NOTES:

1. USE SILT FENCE ONLY WHEN DRAINAGE AREA DOES NOT EXCEED 1/4 ACRE AND NEVER IN AREAS OF CONCENTRATED FLOW.
2. END OF SILT FENCE NEEDS TO BE TURNED UPHILL.
3. WRAP THE SILT FENCE AROUND ALL EXISTING FIRE HYDRANTS SO THAT THEY ARE FULLY VISIBLE FROM THE ROADWAY.
4. ALL SILT FENCE MUST HAVE A MINIMUM OF 5' OF CLEARANCE FROM THE FIRE HYDRANT.

* USE #57 WASHED STONE FOR REPAIR OF SILT FENCE FAILURES, AND FOR ANCHOR WHEN SILT FENCE IS PROTECTING CATCH BASIN.
NOTE:
1. Applicable for drainage areas no more than 1/4 acre.
2. Use as a repair of silt fence failures.
NOTES:
1. AT THE END OF THE PROJECT, CATCH BASIN CAN BE RAISED AS NEEDED PLUGGING OPEN COURSE OF BLOCK WITH MORTAR.
2. RISER CAN BE BUILT AS A STANDARD CATCH BASIN/JUNCTION BOX (WITH WEEP HOLES) IN RECEIVING WALL AND BE UTILIZED AS SUCH WHEN PROJECT IS STABLE.
3. IF DRAINAGE AREA IS OVER 5 ACRES THAN THIS STRUCTURE NEEDS TO BE TREATED AS A RISER STRUCTURE AND ALL RELATED INFORMATION NEEDS TO BE SUPPLIED. (TRASH RACK, ELEVATIONS, AND ANTI-FLOATABLE)
### Design of Spillways

<table>
<thead>
<tr>
<th>Drainage Area (AC)</th>
<th>Min. Weir Length (FT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>6</td>
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<tr>
<td>3</td>
<td>8</td>
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<td>4</td>
<td>10</td>
</tr>
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<td>5</td>
<td>12</td>
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</tbody>
</table>

### Design Details

- **Top Elevation of Stormwater**
- **Existing Slope**
- **#57 Washed Stone**
- **Class 1 Rip-Rap**
- **Filter Fabric**
- **Variety**
- **Step Sequence**

### Notes:

1. Height & width determined by existing topography and sediment storage required.
2. Key rip rap into the dam for stabilization.
NOTES:

1. PUT SILT FENCE OR TREE PROTECTION FENCE UP TO ENSURE CONSTRUCTION ENTRANCE IS USED.

2. IF CONSTRUCTION ON THE SITES ARE SUCH THAT THE MUD IS NOT REMOVED BY THE VEHICLE TRAVELING OVER THE STONE, THEN THE TIRES OF THE VEHICLE MUST BE WASHED BEFORE ENTERING PUBLIC ROAD.

3. IF A PROJECT CONTINUES TO DEPOSIT MUD AND DEBRIS ONTO THE PUBLIC ROAD, THE TOWN WILL CLEAN THE AREA AND INVOICE THE FINANCIALLY RESPONSIBLE PARTY.

<table>
<thead>
<tr>
<th>ENTRANCE TYPE</th>
<th>L</th>
<th>W</th>
<th>STONE SIZE</th>
</tr>
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<tr>
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<td>50'</td>
<td>25'</td>
<td>2-3&quot;</td>
</tr>
<tr>
<td>RESIDENTIAL*</td>
<td>25'</td>
<td>12'</td>
<td>#57</td>
</tr>
</tbody>
</table>

* INDIVIDUAL SINGLE FAMILY

CROSS SECTION

EXISTING ROADWAY

NEW CONSTRUCTION

6" MIN

FABRIC UNDER STONE

TOWN OF APEX
STANDARDS

CONSTRUCTION ENTRANCE

EFFECTIVE: MARCH 20, 2012

STD. NO.
400.06

SHEET 1 OF 1
NOTES:

1. PUT SILT FENCE OR TREE PROTECTION FENCE UP TO ENSURE CONSTRUCTION ENTRANCE IS USED.

2. IF CONSTRUCTION ON THE SITES ARE SUCH THAT THE MUD IS NOT REMOVED BY THE VEHICLE TRAVELING OVER THE STONE, THEN THE TIRES OF THE VEHICLE MUST BE WASHED BEFORE ENTERING PUBLIC ROAD (SEE DETAIL 400.06 SHEET 2 OF 2).

3. IF A PROJECT CONTINUES TO DEPOSIT MUD AND DEBRIS ONTO THE PUBLIC ROAD, THE TOWN WILL CLEAN THE AREA AND INVOICE THE FINANCIALLY RESPONSIBLE PARTY.

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* INDIVIDUAL SINGLE FAMILY
CONSTRUCTION ENTRANCE

PRESSURIZED WATER SOURCE
(CONTINGENT UPON WATER MAIN
INSTALLATION)

PROVIDE DRAINAGE AWAY
FROM THE WASH RACK TO A
SEDIMENT-TRAPPING DEVICE

KEEP A BROOM AND SHOVEL CLOSE
TO THE RACK TO CLEAN THE STREET

WASH RACK

IT IS ADVISABLE TO PROVIDE A
SEPARATE ENTRANCE TO LIMIT
TRAFFIC ACROSS THE RACK AND
REDUCE WEAR AND MAINTENANCE

THE LOCATION MUST SLOPE AWAY FROM
THE STREET OR STEPS MUST BE TAKEN
(GRADING, DIVERGENS, ETC.) TO PREVENT
RUNOFF FLOWING INTO THE STREET

EXAMPLE ACCEPTABLE WASH RACK
(OTHER APPROVED METHODS MAY BE UTILIZED)
 ONE SECTION OF REINFORCED CONCRETE CATTLEGUARD

3" WASHED STONE UNDER SLATS
TO DRAIN WATER AND SEDIMENT
AWAY FROM THE RACK

FOUNDATION OF 8" COMPACTED
CRUSH AND RUN STONE

GEOTEXTILE FABRIC

SECTION 'A-A'
STEEP CUT OR FILL SLOPE

COMPACTED

2:1 SLOPE (MAX)

18"

2' MIN.

- STABILIZE DIVERSION DITCH WITH TEMPORARY SEEDING AND EROSION CONTROL NETTING.

CROSS SECTION

POSITIVE GRADE 1.0% MAX.

SIDE SLOPES 2:1 (MAX)

UPSLOPE TOE

2' MIN.

STEEL CUT OR FILL SLOPE

PLAN VIEW
CONSTRUCTION SPECIFICATIONS

1. LAY ONE BLOCK ON EACH SIDE OF THE STRUCTURE ON ITS SIDE IN THE BOTTOM ROW TO ALLOW POOL DRAINAGE. THE FOUNDATION SHOULD BE EXCAVATED AT LEAST 2" BELOW THE CREST OF THE STORM DRAIN. PLACE THE BOTTOM ROW OF BLOCKS AGAINST THE EDGE OF THE STORM DRAIN FOR LATERAL SUPPORT AND TO AVOID WASHOUTS WHEN OVERFLOW OCCURS. IF NEEDED, GIVE LATERAL SUPPORT TO SUBSEQUENT ROWS BY PLACING 2X4 WOOD STUDS THROUGH BLOCK OPENINGS.

2. CAREFULLY FIT HARDWARE CLOTH OR COMPARABLE WIRE MESH WITH 1/2" OPENINGS OVER ALL BLOCK OPENINGS TO HOLD GRAVEL IN PLACE.

3. USE CLEAN GRAVEL, (2"-1/2") IN DIAMETER, PLACED 2" BELOW THE TOP OF THE BLOCK ON A 2:1 SLOPE OR FLATTER AND SMOOTH IT TO AN EVEN GRADE. DOT #57 WASHED STONE IS RECOMMENDED.
GRAVEL & RIP RAP HORSESHOE INLET BASIN
FOR EXISTING PIPE INVERTS

NOTES:
1. GRAVEL & RIP RAP FILTER BERM BASIN DETAIL IS DESIGNED TO PROTECT EXISTING PIPE
   INVERTS THAT DRAIN 10 ACRES OR LESS.
2. DIMENSIONS ARE MINIMUM ACCEPTABLE UNLESS OTHERWISE NOTED.
NOTE:
1. ALL PARTIALLY COMPLETED STORM DRAINS SHALL BE PROTECTED AT THE END OF EACH DAY IN ACCORDANCE WITH THESE DETAILS.
INSTALLATION NOTES:
1. REFER TO "NORTH CAROLINA DIVISION OF FOREST RESOURCES" LITERATURE, INSTALLATION MAINTENANCE GUIDELINES, & "NORTH CAROLINA FORESTRY BMP MANUAL-2006".
2. USE A BULLDOZER, KNUCKLEBOOM LOADER, OR SKIDDER TO INSTALL & REMOVE DRAGLINE MATS.
3. KEEP HEAVY EQUIPMENT OUT OF STREAM.
4. INSTALL WATER DIVERSION DEVICES (WATER BARS, TURNOUTS, BROAD-BASED DIPS, ETC.) ON BOTH SIDES OF THE MATS.
5. STABILIZE EXPOSED MINERAL SOIL WITH TREE TOPS OR BRUSH DURING MAT INSTALLATION, AND SEEDING/MULCH AFTER MAT REMOVAL.
6. INSTALL MATS TO CREATE A MINIMUM TEN FOOT BRIDGE WIDTH.

MAINTENANCE NOTES:
1. KEEP MATS' SURFACE FREE OF MINERAL SOIL AND DEBRIS THAT COULD ENTER STREAM.
2. PERIODICALLY CHECK MAT HARDWARE; RETIGHTEN NUTS & CABLE CLAMPS AS NECESSARY TO MAINTAIN BRIDGE STRENGTH AND INTEGRITY.
3. IMMEDIATELY REMOVE ANY DEBRIS WHICH ENTERS THE STREAM AT THE CROSSING LOCATION.

REMOVAL NOTES:
1. CLEAN OFF BRIDGE SURFACE.
2. REMOVE MATS BY USING MAT CABLE LOOP OR SKIDDER GRAPPLE.
3. PERMANENTLY STABILIZE DISTURBED PORTIONS OF STREAM BANK AND APPROACH ROADS WITH PERENNIAL GRASSES/MULCH (OR WETLAND MIX WHEN APPLICABLE).
4. LEAVE APPROPRIATE WATER DIVERSION STRUCTURES IN PLACE ON BOTH SIDES OF STREAM.
TEMPORARY STREAM CROSSING

Elevation:
- Coarse aggregate 6" deep
- Earth fill covered by large angular rock
- Filter fabric
- Capacity of pipe culverts: bank full flow

Plan:
- Coarse aggregate
- Flow
- 25' min. from top of bank
- Stream channel
- 25' min. from top of bank

Designations:
- STD. NO. 400.11
- Town of Apex Standards
- Effective: December 3, 2002
NOTES:
1. SEDIMENT STORAGE: 3,600 CF/DISTURBED ACRE
2. SURFACE AREA BASED ON Q25
3. INSTALL SEDIMENT CLEANOUT ELEVATION STAKES.
4. BAFFLES SHALL INCLUDE 700 G/SM COIR EROSION BLANKET.
5. FLOW ENTERING THE BASIN MUST BE DIRECTED TO AVOID EROSION ALONG THE SLOPE AND SCOUR IN THE BASIN. APPROPRIATELY SIZED SLOPE DRAINS, PER THE STANDARD DETAIL, ARE RECOMMENDED.
SLOPE DRAIN TYPICAL OF 2 (DETAIL 400.17)

TOP OF DAM ELEVATION
BASIN BOTTOM ELEVATION
BASIN BOTTOM LENGTH
BASIN BOTTOM WIDTH
SKIMMER SIZE
ORIFICE SIZE

TOP OF DAM (MINIMUM WIDTH 5')

EMERGENCY SPILLWAY (MINIMUM WIDTH 10')

1' MINIMUM FREEBOARD

FLOW

BAFFLES WITH METAL POSTS, WOVEN WIRE FABRIC BACKING, & COIR FIBER NETTING

BOTTOM ANCHORED WITH STAPLES

SKIMMER (DETAIL 400.14) WITH RETRIEVAL ROPE

STONE APRON

TOWN OF APEX STANDARDS
EFFECTIVE: JANUARY 20, 2015

TEMPORARY SKIMMER SEDIMENT BASIN

STD. NO. 400.13
SHEET 1 OF 2
NOTES:
1. USE FOR DRAINAGE AREAS NOT EXCEEDING 10 ACRES.
2. EARTH BERM SHALL BE STABILIZED WITH VEGETATION ACCORDING TO TOWN SPECIFICATIONS.
3. INSPECT TEMPORARY SEDIMENT BASINS AND EMPTY SKIMMER OF ALL DEBRIS AFTER EACH PERIOD OF SIGNIFICANT RAINFALL. REMOVE SEDIMENT AND RESTORE BASIN TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-HALF THE DESIGN DEPTH OF THE BASIN. PLACE THE SEDIMENT THAT HAS BEEN REMOVED IN A DESIGNATED DISPOSAL AREA. REPAIR AND/OR REPLACE BAFFLES.
4. CHECK THE STRUCTURE FOR DAMAGE FROM EROSION OR PIPING. PERIODICALLY CHECK THE DEPTH OF THE SPILLWAY TO ENSURE IT IS A MINIMUM OF 1.0 FOOT BELOW THE LOW POINT OF THE EMBANKMENT. IMMEDIATELY FILL ANY SETTLEMENT OF THE EMBANKMENT TO SLIGHTLY ABOVE DESIGN GRADE. ANY RIP RAP DISPLACED FROM THE SPILLWAY MUST BE REPLACED IMMEDIATELY.
5. STABILIZE THE EMBANKMENT AND ALL DISTURBED AREAS ABOVE THE SEDIMENT POOL AND DOWNSTREAM FROM THE BASIN IMMEDIATELY AFTER CONSTRUCTION WITH SEEDING.
6. FLOW ENTERING THE BASIN MUST BE DIRECTED TO AVOID EROSION ALONG THE SLOPE AND SCOUR IN THE BASIN. APPROPRIATELY SIZED SLOPE DRAINS, PER THE STANDARD DETAIL, ARE RECOMMENDED.
7. SEDIMENT STORAGE: 3,600 CF/DISTURBED ACRE
8. SURFACE AREA BASED ON: Q25
9. INSTALL SEDIMENT CLEANOUT ELEVATION STAKES.
10. BAFFLES SHALL INCLUDE 700 G/SM COIR EROSION BLANKET.
NOTE:

1. TO BE USED WHERE EXCESSIVE STORMWATER VELOCITIES PROHIBIT VEGETATIVE LININGS AND WHEREVER STORMWATER OUTFALLS OVERLAP SEWER EASEMENTS.

2. STONE SIZE, TRENCH DEPTH, AND OVERALL WIDTH PER DESIGN.
NOTES:
1. TEMPORARY SILT DITCH TO BE USED WHERE TOE OF FILL SLOPES EXCEEDS 3 FEET IN VERTICAL HEIGHT AND ALONG STREAMS TO INTERCEPT FLOW AND/OR DIVERT TO A CONTROLLED OUTLET.
2. SILT SHALL BE REMOVED WHEN SILT DITCH IS ONE-HALF FULL.
3. DITCH SHALL BE RECONSTRUCTED WHEN DAMAGED BY EQUIPMENT OR COVERED BY FILL.

CROSS SECTIONAL VIEW

WASTE MATERIAL-COMPACT, SEED & MULCH AFTER CONSTRUCTION OF DITCH
NOTES:
1. CONSTRUCT AN EARTHEN DIVERSION WITH A DIKE RIDGE TO DIRECT SURFACE RUNOFF INTO THE TEMPORARY SLOPE DRAIN.
2. MAKE THE HEIGHT OF THE RIDGE OVER THE DRAIN CONDUIT A MINIMUM OF 1.5 FEET AND AT LEAST 6 INCHES HIGHER THAN THE ADJOINING RIDGE ON EITHER SIDE.
3. THE LOWEST POINT OF THE DIVERSION RIDGE SHOULD BE A MINIMUM OF 1 FOOT ABOVE THE TOP OF THE DRAIN TO ALLOW THE DESIGN FLOW TO FREELY ENTER THE PIPE.
4. PROTECT THE OUTLET OF THE SLOPE DRAIN FROM EROSION.
5. MINIMUM PIPE DIAMETER = 10-INCH PIPE
NOTES:

1. \( L = \) THE LENGTH OF THE RIPRAP APRON
2. \( d = 1.5 \) TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 12 INCHES
3. A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIP RAP AND SOIL FOUNDATION.
4. IN A WELL-DEFINED CHANNEL EXTEND THE APRON UP THE CHANNEL BANKS TO 6 INCHES ABOVE THE MAXIMUM TAILWATER DEPTH OR THE TOP OF THE BANK, WHICHEVER IS LESS.