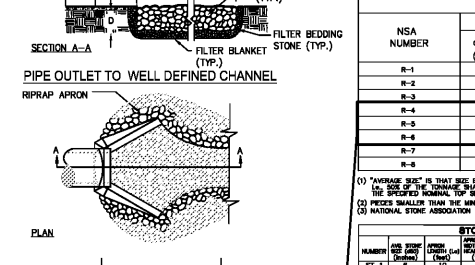
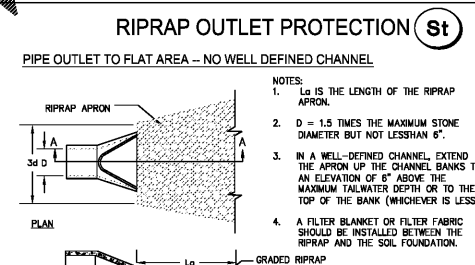
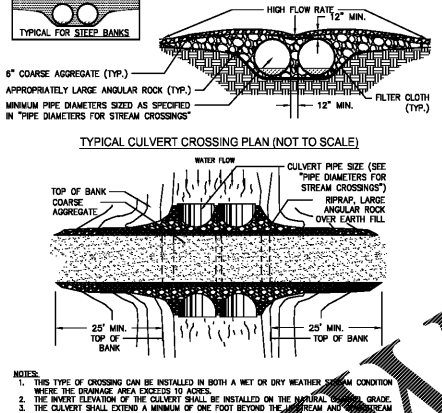
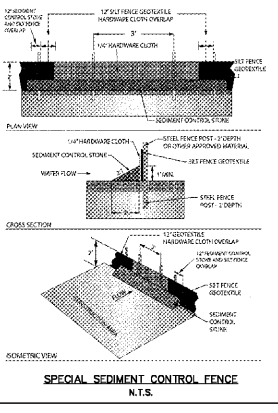
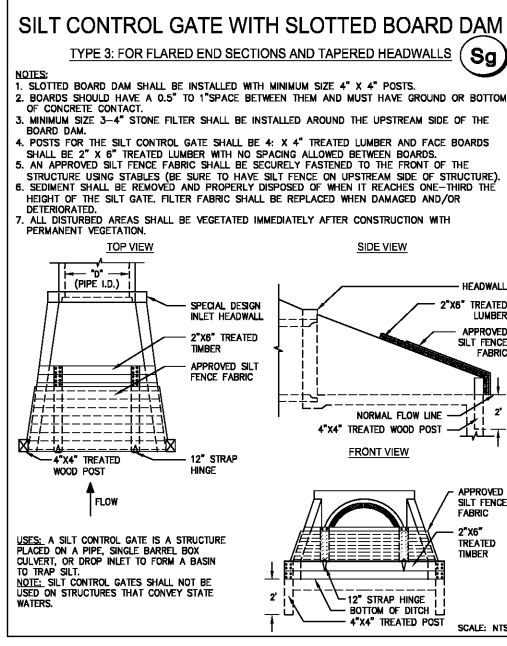
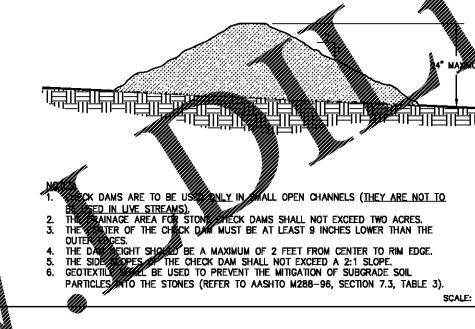
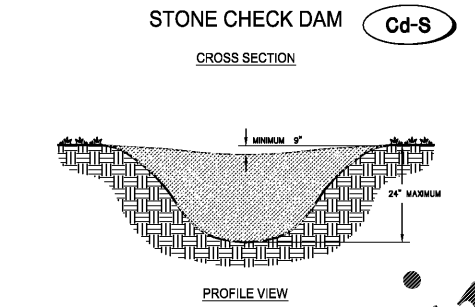
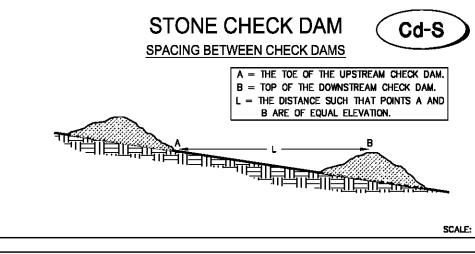


TEMPORARY (CULVERT) STREAM CROSSING

CONFIGURATION OF TEMPORARY CULVERT CROSSINGS
 (SECTIONS - NOT TO SCALE)

DIVISION NUMBER	A	B	C	D	E
1	1.79	2.0	4.0	0.21	VARIABLES
2	1.56	2.0	4.0	0.44	VARIABLES
3	1.83	2.0	4.0	0.17	VARIABLES
4	1.81	2.0	4.0	0.30	VARIABLES
5	1.84	2.0	4.0	0.30	VARIABLES



Diversion Ditch #1

TO BE SHOWN ON THE EROSION AND SEDIMENT CONTROL PLAN

1. cfs in the channel/ditch that the check dam is being used in: 2.90 cfs

2. Above 2.0 cfs: Yes X No _____

3. If Yes, list BMP being used in conjunction with check dams: MATTING BLANKET

Diversion Ditch #2

TO BE SHOWN ON THE EROSION AND SEDIMENT CONTROL PLAN

1. cfs in the channel/ditch that the check dam is being used in: 6.70 cfs

2. Above 2.0 cfs: Yes X No _____

3. If Yes, list BMP being used in conjunction with check dams: MATTING BLANKET

Diversion Ditch #3

TO BE SHOWN ON THE EROSION AND SEDIMENT CONTROL PLAN

1. cfs in the channel/ditch that the check dam is being used in: 1.58 cfs

2. Above 2.0 cfs: Yes _____ No X

3. If Yes, list BMP being used in conjunction with check dams: MATTING BLANKET

Diversion Ditch #4

TO BE SHOWN ON THE EROSION AND SEDIMENT CONTROL PLAN

1. cfs in the channel/ditch that the check dam is being used in: 6.86 cfs

2. Above 2.0 cfs: Yes X No _____

3. If Yes, list BMP being used in conjunction with check dams: MATTING BLANKET

Diversion Ditch #5

TO BE SHOWN ON THE EROSION AND SEDIMENT CONTROL PLAN

1. cfs in the channel/ditch that the check dam is being used in: 6.37 cfs

2. Above 2.0 cfs: Yes X No _____

3. If Yes, list BMP being used in conjunction with check dams: MATTING BLANKET

FILTER BEDDING STONE

N.S.A. # (1)	SIZE IN INCHES (SQ. OPENING)		
	MAX.	AVG (2)	MIN. (3)
FS-1	3/8"	#30 MESH	#100 MESH
FS-2	2"	#4	#10 MESH
FS-3	6.5"	2.5"	#18

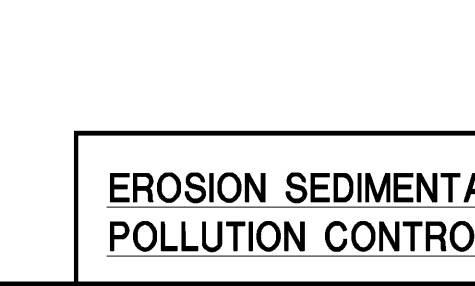
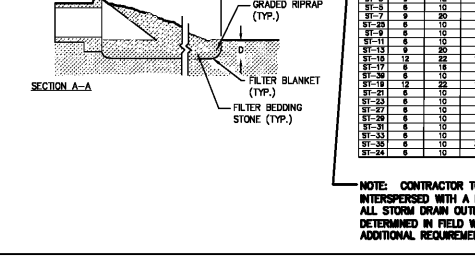
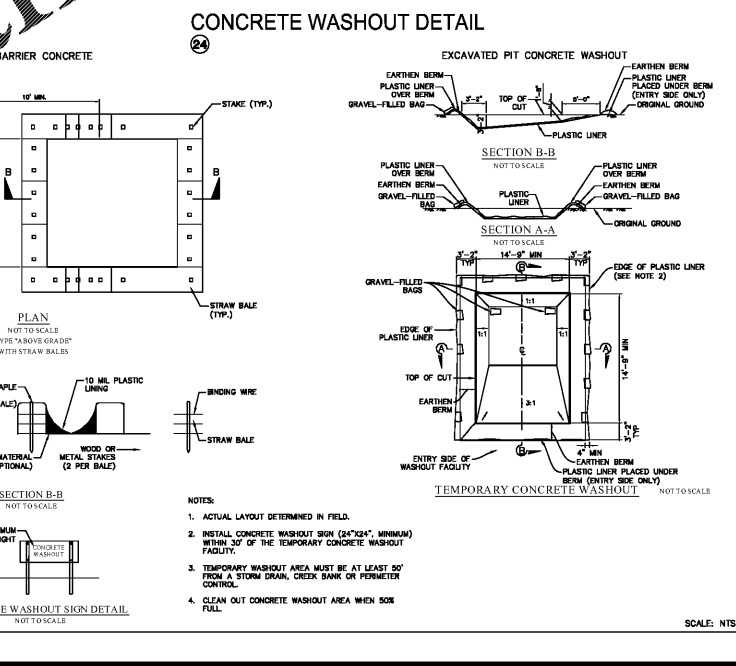
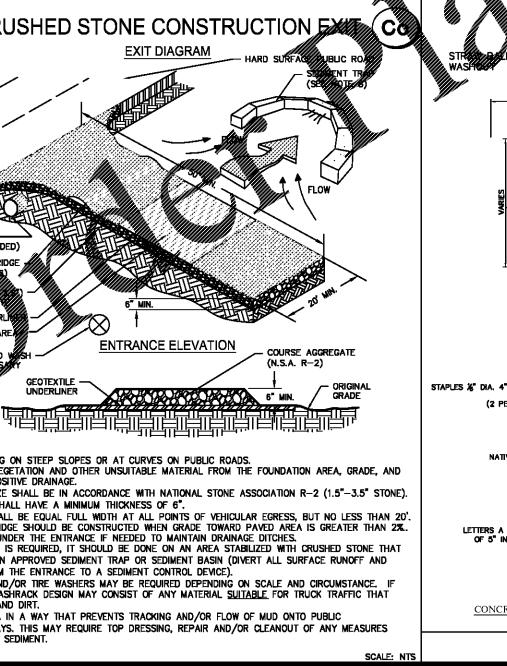
NOTES:
 1) NATIONAL STONE ASSOCIATION
 2) AT LEAST 50% OF THE INDIVIDUAL STONE PARTICLES MUST BE EQUAL TO OR GREATER THAN THE LISTED SIZE
 3) 85-100% OF THE INDIVIDUAL STONE PARTICLES MAY BE LESS THAN LISTED SIZE

GRADATION OF RIP-RAP ROCK

NSA NUMBER	SIZE IN INCHES				FILTER BEDDING STONE N.S.A. # (3)
	d MAX (inches)	AVG (1) (inches)	MIN. (2) (inches)	MIN. APRON THICKNESS (inches)	
R-1	1.80"	0.78"	(NO. 8)	2.88"	FS-1
R-2	3"	1.80"	1"	4.2"	FS-1
R-3	6"	3"	2"	8"	FS-2
R-4	12"	6"	3"	18"	FS-2
R-5	18"	9"	5"	27"	FS-2
R-6	24"	12"	7"	36"	FS-3
R-7	30"	15"	12"	48"	FS-3
R-8	48"	24"	18"	72"	FS-3

STORM DRAIN OUTLET PROTECTION

NUMBER	DESIGN FLOW (cfs)	DESIGN VELOCITY (ft/sec)	DESIGN CHANNEL WIDTH (ft)	DESIGN CHANNEL DEPTH (ft)	DESIGN CHANNEL SLOPE (%)	DESIGN CHANNEL LENGTH (ft)	DESIGN CHANNEL AREA (sq ft)	DESIGN CHANNEL PERIMETER (ft)	DESIGN CHANNEL VELOCITY (ft/sec)	DESIGN CHANNEL FRICTION COEFFICIENT	DESIGN CHANNEL MATERIAL
ST-1	1.0	1.5	1.0	0.5	1.0	10.0	10.0	10.0	1.5	0.05	CONCRETE
ST-2	2.0	3.0	2.0	1.0	2.0	20.0	20.0	20.0	3.0	0.05	CONCRETE
ST-3	3.0	4.5	3.0	1.5	3.0	30.0	30.0	30.0	4.5	0.05	CONCRETE
ST-4	4.0	6.0	4.0	2.0	4.0	40.0	40.0	40.0	6.0	0.05	CONCRETE
ST-5	5.0	7.5	5.0	2.5	5.0	50.0	50.0	50.0	7.5	0.05	CONCRETE
ST-6	6.0	9.0	6.0	3.0	6.0	60.0	60.0	60.0	9.0	0.05	CONCRETE
ST-7	7.0	10.5	7.0	3.5	7.0	70.0	70.0	70.0	10.5	0.05	CONCRETE
ST-8	8.0	12.0	8.0	4.0	8.0	80.0	80.0	80.0	12.0	0.05	CONCRETE
ST-9	9.0	13.5	9.0	4.5	9.0	90.0	90.0	90.0	13.5	0.05	CONCRETE
ST-10	10.0	15.0	10.0	5.0	10.0	100.0	100.0	100.0	15.0	0.05	CONCRETE
ST-11	11.0	16.5	11.0	5.5	11.0	110.0	110.0	110.0	16.5	0.05	CONCRETE
ST-12	12.0	18.0	12.0	6.0	12.0	120.0	120.0	120.0	18.0	0.05	CONCRETE
ST-13	13.0	19.5	13.0	6.5	13.0	130.0	130.0	130.0	19.5	0.05	CONCRETE
ST-14	14.0	21.0	14.0	7.0	14.0	140.0	140.0	140.0	21.0	0.05	CONCRETE
ST-15	15.0	22.5	15.0	7.5	15.0	150.0	150.0	150.0	22.5	0.05	CONCRETE
ST-16	16.0	24.0	16.0	8.0	16.0	160.0	160.0	160.0	24.0	0.05	CONCRETE
ST-17	17.0	25.5	17.0	8.5	17.0	170.0	170.0	170.0	25.5	0.05	CONCRETE
ST-18	18.0	27.0	18.0	9.0	18.0	180.0	180.0	180.0	27.0	0.05	CONCRETE
ST-19	19.0	28.5	19.0	9.5	19.0	190.0	190.0	190.0	28.5	0.05	CONCRETE
ST-20	20.0	30.0	20.0	10.0	20.0	200.0	200.0	200.0	30.0	0.05	CONCRETE



EROSION SEDIMENTATION, AND POLLUTION CONTROL DETAILS

GWINNETT COUNTY
 Department of Planning and Development

These project documents have been reviewed by applicable County Departments and have been found to be in substantial compliance with the applicable codes and regulations.

Oct 08, 2019
 AUTHORIZED

GWINNETT COUNTY CASE # CDP2018-00238

WOLVERTON
 Engineering, Surveying, Architecture, Planning, Construction Management
 6765 Regentwood Parkway • Suite 100 • Dublin, Georgia 30117
 www.wolverton.com

REGISTERED PROFESSIONAL ENGINEER
 No. 30410
 PROFESSIONAL SEAL
 EXPIRES 12/31/2024

GSWCC# 22364
 ISS. 05/16/2018
 EXP. 05/16/2021

Project Title
LLOYD N. HARRIS TRAIL @ HARBINS PARK
2895 LUKE EDWARDS ROAD
 BY: GWINNETT COUNTY DEPT. OF COMMUNITY SERVICES
 LAWRENCEVILLE, GEORGIA
 5TH DISTRICT, LAND LOT 251, PARCEL ID# R5282 003

FOR PERMIT ONLY

DRAWN BY: DMN
 CHECKED BY: THH
 DATE: 09/25/2019
 SCALE: NO SCALE
 JOB NO: 18-LD-088
 SHEET NUMBER: ES-6

REVISIONS BY