# DESOTO COUNTY DEVELOPMENT DEPARTMENT ENGINEERING DIVISION



#### ENGINEERING STANDARD DETAILS

REVISED: MARCH 24, 2016

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# DESOTO COUNTY DEVELOPMENT DEPARTMENT ENGINEERING DIVISION 201 EAST OAK STREET, SUITE 204 ARCADIA, FLORIDA 34266 OFFICE: 863-491-6165 FAX: 863-491-6163

#### SHEET INDEX

REVISION DATE: SCALE: DETAIL INDEX

#### GENERAL NOTES

PUBLICATIONS, CODES AND SPECIFICATIONS, AS HEREINAFTER LISTED AND REFERENCED THROUGHOUT THESE REGULATIONS, ARE A PART OF THIS DIVISION JUST AS IF INCORPORATED THEREIN. REFERENCE IS INTENDED TO REFER TO THE LATEST REVISION OR PUBLICATION WHICH HAS BEEN OFFICIALLY ADOPTED BY THE ISSUING AGENCY UNLESS A DATED ISSUE IS INDICATED. REFERENCE IN F.D.O.T. STANDARD SPECIFICATIONS TO THE STATE SHALL BE INTERPRETED TO MEAN THE COUNTY ENGINEER OR PROJECT ENGINEER, DEPENDING ON THE RESPONSIBILITIES ASSIGNED BY REQUIREMENTS HEREIN. REFERENCE TO TESTING, SAMPLING, JOB MIXTURES AND OTHER QUALITY CONTROL PROVISIONS THEREIN ARE DELETED IN FAVOR OF QUALITY CONTROL PROVISIONS OF THESE REQUIREMENTS.

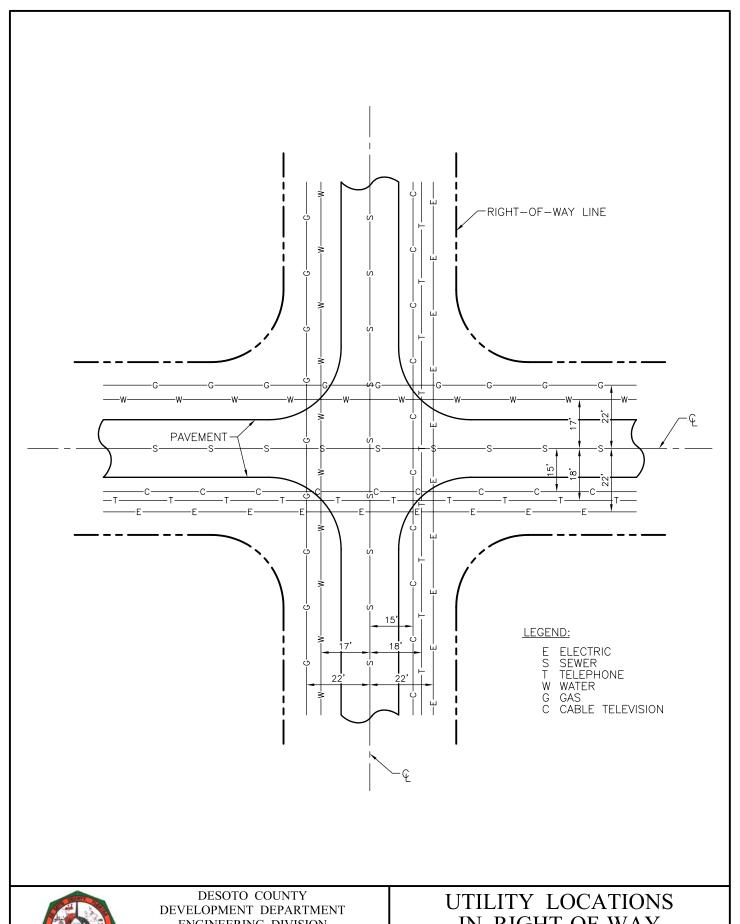
MINIMUM STANDARDS: THE REQUIREMENTS INCLUDED HEREIN ARE MINIMUM STANDARDS CONSIDERED ONLY AS BASIC REQUIREMENTS FOR PERFORMANCE, STRUCTURAL SUITABILITY AND DURABILITY. ALL PROPOSED CONSTRUCTION MUST BE DESIGNED WITH FULL CONSIDERATION GIVEN TO THE FUNCTIONAL, STRUCTURAL AND AESTHETIC REQUIREMENTS OF THE PARTICULAR INSTALLATION. WHERE STRICT ADHERENCE TO THE STANDARDS IS NOT PRACTICAL, A DEVIATION MAY BE GRANTED BY THE COUNTY ENGINEER.



# DESOTO COUNTY DEVELOPMENT DEPARTMENT ENGINEERING DIVISION 201 EAST OAK STREET, SUITE 204 ARCADIA, FLORIDA 34266 OFFICE: 863-491-6165 FAX: 863-491-6163

GENERAL NOTES

REVISION DATE: SCALE: DETAIL G-1

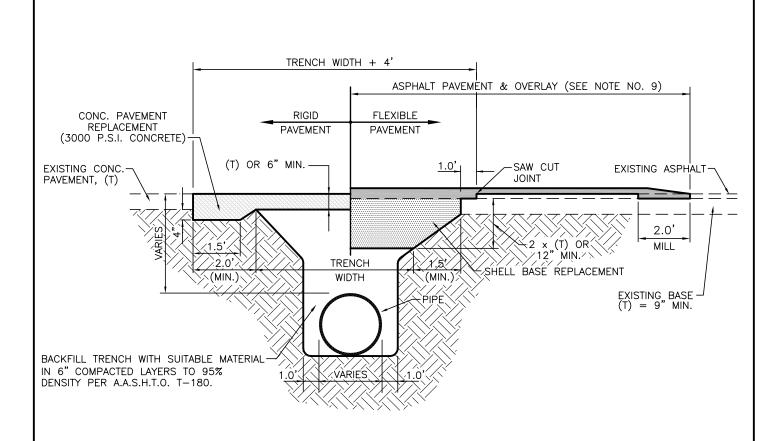




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# IN RIGHT-OF-WAY

DETAIL REVISION DATE: SCALE: D - 1 3-24-16 NOT TO SCALE



#### NOTES:

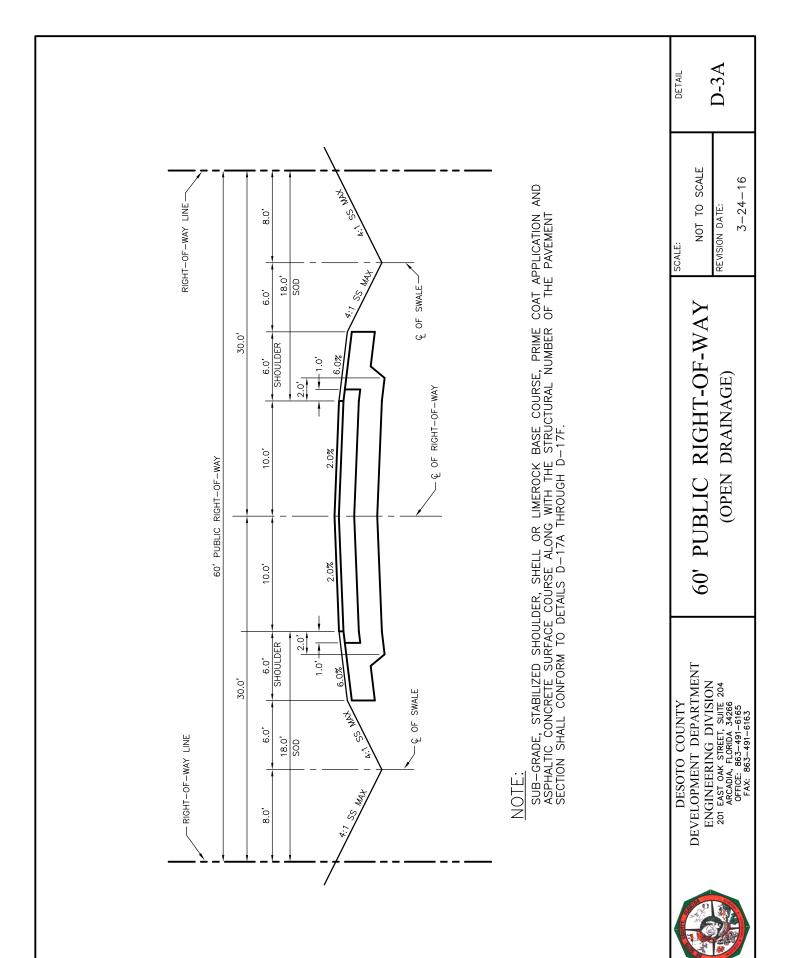
- 1. APPROVED BASE MATERIAL SHALL BE COMPACTED IN 6" LIFTS MAX., TO 98% DENSITY PER A.A.S.H.T.O. T-180.
- 2. APPROVED SUB-BASE MATERIAL SHALL BE PLACED IN 6" LIFTS AND COMPACTED TO 95% DENSITY PER A.A.S.H.T.O. T-180.
- 3. ASPHALT CONCRETE PAVEMENT JOINTS SHALL BE MECHANICALLY SAWED.
- 4. SURFACE TREATED PAVEMENT JOINTS SHALL BE LAPPED AND FEATHERED.
- 5. SURFACE MATERIAL SHALL BE CONSISTANT WITH EXISTING SURFACE. ASPHALT SHALL BE TYPE III AND EQUAL TO OR GREATER IN THICKNESS. MINIMUM THICKNESS FOR ASPHALT SHALL BE 1-1/2".
- 6. CONCRETE PAVEMENT JOINTS SHALL BE MECHANICALLY SAWED COMPLETELY THROUGH.
- 7. CONCRETE PAVEMENT REPLACEMENT SHALL EXTEND 3" BEYOND THE EDGE OF PAVEMENT.
- 8. BASE MATERIAL SHALL BE PRIMED AND TACKED IN ACCORDANCE WITH SECTION 300 OF THE F.D.O.T. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION).
- a. IN 30 M.P.H. SPEED ZONES, ROADWAY SHALL BE OVERLAYED 20 FEET EACH SIDE OF DISTURBED AREA.
   b. IN 45 M.P.H. SPEED ZONES, ROADWAY SHALL BE OVERLAYED 50 FEET EACH SIDE OF DISTURBED AREA.
   c. IN 55 M.P.H. SPEED ZONES, ROADWAY SHALL BE OVERLAYED 100 FEET EACH SIDE OF DISTURBED AREA.
   (NOTE: MINIMUM 1" OVERLAY IS REQUIRED.)
- 10. ROADWAY SURFACE DISTORTION AS A RESULT OF JACK AND BORE (SETTLING OR HUMPING OF ROADWAY) OR ANY OTHER FORM OF DAMAGE WHICH WOULD REQUIRE PATCHING, SHALL BE OVERLAYED WITH TYPE III ASPHALTIC CONCRETE AS OUTLINED IN NOTE NO. 9.
- 11. ALL STRIPPING, REFLECTORS, AND OTHER MARKINGS OBLITERATED BY OVERLAY SHALL BE RESTORED IN ACCORDANCE WITH F.D.O.T. STANDARDS AND TO THE SATISFACTION OF DESOTO COUNTY.

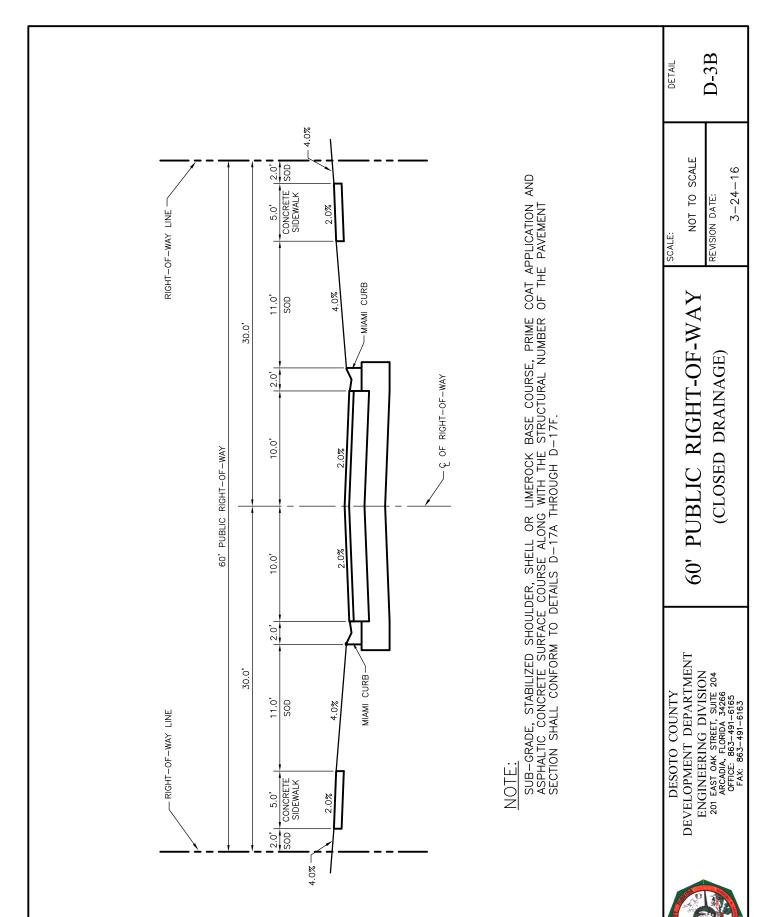


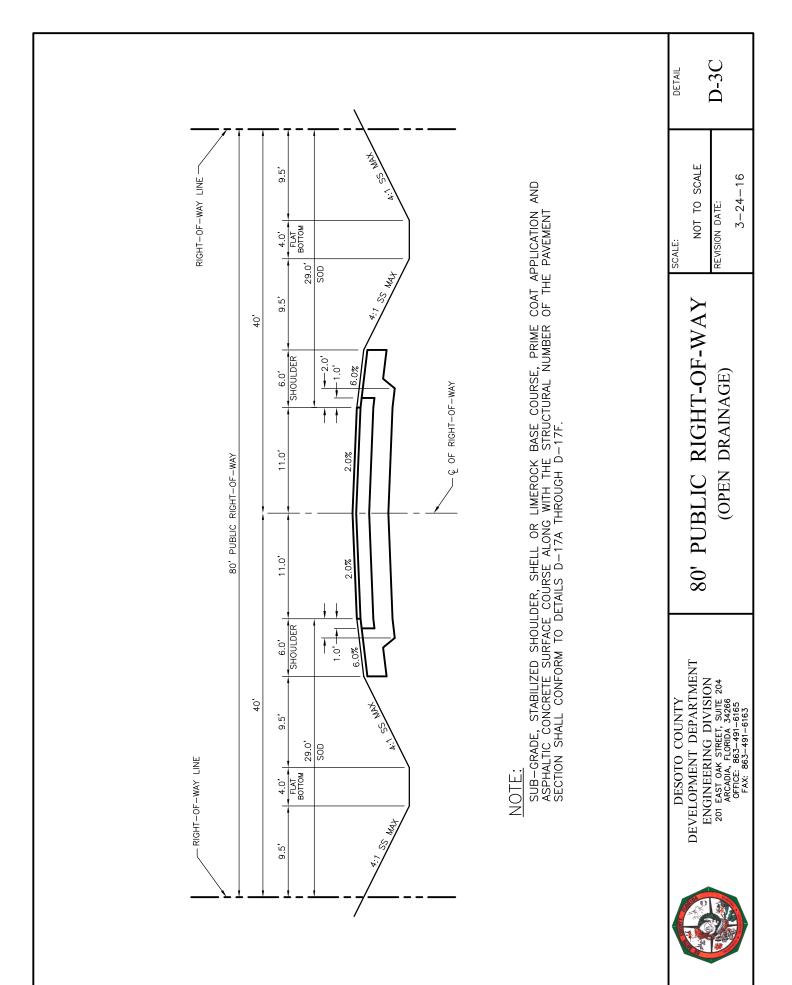
DESOTO COUNTY
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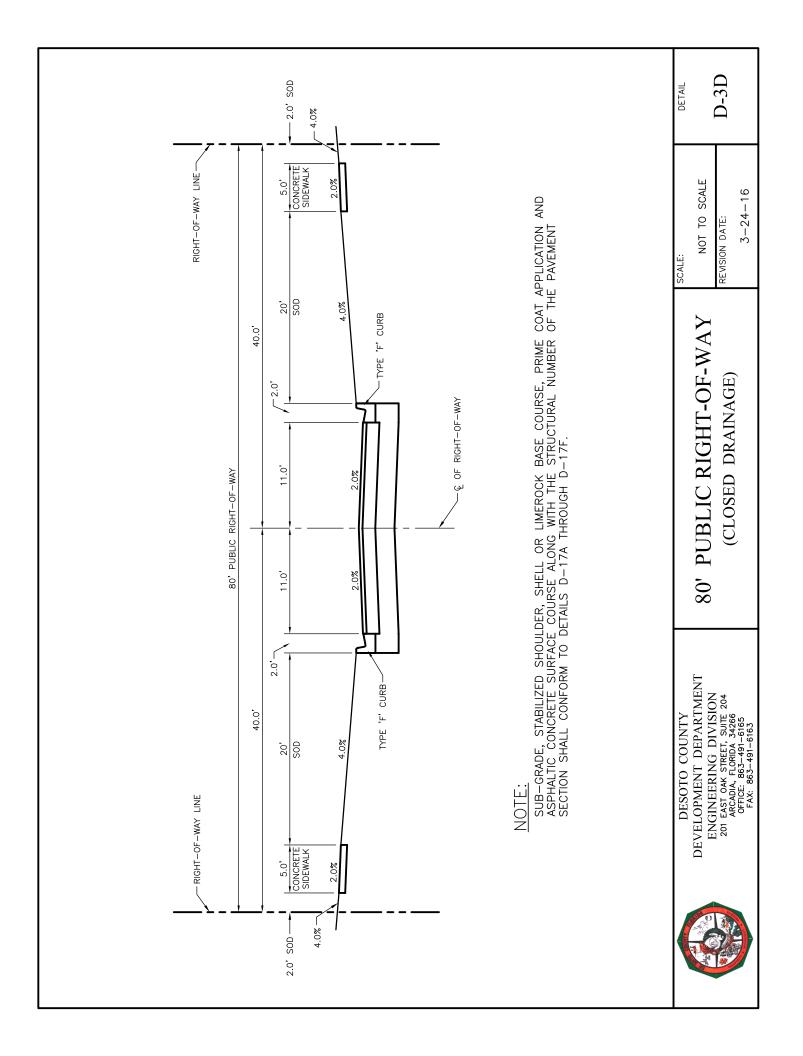
## PAVEMENT RESTORATION FOR OPEN CUT

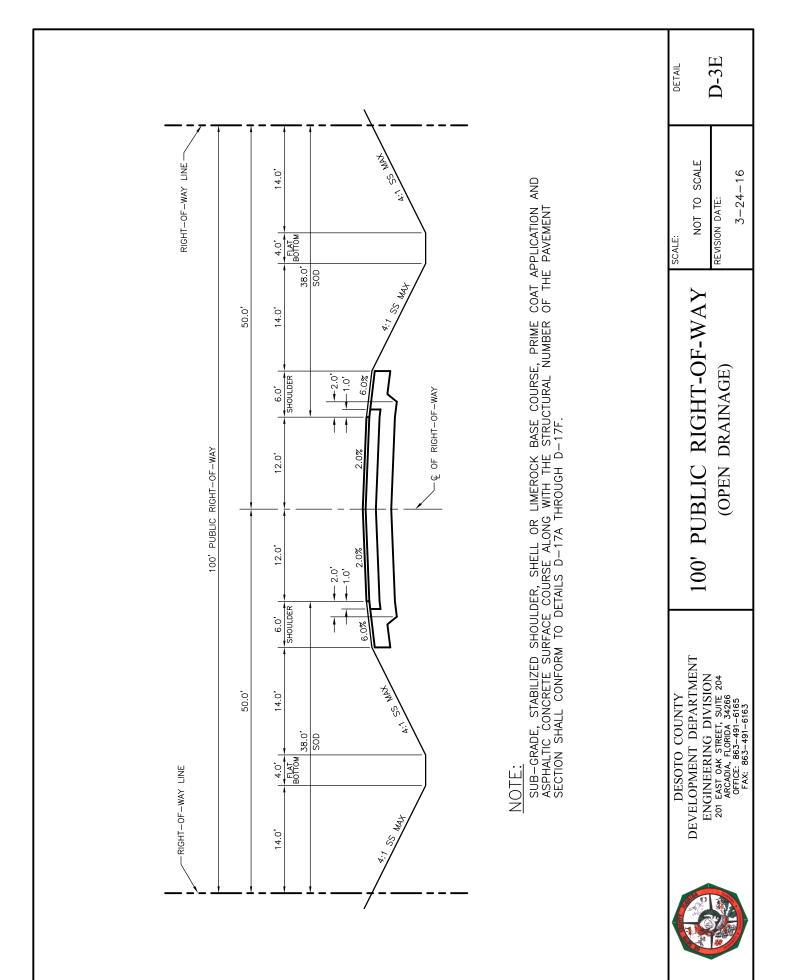
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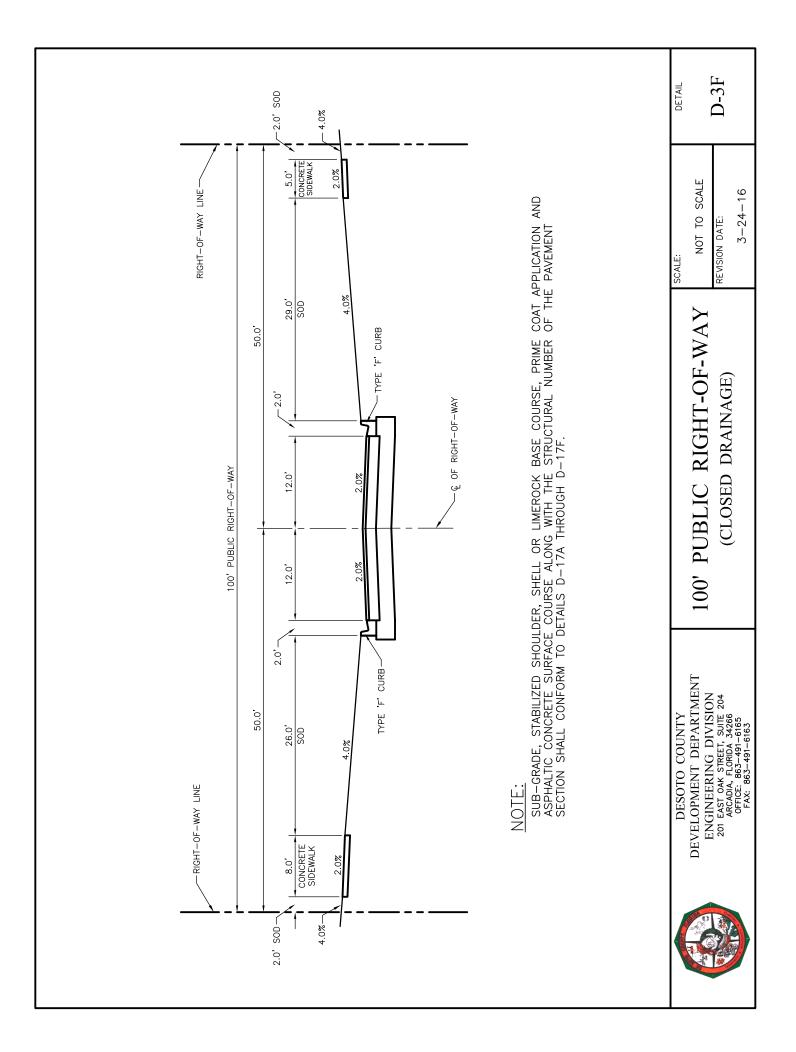


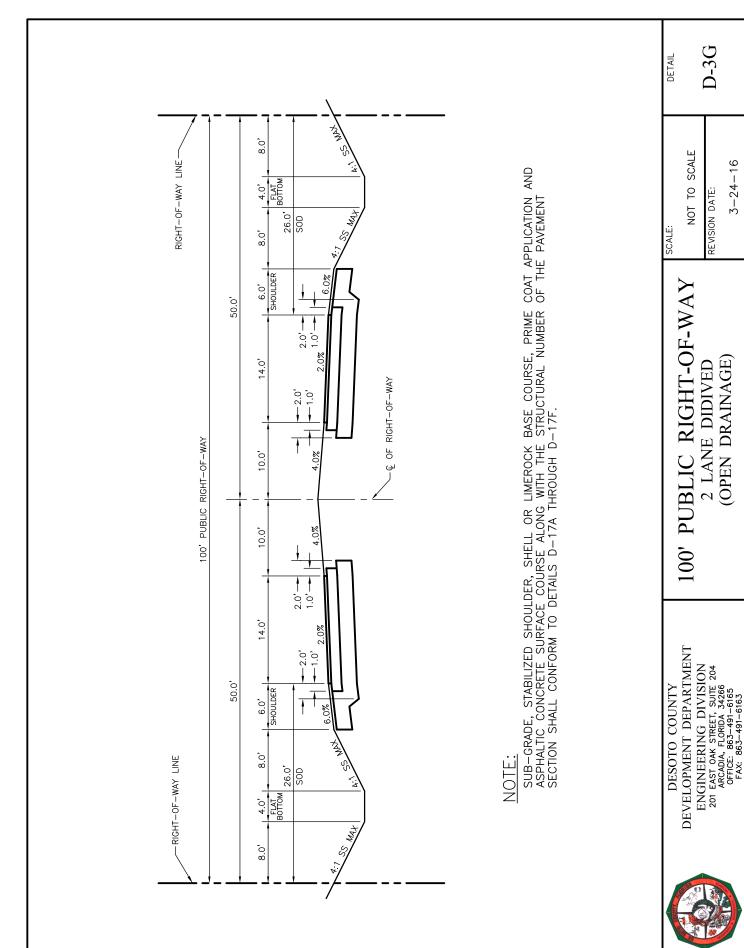




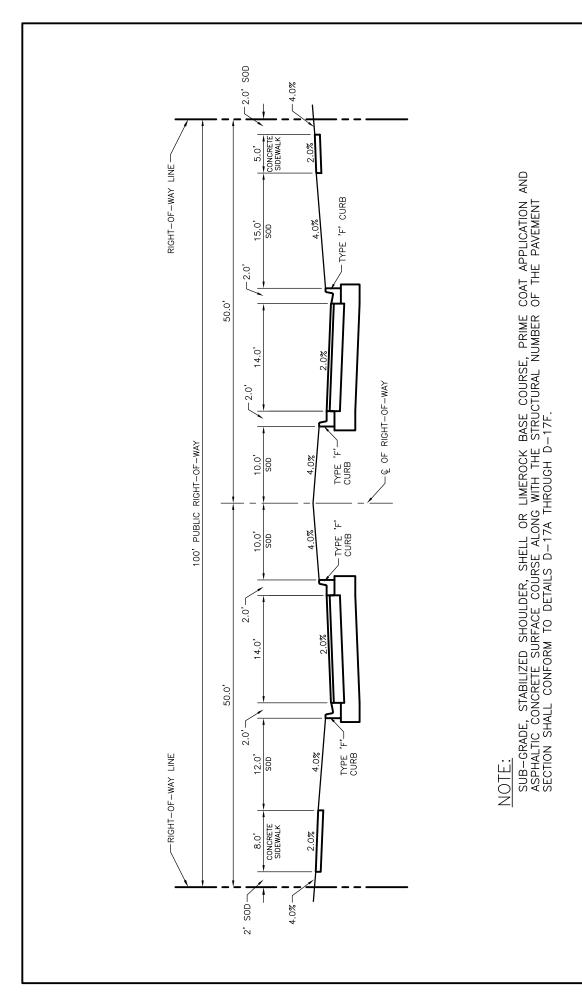








3-24-16



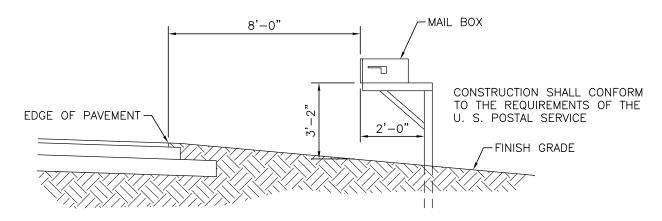
# 100' PUBLIC RIGHT-OF-WAY 2 LANE DIDIVED (CLOSED DRAINAGE)

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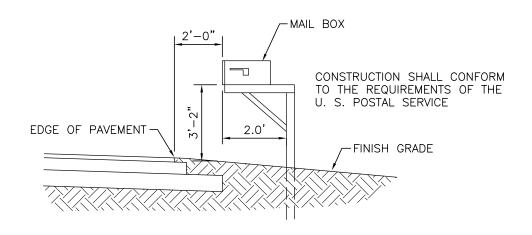
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DETAIL





# FOR RIGHT-OF-WAYS 80' AND GREATER



FOR RIGHT-OF-WAYS LESS THAN 80'

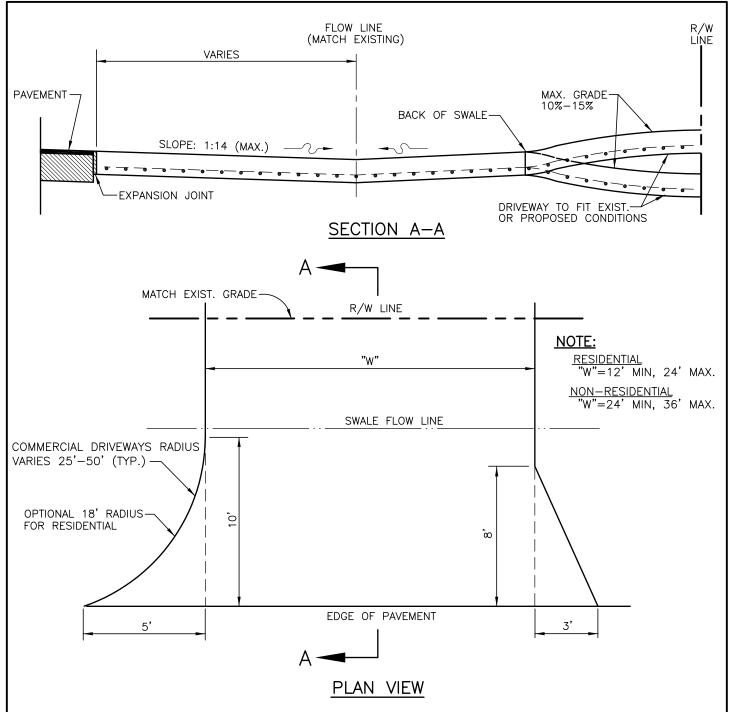


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#### MAIL BOX LOCATION

REVISION DATE: SCALE: 3-24-16 NOT TO SCALE DETAIL D-4



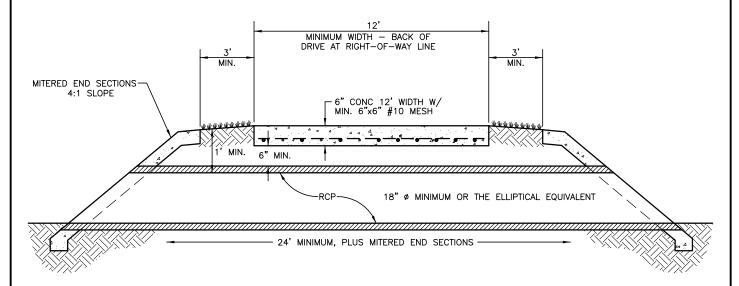
- (A) CONSTRUCT WITH 6" REINFORCED CONCRETE (3,000 psi @ 28 DAYS) WITH 6"x6" #10 MESH FROM EDGE OF PAVEMENT TO THE RIGHT-OF-WAY LINE.
- (B) DRIVEWAYS ADJACENT TO A PAVED ROADWAY MUST HAVE THE APRON CONSTRUCTED IN COMPLIANCE WITH THE NOTE (A) ABOVE.
- (C) EXISTING DRAINAGE FLOWLINE TO BE MAINTAINED. PIPING MAY BE REQUIRED AT THE COUNTY'S DISCRETION.
- (D) 3'x8' FLARED APRON IS MINIMAL, OR 18' RADIUS.
- (E) IF THE DRIVEWAY SLOPE IS STEEPER THAN 1:14, A STORM PIPE WITH MITERED ENDS SHALL BE INSTALLED.
- (F) NO DRIVEWAY RETURN, AT THE EDGE OF PAVEMENT, SHALL BE CLOSER THAN 50' FROM THE INTERSECTING STREET EDGE OF PAVEMENT.



# DESOTO COUNTY DEVELOPMENT DEPARTMENT ENGINEERING DIVISION 201 EAST OAK STREET, SUITE 204 ARCADIA, FLORIDA 34266 OFFICE: 863-491-6165 FAX: 863-491-6163

#### RURAL SWALE DRIVEWAY

| REVISION DATE: | SCALE:       | DETAIL |
|----------------|--------------|--------|
| 3-24-16        | NOT TO SCALE | D - 5  |



#### TYPICAL DRIVEWAY

VARIABLES: TOTAL OF 1' OF COVER. HDPE OR CMP PIPE IS ACCEPTABLE IN LIEU OF RCP.
R.C.P. WILL REQUIRE A MINIMUM 6" OF COVER BENEATH BOTTOM OF DRIVEWAY, FOR A

NOTE: 1) GRADES AND LOCATIONS MUST BE REVIEWED AND APPROVED BY THE COUNTY ENGINEERING STAFF FOR ALL PIPE INSTALLATIONS.

- 2) ACTUAL REQUIRED PIPE DIAMETER WILL BE BASED ON THE FLOW RATE REQUIRED TO PASS THROUGH PIPE SO AS NOT TO IMPOUND WATER UPSTREAM.
- 3) PIPE SIZE TO BE DETERMINED AND APPROVED BY DESOTO COUNTY.

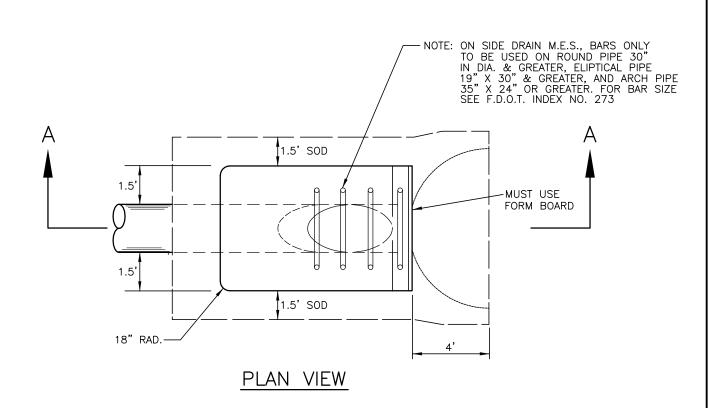


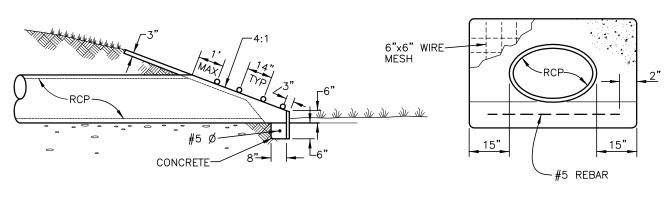
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TYPICAL DRIVEWAY STORM PIPE CROSS SECTION

D - 6

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SECTION A-A

END VIEW



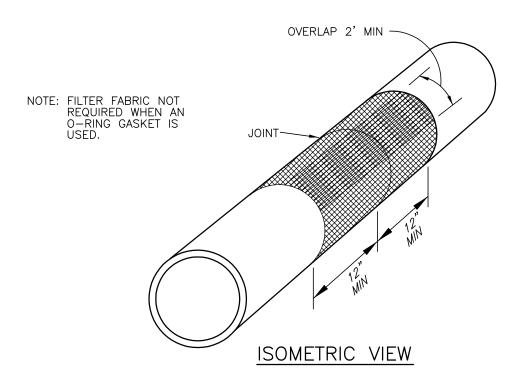
DESOTO COUNTY
DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION

201 EAST OAK STREET, SUITE 204 ARCADIA, FLORIDA 34266 OFFICE: 863–491–6165 FAX: 863–491–6163 RESIDENTIAL DRIVEWAY MITERED END SECTION

REVISION DATE: 3-24-16

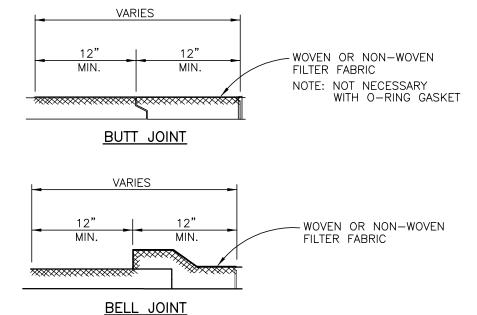
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D - 7



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

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



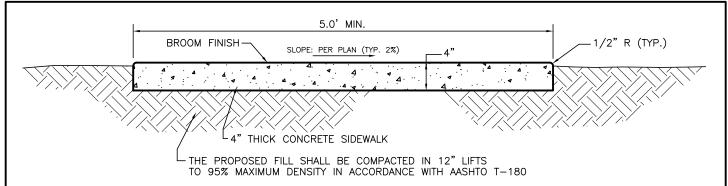


#### DESOTO COUNTY DEVELOPMENT DEPARTMENT ENGINEERING DIVISION

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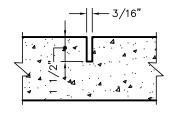
## CONCRETE STORM PIPE FILTER WRAP

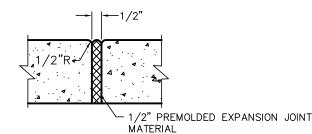
REVISION DATE: SCALE: DETAIL 3-24-16 NOT TO SCALE D-8



#### **SIDEWALK NOTES:**

- 1. CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 3000 P.S.I. IN 28 DAYS.
- 2. CONTRACTION JOINTS SHALL BE SAW CUT TO A 1 1/2" DEPTH AT INTERVALS EQUAL TO THE WIDTH OF THE SIDEWALK. AND MAXIMUM SPACING OF 5.0'.
- 3. AN EXPANSION JOINT WILL BE PLACED AT THE END OF ALL RETURNS, AT FIXED OBJECTS (DRIVEWAYS, CURBS ETC.) AND INTERVALS NOT TO EXCEED 20' EXPANSION JOINTS SHALL BE CONSTRUCTED WITH 1/2" PREMOLDED EXPANSION JOINT MATERIAL.
- 4. ALL SIDEWALKS AND SIDEWALK CROSSING SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA).





#### TYPE 'A'

#### TYPE 'B'

| TABLE | OF SIDEWALK JOINTS  |
|-------|---|
| TYPE  | LOCATION  |
| 'A'   | 5'-0" CENTER TO CENTER<br>ON SIDEWALKS.   |
| 'B'   | WHERE SIDEWALK ABUTS<br>CONCRETE CURBS, DRIVE-<br>WAYS & SIMILAR STRUC-<br>TURES AT INTERVALS NOT<br>TO EXCEED 20 FEET. |

#### **NOTES:**

- ALL ORGANIC MATERIAL & DEBRIS SHALL BE REMOVED & AREA SHALL BE GRADED & COMPACTED PRIOR TO CONCRETE PLACEMENT.
- 2. THE MINIMUM COMPRESSIVE STRENGTH OF THE CONCRETE SHALL BE CLASS 1, 3,000 P.S.I. @ 28 DAYS.

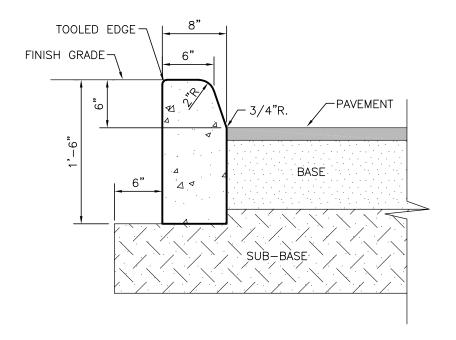


# DESOTO COUNTY DEVELOPMENT DEPARTMENT ENGINEERING DIVISION 201 EAST OAK STREET, SUITE 204 ARCADIA, FLORIDA 34266 OFFICE: 863-491-6165 FAX: 863-491-6163

204 REVISION D

#### CONCRETE SIDEWALK

| REVISION DATE: | SCALE:       | DETAIL |       |
|----------------|--------------|--------|-------|
| 3-24-16        | NOT TO SCALE |        | D - 9 |



#### **CURB NOTES:**

- 1) CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 3,000 P.S.I. IN 28 DAYS.
- 2) AN EXPANSION JOINT WILL BE PLACED AT THE END OF ALL RETURNS AND AT INTERVALS NOT TO EXCEED 20'. CONSTRUCTION JOINTS AT A MAXIMUM SPACING OF 10' SHALL BE SAW CUT 1-1/2" DEEP.
- 3) EXPANSION JOINTS SHALL BE CONSTRUCTED WITH 1/2" BITUMINOUS IMPREGNATED EXPANSION JOINT MATERIAL.



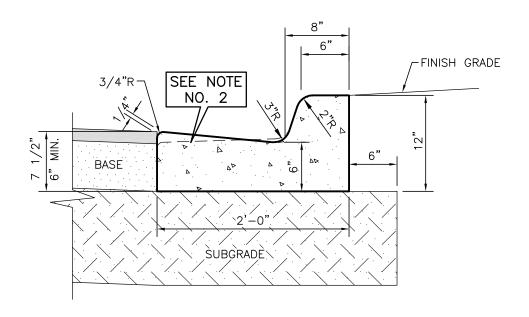
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201 EAST OAK STREET, SUITE 204

201 EAST OAK STREET, SUITE 204 ARCADIA, FLORIDA 34266 OFFICE: 863-491-6165 FAX: 863-491-6163 TYPE 'D' CONCRETE CURB

REVISION DATE: SCALE: 3-24-16

NOT TO SCALE

D - 10A



#### **CURB NOTES:**

- 1) CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 3,000 P.S.I. IN 28 DAYS.
- 2) WHEN USED ON THE HIGH SIDE OF THE ROADWAY THE CROSS SLOPE OF THE GUTTER SHALL MATCH THE CROSS SLOPE OF THE ADJACENT PAVEMENT.
- 3) AN EXPANSION JOINT WILL BE PLACED AT THE END OF ALL RETURNS AND AT INTERVALS NOT TO EXCEED 20'. CONSTRUCTION JOINTS AT A MAXIMUM SPACING OF 10' SHALL BE SAW CUT 1-1/2" DEEP.
- 4) EXPANSION JOINTS SHALL BE CONSTRUCTED WITH 1/2" BITUMINOUS IMPREGNATED EXPANSION JOINT MATERIAL.



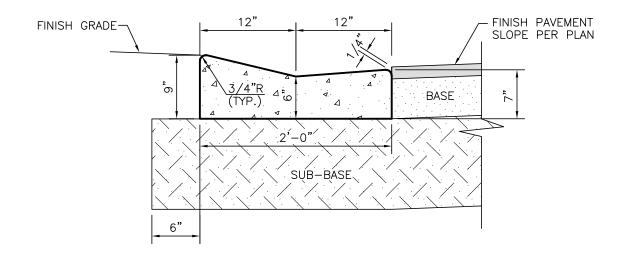
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CONCRETE CURB

REVISION DATE: 3-24-16

NOT TO SCALE

D - 10B



#### **CURB NOTES:**

- 1) CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 3,000 P.S.I. IN 28 DAYS.
- 2) AN EXPANSION JOINT WILL BE PLACED AT THE END OF ALL RETURNS AND AT INTERVALS NOT TO EXCEED 20'. CONSTRUCTION JOINTS AT A MAXIMUM SPACING OF 10' SHALL BE SAW CUT 1-1/2" DEEP.
- 3) EXPANSION JOINTS SHALL BE CONSTRUCTED WITH 1/2" BITUMINOUS IMPREGNATED EXPANSION JOINT MATERIAL.



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APCADIA STREET, SUITE 204

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#### MIAMI CONCRETE CURB

REVISION DATE: SCALE: 3-24-16

NOT TO SCALE

DETAIL T

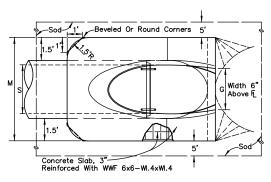
D - 10C

#### NOTE:

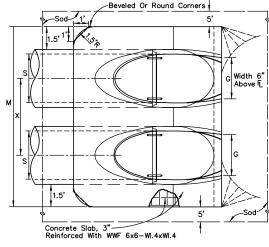
ON SIDE DRAIN M.E.S. BARS SHALL ONLY BE USED ON ELIPTICAL PIPE 19"x30" ERCP & GREATER. FOR BAR SIZE SEE F.D.O.T. INDEX NO. 273

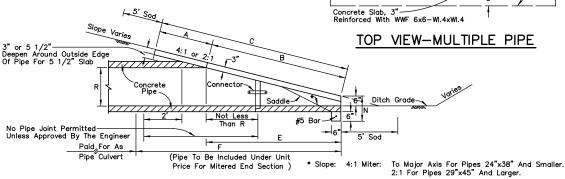
#### ELLIPTICAL CONCRETE PIPE

| DIMENSIONS & QUANTITIES |           |           |        |       |        |        |        |     |       |                |                |                |               |
|-------------------------|-----------|-----------|--------|-------|--------|--------|--------|-----|-------|----------------|----------------|----------------|---------------|
|                         | D:        | C         |        |       |        | _      |        |     | _     | М              |                |                |               |
|                         | Rise<br>R | Span<br>S | X      | A     | В      | С      | E      | F   | G     | Single<br>Pipe | Double<br>Pipe | Triple<br>Pipe | Quad.<br>Pipe |
|                         | 12"       | 18"       | 2'-10" | 1.97' | 1.62'  | 3.59'  | 1.56'  | 4'  | 1.50' | 4.92'          | 7.75'          | 10.58'         | 13.42'        |
|                         | 14"       | 23"       | 3'-4"  | 2.01  | 1.99'  | 4.00'  | 1.89'  | 5'  | 1.90' | 5.38'          | 8.71'          | 12.04'         | 15.38'        |
|                         | 19"       | 30"       | 4'-0"  | 2.11' | 2.92'  | 5.03'  | 2.73   | 6'  | 2.37' | 6.04           | 10.04          | 14.04          | 18.04'        |
|                         | 24"       | 38"       | 5'-0"  | 2.20' | 3.85'  | 6.05   | 3.56'  | 7'  | 2.85' | 6.79'          | 11.79'         | 16.79'         | 21.79'        |
| 2:1                     | 29"       | 45"       | 5'-11" | 2.34  | 4.79   | 7.13   | 4.39'  | 8'  | 3.19' | 7.50'          | 13.42'         | 19.33'         | 25.25'        |
|                         | 34"       | 53"       | 7'-0"  | 2.43' | 5.72'  | 8.15'  | 5.23'  | 9'  | 3.57' | 8.25'          | 15.25'         | 22.25'         | 29.25'        |
| Slope                   | 38"       | 60"       | 7'-10" | 2.52  | 6.46'  | 8.98'  | 5.89   | 9'  | 3.95' | 8.92'          | 16.75          | 24.58'         | 32.42'        |
|                         | 43"       | 68"       | 8'-11" | 2.62' | 7.39'  | 10.01' | 6.73'  | 10' | 4.28' | 9.67'          | 18.58'         | 27.50'         | 36.42'        |
|                         | 48"       | 76"       | 9'-11" | 2.71  | 8.33'  | 11.04  | 7.56   | 11' | 4.59' | 10.42          | 20.33          | 30.25          | 40.17         |
|                         | 53"       | 83"       | 10'-8" | 2.80' | 9.26'  | 12.06' | 8.39'  | 12' | 4.77' | 11.08'         | 21.75'         | 32.42'         | 43.08'        |
|                         | 58"       | 91"       | 11'-8" | 2.90' | 10.19  | 13.09  | 9.23'  | 13' | 5.01' | 11.83          | 23.50'         | 35.17          | 46.83         |
|                         | 12"       | 18"       | 2'-10" | 2.36  | 3.06'  | 5.42'  | 3.03'  | 5'  | 1.50' | 4.92'          | 7.75           | 10.58'         | 13.42'        |
|                         | 14"       | 23"       | 3'-4"  | 2.44' | 3.75   | 6.19   | 3.70   | 6'  | 1.90' | 5.38'          | 8.71'          | 12.04'         | 15.38'        |
|                         | 19"       | 30"       | 4'-0"  | 2.62' | 5.47   | 8.09'  | 5.36   | 8'  | 2.37  | 6.04           | 10.04          | 14.04          | 18.04'        |
|                         | 24"       | 38"       | 5'-0"  | 2.79' | 7.18'  | 9.97   | 7.03   | 10' | 2.85  | 6.79'          | 11.79'         | 16.79          | 21.79'        |
| 4:1                     | 29"       | 45"       | 5'-11" | 3.05  | 8.90   | 11.95  | 8.70   | 12' | 3.19' | 7.50'          | 13.42'         | 19.33          | 25.25'        |
| Slope                   | 34"       | 53"       | 7'-0"  | 3.22' | 10.62' | 13.84  | 10.36' | 13' | 3.57  | 8.25'          | 15.25'         | 22.25          | 29.25'        |
|                         | 38"       | 60"       | 7'-10" | 3.39' | 11.99' | 15.38' | 11.70' | 15' | 3.95' | 8.92'          | 16.75          | 24.58          | 32.42'        |
|                         | 43"       | 68"       | 8'-11" | 3.56' | 13.71  | 17.27  | 13.36' | 17' | 4.28' | 9.67           | 18.58'         | 27.50'         | 36.42         |
|                         | 48"       | 76"       | 9'-11" | 3.73' | 15.43' | 19.16' | 15.03' | 19' | 4.59' | 10.42'         | 20.33          | 30.25          | 40.17'        |
|                         | 53"       | 83"       | 10'-8" | 3.91' | 17.15  | 21.06' | 16.70' | 20' | 4.77' | 11.08'         | 21.75'         | 32.42'         | 43.08'        |
|                         | 58"       | 91"       | 11'-8" | 4.08' | 18.87' | 22.95  | 18.36' | 22' | 5.01' | 11.83          | 23.50'         | 35.17          | 46.83'        |



#### TOP VIEW-SINGLE PIPE





**SECTION** 

2:1 For Pipes 29"x45" And Larger.

1 Miter: To Major Axis For Pipes 29"x45" And Smaller.
1:1 For Pipes 34"x53" And Larger.

FOR NON-RESIDENTIAL USE



DESOTO COUNTY
DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION

201 EAST OAK STREET, SUITE 204 ARCADIA, FLORIDA 34266 OFFICE: 863-491-6165 FAX: 863-491-6163

# MITERED END SECTION ELLIPTICAL CONCRETE PIPE

REVISION DATE: 3-24-16

NOT TO SCALE

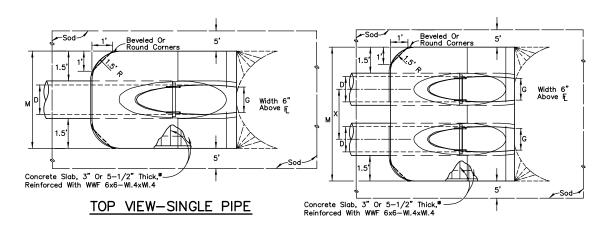
D - 11A

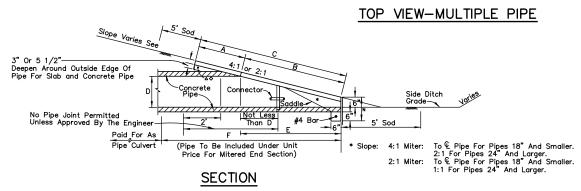
NOTE:

ON SIDE DRAIN M.E.S. BARS SHALL ONLY TO BE USED ON ROUND PIPE 30" IN DIA. & GREATER. FOR BAR SIZE SEE F.D.O.T. INDEX NO. 273

#### ROUND CONCRETE PIPE

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





#### FOR NON-RESIDENTIAL USE



#### DESOTO COUNTY ENGINEERING DEPARTMENT

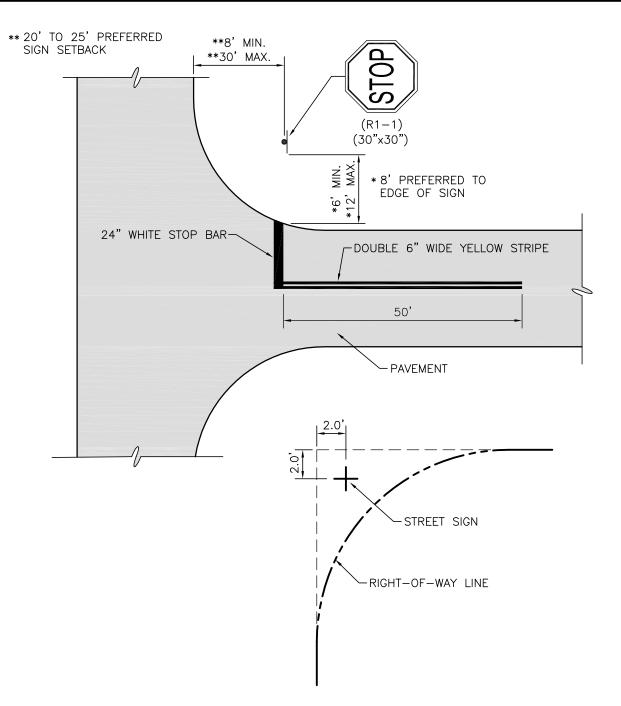
201 EAST OAK STREET, SUITE 201 ARCADIA, FLORIDA 34266 OFFICE 863-491-6165 FAX 863-491-6163

## MITERED END SECTION ROUND CONCRETE PIPE

REVISION DATE: 3-24-16

NOT TO SCALE

D - 11B



#### STRIPING NOTES

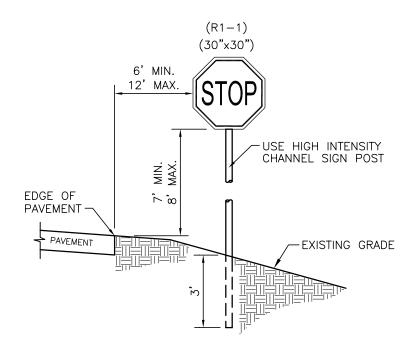
- 1. STRIPING AND SIGNAGE SHALL CONFORM WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND THE F.D.O.T. STANDARD INDEX DRAWINGS FOR SUCH.
- 2. ALL STRIPING FOR THE INTERSECTIONS SHALL CONFORM WITH THE F.D.O.T. STANDARD INDEX NO. 17346
- 3. ALL STRIPING SHALL BE PAINT.



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ENGINEERING DIVISION
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# STOP BAR, STOP SIGN AND INTERSECTION STRIPING

REVISION DATE: SCALE: DETAIL D - 12



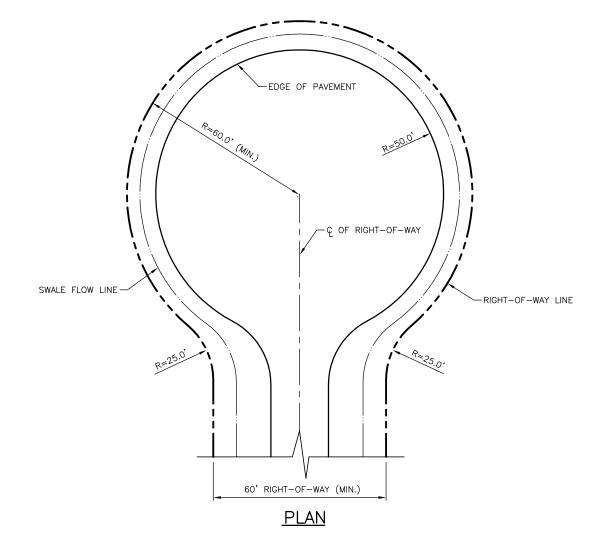


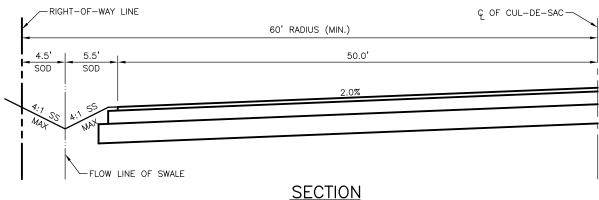
DESOTO COUNTY
DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION
201 EAST OAK STREET, SUITE 204

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ARCADIA, FLORIDA 34266
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#### STOP SIGN INSTALLATION

REVISION DATE: SCALE: DETAIL D - 13





#### NOTE:

SUB-GRADE, STABILIZED SHOULDER, SHELL OR LIMEROCK BASE COURSE, PRIME COAT APPLICATION AND ASPHALTIC CONCRETE SURFACE COURSE ALONG WITH THE STRUCTURAL NUMBER OF THE PAVEMENT SECTION SHALL CONFORM TO DETAILS D-17A THROUGH D-17F.

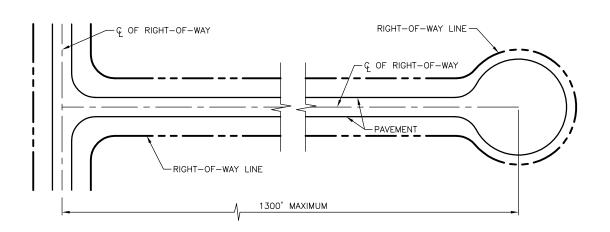


# DESOTO COUNTY DEVELOPMENT DEPARTMENT ENGINEERING DIVISION 201 EAST OAK STREET, SUITE 204 ARCADIA ELORIDA 34266

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#### CUL-DE-SAC DETAIL

| REVISION DATE: | SCALE:       | DETAIL | D 14   |
|----------------|--------------|--------|--------|
| 3-24-16        | NOT TO SCALE |        | D - 14 |



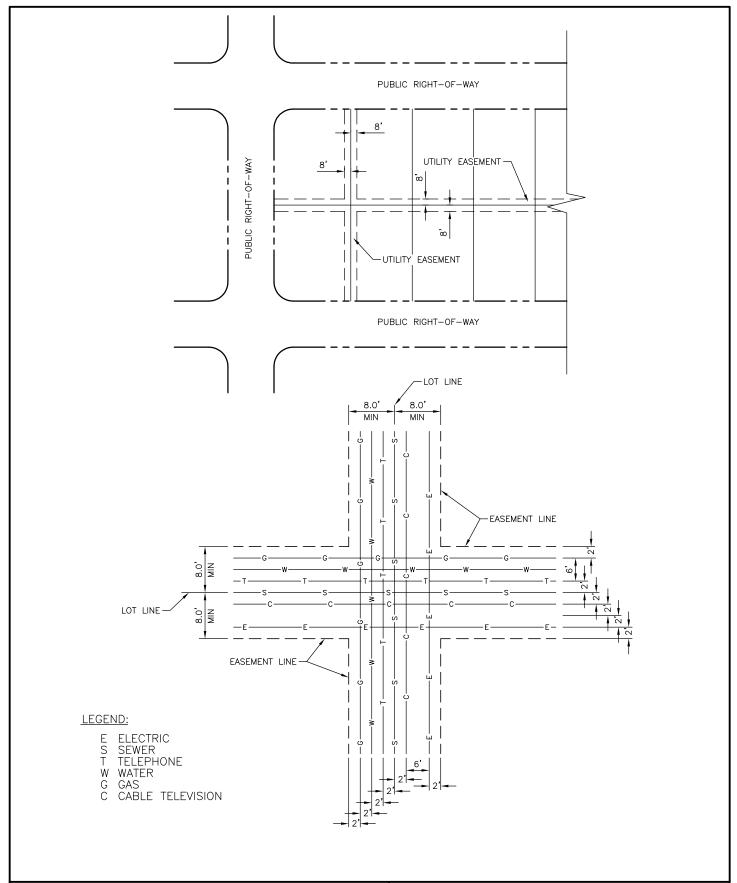


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#### MAXIMUM CUL-DE-SAC LENGTH

REVISION DATE: SCALE: DETAIL D - 15





### DESOTO COUNTY DEVELOPMENT DEPARTMENT ENGINEERING DIVISION

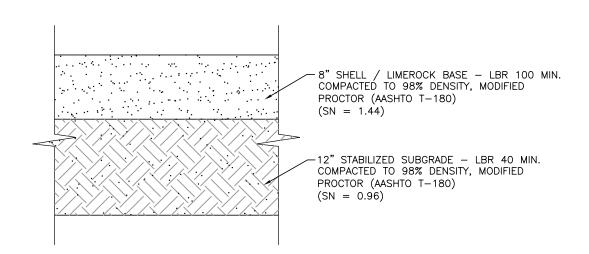
ENGINEERING DIVISION
201 EAST OAK STREET, SUITE 204
ARCADIA, FLORIDA 34266
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# SUBDIVISION EASEMENT UTILITY LOCATIONS

REVISION DATE: SCALE:

3-24-16 NOT TO SCALE

D - 16



STRUCTURAL NO. = 2.40MINIMUM STANDARD FOR STABILIZED GRAVEL ROADWAYS, FIRE ACCESS & PARKING AREAS ALLOWED BY CODE

#### NOTE:

ALTERNATE PAVEMENT DESIGNS CONFORMING TO A STRUCTURAL NUMBER FOR THAT PAVEMENT SECTION MAY BE APPROVED BY THE COUNTY ENGINEER.

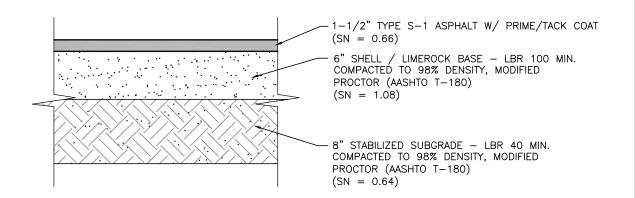


#### **DESOTO COUNTY** DEVELOPMENT DEPARTMENT ENGINEERING DIVISION 201 EAST OAK STREET, SUITE 204 ARCADIA, FLORIDA 34266 OFFICE: 863-491-6165 FAX: 863-491-6163

#### TYPICAL PAVEMENT SECTIONS NO. 1

D-17A

DETAIL DATE: SCALE: 3-24-16 NOT TO SCALE



STRUCTURAL NO. = 2.38 LIGHT TRAFFIC - ON-SITE ONLY

#### NOTE:

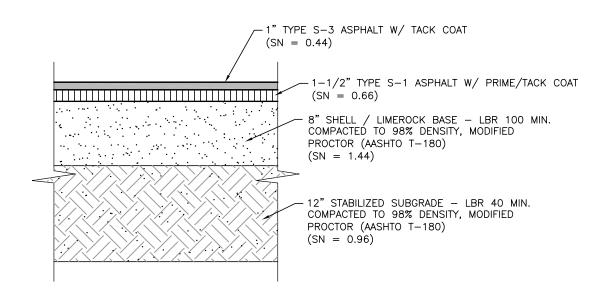
ALTERNATE PAVEMENT DESIGNS CONFORMING
TO A STRUCTURAL NUMBER FOR THAT PAVEMENT
SECTION MAY BE APPROVED BY THE COUNTY ENGINEER.



# DESOTO COUNTY DEVELOPMENT DEPARTMENT ENGINEERING DIVISION 201 EAST OAK STREET, SUITE 204

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# TYPICAL PAVEMENT SECTIONS NO. 2



STRUCTURAL NO. = 3.50

MINIMUM STANDARD FOR PUBLIC ROADWAY & ASPHALT DRIVEWAY WITHIN THE PUBLIC RIGHT-OF-WAY & MODERATE ON-SITE TRAFFIC

#### NOTE:

ALTERNATE PAVEMENT DESIGNS CONFORMING
TO A STRUCTURAL NUMBER FOR THAT PAVEMENT
SECTION MAY BE APPROVED BY THE COUNTY ENGINEER.



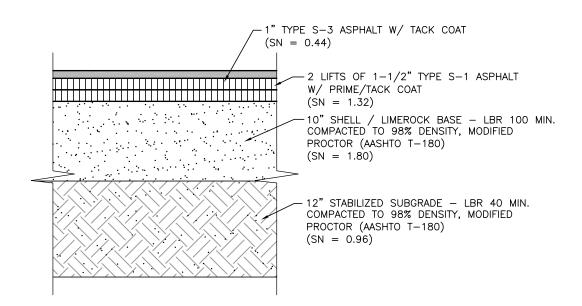
# DESOTO COUNTY DEVELOPMENT DEPARTMENT ENGINEERING DIVISION 201 EAST OAK STREET, SUITE 204

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# TYPICAL PAVEMENT SECTIONS NO. 3

DATE: SCALE:
3-24-16 NOT TO SCALE

D-17C



STRUCTURAL NO. = 4.52

MINIMUM STANDARD FOR LARGE COMMERCIAL VEHICLE WITHIN THE PUBLIC RIGHT-OF-WAY & FOR HEAVY ON-SITE TRUCK TRAFFIC

#### NOTE:

ALTERNATE PAVEMENT DESIGNS CONFORMING
TO A STRUCTURAL NUMBER FOR THAT PAVEMENT
SECTION MAY BE APPROVED BY THE COUNTY ENGINEER.



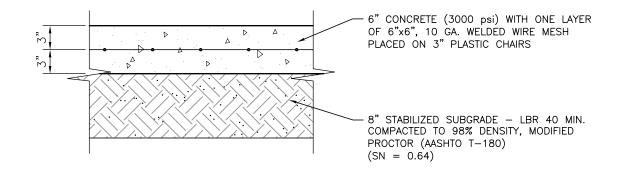
# DESOTO COUNTY DEVELOPMENT DEPARTMENT ENGINEERING DIVISION

201 EAST OAK STREET, SUITE 204 ARCADIA, FLORIDA 34266 OFFICE: 863-491-6165 FAX: 863-491-6163

# TYPICAL PAVEMENT SECTIONS NO. 4

D-17D

DATE: SCALE: DETAIL
3-24-16 NOT TO SCALE



MINIMUM STANDARD FOR CONCRETE
DRIVEWAY WITHIN THE PUBLIC RIGHT-OF-WAY

#### **NOTES:**

- 1. EXPANSION JOINTS (COLD JOINTS) SHALL BE 1/2" EXPANSION JOINT MATERIAL AND ARE TO BE SPACED AT 40' MAXIMUM INCREMENTS AND SHALL BE SHOWN ON THE PLANS. ALL EXPANSION JOINTS SHALL BE SEALED WITH "SIKAFLEX-1C SL" SEALANT AND BACKER ROD BOND BREAKER OR ENGINEER APPROVED EQUAL.
- 2. CONTRACTION JOINTS SHALL BE 1/4"x1" DEEP SAWCUTS MADE ON ALL CONCRETE PAVEMENT. THE SPACING SHALL BE AS FOLLOWS: THE SPACING SHALL BE THE EQUIVALENT TO THE WIDTH OF THE TRAVEL LANE.



DESOTO COUNTY
DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION
201 EAST OAK STREET, SUITE 204
ADDADA STREET, SUITE 204

201 EAST OAK STREET, SUITE 204 ARCADIA, FLORIDA 34266 OFFICE: 863-491-6165 FAX: 863-491-6163 TYPICAL PAVEMENT SECTIONS NO. 5

DATE: SCALE: 3-24-16 NOT TO SCALE

DETAIL

D-17E

#### WORK WITHIN THE PUBLIC RIGHT-OF-WAY

- 1. ALL WORK WITHIN THE PUBLIC RIGHT-OF-WAY REQUIRES A PERMIT. CONTACT THE DESOTO COUNTY DEVELOPMENT DEPARTMENT, ENGINEERING DIVISION AT PHONE: 863-491-7543.
- 2. IF A CULVERT IS REQUIRED, THE THE CULVERT SIZE, TYPE AND INVERTS SHALL BE DETERMINED BY THE COUNTY.
- 3. REQUIRED INSPECTIONS:
  - . AT STAKE OUT OF CULVERT AND SWALE
  - AFTER PIPE HAS BEEN PLACED
  - AFTER COMPACTION / PRIOR TO PAVEMENT
  - FINAL
- 4. DENSITY TEST:
  - COMMERCIAL DEVELOPMENT REQUIRES ONE TEST PER LANE, 12" LIFTS AT 98% DENSITY MODITIED PROCTOR (ASSHTO T-180) SIGNED AND SEALED BY A FLORIDA PROFESSIONAL ENGINEER AND SHALL BE SUPPLIED TO THE COUNTY.
- 5. THE DESOTO COUNTY ENGINEERING DIVISION SHALL BE NOTIFIED A MINIMUM OF 2 BUSINESS DAYS PRIOR TO INSPECTIONS / TESTING.



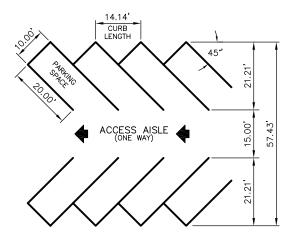
DESOTO COUNTY
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ENGINEERING DIVISION
201 EAST OAK STREET, SUITE 204
ARCADIA, FLORIDA 34266
OFFICE: 863-491-6165
FAX: 863-491-6163

TYPICAL PAVEMENT SECTION - NOTES

DATE: SCALE:

3-24-16 NOT TO SCALE

D-17F



11.55'
CURB
ACCESS AISLE

ACCESS AISLE

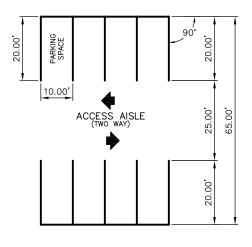
4.64.64

ACCESS AISLE

ACCESS AI

45° PARKING

60° PARKING



90° PARKING



PARALLEL PARKING

#### NOTE:

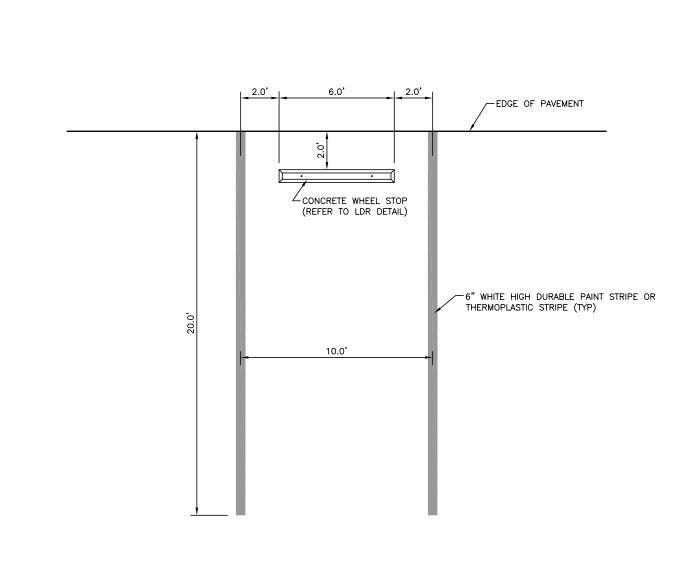
- 1. ALL DIMENSIONS SHOWN ARE MINIMUM.
- 2. COMMERCIAL, INDUSTRIAL AND MULTIFAMILY ON-SITE PARKING SHALL HAVE, AS A MINIMUM, PAVEMENT SECTION NO. 2 (DETAIL D-17B).
- 3. PARKING SPACES SHALL COMPLY WITH TYPICAL PARKING SPACE (DETAIL D-19) AND TYPICAL HANDICAP PARKING SPACE (DETAIL D-20).



# DESOTO COUNTY DEVELOPMENT DEPARTMENT ENGINEERING DIVISION 201 FAST OAK STREET, SUITE 204

ENGINEERING DIVISION
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OFFICE: 863-491-6165
FAX: 863-491-6163

# TYPICAL ON-SITE PARKING SPACE LAYOUT

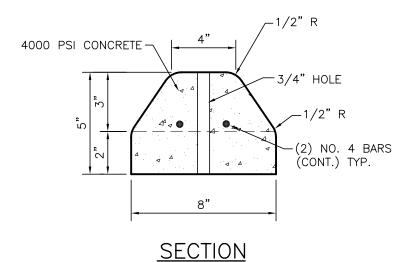


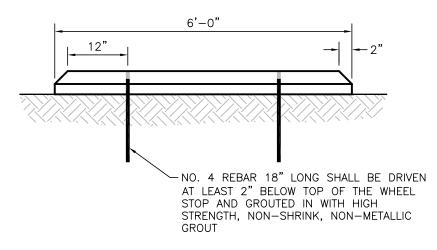


DESOTO COUNTY
DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION
201 FAST OAK STREET SUITE 204

ENGINEERING DIVISION 201 EAST OAK STREET, SUITE 204 ARCADIA, FLORIDA 34266 OFFICE: 863-491-6165 FAX: 863-491-6163

# TYPICAL PARKING SPACE





### **ELEVATION**

#### NOTE:

- 1. REBARS SHALL BE 3" CLEAR AT ENDS
- 2. EQUILIVANT DESIGNS MAY BE APPROVED AT THE DISCRETION OF THE COUNTY ENGINEER.
- 3. WHEEL STOPS SHALL BE REQUIRED ON ALL PARKING SPACES EXCEPT PARALLEL PARKING SPACES.



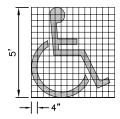
# DESOTO COUNTY DEVELOPMENT DEPARTMENT ENGINEERING DIVISION 201 EAST OAK STREET, SUITE 204 ARCADIA ELORIDA 34266

201 EAST OAK STREET, SUITE 204 ARCADIA, FLORIDA 34266 OFFICE: 863-491-6165 FAX: 863-491-6163

# TYPICAL CONCRETE WHEEL STOP DETAIL

DATE: SCALE:
3-24-16 NOT TO SCALE

D-19A

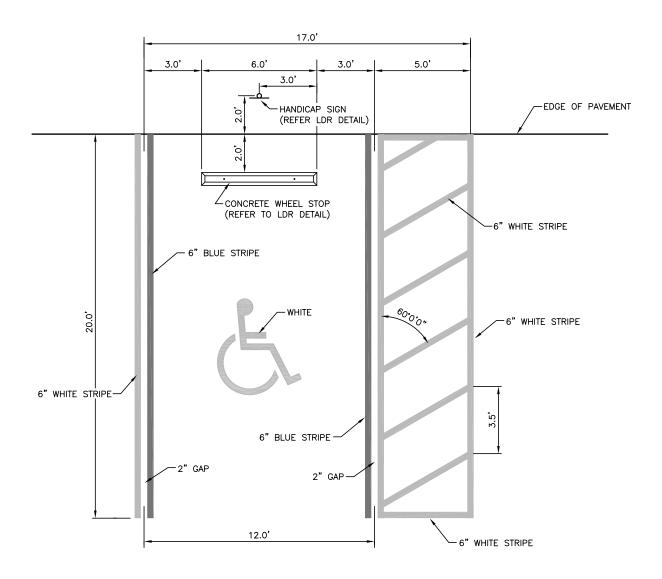


NOTE: PAINT SYMBOL BELOW ONTO PAVED SURFACE WITH 2 COATS OF TRAFFIC WHITE PAINT, PER FDOT SPECIFICATION.



LUSE OF PAVEMENT SYMBOL IN ACCESSIBLE PARKING SPACES IS OPTIONAL, WHEN USED THE SYMBOL SHALL BE 3' OR 5' HIGH AND WHITE IN COLOR.

#### SYMBOL FOR HANDICAPPED PARKING



#### NOTE:

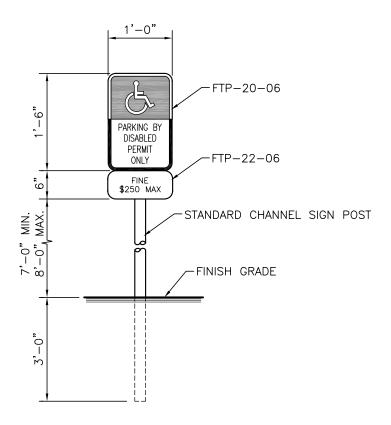
1. WHITE AND BLUE STRIPING SHALL BE HIGH DURABLE PAINT OR THERMOPLASTIC (TYP).



# DESOTO COUNTY DEVELOPMENT DEPARTMENT ENGINEERING DIVISION

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FAX: 863-491-6163

# TYPICAL HANDICAP PARKING SPACE

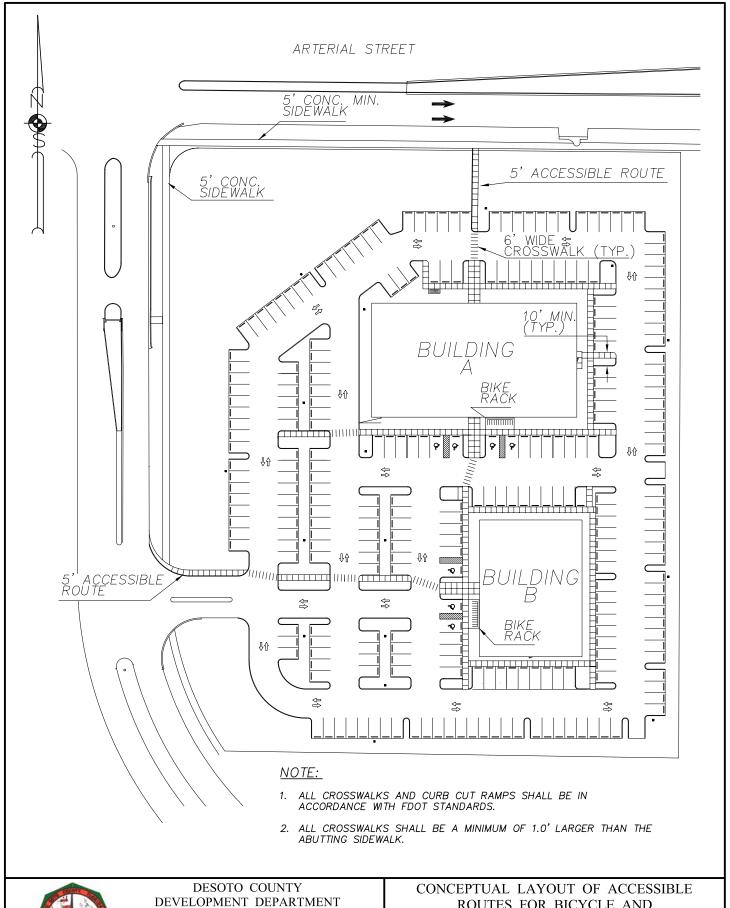


1. AN ALTERNATE MOUNTING LOCATION, SUBJECT TO ADA REQUIREMENTS, MAY BE APPROVED BY THE DEVELOPMENT DIRECTOR.



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HANDICAPPED PARKING SIGN DETAIL

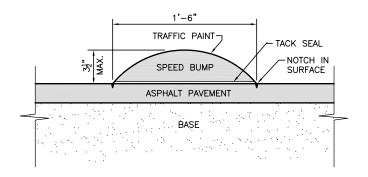




ENGINEERING DIVISION
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ROUTES FOR BICYCLE AND PEDESTRIAN CIRCULATION

DATE: D-22 3-24-16 NOT TO SCALE

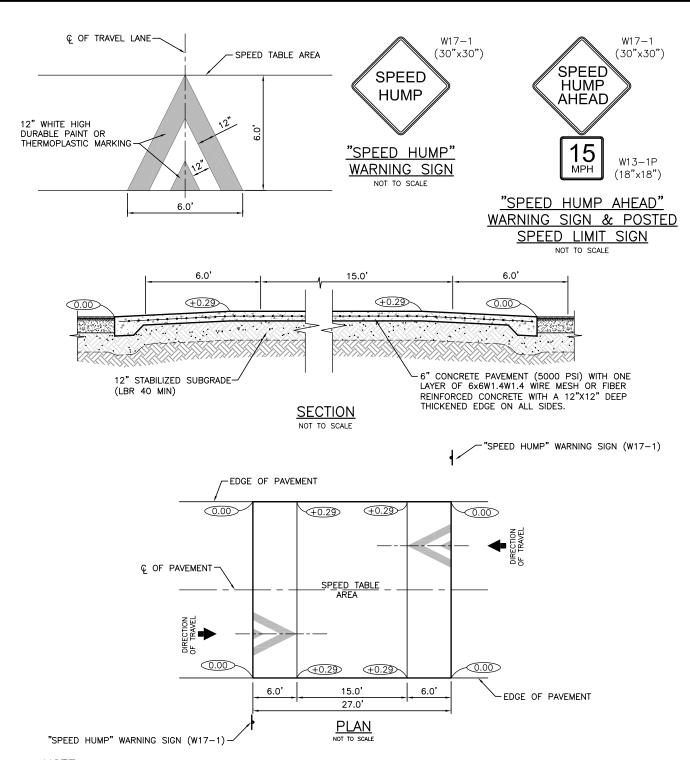


- 1. SPEED BUMPS SHALL ONLY BE USE IN ON-SITE PARKING LOTS.
- 2. LAY OUT AND MARK AREA FOR PLACEMENT OF SPEED BUMPS.
- 3. CLEAN AREA OF ALL DIRT AND DEBRIS.
- 4. NOTCH EXISTING ASPHALT SURFACE TO ALLEVIATE SPEED BUMP DISPLACEMENT.
- 5. TACK COAT AREA OF INSTALLATION USING LIQUID ASPHALT.
- 6. INSTALL HOT MIX SURFACE ASPHALT TO A MAXIMUM HEIGHT OF  $3\frac{1}{2}$ " AT THE APEX AND A WIDTH OF 18".
- 7. APPLY A SEAL OF LIQUID ASPHALT TO THE ADJOINING EDGE OF THE INSTALLATION TO HELP PREVENT MOISTURE PENETRATION.
- 8. APPLY HEAVY-DUTY REFLECTIVE TRAFFIC PAINT SUFFICIENT TO IDENTIFY THE SPEED BUMP.
- "SPEED HUMP" WARNING SIGN (W17-1) WITH POSTED SPEED LIMIT SIGN (W13-1P) SHALL BE POSTED 100 FT. FROM THE SPEED BUMP.
- 10. SPEED BUMPS SHALL BE AT LEAST 25 FT. FROM ANY ROAD INTERSECTION.
- 11. SPEED BUMPS SHALL BE AT LEAST 90 FT. FROM AN ADJACENT CROSSWALK.
- 12. THE MINIMUM SPACING FOR SPEED BUMPS SHALL BE: 15 mph SPEED LIMIT THE SPACING IS 120 LF; 20 mph SPEED LIMIT THE SPACING IS 240 LF AND A 25 mph SPEED LIMIT THE SPACING IS 360 LF.



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## SPEED BUMP DETAIL



- 1. "SPEED HUMP AHEAD" WARNING SIGN (W17-1) WITH POSTED SPEED LIMIT SIGN (W13-1P) SHALL BE POSTED 100 FT. FROM THE SPEED TABLE AND A "SPEEP HUMP" WARNING SIGN (W17-1) SHALL BE POSTED AT THE BEGINNING OF THE SPEED TABLE.
- 2. SPEED TABLES SHALL BE AT LEAST 25 FT. FROM ANY ROAD INTERSECTION.
- 3. SPEED TABLES SHALL BE AT LEAST 90 FT. FROM AN ADJACENT CROSSWALK.
- 4. THE MINIMUM SPACING FOR SPEED TABLES SHALL BE THE FOLLOWING: 15 mph SPEED LIMIT THE SPACING IS 120 LF; 20 mph SPEED LIMIT THE SPACING IS 240 LF AND A 25 mph SPEED LIMIT THE SPACING IS 360 LF.

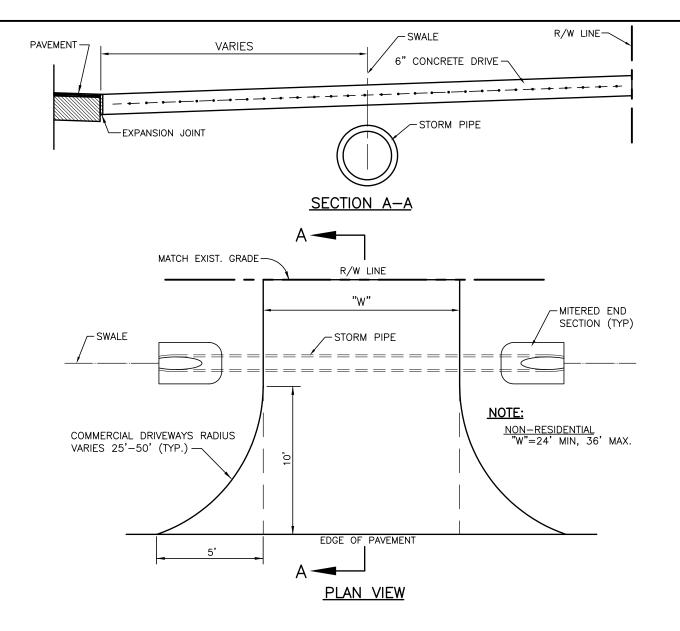


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## SPEED TABLE DETAIL

| DATE:   | SCALE:       | DETAIL |  |
|---------|--------------|--------|--|
| 3-24-16 | NOT TO SCALE | D-24   |  |

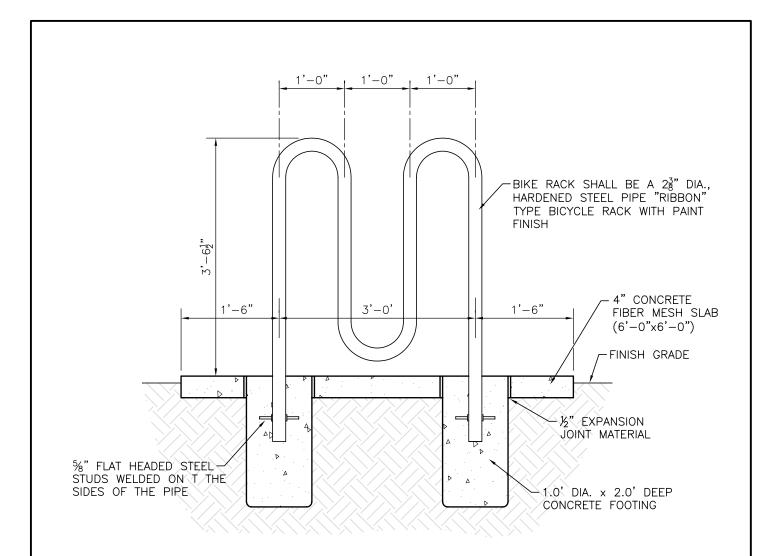


- CONSTRUCT WITH 6" REINFORCED CONCRETE (3,000 psi @ 28 DAYS) WITH 6"x6" #10 MESH FROM EDGE OF PAVEMENT TO THE RIGHT-OF-WAY LINE.
- 2. DRIVEWAYS ADJACENT TO A PAVED ROADWAY MUST HAVE THE APRON CONSTRUCTED IN COMPLIANCE WITH THE NOTE NO. 1 (ABOVE).
- 3. EXISTING DRAINAGE FLOWLINE TO BE MAINTAINED. PIPING MAY BE REQUIRED AT THE COUNTY'S DISCRETION.
- 4. NO DRIVEWAY RETURN, AT THE EDGE OF PAVEMENT, SHALL BE CLOSER THAN 50' FROM THE INTERSECTING STREET EDGE OF PAVEMENT.
- 5. ALL CULVERTS INSTALLED WITHIN THE COUNTY RIGHT OF WAY SHALL HAVE MITERED END SECTIONS WHICH SHALL COMPLY WITH THE SPECIFICATIONS AS SET FORTH IN THE MOST RECENT EDITION OF THE FDOT DESIGN STANDARDS MANUAL AND THE DESOTO COUNTY STANDARD ENGINEERING DETAILS. THE DEVELOPMENT DIRECTOR, UPON THE ADVICE OF THE COUNTY ENGINEER, SHALL HAVE THE AUTHORITY TO MAKE EXCEPTIONS TO MEET SPECIAL OR UNIQUE SITE CONDITIONS SUCH AS SPEED LIMIT, CROSS SLOPE OF SWALE, WIDTH OF THE RIGHT OF WAY, DISTANCE OF THE CULVERT OFF THE EDGE OF THE PAVEMENT, NEIGHBORHOOD CHARACTERISTICS, AND CULVERT MATERIAL TYPE.



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NON-RESIDENTIAL DRIVEWAY

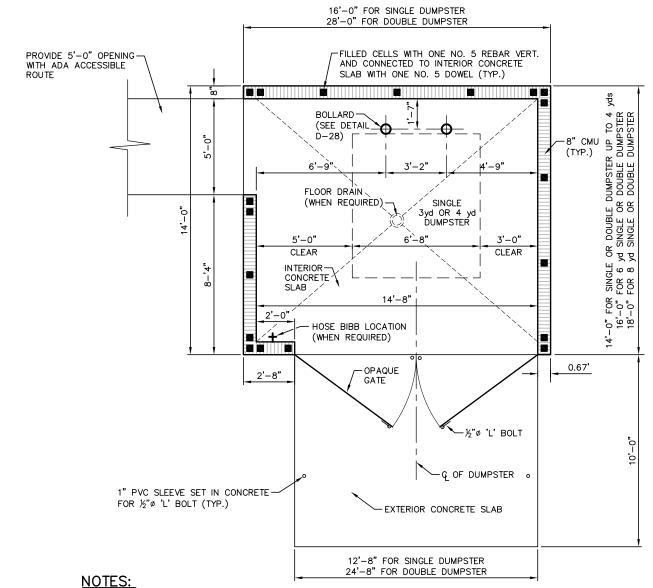


ALL BICYCLE PARKING SPACES SHALL INCLUDE A STATIONARY PARKING DEVICE ON A CONCRETE SURFACE WHICH ADEQUATELY SUPPORTS THE BICYCLE AND MUST HOLD AT LEAST 180° OF THE WHEEL ARC.



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TYPICAL BICYCLE RACK DETAIL



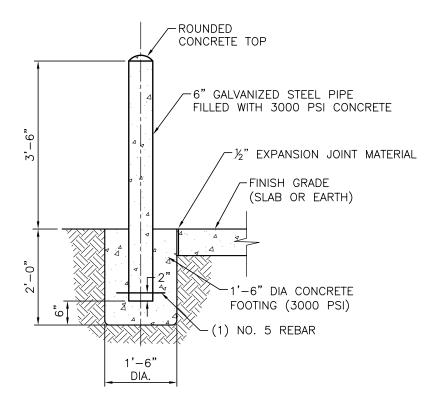
- 1. THE INTERIOR SLAB SHALL BE 6" CONCRETE (3000 psi) WITH 6"x6"W1.4W1.4 OR FIBER MESH EQUIVALENT AND A 12" WIDE x 12" DEEP CONCRETE FOOTING WITH (2) NO. 5 REBAR'S CONTINUOUS ON 12" STABILIZED SUBGRADE (LBR 40). THE INTERIOR CONCRETE SLAB SHALL BE SLOPED TO THE FRONT FOR POSITIVE DRAINAGE, UNLESS A FLOOR DRAIN IS REQUIRED. THE EXTERIOR SLAB SHALL BE 6" CONCRETE (3000 psi) WITH NO. 4 REBAR'S AT 12" O.C.E.W. AND A 12"x12" THICKENED EDGE WITH 2 NO. 5 REBAR'S CONTINUOUS ON 12" STABILIZED SUBGRADE (LBR 40). THE EXTERIOR CONCRETE SLAB SHALL MATCH THE PARKING LOT/ROADWAY DRAINAGE.
- 2. THE WALLS SHALL BE 6'-0" HIGH AND SHALL BE CONSTRUCTED OF 8" CMU WITH FILLED CELLS AS SHOWN ON THE PLAN. THE TOP COURSE SHALL BE A LINTEL BEAM WITH (1) NO. 5 REBAR CONTINUOUS. THE EXTERIOR FINISH OF THE WALLS SHALL MATCH THE FINISH OF THE PRINCIPLE STRUCTURE.
- 3. TWO BOLLARDS ARE REQUIRED WITH ONE DUMPSTER AND 5 BOLLARDS ARE REQUIRED WITH TWO DUMPSTERS. SEE TYPICAL BOLLARD DETAIL D-28.
- 4. THE DUMPSTER ENCLOSURE SHALL HAVE AN OPAQUE DOUBLE GATE HAVING FRAME WORK MADE OF 2"x2"x½" STEEL ANGLE IRON AND 18 GA. SHEETING WITH DIAGONAL BRACING. CONTINUOUS WELD ALL JOINTS. EACH GATE SHALL HAVE A ½"ø 'L' BOLT TO SECURE THE GATE CLOSED AND OPEN WHEN THE DUMPSTER IS BEING EMPTIED. THE GATE SHALL SWING 90" MINIMUM.
- 5. WHEN THE DUMPSTER IS USED BY A RESTAURANT A HOSE BIBB SHALL BE INSTALLED AND THE DUMPSTER INTERIOR SLAB SHALL BE SLOPED FROM THE OUTSIDE EDGES TO A POINT CENTERED ON THE DUMPSTER AT A SLOPE OF 1/8" PER FOOT. A 4" FLOOR DRAIN SHALL BE INSTALL AND SHALL DRAIN TO THE SANITARY SEWER. WHEN DOUBLE DUMPSTERS ARE USED THE DEVELOPER SHALL INSTALL 2 FLOOR DRAINS, ONE AT EACH DUMPSTER.
- 6. THE DEVELOPER SHALL COORDINATE WITH THE LOCAL WASTE HAULER FRANCHISEE FOR HIS SIZING REQUIREMENTS FOR THE DUMPSTER AND THE ENCLOSURE.



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# TYPICAL DUMPSTER ENCLOSURE DETAIL





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## TYPICAL BOLLARD **DETAIL**

DATE: SCALE: DETAIL D-28 3-24-16 NOT TO SCALE

# MATERIAL STANDARDS

#### AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS

AASHTO M36-03 (R2011) Zinc Coated (Galvanized) Corrugated Iron or Steel Culverts and Under drains

AASHTO M171-05 Standard Specifications for Waterproof Paper for Curing Concrete

AASHTO M148-05 Standard Specifications for Liquid Membrane-Forming Compounds for Curb Concrete

AASHTO M171-05 Standard Specifications for White Polyethylene Sheeting (Film) for curing Concrete

AASHTO M190-4 Bituminous Coated Corrugated Metal Culvert Pipe and Pipe Arches

AASHTO T245-97 (2004) Resistance to Plastic Flow of Bituminous Mixtures using Marshall Apparatus

AASHTO M114-10 Building Brick (Made from Clay or Shale)

#### AMERICAN CONCRETE INSTITUTE (ACI)

ACI STANDARD 301-10 Specifications for Structural Concrete for buildings

ACI STANDARD 318-11 Building code Requirements for Reinforced Concrete

## AMERICAN IRON AND STEEL INSTITUTE (AISI) HANDBOOK OF STEEL DRAINAGE AND HIGHWAY CONSTRUCTION PRODUCTS - 2007 EDITION

#### AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A53/A53M-10 Pipe, Steel, Black and Hot Dipped Zinc-Coated (Galvanized) Welded and Seamless, for

Ordinary Uses, Spec. for

ASTM A123/A123M-09 Zinc (Hot Galvanized) Coatings on products Fabricated From Rolled, Pressed and

forged Steel Shapes, Plates, Bars And Strip, Spec. for,

ASTM B766 Electrodeposited Coatings of Cadmium on Steel, Spec. for,

ASTM F1554 (Grade C) Carbon Steed Externally Threaded Standard Fasteners, Spec. for

ASTM A185/A185M-07 Welding Steel Wire Fabric for Concrete Reinforcement, Spec. for,

ASTM A615M-0913 Deformed and Plain Billet-Steel Bars for concrete Reinforcement, Spec. for,

ASTM B88-09 ASTM B88-09 Seamless Copper Water Tube, Spec. for,

ASTM B108/B108M-11 ASTM B108/B108M-11 Aluminum-Alloy Permanent Mold Castings, Spec. for,

ASTM B209-10 ASTM B209-10Aluminum and Aluminum Alloy sheet and Plate, Spec. for,

ASTM F1554 (Grade C) Carbon Steed Externally Threaded Standard Fasteners, Spec. for

ASTM A185/A185M-07 ASTM A185/A185M-07 Welding Steel Wire Fabric for Concrete Reinforcement, Spec. for,

ASTM A615M-0913 ASTM A615M-0913 Deformed and Plain Billet-Steel Bars for concrete Reinforcement, Spec. for,

ASTM B88-09 Seamless Copper Water Tube, Spec. for,

ASTM B108/B108M-11 Aluminum-Alloy Permanent Mold Castings, Spec. for,

ASTM B209-10 Aluminum and Aluminum Alloy sheet and Plate, Spec. for,

ASTM C12-09 Installing Vitrified Clay Sewer Pipe, Rec. Practice for,



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### MATERIAL STANDARDS

REVISION DATE: SCALE: DETAIL M-1

| ASTM C55-11           | Concrete Building Brick, Spec. for,   |
|-----------------------|---|
| ASTM C76-11           | Reinforced Concrete Culvert, Storm Drain and Sewer Pipe, Spec. for,   |
| ASTM C139-11          | Concrete Masonry Units for Construction of Catch Basins and Manholes, Spec. for,  |
| ASTM C172-10          | Fresh Concrete, Sampling.   |
| ASTM C270-10          | Mortar for Unit Masonry, Spec. for,   |
| ASTM C245-04 (2009)   | Compression Joints for Vitrified Clay Bell and Spigot Pipe, Spec. for,  |
| ASTM C700-11          | Vitrified Clay Pipe, Extra Strength, Standards Strength, and Perforated, Spec. for,   |
| ASTM D6690-07         | Concrete Joint Sealer, Hot Poured Elastic Type, Spec. for,  |
| ASTM D1556-07         | Density of Soil in Place by the Sand-Cone Method, Test for,   |
| ASTM D1557-09         | Moisture—Density Relations of Soils and Soil—Aggregate Mixtures using 10—lb<br>Rammer and 18—in Drop, Test for,                             |
| ASTM D1751-04 (2008)  | Preformed Expansion Joint Fillers for Concrete Paving and Structural Constriction (Nonextruding and Resilient Bituminous Types), spec. for, |
| ASTM D1752-04A (2008) | Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Constriction, Spec. for,                        |
| ASTM D1752-04A (2008) | Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Constriction, Spec. for,                        |
| ASTM D1785-06         | Poly Vinyl Chloride (PVC) Plastic Pipe Schedules 40, 80, 120, Spec. for,  |
| ASTM D1856-09         | Recovery of Asphalt from Solution by the Abson Method, Test for,  |
| ASTM D2104-74         | Withdrawn, No Replacement Polyethylene (PE) Plastic Pipe Schedule, 40, Spec. for,   |
| ASTM D2167-08         | Density of Soil in Place by the Rubber-Balloon Method, Test for,  |
| ASTM D2172/2172M-11   | Quantitative Extraction of Bitumen from Bituminous Paving Mixtures, Test for,   |
| ASTM D2239-03         | Polyethylene (PE) Plastic Pipe (SDR-PR), spec. for,   |
| ASTM D2241-09         | Poly Vinyl Chloride (PVC) Plastic Pipe (SDR-PR), Spec. For,   |
| ASTM D1752-04A (2008) | Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Constriction, Spec. for,                        |
| ASTM D1785-06         | Poly Vinyl Chloride (PVC) Plastic Pipe Schedules 40, 80, 120, Spec. for,  |
| ASTM D1856-09         | Recovery of Asphalt from Solution by the Abson Method, Test for,  |
| ASTM D2104-74         | Withdrawn, No Replacement Polyethylene (PE) Plastic Pipe Schedule, 40, Spec. for,   |
| ASTM D2167-08         | Density of Soil in Place by the Rubber-Balloon Method, Test for,  |
| ASTM D2172/2172M-11   | Quantitative Extraction of Bitumen from Bituminous Paving Mixtures, Test for,   |
| ASTM D2239-03         | Polyethylene (PE) Plastic Pipe (SDR-PR), spec. for,   |
| ASTM D2241-09         | Poly Vinyl Chloride (PVC) Plastic Pipe (SDR-PR), Spec. For,   |
| ASTM D2447-74         | Withdrawn, No Replacement Polyethylene (PE) Plastic Pipe, Schedules 40 and 80 Based on Outside diameter, Spec. for,                         |
| ASTM D2321-11         | Underground Installation of flexible Thermoplastic SewerPipe, Rec. Practice for,  |
| ASTM D2487-11         | Classification of Soils for Engineering.  |
| ASTM D2662-78         | Withdrawn, No Replacement Polybutylene (PB) Plastic Pipe (SDR-PR), Spec. for,   |
| ASTM D2751-05         | Acrylonitrile—Butadiene—Styrene (ABS) Sewer Pipe and Fittings, Spec. for,   |



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# MATERIAL STANDARDS

REVISION DATE: SCALE: DETAIL NOT TO SCALE M - 2

| ASTM | D6938-10        | Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth), Tests for,              |
|------|-----------------|---|
| ASTM | D3000-73        | Withdrawn, No Replacement Polybutylene (PB) Plastic Pipe (SDR-PR) Based on Outside Diameter, Spec. for, |
| ASTM | D3033-80        | Withdrawn, No Replacement Type PSP Poly (Vinyl-Chloride) (PVC) Sewer Pipe and Fittings, Spec. for,      |
| ASTM | D3034-08        | Type PSM Poly (Vinyl-Chloride) (PVC) Sewer Pipe and Fittings, Spec. for,                                |
| ASTM | D3035-10        | Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Controlled Outside Diameter, Spec. for,                |
| ASTM | D3139-98 (2011) | Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals, Spec. for,                          |
| ASTM | D3212-07        | Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric seals, Spec. for,                   |

#### AMERICAN WATER WORKS ASSOCIATION

Gate Values for ordinary water works service. Fire Hydrants for ordinary water works service.

#### <u>DEPARTMENT OF TRANSPORTATION - STATE OF FLORIDA (F.D.O.T.)</u>

Standard Specifications for Road and Bridge Construction January 1, (2012) Specifications (Referred to herein as D.O.T. Standard Specifications) Bulletin 22 — Lime rock Bearing Ratio Method

#### FEDERAL HIGHWAY ADMINISTRATION

Manual on Uniform Traffic Control Devices (2009)

#### AMERICAN NATIONAL STANDARDS INSTITUTE

| ANSI/AWWA<br>C150/A21.50 | Thickness Design of Cast—iron Pipe  |
|--------------------------|---|
| ANS A21.6<br>(Cancelled) | Cast—iron pipe centrifugally cast in metal molds for water and other liquids.                         |
| ANS A21.8<br>(Cancelled) | Cast—iron pipe centrifugally cast in sand—lined molds, for water and other liquids.                   |
| ANSI/AWWA<br>C110/A21.10 | Grey—Iron and ductile—Iron fittings 2 in. through 48 in. for water and Other Liquids.                 |
| ANSI/AWWA<br>C111/A21.11 | Rubber gasket joints for cast—iron and ductile—iron pressure pipe and fittings.                       |
| ANSI/A21.51<br>AWWA C151 | Ductile—iron pipe, centrifugally cast in metal molds or sand—lined molds, for water or other liquids. |



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## MATERIAL STANDARDS

M - 3

REVISION DATE: SCALE: DETAIL
3-24-16 NOT TO SCALE