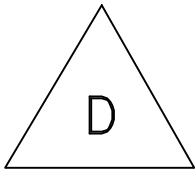


A=BASIN DESIGNATION

B=AREA IN ACRES

C=COMPOSITE RUNOFF COEFFICIENTS

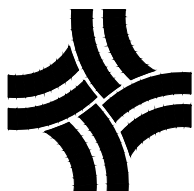


D=DESIGN POINT DESIGNATION

SUMMARY RUNOFF TABLE (TO BE PLACED ON DRAINAGE PLAN)

DESIGN POINT	CONTRIBUTING AREA (ACRES)	RUNOFF 5YR (CFS)	PEAK 100YR (CFS)
XX	XX.XX	XX.X	XX.X

N.T.S.



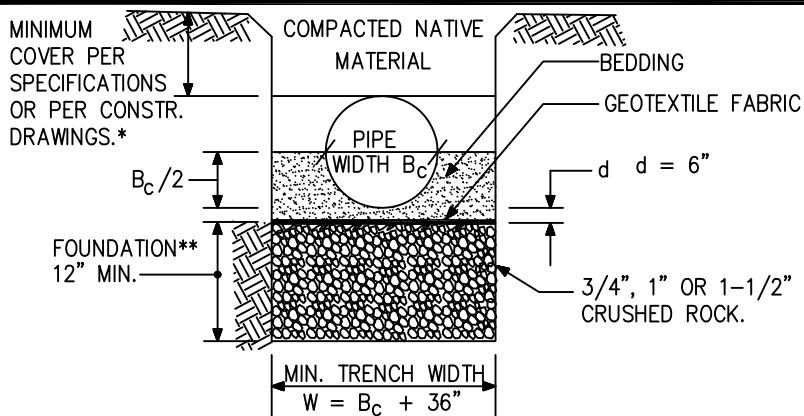
CITY OF THORNTON, COLORADO
STANDARDS & SPECIFICATIONS

DRAWING SYMBOL CRITERIA &
HYDROLOGY REVIEW TABLE

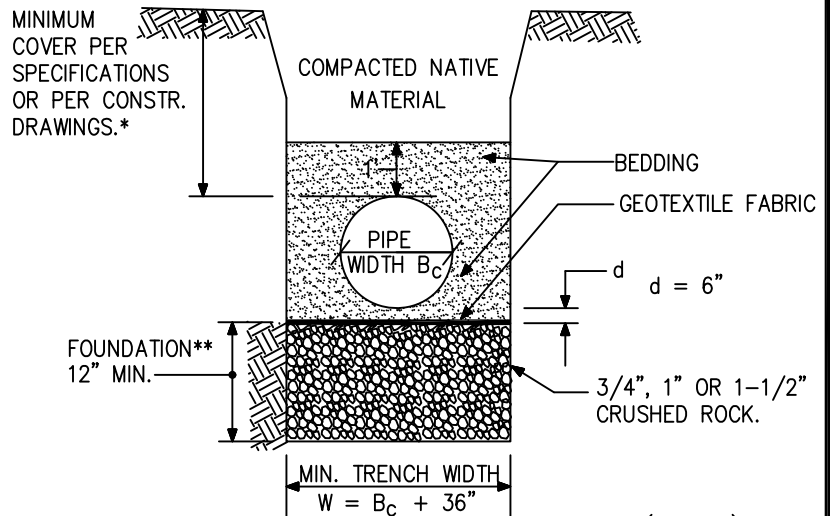
ISSUED:
APRIL 1993

REVISED:
APRIL 2010

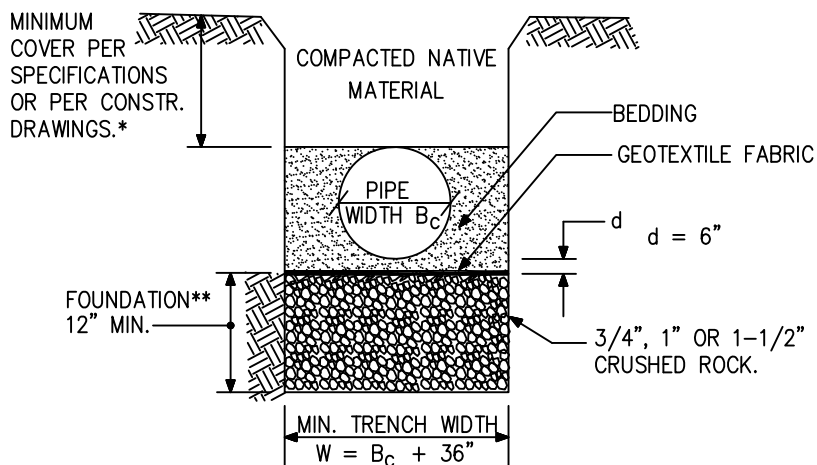
DRAWING NO.
400-1



REINFORCED CONCRETE PIPE (RCP)



POLYVINYL CHLORIDE PIPE (PVC)



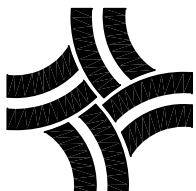
HIGH DENSITY POLYETHYLENE (HDPE)

NATIVE SOIL:	BEDDING:
COARSE GRAINED SAND AND GRAVEL (50% OR MORE BY WEIGHT RETAINED ON # 40 SIEVE)	CDOT CLASS A FILTER MATERIAL (SECTION 703.0q)
FINE GRAINED SOIL (LESS THAN 50% RETAINED ON # 40 SIEVE)	UDFCD TYPE 1 FILTER MATERIAL, CDOT FINE AGGREGATE FOR CONCRETE AASHTO M6 (SECTION 703.01)

* MINIMUM COVER SHALL NOT INCLUDE PAVEMENT.

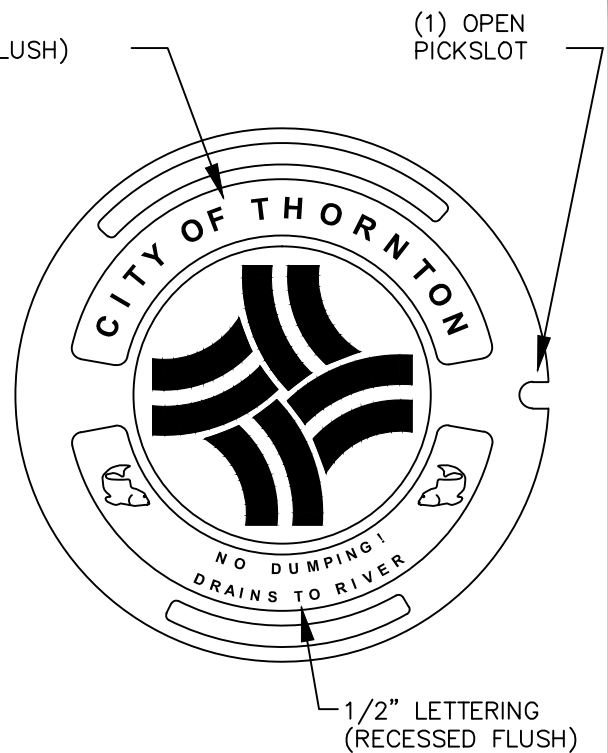
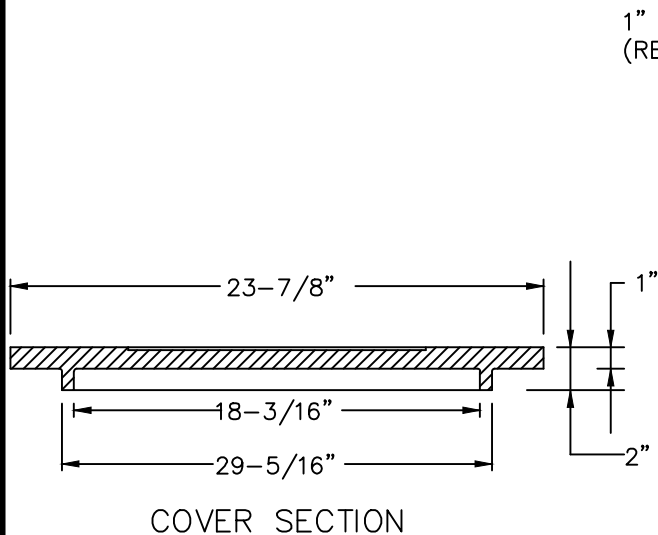
** MAY BE REQUIRED IN AREAS WITH HIGH GROUNDWATER TABLE OR UNSUITABLE SUB-GRADE.

N.T.S.



CITY OF THORNTON, COLORADO
STANDARDS & SPECIFICATIONS
STORM DRAINAGE PIPE BEDDING
DETAILS

ISSUED:
DECEMBER 2002
REVISED:
APRIL 2010
DRAWING NO.
400-2



TOP VIEW

NOTES:

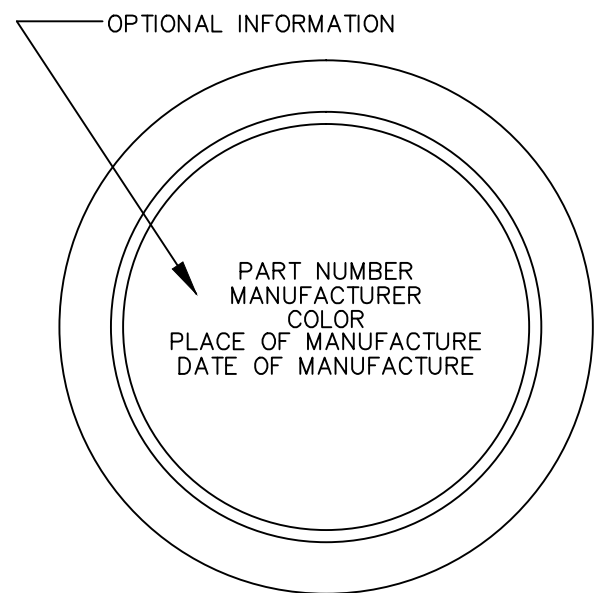
EST. WT = 112 LBS.

COVER - GRAY IRON ASTM A48 CL35B

HEAVY DUTY LOAD RATING.

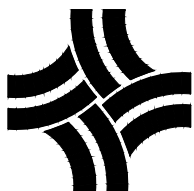
MANHOLE TO BE EAST JORDAN IRON WORKS, INC.

CATALOG NO. 2408A OR APPROVED EQUAL.



BOTTOM VIEW

N.T.S.



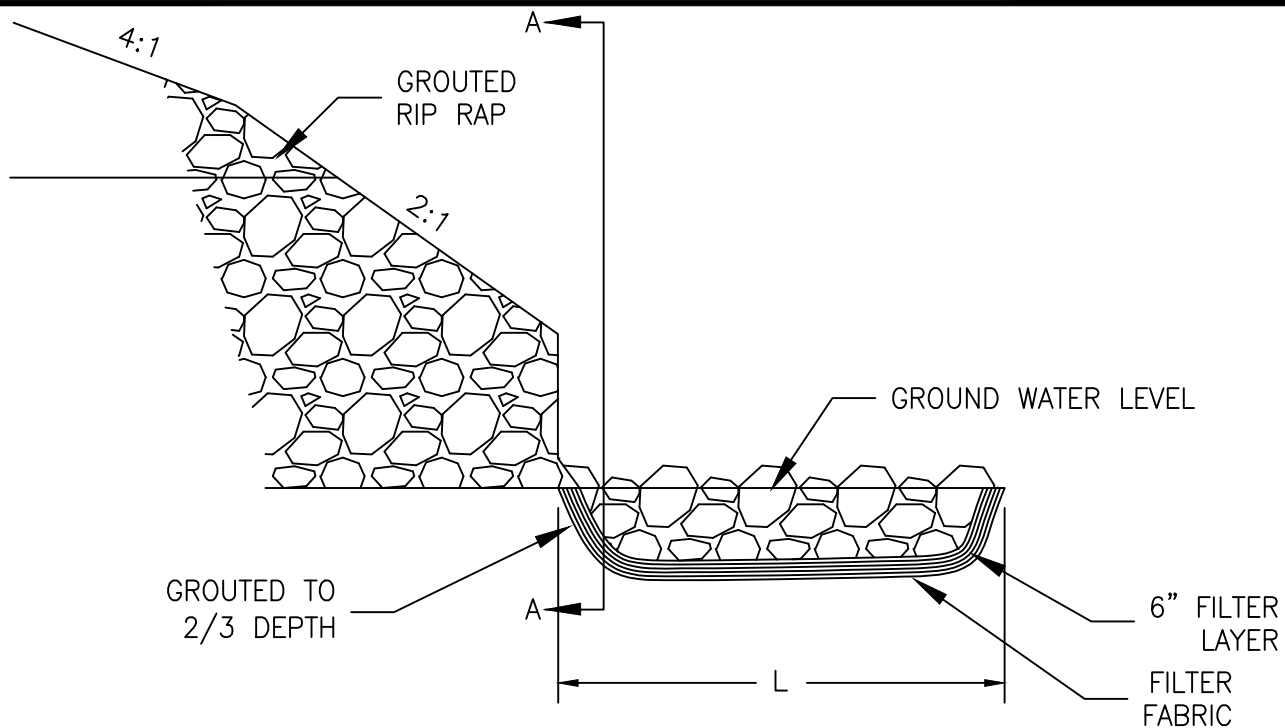
CITY OF THORNTON, COLORADO
STANDARDS & SPECIFICATIONS

STORM MANHOLE COVER

ISSUED:
NOVEMBER 2005

REVISED:
APRIL 2010

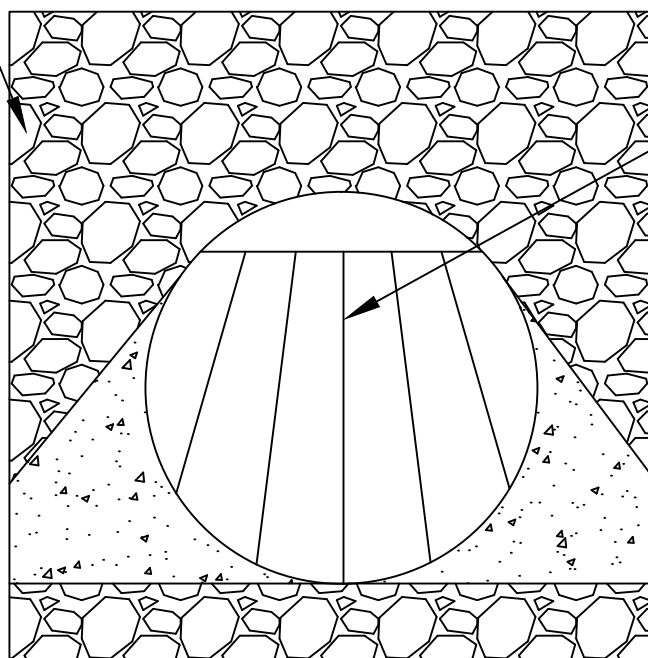
DRAWING NO.
400-3



2:1 SLOPES
ALLOWED TO
BLEND INTO
GRADE ABOVE

NOTES:

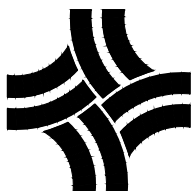
1. L, D, AND W DIMENSIONS TO BE PROVIDED BY THE ENGINEER OF RECORD
2. RIP RAP SHALL BE HAND PLACED
3. SEE SPECIFICATIONS FOR MATERIALS
4. FILTER LAYER AND FABRIC ARE INCIDENTAL TO RIP RAP
5. ADD RIP RAP OVER TOP OF PIPE
6. PIPE SHALL BE RCP TO FIRST STRUCTURE



TRASHRACK

SECTION A-A

N.T.S.



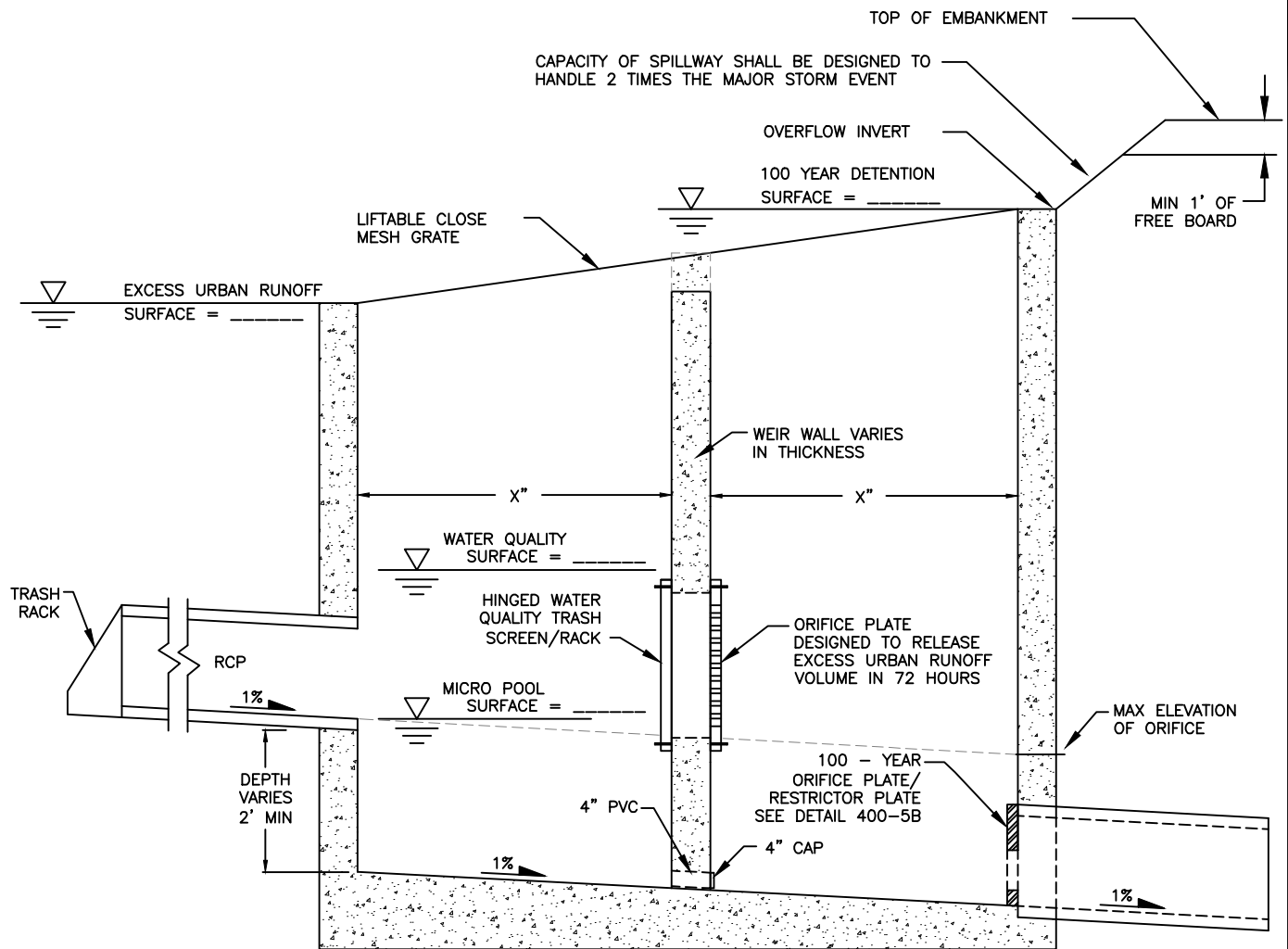
CITY OF THORNTON, COLORADO
STANDARDS & SPECIFICATIONS

RIP RAP AT CULVERT OUTLET
DETAIL

ISSUED:
APRIL 1995

REVISED:
APRIL 2010

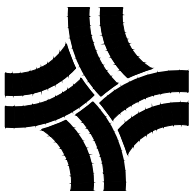
DRAWING NO.
400-4



NOTE:

THE ENGINEER OF RECORD MUST PROVIDE THE REBAR SPECIFICATIONS (DESIGN)

N.T.S.



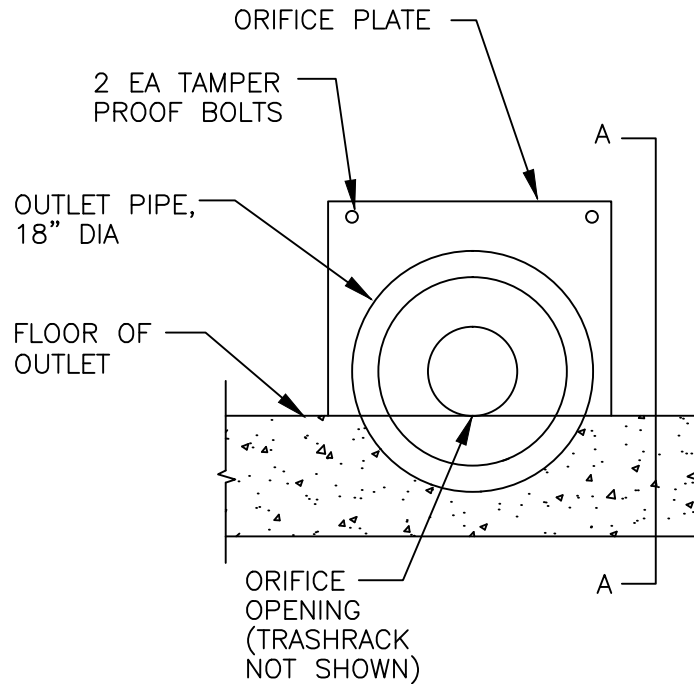
CITY OF THORNTON, COLORADO
STANDARDS & SPECIFICATIONS

DETENTION POND OUTLET
CONFIGURATION DETAIL

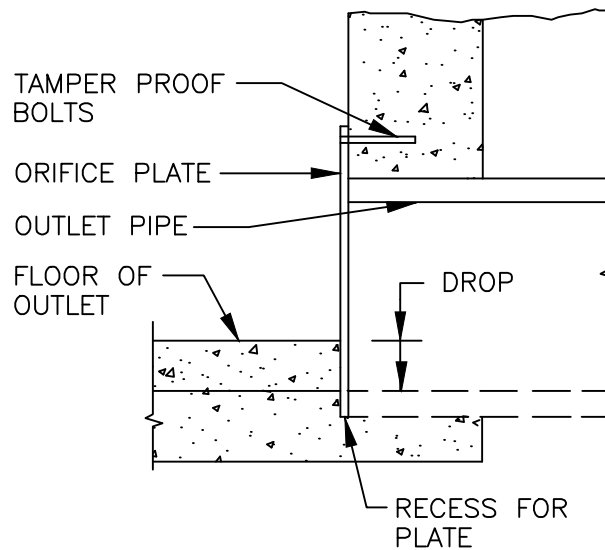
ISSUED:
APRIL 2010
REVISED:

DRAWING NO.
400-5A

ORIFICE PLATE DETAILS



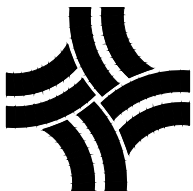
ELEVATION



SECTION A-A

NOTE: TRASHRACK CAPACITY TO BE 10 TIMES ORIFICE CAPACITY.

N.T.S.



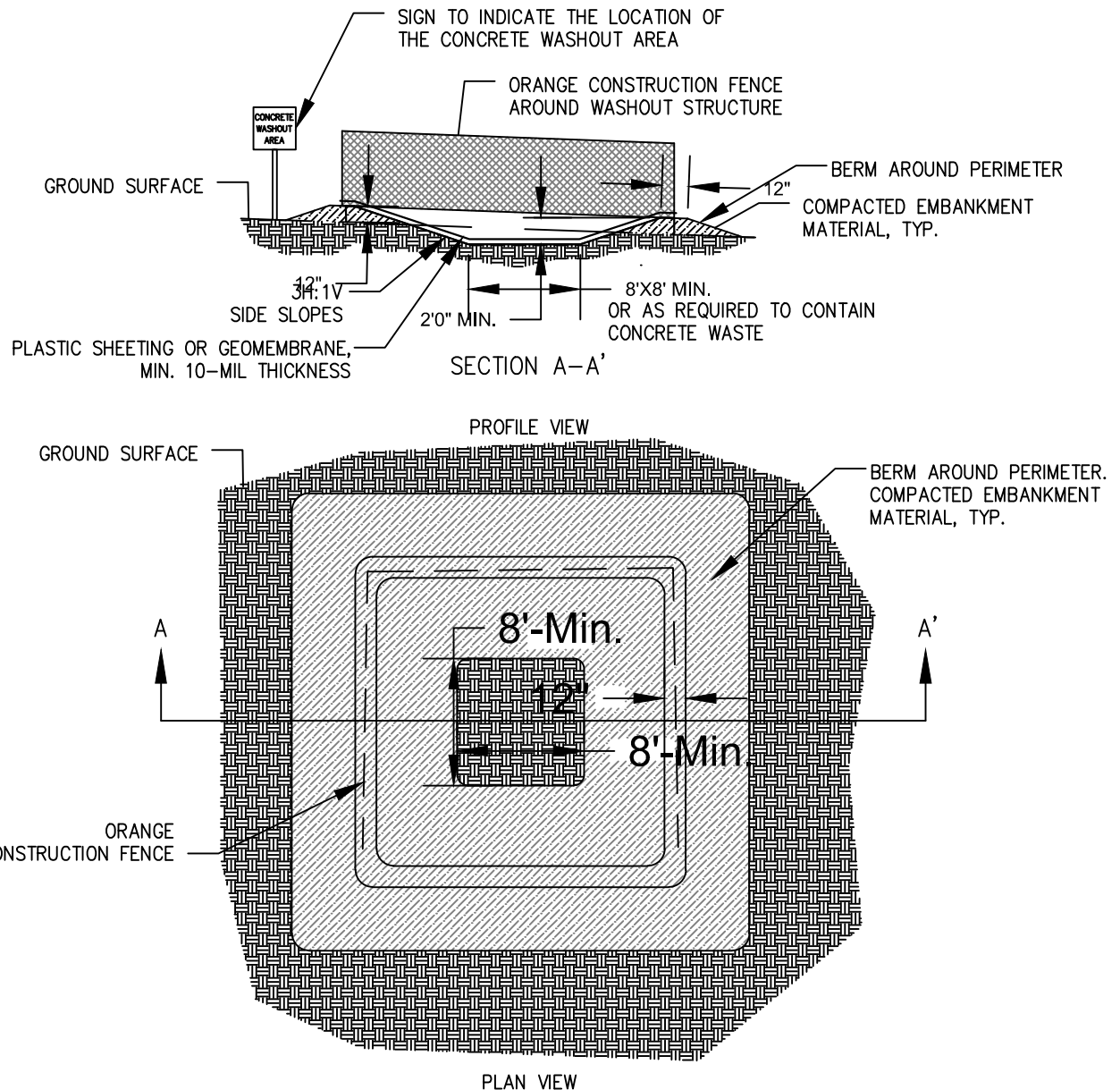
CITY OF THORNTON, COLORADO
STANDARDS & SPECIFICATIONS

DETENTION POND DETAILS

ISSUED:
APRIL 1992

REVISED:
APRIL 2010

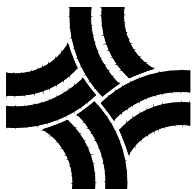
DRAWING NO.
400-5B



NOTES:

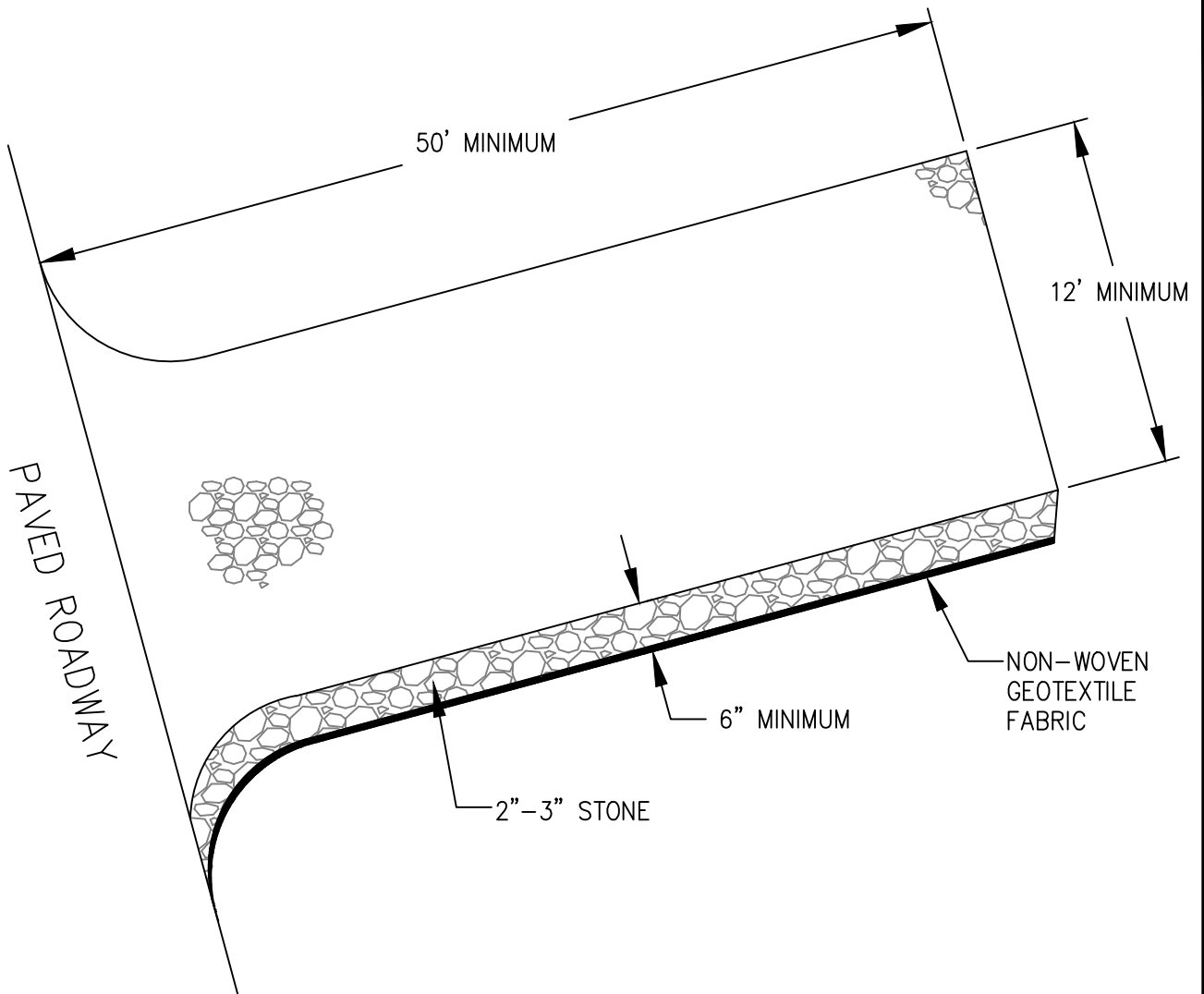
1. CONCRETE WASHOUT AREA SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON SITE; PLACED A MINIMUM 50' FROM STATE WATERS.
2. VEHICLE TRACKING CONTROL IS REQUIRED AT CONCRETE WASHOUT ENTRANCE IF ACCESS TO CONCRETE WASHOUT AREA IS OFF PAVEMENT.
3. A PLASTIC SHEETING OR GEOMEMBRANE LINER SHALL BE PLACED. MINIMUM 10-MIL THICKNESS..
4. THE CONCRETE WASHOUT AREA SHALL BE REPAIRED AND/OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR WASTE CONCRETE.
5. WASTE MATERIAL FROM CONCRETE WASHOUT OPERATIONS MUST BE REMOVED AND LEGALLY DISPOSED OF WHEN IT HAS ACCUMULATED TWO-THIRDS OF THE WET STORAGE CAPACITY OF THE STRUCTURE AND AT THE END OF CONSTRUCTION.
6. WHEN THE CONCRETE WASHOUT AREA IS REMOVED, THE DISTURBED AREA SHALL BE SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER ACCEPTED BY THE CITY.
7. NO STORMWATER RUN-OFF SHALL DRAIN INTO CONCRETE WASHOUT AREA.

N. T. S.



CITY OF THORNTON, COLORADO
STANDARDS & SPECIFICATIONS
CONCRETE WASHOUT AREA
DETAIL

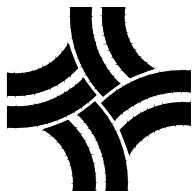
ISSUED:
MARCH 2005
REVISED:
NOV 08
DRAWING NO.
400-6



NOTES:

1. PAVED ROADWAY TO BE KEPT CLEAN OF MUD, DIRT, ROCKS, AND DEBRIS AT ALL TIMES.
2. GEOTEXTILE FABRIC SHALL COMPLY WITH CDOT 712.08b.
3. 2"-3" STONE SHALL CONTAIN LESS THAN 10% FINES.
4. CONSTRUCTION EXIT SHALL BE MAINTAINED AT ALL TIMES. STONE SHOULD BE BLADED AND/OR ADDITIONAL 2"-3" STONE SHOULD BE PLACED IF VOIDS BEGIN FILLING WITH DEBRIS.
5. IF A DRAINAGE DITCH EXISTS NEXT TO ROADWAY, INSTALL TEMPORARY CULVERT UNDERNEATH STONE CONSTRUCTION EXIT TO CONVEY FLOW.
6. PROVIDE INLET PROTECTION FOR ANY INLETS LOCATED IMMEDIATELY ADJACENT TO THE CONSTRUCTION EXIT.
7. IF TRACKOUT DOES OCCUR, ROADWAY SHOULD BE SWEEPED IMMEDIATELY.
8. RECYCLED CONCRETE OR RECYCLED ASPHALT SHALL NOT BE USED.

N.T.S.

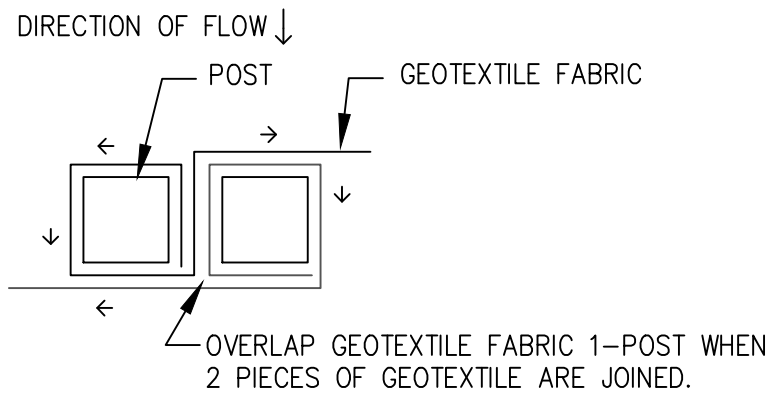


CITY OF THORNTON, COLORADO
STANDARDS & SPECIFICATIONS

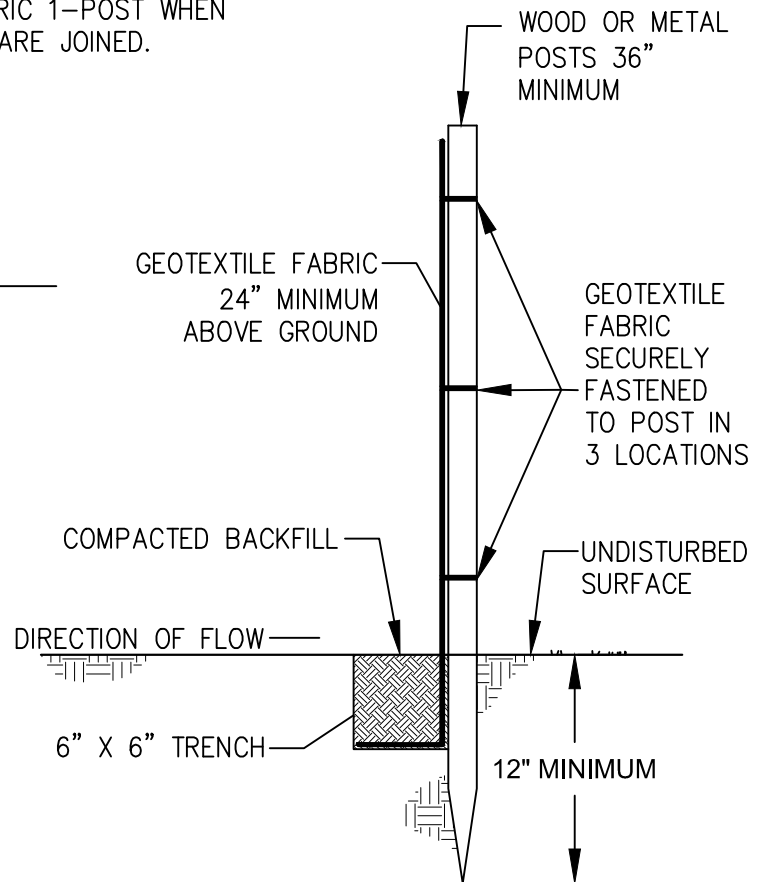
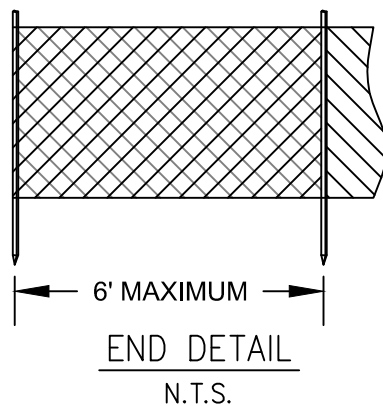
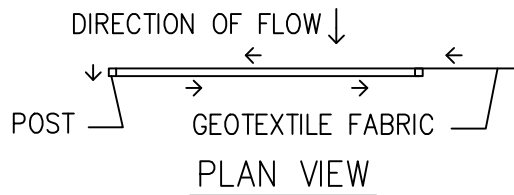
VEHICLE TRACKING PAD

ISSUED:
NOV 08
REVISED:

DRAWING NO.
400-7



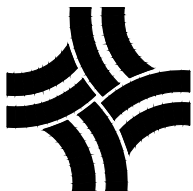
PLAN VIEW
TRANSITION DETAIL
N.T.S.



NOTES:

1. WOOD POSTS SHALL HAVE A MINIMUM DIAMETER OR CROSS-SECTION OF 2 INCHES. METAL POSTS SHALL BE STUDDED "T" OR "U" TYPE.
2. GEOTEXTILE FABRIC SHALL COMPLY WITH CDOT 712.08b.
3. GEOTEXTILE FABRIC SHALL EXTEND A MINIMUM OF 6" BELOW GRADE AND ANOTHER 6" HORIZONTALLY IN A "L" SHAPE BEFORE BACKFILLING AND COMPACTING THE TRENCH. (SLICING METHOD IS ALSO ACCEPTED)
4. SILT FENCE SHALL NOT BE USED IN CONCENTRATED FLOWS.
5. SILT FENCE SHALL ONLY BE PLACED PARALLEL TO SURFACE CONTOURS.
6. CLEAN AND REMOVE SILT WHEN THE SILT REACHES $\frac{1}{2}$ THE HEIGHT OF THE GEOTEXTILE FABRIC.
7. UPON PERMANENT STABILIZATION OF AREAS UPSLOPE OF THE SILT FENCE, THE SILT FENCE SHALL BE REMOVED AND DISTURBED AREAS PERMANENTLY STABILIZED.

N.T.S.

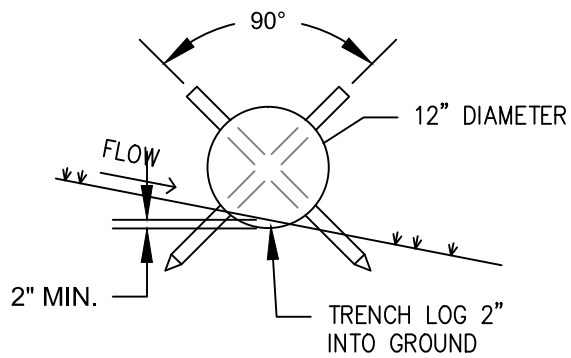


CITY OF THORNTON, COLORADO
STANDARDS & SPECIFICATIONS

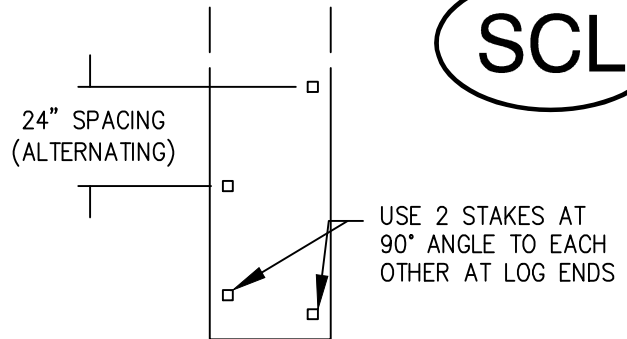
SILT FENCE

ISSUED:
NOV 08
REVISED:

DRAWING NO.
400-08

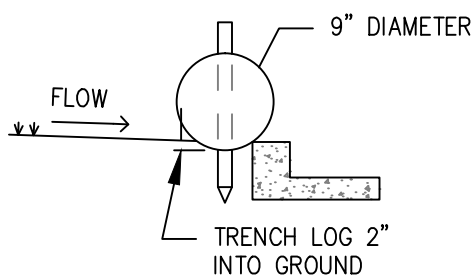


PROFILE VIEW

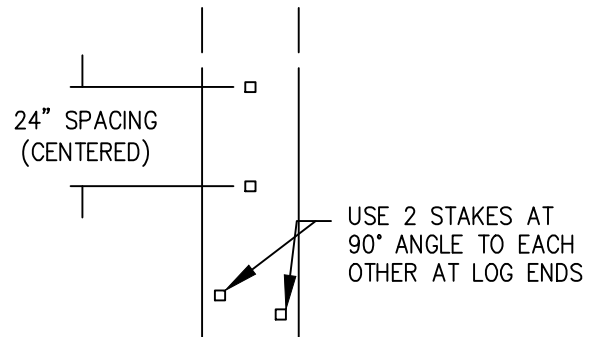


PLAN VIEW

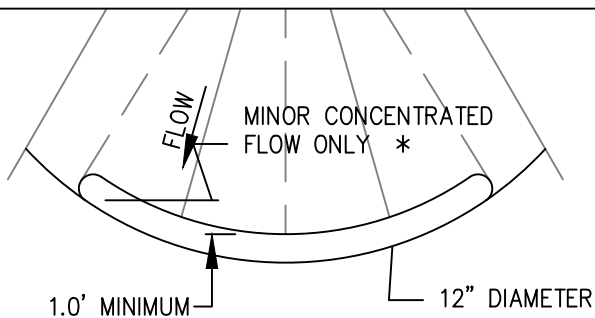
SCL



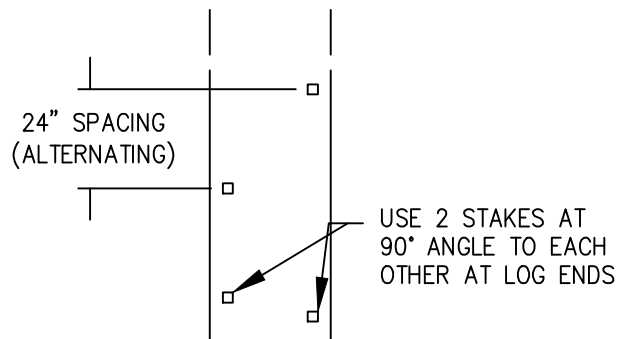
PROFILE VIEW



PLAN VIEW



PROFILE VIEW



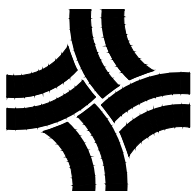
PLAN VIEW

* FOR MAJOR CONCENTRATED FLOWS, USE A ROCK CHECK DAM

NOTES:

1. STAKES SHALL BE 1-1/2" x 1-1/2" x 24" MINIMUM AND EMBEDDED INTO GROUND A MINIMUM OF 12".
2. SEDIMENT CONTROL LOG SHALL BE TRENCHED 2" INTO GROUND.
3. FOR CONTINUOUS CONTROL, ADJACENT SEDIMENT CONTROL LOGS SHALL BE PLACED FIRMLY TOGETHER WITH NO GAPS.
4. SEDIMENT SHALL BE CLEANED/ REMOVED WHEN SEDIMENT DEPTH IS 1/2 THE HEIGHT OF THE SEDIMENT CONTROL LOG.

N.T.S.

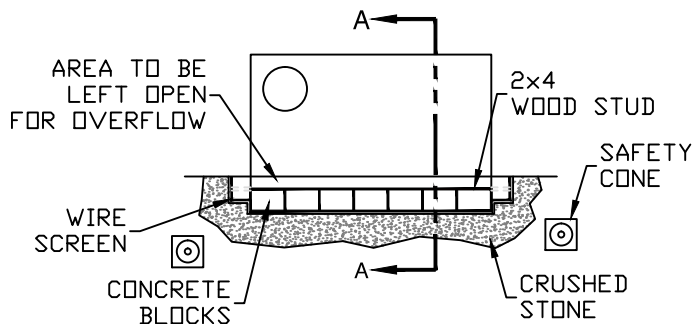


CITY OF THORNTON, COLORADO
STANDARDS & SPECIFICATIONS

SEDIMENT CONTROL LOG

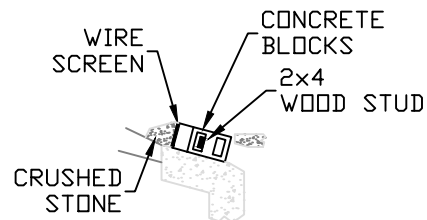
ISSUED:
NOV 08
REVISED:

DRAWING NO.
400-9

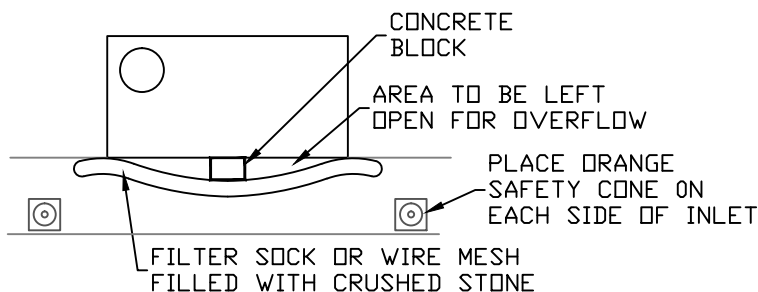


TYPE I - PLAN VIEW

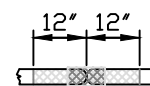
* ONLY TO BE USED IF STREET IS CLOSED TO THE PUBLIC



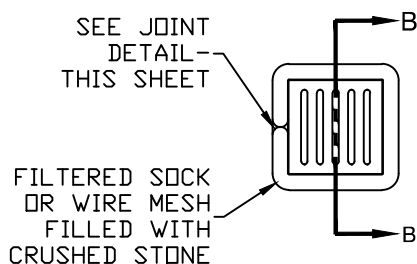
TYPE I - SECTION A-A



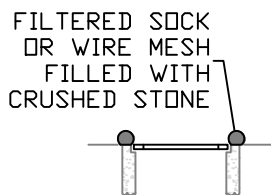
TYPE II - PLAN VIEW



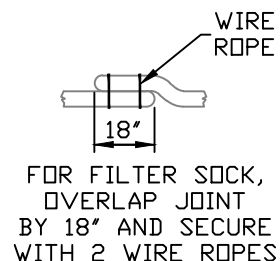
FOR WIRE MESH LOG, FILL GAPS IN JOINT WITH ADDITIONAL CRUSHED STONE AND WRAP WITH WIRE MESH



TYPE III - PLAN VIEW



TYPE III - SECTION B-B

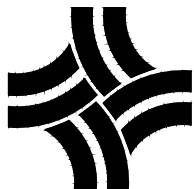


JOINT DETAIL

NOTES:

1. CRUSHED STONE SHALL BE NO. 4 STONE WITH 0% PASSING THE 3/4" SIEVE.
2. SEDIMENT SHALL BE REMOVED WHEN SEDIMENT ACCUMULATION REACHES 1/2 THE INLET PROTECTION HEIGHT.
3. INLET PROTECTION SHALL BE PLACED IN A MANNER NOT TO CAUSE SIGNIFICANT FLOODING IN PUBLIC STREETS OR AREAS.
4. INSET FILTER BAGS WITH OVERFLOW PORTS MAY BE USED IN HIGH TRAFFIC AREAS AS A SUBSTITUTE.
5. IF LARGE DEPOSITS OF SEDIMENT ENTERS THE STORM SEWER, THE CONTRACTOR SHALL CLEAN THE STORM SEWER TO THE SATISFACTION OF THE CITY.

N.T.S.

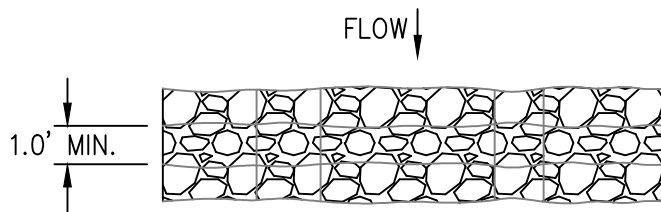


CITY OF THORNTON, COLORADO
STANDARDS & SPECIFICATIONS

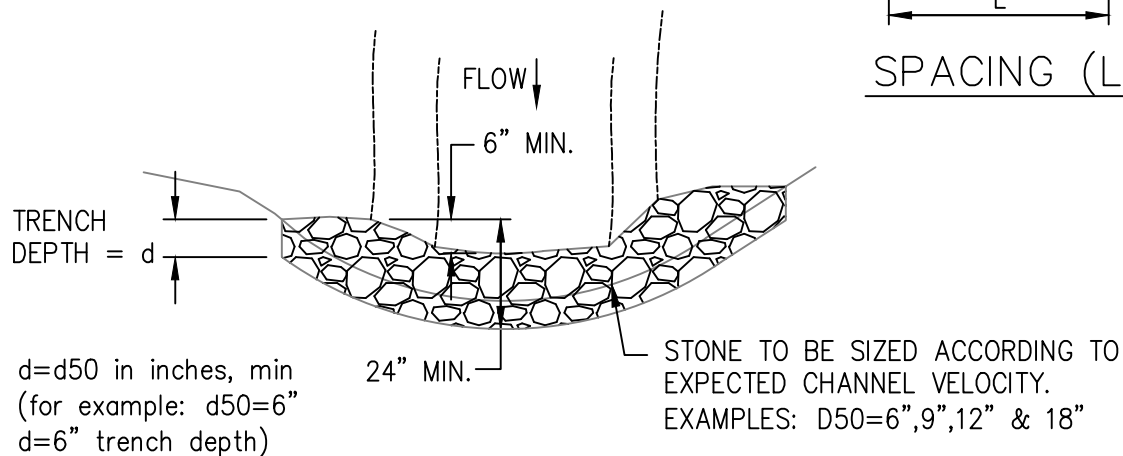
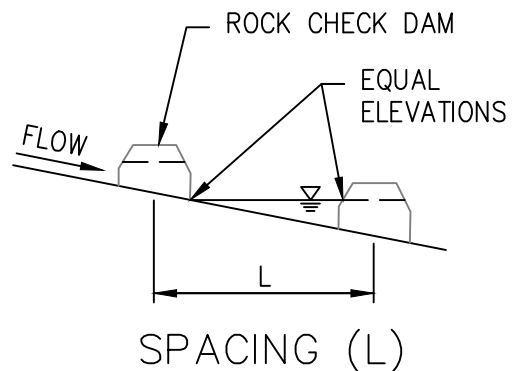
INLET PROTECTION

ISSUED:
NOV 08
REVISED:

DRAWING NO.
400-10



PLAN VIEW

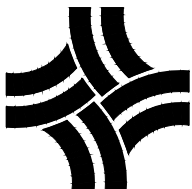


PROFILE VIEW

NOTES:

1. CHECK DAMS SHALL BE INSTALLED PRIOR TO UPSTREAM EARTH DISTURBING ACTIVITIES.
2. STONE SHALL HAVE < 10% FINES.
3. EACH END OF CHECK DAM SHALL BE 6" MINIMUM HIGHER THAN CENTER.
4. SEDIMENT SHALL BE REMOVED FROM THE CHECK DAM WHEN THE SEDIMENT DEPTH REACHES 1/2 THE HEIGHT OF THE CENTER.
5. CHECK DAM SHALL BE REMOVED ONCE ALL UPSTREAM DISTURBED AREAS HAVE BEEN STABILIZED.
6. UPON REMOVAL OF CHECK DAM, EXCAVATIONS SHALL BE FILLED WITH SUITABLE COMPACTED FILL, SEEDED AND COVERED WITH AN EROSION CONTROL BLANKET ADEQUATE FOR EXPECTED CHANNEL VELOCITY.

N.T.S.

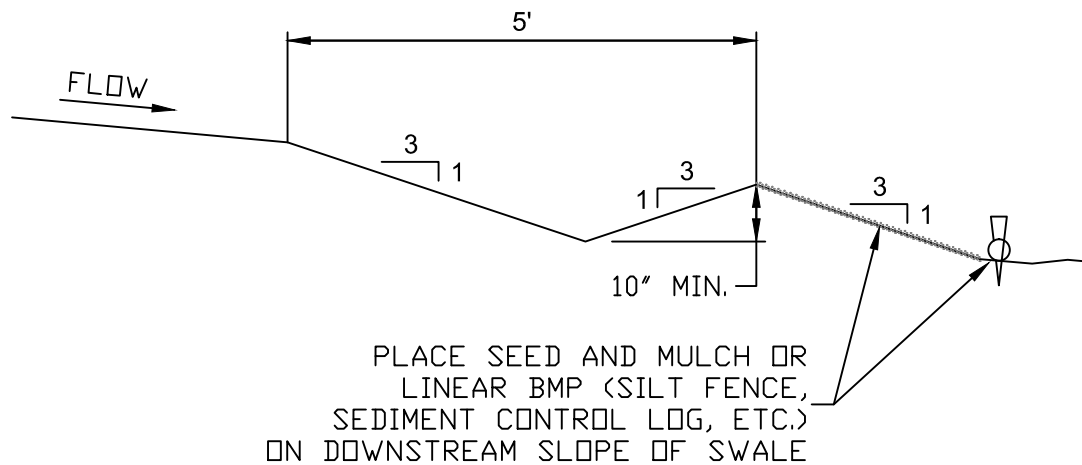
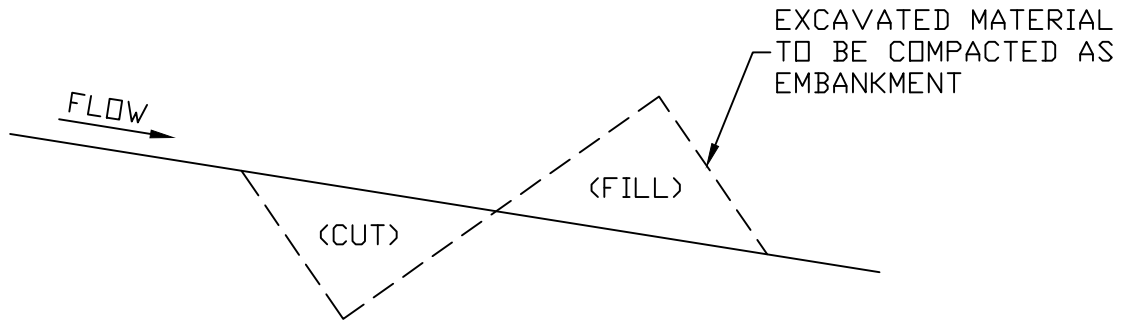


CITY OF THORNTON, COLORADO
STANDARDS & SPECIFICATIONS

CHECK DAM

ISSUED:
NOV 08
REVISED:

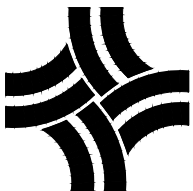
DRAWING NO.
400-11



NOTES:

1. CHECK DAMS OR EROSION CONTROL BLANKETS MAY BE REQUIRED IF VELOCITY BEGINS TO ERODE DITCH/ SWALE.
2. DIVERSION DITCHES/ SWALES SHALL BE DISCHARGED TO SEDIMENT TRAPS OR BASINS WHICH HAVE BEEN SIZED APPROPRIATELY.
3. IF SEDIMENT BEGINS TO COLLECT IN THE SWALE, THE SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/3 THE HEIGHT OF THE SWALE.

N.T.S.



CITY OF THORNTON, COLORADO
STANDARDS & SPECIFICATIONS

DIVERSION DITCH / SWALE

ISSUED:
NOV 08
REVISED:

DRAWING NO.
400-12