FLEXIBLE PAVEMENT CUT (diagram)

Ditch Width (w) + 4'

Replacement Structural Course & Friction Course

Replacement Base

See Location Criteria In Utility Accommodation Manual

18"

Stage #2 Backfill * See Notes Below

Stage #1 Backfill * See Notes Below

12"   Varies   12"

Ditch Width (w)

RIGID PAVEMENT CUT (diagram)

10' Min.   10' Min. Monolithic Slab   10' Min.

#9 Stone Or Equivalent When Flowable Fill Option Is Used

Match The Existing Pavement Thickness (Not Less Than 8" Thickness)

Nearest Joint In Pavement

24" Min.   24" Min.

Refer To Index No. 305 For Butt Const. Joint

Replacement Pavement

See Location Criteria In Utility Accommodation Manual

4"   12"   10"

Stage #2 Backfill * See Notes Below

Stage #1 Backfill * See Notes Below

12"   Varies   12"

FLEXIBLE PAVEMENT NOTES

PAVEMENT REMOVAL AND REPLACEMENT
Pavement shall be mechanically sawed.

The replacement asphalt shall match the existing structural and friction courses for type and thickness in accordance with current FDOT asphalt mix specifications.

The new base materials shall be either of the same type and composition as the materials removed or of equal or greater structural adequacy (See Index No. 514).

BACKFILL

COMPACTED AND STABILIZED FILL OPTION
Backfill material shall be placed in accordance with Section 125 of the Standard Specifications.

In Stage #1, construct compacted fill beneath the haunches of the pipe, using mechanical tamps suitable for this purpose. This compaction applies to the material placed beneath the haunches of the pipe and above any bedding.

In Stage #2, construct compacted fill along the sides of the pipe and up to the bottom of the base,with the upper 12" receiving Type B Stabilization. In lieu of Type B Stabilization, the Contractor may construct using Optional Base Group 3.

* FLOWABLE FILL OPTION
If compaction can not be achieved through normal mechanical methods then flowable fill may be used.

Flowable fill is to be placed in accordance with Section 121 of the Specifications, as approved by the Engineer.

Do not allow the utility being installed to float. If a method is provided to prevent flotation from occurring, Stages #1 and #2 can be combined, if approved by the Engineer.

In Stage #1, place flowable fill midway up on both sides of the utility. Allow to harden before placing Stage #2.

In Stage #2, place flowable fill to the bottom of the existing base course.

FLEXIBLE PAVEMENT CUT
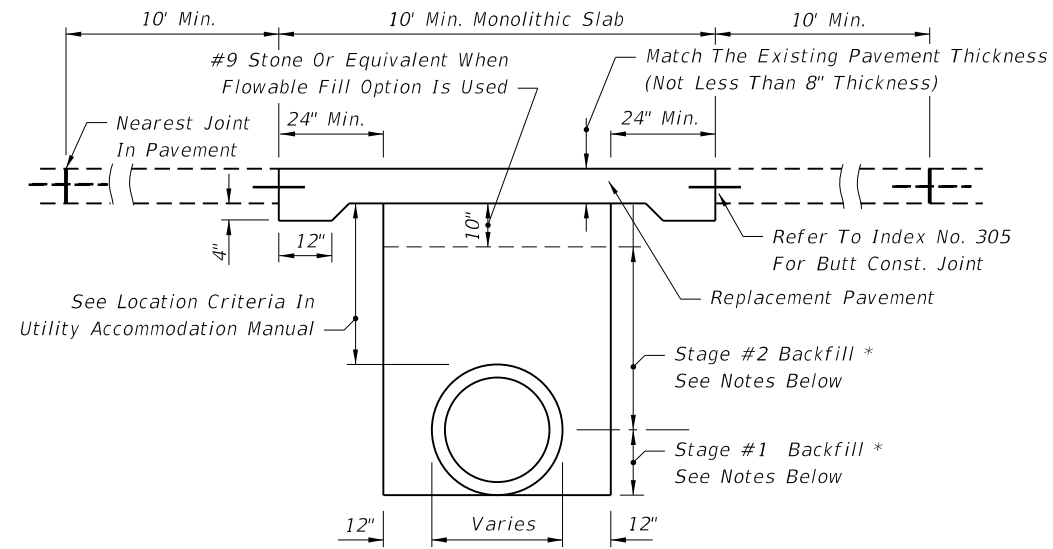
RIGID PAVEMENT NOTES

PAVEMENT REMOVAL AND REPLACEMENT
High early strength cement concrete (3000 psi) meeting the requirements of Standard Specification 346 shall be used for rigid pavement replacement.

Pavement shall be mechanically sawed and restored to conform with existing pavement joints within 12 hours. (See Index No. 305)

GRANULAR BACKFILL
Any edgedrain system that is removed shall be replaced with the same type materials. Any edgedrain system that is damaged shall be repaired with methods approved by the Engineer.

Fill material shall be placed in accordance with the Standard Specifications. Fill material shall be special select soil in accordance with Index No. 505.

In Stage #1, construct compacted fill beneath the haunches of the pipe, using mechanical tamps suitable for this purpose. This compaction applies to the material placed beneath the haunches of the pipe and above any bedding.

In Stage #2, construct fill along the sides of the pipe and up to the bottom of replacement pavement.

* FLOWABLE FILL OPTION
If mechanical compaction can not be achieved through normal mechanical methods then flowable fill may be used.

Flowable fill is to be placed in accordance with Section 121 of the Specifications, as approved by the Engineer.

Do not allow the utility being installed to float. If a method is provided to prevent flotation from occurring, Stages #1 and #2 can be combined, if approved by the Engineer.

In Stage #1, place flowable fill midway up on both sides of the utility. Allow to harden before placing Stage #2.

In Stage #2, place flowable fill to the bottom of the stone layer.

RIGID PAVEMENT CUT

GENERAL NOTES

1. The details provided in this standard index apply to cases in which jack and bore or directional boring methods are not required by the Engineer.

2. Flowable fill shall not be placed directly over loose, or high plastic, or muck material (see Index 505) which will cause settlement due to fill weight. Where highly compressible material exists, the amount, shape and depth of flowable fill must be engineered to prevent pavement settlement.

3. These details do not apply to utility cuts longitudinal to the centerline of the roadway which may require the additional use of geotextiles, special bedding and backfill, or other special requirements.

4. Method of construction must be approved by the Engineer.

5. Some pipe may require special granular backfill up to 6" above top of pipe. Geotextiles may be required to encapsulate the special granular material.

6. Where asphalt concrete overlays exist over full slab concrete pavement, the replacement pavement shall have an overlay constructed over the replacement slab. The overlay shall match the existing asphalt pavement thickness. The replacement friction course shall match the existing friction course, except structural course may be used in lieu of dense graded friction course.

7. All shoulder pavement, curb, curb and gutter, and their substructure disturbed by utility trench cut construction shall be restored in kind.

8. The use of flowable fill to reduce the time traffic is taken off a facility is acceptable but must have prior approval by the Engineer. Flowable fill use is allowed only when properly engineered for pavement crossings, whether straight or diagonal, and shall not be installed for significant depths or lengths. The maximum length shall be fifty (50) feet and a maximum depth of six (6) feet unless supported by an engineering document prepared by a registered professional engineer that specializes in soils engineering. The engineering document shall address the evaluation of local groundwater flow interruption and settlement potential.

9. Excavatable flowable fill is to be used when the flowable fill option is selected.

TRENCH CUTS AND RESTORATIONS ACROSS ROADWAYS

SECTION LONGITUDINAL TO CARRIER PIPE
(Nonpressure Or Nonfluid Carrier Installations)
No Joints Allowed Within Structure

UTILITY CONFLICT CONDITION I

Grout When Box Precast

Carrier

1' Min. Clearance Between Obstruction
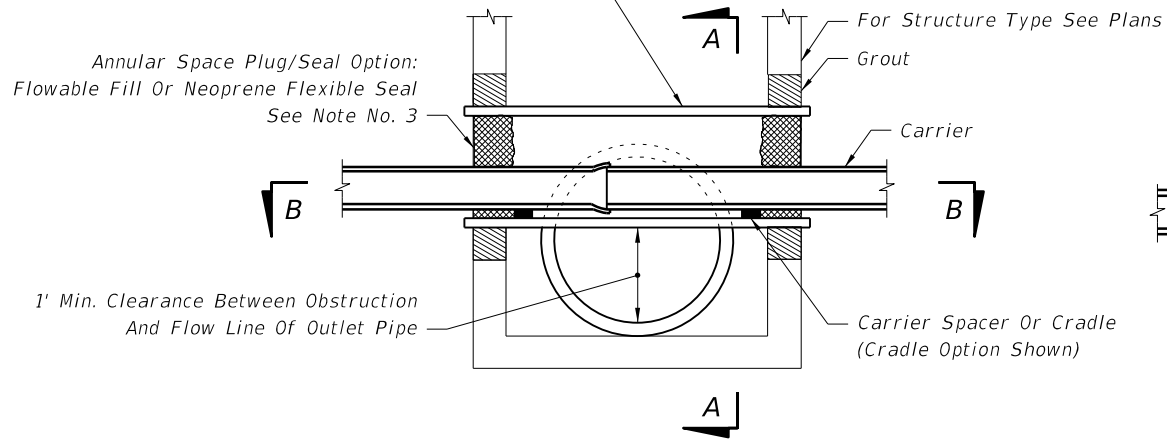And Flow Line Of Outlet Pipe

NOTES FOR UTILITY CONFLICT PIPE

1. These details are for construction field expediency to resolve utility conflicts that cannot be remedied by relocation. For conflicts determined during design, use the construction shop drawings for structure details.

2. Concrete used in conflict structures shall be as specified in ASTM C478. 4000 psi may be used in lieu of Class I concrete.

3. Maximum opening for pipe shall be the pipe OD plus 6". Mortar used to seal the pipe into the opening will be of such mix that shrinkage will not cause leakage into or out of the structure.

4. If the conflict structure is round or there are multiple inlet or outlet pipes, then the wall section should be reviewed for strength.

5. If during construction or the plans design process it is determined that a potable water supply line must pass though a storm drain structure, it must be in compliance with Chapter 62-555.314 (3) F.A.C. and shown on the design or construction plans and submitted to the Florida Department of Environmental Protection (FDEP) Administrator For Drinking Water in the respective FDEP District for review and comment. This index and rule citation provide accepted methods for addressing conflicts when and where they cannot be reasonably avoided. To be submitted along with the plans shall be a justification describing inordinate cost and the impracticality of avoidance. If identified, properly justified, and accomplished in accordance with this index, approval is granted. Upon request, the Utility Agency Owner (UAO) must provide support data on the cost of relocation or adjustment to the FDOT for submittal to the FDEP. See the following web site for District FDEP Drinking Water Contacts: www.dep.state.fl.us/water/drinkingwater/index.htm and click on "Organization" on the menu to the right.
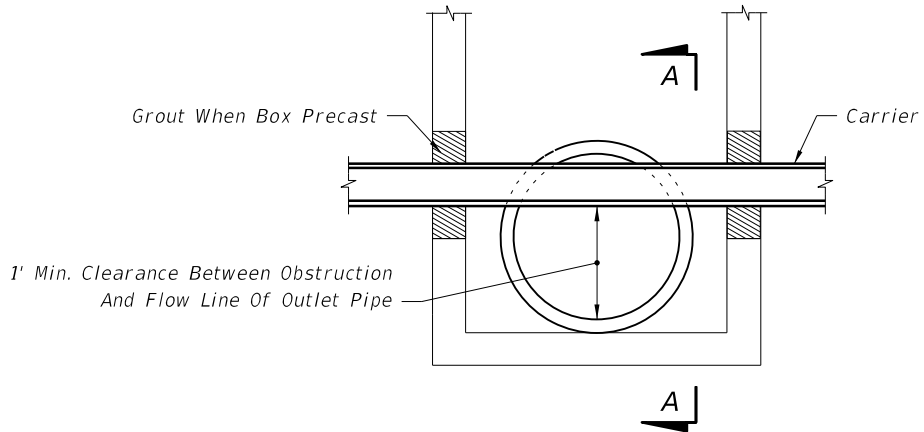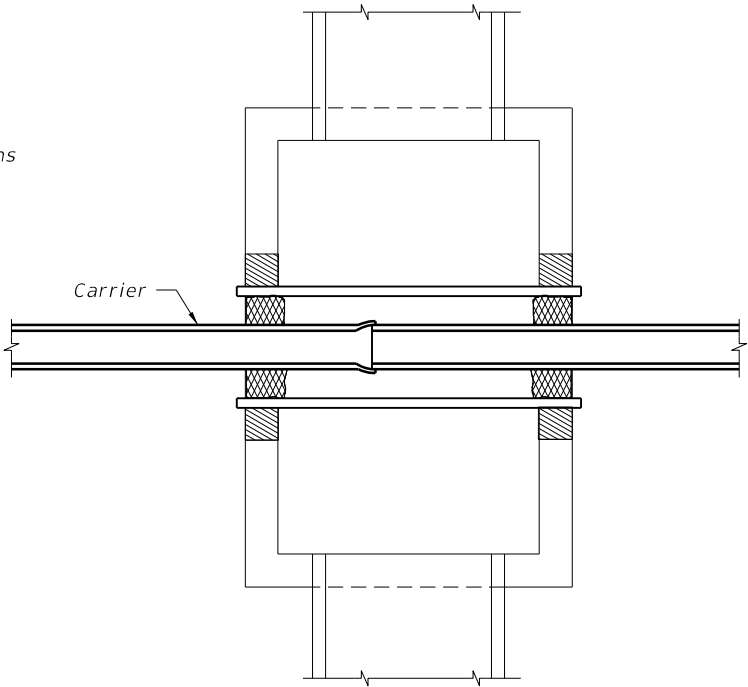
Carrier Casing: The Casing Shall Be Rated To The Greatest Pressure Of Either The Carrier That's Called For By Design Or That's Required By Construction. The Casing May Be Steel, Cast Iron, Ductile Iron Or Plastic. The Casing Can Be Seamless Or Sealed Half Sleeves.
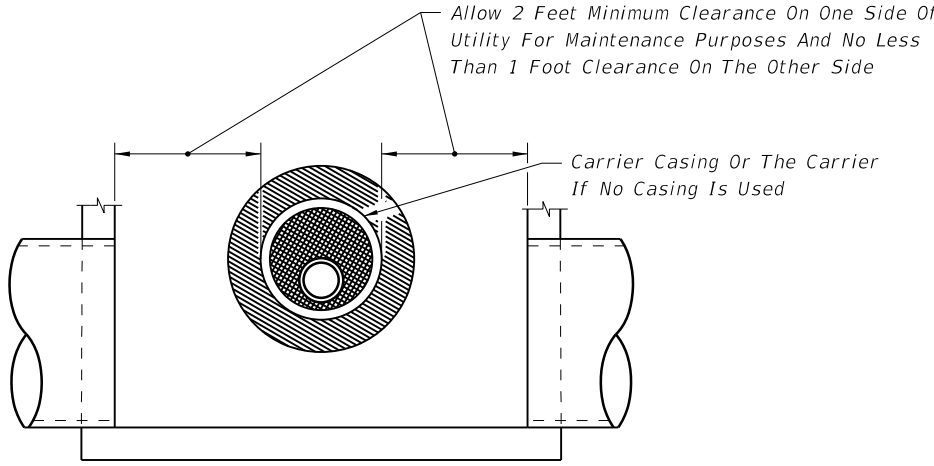
Annular Space Plug/Seal Option:
Flowable Fill Or Neoprene Flexible Seal
See Note No. 3

For Structure Type See Plans

Grout

Carrier

1' Min. Clearance Between Obstruction
And Flow Line Of Outlet Pipe

Carrier Spacer Or Cradle
(Cradle Option Shown)

SECTION LONGITUDINAL TO CARRIER PIPE
(Pressure Or Fluid Carrier Installations)
UTILITY CONFLICT CONDITION II

Carrier

SECTION BB

Allow 2 Feet Minimum Clearance On One Side Of Utility For Maintenance Purposes And No Less Than 1 Foot Clearance On The Other Side

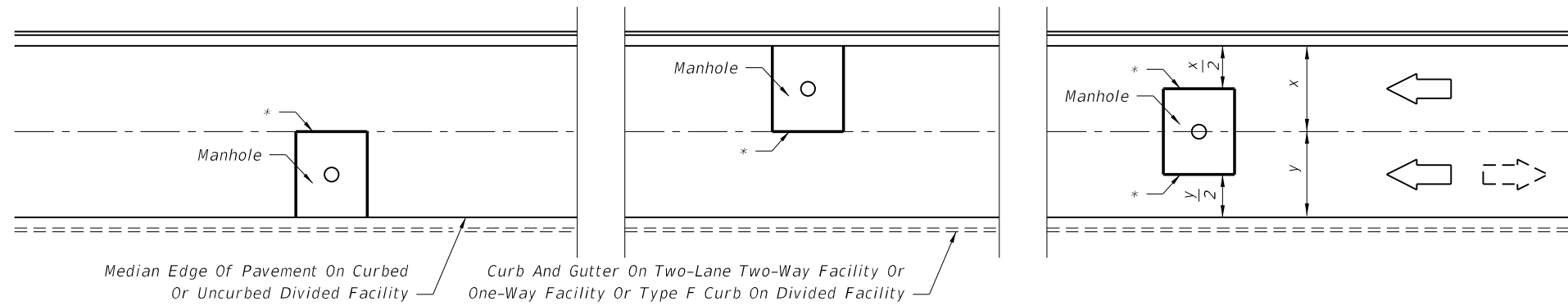Carrier Casing Or The Carrier If No Casing Is Used

DESIGNER'S NOTE

"Sumped" Conflict Manholes Shall Not Be Used Unless The System Is Hydraulically Designed To Account For The Headloss Generated If The Sump Is Completely Blocked

SECTION AA

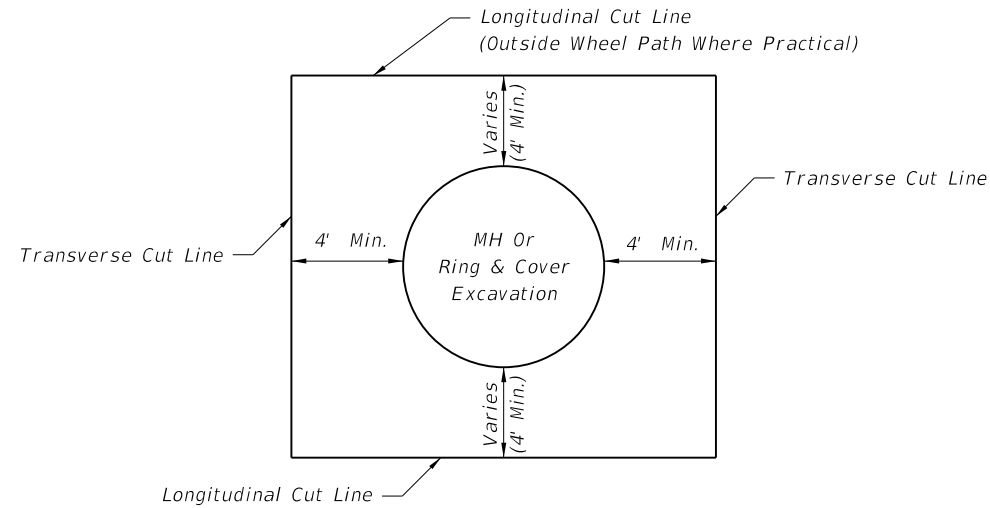## UTILITY CONFLICT PIPES THRU STORM DRAIN STRUCTURES

LAST REVISION	REVISION	DESCRIPTION:		FDOT DESIGN STANDARDS 2013	MISCELLANEOUS UTILITY DETAILS	INDEX NO.	SHEET NO.
07/01/09						307	2

Manhole

Manhole

Manhole

* Manhole

$\frac{x}{2}$

x

y

$\frac{y}{2}$

Median Edge Of Pavement On Curbed
Or Uncurbed Divided Facility

Curb And Gutter On Two-Lane Two-Way Facility Or
One-Way Facility Or Type F Curb On Divided Facility

* Longitudinal Cut Lines For Both Curbed And Uncurbed Facilities Must Coincide
With A Regular Seam Or Midlane Point In Order To Be Outside The Wheel Path

PLAN VIEW

FOR TWO OR MORE LANES (TWO LANES SHOWN)

Longitudinal Cut Line
(Outside Wheel Path Where Practical)

Varies
(4' Min.)

Transverse Cut Line

Transverse Cut Line

4' Min.

MH Or
Ring & Cover
Excavation

4' Min.

Varies
(4' Min.)

Longitudinal Cut Line

PARTIAL CUTS FOR RING AND COVER ADJUSTMENTS

NOTES

1. No irregular seams are permitted. All seams must be clean sawed.

2. Pavement cut seams for underground utility structures in rigid
   pavement are the same longitudinally, but the transverse seams
   shall extend to the nearest existing joint.

3. See Sheet 1 for replacement pavement.

NONTRENCH PAVEMENT CUTS FOR UNDERGROUND UTILITY STRUCTURES IN PAVEMENT