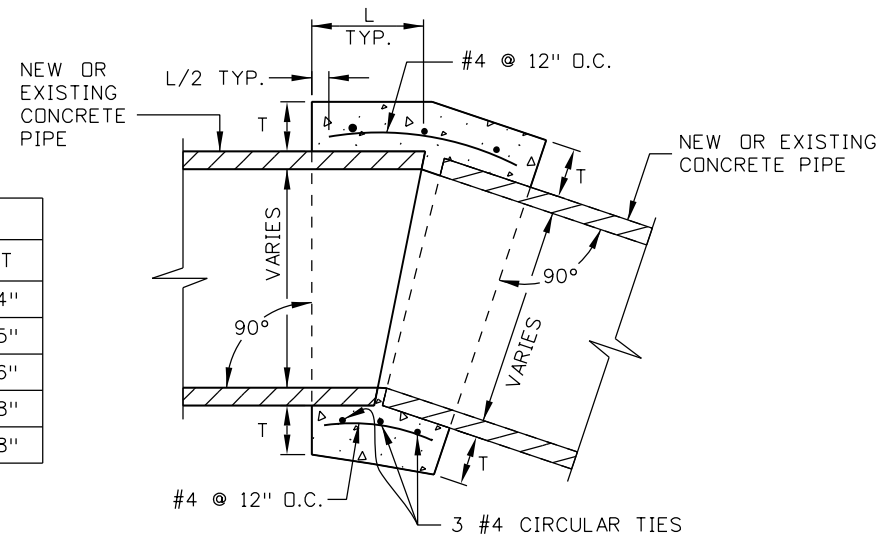


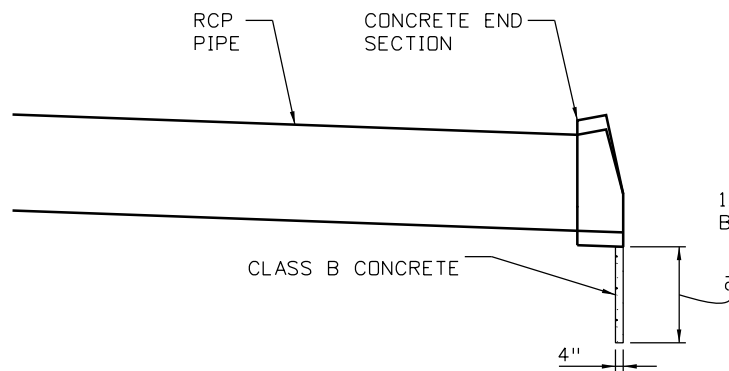
N.T.S.		
D	L	T
12"	1.0	4"
18"	1.0	5"
24"	1.0	6"
36"	1.5	8"
24" x 38" HERCP	1.5	8"



NOTES:

1. A CONCRETE COLLAR IS REQUIRED WHERE THE MAXIMUM PERMISSIBLE PULL AT THE JOINT, AS SPECIFIED BY THE MANUFACTURER, IS EXCEEDED.
2. CONCRETE PIPE COLLARS SHALL NOT BE USED FOR PIPES WITH DIFFERENT DIAMETERS.
3. FOR PIPE SIZE NOT LISTED, USE NEXT SIZE LARGER.
4. OMIT REINFORCING ON ALL PIPES LESS THAN 24" IN DIAMETER WITH MINIMUM 2' COVER, AND SUBSTITUTE WITH WIRE MESH.
5. CONCRETE SHALL BE CDDT CLASS B.
6. CONCRETE PIPE COLLARS WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE WORK.
7. THE INTERIOR SURFACE OF THE CONCRETE COLLAR SHALL BE FINISHED SMOOTH TO MATCH THE ADJOINING PIPE SURFACES. IF THE PROPOSED PIPE DEFLECTION CREATES A GAP WHICH PROHIBITS A SMOOTH INTERIOR FINISH, A MITERED CUT TO EACH PIPE SHALL BE REQUIRED.

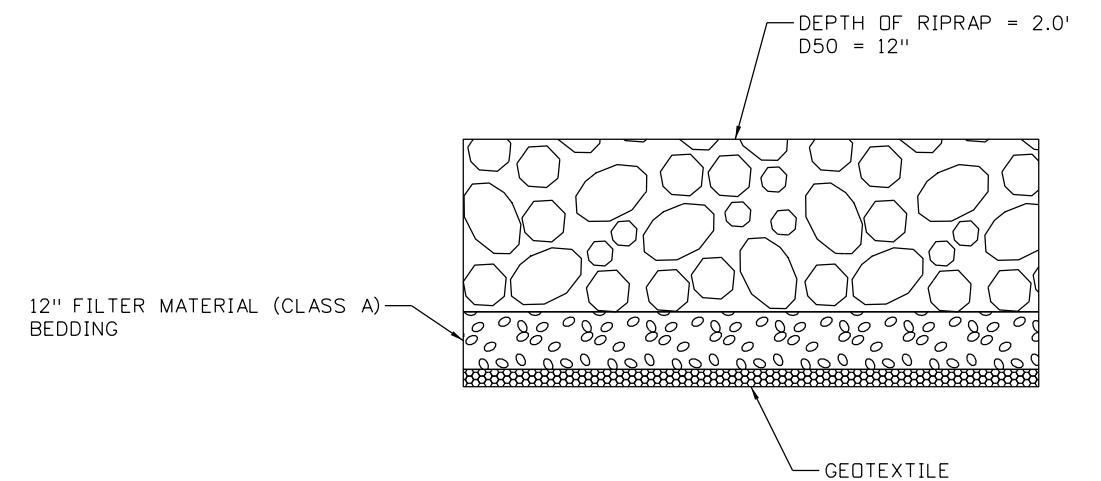
CONCRETE PIPE COLLAR
N.T.S.



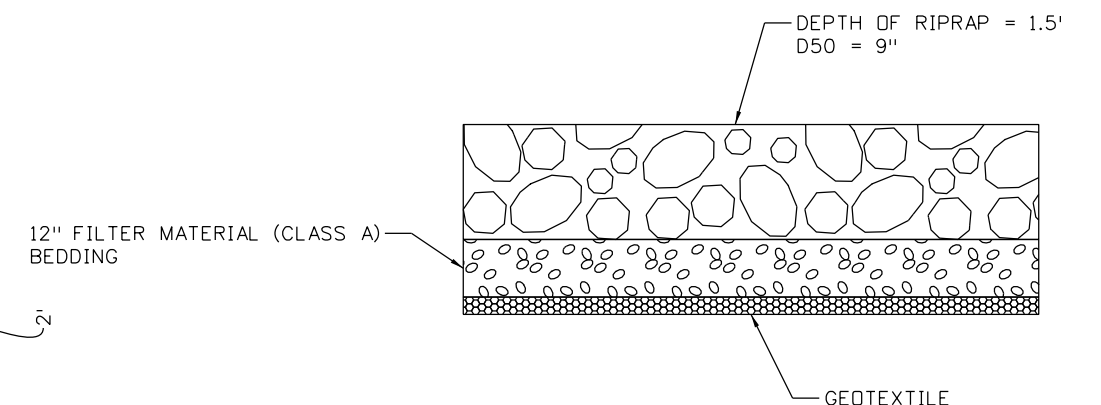
TOE WALL CROSS SECTION
N.T.S.

NOTE:

TOE WALL NOT BE PAID FOR SEPARATELY. COST IS INCIDENTAL TO THE COST OF END SECTION.



TYPICAL RIPRAP TYPE "M" DETAIL
N.T.S.



TYPICAL RIPRAP TYPE "L" DETAIL
N.T.S.

Print Date: 3/2/2017
 File Name: 20344DES_Misc_Pond_Det05.dgn
 Horiz. Scale: As Noted Vert. Scale:
JFS J. F. SATO AND ASSOCIATES
 5898 South Rapp Street
 Littleton, Colorado 80120

Sheet Revisions		
Date:	Comments	Init.

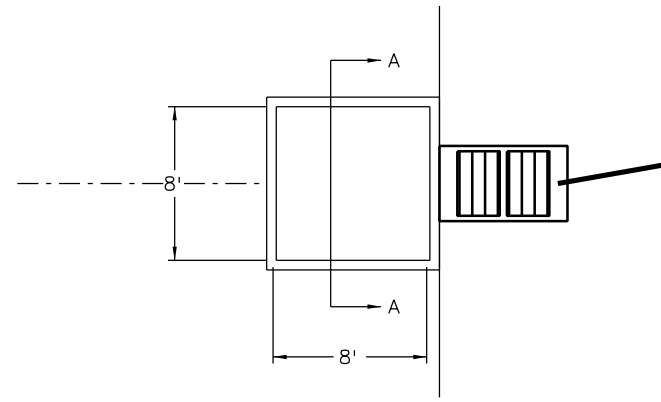
Colorado Department of Transportation
 902 Erie Avenue
 Pueblo, CO 81001
 Phone: 719-562-5509 FAX: 719-546-5702
Region 2 DTD

As Constructed
No Revisions:
Revised:
Void:

US 50 WEST WESTBOUND DRAINAGE DETAILS			
Designer:	ACE	Structure Numbers	
Detailer:	ACE		
Subset:	DDT	Subset Sheets: 06 of 06	

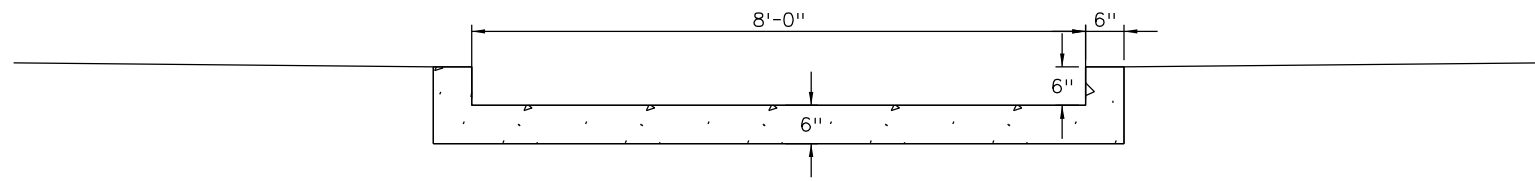
Project No./Code
STA 0503-085
20344
Sheet Number 91

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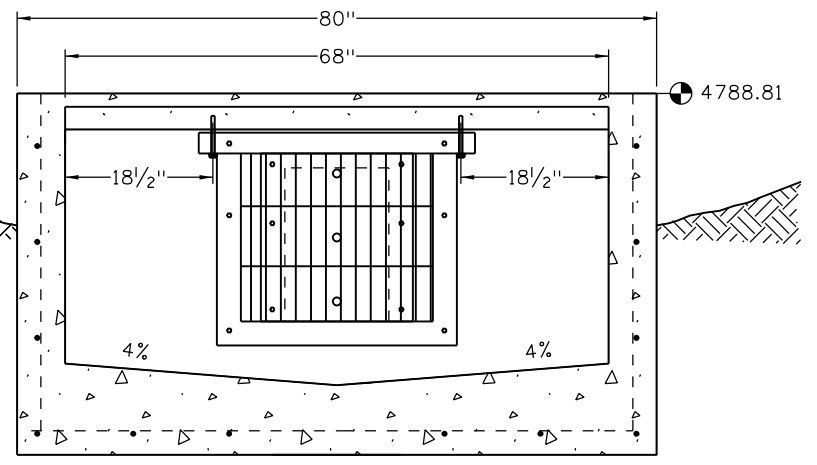
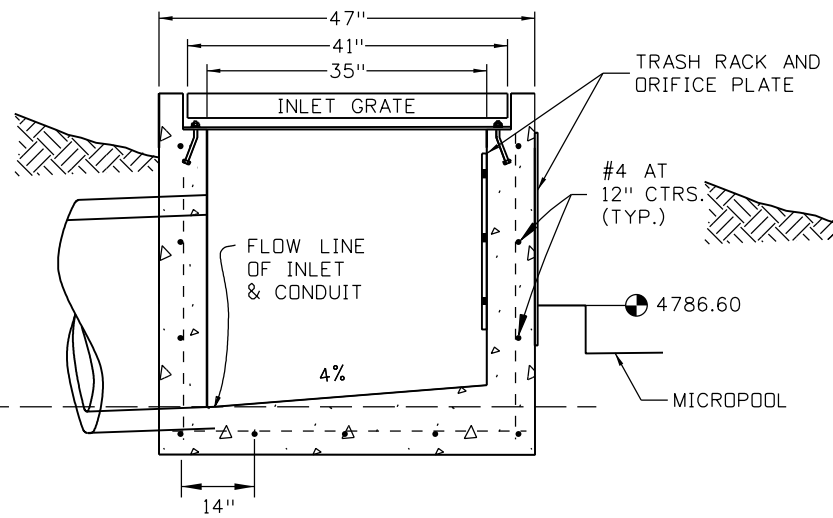
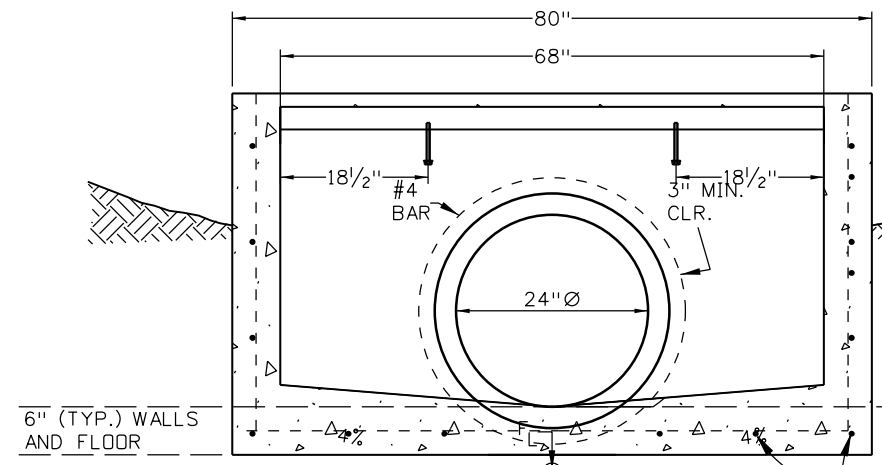


MICROPOOL DETAIL

MICROPOOL SHALL BE CONCRETE CLASS B AND SHALL BE PAID FOR AS ITEM 601-01000. IT IS EXPECTED THAT 1.9 CY WILL BE REQUIRED FOR THE MICROPOOL.

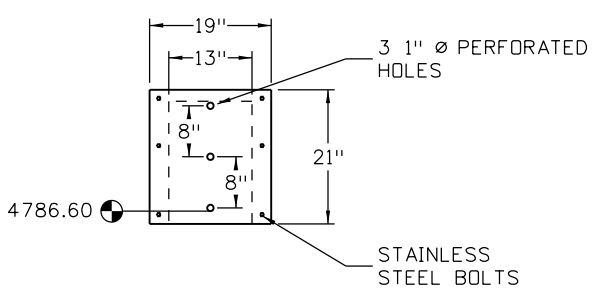


SECTION A-A

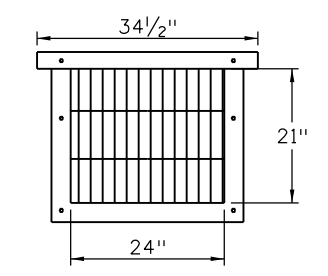


6" (TYP.) WALLS AND FLOOR

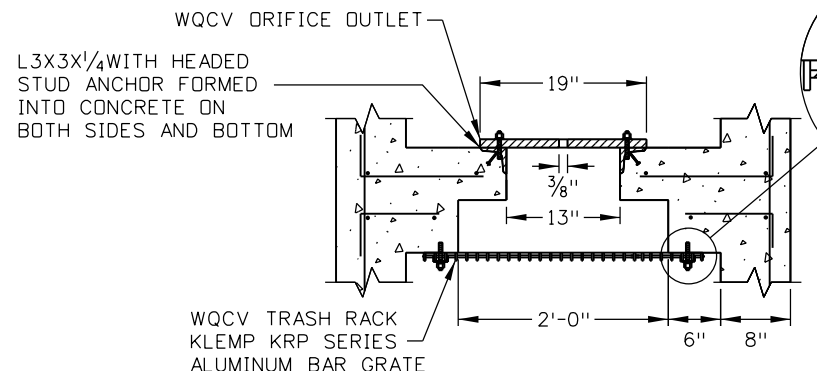
#4 AT 12" CTRS. (TYP.)



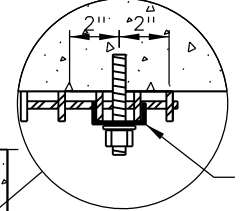
POND C ORIFICE PLATE



POND C TRASH RACK



WQCV TRASH RACK AND ORIFICE PLATE



BOLT BAR GRATE USING STAINLESS STEEL SADDLE WASHERS OR TREATED STEEL BAR STOCK

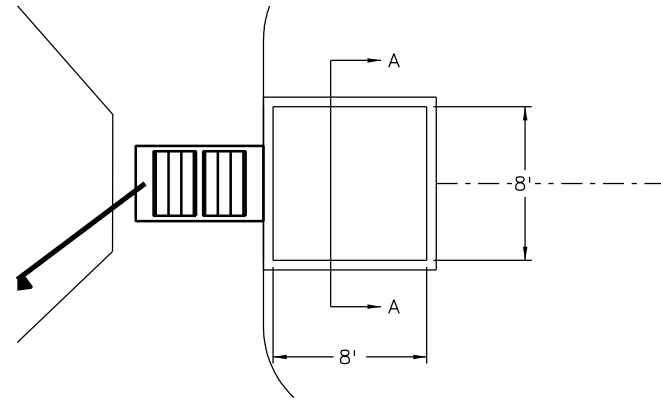
ORIFICE PLATES:
1. STEEL ORIFICE PLATES SHALL BE HOT DIP GALVANIZED AND MAY BE HOT POWDER PAINTED AFTER GALVANIZING.

- WQCV TRASH RACKS:**
1. BAR GATE TRASH RACKS SHALL BE ALUMINUM AND SHALL BE BOLTED USING STAINLESS STEEL HARDWARE OR ATTACHED BY INTERMITTANT WELDS..
 2. TRASH RACK WIDTHS ARE FOR SPECIFIED TRASH RACK MATERIAL. FINER WELL-SCREEN OR MESH SIZE THAN SPECIFIED IS ACCEPTABLE, HOWEVER, TRASH RACK DIMENSIONS NEED TO BE ADJUSTED FOR MATERIALS HAVING A DIFFERENT OPEN AREA/GROSS AREA RATION (R VALUE).

GENERAL NOTE
1. WATER QUALITY POND OUTLET STRUCTURE PAID FOR AS INLET TYPE D (SPECIAL).

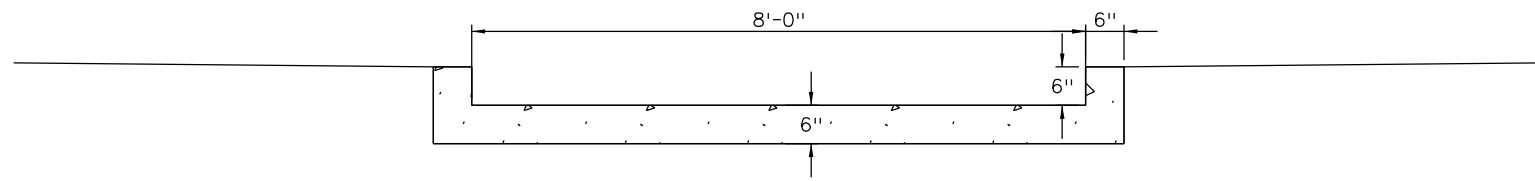
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Print Date: 3/2/2017	Sheet Revisions			Colorado Department of Transportation	As Constructed	US 50 WEST WESTBOUND DRAINAGE DETAILS			Project No./Code
File Name: 20344DES_Misc_Pond_Det03.dgn	Date:	Comments	Init.			POND C			
Horiz. Scale: As Noted Vert. Scale:	0000			902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702	No Revisions:	Designer: ACE		Structure Numbers	20344
					Revised:	Detailer: ACE			
	J. F. SATO AND ASSOCIATES 5898 South Rapp Street Littleton, Colorado 80120			Region 2	Void:	Subset: DDT		Subset Sheets: 01 of 06	Sheet Number 92

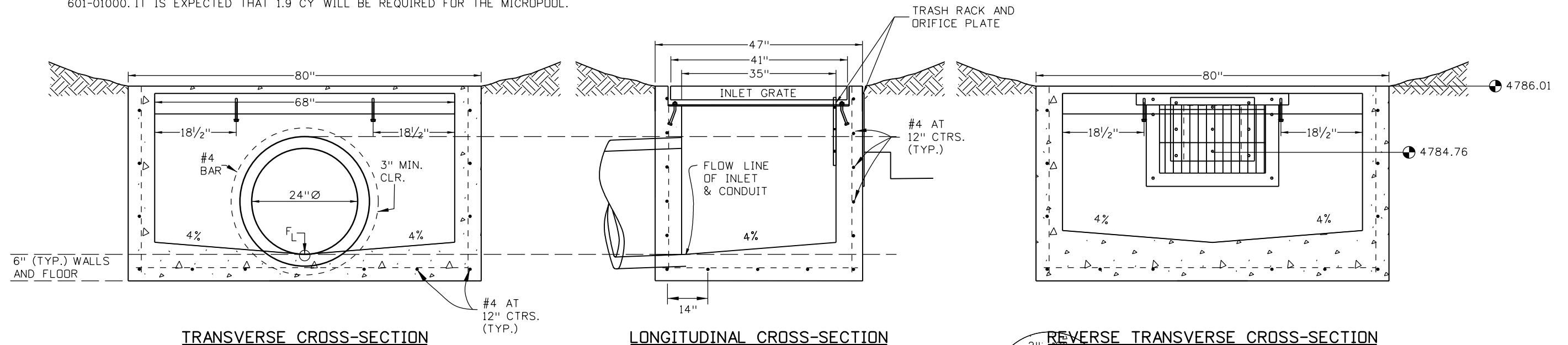


MICROPOOL DETAIL

MICROPOOL SHALL BE CONCRETE CLASS B AND SHALL BE PAID FOR AS ITEM 601-01000. IT IS EXPECTED THAT 1.9 CY WILL BE REQUIRED FOR THE MICROPOOL.



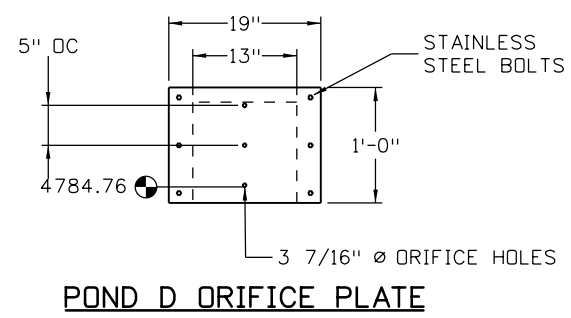
SECTION A-A



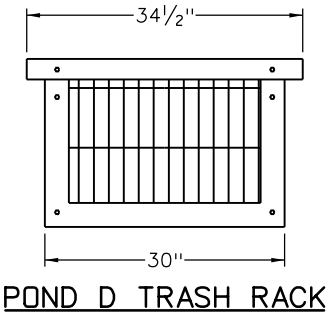
TRANSVERSE CROSS-SECTION

LONGITUDINAL CROSS-SECTION

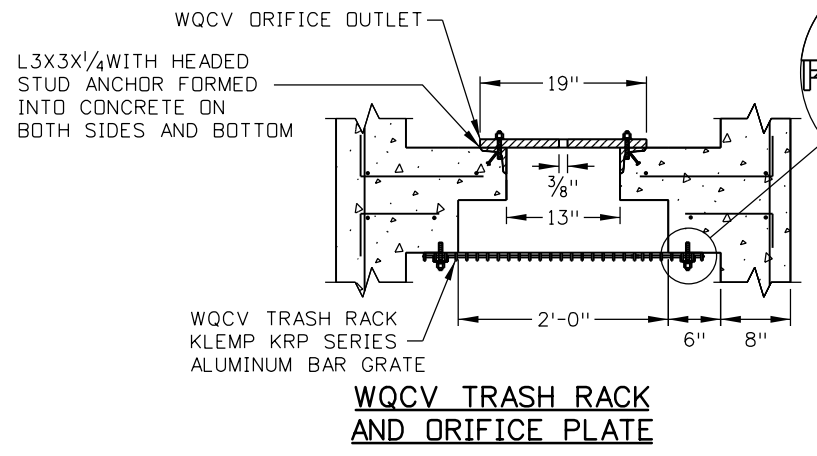
REVERSE TRANSVERSE CROSS-SECTION



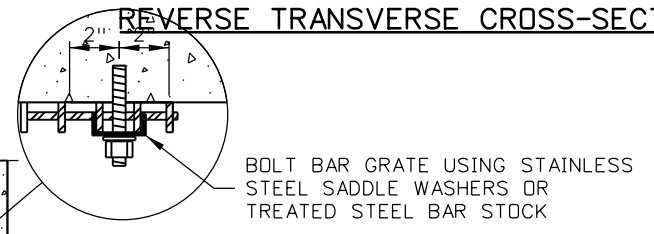
POND D ORIFICE PLATE



POND D TRASH RACK



WQCV TRASH RACK AND ORIFICE PLATE



BOLT BAR GRATE USING STAINLESS STEEL SADDLE WASHERS OR TREATED STEEL BAR STOCK

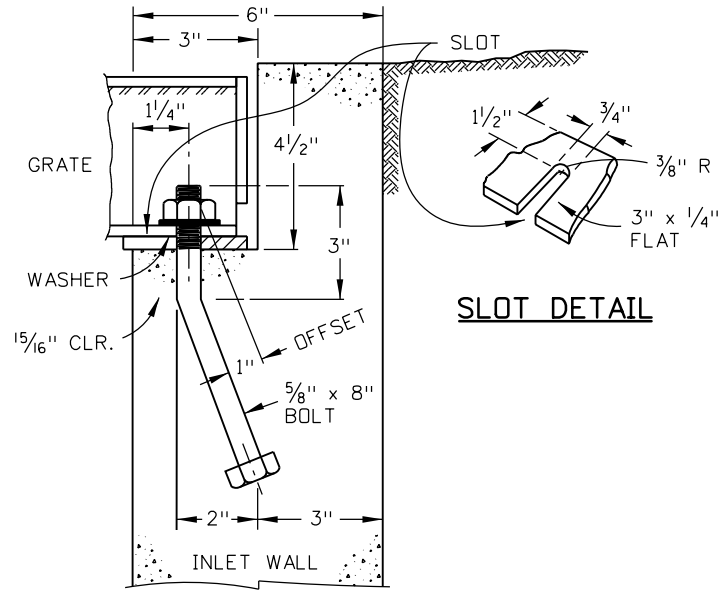
- ORIFICE PLATES:**
- STEEL ORIFICE PLATES SHALL BE HOT DIP GALVANIZED AND MAY BE HOT POWDER PAINTED AFTER GALVANIZING.

- WQCV TRASH RACKS:**
- BAR GATE TRASH RACKS SHALL BE ALUMINUM AND SHALL BE BOLTED USING STAINLESS STEEL HARDWARE OR ATTACHED BY INTERMITTANT WELDS..
 - TRASH RACK WIDTHS ARE FOR SPECIFIED TRASH RACK MATERIAL. FINER WELL-SCREEN OR MESH SIZE THAN SPECIFIED IS ACCEPTABLE, HOWEVER, TRASH RACK DIMENSIONS NEED TO BE ADJUSTED FOR MATERIALS HAVING A DIFFERENT OPEN AREA/GROSS AREA RATION (R VALUE).

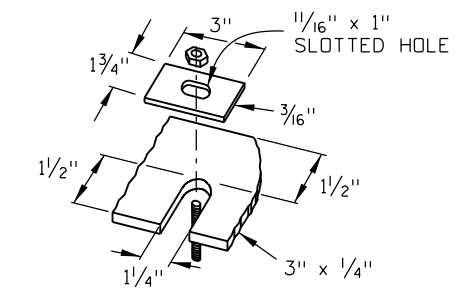
- GENERAL NOTE**
- WATER QUALITY POND OUTLET STRUCTURE PAID FOR AS INLET TYPE D (SPECIAL).

Print Date: 3/2/2017	Sheet Revisions			Colorado Department of Transportation	As Constructed	US 50 WEST WESTBOUND DRAINAGE DETAILS			Project No./Code
File Name: 20344DES_Misc_Pond_Det04.dgn	Date:	Comments	Init.			No Revisions:	POND D		
Horiz. Scale: As Noted Vert. Scale:				902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702	Revised:	Designer: ACE	Structure	20344	20344
					Void:	Detailer: ACE	Numbers		
J.F. SATO AND ASSOCIATES 5898 South Rapp Street Littleton, Colorado 80120				Region 2		Subset: DDT	Subset Sheets: 02 of 06	93	

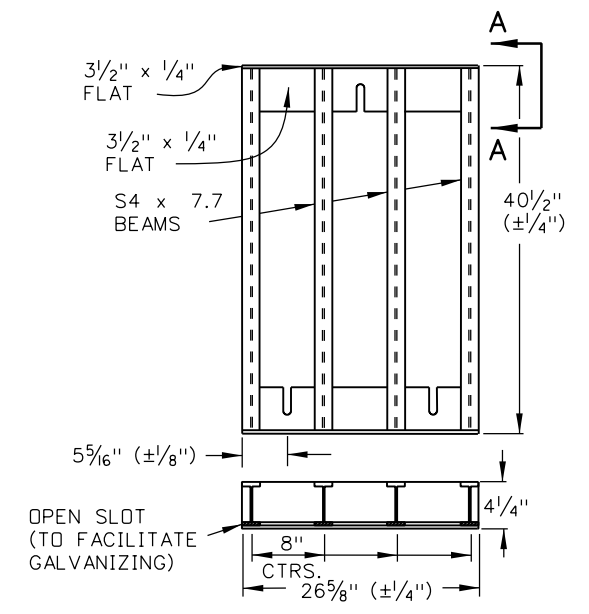
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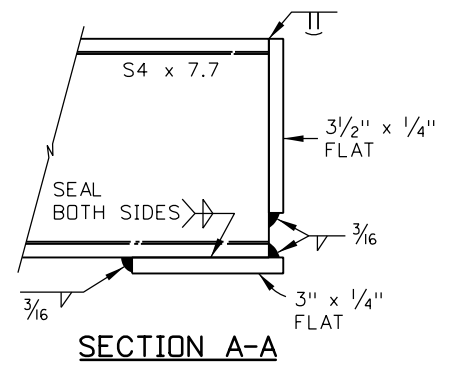
GRATE INSTALLATION DETAIL



ALTERNATE SLOT AND HOLD DOWN PLATE DETAIL



GRATE INSTALLATION



SECTION A-A

Print Date: 3/2/2017		Sheet Revisions				Colorado Department of Transportation 902 Erie Avenue Pueblo, CO 81001 Phone: 719-562-5509 FAX: 719-546-5702 Region 2	As Constructed No Revisions: Revised: Void:	US 50 WEST WESTBOUND DRAINAGE DETAILS			Project No./Code	
File Name: 20344DES_Misc_Pond_Det06.dgn		Date:	Comments	Init.							STA 0503-085	
Horiz. Scale: 1:10 Vert. Scale:								20344				
J. F. SATO AND ASSOCIATES 5898 South Rapp Street Littleton, Colorado 80120					Designer: ACE Structure Numbers Detailer: ACE Subset: DDT Subset Sheets: 03 of 06		Sheet Number 94					

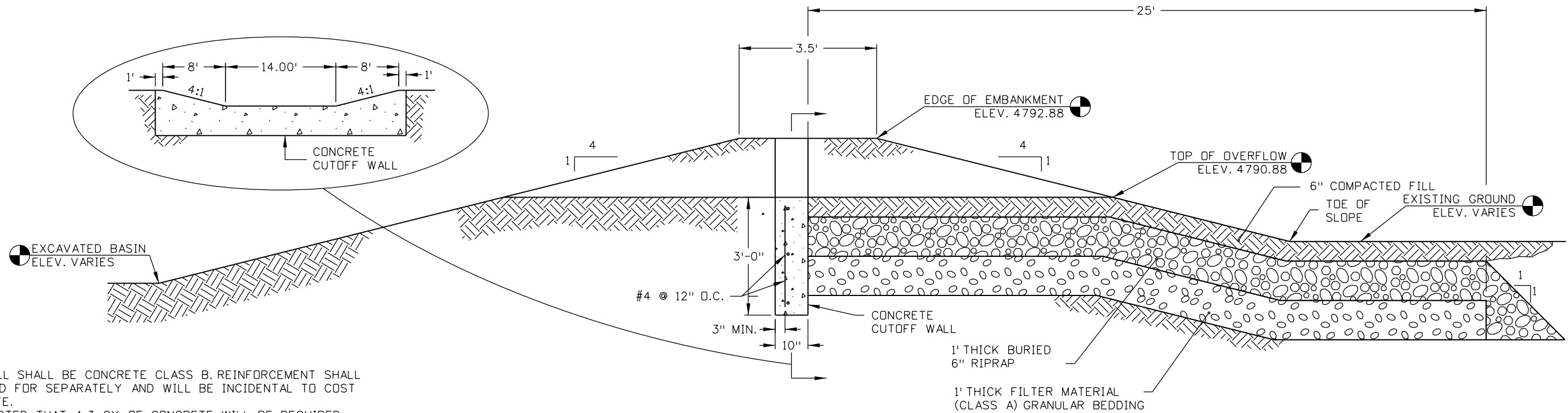
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GRADATION FOR GRANULAR BEDDING	
U.S. STANDARD SIEVE SIZE	PERCENT WEIGHT BY PASSING SQUARE-MESH SIEVES
	TYPE II CDDT SECT. 703.09 CLASS A
3 INCHES	100
1 1/2 INCH	----
3/4 INCH	20-90
3/8 INCH	----
#4	0-20
#16	----
#50	----
#100	----
#200	0-3

RIPRAP (6") GRADATION		
% SMALLER THAN GIVEN SIZE BY WEIGHT	INTERMEDIATE ROCK DIMENSIONS (INCHES)	D50 (inches)
70-100	12	6
50-70	9	
35-50	6	
2-10	2	
RIPRAP (9") GRADATION		
		D50 (inches)
70-100	15	9
50-70	12	
35-50	9	
2-10	3	

D50 = MEAN PARTICLE SIZE (INTERMEDIATE DIMENSION) BY WEIGHT.

MIX RIPRAP WITH 30% (BY VOLUME) TOPSOIL AND BURY IT WITH 6" OF TOPSOIL, ALL VIBRATION COMPACTED, AND REVEGETATED.



CUTOFF WALL SHALL BE CONCRETE CLASS B. REINFORCEMENT SHALL NOT BE PAID FOR SEPARATELY AND WILL BE INCIDENTAL TO COST OF CONCRETE. IT IS EXPECTED THAT 4.3 CY OF CONCRETE WILL BE REQUIRED FOR THE POND C CUTOFF WALL.

POND C SPILLWAY SECTION

Print Date: 3/2/2017
 File Name: 20344DES_Misc_Pond_Det07.dgn
 Horiz. Scale: As Noted Vert. Scale:

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 Littleton, Colorado 80120

Sheet Revisions		
Date:	Comments	Init.

Colorado Department of Transportation

CDOT
 902 Erie Avenue
 Pueblo, CO 81001
 Phone: 719-562-5509 FAX: 719-546-5702

Region 2 DTD

As Constructed
No Revisions:
Revised:
Void:

US 50 WEST WESTBOUND DRAINAGE DETAILS
 POND C

Designer:	ACE	Structure Numbers	
Detailer:	ACE		
Subset:	DDT	Subset Sheets:	04 of 06

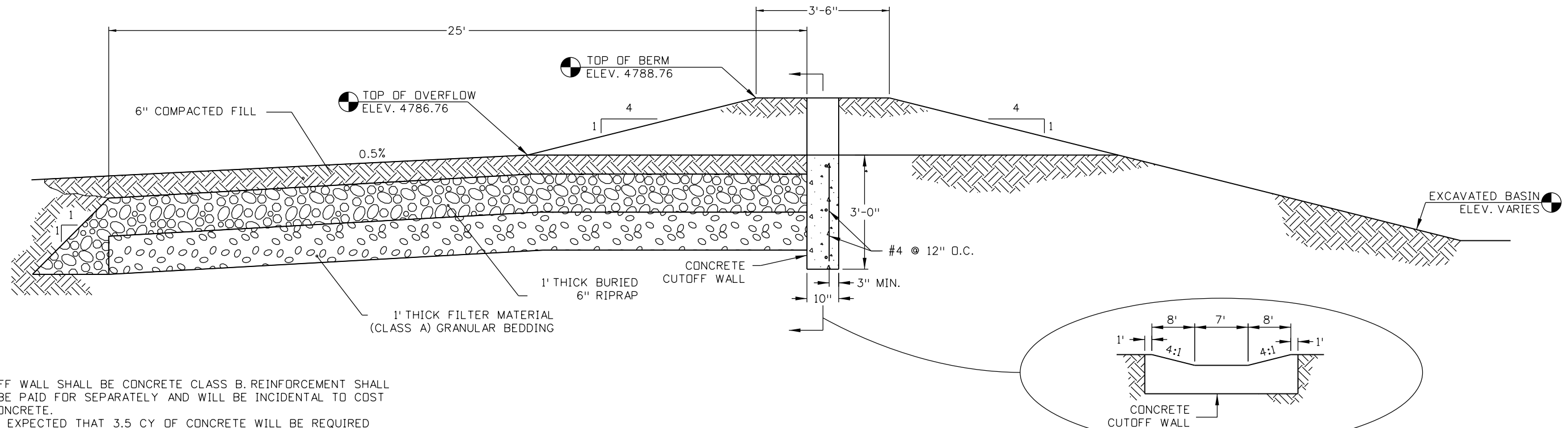
Project No./Code	
	STA 0503-085
	20344
Sheet Number	95

GRADATION FOR GRANULAR BEDDING	
U.S. STANDARD SIEVE SIZE	PERCENT WEIGHT BY PASSING SQUARE-MESH SIEVES
	TYPE II CDDT SECT. 703.09 CLASS A
3 INCHES	100
1 1/2 INCH	----
3/4 INCH	20-90
3/8 INCH	----
#4	0-20
#16	----
#50	----
#100	----
#200	0-3

RIPRAP (6") GRADATION		
% SMALLER THAN GIVEN SIZE BY WEIGHT	INTERMEDIATE ROCK DIMENSIONS (INCHES)	D50 (inches)
70-100	12	6
50-70	9	
35-50	6	
2-10	2	
RIPRAP (9") GRADATION		
		D50 (inches)
70-100	15	9
50-70	12	
35-50	9	
2-10	3	

D50 = MEAN PARTICLE SIZE (INTERMEDIATE DIMENSION) BY WEIGHT.

MIX RIPRAP WITH 30% (BY VOLUME) TOPSOIL AND BURY IT WITH 6" OF TOPSOIL, ALL VIBRATION COMPACTED, AND REVEGETATED.



CUTOFF WALL SHALL BE CONCRETE CLASS B. REINFORCEMENT SHALL NOT BE PAID FOR SEPARATELY AND WILL BE INCIDENTAL TO COST OF CONCRETE. IT IS EXPECTED THAT 3.5 CY OF CONCRETE WILL BE REQUIRED FOR THE POND D CUTOFF WALL.

POND D OUTLET CROSS-SECTION

Print Date: 3/2/2017

File Name: 20344DES_Misc_Pond_Det08.dgn

Horiz. Scale: As Noted Vert. Scale:

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Littleton, Colorado 80120



Sheet Revisions

Date:	Comments	Init.

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US 50 WEST WESTBOUND
DRAINAGE DETAILS
POND D

Designer:	ACE	Structure Numbers	
Detailer:	ACE	Subset Sheets:	05 of 06
Subset:	DDT		

Project No./Code

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20344

Sheet Number 96