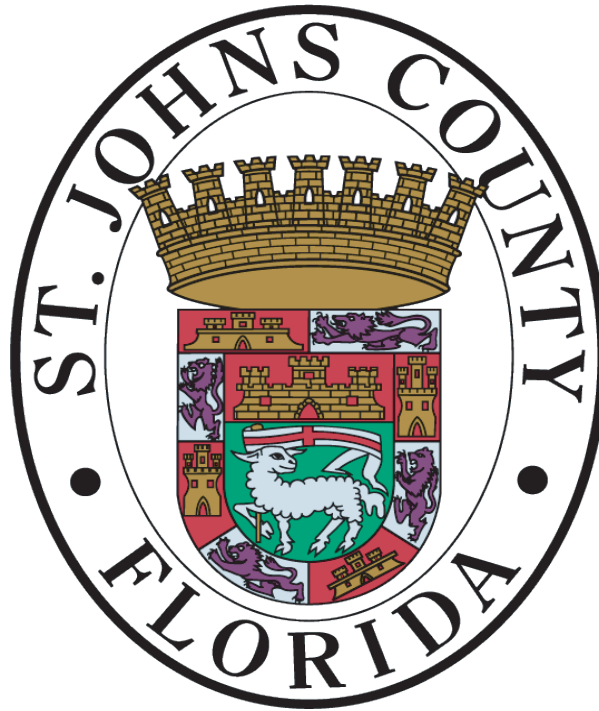


ST. JOHNS COUNTY



STANDARDS AND DETAIL MANUAL

OCTOBER 2009

Roadway Standards Section

Roadway Series 100

Roadway

D-100	Local Road – 2 Lane 50' R.O.W. Typical Curb & Gutter Section
D-101	Local Road – 2 Lane 60' R.O.W. Typical Swaled Section
D-102	Local Road – 2 Lane 60' R.O.W. Typical Curb & Gutter Section
D-103	Minor Collector – 2 Lane 80' R.O.W. Typical Swaled Section
D-104	Minor Collector – 2 Lane 80' R.O.W. Typical Curb & Gutter Section
D-105	Minor Collector – 4 Lane 110' R.O.W. Typical Curb & Gutter Section
D-106	Minor Collector – 4 Lane 130' R.O.W. Typical Swaled Section
D-107	Major Collector – 2 Lane 100' R.O.W. Typical Swaled Section
D-108	Major Collector – 2 Lane 80' R.O.W. Typical Curb & Gutter Section
D-109	Major Collector – 4 Lane 130' R.O.W. Typical Curb & Gutter Section
D-110	Major Collector – 4 Lane 150' R.O.W. Typical Swaled Section
D-111	Major Collector – 6 Lane 155' R.O.W. Typical Curb & Gutter Section
D-112	Major Collector – 6 Lane 250' R.O.W. Typical Swaled Section
D-113	Residential Cul-de-sac Typical Construction Detail
D-114	Right-Of-Way Corner Clips
D-115	Curb & Curb & Gutter Typical Construction Details
D-116	Mailbox Placement within Road Right-of-Way
D-117	Saw Cut Detail
D-118	Sidewalk Details
D-119	Multi Use Path
D-120	Paver Block Details & Specifications (Sheet 1 of 2)
D-121	Paver Block Details & Specifications (Sheet 2 of 2)
D-122	St. Johns County Street Name Sign Specifications
D-123	Residential Circular Drive
D-124	Typical Utility Location Plan, 50 Foot Right-of-way
D-125	Typical Utility Location Plan, 60 Foot Right-of-way

Roadway Series 200

Pavement Repairs

D-200	Open Road Cuts/Flowable Fill
D-201	Open Road Cuts/Compacted Fill

Drainage Standards Section

Drainage Series 300

Drainage Structures

D-300	Standard Manhole (Eccentric Cone)
D-301	Standard Precast Manhole Type 1 (Shallow)
D-302	Standard Precast Manhole Type 1 (Shallow)
D-303	Manhole Frame & Cover (30" Opening)
D-304	Drainage Control Structure Type A
D-305	Drainage Control Structure Type B (Sheet 1 of 2)
D-306	Drainage Control Structure Type B (Sheet 2 of 2)
D-307	Inlet Flume Detail
D-308	Catch Basin Detail

Drainage Series 400

Residential

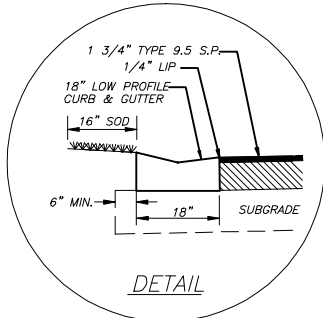
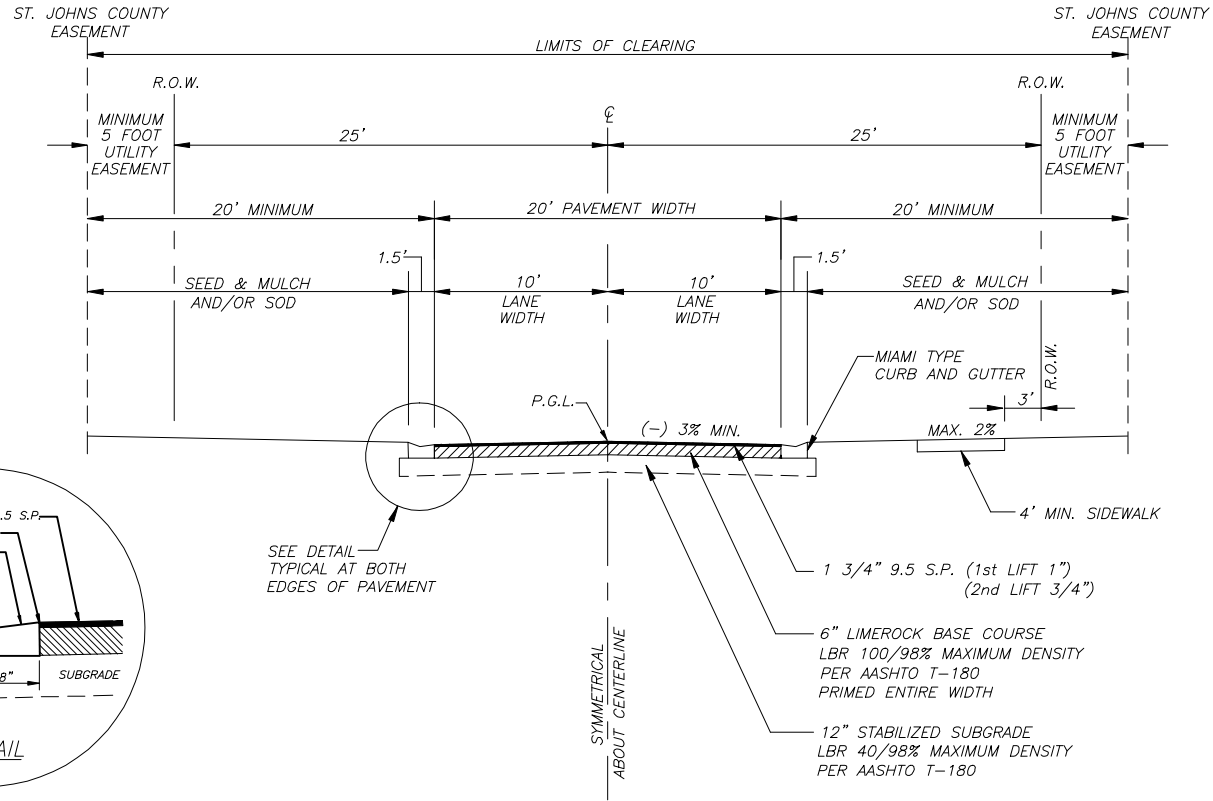
D-400	Residential Headwalls
D-401	Residential Headwalls Mitered End Section
D-402	Lot Grading Diagram
D-403	Typical Yard Drain/CPEP Installation Detail
D-404	Typical Inlet & Exfiltration Trench Detail (Sheet 1 of 2)
D-405	Typical Inlet & Exfiltration Trench Detail (Sheet 2 of 2)

Drainage Series 400

Stormwater Ponds

D-500	Dry Detention Typical Detail
D-501	Retention Typical Detail
D-502	Service Connection to Roadway Storm Detention Pond (Hydraulic Design Schematic)
D-503	Typical Outfall Detail

RIGHT-OF-WAY WIDTH: 50 FEET



SEE DETAIL
TYPICAL AT BOTH
EDGES OF PAVEMENT

1 3/4" 9.5 S.P. (1st LIFT 1")
(2nd LIFT 3/4")
6" LIMEROCK BASE COURSE
LBR 100/98% MAXIMUM DENSITY
PER AASHTO T-180
PRIMED ENTIRE WIDTH
12" STABILIZED SUBGRADE
LBR 40/98% MAXIMUM DENSITY
PER AASHTO T-180

- NOTES:**
- OPTIONAL BASE MATERIALS MAY BE ACCEPTABLE UPON APPROVAL BY THE COUNTY ENGINEER
 - 9.5 S.P. SHALL BE FINAL ASPHALT COURSE PLACED
 - TYPICAL SECTION USE SHALL BE APPROVED BY THE COUNTY ENGINEER
 - PLATTED EASEMENTS DEDICATED TO THE COUNTY REQUIRED
 - GOLF CARTS MAY BE PERMITTED ON THIS ROADWAY TYPICAL SECTION WHEN PERMITTED THROUGH THE PROCESS IDENTIFIED IN ORDINANCE 2009-1 AND APPROVED BY THE COUNTY ENGINEER

STRUCTURAL NUMBER: 2.70



**ST JOHNS COUNTY
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION**
2740 Industry Center Road
ST AUGUSTINE, FLORIDA 32084
Phone (904) 209-0110 • Fax. (904) 209-0140

REVISION
10/09

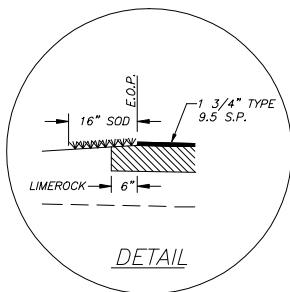
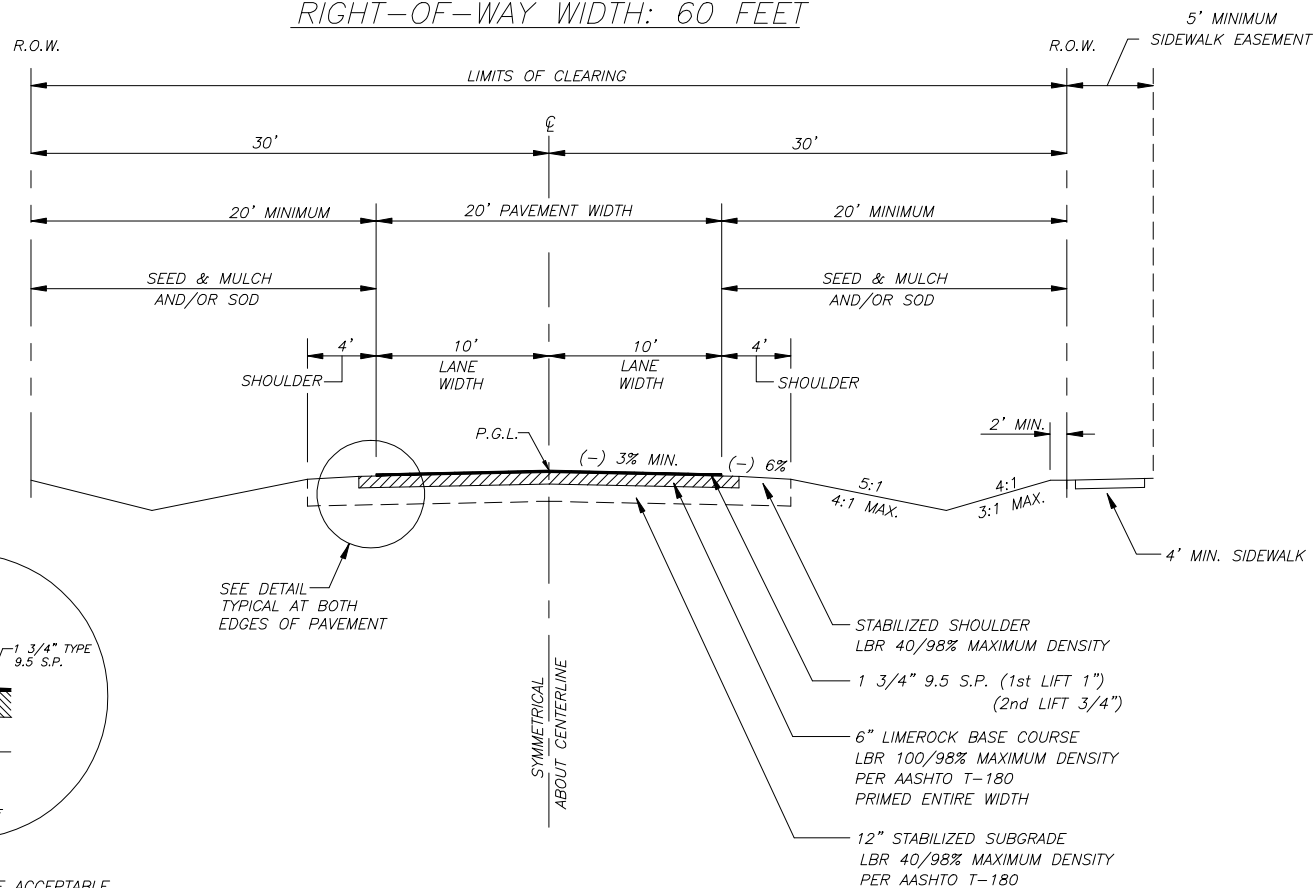
DESIGN DETAIL

**LOCAL ROAD-2 LANE-50' R.O.W.
TYPICAL CURB & GUTTER SECTION**

EFFECTIVE DATE:
DETAIL NO. 100
APPROVED:

H.P. TOMPKINS, JR., P.E.
COUNTY ENGINEER

RIGHT-OF-WAY WIDTH: 60 FEET



NOTES:

1. OPTIONAL BASE MATERIALS MAY BE ACCEPTABLE UPON APPROVAL BY THE COUNTY ENGINEER
2. 9.5 S.P. SHALL BE FINAL ASPHALT COURSE PLACED
3. TYPICAL SECTION USE SHALL BE APPROVED BY THE COUNTY ENGINEER
4. PLATTED EASEMENTS DEDICATED TO THE COUNTY REQUIRED
5. GOLF CARTS MAY BE PERMITTED ON THIS ROADWAY TYPICAL SECTION WHEN PERMITTED THROUGH THE PROCESS IDENTIFIED IN ORDINANCE 2009-1 AND APPROVED BY THE COUNTY ENGINEER

TRAFFIC VOLUME < 1,500 AADT
RESIDENTIAL ROADS ONLY

STRUCTURAL NUMBER: 2.70



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10/09

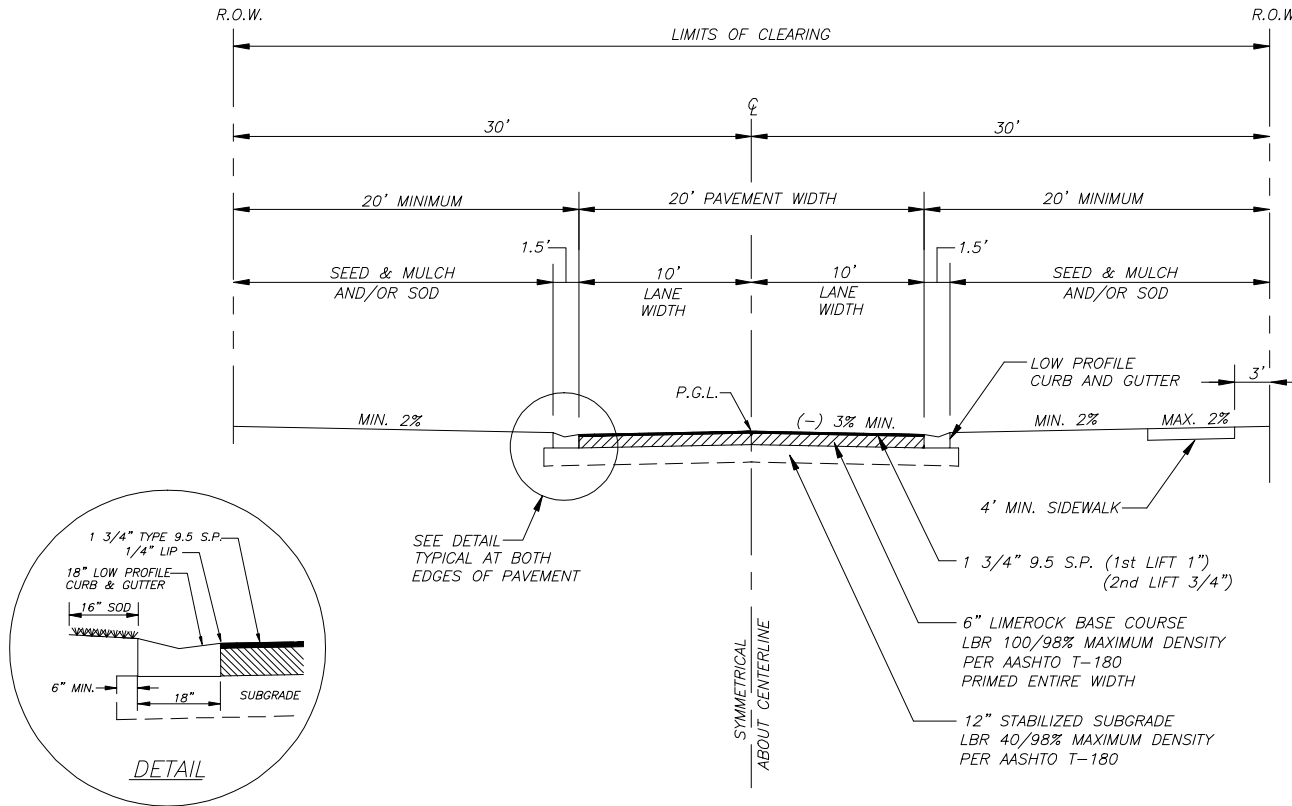
DESIGN DETAIL

**LOCAL ROAD - 2 LANE - 60' R.O.W.
TYPICAL SWALED SECTION**

EFFECTIVE DATE:
DETAIL NO. 101
APPROVED:

H.P. TOMPKINS, JR., P.E.
COUNTY ENGINEER

RIGHT-OF-WAY WIDTH: 60 FEET



NOTES:

- OPTIONAL BASE MATERIALS MAY BE ACCEPTABLE UPON APPROVAL BY THE COUNTY ENGINEER
- 9.5 S.P. SHALL BE FINAL ASPHALT COURSE PLACED
- GOLF CARTS MAY BE PERMITTED ON THIS ROADWAY TYPICAL SECTION WHEN PERMITTED THROUGH THE PROCESS IDENTIFIED IN ORDINANCE 2009-1 AND APPROVED BY THE COUNTY ENGINEER

TRAFFIC VOLUME < 1,500 AADT
RESIDENTIAL ROADS ONLY

STRUCTURAL NUMBER: 2.70



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DESIGN DETAIL

**LOCAL ROAD-2 LANE-60' R.O.W.
TYPICAL CURB & GUTTER SECTION**

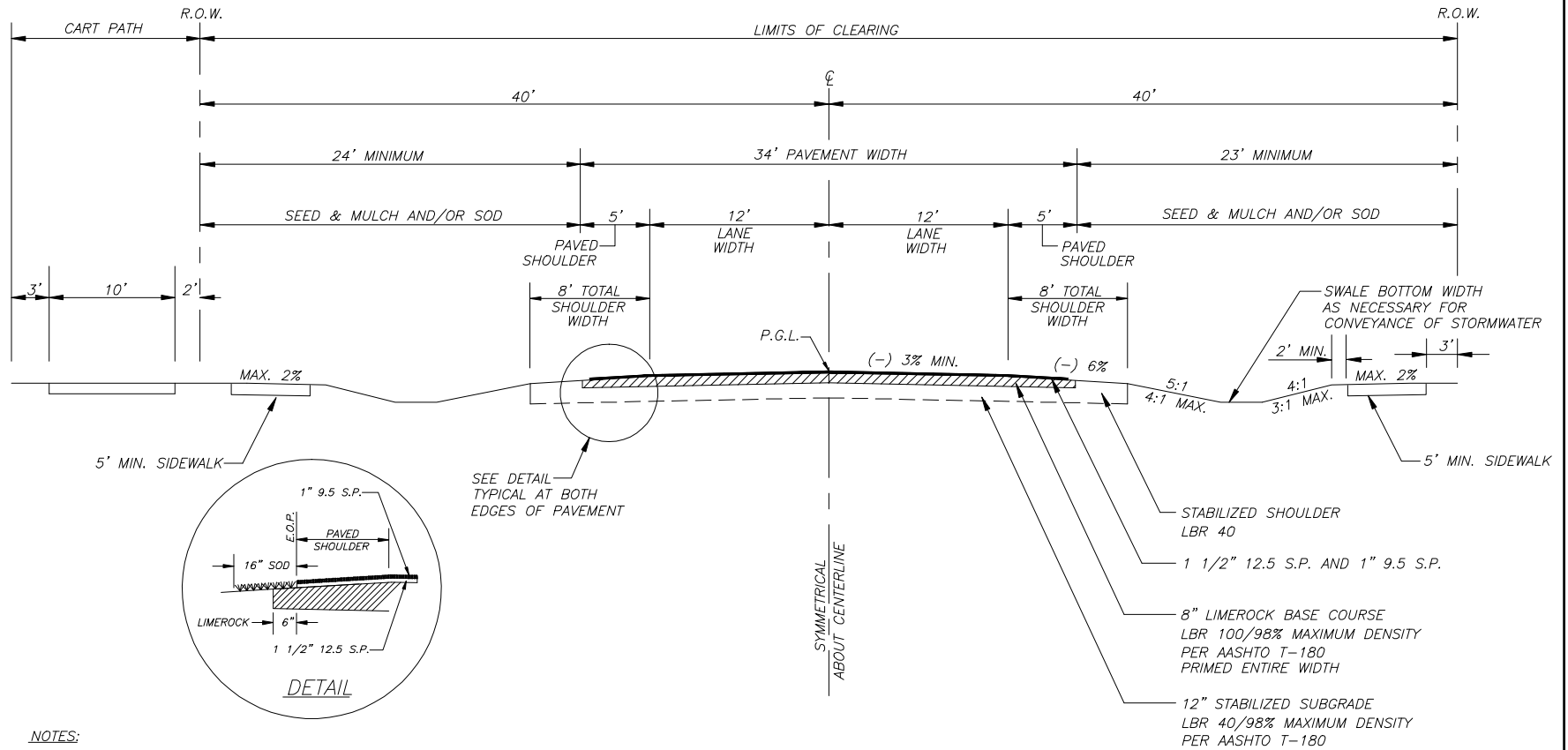
EFFECTIVE DATE:

DETAIL NO. 102

APPROVED:

[Signature]
H.P. TOMPKINS, JR., P.E.
COUNTY ENGINEER

RIGHT-OF-WAY WIDTH: 80 FEET



NOTES:

- OPTIONAL BASE MATERIALS MAY BE ACCEPTABLE UPON APPROVAL BY THE COUNTY ENGINEER
- 9.5 S.P. SHALL BE FINAL ASPHALT COURSE PLACED
- GOLF CARTS MAY BE USED WITH THIS ROADWAY TYPICAL SECTION (WITH EASEMENT) WHEN APPROVED THROUGH THE PROCESS IDENTIFIED IN ORDINANCE 2009-1 AND APPROVED BY THE COUNTY ENGINEER
- A PLATTED EASEMENT DEDICATED FOR ELECTRIC CART PATH USE REQUIRED. EASEMENT TO BE HELD BY ASSOCIATION, CDD, OR OTHER LEGAL ENTITY

TRAFFIC VOLUME
1,500 < AADT < 11,000

STRUCTURAL NUMBER: 3.50



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10/09

DESIGN DETAIL

MINOR COLLECTOR-2 LANE-80' R.O.W.
TYPICAL SWALED SECTION

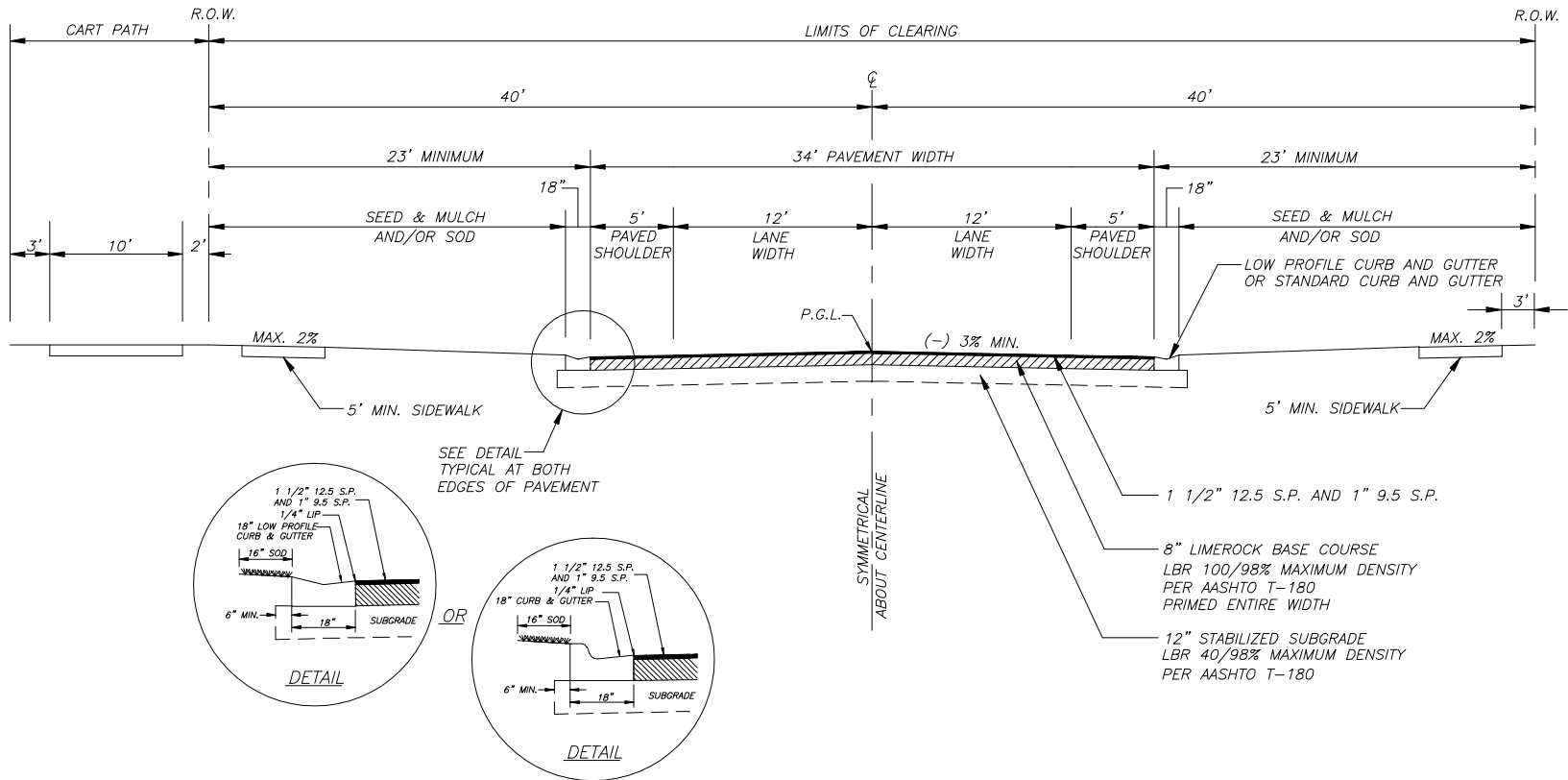
EFFECTIVE DATE:

DETAIL NO. 103

APPROVED:

[Signature]
H.P. TOMPKINS, JR., P.E.
COUNTY ENGINEER

RIGHT-OF-WAY WIDTH: 80 FEET



NOTES:

- OPTIONAL BASE MATERIALS MAY BE ACCEPTABLE UPON APPROVAL BY THE COUNTY ENGINEER
- 9.5 S.P. SHALL BE FINAL ASPHALT COURSE PLACED
- GOLF CARTS MAY BE PERMITTED ON THIS ROADWAY TYPICAL SECTION (WITH EASEMENT) WHEN APPROVED THROUGH THE PROCESS IDENTIFIED IN ORDINANCE 2009-1 AND APPROVED BY THE COUNTY ENGINEER
- A PLATTED EASEMENT DEDICATED FOR ELECTRIC CART PATH USE REQUIRED. EASEMENT TO BE HELD BY ASSOCIATION, CDD, OR OTHER LEGAL ENTITY

TRAFFIC VOLUME
1,500 < AADT < 11,000

STRUCTURAL NUMBER: 3.50



ST JOHNS COUNTY
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DESIGN DETAIL

MINOR COLLECTOR-2 LANE-80' R.O.W.
TYPICAL CURB & GUTTER SECTION

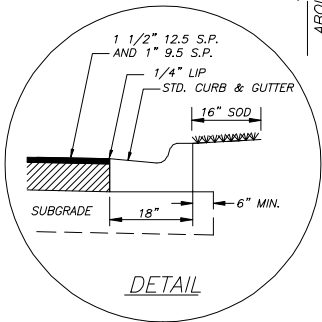
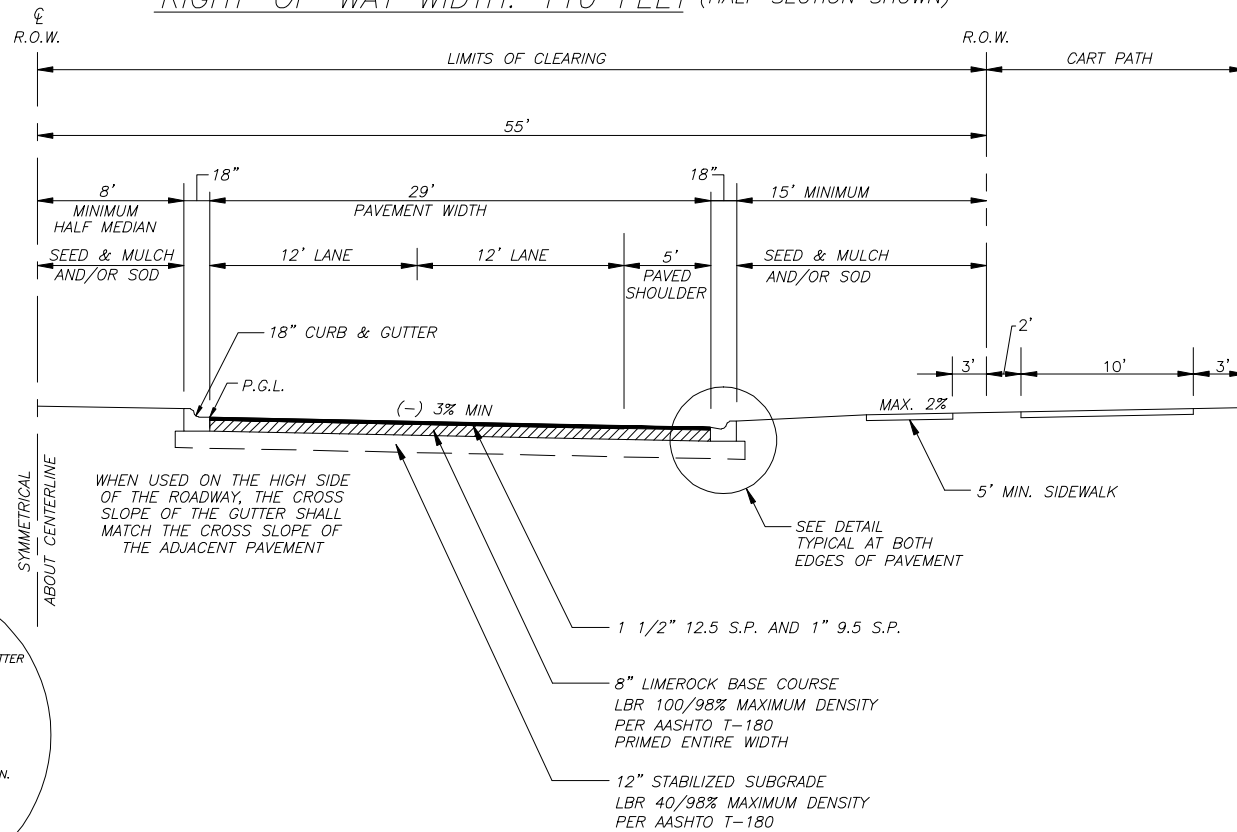
EFFECTIVE DATE:

DETAIL NO. 104

APPROVED:

[Signature]
H.P. TOMPKINS, JR., P.E.
COUNTY ENGINEER

RIGHT-OF-WAY WIDTH: 110 FEET (HALF SECTION SHOWN)



DETAIL

NOTES:

1. OPTIONAL BASE MATERIALS MAY BE ACCEPTABLE UPON APPROVAL BY THE COUNTY ENGINEER
2. 9.5 S.P. SHALL BE FINAL ASPHALT COURSE PLACED
3. GOLF CARTS MAY BE PERMITTED WITH THIS ROADWAY TYPICAL SECTION WHEN PERMITTED THROUGH THE PROCESS IDENTIFIED IN ORDINANCE 2009-1 AND APPROVED BY THE COUNTY ENGINEER
4. A PLATTED EASEMENT DEDICATED FOR ELECTRIC CART PATH USE REQUIRED. EASEMENT TO BE HELD BY ASSOCIATION, CDD, OR OTHER LEGAL ENTITY

TRAFFIC VOLUME
1,500 < AADT < 11,000

STRUCTURAL NUMBER: 3.50



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REVISION
10/09

DESIGN DETAIL

MINOR COLLECTOR-4 LANE-110' R.O.W.
TYPICAL CURB & GUTTER SECTION

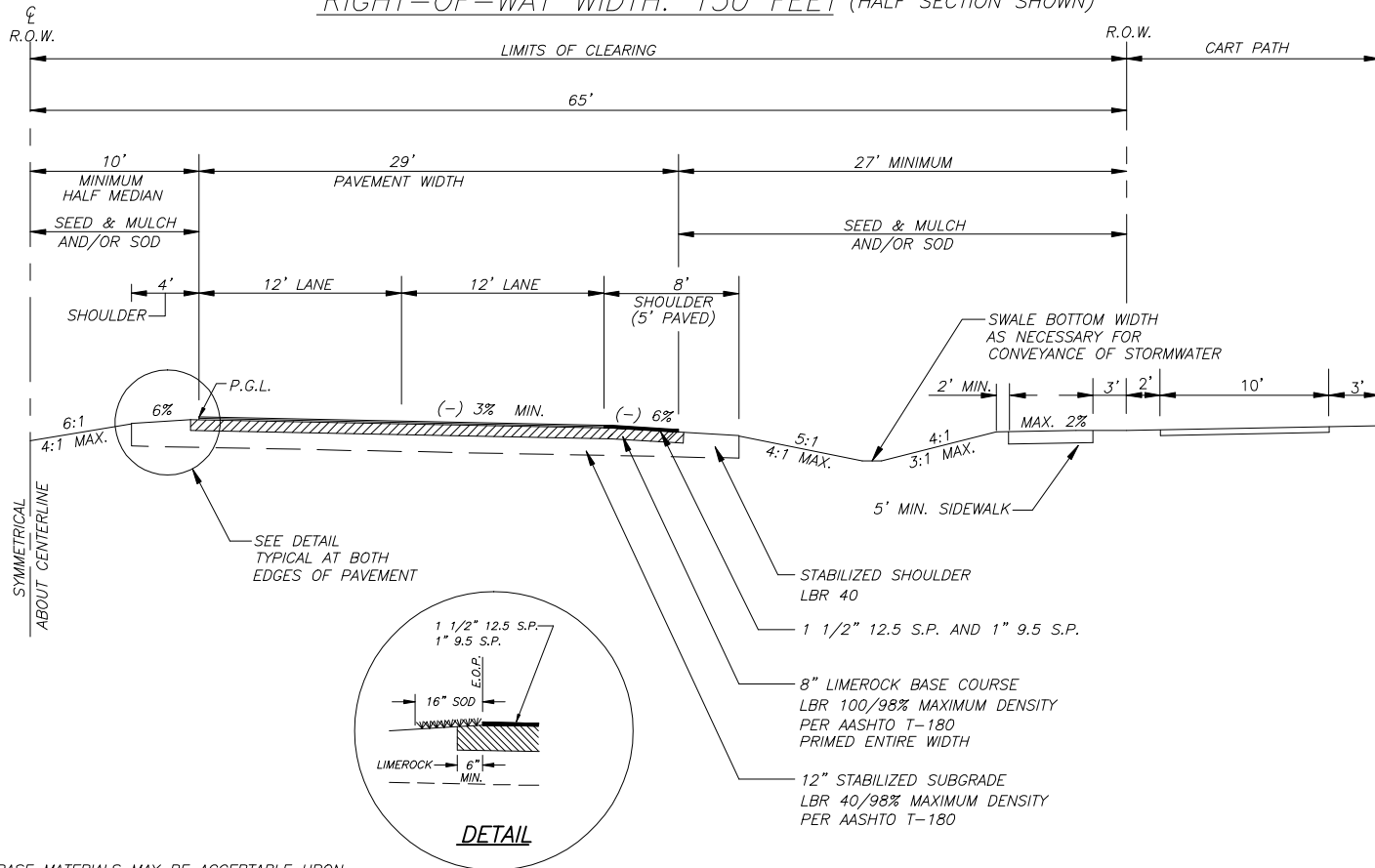
EFFECTIVE DATE:

DETAIL NO. 105

APPROVED:

[Signature]
H.P. TOMPKINS, JR., P.E.
COUNTY ENGINEER

RIGHT-OF-WAY WIDTH: 130 FEET (HALF SECTION SHOWN)



NOTES:

1. OPTIONAL BASE MATERIALS MAY BE ACCEPTABLE UPON APPROVAL BY THE COUNTY ENGINEER
2. 9.5 S.P. SHALL BE FINAL ASPHALT COURSE PLACED
3. GOLF CARTS MAY BE PERMITTED WITH THIS ROADWAY TYPICAL SECTION WHEN PERMITTED THROUGH THE PROCESS IDENTIFIED IN ORDINANCE 2009-1 AND APPROVED BY THE COUNTY ENGINEER
4. A PLATTED EASEMENT DEDICATED FOR ELECTRIC CART PATH USE REQUIRED. EASEMENT TO BE HELD BY ASSOCIATION, CDD, OR OTHER LEGAL ENTITY

TRAFFIC VOLUME
1,500 < AADT < 11,000

STRUCTURAL NUMBER: 3.50



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DESIGN DETAIL

**MINOR COLLECTOR-4 LANE-130' R.O.W.
TYPICAL SWALED SECTION**

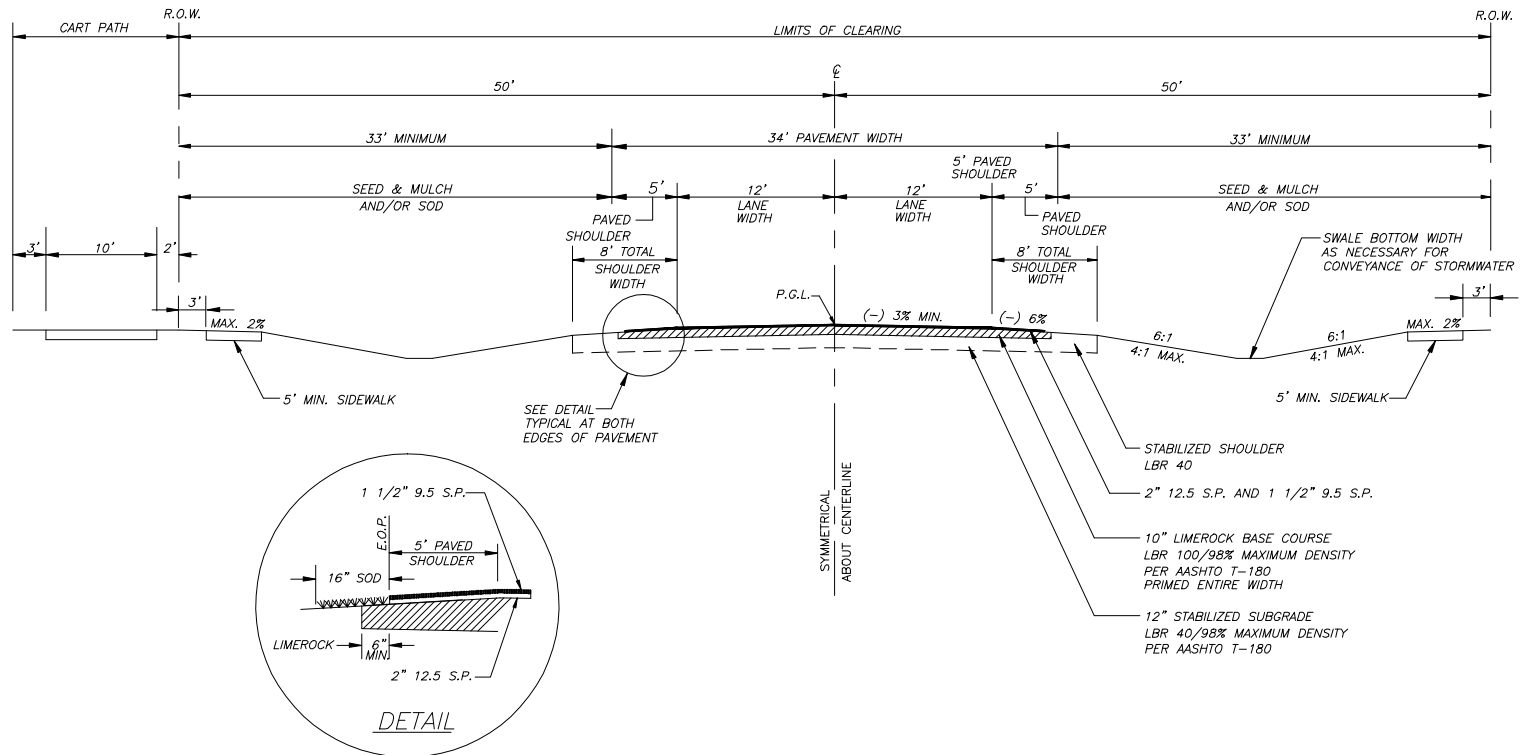
EFFECTIVE DATE:

DETAIL NO. 106

APPROVED:

[Signature]
H.P. TOMPKINS, JR., P.E.
COUNTY ENGINEER

RIGHT-OF-WAY WIDTH: 100 FEET



NOTES:

- OPTIONAL BASE MATERIALS MAY BE ACCEPTABLE UPON APPROVAL BY THE COUNTY ENGINEER
- 9.5 S.P. SHALL BE FINAL ASPHALT COURSE PLACED
- GOLF CARTS MAY BE PERMITTED WITH THIS ROADWAY TYPICAL SECTION WHEN PERMITTED THROUGH THE PROCESS IDENTIFIED IN ORDINANCE 2009-1 AND APPROVED BY THE COUNTY ENGINEER
- A PLATTED EASEMENT DEDICATED FOR ELECTRIC CART PATH USE REQUIRED. EASEMENT TO BE HELD BY ASSOCIATION, CDD, OR OTHER LEGAL ENTITY

TRAFFIC VOLUME
11,000 < AADT < 28,000

STRUCTURAL NUMBER: 4.30



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10/09

DESIGN DETAIL

MAJOR COLLECTOR-2 LANE-100' R.O.W.
TYPICAL SWALED SECTION

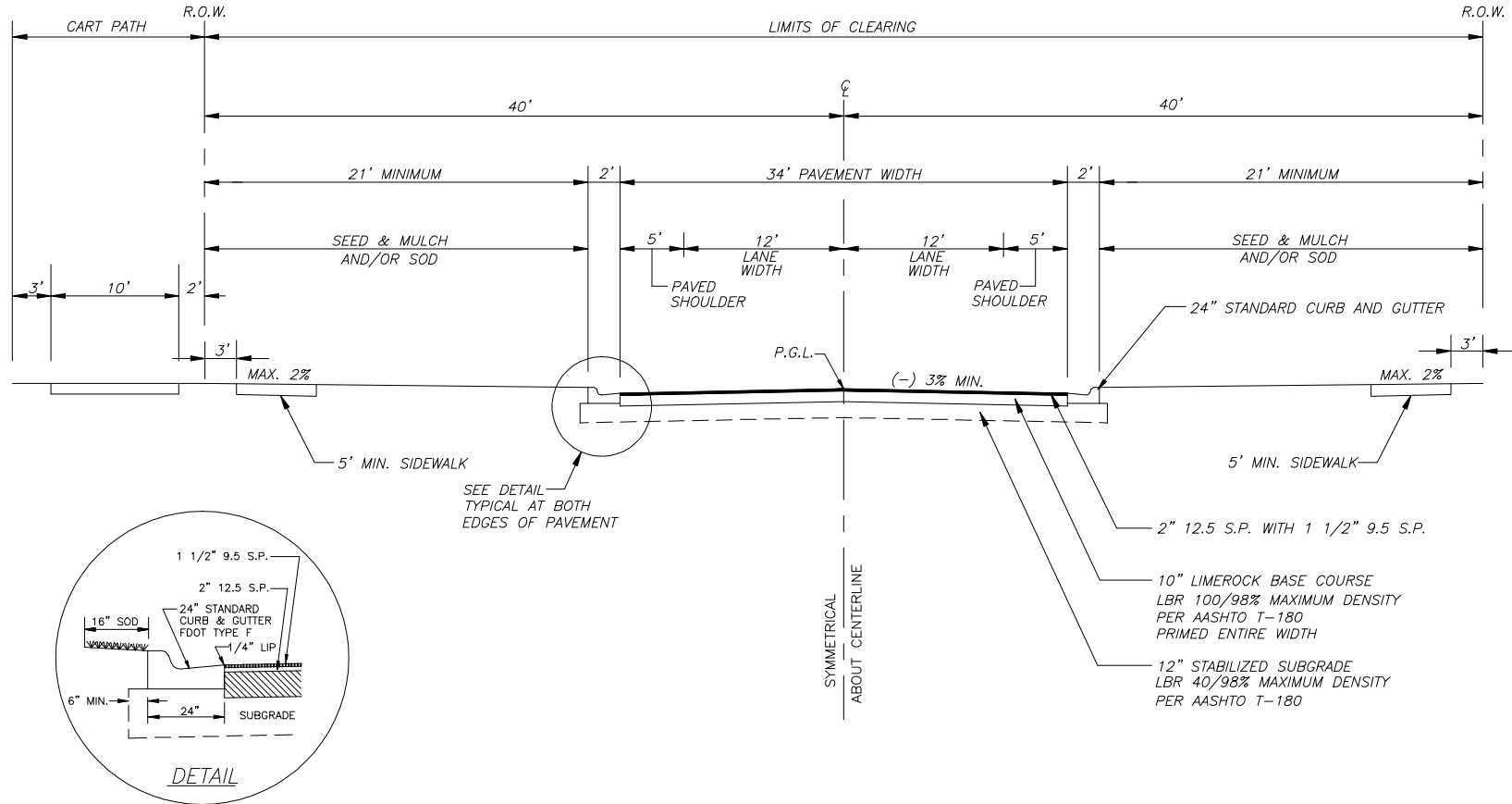
EFFECTIVE DATE:

DETAIL NO. 107

APPROVED:

[Signature]
H.P. TOMPKINS, JR., P.E.
COUNTY ENGINEER

RIGHT-OF-WAY WIDTH: 80 FEET



NOTES:

- OPTIONAL BASE MATERIALS MAY BE ACCEPTABLE UPON APPROVAL BY THE COUNTY ENGINEER
- 9.5 S.P. SHALL BE FINAL ASPHALT COURSE PLACED
- GOLF CARTS MAY BE PERMITTED WITH THIS ROADWAY TYPICAL SECTION WHEN PERMITTED THROUGH THE PROCESS IDENTIFIED IN ORDINANCE 2009-1 AND APPROVED BY THE COUNTY ENGINEER
- A PLATTED EASEMENT DEDICATED FOR ELECTRIC CART PATH USE REQUIRED. EASEMENT TO BE HELD BY ASSOCIATION, CDD, OR OTHER LEGAL ENTITY

TRAFFIC VOLUME
11,000 < AADT < 28,000

STRUCTURAL NUMBER: 4.30



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ENGINEERING DIVISION

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10/09

DESIGN DETAIL

MAJOR COLLECTOR-2 LANE-80' R.O.W.
TYPICAL CURB & GUTTER SECTION

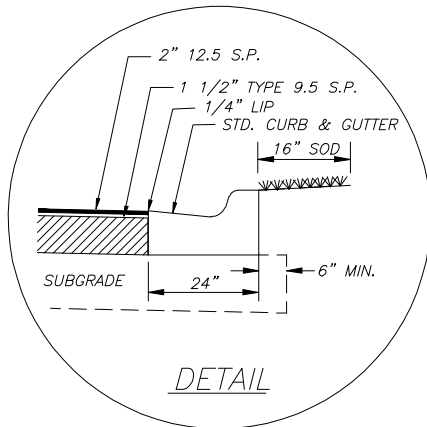
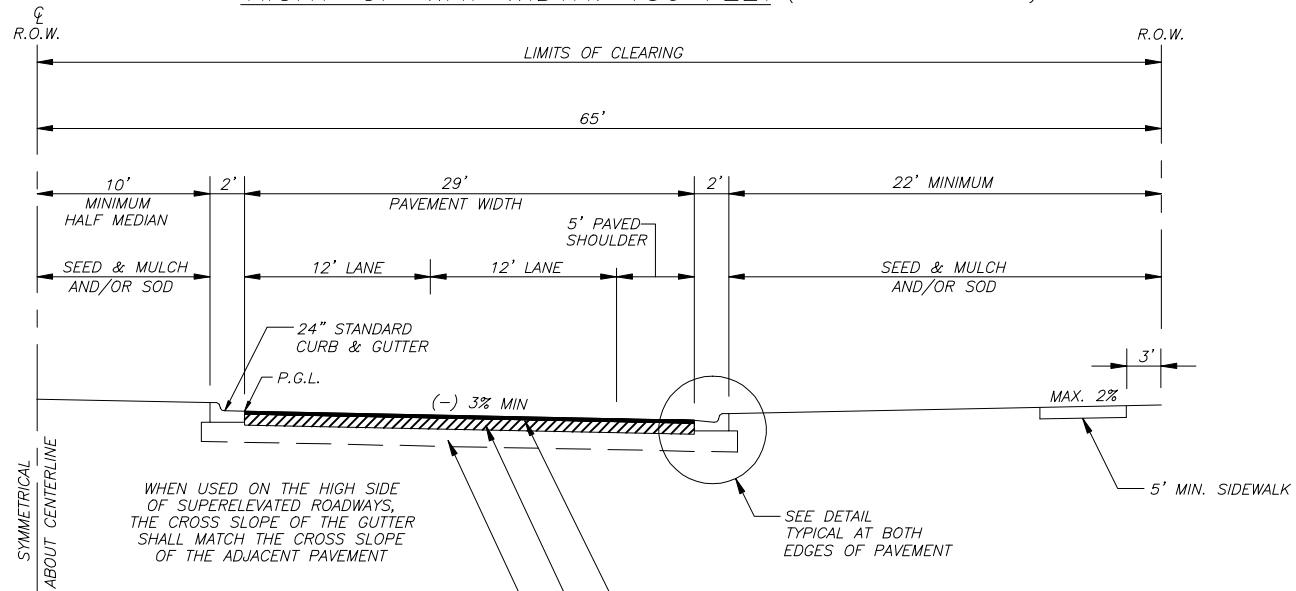
EFFECTIVE DATE:

DETAIL NO. 108

APPROVED:

[Signature]
H.P. TOMPAINS, JR., P.E.
COUNTY ENGINEER

RIGHT-OF-WAY WIDTH: 130 FEET (HALF SECTION SHOWN)



2" 12.5 S.P. OVERLAYED WITH 1 1/2" 9.5 S.P.
 10" LIMEROCK BASE COURSE LBR 100/98% MAXIMUM DENSITY PER AASHTO T-180 PRIMED ENTIRE WIDTH
 12" STABILIZED SUBGRADE LBR 40/98% MAXIMUM DENSITY PER AASHTO T-180

NOTES:

- OPTIONAL BASE MATERIALS MAY BE ACCEPTABLE UPON APPROVAL BY THE COUNTY ENGINEER
- 9.5 S.P. SHALL BE FINAL ASPHALT COURSE PLACED

TRAFFIC VOLUME
11,000 < AADT < 28,000

STRUCTURAL NUMBER: 4.30



ST JOHNS COUNTY
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
 2740 Industry Center Road
 ST AUGUSTINE, FLORIDA 32084
 Phone (904) 209-0110 • Fax. (904) 209-0140

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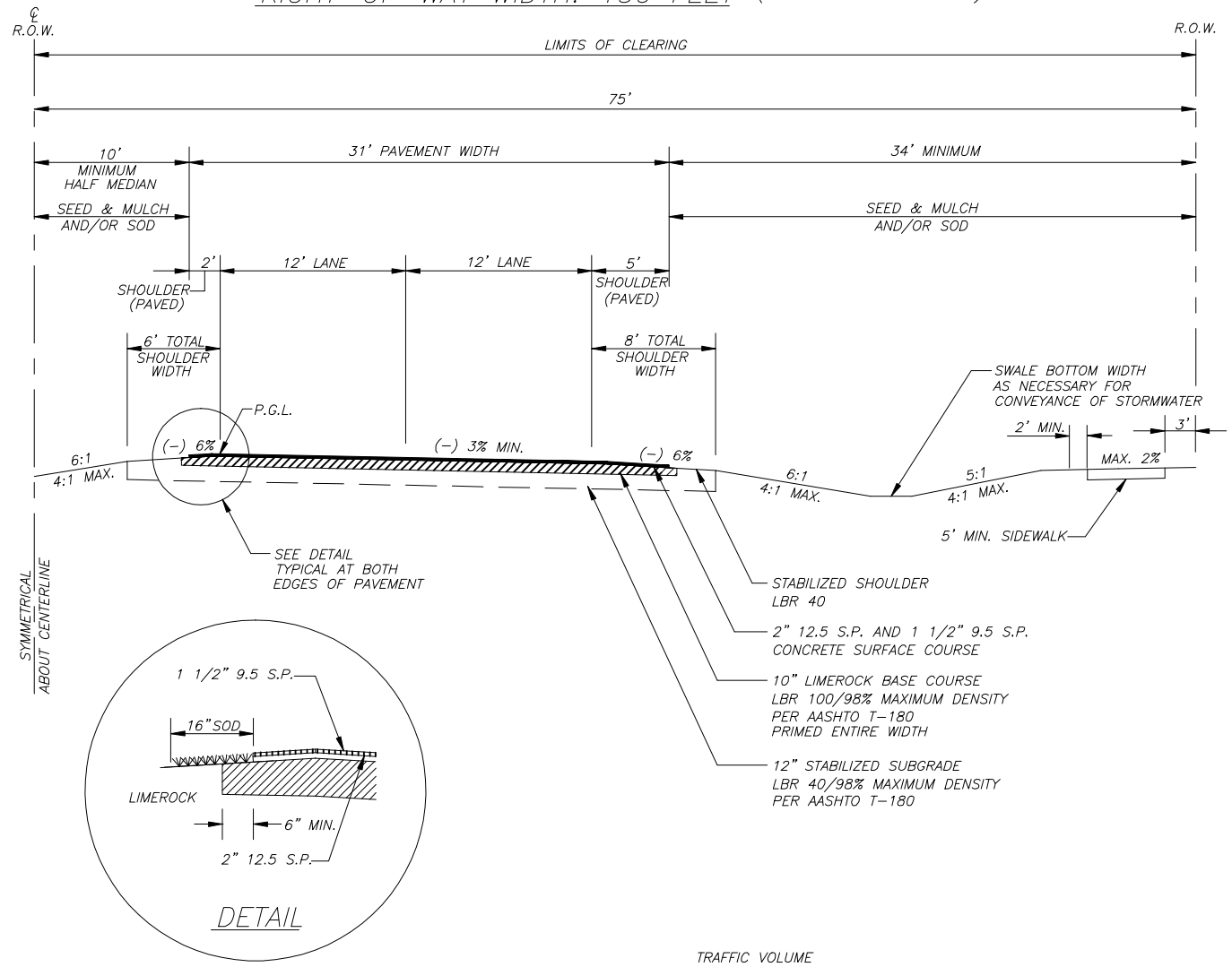
DESIGN DETAIL

MAJOR COLLECTOR-4 LANE-130' R.O.W.
 TYPICAL CURB & GUTTER SECTION

EFFECTIVE DATE:
 DETAIL NO. 109
 APPROVED:

 H.P. TOMPKINS, JR., P.E.
 COUNTY ENGINEER

RIGHT-OF-WAY WIDTH: 150 FEET (HALF SECTION SHOWN)



TRAFFIC VOLUME
11,000 < AADT < 28,000

STRUCTURAL NUMBER: 4.30

- NOTES:**
- OPTIONAL BASE MATERIALS MAY BE ACCEPTABLE UPON APPROVAL BY THE COUNTY ENGINEER
 - 9.5 S.P. SHALL BE FINAL ASPHALT COURSE PLACED



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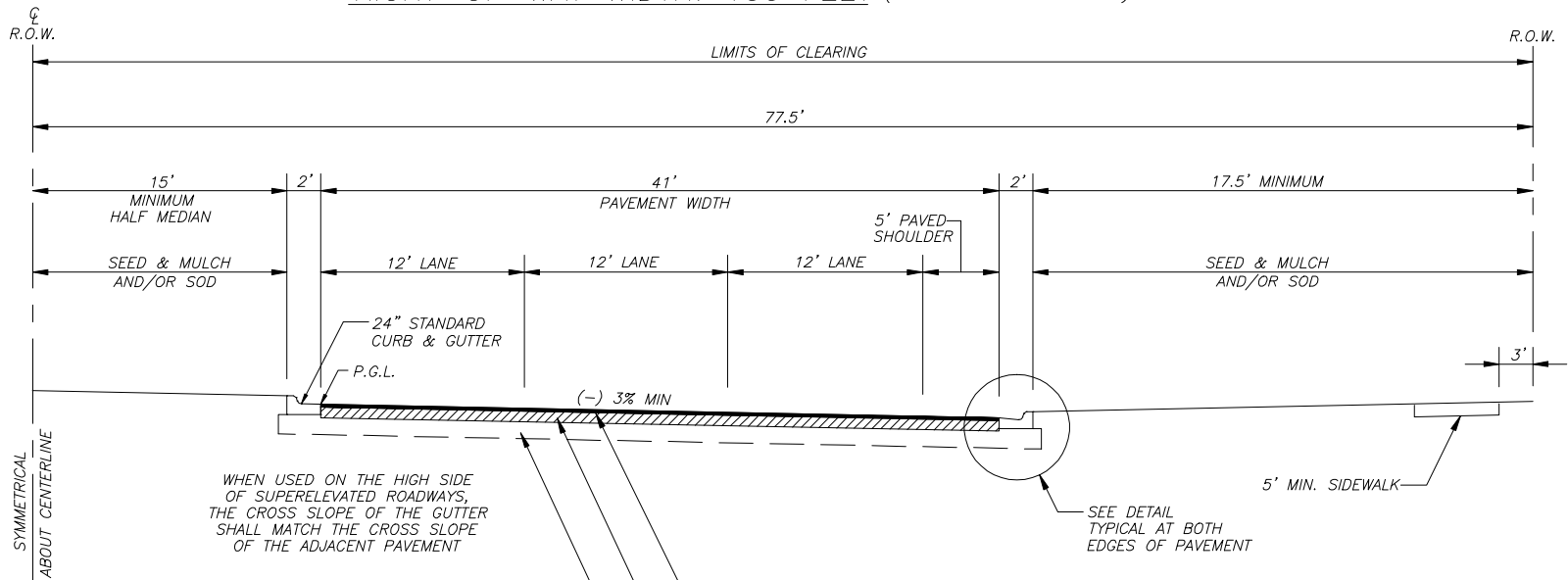
DESIGN DETAIL

**MAJOR COLLECTOR-4 LANE-150' R.O.W.
TYPICAL SWALED SECTION**

EFFECTIVE DATE:
DETAIL NO. 110
APPROVED:

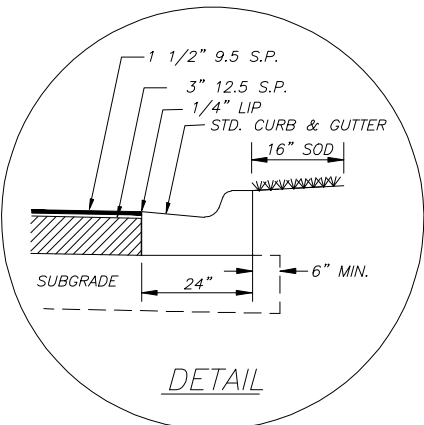
H.P. TOMPKINS, JR., P.E.
COUNTY ENGINEER

RIGHT-OF-WAY WIDTH: 155 FEET (HALF SECTION SHOWN)



WHEN USED ON THE HIGH SIDE OF SUPERELEVATED ROADWAYS, THE CROSS SLOPE OF THE GUTTER SHALL MATCH THE CROSS SLOPE OF THE ADJACENT PAVEMENT

SEE DETAIL TYPICAL AT BOTH EDGES OF PAVEMENT



DETAIL

- 3" 12.5 S.P. OVERLAYED WITH 1 1/2" 9.5 S.P.
- 12" LIMEROCK BASE COURSE LBR 100/98% MAXIMUM DENSITY PER AASHTO T-180 PRIMED ENTIRE WIDTH
- 12" STABILIZED SUBGRADE LBR 40/98% MAXIMUM DENSITY PER AASHTO T-180

NOTES:

1. OPTIONAL BASE MATERIALS MAY BE ACCEPTABLE UPON APPROVAL BY THE COUNTY ENGINEER
2. 9.5 S.P. SHALL BE FINAL ASPHALT COURSE PLACED

TRAFFIC VOLUME
AADT > 28,000

STRUCTURAL NUMBER: 5.10



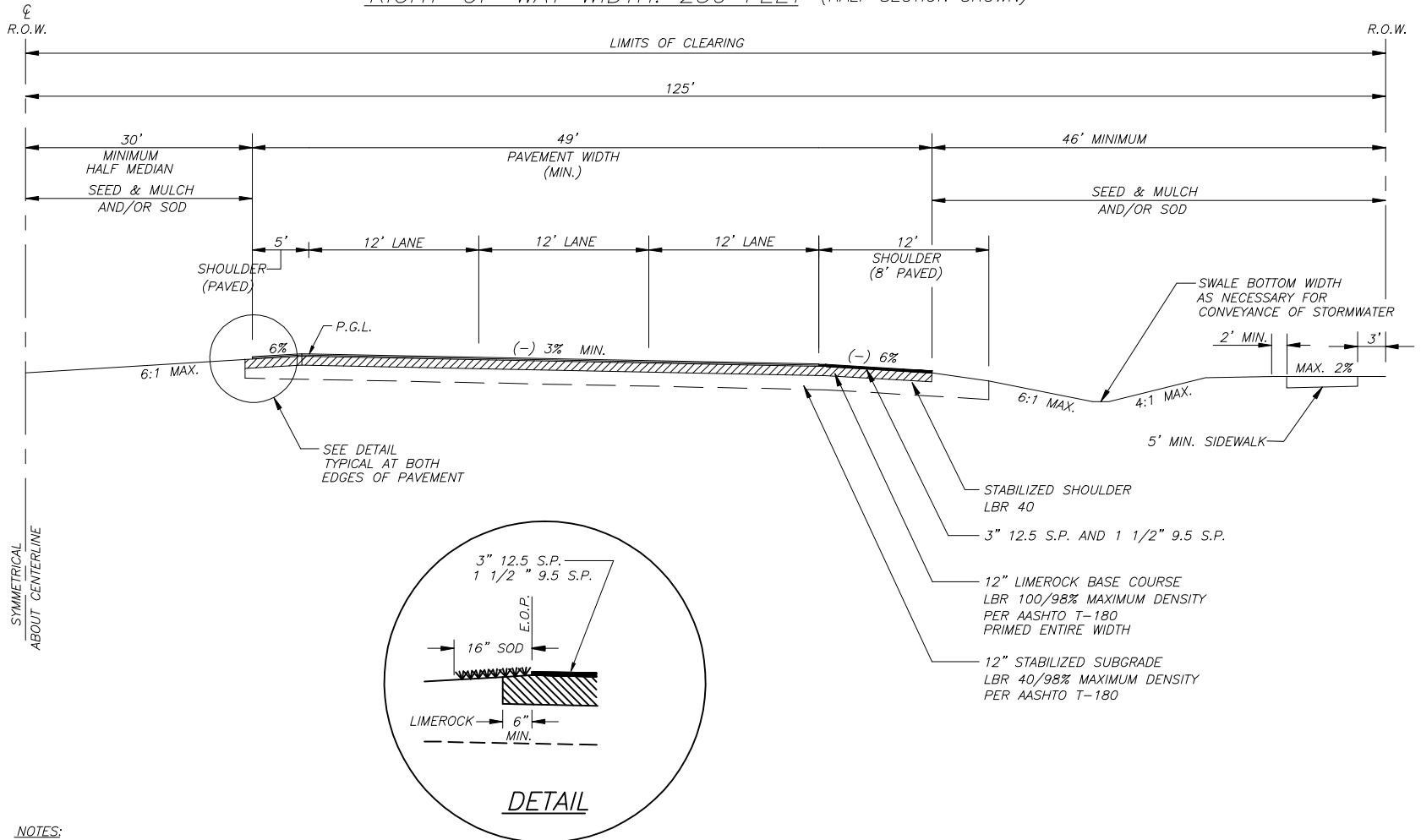
ST JOHNS COUNTY
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
2740 Industry Center Road
ST AUGUSTINE, FLORIDA 32084
Phone (904) 209-0110 • Fax. (904) 209-0140

REVISION
10/09

DESIGN DETAIL
MAJOR COLLECTOR-6 LANE-155' R.O.W.
TYPICAL CURB & GUTTER SECTION

EFFECTIVE DATE:
DETAIL NO. 111
APPROVED:
H.P. TOMPKINS, JR., P.E.
COUNTY ENGINEER


RIGHT-OF-WAY WIDTH: 250 FEET (HALF SECTION SHOWN)



- NOTES:**
- OPTIONAL BASE MATERIALS MAY BE ACCEPTABLE UPON APPROVAL BY THE COUNTY ENGINEER
 - 9.5 S.P. SHALL BE FINAL ASPHALT COURSE PLACED

TRAFFIC VOLUME
AADT > 28,000

STRUCTURAL NUMBER: 5.10



**ST JOHNS COUNTY
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION**


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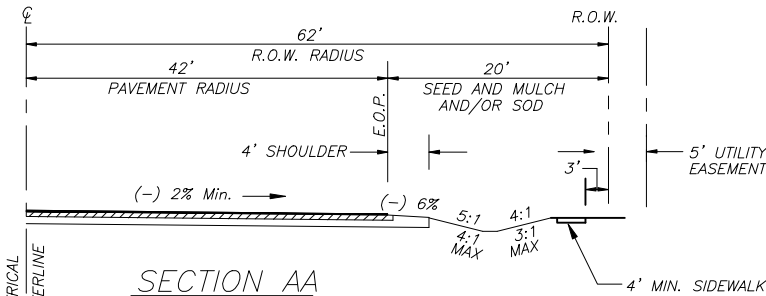
REVISION
10/09

DESIGN DETAIL

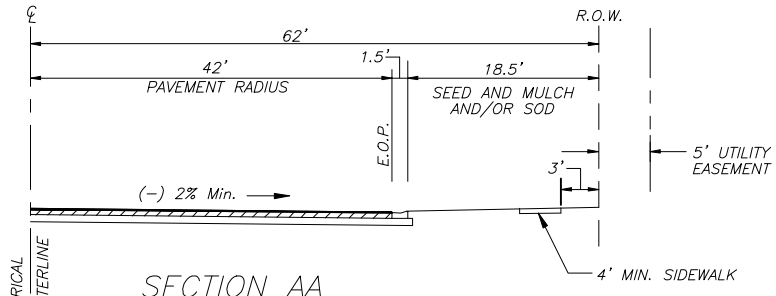
**MAJOR COLLECTOR-6 LANE-250' R.O.W.
TYPICAL SWALED SECTION**

EFFECTIVE DATE:
DETAIL NO. 112

APPROVED:

H.P. TOMPKINS, JR., P.E.
COUNTY ENGINEER



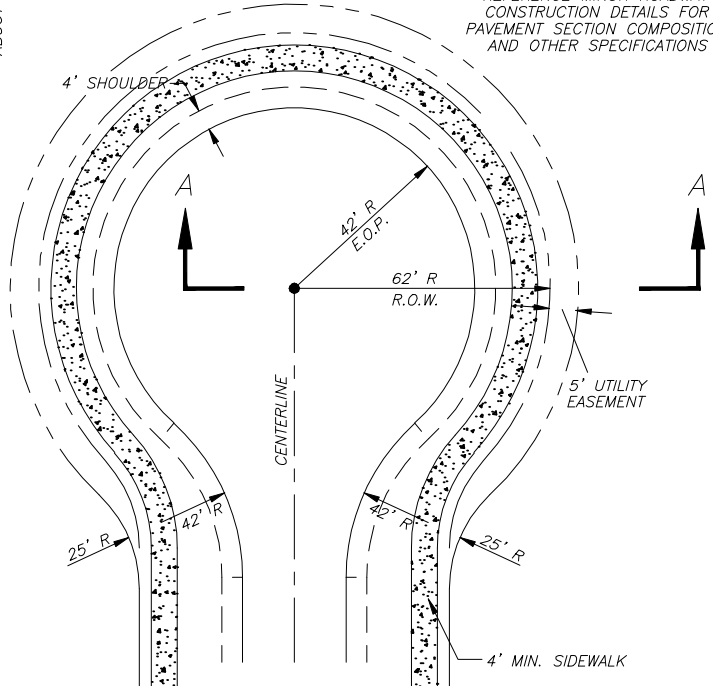
SECTION AA



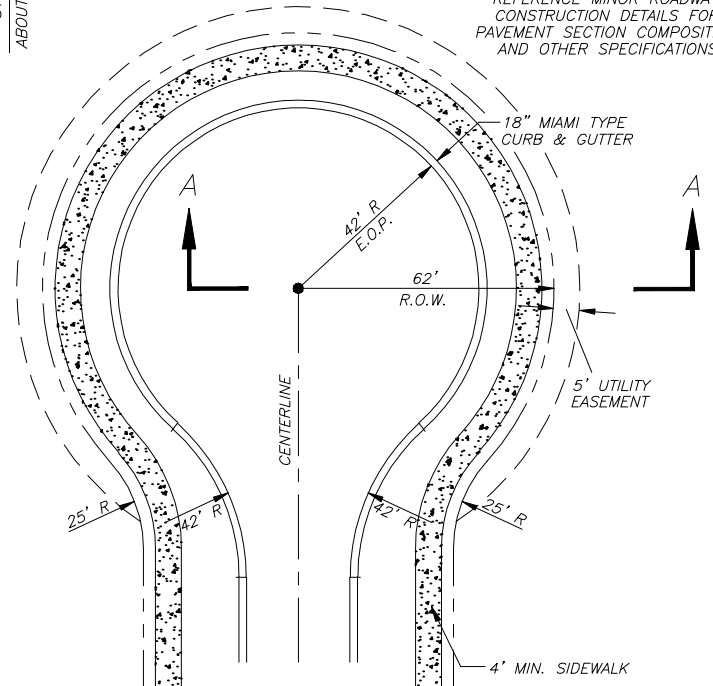
SECTION AA

REFERENCE MINOR ROADWAY CONSTRUCTION DETAILS FOR PAVEMENT SECTION COMPOSITION AND OTHER SPECIFICATIONS

REFERENCE MINOR ROADWAY CONSTRUCTION DETAILS FOR PAVEMENT SECTION COMPOSITION AND OTHER SPECIFICATIONS



SWALED SECTION




CURB AND GUTTER SECTION

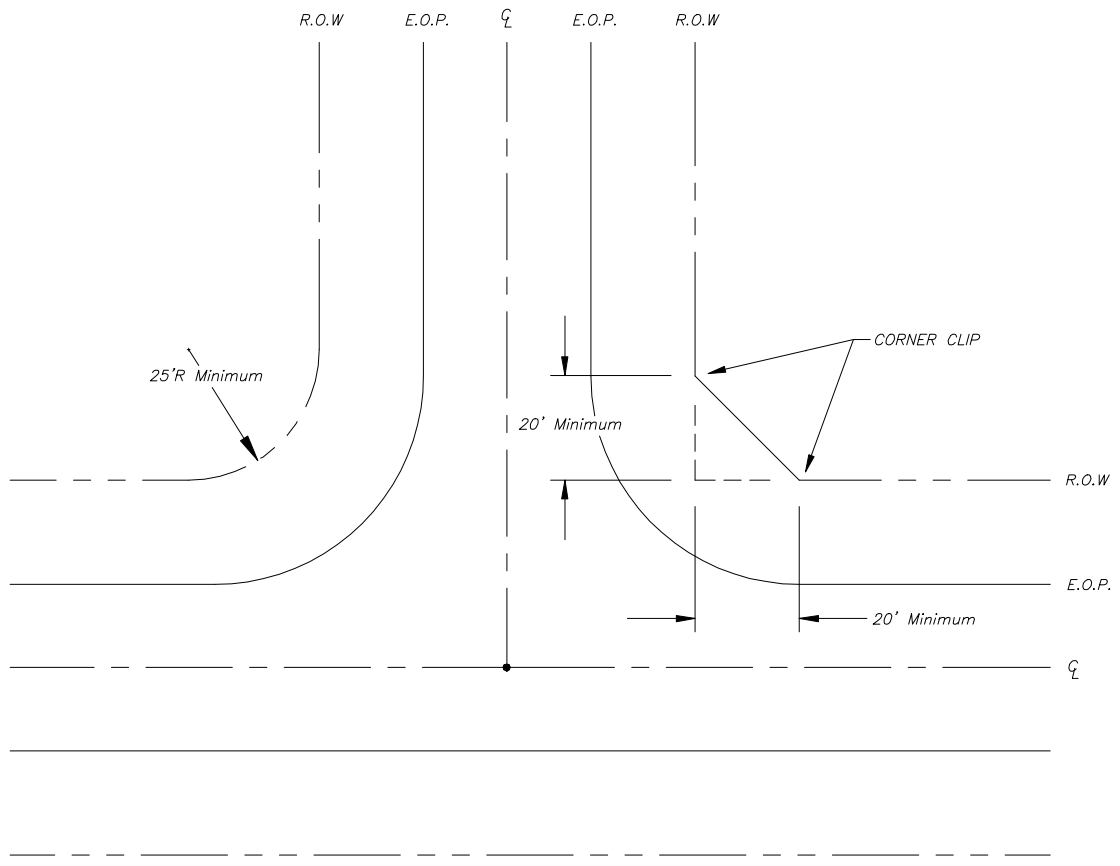


ST JOHNS COUNTY
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2740 Industry Center Road
ST AUGUSTINE, FLORIDA 32084
Phone (904) 209-0110 • Fax. (904) 209-0140

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DESIGN DETAIL
**RESIDENTIAL CUL-DE-SAC
TYPICAL CONSTRUCTION DETAIL**

EFFECTIVE DATE:
DETAIL NO. 113
APPROVED:

H.P. TOMPKINS, JR., P.E.
COUNTY ENGINEER



ST JOHNS COUNTY
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ENGINEERING DIVISION

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10/09

DESIGN DETAIL

RIGHT-OF-WAY CORNER CLIPS

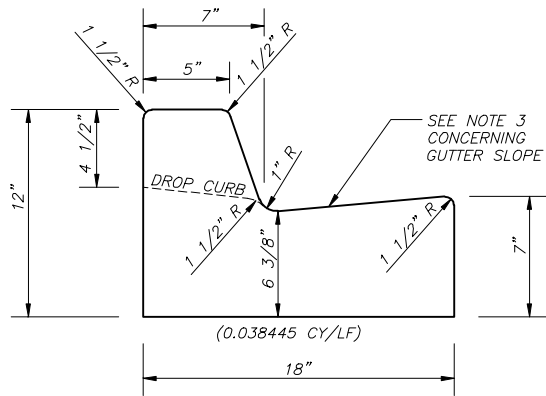
EFFECTIVE DATE:

DETAIL NO. 114

APPROVED:

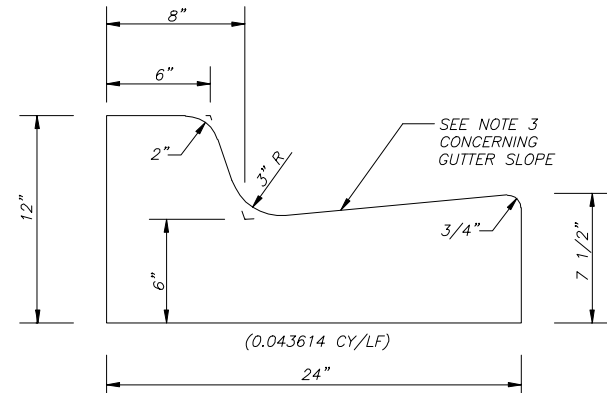

 H.P. TOMPKINS, SR., P.E.
 COUNTY ENGINEER

FILE NAME: D114.DWG



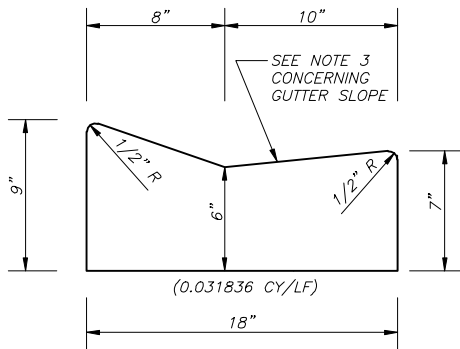
18" CURB & GUTTER

SPECIFIC USE: LOCAL ROAD AND MINOR COLLECTOR ROADWAY CLASSES



**F.D.O.T. STANDARD TYPE "F"
CURB AND GUTTER**

SPECIFIC USE: MAJOR COLLECTOR ROADWAY CLASSES

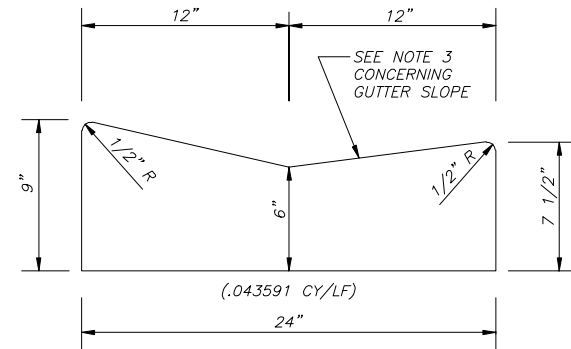


**18" LOW PROFILE
CURB & GUTTER**

SPECIFIC USE: LOCAL ROAD AND
MINOR COLLECTOR ROADWAY CLASSES

GENERAL NOTES:

1. MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
2. CONCRETE SHALL BE CLASS I CONCRETE WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI.
3. WHEN USED ON THE HIGH SIDE OF ROADWAY SECTIONS, THE CROSS SLOPE OF THE GUTTER SHALL MATCH THE CROSS SLOPE OF THE ADJACENT PAVEMENT. WHERE THIS CONDITION IS ENCOUNTERED, THE FRONT FACE VERTICAL DIMENSION SHALL REMAIN AS SHOWN FOR NORMAL SECTIONS SHOWN HEREON.



**24" LOW PROFILE
CURB AND GUTTER**

SPECIFIC USE: MAJOR COLLECTOR ROADWAY CLASSES



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REVISION

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DESIGN DETAIL

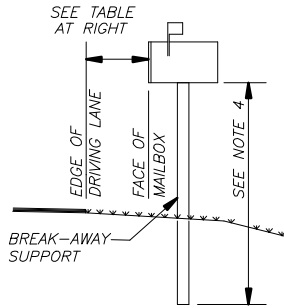
**CURB AND CURB & GUTTER
TYPICAL CONSTRUCTION DETAILS**

EFFECTIVE DATE:

DETAIL NO. 115

APPROVED:

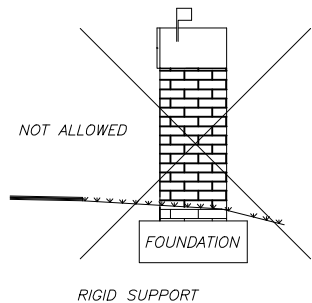
[Signature]
H.P. TOMPKINS, JR., P.E.
COUNTY ENGINEER



POSTED SPEED LIMIT	MINIMUM SETBACK FROM* FACE OF MAILBOX TO EDGE OF DRIVING LANE (BREAK-AWAY SUPPORTS ONLY)
25 MPH AND LESS	1.50 FEET (18 INCHES)
30 TO 40 MPH	2.67 FEET (30 INCHES)
45 MPH AND GREATER	8.00 FEET

* FOR EXISTING ROADWAYS WHERE THE MINIMUM SETBACK REQUIREMENTS CANNOT PHYSICALLY BE MET, CONTACT THE ST. JOHNS COUNTY PUBLIC WORKS DEPARTMENT, ENGINEERING DIVISION.

SWALED ROADWAY SECTIONS

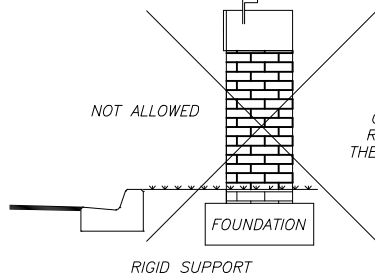
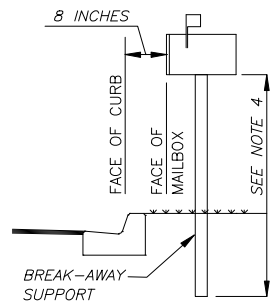


RIGID SUPPORT

GENERAL NOTES:

1. THE LOCATION AND CONSTRUCTION OF MAILBOXES SHALL CONFORM TO THE RULES AND REGULATIONS OF THE UNITED STATES POSTAL SERVICE AS MODIFIED BY THIS DESIGN STANDARD.
2. 4 INCH x 4 INCH WOOD SUPPORT POSTS, 2 INCH DIAMETER SCHEDULE 40 STEEL PIPE, FLANGED CHANNEL SUPPORT POSTS, AND RELATED SUPPORT STRUCTURES MEETING THE REQUIREMENTS OF THE FDOT ROADWAY AND TRAFFIC DESIGN STANDARDS INDEX NO. 532 (LATEST EDITION) WILL NOT REQUIRE A RIGHT-OF-WAY PERMIT AS LONG AS PLACEMENT WITHIN THE RIGHT-OF-WAY MEETS THE STANDARDS SHOWN AT LEFT.
3. CONCRETE, BLOCK, BRICK, STONE OR OTHER RIGID FOUNDATION STRUCTURE OR ENCASMENT (ABOVE OR BELOW GROUND) WILL NOT BE PERMITTED WITHIN THE CLEAR ZONE OF ANY COUNTY RIGHT-OF-WAY. THESE TYPE SUPPORT STRUCTURES SHALL BE CONSIDERED A ROADWAY SAFETY HAZARD AND MUST MEET CLEAR ZONE REQUIREMENTS BASED ON CRITERIA CONTAINED IN THE FDOT MANUAL OF UNIFORM STANDARDS. USE OF THESE STRUCTURES WITHIN ANY COUNTY RIGHT-OF-WAY WILL REQUIRE AN APPLICATION FOR RIGHT-OF-WAY PERMIT AND APPROVAL BY THE PUBLIC WORKS DEPARTMENT PRIOR TO PLACEMENT WITHIN COUNTY RIGHT-OF-WAY.

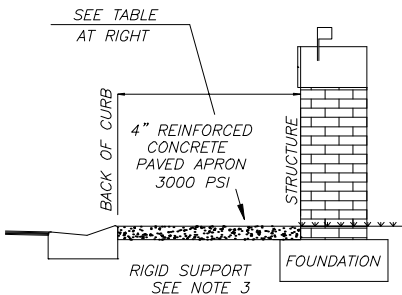
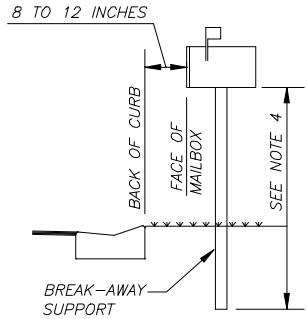
THESE STANDARDS MUST ALSO APPLY TO PRIVATELY OWNED ROAD RIGHT-OF-WAY FOR THE PROTECTION OF THE HEALTH, SAFETY AND WELFARE OF THE TRAVELING PUBLIC.
4. THE BOTTOM OF ALL MAILBOXES SHALL BE SET AT A HEIGHT OF 40 TO 44 INCHES FROM THE GROUND LINE OR AS REQUIRED BY THE POSTAL SERVICE. MAXIMUM EMBEDMENT DEPTH FOR SUPPORT STRUCTURE MEETING ITEM 2 ABOVE SHALL BE 24 INCHES.
5. FAILURE TO COMPLY BY THE STANDARDS SHOWN HEREON SHALL RESULT IN IMPLEMENTATION OF CODE ENFORCEMENT PROCEDURES.
6. THE APPROACH TO THE MAILBOX MUST BE CLEAR OF ALL OBSTRUCTIONS TO ALLOW SAFE ACCESS FOR DELIVERY. IF U.S. POSTAL SERVICE EMPLOYEES ARE IMPEDED IN REACHING A MAIL RECEPTACLE, THE POSTMASTER MAY WITHDRAW DELIVERY SERVICE.



DUE TO CONFLICTS BETWEEN THE POSTAL SERVICES ASSESSIBILITY REQUIREMENTS AND CLEAR ZONE REQUIREMENTS, RIGID STRUCTURES RELATIVE TO NOTE 3 WILL NOT BE PERMITTED IN THE RIGHT-OF-WAY WITH STANDARD CURB & GUTTER ROADWAY SECTIONS

RIGID SUPPORT

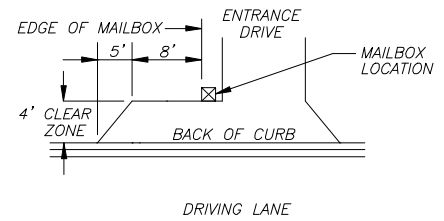
STANDARD CURB & GUTTER ROADWAY SECTIONS



POSTED SPEED LIMIT	MINIMUM DISTANCE FROM BACK OF CURB TO FACE OF STRUCTURE
LOCAL ROADS 30 MPH AND LESS	4 FEET R/W PERMIT REQUIRED
35 MPH AND GREATER	NOT ALLOWED

RIGID SUPPORT SEE NOTE 3

LOW PROFILE CURB & GUTTER ROADWAY SECTIONS



PAVED APRON DETAIL
(LOCAL ROAD - 30 MPH AND LESS ONLY)



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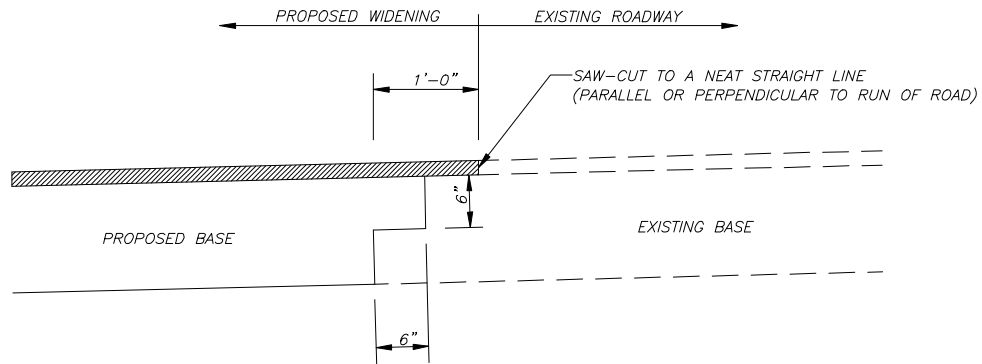
REVISION
10/09

DESIGN DETAIL

**MAILBOX PLACEMENT
WITHIN ROAD RIGHT-OF-WAY**

EFFECTIVE DATE:
DETAIL NO. 116
APPROVED:

H.P. TOMPKINS, JR., P.E.
COUNTY ENGINEER



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ENGINEERING DIVISION

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REVISION
10/09

DESIGN DETAIL

SAW-CUT DETAIL

EFFECTIVE DATE:

DETAIL NO. 117

APPROVED:


H.P. TOMPKINS, JR., P.E.
COUNTY ENGINEER

FILE NAME: D117.DWG

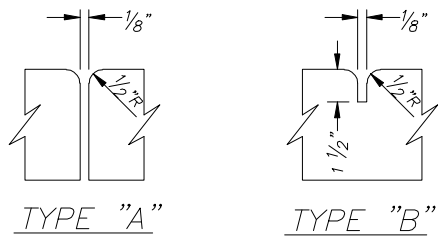
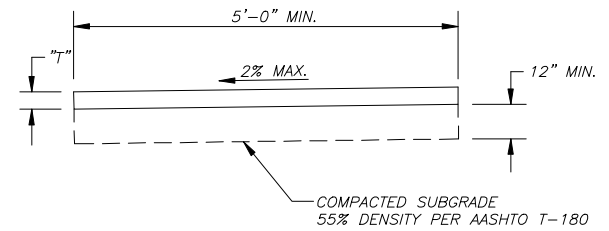
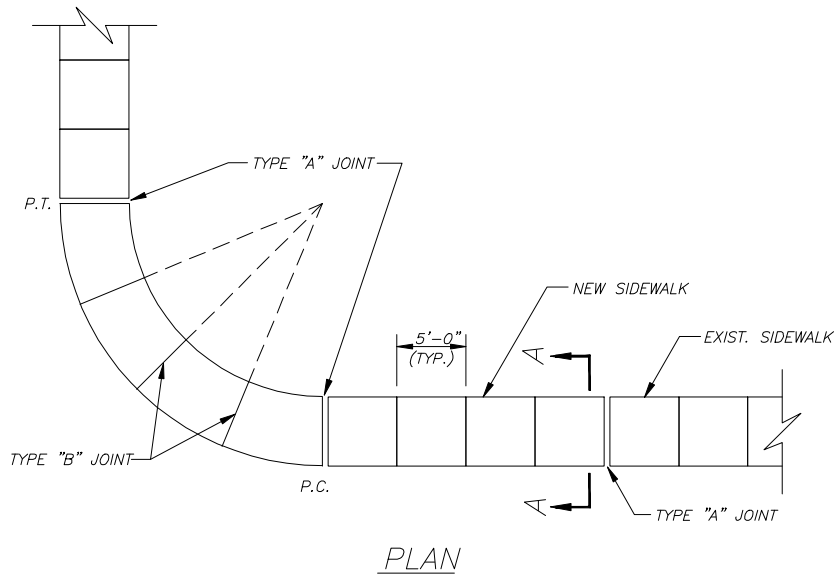



TABLE OF SIDEWALK THICKNESS - "T"	
LOCATION	"T"
RESIDENTIAL AREAS	4"
AT DRIVEWAYS AND OTHER AREAS	6"


TABLE OF SIDEWALK JOINTS	
TYPE	LOCATION
"A"	P.C. AND P.T. OF CURVES
"B"	5'-0" CENTER TO CENTER ON SIDEWALKS

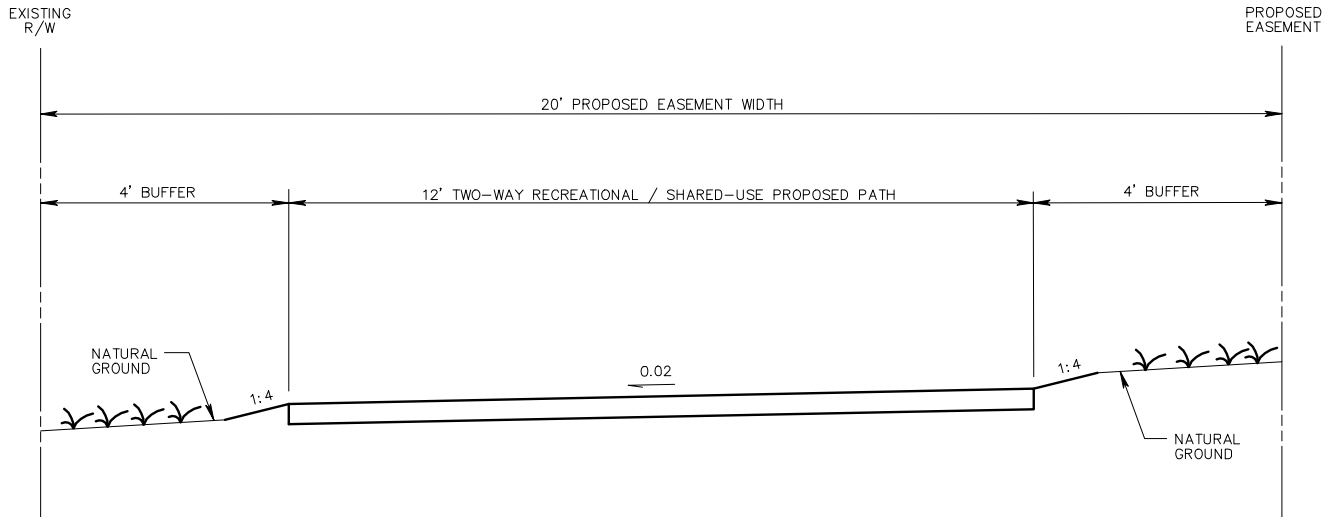

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REVISION
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DESIGN DETAIL

SIDEWALK DETAILS

EFFECTIVE DATE:
 DETAIL NO. 118
 APPROVED:

 H.P. TOMPKINS, JR., P.E.
 COUNTY ENGINEER



NOTES:

1. A 20-FOOT EASEMENT IS REQUESTED FOR THE CONSTRUCTION OF THE PATH.
2. THE 12-FOOT PATH WIDTH MEETS THE MINIMUM FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION CRITERIA FOR A TWO-WAY, SHARED-USE PATH.
3. THIS PATH MUST BE ADA-COMPLIANT PER CODE OF FEDERAL REGULATION (CFR) PART 36.



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DESIGN DETAIL

MULTI USE PATH

EFFECTIVE DATE:

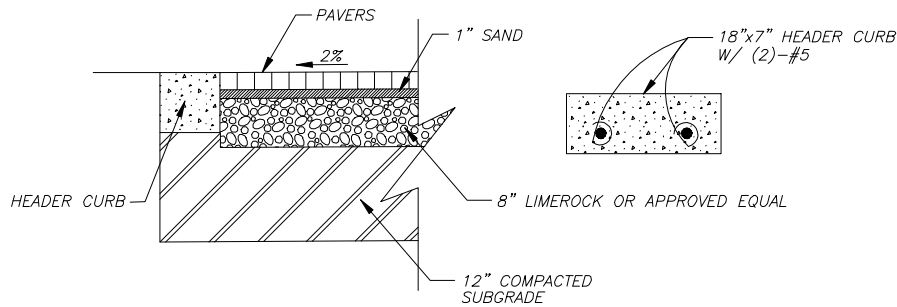
DETAIL NO.

119

APPROVED:


H.P. TOMPKINS, JR., P.E.
COUNTY ENGINEER

FILE NAME: D119.DWG



INTERLOCKING PAVER BLOCKS

SOLID CONCRETE INTERLOCKING
PAVING STONE SPECIFICATIONS
(SHEET 1 OF 2)

1. DESCRIPTION

1.1 GENERAL

A. SCOPE OF WORK

1. FURNISH AND PLACE SAND BEDDING COURSE.
2. FURNISH AND INSTALL CONCRETE INTERLOCKING PAVING STONES IN THE QUALITY, SHAPE, THICKNESS AND A COLOR AS SPECIFIED.
3. FURNISH AND INSTALL ALL ACCESSORY ITEMS AS REQUIRED BY THE CONTRACT.

B. RELATED WORK:

1. FURNISH AND INSTALL SUBGRADE PER DETAIL.

C. PRODUCT HANDLING

1. PAVING STONES SHALL BE DELIVERED AND UNLOADED AT JOBSITE IN SUCH A MANNER THAT NO DAMAGE OCCURS DURING SHIPPING, HANDLING AND STORAGE.

D. REFERENCES

1. SOLID CONCRETE INTERLOCKING PAVING STONES SHALL MEET OR EXCEED THE REQUIREMENTS IN ASTM C-396 STANDARD SPECIFICATIONS FOR SOLID CONCRETE INTERLOCKING PAVING UNITS.

II. MATERIALS:

2.1 SOLID CONCRETE INTERLOCKING PAVING STONES:

A. THICKNESS, COLOR AND PATTERN:

1. PAVING STONE THICKNESS SHALL BE BETWEEN 2 3/8" TO 3 1/8".
2. ALL PAVING STONES SHALL BE COLORED THROUGH THE FULL DEPTH OF
3. PAVER AND JUST NOT THE SURFACE.
A MULTI-COLORED PAVING STONE PATTERN SHALL BE USED.

B. CEMENTITIOUS MATERIALS:

1. PORTLAND CEMENTS SHALL CONFORM TO ASTM C-150.

C. AGGREGATES:

1. AGGREGATES SHALL CONFORM TO ASTM C-33 FOR NORMAL WEIGHT CONCRETE EXCEPT THAT GRADING REQUIREMENTS SHALL NOT NECESSARILY APPLY.

D. OTHER MATERIALS:

1. COLORING PIGMENTS, AIR ENTRAINING AGENTS, INTEGRAL WATER REPELLENTS, FINELY GROUND SILICA, ETC., SHALL CONFORM TO ASTM STANDARD WHERE APPLICABLE OR SHALL BE PREVIOUSLY ESTABLISHED AS SUITABLE FOR USE IN CONCRETE.

E. COMPRESSIVE STRENGTH:

1. AT THE TIME OF DELIVERY TO THE WORK SITE, THE AVERAGE COMPRESSIVE STRENGTH SHALL NOT BE LESS THAN 8,000 psi WITH NO INDIVIDUAL UNIT STRENGTH LESS THAN 7,000 psi, WITH TESTING PROCEDURES IN ACCORDANCE WITH ASTM C-140.

F. ABSORPTION:

1. THE AVERAGE ABSORPTION SHALL NOT BE GREATER THAN 5% WITH NO INDIVIDUAL UNIT ABSORPTION GREATER THAN 7%.

G. PROVEN FIELD PERFORMANCE:

1. SATISFYING FIELD PERFORMANCE IS INDICATED WHEN PAVING STONES SIMILAR IN COMPOSITION, AND MADE WITH THE SAME MANUFACTURING EQUIPMENT AS THOSE SUPPLIED TO THE PURCHASER, DO NOT EXHIBIT EXCESSIVE DETERIORATION AFTER ONE YEAR.

H. VISUAL INSPECTION:

1. ALL PAVING STONES SHALL BE SOUND AND FREE OF DEFECTS THAT WOULD INTERFERE WITH THE PROPER PLACEMENT OF THE PAVING STONE OR IMPAIR THE STRENGTH OR PERFORMANCE OF THE CONSTRUCTION.
2. MINOR CRACKS INCIDENTAL TO THE USUAL METHODS OF MANUFACTURE, OR CHIPPING RESULTING FROM CUSTOMARY METHODS OF HANDLING IN SHIPMENT AND DELIVERY, SHALL NOT BE DEEMED GROUNDS FOR REJECTION.

I. SAMPLING AND TESTING:

1. THE PURCHASER SHALL BE ACCORDED PROPER FACILITIES TO INSPECT AND SAMPLE THE PAVING STONES AT THE PLACE OF MANUFACTURE FROM LOTS READY FOR DELIVERY.
2. PAVING STONES WILL BE SAMPLED AND TESTED IN ACCORDANCE WITH ASTM C-140.

J. REJECTION:

1. IF THE SHIPMENT FAILS TO CONFORM TO THE SPECIFIED REQUIREMENTS, THE MANUFACTURER MAY SORT IT, AND NEW TEST PAVING STONES SHALL BE SELECTED AT RANDOM BY THE PURCHASER FROM THE RETAINED LOT AND TESTED AT THE EXPENSE OF THE MANUFACTURER. IF THE SECOND SET OF TEST PAVING STONES FAIL TO CONFORM TO THE SPECIFIED REQUIREMENTS, THE ENTIRE LOT SHALL BE REJECTED.

2.2 BEDDING COURSE:

1. THE BEDDING COURSE SHALL BE A WELL GRADED, CLEAN, WASHED SAND WITH 100% PASSING A 3/8" SIEVE SIZE AND A MAXIMUM OF 3% PASSING A NO. 200 SIEVE SIZE. THE USE OF MASON SAND SHALL NOT BE APPROVED.
2. THE BEDDING COURSE SHALL BE THE RESPONSIBILITY OF THE PAVING STONE INSTALLER.

2.3 EDGE RESTRAINT

1. ALL EDGES OF THE INSTALLED PAVING STONES SHALL BE RESTRAINED. THE TYPE OF EDGE RESTRAINT SHALL BE APPROVED AT LOCATIONS AND TO DETAILS NOTED ON PLANS.



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REVISION

10/09

DESIGN DETAIL

PAVER BLOCK DETAILS
AND SPECIFICATIONS

EFFECTIVE DATE:

DETAIL NO. 120

APPROVED:

H.P. TOMPKINS, JR., P.E.
COUNTY ENGINEER

SOLID CONCRETE INTERLOCKING
PAVING STONE SPECIFICATIONS
(SHEET 2 OF 2)

III. CONSTRUCTION METHODS:

3.1 PREPARATION OF THE BASE COURSE:

1. A SUITABLE BASE SHALL BE PREPARED AS SPECIFIED IN SECTION B.2. OF THIS SPECIFICATION.
2. THE BASE COURSE SHALL BE SHAPED TO GRADE AND CROSS SECTION WITH ALLOWABLE TOLERANCE OF 1/4".

3.2 CONSTRUCTION OF THE BEDDING COURSE:

1. THE FINISHED BEDDING COURSE SHALL BE APPROVED BEFORE THE PLACEMENT OF THE BEDDING COURSE.
2. THE SAND BEDDING COURSE SHALL BE SPREAD EVENLY OVER THE AREA TO RECEIVE THE PAVING STONES AND THE SCREEDED LEVEL TO PRODUCE A 1" THICKNESS WHEN THE PAVING STONES HAVE BEEN PLACED AND VIBRATED.
3. THE FINAL ELEVATION OF PAVING STONES SHOULD BE NOMINALLY 1/4" TO 3/8" HIGHER THAN THE ADJACENT CURB, GUTTER, ETC., TO ALLOW FOR FREE DRAINAGE FROM CHAMFERS ON PAVING STONE EDGES.
4. THE BEDDING COURSE SHALL NOT BE DISTURBED, ONCE SCREEDED AND LEVELED TO THE DESIRED ELEVATION.

3.3 INSTALLATION OF THE PAVING STONES.

1. THE PAVING STONES SHALL BE PLACED AS SHOWN ON THE DRAWINGS.
2. THE PAVING STONES SHALL BE PLACED IN SUCH A MANNER THAT THE DESIRED PATTERN IS MAINTAINED AND THAT NO INTENTIONAL SPACE IS LEFT BETWEEN THE STONES FOR MAXIMUM INTERLOCK.
3. STRING LINES SHOULD BE USED TO HOLD ALL PATTERNS TRUE.
4. THE GAPS AT THE EDGE STONE OR WITH STONES CUT TO FIT. CUTTING OF CONCRETE PAVING STONE SHALL BE ACCOMPLISHED TO LEAVE A CLEAN EDGE TO THE TRAFFIC SURFACE USING A DOUBLE-HEADED BREAKER OR A MASONRY SAW. WHENEVER POSSIBLE, NO CUT SHOULD RESULT WITH A PAVING STONE LESS THAN 1/3 OF ORIGINAL DIMENSION.
5. PAVING STONES SHALL BE VIBRATED INTO THE BEDDING COURSE USING A PLATE VIBRATOR CAPABLE OF 3000 TO 5000 POUNDS COMPACTION FORCE WITH THE SURFACE CLEAN AND THE JOINTS OPEN.
6. AFTER VIBRATION, CLEAN, SHARP SAND CONTAINING AT LEAST 30% OF 1/8" PARTICLES SHALL BE SPREAD OVER THE PAVING STONE SURFACE, ALLOWED TO DRY AND VIBRATED INTO THE JOINTS WITH ADDITIONAL PLATE VIBRATOR PASSES AND BRUSHING SO AS TO COMPLETELY FILL THE JOINTS.
7. SURPLUS MATERIAL SHALL THEN BE SWEEPED FROM THE SURFACE OR LEFT ON THE SURFACE DURING CONSTRUCTION TO INSURE COMPLETE FILLING OF JOINTS DURING INITIAL USE.
8. UPON COMPLETION OF WORK COVERED IN THIS SECTION, THE CONTRACTOR SHALL CLEAN UP ALL WORK AREAS BY REMOVING ALL DEBRIS, SURPLUS MATERIAL AND EQUIPMENT FROM THE SITE.



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10/09

DESIGN DETAIL

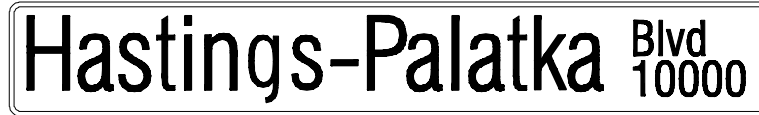
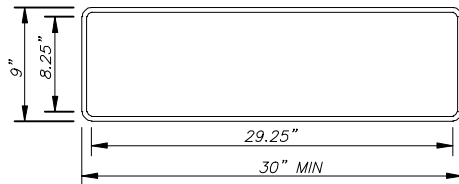
PAVER BLOCK DETAILS
AND SPECIFICATIONS

EFFECTIVE DATE:

DETAIL NO. 121

APPROVED:

H.P. TOMKINS, JR., P.E.
COUNTY ENGINEER



NOTES:

- In the above illustration Hastings-Palatka Blvd is an example of the maximum number of characters allowed on a street sign blank. The block number space is reserved for future use. Non-Maintained County Roads are designated as a Private Road which is symbolized by "PVT"
- Street Name signs shall consist of a white letters on a green background and shall be retroreflective or illuminated to show the same shape and similar color both day and night. Standard street signs will be composed of lower case letters at least 4.35 inches in height with initial upper case letters at least 6 inches in height.
- On multi-lane streets with speed limits of greater than 40 MPH, the lettering on post mounted street name signs shall be composed of lower-case letters at least 6 inches in height with initial upper-case letters at least 8 inches in height
- The green background will be fabricated from Electro-Cut Film, and the white lettering will be fabricated from High Intensity Grade Reflective Sheeting. Retroreflective and nonreflective sign sheeting shall conform to Section 994 of the latest edition of the Florida Department of Transportation (FDOT) Standard Specifications for Road and Bridge Construction and must be on the FDOT Qualified Products List.
- The standard alphabet approved for highway signs by the Federal Highway Administration will be the standard font accepted for Street Name lettering.
- Supplemental lettering to indicate the type of street (such as Lane, Avenue or Road), a section of a city (such as NW) or (PVT) an abbreviation for a private road may be in smaller lettering at least 3" high. Standard street blank height for post mounted signs is 9". Lengths are 30", 36", 42" or 48" as needed to fit the street name, but the length may not exceed 48" on post mounted street name signs.
- All street name sign assemblies will consist of (2) two - (1) one sided signs mounted on each side of a square 2" x 2" post.
- Sign Blanks shall be 0.063 gauge thick. All blanks must have an alodine or equal finish, 3/4" radius corners, 3/8" hole to be drilled 1" from edge of blank vertically on center and a 1/4" hole drilled 1/2" from the edge of the blank and on horizontal center. All blanks must be deburred on edges and corners. When installed, signs are to be pinned on both ends to minimize damage during severe weather.
- All signs are to be installed on 2" X 2" square posts that have a 14 gauge thickness and that are break-away compliant. The posts are to be open hole. Any street sign located in the beach area is to be installed on 3" aluminum posts that are 0.125 in thickness.
- All street name signs shall be in substantial conformance with St John County Standards, including the latest edition of the Manual on Uniform Overhead signs typically attached to signal mast arms must conform to standards Traffic Control Devices; latest edition of standards established by Florida Department of Transportation ,and applicable standards established by the American with Disabilities Act, ADA.



**ST JOHNS COUNTY
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION**

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REVISION

10/09

DESIGN DETAIL

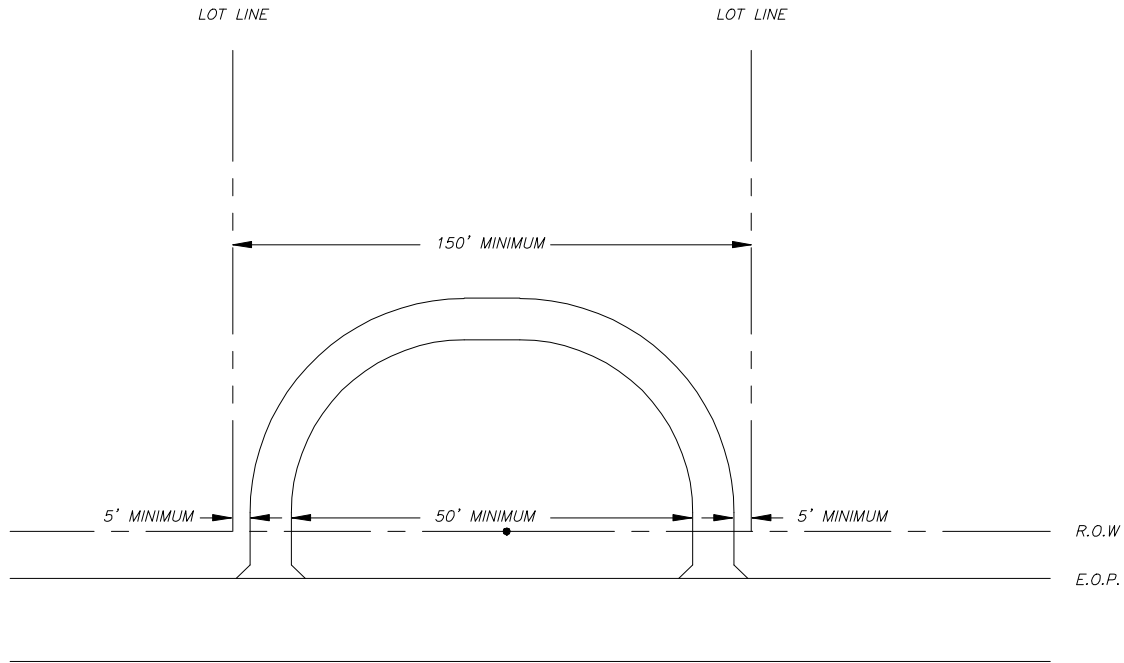
ST. JOHNS COUNTY
STREET NAME SIGN SPECIFICATIONS

EFFECTIVE DATE:

DETAIL NO. 122

APPROVED:

H.P. TOMPKINS, JR., P.E.
COUNTY ENGINEER



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PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

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REVISION
10/09

DESIGN DETAIL

RESIDENTIAL CIRCULAR DRIVE DETAIL

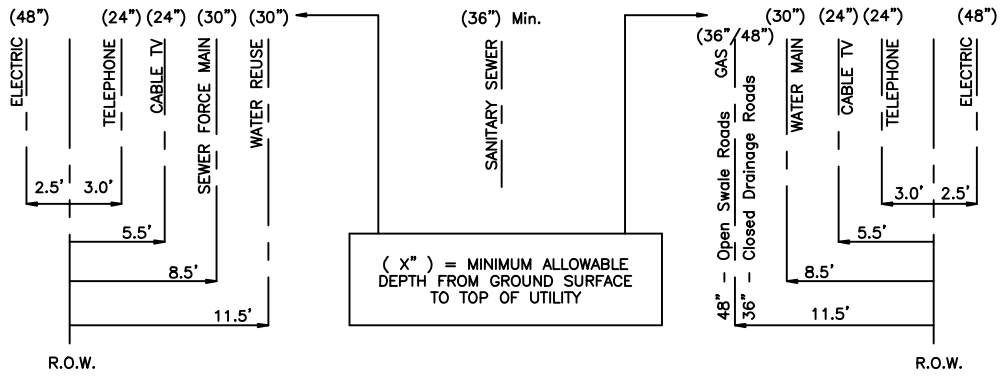
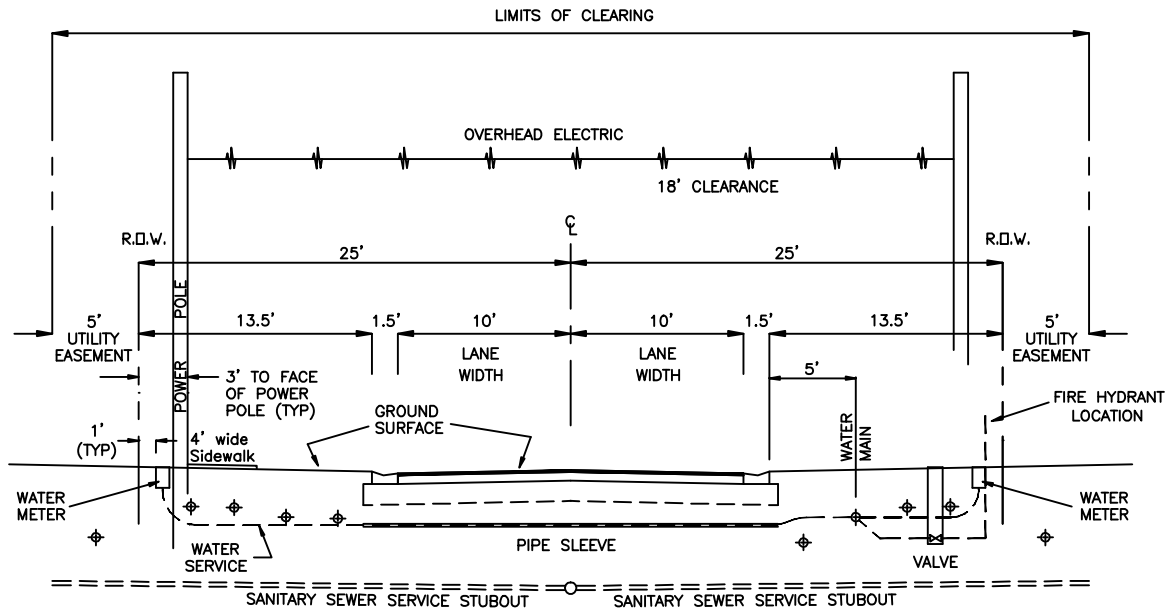
EFFECTIVE DATE:

DETAIL NO. 123

APPROVED:


H.P. TOMPKINS, SR., P.E.
COUNTY ENGINEER

FILE NAME: D123.DWG



NOTE:
ALL UTILITIES CROSSING
A ROAD MUST BE
AT LEAST 42" DEEP



ST JOHNS COUNTY
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DESIGN DETAIL

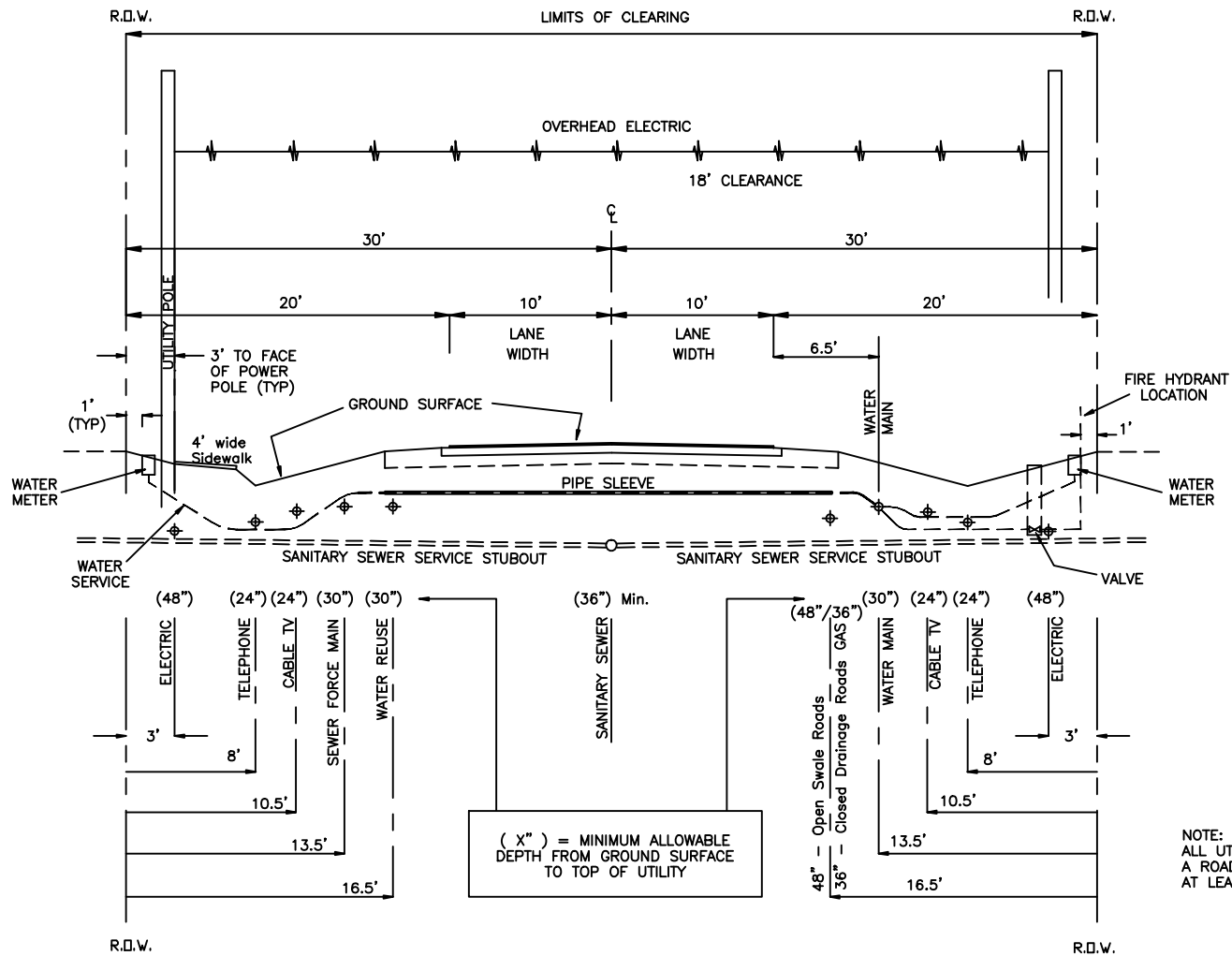
TYPICAL UTILITY LOCATION PLAN
50 FOOT RIGHT-OF-WAY

EFFECTIVE DATE:

DETAIL NO. 124

APPROVED:

[Signature]
H.P. TOMPKINS, JR., P.E.
COUNTY ENGINEER



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DESIGN DETAIL

TYPICAL UTILITY LOCATION PLAN
 60 FOOT RIGHT-OF-WAY

EFFECTIVE DATE:

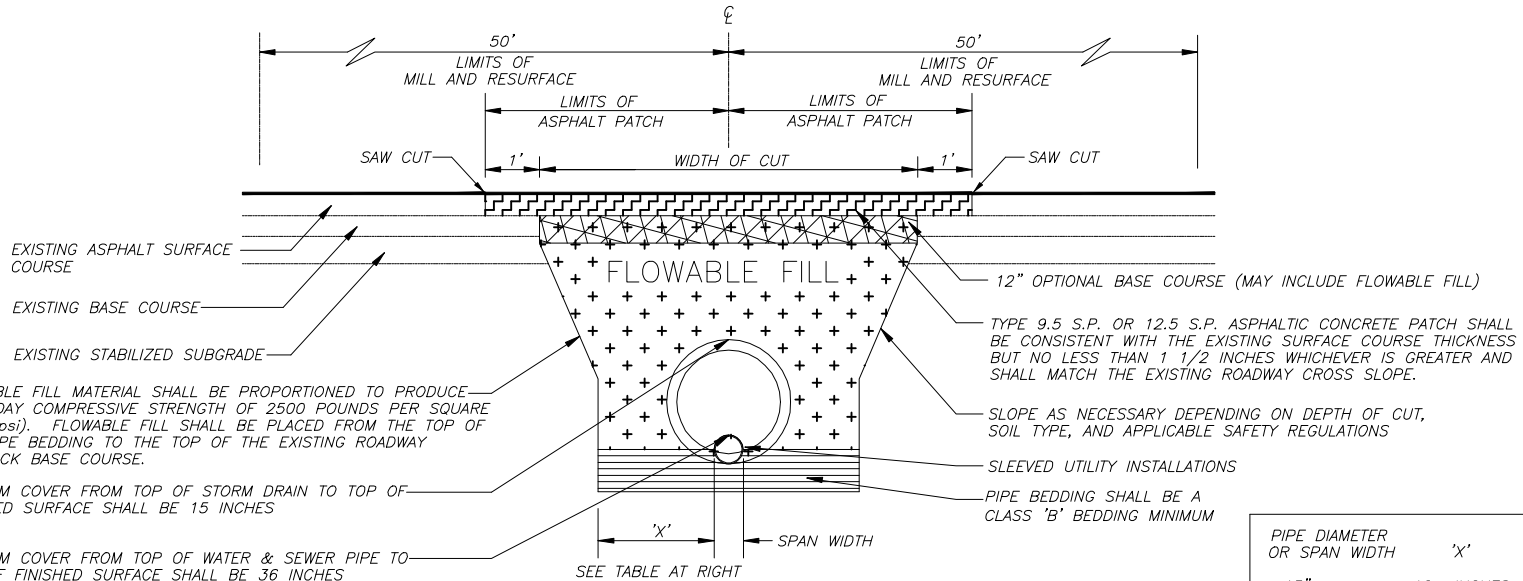
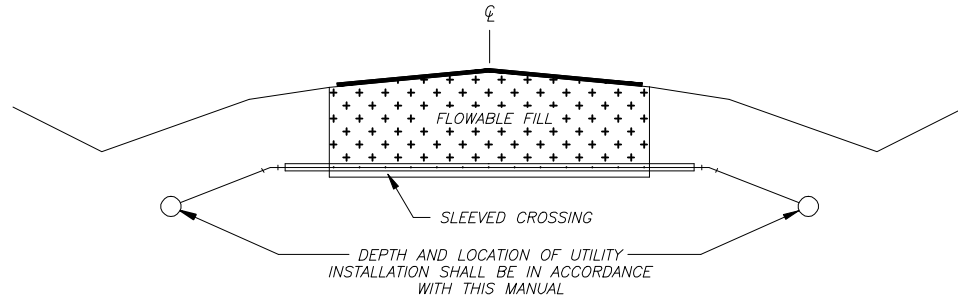
DETAIL NO. 125

APPROVED:

[Signature]
 H.P. TOMPKINS, JR., P.E.
 COUNTY ENGINEER

NOTES:

1. OPEN ROAD CUTS ARE GENERALLY NOT AN ACCEPTABLE MEANS OF CONSTRUCTION UNLESS APPROVED IN ADVANCE BY THE ENGINEERING RIGHT OF WAY DIVISION. SEE NOTE #3.
2. MATERIALS, MIX PROPORTIONS, PRODUCTION, PLACING, CONSTRUCTION REQUIREMENTS, AND ACCEPTANCE OF FLOWABLE FILL SHALL BE IN ACCORDANCE WITH THIS MANUAL.
3. ALL OPEN CUTS SHALL REQUIRE A PERMIT AND 48 HOUR ADVANCE NOTICE TO THE INSPECTION STAFF PRIOR TO COMMENCEMENT OF CONSTRUCTION. A REPRESENTATIVE FROM THE ENGINEERING R.O.W. STAFF MUST BE PRESENT AT THE TIME OF INSTALLATION OF THE UTILITY.
4. PUBLIC SAFETY SHALL BE MAINTAINED DURING CONSTRUCTION IN ACCORDANCE WITH THE PROVISIONS OF PART 6, WORK ZONE TRAFFIC CONTROL, OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
5. THE CONTRACTOR SHALL PROVIDE TO THE INSPECTOR CERTIFICATION OF THE MIX DESIGN FROM THE SUPPLIER AT THE TIME OF CONSTRUCTION.
6. AN OVERLAY OF 50' IN EACH DIRECTION IS REQUIRED AS A MINIMUM ON ALL OPEN ROAD CUTS AND WILL BE DETERMINED AT TIME OF PERMIT APPLICATION REVIEW UNLESS MODIFIED BY COUNTY ENGINEER.
7. WHEN PIPE AND FLOWABLE FILL ARE USED IN A MILL AND RESURFACE PROJECT CONTACT THE COUNTY ENGINEER FOR RECOMMENDATION.



FLOWABLE FILL MATERIAL SHALL BE PROPORTIONED TO PRODUCE A 28 DAY COMPRESSIVE STRENGTH OF 2500 POUNDS PER SQUARE INCH (psi). FLOWABLE FILL SHALL BE PLACED FROM THE TOP OF THE PIPE BEDDING TO THE TOP OF THE EXISTING ROADWAY LIMEROCK BASE COURSE.

MINIMUM COVER FROM TOP OF STORM DRAIN TO TOP OF FINISHED SURFACE SHALL BE 15 INCHES

MINIMUM COVER FROM TOP OF WATER & SEWER PIPE TO TOP OF FINISHED SURFACE SHALL BE 36 INCHES

NOTE:

ALL OPEN ROAD CUTS SHALL BE APPROVED BY THE COUNTY ENGINEER.

PIPE DIAMETER OR SPAN WIDTH	'X'
< 15"	12 INCHES
≤ 24"	16 INCHES
≤ 30"	24 INCHES
> 30"	36 INCHES



**ST JOHNS COUNTY
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REVISION
10/09

DESIGN DETAIL

OPEN ROAD CUTS/FLOWABLE FILL

EFFECTIVE DATE:

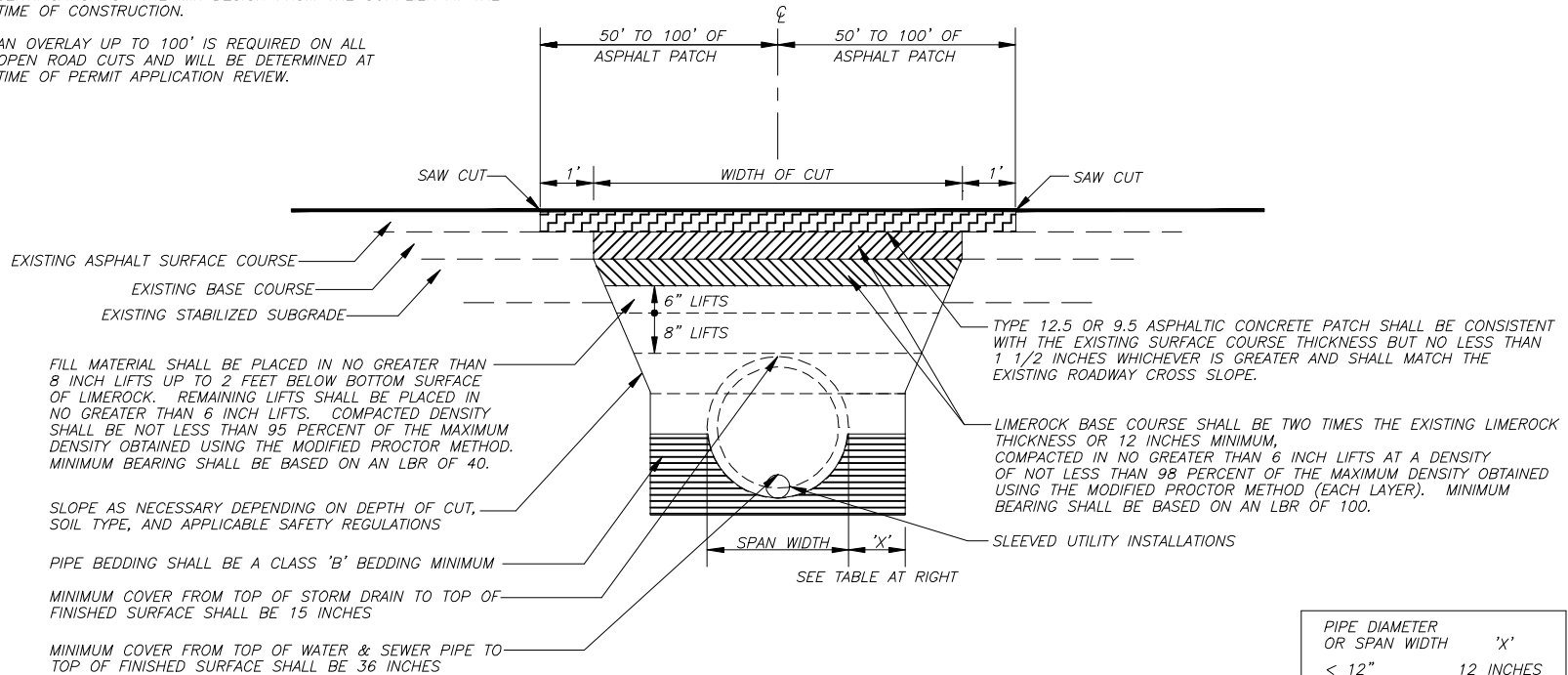
DETAIL NO. 200

APPROVED:

[Signature]
H.P. TOMPKINS, JR., P.E.
COUNTY ENGINEER

NOTES:

1. OPEN ROAD CUTS ARE GENERALLY NOT AN ACCEPTABLE MEANS OF CONSTRUCTION UNLESS APPROVED IN ADVANCE BY THE ENGINEERING RIGHT OF WAY DIVISION. SEE NOTE #3
2. MATERIALS, MIX PROPORTIONS, PRODUCTION, PLACING, CONSTRUCTION REQUIREMENTS, AND ACCEPTANCE OF FLOWABLE FILL SHALL BE IN ACCORDANCE WITH THIS MANUAL.
3. ALL OPEN CUTS SHALL REQUIRE A PERMIT AND 48 HOUR ADVANCE NOTICE TO THE INSPECTION STAFF PRIOR TO COMMENCEMENT OF CONSTRUCTION. A REPRESENTATIVE FROM THE ENGINEERING R.O.W. DIV. STAFF MUST BE PRESENT AT THE TIME OF INSTALLATION OF THE UTILITY.
4. PUBLIC SAFETY SHALL BE MAINTAINED DURING CONSTRUCTION IN ACCORDANCE WITH THE PROVISIONS OF PART 6, WORK ZONE TRAFFIC CONTROL, OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
5. THE CONTRACTOR SHALL PROVIDE TO THE INSPECTOR CERTIFICATION OF THE MIX DESIGN FROM THE SUPPLIER AT THE TIME OF CONSTRUCTION.
6. AN OVERLAY UP TO 100' IS REQUIRED ON ALL OPEN ROAD CUTS AND WILL BE DETERMINED AT TIME OF PERMIT APPLICATION REVIEW.



PIPE DIAMETER OR SPAN WIDTH	'X'
≤ 12"	12 INCHES
≤ 30"	24 INCHES
≤ 42"	30 INCHES
≤ 48"	36 INCHES
≤ 60"	42 INCHES
> 60"	48 INCHES

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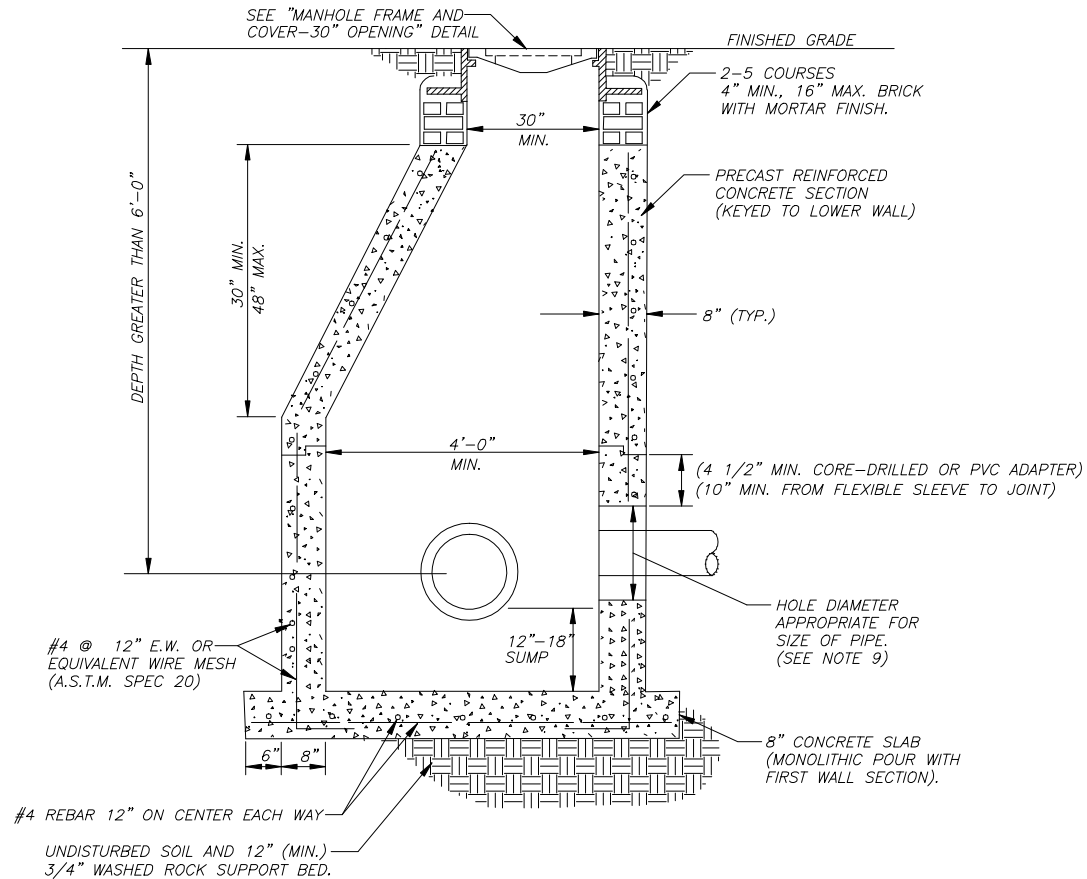
DESIGN DETAIL

OPEN ROAD CUTS/COMPACTED FILL

EFFECTIVE DATE: _____

DETAIL NO. 201

APPROVED: _____
 H.P. TOMPKINS, JR., P.E.
 COUNTY ENGINEER



NOTES:

1. PRECAST CONCRETE TYPE II 4000 P.S.I.
2. "RAMNEK" OR EQUAL AT ALL RISER JOINTS (1/2" THICK WITH THE WIDTH AT LEAST 1/2 THE WALL THICKNESS) WITH GROUT ON INSIDE AND OUTSIDE.
3. ALL OPENINGS SHALL BE SEALED WITH A WATERPROOF NON-SHRINKING GROUT.
4. LIFT HOLES ARE NOT PERMITTED.
5. ALL PIPE OPENINGS SHALL BE PRECAST.
6. MANHOLE FABRICATION SHALL BE IN ACCORDANCE WITH ASTM C-478, LATEST STANDARD.
7. ANY VISIBLE REINFORCING WIRE, STEEL OR HONEYCOMBS SHALL BE CAUSE FOR REJECTION.
8. REFER TO F.D.O.T. STANDARD INDEXES 200 & 201 FOR OTHER APPROVED MANHOLES TO BE PERMITTED.



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DESIGN DETAIL

**STANDARD MANHOLE
(WITH ECCENTRIC CONE)**

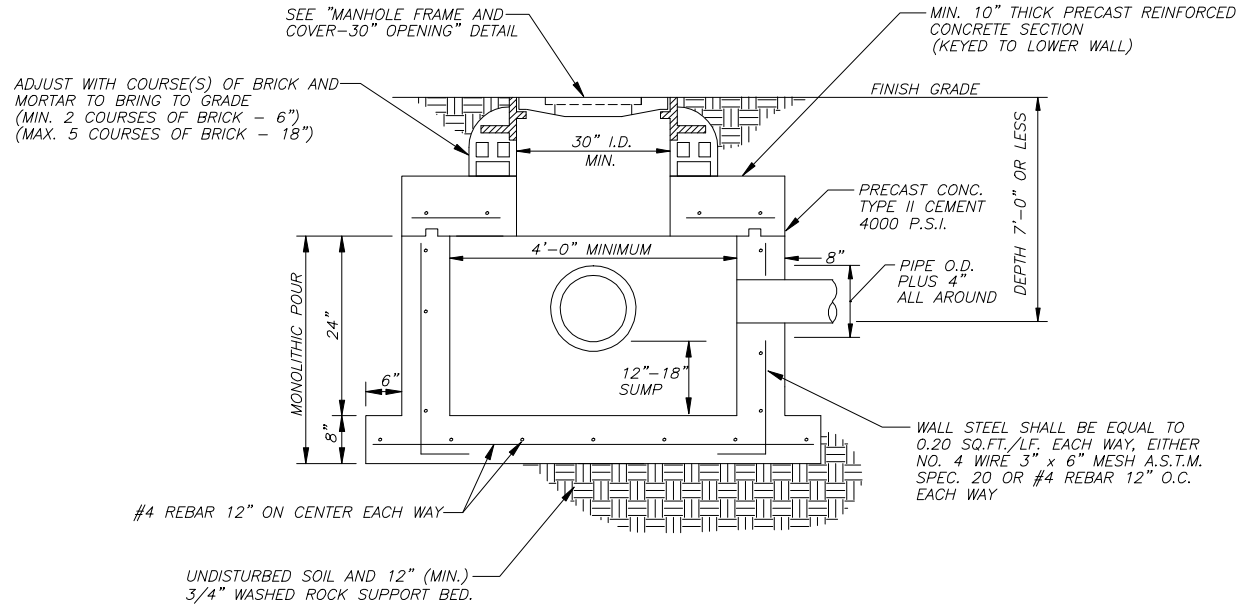
EFFECTIVE DATE:

DETAIL NO. 300

APPROVED:

H.P. TOMPKINS, JR., P.E.
COUNTY ENGINEER

FILE NAME: D300.DWG



NOTES:

1. BRICK MASONRY CONSTRUCTION TO BE STUCCOED WITH 3/4" CEMENT PLASTER INSIDE AND OUTSIDE, TYPE II CEMENT SHALL BE USED.
2. LIFT HOLES THROUGH PRECAST STRUCTURE ARE NOT PERMITTED.
3. SEE TECHNICAL SPECIFICATIONS FOR BEDDING REQUIREMENTS.
4. "RAM-NEK" OR APPROVED EQUAL AT ALL RISER JOINTS (1/2" THICK WITH WIDTH AT LEAST 1/2 THE WALL THICKNESS) WITH GROUT ON INSIDE AND OUTSIDE.
5. ALL OPENINGS SHALL BE SEALED WITH A WATERPROOF, NON-SHRINK GROUT.
6. IF TWO CAGES OF WIRE MESH ARE USED, ONE SHALL BE POSITIONED 3" FROM THE INSIDE SURFACE AND ONE 2" FROM THE OUTSIDE SURFACE. IF A SINGLE CAGE OR REBAR IS USED, IT SHALL BE CENTERED WITHIN WALL THICKNESS. NO EXPOSED STEEL SHALL BE PERMITTED.
7. WALL REINFORCEMENTS A.S.T.M. DESIGNATION A185-64 (LATEST REVISION)(MIN.)
8. MANHOLES SHALL CONFORM TO A.S.T.M. C478 (MIN.)
9. A MINIMUM OF SEVEN DAYS CURE TIME IS REQUIRED PRIOR TO DELIVERY.
10. ALL PIPE HOLES SHALL BE PRECAST.
11. ANY VISIBLE REINFORCING WIRE, STEEL OR HONEYCOMBS SHALL BE CAUSE FOR REJECTION.



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10/09

DESIGN DETAIL

STANDARD PRECAST MANHOLE
TYPE I (SHALLOW)

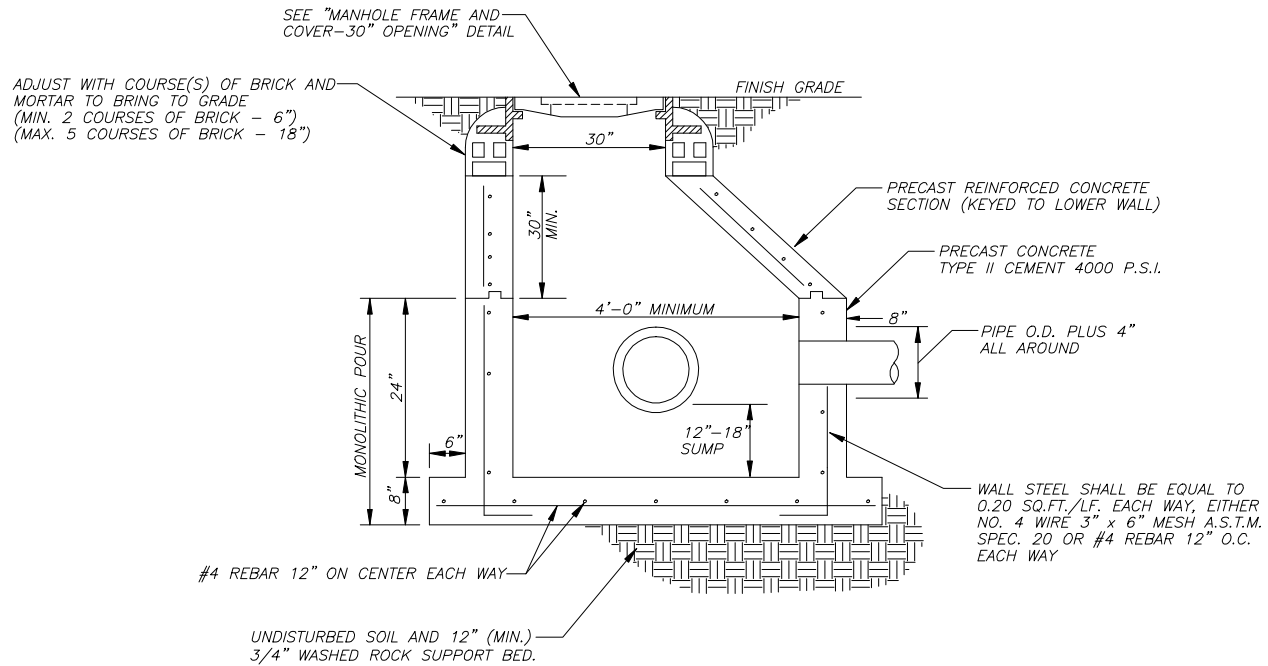
EFFECTIVE DATE:

DETAIL NO. 301

APPROVED:

H.P. TOMPKINS, JR., P.E.
COUNTY ENGINEER

FILE NAME: D301.DWG



NOTES:

1. BRICK MASONRY CONSTRUCTION TO BE STUCCOED WITH 3/4" CEMENT PLASTER INSIDE AND OUTSIDE, TYPE II CEMENT SHALL BE USED.
2. LIFT HOLES THROUGH PRECAST STRUCTURE ARE NOT PERMITTED.
3. SEE TECHNICAL SPECIFICATIONS FOR BEDDING REQUIREMENTS.
4. "RAM-NEK" OR APPROVED EQUAL AT ALL RISER JOINTS (1/2" THICK WITH WIDTH AT LEAST 1/2 THE WALL THICKNESS) WITH GROUT ON INSIDE AND OUTSIDE.
5. ALL OPENINGS SHALL BE SEALED WITH A WATERPROOF, NON-SHRINK GROUT.
6. IF TWO CAGES OF WIRE MESH ARE USED, ONE SHALL BE POSITIONED 3" FROM THE INSIDE SURFACE AND ONE 2" FROM THE OUTSIDE SURFACE. IF A SINGLE CAGE OR REBAR IS USED, IT SHALL BE CENTERED WITHIN WALL THICKNESS. NO EXPOSED STEEL SHALL BE PERMITTED.
7. WALL REINFORCEMENTS A.S.T.M. DESIGNATION A185-64 (LATEST REVISION)(MIN.)
8. MANHOLES SHALL CONFORM TO A.S.T.M. C478 (MIN.)
9. A MINIMUM OF SEVEN DAYS CURE TIME IS REQUIRED PRIOR TO DELIVERY.
10. ALL PIPE HOLES SHALL BE PRECAST.
11. ANY VISIBLE REINFORCING WIRE, STEEL OR HONEYCOMBS SHALL BE CAUSE FOR REJECTION.



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10/09

DESIGN DETAIL

**STANDARD PRECAST MANHOLE
TYPE I (SHALLOW)**

EFFECTIVE DATE:

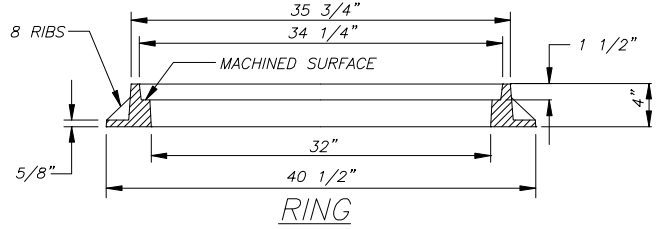
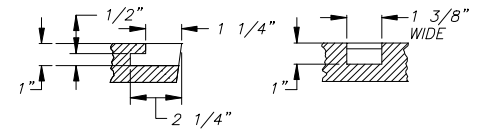
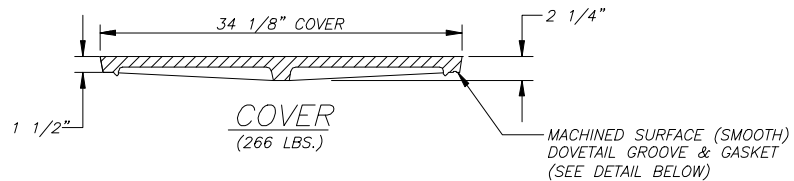
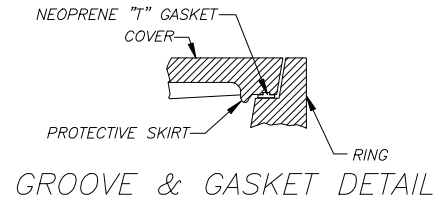
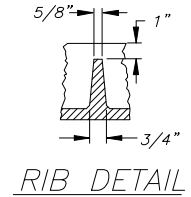
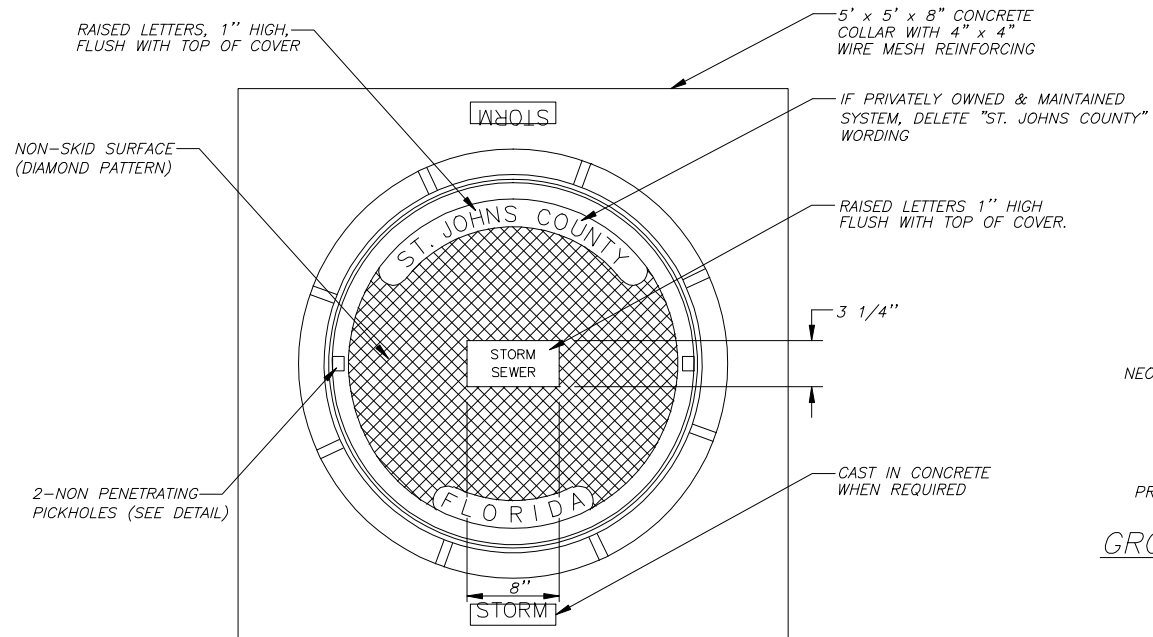
DETAIL NO.

302


APPROVED:


H.P. TOMPKINS, JR., P.E.
COUNTY ENGINEER

FILE NAME: D302.DWG




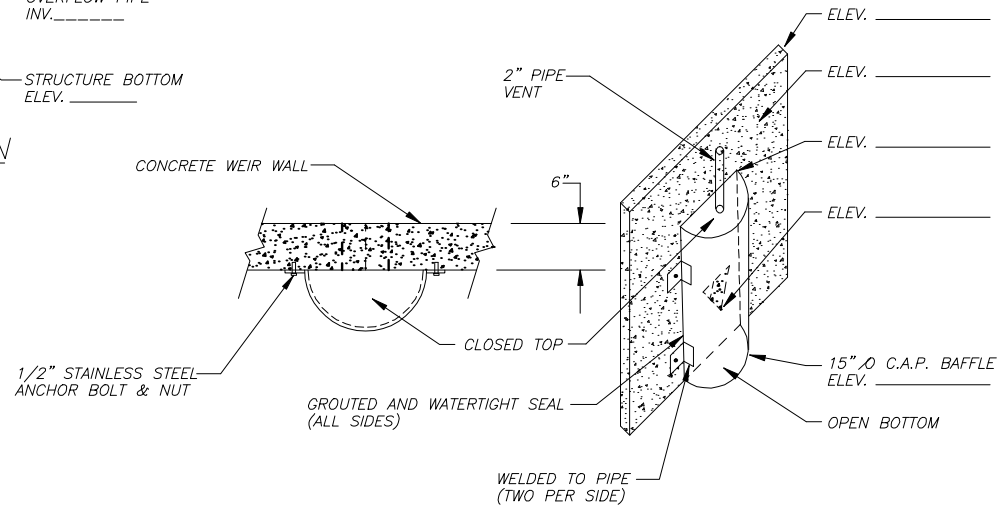
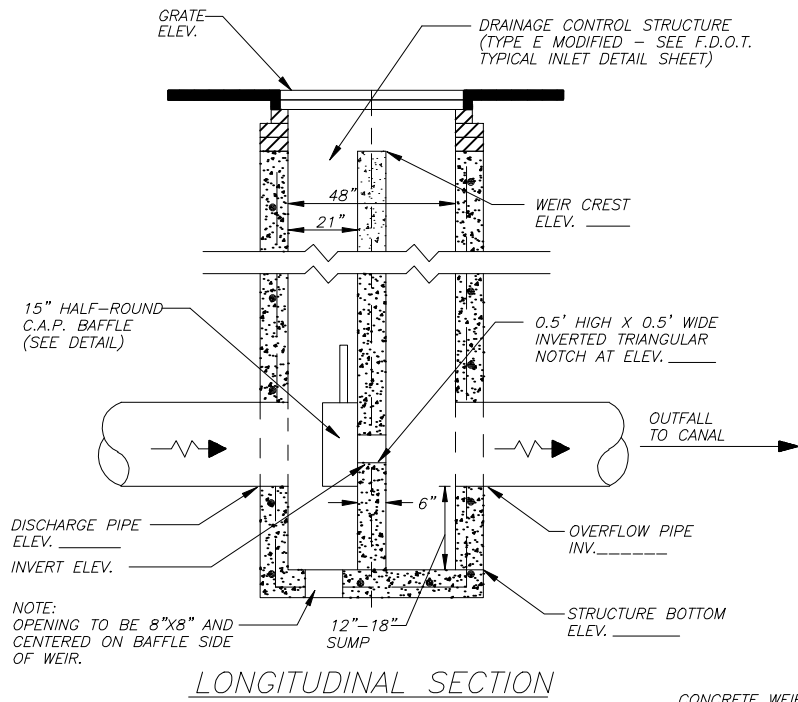
- NOTES:**
1. FRAME AND COVER SHALL BE MACHINED OR GROUND AT ALL BEARING SURFACES SO AS TO SEAT FIRMLY AND PREVENT ROCKING.
 2. FRAME & COVER U.S. FOUNDRY NO. 655 490 LBS. TOTAL WEIGHT.
 3. CONCRETE COLLAR IS REQUIRED ONLY WHEN MANHOLE IS OUT OF PAVEMENT IF REQUIRED BY THE DEPARTMENT.
 4. MANHOLE ADJUSTMENTS SHALL BE MADE BY ADDING BRICKS USED TO ELEVATE MANHOLE COVERS TO RESURFACED GRADE (MAX. 4" HEIGHT).


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10/09

DESIGN DETAIL
MANHOLE FRAME AND COVER
(30" OPENING)

EFFECTIVE DATE:
 DETAIL NO. **303**
 APPROVED:

 H.P. TOMPKINS, JR., P.E.
 COUNTY ENGINEER



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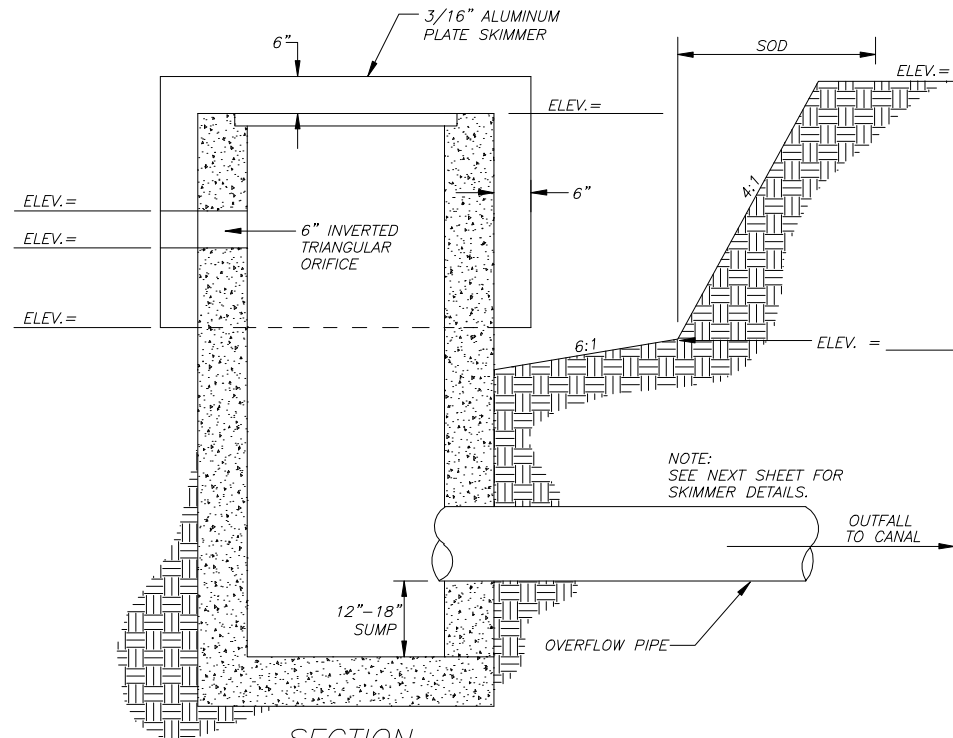
DESIGN DETAIL

DRAINAGE CONTROL STRUCTURE
TYPE A

EFFECTIVE DATE:
DETAIL NO. 304

APPROVED:

H.P. TOMPKINS, JR., P.E.
COUNTY ENGINEER



SECTION

MODIFIED F.D.O.T. TYPE "C" INLET
WITH SKIMMER AND ORIFICE
(SHEET 1 OF 2)

EROSION & SEDIMENTATION REQUIREMENTS:

1. THE CONTRACTOR SHALL MAKE EVERY EFFORT DURING CONSTRUCTION TO CONTROL WIND AND WATER EROSION OF THE SOIL ON SITE.
2. THE CONTRACTOR SHALL CONTROL EXCESSIVE RUNOFF FROM THE PROJECT BY EXCAVATING THE PROPOSED SWALE AREAS DURING THE PRELIMINARY CLEANING AND GRUBBING OPERATION OF THE PROJECT.
3. SHOULD THE SITE BECOME EXCESSIVELY DRY, AND WIND AND SOIL EROSION BECOMES PREVELANT AND A NUISANCE, THE CONTRACTOR SHALL WATER AND/OR SEED AND MULCH THE AREA, AND/OR PROVIDE FENCING AS NECESSARY.
4. TYPE I HAY BALE BARRIERS SHALL BE PLACED AROUND ALL EXISTING DITCH BOTTOM INLETS IN ACCORDANCE WITH F.D.O.T. STANDARD INDEX NO. 102.



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DESIGN DETAIL

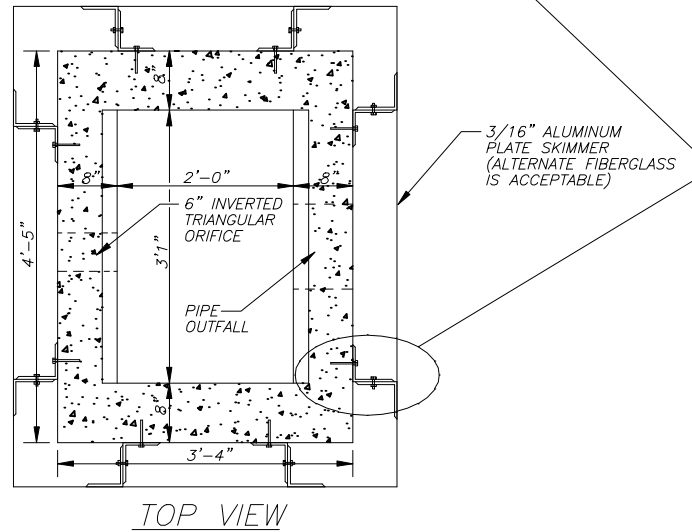
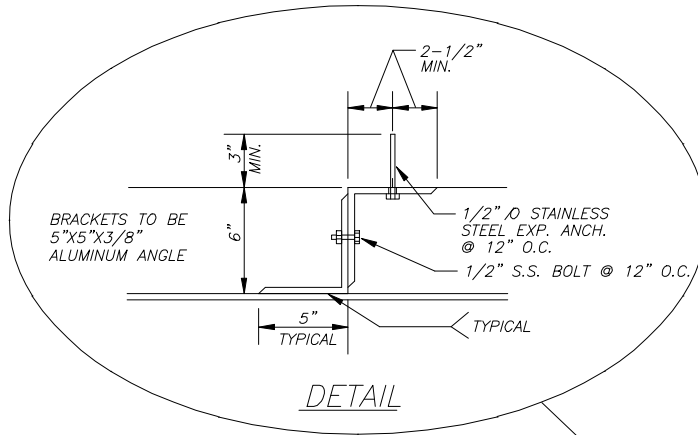
DRAINAGE CONTROL STRUCTURE
TYPE B

EFFECTIVE DATE:

DETAIL NO. 305

APPROVED:

[Signature]
 H.P. TOMPKINS, SR., P.E.
 COUNTY ENGINEER



SKIMMER DETAILS
(SHEET 2 OF 2)



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DESIGN DETAIL

DRAINAGE CONTROL STRUCTURE
TYPE B

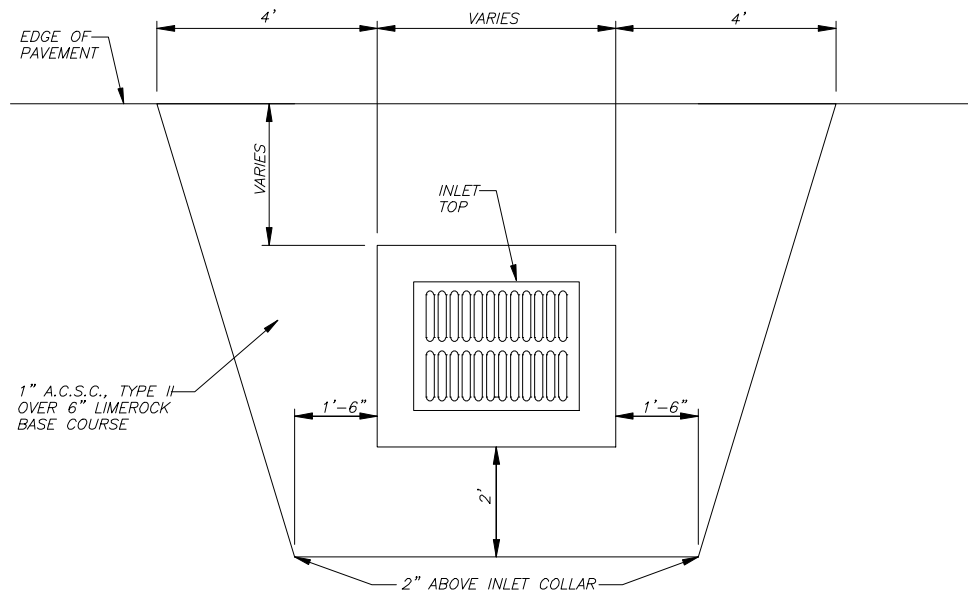
EFFECTIVE DATE:

DETAIL NO. 306

APPROVED:

H.P. TOMPKINS, JR., P.E.
COUNTY ENGINEER

FILE NAME: D306.DWG



ASPHALT INLET FLUME DETAIL



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DESIGN DETAIL

INLET FLUME DETAIL

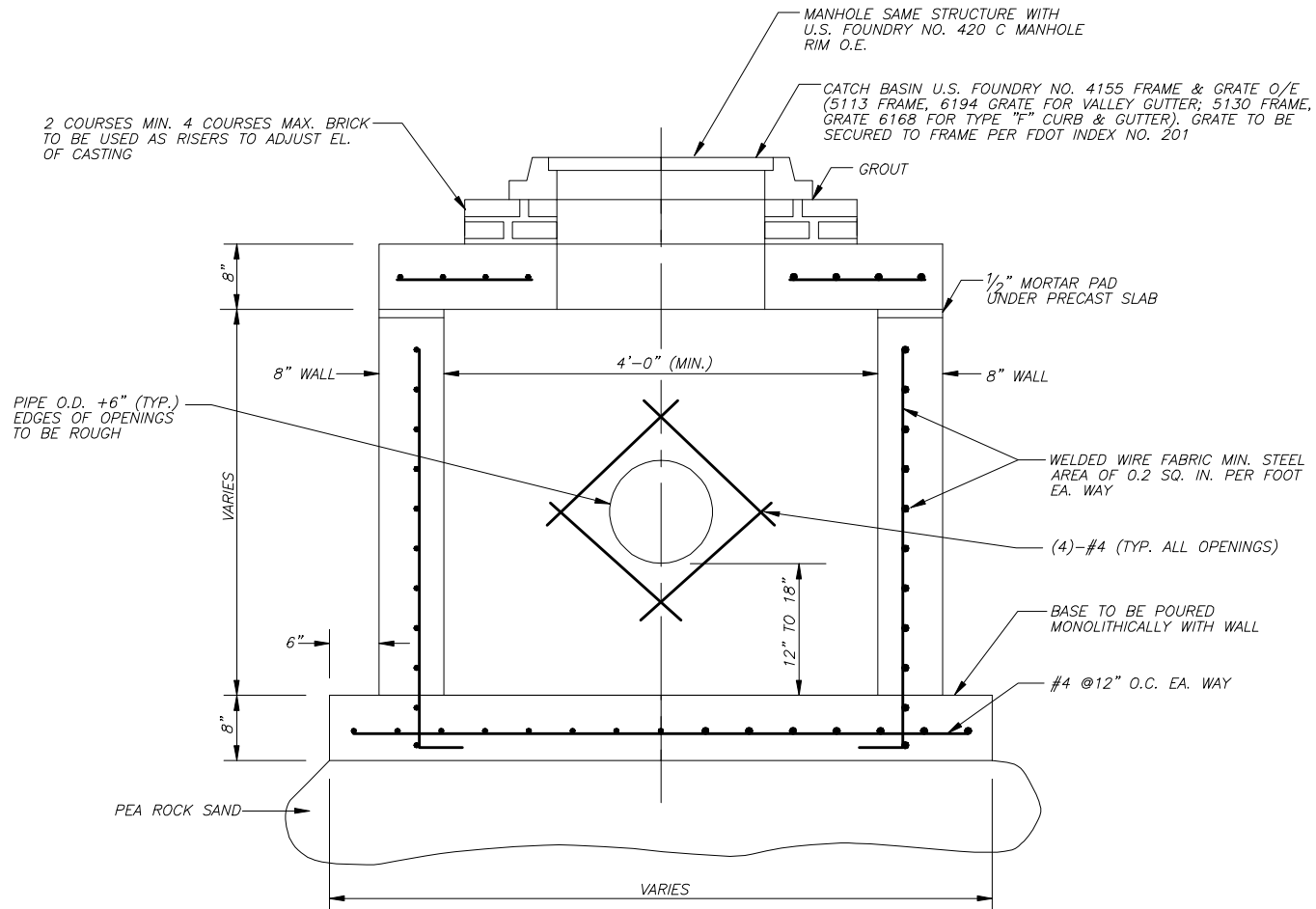
EFFECTIVE DATE:

DETAIL NO. 307

APPROVED:

[Signature]
H.P. TOMPKINS, JR., P.E.
COUNTY ENGINEER

FILE NAME: D307.DWG



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REVISION

10/09

DESIGN DETAIL

CATCH BASIN DETAIL

EFFECTIVE DATE:

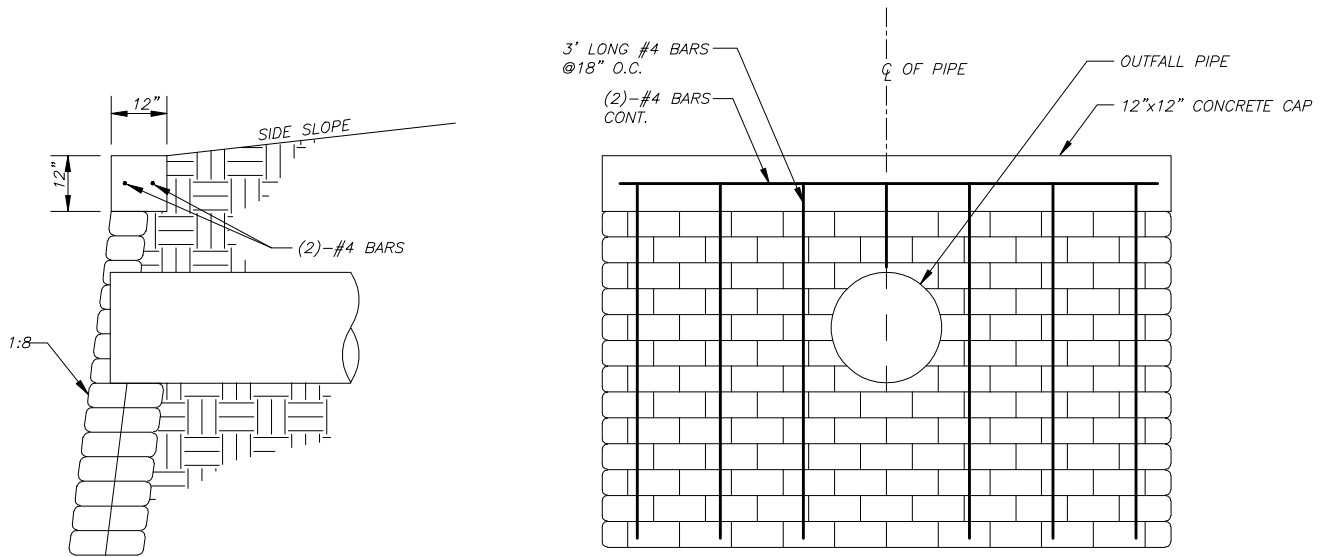
DETAIL NO.

308

APPROVED:

[Signature]
H.P. TOMPKINS, JR., P.E.
COUNTY ENGINEER


FILE NAME: D308.DWG




RIP-RAP ENDWALL W/ 12"x12" CONCRETE CAP

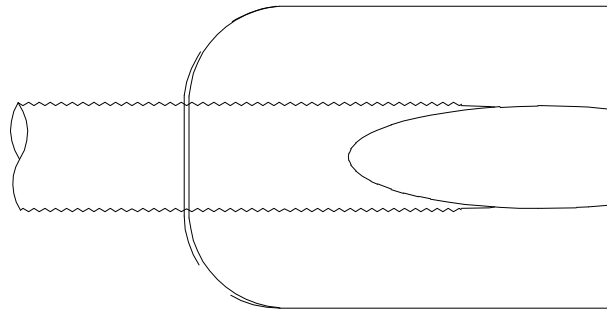
GENERAL NOTES:

1. MINIMUM 12" FILL OVER TOP OF CULVERT.
2. EDGES MUST BE STABILIZED WITH A MINIMUM OF ONE ROW OF SOD FOR ALL END TREATMENTS.
3. FDOT ROADWAY AND TRAFFIC DESIGN STANDARDS SHALL BE USED AS A GUIDELINE FOR ALL END TREATMENTS, REFER TO INDIGIES 261, 266, & 272.
4. RIP-RAP CONSTRUCTION TO FOLLOW FDOT STANDARD INDEX NO. 258.
5. CULVERTS MUST BE INSTALLED AT START OF CONSTRUCTION.
6. MINIMUM CULVERT SIZE IS 15".
7. MITERED END SECTIONS REQUIRED WHEN SPEED LIMIT IS GREATER THAN 30 MPH.
8. GRATES REQUIRED FOR CULVERTS LARGER THAN 24".
9. SIDE SLOPES SHALL BE 2:1 (OR LESS) FOR 15" & 18" CULVERTS, AND 4:1 FOR CULVERTS 24" AND GREATER.
10. ALL REINFORCEMENT TO HAVE 2" MIN. COVER ON ALL SIDES.
11. UNIT COST OF CONCRETE CAP AND REINFORCING STEEL TO BE INCLUDED IN COST OF SAND CEMENT RIP-RAP ENDWALL.

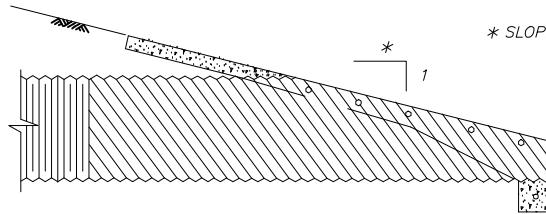
 <p>ST JOHNS COUNTY PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION</p> <p>2740 Industry Center Road ST AUGUSTINE, FLORIDA 32084 Phone (904) 209-0110 • Fax. (904) 209-0140</p>	REVISION 10/09
	DESIGN DETAIL

RESIDENTIAL HEADWALLS

EFFECTIVE DATE: DETAIL NO. 400
APPROVED:  H.P. TOMPKINS, JR., P.E. COUNTY ENGINEER



PLAN VIEW



CROSS SECTION

* SLOPE: 1:4 MITER: TO \odot PIPE FOR PIPES 18" AND SMALLER.
 1:2 FOR PIPES 24" AND LARGER.
 1:2 MITER: TO \odot PIPE FOR PIPES 18" AND SMALLER.
 1:1 FOR PIPES 24" AND LARGER.

GENERAL NOTES:

1. MINIMUM 12" FILL OVER TOP OF CULVERT.
2. EDGES MUST BE STABILIZED WITH A MINIMUM OF ONE 24" ROW OF SOD FOR ALL END TREATMENTS.
3. FDOT ROADWAY AND TRAFFIC DESIGN STANDARDS SHALL BE USED AS A GUIDELINE FOR ALL END TREATMENTS, REFER TO INDICIES 261, 266, & 272.
4. CULVERTS MUST BE INSTALLED AT START OF CONSTRUCTION.
5. MINIMUM CULVERT SIZE IS 15".
6. MITERED END SECTIONS REQUIRED ON ALL CULVERT INSTALLATIONS.
7. GRATES REQUIRED FOR CULVERTS LARGER THAN 24".
8. SIDE SLOPES SHALL BE 2:1 (OR LESS) FOR 15", 18", & 24" CULVERTS, AND 4:1 FOR CULVERTS GREATER THAN 24".
9. TOE REQUIRED FOR PIPES GREATER THAN 24".

POURED IN PLACE
MITERED END SECTION



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DESIGN DETAIL

RESIDENTIAL HEADWALLS
 MITERED END SECTION

EFFECTIVE DATE:

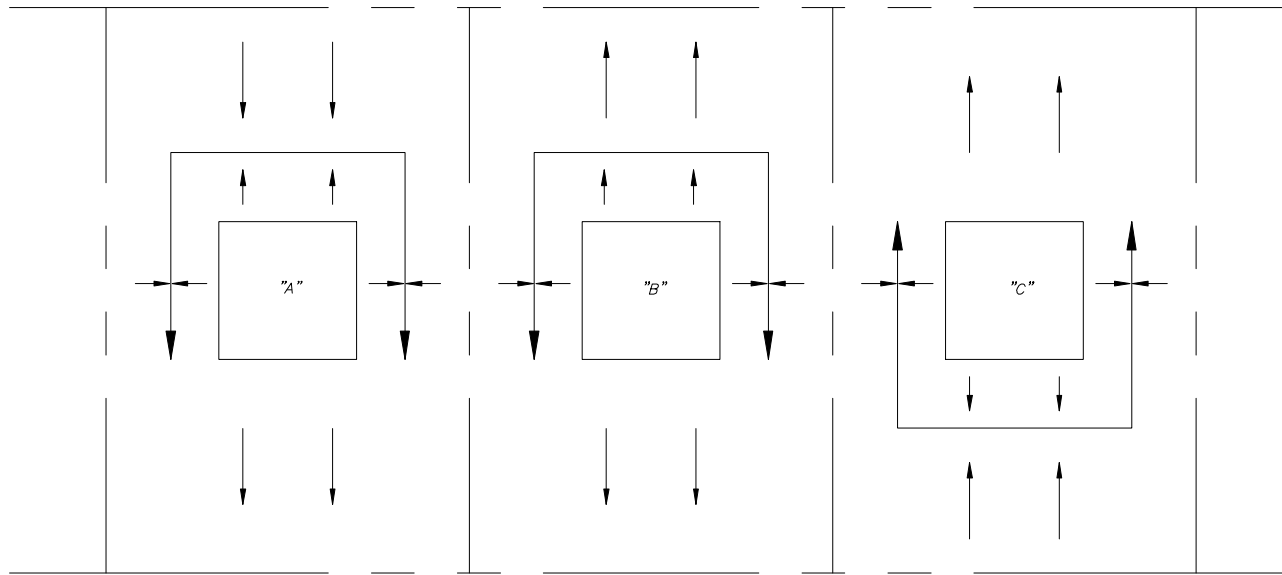
DETAIL NO.

401

APPROVED:

[Signature]
 H.P. TOMPKINS, JR., P.E.
 COUNTY ENGINEER

FILE NAME: D401.DWG



MIN. 2%, MAX. 6% SLOPE FROM R/W LINE TO CURB

CURB & GUTTER

TYPICAL LOT GRADING

NOTE:

ARROWS INDICATE MINIMUM SLOPES OF 1% FOR LOTS ON PAVED ROADS AND 2% FOR UNPAVED ROADS FROM THE STRUCTURE TO THE POINT OF DISCHARGE (CURB OR TOP OF DITCH)



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DESIGN DETAIL

LOT GRADING DIAGRAM

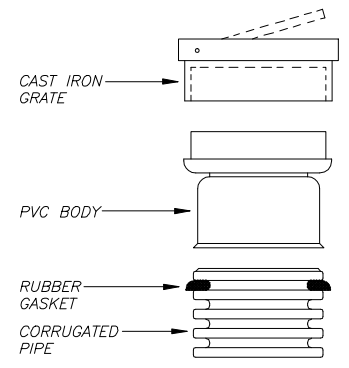
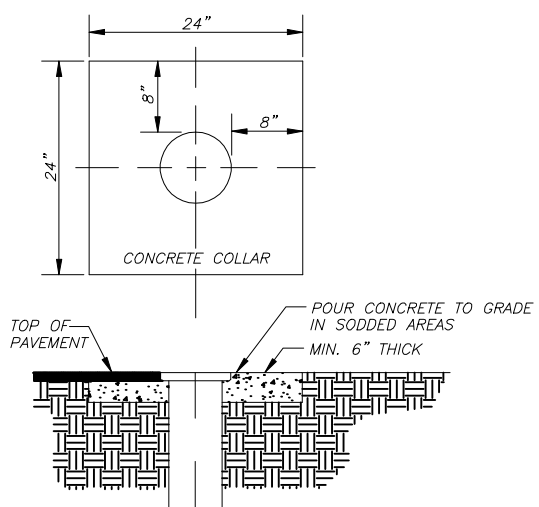
EFFECTIVE DATE:

DETAIL NO. 402

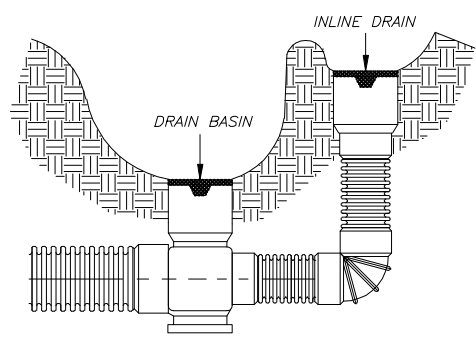
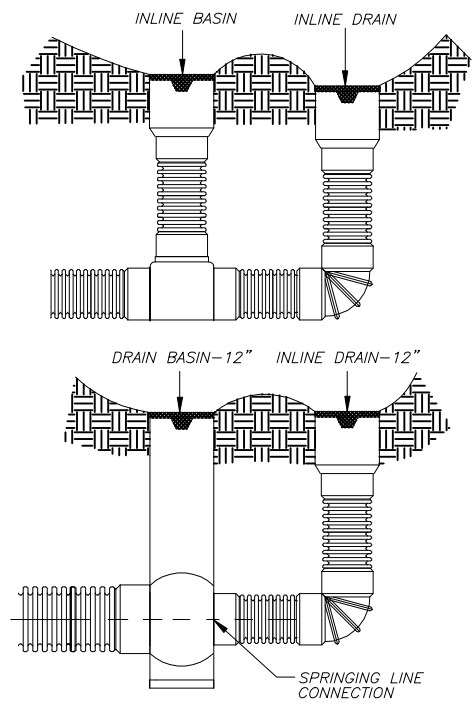
APPROVED:

[Signature]
H.P. TOMPKINS, JR., P.E.
COUNTY ENGINEER

FILE NAME: D402.DWG




YARD DRAIN



YARD COLLECTION SYSTEMS

NOTES:


1. YARD DRAINS SHALL ONLY BE USED IN PRIVATE PROPERTY LOCATIONS; PUBLIC RIGHT-OF-WAY LOCATIONS WILL NOT BE PERMITTED.
2. CONCRETE COLLAR IS NOT REQUIRED IN PAVED AREAS IF PAVEMENT SURFACE IS FINISHED PRIOR TO CONDITIONAL FINAL INSPECTION.
3. SEE "TYPICAL TRENCH DETAIL" FOR BACKFILLING REQUIREMENTS.

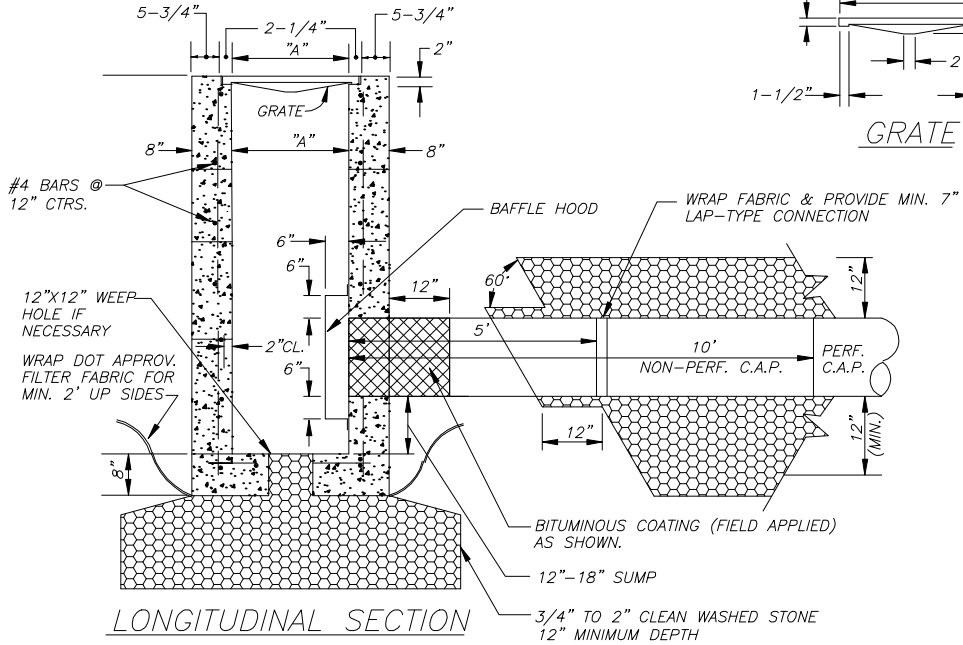
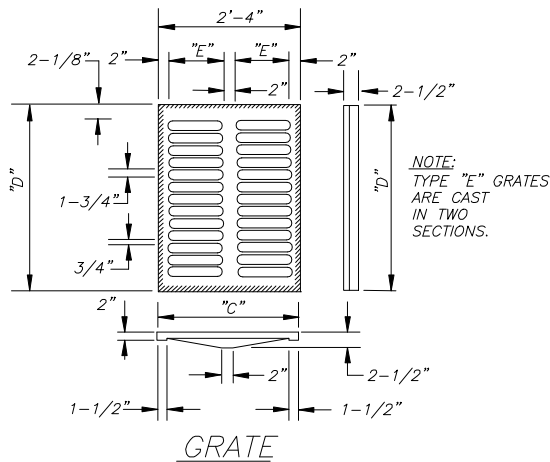
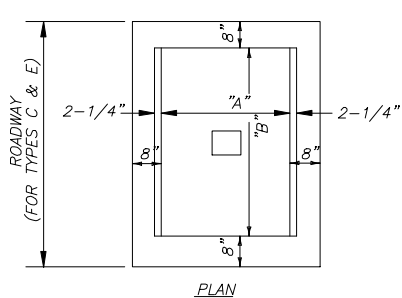
	ST JOHNS COUNTY PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION
	2740 Industry Center Road ST AUGUSTINE, FLORIDA 32084 Phone (904) 209-0110 • Fax. (904) 209-0140

REVISION
10/09

DESIGN DETAIL

**TYPICAL YARD DRAIN/CPEP
INSTALLATION DETAIL**

EFFECTIVE DATE:	
DETAIL NO.	403
APPROVED:	 H.P. TOMKINS, JR., P.E. COUNTY ENGINEER



INLET AND EXFILTRATION TRENCH*
(SHEET 1 OF 2)

- NOTES:
1. SEE SHEET 2 OF 2 FOR TRENCH DETAIL AND INLET NOTES.
2. * SHALL BE APPROVED FOR USE BY THE COUNTY ENGINEER

TYPE INLET	DIMENSIONS					MAX. DIA. PIPE	
	"A"	"B"	"C"	"D"	"E"	"A"	"B"
"C"	2'-0"	3'-1"	2'-4"	3'-0"	11"	18"	30"
"E"	3'-0"	4'-6"	3'-4"	4'-4"	1'-5"	30"	48"

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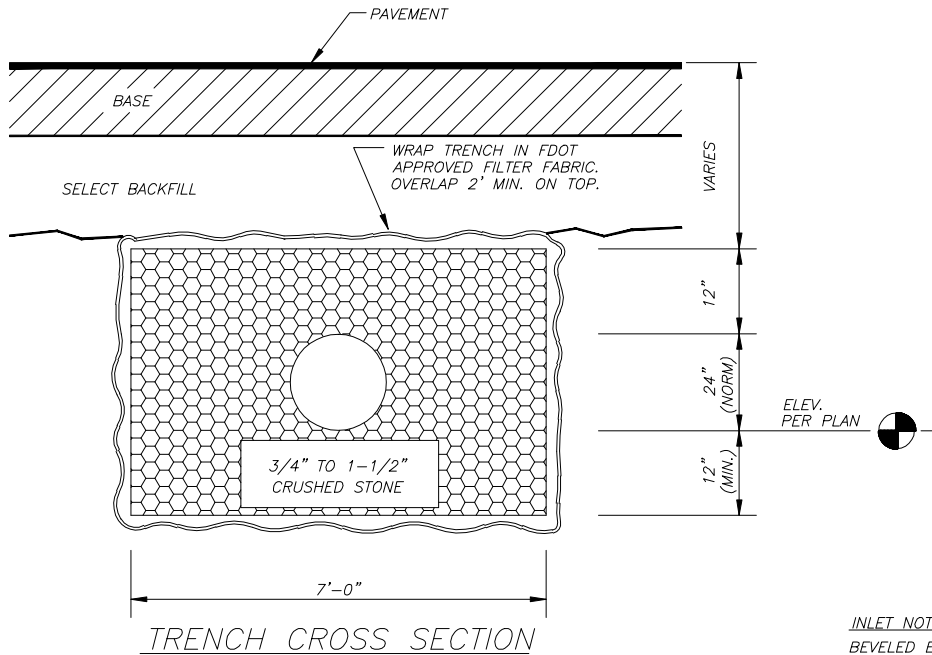
REVISION
10/09

DESIGN DETAIL

**TYPICAL INLET & EXFILTRATION
TRENCH DETAIL**

EFFECTIVE DATE:
DETAIL NO. 404
APPROVED:

H.P. TOMPKINS, JR., P.E.
COUNTY ENGINEER



INLET AND EXFILTRATION TRENCH*
(SHEET 2 OF 2)

* SHALL BE APPROVED FOR USE BY THE COUNTY ENGINEER

INLET NOTES:

BEVELED EDGES: ALL EXPOSED CORNERS AND EDGES TO BE CHAMFERED 3/4".

FOUNDATION MATERIAL: WHERE MATERIAL UNSATISFACTORY FOR FOUNDATION IS ENCOUNTERED, ALL SUCH MATERIAL MUST BE REMOVED DOWN TO SATISFACTORY MATERIAL AND BACKFILLED TO SUBGRADE WITH CLEAN SAND.

GRATES: CAST IRON IN ACCORDANCE WITH F.D.O.T. SPECIFICATIONS.

INLET TYPES: INLETS ARE TO BE CONSTRUCTED TO THE DIMENSIONS SHOWN HEREON. TYPE "E MOD." IS A TYPE "E" TURNED 90° TO RECEIVE R.C.P. UP TO 48" DIAMETER. INLETS RECEIVING PIPE LARGER THAN 48" DIAMETER SHALL BE IN ACCORDANCE WITH F.D.O.T. STANDARDS. SEE F.D.O.T. STANDARD INDEXES 200, 201, & 232.

MATERIAL: INLET WALLS AND BASES MAY BE EITHER CAST-IN-PLACE CLASS I, 2500 P.S.I. CONCRETE OR PRECAST CLASS II, 4000 P.S.I. CONCRETE.

POLLUTION CONTROL DEVICES: "SPECIAL" INLETS SHALL HAVE POLLUTION CONTROL DEVICE INSTALLED, CONSISTING OF HALF-ROUND GALVANIZED STEEL PLATE, OPEN AT THE BOTTOM, WELDED CLOSED AT TOP (OPTIONAL).

LOCKDOWN: PROVIDE EYEBOLT PER F.D.O.T. STANDARD INDEX 201.

BACKFILL NOTES:

COMPACT TRENCH BACKFILL AND SOIL WITHIN MIN. 5' OF TRENCH TO MIN. 95% OF MAX. DRY DENSITY PER ASTM D-1557.



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10/09

DESIGN DETAIL

TYPICAL INLET & EXFILTRATION
TRENCH DETAIL

EFFECTIVE DATE:

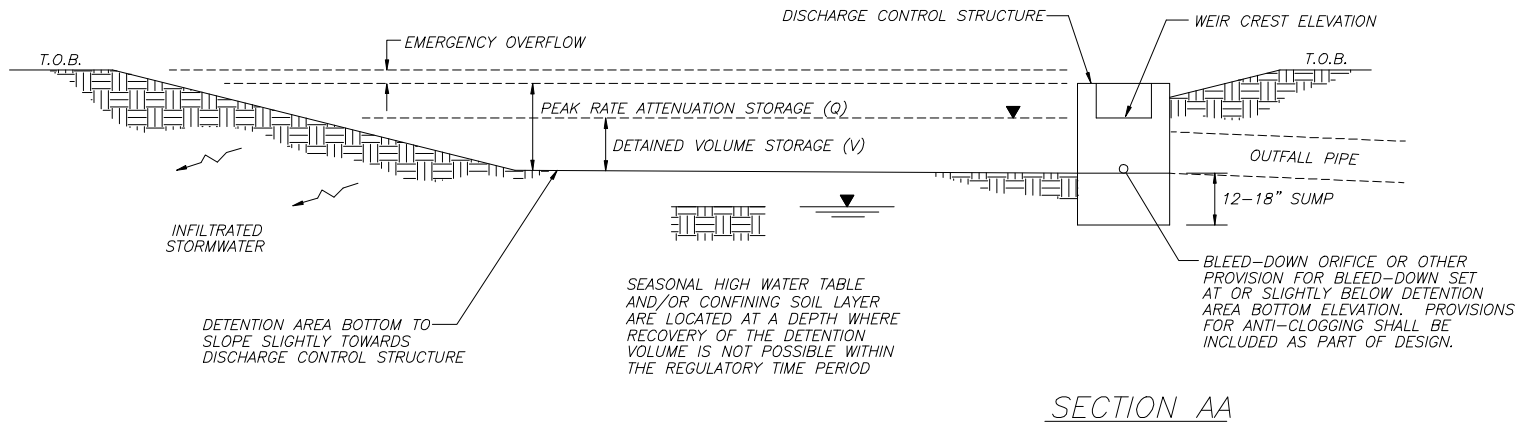
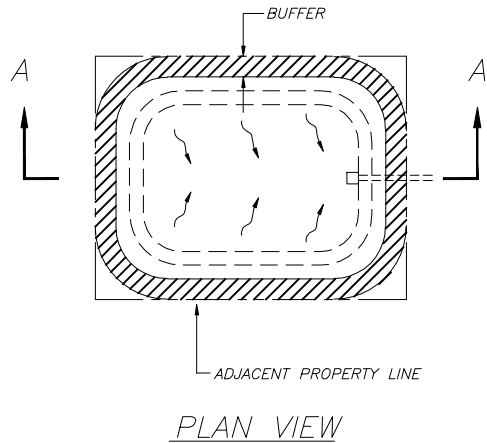
DETAIL NO. 405

APPROVED:

H.P. TOMPKINS, JR., P.E.
COUNTY ENGINEER

GENERAL NOTES:

1. THIS DETAIL DEPICTS A TYPICAL DESIGN DETAIL FOR "DRY" DETENTION. OTHER DESIGN CONFIGURATIONS MAY BE POSSIBLE. THIS SYSTEM IS DESIGNED FOR USE WHERE SOIL AND SEASONAL HIGH GROUND WATER TABLE CONDITIONS ARE NOT CONDUCIVE TO ALLOW FOR FULL VOLUME RECOVERY THROUGH INFILTRATION WITHIN THE REGULATED TIME PERIOD.
2. THIS DETAIL IS FOR CLARIFICATION PURPOSES ONLY. ACTUAL DESIGN AND CONSTRUCTION DETAILS ARE THE RESPONSIBILITY OF THE REGISTERED PROFESSIONAL.




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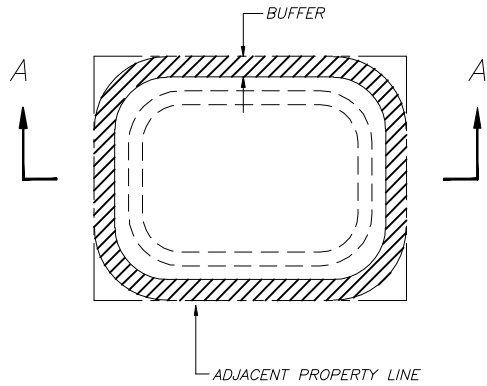
DESIGN DETAIL

DRY DETENTION
 TYPICAL DETAIL

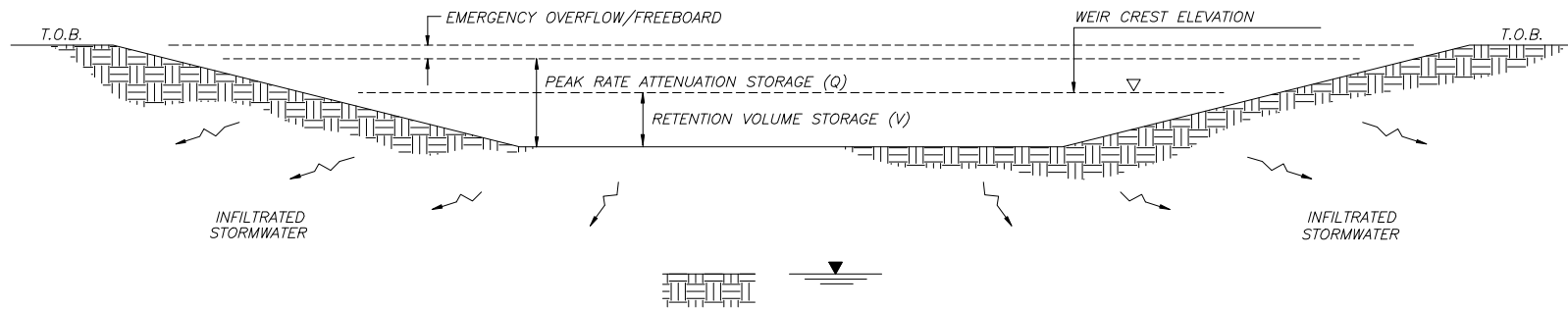
EFFECTIVE DATE:
 DETAIL NO. 500
 APPROVED:

 H.P. TOMPKINS, JR., P.E.
 COUNTY ENGINEER

GENERAL NOTES:

1. THIS DETAIL DEPICTS A TYPICAL DESIGN DETAIL FOR RETENTION OF STORMWATER RUNOFF. OTHER DESIGN CONFIGURATIONS MAY BE POSSIBLE. THIS SYSTEM IS DESIGNED FOR USE WHERE SOIL AND SEASONAL HIGH GROUNDWATER TABLE CONDITIONS ARE CONDUCIVE TO ALLOW FOR FULL VOLUME RECOVERY THROUGH INFILTRATION OF STORMWATER WITHIN THE REGULATED TIME PERIOD.
2. THIS DETAIL IS FOR CLARIFICATION PURPOSES ONLY. ACTUAL DESIGN AND CONSTRUCTION DETAILS ARE THE RESPONSIBILITY OF THE REGISTERED PROFESSIONAL.



PLAN VIEW



SECTION AA

SEASONAL HIGH WATER TABLE AND/OR CONFINING LAYER ARE LOCATED AT A DEPTH WHERE RECOVERY OF THE RETENTION VOLUME IS ATTAINED WITHIN THE REGULATORY TIME PERIOD.



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10/09

DESIGN DETAIL

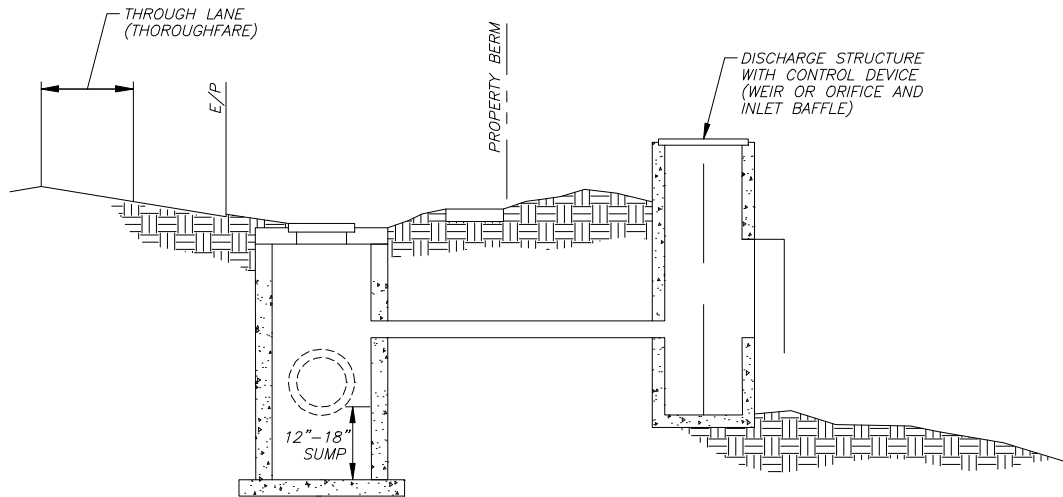
**RETENTION
TYPICAL DETAIL**

EFFECTIVE DATE:

DETAIL NO. 501

APPROVED:


H.P. TOMPKINS, JR., P.E.
COUNTY ENGINEER



NOTES:

1. ON-SITE STORAGE ELEVATION FOR GREATER OF FIRST 1 IN. OF RUNOFF OR TOTAL RUNOFF PRODUCED BY 3-YR., 1-HR. RAINFALL FROM TOTAL AREA DRAINED BY SERVICE CONNECTION.
2. PEAK ON-SITE STORAGE ELEVATION FOR RUNOFF PRODUCED BY 3-YR., 24-HR. RAINFALL, FROM TOTAL AREA DRAINED BY SERVICE CONNECTION, NOT TO EXCEED H.G.L. ELEVATION AS NOTED IN NOTE 5.
3. PEAK ON-SITE STORAGE ELEVATION FOR RUNOFF PRODUCED BY 25-YR., 3-DAY RAINFALL, NOT TO EXCEED LOWER OF SITE PERIMETER BERM ELEVATION OR (FOR THOROUGHFARE-PLAN STREETS) PAVEMENT ELEVATION AS NOTED IN NOTE 6.
4. STORM SEWER HYDRAULIC GRADE LINE ELEVATION AT ZERO FLOW IN RECEIVING SEWER (i.e., TAILWATER ELEVATION TO BE USED FOR DETERMINING STAGE VS. DISCHARGE OF CONTROL DEVICE)
5. STORM SEWER HYDRAULIC GRADE LINE ELEVATION AT DESIGN PEAK FLOW AT POINT OF CONNECTION. IF NOT OTHERWISE KNOWN, USE 1 FT. BELOW INLET ELEVATION OF NEXT UPSTREAM ON-LINE INLET.
6. PAVEMENT ELEVATION AT OUTSIDE EDGE OF HIGHEST THROUGH LANES (ONE IN EACH DIRECTION) FOR THOROUGHFARE-PLAN STREET.



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DESIGN DETAIL

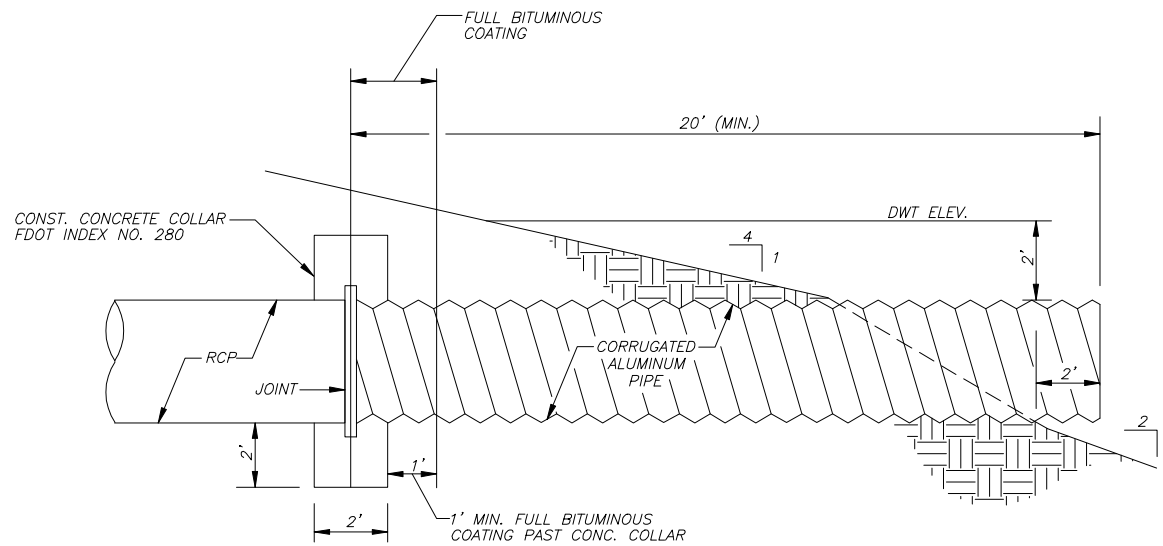
**SERVICE CONNECTION TO
ROADWAY STORM RETENTION POND
(HYDRAULIC DESIGN SCHEMATIC)**

EFFECTIVE DATE:

DETAIL NO. 502

APPROVED:

[Signature]
H.P. TOMPKINS, JR., P.E.
COUNTY ENGINEER



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REVISION
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DESIGN DETAIL

TYPICAL OUTFALL DETAIL

EFFECTIVE DATE:

DETAIL NO. 503

APPROVED:

H.P. TOMPKINS, JR., P.E.
 COUNTY ENGINEER

FILE NAME: D503.DWG