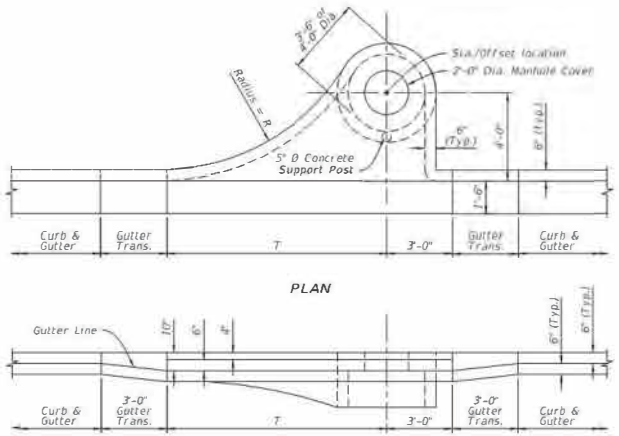
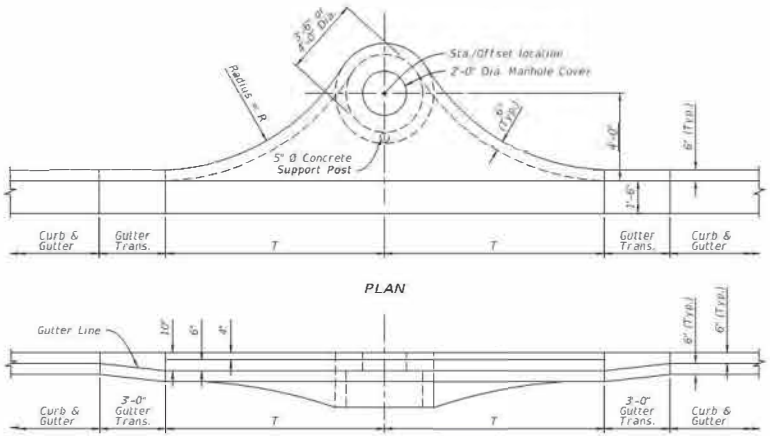


PLAN

ELEVATION

TYPE 1 AND 3

TABLE 1 INLET DIMENSIONS		
Inlet Type	R	T
1	10'-0"	10'-0"
2	10'-0"	10'-0"
3	6'-0"	6'-0"
4	6'-0"	6'-0"

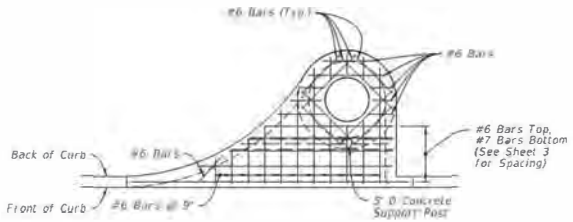


PLAN

ELEVATION

TYPE 2 AND 4

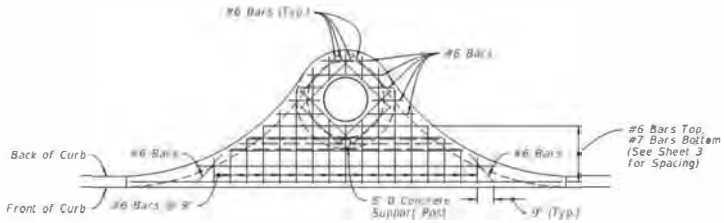
TOP DIMENSIONAL DETAILS



PLAN

TYPE 1 AND 3

NOTE:
For transverse section reinforcement, see Sheet 3.



PLAN

TYPE 2 AND 4

TOP REINFORCING DETAILS

TOP DIMENSIONAL AND TOP REINFORCING DETAILS

LAST REVISION	REVISION	DESCRIPTION:	FDOT FY 2021-22 STANDARD PLANS	CURB INLET TOP TYPES 1, 2, 3, AND 4	INDEX	SHEET
11/01/20					425-020	2 of 3

REVISIONS								
DATE	BY	DESC RIPTION	DATE	BY	DESC RIPTION	DATE	BY	DESC RIPTION

DESIGNED BY A.M. DRAWN BY A.M. CHECKED BY L.A.G. SUPERVISED BY

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION

CURB AND GUTTER

P:\Hwy\Planning\Highway\Old Cutler Road - Roundabouts\Plans (CAD & PDF files)\425-570-INDX-CMPDS.dwg Feb 14, 2022 - 1:42pm EJ19985

GENERAL NOTES:

1. Cross Slopes and Grades:

   A. Sidewalk, ramp, and landing slopes (i.e. 0.02, 0.05, and 1:12) shown in this Index are maximums. With approval of the Engineer, provide the minimum feasible slope where the requirements cannot be met.

   B. Landings must have cross-slopes less than or equal to 0.02 in any direction.

   C. Maintain a single longitudinal slope along each side of the curb ramp. Ramp slopes are not required to exceed 15 feet in length.

   D. Joints permitted at the location of Slope Breaks. Otherwise locate joints in accordance with Index 522-001. No joints are permitted within the ramp portion of the Curb Ramp.

2. Curb, Curb and Gutter and/or Sidewalk:

   A. Refer to Index 522-001 for concrete thickness and sidewalk details.

   B. Remove any existing curb, curb and gutter, or sidewalk to the nearest joint beyond the curb transition or to the extent that no remaining section is less than 5 feet long.

3. Curb Ramp Alpha-Identification:

   A. Sidewalk curb ramp alpha-identifications (e.g. CR-A) are provided for reference purposes in the Plans.

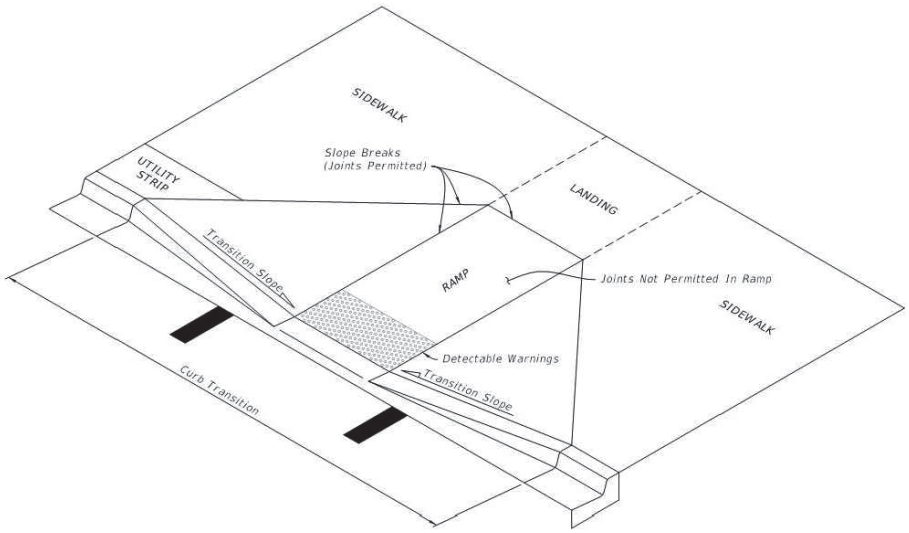
   B. Alpha-identifications CR-I and CR-J are intentionally omitted.

4. Detectable Warnings:

   A. Install detectable warnings in accordance with Specification 527.

   B. Place detectable warnings across the full width of the ramp or landing, to a minimum depth of 2 feet measured perpendicular to the curb line and no greater than 5 feet from the back of the curb or edge of pavement.

   C. If detectable warnings are shown in the Plans on slopes greater than 5%, align the truncated domes with the centerline of the ramp; otherwise, the truncated domes are not required to be aligned.



CURB RAMP NOMENCLATURE

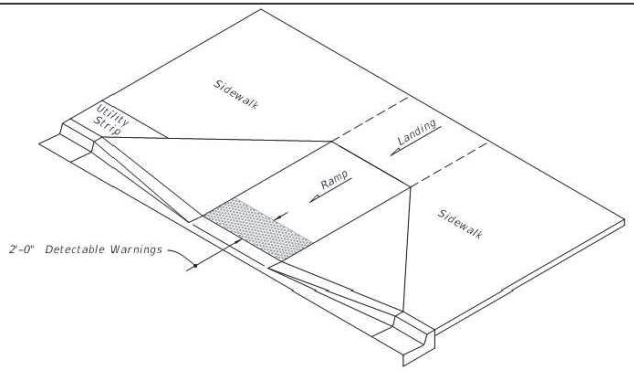
LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2021-22 STANDARD PLANS	DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS	INDEX	SHEET
11/01/20						522-002	1 of 7

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

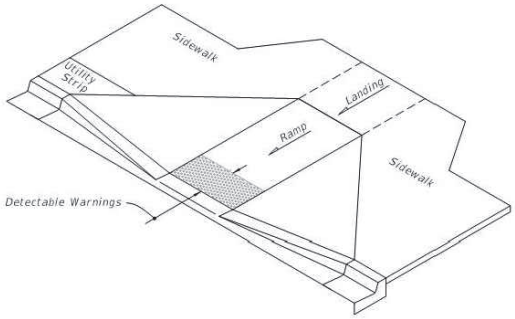
	NAME	DATE		NAME	DATE
DESIGNED BY	A.M.		DRAWN BY	J.M.	
CHECKED BY	L.I.O.		CHECKED BY	L.I.O.	
SUPERVISED BY:					

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

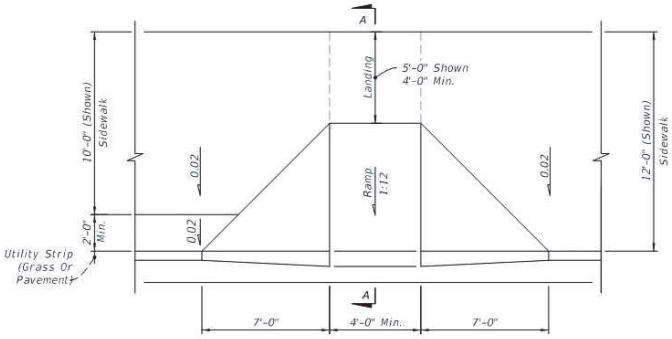
DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS



ISOMETRIC VIEW



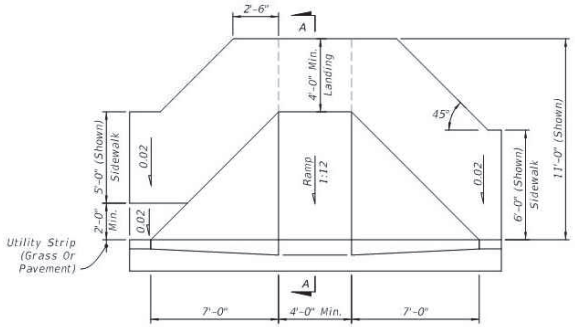
ISOMETRIC VIEW



PLAN VIEW

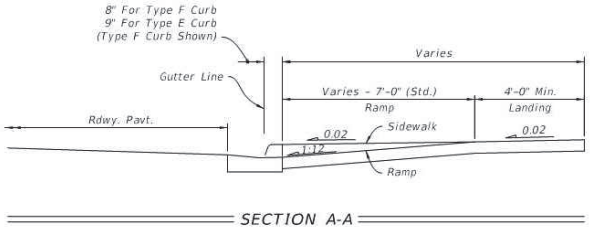
NOTE: For Example of CR-A used in Radial Curb Returns, See Sheet 8.

CR-A



PLAN VIEW

CR-B



SECTION A-A

SIDEWALK CURB RAMPS CR-A AND CR-B

LAST REVISION	REVISION	DESCRIPTION:	FDOT FY 2021-22 STANDARD PLANS	DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS	INDEX	SHEET
11/01/20					522-002	2 of 7

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

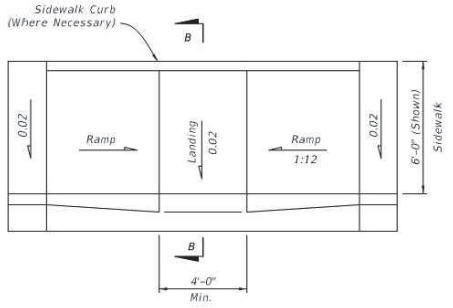
	NAME	DATE		NAME	DATE
DESIGNED BY	A.M.		DRAWN BY	J.M.	
CHECKED BY	L.I.O.		CHECKED BY	L.I.O.	
SUPERVISED BY:					

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS

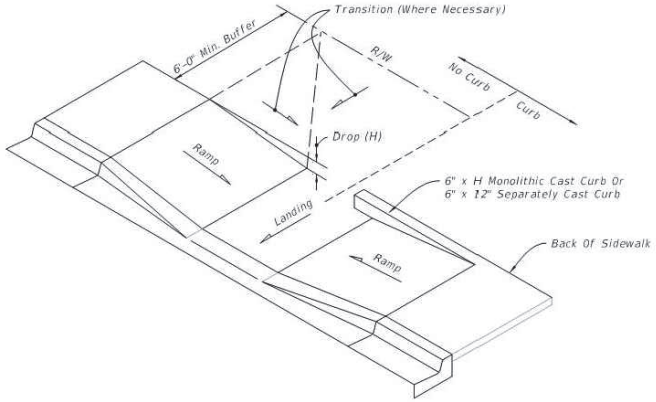
P:\HwyPlanning\Highway\Old Cutler Road - Roundabouts\Plans (CAD & PDF files)\CD\70-STD-INDX-DWGS.dwg Feb 14, 2022 - 1:42pm E210983

10/12/2020 7:58:33 AM

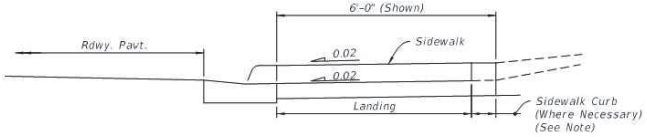


PLAN VIEW

CR-C

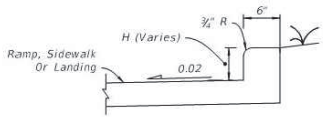


CONSTRUCTION OF SIDEWALK CURB IN CUT SECTIONS

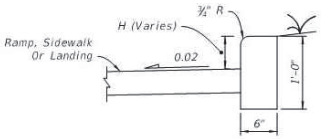


NOTE: For additional information on sidewalk curb construction, see SIDEWALK CURB OPTIONS details.

SECTION B-B



MONOLITHIC CAST CURB



SEPARATELY CAST CURB

SIDEWALK CURB OPTIONS

SIDEWALK CURB RAMPS CR-C AND SIDEWALK CURB

LAST REVISION	REVISION	DESCRIPTION:			
11/01/20			FY 2021-22 STANDARD PLANS	DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS	INDEX 522-002 / SHEET 3 of 7

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

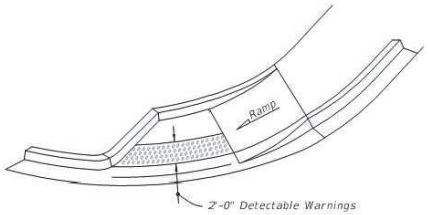
	NAME	DATE		NAME	DATE
DESIGNED BY	A.M.		DRAWN BY	J.M.	
CHECKED BY	L.I.O.		CHECKED BY	L.I.O.	
SUPERVISED BY:					

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

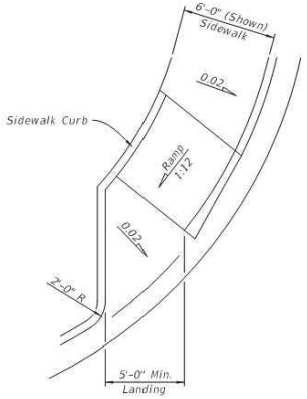
DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS

P:\Hwy\Planning\Highway\Old Cutler Road - Roundabouts\Plans (CAD & PDF files)\CD\70-STD-INDX-DWGS.dwg Feb 14, 2022 - 1:42pm E210983

10/12/2020 7:59:36 AM

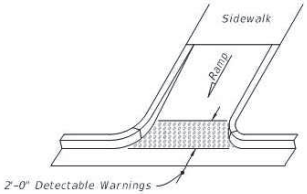


ISOMETRIC VIEW

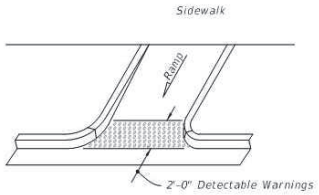


PLAN VIEW

CR-D

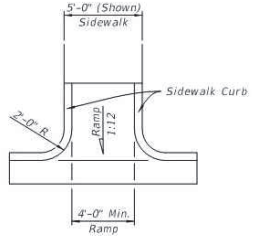


OPTION A



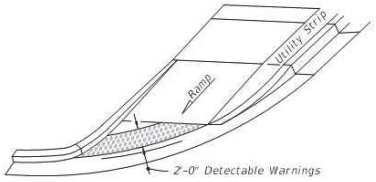
OPTION B

ISOMETRIC VIEW

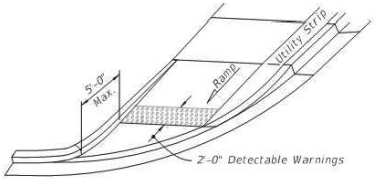


PLAN VIEW

CR-E

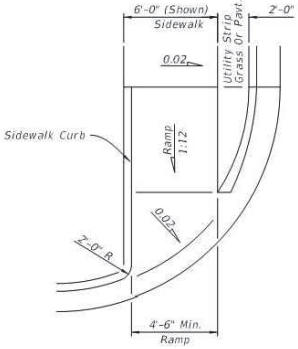


OPTION A



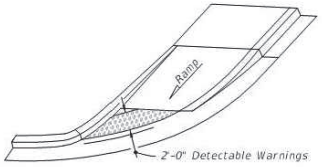
OPTION B

ISOMETRIC VIEW

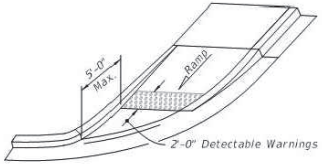


PLAN VIEW

CR-F

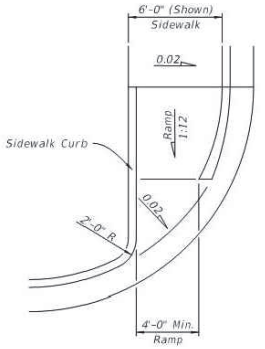


OPTION A



OPTION B

ISOMETRIC VIEW



PLAN VIEW

CR-G

SIDEWALK CURB RAMPS CR-D, CR-E, CR-F & CR-G

LAST REVISION 11/01/20	REVISION	DESCRIPTION:	FDOT FY 2021-22 STANDARD PLANS	DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS	INDEX 522-002	SHEET 4 of 7

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

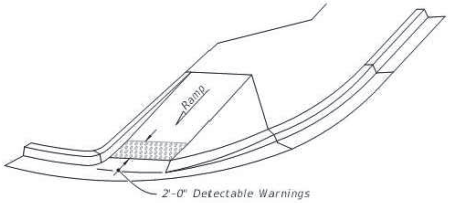
	NAME	DATE		NAME	DATE
DESIGNED BY	A.M.		DRAWN BY	J.M.	
CHECKED BY	L.I.O.		CHECKED BY	L.I.O.	
SUPERVISED BY:					

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

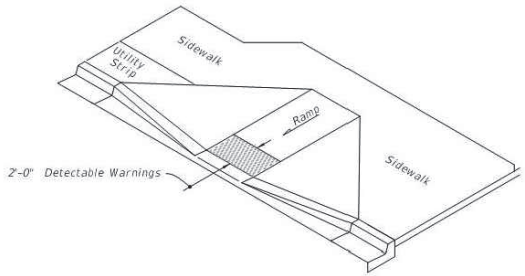
DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS

P:\Hwy\Planning\Highway\Old Cutler Road - Roundabouts\Plans (CAD & PDF files)\CD\70-STD-INDX-DWGS.dwg Feb 14, 2022 - 1:42pm E210983

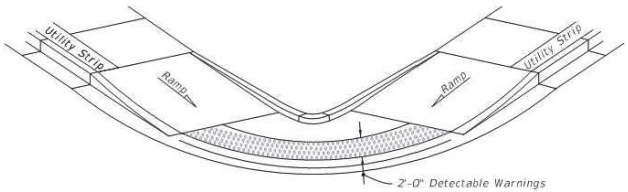
10/12/2020 7:58:37 AM



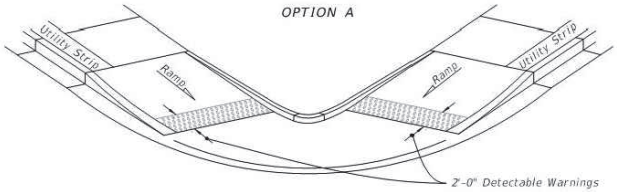
ISOMETRIC VIEW



ISOMETRIC VIEW

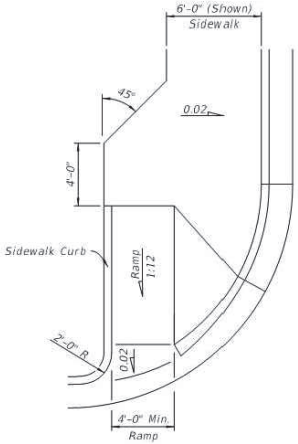


OPTION A



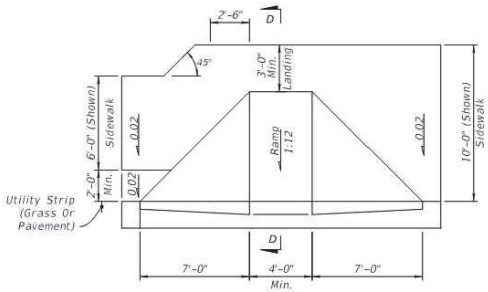
OPTION B

ISOMETRIC VIEW



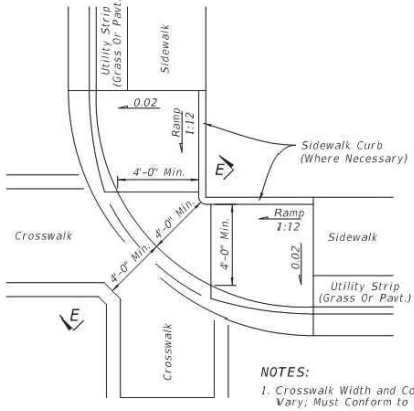
PLAN VIEW

CR-H



PLAN VIEW

CR-K

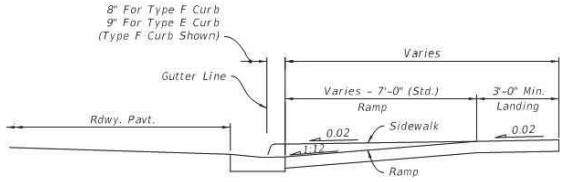


NOTES:

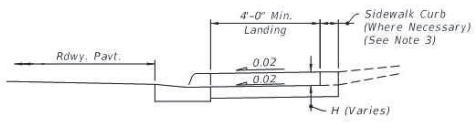
1. Crosswalk Width and Configuration Vary; Must Conform to Index 711-001.
2. 15' Radius Curve Shown for CR-L.
3. For additional information on sidewalk curb construction, see SIDEWALK CURB OPTIONS details, on Sheet 3.

PLAN VIEW

CR-L



SECTION D-D



SECTION E-E

SIDEWALK CURB RAMPS CR-H, CR-K & CR-L

LAST REVISION 11/01/20	REVISION	DESCRIPTION:	FDOT FY 2021-22 STANDARD PLANS	DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS	INDEX 522-002	SHEET 5 of 7

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

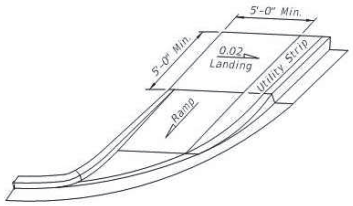
	NAME	DATE		NAME	DATE
DESIGNED BY	A.M.		DRAWN BY	J.M.	
CHECKED BY	L.I.O.		CHECKED BY	L.I.O.	
SUPERVISED BY:					

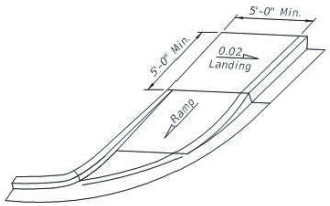
MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

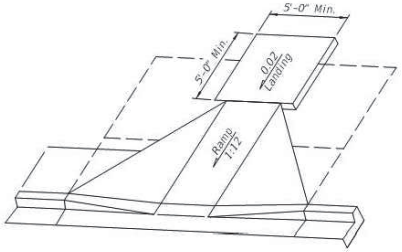
DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS

P:\Hwy\Planning\Highway\Old Cutler Road - Roundabouts\Plans (CAD & PDF files)\CD\70-STD-INDX-DWGS.dwg Feb 14, 2022 - 1:42pm E210983

10/12/2020 7:59:38 AM

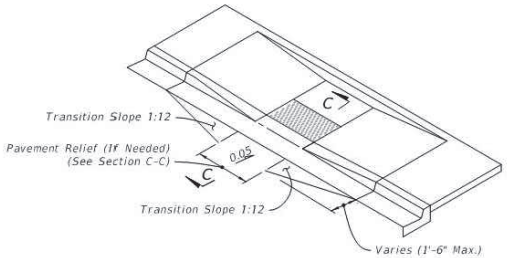






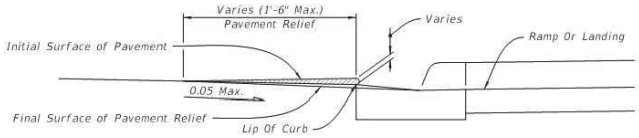
LANDINGS FOR CURB RAMPS WITHOUT SIDEWALKS

(See CR-F, CR-G & CR-K Respectively For Detectable Warning Details/Options)



ISOMETRIC VIEW

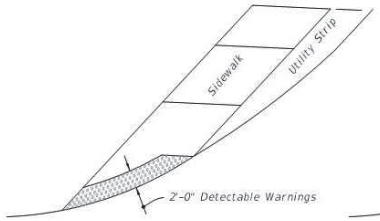
(CR-C Shown, Other Similar)



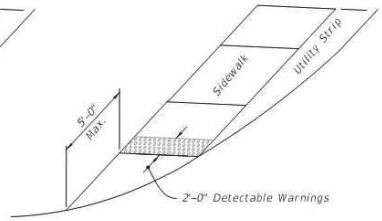
NOTE: Remove Elevated Pavement By Spading And Rolling, Smooth Milling, or Grinding.

SECTION C-C

PAVEMENT RELIEF DETAILS



OPTION A



OPTION B

DETECTABLE WARNING ON FLUSH SHOULDER SIDEWALKS

CURB RAMPS WITHOUT SIDEWALKS AND FLUSH SHOULDER SIDEWALKS

LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2021-22 STANDARD PLANS	DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS	INDEX	SHEET
11/01/20						522-002	6 of 7

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAME	DATE		NAME	DATE
DESIGNED BY	A.M.		DRAWN BY	J.M.	
CHECKED BY	L.I.O.		CHECKED BY	L.I.O.	
SUPERVISED BY:					

MIAMI-DADE COUNTY

DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

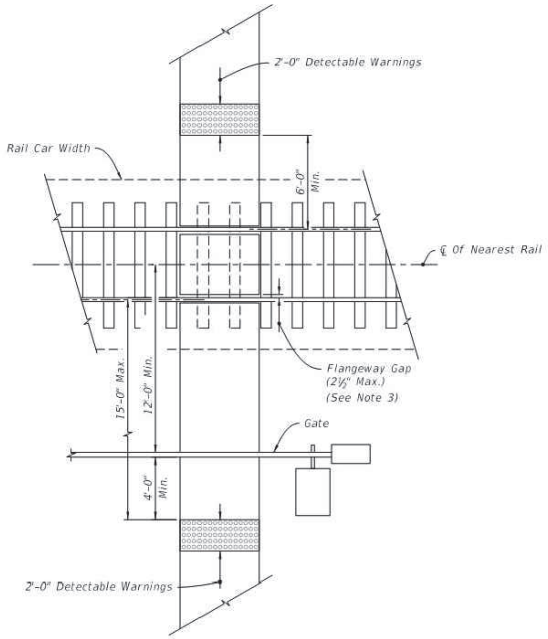
DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS

P:\Hwy\Planning\Highway\Old Cutler Road - Roundabouts\Plans (CAD & PDF files)\CD\70-STD-INDX-DWGS.dwg Feb 14, 2022 - 1:42pm E210983

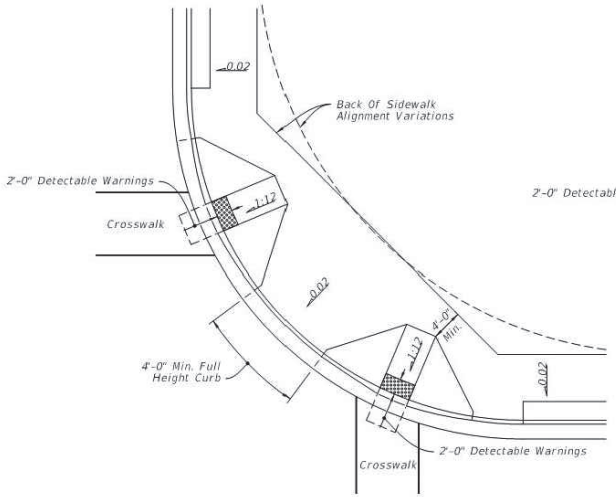
10/12/2020 7:59:40 AM

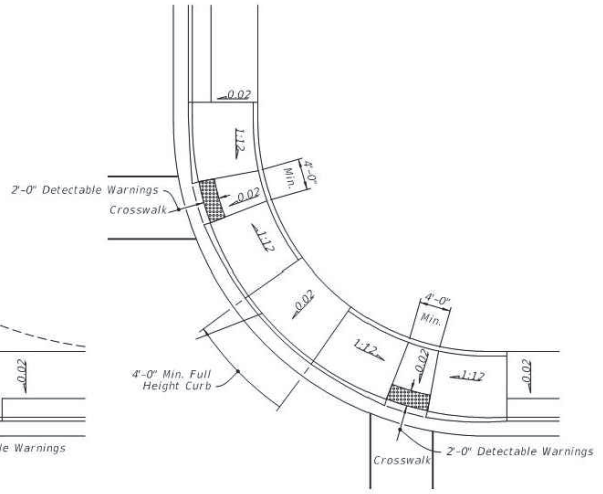
NOTES:

1. Where crosswalk markings are used, ramps must fall within the crosswalk limits. A clear space of 48" minimum is required at the bottom of the ramp within a marked crosswalk. If crosswalk markings are not present, a clear space of 48" minimum is required at the bottom of the ramp outside of active travel lanes.
2. Crosswalk widths and configurations vary; must conform to Index 711-001.
3. Flangeway Gap may be up to 3" for Freight-only Railways.

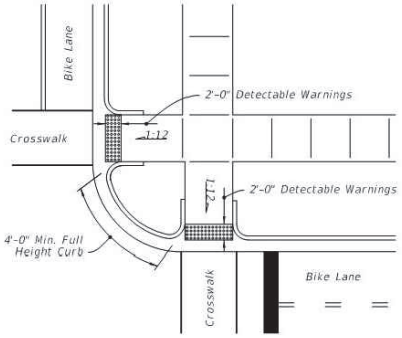


RAILROAD CROSSING

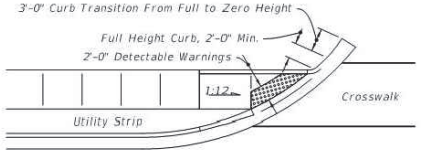




CURB RAMPS WITHIN RADIAL RETURN



CURB RAMPS OUTSIDE RADIAL RETURN



LINEAR SIDEWALK RAMPS

PLACEMENT OF SIDEWALK CURB RAMPS AT CURBED RETURNS (TYP.)

RAILROAD CROSSING AND CURB RAMPS AT CURBED RETURNS

LAST REVISION	REVISION	DESCRIPTION:	FDOT FY 2021-22 STANDARD PLANS	DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS	INDEX	SHEET
11/01/20					522-002	7 of 7

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAME	DATE		NAME	DATE
DESIGNED BY	A.M.		DRAWN BY	J.M.	
CHECKED BY	L.I.O.		CHECKED BY	L.I.O.	
SUPERVISED BY:					

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

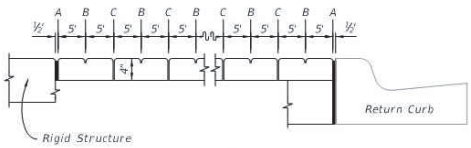
DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS

10/12/2020 7:58:42 AM

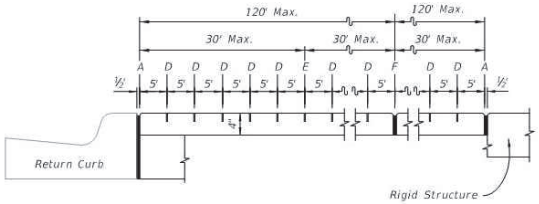
P:\Hwy\Planning\Highway\Old Cutler Road - Roundabouts\Plans (CAD & PDF files)\CD\70-STD-INDX-DWGS.dwg Feb 14, 2022 - 1:42pm E210983

GENERAL NOTES:

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



OPEN JOINTS



SAWED JOINTS

LONGITUDINAL SECTION

LEGEND:

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

B- ⅛" Dummy Joints, Tooled

C- ½" Formed Open Joints

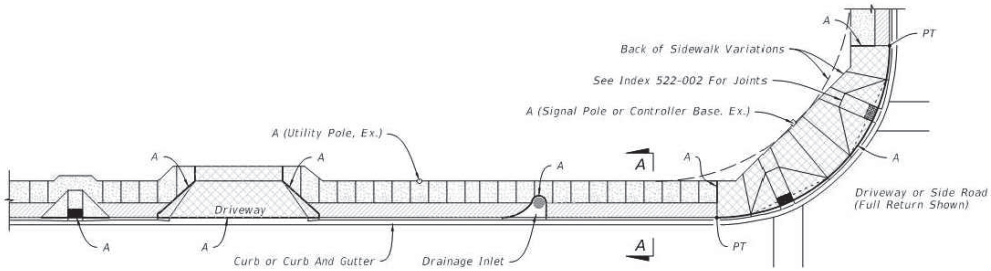
D- 3/16" Saw Cut Joints, 1½" Deep (within 96 hours) Max. 5' Centers

E- 3/16" Saw Cut Joints, 1½" Deep (within 12 hours) Max. 30' Centers Joint(s) Required When Length Exceeds 30'

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

G- Cold Joint With Bond Breaker, Tooled

SIDEWALK JOINTS

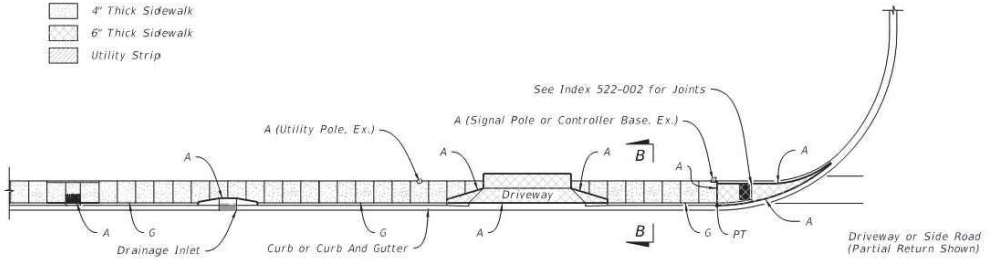


PLAN

SIDEWALK WITH UTILITY STRIP

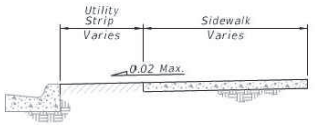
LEGEND:

- 4" Thick Sidewalk
- 6" Thick Sidewalk
- Utility Strip

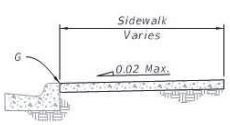


PLAN

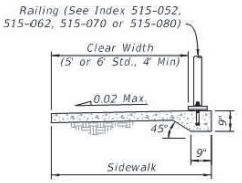
SIDEWALK WITHOUT UTILITY STRIP



SECTION A-A



SECTION B-B



RAILING DETAIL

GENERAL NOTES AND CONCRETE SIDEWALK ON CURBED ROADWAYS

LAST REVISION	REVISION	DESCRIPTION:	FDOT FY 2021-22 STANDARD PLANS	CONCRETE SIDEWALK	INDEX	SHEET
11/01/18					522-001	1 of 2

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

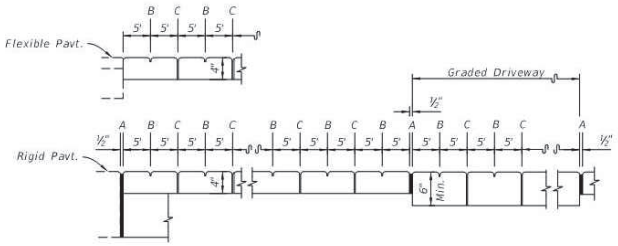
	NAME	DATE		NAME	DATE
DESIGNED BY	A.M.		DRAWN BY	J.M.	
CHECKED BY	L.I.O.		CHECKED BY	L.I.O.	
SUPERVISED BY:					

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

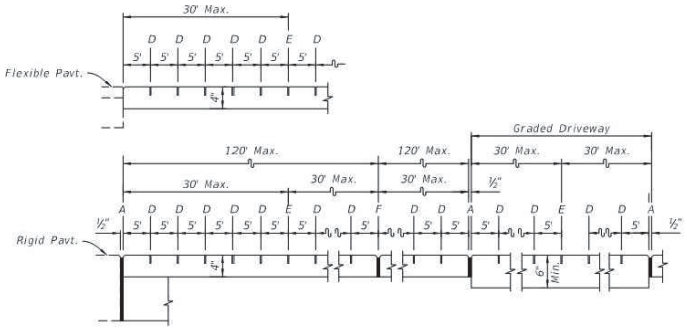
CONCRETE SIDEWALK

P:\Hwy\Planning\Highway\Old Cutler Road - Roundabouts\Plans (CAD & PDF files)\CD\70-STD-INDX-DWGS.dwg Feb 14, 2022 - 1:43pm EZ10983

12/10/2020 10:46:20 AM



OPEN JOINTS



SAWED JOINTS

LONGITUDINAL SECTION

LEGEND:

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

B- ⅛" Dummy Joints, Tooled

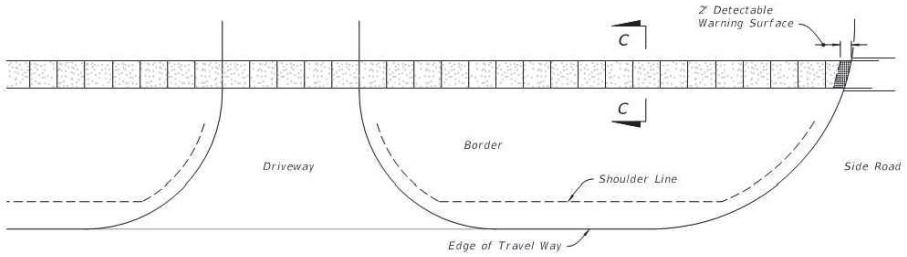
C- ½" Formed Open Joints

D- 3/16" Saw Cut Joints, 1½" Deep (within 96 hours) Max. 5' Centers

E- 3/16" Saw Cut Joints, 1½" Deep (within 12 hours) Max. 30' Centers Joint(s) Required When Length Exceeds 30'

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

SIDEWALK JOINTS

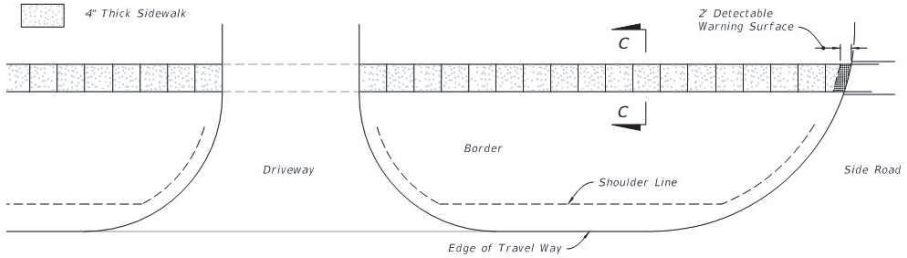


PLAN

CONTINUOUS SIDEWALK

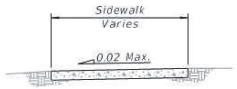
LEGEND:

4" Thick Sidewalk



PLAN

DISCONTINUOUS SIDEWALK



SECTION C-C

CONCRETE SIDEWALK ON FLUSH SHOULDER ROADWAYS

LAST REVISION 11/01/18	REVISION	DESCRIPTION:	FDOT FY 2021-22 STANDARD PLANS	CONCRETE SIDEWALK	INDEX 522-001	SHEET 2 of 2

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAME	DATE		NAME	DATE
DESIGNED BY	A.M.		DRAWN BY	J.M.	
CHECKED BY	L.I.O.		CHECKED BY	L.I.O.	
SUPERVISED BY:					

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

CONCRETE SIDEWALK

P:\Hwy Planning\Highway\Old Cutler Road - Roundabouts\Plans (CAD & PDF files)\CD\70-STD-INDX-DWGS.dwg Feb 14, 2022 - 1:43pm E210983

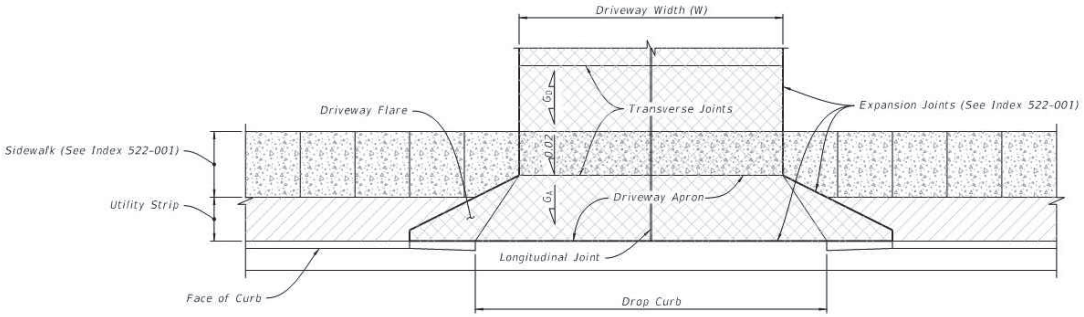
10/12/2020 7:58:11 AM

GENERAL NOTES:

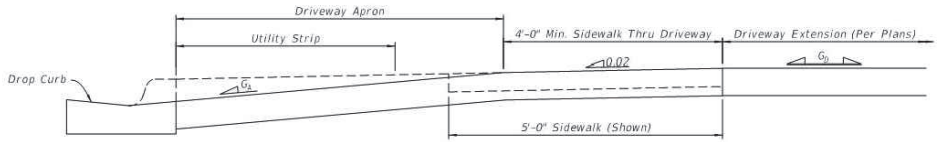
1. Work this Index with Specification 522.
2. Refer to Index 520-001 for drop curb details and Index 522-001 for joints between driveway, sidewalks, and curb.
3. Existing Curb and Gutter:
   Remove existing curb and gutter to either the nearest joint beyond the flared point or to where no remaining section is less than 5 feet long.
4. Grades and cross slopes shown are maximums.
5. Longitudinal Joints:
   Construct ⅛" open joints placed at equal (20' max.) intervals for driveways over 20' wide. Match joints in curb and gutter to match joints in driveways.
6. Transverse Joints:
   Construct ⅛" open joints @ 10' Centers and ½" expansion joints with preformed joint filler every 5th joint.
7. Construct driveways (6" thick concrete) to a uniform width (W) to the R/W line or the extent shown in the Plans.
8. Width of Sidewalk Thru Driveway is 4'-0" minimum. Match sidewalk width when shown in Plans or when utility strip width is equal to or greater than the depth of the Driveway Apron.
9. Alpha-Numeric Identification:
   Concrete Flared Driveway Alpha-Numeric Identifications (e.g. G4) are provided for reference purposes in the Plans.

LEGEND:

- Sidewalk
- Flared Driveway (6" Thick Concrete)
- Sidewalk Thru Driveway (6" Thick Concrete)
- Utility Strip
- G_A Grade of Apron
- G_D Grade of Driveway (Per Plans)



PLAN



ELEVATION

CONCRETE FLARED DRIVEWAY NOMENCLATURE

LAST REVISION	REVISION	DESCRIPTION:
11/01/18		

FDOT FY 2021-22 STANDARD PLANS

CONCRETE FLARED DRIVEWAYS

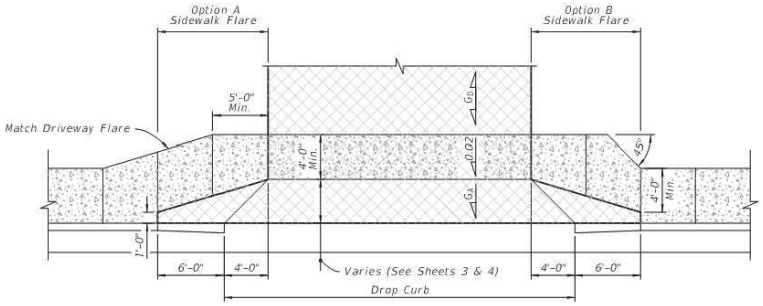
INDEX 522-003 | SHEET 1 of 4

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

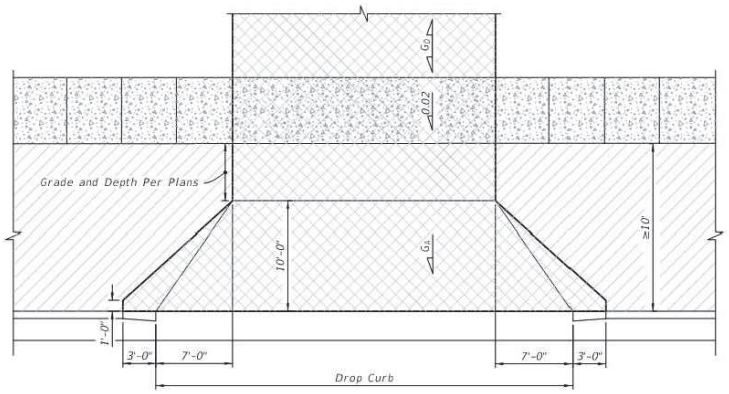
	NAME	DATE		NAME	DATE
DESIGNED BY	A.M.		DRAWN BY	J.M.	
CHECKED BY	L.I.O.		CHECKED BY	L.I.O.	
SUPERVISED BY:					

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

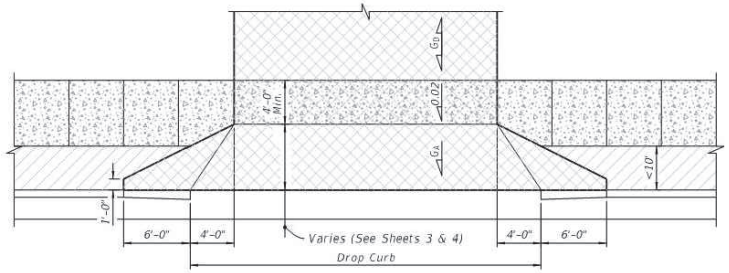
CONCRETE FLARED DRIVEWAYS



SIDEWALK WITHOUT UTILITY STRIP



WITHOUT SIDEWALK OR UTILITY STRIP ≥ 10' WIDE



UTILITY STRIP < 10' WIDE

LEGEND:

- Sidewalk
- Flared Driveway (6" Thick Concrete)
- Sidewalk Thru Driveway (6" Thick Concrete)
- Utility Strip

10/12/2020 7:59:06 AM

LAST REVISION	REVISION	DESCRIPTION:
11/01/18		

FDOT FY 2021-22 STANDARD PLANS

CONCRETE FLARED DRIVEWAYS

INDEX	SHEET
522-003	2 of 4

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

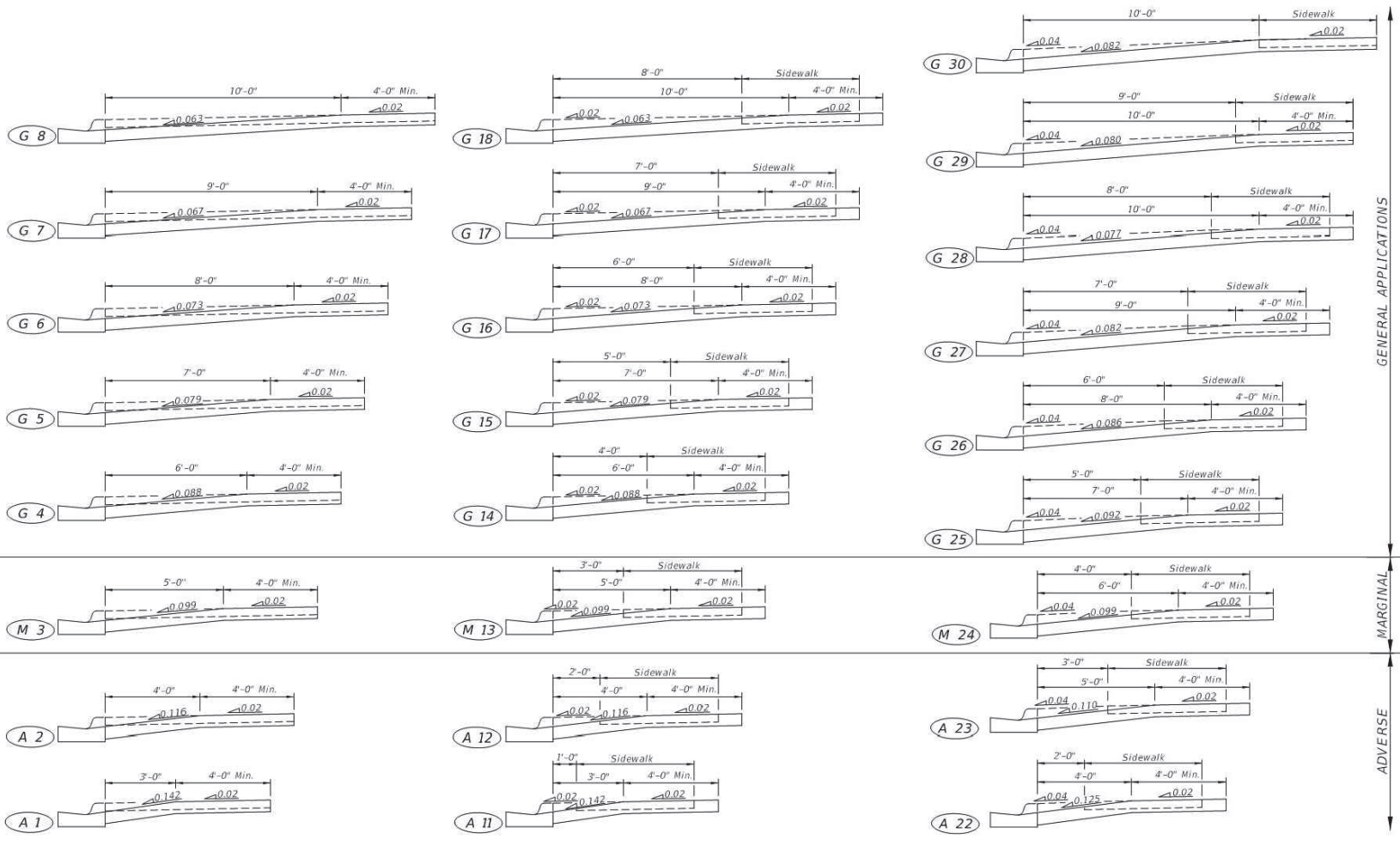
	NAME	DATE		NAME	DATE
DESIGNED BY	A.M.		DRAWN BY	J.M.	
CHECKED BY	L.I.O.		CHECKED BY	L.I.O.	
SUPERVISED BY:					

MIAMI-DADE COUNTY

DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

CONCRETE FLARED DRIVEWAYS

P:\Hwy\Planning\Highway\Old Cutler Road - Roundabouts\Plans (CAD & PDF files)\CD\70-STD-INDX-DWGS.dwg Feb 14, 2022 - 1:43pm E210983



SIDEWALK WITHOUT UTILITY STRIP

SIDEWALK WITH UTILITY STRIP ON 0.02 SLOPE

SIDEWALK WITH UTILITY STRIP ON 0.04 SLOPE

NOTE:
5' sidewalks shown.

DRIVEWAY SECTIONS ON CURBED FACILITIES WITH SIDEWALKS

LAST REVISION	REVISION	DESCRIPTION:
11/01/18		

FDOT FY 2021-22 STANDARD PLANS

CONCRETE FLARED DRIVEWAYS

INDEX 522-003 | SHEET 3 of 4

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

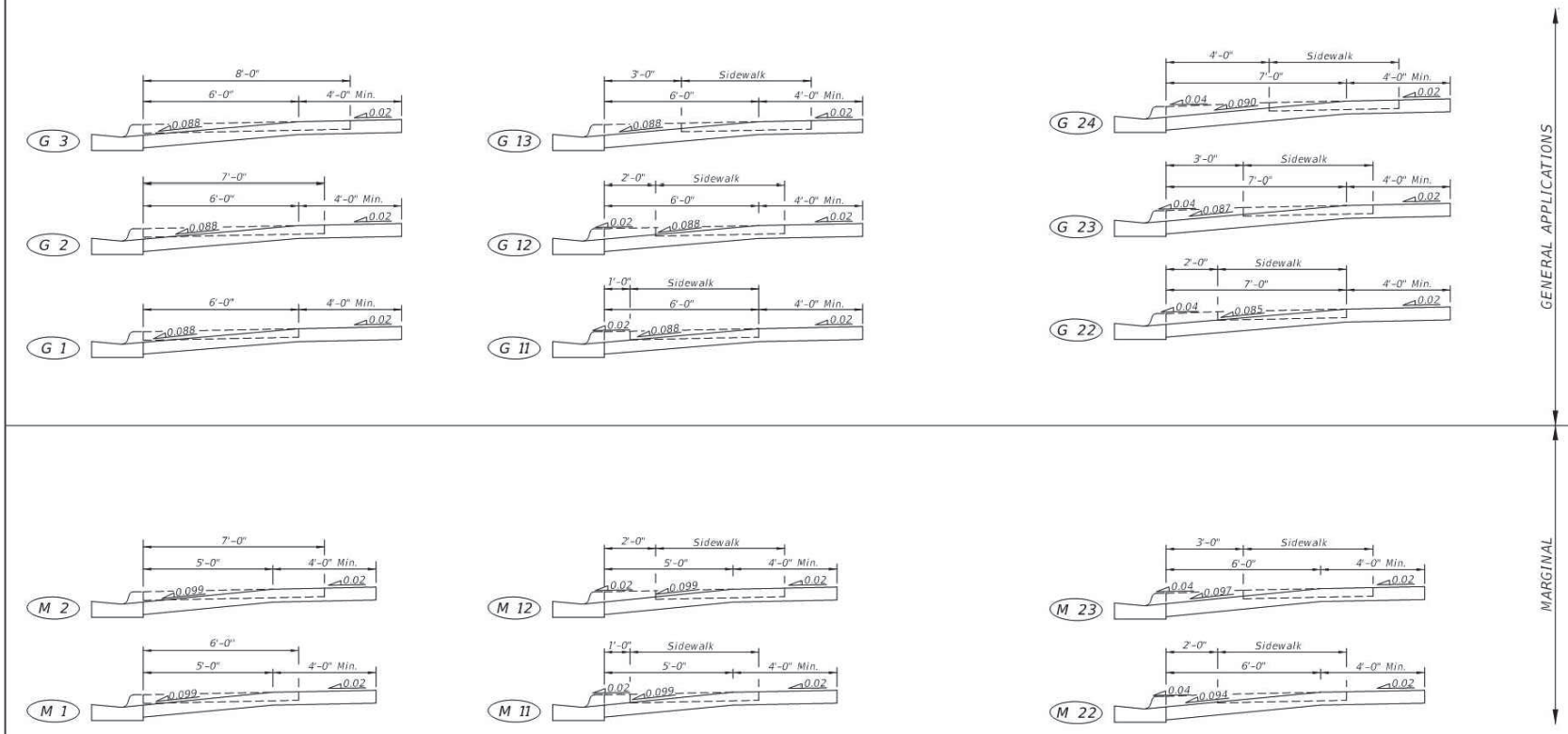
	NAME	DATE		NAME	DATE
DESIGNED BY	A.M.		DRAWN BY	J.M.	
CHECKED BY	L.I.O.		CHECKED BY	L.I.O.	
SUPERVISED BY:					

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

CONCRETE FLARED DRIVEWAYS

P:\Hwy\Planning\Highway\Old Cutler Road - Roundabouts\Plans (CAD & PDF files)\CD\70-STD-INDX-DWGS.dwg Feb 14, 2022 - 1:43pm E210983

10/12/2020 7:59:08 AM



NOTE:
5' sidewalks shown.

DRIVEWAY SECTIONS ON CURBED FACILITIES WITH SIDEWALKS

LAST REVISION	REVISION	DESCRIPTION:			
11/01/18			FDOT FY 2021-22 STANDARD PLANS	CONCRETE FLARED DRIVEWAYS	INDEX 522-003 / SHEET 4 of 4

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAME	DATE		NAME	DATE
DESIGNED BY	A.M.		DRAWN BY	J.M.	
CHECKED BY	L.I.O.		CHECKED BY	L.I.O.	
SUPERVISED BY:					

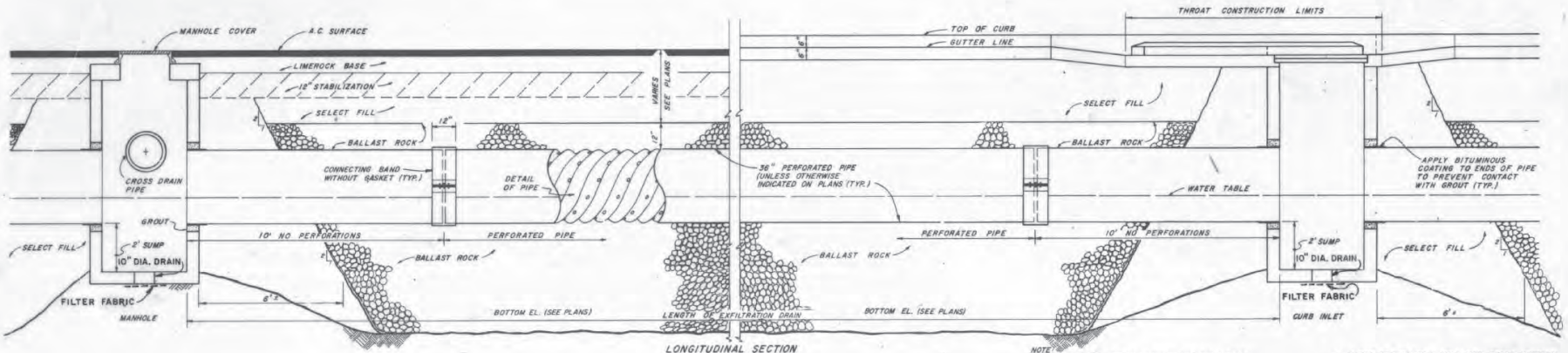
MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

CONCRETE FLARED DRIVEWAYS

P:\Hwy\Planning\Highway\Old Cutler Road - Roundabouts\Plans (CAD & PDF files)\CD\70-STD-INDX-DWGS.dwg Feb 14, 2022 - 1:43pm E210983

10/12/2020 7:59:10 AM

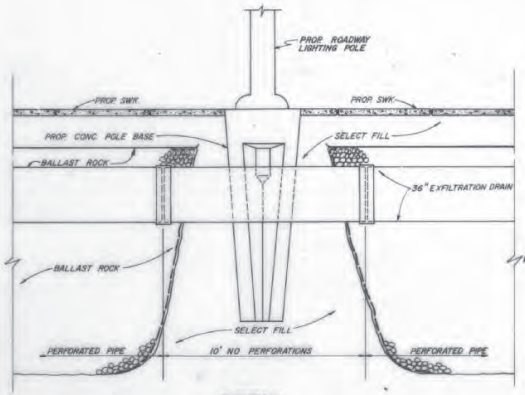
DADE COUNTY PUBLIC WORKS DEPT.
HIGHWAY DIVISION
PROJECT NO. ____ SHEET ____ OF ____



LONGITUDINAL SECTION

NOTE

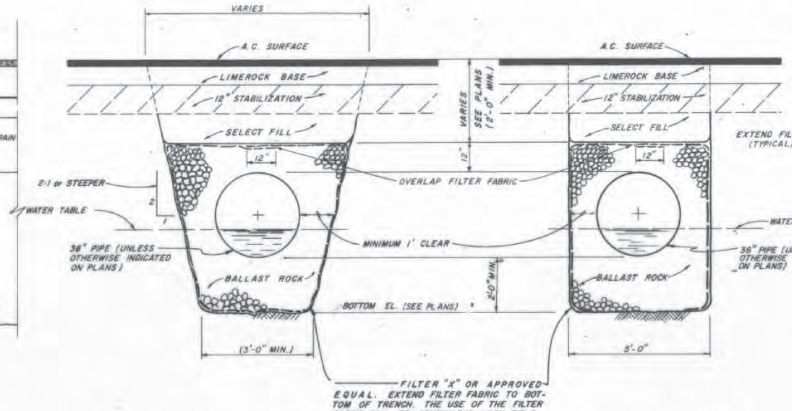
1. SEE SPECIAL PROVISIONS FOR DESCRIPTION OF SELECT FILL, BALLAST ROCK, PERFORATED PIPE AND POLYPROPYLENE FILTER FABRIC.
2. THE COST OF CONSTRUCTION OF THE EXFILTRATION DRAIN (ITEM NO. 443-70, PER LINEAR FOOT) SHALL INCLUDE THE COST OF EXCAVATION, BOTH PERFORATED AND NON-PERFORATED PIPE, BALLAST ROCK, AND BACKFILLING WITH SELECT FILL.
3. WHERE TRENCH WALL WILL NOT STAND VERTICAL OR WHERE CAVE-IN BELOW THE WATER TABLE IS LIKELY, ALTERNATE SECTION IS TO BE USED AT THE DISCRETION OF THE ENGINEER. THERE WILL BE NO ADDITIONAL PAYMENT FOR THIS CROSS SECTION.



DETAIL

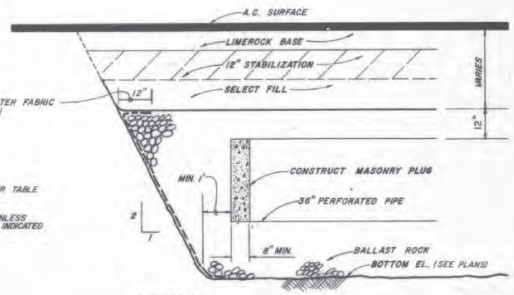
CONSTRUCTION OF EXFILTRATION DRAIN ADJACENT TO PROPOSED ROADWAY LIGHTING POLES

(FOR USE WHEN ℄ PIPE IS 7FT. OR LESS FROM ℄ OF POLE BASE)



ALTERNATE CROSS-SECTION FOR SANDY SOIL CONDITION

TRANSVERSE SECTION



DETAIL

FOR ENDING EXFILTRATION DRAIN WITHOUT A DRAINAGE STRUCTURE.

36

3-E

DETAIL OF EXFILTRATION DRAIN WITH PERFORATED PIPE

G.M.	J.D.L.	1-79
DRAWN BY	CHECKED BY	DATE

REV. 11/89

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAME	DATE		NAME	DATE
DESIGNED BY	A.M.		DRAWN BY	J.M.	
CHECKED BY	L.A.O.		CHECKED BY	L.A.O.	
SUPERVISED BY:					

MIAMI-DADE COUNTY

DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST.
MIAMI, FLORIDA 33128

DETAIL OF EXFILTRATION DRAIN WITH PERFORATED PIPE

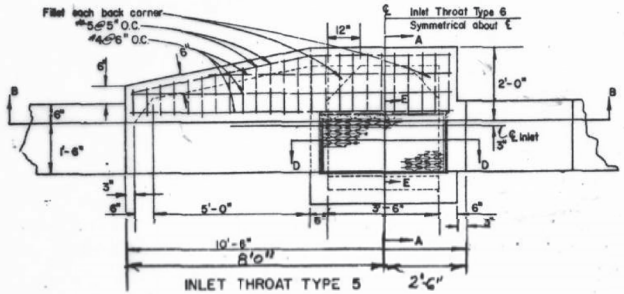
P:\Hwy\Planning\Highway\Old Cutler Road - Roundabouts\Plans (CAD & PDF files)\CD\70-STD-INDX-DWGS.dwg Feb 14, 2022 - 1:43pm EZ10983

MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION

OLD CUTLER ROAD ROUNDABOUT
AT SW 136 STREET AND AT SW 67 AVENUE

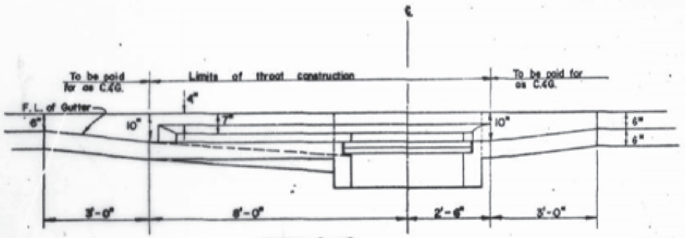
PROJECT NO. 20200118 SHEET 18 OF ___

STATE PROJ. NO.	SHEET NO.
6624	

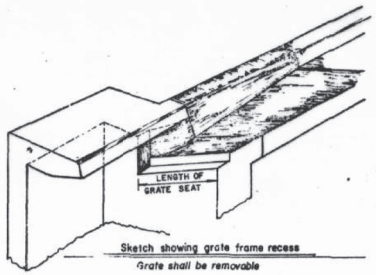


INLET THROAT TYPE 5 2'-6"

Inlet Throat Type 6
Symmetrical about ℄



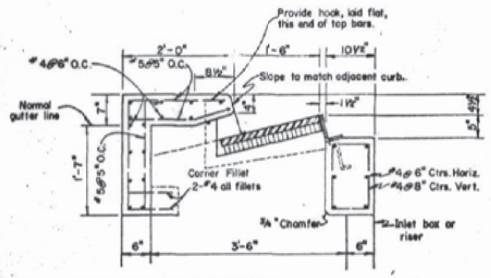
SECTION "B-B"



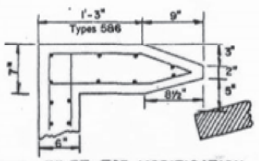
Sketch showing grate frame recess
Grate shall be removable

GENERAL NOTES:

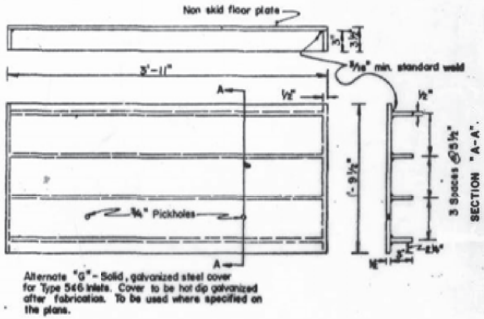
1. The finished grade and slope of the inlet tops are to conform with the finished cross slope and grade of the proposed sidewalk and / or parkway.
2. When inlets are to be constructed on a curve, refer to the plans to determine the radius and, where necessary, modify the inlet details accordingly. Bend steel when necessary.
3. All steel in throats shall have 1½" minimum cover unless otherwise shown. Inlet throats shall be either cast-in-place or precast concrete.
4. The corner fillets shown for rectangular throats (Type 5&6) are necessary only when throats are to be used in conjunction with circular inlet boxes or when used on skew with rectangular inlet boxes.
5. See Index D&C-01 for means of locking grate or cover to inlet.
6. These inlet throats were designed for use with std. curb & gutter and Type E curb. Locate outside of pedestrian cross traffic if possible.



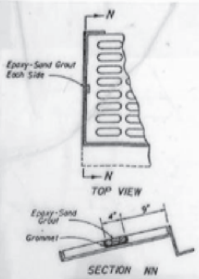
SECTION "A-A"



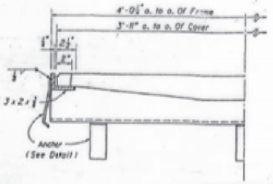
INLET TOP MODIFICATION FOR TYPE "E" CURB



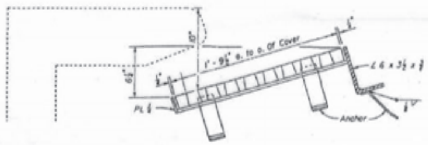
Alternate "G" - Solid, galvanized steel cover for Type 5&6 inlets. Cover to be hot dip galvanized after fabrication. To be used where specified on the plans.



SECTION NN
GROUTING DETAILS

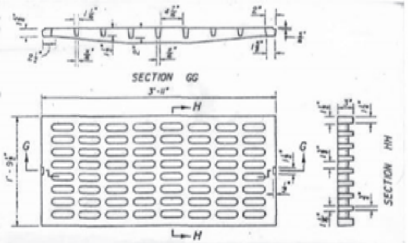


HALF SECTION DD



SECTION EE

CAST IRON COVER



TOP VIEW

FHWA Approved: 5-1-75

17

REVISIONS	
Dates	Descriptions
8-74	Realigned Chief Trailer Ent

DADE COUNTY PUBLIC WORKS DEPARTMENT
HIGHWAY DIVISION

DESIGN
DRAWN
CHECK
PROPOSED

DCI - 02
CURB INLET TYPES "5" & "6"

SUBMITTED | RECOMMENDED | APPROVED

DATE | PROJ. ENGINEER | DIRECTOR

SHEET 1 OF 1

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAME	DATE		NAME	DATE
DESIGNED BY	A.M.		DRAWN BY	J.M.	
CHECKED BY	L.I.O.		CHECKED BY	L.I.O.	
SUPERVISED BY:					

MIAMI-DADE COUNTY

DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

CURB INLET TYPES "5" & "6"

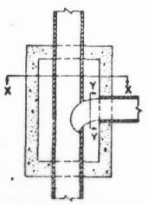
PLEASE RETAIN THIS SHEET FOR STANDARD POLAR SHEET YOUR PERMANENT FILES.

P:\Hwy\Planning\Highway\Old Cutler Road - Roundabouts\Plans (CAD & PDF files)\CD\70-STD-INDX-DWGS.dwg Feb 14, 2022 - 1:43pm, E210983

MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION

OLD CUTLER ROAD ROUNDABOUT
AT SW 136 STREET AND AT SW 67 AVENUE

PROJECT NO. 20200118 SHEET 19 OF ___



PLAN ON PIPE ℄

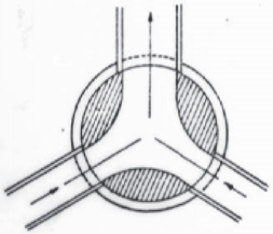
SECTION X-X

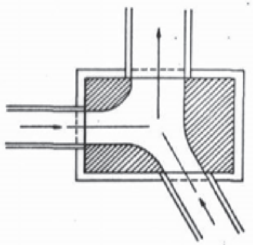
Channel to be formed with either half-pipe and mortar or brick and mortar.

SECTION Y-Y

DETAIL OF BOTTOM CONSTRUCTION WHEN INLET SERVES AS MANHOLE

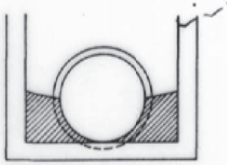
GENERAL NOTE:
Mortar used to seal the pipe into the walls of precast units will be of such a mix that shrinkage will not cause leakage into or out of the units. Maximum opening for pipe shall be the O.D. of the pipe required plus 6".



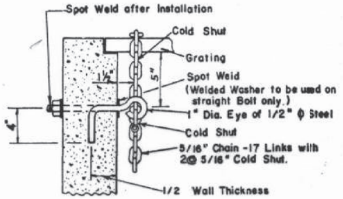


DETAIL OF CHANNELIZATION

Note: Channelization required at all drainage structures with two or more pipes.

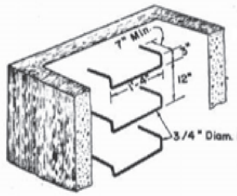


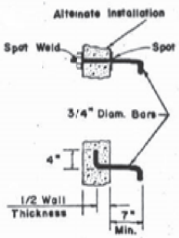
Smooth flow channels composed of concrete, or brick and mortar shall be constructed in the bottoms of all structures to a depth equal to half the diameter of the largest pipe.



DETAIL OF EYE BOLT AND CHAIN FOR LOCKING GRATES TO INLETS

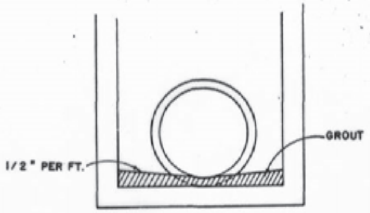
Note: One required per inlet grate.





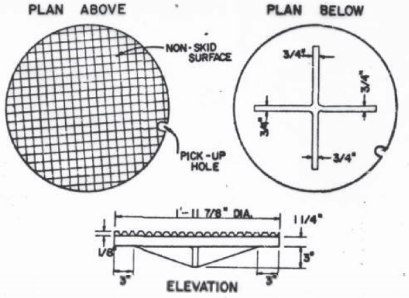
DETAIL OF LADDER BARS

Use for box heights over 10'-0"

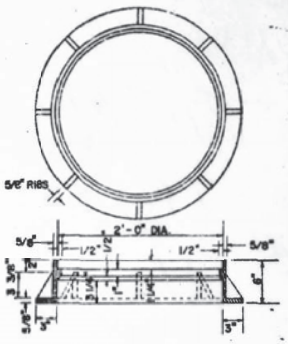


ALTERNATE LOCATION OF PIPE IN STRUCTURE WHEN PREFABRICATED FLOOR SLAB IS USED

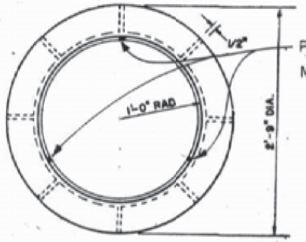
COMPLETE FLOW CHANNEL IS REQUIRED WHEN THERE IS FLOW THROUGH THE STRUCTURE



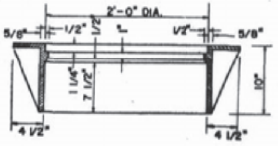
COVER FOR ALL FRAMES
(WHEEL LOADS H-20)



TYPE I FRAME FOR MANHOLES
AS SHOWN ON INDEX DSB-01

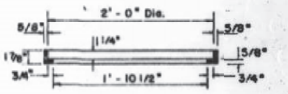


PROVIDE 3- 1/4" TACK WELDS ON MANHOLE TOPS IN SIDEWALK



TYPE II FRAME
For Type 1,2,3 & 4 Inlets

CAST IRON



TYPE III FRAME
For Type 7 & 8 Inlets

FRAME AND COVER DETAILS

Note: Tack Weld all Covers to Frames (3 places) as directed by the Engineer.

27

FHWA Approved: 5-1-75

DADE COUNTY PUBLIC WORKS DEPARTMENT
HIGHWAY DIVISION

DESIGN	
DRAWN	DSD-01
CHECK	SUPPLEMENTARY DET. FOR
PROPOSED	MANHOLE & INLET STRUCT.

SUBMITTED	RECOMMENDED	APPROVED
DISTRICT ENGINEER	CHIEF ENGINEER	DIRECTOR
DATE	PROJ.	SHEET 1 OF 2

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAME	DATE		NAME	DATE
DESIGNED BY	A.M.		DRAWN BY	J.M.	
CHECKED BY	L.I.O.		CHECKED BY	L.I.O.	
SUPERVISED BY:					

MIAMI-DADE COUNTY

DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

SUPPLEMENTARY DET. FOR MANHOLE & INLET STRUCT.

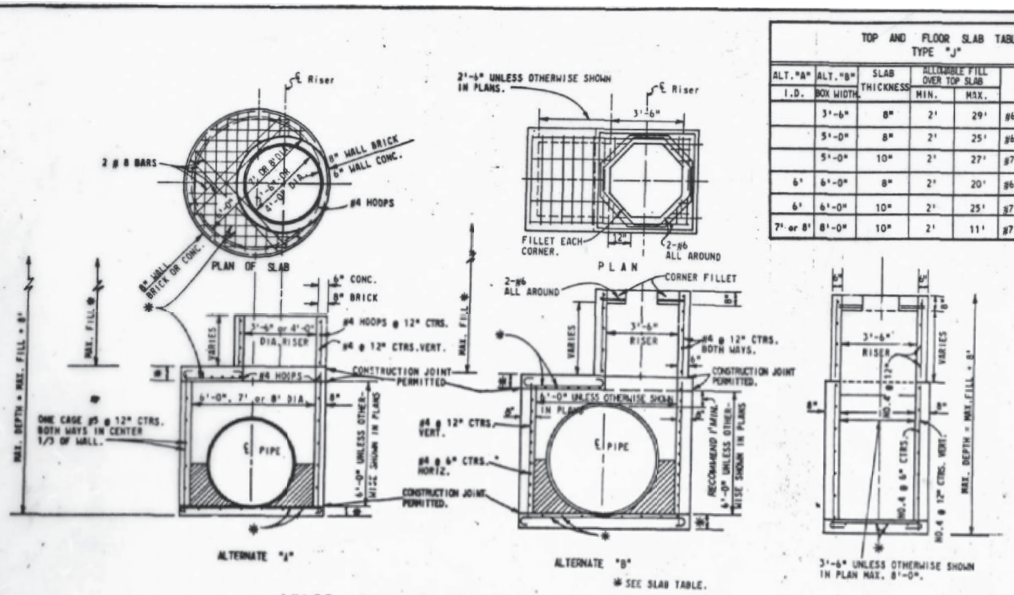
P:\Hwy\Planning\Highway\Old Cutler Road - Roundabouts\Plans (CAD & PDF files)\CD\70-STD-INDX-DWGS.dwg Feb 14, 2022 - 1:43pm E210983

MIAMI-DADE COUNTY DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION

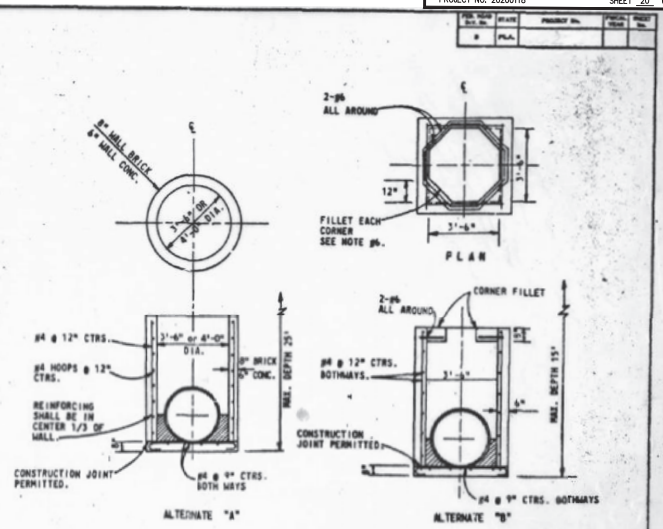
OLD CUTLER ROAD ROUNDABOUT
AT SW 136 STREET AND AT SW 67 AVENUE

PROJECT NO. 20200118 SHEET 20 OF ___

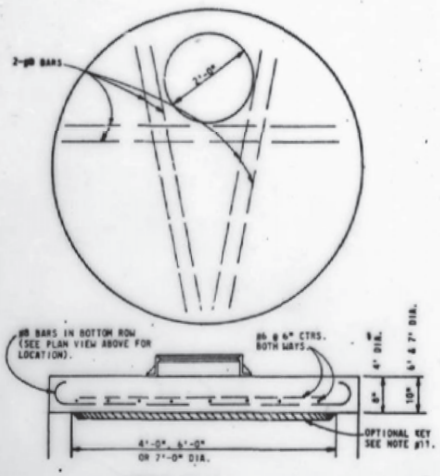
TOP AND FLOOR SLAB TABLE TYPE "J"					
ALT. "A" I.D.	ALT. "B" BOX WIDTH	SLAB THICKNESS	ALLOWABLE FILL OVER TOP SLAB MIN.	ALLOWABLE FILL OVER TOP SLAB MAX.	REINFORCING TOP & FLOOR SLABS
	3'-6"	8"	2'	29'	#6 @ 6" CTRS. B.W.
	5'-0"	8"	2'	25'	#6 @ 6" CTRS. B.W.
	5'-0"	10"	2'	27'	#7 @ 6" CTRS. B.W.
6'	6'-0"	8"	2'	20'	#6 @ 6" CTRS. B.W.
6'	6'-0"	10"	2'	25'	#7 @ 6" CTRS. B.W.
7' or 8'	8'-0"	10"	2'	11'	#7 @ 6" CTRS. B.W.

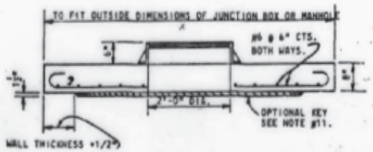


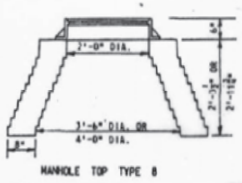
INLET, MANHOLE, JUNCTION BOX TYPE J



INLET, MANHOLE, JUNCTION BOX TYPE P







GENERAL NOTES

1. WALLS OF CIRCULAR STRUCTURES (ALTERNATE "A") MAY BE CONSTRUCTED OF CONCRETE OR BRICK, BUT RECTANGULAR STRUCTURES (ALTERNATE "B") SHALL BE CONSTRUCTED OF CONCRETE ONLY. THE CONCRETE MAY BE CAST-IN-PLACE OR PRECAST.
2. WALL REINFORCEMENT AND THICKNESS ARE FOR EITHER CAST-IN-PLACE OR PRECAST CONCRETE UNITS EXCEPT THAT THE MANUFACTURER MAY FURNISH PRECAST CIRCULAR UNITS IN ACCORDANCE WITH A.S.T.M. SPECIFICATION C-478 UP TO 72" IN DIA. OR PRECAST CIRCULAR UNITS A.S.T.M. SPECIFICATION C-76, TABLE III, FOR "B" WALL CONCRETE PIPE. TOP AND FLOOR SLAB THICKNESS AND REINFORCEMENT ARE FOR ALL TYPES OF CONSTRUCTION.
3. ELLIPTICAL STEEL, ASTM SPECIFICATION C-76, TABLE III, "B" WALL, IS MODIFIED TO USE A CIRCULAR CAGE OF STEEL AREA EQUAL TO THAT OF THE ELLIPTICAL CAGE AND PLACED IN THE CENTER ONE-THIRD OF THE WALL. THIS MODIFICATION IS FOR PRECAST CIRCULAR UNITS PRODUCED IN ACCORDANCE WITH ASTM C-76.
4. TOP AND FLOOR SLABS FOR TYPE J UNITS AND TYPE 7 MANHOLE TOPS SHALL BE OF CLASS II CONCRETE. CONCRETE AS SPECIFIED IN ASTM C-478 MAY BE USED FOR PRECAST UNITS.
5. ANY INLET, MANHOLE OR JUNCTION BOX MAY BE USED IN CONJUNCTION WITH ANY INLET THROAT OR MANHOLE TOP. FOR EXAMPLE, AN INLET WITH A TYPE J BOX AND A TYPE 3 THROAT WOULD BE CALLED AN INLET TYPE J-3 IN THE PLANS. THE CONTRACTOR MAY AT HIS OPTION USE EITHER ALTERNATE A OR B STRUCTURES, UNLESS OTHERWISE SHOWN IN THE PLANS.
6. RECTANGULAR STRUCTURES MAY BE ROTATED AS DIRECTED BY THE ENGINEER IN ORDER TO FACILITATE CONNECTIONS BETWEEN THE STRUCTURE WALLS AND STORM SEWER PIPES.
7. THE CORNER FILLETS SHOWN FOR RECTANGULAR STRUCTURES ARE NECESSARY ONLY WHEN STRUCTURES ARE USED IN CONJUNCTION WITH CIRCULAR INLET THROATS (TYPES 1, 2, 3 & 4) OR WHEN USED ON SKEW WITH RECTANGULAR INLET THROATS (TYPES 5 & 6).
8. INLET THROATS, RISERS OR MANHOLE TOPS SHALL BE SECURED TO STRUCTURES WITH A MINIMUM OF 6 - NO. 4 BARS 12" LONG OR AS SHOWN ON INDEX NO.DSD-01.
9. STRUCTURES WITH DEPTHS OVER 14' ARE TO BE CHECKED FOR FLOTATION BY DESIGNER OF PROJECT DRAINAGE.
10. ALL STEEL BARS SHALL HAVE 1½" MINIMUM COVER UNLESS OTHERWISE SHOWN AND SHALL BE HOOKED WHERE INDICATED. HORIZONTAL STEEL IN RECTANGULAR STRUCTURES SHALL BE LAPPED A MINIMUM OF 24 BAR DIAMETERS AT CORNERS. ON PRECAST UNITS, FLOOR SLABS MAY BE SECURED TO STRUCTURE WALLS BY NO. 4 DOWEL BARS (A MINIMUM OF 6 DOWELS) PUSHED INTO THE WET CONCRETE AFTER THE FLOOR SLAB IS PLACED.
11. TYPE 7 TOP SLABS MAY BE OF CAST-IN-PLACE OR PRECAST CONSTRUCTION. THE OPTIONAL KEY IS FOR PRECAST TOPS AND IS IN LIEU OF DOWELS. FRAME AND SLAB OPENINGS ARE TO BE OMITTED WHEN TOP IS USED OVER A JUNCTION BOX. FRAME CAN BE ADJUSTED WITH FROM ONE TO SIX COURSES OF BRICK.
12. MANHOLE TOP TYPE 8 MAY BE OF CAST-IN-PLACE OR PRECAST CONCRETE CONSTRUCTION OR BRICK CONSTRUCTION. FOR CONCRETE CONSTRUCTION, THE CONCRETE AND STEEL REINFORCEMENT SHALL BE THE SAME AS THE SUPPORTING WALL UNIT. AN ECCENTRIC CONE MAY BE USED.
13. LARGER THAN SPECIFIED STANDARD UNITS MAY BE SUBSTITUTED AT THE CONTRACTOR'S OPTION WHEN THESE UNITS WILL NOT CAUSE OR INCREASE THE SEVERITY OF UTILITY CONFLICTS. SUCH LARGER UNITS SHALL BE FURNISHED AT NO ADDITIONAL COST TO THE DEPARTMENT. LARGER ALTERNATE "A" UNITS CANNOT REPLACE ALTERNATE "B" UNITS WITHOUT APPROVAL OF THE ENGINEER. THIS NOTE APPLIES TO THIS INDEX ONLY.
14. FOR SUPPLEMENTARY DETAILS SEE INDEX NO.DSD-01 AND S-E OR S-E-1.

FHWA Approved: 5-1-75

29

DADE COUNTY PUBLIC WORKS DEPARTMENT
HIGHWAY DIVISION

REVISIONS		
Dates	Descriptions	
10-74	Changed Details	

DESIGN	DSB-01
DRAWN	INLET, MANHOLE, JUNCTION
CHECK	BOX TYPES J & P
PROPOSED	

SUBMITTED	RECOMMENDED	APPROVED
DATE	PROJ.	SHEET 1 OF 1

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAME	DATE		NAME	DATE
DESIGNED BY	A.M.		DRAWN BY	J.M.	
CHECKED BY	L.A.G.		CHECKED BY	L.A.G.	
SUPERVISED BY:					

MIAMI-DADE COUNTY

DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

INLET, MANHOLE, JUNCTION BOX TYPES J & P

P:\Hwy\Planning\Highway\Old Cutler Road - Roundabouts\Plans (CAD & PDF files)\DSB\70-STD-INDX-DWGS.dwg Feb 14, 2022 - 1:43pm E210983

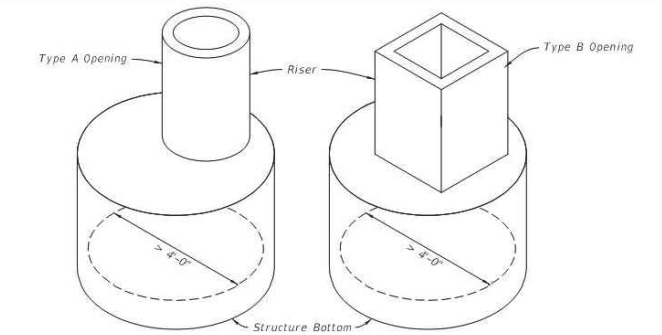
GENERAL NOTES:

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

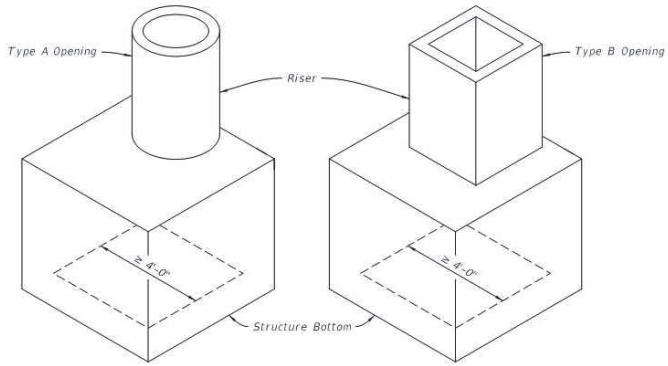
REINFORCEMENT NOTES:

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

TABLE OF CONTENTS:

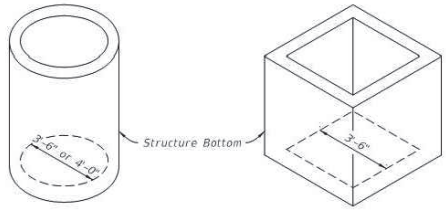


ALTERNATE A



ALTERNATE B

TYPE J



ALTERNATE A ALTERNATE B

TYPE P

LAST REVISION	REVISION	DESCRIPTION:
11/01/20		

FDOT FY 2021-22 STANDARD PLANS

STRUCTURE BOTTOMS TYPE J AND P

INDEX 425-010 SHEET 1 of 4

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

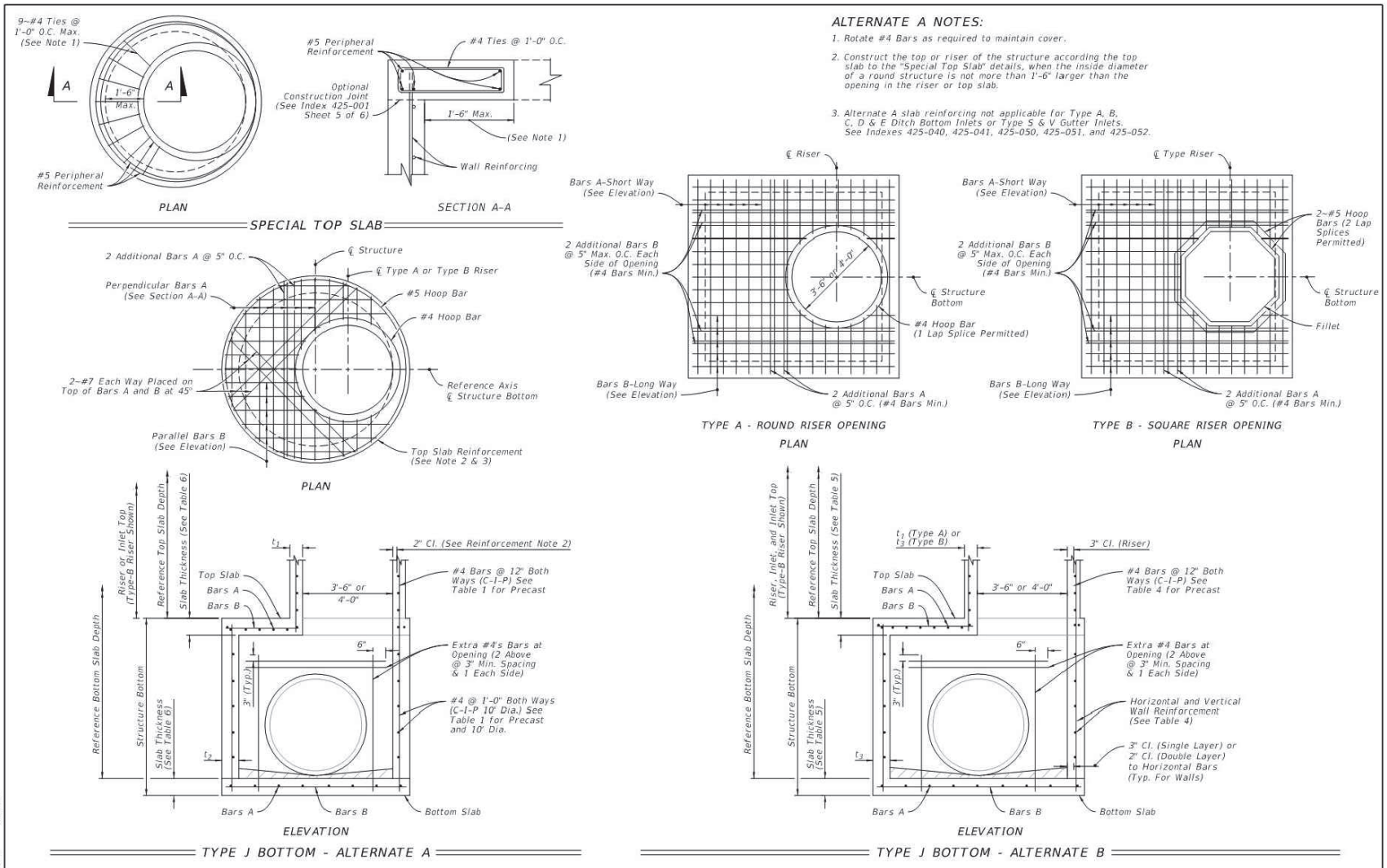
	NAME	DATE		NAME	DATE
DESIGNED BY	A.M.		DRAWN BY	J.M.	
CHECKED BY	L.I.O.		CHECKED BY	L.I.O.	
SUPERVISED BY:					

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

STRUCTURE BOTTOMS TYPE J AND P

P:\Hwy\Planning\Highway\Old Cutler Road - Roundabouts\Plans (CAD & PDF files)\CD\70-STD-INDX-DWGS.dwg Feb 14, 2022 - 1:43pm E210983

10/12/2020 6:43:30 AM



DIMENSIONAL AND REINFORCING DETAILS

LAST REVISION	REVISION	DESCRIPTION:				
11/01/20			FDOT FY 2021-22 STANDARD PLANS	STRUCTURE BOTTOMS TYPE J AND P	INDEX 425-010	SHEET 2 of 4

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAME	DATE		NAME	DATE
DESIGNED BY	A.M.		DRAWN BY	J.M.	
CHECKED BY	L.A.O.		CHECKED BY	L.A.O.	
SUPERVISED BY:					

DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128
MIAMI-DADE COUNTY

STRUCTURE BOTTOMS TYPE J AND P

P:\Hwy\Planning\Highway\Old Cutler Road - Roundabouts\Plans (CAD & PDF files)\CD\70-STD-INDX-DWGS.dwg Feb 14, 2022 - 1:43pm E210983

10/12/2020 6:43:31 AM

TABLE 1 - ALTERNATE A - STRUCTURES

TYPE	STRUCTURE/RISER DIAMETER (ft)	CAST-IN-PLACE ITEMS CLASS II CONCRETE			PRECAST ITEMS				
					CLASS II CONCRETE			ASTM C478	
		t_1	t_2	A_S	t_1	t_2	A_S	t_1 or t_2	A_2***
		RISER (in.)	BOTTOM (in.)	(in^2/ft.)	RISER (in.)	BOTTOM (in.)	(in^2/ft.)	(in.)	(in^2/ft.)
P	3'-6"	6	8	0.20	6	8	0.20	4**	0.105
P	4'-0"	6	8	0.20	6	8	0.20	5**	0.120
J	5'-0"	-	8	0.20	-	8	0.20	6**	0.150
J	6'-0"	-	8	0.20	-	8	0.20	6	0.180
J	7'-0"	-	8	0.20	-	8	0.20	7	0.210
J	8'-0"	-	8	0.20	-	8	0.20	8	0.240
J	10'-0"	-	10	0.40##	-	10	0.40##	10	0.300
J	12'-0"	-	10	0.40##	-	12	0.40##	12	0.360

t_1 and t_2 - Wall Thickness.

A_S - Vertical and horizontal areas of reinforcement.

##Provide 0.20 eq. in^2/ft. at each face, 12" max. bar spacing.

**Modified minimum wall thickness.

***Min. total circumferential reinforcement for continuous steel hoops:

$A2 = 0.40$ sq. in. for riser section height equal or less than 2'-0" (2 hoop min.)

$A_2 = 0.60$ sq. in. for riser section height more than 2'-0" up to 4'-0" (3 hoop min.)

Areas of reinforcing for precast items are based on Grade 60 reinforcing.

No reduction in the area of reinforcement is allowed for welded wire fabric in Table 1.

Area of vertical reinforcing may be reduced in accordance with ASTM C478.

TABLE 2 - ALTERNATE B SQUARE AND RECTANGULAR STRUCTURES

TYPE	WALL LENGTH (FT)	MAX. DEPTH (FT)	WALL THICKNESS (t_3)	
			C-I-P (in.)	PRECAST (in.)
P	≤ 3'-6"	40	6 Riser 8 Bottom	6
J	4'-0"	40	8	6
J	5'-0"	22	-	6
J	6'-0"	15	-	6
J	5'-0" to 9'-0"	40	8	8
J	10'-0"	26	8	8
J	10'-0" to 12'-0"	40	10	9
J	16'-0"	35	-	9
J	16'-0"	40	10	10
J	20'-0"	25	-	9
J	20'-0"	30	10	10

See Table 4 for Reinforcing Schedule.

TABLE 3 - REINFORCING SCHEDULE

SCHEDULE	GRADE 60 BARS OR 65 KSI & 70 KSI WELDED WIRE REINFORCING			
	GRADE 60 AREA (in^2/ft)	MAXIMUM SPACING		
		GR 60 BARS (in.)	WWR EQUIV. AREA	
			65 KSI (in.)	70 KSI (in.)
A12	0.20	12	8	8
A6	0.20	6	5	4½
B10	0.24	10	8	7½
B5.5	0.24	5½	5	4
C6.5	0.37	6½	6	5
C3.5	0.37	3½	3	2½
D7	0.53	7	6	5
D4.5	0.53	4½	4	3½
E5	0.73	5	4	4
E3	0.73	3	3	3
F5	1.06	5	4	4
F3.5	1.06	3½	3	3
G5	1.45	5	4	4
G3.5	1.45	3½	3	3
H4	1.75	4	3	3

TABLE 4 - WALL DESIGNS - RECTANGULAR STRUCTURES

VERTICAL REINFORCING		HORIZONTAL REINFORCING		WALL THICKNESS
WALL DEPTH	SCHEDULE	WALL DEPTH	SCHEDULE	
SIZE: 3'-6" & RISER				
≥1.17' - 40'	A12	≥1.17' < 10'	B10	6"/8"
		10' < 18'	B5.5	6"/8"
		18' < 29'	C6.5	6"/8"
		29' - 40'	C3.5	6"/8"
SIZE: 4'-0"				
≥1.17' - 40'	A12	≥1.17' < 6'	B10	6"/8"
		6' < 10'	B5.5	6"/8"
		10' < 20'	C6.5	6"/8"
		20' < 28'	C3.5	6"/8"
		28' - 40'	D4.5	6"/8"
SIZE: 5'-0"				
≥1.17' - 40'	A12	≥1.17' < 5'	B5.5	6"/8"
		5' < 9'	C6.5	6"/8"
		9' < 15'	C3.5	6"/8"
		15' < 22'	D4.5	6"/8"
		22' - 40'	E3	8"
SIZE: 6'-0"				
≥1.17' < 26'	A12	≥1.17' < 9'	C3.5	6"/8"
		9' < 15'	D4.5	6"/8"
		15' < 26'	E3	8"
	Inside Outside		Inside Outside	
26' - 40'	A12 A12	26' - 40'	D7 D7	8"
SIZE: 7'-0"				
	Inside Outside		Inside Outside	
≥1.17' < 25'	A12 A12	≥1.17' < 7'	B10 B10	8"
26' - 40'	B10 B10	7' < 10'	B5.5 B5.5	8"
		10' < 20'	C6.5 C6.5	8"
		20' < 30'	D7 D7	8"
		30' - 40'	E5 E5	8"
SIZE: 8'-0"				
	Inside Outside		Inside Outside	
≥1.17' < 20'	A12 A12	≥1.17' < 6'	B5.5 B5.5	8"
20' - 40'	C6.5 C6.5	6' < 13'	C6.5 C6.5	8"
		13' < 22'	D7 D7	8"
		22' < 31'	E5 E5	8"
		31' - 40'	F5 F5	8"
SIZE: 9'-0"				
	Inside Outside		Inside Outside	
≥1.17' < 12'	A12 A12	≥1.17' < 8'	C6.5 C6.5	8"
12' < 28'	C6.5 C6.5	8' < 15'	D7 D7	8"
28' - 40'	D7 D7	15' < 23'	E5 E5	8"
		23' - 40'	F5 F5	8"
SIZE: 10'-0"				
	Inside Outside		Inside Outside	
≥1.17' < 10'	B10 B10	≥1.17' < 10'	D7 D7	8"
10' < 21'	C6.5 C6.5	10' < 17'	E5 E5	8"
21' < 26'	D7 D7	17' < 26'	F5 F5	8"
26' - 40'	C6.5 C6.5	26' - 40'	F5 F5	10"

VERTICAL REINFORCING		HORIZONTAL REINFORCING		WALL THICKNESS
WALL DEPTH	SCHEDULE	WALL DEPTH	SCHEDULE	
SIZE: 10'-0" (Precast Only)				
	Inside Outside		Inside Outside	
26' - 40'	D7 D7	26' - 40'	F5 F5	9"
SIZE: 12'-0"				
	Inside Outside		Inside Outside	
≥1.17' < 14'	B10 B10	≥1.17' < 10'	C6.5 C6.5	10"
14' < 25'	C6.5 C6.5	10' < 17'	D7 D7	10"
25' - 40'	D7 D7	17' < 24'	E5 E5	10"
		24' - 40'	F5 F5	10"
SIZE: 12'-0" (Precast Only)				
	Inside Outside		Inside Outside	
≥1.17' < 12'	B10 B10	≥1.17' < 10'	D7 D7	9"
12' < 24'	C6.5 C6.5	10' < 17'	D4.5 D4.5	9"
24' - 40'	D7 D7	17' < 23'	E5 E5	9"
		23' < 32'	F5 F5	9"
		32' - 40'	G5 G5	9"
SIZE: 16'-0"				
	Inside Outside		Inside Outside	
≥1.17' < 11'	C6.5 C6.5	≥1.17' < 13'	D7 D7	10"
11' < 20'	D7 D7	13' < 20'	E5 E5	10"
20' < 28'	E5 E5	20' < 28'	F5 F5	10"
28' - 40'	F5 F5	28' - 40'	G5 G5	10"
SIZE: 16'-0" (Precast Only)				
	Inside Outside		Inside Outside	
≥1.17' < 10'	C6.5 C6.5	≥1.17' < 9'	D7 D7	9"
10' < 18'	D7 D7	9' < 13'	D4.5 D4.5	9"
18' < 25'	E5 E5	13' < 19'	E5 E5	9"
25' - 35'	F5 F5	19' < 27'	F5 F5	9"
		27' - 35'	G5 G5	9"
SIZE: 20'-0"				
	Inside Outside		Inside Outside	
≥1.17' < 10'	C6.5 C6.5	≥1.17' < 8'	D7 D7	10"
10' < 17'	D7 D7	8' < 12'	E5 E5	10"
17' - 30'	E5 E5	12' < 20'	F5 F5	10"
		20' - 30'	G5 G5	10"
SIZE: 20'-0" (Precast Only)				
	Inside Outside		Inside Outside	
≥1.17' < 8'	C6.5 C6.5	≥1.17' < 8'	D4.5 D4.5	9"
8' < 13'	D7 D7	8' < 12'	E5 E5	9"
13' - 25'	E5 E5	12' < 19'	F5 F5	9"
		19' - 25'	G5 G5	9"

TABLE 4 NOTES:

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

TABLES 1, 2, 3, AND 4

LAST REVISION	REVISION	DESCRIPTION:
11/01/20		

FDOT FY 2021-22 STANDARD PLANS

STRUCTURE BOTTOMS TYPE J AND P

INDEX 425-010 | SHEET 3 of 4

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAME	DATE		NAME	DATE
DESIGNED BY	A.M.		DRAWN BY	J.M.	
CHECKED BY	L.A.O.		CHECKED BY	L.A.O.	
SUPERVISED BY:					

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

STRUCTURE BOTTOMS TYPE J AND P

P:\HwyPlanning\Highway\Old Cutler Road - Roundabouts\Plans (CAD & PDF files)\CO\70-STD-INDX-DWGS.dwg Feb 14, 2022 - 1:44pm E210983

11/20/2020 9:23:37 AM

TABLE 5 - SLAB DESIGNS - SQUARE AND RECTANGULAR STRUCTURES

(ALL SLABS 8" THICK EXCEPT AS NOTED - REINFORCING PARALLEL TO SHORT WAY AND LONG WAY)

SHORT-WAY		LONG-WAY	
SLAB DEPTH	SCHEDULE (Bars A)	SLAB DEPTH	SCHEDULE (Bars B)
SIZE: 3'-6" x UNLIMITED			
≥0.5' < 8'	B10	≥0.5' < 24'	B10
8' < 13'	B5.5	24'-40'	B5.5
13' < 31'	C6.5		
31'-40'	D7		
SIZE: 4' x UNLIMITED			
≥0.5' < 7'	B5.5	≥0.5' < 15'	B10
7' < 19'	C6.5	15' < 29'	B5.5
19' < 31'	D7	29'-40'	C6.5
31'-40'	E5		
SIZE: 5' x 5'			
≥0.5' < 3'	C6.5	≥0.5' < 3'	C6.5
3' < 7'	B5.5	3' < 13'	C6.5
7' < 22'	C6.5	13' < 22'	D7
22' < 29'	D7	22' < 29'	D4.5
29'-40'	E5	29'-40'	E5
SIZE: 5' x 6'			
≥0.5' < 12'	C6.5	≥0.5' < 3'	C6.5
12' < 26'	D7	3' < 9'	B5.5
26'-40'	E5	9' < 23'	C3.5
		23' < 35'	D4.5
		35'-40'	E5
SIZE: 5' x 7'			
≥0.5' < 10'	C6.5	≥0.5' < 10'	B5.5
10' < 20'	D7	10' < 31'	C3.5
20' < 34'	E5	31'-40'	D4.5
34'-40'	F5		
SIZE: 5' x 8'			
≥0.5' < 7'	C6.5	≥0.5' < 8'	B10
7' < 13'	D7	8' < 17'	B5.5
13' < 24'	E5	17' < 25'	C6.5
24'-40'	F5	25'-40'	C3.5
SIZE: 5' x 9'			
≥0.5' < 8'	C6.5	≥0.5' < 14'	B10
8' < 14'	D7	14' < 24'	B5.5
14' < 25'	E5	24' < 34'	C6.5
25'-40'	F5	34'-40'	C3.5
SIZE: 5' x UNLIMITED			
≥0.5' < 8'	C6.5	≥0.5' < 14'	B10
8' < 14'	D7	14' < 24'	B5.5
14' < 25'	E5	24' < 34'	C6.5
25'-40'	F5	34'-40'	C3.5

SHORT-WAY		LONG-WAY	
SLAB DEPTH	SCHEDULE (Bars A)	SLAB DEPTH	SCHEDULE (Bars B)
SIZE: 6' x 6'			
≥0.5' < 13'	C6.5	≥0.5' < 10'	C3.5
13' < 23'	D7	10' < 18'	D4.5
23'-40'	E5	18' < 27'	E5
		27' < 33'	E3
		33'-40'	F5
SIZE: 6' x 7'			
≥0.5' < 8'	C6.5	≥0.5' < 8'	C6.5
8' < 16'	D7	8' < 12'	C3.5
16' < 28'	E5	12' < 21'	D4.5
28'-40'	F5	21' < 28'	E5
		28' < 35'	E3
		35'-40'	F5
SIZE: 6' x 8'			
≥0.5' < 6'	C6.5	≥0.5' < 6'	B5.5
6' < 13'	D7	6' < 11'	C6.5
13' < 22'	E5	11' < 17'	C3.5
22' < 35'	F5	17' < 22'	D4.5
35'-40'	G5	22' < 32'	E5
		32'-40'	E3
SIZE: 6' x 9'			
≥0.5' < 8'	D7	≥0.5' < 8'	B5.5
8' < 14'	E5	8' < 14'	C6.5
14' < 24'	F5	14' < 21'	C3.5
24'-34'	G5	21' < 25'	D4.5
		25'-34'	E5
SIZE: 6' x UNLIMITED			
≥0.5' < 8'	D7	≥0.5' < 8'	B5.5
8' < 14'	E5	8' < 14'	C6.5
14' < 24'	F5	14' < 21'	C3.5
24'-34'	G5	21' < 25'	D4.5
		25'-34'	E5
SIZE: 7' x 7'			
≥0.5' < 8'	C6.5	≥0.5' < 4'	C6.5
8' < 15'	D7	4' < 7'	C3.5
15' < 26'	E5	7' < 11'	D4.5
26'-40'	F5	11' < 22'	E3
		22' < 32'	F3.5
		32'-40'	G3.5
SIZE: 7' x 8'			
≥0.5' < 5'	C6.5	≥0.5' < 5'	C6.5
5' < 11'	D7	5' < 8'	C3.5
11' < 19'	E5	8' < 13'	D4.5
19' < 30'	F5	13' < 22'	E3
30'-40'	G5	22' < 30'	F3.5
		30'-40'	G3.5
SIZE: 7' x 9'			
≥0.5' < 9'	D7	≥0.5' < 7'	C6.5
9' < 15'	E5	7' < 10'	C3.5
15' < 25'	F5	10' < 14'	D4.5
25' - 34'	G5	14' < 21'	E5
		21' < 29'	F5
		29'-34'	F3.5

SHORT-WAY		LONG-WAY	
SLAB DEPTH	SCHEDULE (Bars A)	SLAB DEPTH	SCHEDULE (Bars B)
SIZE: 8' x 8'			
≥0.5' < 10'	D7	≥0.5' < 9'	D4.5
10' < 19'	E5	9' < 13'	E5
19'-30'	F5	13' < 18'	F5
		18' < 23'	F3.5
		23'-30'	G3.5
SIZE: 8' x 9'			
≥0.5' < 8'	D7	≥0.5' < 7'	D7
8' < 14'	E5	7' < 9'	D4.5
14' < 23'	F5	9' < 15'	E3
23'-31'	G3.5	15' < 20'	F5
		20' < 23'	F3.5
		23'-31'	G3.5
SIZE: 9' x 9'			
≥0.5' < 8'	D7	≥0.5' < 7'	D4
8' < 14'	E5	7' < 10'	E5
14' < 22'	F5	10' < 17'	F3.5
		17' < 22'	G3.5
SIZE: 9'x9'x10" SLAB THICKNESS			
22' < 36'	F5	22' < 31'	F3.5
36'-40'	G5	31'-40'	G3.5
SIZE: 10'x10'x10" SLAB THICKNESS			
≥0.5' < 7'	C6.5	0.5' < 6'	C6.5
7' < 10'	D7	6' < 9'	D4.5
10' < 18'	E5	9' < 15'	E5
18' < 27'	F5	15' < 22'	F5
27'-32'	G5	22'-32'	G3.5
SIZE: 12'x12'x12" SLAB THICKNESS			
≥0.5' < 10'	D7	≥0.5' < 8'	D7
10' < 16'	E5	8' < 14'	E5
16' < 25'	F5	14' < 22'	F5
25'-35'	G5	22' < 30'	G5
		30'-35'	H4

TABLE 6 - SLAB DESIGNS ROUND STRUCTURES

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

SLAB AND WALL DESIGN TABLE NOTES

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

TABLES 5 AND 6

LAST REVISION	REVISION	DESCRIPTION:			
11/01/20			FY 2021-22 STANDARD PLANS	STRUCTURE BOTTOMS TYPE J AND P	INDEX 425-010 / SHEET 4 of 4

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAME	DATE		NAME	DATE
DESIGNED BY	A.M.		DRAWN BY	J.M.	
CHECKED BY	L.I.O.		CHECKED BY	L.I.O.	
SUPERVISED BY:					

DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

MIAMI-DADE COUNTY

STRUCTURE BOTTOMS TYPE J AND P

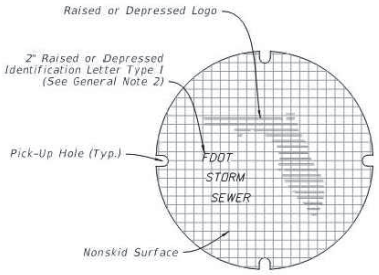
P:\HwyPlanning\Highway\Old Cutler Road - Roundabout\Plans (CAD & PDF Files)\C01_70-STD-INDX-DWGS.dwg Feb 14, 2022 - 1:44pm E210983

10/12/2020 6:43:36 AM

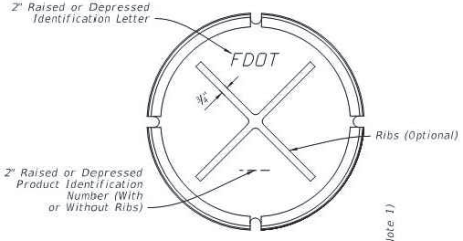
GENERAL NOTES:

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

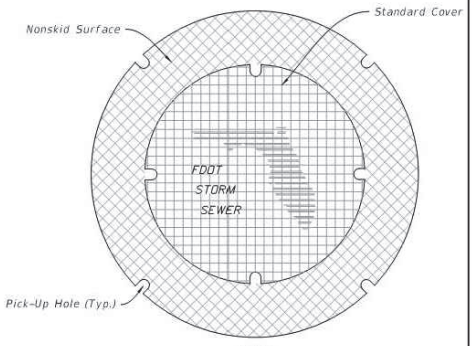
TABLE OF CONTENTS:



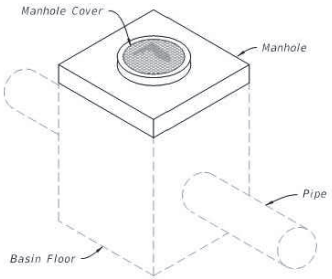
PLAN



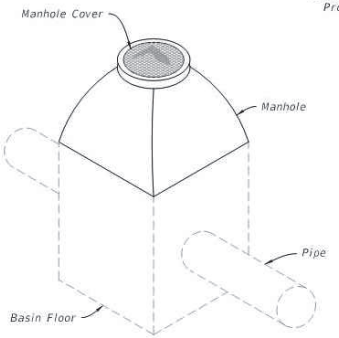
BOTTOM



PLAN

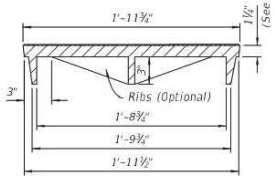


TYPE 7



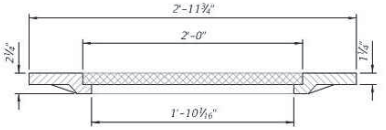
TYPE 8

MANHOLE TOPS



ELEVATION

1-PIECE COVER



ELEVATION

2-PIECE COVER

MANHOLE COVERS

LAST REVISION	REVISION	DESCRIPTION:
11/01/20		

FDOT FY 2021-22 STANDARD PLANS

SUPPLEMENTARY DETAILS FOR DRAINAGE STRUCTURES

INDEX 425-001

SHEET 1 of 8

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAME	DATE		NAME	DATE
DESIGNED BY	A.M.		DRAWN BY	J.M.	
CHECKED BY	L.A.O.		CHECKED BY	L.A.O.	
SUPERVISED BY:					

MIAMI-DADE COUNTY

DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

SUPPLEMENTARY DETAILS FOR DRAINAGE STRUCTURES

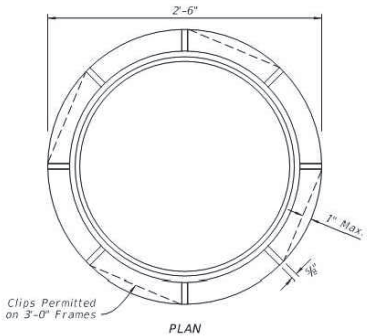
P:\Hwy\Planning\Highway\Old Cutler Road - Roundabouts\Plans (CAD & PDF files)\CD\70-STD-INDX-DWGS.dwg Feb 14, 2022 - 1:44pm E210983

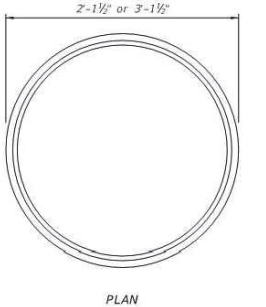
10/12/2020 6:42:25 AM

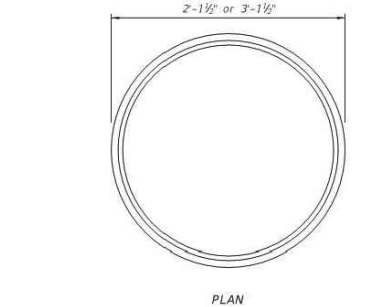
TABLE 1
WEIGHT OF CASTINGS (lb)

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

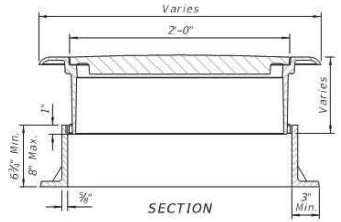
NOTE:
Frame Type 1 in Table 1, includes Adjustable frames.

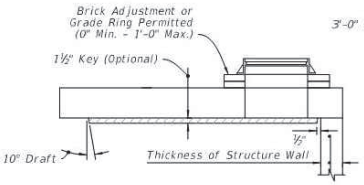


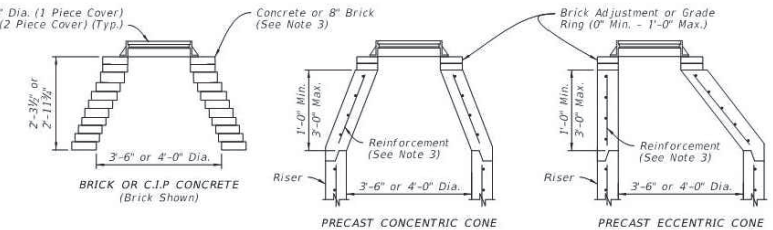




MANHOLE FRAMES







NOTES:

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

MANHOLE TOPS

MANHOLE FRAMES AND MANHOLE TOPS

LAST REVISION	REVISION	DESCRIPTION:
11/01/20		

FDOT FY 2021-22 STANDARD PLANS

SUPPLEMENTARY DETAILS FOR DRAINAGE STRUCTURES

INDEX 425-001 | SHEET 2 of 8

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

	NAME	DATE		NAME	DATE
DESIGNED BY	A.M.		DRAWN BY	J.M.	
CHECKED BY	L.I.O.		CHECKED BY	L.I.O.	
SUPERVISED BY:					

MIAMI-DADE COUNTY
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS
HIGHWAY DIVISION
STEPHEN P. CLARK CENTER
111 NW 1 ST
MIAMI, FLORIDA 33128

SUPPLEMENTARY DETAILS FOR DRAINAGE STRUCTURES

P:\HwyPlanning\Highway\Old Cutler Road - Roundabouts\Plans (CAD & PDF files)\CD\70-STD-INDX-DWGS.dwg Feb 14, 2022 - 1:44pm E210983

10/12/2020 6:42:27 AM