Addendum to: iSWM Technical Manual – Construction Controls

The following is a selection of iSWM construction control BMP schematics chosen to be provided in standard details. Details 1-10 were revised in 2018, and details 11-20 were revised in 2019.

1. ROCK CHECK DAMS
2. TEMPORARY EROSION CONTROL BLANKETS
3. DEWATERING CONTROLS
4. FILTER TUBE CURB INLET PROTECTION
5. HOG WIRE WEIR CURB INLET PROTECTION
6. CURB ROCK SOCK ON-GRADE CURB INLET PROTECTION
7. FILTER TUBE AREA INLET PROTECTION
8. SEDIMENT BASIN WITH OVERFLOW RISER
9. SILT FENCE
10. STABILIZED CONSTRUCTION EXIT
11. TEMPORARY EROSION CONTROL BLANKETS
12. TURF REINFORCEMENT MATS
13. VELOCITY DISSIPATION DEVICE
14. FILTER FABRIC AREA INLET PROTECTION
15. EXCAVATED INLET PROTECTION
16. EXCAVATED STONE OUTLET SEDIMENT TRAP
17. CONCRETE WASHOUT CONTAINMENT
18. GROUTED ROCK RIP-RAP DETAIL
19. TRASH SCREEN/CATCH DETAIL
20. TRASH RACK
NOTES:
- Actual dimensions of the check dams shall be designed based on flow conditions in the drainage swale or ditch. Provide calculations that document the following parameters used to design the check dam.
- Height of check dams (D) based on swale or ditch dimensions and flow conditions.
- Spacing of check dams based on grade of the swale or ditch. Top of downstream dam shall be at the same elevation as toe of upstream dam.

FIGURE 2.1 STANDARD CONSTRUCTION DETAIL - ROCK CHECK DAMS (1 OF 2)
ROCK CHECK DAM GENERAL NOTES:

1. See NCTCOG Standard Specifications (2017), Section 202.9 Check Dam (Rock).

2. Stone shall be well graded with size range from 1 1/2 to 3 1/2 inches in diameter depending on expected flows.

3. The check dam shall be inspected as specified in the SWPPP and shall be replaced when the structure ceases to function as intended due to silt accumulation among the rocks, washout, construction traffic damage, etc.

4. When silt reaches a depth equal to one-third of the height of the check dam or one foot, whichever is less, the silt shall be removed and disposed of properly.

5. When the site has achieved final stabilization or another erosion or sediment control device is employed, the check dam and accumulated silt shall be removed and disposed of in an approved manner.

FIGURE 2.1 NOTES ON ROCK CHECK DAM (2 OF 2)
BURY THE UP-CHANNEL END OF THE BLANKET IN A 6" X 6" INCH TRENCH OR PER MANUFACTURER LITERATURE.

4 INCH MINIMUM SIDE OVERLAP

EROSION CONTROL BLANKET

FOR SLOPE PROTECTION, NOT CHANNELS

STAPLES (TYP.) 12 INCH ON CENTER AT END OF ECB AT EACH SLOPE CHANGE, AND THROUGHOUT ECB AT SPACING RECOMMENDED BY MANUFACTURER

3 FOOT MINIMUM OVERLAP AT ENDS OF BLANKETS. ECB AT HIGHER ELEVATION SHALL OVERLAP ON TOP OF LOWER ECB OR PER MANUFACTURER LITERATURE.

ECB ISOMETRIC PLAN VIEW

ECB OVERLAP EXAMPLE

FIGURE 2.7 STANDARD CONSTRUCTION DETAIL - TEMPORARY EROSION CONTROL BLANKETS (1 OF 2)
EROSION CONTROL BLANKETS GENERAL NOTES:


2. PRIOR TO THE INSTALLATION OF ANY EROSION CONTROL BLANKETS, ALL ROCKS, DIRT CLODS, STUMPS, ROOTS, TRASH AND ANY OTHER OBSTRUCTIONS THAT WOULD PREVENT THE BLANKET FROM LYING IN DIRECT CONTACT WITH THE SOIL SHALL BE REMOVED. ANCHOR TRENCHING SHALL BE LOCATED ALONG THE ENTIRE PERIMETER OF THE INSTALLATION AREA, EXCEPT FOR SMALL AREAS WITH LESS THAN 2% SLOPE.

3. INSTALLATION AND ANCHORING SHALL CONFORM TO THE RECOMMENDATIONS SHOWN WITHIN THE MANUFACTURER'S PUBLISHED LITERATURE FOR THE APPROVED EROSION CONTROL BLANKET. PARTICULAR ATTENTION MUST BE PAID TO JOINTS AND OVERLAPPING MATERIAL.

4. IN ABSENCE OF MANUFACTURE'S LITERATURE, A MINIMUM 11-GUAGE WIRE STAPLES, 6-INCHES IN LENGTH AND 1-INCH WIDTH WILL BE USED.

5. AFTER APPROPRIATE INSTALLATION, THE BLANKETS SHOULD BE CHECKED FOR UNIFORM CONTACT WITH THE SOIL, SECURITY OF THE LAP JOINTS, AND FLUSHNESS OF THE STAPLES WITH THE GROUND.

6. INSPECTION SHALL BE AS SPECIFIED IN THE SWPPP.
DEWATERING CONTROL GENERAL NOTES:


2. CAPACITY, INSTALLATION, MAINTENANCE, AND REMOVAL OF BAGS AND PUMPS SHOULD CONFORM TO PUBLISHED MANUFACTURER LITERATURE.

FIGURE 3.4 STANDARD CONSTRUCTION DETAIL - DEWATERING CONTROLS
**Type A Curb Inlet Protection**

1. Double wrap of flexible wire mesh with mesh opening 3/4" max., or
2. Plastic netting double wrapped with 1/2" max. opening, or
3. Geosynthetic tubes

**Extended Wrapped Filter Material**
- 24" min. beyond end of curb opening on both sides

**Plan View**
- Not allowed on active city streets unless approved by city

**Cross Section**
- 4"x4" welded wire fabric
- 1 1/2 filter stone or mulch filter material
- 2" gap between top of wrapped filter and top of inlet opening

**Alternative Form for Type A Curb Inlet Protection**

**Figure 3.6 Standard Construction Detail - Filter Tube Curb Inlet Protection**
18'' MIN. OVERLAP

2"X4"-W1.4XW1.4 WIRE FABRIC STRUCTURE.

CUT AWAY OF FILTER FABRIC

3'' OVERLAP AT FABRIC SPLICES.

VARIES

EXTEND 2'-0'' MINIMUM BEYOND INLET OPENING AT EACH END.

18'' MIN.

FLOW

FLOW

18"

HOG WIRE WEIR CURB INLET PROTECTION ISOMETRIC VIEW

N.T.S.

ROCK BAGS @3' O.C.

MINIMUM 2'' HIGH CLEAR OPENING

ROCK BAGS @3' O.C.
(SEE TABLE EC1)

ROCK BAGS FILLED WITH 1 1/2" FILTER STONE

HOG WIRE WEIR CURB INLET PROTECTION CROSS SECTION

N.T.S.

NOTE: THIS CONTROL WILL DECREASE THE CAPACITY OF THE INLET. IT SHALL ONLY BE USED WHEN AN ENGINEER HAS DETERMINED THERE IS ADEQUATE STORAGE OR POSITIVE OVERFLOW.

REFERENCE: NCTCOG STANDARD SPECIFICATIONS (2017), SECTION 202.14

FIGURE 3.7 STANDARD CONSTRUCTION DETAIL - HOG WIRE WEIR CURB INLET PROTECTION (1 OF 2)
Notes:
1. A section of filter fabric shall be removed as shown on this detail to provide a 2" minimum clear opening. Fabric must be secured to wire backing with clips or hog rings at this location.
2. Inspection shall be made by the contractor and silt accumulation must be removed when depth reaches 2".
3. Inlet protections shall be removed as soon as the source of sediment is stabilized.

Table EC1

<table>
<thead>
<tr>
<th>Inlet Opening</th>
<th>Minimum Number of Rock Bags</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Top</td>
</tr>
<tr>
<td>5'</td>
<td>2</td>
</tr>
<tr>
<td>10'</td>
<td>3</td>
</tr>
<tr>
<td>15'</td>
<td>3</td>
</tr>
<tr>
<td>20'</td>
<td>4</td>
</tr>
</tbody>
</table>

Figure 3.7 Standard Construction Detail - Hog Wire Weir Curb Inlet Protection (2 of 2)
CURB ROCK SOCK ON-GRADE CURB INLET PROTECTION DETAIL

ROCK SOCK SECTION

Rock Sock

Approximate 30 Degrees

2' Max

0" on bedrock or hard surface, 2" in soil

Pavement or ground surface

1 1/2" Crushed rock enclosed in wire mesh

TOP OF INLET BOX

Curb

3'-5' Typ.

5' Min.

Overflow Flow

ROCK SOCK PLAN

1 1/2" Crushed rock enclosed in wire mesh

4" to 6" Max at curbs

Wire tie ends

FIGURE 3.9 STANDARD CONSTRUCTION DETAIL - CURB ROCK SOCK ON-GRADE CURB INLET PROTECTION (1 OF 2)
CURB ROCK SOCK ON-GRADE CURB INLET PROTECTION GENERAL NOTES:

1. THIS DETAIL IS INTENDED FOR USE WITH ON-GRADE INLETS (NOT A LOW POINT) TO TRAP SEDIMENT.

2. DO NOT INSTALL ON INLETS WHERE THE ROCK SOCKS WOULD EXTEND INTO AN ACTIVE TRAVEL LANE.

3. ROCK SOCKS MAY BE USED ON PAVED OR UNPAVED SURFACES.

4. MAXIMUM ROCK SOCK DIAMETER 4” TO 6”.

5. MINIMUM OF 2 CURB ROCK SOCKS.

FIGURE 3.9 STANDARD CONSTRUCTION DETAIL - CURB ROCK SOCK ON-GRADE CURB INLET PROTECTION (2 OF 2)
FILTER TUBE AREA
INLET PROTECTION PLAN VIEW

NOTE: COMPACT EXCAVATED SOIL TO PREVENT UNDERSHOT.

EMBEDMENT EXAMPLE FOR FILTER TUBE

NOTE: SEE NCTCOG STANDARD SPECIFICATIONS (2017), SECTION 202.18

FIGURE 3.13 STANDARD CONSTRUCTION DETAIL - FILTER TUBE AREA INLET PROTECTION
FIGURE 3.20 STANDARD CONSTRUCTION DETAIL - SEDIMENT BASIN WITH OVERFLOW RISER
FIGURE 3.28 STANDARD CONSTRUCTION DETAIL - FOR SILT FENCE (1 OF 2)
SILT FENCE GENERAL NOTES:

1. DESIGN SHALL SHOW ON THE DRAWINGS THE LOCATIONS WHERE OVERFLOW STRUCTURES SHALL BE INSTALLED. OVERFLOW STRUCTURES ARE REQUIRED AT ALL LOW POINTS AND AT A SPACING OF APPROXIMATELY 300 FEET WHERE NO LOW POINT IS APPARENT.

2. DESIGNER SHALL SHOW ON THE DRAWINGS THE LOCATIONS WHERE SILT FENCE IS TO BE TURNED UPSLOPE AT THE ENDS. UPSLOPE LENGTHS SHALL BE A MINIMUM OF 10 FEET.

3. POST WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF ONE FOOT.

4. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW.

5. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.

6. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH SUPPORT POST OR TO WIRE BACKING, WHICH IN TURN IS ATTACHED TO THE FENCE POST. THERE SHALL BE A 3 FOOT OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.

7. INSPECTION SHALL BE AS SPECIFIED IN THE SWPPP. REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.

8. SILT FENCE SHALL BE REMOVED WHEN FINAL STABILIZATION IS ACHIEVED OR ANOTHER EROSION OR SEDIMENT CONTROL DEVICE IS EMPLOYED.

9. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF HALF THE HEIGHT OF THE FENCE. THE SILT SHALL BE DISPOSED OF AT AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.

10. SEE NCTCOG STANDARD SPECIFICATIONS (2017), SECTION 202.5

FIGURE 3.28 NOTES FOR SILT FENCE (2 OF 2)
LENGTH AS SHOWN ON PLANS
GRADE TO PREVENT RUNOFF FROM LEAVING SITE
EXISTING GRADE
FILTER FABRIC
6" MIN.
PAVED SURFACE

PROFILE VIEW
N.T.S.

LENGTH (MIN. 50')
GRADE TO DRAIN AWAY FROM STABILIZATION AND STREET PAVED SURFACE
TRANSITION TO PAVED SURFACE
DRAINAGE MUST FLOW AWAY FROM ENTRANCE

PLAN VIEW
N.T.S.

ENTRANCE MUST BE SLOPED SO THAT STORM WATER IS NOT ALLOWED TO LEAVE THE SITE AND ENTER ROADWAYS

FIGURE 3.29 STANDARD CONSTRUCTION DETAIL - STABILIZED CONSTRUCTION EXIT (1 OF 2)
STABILIZED CONSTRUCTION ENTRANCE GENERAL NOTES:

1. See NCTCOG STANDARD SPECIFICATIONS (2017), SECTION 202.11

2. The thickness shall not be less than 6 inches.

3. Stone shall be 3 to 5 inch diameter course aggregate, no crushed Portland cement concrete allowed.

4. Length shall be shown on plans, with a minimum length of 50 feet.

5. The width shall be no less than 20' for sites less than 5 AC, and 30' for sites greater than 5 AC, at all points of ingress or egress.

6. When necessary, vehicles shall be cleaned to remove sediment prior to entrance onto a public roadway. When washing is required, it shall be done on an area stabilized with crushed stone with drainage flowing away from both the street and the stabilized entrance. All sediment shall be prevented from entering any storm drain, ditch or watercourse using approved methods.

7. The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto paved surfaces. This may require periodic top dressing with additional stone as conditions demand. All sediment spilled, dropped, washed, or tracked onto paved surfaces must be removed immediately.

8. The entrance must be properly graded or incorporate a drainage swale to prevent runoff from leaving the construction site.

9. Inspection shall be specified in the SWPPP.

FIGURE 3.29 NOTES FOR STABILIZED CONSTRUCTION EXIT (2 OF 2)
REFER TO SHEET 2 OF 3 OF THIS DETAIL FOR CHOICE ANCHORING; OR FOLLOW MANUFACTURE RECOMMENDATIONS

4 INCH MINIMUM SIDE OVERLAP OR PER MANUFACTURER'S RECOMMENDATIONS

EROSION CONTROL BLANKET

STAPLES AT MINIMUM 12" SPACING OR PER MANUFACTURE'S RECOMMENDATIONS

FOR SLOPE PROTECTION, NOT CHANNELS

3' MIN.

SHEET FLOW

STAPLES (TYP.) 12 INCH ON CENTER AT END OF ECB AT EACH SLOPE CHANGE, AND THROUGHOUT ECB AT SPACING RECOMMENDED BY MANUFACTURER

3 FOOT MINIMUM OVERLAP AT ENDS OF BLANKETS. ECB AT HIGHER ELEVATION SHALL OVERLAP ON TOP OF LOWER ECB, OR PER MANUFACTURER LITERATURE.

ECB ISOMETRIC PLAN VIEW

N.T.S.

FOR 3' END OVERLAP OR 4" SIDE OVERLAP

ECB OVERLAP EXAMPLE

N.T.S.

FIGURE 2.8 STANDARD CONSTRUCTION DETAIL - TEMPORARY EROSION CONTROL BLANKETS (1 OF 3)
TOP OF SLOPE ANCHOR EXAMPLE 1

- Minimum 1 row of staples 12" O.C.
- Anchor trench compacted back-fill or gravel
- Anchor trench may be omitted along perimeter for areas with less than 2% slope
- Contractor shall install staples at all critical points
- Finished slope free of rocks, clods, stumps or objectional material
- Slope \( \leq 2\% \)

TOP OF SLOPE ANCHOR TRENCH EXAMPLE 2

- Minimum overlap
- Staple spacing as recommended by manufacturer
- Slope \( > 2\% \)
- Anchor trench compacted back-fill or gravel
- Finished slope free of rocks, clods, stumps or objectional material

FIGURE 2.8 STANDARD CONSTRUCTION DETAIL - ANCHOR EXAMPLES FOR TEMPORARY EROSION CONTROL BLANKETS (2 OF 3)
EROSION CONTROL BLANKETS GENERAL NOTES:


2. EROSION CONTROL BLANKET SHALL BE INSTALLED VERTICALLY DOWN SLOPE AS SHOWN.

3. PRIOR TO THE INSTALLATION: ALL ROCKS, DIRT CLODS, STUMPS, ROOTS, TRASH AND ANY OTHER OBSTRUCTIONS THAT WOULD PREVENT THE BLANKET FROM DIRECT CONTACT WITH THE FINISHED SLOPE, SHALL BE REMOVED.

4. ANCHORING METHODS PROVIDED ARE EXAMPLES OF THE TYPE OF ANCHORING THE ECB MANUFACTURER MAY RECOMMEND. ALWAYS FOLLOW THE MANUFACTURER’S RECOMMENDATIONS FOR ANCHORING BASED ON THE SITE-SPECIFIC APPLICATION.

5. INSTALLATION AND ANCHORING SHALL CONFORM TO THE RECOMMENDATIONS SHOWN WITHIN THE MANUFACTURER’S PUBLISHED LITERATURE FOR THE APPROVED EROSION CONTROL BLANKET. PARTICULAR ATTENTION MUST BE PAID TO JOINTS AND OVERLAPPING MATERIAL. AT A MINIMUM, THE END OF EACH ROLL OF ECB SHALL OVERLAP THE NEXT ROLL BY 3 FEET AND THE SIDES OF ROLLS SHALL OVERLAP 4 INCHES.

6. IN ABSENCE OF MANUFACTURER’S LITERATURE, A MINIMUM 11-GUAGE WIRE STAPLES, 6-INCHES IN LENGTH AND 1-INCH WIDTH WILL BE USED.


8. INSPECTION SHALL BE AS SPECIFIED IN THE SWPPP.
TRM SHOULD BE INSTALLED VERTICALLY DOWNSLOPE

REFER TO UPSTREAM END ANCHOR EXAMPLE

8"-10" MIN. OVERLAP OR PER MANUFACTURES RECOMMENDATIONS

REFER TO TRM PERIMETER ANCHOR EXAMPLE

REFER TO DOWNSTREAM END ANCHOR EXAMPLE

PERMANENT EROSION CONTROL BLANKET

TOE ANCHOR DETAIL

3' MIN. OVERLAP

STAPLE SPACING AS RECOMMENDED BY MANUFACTURER

FINISHED SLOPE

COMPACTED BACKFILL OR GRAVEL

STAPLE SPACING AS RECOMMENDED BY MANUFACTURER

INSTALL TRM PERPENDICULAR TO FLOW

FINISHED SLOPE

END OF TRM OVERLAP EXAMPLE

TOE ANCHOR DETAIL

TURF REINFORCEMENT MATS NOTES:

1. TURF REINFORCEMENT MATS SHALL BE INSTALLED VERTICALLY DOWN SLOPE AS SHOWN.

2. PRIOR TO THE INSTALLATION: ALL ROCKS, DIRT CLODS, STUMPS, ROOTS, TRASH AND ANY OTHER OBSTRUCTIONS THAT WOULD PREVENT THE MAT FROM DIRECT CONTACT WITH THE FINISHED SLOPE, SHALL BE REMOVED.

FIGURE 2.11 SCHEMATIC OF PERMANENT TURF REINFORCEMENT MATS (1 OF 3)
REQUIREMENTS STATED ABOVE.

CHANNEL WIDTHS 0' TO 8'. CONTRACTOR SHALL VERIFY MAT MEETS OVERLAP AND SLOPE

NOTE: LONGITUDINAL INSTALLATION OF TURF REINFORCEMENT MAT PERMITTED ONLY FOR CONSTRUCTION CONTROLS

ISWM™ TECHNICAL MANUAL

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FIGURE 2.11 SCHEMATICS OF PERMANENT TURF REINFORCEMENT MATS (2 OF 3)
FIGURE 2.11 SCHEMATICS OF PERMANENT TURF REINFORCEMENT MATS (3 OF 3)
TEMPORARY VELOCITY DISSIPATION DEVICE PLAN VIEW

TEMPORARY VELOCITY DISSIPATION DEVICE PROFILE VIEW

NOTE: DIMENSIONS OF THE RIPRAP APRON SHALL BE DESIGNED BASED ON FLOW CONDITIONS. TEMPORARY CONTROL DESIGN STORM (2-YEARS, 24-HOUR). PROVIDE CALCULATIONS THAT DOCUMENT THE FOLLOWING PARAMETERS USED TO DESIGN THE APRON.

- PIPE DIAMETER (OR EQUIVALENT FOR FLUME, SWALE, ETC.), D, FEET
- DISCHARGE VELOCITY FROM DRAINAGE STRUCTURE, \( V_{pipe} \), FT/S
- DETERMINE GRADATION FOR \( d_{50} \) WELL GRADED STONE OR RECYCLED CONCRETE RIPRAP
- MEDIAN STONE DIAMETER \( d_{50} \) AND MAXIMUM STONE DIAMETER \( (d_{100}) \), FEET

FIGURE 2.13 SCHEMATICS OF VELOCITY DISSIPATION DEVICE
ATTACH FILTER FABRIC AND 1/2 WIRE MESH TO FRAME USING 1/2 PNEUMATIC STAPLES OR CAP NAILS.

FOR CLOSURE OVERLAP

FILTER FABRIC TO NEXT STAKE

2"x4" WOOD FRAMED 4 SIDES

18" MAX. SEE NOTE 2

36"

12" MIN.

FILTER FABRIC (NCTCOG 202.5)

ANCHOR TRENCH 6"x6" BACKFILLED WITH COMPACTED EARTH OR GRAVEL

CONCRETE APRON

NOTE:
1. STAKES SHALL CONFORM TO SPECIFICATIONS SECTION 202.5.2.2
2. HEIGHT OF INLET PROTECTION SURROUNDING THE INLET SHALL BE SHOWN ON THE PLANS AND MUST BE CHECKED TO VERIFY PONDING WATER WILL NOT CAUSE FLOODING OF PROPERTY OR DAMAGE.
3. CONCENTRATED DITCH FLOW COMING FROM ONE OR MORE SIDES TOWARD THE INLET MAY REQUIRE A STONE OVERFLOW STRUCTURE TO BE CONSTRUCTED ON ONE SIDE OF THE INLET.
4. POST SHALL BE INSTALLED AT EACH CORNER AND BETWEEN CORNERS IF THE DISTANCE IS GREATER THAN 6' BETWEEN CORNER POSTS.

AREA INLET PROTECTION FILTER BARRIER PLAN VIEW

FIGURE 3.10 SCHEMATICS OF FILTER FABRIC AREA INLET PROTECTION
1. STORAGE VOLUME SHALL BE DESIGN STORM VOLUME OR 3,600 CUBIC FEET PER ACRE DISTURBED.
2. CONCENTRATED DITCH FLOW COMING FROM ONE OR MORE SIDES TOWARD THE INLET MAY REQUIRE A STONE OVERFLOW STRUCTURE TO BE CONSTRUCTED ON ONE SIDE OF THE INLET.

FIGURE 3.11 SCHEMATICS OF EXCAVATED INLET PROTECTION
CONSTRUCTION CONTROLS

EXTENT OF GRADEING TO PROVIDE THE CONTROLLED OUTLET

STORAGE VOLUME

HEIGHT, SLOPE, AND LENGTH OF STONE OUTLET

DESIGN STORM VOLUME AND FLOW RATE AT THE TRAP

SIZE OF CONTRIBUTING DRAINAGE AREA

DESIGN THE TRAP

SITE TOPOGRAPHY. PROVIDE CALCULATIONS THAT DOCUMENT THE FOLLOWING PARAMETER USED TO

NOTE: ACTUAL DIMENSIONS OF THE SEDIMENT TRAP SHALL BE DESIGNED BASED ON FLOW CONDITIONS AND
SITE TOPOGRAPHY. PROVIDE CALCULATIONS THAT DOCUMENT THE FOLLOWING PARAMETER USED TO

REVISED IN 2019

FIGURE 3.30 SCHEMATICS OF EXCAVATED STONE OUTLET SEDIMENT TRAP ISOMETRIC VIEW

EXCAVATED STONE OUTLET SEDIMENT TRAP ISOMETRIC VIEW

NOTE: ACTUAL DIMENSIONS OF THE SEDIMENT TRAP SHALL BE DESIGNED BASED ON FLOW CONDITIONS AND
SITE TOPOGRAPHY. PROVIDE CALCULATIONS THAT DOCUMENT THE FOLLOWING PARAMETER USED TO

DESIGN THE TRAP

- SIZE OF CONTRIBUTING DRAINAGE AREA
- DESIGN STORM VOLUME AND FLOW RATE AT THE TRAP
- HEIGHT, SLOPE, AND LENGTH OF STONE OUTLET
- STORAGE VOLUME
- EXTENT OF GRADEING TO PROVIDE THE CONTROLLED OUTLET

FIGURE 3.30 SCHEMATICS OF EXCAVATED STONE OUTLET SEDIMENT TRAP (1 OF 2)
CONSTRUCTION CONTROLS

NATURAL GROUND TO CONSTRUCT SWALE

STONE OR EARTH FILL 21" MIN.
6' MAX. FILL 12" MIN.
3' MIN. WIDTH

FLOW STORAGE NECESSARY FOR EXCAVATION IF 2' MIN.
6' MAX.
FLATTER 1 OR 1.5

REVISED STONE OUTLET SEDIMENT TRAP

STONE OUTLET SHALL BE CONFINED WITH GABION OR CHAINLINK PER NCTCOG 202.12.2.4 IF HEIGHT IS GREATER THAN 1.5-FEET

OVERFILL 6" FOR SETTLEMENT IF FILL IS USED

NATURAL GROUND

STONE OR EARTH FILL TO CONSTRUCT SWALE

FILTER FABRIC PER NCTCOG 202.12.2.3

EXCAVATED STONE OUTLET SEDIMENT TRAP VIEW LOOKING UPSTREAM (A-A)

FLOW

EXCAVATION IF NECESSARY FOR STORAGE

FLOW

6" MIN. FREEBOARD FOR DESIGN FLOW

1" FILTER STONE PER NCTCOG 504.2.2.1

2' MIN.
GABION OR CHAINLINK CONFINEMENT PER NCTCOG 202.12.2.4

BEARING PLATE

2" GALVANIZED STEEL PIPE REQUIRED FOR CONFINED STONE INSTALLATIONS (OMIT FOR UNCONFINED)

2"-12" TYPE A DRY STONE RIPRAP PER NCTCOG 803.3

EXCAVATED STONE OUTLET SEDIMENT TRAP SECTION VIEW (B-B)

6" MIN.

GABION OR CHAINLINK CONFINEMENT PER NCTCOG 202.12.2.4

FLOW

2' MIN.
REVERSE SLOPE 2% MIN. SLOPE

6" MAX.

NCTCOG 803.3

FIGURE 3.30 SCHEMATICS OF EXCAVATED STONE OUTLET SEDIMENT TRAP (2 OF 2)
CONCRETE WASHOUT NOTES:

1. WASHOUT AREA MUST BE CLEARLY MARKED WITH SIGNAGE NOTING THE WASHOUT AREA.

2. WASHOUT STRUCTURES SHALL BE CLEANED OUT WHEN THE STRUCTURE IS 75% FULL. TEMPORARY CONCRETE WASHOUT FACILITY SHOULD BE MAINTAINED TO PROVIDE ADEQUATE HOLDING CAPACITY.

FIGURE 4.1 SCHEMATICS OF CONCRETE WASHOUT CONTAINMENT
**TYPICAL ROCK RIPRAP SLOPE PROTECTION SECTION**

- **FILTER FABRIC PER NCTCOG 803.4**
- **PROPOSED GRADE**
- **6" MIN. BEDDING**
- **VERTICAL FILTER FABRIC**
- **COMPACTED BACKFILL**
- **EXCAVATION LINE**

**ROCK RIPRAP TOP OF BANK DETAIL**

- ROCK RIPRAP DRY OR GROUTED AS SHOWN ON EROSION CONTROL PLANS
  \[ T = 1.5 \times d_{50} \]
- FILTER FABRIC SPLICES SHALL HAVE A MINIMUM 18 INCHES OVERLAP
  \[ d_{\text{min}} = ____ \]
- DETERMINE GRADATION FOR \( d_{50} \) WELL GRADED STONE
  \[ d_{50} = ____ \]
- MEDIAN STONE DIAMETER \( d_{50} \) AND MAXIMUM STONE DIAMETER \( d_{100} \), FEET
  \[ d_{100} = ____ \]

**FIGURE X.XX RIPRAP SCHEMATICS OF ROCK RIPRAP (SHEET 1 OF 2)**
FIGURE X.XX RIPRap SCHEMATICS OF ROCK RIPRap (SHEET 2 OF 2)
TEMPORARY TRASH SCREEN DETAIL

NOTES:
1. CONCENTRATED DITCH FLOW COMING TOWARD THE INSTALLATION WILL REQUIRE A STONE OVERFLOW STRUCTURE TO BE CONSTRUCTED.
2. HEIGHT OF INSTALLATION SHALL BE SHOWN ON PLANS AND MUST BE CHECKED TO VERIFY PONDING WATER WILL NOT CAUSE FLOODING OF PROPERTY OR DAMAGE.
3. ENGINEER TO VERIFY APPLICABILITY OF TEMPORARY TRASH SCREEN.

PROFILE OF TEMPORARY TRASH SCREEN DETAIL

FIGURE X.XX TRASH SCREEN/CATCH DETAIL (SHEET 1 OF 2)
EXISTING/PROPOSED STORM DRAIN OUTLET

INSTALL COLLAR ON HEADWALL OR OPTIONAL WEIR CONFIGURATION DOWNSTREAM OF OUTFALL

PRE-MANUFACTURED MESH BAG VARIES BY MANUFACTURER MINIMUM 20mm/0.75-INCH MESH OPENING

OUTLET TRASH SCREEN BAG

FIGURE X.XX TRASH SCREEN/CATCH DETAIL (SHEET 2 OF 2)
FIGURE X.XX TRASH RACK ISOMETRIC
NOTES:
1. OVERALL SIZE AND LOCATION TO BE DETERMINED BY THE ENGINEER.
2. SIZE AND SPACING OF MESH VARIES AS NEEDED.