

SILT FENCES

1. **DESCRIPTION & PURPOSE:**
STORMWATER SILT FENCES (SWSF) ARE TEMPORARY SEDIMENT BARRIERS MADE OF POROUS FABRIC HELD UP BY WOODEN OR METAL POSTS DRIVEN INTO THE GROUND. THEY ARE INEXPENSIVE AND RELATIVELY EASY TO REMOVE. THE FABRIC PONDS STORMWATER RUNOFF, CAUSING SEDIMENT TO BE RETAINED BY THE SETTLING PROCESSES. IT ALSO KNOCKS DOWN WIND-DRIVEN SAND. IT KEEPS SOIL OUT OF CITY STREETS, THUS PREVENTING CLOGGED STORM DRAINS AND THE DEGRADATION OF AQUATIC HABITATS.
2. **PRIMARY USE:**
STORMWATER SILT FENCE (SWSF) IS PRIMARILY FOR STORMWATER CONTROL, BUT DUST CONTROL MAY BE A SECONDARY BENEFIT. SEE SEPARATE DUST CONTROL SILT FENCE (DCSF) FOR SILT FENCE USED PRIMARILY FOR FUGITIVE DUST CONTROL. BOTH TYPES OF SILT FENCE MAY BE SHOWN ON A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) MAP AND/OR AN EROSION AND SEDIMENT CONTROL (ESC) PLAN WITH CLEAR DIFFERENTIATION BETWEEN THE TWO. STORMWATER SILT FENCE IS UNSUITABLE TO CONTROL STORMWATER AT CONCENTRATED DISCHARGE POINTS, LARGE DRAINAGE AREAS, OR WHERE THE SILT FENCE ISN'T ON CONTOUR. WHERE SILT FENCES ARE UNSUITABLE, A SEPARATE STORMWATER CONTROL IS REQUIRED, SUCH AS A BERM OR A POND, IN ADDITION TO DUST CONTROL SILT FENCE. DUST CONTROL SILT FENCES ARE STILL NEEDED TO CONTROL WIND EROSION ON TOP OF OTHER STORMWATER CONTROLS, SUCH AS BERMS AND PONDS, AT THE DOWNSTREAM PERIMETER OF CONSTRUCTION SITES. STORMWATER SILT FENCE IS USED AS A **PERIMETER STORMWATER CONTROL** WHEN INSTALLED DOWNSLOPE FROM EXPOSED SOIL PER PART 2.2.3 OF THE EPA'S CONSTRUCTION GENERAL PERMIT (CGP), AND AS AN **AIR QUALITY CONTROL** AROUND THE REST OF THE PERIMETER IN SUPPORT OF CGP PART 2.2.6 AND THE ALBUQUERQUE-BERNALILLO COUNTY AIR QUALITY PROGRAM.

3. **STORMWATER QUALITY DESIGN SPECIFICATIONS:**

A. SILT FENCE IS FOR **SHEET FLOW ONLY**, NEVER FOR CONCENTRATED STORMWATER. STORMWATER SILT FENCE ISN'T ALLOWED AS THE STORMWATER CONTROL AT CONCENTRATED DISCHARGE POINTS. OTHER STORMWATER CONTROLS, SUCH AS PONDS AND BERMS, ARE REQUIRED AT DISCHARGE POINTS. ALTERNATIVELY, SILT FENCES MAY BE USED ALONG THE SIDES OF STABILIZED CONCENTRATED FLOW PATHS THROUGH CONSTRUCTION SITES TO REMOVE SEDIMENT FROM THE STORMWATER BEFORE IT ENTERS THE STABILIZED CONCENTRATED FLOW PATH.

B. THE **DRAINAGE AREA** IS LIMITED TO 25,000 SF PER 100 FT OF FENCE OR COMBINED WITH A SEDIMENT BASIN ON A LARGER SITE.

C. THE **MAXIMUM SLOPE DISTANCE** ABOVE THE FENCE IS FURTHER LIMITED BY THE SLOPE STEEPNESS, AS SHOWN IN THE TABLE BELOW.

LAND SLOPE (%)	MAXIMUM SLOPE DISTANCE ABOVE FENCE (FT)
2	250
5	180
10	100
20	50
30	30

D. STORMWATER SILT FENCES MUST BE CONSTRUCTED **ON CONTOUR**, LEVEL ACROSS THE BOTTOM, WITH THE ENDS TURNED UPHILL AS NECESSARY TO PREVENT FLANKING. A SILT FENCE ALONE SHOULDN'T BE USED AS A DIVERSION. AN AIR QUALITY SILT FENCE MAY BE USED IN CONJUNCTION WITH A DIVERSION BERM OR SWALE ALONG A SLOPING PERIMETER ON THE DOWNHILL SIDE OF CONSTRUCTION SITES.

E. LIMIT THE LENGTH OF ANY SINGLE RUN OF SILT FENCE TO 500 FT. AND IT MUST BE PLACED ALONG A LEVEL CONTOUR.

F. DO NOT USE SILT FENCES TO DIVERT FLOW.

4. **SELECT STANDARD STRENGTH OR EXTRA STRENGTH SILT FENCE MATERIAL**

A. STANDARD STRENGTH SILT FENCE IS APPROPRIATE IF THE SLOPE OF AREA DRAINING TO FENCE IS 4:1 (H: V) OR LESS AND THE DRAINAGE AREA PRODUCES LOW SEDIMENT LOADS. THE EXPECTED LONGEVITY IS GENERALLY LIMITED TO LESS THAN FIVE MONTHS

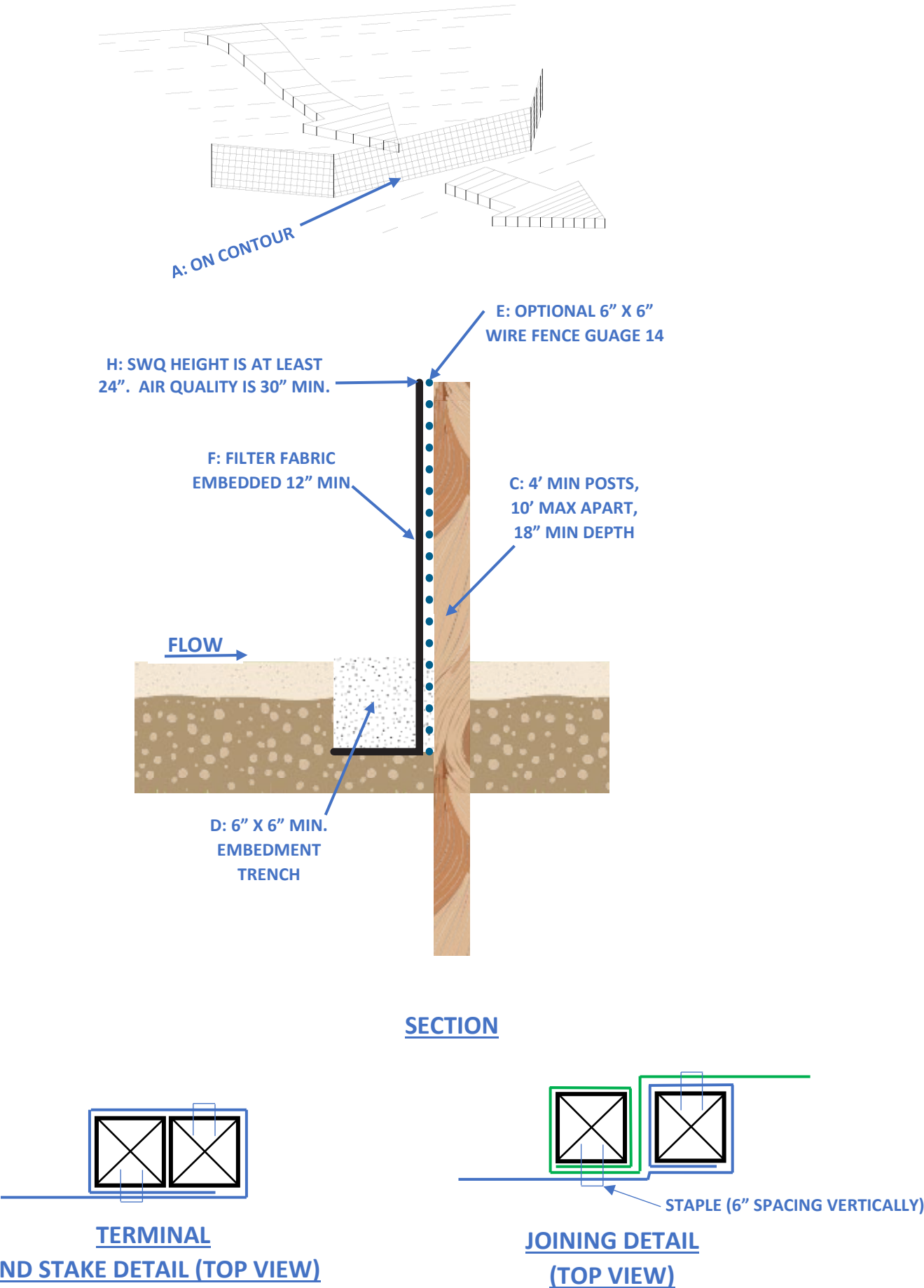
B. EXTRA STRENGTH SILT FENCE IS APPROPRIATE IF THE SLOPE OF AREA DRAINING TO FENCE IS 1:1 (H: V) OR LESS AND AREA DRAINING TO FENCE PRODUCES MODERATE SEDIMENT LOADS. EXPECTED LONGEVITY IS GENERALLY LIMITED TO EIGHT MONTHS. LONGER PERIODS MAY REQUIRE FABRIC REPLACEMENT. HEAVY-DUTY FENCE FABRIC HAS GREATER TENSILE STRENGTH AND PERMEABILITY THAN OTHER FABRIC TYPES. THE POSTS MAY BE SPACED CLOSER TOGETHER THAN OTHER PREMANUFACTURED SILT FENCE TYPES AVAILABLE FROM THE MANUFACTURER.

STORMWATER SILT FENCE MATERIAL	
PHYSICAL PROPERTY	REQUIREMENTS
TENSILE STRENGTH AT 20% (MAXIMUM) ELONGATION	STANDARD STRENGTH: 30 LB/IN (MINIMUM) EXTRA STRENGTH: 50 LB/IN (MINIMUM)
UV RESISTANT	90%
SLURRY FLOW RATE	0.3 GAL/MIN (MINIMUM)

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5. CONSTRUCTION SPECIFICATIONS:

- A. INSTALL SILT FENCE ALONG A LEVEL CONTOUR, WITH THE ENDS TURNED UPHILL (12" VERTICAL MIN.) FAR ENOUGH TO PREVENT FLANKING. EXCEPT FOR THE ENDS, THE DIFFERENCE IN ELEVATION BETWEEN THE HIGHEST AND LOWEST POINT ALONG THE TOP OF THE SILT FENCE SHALL NOT EXCEED ONE-THIRD THE FENCE HEIGHT.
- B. CLEAR THE GROUND AT THE SILT FENCE LOCATION TO BARE DIRT. REMOVE VEGETATION, ROCKS, GRAVEL, AND PAVEMENT.
- C. INSTALL POSTS SPACED A MAXIMUM OF 10 FEET APART AND DRIVEN SECURELY INTO THE GROUND A MINIMUM OF 18 INCHES. HARDWOOD POSTS MUST BE 2" X 2", AND STEEL POSTS (STANDARD "U" OR "T" SECTION) MUST HAVE A MINIMUM WEIGHT OF 1.33 POUNDS PER LINEAR FOOT AND SHALL HAVE A MINIMUM LENGTH OF 4' FEET. DOUBLE POSTS ARE REQUIRED AT BOTH ENDS OF EACH PIECE OF SILT FENCE AND AT SPLICES.
- D. EXCAVATE A TRENCH A MINIMUM OF 6" DEEP BY 6" WIDE ALONG THE UPHILL SIDE OF THE POSTS. ALTERNATIVELY, A 12" DEEP STATIC SLICE IS ALLOWED.
- E. OPTIONAL WIRE FENCE REINFORCEMENT IS TYPICALLY 14 GAUGE OR MORE WITH A MAXIMUM MESH SPACING OF 6 INCHES, FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY-DUTY WIRE STAPLES AT LEAST 1 INCH LONG, TIE WIRES, OR HOG RINGS. THE WIRE REINFORCEMENT SHOULD ALSO EXTEND 6" INTO THE TRENCH.
- F. THE FILTER FABRIC SHOULD BE STAPLED OR WIRED TO THE FENCE AND POSTS, AND 12 INCHES OR MORE OF THE FABRIC SHOULD EXTEND INTO THE TRENCH. THE WIRE REINFORCEMENT (IF USED) AND FILTER FABRIC SHOULD BE STRETCHED TIGHTLY WHILE ATTACHING THEM.
- G. EMBED THE FILTER FABRIC 12" MINIMUM INTO THE TRENCH AND BACKFILL WITH CLEAN EARTH, FREE OF ROCKS AND ORGANIC MATTER, AND COMPACTED WITH OPTIMUM MOISTURE BY WHEEL ROLLING, TAMPING, OR OTHER SIMILAR MEANS. THE FINISHED GRADE SHOULD BE THE SAME ON BOTH SIDES OF THE FENCE, AND THE DEPTH OF EMBEDMENT SHOULD BE MEASURED FROM THE LOWEST GRADE ADJACENT TO THE FENCE. SUBSTITUTIONS INSTEAD OF EMBEDMENT, LIKE WATTLES, ARE NOT ALLOWED.
- H. THE HEIGHT OF A STORMWATER SILT FENCE SHALL BE A MINIMUM OF 24 INCHES ABOVE THE HIGHEST GROUND SURFACE ADJACENT TO THE FENCE. ADDITIONAL HEIGHT (30" MIN.) IS REQUIRED TO SATISFY THE ALBUQUERQUE-BERNALILLO COUNTY AIR QUALITY PROGRAM.
- I. THE FILTER FABRIC MAY BE ATTACHED TO A CHAIN LINK FENCE CONSTRUCTED IN ACCORDANCE WITH COA STD DWG 2252 INSTEAD OF THE ABOVE-SPECIFIED WIRE FENCE REINFORCEMENT AND POSTS, PROVIDED THAT CHAIN LINK REINFORCEMENT AND FILTER FABRIC ARE EMBEDDED AS SPECIFIED ABOVE.



6. MAINTENANCE:

- A. SELF-INSPECTION IS REQUIRED BY A CERTIFIED INSPECTOR EVERY 14 DAYS AND IMMEDIATELY AFTER EACH RAINFALL OF ¼" OR MORE, AND AT LEAST DAILY DURING PROLONGED RAINFALL.
- B. INSPECTION CHECKLIST
- i. DOES THE SILT FENCE FOLLOW A CONTOUR?
 - ii. ARE THE ENDS OF THE SILT FENCE TURNED UPHILL FOR THE LAST 12" VERTICALLY?
 - iii. IS THE HEIGHT OF THE SILT FENCE 24" OR MORE ABOVE GROUND?
 - iv. IS THE COLOR BAND EMBEDDED 6" OR MORE?
 - v. IS THE SILT FENCE SECURE TO THE WIRE FENCE REINFORCEMENT OR THE STAKES?
 - vi. HAS SEDIMENT ACCUMULATED BEHIND THE FENCE BY MORE THAN 1/2 THE HEIGHT OF THE FENCE? IF YES, THEN CLEAR IT.
 - vii. DOES ANY 100-FOOT OF SILT FENCE SERVE MORE THAN 25,000 SQUARE FEET (ABOUT 1/2 ACRE) OF EXPOSED AREA?
 - viii. IS THERE ANY INDICATION OF WASH AROUND OR UNDER WASH? IF YES, THEN RESET THE FENCE AND DETERMINE IF IT IS OVERLOADED (I.E., ANOTHER FENCE SHOULD BE INSTALLED UPSTREAM).
- C. REPAIRS MUST BE COMPLETED WITHIN 24 HOURS OF FINDING THE DEFECT. DEFECTS TYPICALLY INCLUDE LOOSE POSTS OR ATTACHMENTS TO POSTS OR WIRE REINFORCEMENT. SOMETIMES REPAIRS INCLUDE TRENCHING AND EMBEDMENT. CORRECTIVE ACTIONS MUST BE COMPLETED WITHIN 7 DAYS OF DETECTING THE DEFECT.
- D. CORRECTIVE ACTIONS INCLUDE RESETTING THE EXISTING FENCE OR REPLACING THE SECTION WHERE THE FILTER FABRIC HAS BEEN TORN OR WORN OUT. HOLES IN THE FILTER FABRIC REQUIRE REMOVAL AND REPLACEMENT WITH DOUBLE POSTS ON BOTH REPLACEMENT ENDS. PATCHES ARE NOT ADEQUATE REPAIRS OF HOLES. SHOULD THE FABRIC ON A SILT FENCE DECOMPOSE OR BECOME INEFFECTIVE BEFORE THE END OF THE EXPECTED USABLE LIFE, AND THE BARRIER IS STILL NECESSARY, THE FABRIC SHALL BE REPLACED.
- E. EITHER REMOVE SEDIMENT DEPOSITS WHEN THE DEPOSIT REACHES HALF THE HEIGHT OF THE FENCE OR INSTALL A SECOND SILT FENCE AS DIRECTED BY THE PE/CPESC
- F. THE SILT FENCE SHALL REMAIN IN PLACE UNTIL THE PE/CPESC DIRECTS IT BE REMOVED. UPON REMOVAL, THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ANY EXCESS SEDIMENT ACCUMULATIONS, DRESS THE AREA TO GIVE IT A PLEASING APPEARANCE, AND VEGETATE ALL BARE AREAS PER CONTRACT REQUIREMENTS.
- G. CLOSE ATTENTION SHALL BE PAID TO THE REPAIR OF DAMAGED SILT FENCES RESULTING FROM END RUNS AND UNDERCUTTING.

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CUTBACK CURB (CBC)

1. **DESCRIPTION & PURPOSE:**
IT IS A TEMPORARY POND IN THE LOCATION OF THE FUTURE SIDEWALK ON THE LOW SIDE OF A GRADED LOT IN A NEWLY PLATTED SUBDIVISION. CUTBACK CURBS (CBCS) ARE CONSTRUCTED BEHIND THE CURB. THE PRIMARY PURPOSE OF CBCS IS TO REMOVE SEDIMENT BEFORE IT ENTERS THE STREET, THUS KEEPING IT OUT OF THE CITY’S MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4). CHECK DAMS ARE USED IN CONJUNCTION WITH THE CBCS TO DIVERT OVERFLOW INTO THE STREET AND PREVENT CROSLOT DRAINAGE.
2. **PRIMARY USE:** CUTBACK CURB (CBC) IS USED IN SUBDIVISIONS WHERE SIDEWALK CONSTRUCTION HAS BEEN DEFERRED FROM WORK ORDER (WO) CONSTRUCTION TO BUILDING PERMIT (BP) CONSTRUCTION. CBC IS CONSTRUCTED AFTER THE STREETS ARE PAVED AND BEFORE ANY HOUSES ARE OCCUPIED IN THE SUBDIVISION.
3. **DESIGN SPECIFICATIONS:**

A. CBC IS GENERALLY FOR SINGLE-FAMILY RESIDENTIAL LOTS, BUT MAY BE USED FOR SMALL COMMERCIAL LOTS, PROVIDED THAT THE LOT DEPTH DRAINING TO THE CBC DOESN’T EXCEED 150’.

B. CBC MUST BE INSTALLED IN NEW SUBDIVISIONS BEFORE ANY BUILDINGS ARE OCCUPIED TO PREVENT SEDIMENTATION ON THE ON-SITE STREETS.

C. THERE ISN’T ROOM TO CONSTRUCT A CBC WHERE THE SIDEWALK HAS ALREADY BEEN CONSTRUCTED, SO USE ANOTHER PERIMETER CONTROL AS NECESSARY TO KEEP SEDIMENT OUT OF THE STREET.

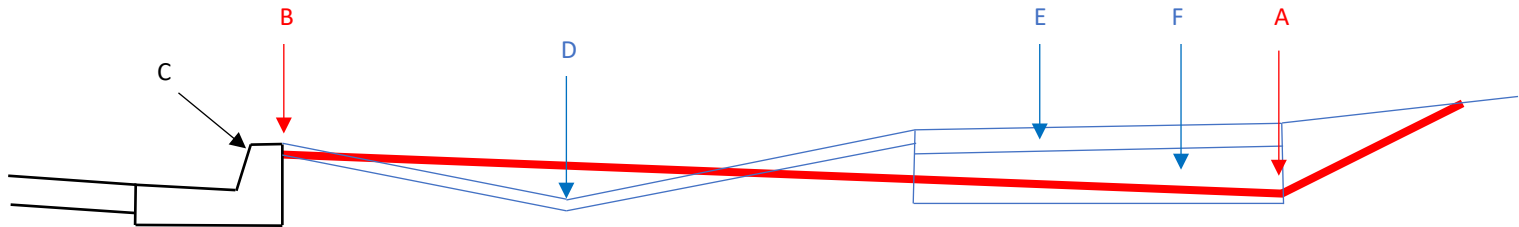
D. CBCS MAY BE GRADED BEFORE THE STREET IS PAVED, BUT SINCE THEIR PURPOSE IS TO KEEP SEDIMENT OUT OF THE STREET, THEY WON’T BE OPERATIONAL UNTIL AFTER THE STREET IS PAVED.

E. CHECK DAMS ARE REQUIRED AT THE DOWNSTREAM EDGE OF EACH LOT WITHIN A CBC TO FORCE THE OVERFLOW BACK INTO THE STREET AND PREVENT IT FROM DRAINING INTO THE NEXT LOT. THE TOP ELEVATION OF THE TEMPORARY CHECK DAMS MUST BE A MINIMUM OF 3” ABOVE THE TOP OF CURB. MAXIMUM FALL ALONG THE STREET BETWEEN CHECK DAMS IS 10”. IF THE FALL ALONG THE STREET EXCEEDS 10” BETWEEN CHECK DAMS, ADDITIONAL CHECK DAMS MUST BE PROVIDED, SO THE FALL DOESN’T EXCEED 10”. SHOW EACH CHECK DAM ON THE ESC PLAN.

F. COMPACTION 1 FOOT BEHIND THE CURB MUST STILL BE ACCOMPLISHED PER COA DWG 2415

4. KEYED NOTES - CONSTRUCTION SPECIFICATIONS:

- A. THE TEMPORARY GRADE AT THE PROPERTY LINE IS AT LEAST 10” BELOW THE TOP OF CURB ELEVATION.
- B. THE TEMPORARY GRADE BEHIND THE CURB IS AT LEAST 2” BELOW THE TOP OF CURB ELEVATION. IF THE CURB HAS BEEN CUT, THE GRADE WILL BE AT LEAST 2” BELOW THE CUT GRADE.
- C. THE C&G AND PAVING CONSTRUCTION MUST BE COMPLETE BEFORE THE CBC BECOMES OPERATIONAL.
- D. FUTURE “LANDSCAPE SWALE” PER DWG 2414
- E. 4” THICK SIDEWALK CONSTRUCTION DEFERRED UNTIL COMPLETION OF THE HOUSE PER DWG 2414
- F. 12” THICK COMPACTED SUBGRADE PER DWG 2414



5. **MAINTENANCE SPECIFICATIONS**

A. SELF-INSPECTION IS REQUIRED BY A CERTIFIED INSPECTOR EVERY 14 DAYS AND IMMEDIATELY AFTER EACH RAINFALL OF ¼” OR MORE, AND AT LEAST DAILY DURING PROLONGED RAINFALL.

B. REMOVE SEDIMENT DEPOSITS WHEN THE DEPOSIT REACHES HALF THE REQUIRED DEPTH.

C. REPAIRS MUST BE COMPLETED WITHIN 24 HOURS OF FINDING THE DEFECT. DEFECTS TYPICALLY INCLUDE EROSION DUE TO INADEQUATE CHECK DAMS, CHECK DAMS NOT TALL ENOUGH TO DIVERT OVERFLOW INTO THE STREET, ERODED OR BYPASSED CHECK DAMS DUE TO OVERTOPPING OR FLANKING, TOO MUCH FALL BETWEEN CHECK DAMS (10” MAXIMUM).

D. CORRECTIVE ACTIONS INCLUDE REEXCAVATING THE CBC TO DESIGN DEPTH AND RESETTING THE CHECK DAMS.

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CONSTRUCTION EXIT (CE) & TRACK-OUT CONTROL

1. DESCRIPTION & PURPOSE:

CONSTRUCTION EXITS HELP REDUCE OR ELIMINATE SEDIMENT THAT LEAVES THE CONSTRUCTION SITE AND GETS ONTO THE PUBLIC RIGHT-OF-WAY. THIS IS DONE BY CONTROLLING RUNOFF AND CLEANING MUD FROM VEHICLES AND TIRES. A CE IS A STABILIZED SURFACE BUILT USING LARGE STONE PLACED ON A FILTER FABRIC PLUS A SHAKING OR WASHING MECHANISM TO REMOVE MUD FROM VEHICLE TIRES BEFORE TRAFFIC LEAVES A CONSTRUCTION SITE ONTO A PUBLIC RIGHT-OF-WAY, STREET, ALLEY, SIDEWALK, OR PARKING LOT. SELECTING THE PROPER LOCATION FOR VEHICLE EXITS FROM THE CONSTRUCTION SITE AND ENSURING IT IS PROTECTED FROM DRAINAGE ORIGINATING FROM LAND-DISTURBING ACTIVITIES IS A KEY ELEMENT OF THIS BEST MANAGEMENT PRACTICE (BMP). BESIDES ENVIRONMENTAL CONCERNS, SEDIMENT ON PUBLIC ROADS ALSO CREATES A TRAFFIC HAZARD. PUBLIC ROADS SHOULD BE KEPT CLEAR OF ANY SEDIMENT. ANY TRACKING SHOULD BE SWEEPED DAILY BEFORE AFTERNOON TRAFFIC. SPECIAL ATTENTION SHOULD BE PAID TO CONSTRUCTION EXITS NEAR WATER BODIES.

2. CONDITIONS WHERE PRACTICE APPLIES:

THIS PRACTICE IS APPLIED ANYWHERE CONSTRUCTION TRAFFIC LEAVES OR ENTERS A CONSTRUCTION SITE.

3. DESIGN CONSIDERATIONS:

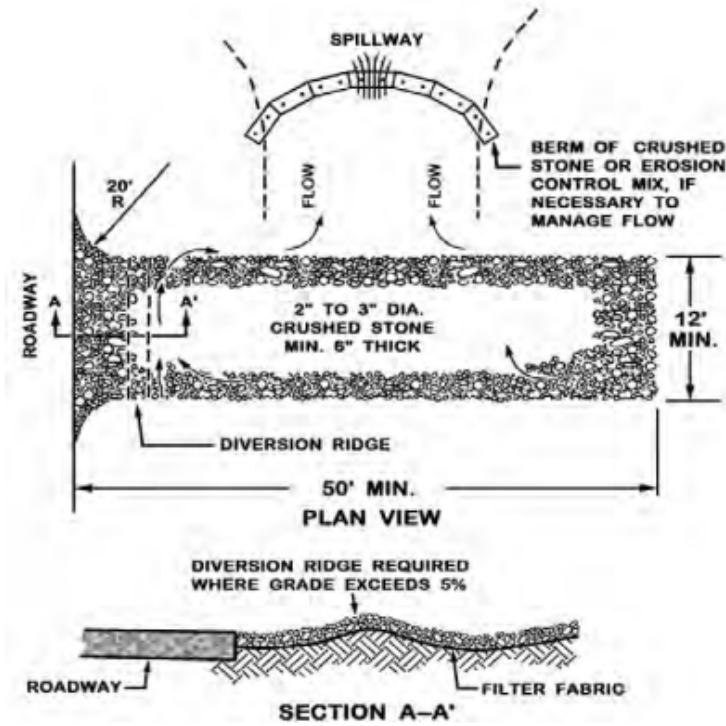
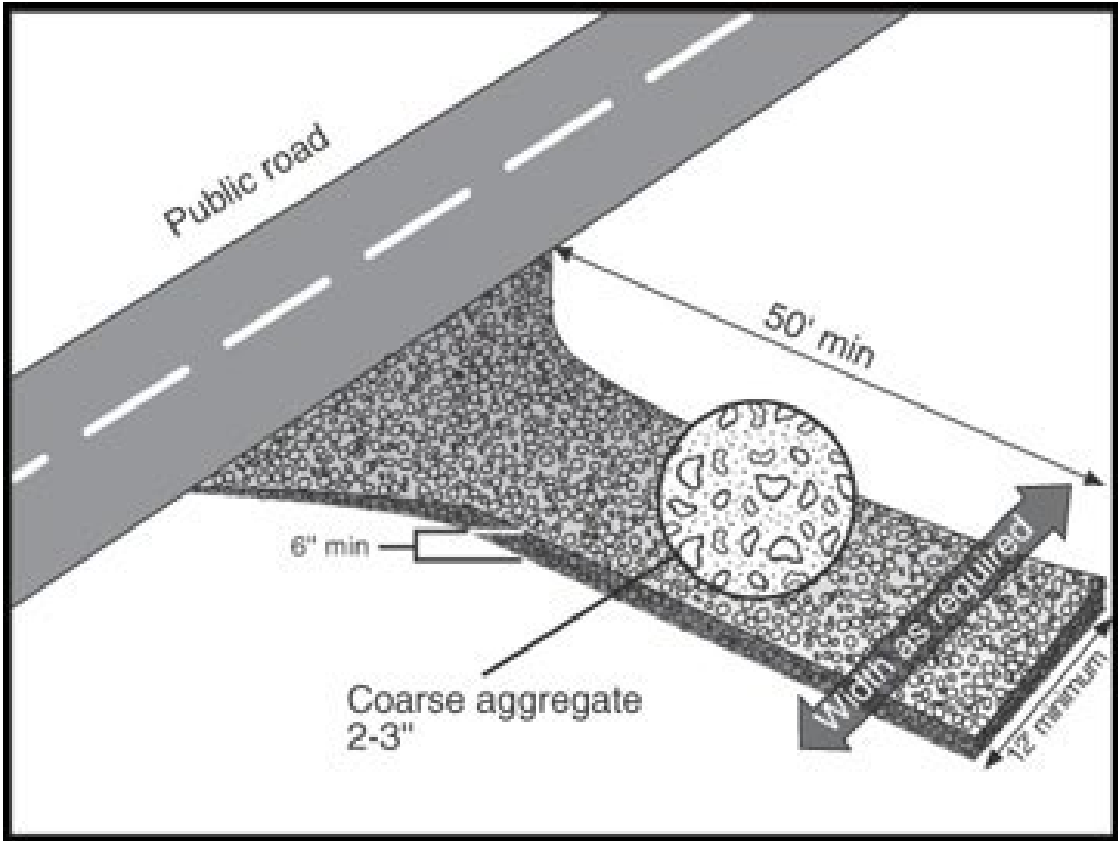
- A. LOCATE THE CONSTRUCTION EXIT UPSLOPE FROM THE DISTURBED AREA WHENEVER POSSIBLE. IF THE ONLY ACCESS TO THE SITE IS FROM ROADS DOWNSLOPE, PLACE THE CONSTRUCTION EXIT AT THE HIGHEST POINT ALONG THAT FRONTAGE AND INCLUDE CONTROLS AS NEEDED TO PREVENT RUNOFF FROM THE DISTURBED SITE FROM DRAINING INTO THE CONSTRUCTION EXIT.
- B. THE CE MUST INCLUDE SPECIFICATIONS FOR ADDITIONAL TRACK-OUT CONTROLS SUCH AS WHEEL WASHING, RUMBLE STRIPS, AND RATTLE PLATES, AS NEEDED TO ENSURE SEDIMENT REMOVAL OCCURS BEFORE VEHICLE EXIT. SHAKER RACKS WORK BY REMOVING MUD OR SOIL FROM VEHICLE TIRES THROUGH BOUNCING OR SHAKING AS THE VEHICLE DRIVES OVER THE RACK. TRACK-OUT CONTROL MATS, MADE OF ROWS OF STAGGERED PYRAMIDS, DEFORM TIRES AS VEHICLES PASS OVER, EFFECTIVELY DISLODGING SEDIMENT, STONES, AND DEBRIS WITHOUT DAMAGING THE TIRES. THE DEBRIS COLLECTS AT THE BASE OF EACH MAT AND WILL NOT CONTACT SUBSEQUENT VEHICLES' TIRES. SIMILARLY, THE SIZE OF THE ROCK IN THE CE CAN BE INCREASED FROM THE NORMAL SIZE—1" TO 3"—TO A LARGER SIZE—3" TO 6"—TO HELP DISLODGE SEDIMENT FROM TIRES.
- C. MANAGE CONSTRUCTION WATER. SHOW THE LOCATION OF THE WATER SOURCE USED FOR FILLING WATER TRUCKS AND WASHING MUD AND DIRT FROM VEHICLES, AND INDICATE AN ON-SITE SPOT WHERE WATER TRUCKS WILL BE FILLED.

- D. PREVENT UNNECESSARY VEHICLES FROM ENTERING THE DISTURBED PORTION OF THE SITE. SHOW STABILIZED EMPLOYEE AND VISITOR PARKING AREAS ON THE ESC PLAN.
- E. DRAINAGE FROM THE CONSTRUCTION EXIT MUST BE DIRECTED AWAY FROM THE CONNECTING PAVEMENT. IT MUST FLOW INTO THE SITE OR AN APPROPRIATELY SIZED SEDIMENT TRAP. A SEDIMENT TRAP IS REQUIRED TO CAPTURE VEHICLE WASH WATER.
- F. TEMPORARY ACCESS RAMPS OVER THE CURB ARE COMMONLY MADE OF METAL, RUBBER, OR WOOD, BUT DIRT RAMPS ARE NOT ALLOWED.
- G. IF A CONSTRUCTION SITE ENTRANCE OR EXIT CROSSES A STREAM, SWALE, OR OTHER DEPRESSION, INSTALL A BRIDGE OR CULVERT TO PREVENT EROSION OF UNPROTECTED BANKS.
- H. ACCESS CONTROLS SHOULD LIMIT ACCESS FROM THE SIDES AND DIRECT TRAFFIC TO TRAVEL THE FULL LENGTH OF THE CE. EXITING VEHICLES SHOULD NOT BE ABLE TO GO AROUND THE CONSTRUCTION EXIT.

4. CONSTRUCTION SPECIFICATIONS:

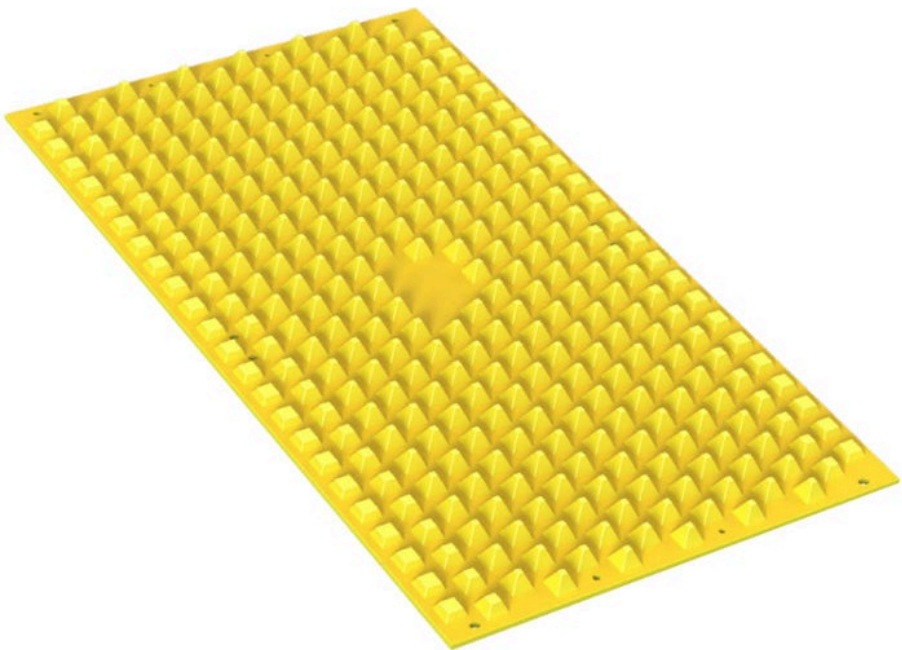
- A. THE CONSTRUCTION EXIT MUST BE BUILT AT THE LOCATION SPECIFIED ON THE ESC PLAN BEFORE STARTING LAND DISTURBING ACTIVITIES. IF THE LOCATION ON THE ESC PLAN CHANGES, A REVISED PLAN MUST BE SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL.
- B. THE LENGTH OF THE CONSTRUCTION EXIT MUST BE AT LEAST 50 FEET, AND THE WIDTH MUST BE AT LEAST 12 FEET FOR EXIT ONLY AND AT LEAST 24 FEET FOR TWO-WAY TRAFFIC. TURNING RADII MUST BE SUFFICIENT TO ACCOMMODATE ALL EXITING VEHICLES, 20' MINIMUM FOR WATER AND DUMP TRUCKS, 30' MINIMUM FOR TRACTOR-TRAILERS.
- C. ADD CURB RAMPS. DO NOT PLACE DIRT IN THE STREET. TYPICAL RAMP MATERIALS INCLUDE TIMBER, RUBBER, AND METAL. THEY MUST NOT CREATE A TRAFFIC HAZARD THAT DISRUPTS NORMAL TRAFFIC OR DAMAGES VEHICLES. GENERALLY, THEY SHOULD NOT EXTEND PAST THE CONCRETE GUTTER. RAMPS MUST BE REMOVED AT THE END OF CONSTRUCTION, AND ANY DAMAGED CURB REPAIRED.

- D. PREPARE THE SUBGRADE BY REMOVING VEGETATION AND TOPSOIL, THEN GRADE THE AREA SO IT DRAINS AWAY FROM THE STREET.
- E. INSTALL SEPARATION GEOTEXTILE, CLASS 1, WITH A MINIMUM GRAB TENSILE STRENGTH OF 220 LBS, 220% MINIMUM ELONGATION AT FAILURE PER ASTM D1682, A MULLEN BURST STRENGTH OF 430 LBS PER ASTM D3786, A PUNCTURE STRENGTH OF 125 LBS PER ASTM D751 (MODIFIED), AND AN EQUIVALENT OPENING SIZE OF 40-80 MM U.S. STD SIEVE.
- F. INSTALL A 6-INCH LAYER OF SINGLE-GRADE 3-INCH CRUSHED AGGREGATE ON TOP OF THE SEPARATION GEOTEXTILE TO STABILIZE CONSTRUCTION EXITS. IT SHOULD BE CLEAN, HARD, DURABLE, AND FREE FROM ADHERENT COATINGS, SALT, ALKALI, DIRT, CLAY, LOAM, SHALE, SOFT OR FLAKY MATERIALS, OR ORGANIC AND HARMFUL MATTER. THE ROCK SHOULD BE WELL-DRAINED, WITH 35% OR MORE VOIDS.
- G. IF THE CE CAN'T BE LOCATED DOWNHILL FROM THE PAVED STREET, THEN PREVENT DRAINAGE INTO THE STREET BY ADDING A MOUNTABLE ROCK BERM NEXT TO THE STREET TO DIVERT DRAINAGE TO AN ON-SITE SEDIMENT TRAP.



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- H. PROVIDE ONE OR MORE TYPES OF ADDITIONAL TRACK-OUT CONTROL. ADDITIONAL TRACK-OUT CONTROL CAN BE INCLUDED IN THE 50-FOOT MINIMUM REQUIRED LENGTH OF THE CE AND SHOULD BE POSITIONED AT THE OPPOSITE END FROM THE STREET. IT MUST EXTEND ACROSS THE FULL WIDTH OF THE CE TO PREVENT TRAFFIC FROM BYPASSING THE CONTROL AND SHOULD BE LONG ENOUGH TO REMOVE SEDIMENT, STONES, AND DEBRIS BEFORE REACHING THE REST OF THE CE OR THE STREET. COMMON TYPES OF ADDITIONAL TRACKOUT CONTROL INCLUDE:
- i. USE A LARGER STONE BY REPLACING THE 3-INCH AGGREGATE WITH A 10-INCH-THICK LAYER OF 6-INCH SINGLE-GRADE ROCK PLACED INDIVIDUALLY. DO THIS FOR PART OF THE LENGTH OF THE CE AS NEEDED TO REMOVE SEDIMENT BEFORE REACHING THE REST OF THE CE OR THE STREET.
 - ii. SHAKER RACKS REMOVE MUD OR SOIL FROM VEHICLE TIRES BY BOUNCING OR SHAKING AS THE VEHICLE DRIVES OVER THEM.
 - iii. FOREIGN OBJECT DEBRIS SYSTEM (FODS) TRACKOUT CONTROL MATS, MADE OF ROWS OF STAGGERED PYRAMIDS, DEFORM TIRES AS VEHICLES PASS OVER, EFFECTIVELY DISLODGING SEDIMENT, STONES, AND DEBRIS WITHOUT DAMAGING THE TIRES. THE DEBRIS COLLECTS AT THE BASE OF EACH MAT AND WILL NOT CONTACT SUBSEQUENT VEHICLES' TIRES.



INSTALL FODS ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS. FODS TRACKOUT CONTROL MATS CAN BE USED WITH A STABILIZED CE OR ALONE, AS LONG AS THEY CAN ACCOMMODATE THE TURNING MOVEMENTS OF THE LARGEST VEHICLES EXITING THE SITE.



- iv. WHEEL WASH - PRESSURE WASHING DIRT OFF VEHICLE WHEELS CAN BE VERY EFFECTIVE. WHEEL WASH WASTEWATER IS PROCESS WATER, NOT STORMWATER. IT MUST BE DISCHARGED TO A SEPARATE ON-SITE TREATMENT SYSTEM THAT PREVENTS ITS RELEASE FROM THE SITE.



5. **OPERATION, INSPECTION, AND MAINTENANCE SPECIFICATIONS**
- A. RESTRICT VEHICLE USE TO PROPERLY DESIGNATED EXIT POINTS.
 - B. PREVENT VEHICLES FROM LEAVING THE SITE DURING WET PERIODS.
 - C. INSPECT AND REMOVE SEDIMENT DAILY FROM NEARBY PAVED AREAS WHENEVER IT LEAVES YOUR SITE, WHETHER TRACKED OUT BY VEHICLES, BLOWN AWAY BY WIND, OR MOVED BY OTHER CONSTRUCTION ACTIVITIES. ENSURE REMOVAL OCCURS BY THE END OF THE SAME BUSINESS DAY WHEN THE SEDIMENT DISCHARGE HAPPENS, OR BY THE NEXT BUSINESS DAY IF IT OCCURS ON A NON-BUSINESS DAY. USE SWEEPING, SHOVELING, VACUUMING, OR SIMILAR EFFECTIVE METHODS FOR SEDIMENT REMOVAL. DO NOT SPRAY OR HOSE SEDIMENT ON SURFACES THAT DRAIN INTO NATURAL DRAINAGE FEATURES, STORM DRAINS, OR RECEIVING WATERS.
 - D. MANAGE WATER TRUCK ACTIVITY
 - i. DON'T WATER ALL PATHS LEADING TO THE CE AT ONCE. LEAVE A CLEAR PATH FOR VEHICLES TO EXIT WITHOUT DRIVING THROUGH MUD.
 - ii. PROVIDE AN ON-SITE LOCATION FOR FILLING WATER TRUCKS WHERE POSSIBLE.
 - iii. DO NOT SPRAY WATER ON OFF-SITE PAVED SURFACES THAT DRAIN TO A NATURAL DRAINAGE FEATURE, STORM DRAIN INLET, OR RECEIVING WATER

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COMPOST FILTER SOCK (CFS)

1. DESCRIPTION & PURPOSE:

A COMPOST FILTER SOCK IS A MESH TUBE FILLED WITH COMPOST STAKED ON CONTOUR TO CREATE TEMPORARY PONDING TO FACILITATE THE DEPOSITION OF SUSPENDED SOLIDS AND FILTER POLLUTANTS FROM SHEET FLOW. THE COMPOST FILTER SOCK IS OFTEN MORE EFFECTIVE AND CAN REPLACE TRADITIONAL EROSION AND SEDIMENT CONTROL PRACTICES, SUCH AS A SILT FENCE OR STRAW BALE BARRIER. COMPOST FILTER SOCKS HAVE MORE SURFACE AREA CONTACT WITH THE UNDERLYING SOIL THAN TYPICAL SEDIMENT CONTROL DEVICES, SO STORMWATER IS LESS LIKELY TO CREATE RILLS UNDER THEM AND/OR CHANNELS CARRYING UNFILTERED SEDIMENT. THE GREATER CONTACT AREA AND WEIGHT OF COMPOST FILTER SOCKS ALSO ALLOW WATER TO POND AND ALLOW SUSPENDED SEDIMENTS TO SETTLE OUT. COMPOST FILTER SOCKS ALSO FILTER HEAVY METALS, POLLUTANTS, AND OIL FROM STORMWATER WHEN SOCKS ARE FILLED WITH ADSORBENT MEDIA.

2. CONDITION WHERE PRACTICE APPLIES: COMPOST FILTER SOCKS CAN BE USED IN MANY CONSTRUCTION SITE APPLICATIONS WHERE EROSION WILL OCCUR IN THE FORM OF SHEET EROSION, AND THERE IS NO CONCENTRATION OF WATER FLOWING TO THE SOCK. IN AREAS WITH STEEP SLOPES AND/OR ROCKY TERRAIN, SOIL CONDITIONS MUST MAINTAIN GOOD CONTINUOUS CONTACT BETWEEN THE SOCK AND THE SOIL THROUGHOUT ITS LENGTH. FOR USE ON IMPERVIOUS SURFACES SUCH AS ROAD PAVEMENT OR PARKING AREAS, PROPER ANCHORAGE MUST BE PROVIDED TO PREVENT SHIFTING OF THE SOCK OR SEPARATION OF THE CONTACT BETWEEN THE SOCK AND THE PAVEMENT. COMPOST FILTER SOCKS ARE UTILIZED BOTH AT THE SITE PERIMETER AND WITHIN THE CONSTRUCTION AREAS. THESE SOCKS MAY BE FILLED AFTER PLACEMENT BY BLOWING COMPOST INTO THE TUBE PNEUMATICALLY, OR FILLED AT A STAGING LOCATION AND MOVED INTO THEIR DESIGNED LOCATION. UPON COMPLETION OF CONSTRUCTION, COMPOST FILTER SOCKS CAN BE CUT OPEN TO SPREAD THE COMPOST AROUND THE SITE AS SOIL AMENDMENT OR MULCH. THEY THEN DISPOSE OF THE MESH SOCK UNLESS IT IS BIODEGRADABLE.

3. DESIGN SPECIFICATIONS:

- A. COMPOST FILTER SOCKS WILL BE PLACED ON THE CONTOUR WITH BOTH TERMINAL ENDS OF THE SOCK EXTENDED 8 FEET UPSLOPE AT A 45 DEGREE ANGLE TO PREVENT BYPASS FLOW.
- B. DIAMETERS DESIGNED FOR USE SHALL BE 12” – 32” EXCEPT THAT 8” DIAMETER SOCKS MAY BE USED FOR RESIDENTIAL LOTS TO CONTROL AREAS LESS THAN 0.25 ACRES.
- C. THE FLAT DIMENSION OF THE SOCK SHALL BE AT LEAST 1.5 TIMES THE NOMINAL DIAMETER.

- D. THE MAXIMUM SLOPE LENGTH (IN FEET) ABOVE A COMPOST FILTER SOCK SHALL NOT EXCEED THE FOLLOWING LIMITS:

DIAM. (IN)	SLOPE (%)						
	2	5	10	20	25	33	50
8	225	200	100	50	20		
12	250	225	125	65	50	40	25
18	275	250	150	70	55	45	30
25	350	275	200	130	100	60	35
32	450	325	275	150	120	75	50

8” CFS ARE FOR SINGLE FAMILY RESIDENTIAL USE ONLY.

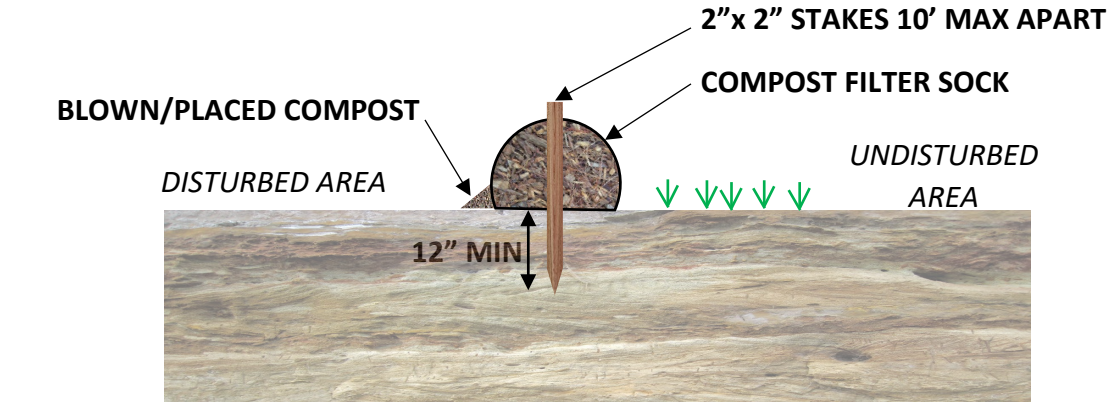
4. CONSTRUCTION SPECIFICATIONS:

- A. THE ADVANTAGE OF COMPOST FILTER SOCKS OVER SIMILAR STORMWATER CONTROLS IS THAT THEY DO NOT REQUIRE TRENCHING; THEREFORE, INSTALLING THEM DOES NOT DISTURB THE SOIL. HOWEVER, TRIM OR REMOVE VEGETATION AND DEBRIS TO ENSURE FULL CONTACT WITH THE GROUND SURFACE.
- B. THE COMPOST FILTER SOCK SHOULD BE ANCHORED WITH 2” X 2” HARDWOOD STAKES DRIVEN THROUGH THE MIDDLE OF THE SOCK TO 12” MINIMUM INTO THE GROUND WITH NOT MORE THAN 10’ BETWEEN STAKES. ON UNEVEN TERRAIN, EFFECTIVE GROUND CONTACT CAN BE ENHANCED BY THE PLACEMENT OF A FILLET OF COMPOST MEDIA ON THE DISTURBED AREA SIDE OF THE COMPOST
- C. SOCK.MATERIALS: THE COMPOST FILTER SOCK IS TYPICALLY MADE OF HIGH-DENSITY POLYETHYLENE (HDPE) OR BIODEGRADABLE PLASTIC FILAMENT MESH TUBES FILLED WITH COMPOST.
- D. SOCKS MUST BE FILLED WITH COMPOST MATERIAL CONFORMING TO CITY STANDARD SPECIFICATION 1005.2.4.B, LATEST EDITION, OR APPROVED EQUAL. SOCKS FILLED WITH STRAW OR WOODCHIPS ARE NOT ACCEPTABLE STORMWATER CONTROLS IN ALBUQUERQUE. COMPOST MATERIAL IS SPECIFIED AS FOLLOWS: ORGANIC MATTER SHALL CONSIST OF ORGANIC CARBON SOURCES SUCH AS STRAW, HAY, BARK, SAWDUST, OR WOOD SHAVINGS, AND NITROGEN SOURCES SUCH AS MANURE, BLOOD MEAL, OR CHEMICAL FERTILIZERS. NITROGEN SOURCES MUST BE ADDED BEFORE COMPOSTING. THIS MIXTURE SHALL BE AEROBICALLY COMPOSTED AT TEMPERATURES BETWEEN 120°F AND 160°F FOR AT LEAST 15 DAYS, WITH AN ADDITIONAL CURING PERIOD OF NO LESS THAN 3 MONTHS. WEED SEEDS MUST BE DESTROYED DURING COMPOSTING. FINISHED COMPOST WILL BE SCREENED TO ENSURE LESS THAN 2% REMAINS ON A 1/2-INCH SCREEN. THE CARBON-TO-NITROGEN RATIO OF ORGANIC MATTER SHALL BE LESS THAN 50 PARTS CARBON TO ONE PART NITROGEN.
- E. ALL SPECIFIC CONSTRUCTION DETAILS AND MATERIAL SPECIFICATIONS SHALL APPEAR ON THE EROSION AND SEDIMENT CONTROL (ESC) PLAN WHEN COMPOST FILTER SOCKS ARE INCLUDED IN THE PLAN.

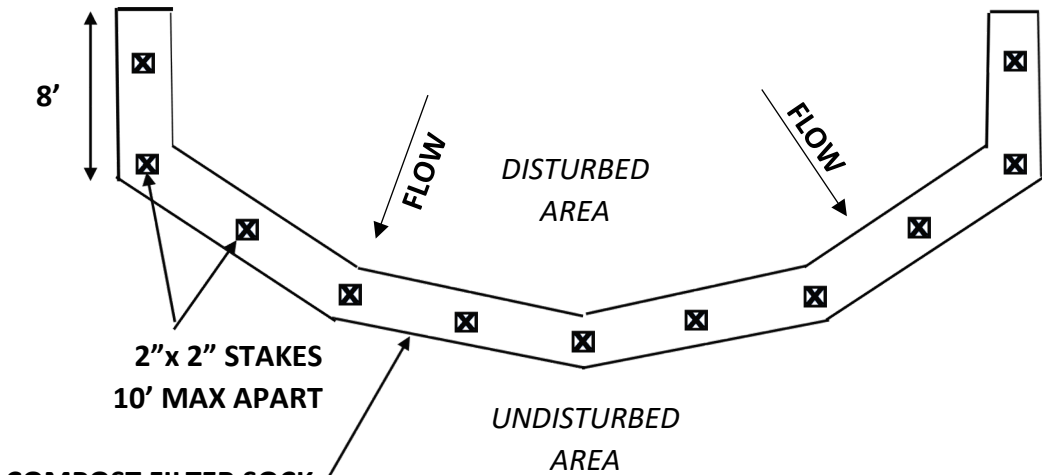
5. MAINTENANCE

- A. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE HEIGHT OF THE SOCK ABOVE GROUND AND DISPOSED OF ACCORDING TO THE PLAN.
- B. SOCKS SHALL BE INSPECTED EVERY 14 DAYS AND AFTER EACH RAIN EVENT OF ¼” OR MORE. DAMAGED SOCKS SHALL BE REPAIRED AS REQUIRED BY THE MANUFACTURER OR REPLACED WITHIN 24 HOURS OF INSPECTION NOTIFICATION.
- C. UNDERCUTTING MUST BE PREVENTED BY ADDING STAKES, COMPOST, AND ADDITIONAL CFS. CFS IS NOT APPROPRIATE FOR CONCENTRATED DISCHARGE POINTS AND SHOULD BE REPLACED WITH A SEDIMENT TRAP WHERE REPETITIVE UNDERCUTTING OR OVERTOPPING OCCURS.

- D. BIODEGRADABLE SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED BASED ON THE MANUFACTURER’S RECOMMENDATIONS.
- E. STAKES SHALL BE REMOVED ONCE THE CONTRIBUTING AREA TO THE SOCK IS STABILIZED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED ACCORDING TO THE STABILIZATION PLAN. THE MESH CAN BE CUT FOR REMOVAL, AND THE COMPOST SPREAD AS ADDITIONAL MULCH TO SERVE AS A SOIL AMENDMENT.
- F. TRAFFIC SHALL NOT BE ALLOWED TO CROSS CFS.



SECTION VIEW



COMPOST FILTER SOCK ON CONTOUR
PLAN VIEW

REVISIONS	CITY OF ALBUQUERQUE
Draft 7/29/2025	CONSTRUCTION STORMWATER QUALITY COMPOST FILTER SOCK (CFS)
	SHEET 1 OF 1

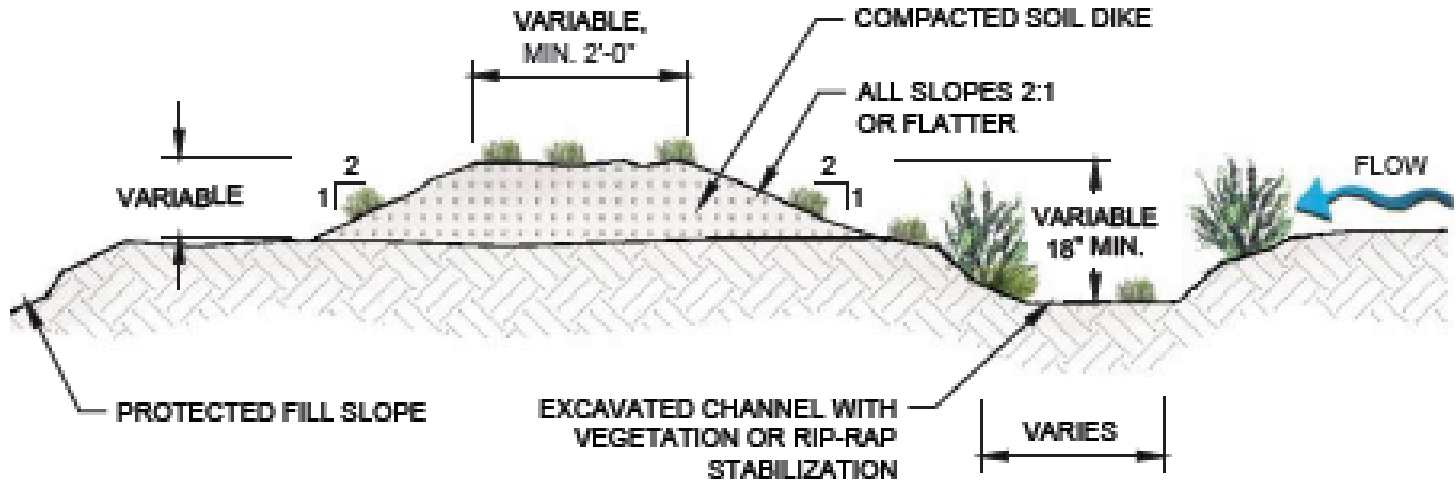
TEMPORARY DIVERSION CHANNEL (DC)

1. **DESCRIPTION:**
A TEMPORARY DIVERSION CHANNEL (DC) IS A COMPACTED EARTHEN PERIMETER CONTROL CONSISTING OF A COMPACTED DIKE OR A COMBINATION OF A CHANNEL AND A DIKE, WITH A VEGETATED OR RIP-RAP LINING. IT IS BUILT ALONG THE PERIMETER AND WITHIN THE DISTURBED AREA OF A SITE, EITHER AT THE TOP OR BASE OF A SLOPING DISTURBED ZONE. DIKES ARE ALSO KNOWN AS BERMS, AND CHANNELS ARE REFERRED TO AS DITCHES OR SWALES.

2. **PURPOSE:**
TEMPORARY DIVERSION CHANNELS ARE CONSTRUCTED TO CONTROL THE VELOCITY OR ROUTE (OR BOTH) OF SEDIMENT-LADEN STORMWATER RUNOFF.
WHEN ON THE UPSLOPE SIDE OF A SITE, A TEMPORARY DIVERSION CHANNEL HELPS PREVENT SURFACE RUNOFF FROM ENTERING A DISTURBED CONSTRUCTION AREA, THEREBY IMPROVING WORKING CONDITIONS BY PREVENTING AN INCREASE IN SHEET FLOW RUNOFF TRAVELING ACROSS THE DISTURBED ZONE, WHICH REDUCES EROSION ON THE SITE.
A TEMPORARY DIVERSION CHANNEL CAN ALSO BE LOCATED ON THE DOWNSLOPE SIDE OF A SITE TO DIVERT SEDIMENT-LADEN RUNOFF GENERATED ON-SITE TO A SEDIMENT-TRAPPING DEVICE, PREVENTING SOIL LOSS.

3. **CONDITION WHERE PRACTICE APPLIES:**
THE PLACEMENT OF A TEMPORARY DIVERSION CHANNEL DEPENDS ON THE TOPOGRAPHY OF THE SURROUNDING AREA AT THE CONSTRUCTION SITE. ANOTHER CRITICAL FACTOR IS WHETHER THE GOAL IS TO PREVENT SEDIMENT-LADEN RUNOFF FROM LEAVING THE SITE OR TO KEEP STORMWATER RUNOFF FROM ENTERING THE SITE.
TEMPORARY DIVERSION CHANNELS ARE REQUIRED ALONG THE UPHILL SIDE OF THE AREAS OF LAND DISTURBANCE TO DIVERT STORMWATER RUNOFF AROUND THE DISTURBED AREA UNLESS THE RUNOFF FROM UPSTREAM OFF-SITE BASINS IS RETAINED IN A SEDIMENT BASIN PER CGP 2.2.12. DIVERSIONS MUST RETURN THE FLOW TO ITS ORIGINAL PATH AND VELOCITY AT THE DOWNSTREAM EDGE OF THE SITE PER CGP 2.2.11.
TEMPORARY DIVERSION CHANNELS ARE ALSO APPROPRIATE ALONG THE PERIMETER OF THE SITE DOWNSTREAM FROM LAND DISTURBING ACTIVITIES WHERE THE DESIGN CRITERIA OF STORMWATER SILT FENCE (SWSF) AND COMPOST FILTER SOCK (CFS) ARE EXCEEDED, AND TO CONVEY ON-SITE DRAINAGE TO A TEMPORARY SEDIMENT BASIN TO BE RETAINED ONSITE PER CGP 2.2.12.

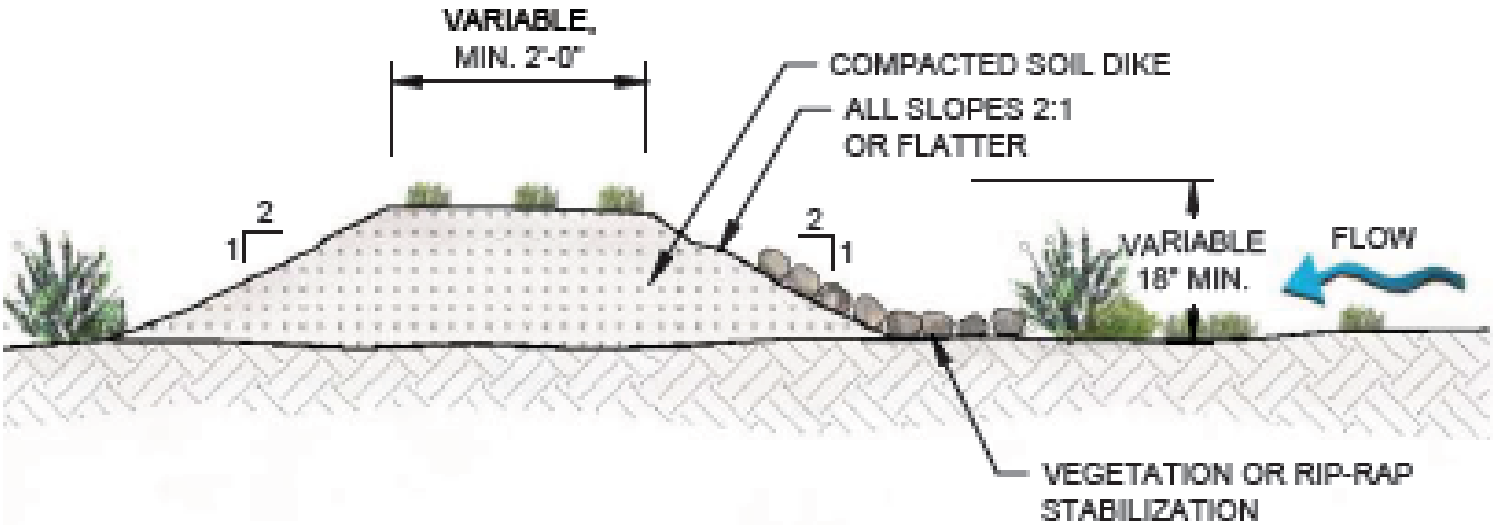
4. **DESIGN SPECIFICATIONS:**
THE EPA REQUIRES A DESIGN FOR 2-YEAR STORMS ACCORDING TO CGP 2.2.12, AND CITY ORDINANCE § 14-5-2-12(B)(3) MANDATES A 10-YEAR STORM DESIGN FROM MAY 1 THROUGH OCTOBER 31, IF THE 100-YEAR PEAK FLOW RATE IS 50 CFS OR MORE.



- NOTES:
- 1. THE CHANNEL BEHIND THE DIKE SHALL HAVE POSITIVE GRADE TO A STABILIZED OUTLET.
 - 2. THE DIKE SHALL BE ADEQUATELY COMPACTED TO PREVENT FAILURE.

EARTH DIKE AND EXCAVATED CHANNEL COMBINATION

SECTION VIEW



- NOTES:
- 1. THE CHANNEL BEHIND THE DIKE SHALL HAVE POSITIVE GRADE TO A STABILIZED OUTLET.
 - 2. THE DIKE SHALL BE ADEQUATELY COMPACTED TO PREVENT FAILURE.

EARTH DIKE WITHOUT EXCAVATED CHANNEL

SECTION VIEW

DESIGN CALCULATIONS, INCLUDING FLOW RATES, DEPTH, AND VELOCITY CALCULATIONS, AS WELL AS CONSTRUCTION SPECIFICATIONS, MUST BE SHOWN ON AN ESC PLAN STAMPED BY A NEW MEXICO PROFESSIONAL ENGINEER. RIP-RAP LINING IS REQUIRED WHERE THE DESIGN FLOW VELOCITY EXCEEDS 3 FEET PER SECOND TO PREVENT EXCESSIVE EROSION.

MANNING'S EQUATION: $Q = \frac{1.49AR^{2/3}}{n} \sqrt{S_o}$
AND $V = \frac{1.49R^{2/3}}{n} \sqrt{S_o}$ WHERE $n = 0.030$ (DIRT),
 $n = 0.045$ (RIP-RAP), AND $R = \frac{A}{P}$

5. **CONSTRUCTION SPECIFICATIONS:**
CONSTRUCT DIVERSION CHANNELS AND FULLY STABILIZE THEM BEFORE ANY MAJOR LAND DISTURBANCE BEGINS. THIS METHOD ENSURES THE DIVERSION FUNCTIONS EFFECTIVELY AS AN EROSION AND SEDIMENT CONTROL DEVICE. THE TOP OF THE SOIL DIKE SHOULD BE AT LEAST 2 FEET WIDE, AND THE BOTTOM WIDTH AT GROUND LEVEL SHOULD BE AT LEAST 6 FEET. THE MINIMUM HEIGHT FOR THE EARTH CHANNEL SHOULD BE 18 INCHES, WITH EXTRA HEIGHT ADDED AS NEEDED TO MAINTAIN A MINIMUM OF 6 INCHES FREEBOARD. SIDE SLOPES SHOULD BE NO STEEPER THAN 2:1. AT POINTS WHERE VEHICLES WILL CROSS THE CHANNEL, ENSURE THE SLOPE DOES NOT EXCEED 3:1, AND USE GRAVEL RATHER THAN SOIL FOR THE MOUND. THIS DESIGN EXTENDS THE CHANNEL'S DURABILITY AND REINFORCES THE VEHICLE CROSSING POINT.
BEFORE EXCAVATING OR MOUND-BUILDING, REMOVE ALL TREES, BRUSH, STUMPS, AND OTHER OBJECTS IN THE PATH OF THE DIVERSION STRUCTURE. TILL THE BASE OF THE DIKE BEFORE ADDING THE FILL, THEN COMPACT THE SOIL AS NECESSARY TO PREVENT FAILURE.
6. **INSPECTION AND MAINTENANCE:**
A CERTIFIED INSPECTOR MUST CONDUCT SELF-INSPECTIONS EVERY 14 DAYS, IMMEDIATELY AFTER EACH RAINFALL OF ¼" OR MORE, AND AT LEAST DAILY DURING EXTENDED RAINFALLS TO CHECK FOR EROSION OR DETERIORATION. MAINTAIN TEMPORARY DIVERSION CHANNELS AT THEIR ORIGINAL HEIGHT. REPAIR ANY DECREASE IN HEIGHT CAUSED BY SETTLING AND FIX EROSION WITH RIPRAP IMMEDIATELY. TO STAY EFFECTIVE, EARTH CHANNELS MUST BE KEPT COMPACTED AT ALL TIMES.

REVISIONS	CITY OF ALBUQUERQUE
Draft 1/28/26	CONSTRUCTION STORMWATER QUALITY TEMPORARY DIVERSION CHANNEL (DC)
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SEDIMENT BASIN & SEDIMENT TRAP (SB) & (ST)

1. **DESCRIPTION:**
SEDIMENT BASINS (SB) AND SEDIMENT TRAPS (ST) ARE TEMPORARY RETENTION PONDS EXCAVATED BELOW GROUND LEVEL TO AVOID THE NEED FOR AN EMBANKMENT. SEDIMENT BASINS OVERFLOW THROUGH A PIPE, WHILE SEDIMENT TRAPS USE A SURFACE SPILLWAY. THEY ARE TYPICALLY INSTALLED IN A DRAINAGE CHANNEL OR AT A CONCENTRATED DISCHARGE POINT. THE SIZE OF THE TRAP—LENGTH, WIDTH, AND DEPTH—DEPENDS ON THE AREA THAT DRAINS INTO IT. SEDIMENT TRAPS ARE USUALLY SMALLER PONDS LOCATED IN THE UPPER PARTS OF WATERSHEDS, WHEREAS SEDIMENT BASINS ARE LARGER AND FOUND IN THE LOWER PARTS, WHERE PERMANENT STORM DRAINS CAN CARRY OVERFLOW THROUGH A CONTROLLED POND OUTLET STRUCTURE.
2. **PURPOSE:**
TEMPORARY SEDIMENT TRAPS AND SEDIMENT BASINS ARE USED EITHER TO PREVENT ONSITE EROSION BY RETAINING STORMWATER UPSTREAM OF LAND-DISTURBING ACTIVITIES OR TO CAPTURE SEDIMENT AND OTHER POLLUTANTS DOWNSTREAM OF LAND-DISTURBING ACTIVITIES. WHEN ON THE UPSLOPE SIDE OF A SITE, A TEMPORARY SEDIMENT TRAP OR BASIN HELPS PREVENT SURFACE RUNOFF FROM ENTERING A DISTURBED CONSTRUCTION AREA. THIS IMPROVES WORKING CONDITIONS BY REDUCING STORMWATER RUNOFF ACROSS THE DISTURBED ZONE, WHICH DECREASES EROSION ON THE SITE. A TEMPORARY SEDIMENT TRAP OR BASIN CAN ALSO BE PLACED ON THE DOWNSLOPE SIDE OF A SITE TO RETAIN ON-SITE SEDIMENT-LADEN RUNOFF, PREVENTING SOIL LOSS.
3. **CONDITION WHERE PRACTICE APPLIES:**

A. CONCENTRATED FLOWS – STORMWATER SILT FENCE (SWSF) AND COMPOST MULCH SOCK (CFS) EFFECTIVELY CONTROL SHEET FLOWS, BUT A SEDIMENT BASIN OR TRAP IS NECESSARY WHERE FLOWS ARE CONCENTRATED.

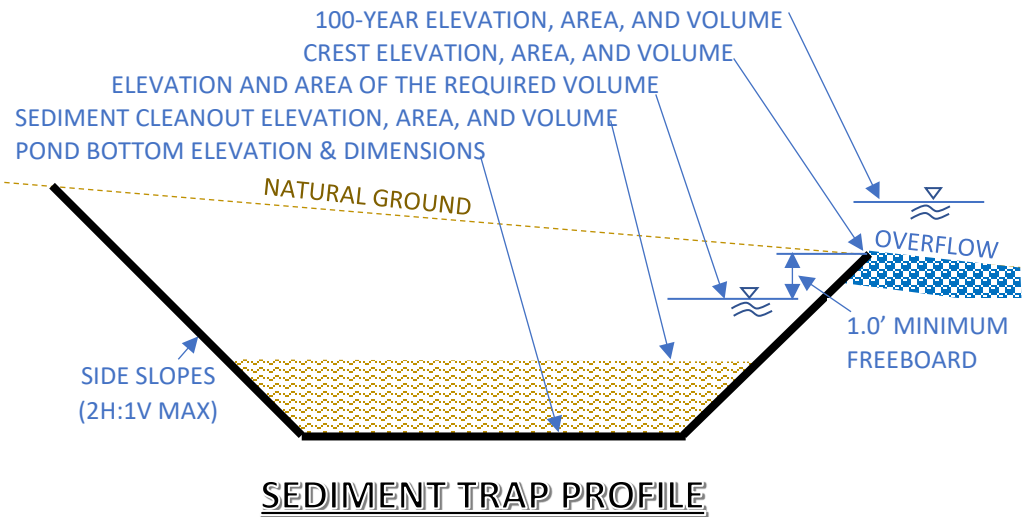
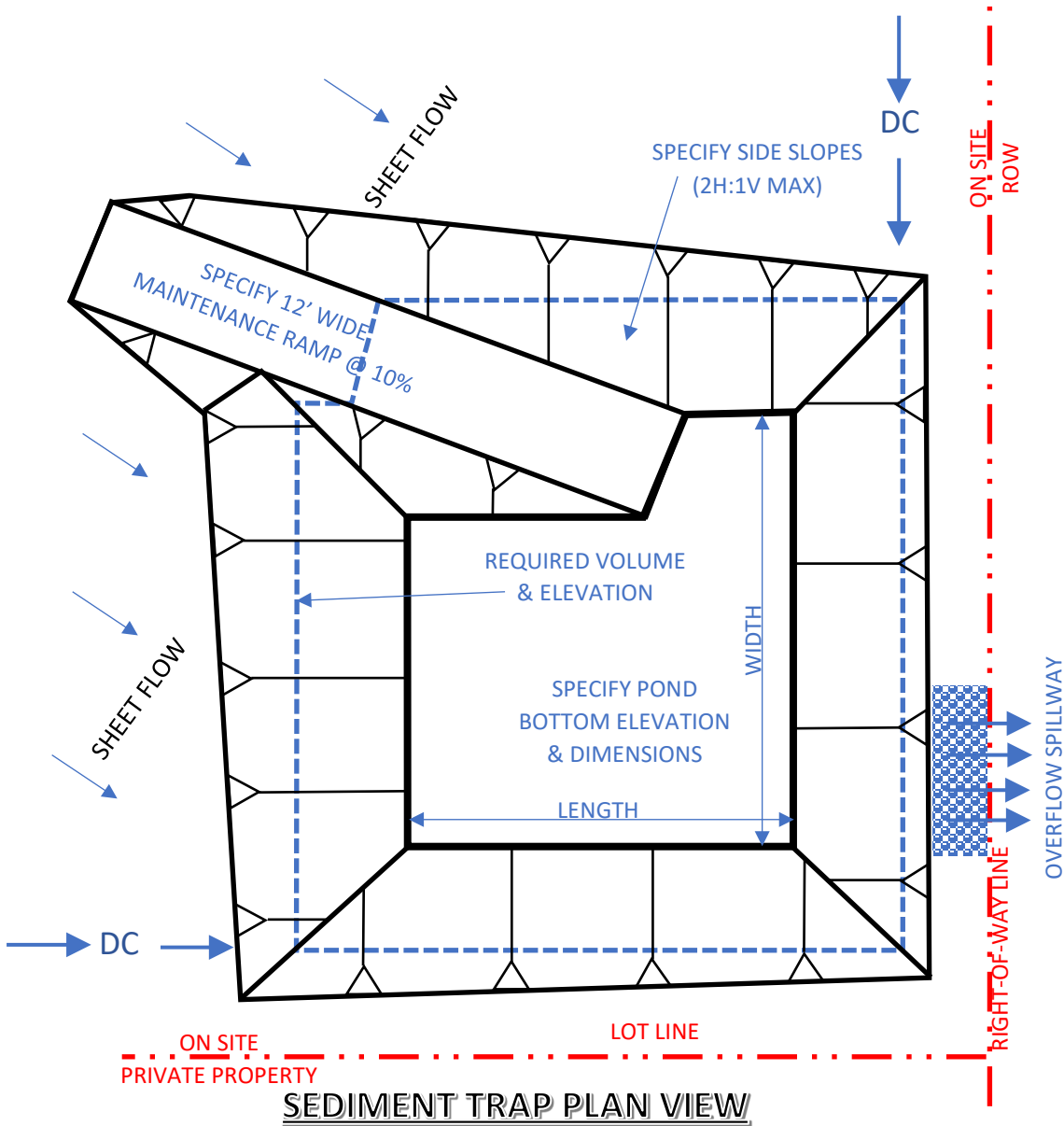
B. AT “DISCHARGE POINTS” WHERE CONCENTRATED STORMWATER ENTERS OR EXITS AREAS OF LAND-DISTURBING ACTIVITY.

C. AT THE DOWNSTREAM END OF A SLOPING PERIMETER CONTROL, SUCH AS A DIVERSION CHANNEL (DC) THAT COLLECTS AND CONCENTRATES STORMWATER.

D. AT MULTIPLE LOCATIONS WITHIN THE PROJECT SITE WHERE SEDIMENT CONTROL IS NEEDED.

E. AROUND OR UPSLOPE FROM STORM DRAIN INLET PROTECTION MEASURES.

F. UPSTREAM FROM SITES ON A WATERCOURSE WITH A 100-YEAR PEAK FLOW RATE OF 50 CFS OR MORE TO COMPLY WITH CITY ORDINANCE § 14-5-2-12(B)(3), WHICH REQUIRES SAFE PASSAGE OF THE 10-YEAR FLOW FROM MAY 1 THROUGH OCTOBER 31.



4. **LIMITATIONS:**

A. DO NOT USE EMBANKMENTS IN AREAS WHERE DAM FAILURE COULD CAUSE LOSS OF LIFE, PROPERTY DAMAGE, OR DISRUPT PUBLIC ROADS AND UTILITIES.

B. OVERFLOW MUST HAVE ADEQUATE DOWNSTREAM CAPACITY TO CONVEY THE PEAK 100-YEAR FLOW RATE NON-EROSIVELY. ADDITIONAL STORAGE MAY BE NECESSARY TO SATISFY THIS REQUIREMENT.
5. **DESIGN SPECIFICATIONS:**
PART 2.2.12 OF THE EPA’S CONSTRUCTION GENERAL PERMIT (CGP) SAYS
“IF YOU INSTALL A SEDIMENT BASIN OR SIMILAR IMPOUNDMENT:

A. SITUATE THE BASIN OR IMPOUNDMENT OUTSIDE OF ANY RECEIVING WATER AND ANY NATURAL BUFFERS ESTABLISHED UNDER PART 2.2.1;

B. DESIGN THE BASIN OR IMPOUNDMENT TO AVOID COLLECTING WATER FROM WETLANDS;

C. DESIGN THE BASIN OR IMPOUNDMENT TO PROVIDE STORAGE FOR EITHER:

a. THE CALCULATED VOLUME OF RUNOFF FROM A 2-YEAR, 24-HOUR STORM; OR

b. 3,600 CUBIC FEET PER ACRE DRAINED.

D. UTILIZE OUTLET STRUCTURES THAT WITHDRAW WATER FROM THE SURFACE OF THE SEDIMENT BASIN OR SIMILAR IMPOUNDMENT, UNLESS INFEASIBLE;

E. USE EROSION CONTROLS AND VELOCITY DISSIPATION DEVICES TO PREVENT EROSION AT INLETS AND OUTLETS; AND

F. REMOVE ACCUMULATED SEDIMENT TO MAINTAIN AT LEAST ONE-HALF OF THE DESIGN CAPACITY AND CONDUCT ALL OTHER APPROPRIATE MAINTENANCE TO ENSURE THE BASIN OR IMPOUNDMENT REMAINS IN EFFECTIVE OPERATING CONDITION.”

CALCULATIONS OF THE REQUIRED RETENTION VOLUME FOR SEDIMENT BASINS AND TRAPS MUST BE INCLUDED ON THE EROSION AND SEDIMENT CONTROL (ESC) PLAN AND COMPLY WITH CGP 2.2.12.C ABOVE. THE MINIMUM VOLUME NEEDED IS THE 2-YEAR, 24-HOUR RUNOFF VOLUME FROM THE ENTIRE WATERSHED DRAINING TO THE POND, INCLUDING BOTH ON-SITE AND OFF-SITE AREAS. WATERSHED BASIN BOUNDARIES MUST ALSO BE SHOWN ON A MAP WITHIN THE ESC PLAN.

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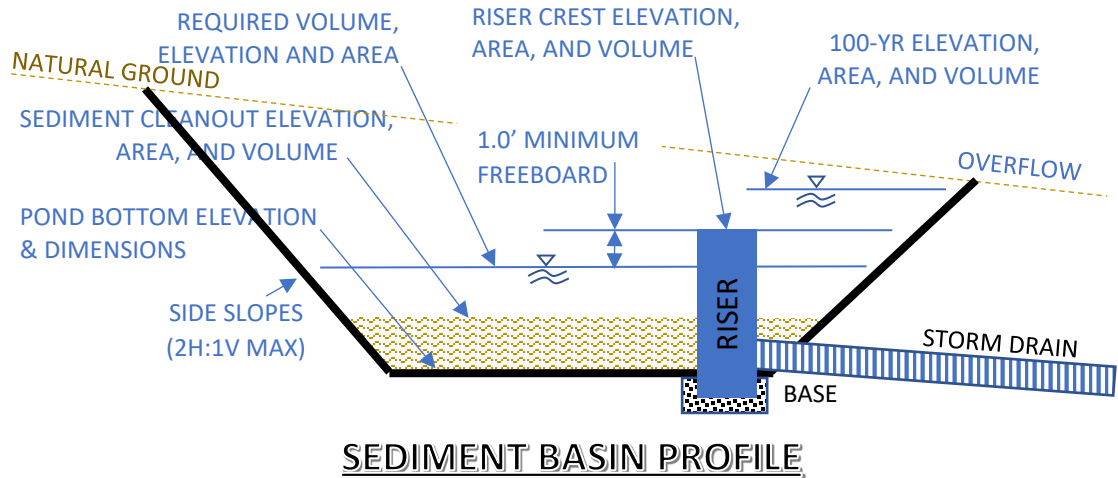
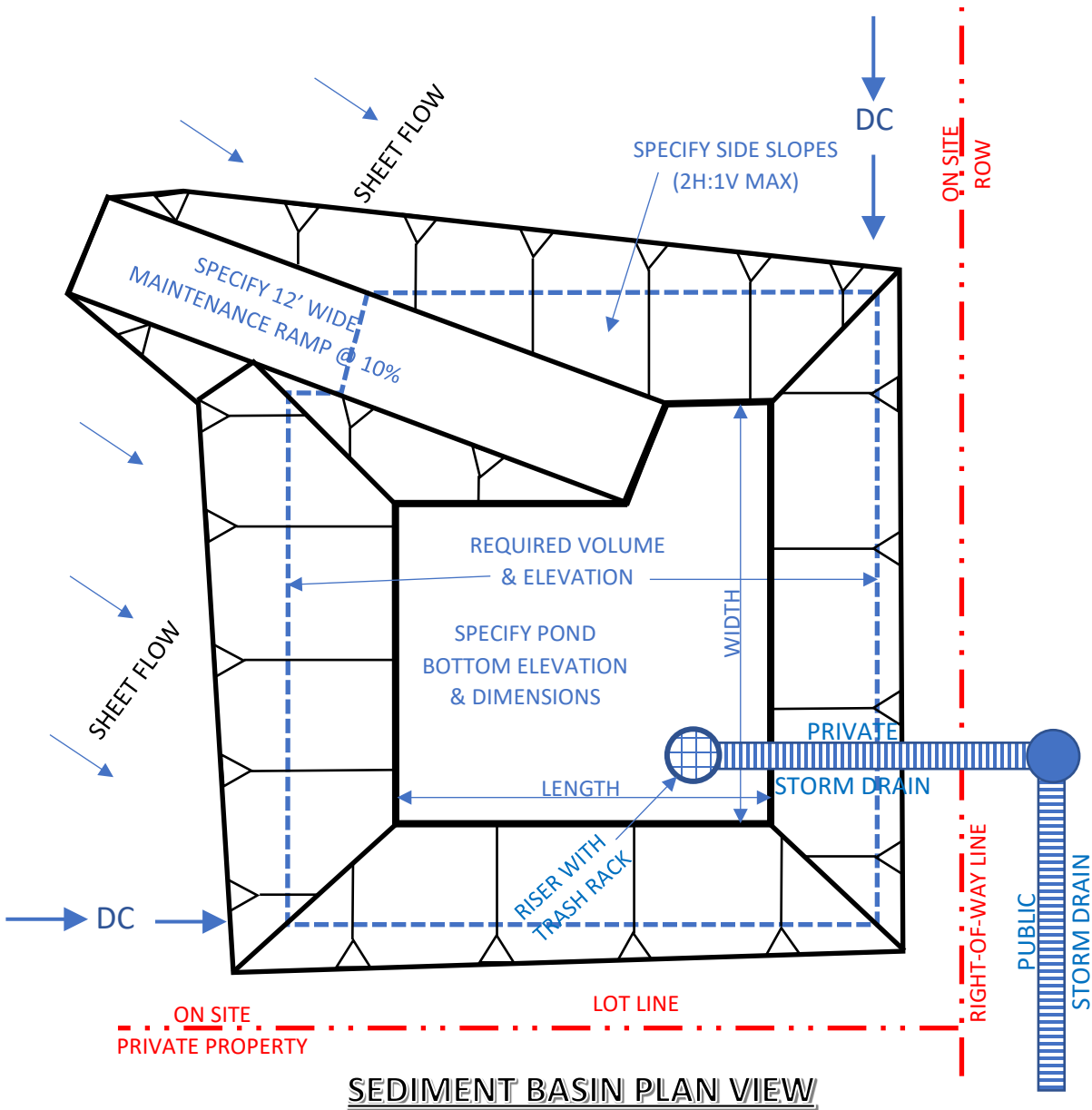
POND OUTLET STRUCTURES (RISERS FOR SEDIMENT BASINS AND SPILLWAYS FOR SEDIMENT TRAPS) MUST BE DESIGNED TO HANDLE THE 100-YEAR PEAK FLOW RATE. BOTH THE RETENTION VOLUME AND THE 100-YEAR FLOW RATE SHOULD BE BASED ON THE MOST SEVERE WATERSHED-SHAPE AND ROUND-COVER CONDITIONS EXPECTED DURING CONSTRUCTION. ONE FOOT OF FREEBOARD IS REQUIRED BETWEEN THE ELEVATION OF THE REQUIRED VOLUME AND THE OVERFLOW ELEVATION. IF AN EMBANKMENT IS USED, AN ADDITIONAL FOOT OF FREEBOARD IS REQUIRED BETWEEN THE 100-YEAR ELEVATION AND THE MINIMUM TOP-OF-DAM ELEVATION. ESC PLANS MAY INCLUDE MULTIPLE PHASES, EACH WITH DIFFERENT WATERSHED CONDITIONS AND POND DESIGNS. A TEMPORARY SEDIMENT TRAP OR BASIN CAN BE CONVERTED INTO A POST-CONSTRUCTION SWQ POND AFTER CONSTRUCTION AND STABILIZATION ARE COMPLETE, BUT IN SOME CASES, A SINGLE POND DESIGN MAY SATISFY BOTH TEMPORARY CONSTRUCTION AND POST-CONSTRUCTION REQUIREMENTS.

WHERE THE 100-YEAR PEAK FLOW RATE IS 50 CFS OR MORE, THE MINIMUM REQUIRED RETENTION VOLUME MUST BE INCREASED TO THE 10-YEAR 24-HOUR VOLUME TO COMPLY WITH ORDINANCE § 14-5-2-12(B)(3), WHICH REQUIRES THE SAFE PASSAGE OF STORMWATER RUNOFF FROM THE 10-YEAR STORM FROM MAY 1 TO OCTOBER 31.

EMBANKMENTS MUST BE AVOIDED AT MOST SITES IN ALBUQUERQUE TO ENSURE DOWNSTREAM SAFETY, SO THE REQUIRED VOLUME OF SEDIMENT BASINS AND TRAPS MUST BE CONSTRUCTED BELOW THE LOWEST ADJACENT GRADE. WHERE EMBANKMENTS ARE USED, THE MINIMUM TOP WIDTH SHALL BE EQUAL TO THE HEIGHT OF THE DAM MEASURED AT THE DOWNSTREAM TOE OF THE DAM AND NOT LESS THAN FOUR FEET.

6. EROSION AND SEDIMENT CONTROL (ESC) PLAN REQUIREMENTS:

THE DESIGN OF TEMPORARY SEDIMENT BASINS AND TRAPS MUST BE INCLUDED ON AN ESC PLAN SUBMITTED TO THE STORMWATER QUALITY (SWQ) SECTION OF THE PLANNING DEPARTMENT OF THE CITY OF ALBUQUERQUE FOR APPROVAL PER CITY ORDINANCE § 14-5-2-12(G)(4). THE DESIGN OF POST-CONSTRUCTION SWQ PONDS MUST BE SHOWN ON A GRADING AND DRAINAGE (G&D) PLAN SUBMITTED SEPARATELY TO THE HYDROLOGY SECTION FOR APPROVAL. THE PRECIPITATION DEPTH USED FOR TEMPORARY CONSTRUCTION SWQ PONDS IS MUCH LARGER THAN THE DEPTH USED TO SIZE POST-CONSTRUCTION SWQ PONDS. SOMETIMES, A SINGLE POND DESIGN MAY SATISFY BOTH TEMPORARY CONSTRUCTION AND POST-CONSTRUCTION REQUIREMENTS IF THE DESIGN ENGINEER CONSIDERS BOTH DURING THE INITIAL DESIGN. THE G&D PLAN MUST BE APPROVED BEFORE THE ESC PLAN. WHILE THE TEMPORARY CONSTRUCTION SWQ CALCULATIONS WILL NOT BE REVIEWED BY HYDROLOGY, THE G&D AND ESC PLANS CAN BE SUBMITTED AND REVIEWED SIMULTANEOUSLY.



ESC PLANS THAT INCLUDE A TEMPORARY SEDIMENT BASIN OR TRAP MUST BE DESIGNED IN ACCORDANCE WITH GOOD ENGINEERING PRACTICES BY A NEW MEXICO PROFESSIONAL ENGINEER QUALIFIED IN EROSION CONTROL. INCLUDE APPLICABLE DESIGN CALCULATIONS AND CONSTRUCTION SPECIFICATIONS ON THE ESC PLAN PER CGP 2.1.2 AND 9.6.1.C.III. AS FOLLOWS.

INCLUDE A WATERSHED BASIN MAP IF OFF-SITE AREAS DRAIN INTO THE SITE OR IF THE SITE HAS MULTIPLE DISCHARGE POINTS. INCLUDE A SEPARATE MAP FOR EACH PHASE IF WATERSHED BOUNDARIES CHANGE DURING CONSTRUCTION.

INCLUDE THE DRAINAGE AREA, GROUND COVER, TIME OF CONCENTRATION, PEAK FLOW RATE, AND 24-HOUR RUNOFF VOLUME IN A HYDROLOGY SUMMARY TABLE FOR EACH DESIGN STORM FOR EACH POND UNLESS THE REQUIRED VOLUME OF "3,600 CUBIC FEET PER ACRE DRAINED" IS ASSUMED. TABLES 6.2.13 AND 6.2.14 IN ARTICLE 6-2 OF THE DPM ARE PARTICULARLY USEFUL IN DETERMINING VOLUMES AND FLOW RATES.

INCLUDE DESIGN VOLUME CALCULATIONS USING THE CONIC METHOD AND 100-YEAR HYDRAULIC CALCULATIONS FOR EACH OUTLET ON THE ESC PLAN WITH THE DETAILS.

CONIC VOLUME EQUATION: $V = \frac{h}{3} (A_1 + A_2 + \sqrt{A_1 * A_2})$

WEIR EUATION: $Q = KLH^{3/2}$
WHERE K = 3.3 (SHARP CREST) OR K = 2.7 (BROAD CREST)

INCLUDE PLAN VIEW AND SECTION VIEW DETAILS OF EACH POND WITH CONSTRUCTION SPECIFICATIONS FOR SIDE SLOPES, SPOT ELEVATIONS, AND EITHER DIMENSIONS OR COORDINATES FOR EACH POND. ALSO, INCLUDE OVERFLOW STRUCTURE DETAILS WITH SPECIFICATIONS FOR RISER AND SPILLWAY DIMENSIONS AND MATERIALS. INCLUDE PROFILE VIEWS THROUGH EACH POND LABELING:

- A. THE POND BOTTOM ELEVATION, AREA, AND VOLUME.
- B. THE SEDIMENT CLEANOUT ELEVATION, AREA, AND VOLUME
- C. THE ELEVATION AND AREA OF THE REQUIRED VOLUME
- D. THE OVERFLOW ELEVATION, AREA, AND VOLUME
- E. THE 100-YEAR ELEVATION, AREA, AND VOLUME
- F. THE DAM TOP ELEVATION, AREA, AND VOLUME (IF APPLICABLE)

INCLUDE DETAILS OF PIPE CONNECTIONS, RISER TO PIPE CONNECTIONS, RISER BASE, ANTI-VORTEX TRASH RACK.

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IF THE POST-CONSTRUCTION RETENTION POND VOLUME EXCEEDS THE TEMPORARY VOLUME REQUIRED DURING CONSTRUCTION, THEN THE SPECIFICATION ON THE G&D PLAN APPROVED BY THE HYDROLOGY SECTION MAY BE INCORPORATED INTO THE ESC PLAN BY REFERENCE, AS LONG AS ALL OTHER DESIGN AND CONSTRUCTION SPECIFICATIONS FOR THE TEMPORARY SB & ST ARE ALSO INCLUDED ON EITHER THE ESC PLAN OR THE G&D PLAN.

WHERE A TEMPORARY SB OR ST IS LOCATED AT THE SAME PLACE WHERE THE HYDROLOGY SECTION HAS APPROVED A POST-CONSTRUCTION DETENTION POND, THE OUTLET STRUCTURE MAY INCLUDE A TEMPORARY RISER TO WITHDRAW STORMWATER FROM THE SURFACE OF THE REQUIRED TEMPORARY RETENTION VOLUME DURING CONSTRUCTION. THIS RISER CAN LATER BE CONVERTED INTO THE POST-CONSTRUCTION DETENTION OUTLET STRUCTURE AFTER CONSTRUCTION AND STABILIZATION ARE COMPLETE. WHERE EMBANKMENTS OR DAMS ARE ALLOWED BY THE CITY, THE DESIGN ENGINEER MUST SPECIFY THE ZONES FOR KEY OR CORE EXCAVATION, THE TYPE OF EARTH MATERIALS IN EACH ZONE, THE MAXIMUM COMPACTION REQUIRED IN EACH ZONE, AND SURFACE GRADING TOLERANCES. PER DPM FIGURE 6.4.7

7. CONSTRUCTION SPECIFICATIONS:

- A. THE POND CONSTRUCTION MUST BE COMPLETE, INCLUDING NON-EROSIVE INLET AND OUTLET STRUCTURES IN ACCORDANCE WITH THE ESC PLAN APPROVED BY THE CITY, PRIOR TO ANY OTHER LAND-DISTURBING ACTIVITIES IN THE CONTRIBUTING WATERSHED.
- B. EARTHWORK MUST FOLLOW SECTION 601 OF THE COA STANDARD SPECIFICATIONS. CLEARING AND GRUBBING SHOULD BE LIMITED TO THE AREA OF THE STORMWATER CONTROLS UNTIL THEY ARE COMPLETE AND OPERATIONAL. LOOSE, UNCOMPACTED SOIL AND UNSUITABLE MATERIAL SHOULD NEVER BE EXPOSED TO CONCENTRATED STORMWATER RUNOFF. IT MAY BE STOCKPILED NEAR THE POND TO BACKFILL IT AFTER CONSTRUCTION AND STABILIZATION ARE FINISHED, PROVIDED THE STOCKPILE HEIGHT MEETS CITY AND NMED LIMITS. FILL MATERIAL, IF NEEDED, NEXT TO THE POND MUST BE COMPACTED TO AT LEAST 90 PERCENT DENSITY, AS SPECIFIED BY ASTM D 1557.7.
- C. SIDE SLOPES SHALL BE 2H:1V OR FLATTER.
- D. FENCING, 42” OR TALLER, IS REQUIRED WHERE WATER DEPTH IS 18” OR MORE, UNLESS SIDE SLOPES ARE 3H:1V OR FLATTER.
- E. ACCESS INTO THE POND SHALL BE 12’ OR WIDER, AND 10H:1V OR FLATTER.
- F. EMBANKMENTS SHOULD BE AVOIDED, SO THE TOP ELEVATION OF THE POND SHOULD BE AT THE LOWEST ADJACENT NATURAL GROUND ELEVATION, AND THE NATURAL GROUND DOWNSTREAM OF THE POND SHOULD BE STABILIZED WITH TYPE VL RIP-RAP PER COA STANDARD SPECIFICATIONS SECTIONS 109 AND 603 OR EQUAL.

8. INSPECTION AND MAINTENANCE SPECIFICATIONS

- A. SELF-INSPECTION IS REQUIRED BY A CERTIFIED INSPECTOR EVERY 14 DAYS AND IMMEDIATELY AFTER EACH RAINFALL OF ¼” OR MORE, AND AT LEAST DAILY DURING PROLONGED RAINFALL.
- B. SEDIMENT MUST BE REMOVED WHEN IT REACHES THE SPECIFIED DEPTH FOR CLEANOUT NOTED ON THE PLANS, WHICH WILL NOT EXCEED 50% OF THE CAPACITY OF THE SEDIMENT STORAGE ZONE, OR IF SEDIMENT BUILDUP PREVENTS INFILTRATION, CAUSING STANDING WATER FOR MORE THAN 24 HOURS. THIS SEDIMENT SHALL BE PLACED IN SUCH A MANNER THAT IT WILL NOT ERODE FROM THE SITE. THE SEDIMENT SHALL NOT BE DEPOSITED DOWNSTREAM FROM THE EMBANKMENT, ADJACENT TO A STREAM OR FLOODPLAIN.
- C. REPAIR ALL DAMAGES CAUSED BY SOIL EROSION AND CONSTRUCTION EQUIPMENT AT OR BEFORE THE END OF EACH WORKING DAY. EROSION OF THE SIDE SLOPES AND MAINTENANCE RAMP MUST BE REPAIRED WITH ROCK AS NECESSARY TO PREVENT FURTHER EROSION.
- D. REMOVE TRASH AND DEBRIS FROM AROUND DEWATERING DEVICES PROMPTLY AFTER RAINFALL EVENTS.

REVISIONS	CITY OF ALBUQUERQUE
DRAFT 02/02/26	CONSTRUCTION STORMWATER QUALITY SEDIMENT BASIN & TRAP (SB) & (ST)
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