

**GENERAL NOTES FOR EROSION AND SEDIMENT CONTROL**

1. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE SITED, DESIGNED, CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MOST RECENT CITY OF LONGVIEW STANDARD PLANS AND SPECIFICATIONS, AND THE WASHINGTON STATE DEPARTMENT OF ECOLOGY STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON.
2. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE AND IN WORKING CONDITION PRIOR TO ANY LAND DISTURBING ACTIVITY, INCLUDING BUT NOT LIMITED TO CLEARING, GRADING, FILLING, EXCAVATION OR ANY CHANGE IN THE EXISTING SOIL COVER (BOTH VEGETATIVE AND NON-VEGETATIVE). EROSION AND SEDIMENT CONTROL MEASURES SHALL BE APPROVED AND INSPECTED BY THE CITY PRIOR TO COMMENCEMENT OF WORK AND MUST BE MAINTAINED AS SHOWN ON THE PLANS THROUGH THE LIFE OF THE PROJECT. ADDITIONAL MEASURES MAY BE REQUIRED IF THE APPROVED MEASURES ARE INSUFFICIENT AS CONSTRUCTION PROGRESSES AND/OR SEASONAL CONDITIONS DICTATE.
3. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REGULARLY INSPECTED AND MAINTAINED TO ENSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. INSPECTIONS SHALL OCCUR DAILY ON ACTIVE SITES, ONCE PER WEEK ON INACTIVE SITES, AND WITHIN 24 HOURS FOLLOWING A 0.5 INCH OR GREATER RAIN EVENT. THE CONTRACTOR SHALL MAINTAIN A LOG OF EROSION AND SEDIMENT CONTROL MEASURE INSPECTIONS AND MAINTENANCE. THE CONTRACTOR SHALL PROVIDE A 24-HOUR CONTACT NUMBER FOR EMERGENCY MAINTENANCE AND REPAIR OF SITE MEASURES.
4. PRIOR TO ANY LAND DISTURBING ACTIVITIES, CLEARING AND WORK AREA LIMITS SHALL BE CLEARLY DELINEATED AND MARKED. ALL SENSITIVE AND CRITICAL AREAS (WETLANDS, STEEP SLOPES, WATERWAYS, TREES TO BE PRESERVED, ETC.) AND THEIR BUFFERS SHALL BE CLEARLY DELINEATED AND MARKED, AND PROTECTED WITH APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES.
5. PRIOR TO ANY LAND DISTURBING ACTIVITIES, STORM DRAIN INLETS WITHIN OR DOWNSLOPE OF THE PROJECT AREA SHALL BE PROTECTED. INLET PROTECTION SHALL BE CLEANED OR REPLACED AS NEEDED TO MAINTAIN DRAINAGE AND ENSURE CONTINUED PERFORMANCE. ALL INLET PROTECTION SHALL BE REMOVED PROMPTLY FOLLOWING COMPLETION OF THE PROJECT.
6. PRIOR TO ANY LAND DISTURBING ACTIVITIES, CONSTRUCTION ACCESS SHALL BE ESTABLISHED PER STANDARD PLAN EC-010 WITH ANY OTHER EROSION AND SEDIMENT CONTROL MEASURES NECESSARY TO MINIMIZE TRACKING OF SEDIMENT ONTO PUBLIC STREETS AND ROADWAYS.
7. TO THE MAXIMUM EXTENT PRACTICABLE, MINIMIZE THE DISTURBANCE OF NATURAL VEGETATION, SOILS AND SLOPES.
8. ALL RECENTLY UNWORKED DISTURBED AND EXPOSED SOILS SHALL BE STABILIZED BY THE APPROPRIATE BEST MANAGEMENT PRACTICES (BMP'S).



**EROSION CONTROL GENERAL NOTES**

STANDARD PLAN: <b>EC - 000</b>	CITY ENGINEER APPROVAL: Longview: <b>C.B.</b>
DATE: <b>JAN 2017</b>	Kelso:

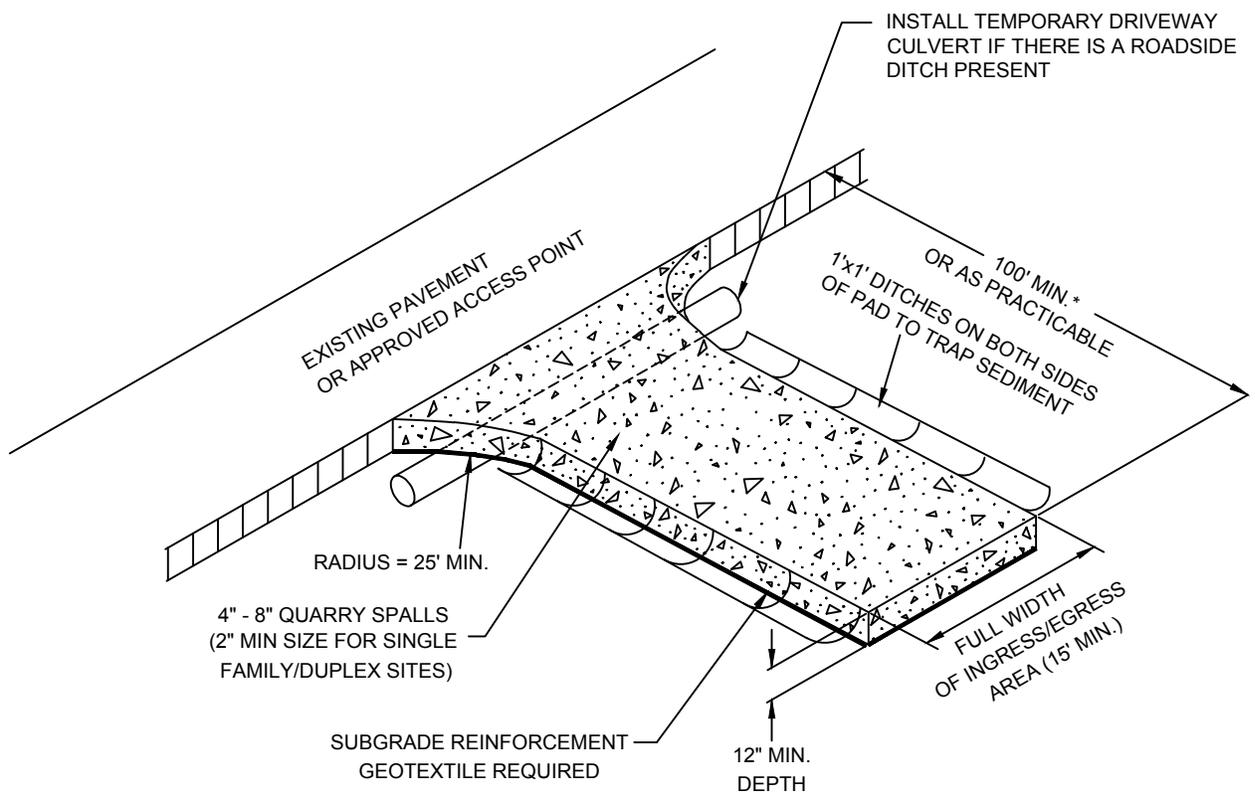
**GENERAL NOTES FOR EROSION AND SEDIMENT CONTROL – PAGE 2**

9. STOCKPILES SHALL BE STABILIZED BY IMPLEMENTING APPROPRIATE EROSION AND PERIMETER SEDIMENT CONTROL MEASURES, AND SHALL BE LOCATED AWAY FROM STORM DRAIN INLETS, DRAINAGE DITCHES AND WATERWAYS.
10. SEDIMENT OR DEBRIS SHALL NOT BE ALLOWED TO ENTER NEWLY INSTALLED OR EXISTING STORMWATER INLETS, CATCH BASINS, PIPES, DRAINAGE DITCHES, OR PERMANENT STORMWATER MANAGEMENT FACILITIES THAT ARE ON-SITE OR ADJACENT TO THE PROJECT. IF THIS OCCURS, THE CONTRACTOR SHALL REMOVE ALL ACCUMULATED SEDIMENT AND MAKE APPROPRIATE REPAIRS.
11. ANY SOIL, SEDIMENT OR DEBRIS TRANSPORTED ONTO ROADWAYS, SIDEWALKS OR ANY PUBLIC RIGHT-OF-WAY SHALL BE REMOVED IMMEDIATELY BY SHOVELING AND/OR SWEEPING. WASHING SHALL NOT BE UTILIZED UNLESS SPECIFICALLY APPROVED IN WRITING BY THE CITY.
12. STRAW MULCH USED FOR TEMPORARY EROSION CONTROL SHALL BE CERTIFIED AS WEED FREE UNLESS APPROVED BY THE CITY IN WRITING. SEED MIX USED IN THE PUBLIC RIGHT-OF-WAY SHALL ALSO BE PRE-APPROVED BY THE CITY IN WRITING PRIOR TO USE.
13. DEWATERING PLANS NEED TO BE SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL A MINIMUM OF ONE WEEK PRIOR TO PLANNED USE. DEWATERING DISCHARGE SHALL HAVE AN APPROVED POINT OF DISCHARGE OR MEANS OF PROPER DISPOSAL.
14. DURING DRY WEATHER CONSTRUCTION PERIODS, THE CONTRACTOR SHALL PROVIDE PROJECT-SPECIFIC DUST CONTROL MEASURES WHICH SHALL BE MAINTAINED UNTIL ALL DISTURBED AREAS ARE STABILIZED.
15. DISTURBED AREAS THAT WILL NOT BE BROUGHT TO FINAL GRADE OR GIVEN A PERMANENT COVER TREATMENT WITHIN 30 DAYS OF THE EXPOSURE SHALL HAVE AN APPROVED TEMPORARY SEEDING MIXTURE APPLIED AT A MINIMUM RATE OF 180 LBS/ACRE AND MULCH PLACED TO STABILIZE THE SOIL AND REDUCE EROSION.
16. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER SITE STABILIZATION IS ACHIEVED OR AFTER MEASURES ARE NO LONGER NEEDED.
17. CONSTRUCTION SHALL NOT BE CONSIDERED COMPLETE AND ACCEPTABLE UNTIL ALL DISTURBED AREAS HAVE BEEN STABILIZED. FOLLOWING STABILIZATION AND PRIOR TO COMPLETION AND/OR OCCUPANCY, THE PERMANENT STORMWATER DRAINAGE SYSTEM SHALL BE CLEANED WITH A VACTOR SYSTEM (WITH NO DISCHARGE TO THE MUNICIPAL STORM SYSTEM) OR OTHER METHOD AS APPROVED BY THE CITY.



**EROSION CONTROL GENERAL NOTES**

STANDARD PLAN: <b>EC - 001</b>	CITY ENGINEER APPROVAL:
DATE: <b>JAN 2017</b>	Longview: <b>C.B.</b>
	Kelso:



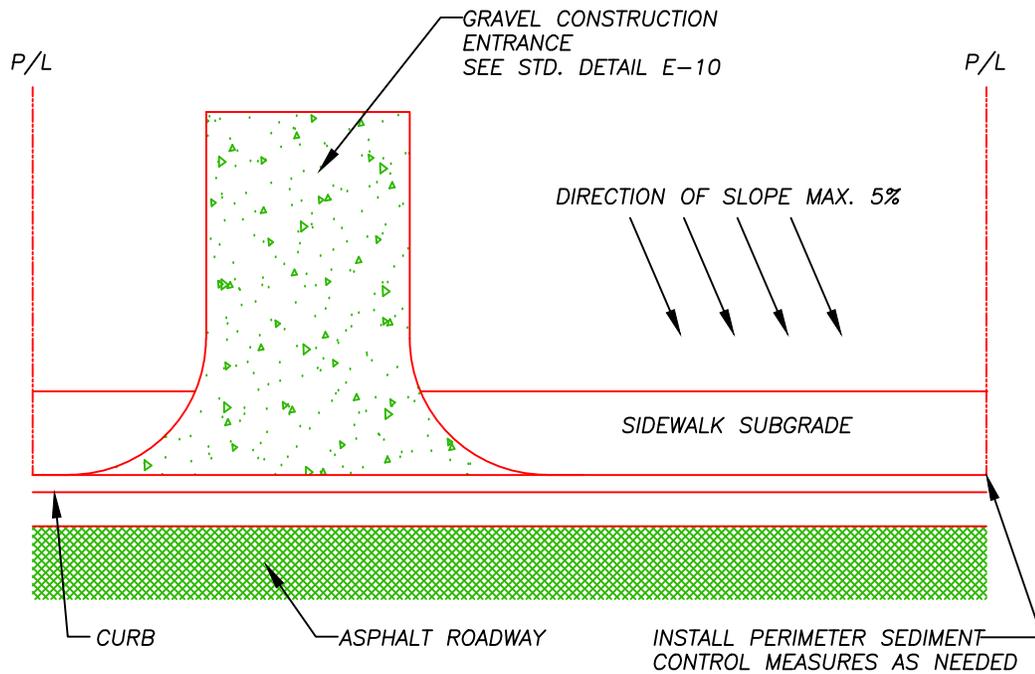
NOTES:

1. ADDITIONAL ROCK SHALL BE ADDED PERIODICALLY TO MAINTAIN PROPER FUNCTION OF THE PAD. TOP DRESS WITH CLEAN ROCK WHEN THE PAD BECOMES CLOGGED WITH SEDIMENT.
2. ANY SEDIMENT TRACKING ONTO EXISTING PAVEMENT SHALL BE REMOVED IMMEDIATELY.

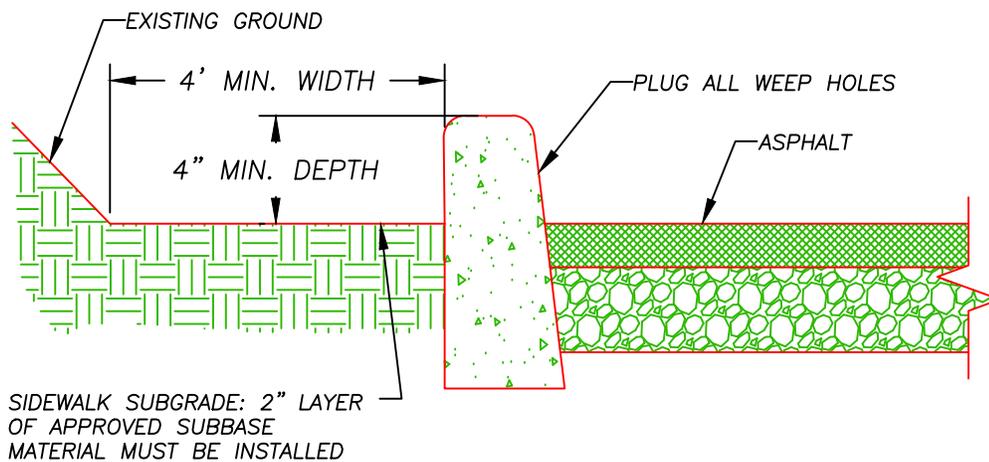
\* MAY BE REDUCED TO 50' MINIMUM PAD LENGTH FOR SITES WITH LESS THAN 1 ACRE OF LAND DISTURBANCE. A 20' MINIMUM PAD LENGTH AND 8" MINIMUM PAD DEPTH MAY BE ACCEPTABLE AS APPROVED FOR SINGLE FAMILY & DUPLEX RESIDENTIAL.

	<b>STABILIZED CONSTRUCTION ENTRANCE</b>	
	STANDARD PLAN: <b>EC - 010</b>	CITY ENGINEER APPROVAL: Longview: <b>C.B.</b>
	DATE: <b>JAN 2017</b>	Kelso:





PLAN VIEW



PROFILE

**NOTES:**

1. THE SIDEWALK SUBGRADE AND CURB CAN SERVE AS A SEDIMENT TRAP FOR SMALL DRAINAGES SUCH AS RESIDENTIAL AND SMALL COMMERCIAL PARCELS.
2. INSPECT ONCE PER WEEK AND WITHIN 24 HOURS FOLLOWING A 0.5 INCH RAIN EVENT.
3. REMOVE SEDIMENT FROM THE SUBGRADE WHEN IT IS 2" BELOW THE TOP OF THE CURB.



**SIDEWALK SUBGRADE CURB BARRIER**

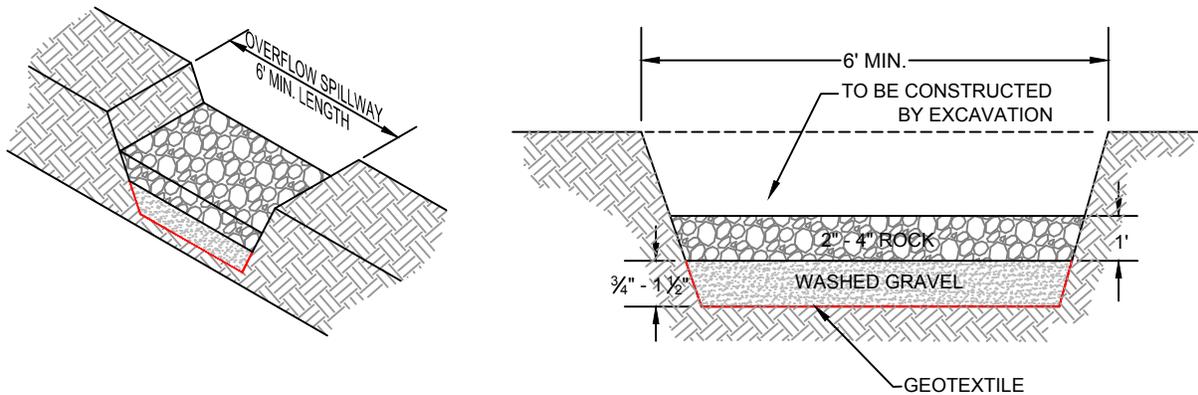
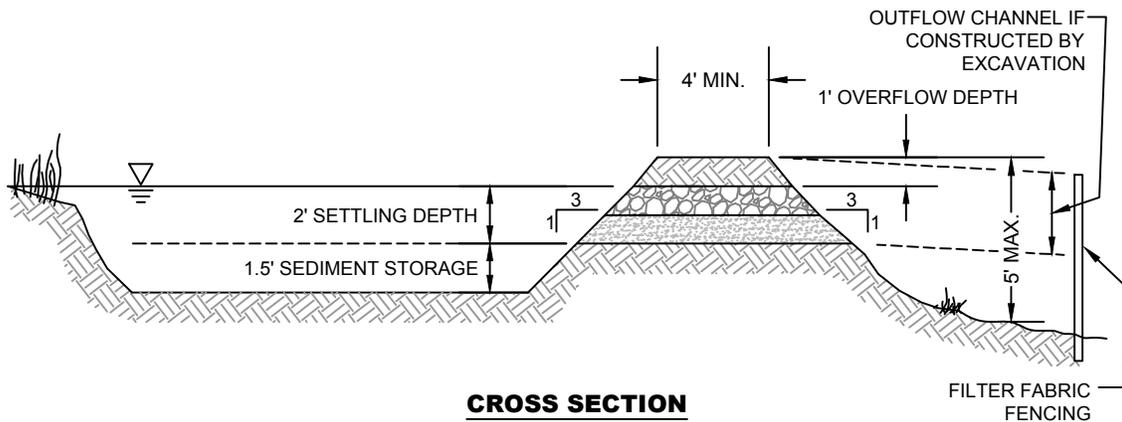
STANDARD PLAN:  
**EC - 055**

CITY ENGINEER APPROVAL:

Longview: **C.B.**

DATE: **JAN 2017**

Kelso:



**NOTES:**

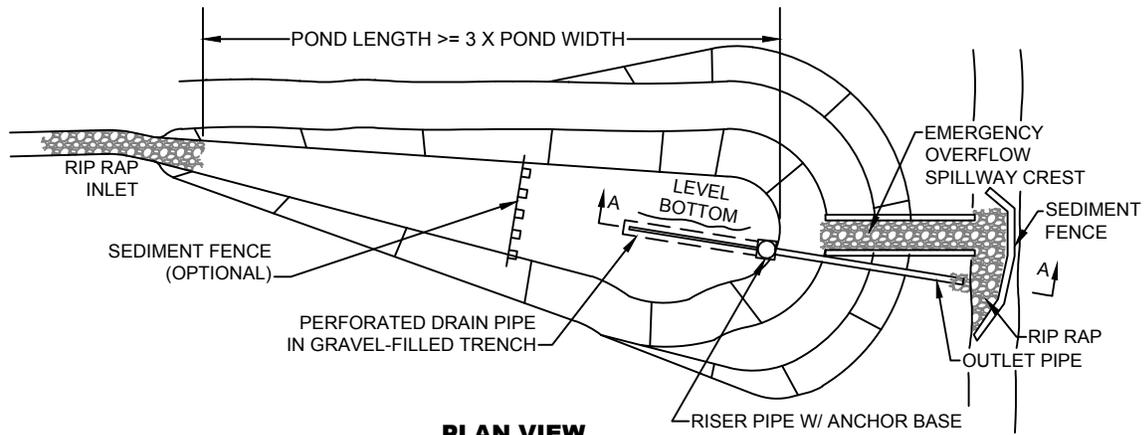
1. SEDIMENT TRAPS SHALL BE LIMITED TO DRAINAGE AREAS OF LESS THAN 3 ACRES. FOR DRAINAGE AREAS GREATER THAN 3 ACRES, SEE EC-070 (SEDIMENT BASIN).
2. THE SEDIMENT TRAP IS TO BE LOCATED IN A LOW AREA WHERE THE TRAP WILL INTERCEPT ALL OR MOST OF THE RUNOFF FROM THE DISTURBED AREA.
3. THE SEDIMENT TRAP MAY BE FORMED COMPLETELY BY EXCAVATION OR BY CONSTRUCTION OF A COMPACTED EMBANKMENT.
4. SEDIMENT TRAPS ARE TO HAVE A LEVEL BOTTOM, 3:1 OR FLATTER SIDE SLOPES AND A MINIMUM LENGTH-TO-WIDTH RATIO OF 3.
5. THE SEDIMENT TRAP SHALL DISCHARGE TO A STABILIZED CONVEYANCE, OUTLET OR LEVEL SPREADER. A SEDIMENT FENCE SHALL BE CONSTRUCTED IMMEDIATELY DOWNSTREAM OF THE OUTFLOW POINT.
6. INSPECT ONCE PER WEEK AND WITHIN 24 HOURS FOLLOWING A 0.5 INCH RAIN EVENT.
7. REMOVE SEDIMENT FROM THE TRAP WHEN IT REACHES 1 FOOT IN DEPTH.



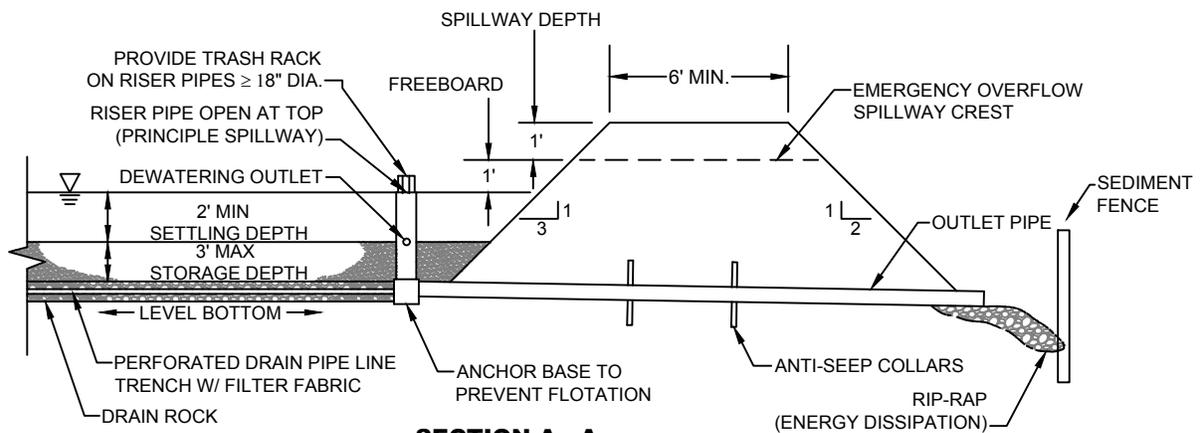
**SEDIMENT TRAP**

STANDARD PLAN:  
**EC - 060**  
DATE: **JAN 2017**

CITY ENGINEER APPROVAL:  
Longview: **C.B.**  
Kelso:



**PLAN VIEW**



**SECTION A - A**

**NOTES:**

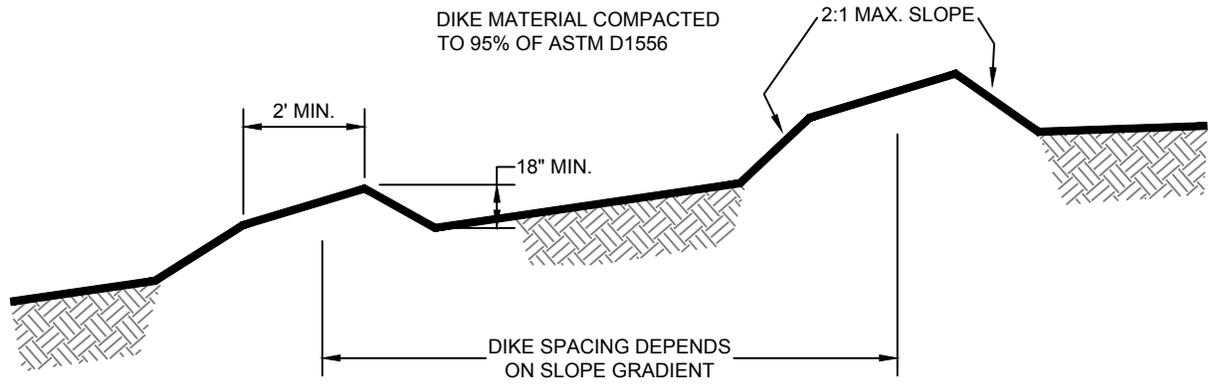
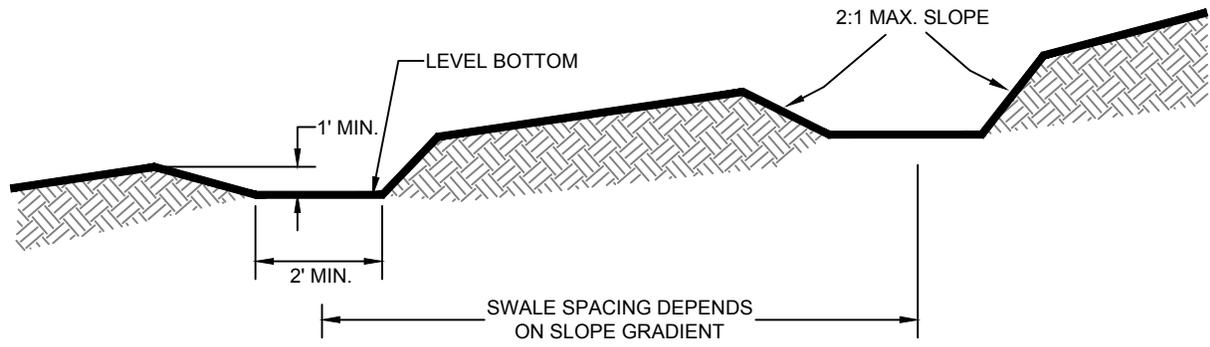
1. STRUCTURES HAVING A MAXIMUM STORAGE CAPACITY AT THE TOP OF DAM OF 10 ACRE-FT (435,600 CUBIC FEET) OR MORE ARE SUBJECT TO THE WASHINGTON DAM SAFETY REGULATIONS (CHAPTER 173-175 WAC).
2. SEDIMENT BASINS ARE TO HAVE A LEVEL BOTTOM, 3:1 OR FLATTER SIDE SLOPES AND A LENGTH-TO-WIDTH RATIO OF 3
3. ALL INLETS AND OUTLETS SHALL BE PROTECTED BY RIP-RAP. SPILLWAY SHALL BE LINED WITH 2" - 4" ROCK.
4. PERFORATED PIPE TRENCH SHALL BE COMPLETELY LINED WITH FILTER FABRIC.
5. THE SEDIMENT BASIN SHALL DISCHARGE TO A STABILIZED CONVEYANCE, OUTLET OR LEVEL SPREADER. A SEDIMENT FENCE SHALL BE CONSTRUCTED IMMEDIATELY DOWNSTREAM OF THE OUTFLOW POINT.
6. INSPECT ONCE PER WEEK AND WITHIN 24 HOURS FOLLOWING A 0.5 INCH RAIN EVENT.



**SEDIMENT BASIN**

STANDARD PLAN:  
**EC - 070**  
DATE: **JAN 2017**

CITY ENGINEER APPROVAL:  
Longview: **C.B.**  
Kelso:



NOTES:

1. MAXIMUM SLOPE OF FLOW PATH ALONG SWALES AND PERPENDICULAR TO DIKES SHALL BE EQUAL TO OR LESS THAN 5 PERCENT.
2. FLOWS SHOULD DISCHARGE TO A SUITABLE OUTLET (SUCH AS A SEDIMENT TRAP OR SEDIMENT BASIN).
3. SIDE SLOPES OF SWALES/DIKES SHALL BE NO GREATER THAN 2:1.
4. MAXIMUM SPACING BETWEEN SWALES/DIKES:

SLOPE	<5%	5 – 10%	10 – 40%
DISTANCE	300 FT	200 FT	100 FT



**INTERCEPTOR SWALES AND DIKES**

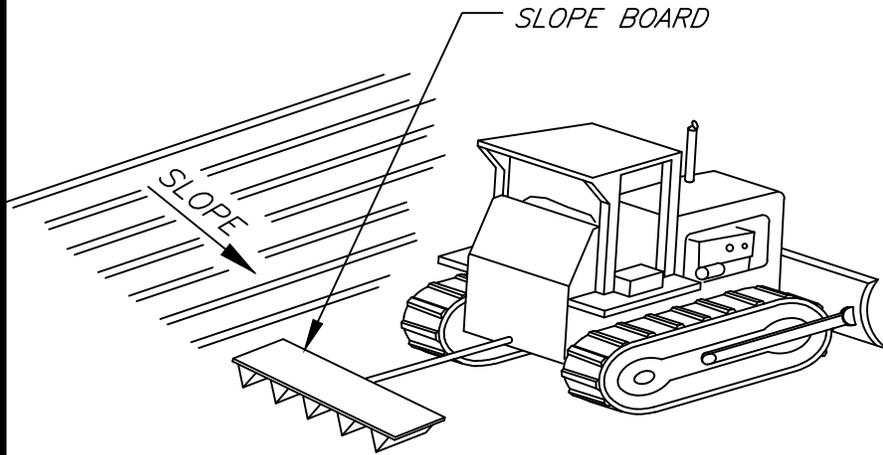
STANDARD PLAN:  
**EC - 080**

DATE: **JAN 2017**

CITY ENGINEER APPROVAL:

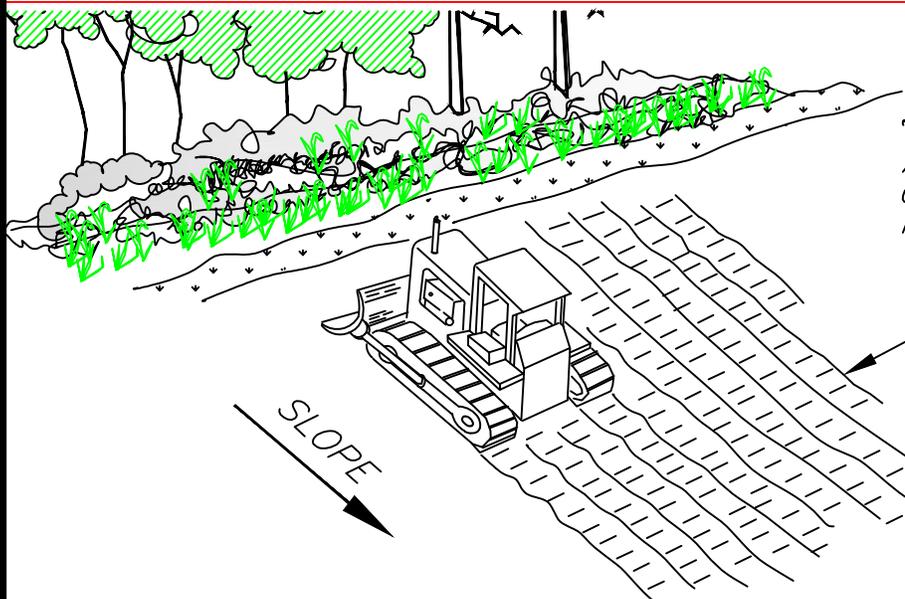
Longview: **C.B.**

Kelso:



**NOTE:**  
GROOVE BY CUTTING SERRATIONS  
ALONG THE CONTOUR.  
IRREGULARITIES IN THE SOIL  
SURFACE CATCH RAINWATER,  
SEED, MULCH AND FERTILIZER  
AND PREVENT FROM BEING  
WASHED DOWNHILL.

### CONTOUR FURROWS



'TRACKING' WITH MACHINERY UP  
AND DOWN THE SLOPE PROVIDES  
GROOVES THAT WILL CATCH  
RAINFALL AND REDUCE RUNOFF.

DOZER TRACKS CREATING  
GROOVES PERPENDICULAR  
TO SLOPE

### TRACKING

#### NOTES:

1. CONTOUR FURROWS ARE CREATED BY CUTTING GROOVES PERPENDICULAR TO THE SLOPE.
2. TRACKING IS PERFORMED BY RUNNING MACHINERY UP AND DOWN THE SLOPE.
3. EXPOSED SURFACES SHALL BE SEEDED IMMEDIATELY AFTER ROUGHENING.
4. SLOPES WHERE MOWING IS PLANNED SHOULD NOT BE EXCESSIVELY ROUGHENED.
5. MULCH FOR ESTABLISHING SEED GERMINATION AND/OR OTHER TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED AS NEEDED.



## SURFACE ROUGHENING

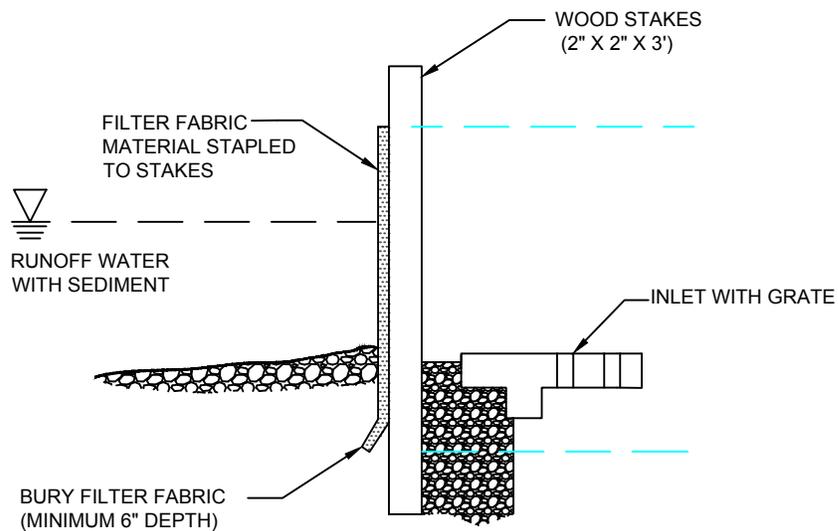
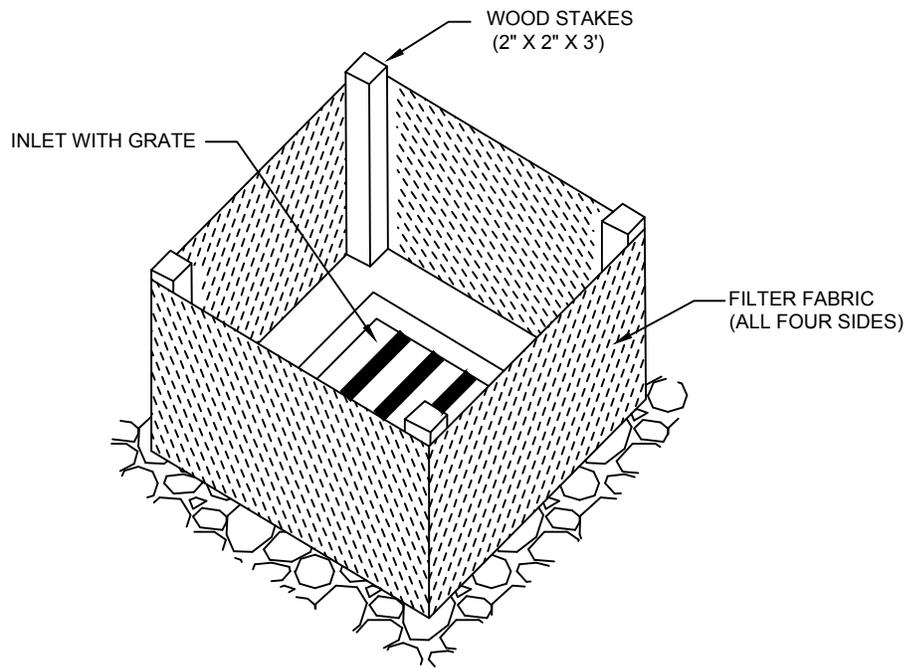
STANDARD PLAN:  
**EC - 085**

DATE: **JAN 2017**

CITY ENGINEER APPROVAL:

Longview: **C.B.**

Kelso:



NOTES:

1. ATTACH FILTER FABRIC TO WOOD STAKES LOCATED AT FOUR CORNERS SURROUNDING INLET.
2. BURY FILTER FABRIC TO MINIMUM 6 INCH DEPTH.
3. INSPECT ONCE PER WEEK AND WITHIN 24 HOURS FOLLOWING A 0.5 INCH RAIN EVENT.
4. CLEAN INLET PROTECTION AFTER EACH SIGNIFICANT RAIN EVENT AND REMOVE SEDIMENT FROM BEHIND BARRIERS.
5. REPAIR OR REPLACE MATERIALS AS NEEDED TO ENSURE PROPER FUNCTION.



**FILTER FABRIC INLET BARRIER**

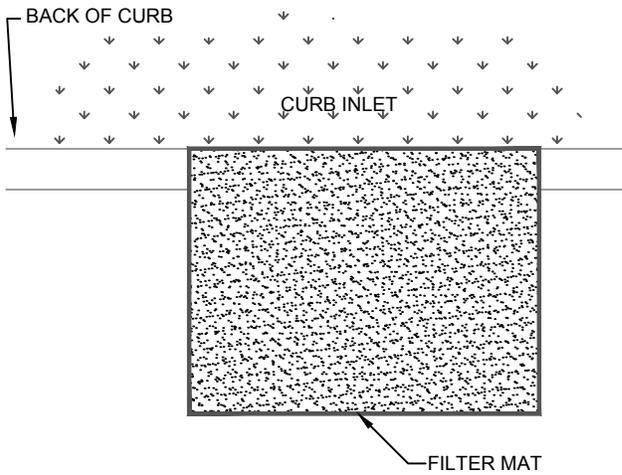
STANDARD PLAN:  
**EC - 090**

CITY ENGINEER APPROVAL:

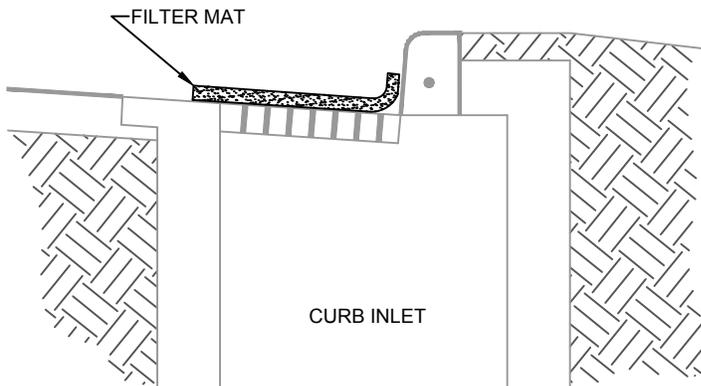
Longview: **C.B.**

DATE: **JAN 2017**

Kelso:

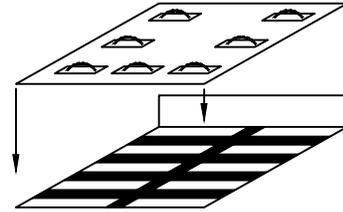


**PLAN VIEW**



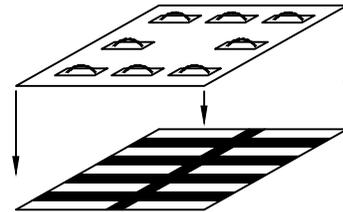
**STREET CURB INLET GRATE**

7 ZIP TIES  
AND HOLD-DOWN PADS



**FLAT STREET GRATE**

8 ZIP TIES  
AND HOLD-DOWN PADS



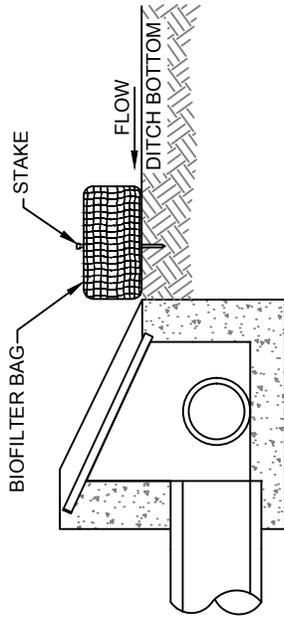
**NOTES:**

1. POSITION FILTER MAT ON INLET GRATE WITH MINIMUM 1 INCH OVERLAP ON EACH SIDE.
2. ATTACH WITH CABLE TIES. USE A MINIMUM OF 7 TIES FOR CURB INLET GRATES AND 8 FOR FLAT INLET GRATE.
3. INSPECT ONCE PER WEEK AND WITHIN 24 HOURS FOLLOWING A 0.5 INCH RAIN EVENT.
4. CLEAN INLET PROTECTION AFTER EACH SIGNIFICANT RAIN EVENT AND REMOVE DEBRIS FROM BEHIND MATS.
5. REPLACE WITH NEW FILTER MAT AS NEEDED TO ENSURE PROPER FUNCTION.

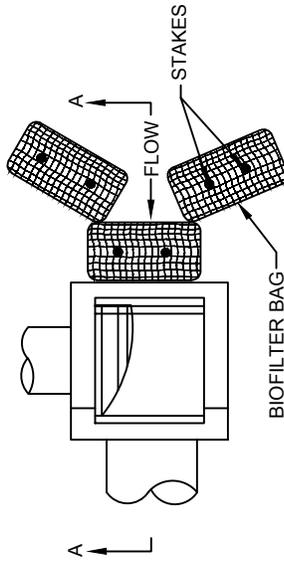


**INLET PROTECTION FILTER MAT**

STANDARD PLAN: <b>EC - 095</b>	CITY ENGINEER APPROVAL: Longview: <b>C.B.</b>
DATE: <b>JAN 2017</b>	Kelso:

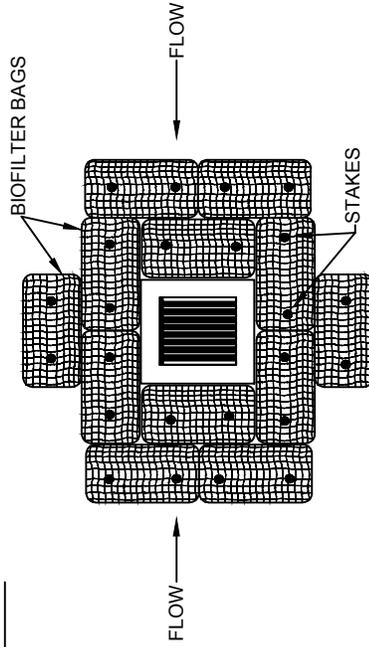


**SECTION A-A**

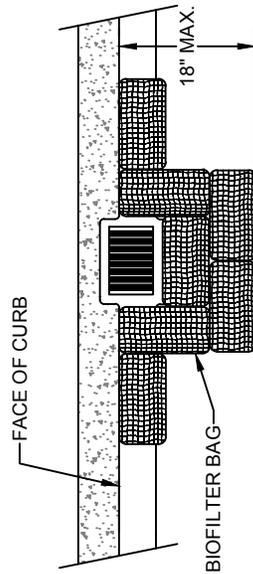


**PLAN**

**DITCH INLET**



**AREA DRAIN**



**CATCH BASIN**

**NOTES:**

1. CATCH BASIN APPLICATION IS NOT ALLOWED ON STREETS WITH MOVING TRAFFIC.
2. OVERLAP ALL BAG JOINTS 6 INCHES.
3. USE 2 STAKES PER BAG. BAGS ON PAVEMENT SHALL BE SECURED BY ALTERNATE MEANS TO PREVENT MOVEMENT DURING RAIN EVENTS.
4. INSPECT ONCE PER WEEK AND WITHIN 24 HOURS FOLLOWING A 0.5 INCH RAIN EVENT.
5. CLEAN INLET PROTECTION AFTER EACH SIGNIFICANT RAIN EVENT AND REMOVE SEDIMENT FROM BEHIND BAGS.
6. REPLACE WITH NEW BAGS AS NEEDED TO ENSURE PROPER FUNCTION.

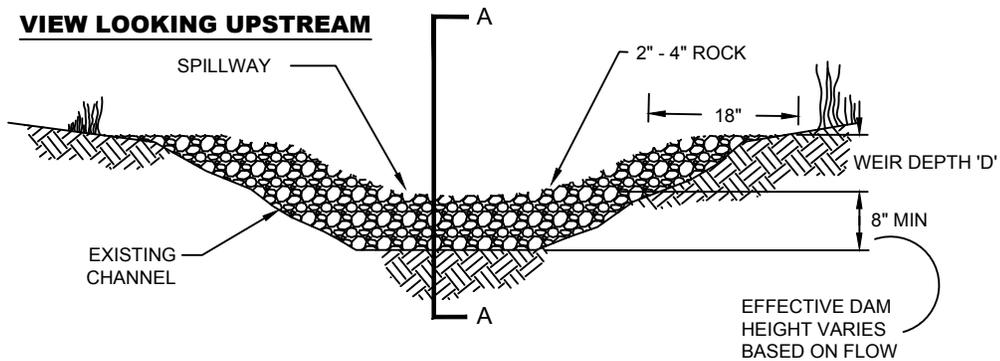


**INLET PROTECTION BIOFILTER BAGS**

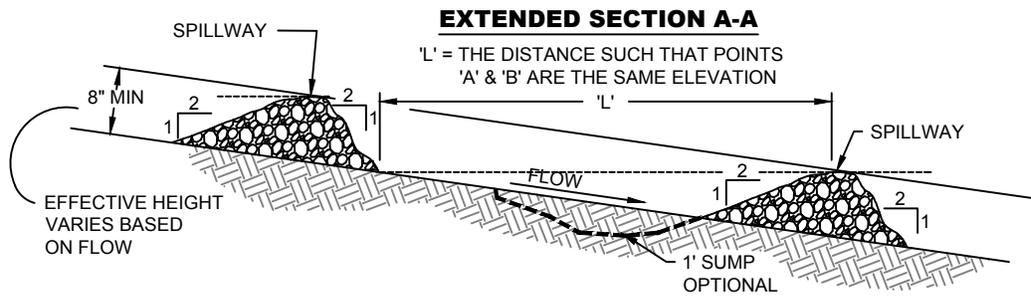
STANDARD PLAN:  
**EC - 120**  
DATE: **JAN 2017**

CITY ENGINEER APPROVAL:  
Longview: **C.B.**  
Kelso:

**VIEW LOOKING UPSTREAM**



**EXTENDED SECTION A-A**



NOTES:

1. CHECK DAMS SHALL BE USED IN TEMPORARY OR PERMANENT CHANNELS THAT DRAIN 10 ACRES OR LESS, ARE NOT YET VEGETATED, AND WHEN INSTALLING CHANNEL LINING IS NOT FEASIBLE.
2. SPACING TABLE FOR CHECK DAMS (LENGTH 'L'):

DITCH GRADE	MINIMUM WEIR DEPTH 'D'		
	6 INCH	12 INCH	18 INCH
6%	NOT ALLOWED	L=16 FEET	L=26 FEET
5%	NOT ALLOWED	L=20 FEET	L=30 FEET
4%	NOT ALLOWED	L=26 FEET	L=40 FEET
3%	L=15 FEET	L=33 FEET	L=50 FEET
2%	L=25 FEET	L=50 FEET	L=80 FEET

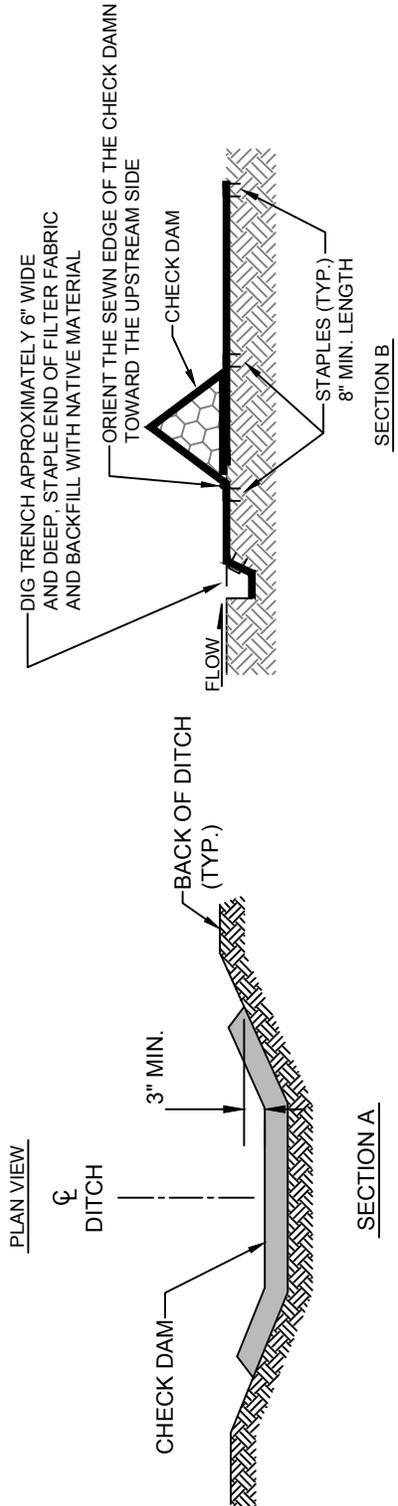
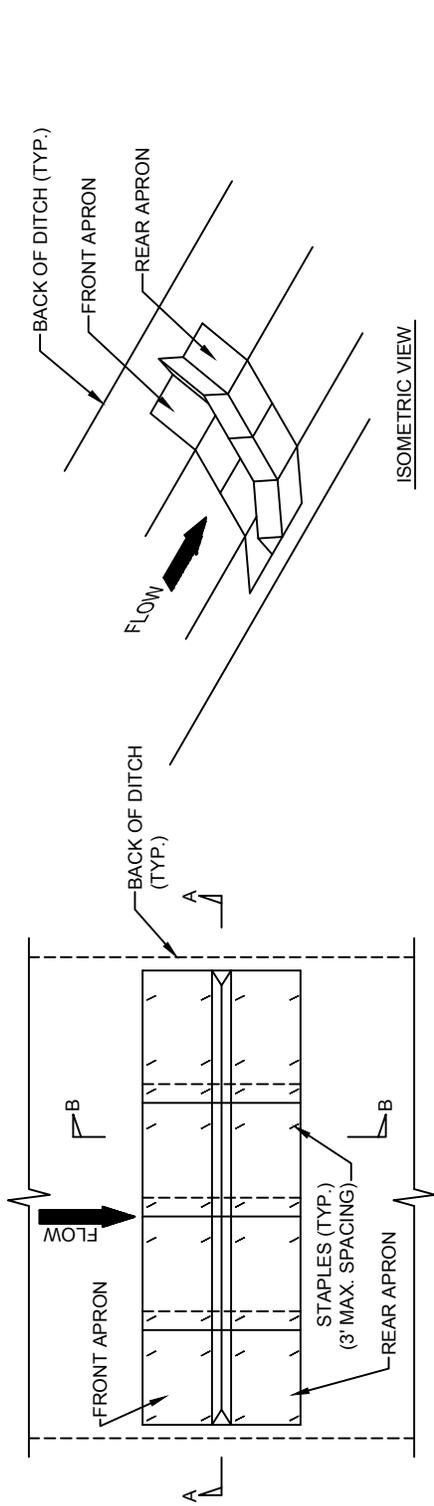
3. BRIDGE ENTIRE DITCH OR SWALE WIDTH AND ENSURE THE CENTER OF DAM IS THE MINIMUM WEIR DEPTH 'D' LOWER THAN THE OUTER EDGES.
4. KEY STONE INTO CHANNEL BANKS AND EXTEND TO BEYOND THE ABUTMENTS A MINIMUM OF 18 INCHES TO PREVENT FLOW AROUND DAM.
5. FOR HIGHER VELOCITY FLOWS (> 5 FPS) USE 6"-12" RIPRAP AND HAND PLACE LARGER ROCK ON UPSTREAM SIDE OF DAM.
6. INSPECT ONCE PER WEEK AND WITHIN 24 HOURS FOLLOWING A 0.5 INCH RAIN EVENT.
7. CLEAN INLET PROTECTION AFTER EACH SIGNIFICANT RAIN EVENT AND REMOVE SEDIMENT FROM BEHIND DAMS WHEN IT REACHES ONE-THIRD THE DEPTH OF THE ROCK WEIR.



**ROCK CHECK DAM**

STANDARD PLAN:  
**EC - 130**  
DATE: **JAN 2017**

CITY ENGINEER APPROVAL:  
Longview: **C.B.**  
Kelso:



**NOTES:**

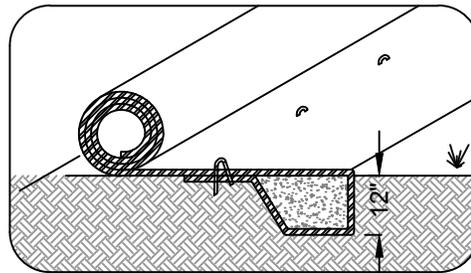
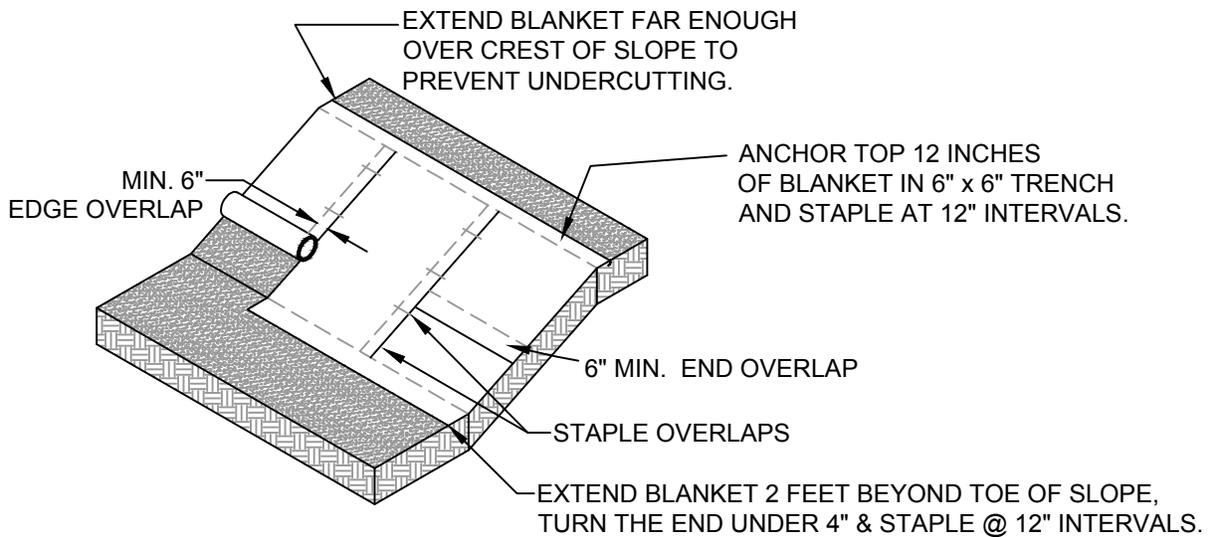
1. GEOTEXTILE-ENCASED CHECK DAMS CAN BE USED FOR DITCH CHECK DAMS AND DIVERSION DIKES, AND MAY BE ABLE TO REPLACE SEDIMENT FENCE IN SOME APPLICATIONS.
2. GEOTEXTILE-ENCASED CHECK DAMS SHALL MEET THE REQUIREMENTS OF WSDOT SPECIFICATIONS 8.01.3(6)A AND 9-14.5(4). FOLLOW MANUFACTURER'S SPECIFICATIONS FOR INSTALLATION.
3. INSPECT ONCE PER WEEK AND WITHIN 24 HOURS FOLLOWING A 0.5 INCH RAIN EVENT.
4. PERFORM MAINTENANCE IN ACCORDANCE WITH WSDOT SPECIFICATION 8-01.3(15).



**GEOTEXTILE ENCASED CHECK DAM**

STANDARD PLAN:  
**EC - 140**  
DATE: **JAN 2017**

CITY ENGINEER APPROVAL:  
Longview: **C.B.**  
Kelso:



INITIAL CHANNEL ANCHOR TRENCH

NOTES:

1. SLOPE SURFACE SHALL BE SMOOTH BEFORE PLACEMENT TO ENSURE PROPER SOIL CONTACT.
2. AMEND SOIL AND SEED PRIOR TO INSTALLATION (PLANTING OF SHRUBS AND TREES SHOULD OCCUR AFTER INSTALLATION).
3. ANCHOR MATERIAL AT THE TOP OF SLOPE IN A 6"x6" TRENCH. IF THERE IS A BERM AT THE TOP OF SLOPE, ANCHOR UPSLOPE OF THE BERM.
4. MATTING/BANKETS SHOULD BE INSTALLED VERTICALLY DOWNSLOPE. FOR SLOPES OF 3:1 OR LESS, BLANKETS MAY BE PLACED ACROSS THE SLOPE.
5. DO NOT STRETCH BLANKETS/MATTINGS TIGHT—ALLOW THE ROLLS TO MOLD TO ANY IRREGULARITIES.
6. INSTALL AND STAPLE/STAKE PER MANUFACTURER'S SPECIFICATIONS.
7. INSPECT ONCE PER WEEK AND WITHIN 24 HOURS FOLLOWING A 0.5 INCH RAIN EVENT. REPAIR ANY DAMAGED AREAS OF THE BLANKET AND STAPLE ANY AREAS NOT IN CLOSE CONTACT WITH THE GROUND.



**EROSION CONTROL BLANKET-SLOPE INSTALLATION**

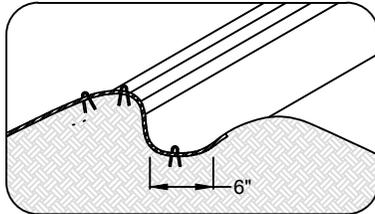
STANDARD PLAN:  
**EC - 150**

DATE: **JAN 2017**

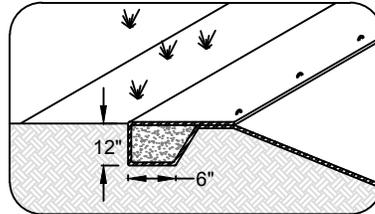
CITY ENGINEER APPROVAL:

Longview: **C.B.**

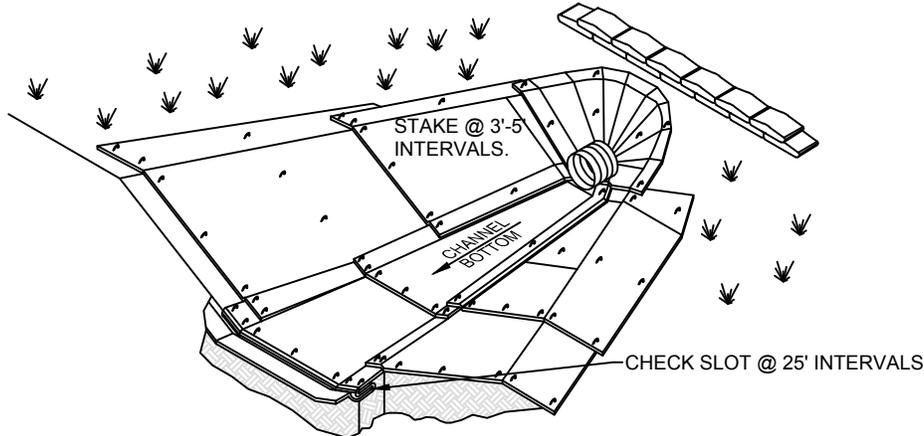
Kelso:



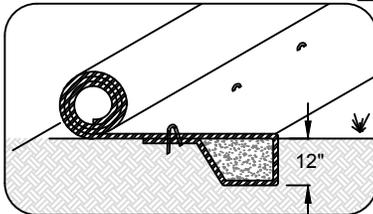
LONGITUDINAL ANCHOR TRENCH



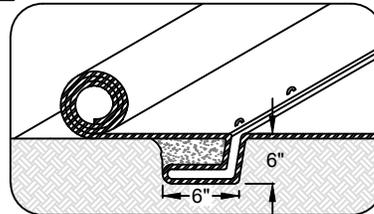
TERMINAL SLOPE & CHANNEL ANCHOR TRENCH



**ISOMETRIC VIEW**



INITIAL CHANNEL ANCHOR TRENCH



INTERMITTENT CHECK SLOT

**NOTES:**

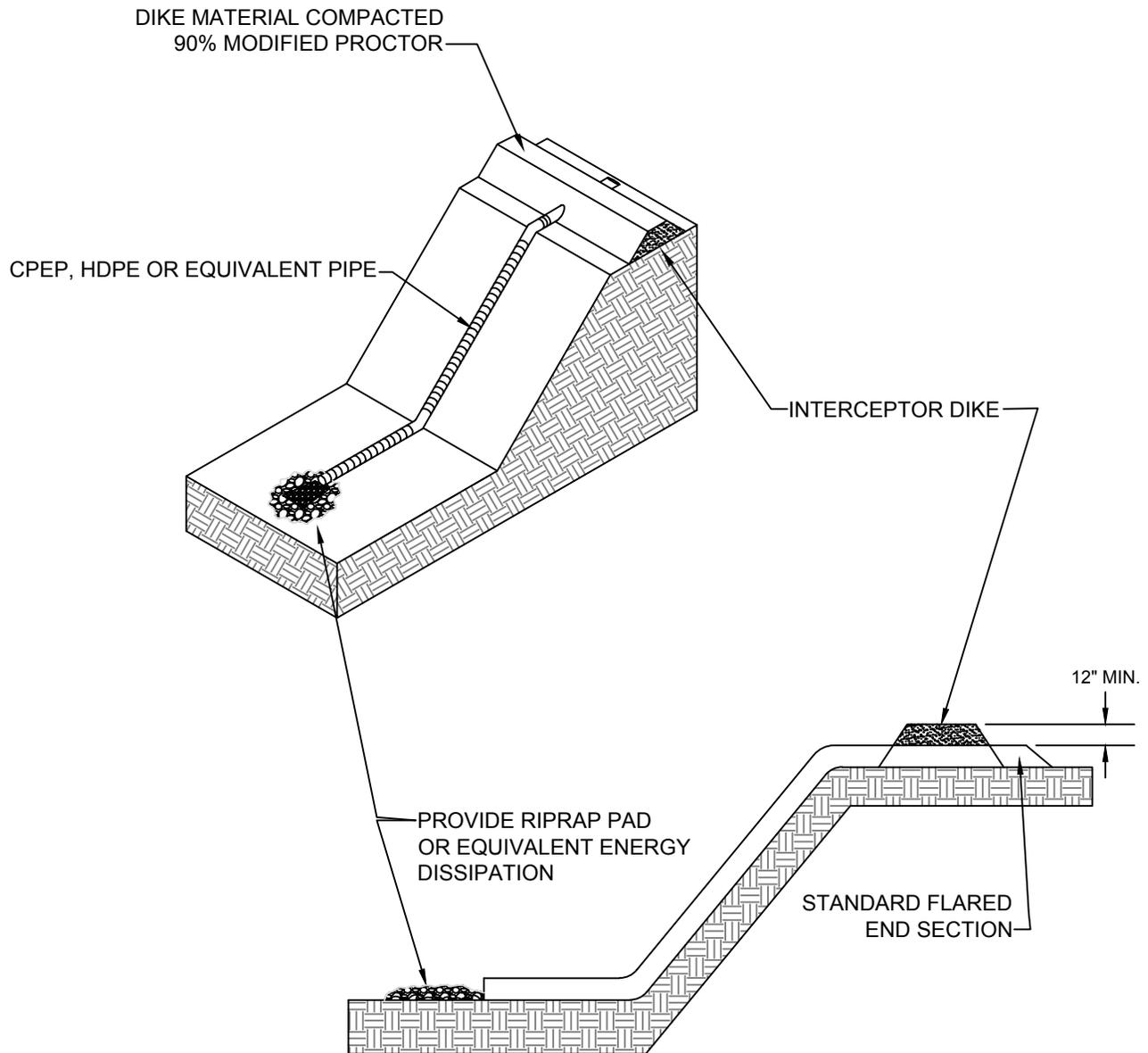
1. SLOPE SURFACE SHALL BE SMOOTH BEFORE PLACEMENT TO ENSURE PROPER SOIL CONTACT.
2. AMEND SOIL AND SEED PRIOR TO INSTALLATION, WHERE APPLICABLE.
3. OVERLAP BLANKETS LENGTHWISE A MINIMUM OF 12"; OVERLAP CROSSWISE A MINIMUM OF 6". AVOID JOINING MATERIAL IN CENTER OF DITCH OR SWALE.
4. DO NOT STRETCH BLANKETS/MATTINGS TIGHT—ALLOW THE ROLLS TO MOLD TO ANY IRREGULARITIES
5. CHECK SLOTS ARE TO BE CONSTRUCTED PER MANUFACTURER'S SPECIFICATIONS.
6. INSTALL AND STAPLE/STAKE PER MANUFACTURER'S SPECIFICATIONS.
7. INSPECT ONCE PER WEEK AND WITHIN 24 HOURS FOLLOWING A 0.5 INCH RAIN EVENT. REPAIR ANY DAMAGED AREAS OF THE BLANKET AND STAPLE ANY AREAS NOT IN CLOSE CONTACT WITH THE GROUND.



**EROSION CONTROL BLANKET-CHANNEL INSTALLATION**

STANDARD PLAN:  
**EC - 155**  
DATE: **JAN 2017**

CITY ENGINEER APPROVAL:  
Longview: **C.B.**  
Kelso:



**NOTES:**

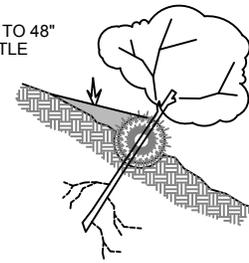
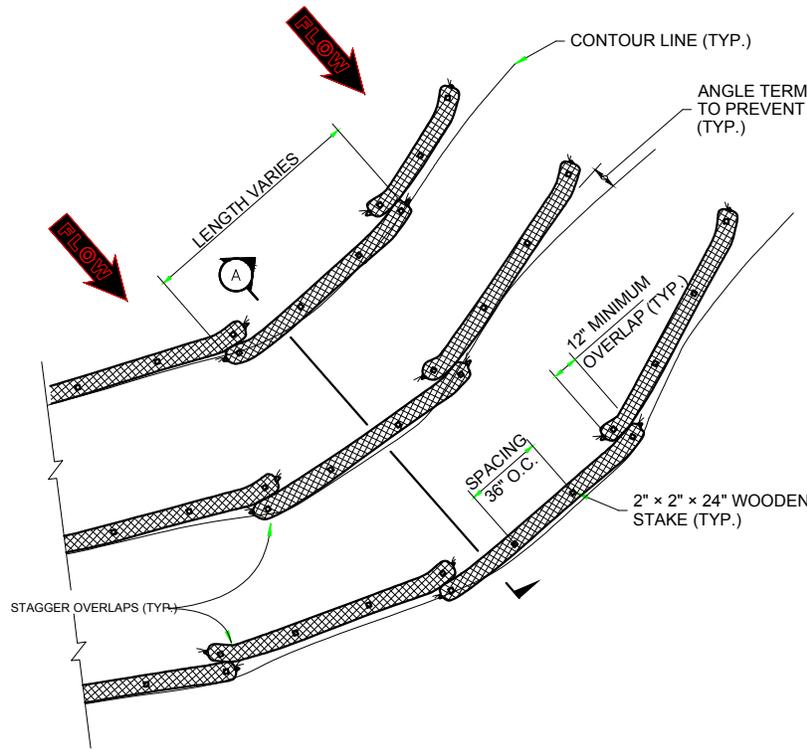
1. THRUST BLOCKS SHALL BE INSTALLED ANYTIME 90 DEGREE BENDS ARE UTILIZED.
2. PIPE SHALL BE SECURED ALONG ITS ENTIRE LENGTH WITH STEEL "T" POSTS AND WIRE (POSTS INSTALLED ON BOTH SIDES OF PIPE AND PIPE WIRED TO POSTS). POSTS SHALL HAVE A MINIMUM SPACING OF 20 FEET.
3. INLET AND ALL SECTIONS MUST BE SECURELY FASTENED TOGETHER WITH GASKETED WATERTIGHT FITTINGS.
4. DISCHARGE TO A STABILIZED WATERCOURSE, SEDIMENT RETENTION FACILITY, OR STABILIZED OUTLET.



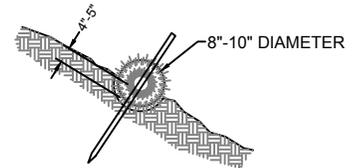
**PIPE SLOPE DRAIN**

STANDARD PLAN:  
**EC - 170**  
DATE: **JAN 2017**

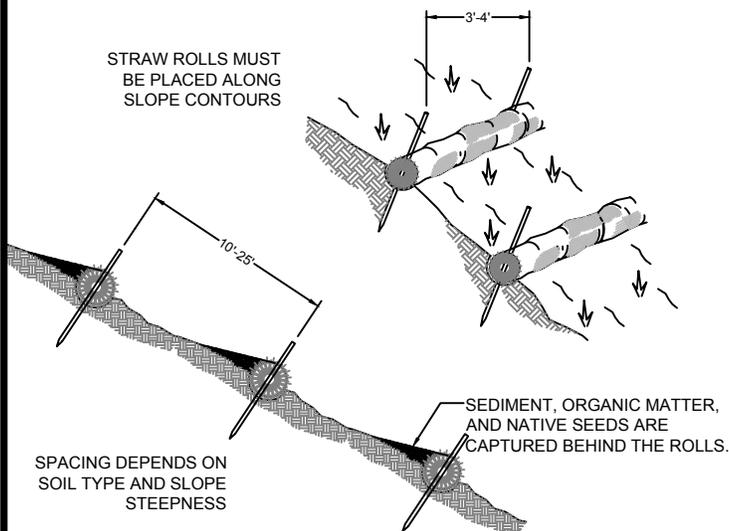
CITY ENGINEER APPROVAL:  
Longview: **C.B.**  
Kelso:



**LIVE STAKE**



**1" X 1" STAKE**



**NOTES:**

1. WATTLE ROLLS ARE INSTALLED PARALLEL TO THE SLOPE CONTOUR, PERPENDICULAR TO THE FLOW OF WATER.
2. ROLLS SHOULD BE PLACED IN SHALLOW TRENCHES DEEP ENOUGH TO ACCOMMODATE HALF THE THICKNESS OF THE ROLL (4"-5" FOR 8"-10" DIAMETER ROLLS).
3. INSTALL ROLLS AT MINIMUM SPACING OF 10-25 FEET APART DEPENDING ON THE SLOPE AS FOLLOWS:

SLOPE	MINIMUM TRENCH / ROLL SPACING
1:1	10 FEET
2:1	20 FEET
3:1 OR GREATER	25 FEET

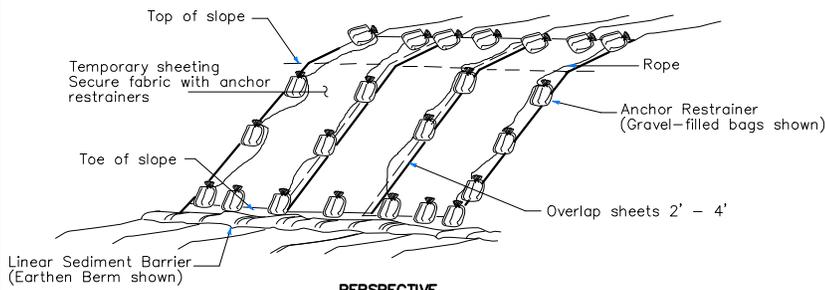
4. ENSURE THAT ROLLS ABUT TIGHTLY.
5. STAKE EVERY 3 TO 4 FEET. LEAVE ONLY 1 OR 2 INCHES OF STAKE EXPOSED ABOVE ROLL.
6. INSTALL ROLLS FROM THE BOTTOM OF THE SLOPE AND WORK UP.
7. INSPECT ONCE PER WEEK AND WITHIN 24 HOURS FOLLOWING A 0.5 INCH RAIN EVENT. ENSURE THE ROLLS ARE IN CONTACT WITH THE SOIL.



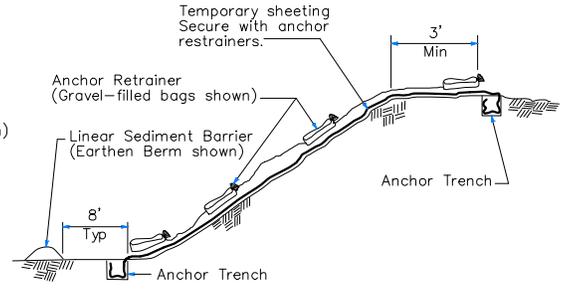
**STRAW WATTLES**

STANDARD PLAN:  
**EC - 180**  
DATE: **JAN 2017**

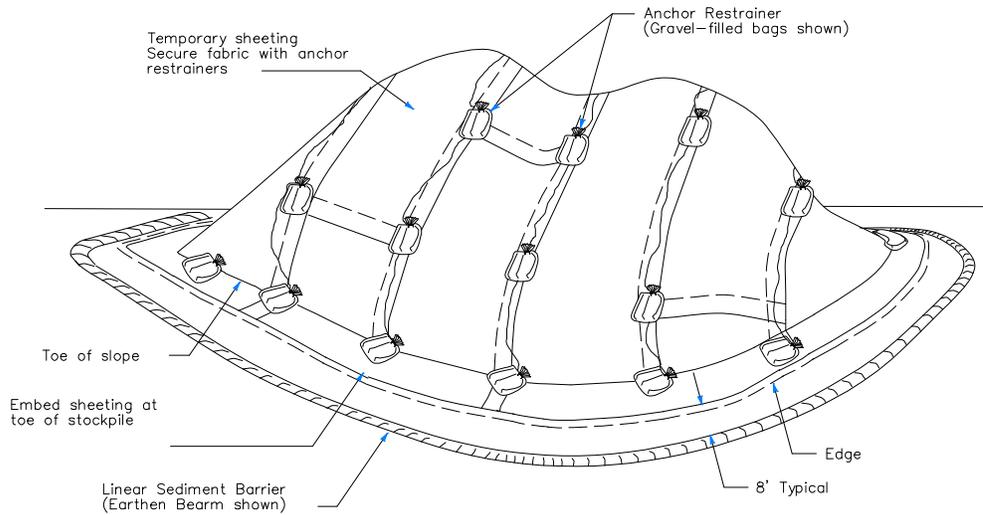
CITY ENGINEER APPROVAL:  
Longview: **C.B.**  
Kelso:



**PERSPECTIVE**  
**TEMPORARY COVER ON SLOPE**



**SECTION**  
**TEMPORARY COVER ON SLOPE**



**TEMPORARY COVER ON STOCKPILE**

**NOTES:**

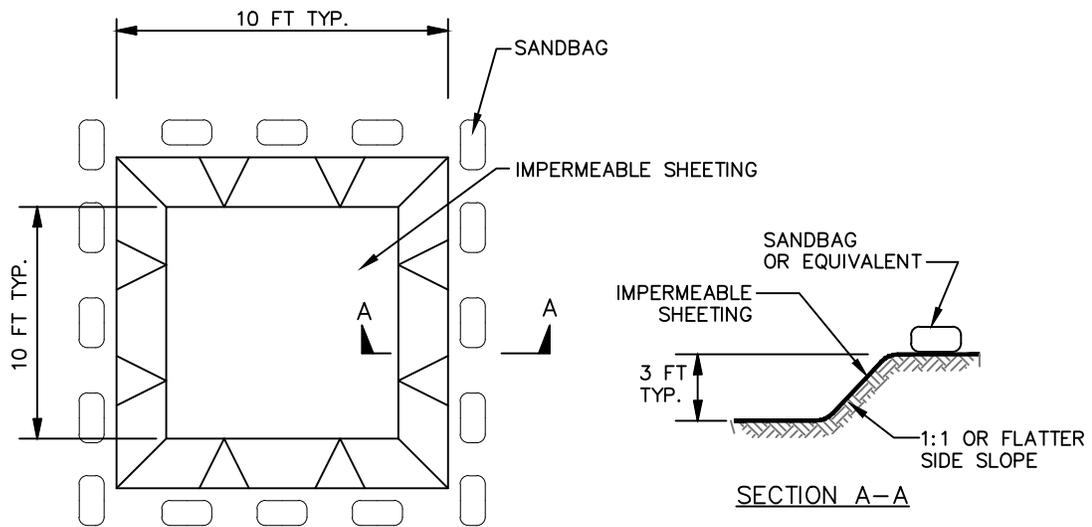
1. PLASTIC SHEETING IS USED TO PROVIDE IMMEDIATE PROTECTION TO SLOPES AND STOCKPILES FROM RAINFALL AND EROSION.
2. OVERLAP SEAMS 2'-4'. TAPE, ROLL AND STAKE THE SEAMS.
3. ANCHOR THE COVERING/SHEETING USING SANDBAGS OR OTHER SUITABLE TETHERED ANCHOR SYSTEM SPACED ON A 10' GRID SPACING IN ALL DIRECTIONS.
4. INSTALL A GRAVEL BERM, STAKED STRAW WATTLES, RIPRAP, OR OTHER SUITABLE SEDIMENT BARRIER AT THE TOE OF THE SLOPE OR STOCKPILE. PROVIDE ENERGY DISSIPATION AT TOE WHEN NEEDED.
5. SLOPE APPLICATION: INSTALL AN INTERCEPTOR DIKE AT THE TOP OF THE PLASTIC TO DIVERT RUNOFF AWAY FROM PLASTIC SHEETING—ALLOW NO WATER TO GO UNDER THE SHEETING. ANCHOR MATERIAL AT THE TOP OF SLOPE IN A 6"X6" TRENCH. *DO NOT USE PLASTIC COVERING UPSLOPE OF AREAS SUCH AS STEEP AND/OR UNSTABLE SLOPES THAT MIGHT BE ADVERSELY AFFECTED BY INCREASED OR CONCENTRATED RUNOFF.*
6. INSPECT ONCE PER WEEK AND WITHIN 24 HOURS FOLLOWING A 0.5 INCH RAIN EVENT. REPLACE TORN SHEETS AND REPAIR OPEN SEAMS. COMPLETELY REPLACE PLASTIC WHEN IT BEGINS TO DETERIORATE.



**PLASTIC COVERING/SHEETING**

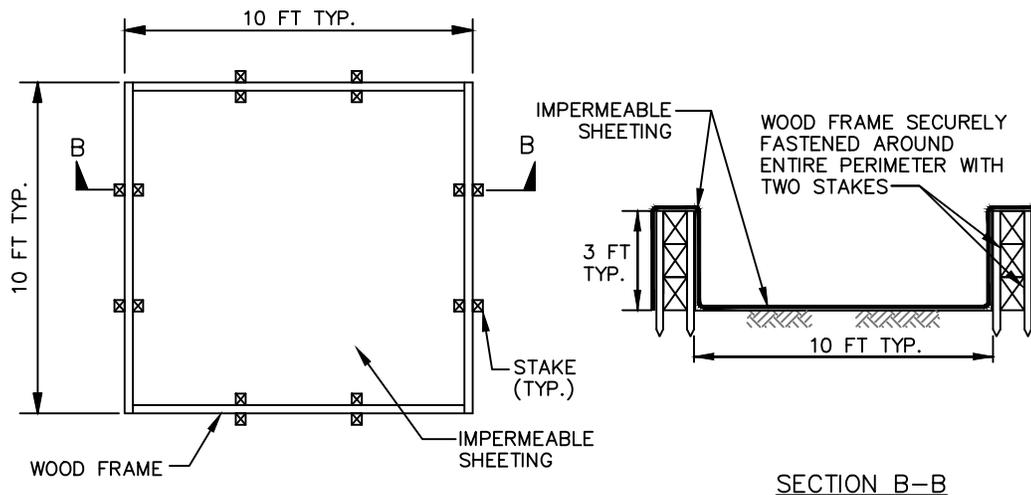
STANDARD PLAN:  
**EC - 190**  
DATE: **JAN 2017**

CITY ENGINEER APPROVAL:  
Longview: **C.B.**  
Kelso:



PLAN

**EXCAVATED WASHOUT STRUCTURE**



PLAN

**WASHOUT STRUCTURE WITH WOOD PLANKS**

NOTES:

1. LOCATE CONCRETE WASHOUT STRUCTURE A MINIMUM OF 50 FEET AWAY FROM STORM DRAIN INLETS, STORMWATER CONVEYANCES, DITCHES AND WATERCOURSES.
2. PROVIDE A SIGN IDENTIFYING THE CONCRETE WASHOUT IN CLOSE PROXIMITY TO THE FACILITY.
3. REPLACE IMPERMEABLE SHEETING/LINER IF DAMAGED. EMPTY OR REPLACE A STRUCTURE THAT IS 75% FULL, AND DISPOSE OF ACCUMULATED MATERIAL PROPERLY.



**CONCRETE WASHOUT**

STANDARD PLAN:  
**EC - 200**  
DATE: **JAN 2017**

CITY ENGINEER APPROVAL:  
Longview: **C.B.**  
Kelso: