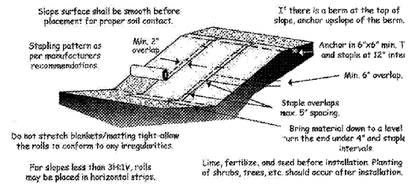
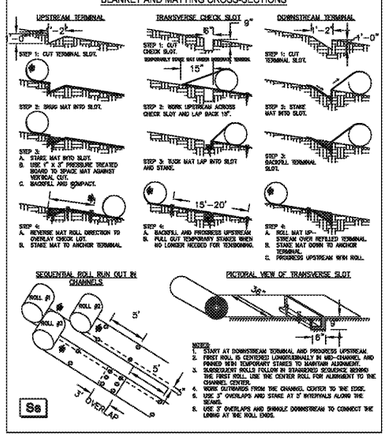


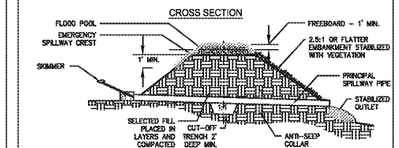
TYPICAL INSTALLATION GUIDELINES FOR ROLLED EROSION CONTROL PRODUCTS (RECP)

BLANKET AND MATTING CROSS-SECTIONS



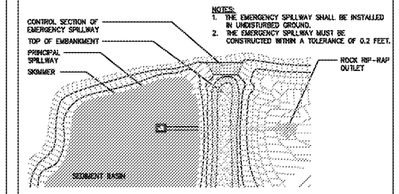
BASIC COMPONENTS OF TEMPORARY SEDIMENT BASIN Sd3

CROSS SECTION



FILL HEIGHT	MINIMUM TOP WIDTH
LESS THAN 10 FEET	8.0 FEET
10 FEET TO 15 FEET	10.0 FEET

PLAN VIEW



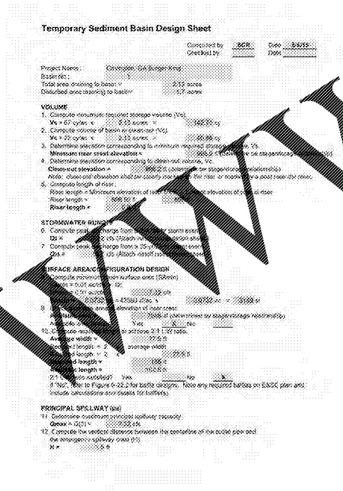
NOTES:
1. THE EMERGENCY SPILLWAY SHALL BE INSTALLED IN UNDISTURBED GROUND.
2. THE EMERGENCY SPILLWAY MUST BE CONSTRUCTED WITHIN A TOLERANCE OF 0.2 FEET.

SCALE:

1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH AS SHOWN IN DETAIL 2. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL THE BLANKETS (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS PER MANUFACTURERS RECOMMENDATION.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH MINIMUM 6" OVERLAP. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.
5. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE BLANKET WIDTH.
6. PLACE STAPLES/STAKES PER MANUFACTURER'S RECOMMENDATION FOR THE APPROPRIATE SLOPE BEING APPLIED.

NOTES:
1. IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.
2. FOLLOW EROSION CONTROL TECHNOLOGY COUNCIL SPECIFICATION FOR PRODUCT SELECTION.

EROSION CONTROL BLANKET (CHANNEL INSTALLATION)


Temporary Sediment Basin Design Sheet

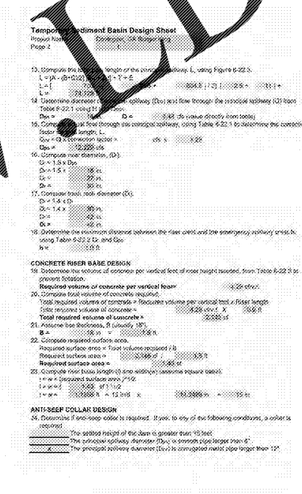
Project Name: Covington, GA Burger King
Basin No.:
Total area draining to basin = 2.53 acres
Disturbed area draining to basin* = 1.7 acres

VOLUME
1. Compute minimum required storage volume (Vs)
Vs = 67 cy/ac x 2.53 acres = 169.51 cy
2. Compute volume of basin at clean-out (Vc)
Vc = 20 cy/ac x 2.53 acres = 50.66 cy
3. Determine elevation corresponding to minimum required storage volume (Vs)
Minimum riser crest elevation = 866.5 ft (elevation at which Vs is reached)
4. Determine elevation corresponding to clean-out volume, Vc
Clean-out elevation = 866.2 ft (elevation at which Vc is reached)
Note: clean-out elevation should be coincident with the riser or inside the pool near the riser.
5. Compute length of riser
Riser length = Minimum elevation of riser crest - elevation of basin floor
Riser length = 866.50 ft - 862.00 ft = 4.50 ft
Riser length = 5.00 ft

STORMWATER RUNOFF
6. Compute peak discharge from a 25-yr storm event (Qp)
Qp = 14.20 cfs (Attach runoff calculations)
7. Compute peak discharge from a 25-yr storm event bypassing the basin (Qb)
Qb = 0.00 cfs (Attach runoff calculations)

SURFACE AREA AND CONFIGURATION DESIGN
8. Compute minimum required surface area (SAmin)
SAmin = 0.00 acre/cfs/hr (SC)
SAmin = 0.00 acre/cfs/hr x 0.00 cfs = 0.00 ac = 0.000 sf
9. Determine elevation of riser crest
Elevation = 870.00 - 4.50(a) = 865.50 = 0.00 ac = 0.000 sf
10. Is basin long and narrow? (Length of flow path/storage width ratio)
Yes ____ No X
11. Compute required surface area
Required surface area = SAmin x 2.53 (SF) acres
Average width =
Average length = 2
Average length = 0.0 ft
Required length =
Required length = 0.00 ft
2:1 length ratio satisfied? Yes ____ No X
If "No", refer to Figure 6-22.2 for baffle designs. Note any required baffles on E&SC plan and include calculations and details for baffle(s).

PRINCIPAL SPILLWAY (ps)
11. Determine maximum principal spillway capacity
Qmax = 0.00 cfs
12. Compute the vertical distance between the centerline of the outlet pipe and the emergency spillway crest (H)
H =

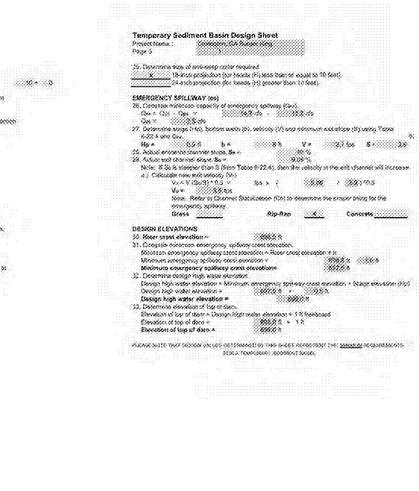

Temporary Sediment Basin Design Sheet

Project Name: Covington, GA Burger King
Page 2

19. Compute the required length of the principal spillway (L), using Figure 6-22.3.
L = [A - (B+C)(E)] / D = [0.0 - (866.5 + 0.0) x 0.0] / 0.0 = 0.0
L = 0.0 ft
20. Determine diameter of principal spillway (Dps) as a flow through the principal spillway (Q) from Table 6-22.1 using Dps.
Dps = 0.0 in
Dps = 0.00 cfs (Q value directly from table)
21. Compute actual flow through the principal spillway, using Table 6-22.1 to determine the correction factor (F).
Basin length, L = 0.0 ft
Qw = Q x correction factor = 0.00 x 0.00
Qps = 0.000 cfs
22. Compute riser diameter, (Dr).
Dr = 1.5 x Dps
Dr = 1.5 x 0.0 in
Dr = 0.0 in
Sr = 0.0 in
23. Compute trash rack diameter (Dt).
Dt = 1.4 x Dr
Dt = 1.4 x 0.0 in
Dt = 0.0 in
Ot = 0.0 in
24. Determine the minimum distance between the riser crest and the emergency spillway crest, h, using Table 6-22.2 Dr and Qpc
h = 0.0 ft

CONCRETE RISER BASE DESIGN
25. Determine the volume of concrete per vertical foot of riser height needed, from Table 6-22.3 for given Dr/Basin
Required volume of concrete per vertical foot = 0.00 cf/vf
26. Compute total volume of concrete required.
Total required volume of concrete = Required volume per vertical foot x Riser height
Total required volume of concrete = 0.00 cf/vf X 0.0 ft
Total required volume of concrete = 0.000 cf
27. Assume the thickness, B (usually 18").
B = 18 in = 1.50 ft
28. Compute required surface area.
Required surface area = Total volume required / B
Required surface area = 0.000 cf / 0.0 ft
Required surface area = 0.00 sf
29. Compute riser base length (=b) and width(=a) assuming square base(=a=b)
l = w = Required surface area ^1/2
l = w = 0.00 sf ^1/2
l = w = 0.000 ft = 12 in/ft x 0.000 in = 0.0 in

ANTI-SEEP COLLAR DESIGN
30. Determine if anti-seep collar is required. If yes, to any of the following conditions, a collar is required.
____ The settled height of the dam is greater than 10 feet
____ The principal spillway diameter (Dpc) is corrugated metal pipe larger than 6".
X The principal spillway diameter (Dpc) is corrugated metal pipe larger than 12".


Temporary Sediment Basin Design Sheet

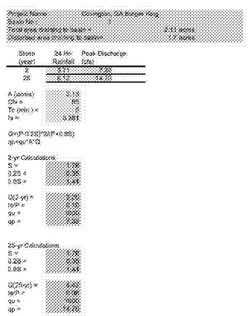
Project Name: Covington, GA Burger King
Page 3

25. Determine size of anti-seep collar required
X 18-inch projection (for heads (H) less than or equal to 10 feet).
24-inch projection (for heads (H) greater than 10 feet).

EMERGENCY SPILLWAY (es)
26. Compute minimum capacity of emergency spillway (Qes).
Qes = (Qp) - (Qps) = 14.2 cfs - 0.0 cfs = 14.2 cfs
Qes = 14.2 cfs
27. Determine slope (Hs), bottom width (b), velocity (V) and minimum soil slope (S) using Figure 6-22.4 and Qes.
Hs = 0.5 ft b = 4 ft V = 3.7 fps S = 2.0 %
28. Actual emergency channel slope, Se = 2.0 %
29. Actual soil channel slope, Ss = 50.0 %
Note: If Ss is steeper than S (from Table 6-22.4), then the velocity in the erth channel will increase.
a.) Calculate new soil velocity (Vs)
Vs = V (Ss/S) ^ 0.5 = 3.7 fps x (50.0 / 2.0) ^ 0.5 = 58.5 fps
Vs = 58.5 fps
Note: Refer to Channel Stabilization (CH) to determine the proper lining for the emergency spillway.
Grass ____ Rip-Rap X Concrete ____

DESIGN ELEVATIONS
30. Riser crest elevation = 866.5 ft
31. Compute minimum emergency spillway crest elevation.
Minimum emergency spillway crest elevation = Riser crest elevation + h
Minimum emergency spillway crest elevation = 866.5 ft + 0.0 ft
Minimum emergency spillway crest elevation = 866.5 ft
32. Determine design high water elevation.
Design high water elevation = Minimum emergency spillway crest elevation + Stage elevation (Hs)
Design high water elevation = 866.5 ft + 0.5 ft
Design high water elevation = 866.9 ft
33. Determine elevation of top of dam.
Elevation of top of dam = Design high water elevation + 1.0 freeboard
Elevation of top of dam = 866.9 ft + 1.0 ft
Elevation of top of dam = 867.9 ft

PLEASE NOTE: YOUR DESIGN MUST BE CONSISTENT WITH THE NARRATIVE!
SCALE: NONE SHEET: 2 OF 2


Project Name: Covington, GA Burger King
Basin No.: 1
Total area draining to basin = 2.53 acres
Disturbed area draining to basin* = 1.7 acres

Storm (year)	24 Hr. Rainfall	Peak Discharge (cfs)
2	3.11	4.26
25	6.10	14.20

A (acres) = 2.53
CN = 98
Tc (min.) = 5
Ia = 0.388

Q=(P-0.2S)^2/(P+0.8S)
qu=qu*A*Q

2-yr Calculations
S =
0.2S =
0.8S =

Q(2-yr) =
qu(P=
qu =
qp =

25-yr Calculations
S =
0.2S =
0.8S =

Q(25-yr) =
qu(P=
qu =
qp =

EROSION SEDIMENTATION, AND POLLUTION CONTROL DETAILS

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Project Title
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COVINGTON, GA
BY: PREMIER HOLDINGS OF GEORGIA, LLC
MONTGOMERY, AL

REVISIONS	BY

DRAWN BY SCR
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DATE: 08/27/2018
SCALE: NO SCALE
JOB No. 17-CE-015
SHEET NUMBER
D-4C

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17-CE-015 DETAILS.DWG

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