

# CLASS "A" BEDDING CLASS "B" BEDDING CLASS "C" BEDDING LAKE COUNTY DEPARTMENT OF UTILITIES SANITARY SEWER TRENCH & BEDDING DETAILS NTS

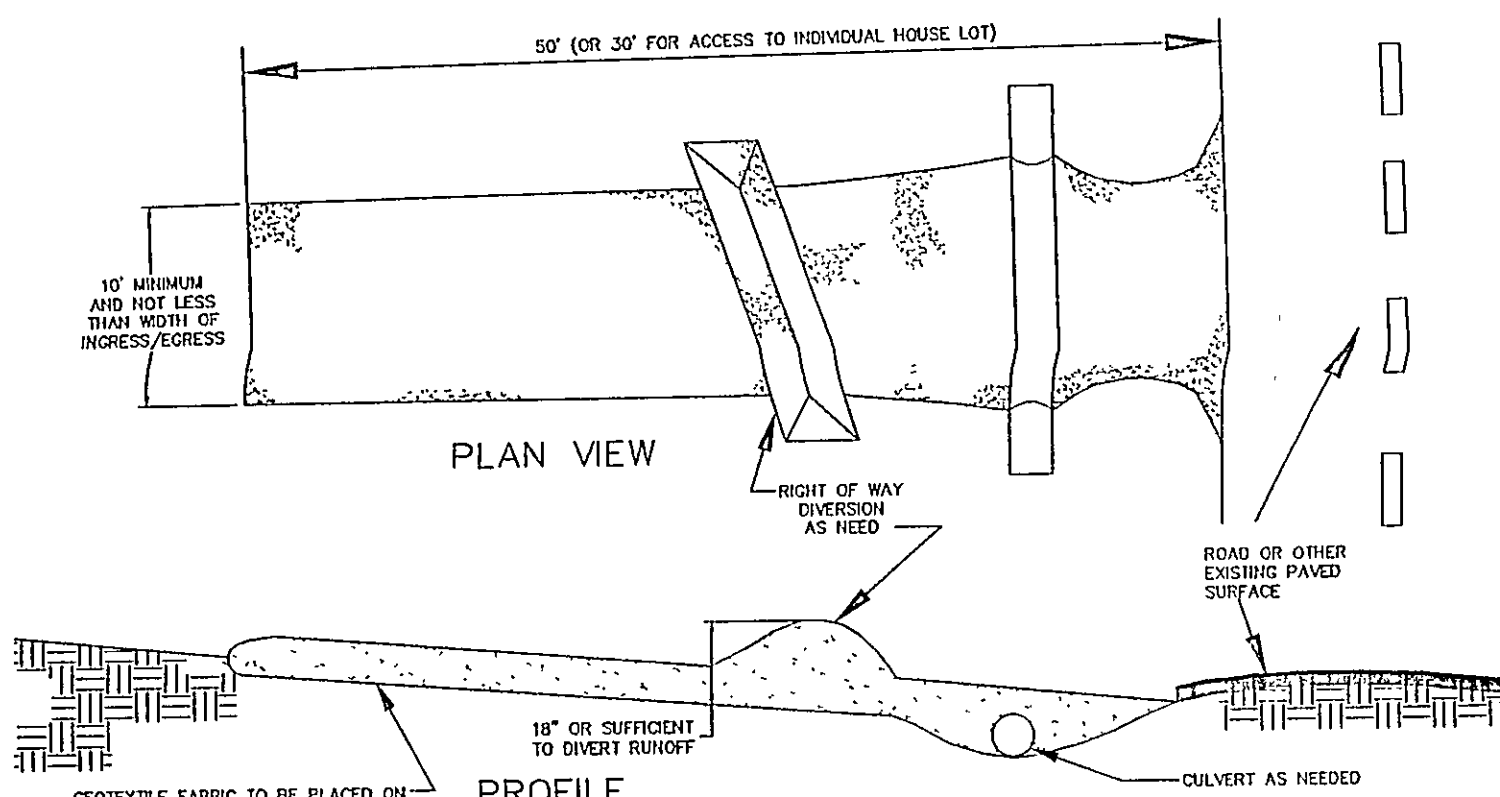
- MAXIMUM TRENCH AT TOP OF PIPE SHALL BE O.D. + 24" FOR ALL PIPE SIZES UP TO AND INCLUDING 24" I.D. AND O.D. + 30" FOR PIPE LARGER THAN 24" I.D.
- PIPE BACKFILL UNDER PAVEMENT AND STRUCTURES SHALL BE NO. 46 OR NO. 57 LIMESTONE COMPACTED TO TOP OF TRENCH. THE BACKFILL MATERIAL SHALL EXTEND A MINIMUM OF 3 FEET BEYOND EACH EDGE OF PAVEMENT OR STRUCTURE. IN AREAS OUTSIDE OF PAVEMENT, SELECT ON-SITE GRANULAR MATERIAL APPROVED BY THE CITY/COUNTY SANITARY ENGINEER MAY BE USED IN LIFTS NOT TO EXCEED 6" FOR PIPE BACKFILL ABOVE BEDDING.
- ALL BEDDING SHALL BE CLASS "B" UNLESS OTHERWISE NOTED ON THE PLANS OR AUTHORIZED BY THE ENGINEER.
- SLAG BEDDING SHALL NOT BE USED.
- WATERLINE BEDDING SHALL BE CLASS "C".
- CLAY DAMS SHALL BE REQUIRED WHEN AND WHERE NECESSARY PER THE SOLE DISCRETION OF THE CITY/COUNTY SANITARY ENGINEER.

## TEMPORARY SEEDING SPECIFICATIONS

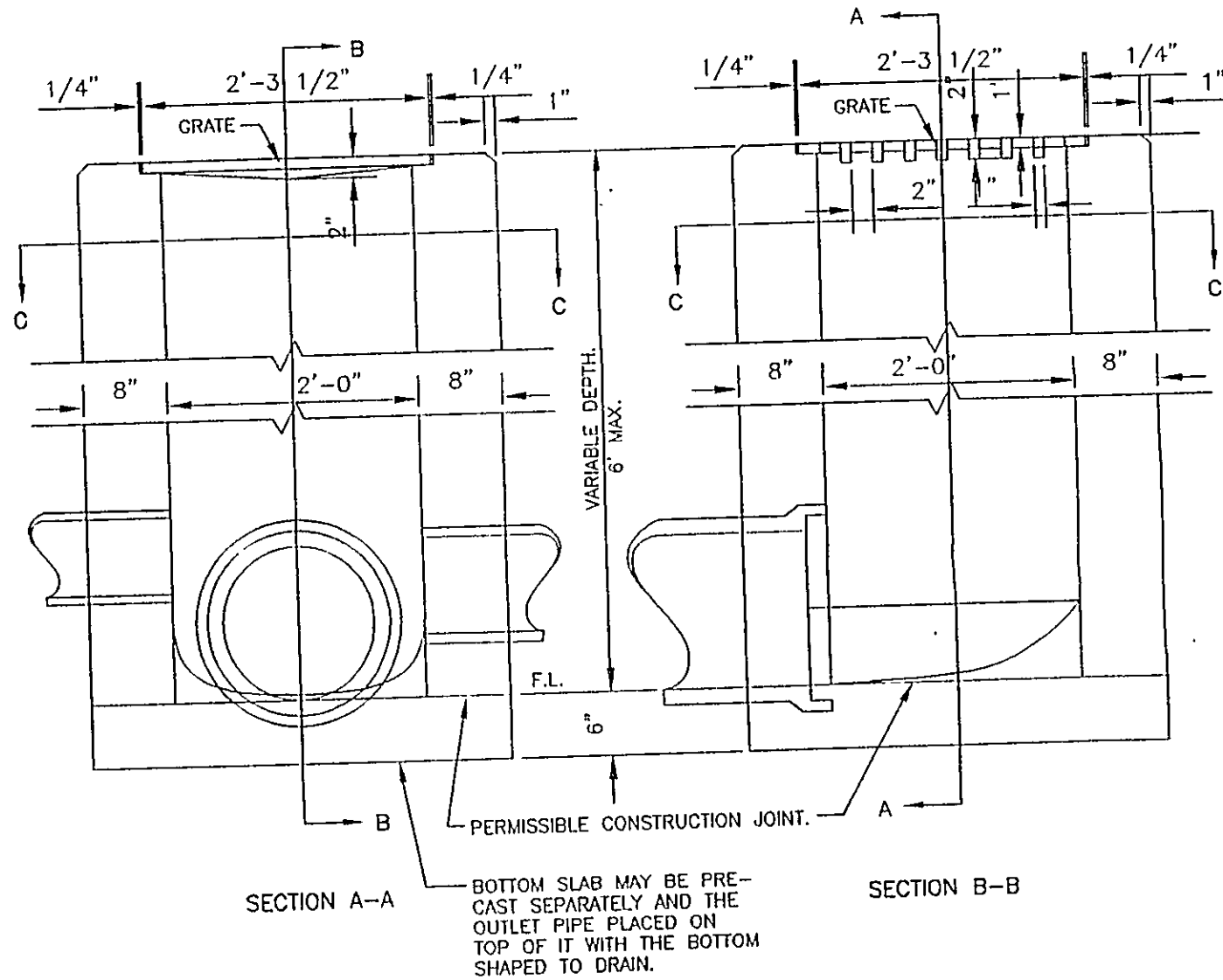
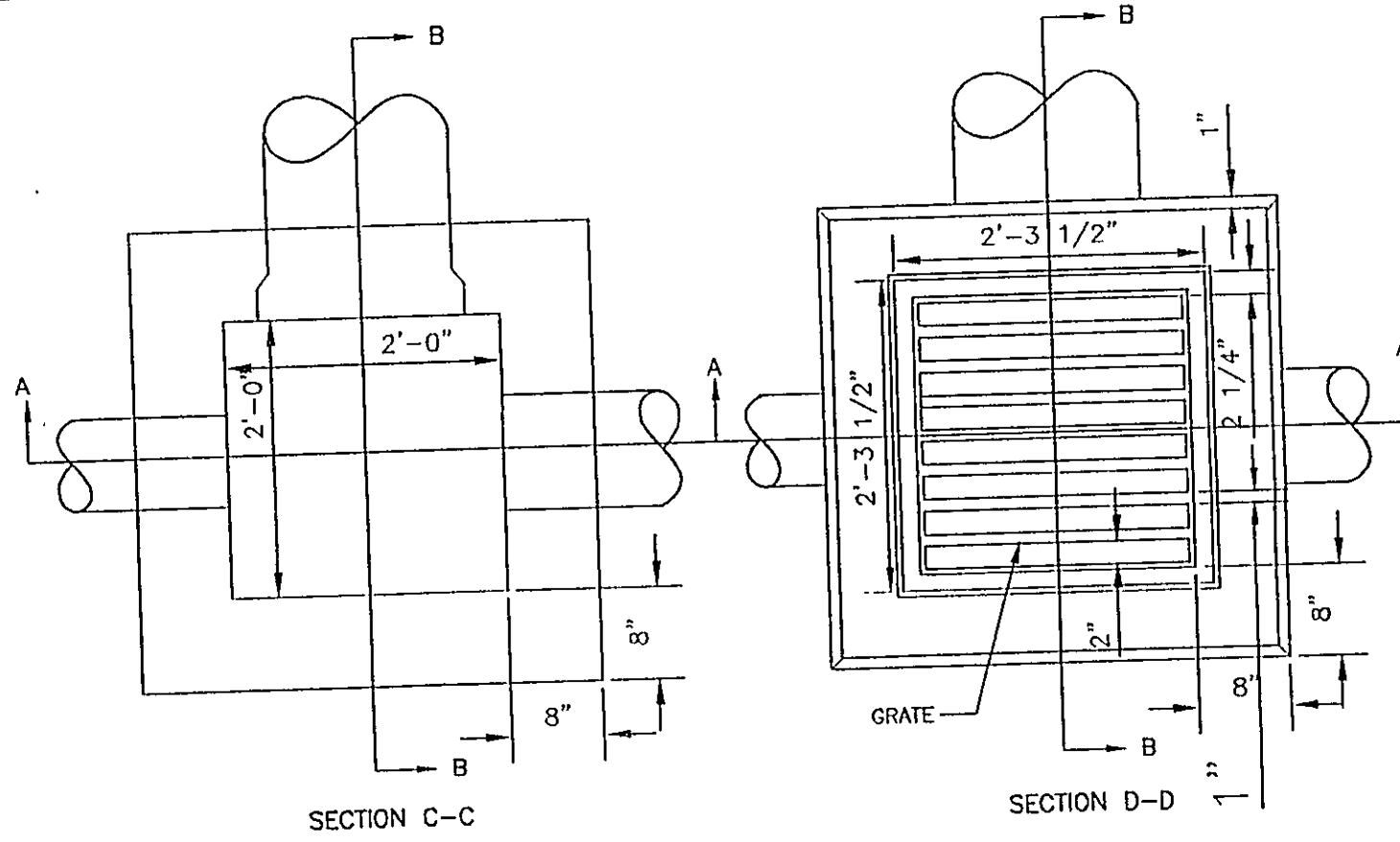
SEEDING DATES	SPECIES	LB./1,000 FT.	PER ACRE
MARCH 1 TO AUGUST 15	OATS	3	4 BUSHEL
	TALL FESCUE	1	40 LB.
	ANNUAL RYEGRASS	1	40 LB.
	PERENNIAL RYEGRASS	1	40 LB.
AUGUST 16 TO NOVEMBER 1	RYE	3	2 BUSHEL
	TALL FESCUE	1	40 LB.
	ANNUAL RYEGRASS	1	40 LB.
	PERENNIAL RYEGRASS	1	40 LB.
NOVEMBER 1 TO SPRING SEEDING	WHEAT	3	2 BUSHEL
	TALL FESCUE	1	40 LB.
	ANNUAL RYEGRASS	1	40 LB.
	PERENNIAL RYEGRASS	1	40 LB.
*NOTE: OTHER APPROVED SEED SPECIES MAY BE SUBSTITUTED.			

### ADDITIONAL TEMPORARY STABILIZATION NOTES:

- TEMPORARY SEEDING MUST BE APPLIED WITHIN 7 DAYS OF THE LAST DISTURBANCE OF ANY AREA THAT WILL BE DORMANT FOR 21 DAYS OR LONGER.
- TEMPORARY SEEDING IS REQUIRED WITHIN 7 DAYS OF LAST DISTURBANCE FOR ANY AREAS THAT WILL REMAIN IDLE OVER THE WINTER.
- TEMPORARY SEEDING IS REQUIRED WITHIN 2 DAYS OF LAST DISTURBANCE FOR ANY WITHIN 50 FEET OF A STREAM.

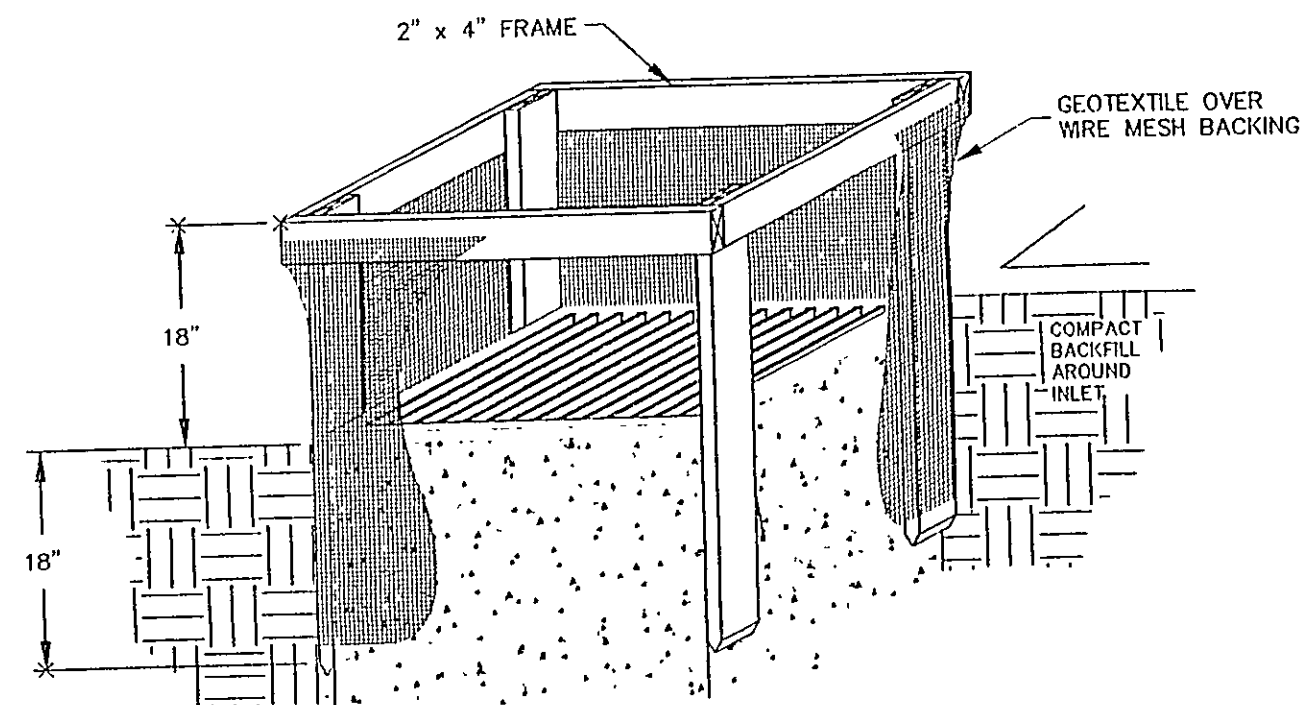


## STONE CONSTRUCTION ENTRANCE DETAIL NTS



## STANDARD NO 2-2-B CATCH BASIN & INLET BASIN NO SCALE

## INLET PROTECTION FOR STORM SEWER INLET BASINS



- Inlet protection shall be constructed either before upslope land disturbance begins or before the storm drain becomes operational.
- The earth around the inlet shall be excavated completely to a depth of at least 18 inches.
- The wooden frame shall be constructed of 2-by-4 in. construction grade lumber. The 2-by-4 in. posts shall be driven 1 ft. into the ground at four corners of the inlet and the top portion of the 2-by-4 in. frame assembled using the overlap joint shown.
- The top of the frame shall be at least 6 in. below adjacent roads if ponded water would pose a safety hazard to traffic.
- Wire mesh shall be of sufficient strength to support fabric with water fully impounded against it. It shall be stretched tightly around the frame and fastened securely to the frame.
- Geotextile shall have an equivalent opening of 20-40 sieve and be resistant to sunlight. It shall be stretched tightly around the frame and fastened securely. It shall extend from the top of the frame to 18 in. below the inlet notch elevation. The geotextile shall overlap across one side of the frame so that the ends of the cloth are not fastened to the same post.
- Backfill shall be placed around the inlet in compacted 6 in. layers until the earth is even with the notch elevation on ends and top elevation on sides.
- A compacted earth dike or a check dam shall be constructed in the ditch line below the inlet if the inlet is not in a depression and if runoff bypassing the inlet will not flow to a settling pond. The top of earth dikes shall be at least 6 in. higher than the top of the frame.

### STORM I.B. NOTES:

GRATE AND FRAME - THE DESIGN SHALL BE ESSENTIALLY THE SAME AND EQUALLY AS STRONG AS THE ONE SHOWN HEREON.

WALLS - BRICK OR CAST-IN-PLACE WALLS SHALL HAVE A NOMINAL THICKNESS OF 8". PRECAST WALLS SHALL HAVE A MINIMUM THICKNESS OF 6" AND SHALL BE REINFORCED SUFFICIENTLY TO PERMIT SHIPPING AND HANDLING WITHOUT DAMAGE.

CONCRETE - CAST-IN-PLACE CONCRETE IS TO BE CLASS C. ALL PRECAST CONCRETE SHALL MEET THE REQUIREMENTS OF CMS 708.13 WITH A MINIMUM OF 4% ENTRAINED AIR IN THE HARDENED CONCRETE AND SHALL BE MARKED WITH THE CATCH BASIN NUMBER.

PRECAST BASE - IF A PRECAST BASE IS USED, IT SHALL BE SET DEEP ENOUGH SO THAT THE TOP CAN BE PLACED ON THE BASE TO PROVIDE THE GRATE ELEVATION SPECIFIED IN THE PLANS. LAYERS OF BRICK SHALL NOT BE USED TO ADJUST THE TOP ELEVATION.

LOCATION AND ELEVATION - WHEN GIVEN ON THE PLANS, THE LOCATION AND ELEVATION ARE AT THE TOP CENTER OF THE GRATE. WHEN SIDE OPENINGS ARE PROVIDED, THE ELEVATION SHALL BE AT THE FLOW LINE OF THE SIDE INLET.

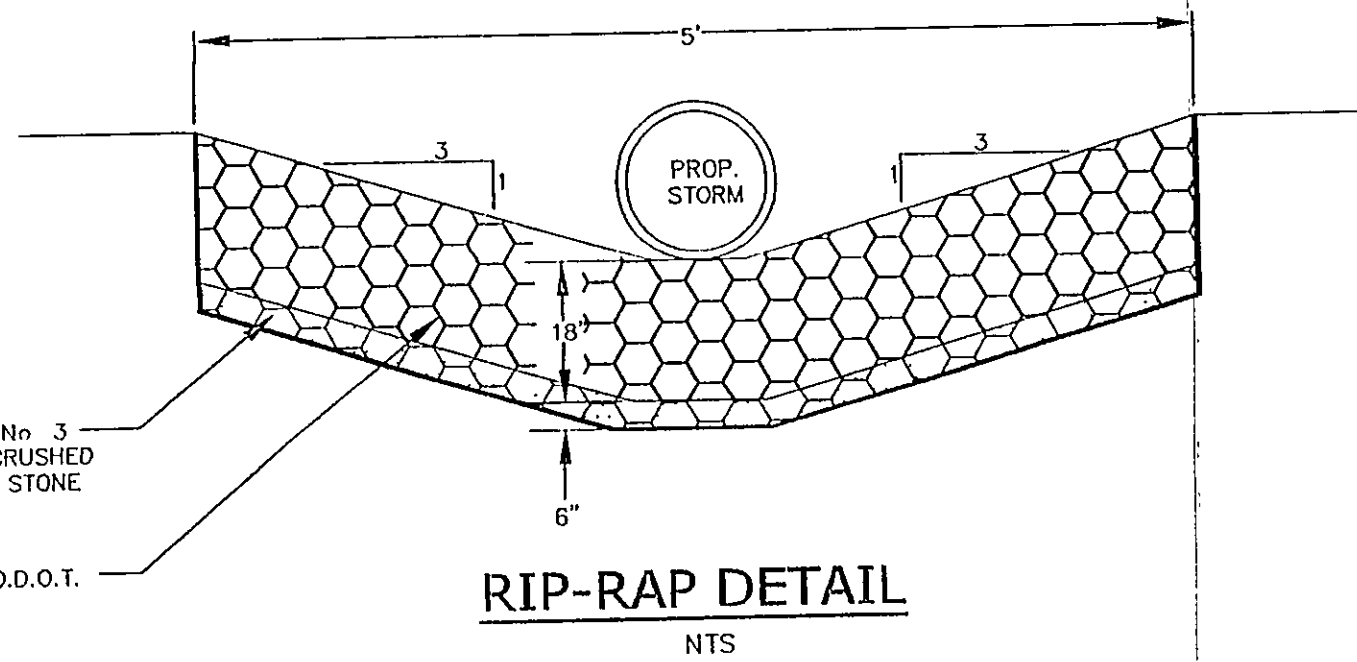
MINIMUM DEPTH - THE MINIMUM DEPTH FOR CB No. 2-2B SHALL BE THE O.D. OF THE OUTLET PIPE, PLUS 4"

2-2B GRATE ELEVATION - GRATE ELEVATION IS TO BE PLACED 4" TO 6" BELOW NORMAL DITCH, RETURNING TO NORMAL 9.83' TO 14.42' EACH SIDE OF INLET.

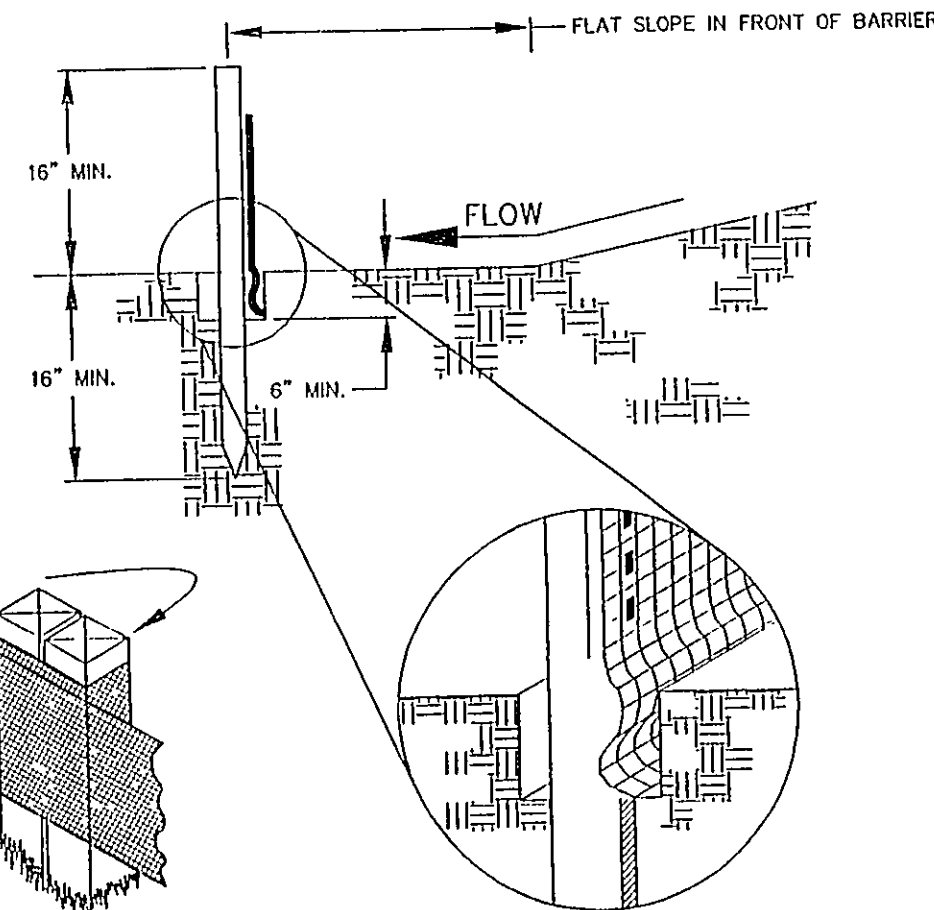
OPENINGS - PIPE OPENINGS SHALL BE THE O.D. OF THE PIPE BEING SUPPLIED PLUS 2" WHEN FABRICATED OR FIELD CUT. THE INTERSTITIAL SPACE SHALL BE FILLED WITH GROUT AS PER CMS 301.

CONSTRUCTION INFORMATION:  
MINIMUM MASS OF GRATE = 119#  
MINIMUM MASS OF FRAME = 40#

NOTE: LENGTH OF RIP-RAP SECTION SHOWN ON PLANS.

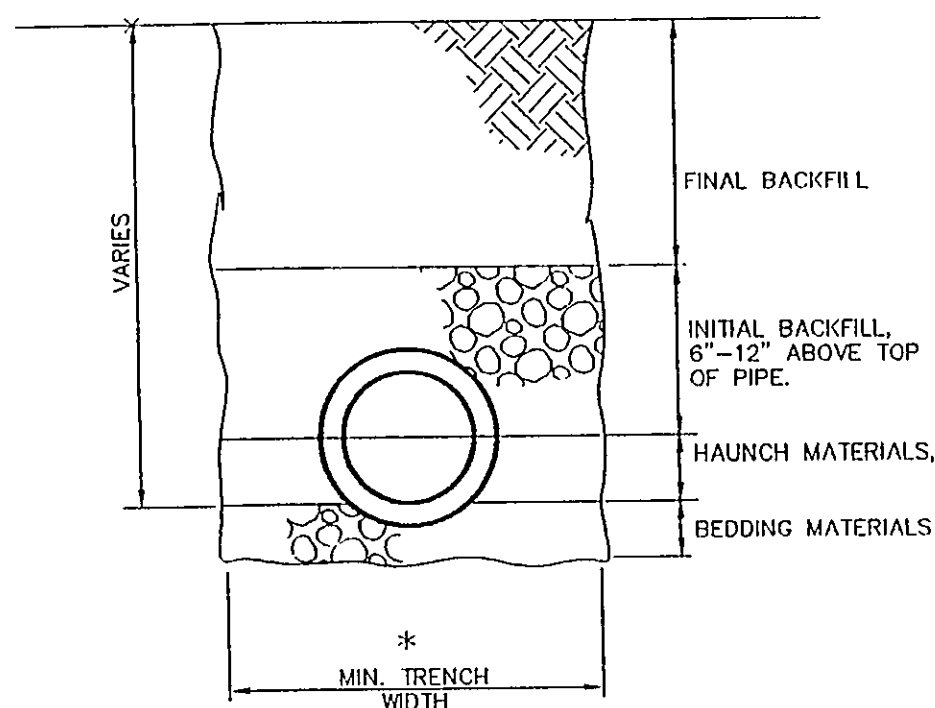


## RIP-RAP DETAIL NTS



## SILTS FENCE DETAIL NTS

MAXIMUM DRAINAGE AREA (N ACRES) TO 100 LINEAR FEET OF SILT FENCE	RANGE OF SLOPE FOR A PARTICULAR DRAINAGE AREA (N PERCENT)
0.5	< 2%
0.25	≥ 2% BUT < 20%
0.125	≥ 20% BUT < 50%



## STORM SEWER TRENCH DETAIL

( HDPE, CPEP, PVC, PE, ETC. )

### FLEXIBLE PIPE NOTES:

- BEDDING MATERIALS SHALL BE CLASS I, II, OR III MATERIALS AS DEFINED IN TABLE 1, ASTM D-2321. INSTALLATION OF THESE MATERIALS SHALL BE AS PER TABLE 2.
- HAUNCH MATERIALS SHALL BE CLASS I, II, OR III MATERIALS AS REQUIRED ABOVE, RESTRICTED AS PER D-2321, TABLE 2.
- INITIAL BACKFILL MATERIALS SHALL BE CLASS I, II, OR III MATERIALS AS REQUIRED ABOVE, RESTRICTED AS PER D-2321, TABLE 2.
- MIN. TRENCH WIDTHS (AS REQUIRED BY ASTM D-2321), ARE AS FOLLOWS:

MIN. TRENCH WIDTH, CPEP	
10"	25"
12"	27"
14"	30"
16"	34"
18"	36"
24"	48"
30"	52"
36"	65"
48"	72"

A LESSER TRENCH WIDTH WILL BE PERMITTED ONLY WHERE IT IS DETERMINED THE CONTRACTOR CAN UTILIZE EQUIPMENT CAPABLE OF MEETING THE REQUIRED INSTALLED DENSITIES.

- WHERE THE TRENCH BOTTOM IS UNSTABLE, CONTRACTOR SHALL EXCAVATE TO A DEPTH AS REQUIRED BY THE ENGINEER AND REPLACE WITH A FOUNDATION OF CLASS I OR II MATERIALS; AS AN ALTERNATIVE, TRENCH BOTTOM MAY BE STABILIZED USING A GEOFABRIC.
- STORM SEWER UNDER PAVEMENT AREAS REQUIRE PREMIUM BACKFILL TO TOP OF TRENCH.

## SOIL & WATER CONSERVATION NOTES

- INGRESS-EGRESS - A STONE ACCESS DRIVE COMPLETE WITH UNDER LYING GEO-TEXTILE FABRIC (20 FEET WIDE AND 50 FEET LONG) FOR INGRESS AND EGRESS AT THE SITE SHALL BE INSTALLED. THIS DRIVE SHALL BE THE ONLY ENTRANCE AND EXIT TO THE SITE.
- SILT FENCE - ALL SILT FENCE SHALL BE INSTALLED PRIOR TO ANY EARTHWORK ACTIVITIES AT THE SITE IN THE LOCATIONS SHOWN ON THE SITE PLAN AS WELL AS ALONG THE FRONT OF ANY LOT THAT SLOPES TOWARDS THE STREET.
- TEMPORARY SEEDING - DISTURBED AREAS OF THE SITE THAT ARE TO REMAIN IDLE FOR MORE THAN TWENTY-ONE (21) DAYS SHALL BE PROPERLY SEEDDED AND STRAW MULCHED WITHIN SEVEN (7) DAYS OF COMPLETION OF INITIAL GRADING. TEMPORARY SEEDING AND MULCHING OF A THIRTY (30) FOOT STRIP OF THE ENTIRE FRONT OF THE LOT SHALL BE MAINTAINED ON THE SITE ONCE INITIAL GRADING IS COMPLETE.
- STABILIZATION OF CRITICAL AREAS WITHIN FIFTY (50) FEET OF ANY STREAM OR WETLAND SHALL BE COMPLETE WITHIN TWO (2) DAYS OF THE DISBURRANCE IF THE SILT IS TO REMAIN INACTIVE FOR LONGER THAN FOURTEEN (14) DAYS.
- STRAW-MULCH SHALL BE APPLIED AT A RATE OF 1 BALE PER EVERY TEN (10) FEET OF CURB, AT A WIDTH OF THIRTY (30) FEET OF THE ENTIRE LENGTH OF THE LOT. WOOD CHIPS MAY ALSO BE USED BUT MUST BE SPREAD A MINIMUM DEPTH OF FOUR (4) INCHES OVER THE THIRTY-FOOT WIDTH AND MUST BE ACCOMPANIED BY A PROPERLY INSTALLED SILT FENCE.
- MAINTENANCE - EROSION AND SEDIMENT CONTROLS SHALL BE INSPECTED EVERY (7) SEVEN DAYS OR WITHIN 24 HOURS OF A 0.5" OR GREATER RAINFALL EVENT. NECESSARY REPAIRS SHALL BE MADE AT THIS TIME.

NOTE: ALL EROSION AND SEDIMENT CONTROL SPECIFICATIONS, APPLICATIONS, AND TIME TABLES ARE BASED ON THE DESCRIPTIONS AND STANDARDS OF THE OHIO DEPARTMENT OF NATURAL RESOURCES "RAINWATER AND LAND DEVELOPMENT MANUAL" AND CAN BE FOUND IN THE LAKE COUNTY EROSION AND SEDIMENT CONTROL RULES AS ADOPTED DECEMBER 21, 1999.

THE SPECIFIED EROSION AND SEDIMENT CONTROL STANDARDS ARE GENERAL GUIDELINES AND SHALL NOT LIMIT THE RIGHT OF THE COUNTY TO IMPOSE, AT ANY TIME, ADDITIONAL, MORE STRINGENT REQUIREMENTS.

### Details

for a Proposed House  
at S/L 104 of the

Little Mountain Park Estates Subdivision No. 7

Concord Township ~ Lake County ~ Ohio

Drawn By: JML

Checked By:

Approved By:

Date: 7/28/04

Greenland Consulting, Inc.  
7757 Auburn Road Unit #9 Concord, OH 44007  
Phone: (440) 352-1734 Fax: (440) 352-1796  
E-Mail: greenland@earthlink.net

Scale: Horiz. 1"=10' Vert. 1"=5' N/A

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