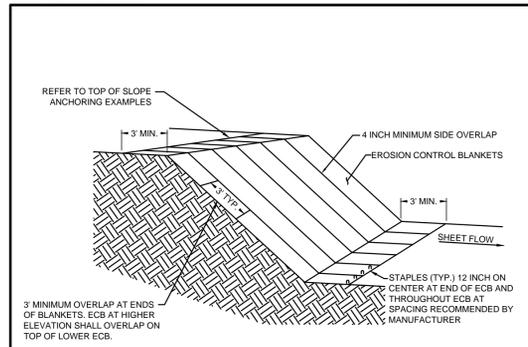
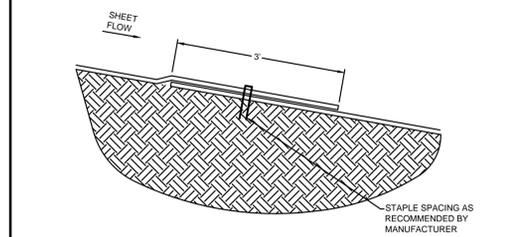


ALL RESPONSIBILITY FOR ADEQUACY OF DESIGN REMAINS WITH THE DESIGN ENGINEER. THE CITY OF ROCKWALL, IN REVIEWING AND RELEASING PLANS FOR CONSTRUCTION, ASSUMES NO RESPONSIBILITY FOR ADEQUACY OR ACCURACY OF DESIGN.

ISWM™ TECHNICAL MANUAL CONSTRUCTION CONTROLS



ECB ISOMETRIC PLAN VIEW N.T.S.

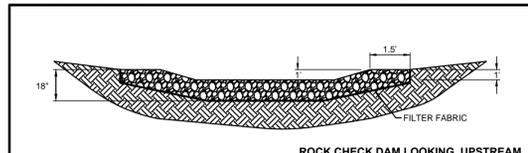


ECB OVERLAP EXAMPLE N.T.S.

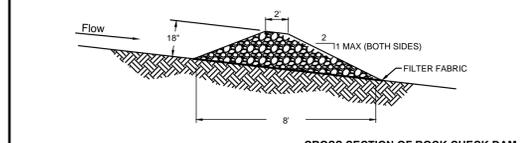
EROSION CONTROL BLANKETS
REVISED 04/10

CC-28

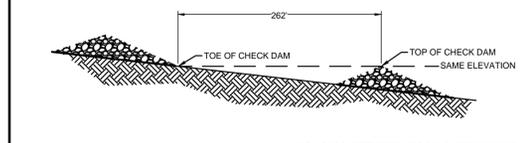
ISWM™ TECHNICAL MANUAL CONSTRUCTION CONTROLS



ROCK CHECK DAM LOOKING UPSTREAM N.T.S.



CROSS SECTION OF ROCK CHECK DAM N.T.S.



SPACING BETWEEN ROCK CHECK DAMS N.T.S.

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 DAMS:
 *HEIGHT OF CHECK DAMS 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 SAME ELEVATION AS TOE OF UPSTREAM DAM.

CHECK DAM
REVISED 04/10

CC-16

NOTE:
ALL EROSION CONTROL MEASURES WITHIN
TXDOT ROW MUST BE TO TXDOT
STANDARDS

EROSION CONTROL GENERAL NOTES

- STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE.
- 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.
- THE TRENCH SHOULD BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE TO BE LAID IN THE GROUND AND BACKFILLED.
- SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POSTS.
- INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
- SILT FENCE SHALL BE REMOVED WHEN IT HAS SERVED ITS USEFULNESS, SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
- SEDIMENT TRAPPED BY THIS PRACTICE SHALL BE DISPOSED OF IN AN APPROVED SITE IN A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.
- ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6 INCHES AND DISPOSED OF IN AN APPROVED SPOIL SITE OR AS IN NO. 7 ABOVE.
- EROSION PROTECTION WILL BE DELETED OR ADDED PER THE CITY.
- THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL EROSION, CONSERVATION, AND SILTATION ORDINANCES. THE CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION CONTROL DEVICES UPON COMPLETION OF PERMANENT DRAINAGE FACILITIES AND THE ESTABLISHMENT OF A STAND OF GRASS OR OTHER GROWTH TO PREVENT EROSION.
- ALL SEEDING AND FERTILIZATION OF DISTURBED AREAS WILL BE THE RESPONSIBILITY OF THE GRADING CONTRACTOR.

STANDARDS FOR SILT FENCE

TEMPORARY BARRIER FENCE MADE OF BURLAP OR POLYPROPYLENE MATERIAL WHICH IS WATER PERMEABLE BUT WILL TRAP WATERBORNE SEDIMENT.

TO INTERCEPT AND DETAIN WATERBORNE SEDIMENT FROM UNPROTECTED AREAS OF

CONDITIONS WHERE PRACTICE APPLIES

SILT FENCE IS USED DURING THE PERIOD OF CONSTRUCTION NEAR THE PERIMETER OF A DISTURBED AREA TO INTERCEPT SEDIMENT WHILE ALLOWING WATER TO PERCOLATE THROUGH. THIS FENCE SHALL REMAIN IN PLACE UNTIL THE DISTURBED AREA IS PERMANENTLY STABILIZED. SILT FENCE SHOULD NOT BE USED WHERE THERE IS A CONCENTRATION OF WATER IN A CHANNEL OR OTHER DRAINAGE WAY.

DESIGN CRITERIA

SILT FENCE IS CONSTRUCTED NEAR THE PERIMETER OF A DISTURBED SITE WITHIN THE DEVELOPING AREA. IT IS NOT TO BE CONSTRUCTED OUTSIDE THE PROPERTY LINES WITHOUT OBTAINING A LETTER OF PERMISSION FROM THE AFFECTED ADJACENT PROPERTY OWNERS.

A DESIGN IS NOT REQUIRED FOR THE INSTALLATION OF THE SILT FENCE. HOWEVER, THE FOLLOWING CRITERIA SHALL BE OBSERVED:

- DRAINAGE AREA - LESS THAN TWO ACRES
- HEIGHT - 24 INCHES MINIMUM HEIGHT MEASURED FROM EXISTING OR GRADED GROUND.
- MATERIAL - BURLAP, POLYPROPYLENE FABRIC, OR NYLON REINFORCED WITH POLYESTER NETTING. THE MULLEN BURST STRENGTH SHALL BE GREATER THAN 150 PSI. THE EDGES SHALL BE TREATED TO RESIST UNRAVELING.
- SUPPORT - STEEL FENCE POSTS SPACED A MAXIMUM OF 6 FEET APART. WOVEN WIRE WILL BE USED TO SUPPORT THE MATERIAL.

OUTLET

SILT FENCE SHALL BE PLACED AND CONSTRUCTED IN SUCH A MANNER THAT RUNOFF FROM A DISTURBED SURFACE OR EXPOSED UPLAND AREA SHALL BE INTERCEPTED, SEDIMENT TRAPPED, AND THE SURFACE RUNOFF ALLOWED TO PERCOLATE THROUGH THE STRUCTURE.

SILT FENCE SHALL BE PLACED IN SUCH A MANNER THAT SURFACE RUNOFF WHICH PERCOLATES THROUGH WILL FLOW ONTO AN UNDISTURBED STABILIZED AREA OR STABILIZED OUTLET.

STORM DRAIN INLET PROTECTION
CONSTRUCTION SPECIFICATIONS

- WOODEN FRAME IS TO BE CONSTRUCTED OF 2" X 4" CONSTRUCTION GRADE LUMBER.
- WIRE MESH MUST BE OF SUFFICIENT STRENGTH TO SUPPORT FILTER FABRIC, AND STONE FOR CURB INLETS, WITH WATER FULLY IMPOUNDED AGAINST IT.
- FILTER CLOTH MUST BE OF A TYPE APPROVED FOR THIS PURPOSE; RESISTANT TO SUNLIGHT WITH SIEVE SIZE, EOS, 40-85, TO ALLOW SUFFICIENT PASSAGE OF WATER AND REMOVAL OF SEDIMENT.
- STONE IS TO BE 2" IN SIZE AND CLEAN, SINCE FINES WOULD CLOG THE CLOTH.
- THE ASSEMBLY SHALL BE PLACED SO THAT THE END SPACERS ARE A MINIMUM 1' BEYOND BOTH ENDS OF THE THROAT OPENING.
- FORM THE WIRE MESH AND FILTER CLOTH TO THE CONCRETE GUTTER AND AGAINST THE FACE OF CURB ON BOTH SIDES OF THE INLET. PLACE CLEAN 2" STONE OVER THE WIRE MESH AND FILTER FABRIC IN SUCH A MANNER AS TO PREVENT WATER FROM ENTERING THE INLET UNDER OR AROUND THE FILTER CLOTH.
- THIS TYPE OF PROTECTION MUST BE INSPECTED FREQUENTLY AND THE FILTER CLOTH AND STONE REPLACED WHEN CLOGGED WITH SEDIMENT.
- ASSURE THAT STORM FLOW DOES NOT BYPASS INLET BY INSTALLING TEMPORARY EARTH OR ASPHALT DIKES DIRECTING FLOW INTO INLET.

CHECK DAMS

- USE ONLY OPEN GRADED ROCK 4-8 INCHES IN DIAMETER FOR STREAM FLOW CONDITIONS. USE OPEN GRADED ROCK 3-5 INCHES IN DIAMETER FOR OTHER CONDITIONS.
- THE CHECK DAM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING A MAXIMUM OPENING OF 1 INCH AND A MINIMUM WIRE SIZE OF 20 GAUGE AND SHALL BE BURIED IN A TRENCH APPROXIMATELY 3 TO 4 INCHES DEEP.
- THE CHECK DAM SHALL BE INSPECTED WEEKLY OR AFTER EACH RAIN EVENT AND SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
- 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.
- WHEN THE SITE IS COMPLETELY STABILIZED, THE CHECK DAM AND ACCUMULATED SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROPRIATE MANNER.

EROSION CONTROL MATTING

- STRIPS OF MATTING SHALL BE INSTALLED PARALLEL TO THE DIRECTION OF FLOW OVER THE SURFACE WHICH IS TO BE PROTECTED.
- THE UP-CHANNEL END OF THE MATTING SHALL BE BURIED IN A TRENCH MEASURING 6 INCHES DEEP AND 6 INCHES WIDE FOR THE ENTIRE WIDTH OF THE END. THE SOIL SHALL BE BACKFILLED INTO THE TRENCH AND TAMPED FIRMLY. STAPLES SHALL BE PLACED EVERY 12 INCHES ALONG THE END OF THE MATTING.
- EDGES OF ADJACENT STRIPS OF MATTING SHALL BE OVERLAPPED A MINIMUM OF 4 INCHES AND SHALL BE STAPLED EVERY 3 FEET ALONG THE OVERLAP.
- WHEN JOINING STRIPS OF MATTING END TO END, A TRENCH SIMILAR TO THE ONE DUG AT THE BEGINNING OF THE ORIGINAL STRIP SHALL BE DUG WITH THE UP-CHANNEL END OF THE NEW STRIP BEING PLACED IN A LIKE MANNER IN THE TRENCH AS THE BEGINNING END OF THE ORIGINAL STRIP. THE END OF THE STRIP BEING FOLDED UNDER AT LEAST 12 INCHES. STAPLES SHALL BE INSTALLED AT 12 INCH INTERVALS ALONG THE WIDTH OF THE STRIP NOT MORE THAN 6 INCHES FROM THE TRENCH.
- IN SITUATIONS WHERE ERODIBLE SOILS, STEEP SLOPES OR HIGH VELOCITY FLOWS ARE ENCOUNTERED, A FOLD OF THE MATTING SHALL BE INSERTED INTO A 6 INCH TRENCH AND TAMPED FIRMLY. STAPLES SHALL BE INSTALLED AT 12 INCH INTERVALS ALONG THE TRENCH.
- STAPLES FOR ANCHORING SOIL STABILIZING MATERIALS SHALL BE MADE OF 10 GAUGE WIRE OR HEAVIER. THEY SHALL BE 6 TO 10 INCHES IN LENGTH, WITH THE LONGER STAPLES BEING USED IN LOOSE OR UNSTABLE SOILS. THERE SHALL BE ONE STAPLE FOR EACH FOUR (4) SQUARE FEET OF MATTING TO ASSURE PROPER BONDING BETWEEN THE SOIL AND THE MAT MATERIAL.

AS-BUILT

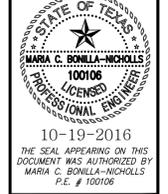
THIS RECORD DRAWING IS COMPILATION OF A COPY OF THE SEALED ENGINEERING DRAWING FOR THIS PROJECT; MODIFIED BY ADDENDA, CHANGE ORDERS, AND INFORMATION FURNISHED BY THE CONTRACTOR. THE INFORMATION SHOWN ON THE RECORD DRAWINGS IS PROVIDED BASED ON SURVEYING AT THE SITE AND INFORMATION PROVIDED BY THE CONTRACTOR OR OTHERS NOT ASSOCIATED WITH THE DESIGN ENGINEER. THE ORIGINAL SEALED DRAWING ARE ON FILE AT THE OFFICES OF WINKELMANN AND ASSOCIATES, INC.

Maria L. Bouilla 10-19-2016
WINKELMANN AND ASSOCIATES, INC. DATE

NOTE: REFER TO CITY OR TXDOT DETAILS FOR ADDITIONAL EROSION CONTROL DETAILS

6.				
5.				
4.				
3.				
2.	12/19/2015	ISSUE FOR CONSTRUCTION	M.B.	
1.	12/09/2015	BULLETIN #1	M.B.	
No.		REVISION		APPROV

Winkelmann & Associates, Inc.
 CONSULTING CIVIL ENGINEERS ■ SURVEYORS
 7720 HILGRET PLAZA DRIVE, SUITE 325
 ROCKWALL, TEXAS 75087
 (972) 940-7090
 (972) 940-7096 FAX
 Maria L. Bouilla, State Surveyor Registration No. 89
 State Engineer Registration No. 100866-00
 State Professional Engineer Registration No. 100866-00
 State Professional Engineer Registration No. 100866-00



EROSION CONTROL DETAILS
 SEC. N. GOLIAD ST. AND E. QUAIL
 RUN RD.
 ROCKWALL, TEXAS

C-14.05
 DAL574