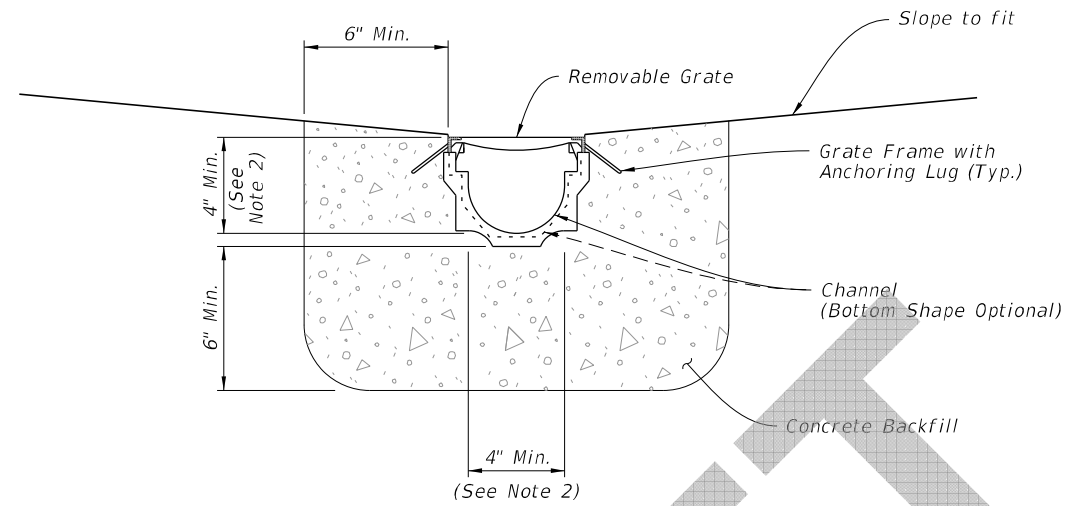
NOTES:

1. Opening for fixed height grates. Opening at the pipe can be 3".
2. The Round Pipe Channel is 15" in diameter, unless otherwise shown in the Plans.
3. Provide a minimum 6" concrete on this side of the drain.
4. Install grates on preformed polyethylene channel at driveways.

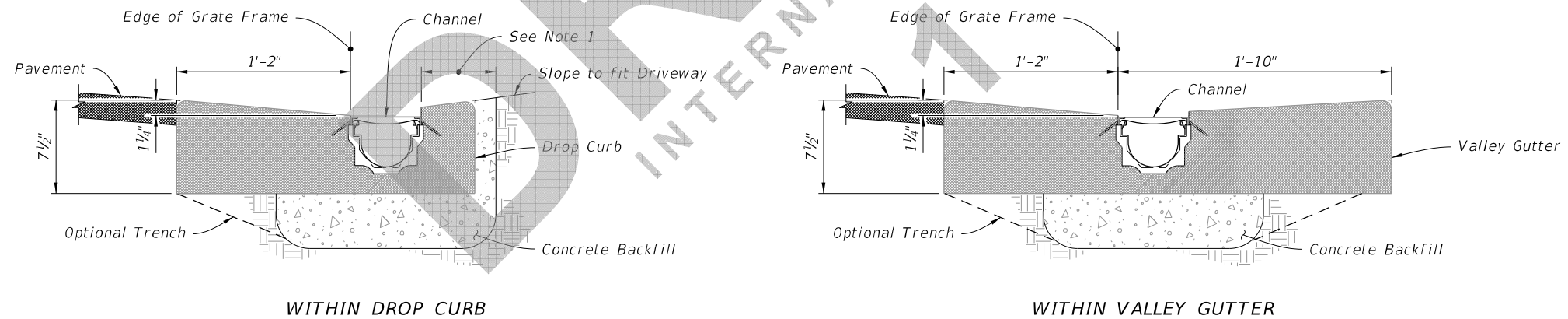
TYPE I - NONREMOVABLE GRATE

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LAST REVISION 11/01/19	DESCRIPTION:	FDOT FY 2019-20 STANDARD PLANS	TRENCH DRAIN	INDEX 436-001	SHEET 2 of 3
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PREFORMED CHANNEL WITH REMOVABLE GRATE




TYPICAL LOCATIONS

NOTES:

1. Provide minimum 6" of concrete on this side of the drain.
2. 4" Minimum unless otherwise shown in Plans.

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TYPE II - REMOVABLE GRATE

LAST REVISION 11/01/19	REVISION	DESCRIPTION:	 FY 2019-20 STANDARD PLANS	TRENCH DRAIN	INDEX 436-001	SHEET 3 of 3
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