NOTES:
2. STEPS SHALL BE INSTALLED IN ALL CATCH BASINS OVER 3' IN DEPTH. DEPTH SHALL BE MEASURED FROM THE TOP OF CURB TO THE INVERT OF THE CATCH BASIN.
3. SOLID CONCRETE BRICKS MAY BE USED IN 4X4X8 OR 4X8X16 SIZES.
4. NCDOT APPROVED PRECAST CONCRETE BOXES ACCEPTABLE USING STANDARD 5' CASTINGS.
5. DOMESTIC CASTING REQUIRED WITHIN STREET RIGHT OF WAY.
6. 1" MAXIMUM EXTENSION OF PIPE INTO THE STORM BOX.

6" UP TO 12" DEEP
12" OVER 12" DEEP

STANDARD C.B. STEP

NOT TO SCALE
NOTES:
1. THE SLOPE OF THE GUTTER TO THE CATCH BASIN ON THE UPHILL SIDE SHALL BEGIN 10’ FROM THE CATCH BASIN. THE SLOPE OF THE GUTTER TO THE CATCH BASIN ON THE DOWNHILL SIDE, SHALL BEGIN 10’ FROM THE CATCH BASIN.

2. STEPS SHALL BE INSTALLED IN ALL CATCH BASINS OVER 3’ IN DEPTH. DEPTH SHALL BE MEASURED FROM THE TOP OF CURB TO THE INVERT OF THE CATCH BASIN.

3. SOLID CONCRETE BRICKS MAY BE USED IN 4” X 4” X 16” OR 4” X 8” X 16” SIZES.

4. NCDOT APPROVED PRECAST CONCRETE BOXES ACCEPTABLE, USING STANDARD 5’ CASTINGS.

5. DOMESTIC CASTING REQUIRED WITHIN STREET RIGHT OF WAY.
GRATE PER CITY STANDARDS
USE STD. SW-10.08 OR SW-10.09

8" MINIMUM; OVER 8’ DEEP,
12" MINIMUM UP TO 6’
FROM TOP OF GRATE.

1/2" PLASTER

3000 PSI CONCRETE

1/2" PLASTER

NOTES:
1. FOR 24" RCP & LARGER USE PIPE DIAMETER PLUS 12" FOR MINIMUM INSIDE DIMENSION.
2. 24" X 24" CASTING WITH 12", 15" & 18" PIPE, 24" X 36" CASTING USED WITH 24" PIPE OR LARGER. IF PLACED WITHIN PUBLIC R/W CASTING MUST BE TRAFFIC BEARING TYPE PER NCDOT STANDARDS.
3. USE 4" X 4" X 8" OR 4" X 8" X 16" SOLID CONCRETE BLOCK. CAST IN PLACE OR PRECAST CONCRETE TO MEET N.C.D.O.T. STANDARDS ACCEPTABLE.
4. STEPS SHALL BE INSTALLED IN ALL DROP INLETS OVER 3’ IN DEPTH. DEPTH SHALL BE MEASURED FROM THE TOP OF GRATE TO THE INVERT OF THE DROP INLET.
NOTES:
1. FOR 24" PIPE & LARGER USE PIPE DIAMETER PLUS 12" FOR MINIMUM INSIDE DIMENSION.
2. USE 4" X 4" X 8" OR 4" X 8" X 16" SOLID CONCRETE BLOCK. CAST IN PLACE OR PRECAST CONCRETE TO MEET NCDOT STANDARDS ACCEPTABLE.
3. FOR STEP REQUIREMENTS, SEE NOTE 4 ON STANDARD DETAIL SW-10.03.
TYPICAL MH FOR STORM SEWER

<table>
<thead>
<tr>
<th>PIPE SIZE</th>
<th>MH DIAMETER</th>
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<tr>
<td>12-24&quot;</td>
<td>4'-0&quot;</td>
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<tr>
<td>30-42&quot;</td>
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<tr>
<td>48&quot;</td>
<td>6'-0&quot;</td>
</tr>
<tr>
<td>54&quot;</td>
<td>8'-0&quot;</td>
</tr>
</tbody>
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NOTES:
1. DEPTH MEASURED FROM TOP OF CASTING TO INVERT OF MANHOLE.
2. PRECAST MANHOLE COMPONENTS SHALL MEET ASTM-C-478 REQUIREMENTS.
3. SEE STANDARD, SW-10.10 FOR MANHOLE COVER DETAIL.
4. DOMESTIC CASTINGS REQUIRED WITHIN STREET RIGHT-OF-WAY.

CITY OF RALEIGH
STANDARD DETAIL

SW-10.05
(2) DROP HANDLES

CITY OF RALEIGH
NO DUMPING!
DRAINS TO NEUSE RIVER

COVER SECTION

ASSEMBLY SECTION

NOTE:
USE GRADE 8 BOLTS ONLY FOR BOLTING TOGETHER

USE EAST JORDAN IRON WORKS, INC., V-4089-2 OR APPROVED EQUAL

REVISIONS DATE: 8/1/18

NOT TO SCALE

CITY OF RALEIGH
STANDARD DETAIL

TWO PIECE CATCH BASIN COVER

SW-10.06.2
NOTES:
PAINT WITH RUST INHIBITING BLACK PAINT.

DETAIL OF pb1 PLATES

BILL OF MATERIAL
MATERIAL LIST FOR ONE UNIT - MAKE ( ) UNITS

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<th>DESCRIPTION</th>
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<td>MK-ca1</td>
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<td>4</td>
<td>1/8&quot; X 1&quot; H.R. FLAT BAR 3&quot;</td>
<td>MK-pa1</td>
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<tr>
<td>2</td>
<td>3/8&quot; x 3&quot; H.R. FLAT BAR 10&quot;</td>
<td>MK-pb1</td>
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<td>2</td>
<td>1/2&quot; STAINLESS STEEL ROUND ROD 18&quot;</td>
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<tr>
<td>8</td>
<td>1/2&quot; STAINLESS STEEL HEX NUTS</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1/2&quot; STAINLESS STEEL FLAT WASHERS</td>
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</tbody>
</table>

CITY OF RALEIGH
STANDARD DETAIL

CATCH BASIN
STEEL TOP

SW-10.07
STANDARD 24" X 24" DROP INLET CASTING
SECTION A-A

SECTION B-B

CITY OF RALEIGH
STANDARD DETAIL

STANDARD 24" X 36"
DROP INLET CASTING

DATE: 8/1/18

STANDARD DROP INLET CASTING

SW-10.09
NOTES:
1. ALL MANHOLE FRAMES SHALL BE DOMESTICALLY CAST.
2. FRAME SHALL BE A MINIMUM WEIGHT OF 182 LBS. WITHIN PUBLIC ROW AND 160 LBS. WITHIN EASEMENTS.
3. COVER SHALL WEIGH A MINIMUM OF 120 LBS.
4. ALL MANHOLE FRAMES OUTSIDE OF PAVED SURFACE SHALL BE BOLTED TO THE CONE SECTION OR RING WITH A MINIMUM OF 4 BOLTS PER FRAME.

5/8"X3" LAGSHIELD IN HOLE DRILLED INTO CONE OR RING WITH ANCHOR SUNK TO DESIGN DEPTH, AND 5/8"X3" HOT DIPPED GALVANIZED LAG BOLT AND WASHER.

BUTYL-NEK OR APPROVED SEALANT BETWEEN FRAME AND COVER

COVER 120 LBS. MINIMUM

STANDARD STORM MANHOLE COVER

CITY OF RALEIGH

REVISIONS DATE 8/1/18

NOT TO SCALE

SW-10.10
NOTES:
ALL PIPE UNDERDRAINS ARE TO EXIT INTO DRAINAGE STRUCTURES SUCH AS CATCH BASINS OR JUNCTION BOXES. IF STRUCTURE IS NOT AVAILABLE, SPECIAL EXIT REQUIREMENTS WILL APPLY IN ACCORDANCE WITH THE DIRECTION OF ENGINEERING SERVICES DIRECTOR OR HIS/HER DESIGNEE.
CUT EXISTING DOWNSPOUT OR DOWNSPOUT SHOE TO DRAIN INTO SLICE BOX AS SHOWN

USE U.S. FOUNDARY 4600 ANGLE TYPE FRAME AND 6110 GRATE OR APPROVED EQUAL

4" POURED CONCRETE BASIN SLAB 3000 PSI @ 28 DAYS
6" X 14 GAUGE WELD CENTERED GALVANIZED STEEL TUBING GLAZED JUNCTION BOX WITH ASPHALT MASTIC

COMPACTED ABC GRAVEL FINISH GRADE INSTALL CHANNEL FLUSH WITH CURB AND GUTTER

4" POUR CONCRETE BASIN SLAB 3000 PSI @ 28 DAYS
8" X 2" STRUCTURAL STEEL TUBING GALVANIZED; SEAL JUNCTION BOX WITH ASPHALT MASTIC

CITY OF RALEIGH STANDARD DETAIL

REVISIONS DATE 8/1/18 NOT TO SCALE

CURB DRAIN DETAIL

SW-10.12
NOTES:

1. IF STRUCTURE IS LESS THAN 5' IN DEPTH, BOX MUST BE REBUILT BEGINNING AT ORIGINAL FOOTING ELEVATION.

2. IF STRUCTURE IS GREATER THAN 5' IN DEPTH, THE ELEVATED FOOTING DESIGN AS INDICATED ABOVE MAY BE USED.

3. DOMESTIC CASTING REQUIRED WITHIN STREET RIGHT-OF-WAY.

4. FOR STEP REQUIREMENTS, SEE NOTE 4 ON STANDARD DETAIL SW-10.03.
MAINTENANCE: CLEAN OUT AT 50% CAPACITY
LIFE OF FENCING: 6-9 MONTHS

NOTES:
1. FLOW SHALL NOT RUN PARALLEL WITH THE FENCE.
2. END OF SILT FENCE NEEDS TO BE TURNED UPHILL.
3. SEE NC DEQ SEDIMENT DESIGN MANUAL FOR CONSTRUCTION SPECIFICATIONS, WHERE PRACTICE APPLIES AND PLANNING CONSIDERATIONS.
4. SILT FENCE SHOULD NOT BE USED ALONE BELOW GRADED SLOPES GREATER THAN 10' IN HEIGHT.
NOTES:
1. USE NO. 5 OR NO. 57 STONE FOR SEDIMENT CONTROL STONE.
2. PROVIDE STABILIZED OUTLET TO STREAM BANK.
3. WOOD PALLETS MAY BE USED IN LIEU OF STONE AND GEOTEXTILE AS DIRECTED A SUFFICIENT NUMBER OF PALLETS MUST BE PROVIDED TO ELEVATE THE ENTIRE SPECIAL STILLING BASIN ABOVE NATURAL GROUND.
4. THE SIZE AND NUMBER OF SILT BAGS SHOULD BE BASED ON THE DEWATERING PUMP AND MANUFACTURER RECOMMENDATIONS.
5. TIGHTLY SECURE THE PUMP DISCHARGE TO THE SILT BAG SLEEVE WITH A STRAP OR SIMILAR DEVICE TO PREVENT WATER AND WATER-SEDIMENT FROM LEAKING WITHOUT TREATMENT.
6. CONTROL PUMPING RATE TO PREVENT EXCESSIVE PRESSURE WITHIN THE SILT BAG IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS AS THE BAG FILLS WITHIN SEDIMENT, REDUCE THE PUMP RATE.
7. REPLACE THE SILT BAG WHEN ONE HALF (1/2) FULL OF SEDIMENT.
8. SILT BAG DEVICE MUST BE 20 FT FROM THE TOP OF THE STREAM BANK AND WATER MUST BE DISCHARGED IN A DIFFUSE MANNER.

CITY OF RALEIGH
STANDARD DETAIL

SW-20.04
Temporary Sediment Trap

**City of Raleigh Standard Detail**

**SW-20.05.1**

**Notes:**
1. 3 baffles (min) between inlet & outlet.
2. See N.C. DEQ Erosion and Sediment Control Planning and Design Manual for conditions where practice applies.
3. Locate sediment inflow to the basin away from the dam to prevent short circuits from inlets to outlets.
4. At a minimum, seed, straw & tack application required for site inspection approval.
5. Traps must be stabilized immediately upon construction and prior to site inspection approval.

**Design Life of Fabric:**
- 6-12 months

**Baffle Detail:**
- Support rope to wire to prevent sagging
- Support post 24" into bottom or sides
- Stake to support wire
- Coir mesh or jute, trenched into bottom and side

**Perspective View:**
- Inlet Flow
- Stable transition required to the base of the slope
- Inlet Zone 25% of surface area
- First Chamber 25% of surface area
- Second Chamber 25% of surface area
- Outlet Zone 25% of surface area
- Extend baffles up sides as to not allow flow around the ends.

**Maintenance:**
- Repair/replace baffles when they collapse, tear or decompose.
- Remove sediment when cell is 1/2 full.

**Top View:**
- Min. length/width ratio: 2:1

**NOTES:**
- Stable transition required to the base of the slope
- First chamber 25% of surface area
- Second chamber 25% of surface area
- Outlet zone 25% of surface area
- Extend baffles up sides as to not allow flow around the ends.

**Support Post:**
- 4" max
- 3 min

**Inlet, see detail 20.05.2**

**Outlet, see detail 20.05.2**

**Eartthen Embankment:**
- 5’ crest width

**REVISIONS**
- Date 8/1/18

**NOT TO SCALE**
**DESIGN CRITERIA**

**SUMMARY:**
- PRIMARY SPILLWAY: STONE SPILLWAY
- MAXIMUM DRAINAGE AREA: <1 ACRES
- MINIMUM VOLUME: 3600 CU FT PER ACRE OF DISTURBED AREA
- MINIMUM SURFACE AREA: 435 SQ FT PER CFS OF Q25 PEAK FLOW
- MINIMUM SLOPE: 2:1
- MINIMUM DEPTH: 3.5 FEET, 1.5 FEET EXCAVATED BELOW GRADE
- MAXIMUM HEIGHT: WEIR ELEVATION 3.5 FEET ABOVE GRADE
- DEWATERING MECHANISM: STONE SPILLWAY
- MINIMUM DEWATERING TIME: N/A
- BAFFLES REQUIRED: 3 MINIMUM (COR OR JUTE) MESH 10" IN LENGTH
- MIN WEIR (COR)

**NOTE:** TRAPS LESS THAN 20' IN LENGTH MAY USE BAFFLES.

**NOTES:**
- SEE N.C. DEQ EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL FOR CONDITIONS WHERE PRACTICE APPLIES
- PLANNING CONSIDERATION & DESIGN CRITERIA
- BASINS LESS THAN 20' IN LENGTH MAY USE BAFFLES

**CONSTRUCTION:**
- DESIGN SETTLED TOP 21" MIN
- 5 FT MAX FILL
- 2' MIN TO 3.5' MAX
- 1:1 SIDE SLOPE MAX
- 3 FT MIN

**PLAN VIEW**

**MAINTENANCE:**
- REMOVE SEDIMENT AND RESTORE TRAP TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-HALF THE DESIGN DEPTH OF THE TRAP. PLACE THE SEDIMENT THAT IS REMOVED IN A DESIGNATED DISPOSAL AREA AND REPLACE THE CONTAMINATED PART OF THE GRAVEL FACING.
- CHECK THE STRUCTURE FOR DAMAGE FROM EROSION OR PIPING. PERIODICALLY CHECK THE DEPTH OF THE SPILLWAY TO ENSURE IT IS A MINIMUM OF 1.5 FT 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.
DATE: 8/1/18

SW-20.06

STORAGE AREA

MINIMUM CROSS SECTION

MAX PIPE IS 36"

#57 WASHED STONE

1' MIN THICKNESS.

ANY RIP-RAP DISPLACED FROM THE STONE HORSESHOE MUST BE REPLACED IMMEDIATELY.

MAINTENANCE REMOVE SEDIMENT & RESTORE THE SEDIMENT STORAGE AREA TO ITS ORIGINAL DIMENSION DESIGN DEPTH OF THE TRAP.

NOTES:

IF EXCAVATED STORAGE AREA IS USED AS TEMPORARY SEDIMENT TRAP, THE DESIGN CRITERIA FOR TEMPORARY SEDIMENT TRAP MUST BE SATISFIED.


CITY OF RALEIGH
STANDARD DETAIL

REVISIONS DATE: 8/1/18 NOT TO SCALE

SW-20.06

ROCK PIPE INLET
PROTECTION
1. AT END OF 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 < 1 ACRE THEN THIS STRUCTURE NEEDS TO BE TREATED AS A RISER STRUCTURE AND ALL RELATED INFORMATION NEEDS TO BE SUPPLIED, (TRASH RACK, ELEVATIONS, AND ANTI-FLOATABLE)

4. IF THIS DEVICE IS TREATED AS A SEDIMENT TRAP THEN IT SHALL MEET THE SPECIFICATION AS OUTLINED IN SW-20.05.1 AND SW-20.05.2.
NOTES:
1. ENSURE THAT CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONES.
2. THE DRAINAGE AREA IS LIMITED TO ONE HALF ACRE.
3. KEY THE STONE INTO THE DITCH BANKS AND EXTEND IT BEYOND THE ABUTMENTS A MINIMUM OF 1.5 FEET TO AVOID WASHOUT FROM OVERFLOW AROUND THE DAM.

MAINTENANCE:
CLEAN OUT SEDIMENT AND DEBRIS AND REPAIR WASH OUTS.

PURPOSE: TO REDUCE EROSION IN A CHANNEL BY REDUCING THE VELOCITY OF FLOW.
DO NOT USE CHECK DAM IN INTERMITTENT OR PERENNIAL STREAMS.

SEE N.C. DEQ EROSION and SEDIMENT CONTROL PLANNING and DESIGN MANUAL FOR CONDITIONS WHERE PRACTICE APPLIES: PLANNING CONSIDERATION & DESIGN CRITERIA.
NOTES:
1. Silt fence should be installed to ensure construction entrance is used.
2. If mud is not removed from the vehicle traveling over the stone, then the tires of the vehicle must be washed before entering the public road or the length of the construction entrance extended.

Notes:
25' or full width of proposed street or entrance, whichever is greater.

NOT TO SCALE

Maintenance:
Add additional stone and "fluff" top dressing with 2" stone.

See N.C. DEQ Erosion and Sediment Control Planning and Design Manual for conditions where practice applies; Planning Consideration & Design Criteria.
NOTES:
1. THIS DETAIL APPLIES ONLY TO ENTRANCES OF INDIVIDUAL SINGLE FAMILY RESIDENTIAL UNITS
2. SILT FENCE SHOULD BE INSTALLED TO ENSURE CONSTRUCTION ENTRANCE IS USED.

2'-3" STONE TO BE USED (SURGE STONE OR RAILROAD BALLAST)

CROSS SECTION

PLAN

SILT FENCE (SEE NOTE 2)

EXISTING ROADWAY

20' MIN. AND SUFFICIENT TO KEEP SEDIMENT ON SITE

12'

RAILROAD BALLAST

NEW CONSTRUCTION

6" MIN.

EXISTING ROADWAY

CITY OF RALEIGH
STANDARD DETAIL
REVISIONS DATE 8/1/18 NOT TO SCALE
RESIDENTIAL CONSTRUCTION ENTRANCE
SW-20.10
NOTES:
1. STABILIZE IMMEDIATELY UPON CONSTRUCTION AND PRIOR TO SITE INSPECTION APPROVAL.
2. STABILIZE DIVERSION DITCH BASED ON DESIGN VELOCITY, IF DESIGN VELOCITIES (q) IN BARE EARTH CONDITIONS EXCEEDS 2 FT/S, A TEMPORARY LINER IS REQUIRED.
3. MAXIMUM 5 ACRE DRAINAGE AREA TO TEMPORARY DIVERSION.
NOTES:
1. TO BE USED WHERE EXCESSIVE STORMWATER VELOCITIES PROHIBIT VEGETATIVE LININGS.
2. DIMENSIONS FOR d & w AND SIZE OF STONE MUST BE DETERMINED BY APPROPRIATE DESIGN CRITERIA.

<table>
<thead>
<tr>
<th>d MAX</th>
<th>STONE CLASSIFICATION</th>
<th>RIP RAP DEPTH</th>
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<tbody>
<tr>
<td>8&quot;</td>
<td>A</td>
<td>12&quot;</td>
</tr>
<tr>
<td>12&quot;</td>
<td>B</td>
<td>18&quot;</td>
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<tr>
<td>18&quot;</td>
<td>CLASS 1</td>
<td>27&quot;</td>
</tr>
<tr>
<td>24&quot;</td>
<td>CLASS 2</td>
<td>36&quot;</td>
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CONSTRUCTION SPECIFICATIONS

1. Lay one block on each side of the structure on its side in the bottom row to allow pool drainage. Place the bottom row of blocks against the edge of the storm drain for lateral support and to avoid washouts when overflow occurs.

2. Carefully fit hardware cloth or comparable wire mesh with 1/2-inch openings over all block openings to hold gravel in place.

3. Use clean gravel, placed 2 inches below the top edge of the block on a 2:1 slope or flatter and smooth it to an even grade. DOT #57 washed stone is recommended.

4. Not to be used for sediment storage or on roadways open to public traffic.

CITY OF RALEIGH
STANDARD DETAIL

BLOCK AND GRAVEL
DROP INLET PROTECTION

SW-20.14
GALVANIZED HARDWARE WIRE EXTENDS TO THE TOP OF BOX.
(19 GAUGE, 1/4" MESH OPENINGS.)

#57 WASHED STONE PLACED AGAINST HARDWARE WIRE TO A HEIGHT OF 16" MIN. ABOVE TOP OF BOX.

SECTION VIEW

STANDARD METAL POSTS (MINIMUM LENGTH 5')
2'-0" IN GROUND

CONCRETE BLOCKS

DRAINAGE AREA = < 1 ACRE (MAXIMUM)

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS DATE 8/1/18

SW-20.15

STANDARD CATCH BASIN
YARD INLET PROTECTION

NOT TO SCALE
STANDARD DETAIL

1. Stripes on barricade rails slope at an angle of 45 degrees in the direction traffic is to pass.
2. Barricade rail stripe shall be 6 inches.
3. The sides of the barricade facing traffic shall have retroreflective rail faces.

NOTES:

CITY OF RALEIGH
STANDARD TEMPORARY
BARRICADE

REVISIONS
DATE: 8/1/18
NOT TO SCALE

SW-20.17
DESIGN NOTES:
1. MAXIMUM DRAINAGE AREA WHEN UTILIZING RISER IS 100 ACRES.
2. DAM HEIGHT BEHIND RISER IS 15 FEET OR LESS FROM TOP OF DAM TO LOW POINT OF DOWNSTREAM TOE.
3. MAY OR MAY NOT BE “FLASHBOARD” RISER.

CITY OF RALEIGH
STANDARD DETAIL

FLASHBOARD RISER

SW-20.18
NF N. C. DENR, EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL FOR CONDITIONS WHERE PRACTICE APPLIES; PLANNING CONSIDERATION & DESIGN CRITERIA.

NOTE: SKIMMER TO BE TETHERED

SW-20.19
**DESIGN CRITERIA**

**SUMMARY:**

- PRIMARY SPILLWAY: RISER / BARREL PIPE
- MAXIMUM DRAINAGE AREA: 100 ACRES MAX.
- MINIMUM SEDIMENT STORAGE VOLUME: 1800 CUBIC FEET PER ACRE OF DISTURBED AREA
- MINIMUM SURFACE AREA: 435 SQUARE FEET PER CFS OF Q25 PEAK INFLOW
- MINIMUM L/W RATIO: 2:1
- MAXIMUM L/W RATIO: 6:1
- MINIMUM DEPTH: 2 FEET
- DEWATERING MECHANISM: SKIMMER ATTACHED TO BOTTOM OF RISER
- MINIMUM DEWATERING TIME: 24 HOURS
- BAFFLES REQUIRED: 3 MINIMUM
- DESIGN LIFE: 3 YEARS MAX
- DAM HEIGHT: 15 FEET OR LESS FROM TOP OF DAM TO LOW POINT OF DOWNSTREAM TOE.

**SEE NC DENR EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL.**

**NOTE:** BASINS LESS THAN 20' IN LENGTH MAY USE 2 BAFFLES.

**PERIOD VIEW**

- INLET ZONE 25% OF SURFACE AREA
- FIRST CHAMBER 25% OF SURFACE AREA
- SECOND CHAMBER 25% OF SURFACE AREA
- OUTLET ZONE 25% OF SURFACE AREA
- EXTEND BAFFLES UP SIDES AS TO NOT ALLOW FLOW AROUND THE ENDS.

**NOTES:**

1. LOCATE SEDIMENT INFLOW TO THE BASIN AWAY FROM THE DAM TO PREVENT SHORT CIRCUITS FROM INLETS TO OUTLETS
2. BASINS MUST BE STABILIZED IMMEDIATELY UPON CONSTRUCTION AND PRIOR TO SITE INSPECTION APPROVAL
SUMMARY:

PRIMARY SPILLWAY: STONE SPILLWAY
MAXIMUM DRAINAGE AREA: <1 ACRE.
MINIMUM SEDIMENT STORAGE VOLUME: 3600 CUBIC FEET PER ACRE OF DISTURBED AREA.
MINIMUM SURFACE AREA: 435 SQUARE FEET PER CFS OF Q_{10} PEAK INFLOW
MINIMUM L/W RATIO: 2:1
MINIMUM DEPTH: 3.5 FEET, 1.5 FEET EXCAVATION BELOW GRADE
MAXIMUM HEIGHT: WEIR ELEVATION 6 FEET ABOVE GRADE
DEWATERING MECHANISM: STONE SPILLWAY
MINIMUM DEWATERING TIME: N/A
BAFFLES REQUIRED: 3 MINIMUM
DESIGN BASIN LIFE: 3 YEARS OR LESS
DAM HEIGHT: LIMITED TO 8 FEET.

CITY OF RALEIGH
STANDARD DETAIL
SW-20.21

SEEDMENT BASIN WITH ROCK DAM

CROSS-SECTION VIEW

FILTER FABRIC
CUT-OFF TRENCH

MIN 1.5' THICK ROCK APRON
1' MIN NCDOT #5 OR #57 WASHED STONE
CLASS I AND II RIP-RAP

WEIR ELEVATION

TOP OF ROCK ABUTMENT
SLOPE FOUNDATION
FABRIC FILTER

SPILLWAY DETAILS

SEE N.C. DEQ SEDIMENT DESIGN MANUAL FOR CONSTRUCTION SPECIFICATIONS, WHERE PRACTICE APPLIES AND PLANNING CONSIDERATIONS.

NOTE: DEVICE SHOULD NOT BE LOCATED IN ANY INTERMITTENT OR PERENNIAL STREAM.
NOTES:
1. WARNING SIGNS TO BE MADE OF DURABLE, WEATHERPROOF MATERIAL.
2. LETTERS TO BE 3" HIGH MINIMUM, CLEARLY LEGIBLE AND SPACED AS DETAILED.
3. SIGNS SHALL BE PLACED AT 50' MAXIMUM INTERVALS.
4. FOR WATERCOURSE BUFFER PROTECTION AREAS LESS THAN 200' IN PERIMETER, PROVIDE NO LESS THAN ONE SIGN PER PROTECTION AREA.
5. PLACE A SIGN AT EACH END OF LINEAR WATERCOURSE BUFFER PROTECTION AND 50' ON CENTER THEREAFTER.
6. END OF SILT FENCE SHALL BE TURNED UPHILL.
7. ADDITIONAL SIGNS MAY BE REQUIRED BY CITY OF RALEIGH BASED ON ACTUAL FIELD CONDITIONS.
8. FOR CONDITIONS WHERE PRACTICE APPLIES AND PLANNING CONSIDERATIONS.

CITY OF RALEIGH
STANDARD DETAIL

REVISIONS
DATE: 8/1/18
NOT TO SCALE

WATERCOURSE BUFFER PROTECTION FENCE
SW-20.22
NOTES:
1. WATTLES SHALL BE FILLED WITH STRAW OR OTHER APPROVED MATERIAL.
2. SPACING FOR WATTLES SHALL BE DETERMINED BY THE SITE ENGINEER.
3. WATTLES MAY BE USED FOR PROTECTION OF CATCH BASINS AND DROP INLETS WITH APPROVAL BY THE STORMWATER PROGRAM MANAGER OR DESIGNEE.
4. FOR USE OF WATTLE IN A DITCH, GRADE OF DITCH MUST BE <2.5%.
Top of silt fence must be at least 1' above the top of the washed stone.

1. Remove sediment when half of stone outlet is covered.
2. Replace stone as needed to ensure denaturing.
NOTES:

1. ACTUAL LAYOUT TO BE DETERMINED IN THE FIELD.

2. A CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30' OF THE TEMPORARY CONCRETE WASHOUT FACILITY.

3. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED OF OR RECYCLED.

4. HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCE CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE BACKFILLED, REPAIRED, AND STABILIZED TO PREVENT EROSION.

5. MUST BE LOCATED >50 FT AWAY FROM INLETS/WATERWAYS UNLESS THERE IS NO OTHER PRACTICAL ALTERNATIVE.
NOTES:
1. TWO CONCRETE BLOCKS SHALL BE PLACED ON THEIR SIDES ABUTTING THE CURB AT EITHER SIDE OF THE INLET OPENING, A 2" X 4" STUD SHALL BE CUT AND PLACED THROUGH THE OUTER HOLES OF THE SPACER BLOCKS TO BRACE THE FRONT BLOCKS. FRONT BLOCKS ARE PLACED ON THEIR SIDES ACROSS THE INLET AND ABUTTING THE SPACER BLOCKS.

2. WIRE MESH OR HARDWARE CLOTH WITH 1/4" - 1/2" OPENINGS SHALL BE PLACED OVER THE OUTSIDE VERTICAL FACE (WEBBING) OF THE BLOCKS, TO PREVENT STONE FROM BEING WASHED THROUGH THE HOLES IN THE BLOCKS.

3. STONE SHALL BE PILED AGAINST THE WIRE TO THE TOP OF THE BLOCK. (NO. 57 WASHED STONE)

4. CHECK DEVICE AFTER EACH RAIN AND REPLACE WASHED STONE IF IT CLOGS WITH SEDIMENT.
UPSTREAM END OF STORM DRAIN

3/4" EXTERIOR PLYWOOD

OVERFLOW
1/3 PIPE DIAMETER

UPSTREAM END OF STORM DRAIN

STOCK FILTER INLET PROTECTION

WASHED STONE FILTER ACROSS PIPE INLET

STEEL FENCE POST (TYPICAL)

OVERFLOW
1/3 PIPE DIAMETER

PLYWOOD INLET PROTECTION

OVERFLOW
1/3 PIPE DIAMETER

BURY BOTTOM OF PLYWOOD

STORM DRAIN

UPSTREAM END OF
1/3 PIPE DIAMETER

NOTES:
ALL PARTIALLY COMPLETED STORM DRAINS SHALL BE PROTECTED AT THE END OF EACH DAY IN ACCORDANCE WITH THESE DETAILS.
**DESIGN CRITERIA**

**SUMMARY:**
- Primary spillway: Trapezoidal spillway with permeable membrane
- Maximum volume

**DESIGN AND CONSTRUCTION:**
- Skimmer sediment basin
- Sediment inflow to the basin away from the dam to prevent short circuits
- Stone energy dissipator
- Stone with fabric

**PLAN VIEW:**
- Perspectives view
- Perspective view

**Baffle Detail:**
- Support post 24" into bottom or sides
- Support rope to prevent sagging
- Support rope to wire to prevent sagging
- Support post 24" into bottom or sides
- Design life of fabric

**NOTES:**
1. Locate sediment inflow to the basin away from the dam to prevent short circuits.
2. Basin must be stabilized immediately upon construction and prior to site inspection approval.
3. Inspect approval upon construction and prior to site inspection approval.

**GENERAL:**
- Note: Basin less than 20' in length may use 2 baffles.
- Note: Basin less than 20' in length may use 2 baffles.

**CITY OF RALEIGH**
**STANDARD DETAIL**

**SUMMARY:**
- Primary spillway: Trapezoidal spillway with permeable membrane
- Maximum volume

**DESIGN AND CONSTRUCTION:**
- Skimmer sediment basin
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**GENERAL:**
- Note: Basin less than 20' in length may use 2 baffles.
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NOTES:

1. MAINTENANCE SHALL OCCUR WHEN NECESSARY. SILT FENCE SHALL BE REPLACED EVERY 6 MONTHS AND POSTS SHALL BE INSPECTED TO ENSURE STRUCTURAL INTEGRITY. SILT FENCE SHALL BE INSPECTED WEEKLY AND ALL MAINTENANCE ISSUES SHALL BE CORRECTED AT THAT TIME.

2. SILT FENCE SHOULD BE A MINIMUM OF 5 FEET FROM THE TOE OF SLOPE.