

# STANDARD DRAWINGS

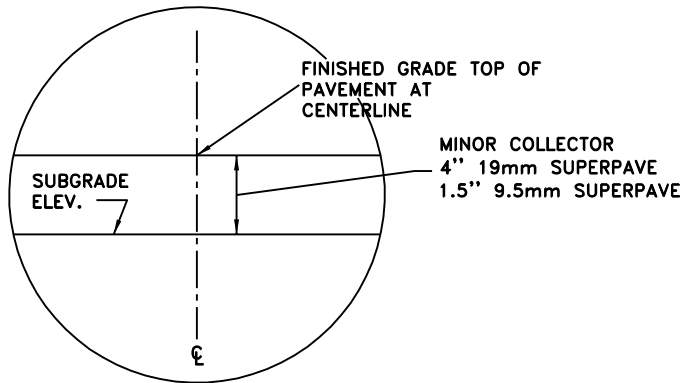
## CITY OF BUFORD, GEORGIA

THESE STANDARD DRAWINGS ILLUSTRATE MINIMUM ACCEPTABLE STANDARDS FOR LAND DEVELOPMENT ACTIVITIES AUTHORIZED UNDER THE DEVELOPMENT REGULATIONS OF THE CITY OF BUFORD. HOWEVER, THESE STANDARDS SHALL NOT SUPERSEDE MORE RESTRICTIVE PRUDENT DESIGN REQUIREMENTS OR GOOD ENGINEERING PRACTICE AS APPLIED TO SPECIFIC SITUATIONS ON A CASE-BY-CASE BASIS. UNLESS OTHERWISE SPECIFIED ON THESE STANDARD DRAWINGS OR IN THE DEVELOPMENT REGULATIONS, ALL CONSTRUCTION SHALL MEET OR EXCEED THE MINIMUM STANDARDS ESTABLISHED BY THE GEORGIA DEPARTMENT OF TRANSPORTATION (GDOT).

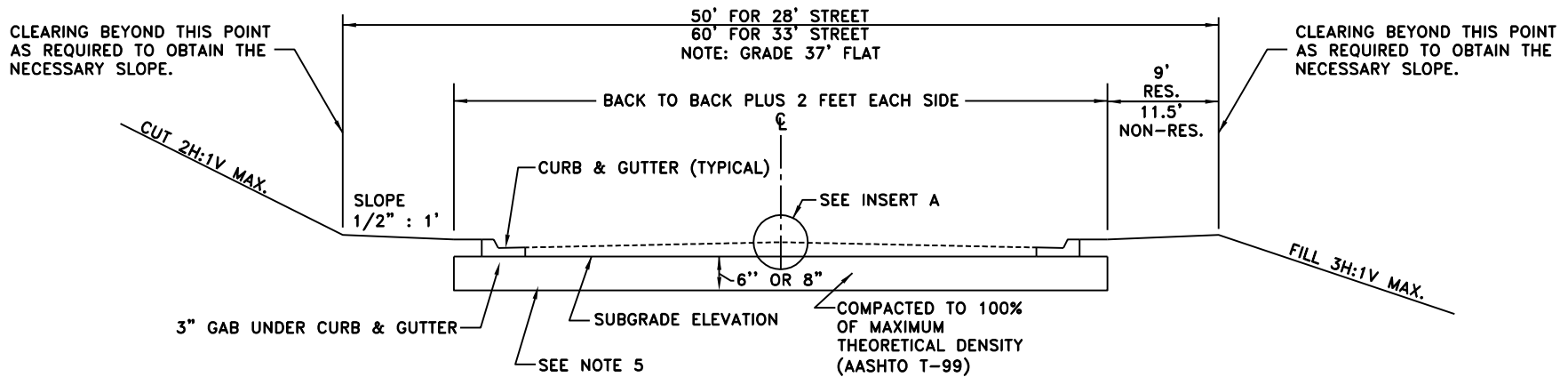
WHENEVER THERE IS A DISCREPANCY BETWEEN THESE STANDARD DRAWINGS AND OTHER PROVISIONS OF THE CITY CODE, THE MOST RESTRICTIVE SHALL APPLY.

### SERIES

100	SITE GRADING
200	STORM WATER DETENTION & EROSION CONTROL
300	STREETS - DESIGN
400	STREETS - CONSTRUCTION
500	STREETS - UTILITIES
600	DRAINAGE STRUCTURES
700	DRAINAGE PIPES & DITCHES
800	LANDSCAPING & TREE PROTECTION
900	MISCELLANEOUS
1000	SANITARY SEWER
1100	POTABLE WATER



**INSERT A**



**NOTES:**

1. TOP OF SHOULDER TO BE GRADED HIGH TO FURNISH MATERIAL TO BACKFILL BEHIND CURB.
2. FOR UTILITY LOCATIONS SEE SHEET 501
3. MAXIMUM CUT SLOPES 2H:1V
4. MAXIMUM FILL SLOPES 3H:1V
5. 6" GAB UNDER PAVEMENT - LOCAL RESIDENTIAL  
8" GAB UNDER PAVEMENT - MINOR COLLECTOR

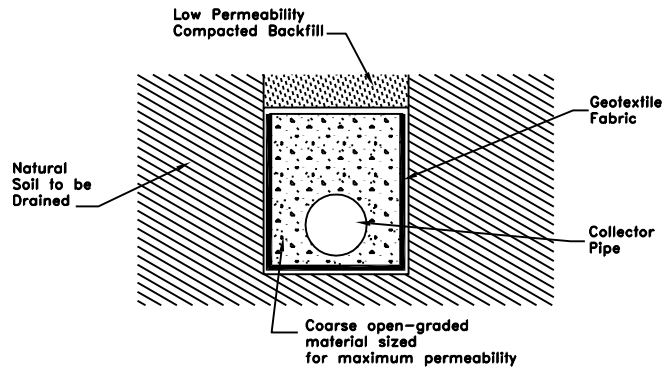
City of Buford, Georgia

STANDARD DRAWING

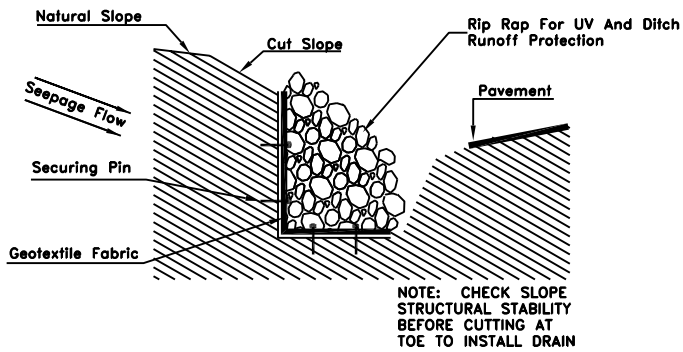
Street Grading: Local or Minor Collector Street

DATE: APRIL 24, 2017

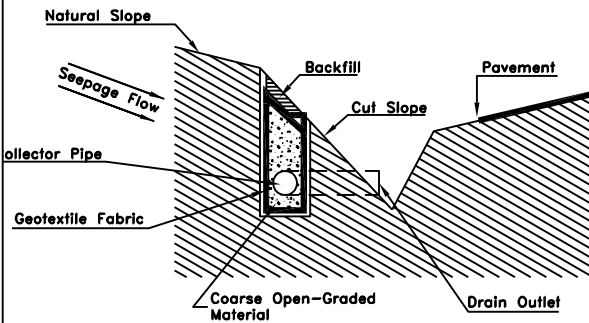
SHEET: 101



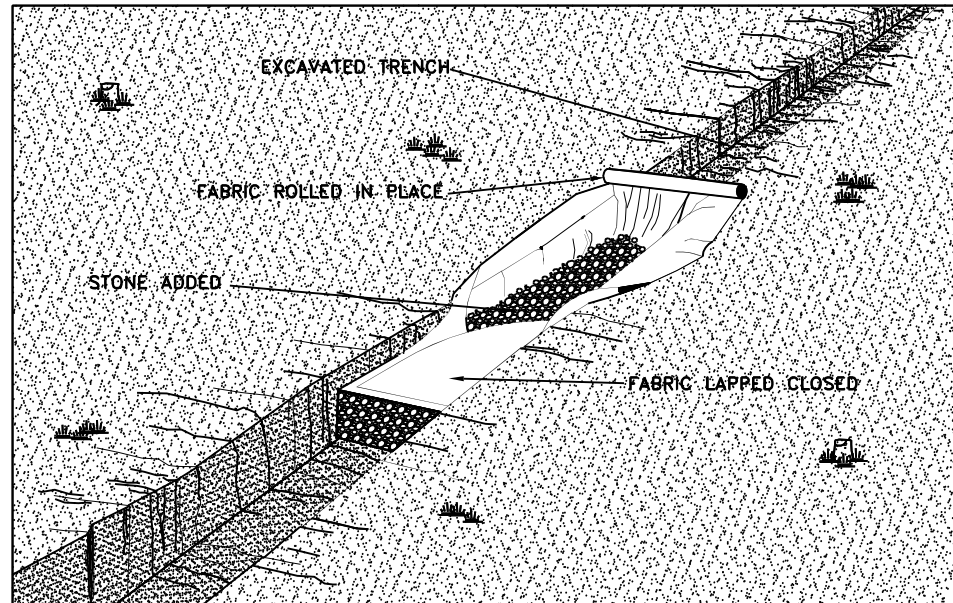
**FABRIC-LINED DITCH UNDERDRAIN**



**ROCK TOE INTERCEPTOR DRAIN FOR CUT SLOPE SEEPAGE**



**TRENCH INTERCEPTOR DRAIN FOR CUT SLOPE SEEPAGE**



City of Buford, Georgia

STANDARD DRAWING

Examples of Geotextiles Used in Drainage Applications

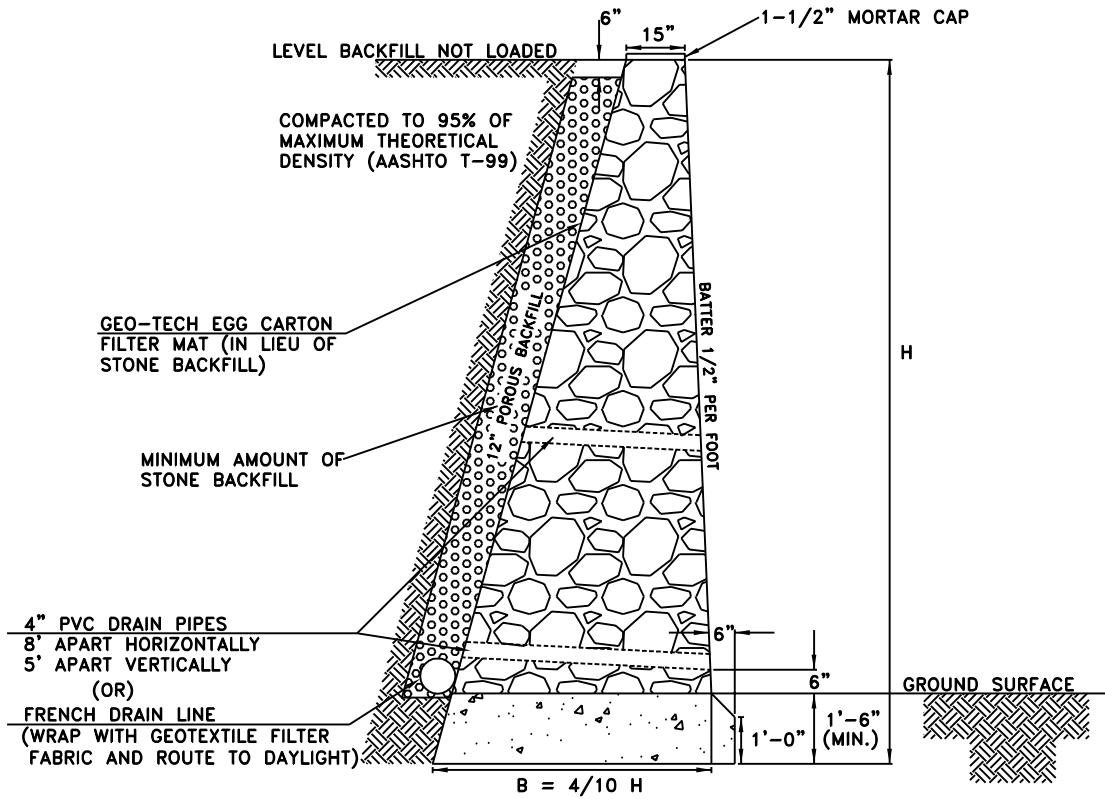
DATE: SEPTEMBER 25 2014

SHEET: 102

**DESIGN PARAMETERS**

H = HEIGHT IN FEET  
 BASE = 4/10 H  
 WEIGHT CU. FT. OF EARTH = 100 LBS  
 WEIGHT CU. FT. OF RUBBLE OR GRANITE = 150 LBS

HEIGHT OF WALL "H" IN FT.	THICKNESS AT BASE B = 0.4H	MIN. REQUIRED SOIL BEARING CAPACITY (PSF)	AREA OF WALL (SQ.FT.)	AREA OF FOOTING (SQ.FT.)
2	1'-6"	1500	0.75	2.875
3	1'-6"		2.25	2.875
4	1'-7 1/4"		3.828	2.997
5	2'-0"	2000	5.862	3.513
6	2'-4 3/4"		8.212	4.113
7	2'-9 1/2"		12.060	4.615
8	3'-2 1/2"	3000	14.240	5.186
9	3'-7 1/4"		17.813	5.762
10	4'-0"		21.781	6.344
11	4'-4 3/4"	4000	26.148	6.927
12	4'-9 1/2"		30.909	7.516
13	5'-2 1/2"		36.070	8.105
14	5'-7 1/4"	5000	41.629	8.696
15	6'-0"		47.587	9.288



**SECTION**

**NOTES:**

1. STONE LAID IN PORTLAND CEMENT (3 PARTS SAND TO ONE PART CEMENT).
2. DRAIN PIPES ARE TO BE ONE CONTINUOUS LENGTH OR BELL AND SPIGOT WITH MORTAR JOINTS.
3. CONCRETE: MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI.
4. FOR CONDITIONS IN WHICH THE ACTUAL SOIL BEARING CAPACITY IS LESS THAN THE REQUIRED MINIMUM, A SPECIAL FOOTING DESIGNED BY A GEORGIA REGISTERED PROFESSIONAL ENGINEER IS REQUIRED.
5. DEPTH OF FOUNDATION TO BE DETERMINED BY SOIL CONDITIONS (1'-6" MINIMUM)
6. THIS WALL IS DESIGNED FOR LEVEL BACKFILL CONDITIONS ONLY WITHOUT SURCHARGE LOADING. WALLS FOR APPLICATIONS WHICH INCLUDE SLOPED BACKFILL CONDITIONS, SURCHARGE LOADS, FLUID DETENTION, ETC. SHALL BE DESIGNED BY A GEORGIA REGISTERED PROFESSIONAL ENGINEER.
7. REQUIRED SOIL BEARING CAPACITY SHALL BE VERIFIED AT THE TIME OF EXCAVATION.

City of Buford, Georgia

STANDARD DRAWING

Mortar Rubble - Granite Retaining Wall, Level Backfill

DATE: SEPTEMBER 25, 2014

SHEET: 103

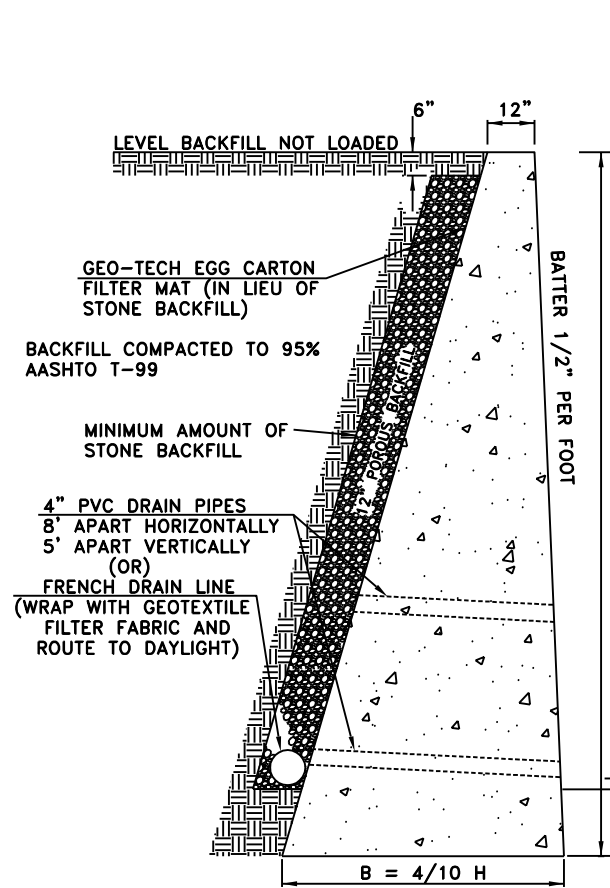
**DESIGN PARAMETERS**

H = HEIGHT IN FEET  
 BASE = 4/10 H  
 WEIGHT CU. FT. OF EARTH = 100 LBS.  
 WEIGHT CU. FT. OF CONCRETE = 150 LBS

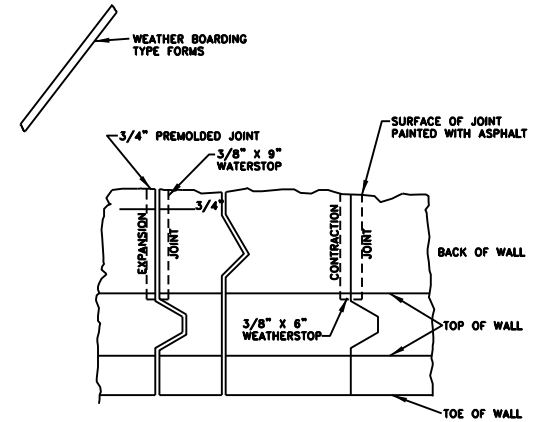
HEIGHT OF WALL "H" (IN FEET)	THICKNESS AT BASE "B"	MIN. REQUIRED SOIL BEARING CAPACITY (PSF)	AREA OF SECTION (SQ.FT.)
2	1'-6"	1500	2.63
3	1'-6"		3.93
4	1'-7 1/4"		5.83
5	2'-0"	2000	8.13
6	2'-4 3/4"		10.83
7	2'-9 1/2"		13.93
8	3'-2 1/2"	3000	17.43
9	3'-7 1/4"		21.33
10	4'-0"		25.63
11	4'-4 3/4"	4000	30.33
12	4'-9 1/2"		35.43
13	5'-2 1/2"		40.93
14	5'-7 1/4"	5000	46.83
15	6'-0"		53.13

**NOTES:**

1. CONCRETE: MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI.
2. FOR CONDITIONS IN WHICH THE ACTUAL SOIL BEARING CAPACITY IS LESS THAN THE REQUIRED MINIMUM, A SPECIAL FOOTING DESIGNED BY A GEORGIA REGISTERED PROFESSIONAL ENGINEER IS REQUIRED.
3. THIS WALL IS DESIGNED FOR LEVEL BACKFILL CONDITIONS ONLY WITHOUT SURCHARGE LOADING. WALLS FOR APPLICATIONS WHICH INCLUDE SLOPED BACKFILL CONDITIONS, SURCHARGE LOADS, FLUID DETENTION, ETC. SHALL BE DESIGNED BY A GEORGIA REGISTERED PROFESSIONAL ENGINEER.
4. REQUIRED SOIL BEARING CAPACITY SHALL BE VERIFIED AT THE TIME OF EXCAVATION.



**SECTION**

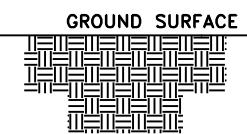


**TOP VIEW**

CONTRACTION JOINTS AT INTERVALS NOT EXCEEDING 30 FEET.

EXPANSION JOINTS AT INTERVALS NOT EXCEEDING 90 FEET.

WATER STOPS TO BE MADE OF RUBBER OR OTHER APPROVED MATERIAL.



City of Buford, Georgia

STANDARD DRAWING

Concrete Gravity Retaining Wall

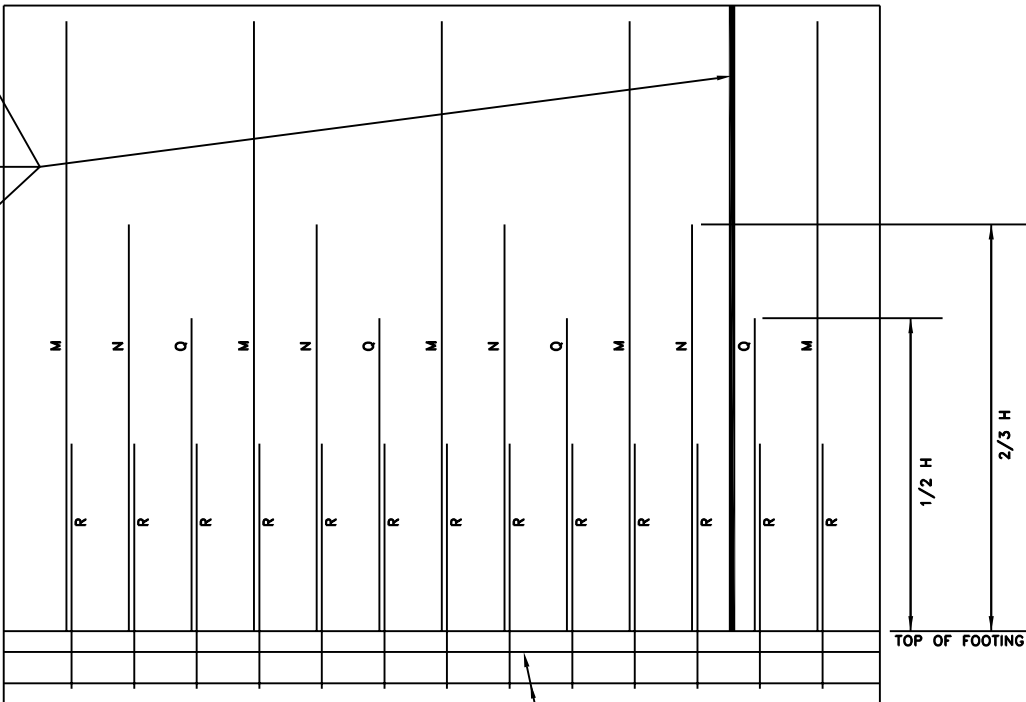
DATE: SEPTEMBER 25, 2014 SHEET: 104

CONTROL JOINTS AT INTERVALS NOT EXCEEDING 30 FEET (INTERRUPT EVERY OTHER HORIZONTAL REBAR 3" EACH SIDE OF EACH JOINT).

1" EXPANSION JOINTS AT INTERVALS NOT EXCEEDING 90 FEET (EVERY THIRD CONTROL JOINT).

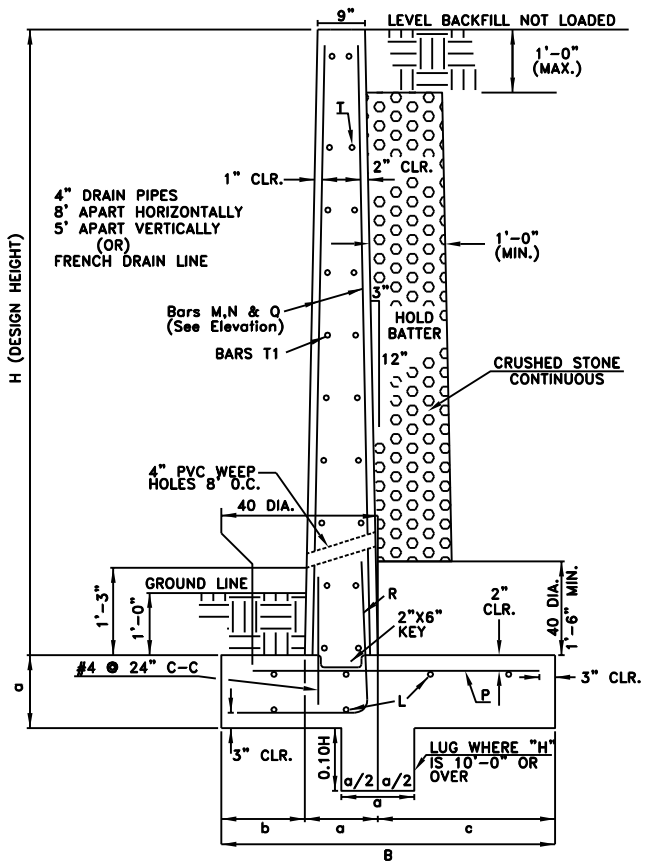
JOINTS SHALL NOT BE PLACED IN FOOTINGS.

WATER STOPS TO BE MADE OF RUBBER OR OTHER APPROVED MATERIAL.



ELEVATION

H	a	b	c	B	M BARS	N BARS	O BARS	P BARS	T BARS	T1 BARS	L BARS	R BARS
3'-0"	0'-10 1/2"	0'-4"	0'-7"	1'-9 1/2"	#3 @ 12"	-	-	#3 @ 18"	#3 @ 12"	#4 @ 12"	#3 @ 12"	#3 @ 12"
4'-0"	0'-11"	0'-6"	0'-10"	2'-3"	#3 @ 12"	-	-	#3 @ 18"	#3 @ 12"	#4 @ 12"	#3 @ 12"	#3 @ 12"
5'-0"	0'-11 1/2"	0'-8"	1'-4"	2'-11 1/2"	#3 @ 12"	-	-	#3 @ 18"	#3 @ 12"	#4 @ 12"	#3 @ 12"	#3 @ 12"
6'-0"	1'-0"	0'-10"	1'-7"	3'-5"	#3 @ 12"	-	-	#3 @ 16"	#3 @ 12"	#4 @ 12"	#3 @ 12"	#3 @ 12"
7'-0"	1'-0 1/2"	1'-0"	1'-10"	3'-10 1/2"	#4 @ 24"	#4 @ 24"	-	#3 @ 10"	#3 @ 12"	#4 @ 12"	#3 @ 12"	#4 @ 12"
8'-0"	1'-1"	1'-1"	2'-1"	4'-3"	#4 @ 20"	#4 @ 20"	-	#4 @ 15"	#3 @ 12"	#4 @ 12"	#3 @ 12"	#4 @ 10"
9'-0"	1'-1 1/2"	1'-2"	2'-9"	5'-0 1/2"	#4 @ 21"	#4 @ 21"	#4 @ 21"	#4 @ 11"	#3 @ 10"	#4 @ 10"	#3 @ 12"	#4 @ 7"
10'-0"	1'-2"	1'-4"	2'-10"	5'-4"	#5 @ 27"	#5 @ 27"	#5 @ 27"	#5 @ 16"	#3 @ 10"	#4 @ 10"	#3 @ 12"	#5 @ 9"
11'-0"	1'-2 1/2"	1'-6"	3'-2"	5'-10 1/2"	#5 @ 21"	#5 @ 21"	#5 @ 21"	#5 @ 12"	#3 @ 10"	#4 @ 10"	#4 @ 12"	#5 @ 7"
12'-0"	1'-3"	1'-8"	3'-7"	6'-6"	#6 @ 27"	#6 @ 27"	#6 @ 27"	#5 @ 10"	#3 @ 10"	#4 @ 10"	#4 @ 12"	#6 @ 9"
13'-0"	1'-3 1/2"	1'-8"	4'-9"	6'-11 1/2"	#6 @ 21"	#6 @ 21"	#6 @ 21"	#4 @ 6"	#3 @ 10"	#4 @ 10"	#4 @ 12"	#6 @ 7"
14'-0"	1'-4"	2'-1"	4'-3"	7'-8"	#6 @ 18"	#6 @ 18"	#6 @ 18"	#4 @ 5"	#4 @ 16"	#5 @ 16"	#4 @ 12"	#6 @ 6"
15'-0"	1'-4 1/2"	2'-1"	4'-7"	8'-0 1/2"	#7 @ 21"	#7 @ 21"	#7 @ 21"	#5 @ 6"	#4 @ 16"	#5 @ 16"	#4 @ 12"	#7 @ 7"
16'-0"	1'-5"	2'-2"	4'-11"	8'-6"	#7 @ 18"	#7 @ 18"	#7 @ 18"	#5 @ 5"	#4 @ 16"	#5 @ 16"	#4 @ 12"	#7 @ 6"
17'-0"	1'-5 1/2"	2'-3"	5'-3"	8'-11 1/2"	#7 @ 15"	#7 @ 15"	#7 @ 15"	#6 @ 6"	#4 @ 16"	#5 @ 16"	#4 @ 12"	#7 @ 5"
18'-0"	1'-6"	2'-4"	5'-7"	9'-5"	#8 @ 18"	#8 @ 18"	#8 @ 18"	#6 @ 5 1/2"	#4 @ 16"	#5 @ 16"	#4 @ 12"	#8 @ 6"
19'-0"	1'-6 1/2"	2'-6"	6'-1"	10'-1 1/2"	#8 @ 15"	#8 @ 15"	#8 @ 15"	#7 @ 6 1/2"	#4 @ 12"	#5 @ 12"	#4 @ 12"	#8 @ 5"
20'-0"	1'-7"	2'-8"	6'-6"	10'-9"	#9 @ 18"	#9 @ 18"	#9 @ 18"	#7 @ 6"	#4 @ 12"	#5 @ 12"	#4 @ 12"	#9 @ 6"



BACKFILL COMPACTED TO 95% OF AASHTO T-99 (Min.)

SECTION

NOTES:

1. CONCRETE: MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI.
2. REINFORCING STEEL: GRADE 60.
3. MINIMUM REQUIRED SOIL BEARING CAPACITY IS 3000 PSF.
4. THIS WALL IS DESIGNED FOR LEVEL BACKFILL CONDITIONS ONLY WITHOUT SURCHARGE LOADING. WALLS FOR APPLICATIONS WHICH INCLUDE SLOPED BACKFILL CONDITIONS, SURCHARGE LOADS, FLUID DETENTION, ETC. SHALL BE DESIGNED BY A GEORGIA REGISTERED PROFESSIONAL ENGINEER.
5. REQUIRED SOIL BEARING CAPACITY SHALL BE VERIFIED AT THE TIME OF EXCAVATION.

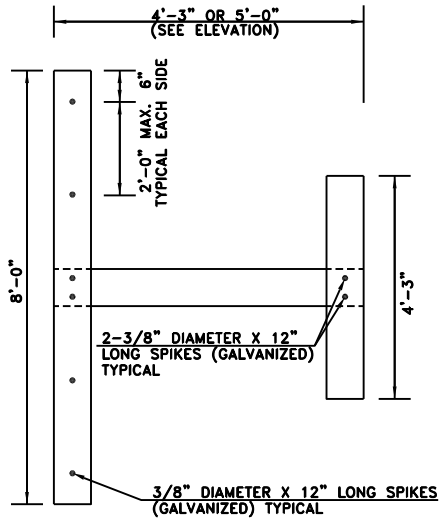
City of Buford, Georgia

STANDARD DRAWING

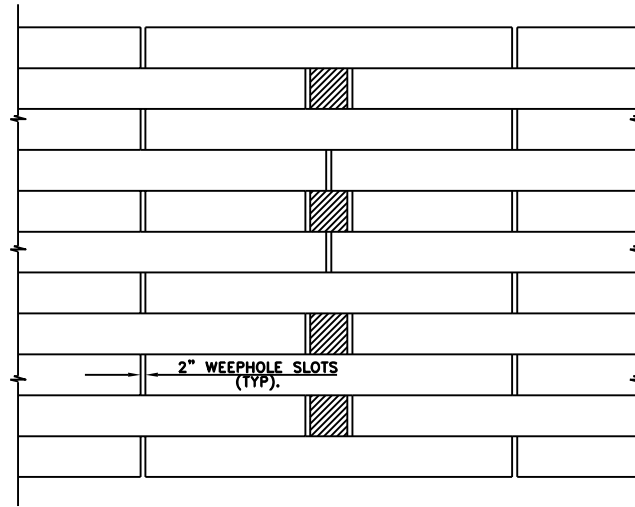
Concrete Cantilever Retaining Wall

DATE: SEPTEMBER 25, 2014

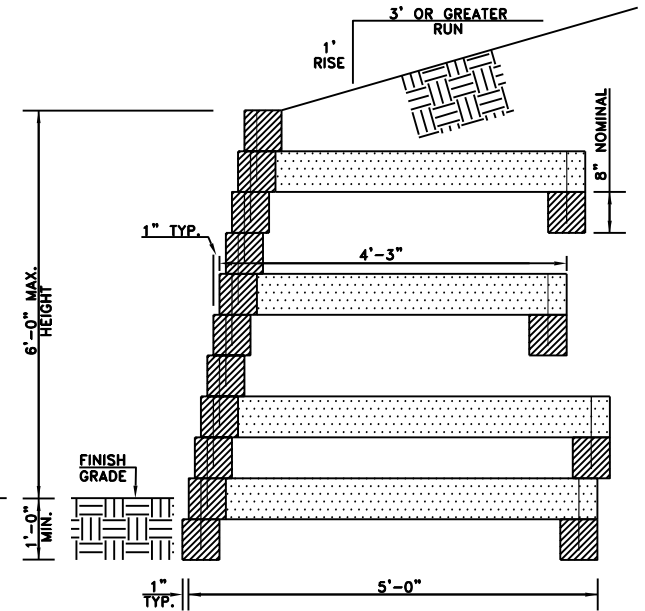
SHEET: 105



**PLAN VIEW**



**ELEVATION**



**SECTION ELEVATION**

**NOTES:**

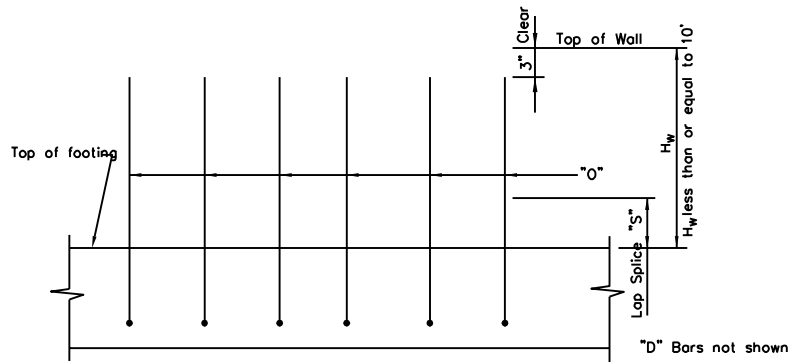
1. THIS DESIGN IS FOR WALLS FROM 4'-0" HEIGHT TO 6'-0" MAXIMUM HEIGHT. A BUILDING PERMIT IS REQUIRED FOR WALLS WHICH EXCEED 4'-0" IN HEIGHT.
2. SOIL BEARING CAPACITY TO BE 2000 PSF MINIMUM.
3. LEVEL BACKFILL WITH SOIL TYPE B. (ASSUMED ACTIVE PRESSURE 45h PCF/L.F.)
4. NOMINAL TIE SIZE TO BE 8" X 8".
5. PROVIDE 2" WEEPHOLE SLOTS AT EVERY 8'-0" LENGTH IN THIRD COURSE OF WALL HEIGHT.
6. SPIKE TIES AS INDICATED ON PLAN WITH GALVANIZED 3/8" DIAMETER X 12" LONG SPIKES. ACCEPTABLE OPTION IS NO. 3 REBARS.
7. ANY VARIATION FROM THIS DETAIL REQUIRES SUBMISSION OF ENGINEERED DESIGN PREPARED BY GEORGIA REGISTERED ENGINEER TO THE CITY FOR A BUILDING PERMIT.
8. BACKFILL SLOPE NOT TO EXCEED A RISE TO RUN RATIO OF 1 IN 3.
9. MINIMUM DISTANCE BETWEEN ADJACENT WALLS NOT TO BE LESS THAN MAXIMUM HEIGHT ABOVE GRADE OF DOWNGRADE WALL.

City of Buford, Georgia

S T A N D A R D D R A W I N G

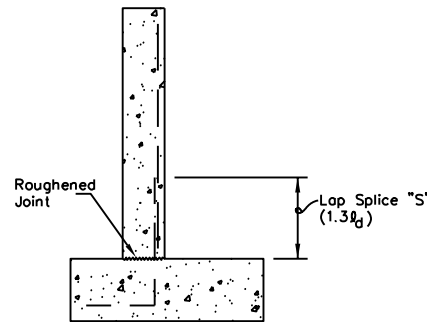
Cross-Tie Retaining Wall

D A T E: SEPTEMBER 25, 2014 S H E E T: 106



Elevation-Vertical Wall Reinforcement

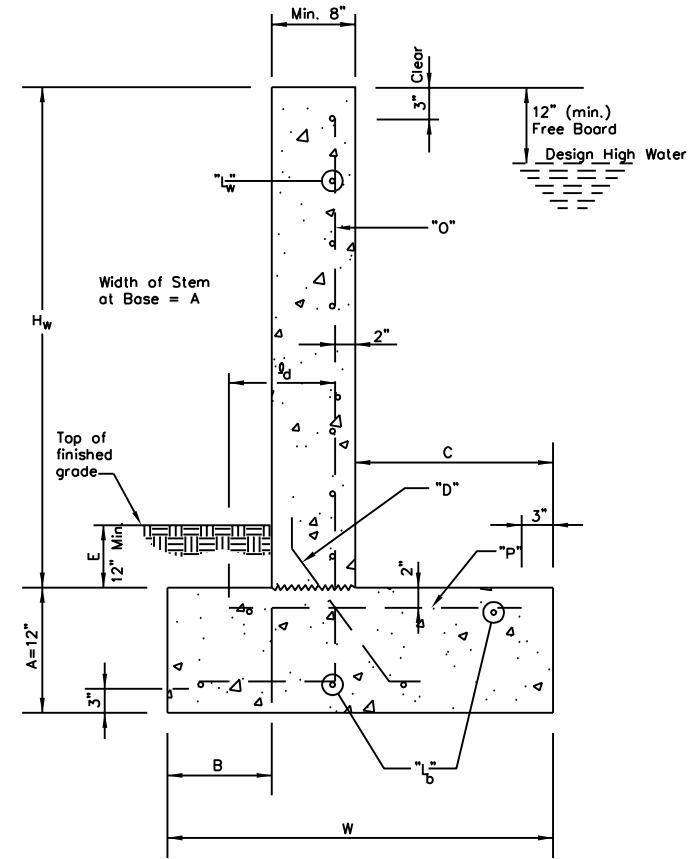
Rebar Development Length $l_d$ (in.)	Rebar Size
22"	#4
27"	#5
32"	#6
39"	#7
51"	#8
64"	#9



Optional Splice

General Notes

- Concrete: minimum 28 day compressive strength of 3000 psi. Reinforcing steel: grade 60.
- Minimum required soil bearing capacity of 3000 psf must be verified at the time of excavation.
- This wall is designed for hydrostatic pressure (62.4 pcf) due to water detention.
- Weir requirements for detention pond wall are beyond the scope of these details, and must be designed by a Georgia registered professional engineer.
- Refer to tables on this sheet for additional information not indicated in the details.



Dimensions and Structural Reinforcement for Wall Heights ≤ 10'

CONCRETE DIMENSIONS				Height above Base $H_w$	Base Depth $A \geq 12"$	BASE REINFORCEMENT					STEM		Lap Splice $S$	Soil on Footing Minimum Soil Depth $E$
Height above Base $H_w$	Width of Wall $A$	Heel $C$	Width of Base $W$			"O" Bar Dowels into Stem	"D" Bars Diagonal Corner Bars	"b" Bars Long.	"p" Bars Top Bars	"M" Bars Straight Lengths	"w" Bars Long.			
ft.	in.	ft.-in.	ft.-in.	ft.	in.	Size- Spacing	Short Dowel	Size- Spacing	Number- Size	Size- Spacing	Size- Spacing	Size- Spacing	S	
3	8	1'-2"	2'-6"	3	12	#4@18"	None	#4@18"	5-#4	#6@18"	None	#4@12"	22"	12"
4	8	1'-7"	3'-1"	4	12	#4@18"	None	#4@18"	5-#4	#6@18"	None	#4@12"	22"	12"
5	8	2'-7"	4'-3"	5	12	#4@18"	None	#4@18"	5-#5	#6@18"	None	#4@12"	22"	12"
6	8	3'-6"	5'-5"	6	12	#4@15"	None	#4@15"	5-#5	#6@15"	None	#4@12"	22"	12"
7	8	4'-5"	6'-6"	7	12	#4@9"	None	#4@9"	6-#5	#4@9"	None	#4@12"	22"	12"
8	12	4'-11"	7'-7"	8	12	#4@11"	None	#4@11"	6-#6	#5@11"	None	#5@12"	22"	12"
9	12	5'-10"	8'-8"	9	12	#5@12"	None	#4@12"	6-#6	#5@12"	None	#5@12"	22"	12"
10	12	6'-8"	9'-8"	10	12	#6@12"	None	#4@12"	6-#6	#5@12"	None	#5@12"	22"	12"

City of Buford, Georgia

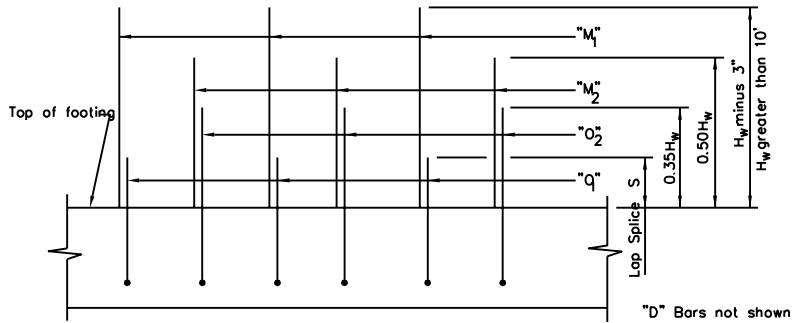
STANDARD DRAWING

Concrete Cantilever Detention Pond Retaining Wall, Height ≤ 10'

DATE: SEPTEMBER 25, 2014

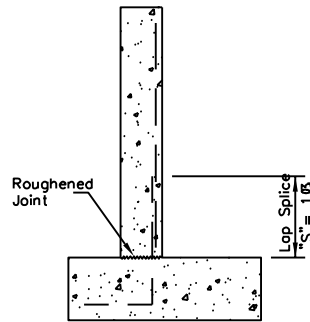
SHEET: 107



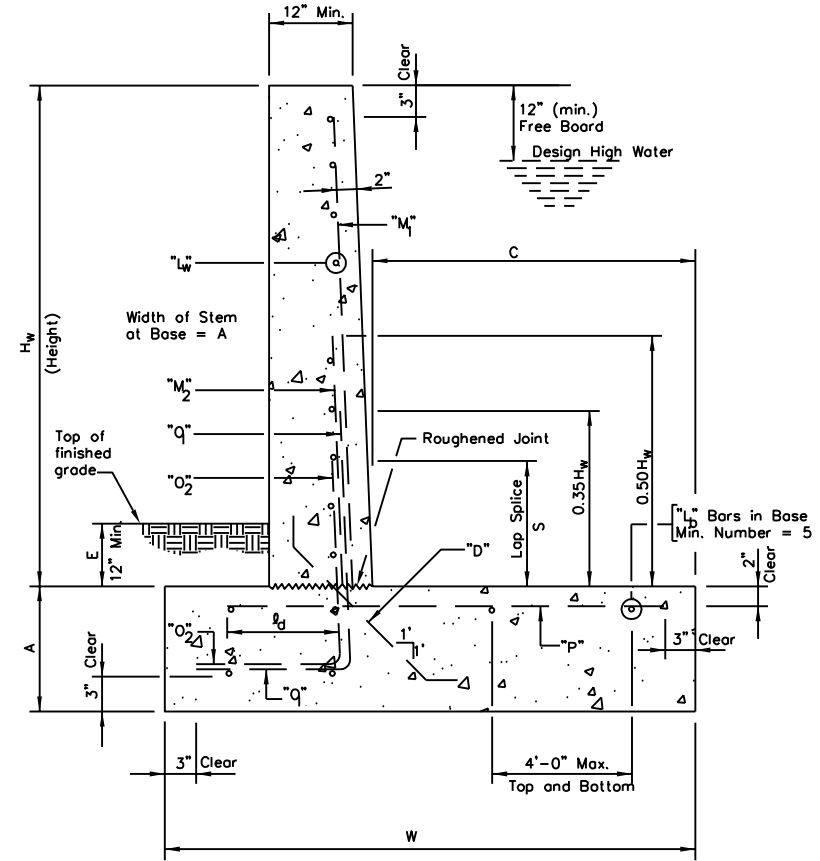


Elevation-Vertical Wall Reinforcement

Rebar Development Length $l_d$ (in.)	Rebar Size
22"	#4
27"	#5
32"	#6
39"	#7
51"	#8
64"	#9



Optional Splice



Dimensions and Structural Reinforcement for Wall Heights greater than 10'

General Notes

1. Concrete: minimum 28 day compressive strength of 3000 psi. Reinforcing steel: grade 60.
2. Minimum required soil bearing capacity of 3000 psf must be verified at the time of excavation.
3. This wall is designed for hydrostatic pressure (62.4 pcf) due to water detention.
4. Weir requirements for detention pond wall are beyond the scope of these details, and must be designed by a Georgia registered professional engineer.
5. Refer to tables on this sheet for additional information not indicated in the details.

CONCRETE DIMENSIONS				Height above Base H <sub>w</sub>	Base Depth A	BASE REINFORCEMENT				STEM		Lap Splice S	Soil on Footing Minimum Soil Depth E	
Height above Base H <sub>w</sub>	Width of Wall A	Heel C	Width of Base W			"O" Bar Dowels into Stem	"D" Bars Diagonal Corner Bars	"b" Bars Long.	"P" Bars Top Bars	"M" Bars Straight Lengths	"L" Bars Long.			
ft.	in.	ft.-in.	ft.-in.	ft.	in.	Size- Spacing	Short Dowel	Size- Spacing	Number- Size	Size- Spacing	Size- Spacing			
11	13	7'-5"	10'-9"	11	13	#6@9"	2'-1"	#4@9"	7-#6	#5@9"	#4@9"	#6@12"	25"	12"
12	14	8'-1"	11'-8"	12	14	#7@9"	2'-5"	#4@9"	7-#7	#6@9"	#5@9"	#6@12"	30"	12"
13	15	8'-10"	12'-9"	13	15	#7@9"	2'-5"	#4@9"	7-#7	#6@9"	#5@9"	#6@11"	30"	16"
14	16	9'-7"	13'-9"	14	16	#8@9"	2'-11"	#5@9"	7-#8	#7@9"	#5@9"	#7@15"	39"	16"
15	18	10'-2"	14'-8"	15	18	#8@9"	2'-11"	#5@9"	8-#8	#7@9"	#6@9"	#8@17"	39"	16"
16	19	10'-11"	15'-9"	16	19	#8@9"	2'-11"	#5@9"	8-#9	#7@9"	#6@9"	#8@16"	39"	16"
17	20	11'-7"	16'-8"	17	21	#9@9"	3'-8"	#6@9"	8-#9	#8@9"	#6@9"	#8@15"	49"	20"
18	21	12'-4"	17'-9"	18	23	#9@9"	3'-8"	#6@9"	8-#10	#8@9"	#7@9"	#8@15"	49"	20"
19	22	13'-1"	18'-9"	19	24	#10@9"	4'-8"	#6@9"	9-#9	#9@9"	#7@9"	#8@14"	63"	20"
20	23	13'-10"	19'-9"	20	26	#10@9"	4'-8"	#7@9"	9-#10	#9@9"	#8@9"	#8@17"	63"	20"

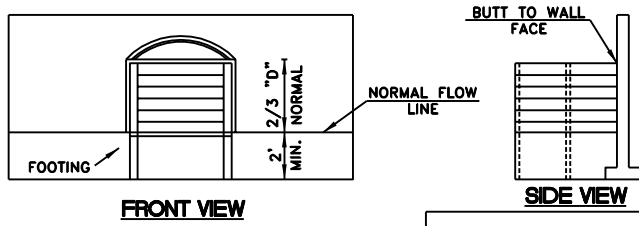
City of Buford, Georgia

STANDARD DRAWING

Concrete Cantilevered Detention Pond Retaining Wall, Height Greater than 10'

DATE: SEPTEMBER 25, 2014 SHEET: 108

**TYPE 2. FOR STRAIGHT HEADWALLS TO BE PLACED AT INLET**

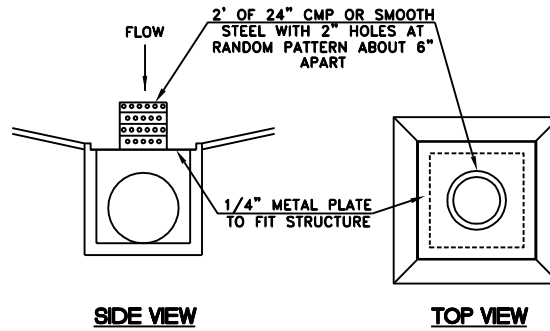
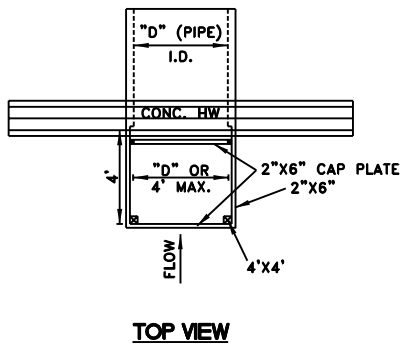
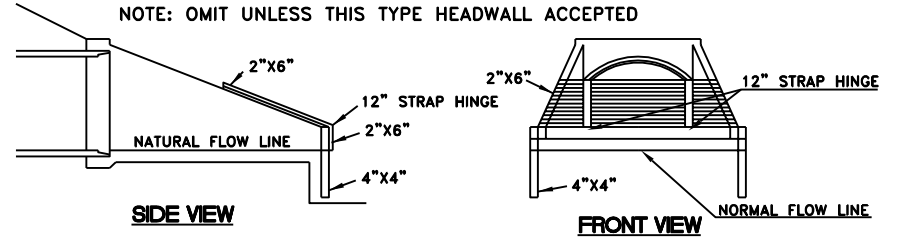


**NOTES:**

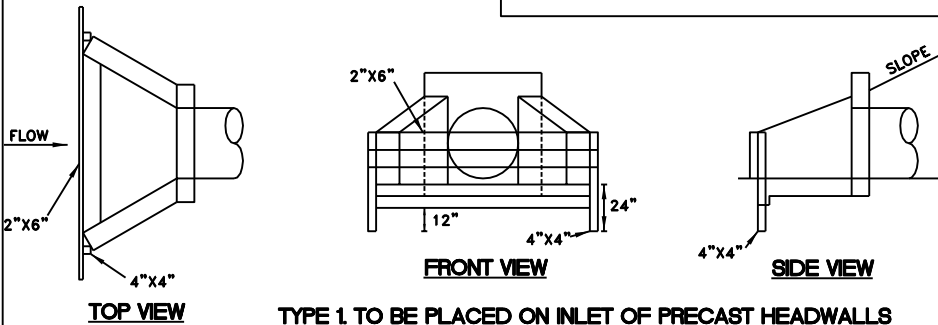
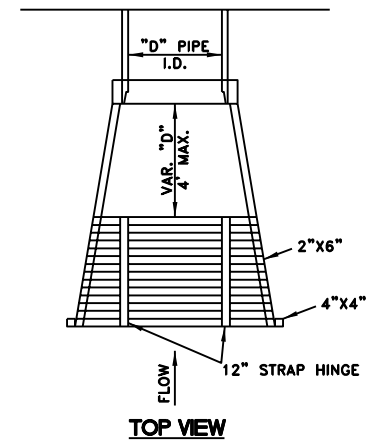
1. ALL TIMBER TO BE TREATED.
2. NO SPACE TO BE ALLOWED BETWEEN BOARDS.

**TYPE 4. FOR FLARED END SECTIONS AND SPECIAL DESIGN HEADWALLS**

NOTE: OMIT UNLESS THIS TYPE HEADWALL ACCEPTED



**TYPE 3 FOR DROP INLETS AND CATCH BASINS**



**TYPE 1. TO BE PLACED ON INLET OF PRECAST HEADWALLS**

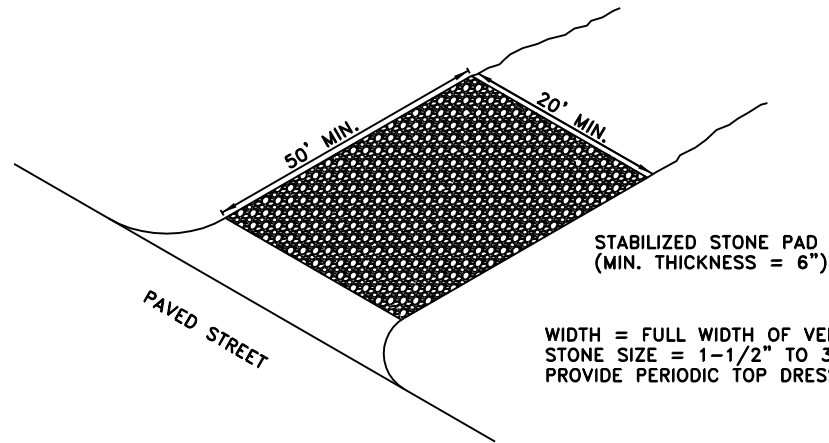
REFER TO S.C.S. "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA" LATEST EDITION FOR OTHER DETAILS CONCERNING BEST MANAGEMENT PRACTICES.

City of Buford, Georgia

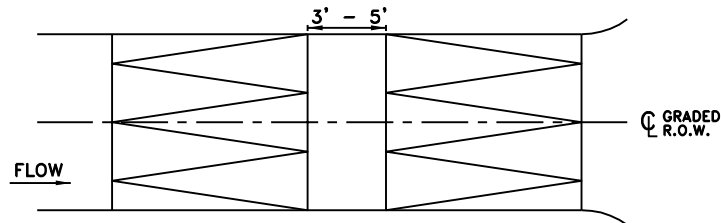
STANDARD DRAWING  
Temporary Erosion Control - Silt Gates  
Types 1, 2, 3, and 4

DATE: SEPTEMBER 25, 2014

SHEET: 201



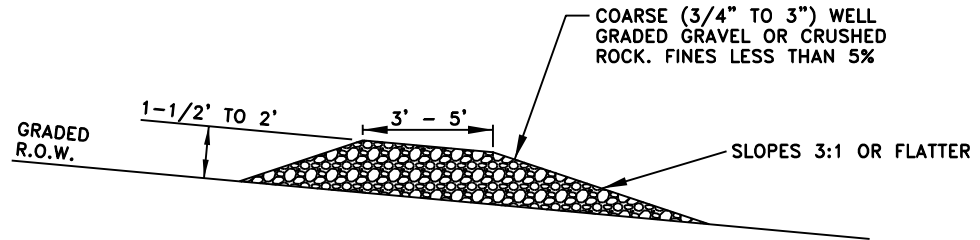
**STONE PAD CONSTRUCTION EXIT**



**PLAN**

**NOTES:**

1. CONSTRUCTION PADS ARE REQUIRED. THE LENGTH AND WIDTH OF THE PAD WILL DEPEND ON THE TYPE OF ACTIVITY AND SITE CONDITIONS. PAD SIZE WILL BE DETERMINED BY THE DESIGNER OF RECORD IN THE FIELD.
2. A WOVEN GEO-TEXTILE SHALL BE PLACED UNDER THE 6" STONE PAD.
3. REMOVE TRAPPED SEDIMENT AFTER EACH STORM. CLEAN OR REPLACE FILTER MATERIAL AS NEEDED.



**FILTER BERM**

City of Buford, Georgia

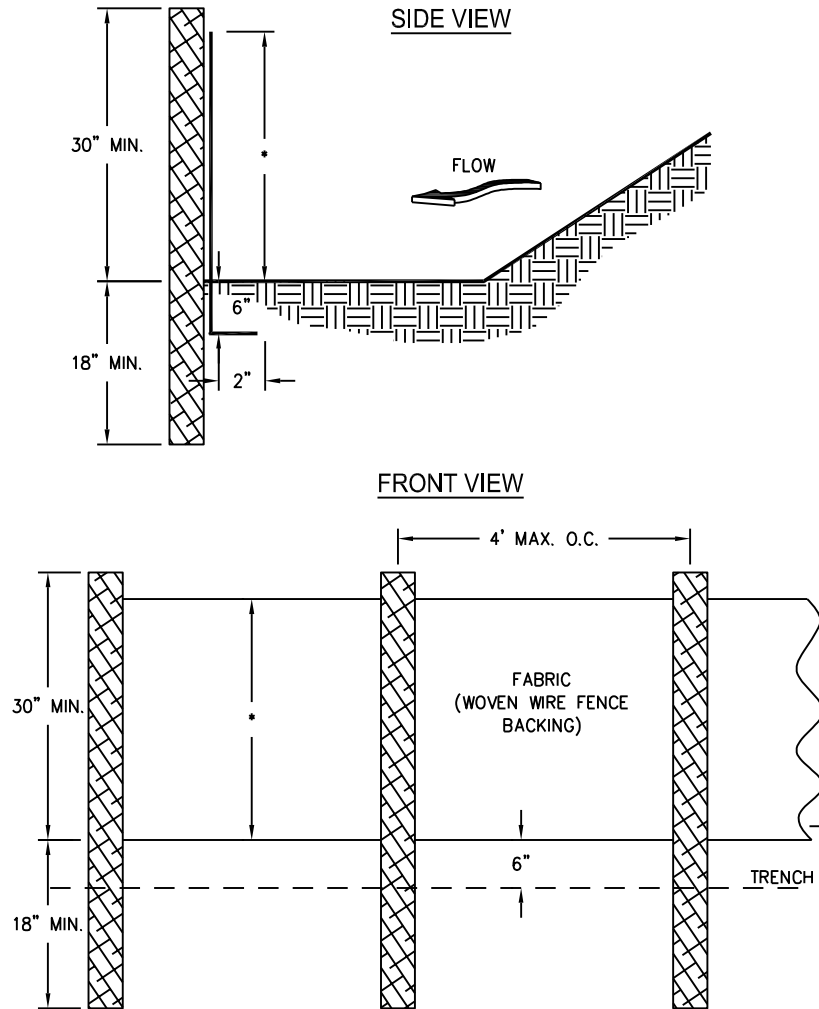
STANDARD DRAWING

Stone Pad Construction Exit and Filter Berm

DATE: SEPTEMBER 25, 2014

SHEET: 202

## SILT FENCE - TYPE SENSITIVE



POST SIZE			
TYPE	MIN. LENGTH	TYPE OF POST	SIZE OF POST
NS	4'	SOFT WOOD OAK STEEL	3" DIA. OR 2 X 4 1.5" X 1.5" 1.3 LB./FT. MIN.
S	4'	STEEL OAK	1.3 LB./FT. MIN. 2" X 2"

LAND SLOPE	MAXIMUM SLOPE LENGTH ABOVE FENCE
PERCENT	FEET
< 2	100
2 TO 5	75
5 TO 10	50
10 TO 20	25
> 20*	15

\* IN AREAS WHERE THE SLOPE IS GREATER THAN 20%, A FLAT AREA LENGTH OF 10 FEET BETWEEN THE TOE OF SLOPE TO THE BARRIER SHOULD BE PROVIDED.

### NOTES:

1. USE STEEL OR WOOD POSTS OR AS SPECIFIED BY THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.
2. HEIGHT (\*) IS TO BE SHOWN ON THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.

City of Buford, Georgia

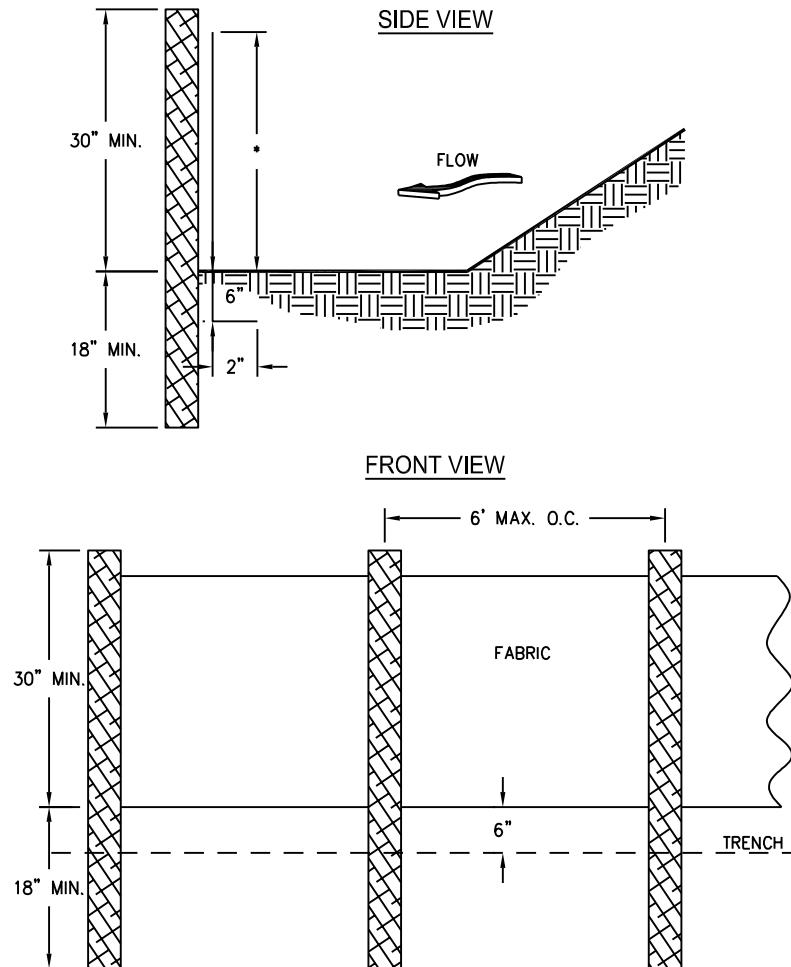
STANDARD DRAWING

Construction of a Silt Fence

DATE: SEPTEMBER 25, 2014

SHEET: 203

## SILT FENCE - TYPE NON-SENSITIVE



### NOTES:

1. USE STEEL OR WOOD POSTS OR AS SPECIFIED BY THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.
2. HEIGHT (\*) IS TO BE SHOWN ON THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.

POST SIZE			
TYPE	MIN. LENGTH	TYPE OF POST	SIZE OF POST
NS	4'	SOFT WOOD OAK STEEL	3" DIA. OR 2" X 4" 1.5" X 1.5" 1.3 LB./FT. MIN.
S	4'	STEEL OAK	1.3 LB./FT. MIN. 2" X 2"

LAND SLOPE	MAXIMUM SLOPE LENGTH ABOVE FENCE
PERCENT	FEET
< 2	100
2 TO 5	75
5 TO 10	50
10 TO 20	25
> 20*	15

\* IN AREAS WHERE THE SLOPE IS GREATER THAN 20%, A FLAT AREA LENGTH OF 10 FEET BETWEEN THE TOE OF SLOPE TO THE BARRIER SHOULD BE PROVIDED.

City of Buford, Georgia

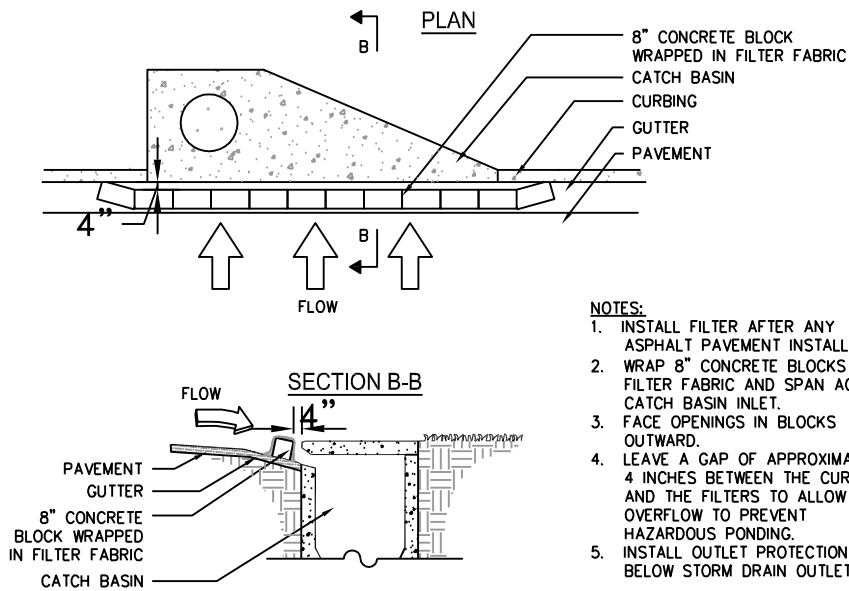
STANDARD DRAWING

Construction of a Silt Fence

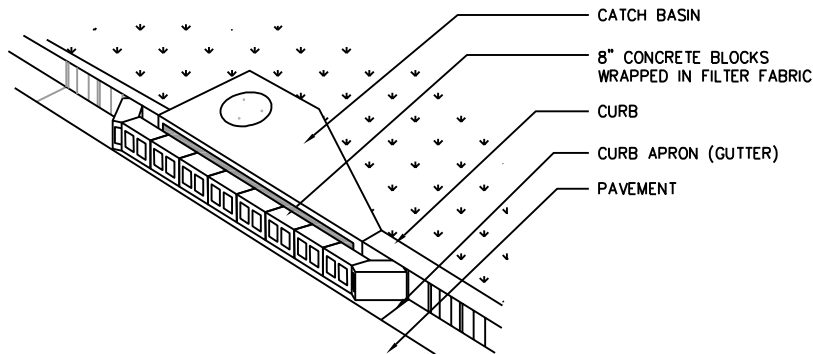
DATE: SEPTEMBER 25, 2014

SHEET: 204

# CURB INLET FILTER "PIGS IN BLANKET"



- NOTES:**
1. INSTALL FILTER AFTER ANY ASPHALT PAVEMENT INSTALLATION.
  2. WRAP 8" CONCRETE BLOCKS IN FILTER FABRIC AND SPAN ACROSS CATCH BASIN INLET.
  3. FACE OPENINGS IN BLOCKS OUTWARD.
  4. LEAVE A GAP OF APPROXIMATELY 4 INCHES BETWEEN THE CURB AND THE FILTERS TO ALLOW FOR OVERFLOW TO PREVENT HAZARDOUS PONDING.
  5. INSTALL OUTLET PROTECTION BELOW STORM DRAIN OUTLETS.



City of Buford, Georgia

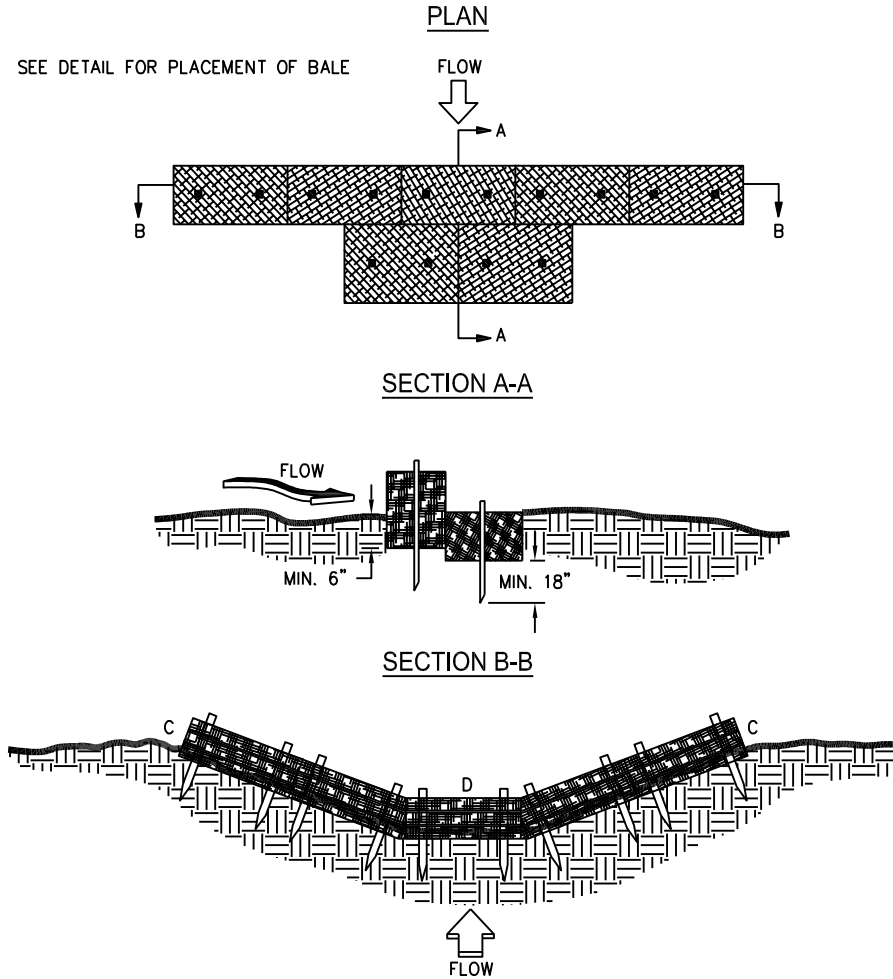
STANDARD DRAWING

Construction of a Curb Inlet Filter

DATE: SEPTEMBER 25, 2014

SHEET: 205

# TYPICAL STRAW BALE CHECK DAM



**NOTES:**

1. BALES SHOULD BE BOUND WITH WIRE OR NYLON STRING AND SHOULD BE PLACED IN ROWS WITH BALE ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. REMOVE #4 REBAR AFTER STRAW BALES ARE NO LONGER IN PLACE.
3. POINT C OF SECTION B-B SHOULD ALWAYS BE HIGHER THAN POINT D.

City of Buford, Georgia

STANDARD DRAWING

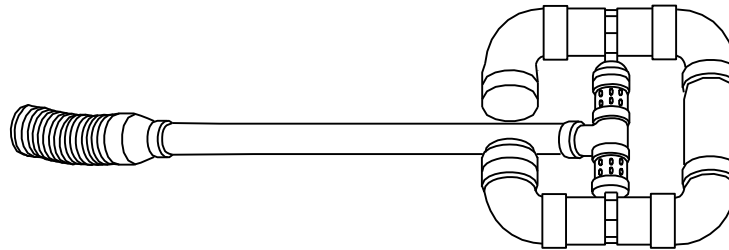
Construction of a Straw Bale Check Dam

DATE: SEPTEMBER 25, 2014 SHEET: 206

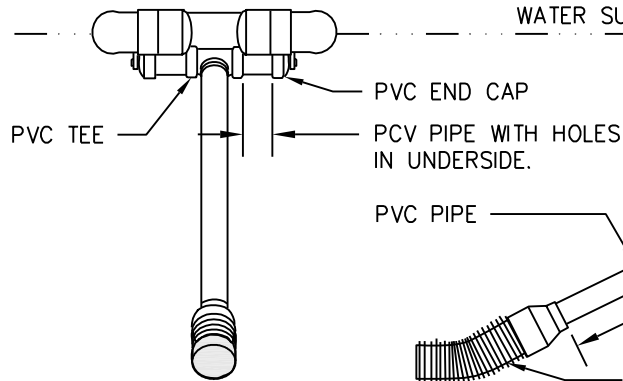
# TEMPORARY SEDIMENT POND

NOTE:  
 SKIMMER CONFIGURATION SHOWN IS  
 TYPICAL. THE DESIGNER/ENGINEER  
 MAY SUBMIT AN ALTERNATE SKIMMER  
 DETAIL FOR REVIEW.

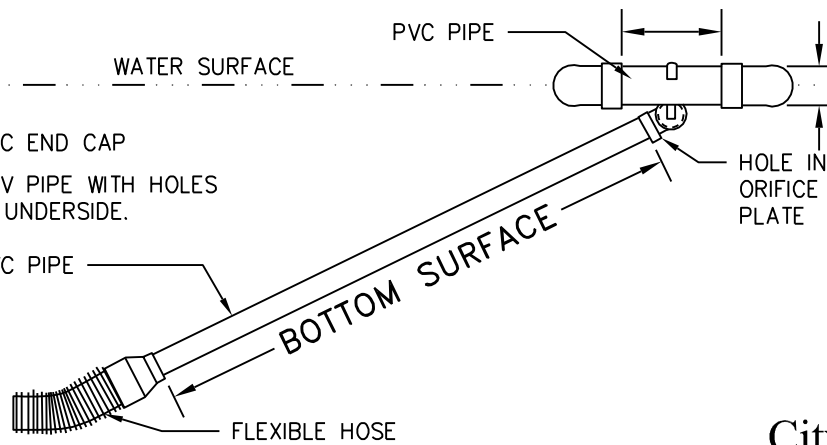
SKIMMER PERSPECTIVE



SKIMMER FRONTAL SECTION VIEW



SKIMMER SIDE SECTION VIEW



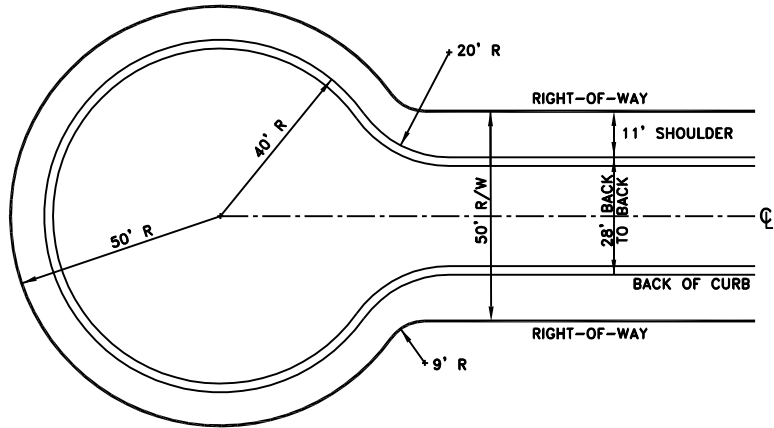
City of Buford, Georgia

STANDARD DRAWING

Construction of a Temporary Sediment Pond

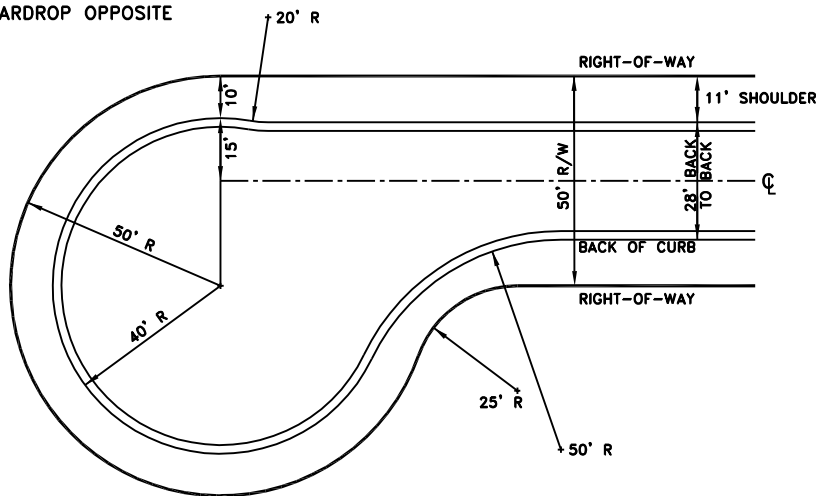
DATE: SEPTEMBER 25, 2014 SHEET: 207



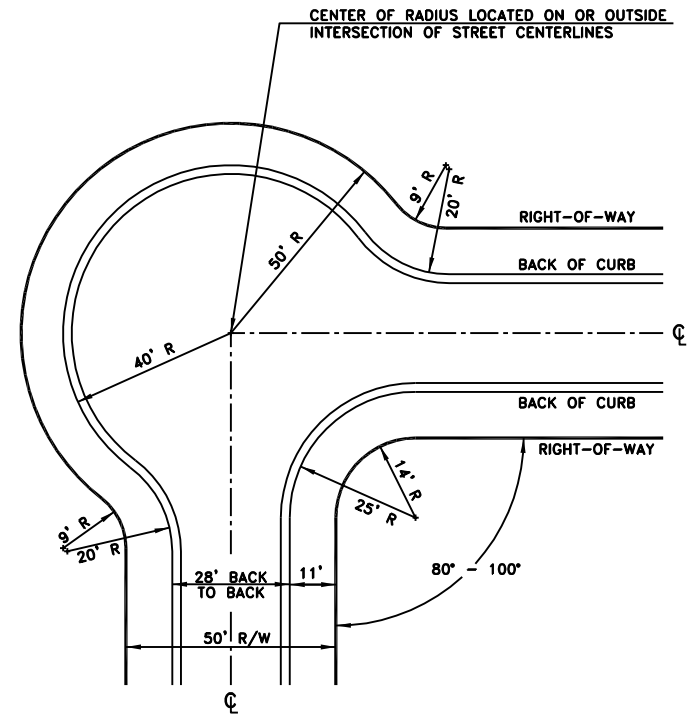


**CENTERED**

**NOTE:**  
LEFT HAND TEARDROP SHOWN  
RIGHT HAND TEARDROP OPPOSITE



**TEARDROP**



**'EYEBROW'**

LOCAL RESIDENTIAL STREETS ONLY

City of Buford, Georgia

STANDARD DRAWING

Standard Residential Cul-de-Sac

DATE: SEPTEMBER 25, 2014

SHEET: 301

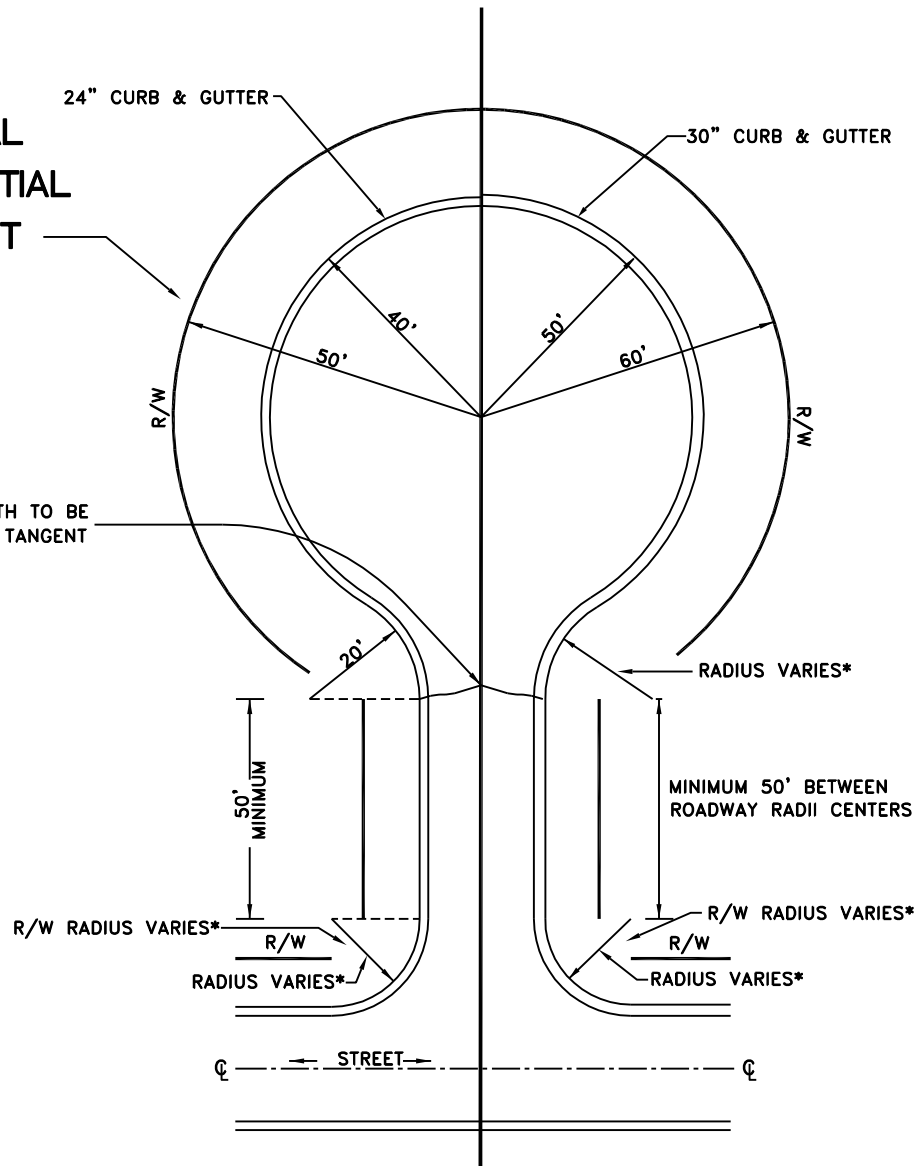
LOCAL  
RESIDENTIAL  
STREET

24" CURB & GUTTER

LOCAL  
NONRESIDENTIAL  
STREET

30" CURB & GUTTER

STANDARD MINIMUM ROADWAY WIDTH TO BE  
ACHIEVED AT RETURN TANGENT



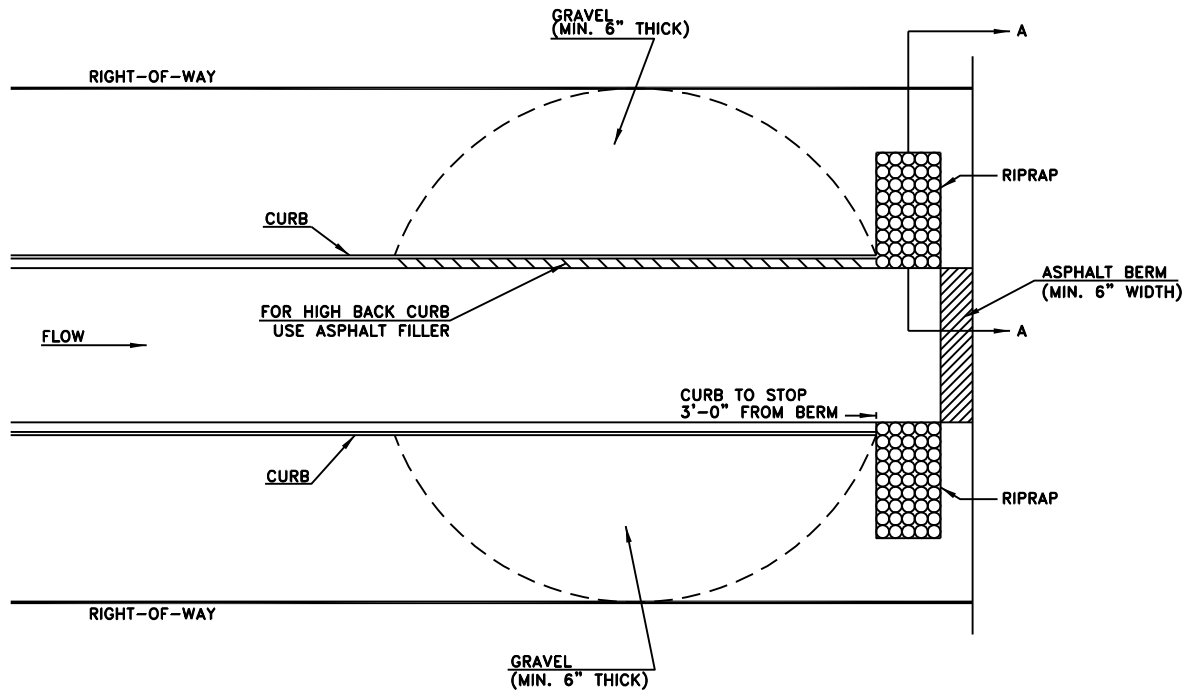
• SEE MINIMUM INTERSECTION RADII REQUIREMENTS IN DEVELOPMENT REGULATIONS.

City of Buford, Georgia

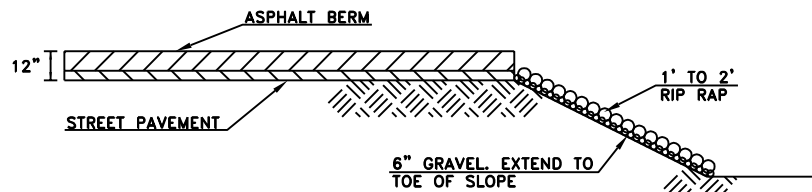
STANDARD DRAWING

Cul-de-Sac Minimum Lengths

DATE: SEPTEMBER 25, 2014 SHEET: 302



**PLAN**



**SECTION A-A**

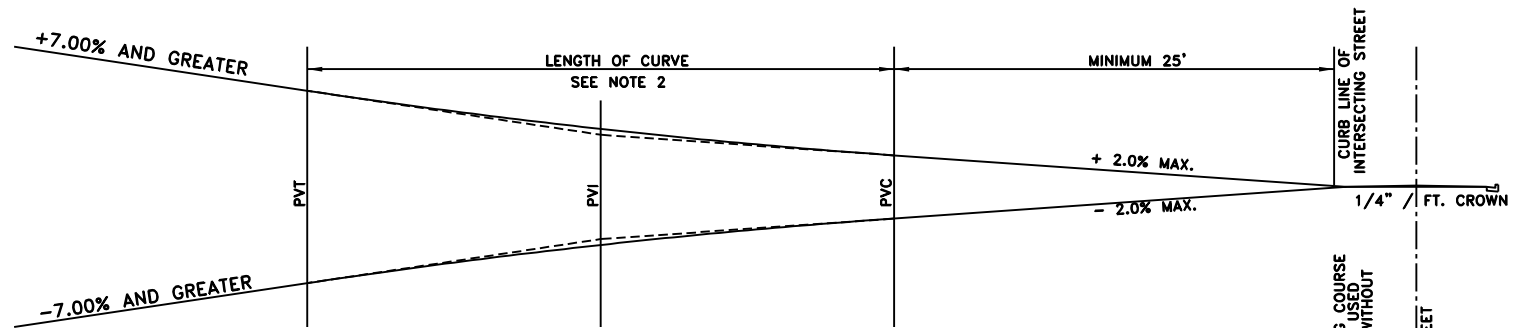
City of Buford, Georgia

STANDARD DRAWING

Temporary Vehicular Turnaround

DATE: SEPTEMBER 25, 2014 SHEET: 303

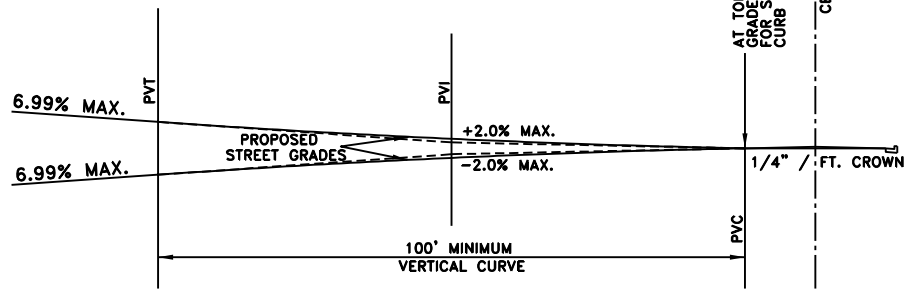
## INTERSECTION OF LOCAL OR MINOR COLLECTOR STREETS



**GRADES 7.00% AND GREATER**

**NOTES:**

- 1) THIS STANDARD IS INTENDED TO BE A MINIMUM DESIGN STANDARD FOR CONTROL OF GRADES OF STREETS APPROACHING AN INTERSECTION WITH A LOCAL OR MINOR COLLECTOR STREET. FOR INTERSECTIONS WITH MAJOR THOROUGHFARES, SEE DEVELOPMENT REGULATIONS.
- 2) REFER TO DEVELOPMENT REGULATIONS TABLE 9-B FOR "K" VALUES FOR VERTICAL CURVES.



**GRADES LESS THAN 7.00%**

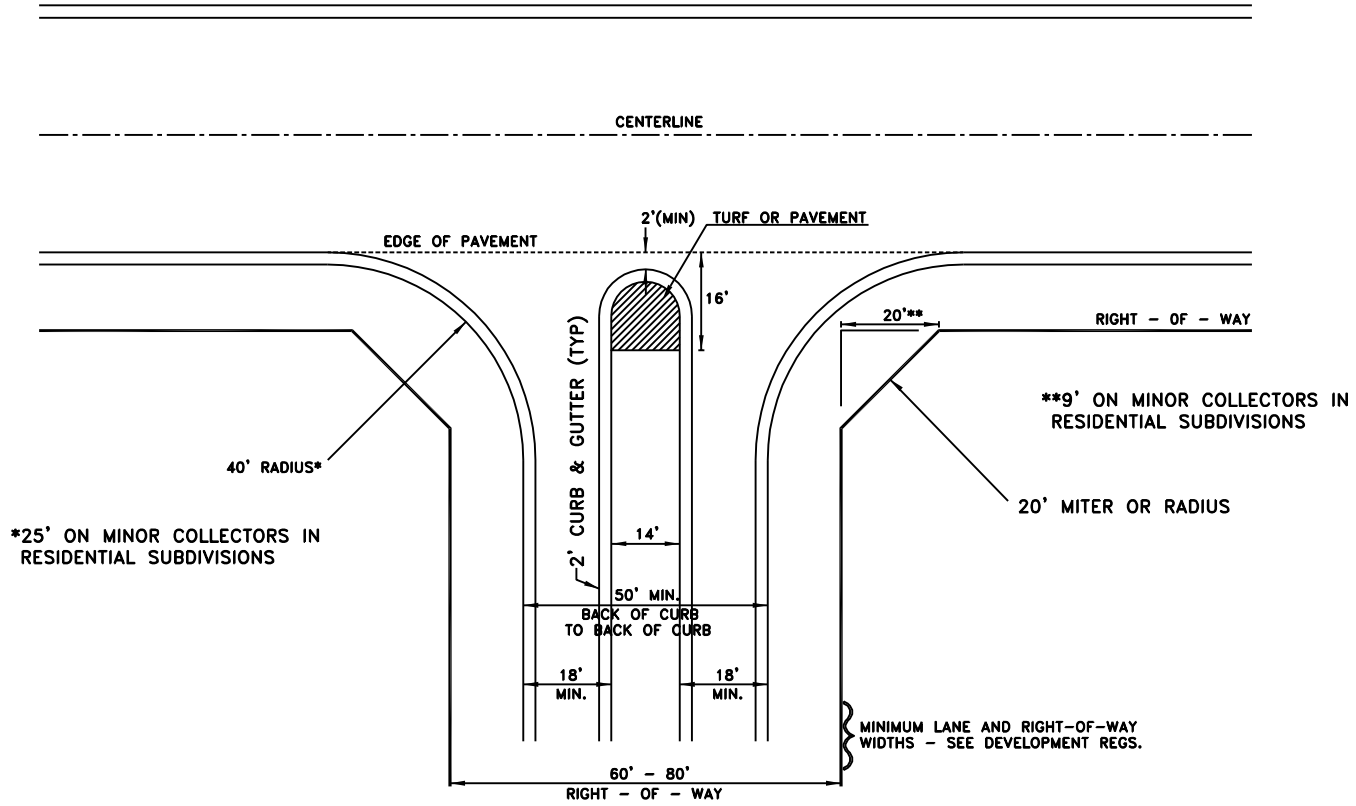
City of Buford, Georgia

S T A N D A R D D R A W I N G

Vertical Alignment at Intersection with  
Local or Minor Collector Street

DATE: SEPTEMBER 25, 2014 SHEET: 304

INTERSECTION DETAIL NO. 1

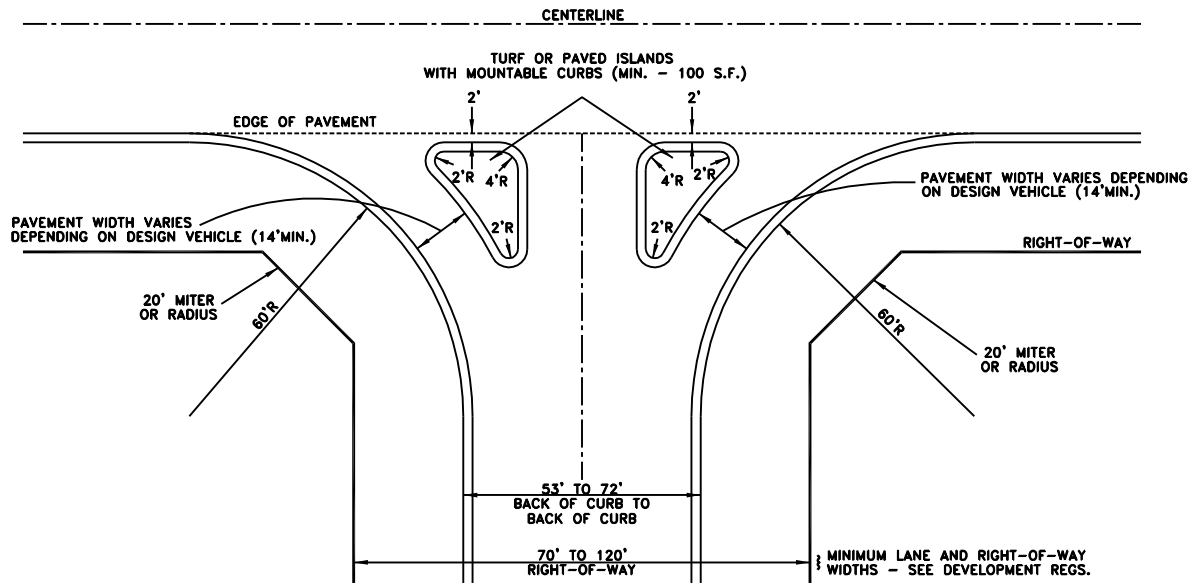


NOTES:

1. INSIDE OF ISLANDS ARE TO BE BACKFILLED WITH PORTLAND CEMENT CONCRETE, OR GRASSED, OR PLANTED WITH VEGETATION NOT EXCEEDING TWENTY-FOUR INCHES IN HEIGHT.
2. DEVELOPER TO MAINTAIN GRASSED OR PLANTED ISLAND.
3. LARGER RADII FOR RIGHT-OF-WAY OR ROADWAY CONNECTIONS MAY BE REQUIRED FOR STREETS INTERSECTING AT ANGLES LESS THAN 90 DEGREES.

City of Buford, Georgia

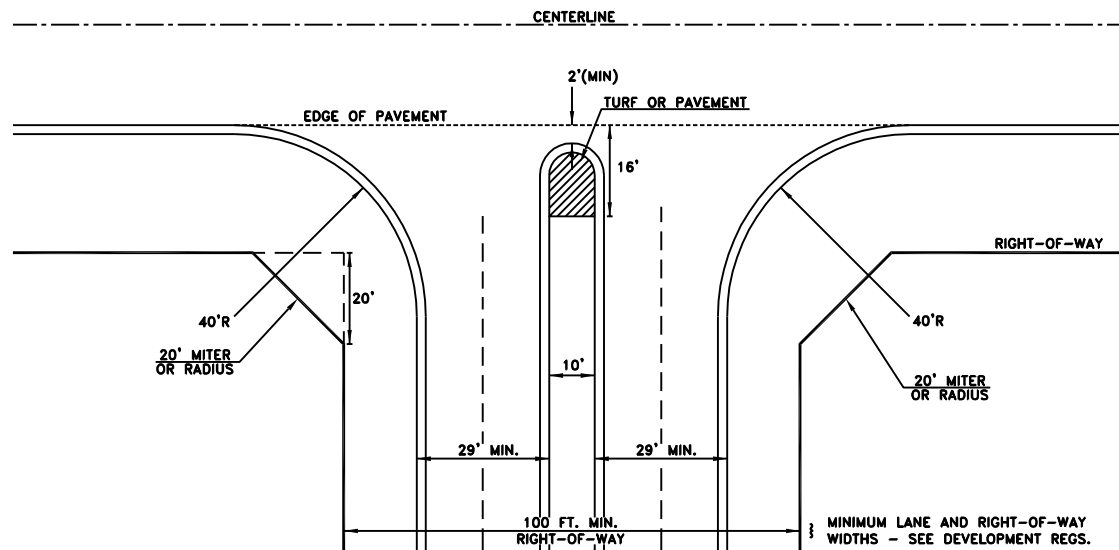
STANDARD DRAWING  
 INTERSECTION DETAIL NO. 1  
 T-Intersection Only - Minor or Major  
 Collector Street Classification  
 DATE: SEPTEMBER 25, 2014 SHEET: 305



**INTERSECTION DETAIL NO. 2**

**NOTES:**

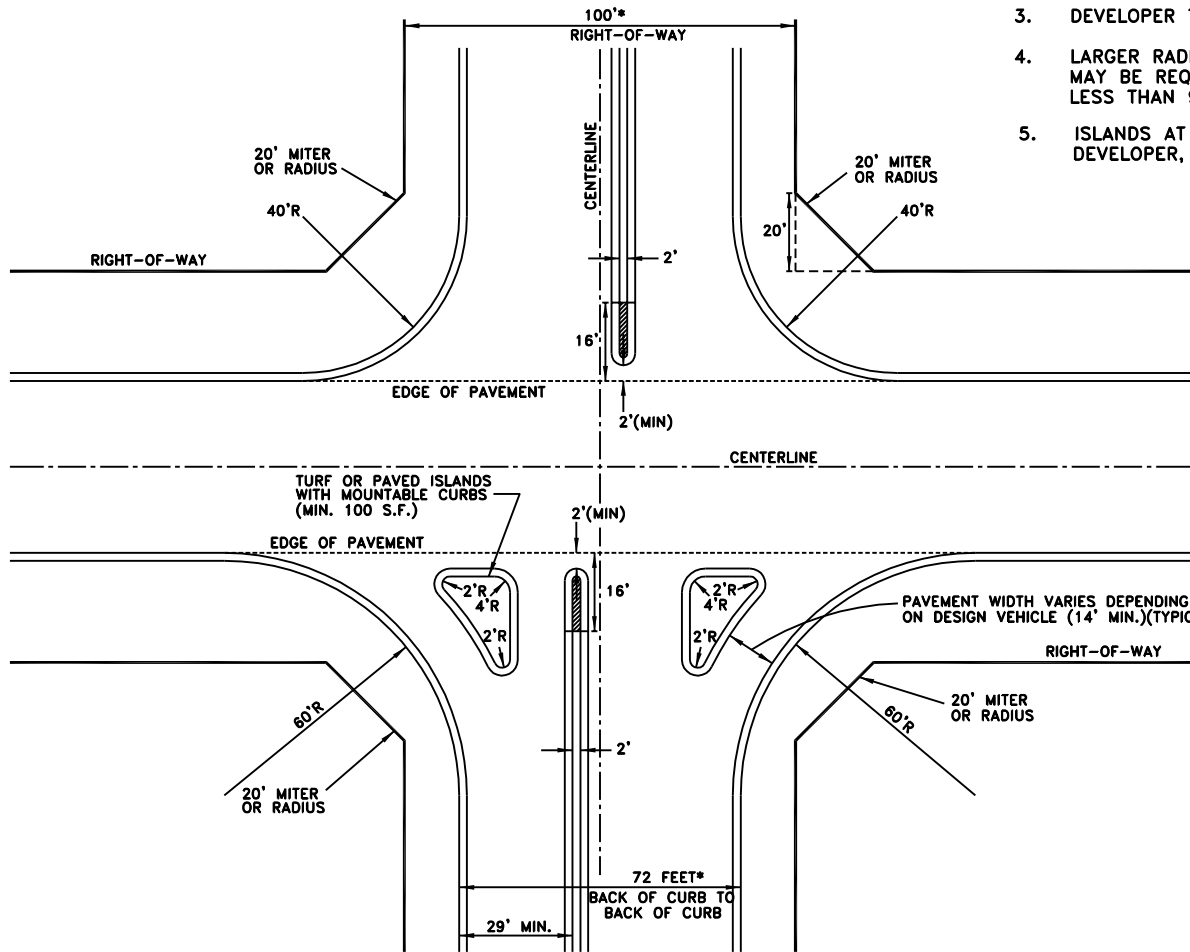
1. A COMBINATION OF THESE TWO DESIGNS MAY BE USED.
2. INSIDE OF ISLANDS IS TO BE BACKFILLED WITH PORTLAND CEMENT CONCRETE, OR GRASSED, OR PLANTED WITH VEGETATION NOT EXCEEDING 24" IN HEIGHT.
3. DEVELOPER TO MAINTAIN GRASSED OR PLANTED ISLAND.
4. LARGER RADII FOR RIGHT-OF-WAY OR ROADWAY CONNECTIONS MAY BE REQUIRED FOR STREETS INTERSECTING AT ANGLES LESS THAN 90 DEGREES.
5. ISLANDS AT INTERSECTIONS ARE AT THE OPTION OF THE DEVELOPER, EXCEPT FOR GDOT CONTROLLED ROUTES.



City of Buford, Georgia

STANDARD DRAWING  
 INTERSECTION DETAIL NO. 2  
 T-Intersection Only - Arterial or Major Collector  
 Street Classification  
 DATE: SEPTEMBER, 25 2014 SHEET: 306

**INTERSECTION DETAIL NO. 3**



**NOTES:**

1. A COMBINATION OF THESE TWO DESIGNS MAY BE USED.
2. INSIDE OF ISLANDS IS TO BE BACKFILLED WITH PORTLAND CEMENT CONCRETE, OR GRASSED, OR PLANTED WITH VEGETATION NOT EXCEEDING 24" IN HEIGHT.
3. DEVELOPER TO MAINTAIN GRASSED OR PLANTED ISLAND.
4. LARGER RADII FOR RIGHT-OF-WAY OR ROADWAY CONNECTIONS MAY BE REQUIRED FOR STREETS INTERSECTING AT ANGLES LESS THAN 90 DEGREES.
5. ISLANDS AT INTERSECTIONS ARE AT THE OPTION OF THE DEVELOPER, EXCEPT FOR GDOT CONTROLLED ROUTES.

**UNDIVIDED**

70' - 120' RIGHT-OF-WAY\*  
53' - 72' ROADWAY\*

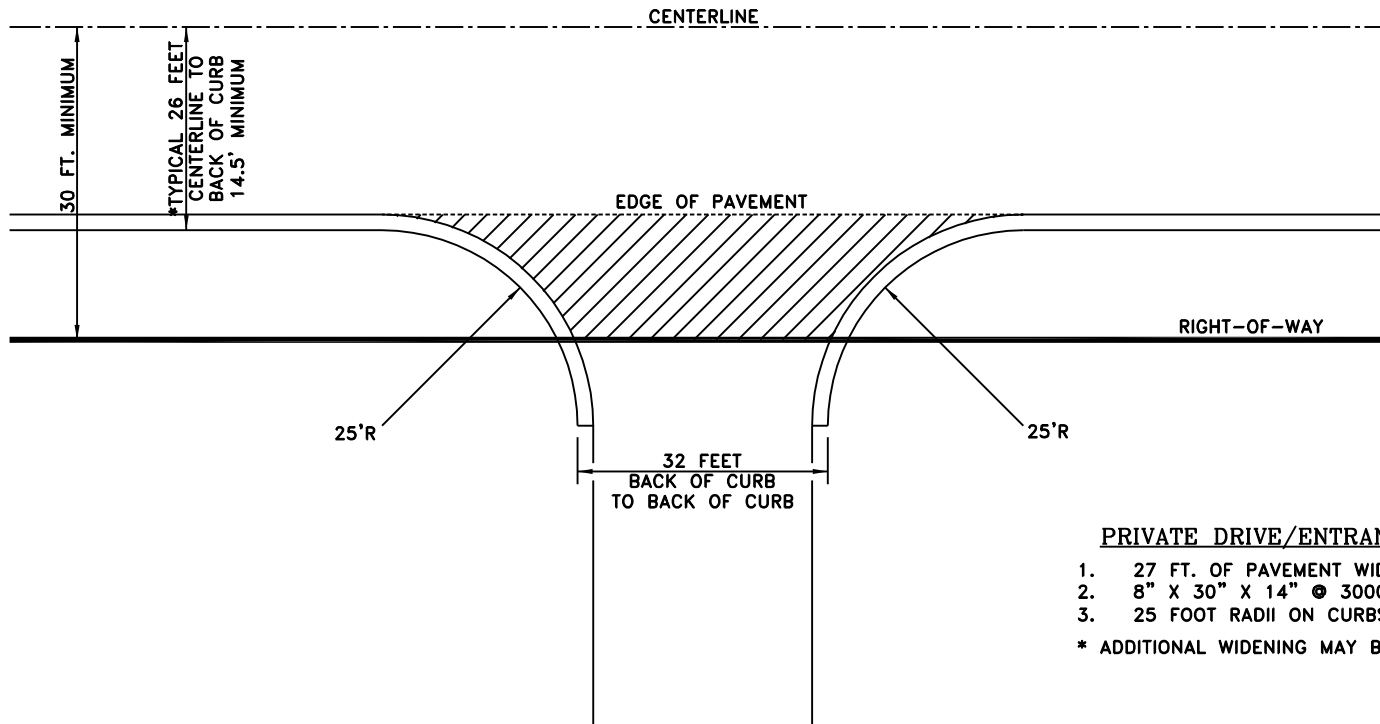
\* MINIMUM LANE AND RIGHT-OF-WAY WIDTHS  
SEE DEVELOPMENT REGULATIONS

City of Buford, Georgia

STANDARD DRAWING  
INTERSECTION DETAIL NO. 3  
Arterial or Major Collector Street Classification  
DATE: SEPTEMBER 25, 2014 SHEET: 307

DRIVEWAY DETAIL 1 - 32 FT. WIDTH, 25 FT. RADIUS

AUTOMOBILE SERVICE STATIONS/GASOLINE CONVENIENCE STORES  
COMMERCIAL SITES (OVER 80,000 SQ. FT.)  
OFFICE INSTITUTIONAL COMPLEXES (OVER 100,000 SQ. FT.)  
APARTMENT/CONDO COMPLEXES (OVER 200 UNITS)  
MOBILE HOME COMPLEXES (OVER 200 LOTS)



PRIVATE DRIVE/ENTRANCE

1. 27 FT. OF PAVEMENT WIDTH
2. 8" X 30" X 14" Ⓞ 3000 PSI CURB AND GUTTER
3. 25 FOOT RADII ON CURBS

\* ADDITIONAL WIDENING MAY BE REQUIRED

City of Buford, Georgia

S T A N D A R D D R A W I N G

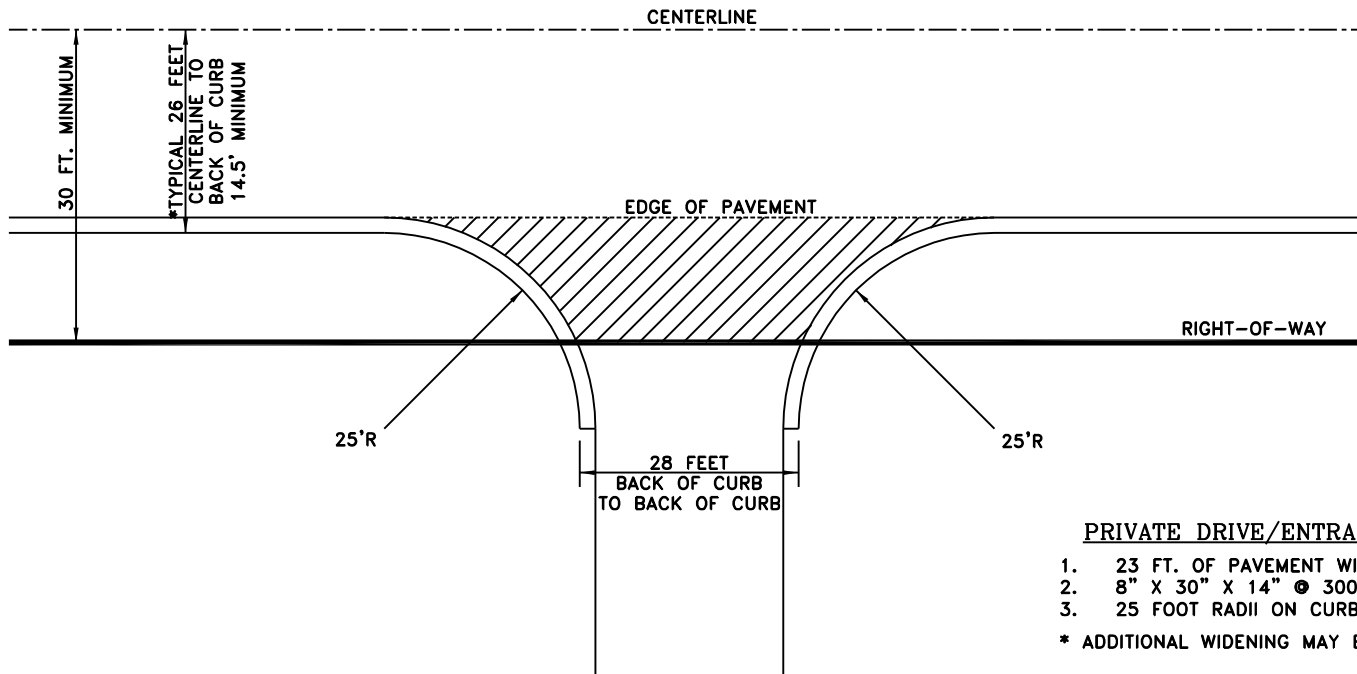
Driveway Detail No. 1

D A T E: SEPTEMBER 25, 2014 S H E E T: 308



DRIVEWAY DETAIL 2 - 28 FT. WIDTH, 25 FT. RADIUS

COMMERCIAL SITES (80,000 SQ. FT. OR LESS)  
OFFICE/INSTITUTIONAL COMPLEXES (100,000 SQ. FT. OF LESS)  
APARTMENT/CONDO COMPLEXES (200 UNITS OR LESS)  
MOBILE HOME COMPLEXES (200 LOTS OR LESS)



PRIVATE DRIVE/ENTRANCE

1. 23 FT. OF PAVEMENT WIDTH
2. 8" X 30" X 14" @ 3000 PSI CURB AND GUTTER
3. 25 FOOT RADII ON CURBS

\* ADDITIONAL WIDENING MAY BE REQUIRED

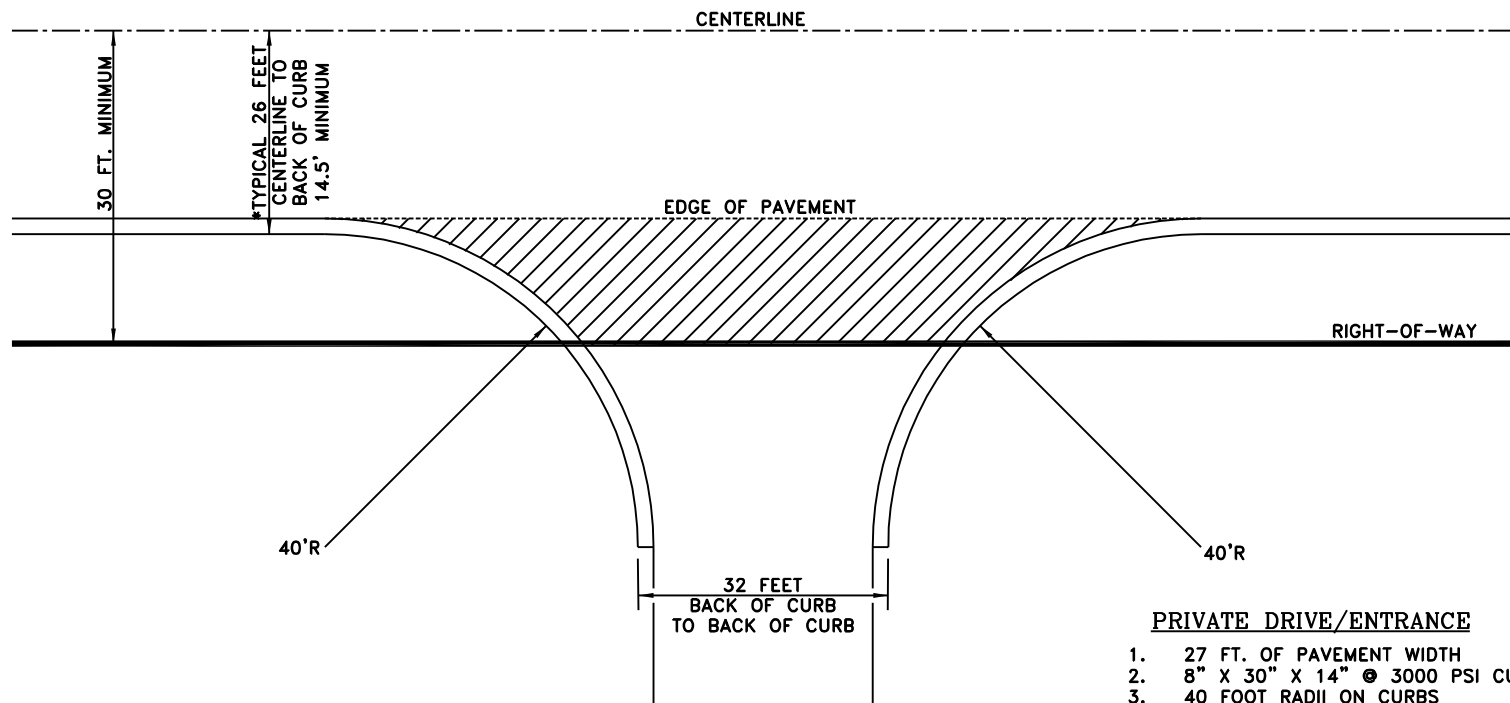
City of Buford, Georgia

S T A N D A R D D R A W I N G

Driveway Detail No. 2

D A T E: SEPTEMBER 25, 2014 S H E E T: 309

DRIVEWAY DETAIL 3 - 32 FT. WIDTH, 40 FT. RADIUS



PRIVATE DRIVE/ENTRANCE

- 1. 27 FT. OF PAVEMENT WIDTH
- 2. 8" X 30" X 14" @ 3000 PSI CURB AND GUTTER
- 3. 40 FOOT RADII ON CURBS

\* ADDITIONAL WIDENING MAY BE REQUIRED

INDUSTRIAL SITES

City of Buford, Georgia

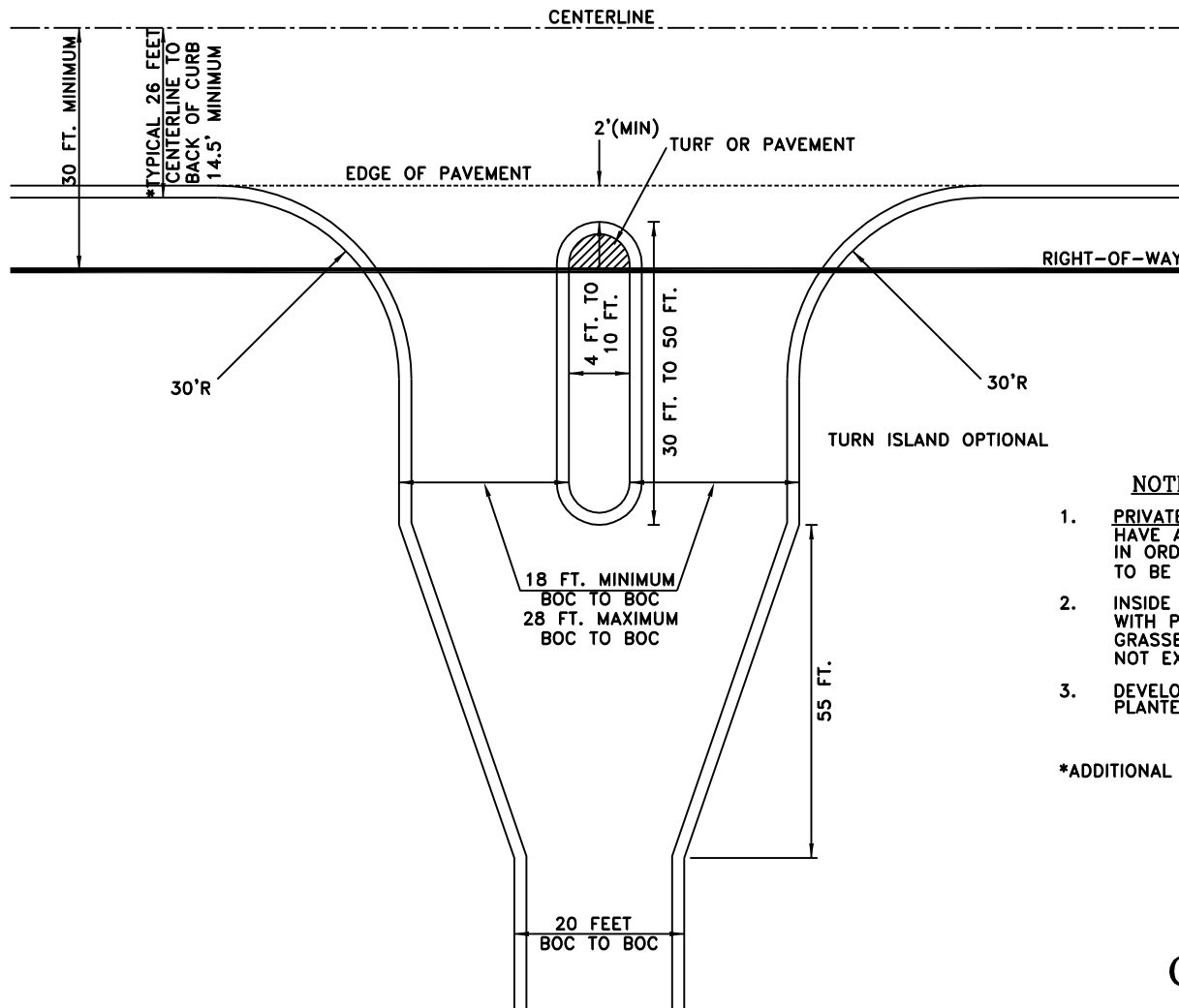
S T A N D A R D D R A W I N G

Driveway Detail No. 3

D A T E: SEPTEMBER 25, 2014 S H E E T: 310

**DRIVEWAY DETAIL 4 - (OPTIONAL)**

PRIVATE COMMERCIAL OR OFFICE STREET ENTRANCES  
 APARTMENT/CONDO COMPLEXES (OVER 200 UNITS)  
 MOBILE HOME COMPLEXES (OVER 200 LOTS)



**NOTES:**

1. PRIVATE COMMERCIAL STREET MUST HAVE A MINIMUM LENGTH OF 300 FEET IN ORDER FOR THIS DRIVEWAY DETAIL TO BE APPLICABLE
2. INSIDE OF ISLAND TO BE BACKFILLED WITH PORTLAND CEMENT CONCRETE (4" THICK), OR GRASSED, OR PLANTED WITH VEGETATION NOT EXCEEDING 24" IN HEIGHT.
3. DEVELOPER TO MAINTAIN THE GRASSED OR PLANTED ISLANDS.

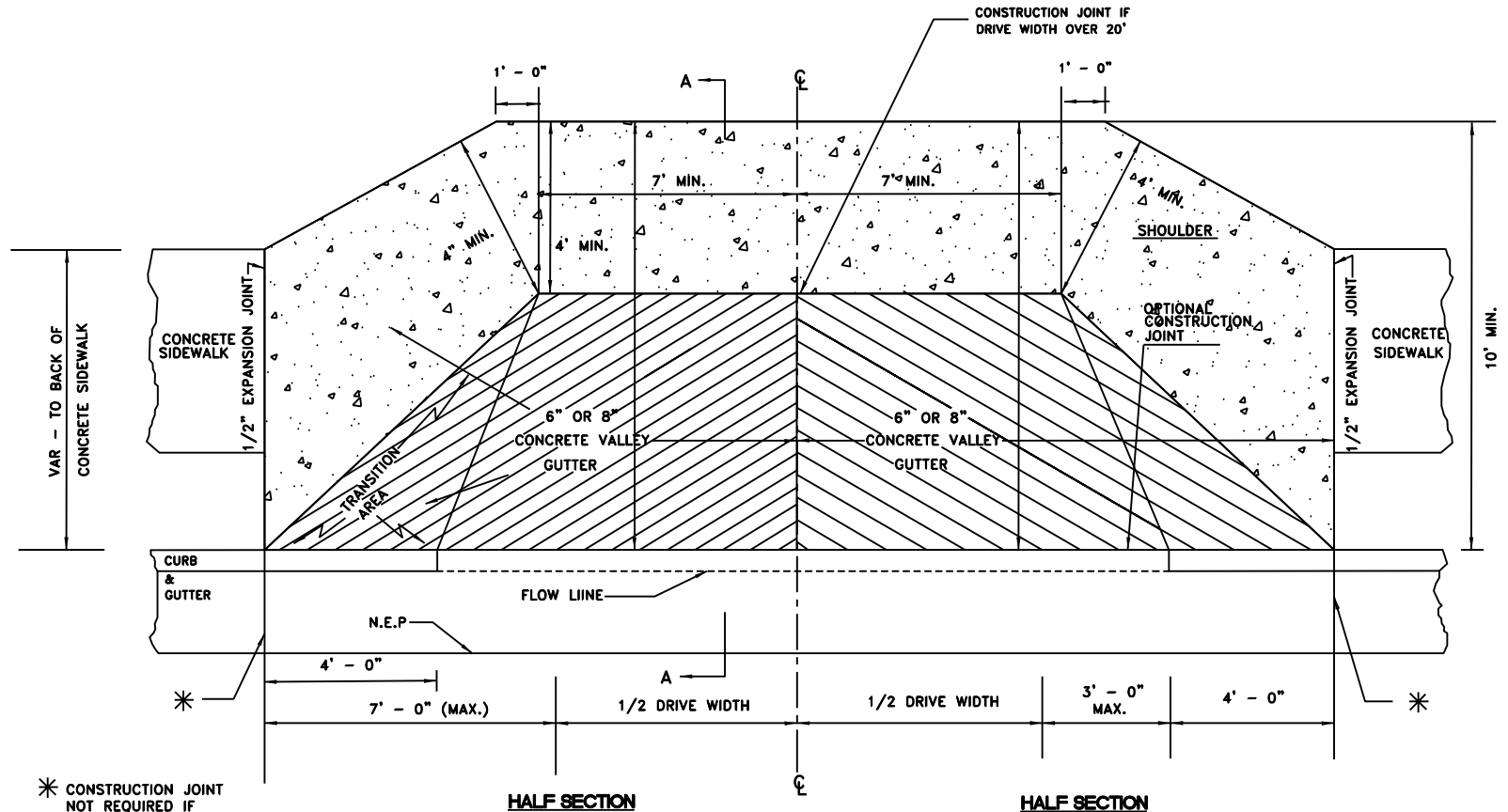
\*ADDITIONAL WIDENING MAY BE REQUIRED

City of Buford, Georgia

S T A N D A R D D R A W I N G

Driveway Detail No. 4

D A T E: SEPTEMBER 25, 2014 S H E E T: 311

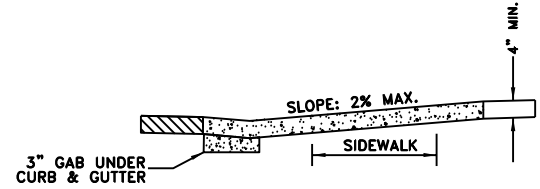


\* CONSTRUCTION JOINT NOT REQUIRED IF THE OPTIONAL CONSTRUCTION JOINT IS PROVIDED AT BACK OF CURB

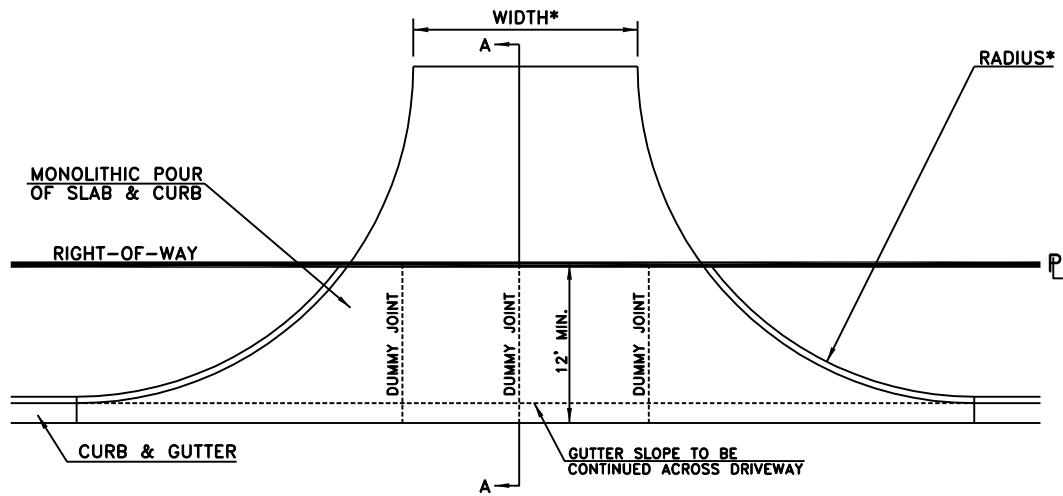
**PLAN**  
 SYMMETRICAL ABOUT THIS SIDE OF CENTERLINE WHERE CONCRETE SIDEWALK OCCURS

**PLAN**

CONCRETE: MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI.



**SECTION A-A**

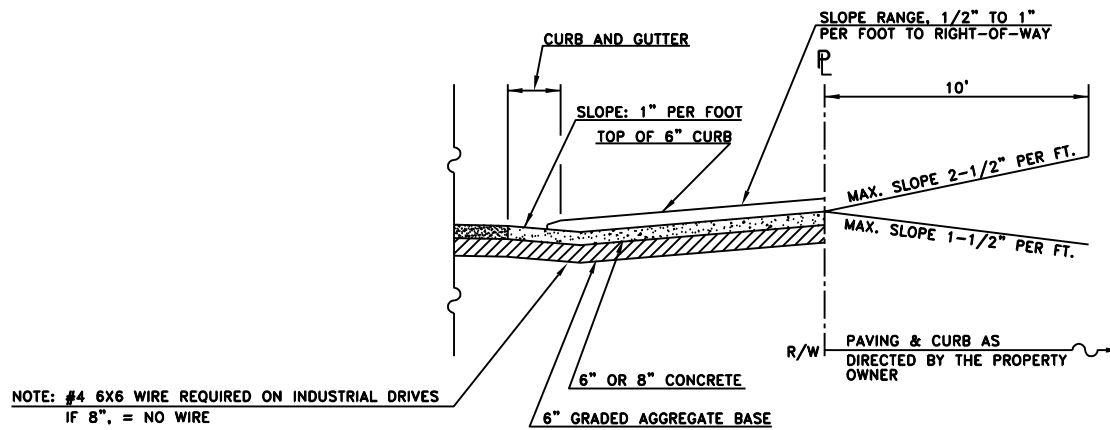


\* SEE DRIVEWAY DETAILS FOR WIDTH AND RADIUS

CONCRETE: MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI.

ORIGINAL CURB AND GUTTER TO BE REMOVED. ASPHALT TO BE PATCHED AS REQUIRED.

**PLAN**



NOTE: #4 6X6 WIRE REQUIRED ON INDUSTRIAL DRIVES  
IF 8", = NO WIRE

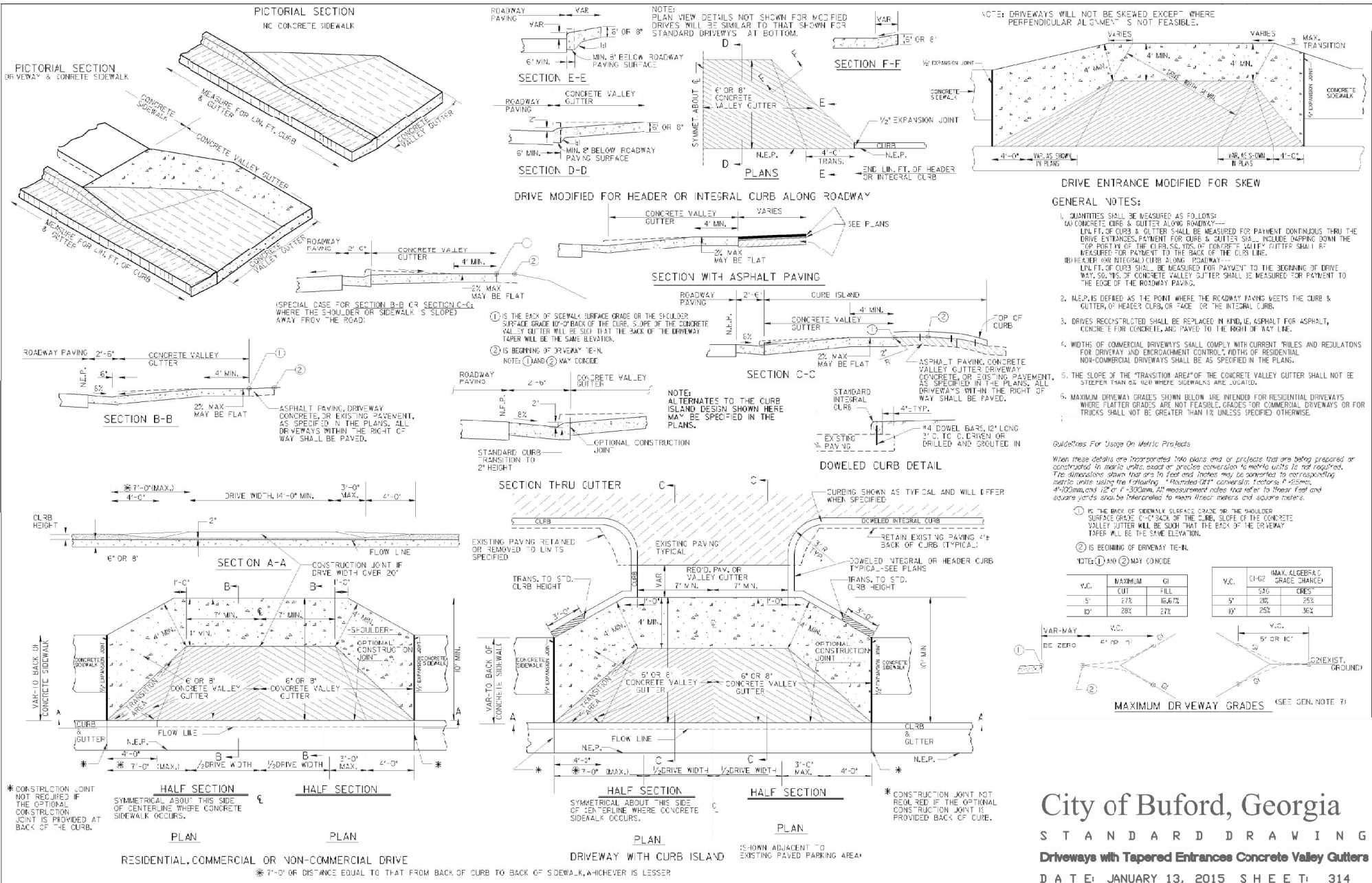
**SECTION A-A**

City of Buford, Georgia

STANDARD DRAWING

Commercial and Industrial Driveways

DATE: SEPTEMBER 25, 2014 SHEET: 313



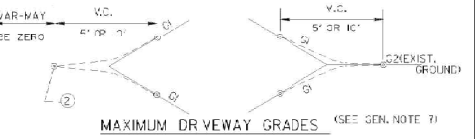
- DRIVE ENTRANCE MODIFIED FOR SKEW**
- GENERAL NOTES:**
- QUANTITIES SHALL BE MEASURED AS FOLLOWS:
    - (A) CONCRETE CURB & GUTTER ALONG ROADWAY-- LIN. FT. OF CURB & GUTTER SHALL BE MEASURED FOR PAYMENT CONTIGUOUS THRU THE DRIVE ENTRANCE. PAYMENT FOR CURB & GUTTER SHALL INCLUDE TAPPING DOWN THE TOP PORTION OF THE CURB, SECTIONS OF CONCRETE VALLEY GUTTER SHALL BE MEASURED FOR PAYMENT TO THE BACK OF THE CURB LINE.
    - (B) HEADER AND INTEGRAL CURB ALONG ROADWAY-- LIN. FT. OF CURB SHALL BE MEASURED FOR PAYMENT TO THE BEGINNING OF DRIVE. MAX. 50% OF CONCRETE VALLEY GUTTER SHALL BE MEASURED FOR PAYMENT TO THE EDGE OF THE ROADWAY PAVING.
  - N.E.P. IS DEFINED AS THE POINT WHERE THE ROADWAY PAVING MEETS THE CURB & GUTTER, OR HEADER CURB, OR FACE OF THE INTEGRAL CURB.
  - DRIVES RECONSTRUCTED SHALL BE REPLACED IN KIND, I.E. ASPHALT FOR ASPHALT, CONCRETE FOR CONCRETE, AND PAVED TO THE RIGHT OF WAY LINE.
  - WIDTHS OF COMMERCIAL DRIVEWAYS SHALL COMPLY WITH CURRENT RULES AND REGULATIONS FOR DRIVEWAY AND ENCROACHMENT CONTROL. WIDTHS OF RESIDENTIAL NON-COMMERCIAL DRIVEWAYS SHALL BE AS SPECIFIED IN THE PLANS.
  - THE SLOPE OF THE "TRANSITION AREA" OF THE CONCRETE VALLEY GUTTER SHALL NOT BE STEEPER THAN 6% UNLESS SPECIFIED OTHERWISE.
  - MAXIMUM DRIVEWAY GRADES SHOWN BELOW ARE INTENDED FOR RESIDENTIAL DRIVEWAYS WHERE FLATTER GRADES ARE NOT FEASIBLE. GRADES FOR COMMERCIAL DRIVEWAYS OR FOR TRUCKS SHALL NOT BE GREATER THAN 1% UNLESS SPECIFIED OTHERWISE.

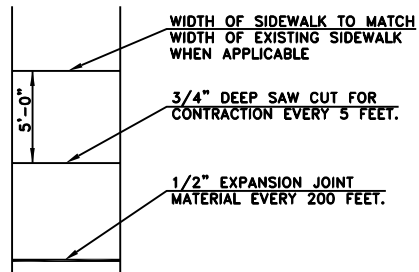
*Guidelines For Usage On Metric Projects*

When these details are incorporated into plans and/or projects that are being prepared or constructed in metric units, exact or precise conversion to metric units is not required. The dimensions shown that are in feet and inches may be converted to corresponding metric units using the following "Rounded Off" conversion factors: 1/2 inches, 4/100mm, and 1/2" or 1" = 300mm. All measurement notes that refer to linear feet and square yards shall be interpreted to mean linear meters and square meters.

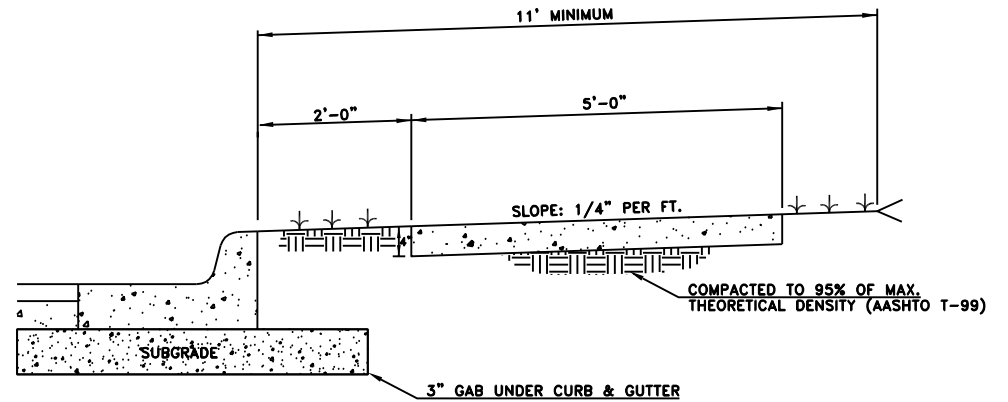
- IS THE BACK OF SIDEWALK SURFACE GRADE OR THE SHOULDER SURFACE GRADE 10'-0" BACK OF THE CURB. SLOPE OF THE CONCRETE VALLEY GUTTER WILL BE SUCH THAT THE BACK OF THE DRIVEWAY TAPER WILL BE THE SAME ELEVATION.
  - IS BEGINNING OF DRIVEWAY T.E.N.
- NOTE: (1) AND (2) MAY COINCIDE

V.C.	MAX. ALGEBRAIC GRADE CHANGE	
	CUT	FILL
5'	2 1/2	16.6%
10'	2 1/4	27%

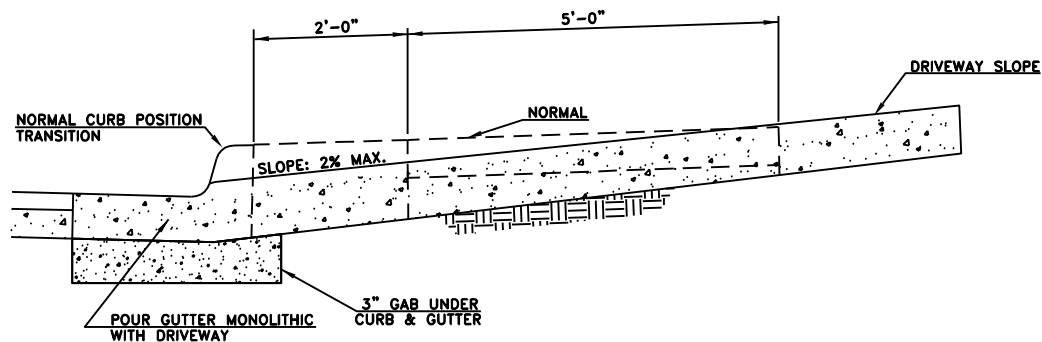




**PLAN**



**TYPICAL SECTION OF 5' - 0" SIDEWALK**



**SIDEWALK SECTION AT DRIVEWAY**

**NOTES:**

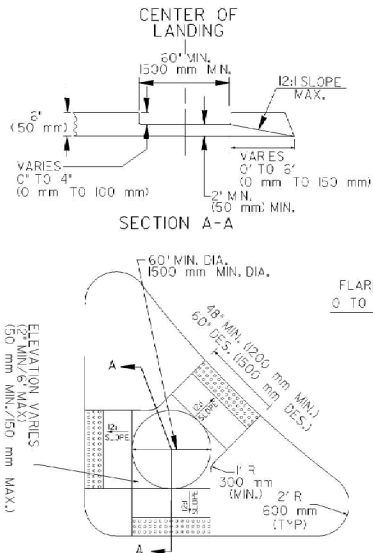
- 1) SIDEWALK CONCRETE: MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI.
- 2) SIDEWALK TO BE 4 INCHES (4") THICK.
- 3) 1/2" PREMOULDED EXPANSION JOINT REQUIRED AT ALL DRIVEWAYS, CURBS, ETC.

City of Buford, Georgia

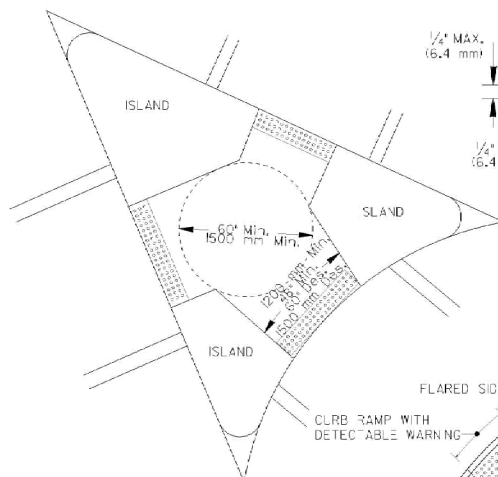
STANDARD DRAWING

Typical Sidewalk Section

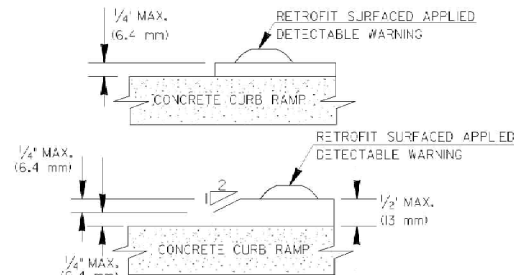
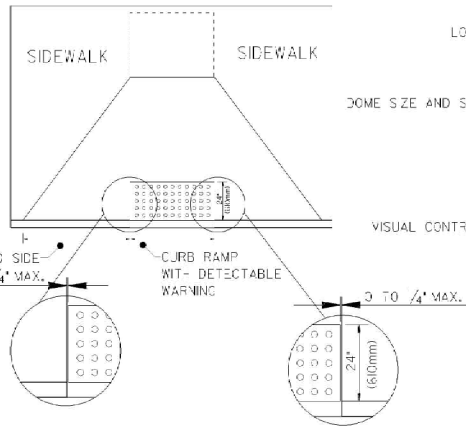
DATE: JANUARY 13, 2015 SHEET: 315



CONCRETE ISLAND WITH ELEVATED CURB THROUGH



DETAIL FOR DETECTABLE WARNING AT CUT-THRU CONCRETE ISLAND

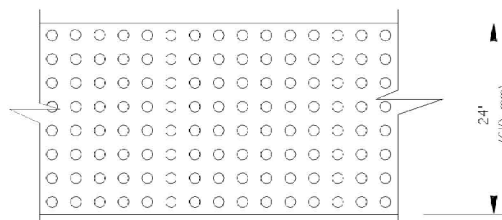
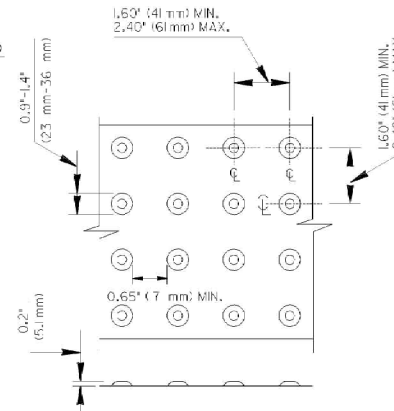
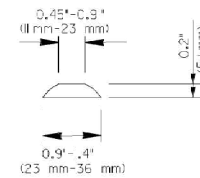


SIZE: DETECTABLE WARNINGS SHALL BE 24 INCHES (60 mm) IN THE DIRECTION OF PEDESTRIAN TRAVEL AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR FLUSH SURFACE.

LOCATION: THE DETECTABLE WARNING SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE OR OTHER POTENTIAL HAZARD IS 6 TO 8 INCHES (150 mm TO 180mm) FROM THE CURB LINE OR OTHER POTENTIAL HAZARD, SUCH AS A REFLECTIVE POOL EDGE OR THE DYNAMIC ENVELOPE OF RAIL OPERATIONS.

DOME SIZE AND SPACING: TRUNCATED DOMES SHALL HAVE A BASE DIAMETER OF 0.9 INCH TO 1.4 INCH (23mm-36mm) AT THE BOTTOM, A DIAMETER OF 0.45 INCH TO 0.9 INCH (11mm-23mm) AT THE TOP, THE TOP DIAMETER SHALL BE A MINIMUM OF 50% AND A MAXIMUM OF 65% OF THE BASE DIAMETER, A HEIGHT OF 0.2 INCH (5.1mm) AND A CENTER-TO-CENTER SPACING OF 2.40 INCHES (61mm) DESIRABLE 1.60 INCHES (41mm) MINIMUM MEASURED ALONG ONE SIDE OF A SQUARE ARRANGEMENT. DOMES SHALL HAVE A SQUARE ARRANGEMENT. DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF TRAVEL TO PERMIT WHEELS TO ROLL BETWEEN DOMES.

VISUAL CONTRAST: DETECTABLE WARNING SURFACES SHALL CONTRAST VISUALLY WITH THE ADJACENT WALKING SURFACE EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT. THE MATERIAL USED TO PROVIDE VISUAL CONTRAST SHALL BE AN INTEGRAL PART OF THE DETECTABLE WARNING SURFACE.



**MATERIALS:**

**RETROFIT OF EXISTING RAMPS**

SURFACED APPLIED MATERIALS WILL ONLY BE APPROVED TO BE USED ON EXISTING WHEELCHAIR RAMPS.

**INSTALLATION:**

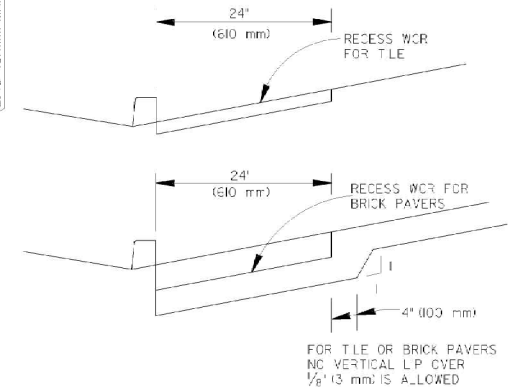
BRICK PAVERS SHALL BE SET IN A WET MORTAR BED. THE BED SHALL BE PLACED ON CONCRETE. THE CONCRETE SHALL BE A MINIMUM OF 4" THICK.

CERAMIC TILE SHALL BE EPOXYED IN PLACE OR SET IN A WET MORTAR BED. MANUFACTURER RECOMMEND ADHESIVE OR FASTENER SHALL BE USED IN THE INSTALLATION.

ALL OTHER MATERIALS SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S DETAILS OR INSTRUCTION.

**GENERAL NOTES:**

- RETROFIT SURFACED APPLIED MATERIALS ONLY:
1. CHANGES IN LEVEL OF 1/4" (6.4 mm) HIGH MAXIMUM SHALL BE PERMITTED VERTICALLY ON SURFACED APPLIED MATERIALS.
  2. CHANGES IN LEVEL BETWEEN 1/2" (6.4 mm) HIGH MINIMUM AND 1/2" (13 mm) HIGH MAXIMUM SHALL BE BEVELED WITH A SLOPE NOT STEEPER THAN 2%.



FOR TILE OR BRICK PAVERS NO VERTICAL LIP COVER 1/8" (3 mm) IS ALLOWED

NO SEPARATE PAYMENT WILL BE MADE FOR THE DETECTABLE WARNINGS. THE COST SHALL BE INCLUDED IN THE PRICE BID FOR SIDEWALK (OR CURB CUT RAMP IF THE ITEM IS INCLUDED IN THE PROPOSAL).

FOR CUT-THRU ISLANDS AND EXISTING RAMPS, WHERE NO SIDEWALK OR CURB CUT RAMPS ARE IN THE PROPOSAL, THE COST OF THE DETECTABLE WARNINGS SHALL BE INCLUDED IN THE OVERALL BID PRICE SUBMITTED.

**City of Buford, Georgia**

STANDARD DRAWING

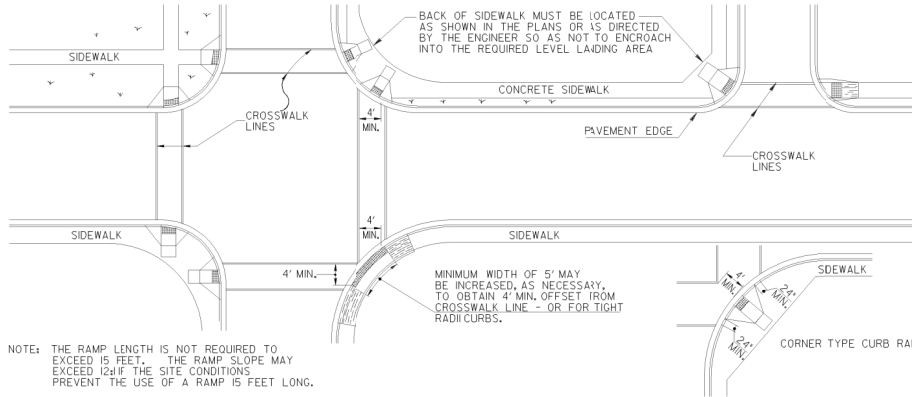
**Detectable Warning Surface Truncated Dome Size,**

**Spacing and Alignment Requirements**

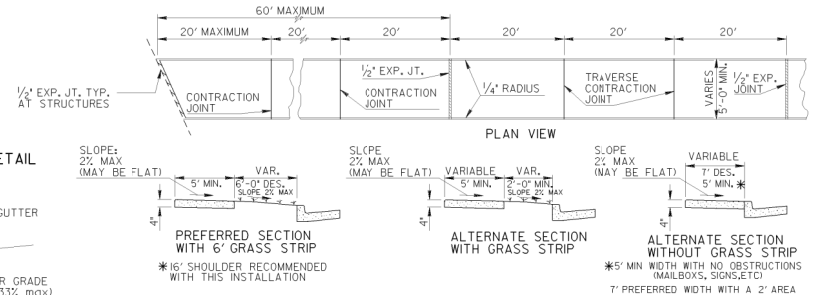
DATE: JANUARY 13, 2015 SHEET: 316



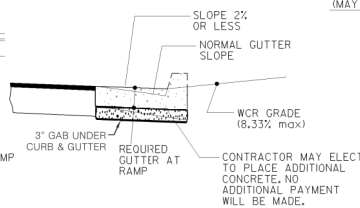
**TYPICAL LOCATIONS FOR CURB CUT RAMPS - PLAN VIEW**



**CONCRETE SIDEWALK DETAILS**



**GUTTER TRANSITION DETAIL**



- NOTES FOR CONCRETE SIDEWALK:**
- A. CONCRETE TO BE PLACED 4" THICK AND FINISHED WITH TAMPS, WOOD FLOATS AND STIFF-BRISTLE BROOMS.
  - B. TRANSVERSE CONTRACTION JOINTS SHALL BE PLACED AT 20 FT. INTERVALS. ALL EDGES TO BE ROUNDED TO 1/4" RADIUS.
  - C. 1/2" EXPANSION JOINTS SHALL BE PLACED, WHERE SIDEWALK TIE INTO A STRUCTURE OR TERMINATE AT CURB, RAMPS OR DRIVEWAYS AND AT 60' INTERVALS.

- NOTES FOR CURB CUT RAMPS:**
1. CURB CUT RAMPS WILL BE LOCATED AS FOLLOWS UNLESS PLANS OR CONTRACT SPECIFY OTHERWISE.
    - a) AT ALL PEDESTRIAN CROSSWALKS WHERE CURB IS CONSTRUCTED OR REPLACED.
    - b) WHERE THE SIDEWALK, CONCRETE OR UNPAVED, IS INTERRUPTED BY THE CURB AT TURNOUTS OR AT INTERSECTIONS.
    - c) AT OTHER LOCATIONS SUCH AS HOSPITALS, NURSING HOMES, REST AREAS, ETC., WHERE THE CURB WOULD OTHERWISE BE AN OBSTRUCTION TO THE PHYSICALLY DISABLED.
  2. RAMPS WILL BE CONSTRUCTED FROM CONCRETE. SPECIFICATIONS FOR RAMPS WILL BE THE SAME AS FOR CONCRETE SIDEWALK. RAMPS SHALL HAVE EITHER A ROUGH OR A TEXTURED FINISH.
  3. DROP INLETS ARE NOT TO BE LOCATED DIRECTLY IN FRONT OF RAMPS. CATCH BASINS SHOULD BE LOCATED AT LEAST 10 FT. FROM RAMPS WHEN FEASIBLE.
  4. WHERE RAMPS ARE LOCATED IN RADIUS, THE DIMENSIONS SHOWN FOR RAMP WIDTHS AND TAPERS ARE MEASURED PERPENDICULAR TO THE RAMP AND NOT ALONG THE CURVE.
  5. WHERE UTILITY STRUCTURES CONFLICT, WHERE SIDEWALK GEOMETRY VARIES, AT SKewed INTERSECTIONS, OR IN OTHER SPECIAL CASES, THE RAMP DESIGNS MAY BE MODIFIED BY THE DESIGNER OR ENGINEER, PROVIDED THAT THE WIDTH REMAINS A MINIMUM OF 48 INCHES, AND NO SLOPE ON THE ACCESSIBLE PART OF THE RAMP IS STEEPER THAN 12:1.
  6. 12 IN. FT. OF CURB AND GUTTER WILL INCLUDE THE TRANSITIONED CURB IN FRONT OF RAMPS. SO. YDS. OF CONCRETE SIDEWALK AND CONCRETE MEDIAN PAVING WILL INCLUDE RAMPS. NO ADDITIONAL PAYMENT WILL BE MADE FOR CURB RAMPS. NO ADDITIONAL PAYMENT WILL BE MADE FOR SAWING AND REMOVING EXISTING SIDEWALK OR CURB WHERE NECESSARY FOR RAMP CONSTRUCTION.
  7. WHEN A CURB RAMP IS PLACED ON EXISTING PAVEMENT, THE PAVEMENT SHALL BE REMOVED TO PROVIDE A MINIMUM THICKNESS OF 3 INCHES OF CONCRETE AT ALL LOCATIONS. NO SEPARATE PAYMENT WILL BE MADE FOR REMOVAL OF THE PAVEMENT.
  8. DETECTABLE WARNING SURFACES ARE REQUIRED ON ALL INTERSECTIONS WITH PUBLIC STREETS, SIGNALIZED COMMERCIAL DRIVEWAYS, AND COMMERCIAL DRIVEWAYS WITH AN AADT OF 25 VPD.

**Type A**  
(The Preferred Ramp)

Back of sidewalk shall be located as shown in the plans or as directed by the Engineer so as not to encroach into the required landing area.

DIFFERENCE IN HEIGHT	LENGTH REQUIRED
1 inch	10 inches
2 inches	1'-8"
3 inches	2'-6"
4 inches	3'-4"
5 inches	4'-2"
6 inches	5 feet

**Type B**

(Normally used when space is not available for a landing at the top of a Type A Ramp)

△ 3 ft wide landing to be used only with a 5 ft wide sidewalk with no offset to the back of the curb.

**Type D**

(Normally used when the sidewalk ties directly into the crosswalk)

IN AREAS WHERE THE GUTTER HAS A SLOPE OF 1 IN 1' END NORMAL GUTTER SLOPE AT A DISTANCE OF 6 TO 10 FEET FROM THE RAMP AND BEGIN TRANSITION TO A FLAT GUTTER SLOPE. NORMAL GUTTER SLOPE SHALL BE RESUMED AT A SIMILAR DISTANCE BEYOND THE RAMP.

DIFFERENCE IN HEIGHT	LENGTH REQUIRED
1 inch	1 foot
2 inches	2 feet
3 inches	3 feet
4 inches	4 feet
5 inches	5 feet
6 inches	6 feet

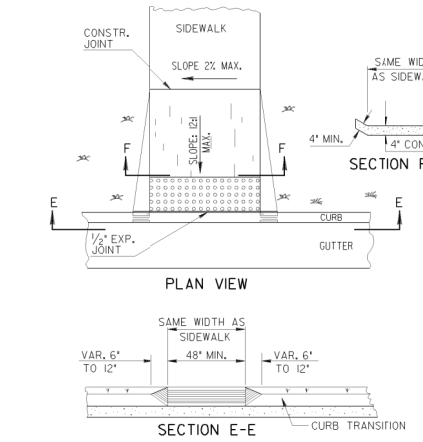
**Type C**

**Skewed Ramp Details**  
(Applies to Type A & Type D Ramps Only)

WHEN THE RAMP CENTERLINE IS NOT PERPENDICULAR TO THE CURB A LEVEL LANDING AREA WITH SLOPES LESS THAN 2% MUST BE PROVIDED AT THE BOTTOM OF THE RAMP.

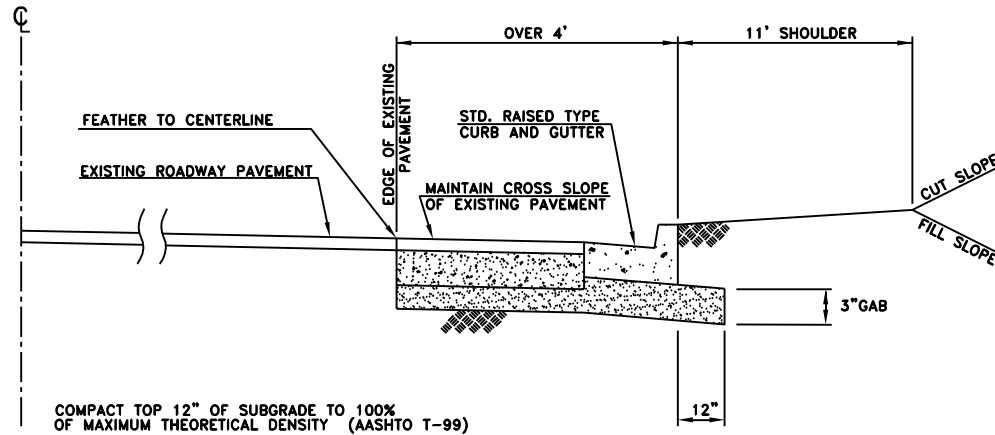
BOTTOM OF RAMP SHALL BE PERPENDICULAR TO THE RAMP CENTERLINE.

SLOPE LOWER LANDING AREA TOWARDS GUTTER AT 2% MAX



**Guidelines For Usage On Metric Projects**

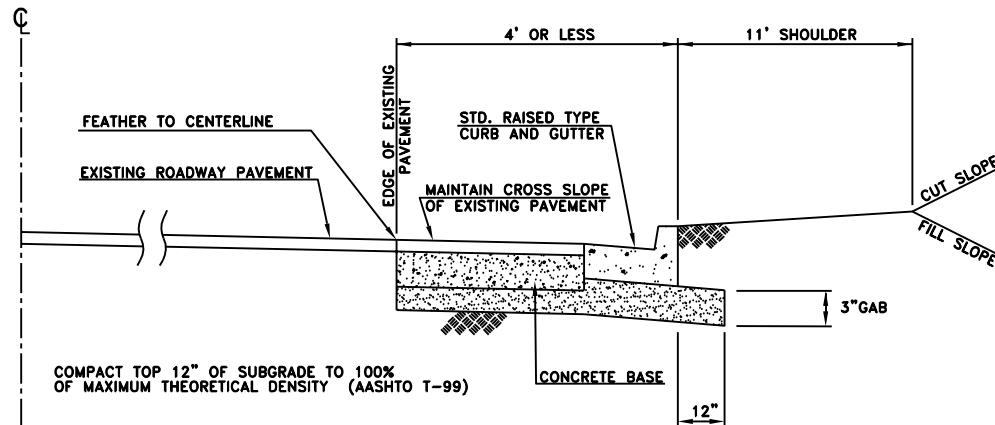
When these details are incorporated into plans and or projects that are being prepared or constructed in metric units, exact or precise conversion to metric units is not required. The dimensions shown that are in feet and inches may be converted to corresponding metric units using the following "Rounded-Off" conversion factors: 1"=25mm, 4"=100mm, and 12"=300mm. All measurement notes that refer to linear feet and square yards shall be interpreted to mean linear meters and square meters.



COMPACT TOP 12" OF SUBGRADE TO 100% OF MAXIMUM THEORETICAL DENSITY (AASHTO T-99)

**PAVEMENT COMPOSITION**

ROADWAY WIDENING SECTIONS OVER 4 FEET ARE TO COMPLY WITH THE CONSTRUCTION STANDARDS FOR NEW STREETS IN ACCORDANCE WITH THE STREET'S CATEGORY. SEE DEVELOPMENT REGULATIONS.



COMPACT TOP 12" OF SUBGRADE TO 100% OF MAXIMUM THEORETICAL DENSITY (AASHTO T-99)

CONCRETE BASE

**PAVEMENT COMPOSITION**

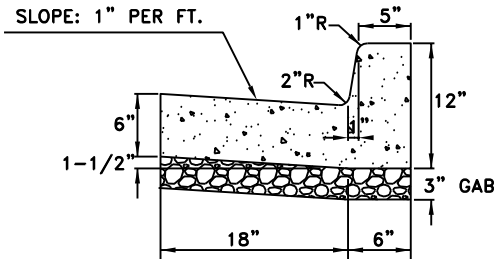
- 1 1/2" 12.5MM SUPERPAVE WEARING COURSE
- 5" 3000 PSI CONCRETE BASE (LOCAL STREETS AND MINOR COLLECTORS) OR
- 7" 3000 PSI CONCRETE BASE (MAJOR COLLECTORS AND ARTERIALS)

City of Buford, Georgia

STANDARD DRAWING

Roadway Widening Section

DATE: SEPTEMBER 25, 2014 SHEET: 401

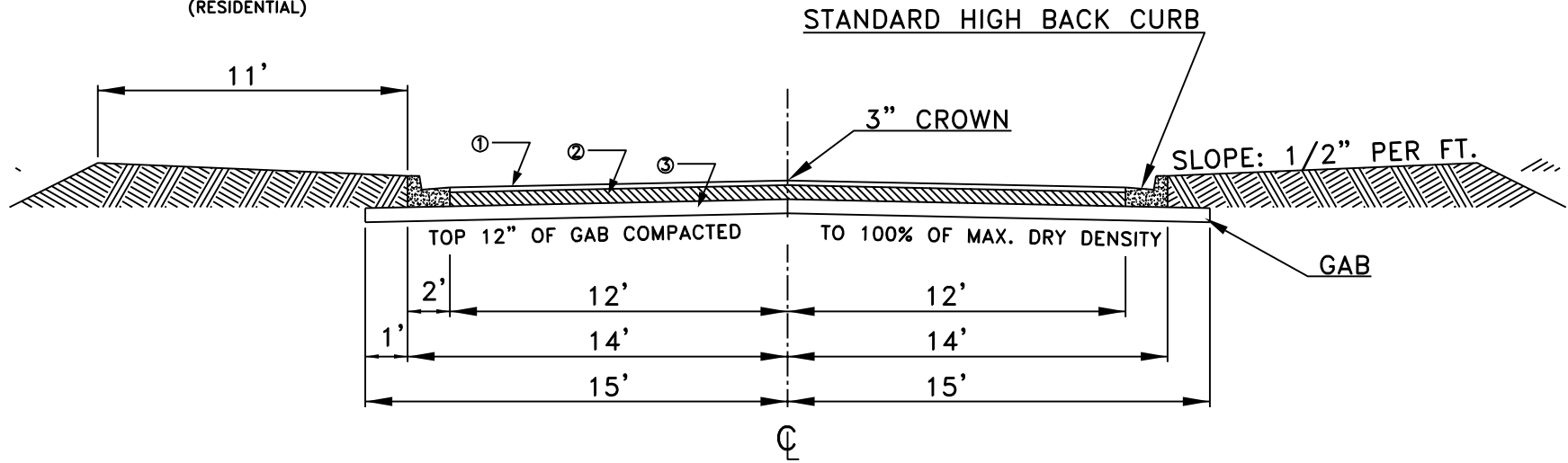


**TYPICAL CURB SECTION**  
STANDARD CURB AND GUTTER  
(RESIDENTIAL)

**CRUSHED STONE BASE MATERIAL**

**PAVEMENT COMPOSITION -- TWO-PASS**

- ① 1.5" 12.5MM SUPERPAVE WEARING SURFACE
- ② 2" 19MM SUPERPAVE BINDER
- ③ 6" GRADED AGGREGATE BASE



**LOCAL OR MINOR COLLECTOR STREETS IN RESIDENTIAL SUBDIVISIONS**

**NOTES:**

1. ANY AREAS OF INADEQUATELY COMPACTED FILL OR UNSUITABLE MATERIAL OF ANY NATURE MUST BE REMOVED AND REPLACED WITH SUITABLE FILL IN WELL COMPACTED LAYERS TO AT LEAST 100% OF MAXIMUM DENSITY (AASHTO T-99), BEFORE ANY TYPE OF PAVING IS APPLIED.
2. DO NOT BEGIN TO APPLY PAVING WITHOUT A RELEASE FROM THE CITY. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR REPLACING ANY PAVING, BASE, AND SUBGRADE WHICH MAY FAIL BECAUSE OF INADEQUATE SUBGRADE CONDITIONS, AS WELL AS FOR ORDINARY PAVING DEFICIENCIES.
2. "MIN." GAB THICKNESS UNDER CURB & GUTTER TO BE 3".

City of Buford, Georgia

S T A N D A R D D R A W I N G

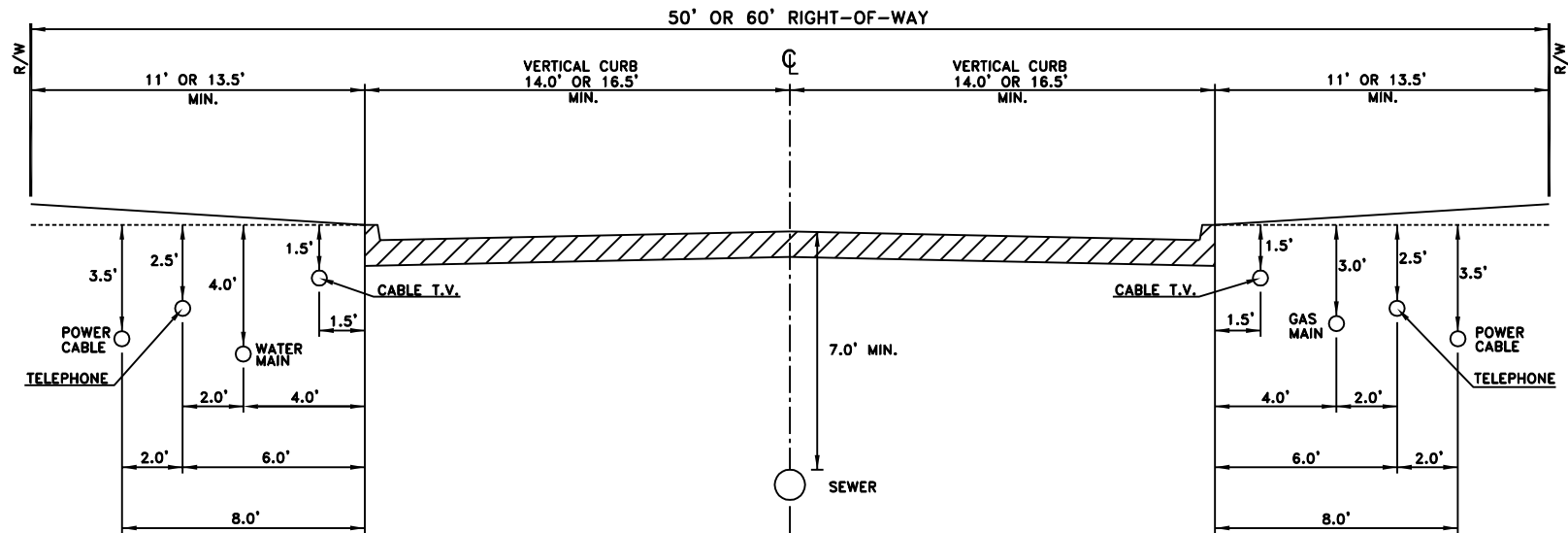
Residential Subdivision Streets

DATE: SEPTEMBER 25, 2014

SHEET: 402

**NORTH OR WEST**

**SOUTH OR EAST**



**NOTES:**

1. THIS STANDARD DETAIL IS TO BE USED FOR UTILITY LOCATIONS WITHIN RIGHT-OF-WAY OF SUBDIVISIONS ONLY.
2. BEFORE ANY UTILITY IS INSTALLED, THE ENTIRE WIDTH OF THE RIGHT-OF-WAY IS TO BE ROUGH GRADED. SEE DEVELOPMENT REGULATIONS FOR TIMING OF WATER SYSTEM INSTALLATION.
3. IN GENERAL, THE DEEPEST UTILITIES SHOULD BE INSTALLED FIRST TO MINIMIZE ANY POSSIBLE INTERFERENCE WITH LATERALS OR SERVICE LINES.
4. IN CUL-DE-SAC OR EYEBROW TURNAROUNDS, THE DIMENSIONS FROM THE CURB WILL VARY. HOWEVER, THE STANDARD UTILITY SPACING IS TO BE MAINTAINED.
5. BACKFILL OF ALL UTILITY TRENCHES CONSTRUCTED IN THE ROADWAY SHOULDER IS TO BE COMPACTED TO 95% OF STANDARD PROCTOR (AASHTO T-99).

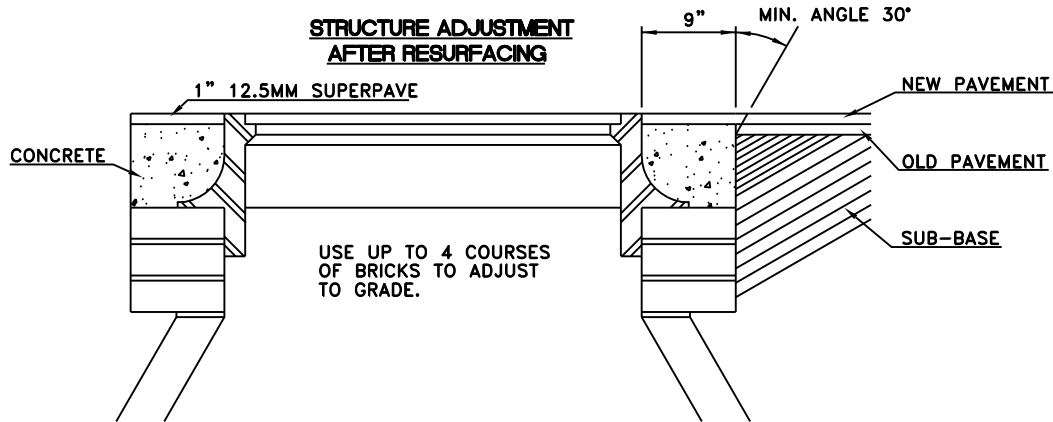
6. EACH UTILITY IS RESPONSIBLE FOR REPAIR OF ANY DAMAGE THEY CREATE TO OTHER UTILITY LINES, OR TO THE STREET IMPROVEMENTS WITHIN THE RIGHT-OF-WAY. NO UTILITY WILL BE RESPONSIBLE FOR DAMAGES TO ANOTHER UTILITY WHICH IS LOCATED OUTSIDE THEIR ASSIGNED SPACE.
7. ANYONE DIGGING IN THE RIGHT-OF-WAY MUST CALL THE "ONE CALL CENTER" AT 770-623-7411 TO HAVE UTILITIES LOCATED.
8. ONCE THE ROAD BASE HAS BEEN PLACED, ALL FURTHER INSTALLATION OF UTILITIES UNDER THE ROADWAY MUST BE BORED OR OTHERWISE COMPLY WITH THE STREET CUT REQUIREMENTS OF SECTION 7.5 OF THE DEVELOPMENT REGULATIONS.

City of Buford, Georgia

STANDARD DRAWING

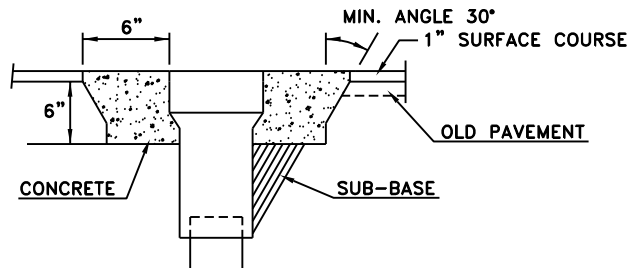
Utility Placement in Rights-of-Way

DATE: SEPTEMBER 25, 2014 SHEET: 501

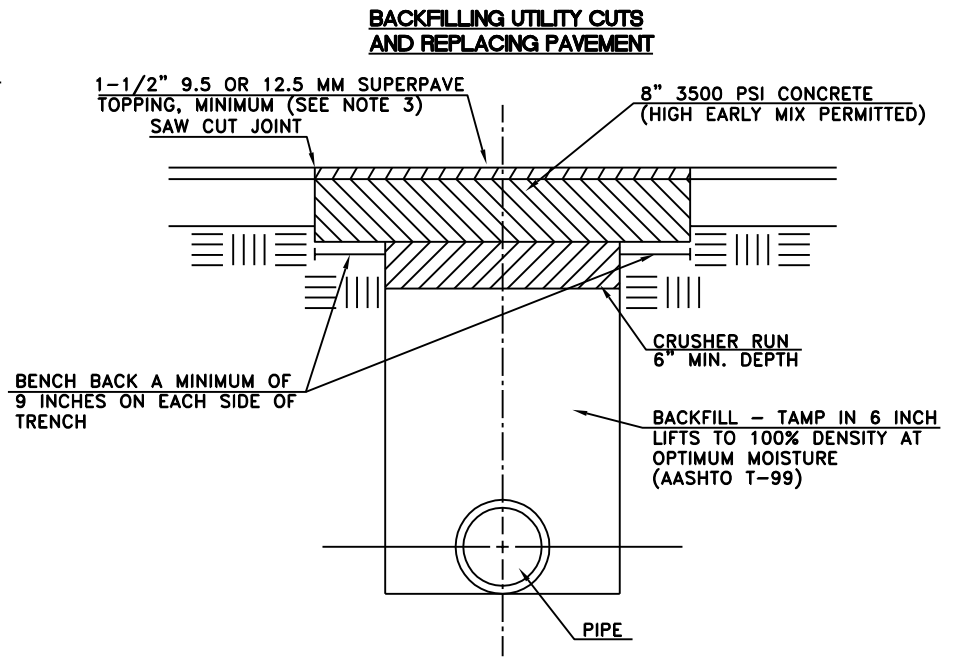


NOTE: IF GREATER THAN (3) BRICK USE 1' RISER SECTION

**MANHOLE**



**VALVE**



**NOTES:**

1. ALL LATERAL STREET CUTS MUST BE COVERED WITH STEEL PLATES OF SUFFICIENT THICKNESS TO SPAN THE CUT WITHOUT NOTICEABLE DEFLECTION. PLATES TO REMAIN IN PLACE UNTIL THE CONCRETE BASE HAS GAINED SUFFICIENT STRENGTH TO WITHSTAND TRAFFIC LOADS (24 HOUR MINIMUM).
2. ON LONGITUDINAL CUTS EXCEEDING 50 FEET IN LENGTH AND AT THE DIRECTION OF THE CITY, CONCRETE IN THE TRENCH WILL BE BROUGHT FLUSH WITH THE EXISTING PAVEMENT AND THE ENTIRE WIDTH OF THE ROADWAY RESURFACED WITH A MINIMUM OF 1-1/2" OF 12.5MM SUPERPAVE ASPHALT SURFACE COURSE.
3. SEE TABLE 6C UNDER SECTION 6.10 OF THE CITY OF BUFORD DEVELOPMENT REGULATIONS FOR DETERMINATION OF THE PAVEMENT SURFACE TYPE.

**NOTES:**

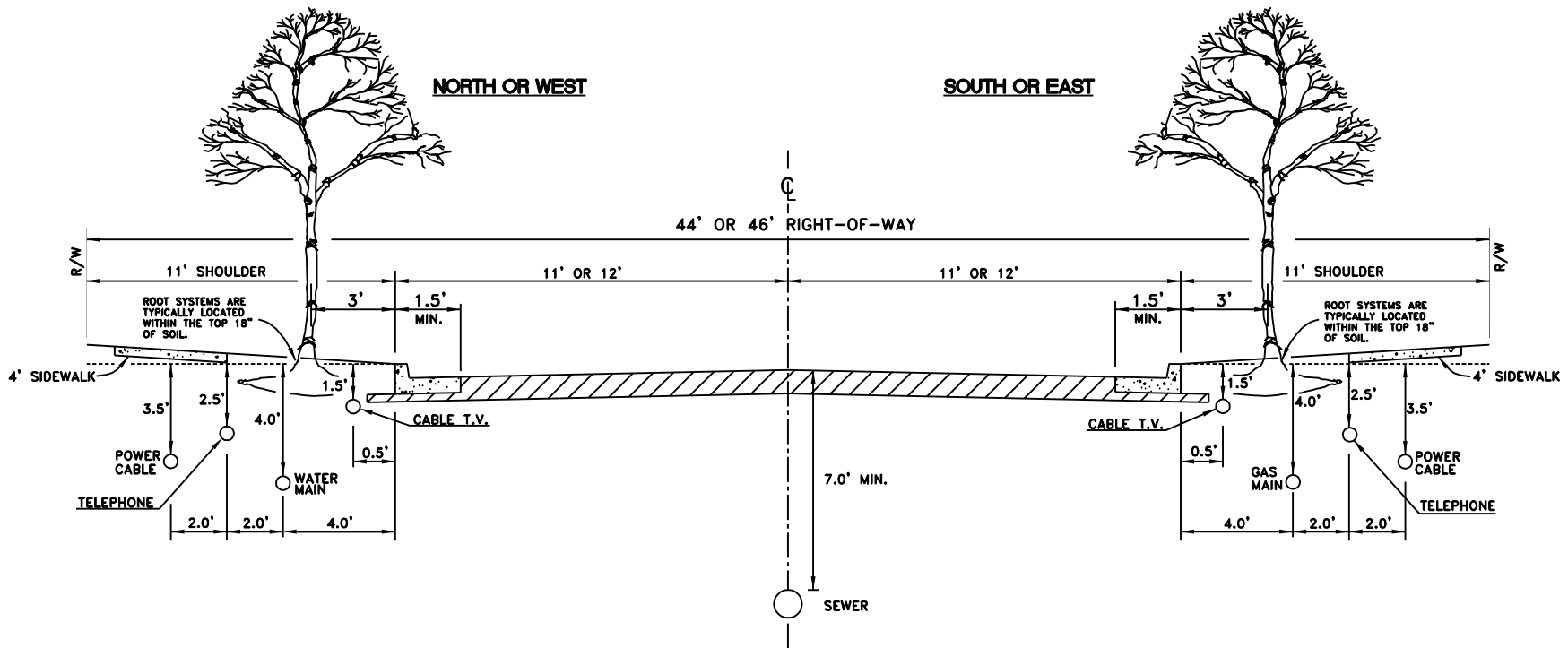
1. STRUCTURES WILL NOT BE ADJUSTED FOR A PERIOD OF AT LEAST 24 HOURS AFTER RESURFACING IS COMPLETED IN THAT AREA.
2. ASPHALT WILL BE SAW CUT SO AS TO MAKE A SMOOTH, EVEN EDGE.
3. STRUCTURE COVER WILL BE ADJUSTED TO FIT FLUSH WITH STREET SURFACE.
4. CONCRETE: MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI, UNLESS NOTED OTHERWISE.
5. CONCRETE WILL BE USED TO BACKFILL THE ENTIRE WORKING AREA.
6. PERFORM CONCRETE FINISHING WITH A TROWEL OR FLOAT.
7. SANITARY SEWER MANHOLES MUST BE VENTED IMMEDIATELY AFTER BEING PAVED OVER, THEREFORE WHEN MORE THAN ONE LIFT OF ASPHALT IS TO BE PLACED THE CONTRACTOR MUST ADJUST STRUCTURE PRIOR TO PAVING.

City of Buford, Georgia

STANDARD DRAWING

Utility Street Cuts and Structure Adjustment

DATE: SEPTEMBER 25, 2014 SHEET: 502



**NOTES:**

1. THIS STANDARD DETAIL IS TO BE USED FOR UTILITY LOCATIONS WITHIN RIGHT-OF-WAY OF CONSERVATION SUBDIVISION OVERLAY DISTRICT STREETS ONLY.
2. BEFORE ANY UTILITY IS INSTALLED, THE ENTIRE WIDTH OF THE RIGHT-OF-WAY WILL BE ROUGH GRADED. SEE DEVELOPMENT REGULATIONS FOR TIMING OF WATER SYSTEM INSTALLATION.
3. IN GENERAL, THE DEEPEST UTILITIES SHOULD BE INSTALLED FIRST TO MINIMIZE ANY POSSIBLE INTERFERENCE WITH LATERALS OR SERVICE LINES.
4. IN CUL-DE-SAC OR EYEBROW TURNAROUNDS, THE DIMENSIONS FROM THE CURB WILL VARY. HOWEVER, THE STANDARD UTILITY SPACING MUST BE MAINTAINED.
5. BACKFILL OF ALL UTILITY TRENCHES CONSTRUCTED IN THE ROADWAY SHOULDER SHALL BE COMPACTED TO 95% (MIN.) OF MAXIMUM DENSITY.

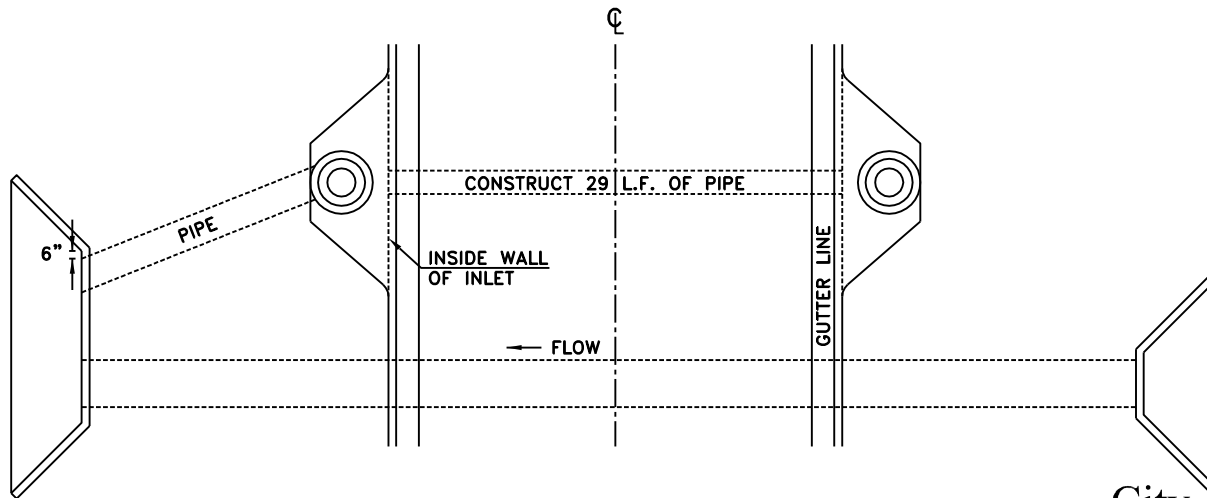
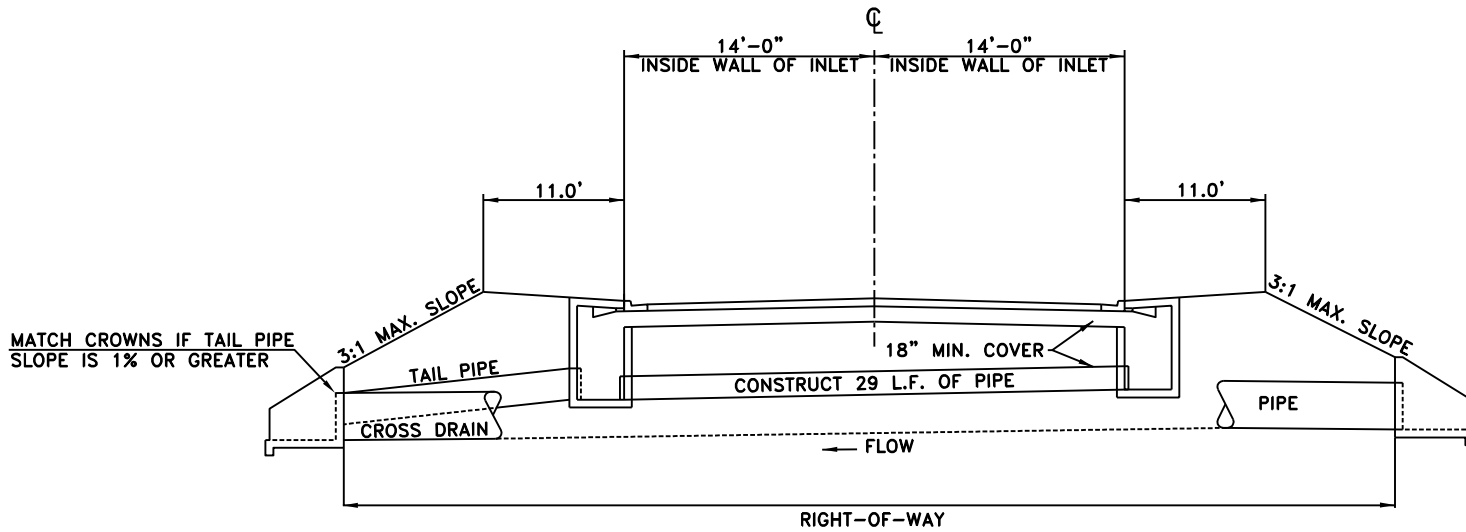
6. EACH UTILITY WILL BE RESPONSIBLE FOR REPAIR OF ANY DAMAGE THEY CREATE TO OTHER UTILITY LINES, OR TO THE STREET IMPROVEMENTS WITHIN THE RIGHT-OF-WAY. NO UTILITY WILL BE RESPONSIBLE FOR DAMAGES TO ANOTHER UTILITY WHICH IS LOCATED OUTSIDE THEIR ASSIGNED SPACE.
7. ANYONE DIGGING IN THE RIGHT-OF-WAY MUST CALL THE UTILITIES PROTECTION CENTER OF GEORGIA AT 1-800-282-7411 (METRO-ATLANTA AREA: 770-623-7411) TO HAVE EXISTING UTILITIES LOCATED PRIOR TO EXCAVATION.
8. ONCE THE ROAD BASE HAS BEEN PLACED, ALL FURTHER INSTALLATION OF UTILITIES UNDER THE ROADWAY MUST BE BORED OR OTHERWISE COMPLY WITH THE STREET CUT REQUIREMENTS OF SECTION 7.5 OF THE DEVELOPMENT REGULATIONS.

City of Buford, Georgia

STANDARD DRAWING

Utility Placement in Right-of-Way of  
Conservation Subdivision Overlay District Streets

DATE: SEPTEMBER 25, 2014 SHEET: 503

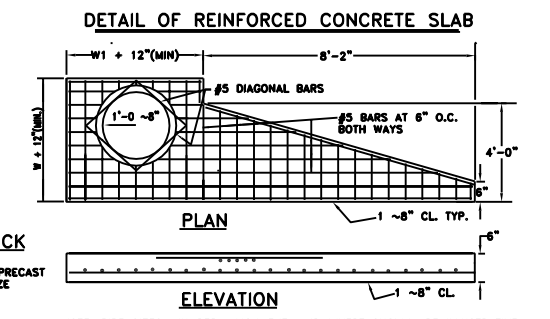
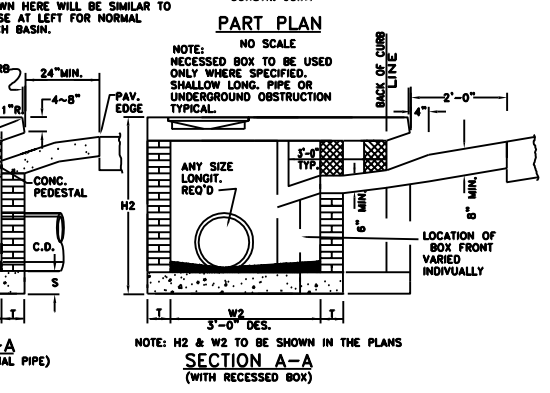
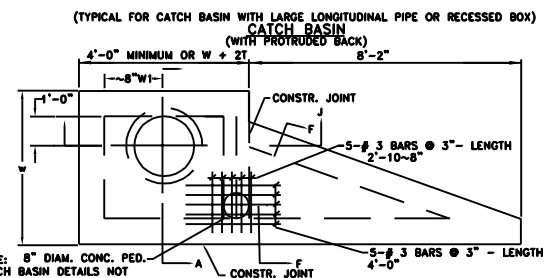
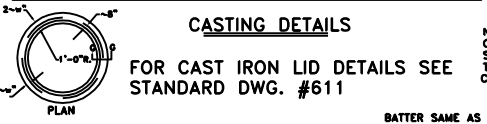
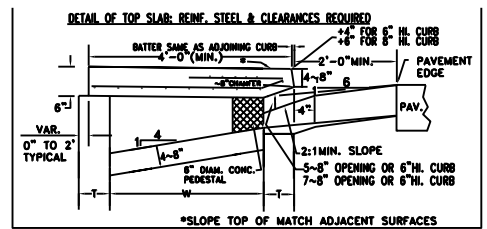
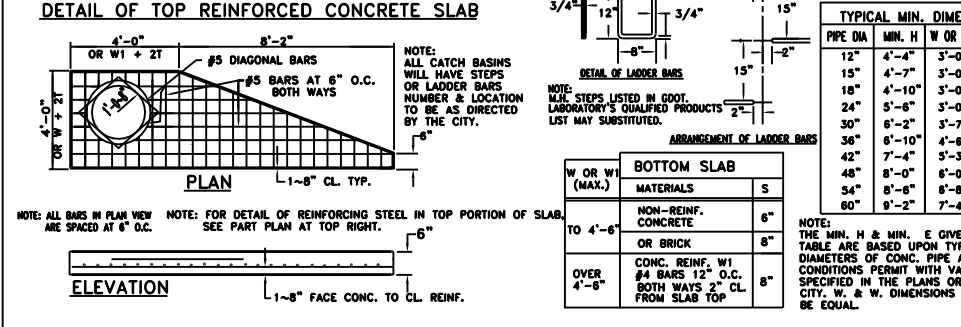
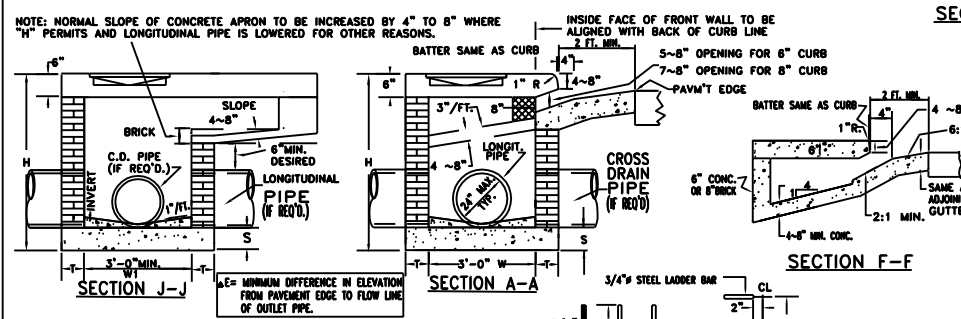
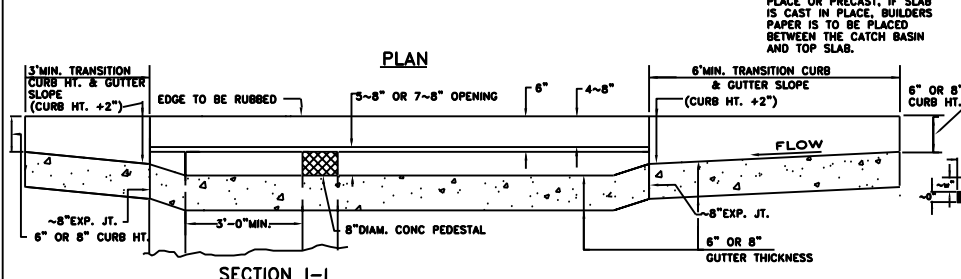
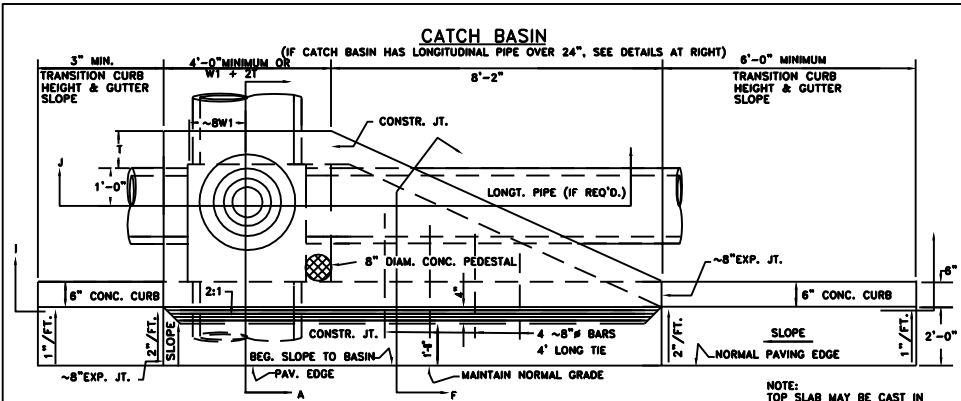


City of Buford, Georgia

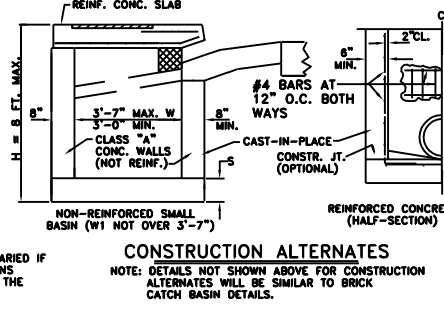
STANDARD DRAWING

Location of Catch Basins  
28 Foot Wide Residential Streets

DATE: SEPTEMBER 25, 2014 SHEET: 601



NOTE: PIPE SIZES, NUMBER, ALIGNMENT, AND INVERT SHOWN ARE ILLUSTRATIVE. SEE PLANS FOR SPECIFICS. INVERTS TO BE FORMED WITH GROUT OR CONCRETE AS DIRECTED BY THE CITY OR AS SHOWN IN THE PLANS.

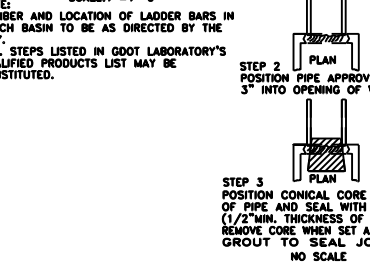
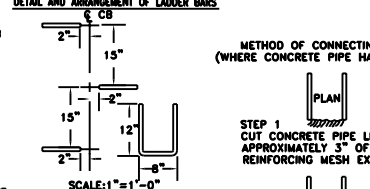
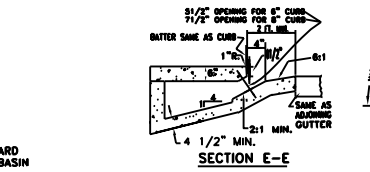
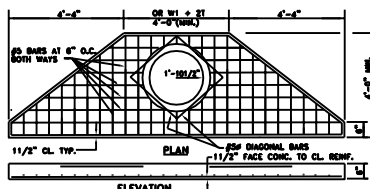
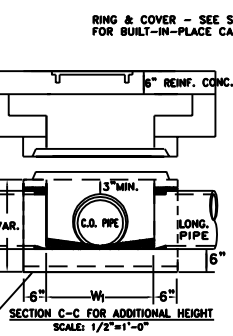
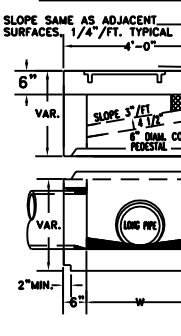
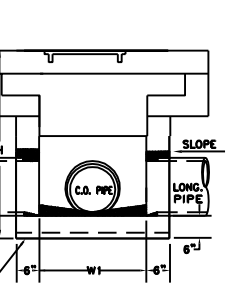
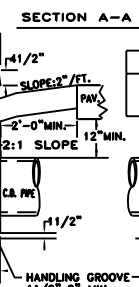
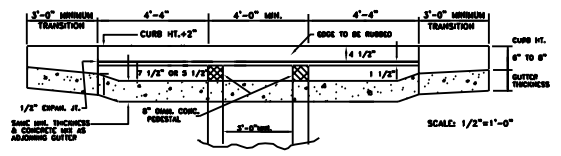
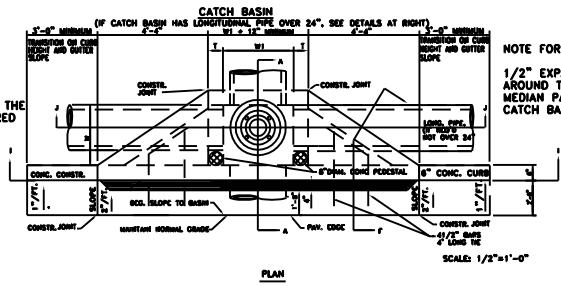




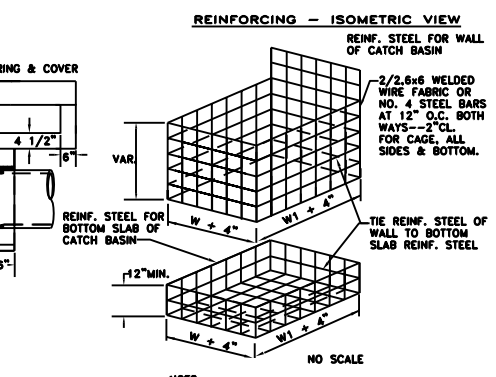
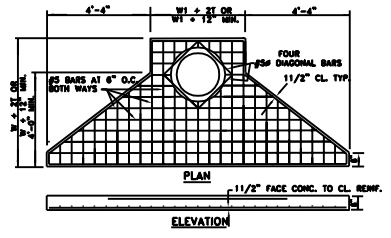
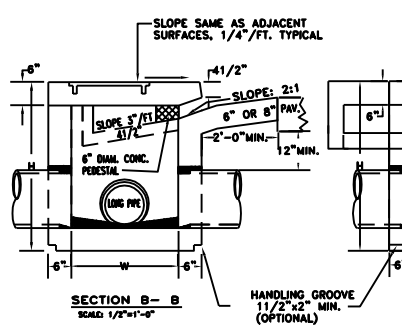
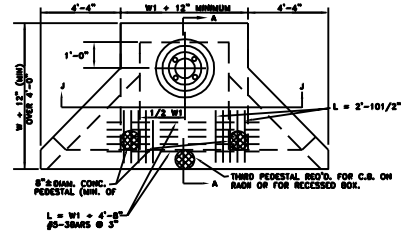




NOTE:  
OPENING FOR THE PIPE SHALL BE THE OUTSIDE DIAMETER OF THE REQUIRED PIPE PLUS 1" MINIMUM OPENING SHALL HAVE CORRUGATIONS.

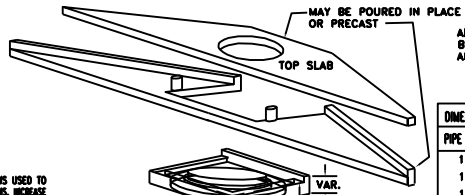


CATCH BASIN



NOTE: REINFORCING SHOWN ABOVE IS REQUIRED FOR BOX SHAPED BASIN. REINFORCING FOR CIRCULAR PRECAST ALTERNATE SHALL BE ACCORDING TO GDOT STD. 1040.

TYPICAL ISOMETRIC TOP VIEW



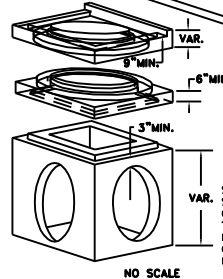
ALL JOINT BETWEEN PRECAST RISERS OR BETWEEN PRECAST BASE AND RISER WILL BE KEYS. KEYS JOINTS SHOWN ARE TYPICAL AND MAY BE VARIED.

NOTE: DIMENSIONS FOR CATCH BASINS ARE BASED UPON TYPICAL OUTSIDE DIAMETERS OF CONCRETE PIPES AND MAY BE VARIED IF CONDITIONS PERMIT AND THE CITY APPROVES. W & W1 DIMENSIONS DO NOT HAVE TO BE EQUAL.

ALTERNATE: BUILT-IN-PLACE, PRECAST BOX, AND/OR PRECAST CIRCULAR UNITS WITH THE REQUIRED ADAPTERS, REDUCERS, FITTINGS, CONNECTIONS, ETC. MAY BE USED IN COMBINATIONS.

NOTE: FOR CAST IRON COVER DETAILS SEE STANDARD DWG. #611

PIPE SIZE (NOMINAL)	MIN. H
12"	3'-0"
15"	3'-0"
18"	3'-0"
24"	3'-0"
30"	3'-6"
36"	4'-0"
42"	5'-0"
48"	5'-0"
54"	6'-0"
60"	6'-0"



City of Buford, Georgia

STANDARD DRAWING

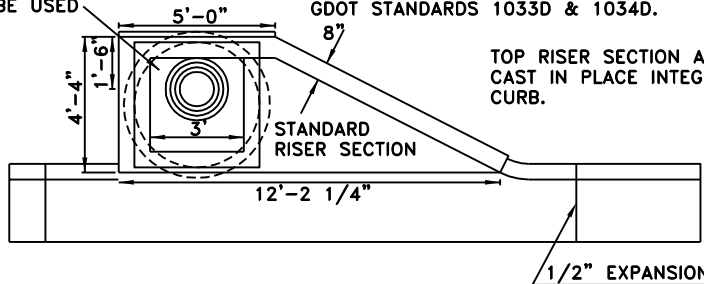
Standard Catch Basins #4

DATE: SEPTEMBER 25, 2014 SHEET: 605

**NOTES:**

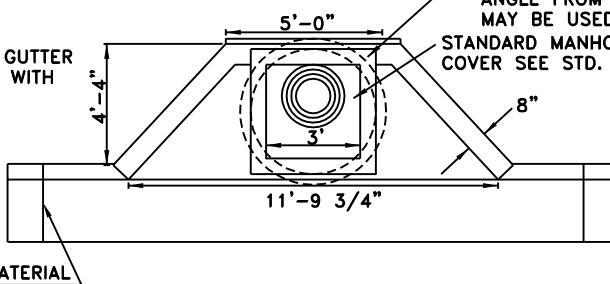
1. 1/2" EXPANSION MATERIAL SHALL BE PLACED AROUND COVER WHERE SIDEWALK IS PLACED ADJACENT TO C.B.
2. TOP SLAB MAY BE CAST IN PLACE OR PRECAST. IF SLAB IS CAST IN PLACE BUILDERS PAPER IS TO BE PLACED BETWEEN THE CATCH BASIN AND TOP SLAB.
3. SINGLE AND DOUBLE WING TOPS CONFORM TO GDOT STANDARDS 1033D & 1034D.

3'-0" X 3'-0" SQ. OPENING FORMED IN PLACE OR ANGLE FROM ADAPTOR MAY BE USED



TOP RISER SECTION AND GUTTER CAST IN PLACE INTEGRAL WITH CURB.

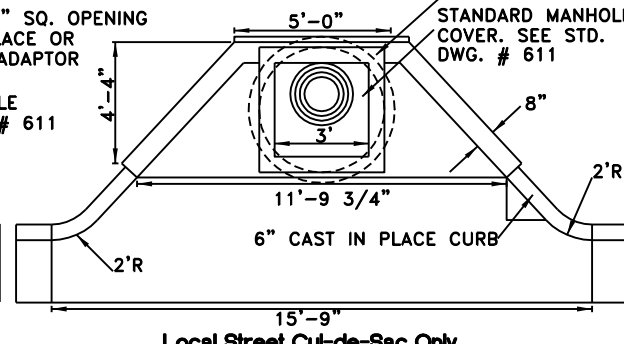
1/2" EXPANSION MATERIAL



3'-0" X 3'-0" SQ. OPENING FORMED IN PLACE OR ANGLE FROM ADAPTOR MAY BE USED

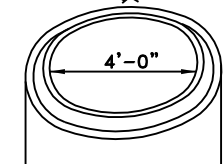
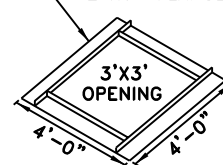
STANDARD MANHOLE COVER SEE STD. # 611

3'-0" X 3'-0" SQ. OPENING FORMED IN PLACE OR ANGLE FROM ADAPTOR MAY BE USED



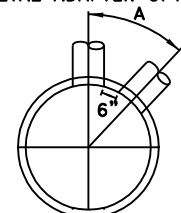
Local Street Cul-de-Sac Only

LIGHT WEIGHT STEEL 12 GAUGE 2"X6" FLANGE MINIMUM



RISER SECTION

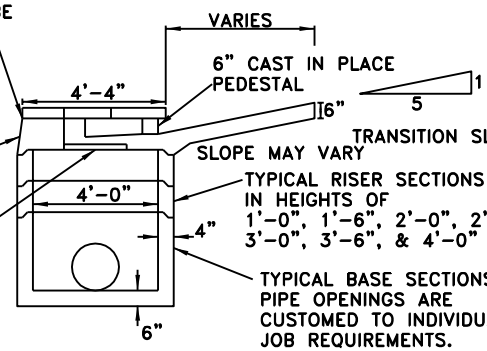
METAL ADAPTER OPTIONAL



COVER SHALL BE SET IN GROUT

TOP RISER SECTION & GUTTER CAST IN PLACE INTEGRAL WITH CURB

3'-0" X 3'-0" SQ. OPENING FORMED IN PLACE, OR ANGLE IRON ADAPTOR MAY BE USED



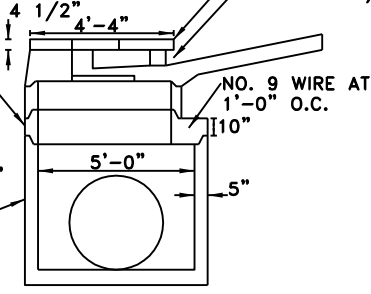
VARIES

6" CAST IN PLACE PEDESTAL

SLOPE MAY VARY

TYPICAL BASE SECTIONS PIPE OPENINGS ARE CUSTOMED TO INDIVIDUAL JOB REQUIREMENTS.

TOP OF SLAB TO SLOPE WITH ROAD AND SHOULDER OPENING 5 1/2" TO 7 1/2"



(WHERE PIPE DIA. REQUIRES 5' DIA. BASE)

**METHOD OF PIPE LAYOUT**

ANGLE A					
4'-0" BASE		5'-0" BASE		6'-0" BASE	
PIPE SIZE	A	PIPE SIZE	A	PIPE SIZE	A
12	45°	12	40°		
15	52°	15	47°		
18	60°	18	55°		
21	67°	21	69°		
24	75°	24	70°		
27	78°				
30	86°				
36	115°				
42	140°	42	90°		
		48	115°		

**NOTES:**

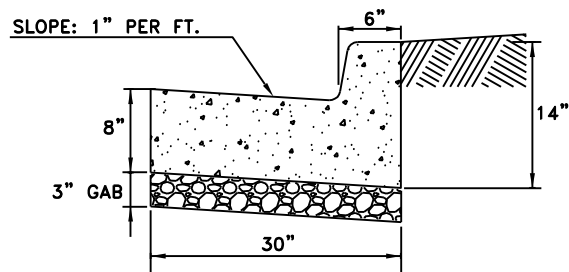
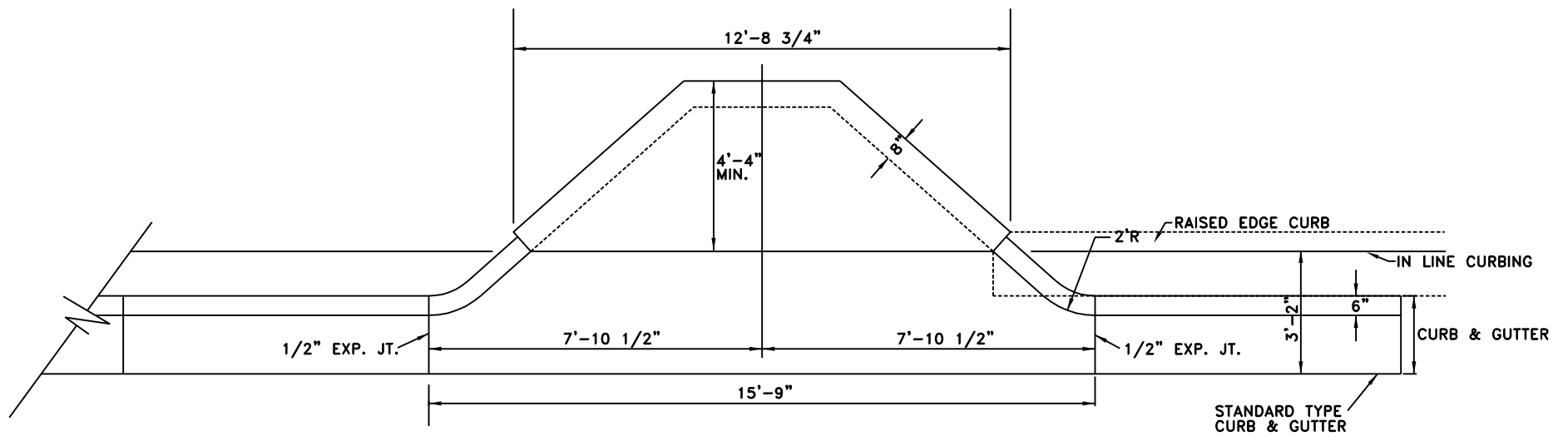
1. SUBGRADE TO BE COMPACTED TO 100% STANDARD PROCTOR (AASHTO T-99).
2. REINFORCEMENT STEEL TO BE PLACED TO ALLOW A MINIMUM OF 2" CLEARANCE, EXCEPT WHERE NOTED.
3. REINFORCEMENT STEEL TO BE GRADE 60 AND TO BE 0.12 SQ. IN. PER FT. IN BOTH DIRECTIONS IN ACCORDANCE WITH ASTM C 476 MANHOLE SPECIFICATIONS.
4. CONCRETE: MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4500 PSI UNLESS NOTED OTHERWISE.
5. CHAMFER ALL EXPOSED EDGES 3/4".

City of Buford, Georgia

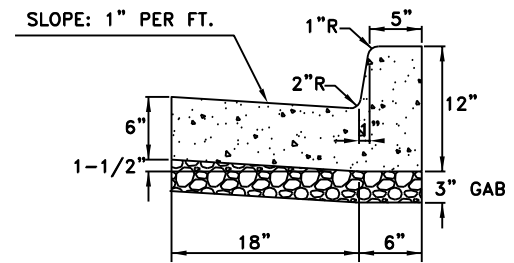
STANDARD DRAWING

Round Precast Concrete Catch Basins

DATE: SEPTEMBER 25, 2014 SHEET: 606



**TYPICAL CURB SECTION**  
HIGH BACK CURB AND GUTTER  
(COMMERCIAL AND INDUSTRIAL)



**TYPICAL CURB SECTION**  
STANDARD CURB AND GUTTER  
(RESIDENTIAL)

**NOTES:**

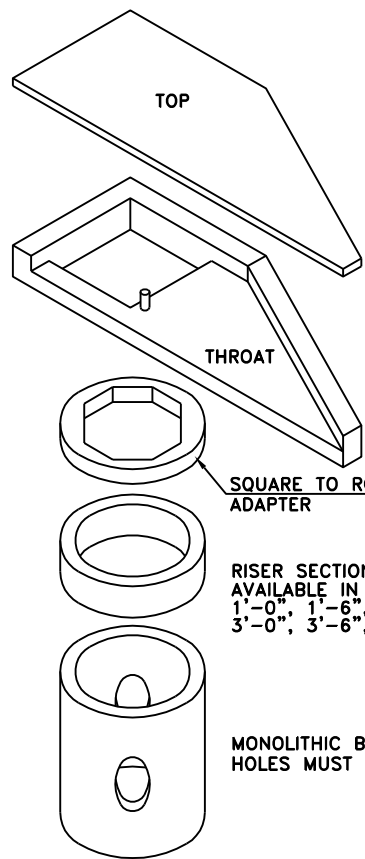
1. EXPANSION JOINTS REQUIRED AT ALL STRUCTURES AND CURB RETURNS.
2. MAXIMUM DISTANCE BETWEEN EXPANSION JOINTS = 250'
3. CONCRETE: MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI.
4. 3" G.A.B. UNDER ALL CURB & GUTTER INSTALLATIONS PER 6.11.6 OF DEVELOPMENT REGULATIONS.

City of Buford, Georgia

STANDARD DRAWING  
Gutter to Standard Type Curb and Gutter  
at a Catch Basin

DATE: SEPTEMBER 25, 2014

SHEET: 607



TOP & THROAT WILL NOT BE PRECAST.

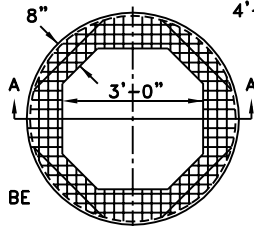
GROUT ALL JOINTS

SQUARE TO ROUND ADAPTER

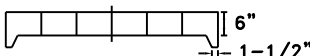
RISER SECTION (IF REQ'D)  
AVAILABLE IN HEIGHTS  
1'-0", 1'-6", 2'-0", 2'-6",  
3'-0", 3'-6", 4'-0"

MONOLITHIC BASE  
HOLES MUST BE PRECAST

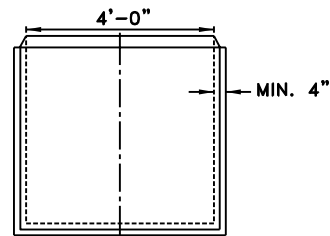
REINFORCING TO BE 2/2 6X6 WELDED  
10 GAUGE WIRE FABRIC WITH 4 #5 BARS  
4'-8" DIAMETER



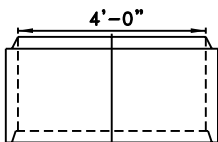
ROUND TO SQUARE ADAPTER



SECTION A-A



REINFORCING TO BE 3/3  
6X8 WELDED WIRE FABRIC

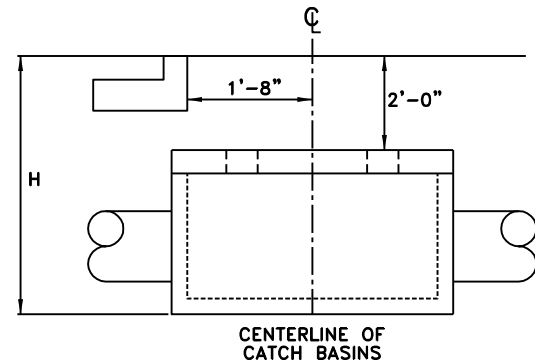
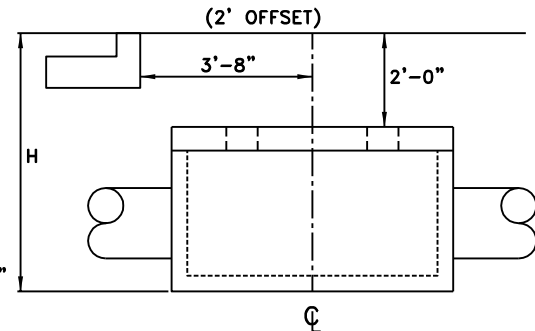


REINFORCING TO BE 2/2 6X6  
WELDED WIRE FABRIC

RISER

**NOTE:**

1. STEPS TO BE INSTALLED ON 15" VERTICAL SPACING. SEE PRECAST MANHOLE STANDARD FOR SPECIFICATION.



CENTERLINE OF  
CATCH BASINS

**ON-LINE**

BASE HEIGHT	METAL PIPE	CONC PIPE	H(MIN)
4' DIA - 2'-6"	18"	12"	5'-0"
3'-0"	24"	18"	5'-6"
3'-6"	30"	24"	6'-0"
4'-0"		30"	6'-6"

**NOTES:**

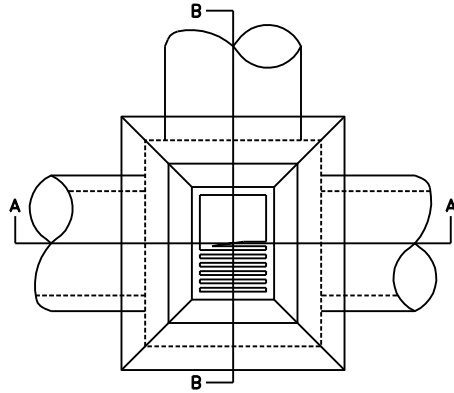
1. CATCH BASIN TO BE INSTALLED WITH PIPE OPENING AS SPECIFIED.
2. CONCRETE: MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4500 PSI.

City of Buford, Georgia

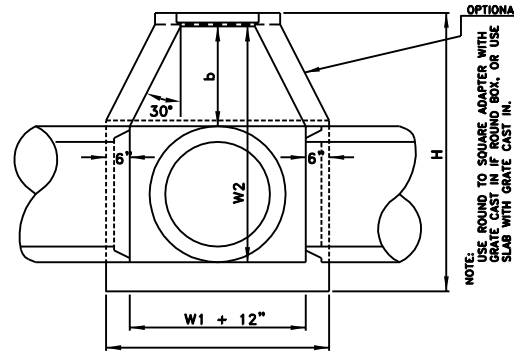
STANDARD DRAWING

Standard Precast Round Catch Basin

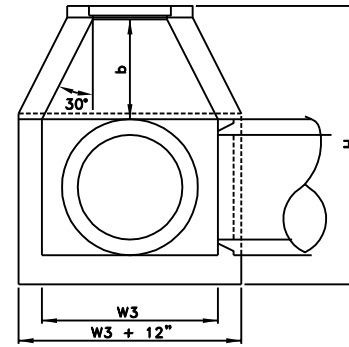
DATE: SEPTEMBER 25, 2014 SHEET: 608



CAN BE BRICK OR PRECAST BOX.

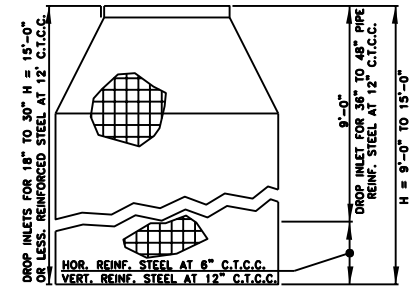


SECTION A-A



SECTION B-B

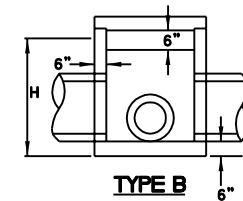
TYPE A



IN ALL DROP INLETS 1/2" Ø BAR REINFORCING STEEL TO BE PLACED NOT MORE THAN 12" C TO C AND COVERED NOT LESS THAN 2".

**NOTES:**

1. BRICK INVERTS REQUIRED AT ALL JUNCTION BOXES & DROP INLETS RAISE BOTTOM OF BOX TO OUTFLOW PIPE INVERT. MATCH DIFFERENT SIZE PIPES AT CROWNS.
2. MAXIMUM VERTICAL DEPTH FOR DROP INLET H = 15'-0"



1/2" Ø BARS AT 12" CENTER TO CENTER

TYPE B

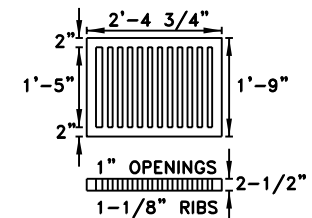
TYPE A							TYPE B			
D	W1	MIN.-W2	W3	a	b	MIN.-H	NORMAL W OR W1	MIN. b	MIN. H	
15"	2'-0"	2'-6 1/2"	2'-7"	0'-3 1/2"	0'-6"	3'-3"	2'-0"	2'-7 1/2"	3'-9 1/2"	
18"	2'-0"	2'-9 1/2"	2'-7"	0'-3 1/2"	0'-6"	3'-6"	2'-3"	2'-10"	4'-0"	
24"	2'-8"	4'-1/2"	3'-3"	0'-7 1/2"	1'-1"	4'-9"	3'-0"	3'-6"	4'-10"	
30"	3'-4"	5'-1 1/2"	3'-11"	0'-11 1/2"	1'-6"	5'-10"	3'-6 1/2"	4'-2 1/2"	5'-4 1/2"	
36"	3'-10"	6'-1 1/2"	4'-5"	1'-2 1/2"	2'-1 1/4"	6'-10"	4'-2"	4'-10"	6'-0"	
42"	4'-5"	7'-2 1/2"	5'-0"	1'-6"	2'-7 1/2"	7'-11"	4'-8 1/2"	5'-4 1/2"	6'-6 1/2"	
48"	5'-0"	8'-3 1/2"	5'-7"	1'-9 1/2"	3'-1 1/4"	9'-0"	5'-3 1/2"	5'-11 1/2"	7'-1 1/2"	
54"	5'-7"	9'-4 1/2"	6'-2"	2'-1"	3'-7 1/4"	10'-1"	5'-10"	6'-6"	7'-6"	
60"	6'-2"	10'-6 1/2"	6'-9"	2'-4 1/2"	4'-1 1/2"	11'-2"	6'-4 1/2"	7'-0 1/2"	8'-2 1/2"	
66"	6'-9"	11'-6 1/2"	7'-4"	2'-6"	4'-7 1/2"	12'-3"	6'-11"	7'-7"	8'-9"	
72"	7'-4"	12'-7 1/2"	7'-11"	2'-11 1/2"	5'-1 1/4"	13'-4"	7'-8 1/2"	8'-1 1/2"	9'-3"	

CONCRETE D.I.

TYPE A							TYPE B			
D	W1	MIN.-W2	W3	a	b	MIN.-H	NORMAL W OR W1	MIN. b	MIN. H	
15"	2'-2"	2'-11"	2'-9"	0'-4 1/2"	0'-6"	3'-9 1/2"	2'-0"	2'-7 1/2"	3'-7 1/2"	
18"	2'-2"	3'-2 1/2"	2'-9"	0'-4 1/2"	0'-6"	4'-1"	2'-0"	2'-10"	3'-10"	
24"	2'-8"	3'-8"	3'-3"	0'-7 1/2"	1'-1 1/4"	4'-9"	3'-0"	3'-6"	4'-6"	
30"	3'-7 1/4"	4'-0"	3'-10"	1'-0"	1'-9"	5'-10"	3'-6 1/2"	4'-2 1/2"	5'-10"	
36"	4'-2"	6'-0 1/2"	4'-5"	1'-4 1/2"	2'-1 1/4"	6'-11"	4'-2"	4'-10"	5'-10"	
42"	4'-5"	7'-1 3/4"	5'-0"	1'-6"	2'-7 1/4"	8'-0 1/4"	4'-8 1/2"	5'-4 1/2"	6'-11 1/2"	
48"	5'-0"	8'-2 3/4"	5'-7"	1'-9 1/2"	3'-1 1/4"	9'-1 1/4"	5'-3 1/2"	5'-11 1/2"	6'-11 1/2"	
54"	5'-7"	9'-4"	6'-2"	2'-1"	3'-7 1/2"	10'-2 1/2"	5'-10"	6'-6"	7'-6"	
60"	6'-2"	10'-5"	6'-9"	2'-4 1/2"	4'-1 1/2"	11'-3 1/4"	6'-4 1/2"	7'-0 1/2"	8'-0 1/2"	
66"	6'-9"	11'-6"	7'-4"	2'-6"	4'-7 1/2"	12'-4 1/2"	6'-11"	7'-7"	8'-7"	
72"	7'-4"	12'-7"	7'-11"	2'-11 1/2"	5'-2"	13'-6 1/2"	7'-8 1/2"	8'-1 1/2"	9'-1 1/2"	

BRICK D.I.

APPROX. WT. 200 LB.  
DETAIL OF CAST IRON GRATING

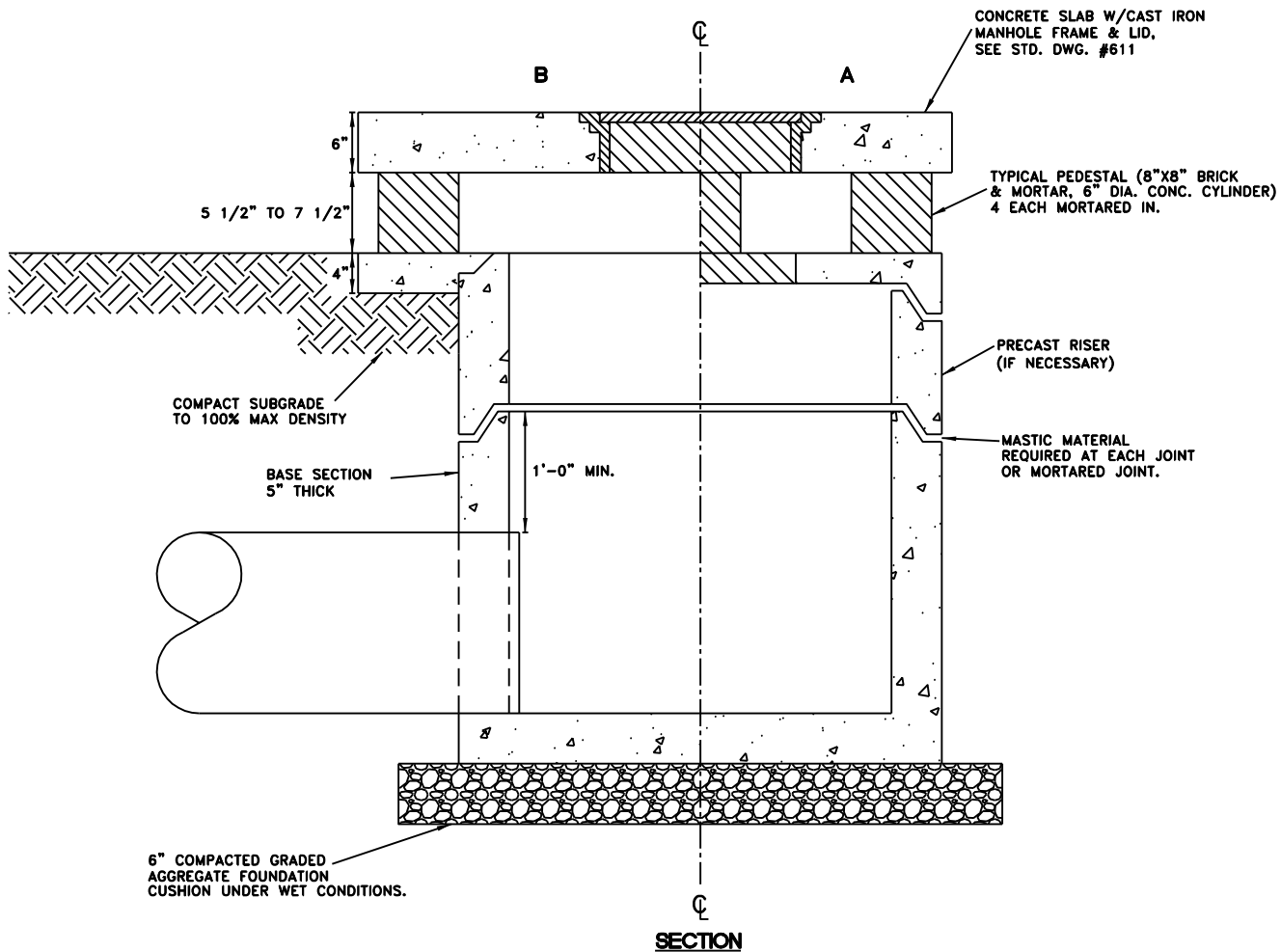


City of Buford, Georgia

STANDARD DRAWING

Standard Drop Inlet

DATE: SEPTEMBER 25, 2014 SHEET: 609



**NOTES:**

1. SUBGRADE TO BE COMPACTED TO 100% MAX. DRY DENSITY PER STANDARD PROCTOR (AASHTO T-99).
2. PLACE REINFORCEMENT STEEL TO ALLOW A MIN. OF 1 1/2" COVER, EXCEPT WHERE NOTED.
3. REINFORCEMENT STEEL TO BE GRADE 60 AND TO CONSIST OF NO. 4 @ 6" O.C. E.W.
4. CONCRETE: MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4500 PSI.
5. WHEN 60" & 72" BASE SECTIONS ARE REQUIRED, USE AN ADAPTER SECTION IN CONJUNCTION WITH THE STANDARD CONE.
6. CONCRETE TOP COVER THICKNESS: 8" - VEHICULAR TRAFFIC AREAS.

City of Buford, Georgia

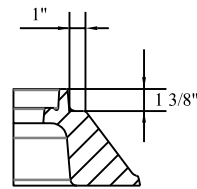
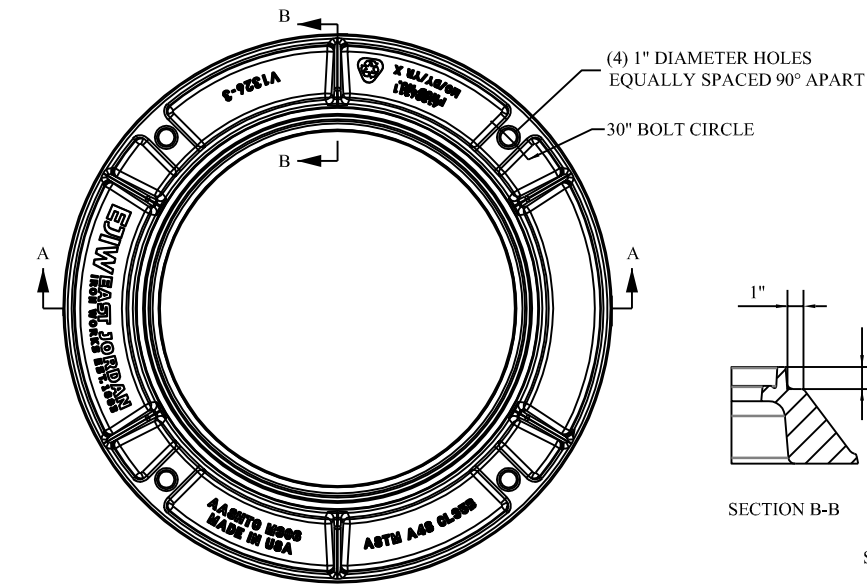
STANDARD DRAWING

Standard Round Precast Drop Inlet

DATE: SEPTEMBER 25, 2014

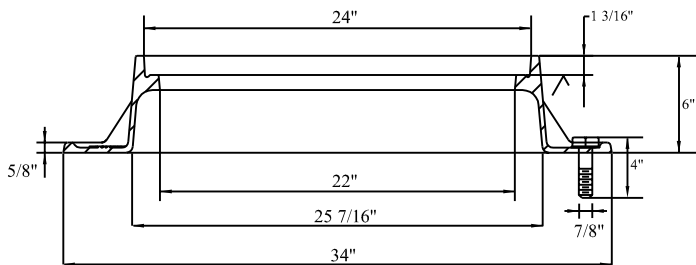
SHEET: 610





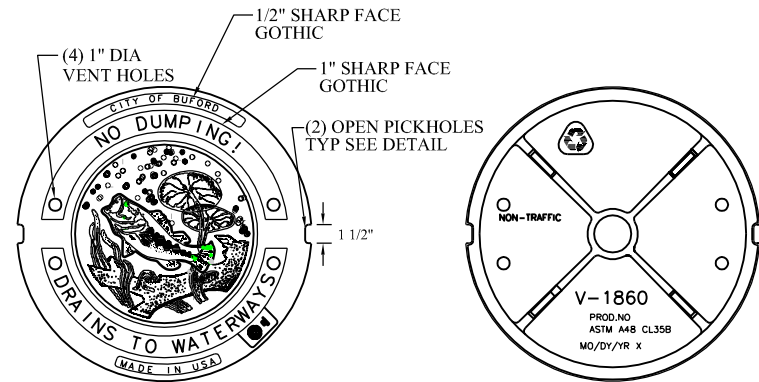
SECTION B-B

SECTION A-A

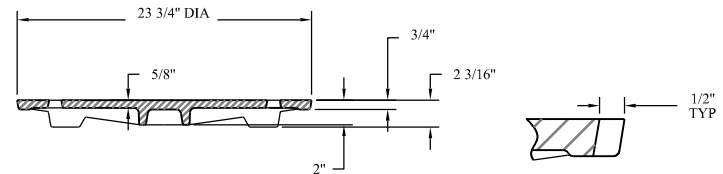


SECTION A-A  
Model Number 41326311

**FRAME**



BOTTOM VIEW



COVER SECTION

**COVER**

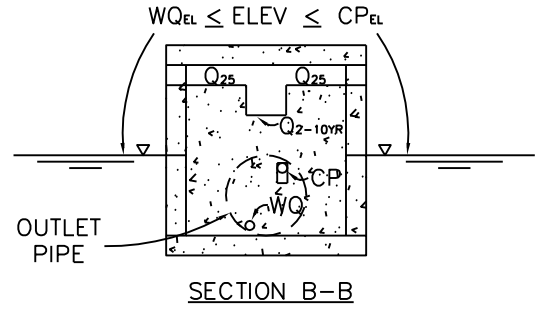
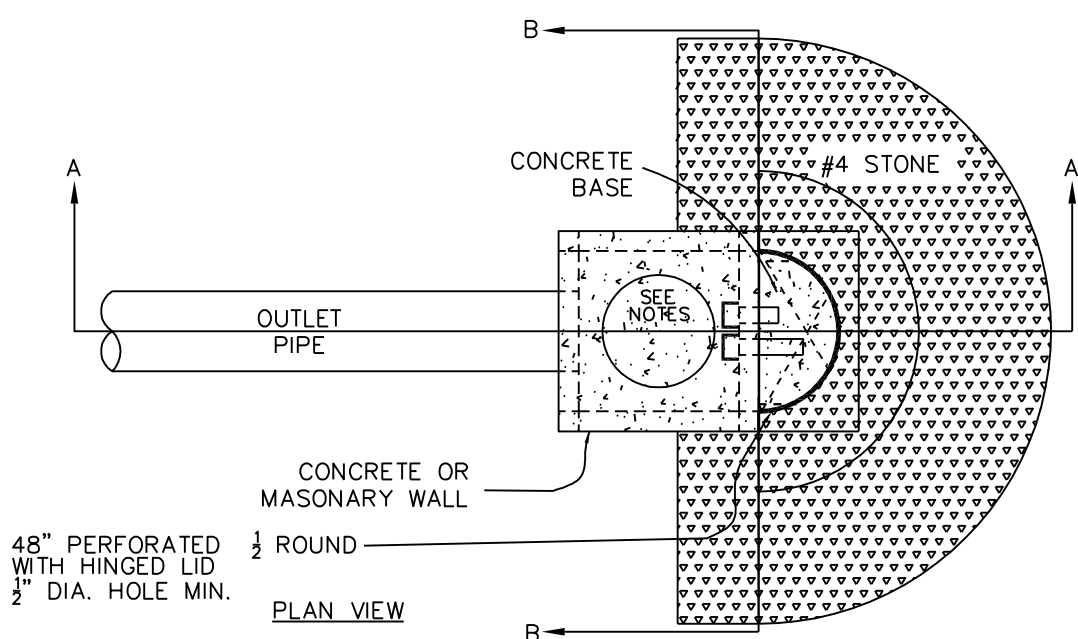
- NOTES:  
 1. MANHOLE FRAME AND COVER TO COMPLY WITH REQUIREMENTS OF AASHTO M306.  
 2. ATTACH MANHOLE FRAME TO MANHOLE BY ADHESIVE CAPSULE ANCHOR WITH FOUR (4) STAINLESS STEEL 7/8" DIAMETER BOLTS.  
 3. MANHOLE FRAME AND COVER TO BE EJ GROUP, INC. PRODUCT NO. 41326311 AND NO. 41860086 RESPECTIVELY WITH INDICATED "CITY OF BUFORD" LETTERING, OR APPROVED EQUAL.

City of Buford, Georgia

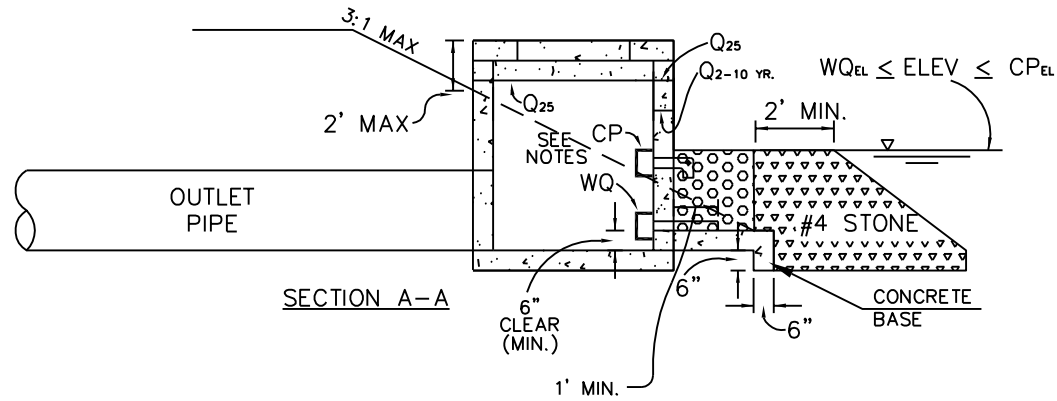
STANDARD DRAWING

Storm Drain Frame and Cover

DATE: SEPTEMBER 25, 2014 SHEET: 611

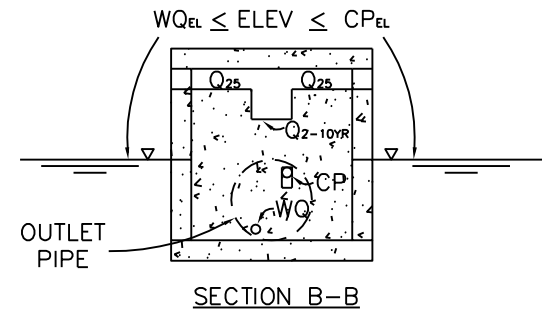
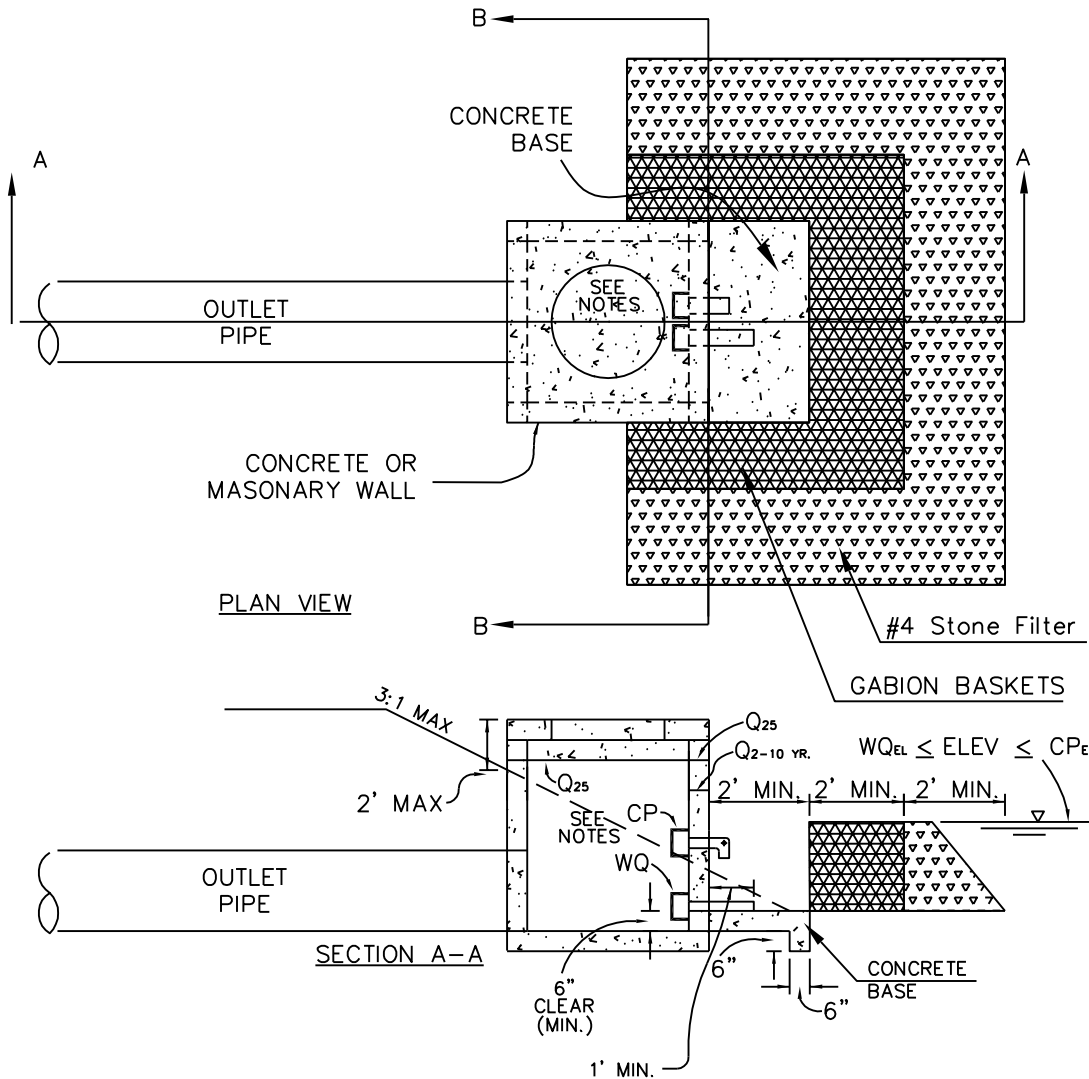


- NOTES:
- WEIR CONFIGURATION SHOWN FOR CONCEPTUAL PURPOSES ONLY
  - THREADED END CAP WITH ORIFICE REQ'D FOR ORIFICE DIA. < 4".
  - REFER TO BUFORD STD. DRAWING 629 FOR ORIFICE END-CAPS.
  - REFER TO BUFORD STD. DRAWING 611 FOR MANHOLE LID.
  - STONE FILTER SHALL BE #4 STONE OR SMALLER.
  - FOR ROUND STRUCTURES PROVIDE 48" PERFORATED 1/2" DIA. HOLE MIN.



TOP OF DAM = \_\_\_\_ FT  
EMER. SPILLWAY = \_\_\_\_ FT

EVENT	ORIFICE/WEIR INV. ELEV.	ORIFICE DIA. (IN)	WEIR LEN. (FT)	VOL. (CF)	WSEL
WQ					
CP					
2					
5					
10					
25					
100					



NOTES:

- 1.) WEIR CONFIGURATION SHOWN FOR CONCEPTUAL PURPOSES ONLY
- 2.) THREADED END CAP WITH ORIFICE REQ'D FOR ORIFICE DIA. < 4"
- 3.) REFER TO BUFORD STD. DRAWING 629 FOR ORIFICE END-CAPS.
- 4.) REFER TO BUFORD STD. DRAWING 611 FOR MANHOLE LID.
- 5.) STONE FILTER SHALL BE #4 STONE OR SMALLER.

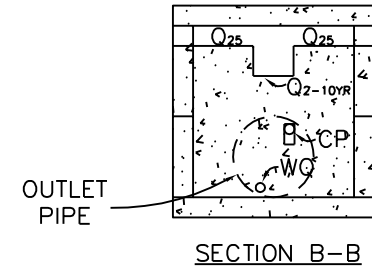
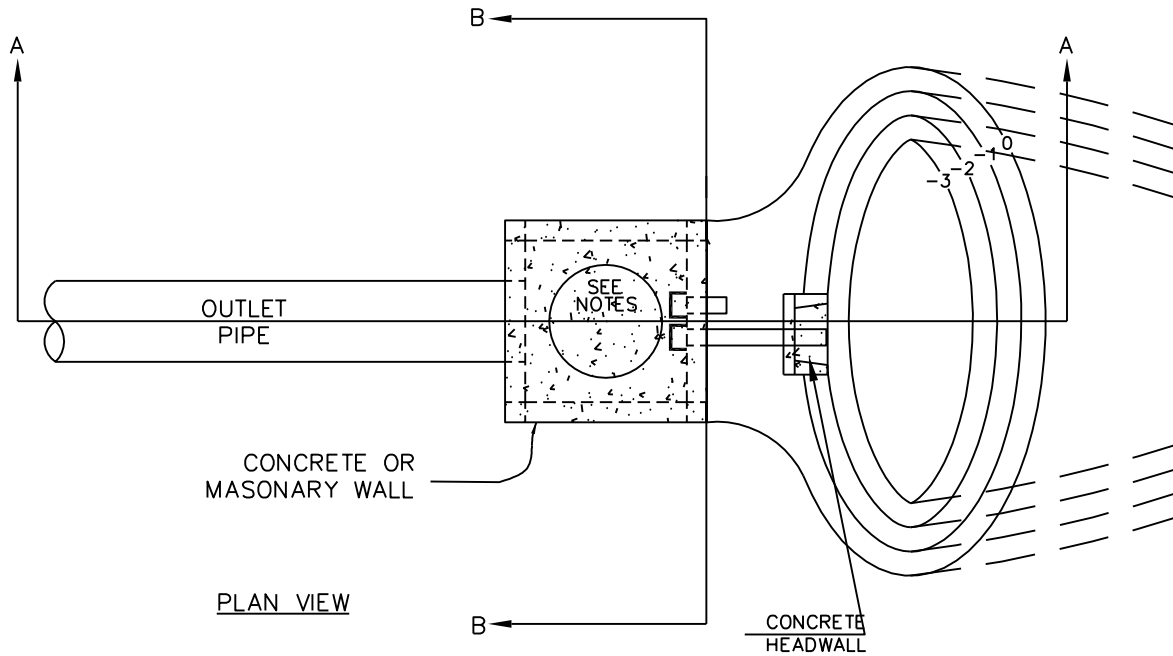
TOP OF DAM = \_\_\_\_ FT  
 EMER. SPILLWAY = \_\_\_\_ FT

EVENT	ORIFICE / WEIR INV. ELEV.	ORIFICE DIA. (IN)	WEIR LEN. (FT)	VOL. (CF)	WSEL
WQ					
CP					
2					
5					
10					
25					
100					

City of Buford, Georgia

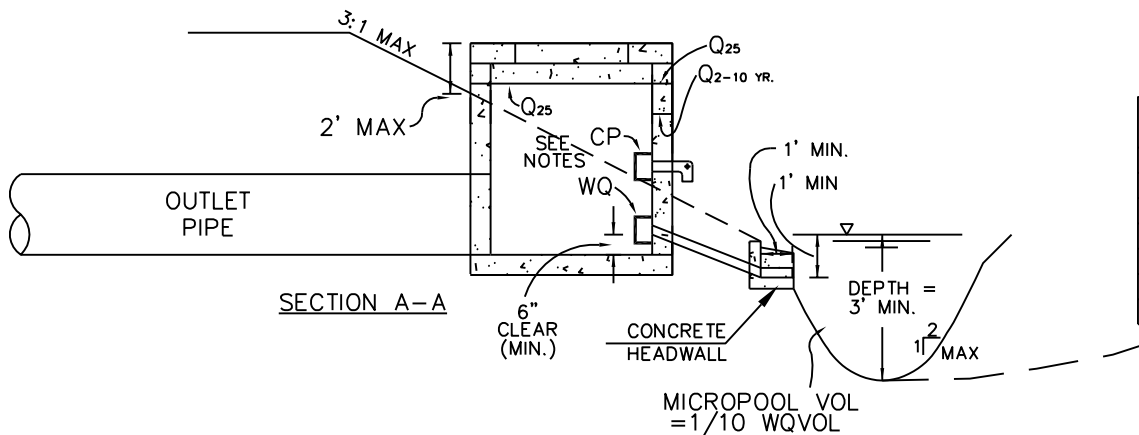
STANDARD DRAWING  
 Outlet Structure Dam Height=5' Max  
 With Gabion Filter

DATE: SEPTEMBER 25, 2014 SHEET: 613



NOTES:

- 1.) WEIR CONFIGURATION SHOWN FOR CONCEPTUAL PURPOSES ONLY
- 2.) THREADED END CAP WITH ORIFICE REQ'D FOR ORIFICE DIA. < 4".
- 3.) REFER TO BUFORD STD. DRAWING 629 FOR ORIFICE END-CAPS.
- 4.) REFER TO BUFORD STD. DRAWING 611 FOR MANHOLE LID.



TOP OF DAM = \_\_\_\_ FT  
 EMER. SPILLWAY = \_\_\_\_ FT

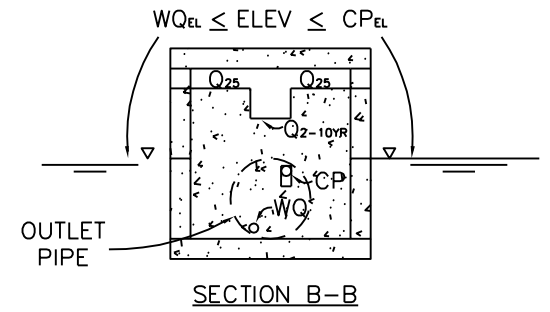
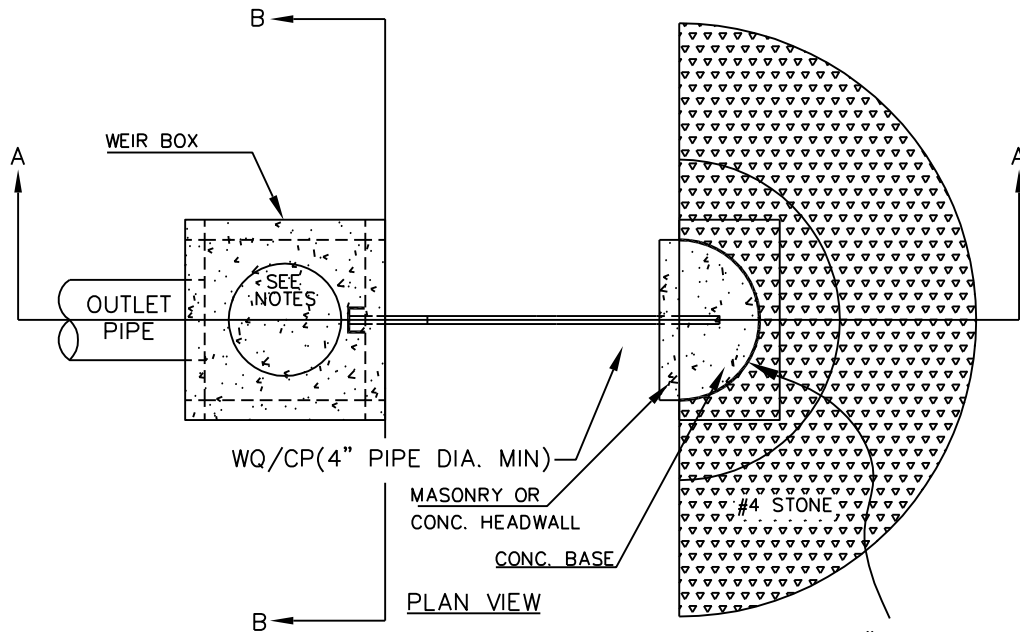
EVENT	ORIFICE/WEIR INV. ELEV.	ORIFICE DIA. (IN)	WEIR LEN. (FT)	VOL. (CF)	WSEL
WQ					
CP					
2					
5					
10					
25					
100					

City of Buford, Georgia

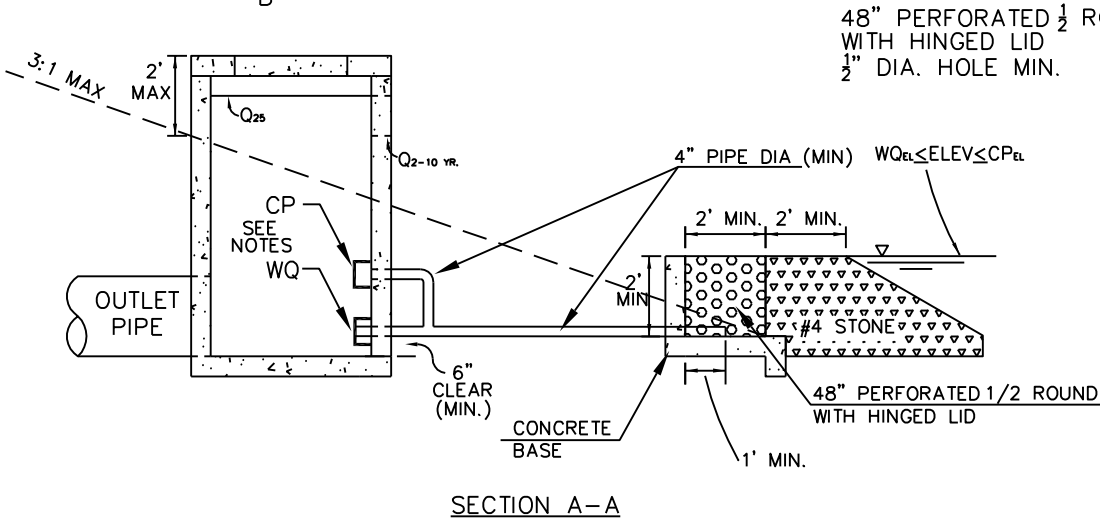
STANDARD DRAWING

Outlet Structure Dam Height=5' Max  
 With Micropool Or Wet Pond

DATE: SEPTEMBER 25, 2014 SHEET: 614



- NOTES:
- 1.) WEIR CONFIGURATION SHOWN FOR CONCEPTUAL PURPOSES ONLY
  - 2.) THREADED END CAP WITH ORIFICE REQ'D FOR ORIFICE DIA. < 4".
  - 3.) REFER TO BUFORD STD. DRAWING 629 FOR ORIFICE END-CAPS.
  - 4.) REFER TO BUFORD STD. DRAWING 611 FOR MANHOLE LID.
  - 5.) STONE FILTER SHALL BE #4 STONE OR SMALLER.
  - 6.) FOR ROUND STRUCTURES PROVIDE 48" PERFORATED 1/2" ROUND LID AND 1/2" DIA. HOLE MIN.



TOP OF DAM = \_\_\_\_ FT

EMER. SPILLWAY = \_\_\_\_ FT

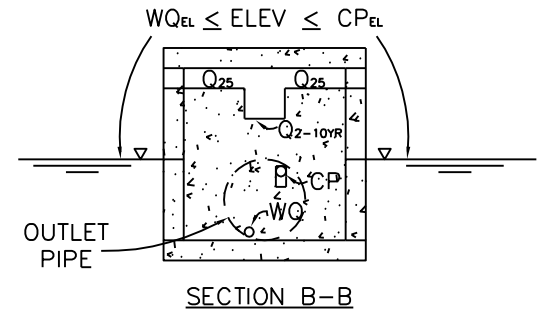
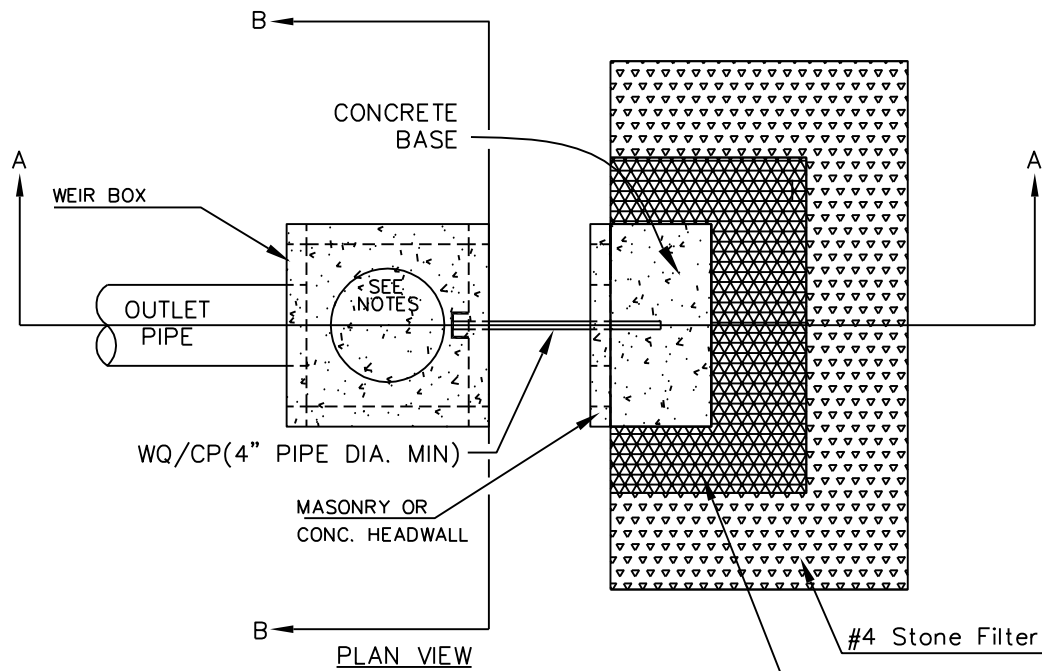
EVENT	ORIFICE/WEIR INV ELEV.	ORIFICE DIA. (IN)	WEIR LEN. (FT)	VOL. (CF)	WSEL
WQ					
CP					
2					
5					
10					
25					
100					

City of Buford, Georgia

STANDARD DRAWING

Outlet Control 1/2" Round Stone Filter

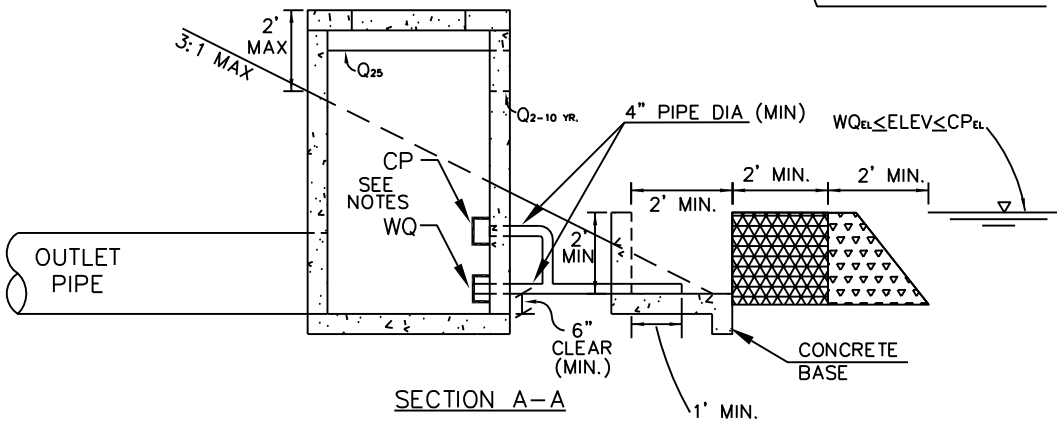
DATE: SEPTEMBER 25, 2014 SHEET: 615



NOTES:

- 1.) WEIR CONFIGURATION SHOWN FOR CONCEPTUAL PURPOSES ONLY
- 2.) THREADED END CAP WITH ORIFICE REQ'D FOR ORIFICE DIA. < 4".
- 3.) REFER TO BUFORD STD. DRAWING 629 FOR ORIFICE END-CAPS.
- 4.) REFER TO BUFORD STD. DRAWING 611 FOR MANHOLE LID.
- 5.) STONE FILTER SHALL BE #4 STONE OR SMALLER.

TOP OF DAM = \_\_\_\_ FT  
 EMER. SPILLWAY = \_\_\_\_ FT

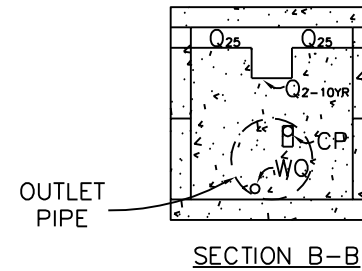
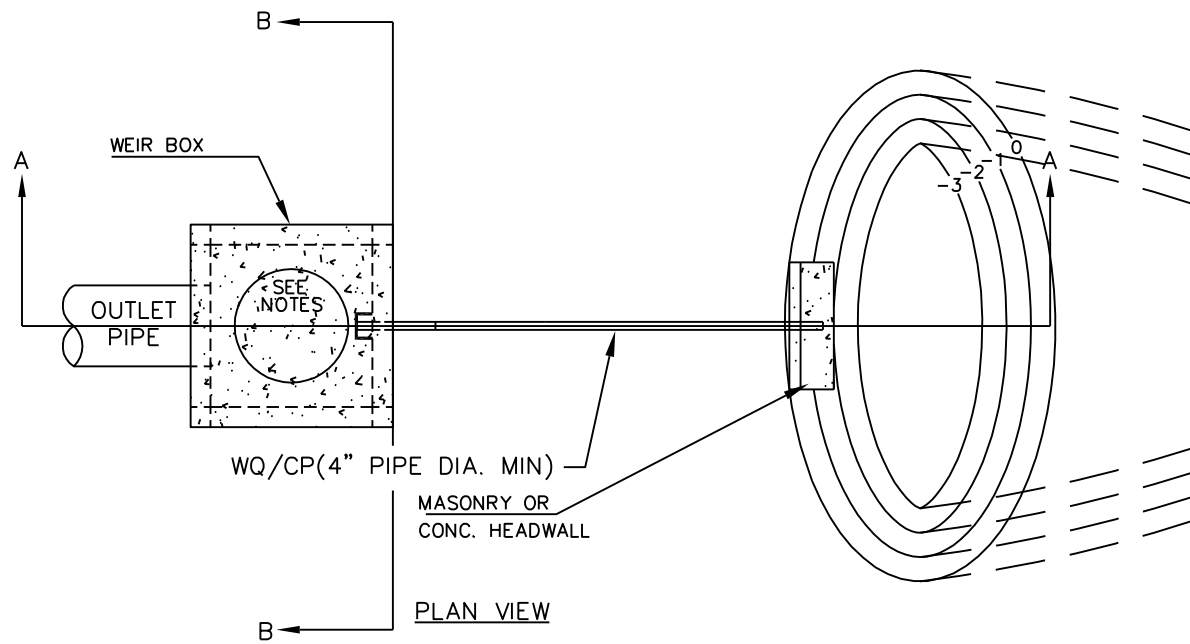


EVENT	ORIFICE/WEIR INV. ELEV.	ORIFICE DIA. (IN)	WEIR LEN. (FT)	VOL. (CF)	WSEL
WQ					
CP					
2					
5					
10					
25					
100					

City of Buford, Georgia

STANDARD DRAWING  
 Outlet Control Structure  
 With Gabion Filter

DATE: SEPTEMBER 25, 2014 SHEET: 616

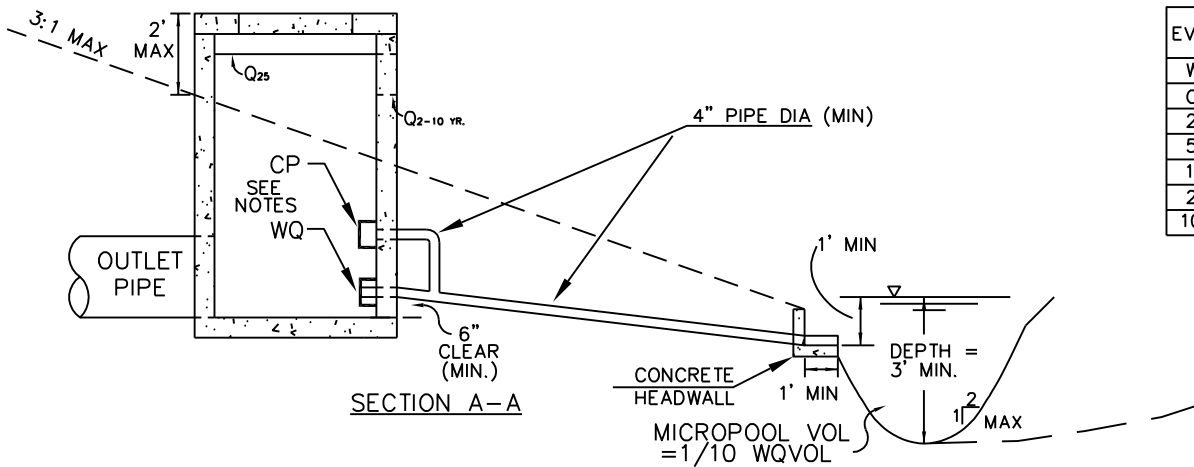


NOTES:

- 1.) WEIR CONFIGURATION SHOWN FOR CONCEPTUAL PURPOSES ONLY
- 2.) THREADED END CAP WITH ORIFICE REQ'D FOR ORIFICE DIA. < 4".
- 3.) REFER TO BUFORD STD. DRAWING 629 FOR ORIFICE END-CAPS.
- 4.) REFER TO BUFORD STD. DRAWING 611 FOR MANHOLE LID.

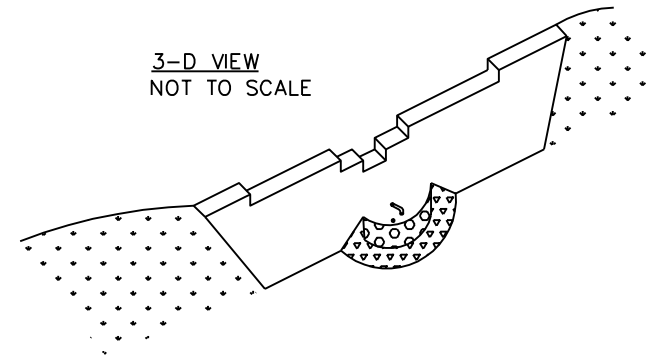
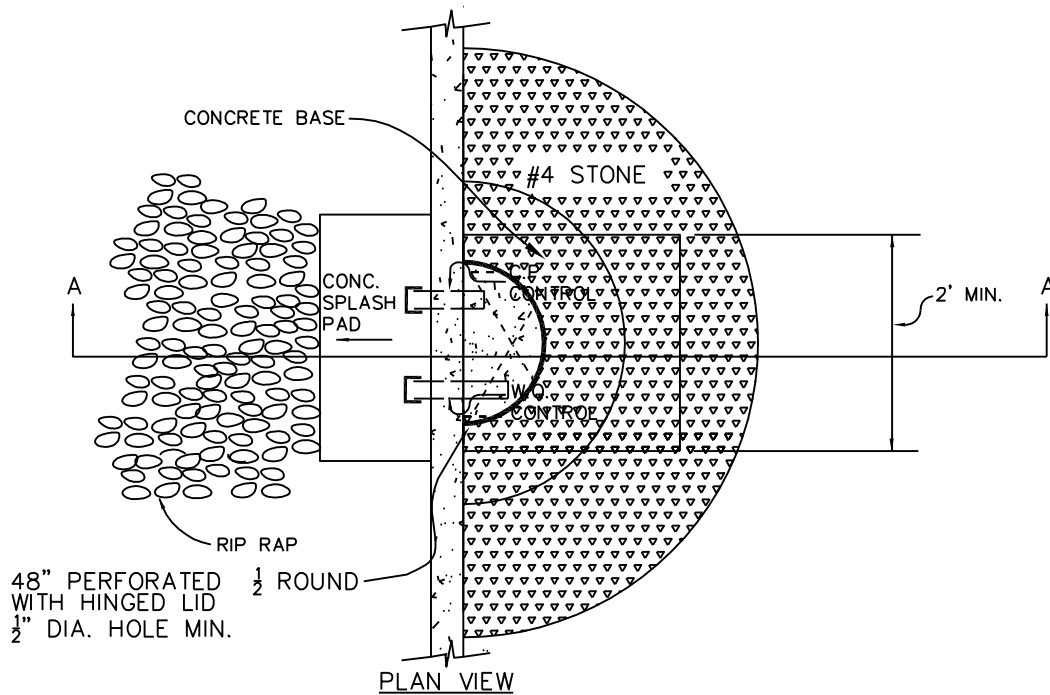
TOP OF DAM = \_\_\_\_ FT  
 EMER. SPILLWAY = \_\_\_\_ FT

EVENT	ORIFICE/WEIR INV. ELEV.	ORIFICE DIA. (IN)	WEIR LEN. (FT)	VOL. (CF)	WSEL
WQ					
CP					
2					
5					
10					
25					
100					



# City of Buford, Georgia

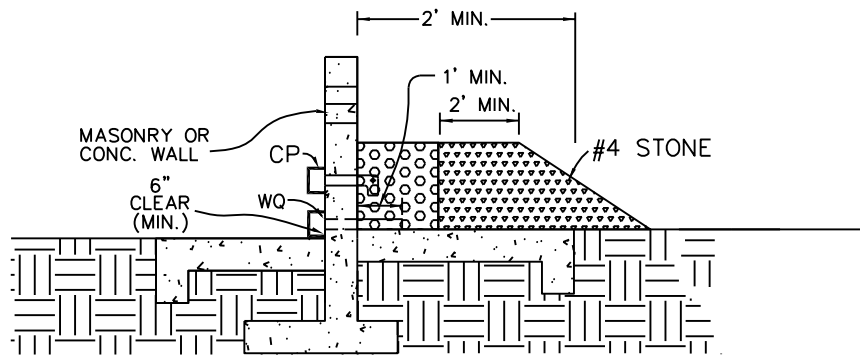
STANDARD DRAWING  
 Outlet Control Structure  
 With Micropool Or Wet Pond



NOTES:

- 1.) WEIR CONFIGURATION SHOWN FOR CONCEPTUAL PURPOSES ONLY
- 2.) THREADED END CAP WITH ORIFICE REQ'D FOR ORIFICE DIA. < 4".
- 3.) REFER TO BUFORD STD. DRAWING 629 FOR ORIFICE END-CAPS.
- 4.) REFER TO BUFORD STD. DWG. 626 FOR TYPICAL DETENTION POND WALL TIE IN.
- 5.) STONE FILTER SHALL BE #4 STONE OR SMALLER.
- 6.) FOR ROUND STRUCTURES PROVIDE 48" PERFORATED 1/2 ROUND WITH HINGED LID AND 1/2" DIA. HOLE MIN.

TOP OF WALL = \_\_\_\_\_ FT



EVENT	ORIFICE/WEIR INV ELEV.	ORIFICE DIA. (IN)	WEIR LEN. (FT)	VOL. (CF)	WSEL
WQ					
CP					
2					
5					
10					
25					
100					

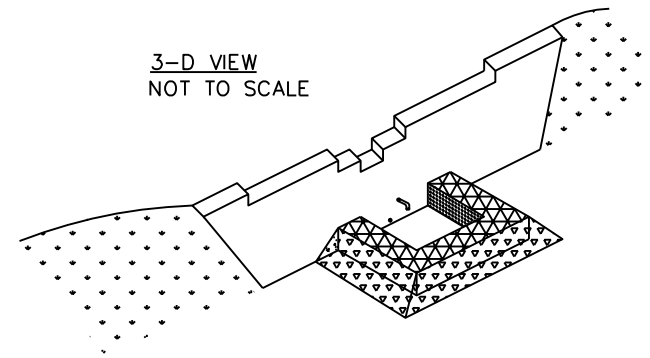
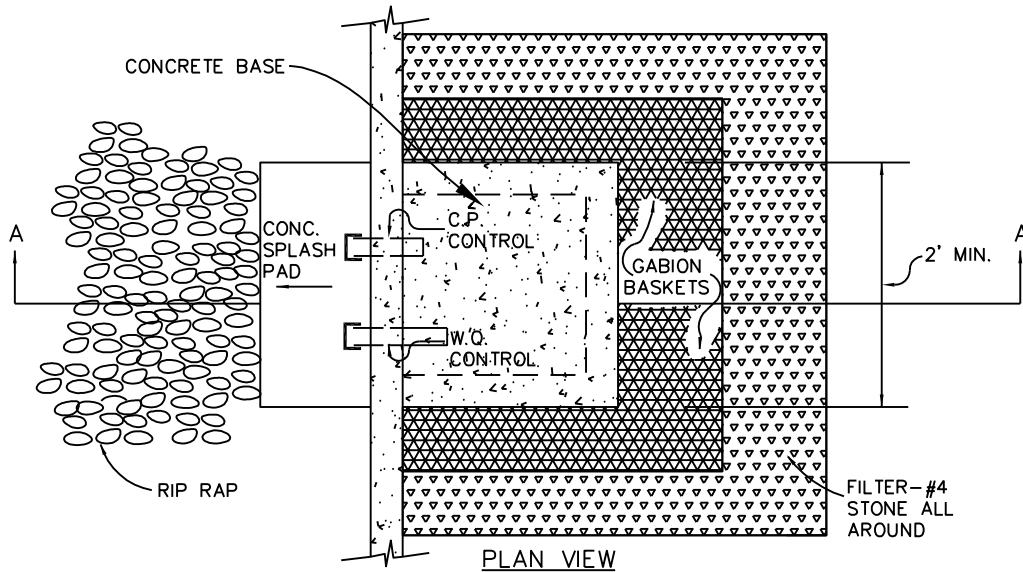
City of Buford, Georgia

STANDARD DRAWING

Outlet Control With 1/2 Round Stone Filter

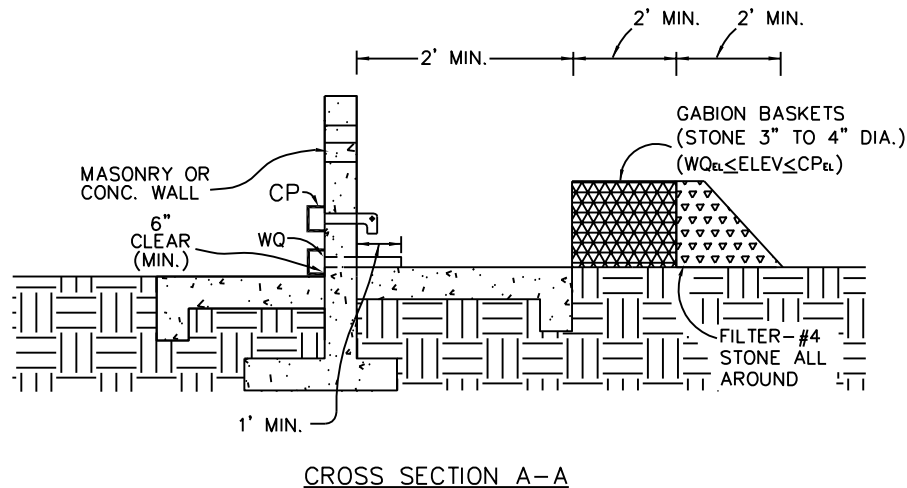
DATE: SEPTEMBER 25, 2014 SHEET: 618





NOTES:

- 1.) WEIR CONFIGURATION SHOWN FOR CONCEPTUAL PURPOSES ONLY
- 2.) THREADED END CAP WITH ORIFICE REQ'D FOR ORIFICE DIA. < 4".
- 3.) REFER TO BUFORD STD. DRAWING 629 FOR ORIFICE END-CAPS.
- 4.) REFER TO BUFORD STD. DWG. 626 FOR TYPICAL DETENTION POND WALL TIE IN.
- 5.) STONE FILTER SHALL BE #4 STONE OR SMALLER.



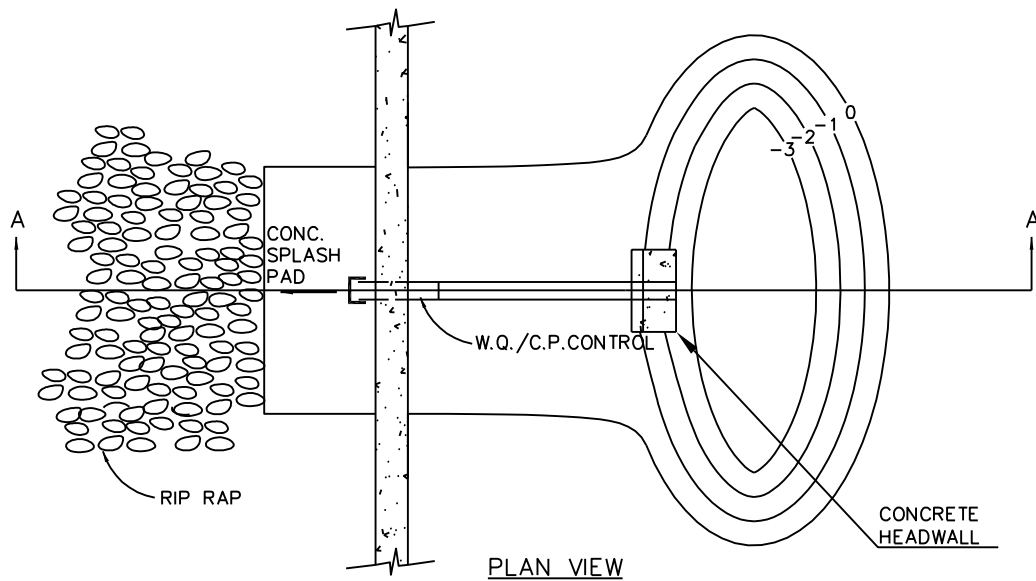
TOP OF WALL = \_\_\_\_\_ FT

EVENT	ORIFICE/WEIR INV ELEV.	ORIFICE DIA. (IN)	WEIR LEN. (FT)	VOL. (CF)	WSEL
WQ					
CP					
2					
5					
10					
25					
100					

City of Buford, Georgia

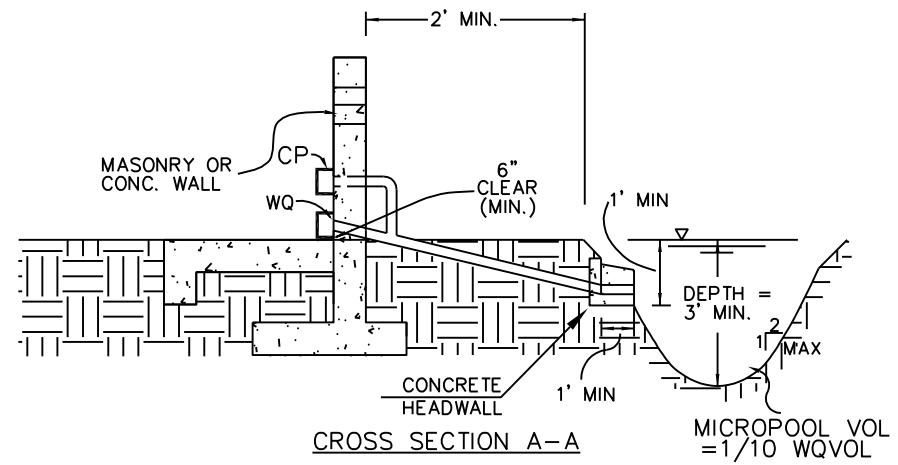
STANDARD DRAWING  
Outlet Control Retaining Wall

DATE: SEPTEMBER 25, 2014 SHEET: 619



NOTES:

- 1.) WEIR CONFIGURATION SHOWN FOR CONCEPTUAL PURPOSES ONLY
- 2.) THREADED END CAP WITH ORIFICE REQ'D FOR ORIFICE DIA. < 4".
- 3.) REFER TO BUFORD STD. DRAWING 629 FOR ORIFICE END-CAPS.
- 4.) REFER TO BUFORD STD. DWG. 626 FOR TYPICAL DETENTION POND WALL TIE IN.



TOP OF WALL = \_\_\_\_\_ FT

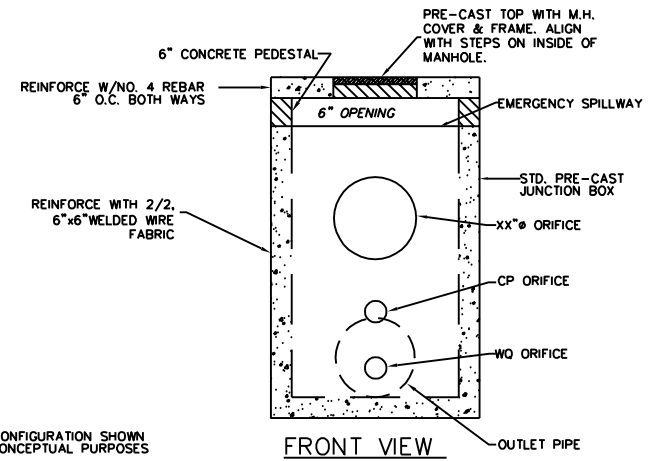
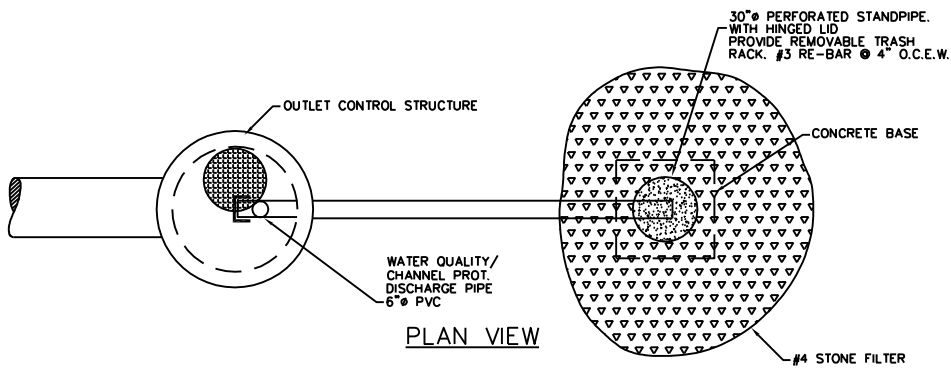
EVENT	ORIFICE/WEIR INV ELEV.	ORIFICE DIA. (IN)	WEIR LEN. (FT)	VOL. (CF)	WSEL
WQ					
CP					
2					
5					
10					
25					
100					

# City of Buford, Georgia

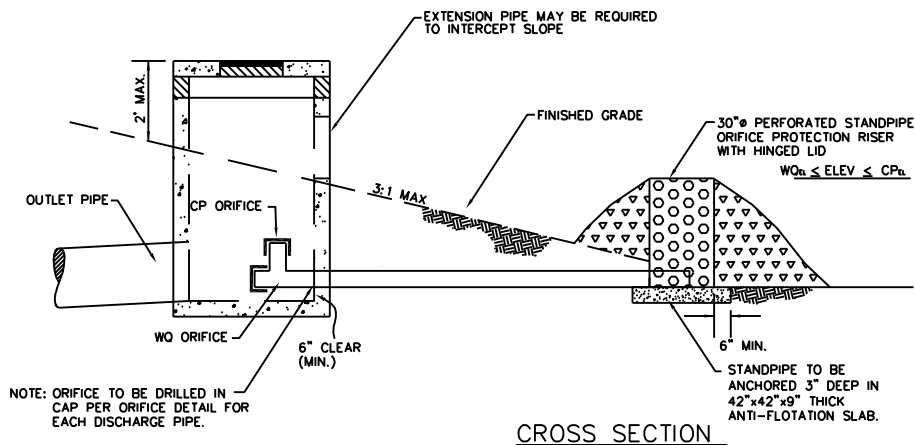
STANDARD DRAWING

Outlet Control Retaining Wall  
With Micropool

DATE: SEPTEMBER 25, 2014 SHEET: 620



- NOTES:
- 1.) WEIR CONFIGURATION SHOWN FOR CONCEPTUAL PURPOSES ONLY
  - 2.) THREADED END CAP WITH ORIFICE REQ'D FOR ORIFICE DIA. < 4".
  - 3.) REFER TO BUFORD STD. DRAWING 629 FOR ORIFICE END-CAPS.
  - 4.) REFER TO BUFORD STD. DRAWING 611 FOR MANHOLE LID.
  - 5.) STONE FILTER SHALL BE #4 STONE OR SMALLER.



NOTE: ORIFICE TO BE DRILLED IN CAP PER ORIFICE DETAIL FOR EACH DISCHARGE PIPE.

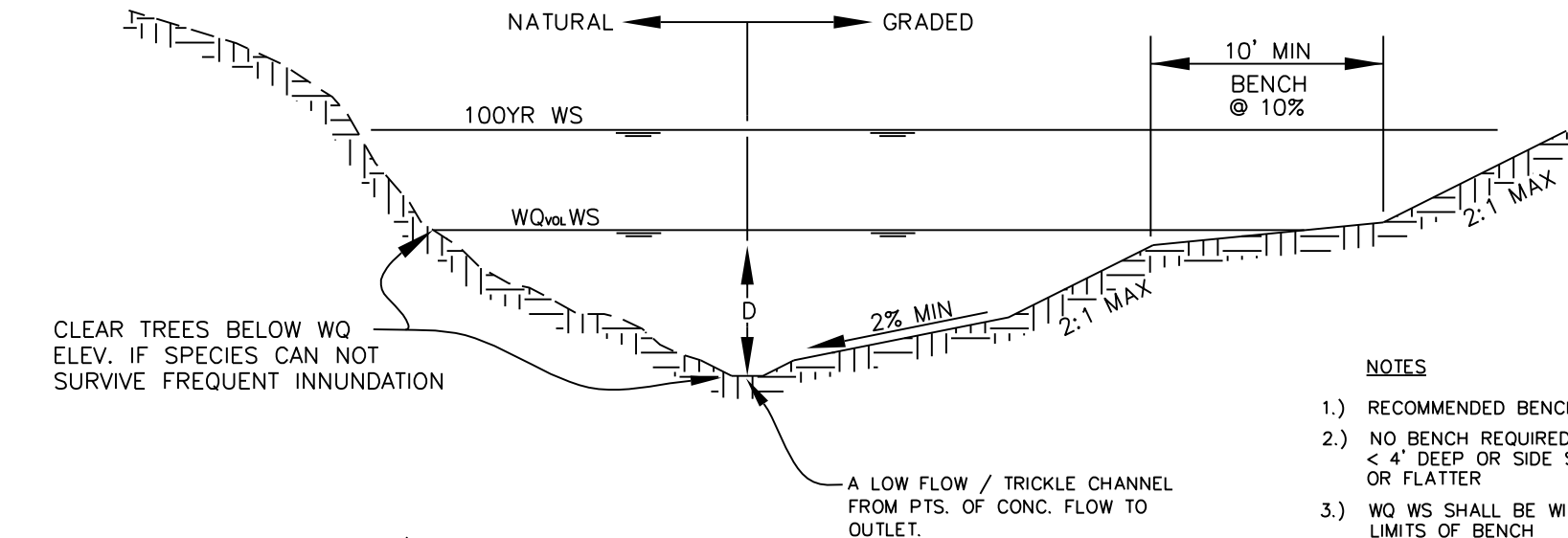
EVENT	ORIFICE/WEIR INV. ELEV.	ORIFICE DIA. (IN)	WEIR LEN. (FT)	VOL. (CF)	WSEL
WQ					
CP					
2					
5					
10					
25					
100					

City of Buford, Georgia

STANDARD DRAWING

Outlet Control Structure  
With Standpipe With Stone Filter

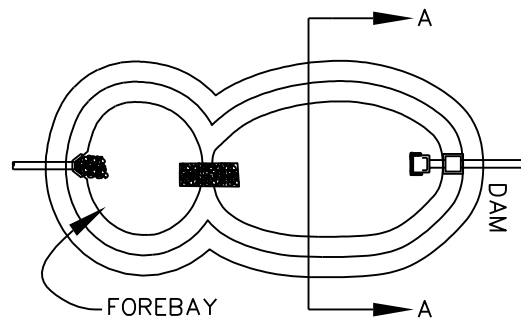
DATE: SEPTEMBER 25, 2014 SHEET: 621



**NOTES**

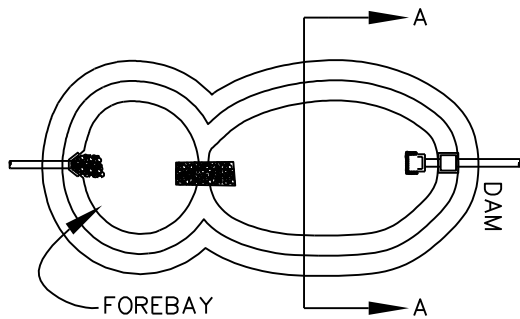
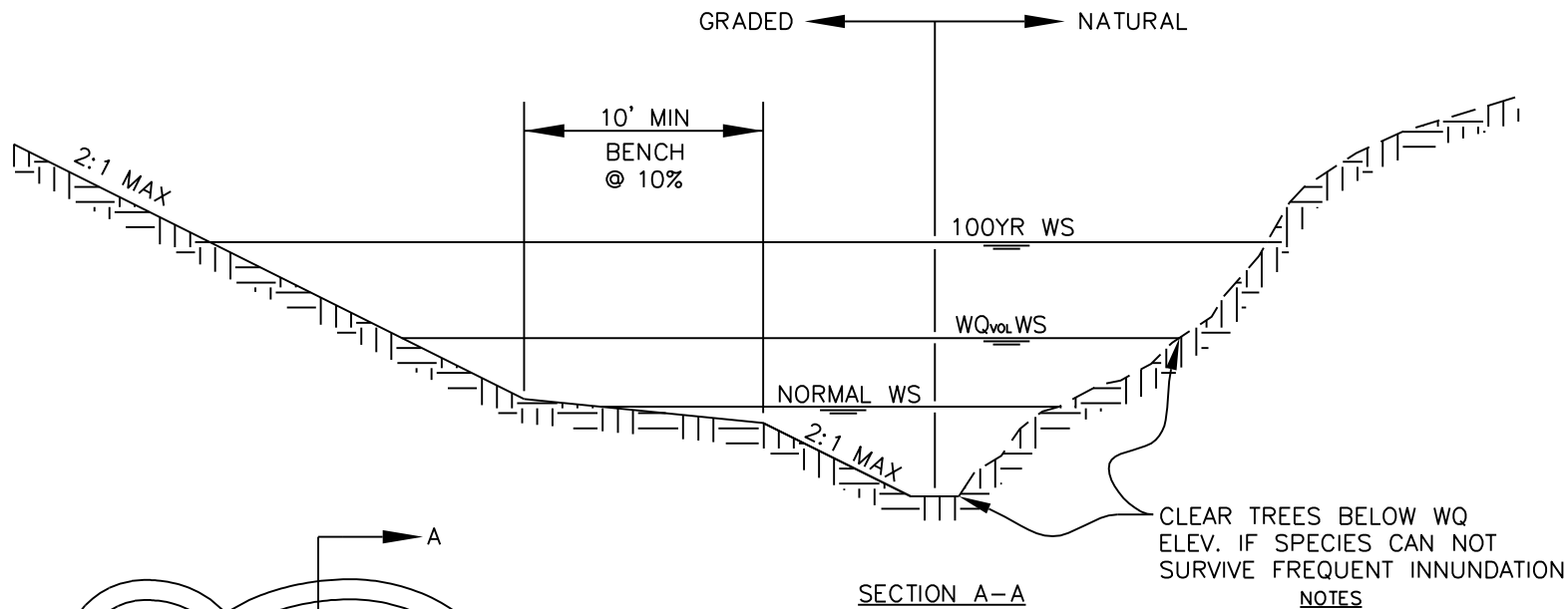
- 1.) RECOMMENDED BENCH WIDTH = 15'
- 2.) NO BENCH REQUIRED IF POOL IS < 4' DEEP OR SIDE SLOPES = 4:1 OR FLATTER
- 3.) WQ WS SHALL BE WITHIN LIMITS OF BENCH
- 4.) FOR A GRADED LOW FLOW / TRICKLE CHANNEL:
  - LONGITUDINAL SLOPE = 1% MIN.
  - RECOMMEND ROCK OR GRASS WITH GEOTECHNICAL FABRIC FOR STABILIZATION
- 5.) REFER TO BUFORD STD. DRAWING 625 FOR FOREBAY

SECTION A-A



**City of Buford, Georgia**

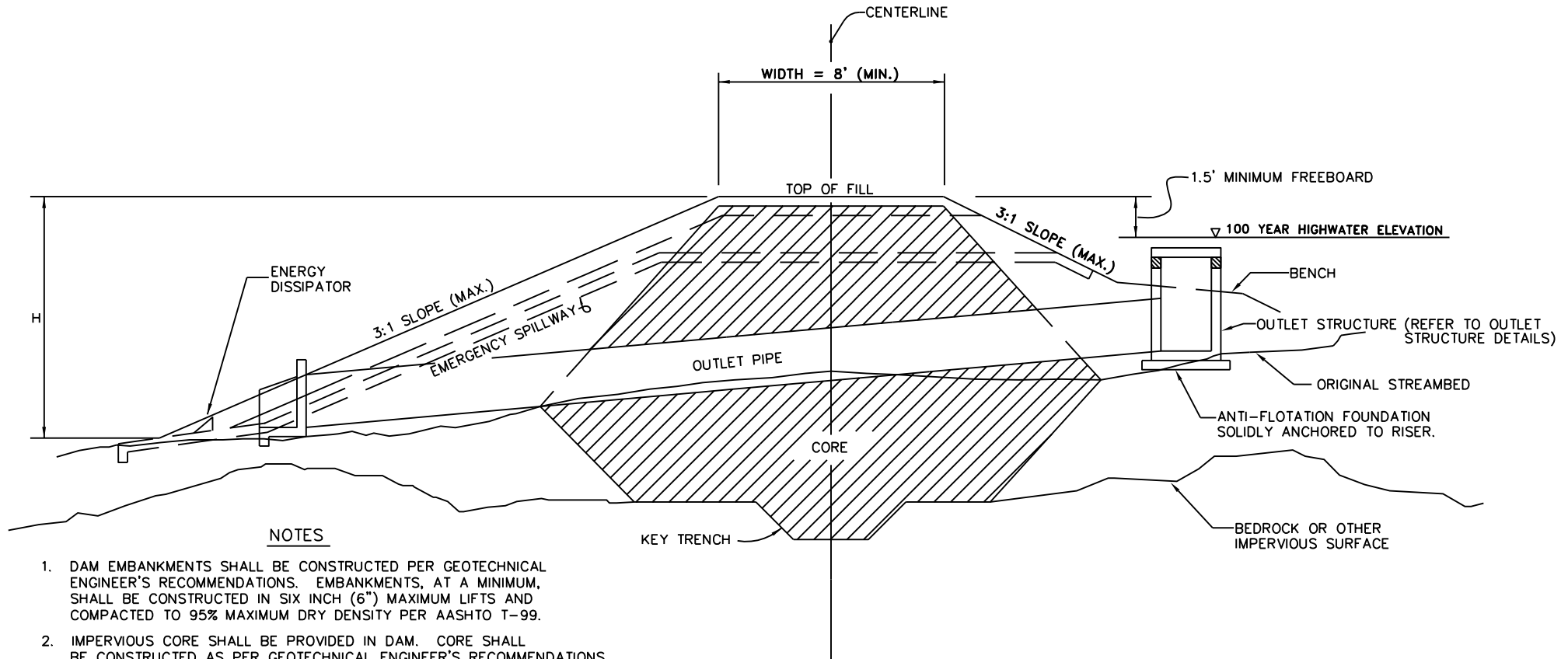
STANDARD DRAWING  
X-Section, Dry, Extended Detention



- NOTES**
- 1.) RECOMMENDED BENCH WIDTH = 15'
  - 2.) NO BENCH REQUIRED IF POOL IS < 4' DEEP OR SIDE SLOPES = 4:1 OR FLATTER
  - 3.) NORMAL WS SHALL BE WITHIN LIMITS OF BENCH
  - 4.) REFER TO BUFORD STD. DRAWING 625 FOR FOREBAY

**City of Buford, Georgia**

STANDARD DRAWING  
X-Section, Wet, Extended Detention



**NOTES**

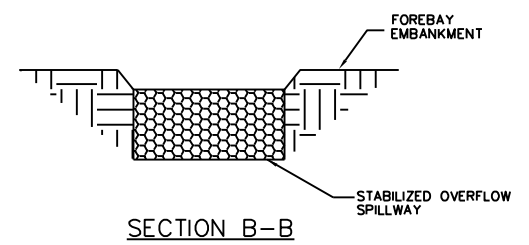
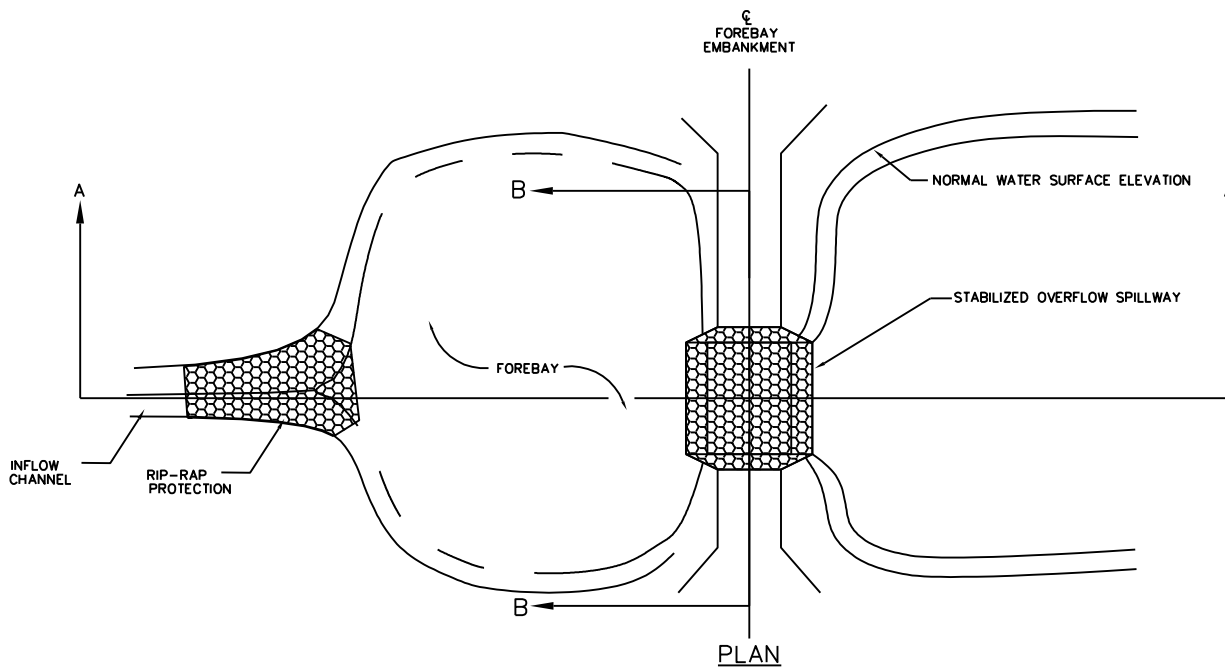
1. DAM EMBANKMENTS SHALL BE CONSTRUCTED PER GEOTECHNICAL ENGINEER'S RECOMMENDATIONS. EMBANKMENTS, AT A MINIMUM, SHALL BE CONSTRUCTED IN SIX INCH (6") MAXIMUM LIFTS AND COMPACTED TO 95% MAXIMUM DRY DENSITY PER AASHTO T-99.
2. IMPERVIOUS CORE SHALL BE PROVIDED IN DAM. CORE SHALL BE CONSTRUCTED AS PER GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.
3. EMERGENCY SPILLWAY SHALL BE CONSTRUCTED OF STABLE, NON-ERODIBLE MATERIAL PER GEOTECHNICAL ENGINEER'S RECOMMENDATION.
4. OUTLET PIPE SHALL BE REINFORCED CONCRETE PIPE IF  $H \geq 9'$  AND STORAGE VOLUME  $\geq 20$  AC-FT. REFER TO SECTION 8.3 OF BUFORD DEVELOPMENT REGULATIONS FOR APPROVED PIPE MATERIALS.
5. BENCH SHALL BE A MINIMUM OF 10' AND SHOULD AVERAGE 15'. NO BENCH IS REQUIRED IF DAM SIDE SLOPE IS 4:1 OR FLATTER OR POOL  $< 4'$  DEEP.
6. REFER TO BUFORD STD. DRAWING 630 FOR TRASHRACK DETAIL.

City of Buford, Georgia

STANDARD DRAWING

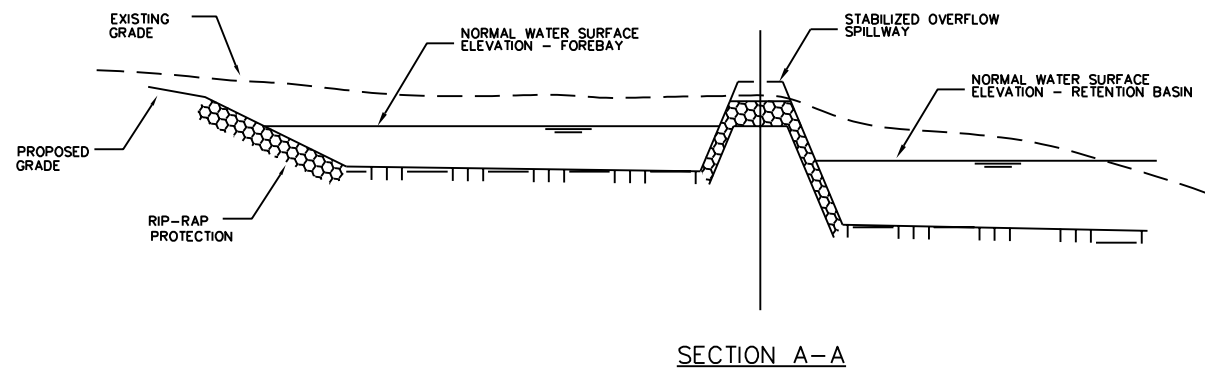
Earthfill Dams  
Max Height = 25'

DATE: SEPTEMBER 25, 2014 SHEET: 624



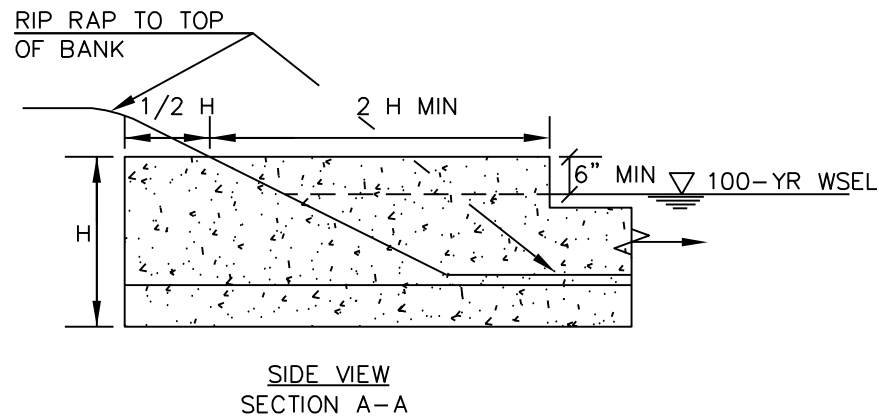
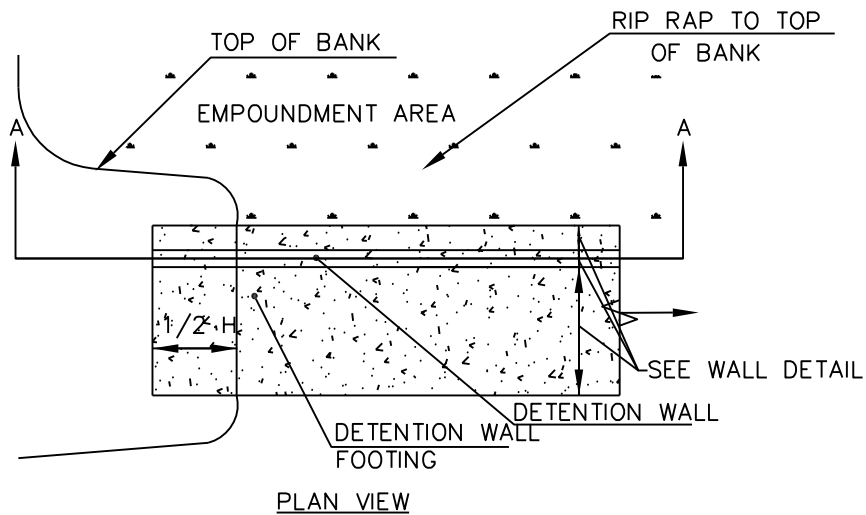
NOTES:

- 1.) STABILIZED OVERFLOW SPILLWAY SHOWN AS RIPRAP. CONCRETE, GABION BASKETS, OR OTHER TYPES OF ARMOR MAY BE USED WITH APPROVAL OF THE CITY.
- 2.) IF PIPE USED INSTEAD OF IN-FLOW CHANNEL, PIPE INVERT SHALL DISCHARGE ABOVE NORMAL POOL.



# City of Buford, Georgia

STANDARD DRAWING  
Forebay



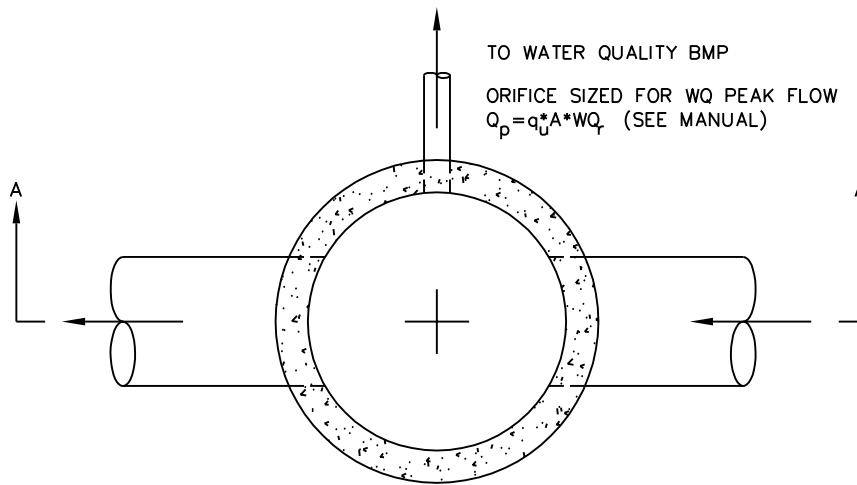
City of Buford, Georgia

STANDARD DRAWING

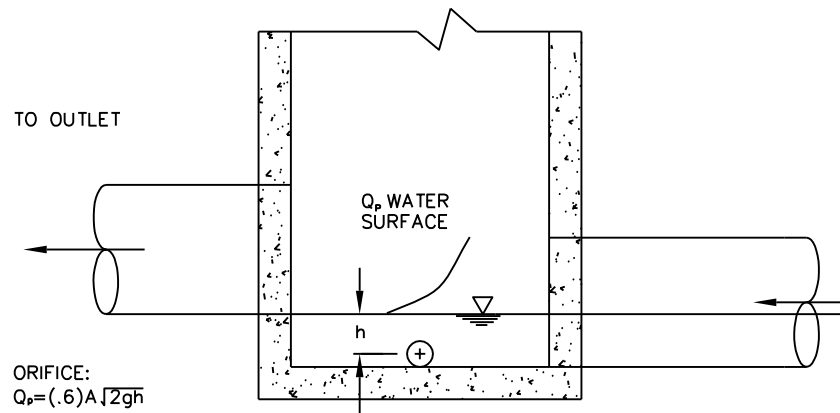
Typical Detention Pond  
Wall Tie In

DATE: SEPTEMBER 25, 2014 SHEET: 626





PLAN VIEW



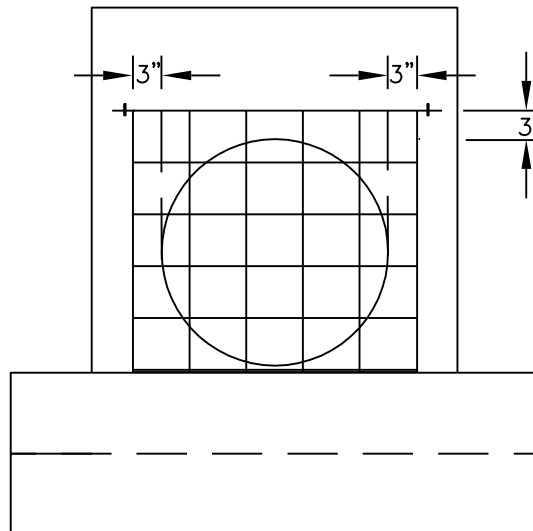
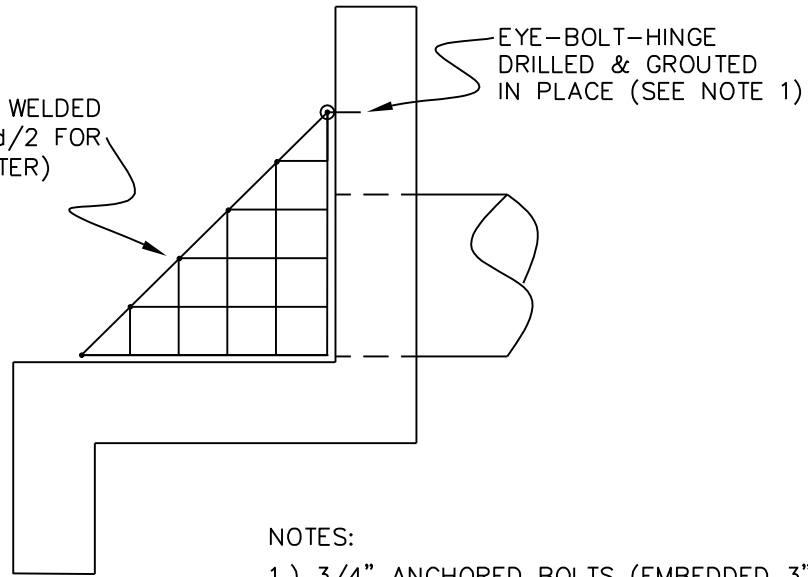
SECTION A-A

City of Buford, Georgia

STANDARD DRAWING  
 Flowsplitter – Manhole

DATE: SEPTEMBER 25, 2014 SHEET: 627

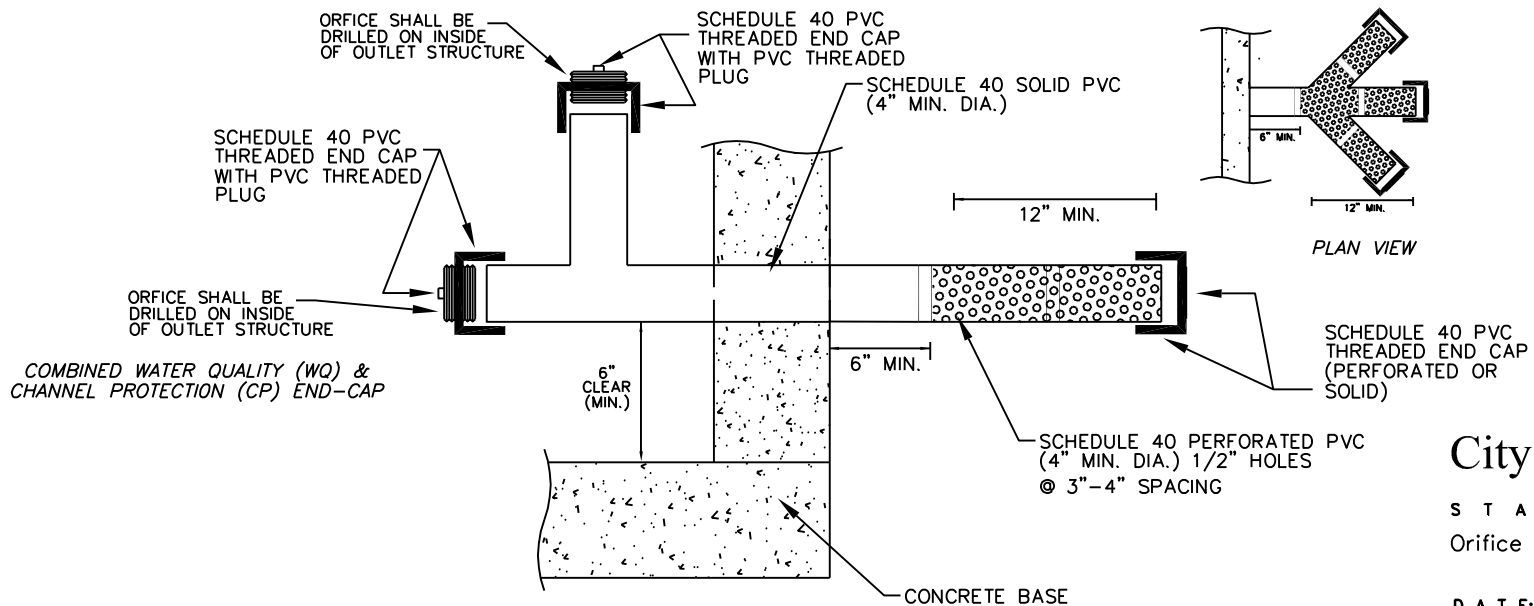
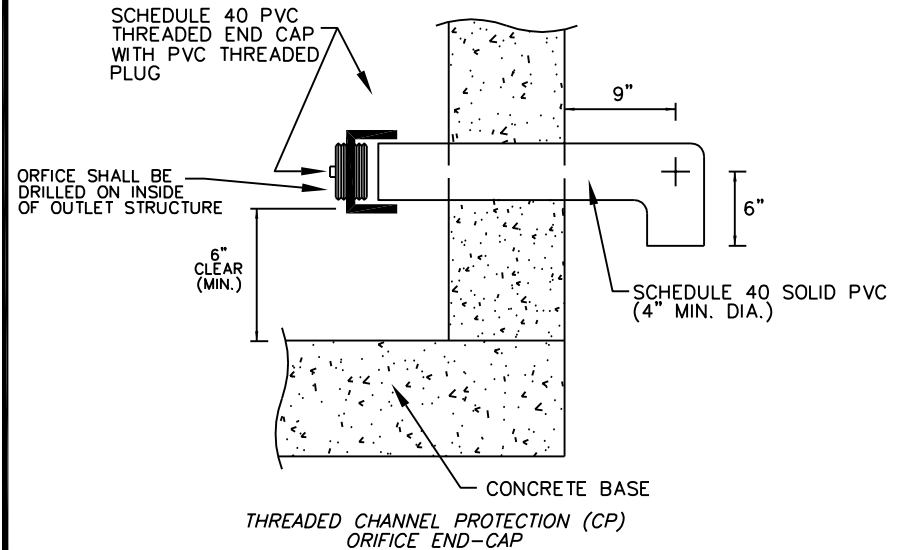
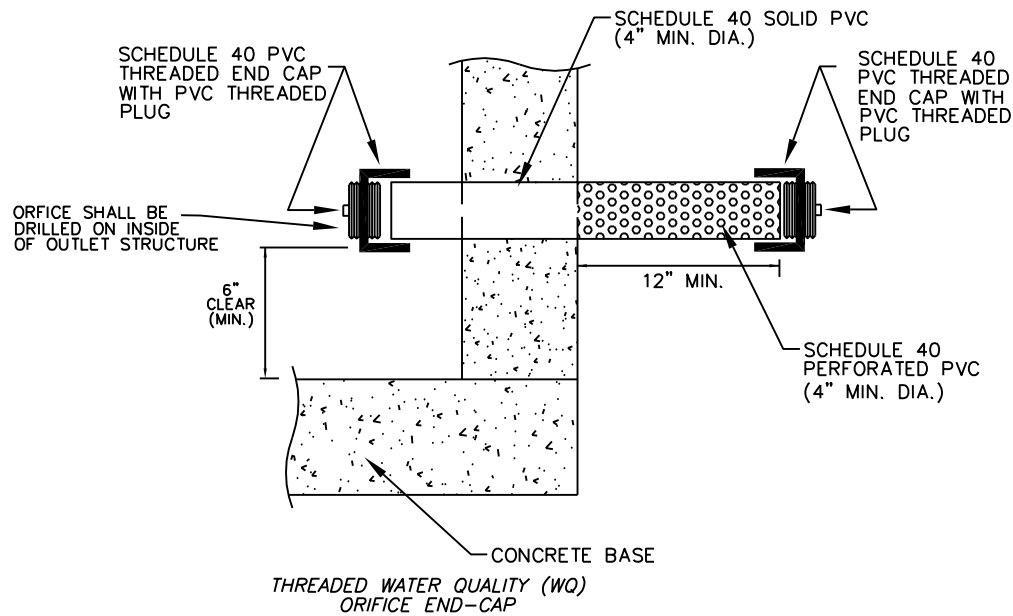
#4's @ 6" O.C. MAX WELDED  
(USE SPACING OF  $d/2$  FOR  
PIPES < 12" DIAMETER)



City of Buford, Georgia

STANDARD DRAWING  
Trashrack For Outlet Control  
Structures

DATE: SEPTEMBER 25, 2014 SHEET: 628



- NOTES (TO APPLY TO ALL):
- 1.) FILL GAP BETWEEN STRUCTURE & PVC WITH MORTAR OR INSTALL A FERNCO ADAPTER.
  - 2.) SIZE ORFICE AS REQUIRED
  - 3.) FASTEN END CAP TO SYSTEM WITH PVC CEMENT.
  - 4.) PIPE SIZES SHALL BE CONSISTENT.

City of Buford, Georgia

STANDARD DRAWING  
Orifice End-Cap Details

DATE: SEPTEMBER 25, 2014 SHEET: 629

ROUND PIPE - 2-2/3" X 1/2" CORRUGATION							
D (IN)	AREA (SQ. FT.)	MAXIMUM HEIGHT OF COVER (FT.)					MIN. HEIGHT OF COVER (FT.)
		SHEET THICKNESS IN INCHES (GAGE)					
		0.064 (18)	0.079 (14)	0.109 (12)	0.138 (10)	0.168 (8)	
12	.79	100+	100+	NA	NA	NA	SEE DWG 703
15	1.23	100+	100+	NA	NA	NA	
18	1.77	100+	100+	100+	NA	NA	
21	2.40	100+	100+	100+	NA	NA	
24	3.14	100+	100+	100+	NA	NA	
30	4.91	85	100+	100+	NA	NA	
36	7.1	71+	88	100+	100+	NA	
42	9.6	NS	76	100+	100+	NA	
48	12.6	NS	66	93	100+	100+*	
54	16.0	NS	NS	82	100+	100+*	
60	19.6	NS	NS	74	95	100+*	
66	23.8	NS	NS	NS	87	100+*	
72	28.3	NS	NS	NS	79	97*	
78	33.2	NS	NS	NS	NS	90*	
84	38.5	NS	NS	NS	NS	83*	

ROUND PIPE - 3" X 1" CORRUGATION							
D (IN)	AREA (SQ. FT.)	MAXIMUM HEIGHT OF COVER (FT.)					MIN. HEIGHT OF COVER (FT.)
		SHEET THICKNESS IN INCHES (GAGE)					
		0.064 (18)	0.079 (14)	0.109 (12)	0.138 (10)	0.168 (8)	
36	7.1	81	100+	100+	NA	NA	SEE DWG 703
42	9.6	70	87	100+	NA	NA	
48	12.6	61	76	100+	100+	NA	
54	16.0	54	68	95	100+	NA	
60	19.6	48	61	85	100+	NA	
66	23.8	44	55	78	100+	100+*	
72	28.3	NS	51	71	91	100+*	
78	33.2	NS	47	66	84	100+*	
84	38.5	NS	43	61	78	100+*	
90	44.2	NS	40	57	73	90*	
96	50.3	NS	NS	53	68	84*	
102	56.7	NS	NS	50	64	79*	
108	63.6	NS	NS	47	61	75*	
114	70.9	NS	NS	NS	58	71*	
120	78.5	NS	NS	NS	55	67*	
132	95.0	NS	NS	NS	50	61*	

ROUND PIPE - 5" X 1" CORRUGATION							
D (IN)	AREA (SQ. FT.)	MAXIMUM HEIGHT OF COVER (FT.)					MIN. HEIGHT OF COVER (FT.)
		SHEET THICKNESS IN INCHES (GAGE)					
		0.064 (18)	0.079 (14)	0.109 (12)	0.138 (10)	0.168 (8)	
36	7.1	72	90	100+	NA	NA	SEE DWG 703
42	9.6	62	77	100+	NA	NA	
48	12.6	54	68	95	100+	NA	
54	16.0	48	60	84	100+	NA	
60	19.6	43	54	76	98	NA	
66	23.8	39	49	69	89	100+*	
72	28.3	NS	45	63	81	100+*	
78	33.2	NS	41	58	75	92*	
84	38.5	NS	38	54	70	85*	
90	44.2	NS	36	50	65	80*	
96	50.3	NS	NS	47	61	75*	
102	56.7	NS	NS	44	57	70*	
108	63.6	NS	NS	42	54	66*	
114	70.9	NS	NS	NS	51	63*	
120	78.5	NS	NS	NS	49	60*	
132	95.0	NS	NS	NS	44	54*	

PIPE ARCH - 2-2/3" X 1/2" CORRUGATION							
SPAN (IN)	RISE (IN)	EQUIV. ROUND PIPE (IN)	AREA (SQ. FT.)	MINIMUM SHEET THICKNESS REQUIRED (IN) (GA)	MAXIMUM HEIGHT OF COVER (FT)		MIN. HEIGHT OF COVER (FT.)
					MAXIMUM CORNER PRESSURE-LBS/SQ.FT		
					4000	6000	
17	13	15	1.1	.064 (16)	12	14	SEE DWG 703
21	15	18	1.6	.064 (16)	10	14	
24	18	21	2.2	.064 (16)	7	13	
28	20	24	2.9	.064 (16)	5	11	
35	24	30	4.5	.064 (16)	NS	7	
42	29	36	6.5	.079 (14)	NS	7	
49	33	42	8.9	.079 (14)	NS	6	
57	38	48	11.6	.109 (12)	NS	8	
64	43	54	14.7	.109 (12)	NS	9	
71	47	60	18.1	.138 (10)	NS	10	
77	52	66	21.9	.168 (8)*	5	10	
83	57	72	26.0	.168 (8)*	5	10	

PIPE ARCH - 3" X 1" AND 5" X 1" CORRUGATION							
SPAN (IN)	RISE (IN)	EQUIV. ROUND PIPE (IN)	AREA (SQ. FT.)	MINIMUM SHEET THICKNESS REQUIRED (IN) (GA)	MAXIMUM HEIGHT OF COVER (FT)		MIN. HEIGHT OF COVER (FT.)
					MAXIMUM CORNER PRESSURE-LBS/SQ.FT		
					4000	6000	
40	31	36	7.0	.079 (14)	8	12	SEE DWG 703
46	36	42	9.4	.079 (14)	8	13	
53	41	48	12.3	.079 (14)	8	13	
60	46	54	15.6	.079 (14)	8	13	
66	51	60	19.3	.079 (14)	9	13	
73	55	66	23.2	.079 (14)	11	16	
81	59	72	27.4	.079 (14)	11	17	
87	63	78	32.1	.109 (12)	10	16	
95	67	84	37.0	.109 (12)	11	17	
103	71	90	42.4	.109 (12)	10	15	
112	75	96	48.0	.109 (12)	10	16	
117	79	102	54.2	.109 (12)	10	15	
128	83	108	60.5	.138 (10)	9	14	
137	87	114	67.4	.138 (10)	8	13	
142	91	120	74.5	.168 (8)*	7	12	

\* AVAILABILITY SHOULD BE QUALIFIED BEFORE SPECIFYING  
 NA - NOT AVAILABLE  
 NS - NOT APPROVED (FOR HIGHWAY H-20 LOADINGS)

City of Buford, Georgia

STANDARD DRAWING

Standard Pipe Culverts - Detail No. 1

DATE: SEPTEMBER 25, 2014 SHEET: 701

ROUND PIPE - 2-2/3' X 1/2' CORRUGATION							MIN. HEIGHT OF COVER (FT.)
D (IN)	AREA (SQ. FT.)	MAXIMUM HEIGHT OF COVER (FT.)					
		SHEET THICKNESS IN INCHES (GAGE)					
		0.060 (16)	0.075 (14)	0.105 (12)	0.135 (10)	0.164 (8)	
12	0.8	90	100+	NA	NA	NA	SEE DWG 703
15	1.2	72	90	NA	NA	NA	
18	1.8	59	75	100+	NA	NA	
21	2.4	52	65	92	NA	NA	
24	3.1	44	56	79	NA	NA	
30	4.9	NS	44	63	NA	NA	
36	7.1	NS	NS	52	68	NA	
42	9.6	NS	NS	NS	58	NA	
48	12.6	NS	NS	NS	NS	61	
54	15.9	NS	NS	NS	NS	NS	
60	19.6	NS	NS	NS	NS	NS	
66	23.8	NS	NS	NS	NS	NS	
72	28.3	NS	NS	NS	NS	NS	

ROUND PIPE - 3' X 1' CORRUGATION							MIN. HEIGHT OF COVER (FT.)
D (IN)	AREA (SQ. FT.)	MAXIMUM HEIGHT OF COVER (FT.)					
		SHEET THICKNESS IN INCHES (GAGE)					
		0.060 (16)	0.075 (14)	0.105 (12)	0.135 (10)	0.164 (8)	
36	7.1	33	42	60	NA	NA	SEE DWG 703
42	9.6	28	36	51	NA	NA	
48	12.6	24	31	45	58	NA	
54	15.9	NS	28	39	51	NA	
60	19.6	NS	24	35	46	NA	
66	23.8	NS	NS	32	42	51	
72	28.3	NS	NS	29	38	47	
78	33.2	NS	NS	NS	35	43	
84	38.5	NS	NS	NS	32	40	
90	44.2	NS	NS	NS	30	37	
96	50.3	NS	NS	NS	NS	34	
102	56.7	NS	NS	NS	NS	32	
108	63.6	NS	NS	NS	NS	NS	
114	70.9	NS	NS	NS	NS	NS	
120	78.5	NS	NS	NS	NS	NS	

PIPE ARCH - 2-2/3' X 1/2' CORRUGATION							
SPAN (IN)	RISE (IN)	EQUIV. ROUND PIPE (IN)	AREA (SQ. FT.)	MINIMUM SHEET THICKNESS REQUIRED (IN) (GA)	MAXIMUM HEIGHT OF COVER (FT)		MIN. HEIGHT OF COVER (FT.)
					MAXIMUM CORNER PRESSURE-LBS/SQ.FT		
					4000	6000	
17	13	15	1.1	.060 (16)	12	15	SEE DWG 703
21	15	18	1.6	.060 (16)	10	14	
24	18	21	2.2	.060 (16)	7	13	
28	20	24	2.9	.075 (14)	5	11	
35	24	30	4.5	.105 (12)	NS	7	
42	29	36	6.5	.105 (12)	NS	7	
49	33	42	8.9	.135 (10)	NS	6	
57	38	48	11.6	.164 (8)	NS	8	
64	43	54	14.7	.164 (8)	NS	9	
71	47	60	18.1	.164 (8)	NS	10	
77	52	66	21.9	.164 (8)	NS	10	
83	57	72	26.0	.164 (8)	NS	10	

PIPE ARCH - 3' X 1' AND 5' X 1' CORRUGATION							
SPAN (IN)	RISE (IN)	EQUIV. ROUND PIPE (IN)	AREA (SQ. FT.)	MINIMUM SHEET THICKNESS REQUIRED (IN) (GA)	MAXIMUM HEIGHT OF COVER (FT)		MIN. HEIGHT OF COVER (FT.)
					MAXIMUM CORNER PRESSURE-LBS/SQ.FT		
					4000	6000	
40	31	36	7.0	.075 (14)	8	12	SEE DWG 703
46	36	42	9.4	.075 (14)	8	13	
53	41	48	12.3	.075 (14)	8	13	
60	46	54	15.6	.075 (14)	8	13	
66	51	60	19.3	.075 (14)	8	13	
73	55	66	23.2	.105 (12)	11	16	
81	59	72	27.4	.105 (12)	11	17	
87	63	78	32.1	.135 (10)	10	16	
95	67	84	37.0	.135 (10)	11	17	
103	71	90	42.4	.135 (10)	10	15	
112	75	96	48.0	.164 (8)	10	16	
117	79	102	54.2	.164 (8)	10	15	

NA - NOT AVAILABLE  
 LA - LIMITED AVAILABILITY  
 NS - NOT APPROVED (FOR HIGHWAY H-20 LOADINGS)

City of Buford, Georgia

STANDARD DRAWING

Standard Pipe Culverts - Detail No. 2

DATE: SEPTEMBER 25, 2014 SHEET: 702

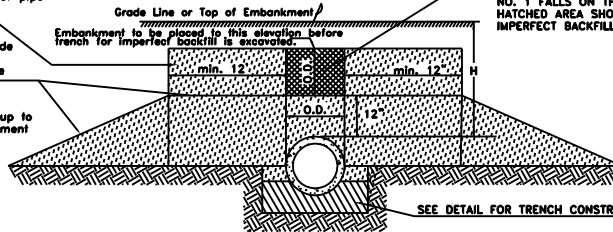
**NORMAL BACKFILL**

Backfill, as shown by the broken line sections, shall consist of placing compactable soil in 6" (Loose) layers and compacting each layer (according to DOT Standard Specifications) on both sides of pipe for its full length.

Normal embankment shall be placed a minimum of 12' wide on each side of the pipe and of least the minimum cover over the pipe and compacted to the required density before equipment is allowed to cross.

After backfill has been compacted, the balance of the fill up to grade line shall be constructed in accordance with embankment specifications.

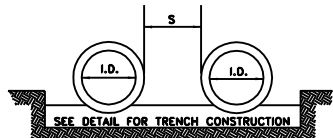
**LONGITUDINAL SECTION OF IMPERFECT TRENCH BACKFILL AND BACKFILL METHODS**



**IMPERFECT BACKFILL**

IMPERFECT BACKFILL WILL BE USED WITH CONCRETE PIPE IF AN EXTRAPOLATION OF FILL HEIGHT AND PIPE DIAMETER IN TABLE NO. 1 FALLS ON THE RIGHT SIDE OF THE HEAVY LINE, CROSS HATCHED AREA SHOWS LIMITS OF STRUCTURE EXCAVATION AND IMPERFECT BACKFILL MATERIAL TYPE III IN THIS VIEW.

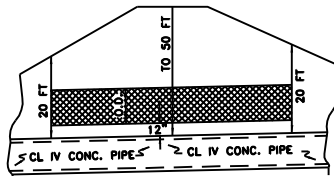
**MULTIPLE PIPE CULVERT SPACING**



NOTE: For Multiple Lines of C.M. Pipe with metal Flared End Sections, S may be increased enough to avoid overlap of End Section wingtips. Location of metal End Section should be determined before placement of pipe.

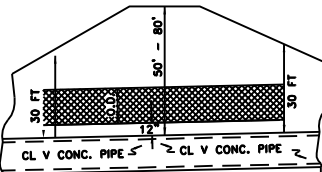
**CROSS SECTIONS OF IMPERFECT TRENCH BACKFILL**

CROSS HATCHED AREAS SHOW LIMITS OF CONSTRUCTION FOR STRUCTURE EXCAVATION & IMPERFECT TRENCH BACKFILL MATERIAL, TYPE III



(FOR CONDITIONS BETWEEN HEAVY LINE & DOUBLE LINE, TABLE NO.1)

**DETAIL 'A'**

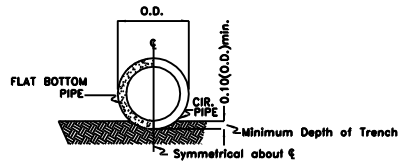


(FOR CONDITIONS ON RIGHT SIDE OF DOUBLE LINE, TABLE NO.1)

**DETAIL 'B'**

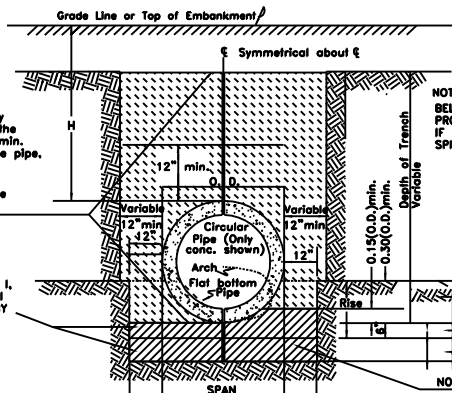
NOTE: BELL HOLES SHALL BE PROVIDED IN BEDDING IF PIPE HAS BELL AND SPIGOT JOINTS.

**TRENCH CONSTRUCTION FOR SIDE DRAIN**



NOTE: THE PIPE SHALL BE BEDDED TO LINE AND GRADE IN A FIRM FOUNDATION SHAPED TO FIT THE LOWER PART OF THE PIPE EXTERIOR, WHERE ROCK EXISTS, EXCAVATE AND BACKFILL WITH COMPRESSIBLE MATERIAL (Unclassified Excavation) A MINIMUM OF 6" BELOW THE PIPE.

**TRENCH CONSTRUCTION FOR STORM DRAIN**



Backfill to be mechanically compacted to the top of the trench or to a height of min. cover above the top of the pipe, whichever is greater.

For construction details see note for Normal Backfill.

FOUNDATION BACKFILL MATERIAL TYPE I, WHEN REQUIRED SHALL BE CLASS I, II OR III-A SOILS APPROVED FOR USE BY THE CITY.

FOR EXCAVATION FOR PIPE-ARCH CULVERTS SUBSTITUTE SPAN AND RISE FOR OUTSIDE DIAMETER OF PIPE IN HORIZONTAL AND VERTICAL DIMENSIONS SPECIFIED IN DETAIL.

NOTE: PIPE SHALL BE BEDDED IN A FOUNDATION SHAPED TO FIT THE LOWER PART OF PIPE EXTERIOR.

NOTE: Where an incompressible foundation exists, excavate an additional 6". Where an unstable foundation material is encountered, excavate an additional depth as shown on Plans or as directed by the City.

**TABLE NO. 1**

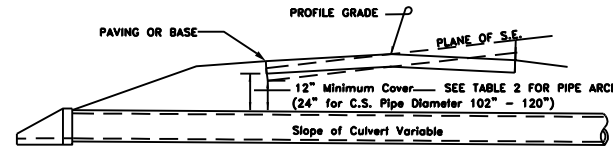
TABLE SHOWING THE MINIMUM CLASSES OF CONCRETE PIPE FOR VARIOUS HEIGHTS OF FILL ABOVE TOP OF PIPE

PIPE DIAMETER (Inches)	HEIGHT OF FILL IN FEET ABOVE TOP OF PIPE											
	1-10	10-15	15-20	20-25	25-30	30-35	35-40	40-50	50-60	60-70	70-80	80-90
12	III	III	IV	V	V	IV	IV	IV	V	V	V	
15	III	III	IV	V	V	IV	IV	IV	V	V	V	
18	III	III	IV	V	V	IV	IV	IV	V	V	V	
24	III	III	IV	V	V	IV	IV	IV	V	V	V	
30	III	III	IV	V	V	IV	IV	IV	V	V	V	
36	III	III	IV	V	V	IV	IV	IV	V	V	V	
42	III	III	IV	V	V	IV	IV	IV	V	V	V	
48	III	III	IV	V	V	IV	IV	IV	V	V	V	
54	III	III	IV	V	V	IV	IV	IV	V	V	V	
60	III	III	IV	V	V	IV	IV	IV	V	V	V	
66	III	III	IV	V	V	IV	IV	IV	V	V	V	
72	III	III	IV	V	V	IV	IV	IV	V	V	V	
78	III	III	IV	V	V	IV	IV	IV	V	V	V	
84	III	III	IV	V	V	IV	IV	IV	V	V	V	
90	III	III	IV	V	V	IV	IV	IV	V	V	V	
96	III	III	IV	V	V	IV	IV	IV	V	V	V	
102	III	III	IV	V	V	IV	IV	IV	V	V	V	
108	III	III	IV	V	V	IV	IV	IV	V	V	V	

FOR CONDITIONS TO THE RIGHT OF THE HEAVY LINE & DOUBLE LINE CLASS IV CONCRETE PIPE REQUIRES IMPERFECT BACKFILL ACCORDING TO DETAIL "A".

FOR CONDITIONS TO THE RIGHT OF THE DOUBLE LINE CLASS V CONCRETE PIPE REQUIRES IMPERFECT BACKFILL ACCORDING TO DETAIL "B".

**DETAIL SHOWING MINIMUM COVER FOR PIPE CULVERTS**



**TABLE NO. 3 - (INFORMATION ONLY)**

	Cor. Metal Thickness	Equivalent Gage
STEEL	0.064	16
	0.079	14
	0.109	12
	0.138	10
	0.168	8

**TABLE NO. 2 (PIPE-ARCH)**

TABLE SHOWING MINIMUM THICKNESS IN INCHES OF CORRUGATED STEEL AND MAXIMUM HEIGHTS OF FILL ABOVE THE TOP OF THE PIPE-ARCH.

Diameter of Pipe of Equal Periphery Min.	SPAN INCH	RISE INCH	MIN. THICKNESS (Inches) CORR. STEEL	MINIMUM MAX. HT.	
				COVER INCHES	FILL FEET
15	17	13	.084	18	13
18	21	15	.084	18	12
21	24	18	.084	18	10
24	28	20	.084	18	9
30	35	24	.084	18	9
36	42	29	.084	18	7
	40	31	.079	18	12
42	48	33	.079	18	7
	48	36	.079	18	12
48	57	38	.109	18	7
	53	41	.079	18	12
54	64	43	.109	18	7
	80	46	.079	18	12
60	71	47	.138	18	7
	66	51	.079	18	12
	77	52	.188	18	7
66	73	55	.079	18	15
72	83	57	.188	18	8
	81	59	.079	18	15
78	87	63	.079	18	14
84	95	67	.109	18	12
90	103	71	.109	24	11

① DENOTES 2-2/3"x1/2" CORRUGATION.

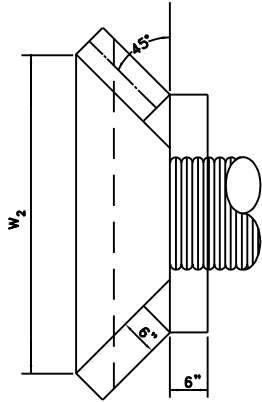
② DENOTES 3"x1" CORRUGATION.

City of Buford, Georgia

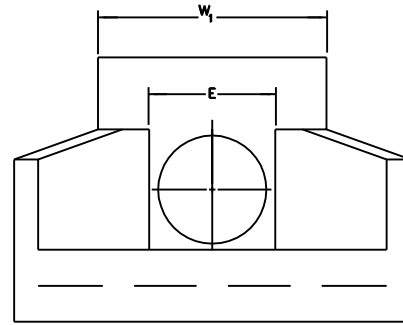
STANDARD DRAWING

Standard Pipe Culverts - Concrete Pipe

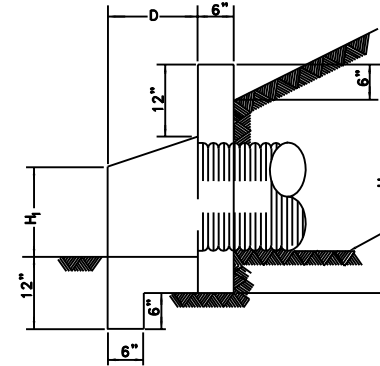
DATE: SEPTEMBER 25, 2014 SHEET: 703



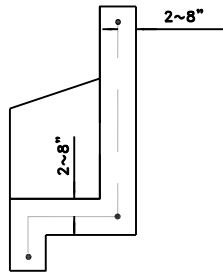
**PLAN**



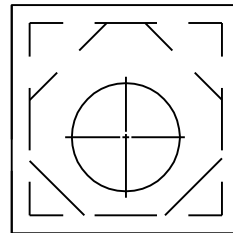
**FRONT ELEVATION**



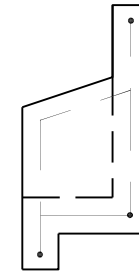
**SIDE**



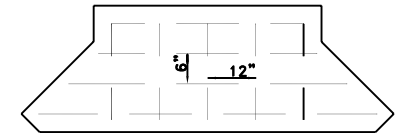
**BASE AND WALL SECTION**



**WALL SECTION**



**WING SECTION**



**BASE SECTION**

TABLE 1								
HEADWALL DIMENSIONS FOR METAL PIPE*								
INSIDE DIA. OF PIPE	W <sub>1</sub>	W <sub>2</sub>	H <sub>1</sub>	H <sub>2</sub>	D	E	WT.	BASE AREA (SQ.FT.)
18"	3'-2"	4'-10"	1'-3"	3'-2"	1'-3"	1'-9"	1,550	7.34
21",24"	3'-8"	6'-1"	1'-9"	3'-8"	1'-6"	2'-3"	2,100	9.90
30"	4'-2"	7'-2"	2'-0"	4'-2"	1'-10"	2'-9"	2,850	13.50
36"	4'-8"	8'-4"	2'-4"	4'-8"	2'-2"	3'-3"	3,700	17.65
42",48",54"	5'-8"	10'-10"	3'-3"	5'-8"	2'-11"	4'-3"	5,600	28.60

**NOTES:**

1. CONCRETE: MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4500 PSI.
2. REINFORCEMENT STEEL TO BE 1/2"Ø, GRADE 60.
3. CHAMFER ALL EXPOSED EDGES 3/4".

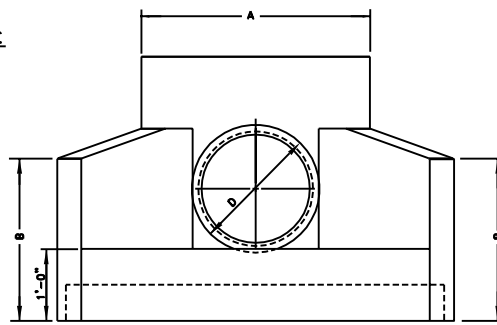
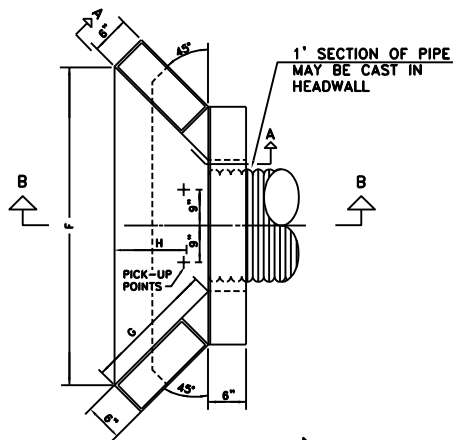
\*USE NEXT LARGER SIZE FOR CONCRETE PIPE

City of Buford, Georgia

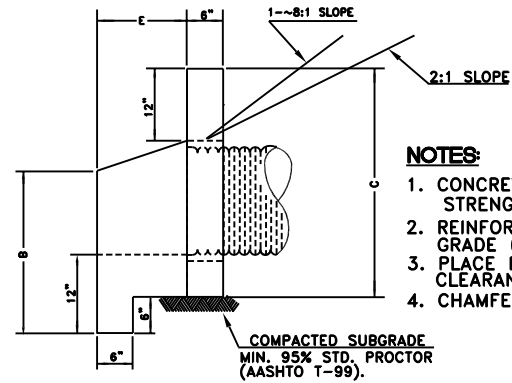
STANDARD DRAWING

Precast Concrete Headwall System

DATE: SEPTEMBER 25, 2014 SHEET: 704



**FRONT ELEVATION**

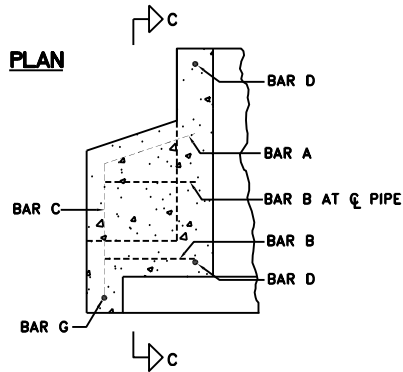


**SIDE ELEVATION**

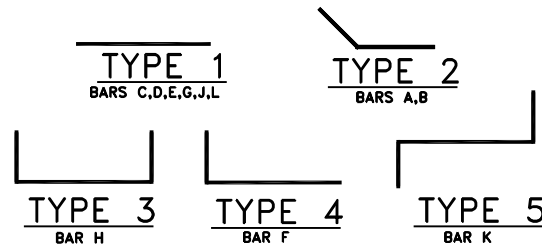
**NOTES:**

1. CONCRETE: MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI.
2. REINFORCEMENT STEEL TO BE 1/2"Ø, GRADE 60.
3. PLACE REINFORCEMENT 2" MINIMUM CLEARANCE.
4. CHAMFER ALL EXPOSED EDGES 3/4".

COMPACTED SUBGRADE  
MIN. 95% STD. PROCTOR  
(AASHTO T-99).

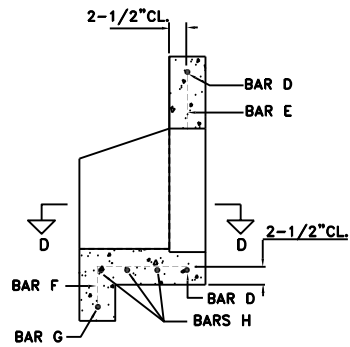


**PLAN**

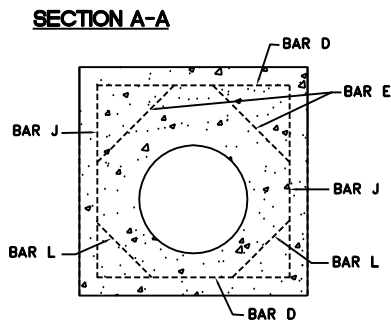


**VARIABLE DIMENSIONS (CONCRETE PIPE)**

CU YDS CONC	INSIDE DIA PIPE	AREA DIA PIPE	A	B	C	D	E	F	G	H	WT	BASE AREA
0.43	18"	1.76	3'-3"	2'-4"	3'-4~8"	2'-0"	1'-6"	4'-10"	2'-0"	1'-0~4"	1,763	8.30
0.50	21"	2.40	3'-8~8"	2'-6"	3'-6"	2'-3~8"	1'-6"	5'-3~8"	2'-1~8"	1'-0~4"	2,020	9.40
0.51	24"	3.14	4'-0"	2'-9"	3'-11"	3'-1"	1'-8"	5'-11"	2'-4~8"	1'-1~4"	2,088	11.80
0.79	30"	4.91	4'-6~8"	3'-1"	4'-5~8"	3'-1~8"	2'-0"	7'-1~8"	2'-10"	1'-3~4"	3,162	16.10
1.00	36"	7.07	5'-1"	3'-8"	6'-0"	3'-8"	2'-4"	8'-0"	3'-3~8"	1'-6"	4,069	19.60



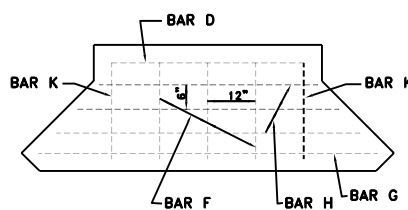
**SECTION B-B**



**SECTION C-C**

**BAR REIN. DETAILS**

REIN. STEEL TO BE 1/2"Ø BARS.



**SECTION D-D**

**VARIABLE DIMENSIONS (METAL PIPE)**

CU YDS CONC	INSIDE DIA PIPE	AREA DIA PIPE	A	B	C	D	E	F	G	H	WT	BASE AREA
0.38	18"	1.76	3'-2"	2'-3"	3'-2"	1'-9"	1'-4"	4'-8"	1'-10~8"	0'-11~4"	1,649	7.34
0.44	21"	2.40	3'-5"	2'-5"	3'-5"	2'-0"	1'-6"	4'-10"	2'-0"	1'-0~4"	1,770	8.32
0.52	24"	3.14	3'-6"	2'-7"	3'-8"	2'-3"	1'-7"	6'-8"	2'-3"	1'-1~4"	2,108	9.90
0.70	30"	4.91	4'-2"	2'-11"	4'-2"	2'-8"	1'-11"	6'-7"	2'-8~8"	1'-3~4"	2,854	13.50
0.91	36"	7.07	4'-8"	3'-3"	4'-8"	3'-3"	2'-3"	7'-0"	3'-2~4"	1'-3~6"	3,676	17.65

City of Buford, Georgia

STANDARD DRAWING

Cast Concrete Headwall

DATE: SEPTEMBER 25, 2014

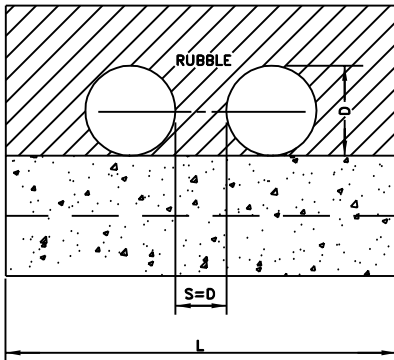
SHEET: 705



**NOTE:**

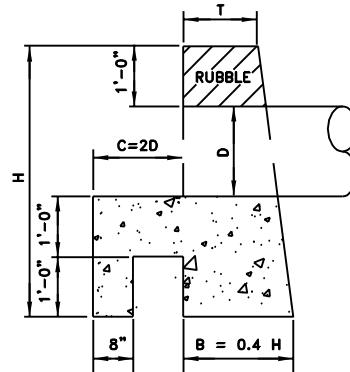
TO BE USED WHERE SPILLING OF MATERIAL AROUND THE END OF WALL WILL NOT IMPEDE FLOW. USE ONLY WHEN AUTHORIZED BY THE CITY.

CONCRETE FOOTING MAY BE USED BELOW PIPE

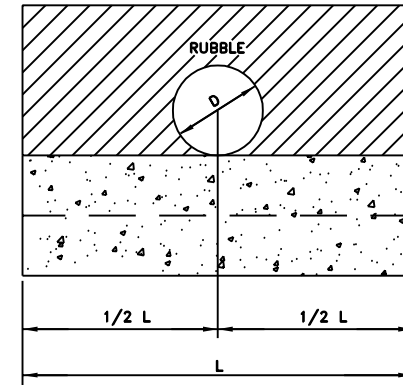


**DOUBLE LINE OF PIPE**

CONCRETE FOOTING MAY BE USED BELOW PIPE



**SECTION**



**SINGLE LINE OF PIPE**

**DIMENSIONS AND QUANTITIES FOR ONE END WALL - SINGLE LINE OF PIPE**

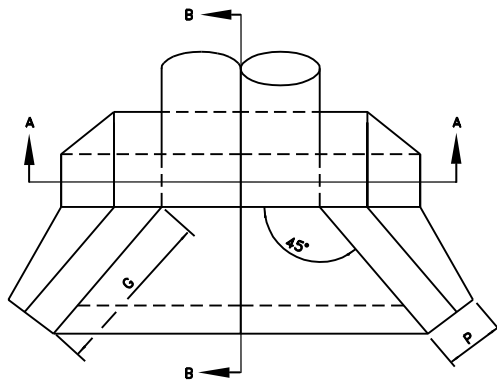
D	H	L	T	B	BATTER	CY
12"	4'-0"	4'-6"	15"	1'-7"	1:1	0.91
15"	4'-3"	5'-6"	15"	1'-8"	1-1/4:1	1.22
18"	4'-6"	6'-6"	15"	1'-10"	1-5/8:1	1.58
21"	4'-9"	7'-6"	15"	1'-11"	1-3/4:1	2.03
24"	5'-0"	8'-6"	15"	2'-0"	1-3/4:1	2.37
30"	5'-6"	10'-6"	15"	2'-2"	2-1/8:1	3.40
36"	6'-0"	12'-6"	15"	2'-5"	2-3/8:1	4.68
42"	6'-6"	14'-6"	15"	2'-7"	2-1/2:1	5.30
48"	7'-0"	16'-6"	15"	2'-10"	2-3/4:1	6.12
54"	7'-6"	18'-6"	15"	3'-0"	2-7/8:1	6.99
60"	8'-0"	20'-6"	15"	3'-3"	3:1	7.92
66"	8'-6"	22'-6"	15"	3'-5"	3:1	8.93
72"	9'-0"	24'-6"	15"	3'-7"	3-1/8:1	9.99

City of Buford, Georgia

STANDARD DRAWING

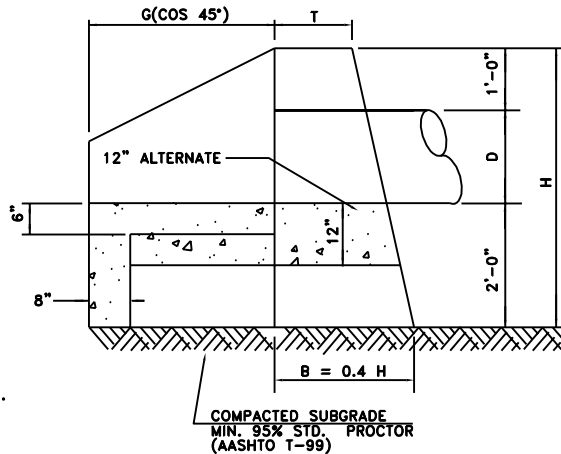
Standard Rubble Headwall

DATE: SEPTEMBER 25, 2014 SHEET: 706



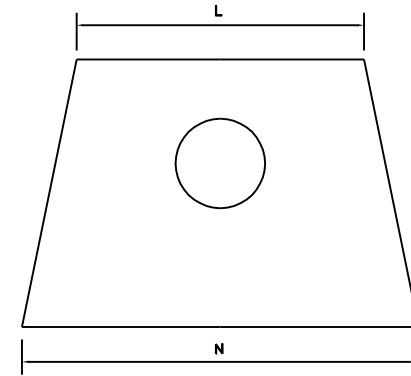
CONCRETE FOR APRON: MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI.

**PLAN**



COMPACTED SUBGRADE  
MIN. 95% STD. PROCTOR  
(AASHTO T-99)

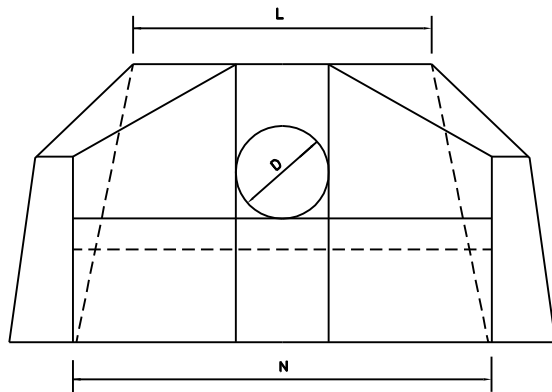
**SECTION B-B**



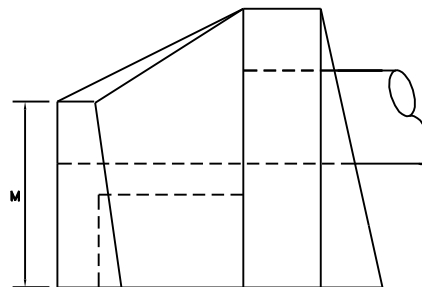
**SECTION A-A**

**NOTE:**

HEADWALLS TO BE BUILT ACCORDING TO GDOT STANDARD SPECIFICATIONS FOR CEMENT RUBBLE MASONRY. STONE TO BE BEDDED IN 1/3 PORTLAND CEMENT MORTAR. HEADERS TO BE DISTRIBUTED THROUGH WALLS SO AS TO FORM ABOUT ONE SIXTH OF FACE OF WALL, AND TO EXTEND ENTIRELY THROUGH THE WALL. WALLS TO BE NEATLY TOPPED WITH A LAYER OF 1-1 MORTAR, AT LEAST 1" THICK, TROWELED SMOOTH, AND BEVELED AT EDGES. DEPTH OF WALL BELOW PIPE TO BE VARIED TO SUIT LOCAL CONDITIONS. WHERE DEPTH OF WALL IS INCREASED BY MORE THAN 2'-0", USE 0.4 OF HEIGHT FOR WIDTH OF BASE INSTEAD OF CONTINUING BATTER. 12" ALTERNATE FOOTING MAY BE USED.



**FRONT ELEVATION**



**SIDE ELEVATION**

**VARIABLE DIMENSIONS**

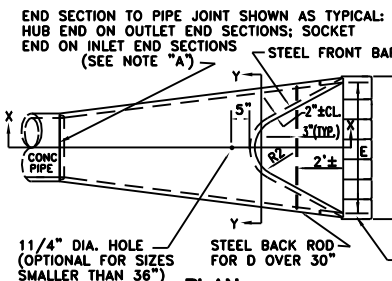
D	B	G	H	L	M	N	P	T
18	1'-10"	3'-4"	4'-6"	5'-0"	3'-4"	6'-4"	1'-4"	15"
21	1'-11"	3'-6"	4'-9"	5'-3"	3'-6"	6'-11"	1'-5"	15"
24	2'-0"	3'-9"	5'-0"	5'-6"	3'-9"	7'-4"	1'-6"	15"
30	2'-2"	4'-0"	5'-6"	6'-0"	4'-1"	8'-4"	1'-8"	15"
36	2'-5"	4'-6"	6'-0"	6'-6"	4'-5"	9'-4"	1'-10"	15"
42	2'-7"	4'-11"	6'-6"	7'-0"	4'-9"	10'-2"	1'-11"	15"
48	2'-10"	5'-5"	7'-0"	7'-6"	5'-1"	11'-4"	2'-1"	15"
54	3'-0"	5'-11"	7'-6"	8'-0"	5'-5"	12'-2"	2'-2"	15"
60	3'-3"	6'-4"	8'-0"	8'-6"	5'-9"	13'-4"	2'-5"	15"
66	3'-5"	6'-10"	8'-6"	9'-0"	6'-1"	14'-6"	2'-6"	15"
72	3'-7"	7'-4"	9'-0"	9'-6"	6'-5"	15'-2"	2'-7"	15"

City of Buford, Georgia

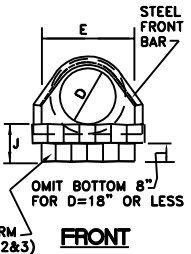
STANDARD DRAWING

Standard Rubble Headwall With Wings

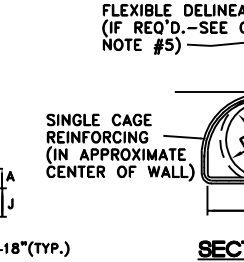
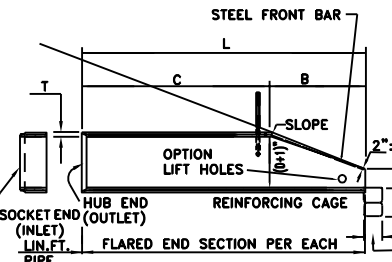
DATE: SEPTEMBER 25, 2014 SHEET: 707



**CONCRETE FLARED END SECTION**  
 INSTALLATION: (D OVER 30") CABLE, CHAIN, OR LIFTING PIN WILL EXTEND THRU 1-1/4" HOLE WITH A PLATE OR REBAR CONNECTED INSIDE THE CONC. SECTION TO PROVIDE ADEQUATE BEARING AREA OR A LIFTING ASSEMBLY DEVICE MAY BE USED TO GIVE 3 LIFT POINTS. HOOKS CONNECTED DIRECTLY TO CONCRETE IS NOT PERMITTED DAMAGE FROM IMPROPER HANDLING SHALL BE CAUSE FOR REJECTION.  
 TOEWALL IF REQ'D (TYPICAL FOR STORM DRAIN OUTLETS, SEE GEN. NOTES #1,2&3)



**NOTE:**  
 DO NOT CUT CONCRETE PIPE. USE FULL LENGTH SECTIONS ONLY. WARP SLOPE TO CONFORM WITH PIPE LENGTH AND END SECTION.



**REINFORCING CAGE:**  
 (1) WIRE FABRIC HAVING SAME STEEL AREA AS INNER CAGE FOR CL. III PIPE, AASHTO M-170, BUT PLACED IN CENTER OF WALL.  
 (2) ALTERNATE: #3 BARS SPACED 12"± LONGITUDINALLY WITH #2 BARS TRANSVERSELY AT 6" O.C. MAX. SPACING, SPOT WELDED OR TIED TO FORM CAGE. (BACK RODS MAY BE OMITTED.)

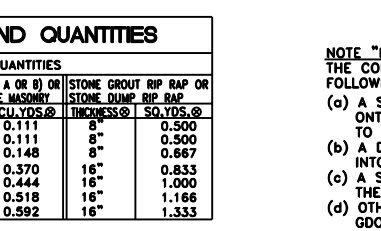
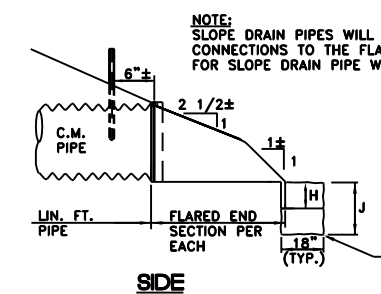
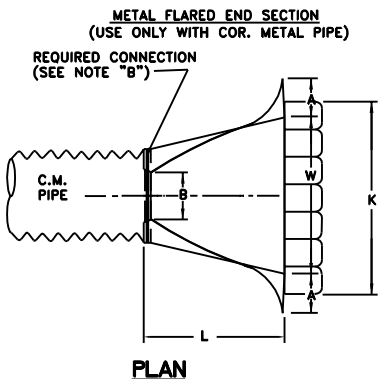
**NOTE "A":**  
 CONTRACTOR WILL INFORM PRODUCER IF CONCRETE FLARED END SECTION IS FOR INLET OR FOR OUTLET END. SOCKET (TONGUE OR SPIGOT) END IS REQUIRED FOR INLETS. HUB (GROOVE OR BELL) END IS REQUIRED FOR OUTLETS. SOCKET TO SOCKET OR HUB TO HUB JOINT WILL NOT BE ACCEPTED UNLESS A REINFORCED CONCRETE COLLAR IS BUILT AROUND THE JOINT WITH NO PAYMENT BEING MADE FOR THE COLLAR. FLARED END SECTIONS TO BE JOINED TO PIPE WITH ALL SPACE IN THE JOINT FILLED WITH EITHER BITUMINOUS PLASTIC CEMENT OR PRE-FORMED PLECTIC GASKET (GDOT SEC. 848).

WALL THICKNESS (T) IS SHOWN AS NOMINAL AND MAY BE INCREASED AT PRODUCER'S OPTION FOR DESIRED JOINT DESIGN OR TO ALLOW A FLAT OUTSIDE BOTTOM ON THE FLARE, WITH INSIDE DIMENSIONS OF FLARE RETAINED AS SHOWN. T=PIPE WALL THICKNESS (0.0833D±2" TYPICAL)

**DIMENSIONS AND REINFORCING FOR CONCRETE FLARED END SECTIONS ( ± 1" TOLERANCE )**

PIPE DIA.	FRONT BAR	BACK RODS	SLOPE	A	B	C	L	E	P	R1	R2
12"	3x5/4"	NOT REQ'D	2:2	4	2	0	4	1	6	1	8
15"	3x6/0"	NOT REQ'D	2:2	6	2	3	10	6	1	2	6
18"	3x7/2"	NOT REQ'D	2:2	8	2	3	10	6	1	3	0
24"	3x9/10"	NOT REQ'D	2:4	10	1	3	8	2	6	2	9
30"	4x11/8"	NOT REQ'D	2:4	12	4	6	18	6	2	5	0
36"	4x13/10"	4x6	3:2	14	5	3	12	11	8	2	6
42"	4x13/10"	4x7	4:2	16	5	3	12	11	8	2	6

**NOTE:**  
 SPECIFIED REINFORCING IS MINIMAL AND MAY BE INCREASED AT PRODUCER'S OPTION TO AID CASTING & HANDLING. ALTERNATE REINFORCEMENT PERMITTED IF APPROVED.



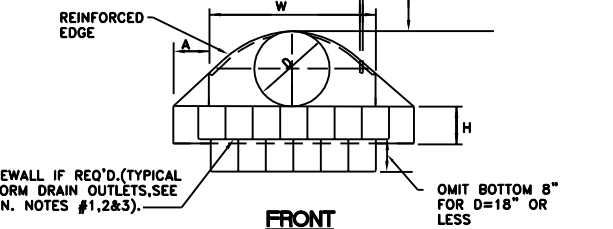
**NOTE:**  
 GALVANIZED STEEL FLARED END SECTIONS ARE TO BE USED ONLY WITH CORRUGATED STEEL PIPE UNLESS OTHERWISE APPROVED BY GDOT OFFICE OF MATERIAL AN TESTS.

**FLARED END SECTION DIMENSIONS**

PIPE SIZE "D"	THICKNESS		A = 0.40 ± 1"	B = 0.5D ± 1"	H = 0.25D ± 1" (MIN 6")	L = 1.67D ± 11\2"	W = 2.0D ± 2"
	GALV. STEEL						
12"	.064"		5"	6"	6"	1'8"	2'0"
15"	.064"		6"	7"	6"	2'3"	2'6"
18"	.064"		7"	9"	6"	2'6"	3'0"
24"	.064"		9"	1'0"	6"	3'4"	4'0"
30"	.079"		1'0"	1'3"	7"	4'2"	5'0"
36"	.079"		1'2"	1'6"	9"	5'0"	6'0"
42"	.109"		1'5"	1'9"	10"	5'10"	7'0"

**NOTE:**  
 WHERE METAL FLARED END SECTIONS ARE USED WITH MULTIPLE PIPE LINES, THE STANDARD SPACING BETWEEN PIPES, (S=D OR 3 FT.) MAY HAVE TO BE INCREASED (S=1.75D TYPICAL). TO PREVENT OVERLAP OF END SECTION WINGTIPS, SEE ALSO GDOT STD. 1030D.

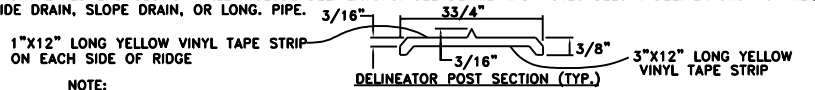
**NOTE:**  
 SLOPE DRAIN PIPES WILL REQUIRE AN ELBOW FOR CONNECTIONS TO THE FLARED END SECTION. PAYMENT FOR SLOPE DRAIN PIPE WILL INCLUDE THIS ELBOW.



**TOEWALL DIMENSIONS AND QUANTITIES**

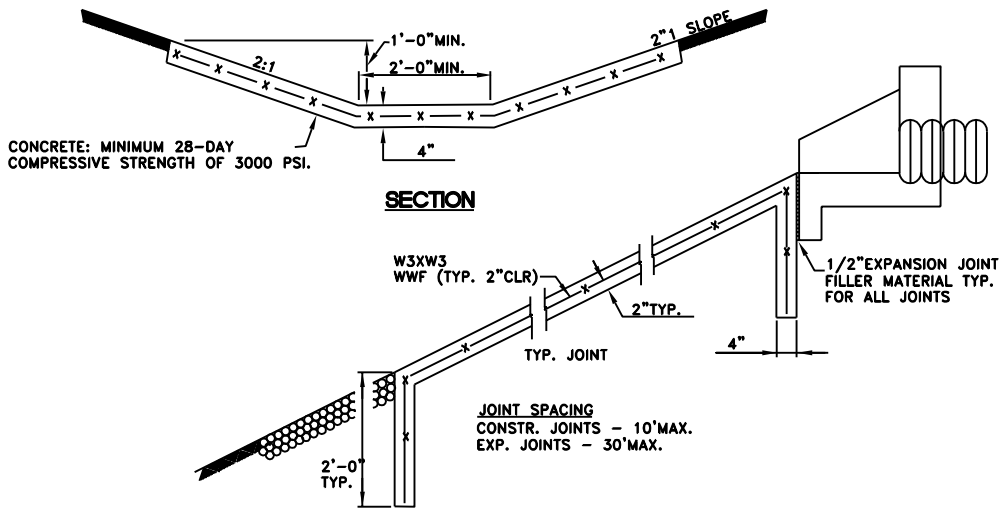
D	J	K	ALTERNATE MATERIAL QUANTITIES					
			SAND CEMENT BAG RIP RAP 8" THICK	CONCRETE (CL A OR B) OR MORTAR RUBBLE MASONRY	STONE GROUT RIP RAP OR STONE DUMP RIP RAP	THICKNESS	SO.YDS. @	SO.YDS. @
12"	8"	3'	3	0.500	3	0.111	8"	0.500
15"	8"	3'	3	0.500	3	0.111	8"	0.500
18"	8"	4'	4	0.667	4	0.148	8"	0.667
24"	16"	5'	9	1.500	10	0.370	16"	0.833
30"	16"	6'	11	1.833	12	0.444	16"	1.000
36"	16"	7'	13	2.167	14	0.518	16"	1.166
42"	16"	8'	15	2.500	16	0.592	16"	1.333

**GENERAL NOTES:**  
 1. TOEWALLS ARE FOR OUTLETS OF STORM DRAINS, EXCEPT WHERE CONCRETE DITCH PAVING OR OTHER EROSION PROTECTION IS PROVIDED OR WHERE THE OUTLET VELOCITY IS LESS THAN 8 FT./SEC. TOEWALLS ARE NOT REQUIRED FOR SIDE DRAINS, SLOPE DRAINS OR INLETS OF STORM DRAINS. THIS CRITERIA MAY BE VARIED WHERE SPECIFIED BY THE DESIGNER OR ENGINEER.  
 2. TOEWALLS WHICH ARE CONSTRUCTED WILL BE PAID FOR AS SQ. YDS. OF SAND CEMENT BAG RIPRAP 8" THICK, CONTRACTOR MAY ELECT TO USE ALTERNATE MATERIALS WITH NO ADJUSTMENTS TO BE MADE FOR PAYMENT.  
 3. TOEWALL DIMENSIONS ARE NOMINAL. TOEWALLS CONSTRUCTED WITH ALTERNATE MATERIALS TO HAVE APPROXIMATELY THE SAME DIMENSIONS AS INDICATED FOR RIP RAP. TOEWALLS CONSTRUCTED WITH CONCRETE MAY BE TRENCH FORMED, PLACEMENT OF RIP RAP MAY DIFFER FROM DETAILS SHOWN IF SO APPROVED BY THE ENGINEER.  
 4. CENTERLINE OF FLARED END SECTION WILL ALIGN WITH CENTERLINE OF PIPE. IF PIPE IS SKEWED, THE EMBANKMENT SLOPE WILL BE WARPED TO CONFORM WITH END SECTION.  
 5. FLEXIBLE DELINEATORS SHALL BE REQUIRED AT CROSS DRAIN FLARED END SECTIONS BOTH INLET AND OUTLET. PAYMENT FOR FLARED END SECTION WILL INCLUDE DELINEATORS. SEE DETAIL AND NOTES BELOW. DELINEATORS NOT REQ'D. FOR SIDE DRAIN, SLOPE DRAIN, OR LONG. PIPE.

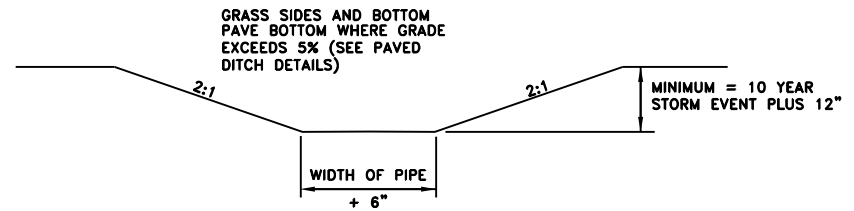


**NOTE:**  
 DELINEATOR POST TO CONFORM TO GDOT SEC. 911 FOR FLEXIBLE DELINEATOR POST, EXCEPT REFLECTIVE SHEETING IS NOT REQUIRED AND LENGTH IS 4'-6" FROM TOP TO BOTTOM POINT. ALTERNATES PERMITTED IF APPROVED BY GDOT LABORATORY.

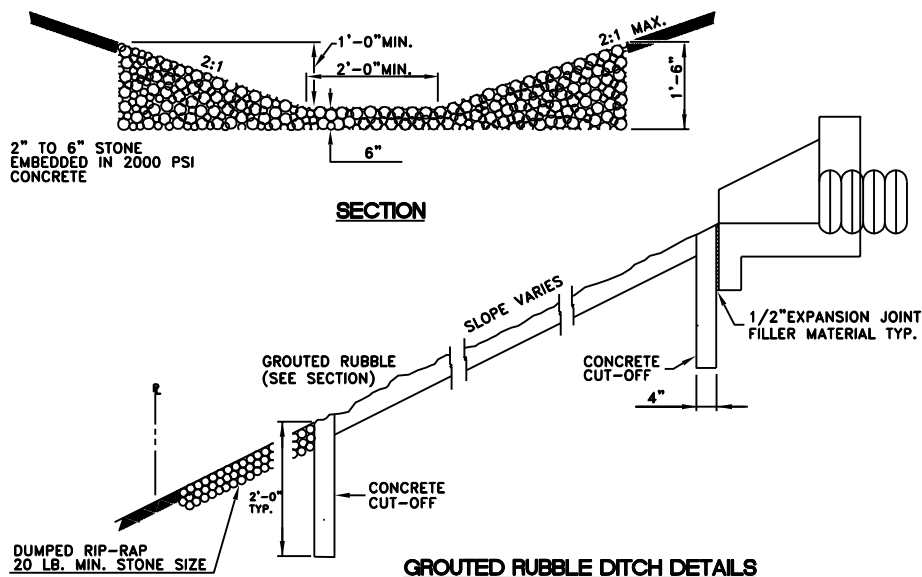
**NOTE "B":**  
 THE CONNECTION BETWEEN METAL FLARED END SECTION AND C.M. PIPE WILL BE ONE OF THE FOLLOWING:  
 (a) A STRAP BAND OR THREADED ROD PROVIDED BY THE MANUFACTURER WILL LOCK END SECTION ONTO PIPE. A CORRUGATION AT THE PIPE END WILL BE NON-SPIRALED (PERPENDICULAR TO CENTERLINE OF PIPE).  
 (b) A DIMPLE BAND COLLAR WILL BE SHOP BOLTED TO END SECTION. PIPE WILL BE INSERTED INTO THE BAND COLLAR TO MEET THE END SECTION.  
 (c) A STUB PIPE WILL BE RIVITED TO THE END SECTION AND THE MAIN PIPE CONNECTED TO THE STUB WITH A NORMAL CONNECTING BAND.  
 (d) OTHER TYPE CONNECTION IF RECOMMENDED BY MANUFACTURER AND APPROVED BY THE GDOT.



**PAVED DITCH DETAILS**



**TYPICAL DRAINAGE DITCH CROSS SECTION**

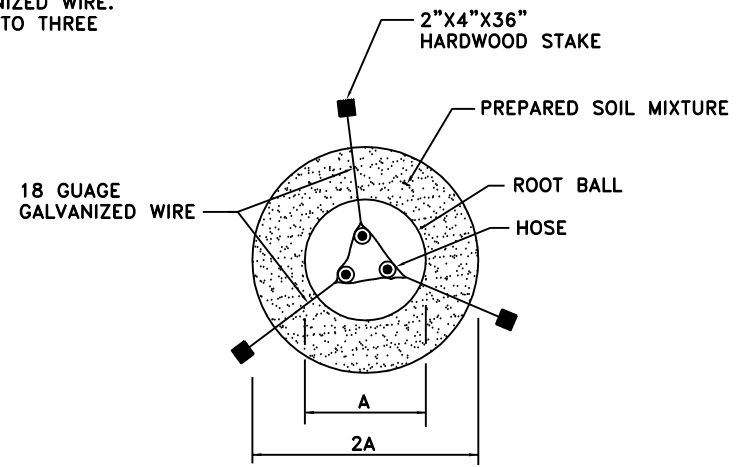
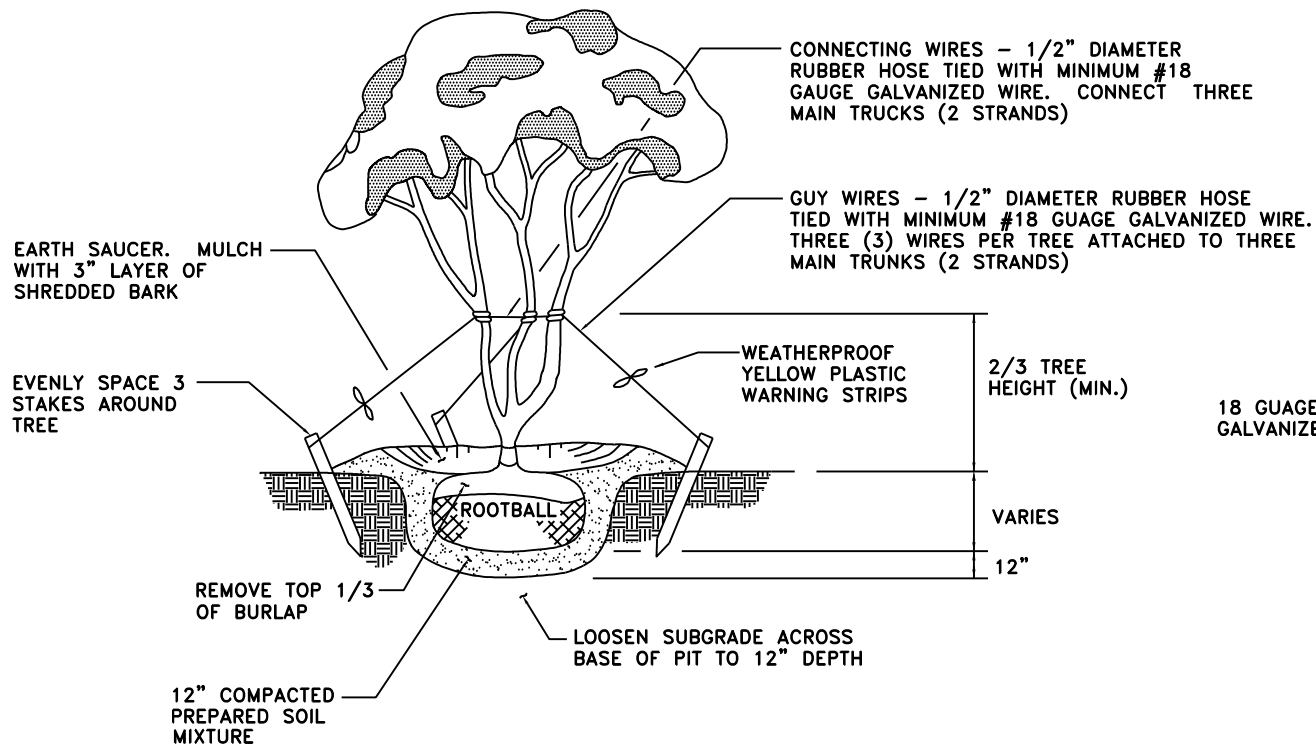


City of Buford, Georgia

STANDARD DRAWING

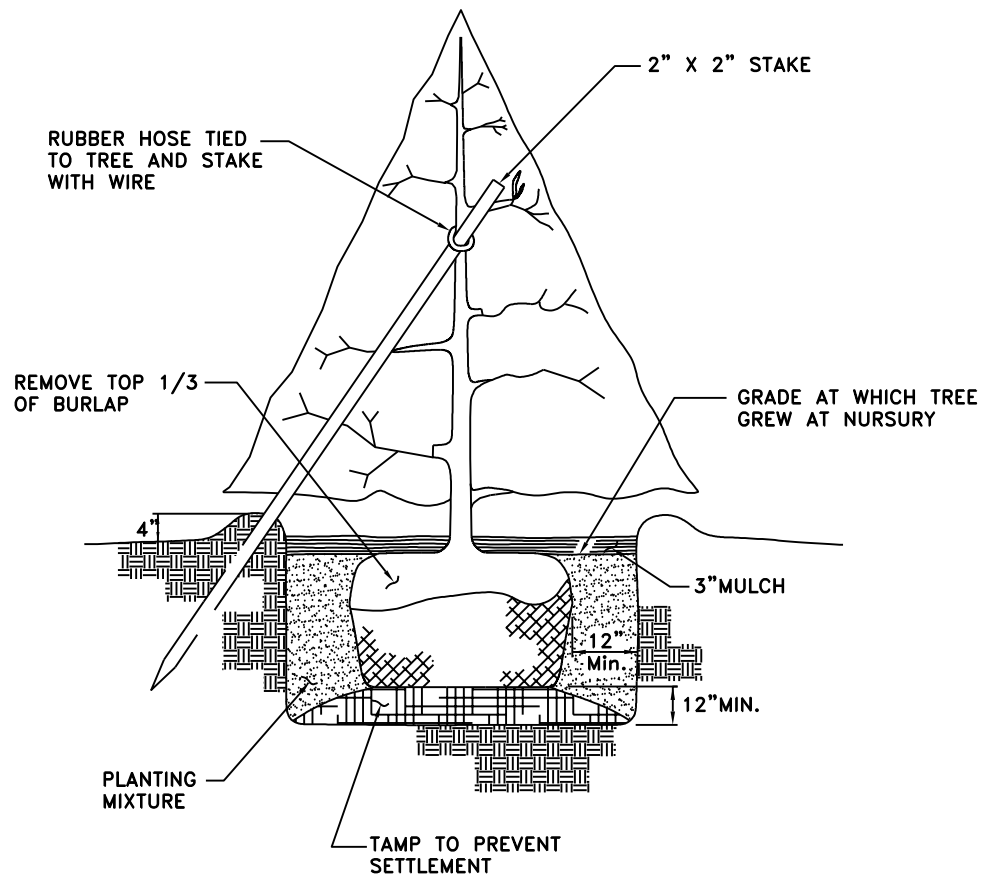
Drainage Ditch Details

DATE: SEPTEMBER 25, 2014 SHEET: 709



A = DIAMETER OF ROOT BALL  
 2A = DIAMETER OF PIT

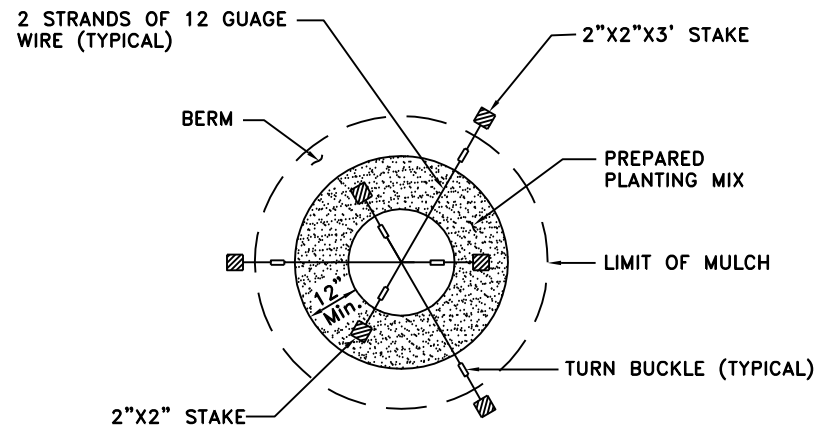
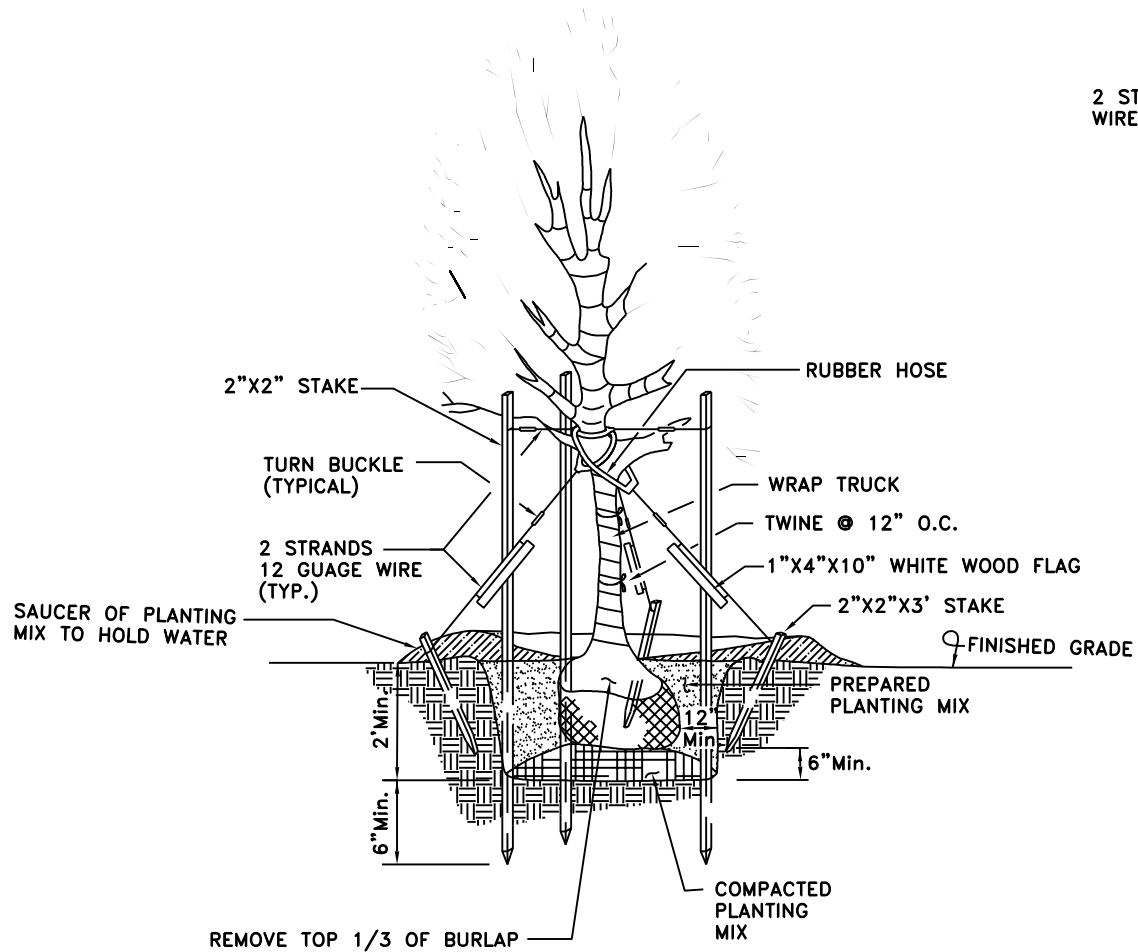
# City of Buford, Georgia



# City of Buford, Georgia

STANDARD DRAWING  
Evergreen Tree Planting

DATE: SEPTEMBER 25, 2014 SHEET: 802



**NOTES**

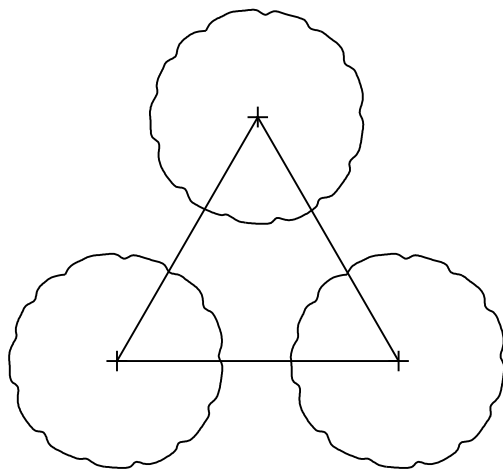
1. MULCH WITH 3" OF CLEAN PINE STRAW.
2. TREES EIGHT FEET HIGH (8') OR LESS TO BE STAKED.
3. TREES TALLER THAN EIGHT FEET (8') TO BE GUYED.

City of Buford, Georgia

STANDARD DRAWING

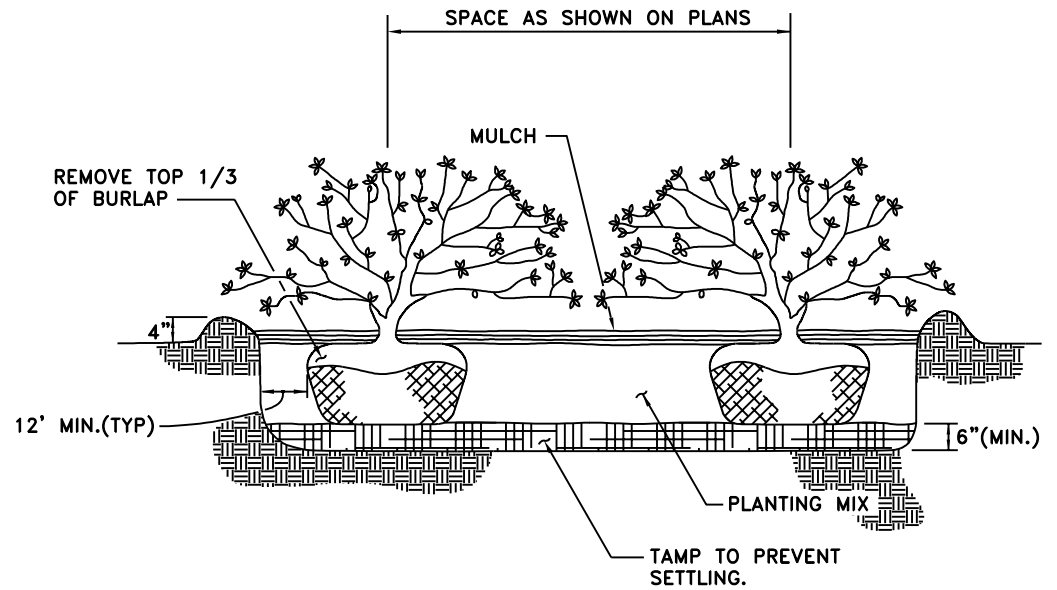
Deciduous Tree Planting

DATE: SEPTEMBER 25, 2014 SHEET: 803



PLAN

1. LAYOUT PERIMETER PLANTING AS PER SPACING SHOWN ON PLANS.
2. FILL IN PLANTING BED WITH STAGGERED SPACED PLANTING.



SECTION

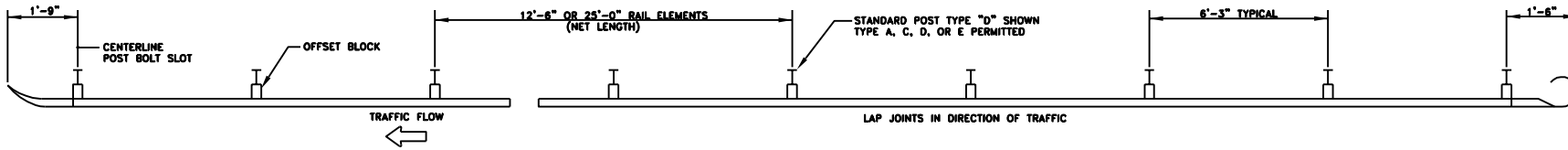
City of Buford, Georgia

STANDARD DRAWING

Shrub and Groundcover Planting

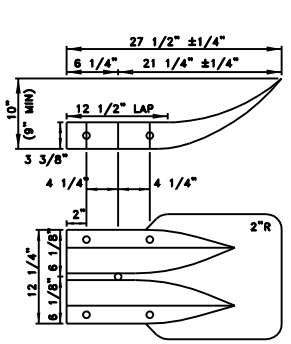
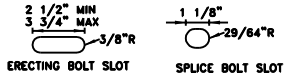
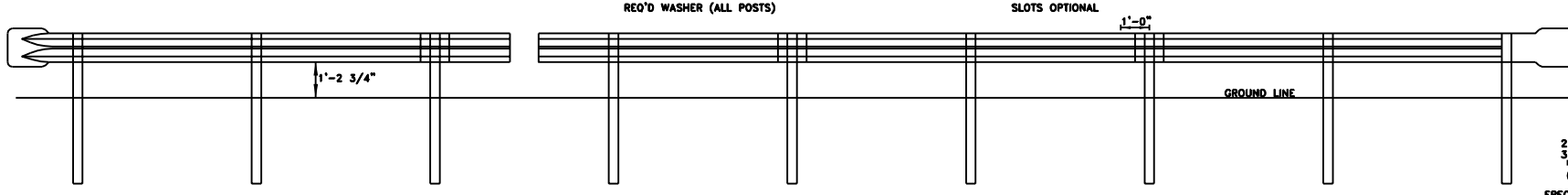
DATE: SEPTEMBER 25, 2014 SHEET: 804



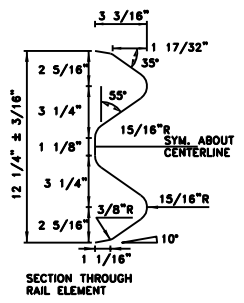


STANDARD OR ALTERNATE SECTION  
FLARED ON TRAFFIC FACE OF RAIL REQ'D  
WHERE FULL HEIGHT SECTION IS UTILIZED

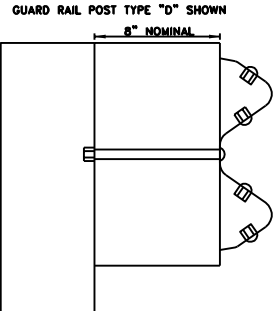
STANDARD OR ALTERNATE SECTION  
FLARED ON TRAFFIC FACE OF RAIL REQ'D  
WHERE FULL HEIGHT SECTION IS UTILIZED



SAME AS SECTION THRU  
RAIL ELEMENT, EXCEPT WIDTH  
STANDARD TERMINAL SECTION

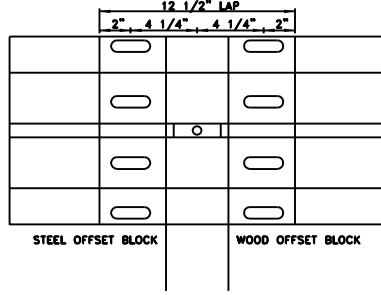
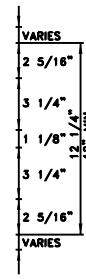


SECTION THROUGH  
RAIL ELEMENT

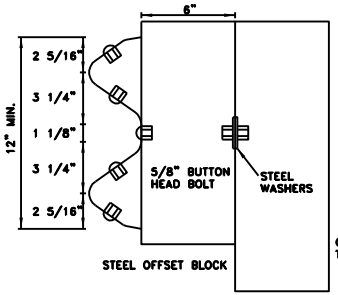


NOTE: OFFSET BLOCKS MAY BE WOOD OR STEEL

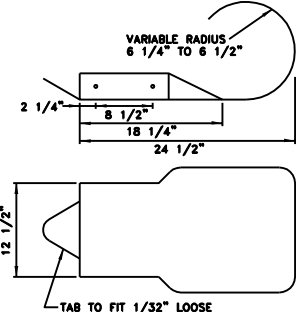
GUARD RAIL SPLICE AT POST



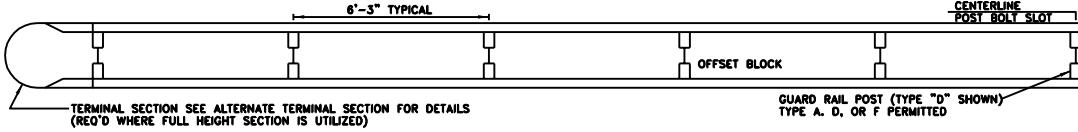
STEEL OFFSET BLOCK WOOD OFFSET BLOCK



GUARD RAIL POST  
TYPE "D" SHOWN

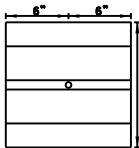


\* ALTERNATE TERMINAL SECTION

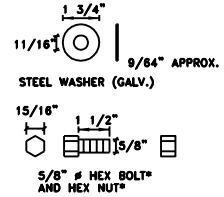


TERMINAL SECTION SEE ALTERNATE TERMINAL SECTION FOR DETAILS  
(REQ'D WHERE FULL HEIGHT SECTION IS UTILIZED)

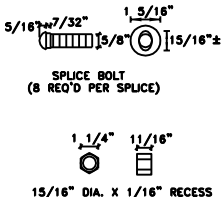
DOUBLE FACED GUARD RAIL



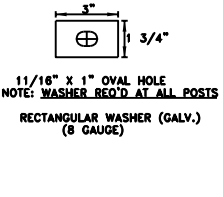
BACK-UP PLATE  
(REQ'D WITH STEEL OFFSET BLOCKS WHERE  
RAIL SPLICE DOES NOT OCCUR. LOCATED  
BACK OF RAIL)



\* TO BE USED ONLY FOR ATTACHING  
STEEL OFFSET BLOCKS TO STEEL POSTS



RECESS NUTS



11/16" X 1" OVAL HOLE  
NOTE: WASHER REQ'D AT ALL POSTS  
RECTANGULAR WASHER (GALV.)  
(8 GAUGE)

GENERAL NOTES

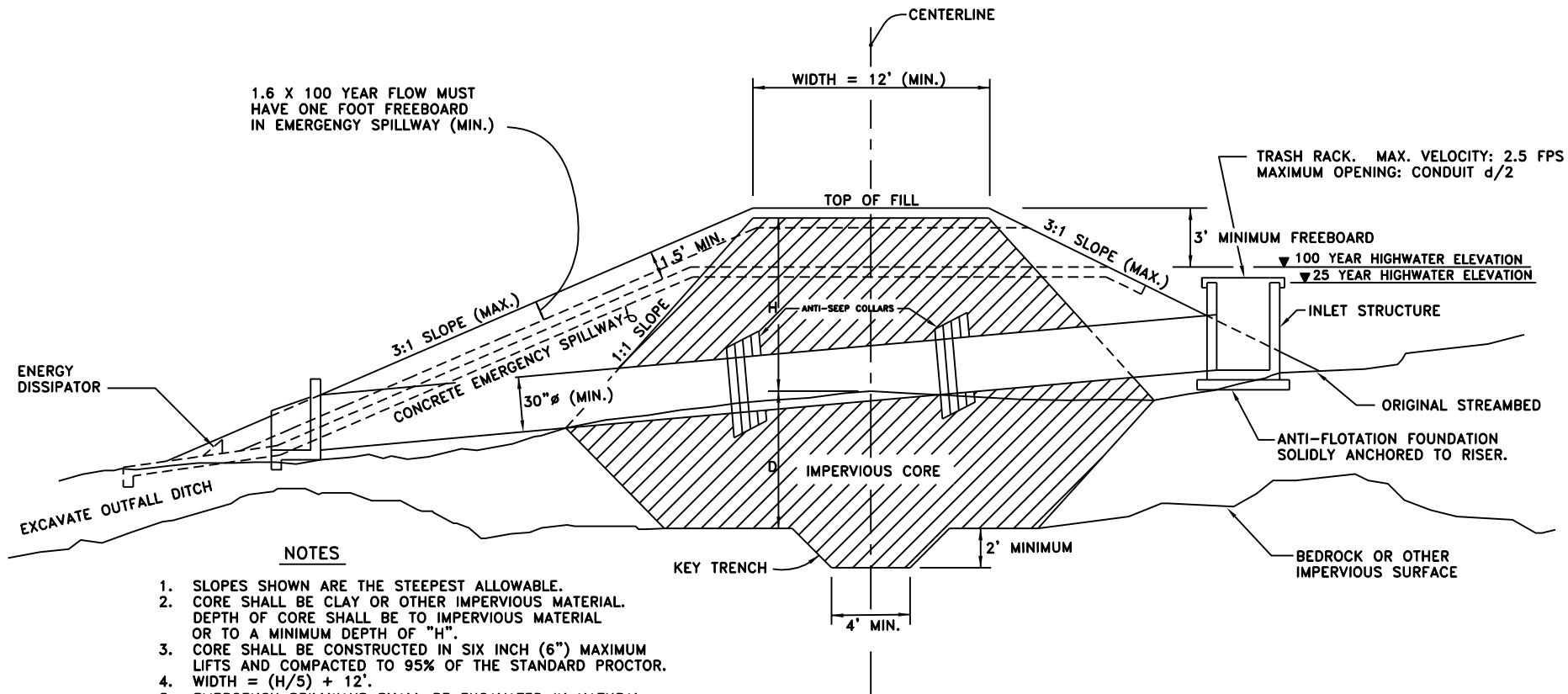
1. GUARD RAIL, ITS FITTINGS, PARTS, ETC. ARE TO BE IN ACCORDANCE WITH GDOT STANDARD SPECIFICATIONS AND/OR SPECIAL PROVISIONS.
2. FOR DETAILS OF POSTS AND OFFSET BLOCKS SEE GDOT STANDARD DWGS.
3. FOR DETAILS OF GUARD RAIL ANCHORAGES SEE GDOT STANDARD DWGS.
4. FOR LOCATION OF GUARD RAIL SEE GDOT STANDARD DWGS.
5. ON PROJECTS WHERE GUARD RAIL CONNECTIONS AT BRIDGE ENDS HAVE BEEN PLACED ON PREVIOUS CONTRACTS THE END PANEL MAY BE SHORTENED BY CUTTING OR SHEARING TO FIT EXISTING STRUCTURE.
6. WHEN GUARD RAIL IS REQUIRED ON CURVES WITH RADII LESS THAN 150' PRECURVED RAIL WILL BE REQUIRED.
7. ALL DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES.
8. STANDARD NET LENGTH OF RAIL ELEMENTS MAY BE EITHER 12'-6" OR 25'-0" THESE LENGTHS ARE TO BE ARRANGED TO PROVIDE AS NEARLY AS POSSIBLE THE OVERALL LENGTH INDICATED ON THE PLANS.

City of Buford, Georgia

STANDARD DRAWING

Beam Type Guardrail

DATE: SEPTEMBER 25, 2014 SHEET: 901

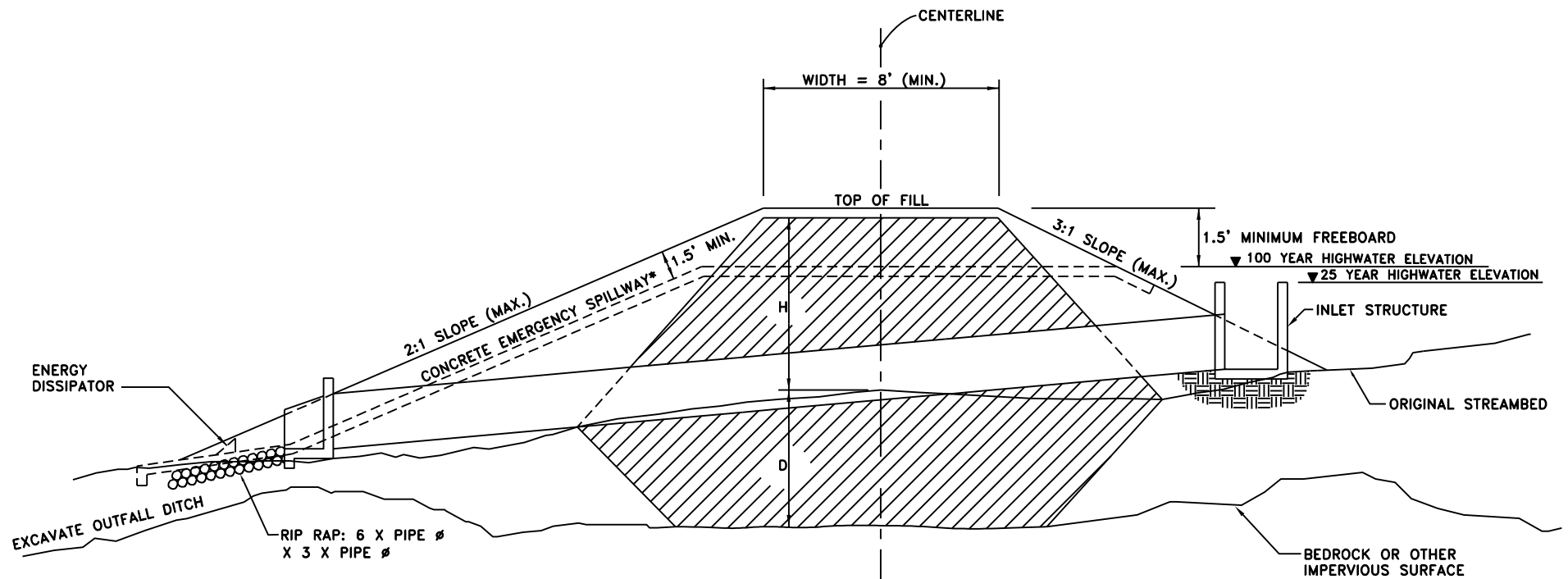


**NOTES**

1. SLOPES SHOWN ARE THE STEEPEST ALLOWABLE.
2. CORE SHALL BE CLAY OR OTHER IMPERVIOUS MATERIAL. DEPTH OF CORE SHALL BE TO IMPERVIOUS MATERIAL OR TO A MINIMUM DEPTH OF "H".
3. CORE SHALL BE CONSTRUCTED IN SIX INCH (6") MAXIMUM LIFTS AND COMPACTED TO 95% OF THE STANDARD PROCTOR.
4. WIDTH = (H/5) + 12'.
5. EMERGENCY SPILLWAYS SHALL BE EXCAVATED IN NATURAL GROUND WHEN APPLICABLE.
6. ANTI-SEEP COLLARS ARE REQUIRED.
7. INLET OPENING SHALL BE NINE TIMES THE CROSS SECTIONAL AREA OF THE OUTLET CONDUIT.
8. PROVIDE BOUYANCY CALCULATIONS WITH SUBMITTAL.
9. PROVIDE HEC 1 RUN WITH PLAN SUBMITTAL.
10. ALL JOINTS SHALL BE WATER TIGHT UNDER MAXIMUM HYDROSTATIC LOAD AND JOINT EXTENTION.
11. CONDUIT SHALL BE CLASS V CONCRETE WITH GASKETS, ETC.
12. THESE GUIDELINES ARE A MINIMUM. USDA TR 60 SHALL APPLY IN ALL CASES WHERE TR 60 REQUIREMENTS ARE STRICTER.

City of Buford, Georgia

STANDARD DRAWING  
Earthfill Dams for Wet Detention Ponds  
DATE: SEPTEMBER 25, 2014 SHEET: 902



**NOTES**

1. SLOPES SHOWN ARE THE STEEPEST ALLOWABLE.
2. CORE SHALL BE CLAY.
3. DAM SHALL BE CONSTRUCTED IN SIX INCH (6") MAXIMUM LIFTS AND COMPACTED TO 95% OF THE STANDARD PROCTOR.
4. EMERGENCY SPILLWAYS SHALL BE EXCAVATED IN NATURAL GROUND WHEN APPLICABLE.
5. PROVIDE BOUYANCY CALCULATIONS WITH PLAN SUBMITTAL.
6. METAL PIPE SHALL BE FULLY COATED, WITH A PAVED INVERT.\*\*
7. A SEPARATE OUTLET PIPE MAY BE UTILIZED FOR EXTENDED DETENTION.

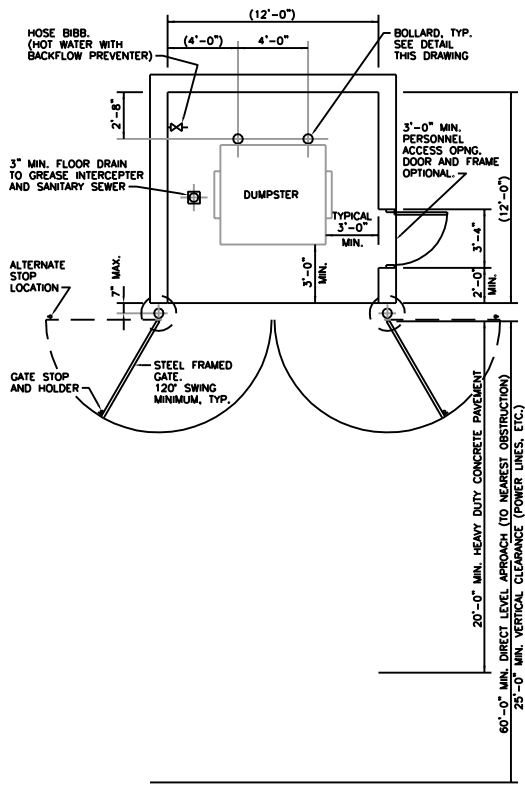
\* ALL SWALES EXCEEDING 5% SHALL BE PAVED.  
 \*\* PAVED INVERT FOR FLOWING STREAMS ONLY.

City of Buford, Georgia

STANDARD DRAWING

Earthfill Dams for Normally Dry Detention Ponds

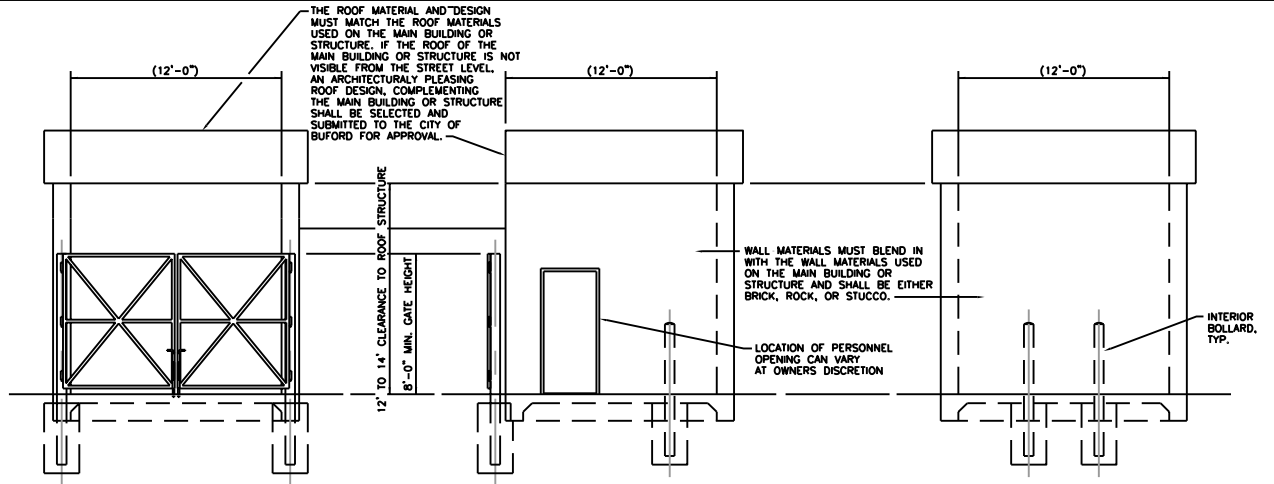
DATE: SEPTEMBER 25, 2014 SHEET: 903



**PLAN**  
SCALE: 1/8"=1'-0"

**NOTES:**

- DESIGNERS ARE ENCOURAGED TO INCLUDE DUMPSTER ENCLOSURE AS A PART OF THE MAIN BUILDING OR STRUCTURE.
- DIMENSIONS SHOWN IN PARENTHESIS ( ) MAY BE ADJUSTED TO REFLECT THE DUMPSTER SIZE SELECTED. CLEARANCE DIMENSIONS SHOWN IN PLAN MUST BE ADHERED TO AT ALL TIMES.
- ROOF OVER DUMPSTER ENCLOSURE IS MANDATORY.
- SLOPE CONCRETE FLOOR INSIDE ENCLOSURE TO FLOOR DRAIN.

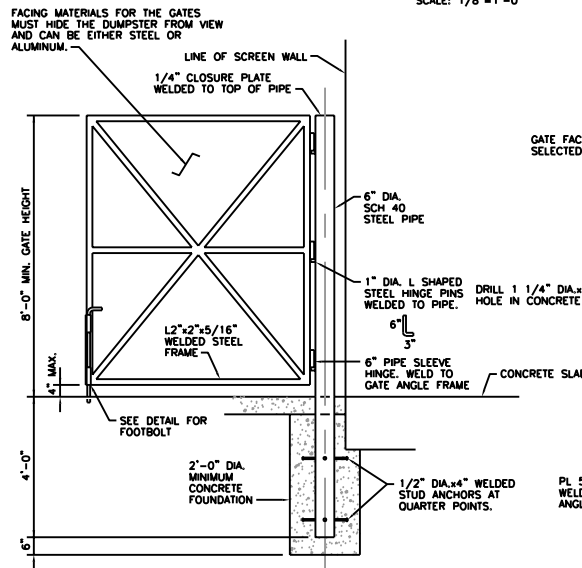


**FRONT ELEVATION**  
SCALE: 1/8"=1'-0"

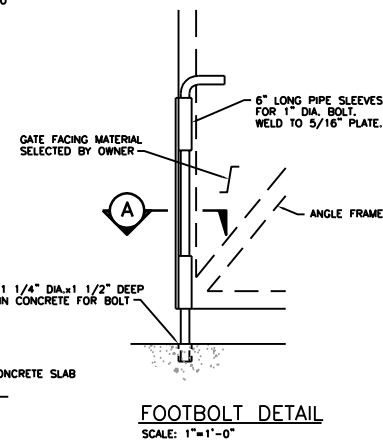
**RIGHT SIDE ELEVATION**  
SCALE: 1/8"=1'-0"

**REAR ELEVATION**  
SCALE: 1/8"=1'-0"

**LEFT SIDE ELEVATION OPP. HAND**  
SCALE: 1/8"=1'-0"

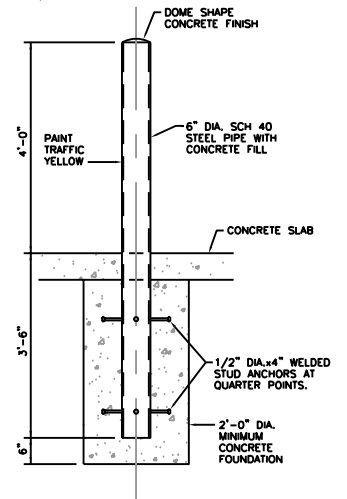


**GATE FRAME DETAIL**  
SCALE: 1/4"=1'-0"

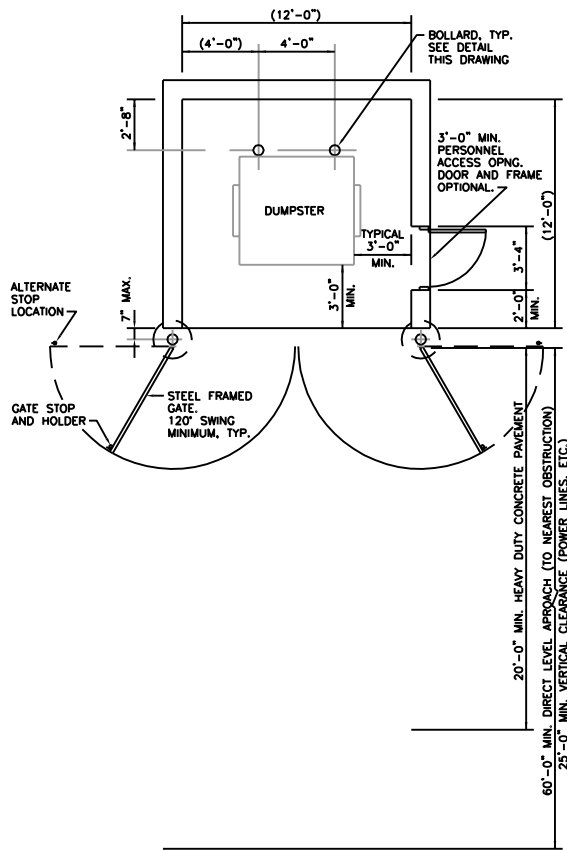


**FOOTBOLT DETAIL**  
SCALE: 1"=1'-0"

**SECTION A**  
SCALE: 1"=1'-0"

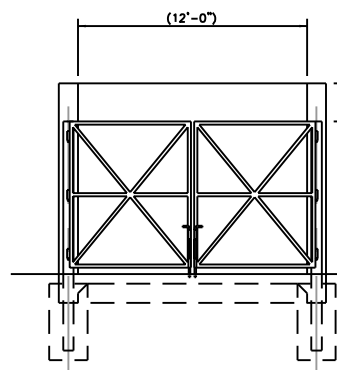


**PIPE BOLLARD DETAIL**  
SCALE: 3/8"=1'-0"

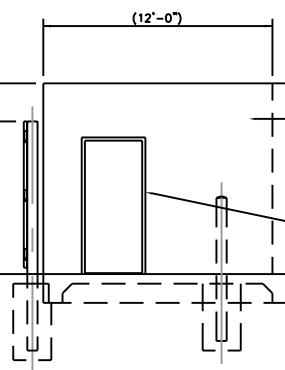


**PLAN**  
SCALE: 1/8"=1'-0"

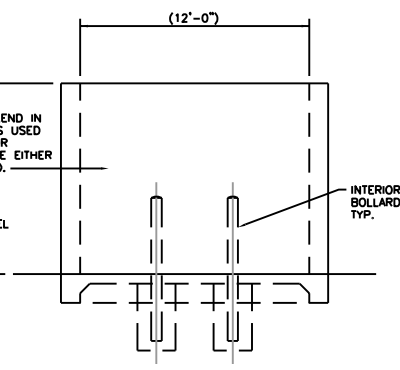
- NOTES:**
- DESIGNERS ARE ENCOURAGED TO INCLUDE DUMPSTER ENCLOSURE AS A PART OF THE MAIN BUILDING OR STRUCTURE.
  - DIMENSIONS SHOWN IN PARENTHESIS ( ) MAY BE ADJUSTED TO REFLECT THE DUMPSTER SIZE SELECTED. CLEARANCE DIMENSIONS SHOWN IN PLAN MUST BE ADHERED TO AT ALL TIMES.



**FRONT ELEVATION**  
SCALE: 1/8"=1'-0"

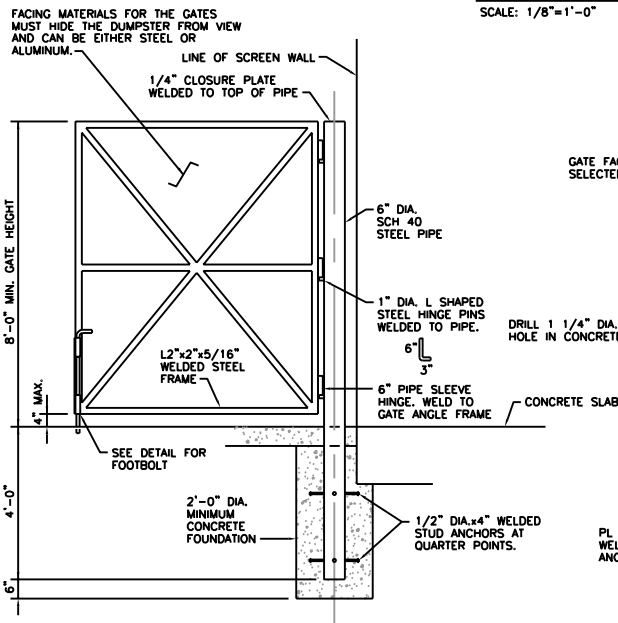


**RIGHT SIDE ELEVATION**  
SCALE: 1/8"=1'-0"

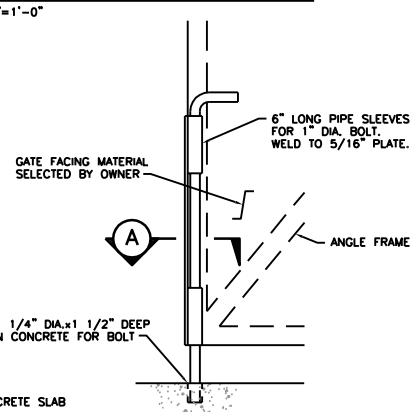


**REAR ELEVATION**  
SCALE: 1/8"=1'-0"

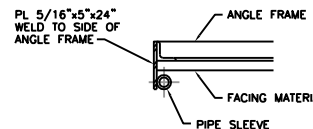
**LEFT SIDE ELEVATION OPP. HAND**  
SCALE: 1/8"=1'-0"



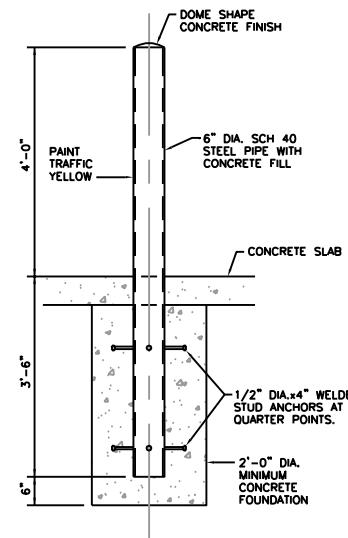
**GATE FRAME DETAIL**  
SCALE: 1/4"=1'-0"



**FOOTBOLT DETAIL**  
SCALE: 1"=1'-0"



**SECTION A**  
SCALE: 1"=1'-0"



**PIPE BOLLARD DETAIL**  
SCALE: 3/8"=1'-0"

WALL MATERIALS MUST BLEND IN WITH THE WALL MATERIALS USED ON THE MAIN BUILDING OR STRUCTURE AND SHALL BE EITHER BRICK, ROCK, OR STUCCO.

LOCATION OF PERSONNEL OPENING CAN VARY AT OWNERS DISCRETION

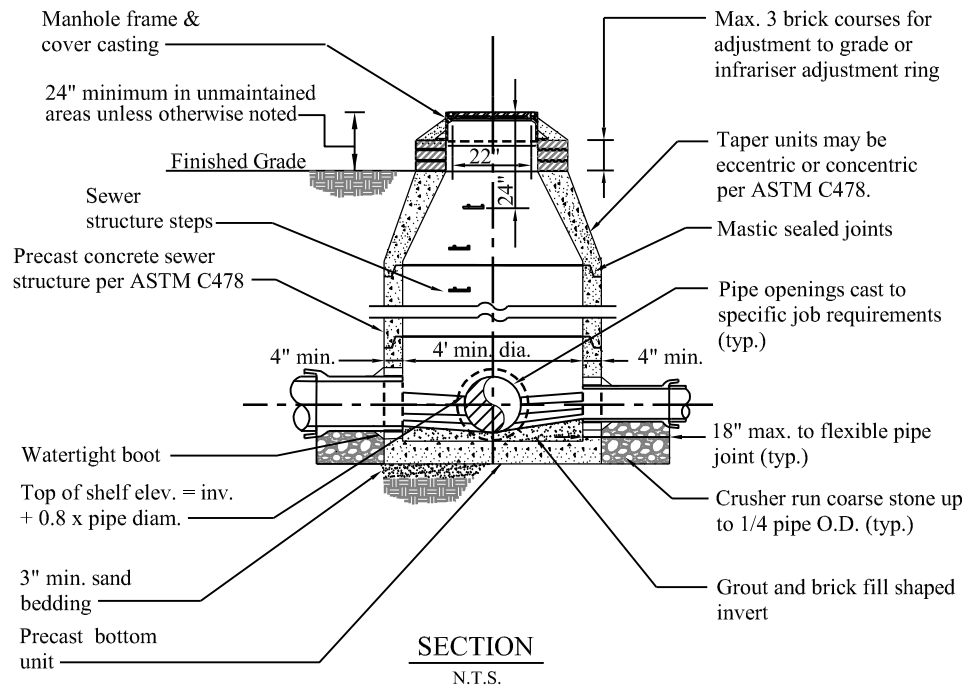
INTERIOR BOLLARD, TYP.

City of Buford, Georgia

STANDARD DRAWING

Guidelines for Dumpster Enclosure  
(Non Food Service)

DATE: SEPTEMBER 25, 2014 SHEET: 905



**NOTES:**

**1. SEWER STRUCTURE STEP REQUIREMENTS:**

Provide individual steps, mortared or cast into walls and conical tops of all manholes and similar structures. Align steps so as to form a continuous ladder with steps equally spaced vertically, no more than 16 inches apart, using steps having a minimum length of 10-inches and which project a minimum clear distance of four inches from the wall. Steps, fastenings and installation must be capable of supporting a single concentrated load of 300 pounds. Use designs based on imposed loads being concentrated at such points as will cause maximum stresses in the structural element being considered. Construct individual steps as one piece, ferrous casting or plastic coated steel meeting requirements of ASTM D4101-95b and A 615 grade 60.

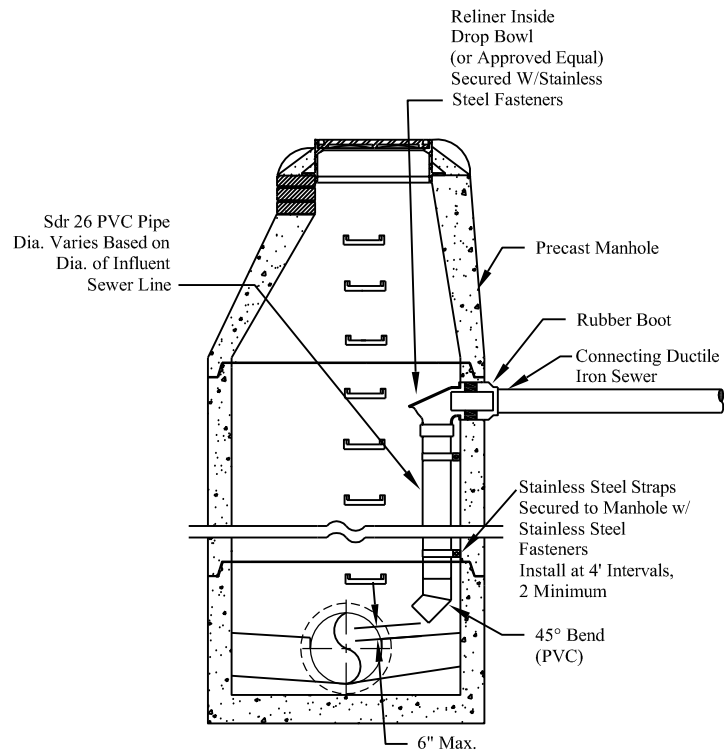
2. Provide water-tight boot sleeve of high quality synthetic rubber. Terminate the sleeve at one end in a substantial serrated flange of the same material and cast into the wall of the manhole base to form a water stop. Embed the flange in the wall no less than 4-inches around the entire pipe. Fit the other end of the sleeve around the outside of the pipe and secure to the pipe by means of a stainless steel strap clamp, draw bolt and nut. Furnish synthetic rubber suitable for use in sewage service.

City of Buford, Georgia

S T A N D A R D D R A W I N G

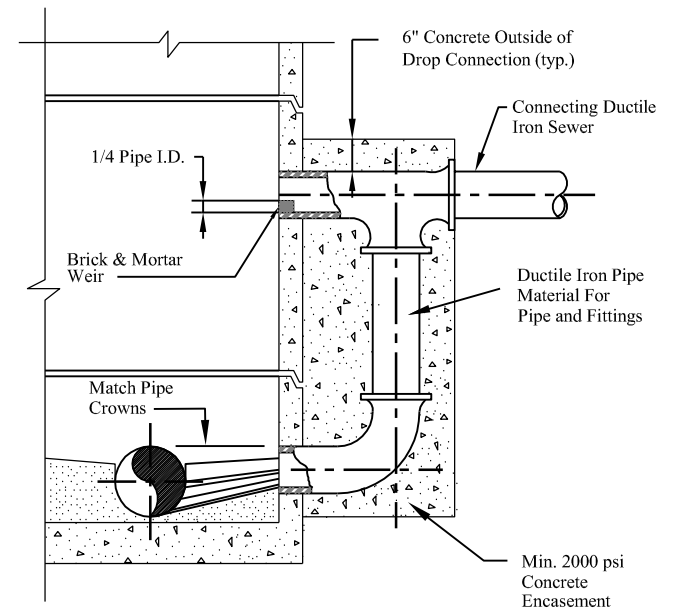
Sanitary Sewer Manhole

DATE: SEPTEMBER 25, 2014 SHEET: 1000



Minimum Manhole I.D. For Inside Drop Connection 5'-0".

INSIDE DROP CONNECTION



Partial Section

OUTSIDE DROP CONNECTION

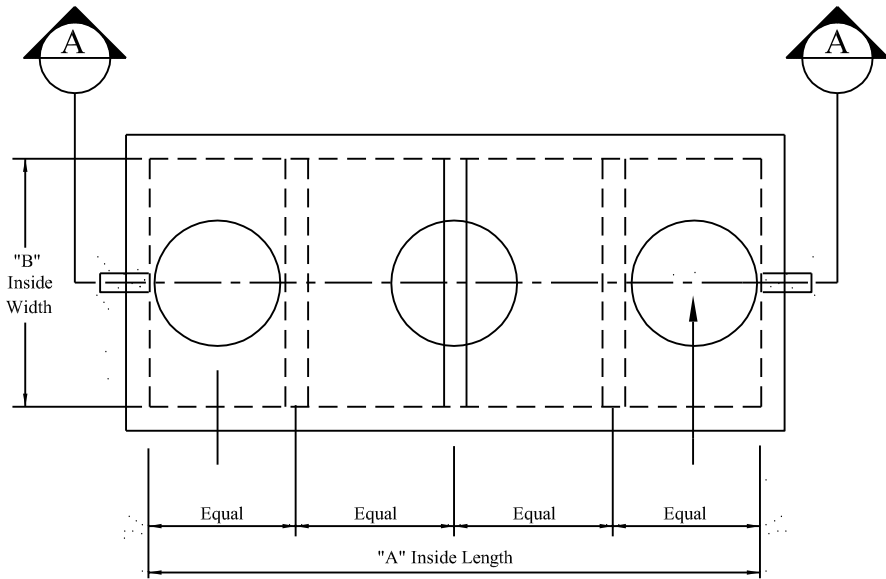
City of Buford, Georgia

STANDARD DRAWING

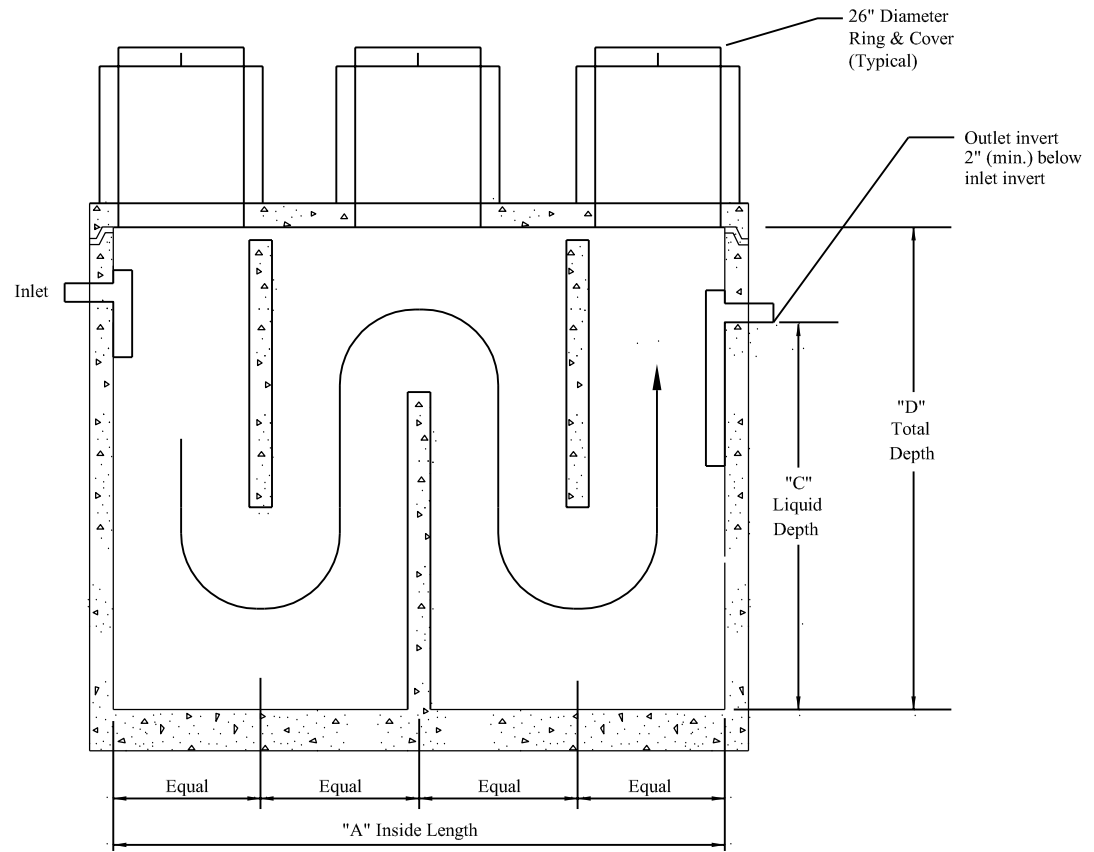
Manhole Drop Connections

DATE: SEPTEMBER 25, 2014

SHEET: 1001



**Plan**  
N.T.S.



**Section A-A**  
N.T.S.

City of Buford, Georgia

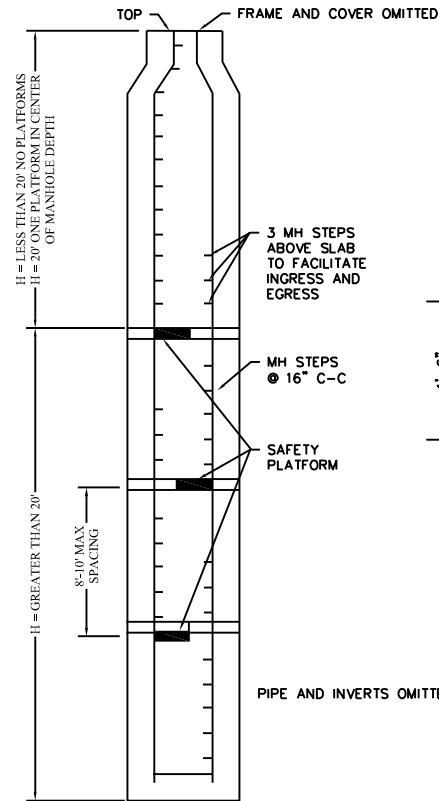
STANDARD DRAWING

Oil Water Separator  
With Baffle Walls

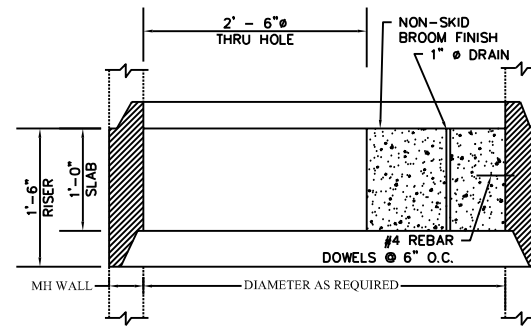
DATE: SEPTEMBER 25, 2014

SHEET: 1002





MH CROSS SECTION  
N.T.S.



SECTION AT CONCRETE SAFETY PLATFORM  
N.T.S.

**NOTES:**

1. A DEEP MANHOLE IS CONSIDERED TO BE GREATER THAN 24'.
2. SAFETY PLATFORMS ARE REQUIRED ON ALL MANHOLES EQUAL TO OR GREATER THAN 20' IN DEPTH.
3. SAFETY PLATFORMS ARE TO BE PLACED A MAX. DISTANCE OF 8'-10' APART.
4. PLATFORMS ARE TO BE DESIGNED TO OBTAIN A STRENGTH OF 4000 PSI IN 28 DAYS. MANHOLE AND PLATFORM DESIGN SHALL CONFORM TO A.S.T.M. SPECS. C478 LATEST EDITION.
5. REINFORCING STEEL HAS A MIN. YIELD STRENGTH OF 60,000 PSI.
6. SAFETY PLATFORM SLAB IS DESIGNED FOR A CONCENTRATED LOAD (P) AS FOLLOWS:
 

MH DIAMETER (FT)	P(LB)
4	12,000
5	10,000
6	8,000
7. SAFETY PLATFORM IS TO BE PLACED BETWEEN RISERS.
8. SAFETY PLATFORM IS TO BE PLACED AT MIDPOINT OF A MANHOLE OVER 20' IN DEPTH. TWO PLATFORMS TO BE PLACED EQUAL DISTANCE AT A MANHOLE DEPTH OF 24'.
9. SAFETY PLATFORM IS TO BE PRECAST CONCRETE OR APPROVED EQUAL.
10. ALTERNATE OPENINGS IN SAFETY PLATFORMS AS INDIVIDUAL DESCENDS.
11. MANHOLES IN EXCESS OF 24' IN DEPTH SHALL BE PRE-APPROVED BY THE CITY AND HAVE SAFETY PLATFORMS WITH 8'-10' SPACING.

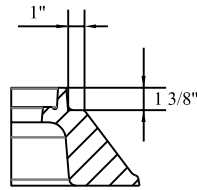
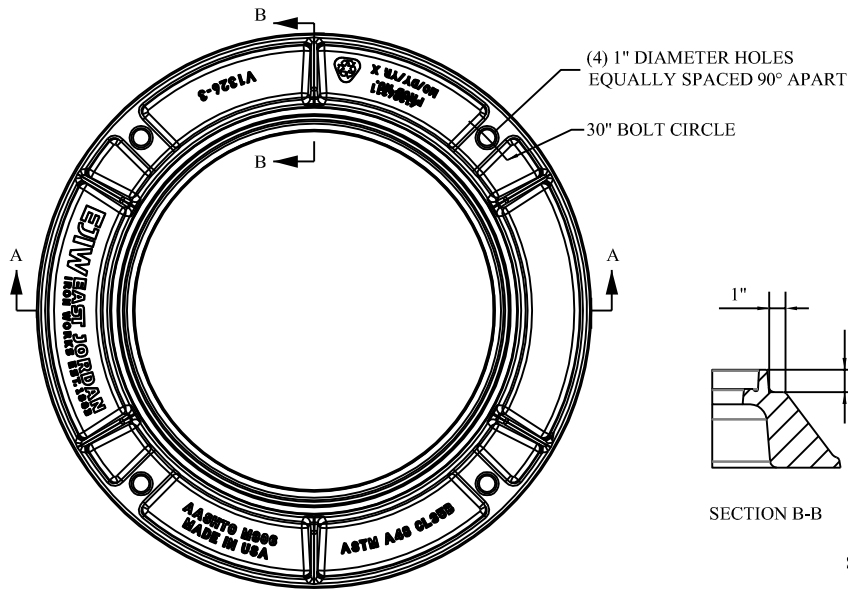
City of Buford, Georgia

STANDARD DRAWING

Deep Manhole  
Safety Platform

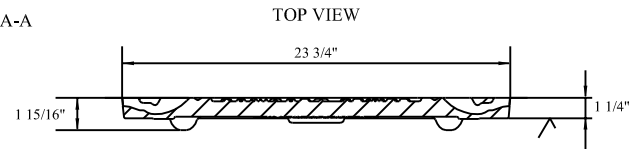
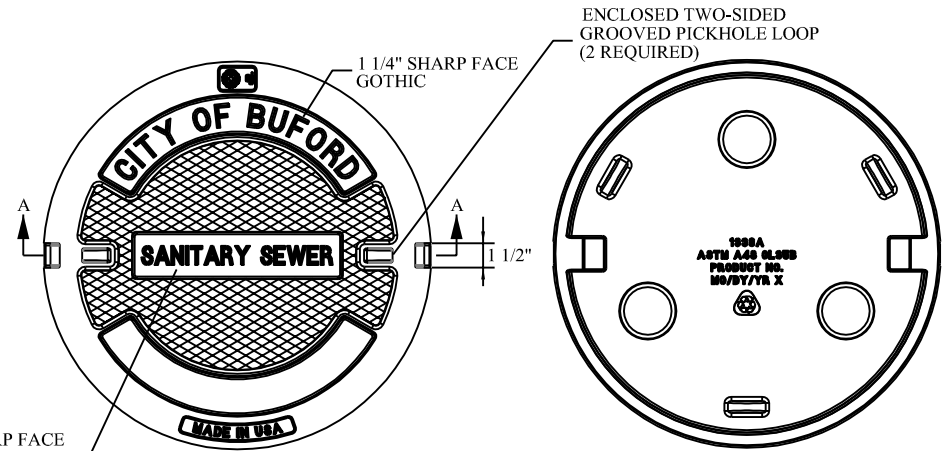
DATE: SEPTEMBER 25, 2014

SHEET: 1003



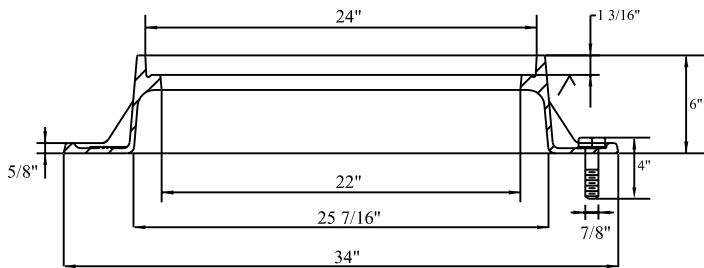
SECTION B-B

SECTION A-A



SECTION A-A  
Model Number 00133894

COVER



SECTION A-A  
Model Number 41326311

FRAME

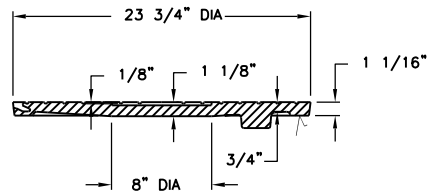
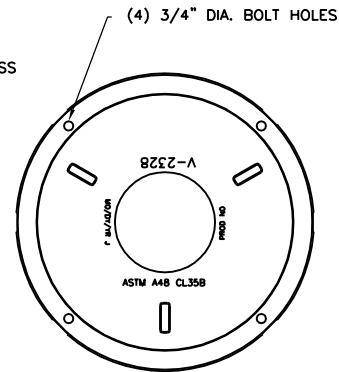
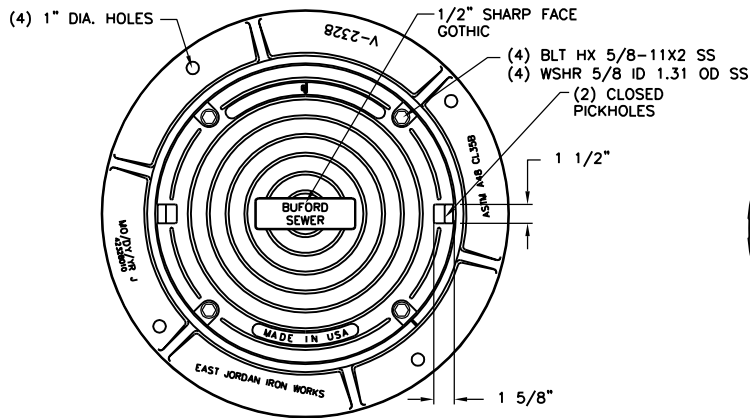
- NOTES:
1. MANHOLE FRAME AND COVER TO COMPLY WITH REQUIREMENTS OF AASHTO M306.
  2. ATTACH MANHOLE FRAME TO MANHOLE BY ADHESIVE CAPSULE ANCHOR WITH FOUR (4) STAINLESS STEEL 7/8" DIAMETER BOLTS.
  3. MANHOLE FRAME AND COVER TO BE EJ GROUP, INC. PRODUCT NO. 41326311 AND NO. 00133894 RESPECTIVELY WITH INDICATED "CITY OF BUFORD" LETTERING, OR APPROVED EQUAL.

City of Buford, Georgia

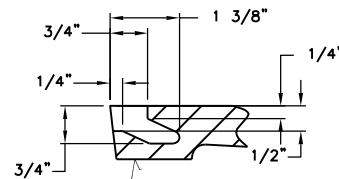
STANDARD DRAWING

Manhole Frame and Cover

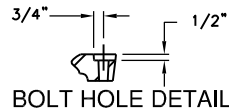
DATE: SEPTEMBER 25, 2014 SHEET: 1004



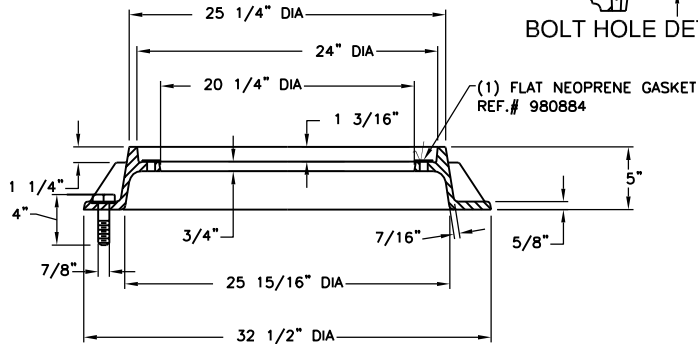
SECTION OF COVER



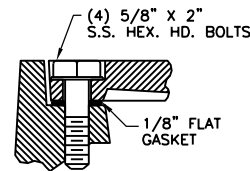
PICKHOLE DETAIL



BOLT HOLE DETAIL



SECTION OF FRAME



WATERTIGHT DETAIL

**NOTES:**

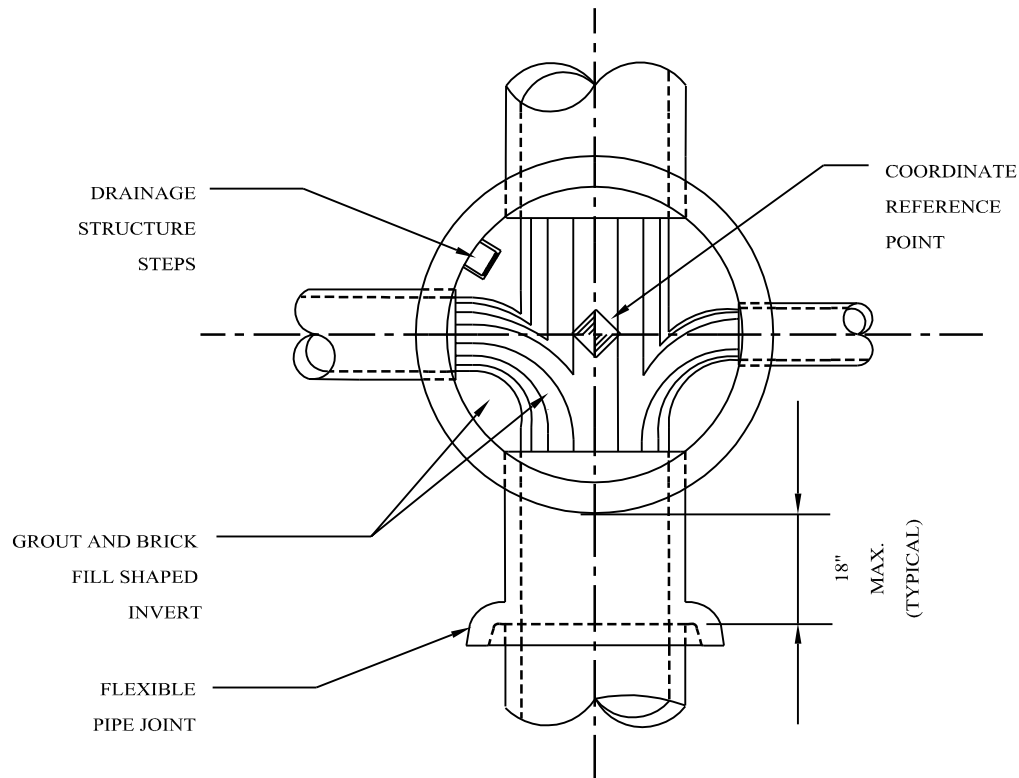
1. MANHOLE FRAME AND COVER TO COMPLY WITH REQUIREMENTS OF AASHTO M306.
2. ATTACH MANHOLE FRAME TO MANHOLE BY ADHESIVE CAPSULE ANCHOR WITH FOUR (4) STAINLESS STEEL 7/8" DIAMETER BOLTS.
3. MANHOLE FRAME AND COVER TO BE EJ GROUP, INC. PRODUCT NO. 42328176 WITH INDICATED "BUFORD SEWER" LETTERING, OR APPROVED EQUAL.

City of Buford, Georgia

STANDARD DRAWING

Bolt Down Manhole Frame and Cover

DATE: SEPTEMBER 25, 2014 SHEET: 1005



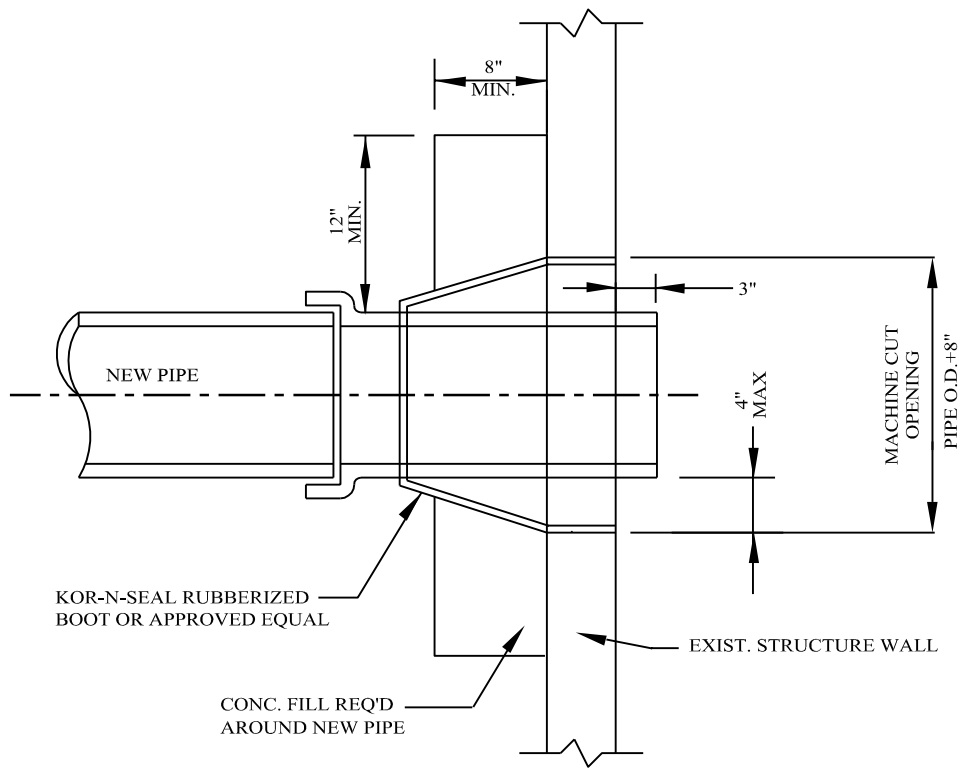
PRE CAST MANHOLE INVERT PLAN

City of Buford, Georgia

STANDARD DRAWING  
**Pre-cast Manhole Invert Plan**

DATE: SEPTEMBER 25, 2014

SHEET: 1006



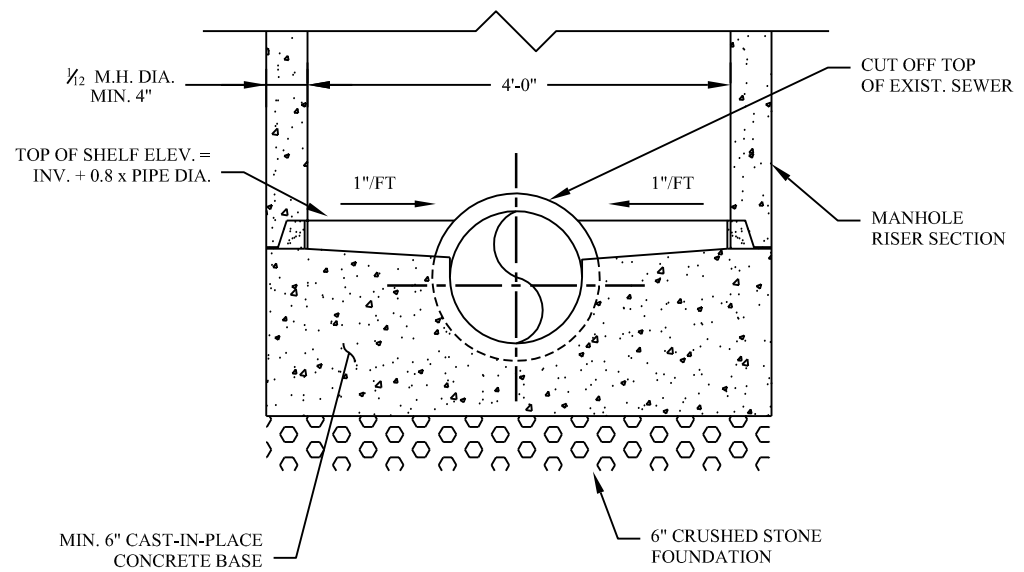
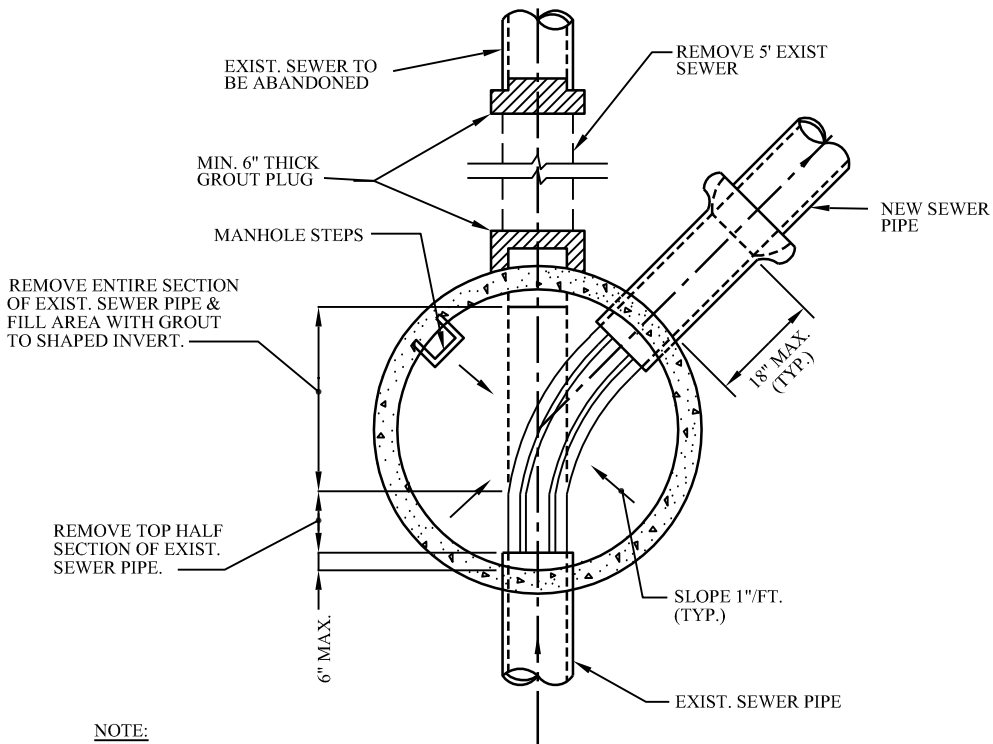
CONNECTION TO EXISTING MANHOLE

City of Buford, Georgia

STANDARD DRAWING  
Connect to Existing Manhole

DATE: SEPTEMBER 25, 2014

SHEET: 1007



MANHOLE OVER EXISTING SEWER

**NOTE:**  
 TEMPORARY PLUG IN EXIST.  
 UPSTREAM SEWER MAY BE  
 USED IF NECESSARY TO  
 ACCOMPLISH INVERT WORK.  
 HOWEVER, CONTRACTOR  
 SHALL MONITOR SEWAGE  
 BACKUP UPSTREAM & BE  
 RESPONSIBLE FOR ANY  
 DAMAGE TO SEWER  
 CUSTOMERS PROPERTY.

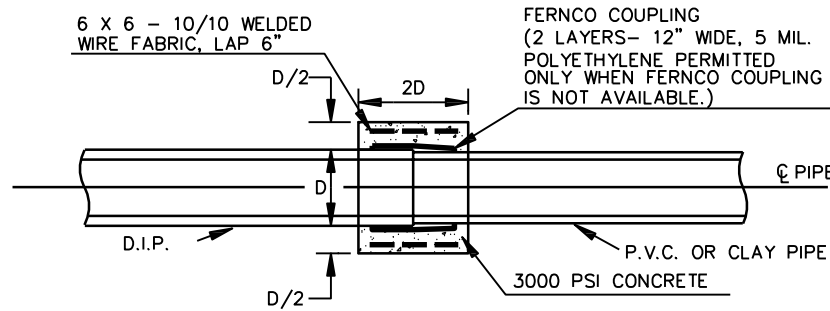
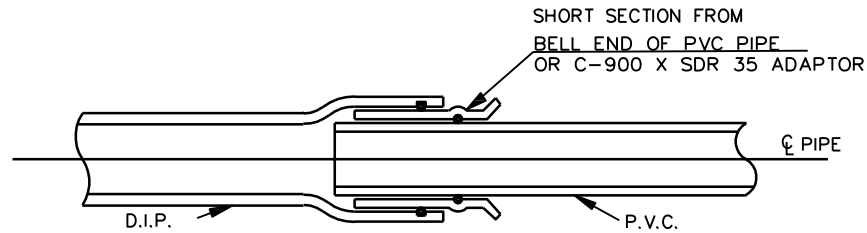
MANHOLE OVER EXISTING SEWER PLAN  
 N.T.S

City of Buford, Georgia

STANDARD DRAWING  
 Manhole Over Existing Sewer

DATE: SEPTEMBER 25, 2014

SHEET: 1008



**NOTES:**

**TRANSITION JOINTS -**

FROM DUCTILE IRON PIPE TO P.V.C. PIPE FOR PIPE SIZES LESS THAN 12"  
SHALL UTILIZE: 1) WATER MAIN TYPE COMPRESSION COUPLINGS  
(WITH ADAPTER GASKETS IF NEEDED) OR 2) "FERNCO" TYPE COUPLINGS WITH  
STAINLESS STEEL SHEAR BANDS OR 3) SHALL BE CONSTRUCTED AS SHOWN IN  
THE DETAIL.

**OTHER CONNECTIONS -**

SHALL USE A "FERNCO" TYPE COUPLING ENCASED IN CONCRETE,  
(IF IT IS AVAILABLE IN THE APPROPRIATE SIZE).

THE USE OF POLYETHYLENE WRAP WILL GENERALLY BE PERMITTED ONLY  
FOR CONNECTIONS INVOLVING LARGE DIAMETER PIPES.

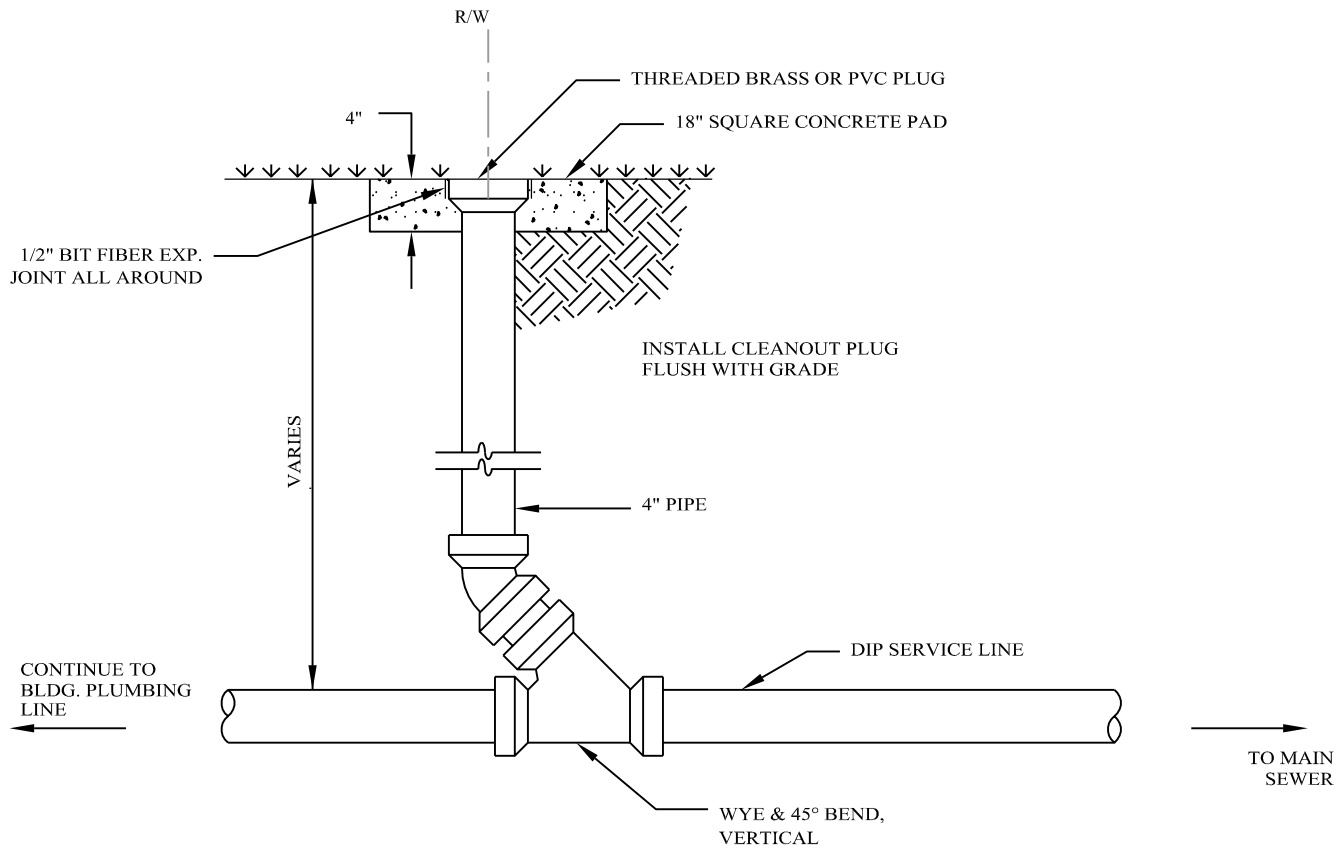
**TRANSITION COLLAR**  
N.T.S.

City of Buford, Georgia

STANDARD DRAWING  
Transition Collar

DATE: SEPTEMBER 25, 2014

SHEET: 1009



SEWER SERVICE CLEANOUT

City of Buford, Georgia

STANDARD DRAWING  
Sewer Service Cleanout

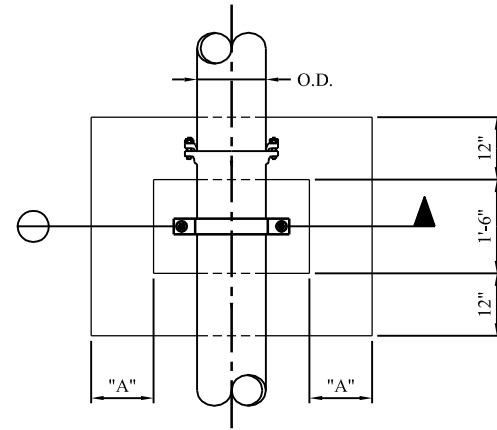
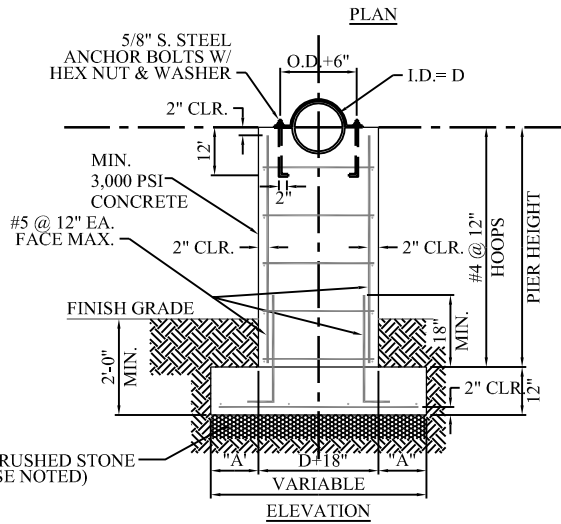
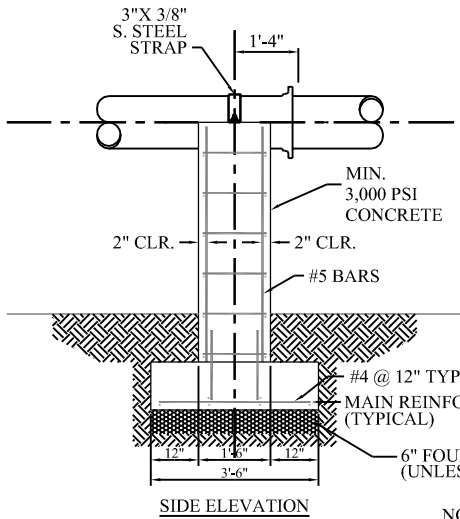
DATE: SEPTEMBER 25, 2014

SHEET: 1010



SCHEDULE OF DIMENSION "A"										
PIPE SIZE	PIER HEIGHT									
	0'-3"	3'-5"	5'-7"	7'-9"	9'-11"	11'-13"	13'-15"	15'-17"	17'-19"	19'-21"
8"	12"	12"	12"	12"	12"	12"	24"	24"	24"	24"
10"	12"	12"	12"	12"	12"	12"	24"	24"	24"	24"
12"	12"	12"	12"	12"	12"	24"	24"	24"	24"	24"
14"	12"	12"	12"	12"	24"	24"	24"	24"	24"	36"
16"	12"	12"	12"	12"	24"	24"	24"	24"	36"	36"
18"	12"	12"	12"	12"	24"	24"	24"	24"	36"	36"
20"	12"	12"	12"	12"	24"	24"	24"	36"	36"	36"
24"	12"	12"	12"	24"	24"	24"	36"	36"	36"	36"

SCHEDULE - FOOTING MAIN REINF.			
DIM "A"	NO. & SIZE	DIM "A"	NO. & SIZE
12"	4 - #4	48"	5 - #6
24"	4 - #4	60"	7 - #6
36"	7 - #4	72"	10 - #6



NOTE:  
INSTALL 2 PLYS ROOFING FELT  
BETWEEN PIPE AND PIER.

CONCRETE PIER

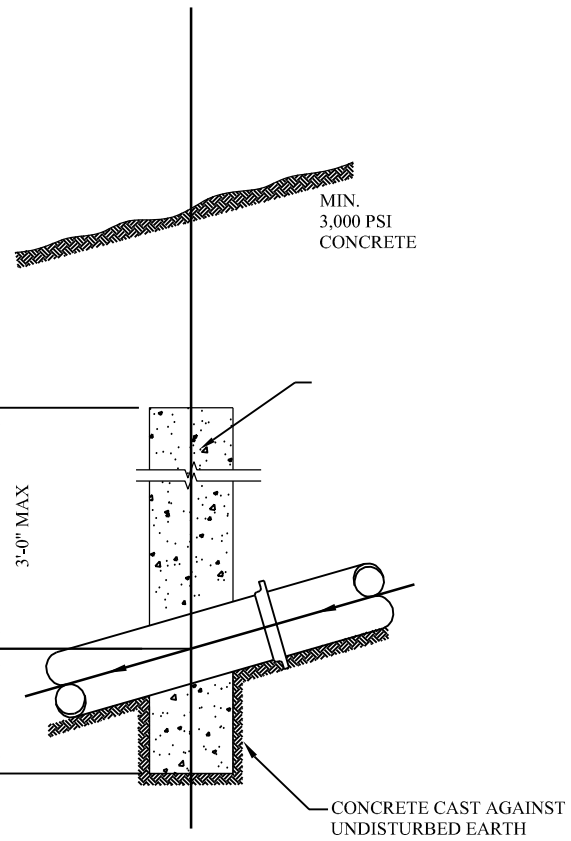
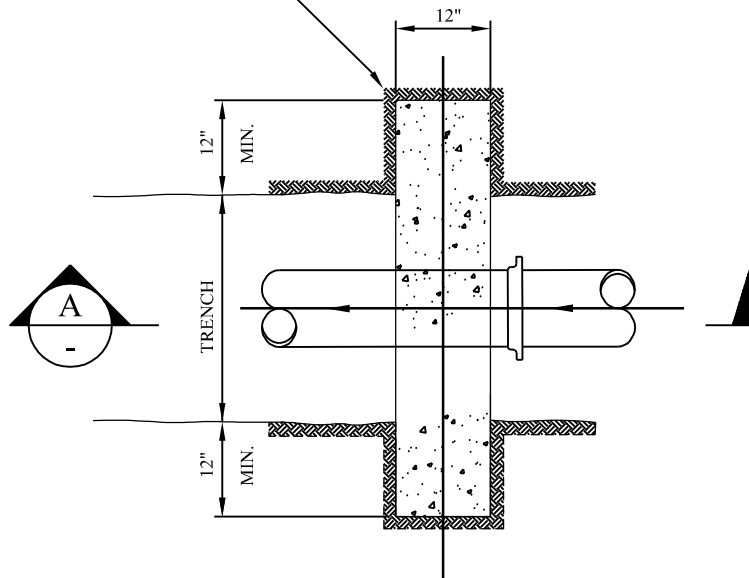
City of Buford, Georgia

STANDARD DRAWING  
Concrete Pier

DATE: SEPTEMBER 25, 2014

SHEET: 1011

CONCRETE CAST AGAINST UNDISTURBED EARTH



SECTION A

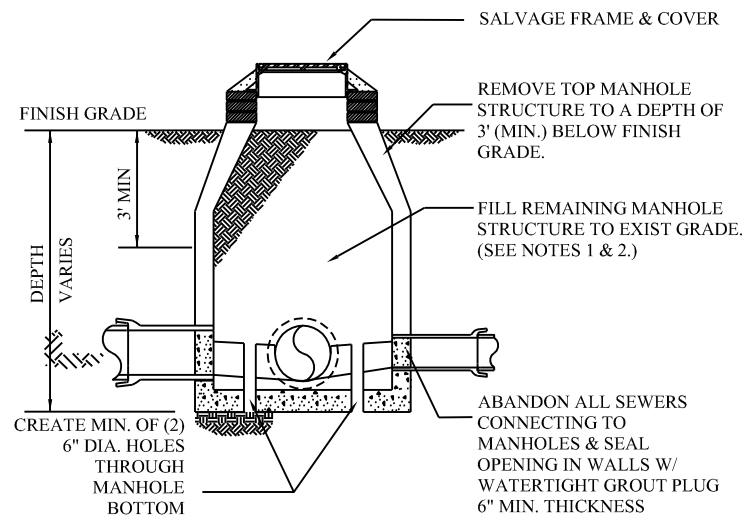
ANTI-SEEP COLLAR

City of Buford, Georgia

STANDARD DRAWING  
Anti-Seep Collar

DATE: SEPTEMBER 25, 2014

SHEET: 1012



NOTES:

1. MANHOLES UNDER PAVEMENT - PLUG LINES AS SHOWN, FILL MANHOLE WITH COARSE GRANULAR MATERIAL. PATCH PAVEMENT IN ACCORDANCE WITH THE PAVEMENT PATCH DETAIL.
2. MANHOLES OUTSIDE PAVEMENT - PLUG LINES AS SHOWN, FILL MANHOLE WITH RUBBLE AND COMPACTED EARTH. RESTORE AREA AS REQUIRED IN SPECIFICATIONS.

MANHOLE ABANDONMENT DETAIL

N.T.S.

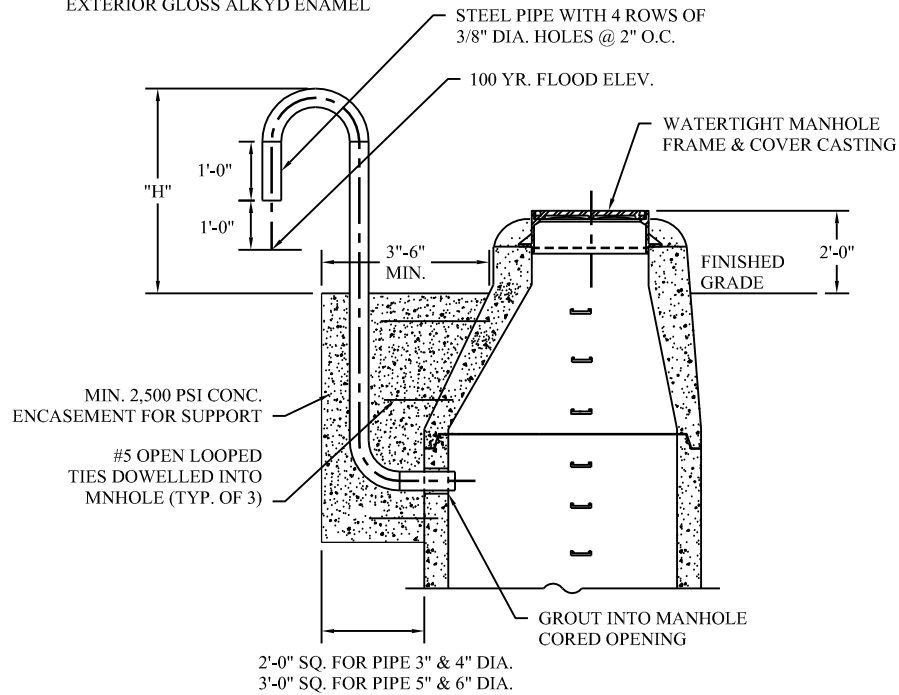
City of Buford, Georgia

STANDARD DRAWING  
Manhole Abandonment Detail

DATE: SEPTEMBER 25, 2014

SHEET: 1013

STEEL PIPE SCHEDULE 80  
 3" DIA. FOR "H" = LESS THAN 6'-0"  
 4" DIA. FOR "H" = 6'-0" TO 10'-0"  
 5" DIA. FOR "H" = 10'-0" TO 15'-0"  
 6" DIA. FOR "H" = MORE THAN 15'-0"  
 PIPE TO BE PAINTED WITH RUST  
 INHIBITING PRIMER & 2 COATS  
 EXTERIOR GLOSS ALKYD ENAMEL



MANHOLE VENT PIPE DETAIL  
 N.T.S

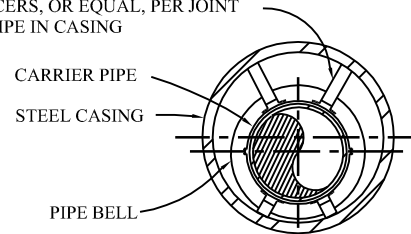
City of Buford, Georgia

STANDARD DRAWING  
 Manhole Vent Pipe Detail

DATE: SEPTEMBER 25, 2014

SHEET: 1014

INSTALL TWO CASCADE CASING  
SPACERS, OR EQUAL, PER JOINT  
OF PIPE IN CASING



NOTES:

1. SEAL ENDS OF TUNNEL LINER TO PREVENT DEBRIS AND MOISTURE FROM ENTERING THE ANNULAR SPACE BETWEEN THE CARRIER PIPE AND TUNNEL LINER.
2. FOR PIPE TUNNEL LINER, PROVIDE END SEAL CONSISTING OF FLEXIBLE SYNTHETIC RUBBER BOOT CONFORMING TO ASTM C-923 OR LINK SEAL PENETRATION SEAL WITH INSULATING PLASTIC PLATE, GALVANIZED BOLTS AND NUTS, AND EPDM RUBBER ELEMENT MANUFACTURED BY THUNDERLINE CORPORATION.

STEEL CASING DETAIL

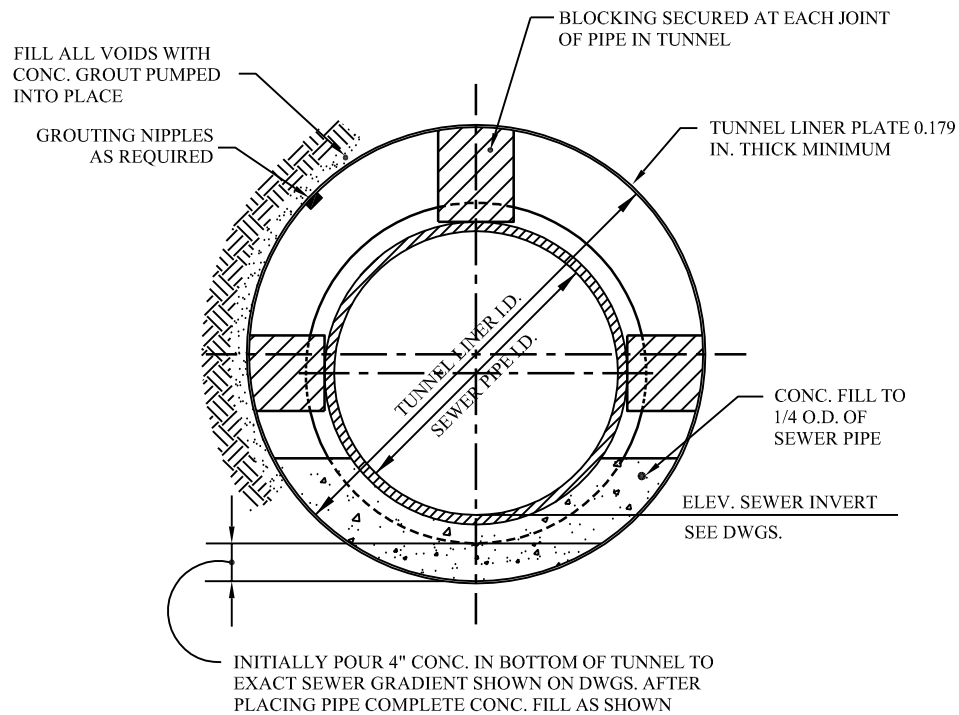
N.T.S.

City of Buford, Georgia

STANDARD DRAWING  
Steel Casing Detail

DATE: SEPTEMBER 25, 2014

SHEET: 1015



NOTES:

1. PROVIDE 12" THICK CMU OR BRICK MASONRY WALL SEAL AT EA. END OF TUNNEL.
2. AT LOW END OF TUNNEL PROVIDE 6" SQ. WEEPHOLE IN BOTTOM OF WALL.
3. AT WEEPHOLE PROVIDE A 2' SQ. X 18" DEEP POCKET OF #57 CRUSHED STONE.
4. PROVIDE MASONRY BLOCKING OR PREFABRICATED BLOCKING SECURED WITH STAINLESS STEEL BANDS OR AS PER THE MANUFACTURERS RECOMMENDATIONS.

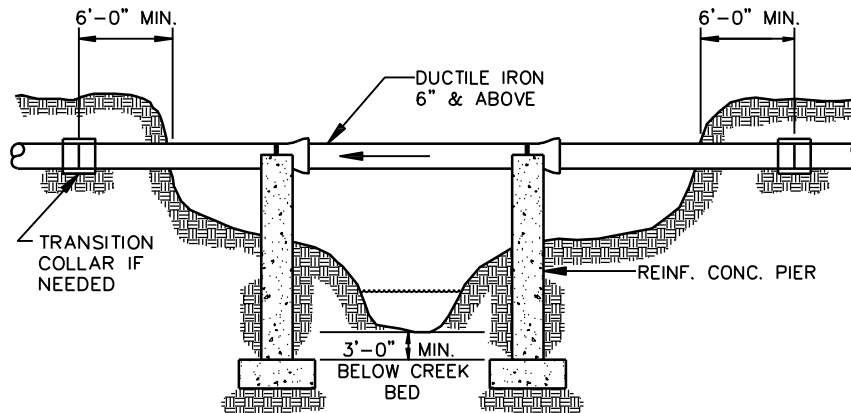
TUNNEL LINER PLATE DETAIL  
N.T.S.

City of Buford, Georgia

STANDARD DRAWING  
Tunnel Liner Plate Detail

DATE: SEPTEMBER 25, 2014

SHEET: 1016



NOTE:

1. WHENEVER POSSIBLE NO PIERS SHALL BE PLACED WITHIN NORMAL FLOW OF CREEK. FOOTINGS SHALL BE PLACED 3 FEET MINIMUM BELOW CREEK BED.
2. REINFORCED CONCRETE PIERS SHALL BE PLACED BEHIND BELL OF EACH JOINT OF DUCTILE IRON PIPE.
3. ALL PIER PLACEMENT SHALL BE APPROVED BY THE CITY OF BUFORD.
4. IF PIER PLACEMENT FOR DUCTILE IRON PIPE CAN NOT MEET THE ABOVE STIPULATIONS, STEEL PIPE SHALL BE USED.
5. DISTURBED AREA SHALL BE RIP-RAPPED AS REQUIRED.

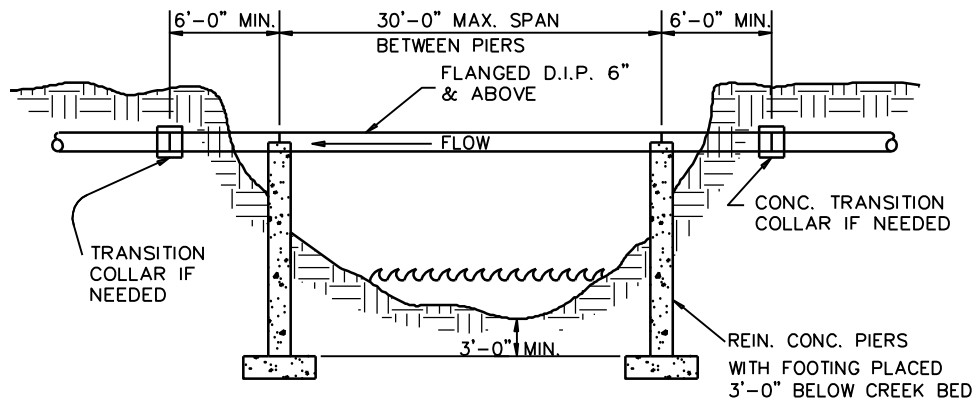
PIER PLACEMENT FOR D.I.P. AERIAL LINES

N.T.S.

City of Buford, Georgia

STANDARD DRAWING  
Pier Placement for D.I.P. Aerial Lines

DATE: SEPTEMBER 25, 2014 SHEET: 1017



NOTE: PIERS ARE NOT NEEDED  
UNLESS AERIAL SPAN IS  
OVER 20'-0" IN LENGTH.

NOTES:

1. WHENEVER POSSIBLE NO PIERS SHALL BE PLACED IN NORMAL FLOW OF CREEK.
2. ALL AERIAL CROSSINGS MUST BE APPROVED BY THE CITY OF BUFORD.
3. SPANS EXCEEDING 30 FEET REQUIRES SUBMITTAL OF DESIGN CALCULATIONS.

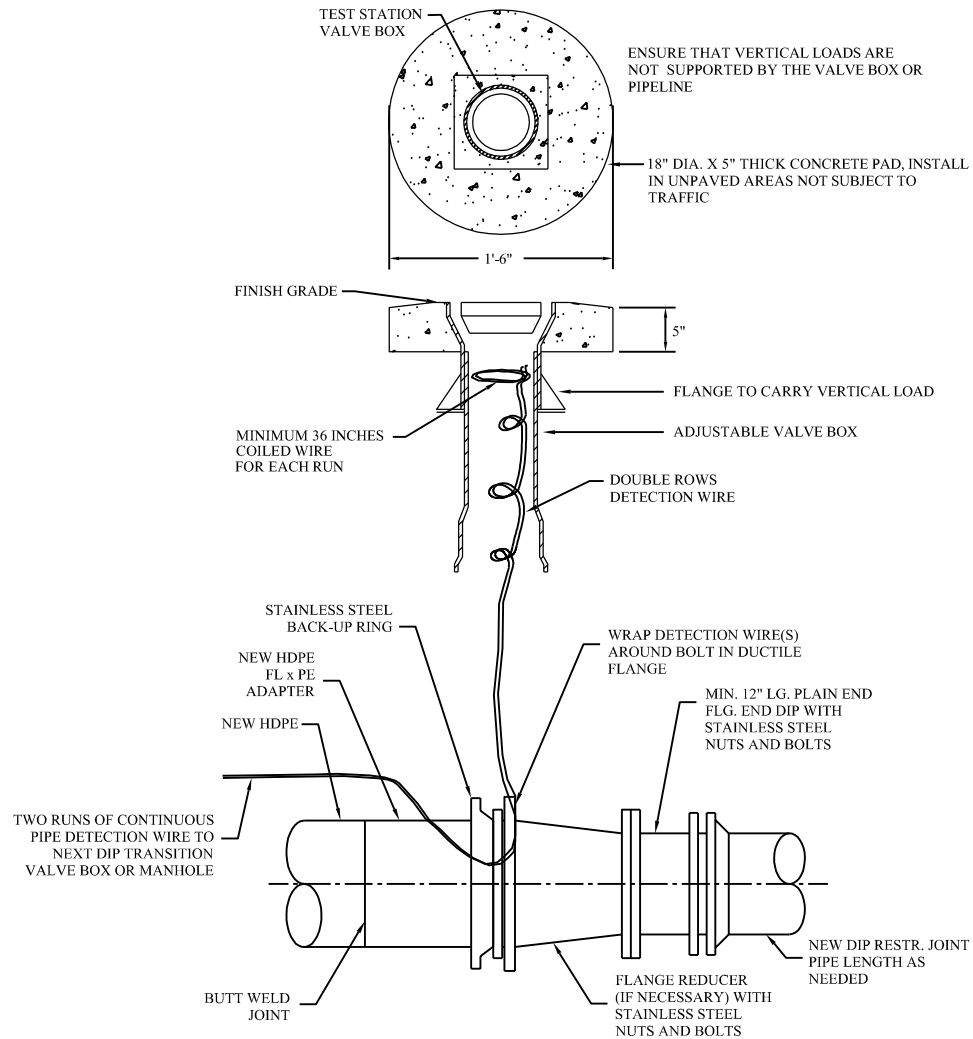
AERIAL FLANGED D.I.P. PIPE CROSSING  
N.T.S.

City of Buford, Georgia

STANDARD DRAWING  
Aerial Flanged D.I.P. Pipe Crossing

DATE: SEPTEMBER 25, 2014 SHEET: 1018





**NOTE:**  
PROVIDE STAINLESS STEEL BOLTS & NUTS FOR ALL BURIED FLANGED JOINTS.

**DIP TO HDPE TRANSITION DETAIL**

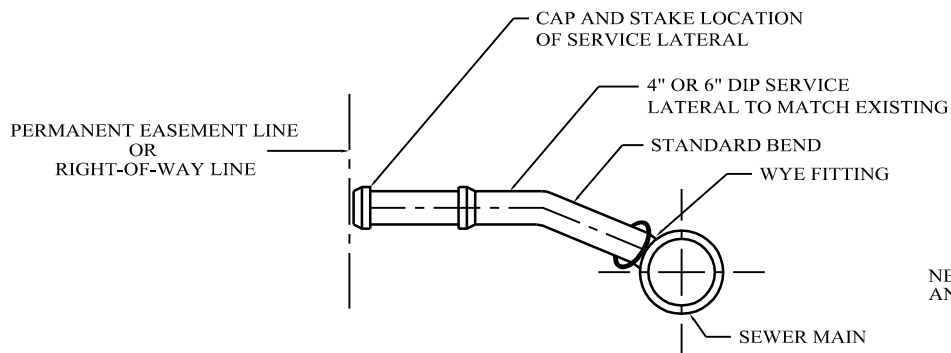
N.T.S.

City of Buford, Georgia

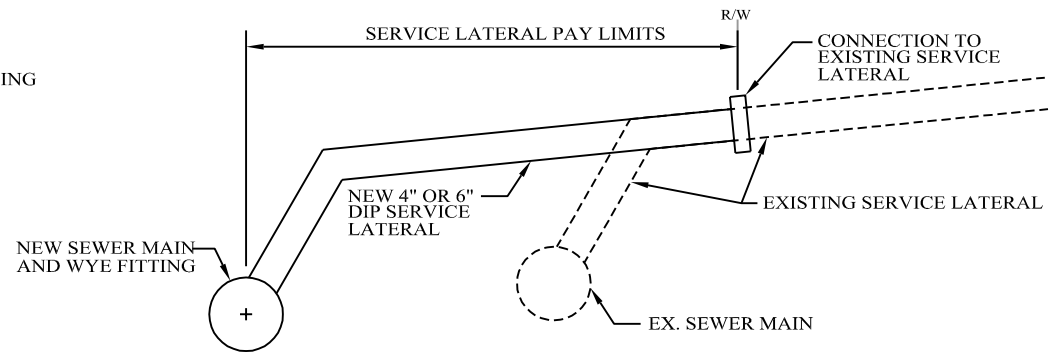
STANDARD DRAWING  
DIP to HDPE Transition Detail

DATE: SEPTEMBER 25, 2014

SHEET: 1019



SERVICE CONNECTION



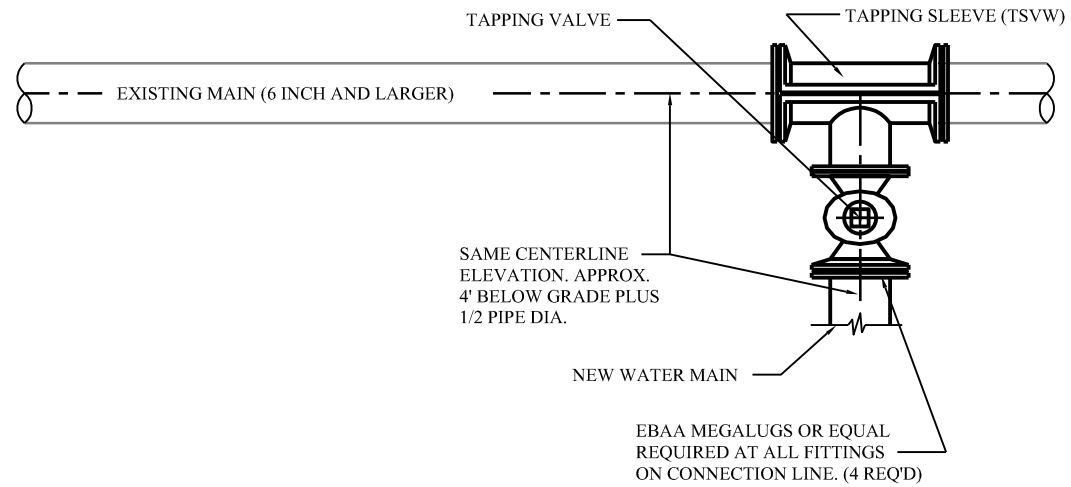
FAR SIDE SERVICE CONNECTION

City of Buford, Georgia

S T A N D A R D   D R A W I N G  
Sewer Service Connections

DATE: SEPTEMBER 25, 2014

SHEET: 1020



### TYPICAL CONNECTION TO EXISTING MAIN

NOTES:

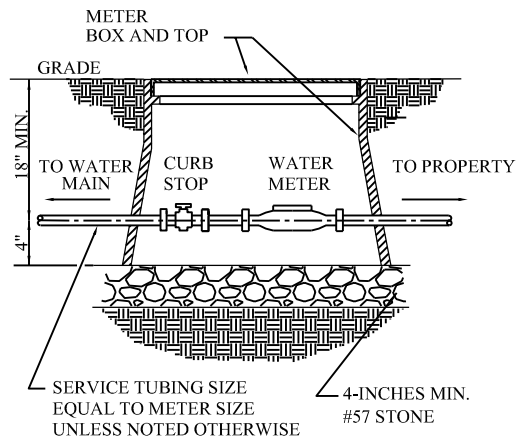
1. MJ TEE AND SLEEVE MAY BE USED IN LIEU OF TAPPING SLEEVE AND VALVE IF APPROVED BY THE ENGINEER AND OWNER AND IF THERE ARE A SUFFICIENT AMOUNT OF EXISTING LINE VALVES.
2. SEE SPECS FOR TYPE OF TAPPING SLEEVE REQUIRED FOR DIFFERENT PIPE MATERIALS.

City of Buford, Georgia

STANDARD DRAWING  
**Typical Connection to Existing Main**

DATE: SEPTEMBER 25, 2014

SHEET: 1101



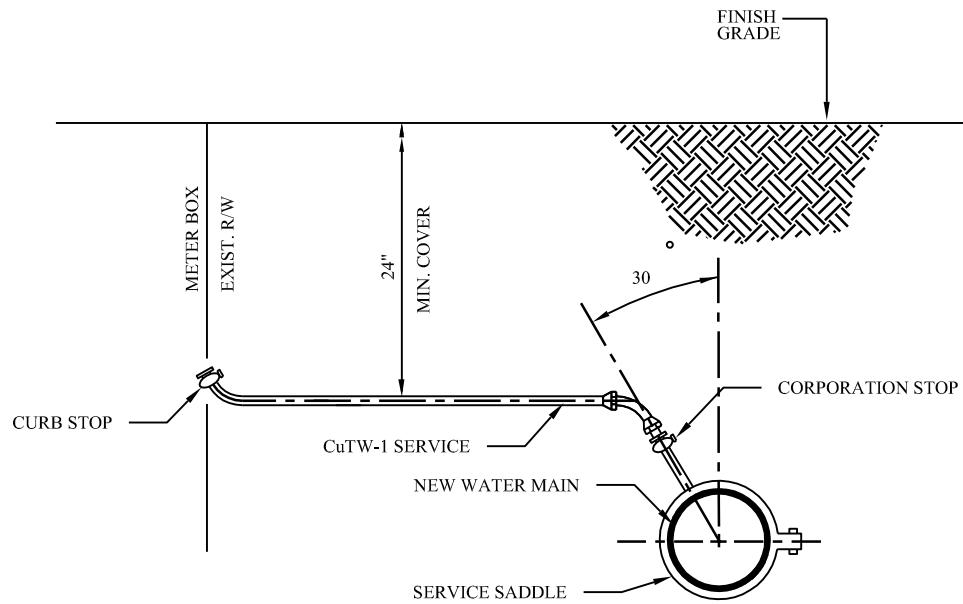
WATER METER BOX

City of Buford, Georgia

S T A N D A R D D R A W I N G  
**Water Meter Box**

DATE: SEPTEMBER 25, 2014

SHEET: 1102



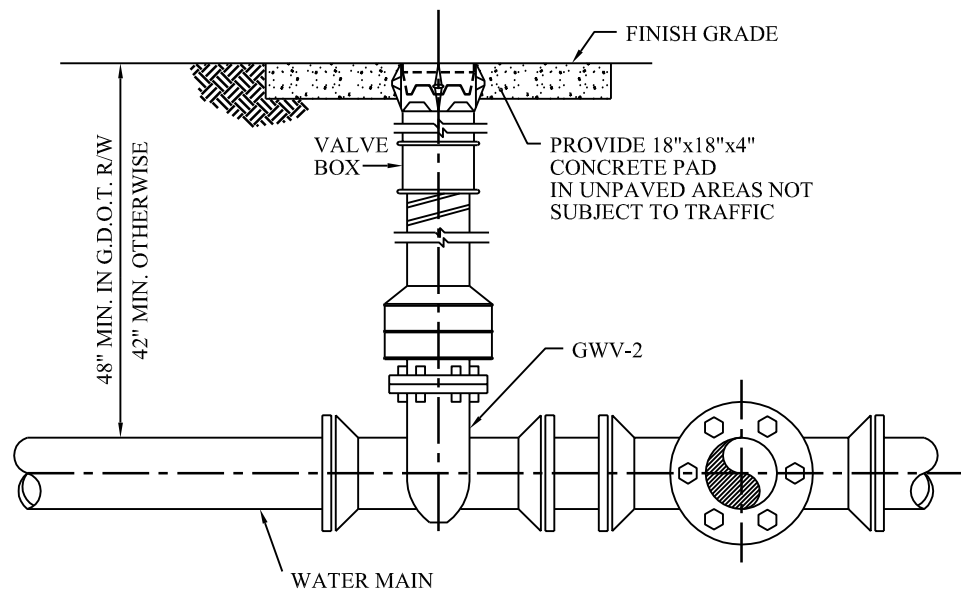
SERVICE CONNECTION DETAIL

City of Buford, Georgia

STANDARD DRAWING  
**Service Connection Detail**

DATE: SEPTEMBER 25, 2014

SHEET: 1103



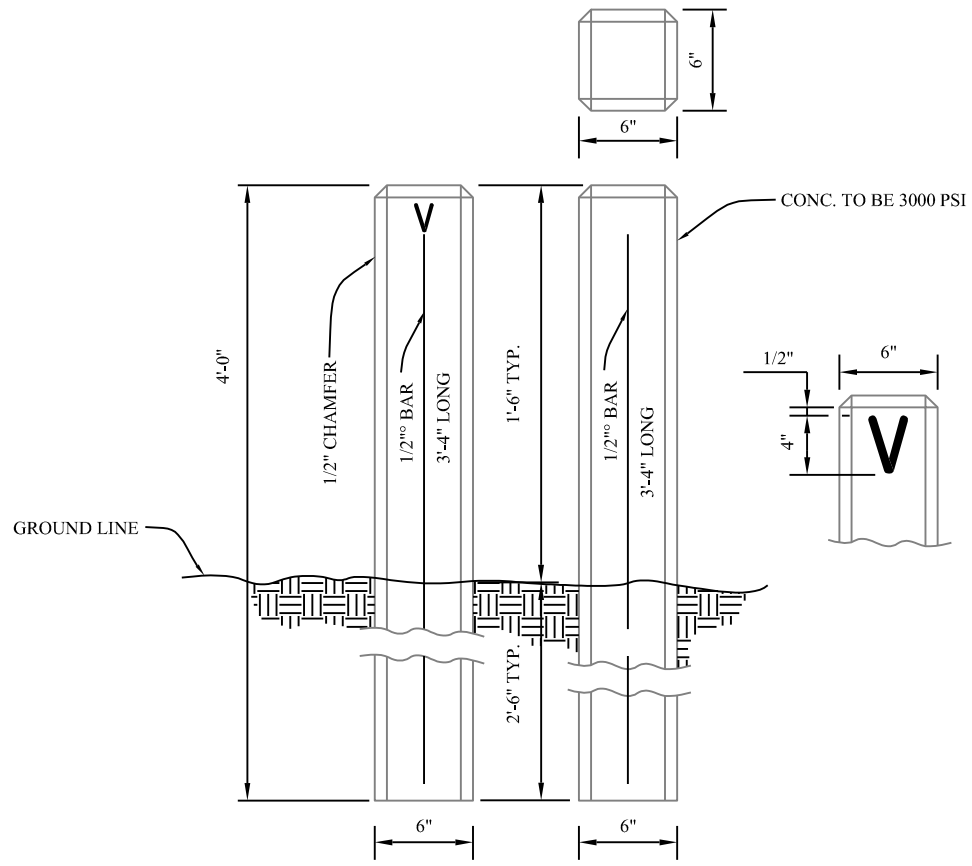
TYPICAL GATE VALVE INSTALLATION

City of Buford, Georgia

STANDARD DRAWING  
 Typical Gate Valve and Valve Box Installation

DATE: SEPTEMBER 25, 2014

SHEET: 1104



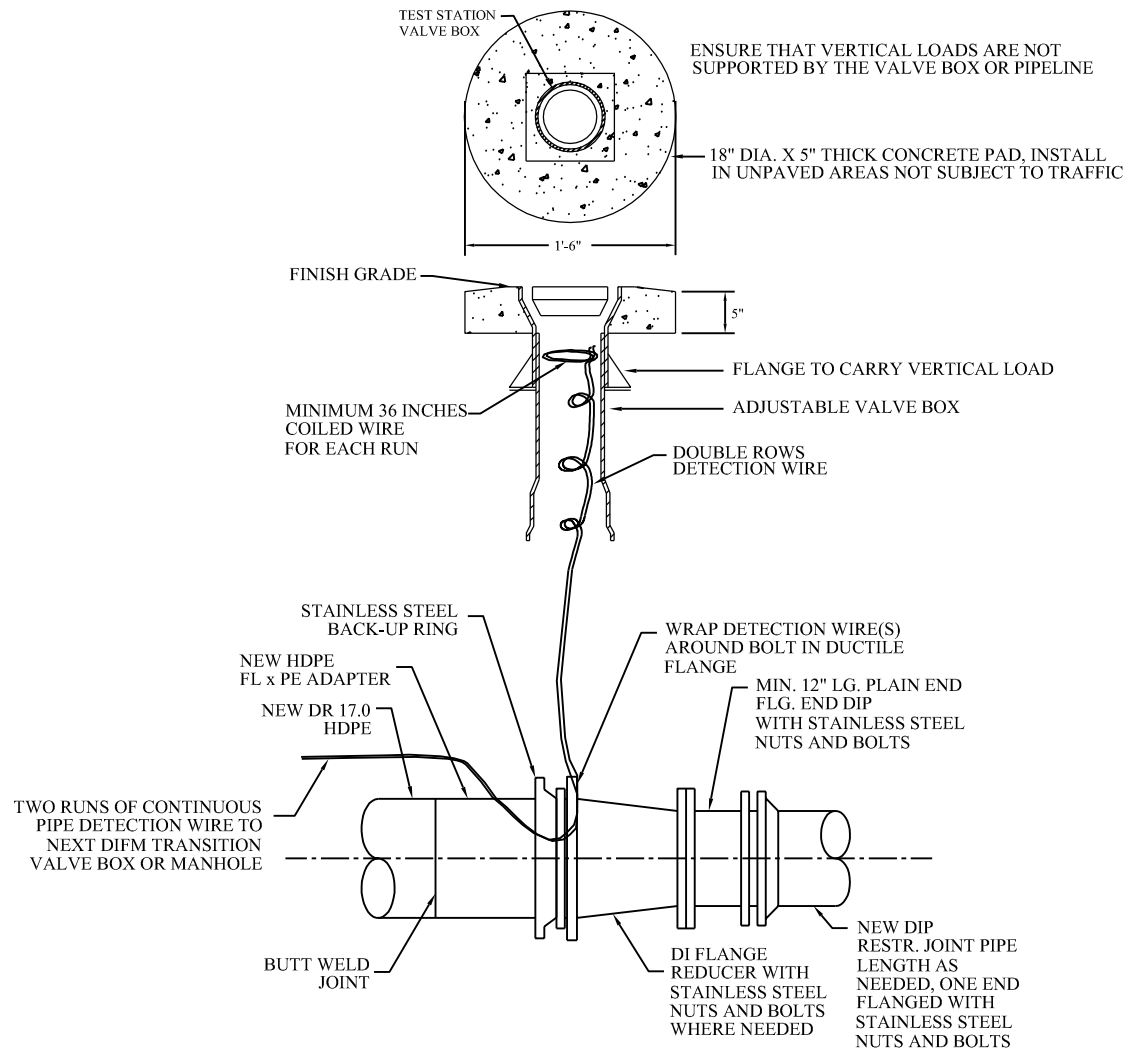
TYPICAL WATER VALVE MARKER

City of Buford, Georgia

STANDARD DRAWING  
 Typical Water Valve Marker

DATE: SEPTEMBER 25, 2014

SHEET: 1105



**DIP TO HDPE TRANSITION DETAIL**

NOTES:

1. PROVIDE STAINLESS STEEL BOLTS & NUTS FOR ALL BURIED FLANGED JOINTS.

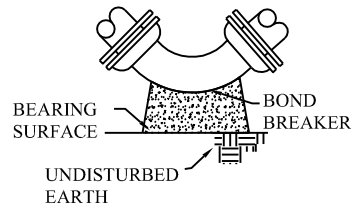
City of Buford, Georgia

STANDARD DRAWING  
DIP to HDPE Transition Detail

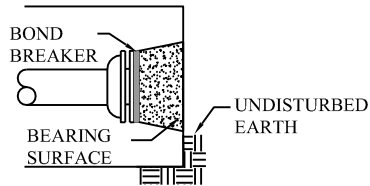
DATE: SEPTEMBER 25, 2014

SHEET: 1106

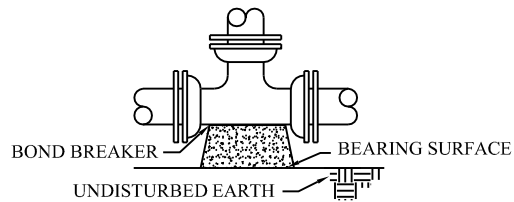




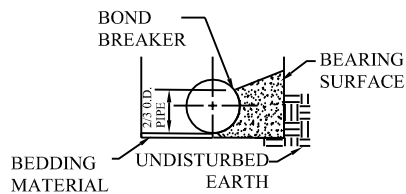
22 1/2°, 45° AND 90° BENDS



DEAD END



TEE



TYPICAL CROSS SECTION

PIPE SIZE	BENDS			TEE OR DEAD END
	22.5°	45°	90°	
4"	1.00	1.00	2.00	1.50
6"	1.25	2.25	4.75	3.00
8"	2.00	4.00	8.20	5.25
12"	4.25	8.25	16.75	11.00
16"	6.50	12.50	23.00	16.50
20"	10.00	19.50	35.50	25.00

NOTES

- BEARING SURFACES IN CHART ARE MINIMUM REQUIRED AREAS BASED ON THE FOLLOWING:
  - SOIL BEARING CAPACITY = 3000 PSF
  - INTERNAL PIPE PRESURE = 150 PSI + WATER HAMMER OF 120 PSI FOR 4"- 8" SIZE, 110 PSI FOR 12" SIZE, AND 70 PSI FOR 16" AND 20" SIZES.
- ACTUAL SOIL AND INSTALLATION CONDITIONS VARY AND MAY REQUIRE ADDITIONAL ANCHORAGE. IT IS THE CONTRACTORS RESPONSIBILITY TO RECOGNIZE SUCH VARIANCES AND ADDITIONAL REQUIREMENTS AND TO PROVIDE APPROPRIATE ADDITIONAL ANCHORAGE.
- PROVIDE CONCRETE REACTION OR THRUST BACKING OF A MIX NOT LEANER THAN 1 CEMENT, 2- 1/2 SAND, 5 STONE, HAVING COMPRESSIVE STRENGTH OF NOT LESS THAN 2,000 PSI. PLACE BACKING BETWEEN SOLID GROUND AND THE FITTING TO BE ANCHORED. LOCATE THE BACKING SO THAT THE PIPE AND THE FITTING JOINT WILL BE ACCESSIBLE FOR REPAIRS. MECHANICAL JOINT RETAINER GLANDS OF ADEQUATE STRENGTH TO PREVENT MOVEMENT OR OTHER SUITABLE MEANS MAY BE USED INSTEAD OF CONCRETE BACKING.

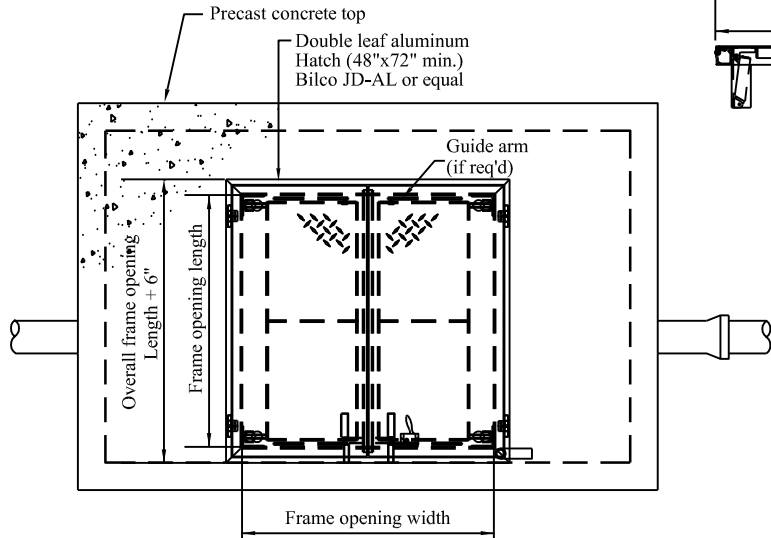
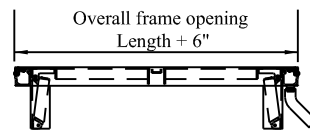
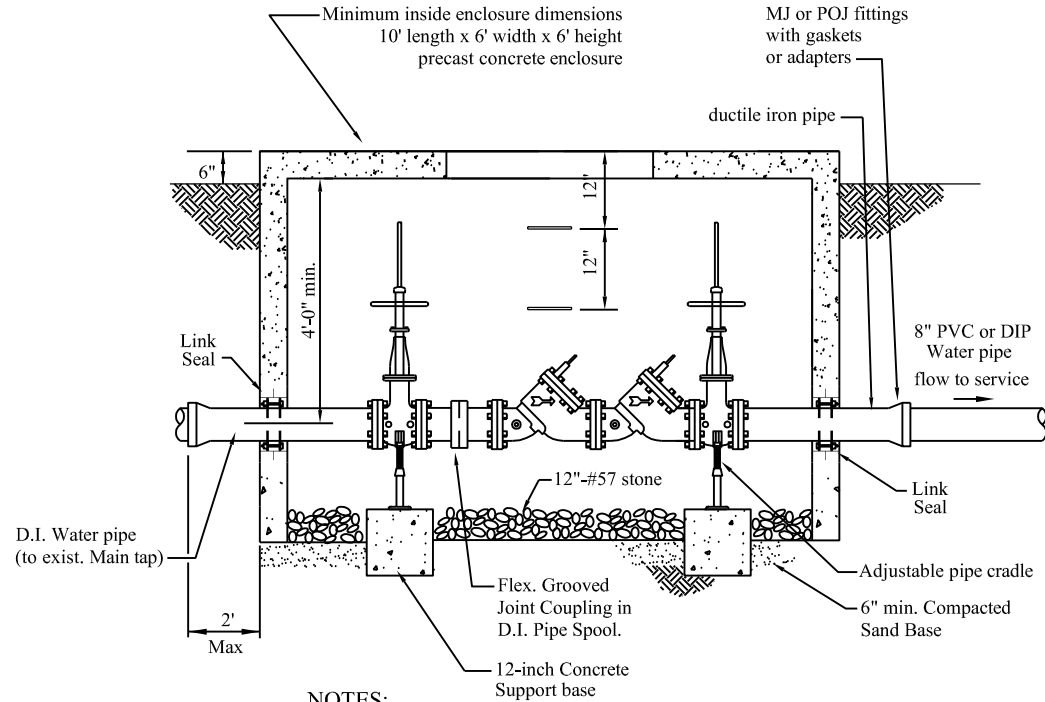
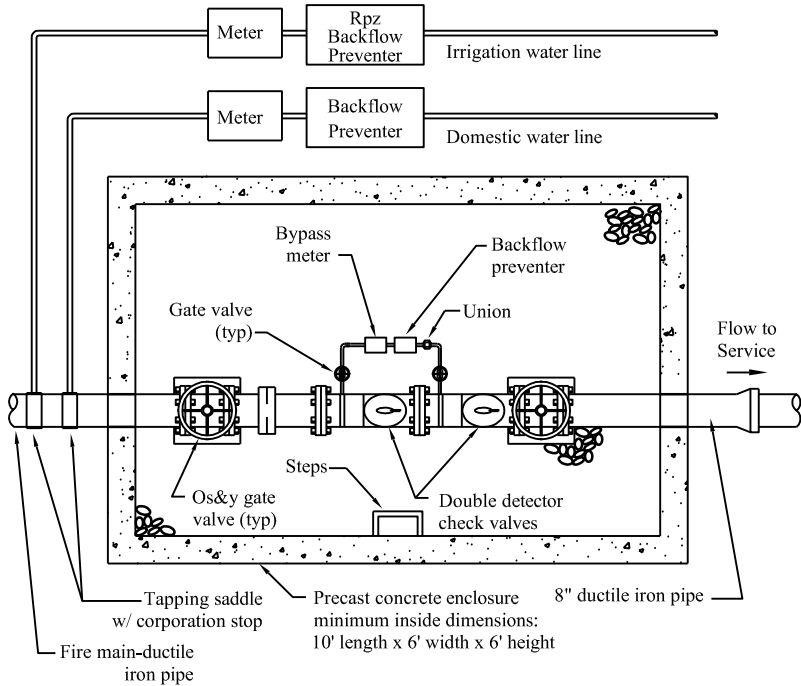
CONCRETE THRUST RESTRAINT

City of Buford, Georgia

STANDARD DRAWING  
Concrete Thrust Restraint

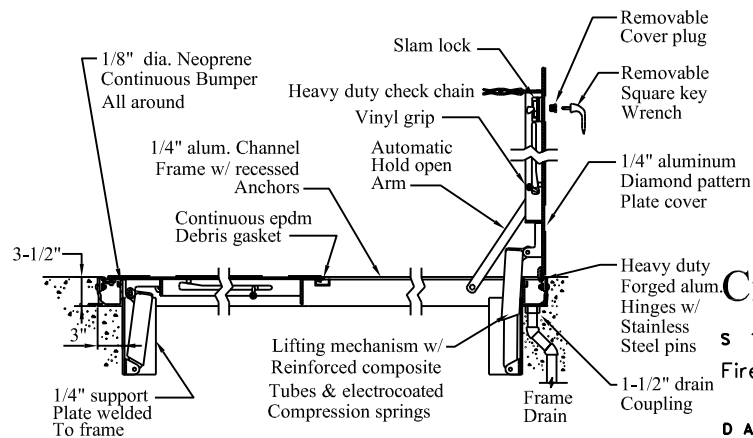
DATE: SEPTEMBER 25, 2014

SHEET: 1107



**NOTES:**

1. For backflow prevention device, provide 8" internally loaded double check assembly complete with os&y gate valves and bronze body ball valve test cocks fitted with bronze plugs and conforming with AWWA C510 and ASSE Std. 1048.
2. Provide concrete supports for pipe & assembly to eliminate Any strain on all pipe joints per mfg. Recommendations.

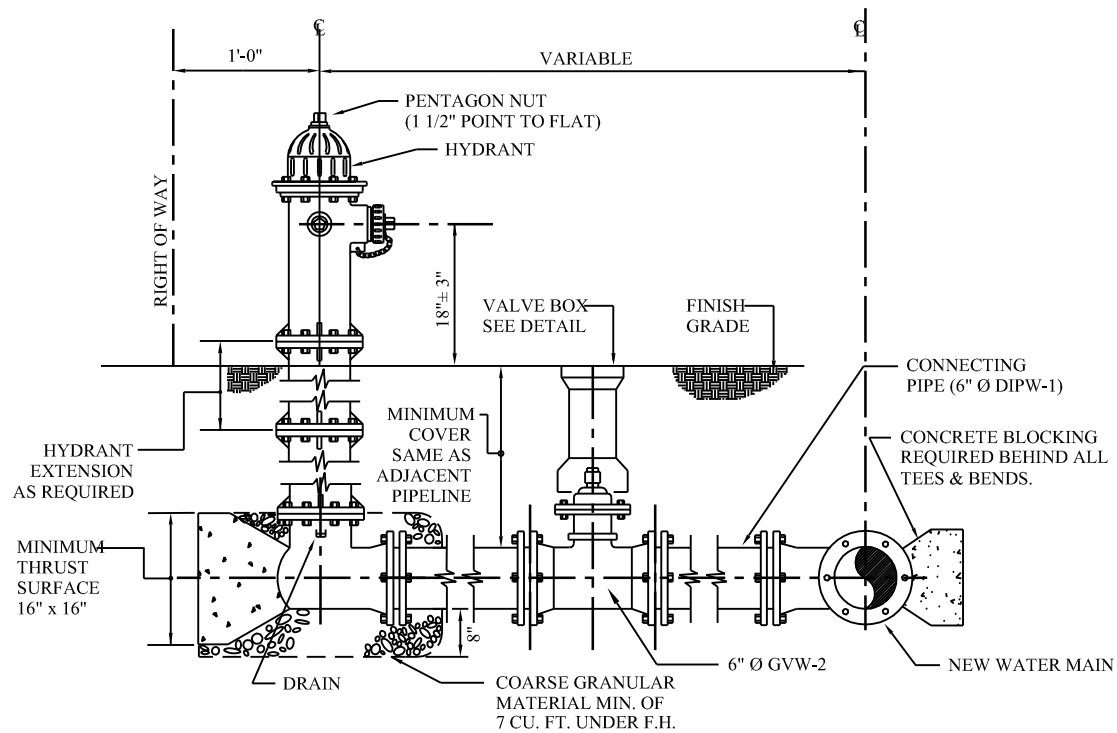


City of Buford, Georgia

STANDARD DRAWING

Fire Main and Water Vault Details

DATE: SEPTEMBER 25, 2014 SHEET: 1108



### TYPICAL HYDRANT INSTALLATION

#### NOTES:

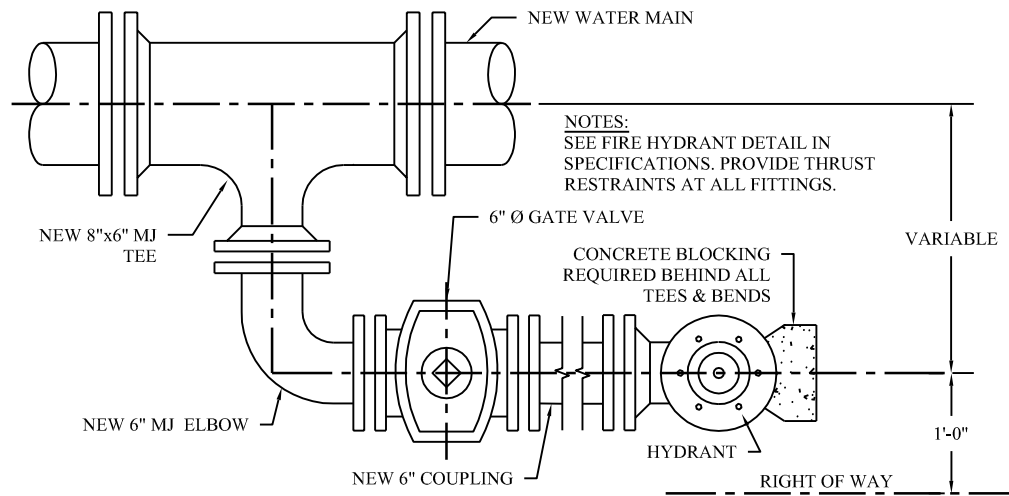
1. HYDRANT LUGS AND TIE RODS MAY BE USED IN LIEU OF CONCRETE REACTION BRACING AT CONTRACTOR'S OPTION.
2. PAINT HYDRANT IN ACCORDANCE W/AWWA C502 COLOR TO BE APPROVED BY CITY.
3. EXACT LOCATION OF HYDRANTS TO BE DETERMINED IN FIELD BY ENGINEER & CITY.

City of Buford, Georgia

STANDARD DRAWING  
Typical Hydrant Installation

DATE: SEPTEMBER 25, 2014

SHEET: 1109



### ALTERNATE HYDRANT INSTALLATION

NOTES:

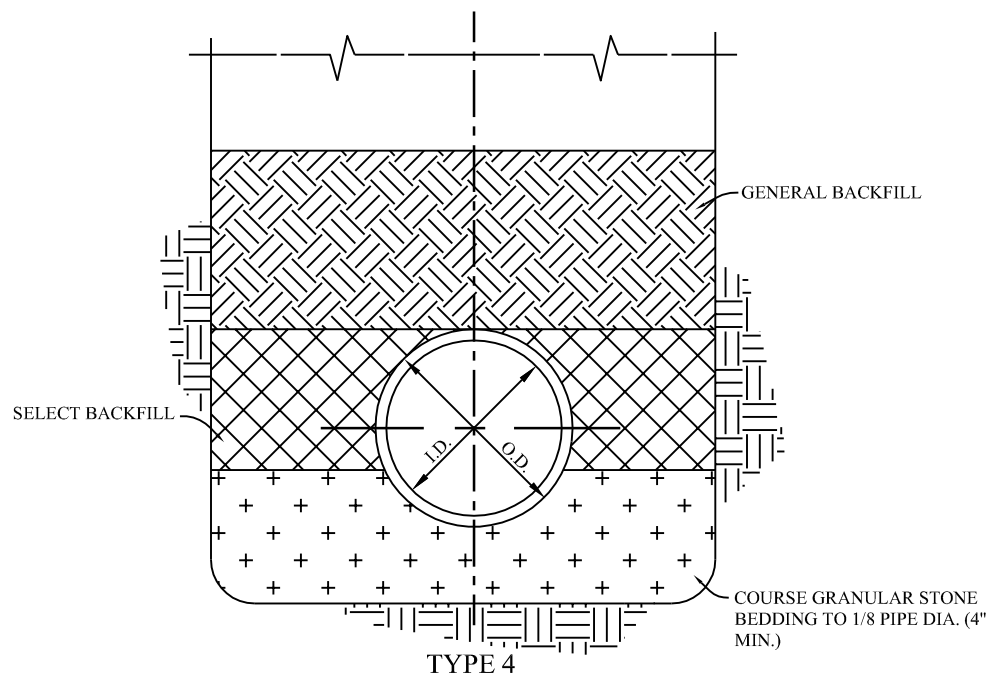
1. HYDRANT LUGS AND TIE RODS MAY BE USED IN LIEU OF CONCRETE REACTION BRACING AT CONTRACTOR'S OPTION.
2. PAINT HYDRANT IN ACCORDANCE W/AWWA C502 COLOR TO BE APPROVED BY CITY.
3. EXACT LOCATION OF HYDRANTS TO BE DETERMINED IN FIELD BY ENGINEER & CITY.

City of Buford, Georgia

STANDARD DRAWING  
Alternate Hydrant Installation

DATE: SEPTEMBER 25, 2014

SHEET: 1110



PIPE BEDDED IN COURSE GRANULAR STONE TO DEPTH OF 1/8 PIPE DIA. (4" MIN.) WITH BACKFILL COMPACTED PER SPECIFICATION

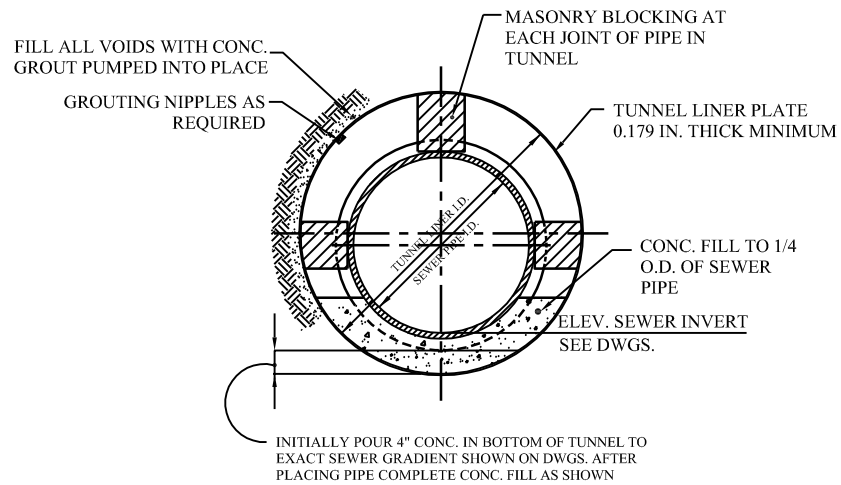
DUCTILE IRON PIPE BEDDING

City of Buford, Georgia

STANDARD DRAWING  
Ductile Iron Pipe Bedding

DATE: SEPTEMBER 25, 2014

SHEET: 1111



## TUNNEL LINER

NOTES:

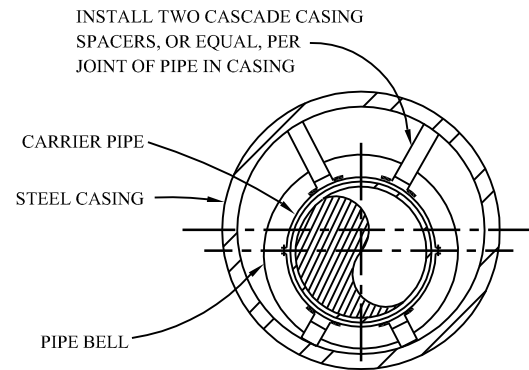
1. PROVIDE 12" THICK MASONRY WALL SEAL AT EA. END OF TUNNEL.
2. AT LOW END OF TUNNEL PROVIDE 6" SQ. WEEPHOLE IN BOTTOM OF WALL.
3. AT WEEPHOLE PROVIDE A 2' SQ. X 18" DEEP POCKET OF CRUSHED STONE.

City of Buford, Georgia

S T A N D A R D D R A W I N G  
Tunnel Liner

DATE: SEPTEMBER 25, 2014

SHEET: 1112



### STEEL CASING

NOTES:

1. SEAL ENDS OF TUNNEL LINER TO PREVENT DEBRIS AND MOISTURE FROM ENTERING THE ANNULAR SPACE BETWEEN THE CARRIER PIPE AND TUNNEL LINER.
2. FOR PIPE TUNNEL LINER, PROVIDE END SEAL CONSISTING OF FLEXIBLE SYNTHETIC RUBBER BOOT CONFORMING TO ASTM C-923 OR LINK SEAL PENETRATION SEAL WITH INSULATING PLASTIC PLATE, GALVANIZED BOLTS AND NUTS, AND EPDM RUBBER ELEMENT MANUFACTURED BY THUNDERLINE CORPORATION.

City of Buford, Georgia

S T A N D A R D D R A W I N G  
Steel Casing

DATE: SEPTEMBER 25, 2014

SHEET: 1113