

<u>CURVE 'C-1' DATA:</u>	<u>CURVE 'C-2' DATA:</u>	<u>CURVE 'C-3' DATA:</u>
R = 540.00'	R = 40.00'	R = 5769.58'
L = 227.85'	L = 62.63'	L = 163.13'
$\Delta = 24^{\circ}10'31"$	$\Delta = 88^{\circ}42'12"$	$\Delta = 01^{\circ}37'12"$
T = 115.64'	T = 39.79'	T = 81.57'
Ch = 226.16'	Ch = 56.42'	Ch = 163.12'
ChBrg = S78°03'57"W	ChBrg = N71°10'12"W	ChBrg = N70°07'42"W

**BENCHMARK:**  
TOP OPERATING NUT OF HYDRANT  
LOCATED @ N.E. CORNER OF  
RICHVILLE DR. & NAVE AVE.  
ELEV. = 1110.36

Profile view of a sewer line. The vertical axis shows elevation in feet, ranging from 1100 to 1120. The horizontal axis represents the stationing of the sewer line. The profile includes the existing ground (EX. GROUND), proposed ground (PROP. GROUND), and the sewer line (SEWER). Key features include:

- EX. CATCH BASIN:** Located at station 1107.31. Elevation data: FL 15"(N)CPVC=1104.89, FL 15"(S)WCP=1104.89, PROP. FL 6"(NE)=1105.50.
- D1: C.B. ODOT 2-28:** Elevation data: T/GRATE = 1109.50, F.L. 6"(SW) = 1108.80, F.L. 15"(E) = 1106.80, F.L. 18"(N) = 1106.80.
- D2: FLARED END SECTION:** Elevation data: F.L. 18"(S) = 1107.00.
- SEWER LINE:** D1: 50 L.F. 6" STM SEWER R=2.20%; D2: 6 L.F. 18" STM SEWER R=3.33%.
- PEAK WATER ELEVATIONS:**

YEAR STORM	MAX. ELEVATION
10 YEAR	1109.01
20 YEAR	1109.16
50 YEAR	1109.43
100 YEAR	1109.60

**SECTION A-A**  
 SCALE: HORIZ. 1"=10'  
 VERT. 1"=5'

**UTILITY LOCATION NOTE**

LOCATION OF ALL UNDERGROUND UTILITIES SHOWN HEREON ARE APPROXIMATE AND ARE BASED ON FIELD LOCATIONS OF ALL VISIBLE STRUCTURES SUCH AS CATCH BASINS, MANHOLES, WATER AND GAS GATES, ETC., TOGETHER WITH INFORMATIONAL DATA OBTAINED FROM PLANS AND RECORDS SUPPLIED BY VARIOUS UTILITY COMPANIES AND GOVERNMENT AGENCIES. ALL CONTRACTORS SHOULD NOTIFY IN WRITING ALL UTILITY COMPANIES AND GOVERNMENT AGENCIES PRIOR TO ANY EXCAVATION WORK OR CALL O.U.P.S. AT 1-800-362-2764.

2 WORKING DAYS  
BEFORE YOU DIG  
CALL TOLL FREE 800-362-2764  
OHIO UTILITIES PROTECTION SERVICE

## SITE PLAN

**SITE PLAN**

**U.S.D.A. SITE**

BEING ALL OF OUTLOT 949, IN THE CITY  
OF MASSILLON, STARK COUNTY, OHIO

**FOR: C.L. WEBSTER PROPERTIES**

PHONE (330) 452-5731  
FAX No. (330) 452-9110

**COOPER & ASSOCIATES, LLP**  
ENGINEERS AND SURVEYORS

BRYAN J. ASHMAN  
JEROLD E. GERB

1389 MARKET  
AVENUE, NORTH  
CANTON, OHIO  
44714

MASSILLON ENG. COMMENTS: BOB

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10/6/03

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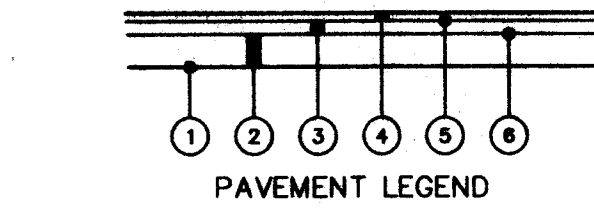
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GENERAL NOTES:

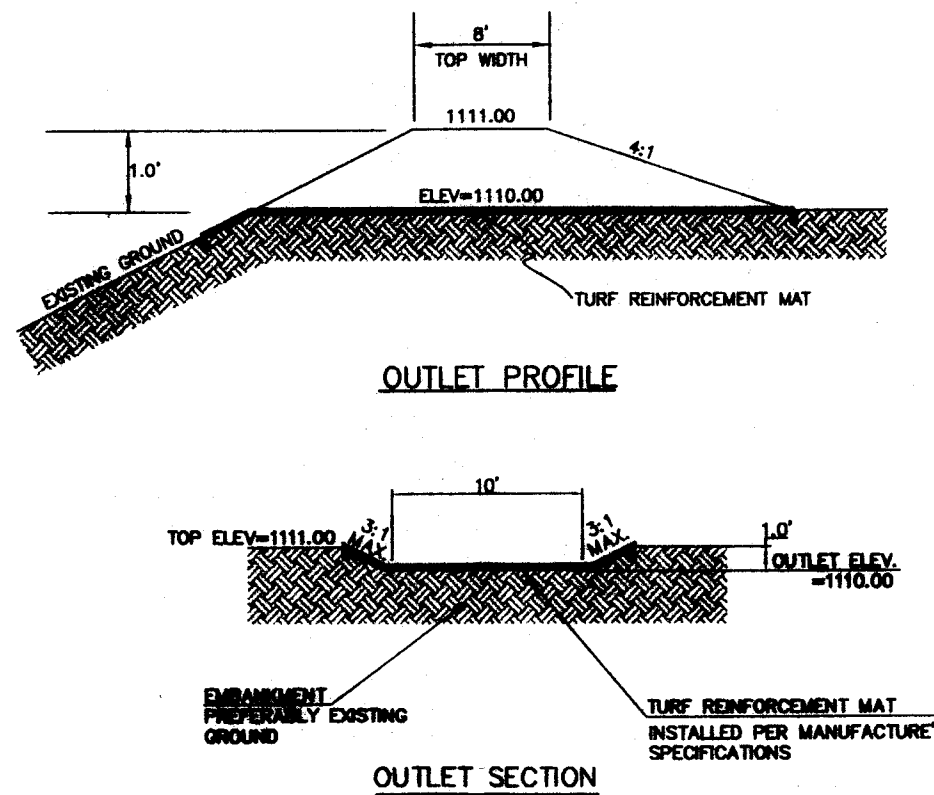
- 1.) ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE APPLICABLE CODES, ORDINANCES, AND STANDARD SPECIFICATIONS OF THE CITY OF MASSILLON. IN LIEU OF ANY LOCAL SPECIFICATIONS WORK SHALL BE DONE IN CONFORMANCE WITH THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS MOST RECENT EDITION.
- 2.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS FOR CONSTRUCTION.
- 3.) ALL EXISTING FIELD CONDITIONS SHALL BE FIELD CHECKED AND VERIFIED BY CONTRACTORS PRIOR TO BIDDING AND CONSTRUCTION. SHOULD THERE BE ANY DISCREPANCY BETWEEN PLANS AND ACTUAL FIELD CONDITIONS, THE CONTRACTOR MUST SEEK WRITTEN CLARIFICATION FROM THE OWNER'S REPRESENTATIVE PRIOR TO COMMENCEMENT OF WORK.
- 4.) SHOULD THE CONTRACTOR ENCOUNTER CONFLICT BETWEEN THESE PLANS AND SPECIFICATIONS, EITHER AMONG THEMSELVES OR WITH THE REQUIREMENTS OF ANY AND ALL REVIEWING AND PERMIT-ISSUING AGENCIES, THE CONTRACTOR SHALL SEEK CLARIFICATION IN WRITING FROM THE OWNER'S REPRESENTATIVE BEFORE COMMENCEMENT OF CONSTRUCTION.
- 5.) IT SHALL BE CONTRACTOR'S RESPONSIBILITY TO CONSTRUCT ALL ITEMS ON THESE PLANS USING CONSTRUCTION MEANS AND METHODS THAT WILL PROTECT PROPERTY AND PREVENT BODILY INJURY AND/OR DEATH. THE CONTRACTOR SHALL TAKE ANY NECESSARY SAFETY PRECAUTIONS TO COMPLY WITH THE SAFETY REQUIREMENTS OF CITY, STATE, AND FEDERAL GOVERNMENTS.
- 6.) CONSTRUCTION SHALL BE PERFORMED, AND EQUIPMENT STORED, IN A MANNER WHICH PERMITS EXISTING FACILITIES TO PERFORM WITHOUT INTERRUPTION.
- 7.) THE CONTRACTOR SHALL PERFORM WORK SO AS TO NOT DISTURB, DAMAGE OR DESTROY ANY MAILBOX, PAPER BOX, TELEPHONE OR POWER POLES, SIGNS, FENCES, RETAINING WALLS, LANDSCAPING ITEMS, ETC.. ANY ITEM DAMAGED SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. ANY ITEM DISTURBED OR IN CONFLICT WITH THE WORK TO BE PERFORMED SHALL BE REMOVED AND RESET AT THE CONTRACTOR'S EXPENSE, UNLESS OTHERWISE NOTED ON THE PLANS.
- 8.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEARING AND GRUBBING, WHICH SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF ODOT ITEM 201. THIS WORK SHALL CONSIST OF CLEARING, GRUBBING, SCALPING, REMOVAL OF TREES AND STUMPS, AND REMOVING AND DISPOSING OF ALL VEGETATION AND DEBRIS WITHIN THE LIMITS DESIGNATED ON THE PLANS.
- 9.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF STRUCTURES AND OBSTRUCTIONS. THIS WORK SHALL CONSIST OF THE REMOVAL, WHOLLY OR IN PART, AND SATISFACTORY DISPOSAL OF ALL BUILDINGS, FENCES, GUARDRAILS, STRUCTURES, OLD PAVEMENTS, ABANDONED PIPE LINES, STORAGE TANKS, PRIVY VAULTS, AND ANY OTHER OBSTRUCTIONS WHICH ARE NOT DESIGNATED OR PERMITTED TO REMAIN, EXCEPT FOR THE OBSTRUCTIONS TO BE REMOVED UNDER OTHER ITEMS IN THE DESIGN PLANS.
- 10.) THE CONTRACTOR SHALL PERFORM EXCAVATION AND EMBANKMENT ACTIVITIES IN ACCORDANCE WITH THE REQUIREMENTS OF ODOT ITEM 203. THIS WORK SHALL CONSIST OF PREPARATION OF AREAS UPON WHICH EMBANKMENTS ARE TO BE PLACED; EXCAVATION AS REPRESENTED ON THE PLANS, INCLUDING THE REMOVAL OF ALL MATERIAL ENCOUNTERED NOT BEING REMOVED UNDER ANOTHER ITEM; CONSTRUCTING EMBANKMENTS WITH THE EXCAVATED MATERIAL AND MATERIAL FROM OTHER SOURCES NECESSARY TO COMPLETE THE PLANNED EMBANKMENTS; FURNISHING AND INCORPORATING ALL WATER REQUIRED FOR COMPACTING EMBANKMENT AND SUBGRADE; DISPOSING OF UNSUITABLE AND SURPLUS MATERIAL; PREPARING THE SUBGRADE; TESTING THE STABILITY AND UNIFORMITY OF COMPACTION OF THE SUBGRADE FOR AREAS SPECIFICALLY CALLED FOR ON THE PLANS; ALL IN CLOSE CONFORMITY WITH THE LINES, GRADES, AND THICKNESSES SHOWN ON THE PLANS.
- 11.) THE CONTRACTOR MUST MEET THE FOLLOWING COMPACTION REQUIREMENTS:  
A.) RELATIVE COMPACTION UNDER BUILDINGS (TO WITHIN 5 FT. OF BUILDING LIMITS) AND UNDER PAVEMENT AREAS SHALL MEET 100% OF THE "STANDARD" PROCTOR MAXIMUM DRY DENSITY WITH A WATER CONTENT WITHIN  $\pm 2\%$  OF THE LABORATORY "OPTIMUM WATER CONTENT".  
B.) RELATIVE COMPACTION WITHIN UTILITY TRENCHES SHALL MEET 95% OF THE "STANDARD" PROCTOR MAXIMUM DRY DENSITY WITH A WATER CONTENT WITHIN  $\pm 3\%$  OF THE LABORATORY "OPTIMUM WATER CONTENT".  
C.) RELATIVE COMPACTION WITHIN YARD AREAS SHALL MEET 90% OF THE "STANDARD" PROCTOR MAXIMUM DRY DENSITY WITH A WATER CONTENT WITHIN  $\pm 3\%$  OF THE LABORATORY "OPTIMUM WATER CONTENT".
- 12.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY SOIL EROSION AND SEDIMENT CONTROL, WHICH SHALL BE PERFORMED PER THE STORM WATER POLLUTION AND PREVENTION PLANS.
- 13.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING PAVEMENT IN AREAS DESIGNATED ON THE PLANS. THIS WORK SHALL CONSIST OF REMOVING EXISTING BITUMINOUS, BRICK, PORTLAND CEMENT CONCRETE OR AGGREGATE PAVEMENT COURSES, SHAPING AND COMPACTING THE EXPOSED MATERIAL, AND PLACING NEW BITUMINOUS OR AGGREGATE AND BITUMINOUS PAVEMENT COURSES IN ACCORDANCE WITH THE REQUIREMENTS OF ODOT ITEM 253 AND THE DETAIL B/2 SHOWN ON THIS PLAN. ANY DISTURBED CURB AND GUTTER SHALL BE SAW CUT, REMOVED AND REPLACED TO MATCH EXISTING IN ACCORDANCE WITH THE REQUIREMENTS OF ODOT ITEM 609.
- 14.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR PLACING THE PROPOSED PAVEMENT IN THE LOCATIONS REPRESENTED ON THE PLANS AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE REFERENCED ODOT ITEMS AND THE TYPICAL SECTIONS SHOWN ON THE PLANS.
- 15.) UNLESS OTHERWISE NOTED, ALL STORM SEWER INSTALLATIONS ARE TO BE INSTALLED USING TYPE B CONDUITS WITH CLASS B BEDDING IN ACCORDANCE WITH THE REQUIREMENTS OF ODOT ITEM 605. ONE OF THE FOLLOWING MATERIALS SHALL BE USED:  
A.) REINFORCED CONCRETE PIPE (RCP) IN ACCORDANCE WITH ODOT ITEM 705.02  
B.) HIGH-DENSITY CORRUGATED POLYETHYLENE (HDPE) SMOOTH LINED PIPE IN ACCORDANCE WITH ODOT ITEM 707.33  
C.) POLYVINYL CHLORIDE SOLID WALL PIPE (PVC) IN ACCORDANCE WITH ODOT ITEM 707.45
- 16.) ALL DOWNSPOUTS (D.S) FROM THE PROPOSED BUILDING ARE TO MAKE CONNECTION INTO THE PROPOSED STORM SEWER AND SHALL BE 6" PVC IN ACCORDANCE WITH ASTM D-3034 (UNLESS OTHERWISE SPECIFIED ON THE PLANS) INSTALLED AT A MINIMUM SLOPE OF 1.00%.
- 17.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND CONSTRUCTING ALL MANHOLES, CATCH BASINS, AND INLETS REPRESENTED ON THE PLANS IN ACCORDANCE WITH THE REQUIREMENTS OF ODOT ITEM 604. THIS SHALL INCLUDE ALL APPURTENANCES NECESSARY TO PROVIDE A COMPLETE FINISHED STRUCTURE, SUCH AS CAST FRAMES, GRATES, COVERS, STEPS AND OTHER SPECIFIED MATERIALS.
- 18.) ALL CATCH BASINS LOCATED IN PAVED AREAS SHALL BE EQUIPPED WITH BICYCLE SAFE GRATES. BICYCLE SAFE GRATES SHALL BE NEENAH No. R-4859-C OR EAST JORDAN IRON WORKS No. 5110 TYPE M3 OR AN APPROVED EQUAL.
- 19.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR MATERIALS AND INSTALLATION OF THE PROPOSED SANITARY SERVICE SEWER. MATERIAL AND INSTALLATION SPECIFICATIONS SHALL BE IN ACCORDANCE WITH THE CITY OF MASSILLON ENGINEERING DEPARTMENT. IN LIEU OF LOCAL MATERIAL AND INSTALLATION SPECIFICATIONS, THE SERVICE SEWER SHALL BE 6 IN. DIAMETER PVC IN ACCORDANCE WITH ASTM D-3034, WITH JOINTS IN ACCORDANCE ASTM D-3212 AND BEDDING IN ACCORDANCE WITH ASTM D-2321, AND SHALL BE LAID AT A RATE NO LESS THAN ONE PERCENT (1.00%).
- 20.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR PIPE UNDERDRAINS WITH GRANULAR FILTER AND FILTER FABRIC AROUND ALL CATCH BASINS WHICH ARE TO BE LOCATED IN PAVED AREAS. UNDERDRAINS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF ODOT ITEM 605 AND THE DETAIL SHOWN ON THIS PLAN.
- 21.) CONCRETE SIDEWALKS, CURB RAMPS AND STEPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF ODOT ITEM 608. THIS WORK SHALL CONSIST OF CONSTRUCTING WALKS, CURB RAMPS AND STEPS OF SPECIFIED MATERIALS IN REASONABLY CLOSE CONFORMITY WITH LINES, GRADES AND DIMENSIONS SHOWN ON THE PLANS.
- 22.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTING CURBS IN ACCORDANCE WITH THE REQUIREMENTS OF ODOT ITEM 609. THIS WORK SHALL CONSIST OF FURNISHING AND CONSTRUCTING CURB AND COMBINATION CURB AND GUTTER OF THE SPECIFIED MATERIALS AND TYPES, IN REASONABLY CLOSE CONFORMITY WITH THE LINES AND GRADES SHOWN ON THE PLANS. THIS ITEM SHALL ALSO INCLUDE NECESSARY EXCAVATION AND BACKFILL, FURNISHING AND INSTALLING JOINT MATERIALS, AND THE DISPOSAL OF SURPLUS EXCAVATION AND DISCARDED MATERIALS IN ACCORDANCE WITH ODOT ITEM 203.
- 23.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRAFFIC IN ACCORDANCE WITH THE REQUIREMENTS OF ODOT ITEM 614. THIS WORK SHALL CONSIST OF MAINTAINING AND PROTECTING VEHICULAR AND PEDESTRIAN TRAFFIC AS NECESSARY.
- 24.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL IN ACCORDANCE WITH THE REQUIREMENTS OF ODOT ITEM 616. THIS WORK SHALL CONSIST OF APPLYING, WHEN ORDERED, WATER OR DUST PALLIATIVE FOR THE ALLEVIATION OR PREVENTION OF DUST NUISANCE ORIGINATING FROM THE PROJECT SITE.
- 25.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR MATERIALS AND INSTALLATION FOR THE PROPOSED WATER, GAS, CABLE, TELEPHONE AND ELECTRIC SERVICES TO WITHIN 5 FEET OF THE BUILDING. INSTALLATION PROCEDURES AND MATERIAL SPECIFICATIONS SHALL BE IN CONFORMANCE WITH THE REQUIREMENTS OF THE RESPECTIVE UTILITY COMPANIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE INSTALLATION OF THESE UTILITIES WITH THE RESPECTIVE UTILITY OWNERS.
- 26.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPOSED PAVEMENT STRIPING, AS DESIGNATED ON THE PLAN. THIS WORK SHALL CONSIST OF FURNISHING AND APPLYING ALKYD OR WATERBASED TRAFFIC PAINT IN ACCORDANCE WITH ODOT ITEMS 641, 740.02 AND THE ADDITIONAL REQUIREMENTS DESCRIBED IN ODOT ITEM 642.
- 27.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR STRIPPING AND STOCKPILING TOPSOIL IN ACCORDANCE WITH THE REQUIREMENTS OF ODOT ITEM 651. THIS WORK SHALL CONSIST OF STRIPPING TOPSOIL FROM DESIGNATED AREAS WITHIN THE WORK LIMITS, TRANSPORTING AND STORING IN PILES AT LOCATIONS DESIGNATED BY THE OWNER.
- 28.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR PLACING STOCKPILED TOPSOIL IN ACCORDANCE WITH THE REQUIREMENTS OF ODOT ITEM 652. THIS WORK SHALL CONSIST OF HAULING AND SPREADING TOPSOIL FROM STOCKPILES, AND PREPARING THE SUBGRADE.
- 29.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEEDING AND MULCHING ALL DISTURBED AND PROPOSED YARD AREAS IN ACCORDANCE WITH THE REQUIREMENTS OF ODOT ITEM 659. THIS WORK SHALL CONSIST OF FURNISHING ALL SEED, AGRICULTURAL LIMING MATERIALS, COMMERCIAL FERTILIZER, MULCHING MATERIAL, AND WATER AND PLACING AND INCORPORATING WHERE NECESSARY.
- 30.) CONTRACTOR SHALL TAPER THE CURB FROM 6" TO 0" IN 5'.
- 31.) CONTRACTOR SHALL TAPER THE CURB FROM 6" TO 0" IN 2'.
- 32.) EARTHWORK SUMMARY: THE FOLLOWING SUMMARY WAS TAKEN FROM EXISTING GROUND TO THE PROPOSED FINISHED GRADE.  
CUT = 2,900 C.Y.  
FILL = 900 C.Y. x 1.1 (FILL FACTOR) = 990 C.Y.  
NET = 1,910 C.Y. OF EXCESS MATERIAL
- 33.) WITHIN THE SHADED AREA, THE BASE BID SHALL CONSIST OF PLACING TOPSOIL IN ACCORDANCE WITH ODOT ITEM 652 AND SEEDING AND MULCHING IN ACCORDANCE WITH ODOT ITEM 659. AN ALTERNATE BID ITEM FOR THE SHADED AREA SHALL CONSIST OF A COMPACTED SUBGRADE IN ACCORDANCE WITH ODOT ITEM 204 UNDER 4" OF No. 57 LIMESTONE.
- 34.) CONTRACTOR SHALL ACQUIRE A SANITARY TAP PERMIT PRIOR TO TAPPING INTO THE EXISTING SANITARY LATERAL. CONTACT THE CITY OF MASSILLON ENGINEERING DEPARTMENT FOR LICENSE AND INSPECTION REQUIREMENTS.
- 35.) CONTRACTOR SHALL ACQUIRE A STREET OPENING PERMIT TO TAP INTO THE EXISTING CATCH BASIN AND FOR THE OPEN CUT ACROSS BUSINESS PLACE S.E.. CONTACT THE CITY OF MASSILLON ENGINEERING DEPARTMENT FOR THE PERMIT AND INSPECTION REQUIREMENTS.
- 36.) CONTRACTOR SHALL ACQUIRE A DRIVEWAY PERMIT FROM THE CITY OF MASSILLON, CONTACT THE CITY OF MASSILLON ENGINEERING DEPARTMENT FOR PERMIT AND INSPECTION REQUIREMENTS.



- 1 ITEM 204 - COMPACTED SUBGRADE  
2 ITEM 304 - 6" AGGREGATE BASE  
3 ITEM 448, TYPE 2 - 2-1/2" ASPHALT CONC. INTERMEDIATE COURSE  
4 ITEM 448, TYPE 1 - 1-1/2" ASPHALT CONC. SURFACE COURSE  
5 ITEM 407 - TACK COAT (SEE NOTE)  
6 ITEM 408 - PRIME COAT @ 0.40 GAL. PER SQ. YD.

NOTE: IF ITEMS 448, TYPE 2 AND 448, TYPE 1 ARE PLACED ON THE SAME DAY, THE TACK COAT MAY BE OMITTED, OTHERWISE THE TACK COAT SHALL BE APPLIED AT A RATE OF 0.10 GAL. PER SQ. YD.

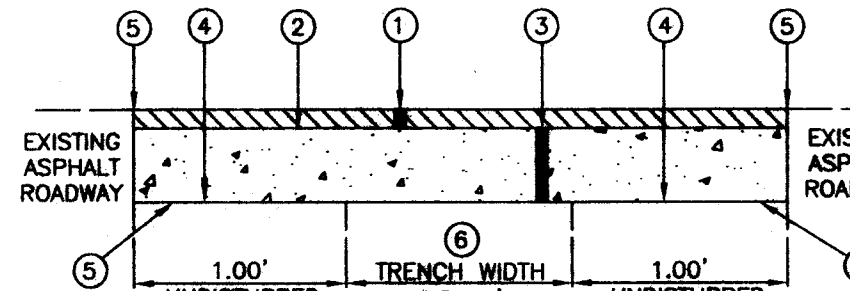
1 TYPICAL PAVEMENT SECTION  
SCALE: NONE



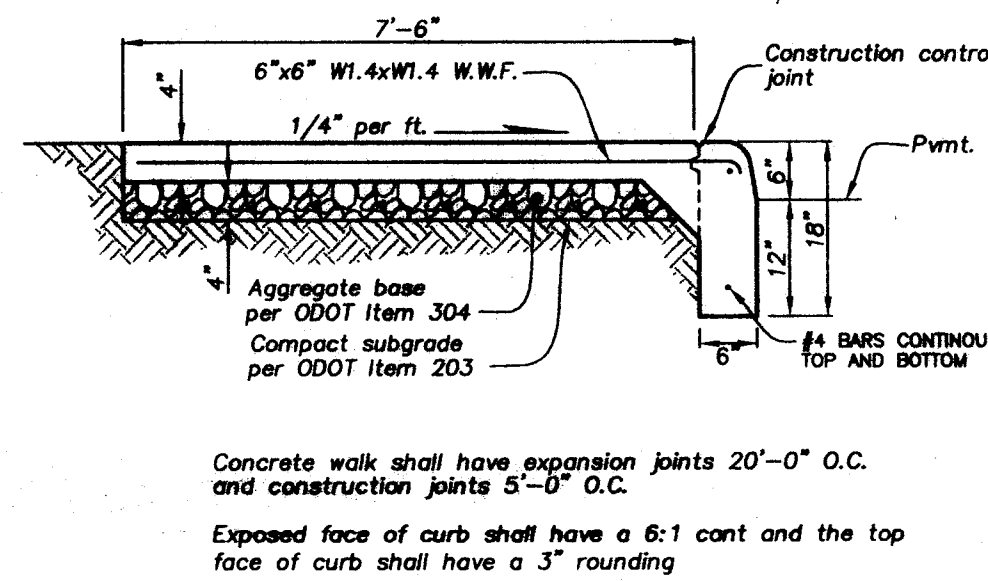
FOR ADDITIONAL DETAILS SEE RAINWATER AND LAND DEVELOPMENT

2 DETENTION BASIN - EMERGENCY SPILLWAY  
SCALE: NONE

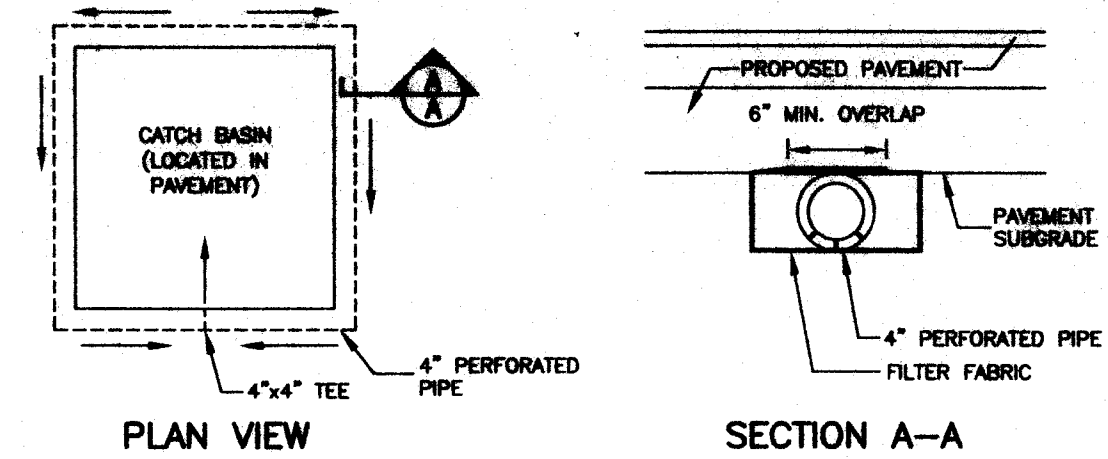
- 1 ITEM 448, TYPE 1 - 2" ASPHALT CONCRETE  
2 ITEM 407 - TACK COAT @ 0.25 GAL./S.Y.  
3 ITEM 452 - 8" PLAIN CONCRETE PAVEMENT  
4 ITEM 204 - COMPACTED SUBGRADE  
5 ITEM 705.04 - 4" ASPHALT SEALANT AT ALL HORIZONTAL JOINTS, ALL VERTICAL JOINTS SHALL BE SAW CUT.  
6 COMPACTED GRANULAR BACKFILL



3 PAVEMENT REPLACEMENT DETAIL  
SCALE: NONE

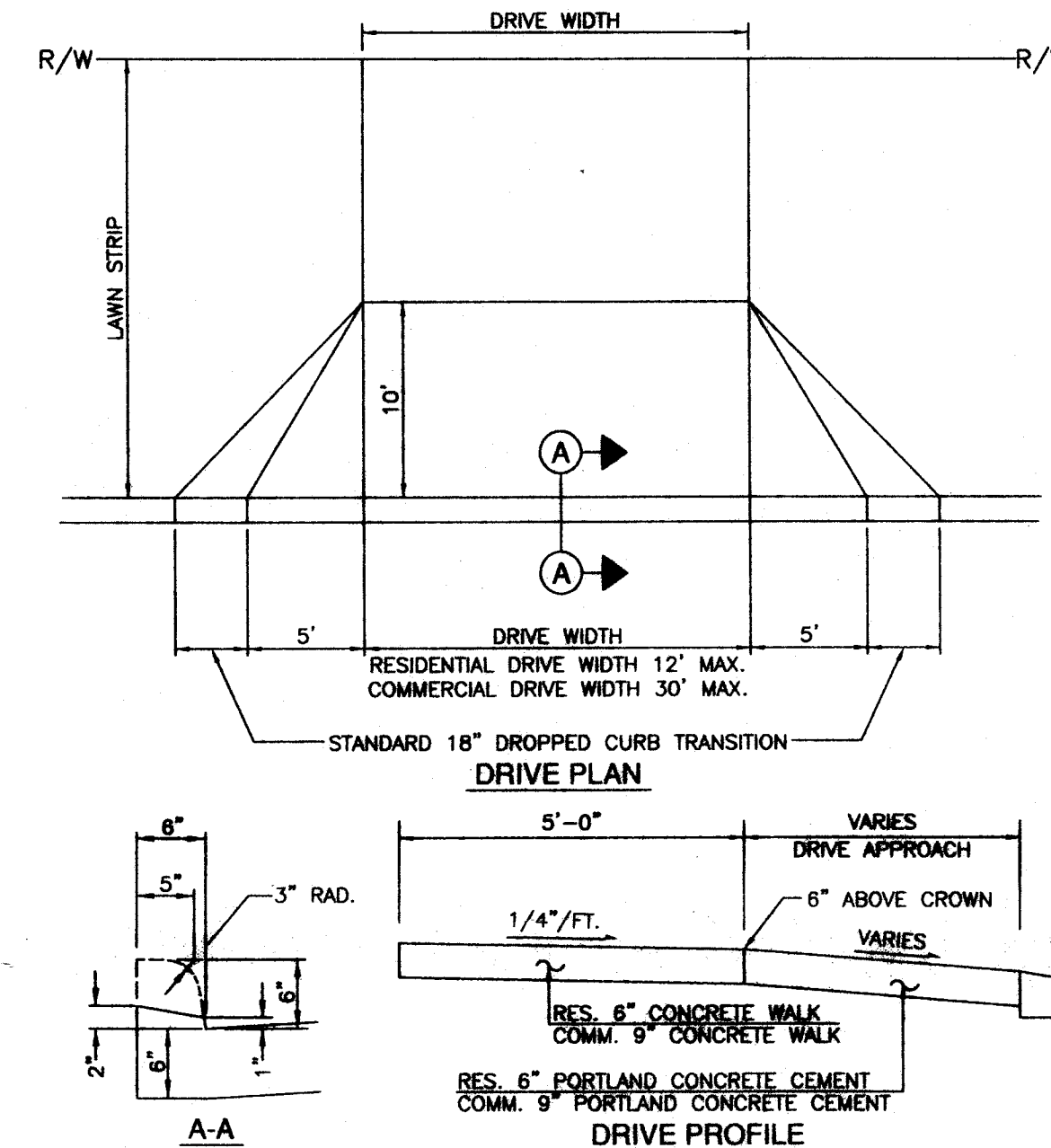


4 COMBINATION CONCRETE CURB AND WALK  
SCALE: NONE



MINIMUM TRENCH WIDTH SHALL BE 10 INCHES. THE TOP OF THE TRENCH MUST BE BELOW THE PROPOSED PAVEMENT SUBGRADE.  
THE TRENCH SHALL BE LINED WITH FILTER FABRIC. THE FABRIC SHALL COMPLETELY SURROUND THE GRANULAR FILTER MATERIAL. THE FILTER FABRIC SHALL BE IN ACCORDANCE WITH ODOT ITEM 712.09, TYPE "A".  
THE UNDERDRAIN PIPE SHALL BE 4" PERFORATED CORRUGATED POLYETHYLENE DRAINAGE TUBING IN ACCORDANCE WITH ODOT ITEM 605. THE PIPE SHALL BE LAID AT A MINIMUM OF 1.00% GRADE SLOPING TO THE OUTLET, WHICH SHALL BE FIELD CUT INTO THE CATCH BASIN.  
THE GRANULAR FILTER BACKFILL MATERIALS SHALL BE MADE FROM DURABLE No. 8 GRAVEL, STONE OR AIR-COOLED BLAST FURNACE SLAG. IT SHALL BE PLACED FOR THE FULL WIDTH OF THE TRENCH AROUND THE PIPE AND SHALL EXTEND TO THE BOTTOM OF THE PAVEMENT AS SHOWN ON THE PLAN.  
THE UNDERDRAIN TRENCH SHALL HAVE THE PAVEMENT PLACED OVER IT NO LATER THAN 90 DAYS AFTER THE TRENCH BACKFILL IS PLACED. IF TRENCH IS TO BE OPEN LONGER THAN 90 DAYS, THEN BACKFILL CONTAMINATED BY SOIL SHALL BE REMOVED AND REPLACED.

5 CATCH BASIN UNDERDRAIN DETAIL  
SCALE: NONE



NOTE  
ANY DEVIATION FROM THIS MUST BE APPROVED BY THE CITY ENGINEER.  
CONCRETE SHALL BE 4000 PSI CLASS C

6 CITY OF MASSILLON'S DRIVEWAY APPROACH DETAIL  
SCALE: NONE

HORIZONTAL SCALE		SCALE: AS NOTED	
10/06/03	BOB		

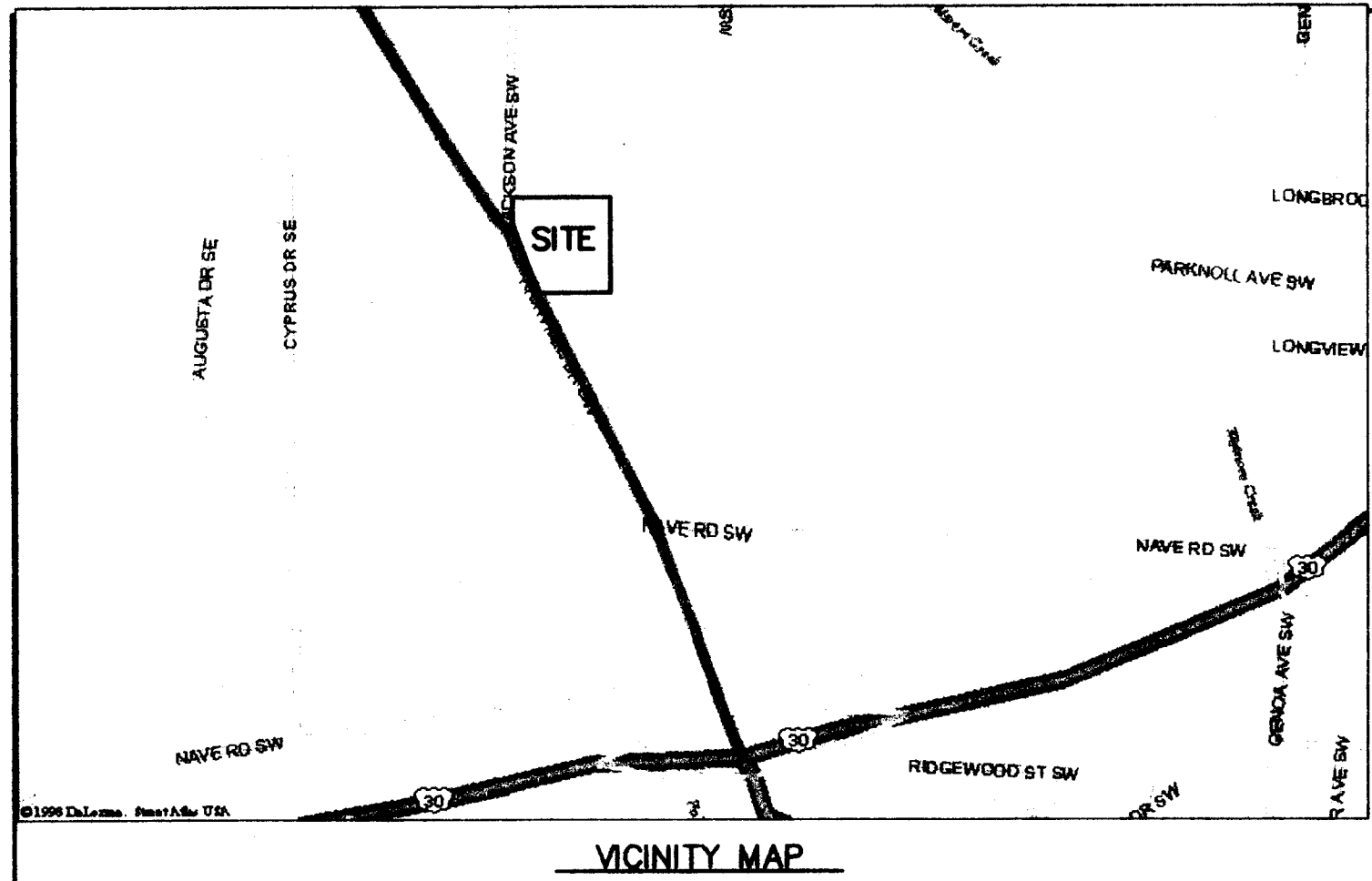
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FAX NO. (330) 452-9110  
1389 MARKET AVENUE, NORTH CANTON, OHIO 44714

SITE PLAN: NOTES AND DETAILS  
U.S.D.A. SITE  
BEING ALL OF OUTLOT 949, IN THE CITY OF MASSILLON, STARK COUNTY, OHIO  
FOR: C.L. WEBSTER PROPERTIES

DRAWN BY: S.D.H.  
CHECKED BY: \_\_\_\_\_  
FIELD BOOK No. \_\_\_\_\_  
DATE 07/21/2003  
SHEET 2 OF 2  
PROJ.# 03158





VICINITY MAP

### DESIRABLE CONSTRUCTION SEQUENCE

PRIOR TO THE BEGINNING OF DISTURBANCE, THE CONTRACTOR MUST SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE STARK SOIL AND WATER CONSERVATION DISTRICT, URBAN RESOURCE COORDINATOR. (Phone: (330) 489-4476)

1. INSTALL SOIL STABILIZATION AND SEDIMENT CONTROL PRACTICES CONSTRUCTION ROAD ENTRANCE(S) DETENTION/ SEDIMENT BASINS SEDIMENT TRAPS DIVERSIONS APPROPRIATE SEDIMENT BARRIERS
2. GRADE SITE/STOCKPILE TOPSOIL RIGHT OF WAY DIVERSIONS/WATER BARS APPLY VEGETATIVE COVER TO AREAS TO BE DORMANT FOR 45 DAYS OR MORE
3. PRESERVE AND PROTECT EXISTING VEGETATION
4. INSTALL STORMWATER MANAGEMENT MEASURES STORM SEWERS DROP INLET PROTECTION DITCHES AND DITCH LININGS
5. INSTALL PUBLIC UTILITIES
6. TEMPORARY VEGETATIVE STABILIZATION TEMPORARY SEEDING VEGETATIVE FILTERS MULCHING
7. INSTALL PARKING AND ROAD SUBGRADE AGGREGATE COVER
8. SITE CONSTRUCTION WORK CURB AND GUTTER RESIDENTIAL/COMMERCIAL CONSTRUCTION RIGHT OF WAY GRADING TEMPORARY SEEDING CURB INLET PROTECTION
9. SURFACE ROADS AND PARKING (PAVING)
10. PERMANENT VEGETATIVE STABILIZATION PERMANENT OR DORMANT SEEDING SODDING (WHERE REQUIRED)
11. FINAL SITE STABILIZATION FINAL LANDSCAPING REMOVE TEMPORARY SEDIMENT CONTROL MEASURES DISPOSE OF TRAPPED SEDIMENT
12. FINAL SITE INSPECTION 45 DAYS AFTER FINAL SITE STABILIZATION IS COMPLETE

### POST-CONSTRUCTION STORMWATER POLLUTION PREVENTION

POST-CONSTRUCTION STORMWATER POLLUTION PREVENTION HAS NOT BEEN ADDRESSED BY THE SITE ENGINEERING FOR THIS LAND DEVELOPMENT PROJECT.

#### REPAIR AND MAINTENANCE TIME REQUIREMENTS

1. WHEN PRACTICES REQUIRE REPAIR OR MAINTENANCE. IF INSPECTION REVEALS THAT A CONTROL PRACTICE IS IN NEED OF REPAIR OR MAINTENANCE, WITH THE EXCEPTION OF A SEDIMENT BASIN, IT MUST BE REPAIRED OR MAINTAINED WITHIN 48 HOURS OF THE INSPECTION. SEDIMENT BASINS MUST BE REPAIRED OR MAINTAINED WITHIN 7 DAYS OF THE INSPECTION.
  2. WHEN PRACTICES FAIL TO PERFORM THEIR INTENDED FUNCTION. IF INSPECTION REVEALS THAT A CONTROL PRACTICE FAILS TO PERFORM ITS INTENDED FUNCTION AND THAT ANOTHER, MORE APPROPRIATE CONTROL PRACTICE IS REQUIRED, THE SWP3 MUST BE AMENDED AND THE NEW CONTROL PRACTICE MUST BE INSTALLED WITHIN 7 DAYS OF THE INSPECTION.
  3. WHEN PRACTICES DEPICTED ON THE SWP3 ARE NOT INSTALLED. IF INSPECTION REVEALS THAT A CONTROL PRACTICE HAS NOT BEEN IMPLEMENTED IN ACCORDANCE WITH THE SCHEDULE CONTAINED IN THIS PLAN, THE CONTROL PRACTICE MUST BE IMPLEMENTED PRIOR TO THE NEXT STORM EVENT WHICH PRODUCES RUNOFF FROM THE SITE, BUT IN NO CASE LATER THAN 7 DAYS FROM THE DATE OF INSPECTION.
- IF THE INSPECTION REVEALS THAT THE PRACTICE IS NOT NEEDED, THE INSPECTION RECORD MUST CONTAIN A STATEMENT OF EXPLANATION AS TO WHY THE CONTROL PRACTICE IS NOT NEEDED.

PERMANENT STABILIZATION	
AREA REQUIRING PERMANENT STABILIZATION	TIME FRAME TO APPLY EROSION CONTROLS
ANY AREAS THAT WILL LIE DORMANT FOR ONE YEAR OR MORE.	WITHIN 7 DAYS OF THE MOST RECENT DISTURBANCE.
ANY AREAS WITHIN 50 FEET OF A STREAM AND AT FINAL GRADE.	WITHIN 2 DAYS OF REACHING FINAL GRADE.
ANY OTHER AREAS AT FINAL GRADE.	WITHIN 7 DAYS OF REACHING FINAL GRADE WITHIN THAT AREA.
TEMPORARY STABILIZATION	
AREA REQUIRING TEMPORARY STABILIZATION	TIME FRAME TO APPLY EROSION CONTROLS
ANY DISTURBED AREAS WITHIN 50 FEET OF A STREAM AND NOT AT FINAL GRADE.	WITHIN 2 DAYS OF THE MOST RECENT DISTURBANCE IF THE AREA WILL REMAIN IDE FOR 7 DAYS OR MORE.
FOR RESIDENTIAL SUBDIVISIONS, NON-RESIDENTIAL SUBDIVISIONS (e.g., INDUSTRIAL PARKS) AND COMMERCIAL DEVELOPMENTS (e.g., SHOPPING CENTERS), ANY DISTURBED AREAS THAT WILL BE DORMANT FOR MORE THAN 21 DAYS BUT LESS THAN ONE YEAR AND NOT WITHIN 50 FEET OF A STREAM.	WITHIN 7 DAYS OF THE MOST RECENT DISTURBANCE WITHIN THE AREA.
DISTURBED AREAS THAT WILL BE IDE OVER WINTER.	FOR RESIDENTIAL SUBDIVISIONS, DISTURBED AREAS MUST BE STABILIZED AT LEAST 7 DAYS PRIOR TO THE TRANSFER OF PERMIT COVERAGE FOR THE INDIVIDUAL LOTS. PRIOR TO THE ONSET OF WINTER WEATHER.

#### TYPICAL SOIL PROTECTION CHART

STABILIZATION TYPE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
PERMANENT SEEDING			A									
DORMANT SEEDING	B		B									
TEMPORARY SEEDING			C									
SODDING			E									
MULCHING	F											F

A = KENTUCKY BLUEGRASS AT 90 LB/AC MIXED WITH PERENNIAL RYEGRASS AT 30 LB/AC

E = SOD

B = KENTUCKY BLUEGRASS AT 135 LB/AC MIXED WITH PERENNIAL RYEGRASS AT 45 LB/AC PLUS 2 TONS/AC STRAW MULCH

F = STRAW MULCH AT 2 TONS/AC

C = SPRING OATS AT 100 LB/AC

\* = IRRIGATION NEEDED DURING JUNE AND JULY

D = WHEAT OR CEREAL RYE AT 150 LB/AC

\*\* = IRRIGATION NEEDED FOR 2-3 WEEKS AFTER APPLYING SOD

### STORM WATER POLLUTION PREVENTION PLAN

## USDA SITE

### PROJECT SITE DESCRIPTION EROSION AND SEDIMENT CONTROL, POST-CONSTRUCTION STORMWATER POLLUTION PREVENTION, AND NON-SEDIMENT POLLUTION CONTROL PRACTICES AND PROCEDURES OWNER CERTIFICATION

#### INTRODUCTION:

THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE NPDES PERMIT FOR CONSTRUCTION SITES IN OHIO AND WITH THE APPLICABLE LOCAL EROSION AND SEDIMENT CONTROL REGULATIONS.

THIS PLAN ADDRESSES THE THREE SIGNIFICANT WATER QUALITY AND QUANTITY ASPECTS OF THE LAND DEVELOPMENT CONSTRUCTION PROCESS:  
1. EROSION AND SEDIMENT CONTROL DURING CONSTRUCTION.  
2. POST-CONSTRUCTION STORMWATER MANAGEMENT, AND  
3. NON-SEDIMENT POLLUTANT CONTROLS.  
4. OTHER CONSIDERATIONS.

THE CONTRACTOR SHALL INSTALL AND MAINTAIN THE PRACTICES INDICATED IN ACCORDANCE WITH THE INCLUDED SEQUENCE OF CONSTRUCTION AND THE DETAILS AND SPECIFICATIONS CONTAINED IN RAINWATER AND LAND DEVELOPMENT CONSTRUCTION, DIV. OF SOIL AND WATER CONSERVATION, AND OTHER REFERENCED MANUALS AND HANDBOOKS.

#### PROJECT DESCRIPTION:

THE USDA SITE IS A PROPOSED OFFICE DEVELOPMENT WHICH INCLUDES THE CONSTRUCTION OF BUILDINGS, PAVEMENT AND UTILITIES CONSISTENT WITH COMMERCIAL ACTIVITIES.

THE SITE CONSISTS OF APPROXIMATELY 2.5 ACRES OF WHICH APPROXIMATELY 90 PERCENT WILL BE DISTURBED BY THE CONSTRUCTION OF THE ROADWAYS AND UTILITIES.

THE EXISTING AVERAGE RUNOFF COEFFICIENT IS ASSUMED TO BE 0.2. THE FULLY DEVELOPED RUNOFF COEFFICIENT IS EXPECTED TO BE 0.8. THE ANTICIPATED INCREASE IN RUNOFF IS 300 PERCENT.

DEVELOPMENT WILL RESULT IN APPROXIMATELY 1.54 ACRES OF IMPERVIOUS COVER, OR 82 PERCENT IMPERVIOUSNESS.

THE SITE IS ROLLING WITH THE HIGH POINT IN THE EAST-CENTRAL PORTION OF THE SITE. THE SLOPES ARE GENTLE, DRAINING PREDOMINANTLY TO THE SOUTH AND WEST.

THE SOILS OF THE SITE ARE FITCHVILLE AND CAMPFELD SILT LOAM WHICH BOTH PRESENT ONLY A MINIMAL EROSION HAZARD.

THERE ARE NO SURFACE WATER ON OR ADJACENT TO THE SITE OTHER THAN ROADSIDE DRAINAGE SWALES ALONG RICHVILLE DRIVE.

THE PRIOR LAND USE WAS AGRICULTURAL.

WITH APPROPRIATE PRECAUTIONS, THE QUALITY OF RUNOFF SHOULD BE UNCHANGED FROM WHAT IS PRODUCED BY THE EXISTING CONDITIONS.

THE INITIAL RECEIVING WATER FOR RUNOFF FROM THIS SITE IS THE CITY OF MASSILLON (MSA) AND THE SUBSEQUENT RECEIVING WATER IS THE TUSCARAWAS RIVER.

#### 1. EROSION AND SEDIMENT CONTROL MEASURES:

EROSION AND SEDIMENT CONTROL PRACTICES INDICATED ON THIS PLAN SHALL MEET THE STANDARDS AND SPECIFICATIONS CONTAINED IN THE CURRENT EDITION OF RAINWATER AND LAND DEVELOPMENT, CONSTRUCTION, DIV. OF SOIL AND WATER CONSERVATION.

C.L. WEBSTER PROPERTIES SHALL BE RESPONSIBLE FOR THE INSTALLATION OF PERIMETER CONTROLS AND FOR THE MAINTENANCE OF PERIMETER CONTROLS UNTIL FINAL STABILIZATION.

#### SEQUENCE OF EROSION AND SEDIMENT CONTROL PRACTICE IMPLEMENTATION:

1. PRIOR TO THE BEGINNING OF DISTURBANCE, THE CONTRACTOR MUST SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE STARK SOIL AND WATER CONSERVATION DISTRICT, URBAN RESOURCE COORDINATOR. (PHONE: 330-489-4476)
2. INSTALL CONSTRUCTION ENTRANCES AT EVERY POINT OF ACCESS FOR CONSTRUCTION VEHICLES ONTO PAVED PUBLIC ROADWAYS.

3. PRIOR TO ANY GRADING ACTIVITIES TAKING PLACE, SILT FENCING AND OTHER SEDIMENT BARRIERS INDICATED ON THE PLAN, OR AS SHALL BE DETERMINED NECESSARY UPON INSPECTION, SHALL BE INSTALLED AND FUNCTIONAL.

4. PRIOR TO ANY MAJOR GRADING ACTIVITY TAKING PLACE, THE APPROPRIATE SEDIMENT TRAPPING FACILITIES INDICATED ON THIS PLAN SHALL BE IMPLEMENTED.

5. ALL TOPSOIL STOCKPILES SHALL BE STABILIZED AS SOON AS THE STOCKPILING ACTIVITY IS COMPLETE.

6. ALL DISTURBED AREAS SHALL BE TEMPORARILY OR PERMANENTLY SEEDING, AS INDICATED ON THE PLAN, IN ACCORDANCE WITH THE SPECIFICATIONS UNDER NON-STRUCTURAL PRACTICES, BELOW.

SPECIFICATIONS FOR PERMANENT SEEDING, MULCHING, MATTING, AND RIPRAP ARE CONTAINED ON SHEET NO. 4E OF THIS PLAN.

7. UPON COMPLETION OF THE PROPOSED STORM SEWER SYSTEM, DROP INLET AND CURB INLET PROTECTION SHALL BE INSTALLED IN ALL LOCATIONS WHERE SEDIMENT IS BEING CARRIED TO THE INLET AND INTO THE STORM SEWER.

8. DITCHES OR SWALES SHALL BE STABILIZED AS INDICATED ON THE PLAN BEFORE THE CHANNEL BEGINS TO RECEIVE ITS DESIGN FLOW.

9. TEMPORARY CONTROL MEASURES MAY BE REMOVED AND DISPOSED OF AT THE TIME THAT THE ENTIRE CONTRIBUTING AREA HAS BEEN STABILIZED. TRAPPED SEDIMENTS SHALL BE REMOVED AND DISPOSED OF AT A LOCATION AND IN A MANNER WHICH WILL PREVENT THEIR FURTHER EROSION.

10. FINAL SITE STABILIZATION IS ACHIEVED ONCE ALL OF THE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES HAVE BEEN REMOVED AND DISPOSED OF AND ALL TRAPPED SEDIMENT HAS BEEN PERMANENTLY STABILIZED. THERE MUST BE NO REMAINING EXPOSED GROUND ON THE SITE, ALL SURFACES BEING PROTECTED BY EITHER PAVEMENT, ROOF AREA, OR PERMANENT VEGETATIVE COVER WITH A DENSITY OF AT LEAST 70%.

#### NON-STRUCTURAL PRACTICES:

WHEREVER FEASIBLE, THE NATURAL CONDITION SHOULD BE PRESERVED. THIS IS ACCOMPLISHED BY PRESERVING RIPARIAN AREAS ADJACENT TO SURFACE WATERS OF THE STATE, PRESERVING EXISTING VEGETATION AND VEGETATED BUFFER

STRIPS, PHASING CONSTRUCTION TO MINIMIZE DISTURBANCE, AND DESIGNATION OF TREE PRESERVATION AREAS.

NOTE: UNDISTURBED RIPARIAN AREAS AND BUFFERS SHOULD BE A MINIMUM OF 25 FEET WIDE AS MEASURED FROM THE ORDINARY HIGH WATER MARK OF THE SURFACE WATER, DESIGNATED AND/OR JURISDICTIONAL WETLANDS ARE CONSIDERED TO BE SURFACE WATERS.

#### EROSION CONTROL PRACTICES:

THE CONTRACTOR SHALL INITIATE TEMPORARY SEEDING OR PERMANENT SEEDING ON ALL DISTURBED AREAS IN ACCORDANCE WITH THE TIMING REQUIREMENTS SHOWN ELSEWHERE IN THIS PLAN.

WHEN SEASONAL CONDITIONS PROHIBIT THE APPLICATION OF TEMPORARY OR PERMANENT SEEDING, NON-VEGETATIVE SOIL STABILIZATION PRACTICES SUCH AS MATTING AND MULCHING SHALL BE USED.

#### STRUCTURAL PRACTICES:

**TIMING** SEDIMENT CONTROL STRUCTURES SHALL BE FUNCTIONAL THROUGHOUT EARTH DISTURBING ACTIVITY. SEDIMENT PONDS AND PERIMETER SEDIMENT BARRIERS SHALL BE IMPLEMENTED AS THE FIRST STEP OF GRADING AND WITHIN SEVEN DAYS OF THE START OF GRADING. THEY SHALL CONTINUE TO FUNCTION UNTIL THE SLOPE DEVELOPMENT AREA IS RESTABILIZED.

**SETTLING PONDS** CONCENTRATED STORM WATER RUNOFF FROM DISTURBED AREAS SHALL PASS THROUGH A SEDIMENT-SETTLING POND. THE FACILITY'S STORAGE CAPACITY SHALL BE 67 CUBIC YARDS PER ACRE OF THE TOTAL CONTRIBUTING AREA.

**SEDIMENT BARRIERS** SHEET FLOW RUNOFF FROM DENUDED AREAS SHALL BE INTERCEPTED BY SEDIMENT BARRIERS. SEDIMENT BARRIERS, SUCH AS SILT FENCES OR DIVERSIONS DIRECTING RUNOFF TO SETTLING FACILITIES, SHALL PROTECT ADJACENT PROPERTIES AND WATER RESOURCES FROM SEDIMENT TRANSPORTED BY SHEET FLOW.

**OTHER** EROSION AND SEDIMENT CONTROL PRACTICES SHALL PREVENT SEDIMENT LOADED WATER FROM ENTERING STORM DRAIN SYSTEMS, UNLESS THE STORM DRAIN SYSTEM DRAINS INTO A SETTLING POND. THESE PRACTICES SHALL DIVERT RUNOFF FROM DISTURBED AREAS AND STEEP SLOPES WHERE PRACTICABLE AND STABILIZE CHANNELS AND OUT FALLS FROM EROSION FLOWS.

#### 2. POST-CONSTRUCTION STORMWATER POLLUTION PREVENTION:

STRUCTURAL AND NON-STRUCTURAL POST-CONSTRUCTION POLLUTION PREVENTION PRACTICES ARE REQUIRED BY FEDERAL, STATE, AND LOCAL GUIDELINES AND REGULATIONS FOR ALL PROJECTS WHERE THE DISCHARGE FOLLOWING DEVELOPMENT EXCEEDS THE PRE-DEVELOPMENT DISCHARGE. THE PURPOSE OF THESE STORMWATER MANAGEMENT PRACTICES IS TO ENSURE THAT THERE IS NO SIGNIFICANT CHANGE IN THE HYDROLOGICAL REGIME OF THE RECEIVING WATER.

THE STORMWATER MANAGEMENT PRACTICES THAT MAY BE IMPLEMENTED DURING THE CONSTRUCTION OF LAND DEVELOPMENT PROJECTS INCLUDE BUT ARE NOT LIMITED TO:

**STORAGE PRACTICES** - WET PONDS, EXTENDED-DETENTION OUTLET STRUCTURES, SUBSURFACE STORAGE.

**FILTRATION PRACTICES** - GRASSED SWALES, BIORETENTION CELLS, MEDIA FILTERS, SAND FILTERS, FILTER STRIPS, CONSTRUCTED WETLANDS.

**INFILTRATION PRACTICES** - INFILTRATION BASINS, INFILTRATION STRIPS, SUBSURFACE INFILTRATION SYSTEMS.

**VELOCITY DISSIPATION PRACTICES** - GRADE STABILIZATION STRUCTURES, LEVEL SPREADERS, PIPE AND CHANNEL OUTLET PROTECTION.

**NON-STRUCTURAL PRACTICES** - RIPARIAN SETBACK PRESERVATION, MAINTAIN OR INCREASE OPEN SPACE, MINIMIZE IMPERVIOUS SURFACES, MINIMIZE DISTURBANCE OF SOILS AND VEGETATION, MINIMIZE DIRECTLY INTERCONNECTED IMPERVIOUS SURFACES.

NOTE: STORMWATER MANAGEMENT IS INTEGRAL TO THE DEVELOPMENT OF THE IMPROVEMENT PLANS FOR THE SITE. STORMWATER MANAGEMENT PRACTICES SHOWN ON THIS PLAN ARE FOR REFERENCE ONLY. CONSTRUCTION MUST BE IN ACCORDANCE WITH THE DETAILS AND SPECIFICATIONS CONTAINED IN THE SITE IMPROVEMENT PLANS.

OHIO EPA HAS INDICATED THAT, FOR SITES OF LESS THAN FIVE ACRES, STRUCTURAL POST-CONSTRUCTION PRACTICES ARE RECOMMENDED BUT NOT REQUIRED.

#### 3. NON-SEDIMENT POLLUTION CONTROLS:

NO SOLID (OTHER THAN SEDIMENT) OR LIQUID WASTE, INCLUDING BUILDING MATERIALS, SHALL BE DISCHARGED INTO STORM WATER RUNOFF AND/OR STORMWATER CONVEYANCE FACILITIES.

CONSTRUCTION ROAD/PARKING AREA STABILIZATION: THE CONTRACTOR SHALL DESIGNATE A SINGLE AREA FOR CONSTRUCTION VEHICLE ACCESS AND PARKING AND ENSURE THAT THE DESIGNATED USES WILL BE RESTRICTED TO THAT AREA. THE DESIGNATED ACCESS AND PARKING AREAS SHALL BE STABILIZED WITH A 6-INCH LAYER OF 2- TO 4-INCH CRUSHED ROCK OR GRAVEL BASE PRIOR TO VEHICLES BEING PERMITTED TO USE THE AREAS.

IT IS RECOMMENDED THAT THE SAME AREA BE USED FOR MAINTENANCE AND FUELING OPERATIONS AND MATERIAL STORAGE, WITH THE APPROPRIATE DRAINING AND OTHER RAINFALL RUNOFF CONTROLS.

**WASTE MATERIAL:** NO WASTE MATERIALS SHALL BE EITHER BURNED OR BURIED, OR ALLOWED TO ENTER SURFACE WATERS OR STORM DRAINAGE SYSTEMS ON THE SITE.

LOADED CONTAINERS MUST BE PROVIDED FOR COLLECTION OF A WASTE MATERIAL INCLUDING CONSTRUCTION DEBRIS, TRASH, PETROLEUM PRODUCTS AND ANY HAZARDOUS MATERIAL ON SITE. ALL WASTE MATERIAL SHALL BE DISPOSED OF AT FACILITIES APPROVED FOR THAT MATERIAL.

**HAZARDOUS OR TOXIC MATERIAL HANDLING:** CONSTRUCTION VEHICLE MAINTENANCE, FUELING AND LUBRICATING, AND FUEL AND LUBRICANT STORAGE SHALL BE RESTRICTED TO A SINGLE LOCATION ON THE SITE AT ANY ONE TIME AND THAT SITE SHALL BE ADEQUATELY Diked TO PREVENT ANY SPILLED CHEMICALS FROM ENTERING THE DRAINAGE SYSTEM.

MIXING, PUMPING, TRANSFERRING, OR OTHERWISE HANDLING CONSTRUCTION CHEMICALS SUCH AS FERTILIZER, LIME, ASPHALT, CONCRETE CURING COMPOUNDS, AND ALL OTHER POTENTIALLY HAZARDOUS MATERIALS SHALL BE PERFORMED IN A DESIGNATED AREA AWAY FROM ANY SURFACE WATER, STREAM, DITCH, OR STORM DRAIN. THE AREA SHALL BE ADEQUATELY Diked TO PREVENT RAINFALL RUNOFF FROM TRANSPORTING THE MATERIALS ONTO ADJACENT SOILS.

#### HAZARDOUS SUBSTANCE SPILL HANDLING:

A. IF HAZARDOUS SUBSTANCES SUCH AS OIL, DIESEL FUEL, HYDRAULIC FLUID, ANTIFREEZE, ETC., ARE SPILLED, LEAKED, OR OTHERWISE RELEASED ONTO THE SOIL, THE ENTIRE VOLUME OF CONTAMINATED SOIL SHALL BE Dug UP AND DISPOSED OF AT A LICENSED SANITARY LANDFILL (NOT A CONSTRUCTION/DEMOLITION DEBRIS LANDFILL). IN NO CASE MAY THE CONTAMINATED SOIL BE BURIED.

B. SPILLS ON ADJACENT PAVEMENT SHALL BE ABSORBED WITH SAND/ST. KITTY LITTER, OR A COMMERCIAL CHEMICAL ABSORBENT AND DISPOSED OF AT A LICENSED SANITARY LANDFILL.

C. HAZARDOUS OR INDUSTRIAL WASTES SUCH AS MOST SOLVENTS, GASOLINE, OIL-BASED PAINTS, AND CEMENT CURING COMPOUNDS REQUIRE SPECIAL HANDLING. FOR SUCH MATERIALS, CALL OHIO DEPA (1-800-282-8378).

D. SPILLS OF 25 GAL. OR MORE OF PETROLEUM PRODUCTS SHALL BE REPORTED TO OHIO EPA (1-800-282-8378), THE LOCAL FIRE DEPARTMENT, AND THE LOCAL EMERGENCY PLANNING COMMITTEE WITHIN 30 MINUTES OF THE DISCOVERY OF THE RELEASE.

**SAWCUTTING AND SURFACING POLLUTION PREVENTION:** SLURRY AND CUTTINGS SHALL BE VACUUMED DURING CUTTING AND SURFACING OPERATIONS. THEY SHALL NOT REMAIN ON PERMANENT CONCRETE OR ASPHALT PAVEMENT OVERNIGHT. THEY SHALL NOT DRAIN INTO ANY NATURAL OR CONSTRUCTED DRAINAGE CONVEYANCE. COLLECTED SLURRY AND CUTTINGS SHALL BE DISPOSED OF IN A MANNER THAT DOES NOT VIOLATE GROUNDWATER OR SURFACE WATER QUALITY STANDARDS.

#### CONCRETE HANDLING:

UNUSED CONCRETE REMAINING IN THE TRUCK AND PUMP SHALL BE RETURNED TO THE ORIGINATING BATCH PLANT FOR RECYCLING. IT SHALL NOT BE DISPOSED OF ON SITE.

CONCRETE TRUCK CHUTES, PUMPS AND INTERNALS SHALL BE WASHED OUT ONLY INTO PREPARED AREAS AWAITING INSTALLATION OF CONCRETE OR ASPHALT. IF NO PREPARED AREAS ARE AVAILABLE, WASHWATER AND LEFTOVER PRODUCT SHALL BE HELD IN A LINE. PUMP, CONTAINED CONCRETE SHALL BE DISPOSED OF IN A MANNER THAT DOES NOT VIOLATE GROUNDWATER OR SURFACE WATER QUALITY STANDARD.

SEE SHEET NO. 2E OF THIS PLAN FOR DETAILS AND SPECIFICATIONS FOR A CONCRETE WASHOUT SLUP.

#### TRENCH AND GROUND WATER CONTROL:

TRENCH DEWATERING: TRENCH WATER IS USUALLY CONTAMINATED WITH SEDIMENT AND MAY BE PUMPED AND DISCHARGED WITHOUT TREATMENT IF THE PROPER PRECAUTIONS ARE TAKEN.

IF TRENCH DEWATERING IS REQUIRED, THE CONTRACTOR SHALL ENSURE THAT THE DISCHARGE PASSES THROUGH A CONSTRUCTED TEMPORARY SEDIMENT TRAP OR A SEDIMENT FILTERING DEVICE SUCH AS AN APC ENVIRONMENTAL, INC. "DIRT BAG".

**GROUND WATER DISCHARGE:** GROUND WATER IS NOT USUALLY CONTAMINATED WITH SEDIMENT AND MAY BE PUMPED AND DISCHARGED WITHOUT TREATMENT IF THE PROPER PRECAUTIONS ARE TAKEN.

GROUND WATER MAY ONLY BE DISCHARGED DIRECTLY INTO SURFACE WATERS, STORM DRAINS OR PERMANENTLY STABILIZED SURFACES. GROUND WATER THAT IS DISCHARGED ONTO UNSTABILIZED SURFACES OR THAT IS ALLOWED TO FLOW ACROSS UNSTABILIZED SURFACES MUST BE TREATED TO REMOVE SEDIMENT BEFORE BEING ALLOWED TO ENTER ANY SURFACE WATER OR STORM WATER CONVEYANCE SYSTEM.

#### 4. OTHER CONSIDERATIONS:

**SURFACE WATER PROTECTION:** NO CONSTRUCTION ACTIVITY OF ANY KIND SHALL BE PERFORMED IN ANY SURFACE WATERS (STREAMS, RIVERS, LAKES, WETLANDS, OR OTHER) ON THE SITE UNLESS THE CONSTRUCTION PLANS FOR THE PROJECT ARE IN COMPLIANCE WITH SECTIONS 404 AND 401 OF THE CLEAN WATER ACT AND THE APPROPRIATE PERMITS HAVE BEEN ACQUIRED FROM THE U.S. ARMY CORPS OF ENGINEERS (SECTION 404 REGULATION) AND/OR THE OHIO ENVIRONMENTAL PROTECTION AGENCY (SECTION 401 REGULATION).

**INSPECTIONS:** INSPECTIONS ARE TO BE PERFORMED BY QUALIFIED PERSONS PROVIDED BY THE PERMITTEE AND THE INSPECTION LOGS ARE TO BECOME A PART OF THIS PLAN.

INSPECTIONS SHALL BE CONDUCTED AT LEAST ONCE IN EVERY 7 CALENDAR DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN 0.5 INCH OF RAIN PER 24 HOUR PERIOD, FROM THE BEGINNING OF CONSTRUCTION THROUGH THE FINAL INSPECTION PRIOR TO THE NOTICE OF TERMINATION.

**MAINTENANCE:** ALL TEMPORARY AND PERMANENT CONTROL PRACTICES SHALL BE REPAIRED AND MAINTAINED IN ACCORDANCE WITH THE TIME REQUIREMENTS SHOWN ON THIS SHEET TO ASSURE THE CONTINUED PERFORMANCE OF THEIR FUNCTION. IN ORDER TO ACCOMPLISH THIS, THERE SHALL BE SUFFICIENT EQUIPMENT, MATERIALS, AND PERSONNEL AVAILABLE AT ALL TIMES TO MAKE ANY REPAIRS OR REPLACEMENTS THAT ARE NECESSARY.

#### CERTIFICATION:

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED, BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR THE GATHERING OF THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

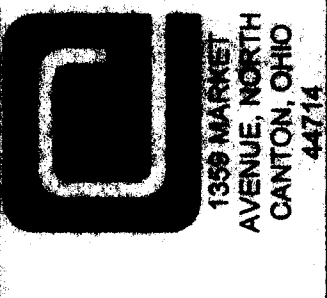
GARY DUVALL DATE

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BRYAN J. ASHMAN  
JEROLD E. GEIB

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PHONE (330) 452-5731  
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1388 MARKET  
AVENUE, NORTH  
CANTON, OHIO  
44704

STORMWATER POLLUTION PREVENTION PLAN

USDA SITE

FOR: C.L. WEBSTER PROPERTIES

DRAWN BY: C.H.B.

CHECKED BY:

FIELD BOOK No.

DATE 8/27/2003

SHEET

E1 of E4

PROJ.# 03158

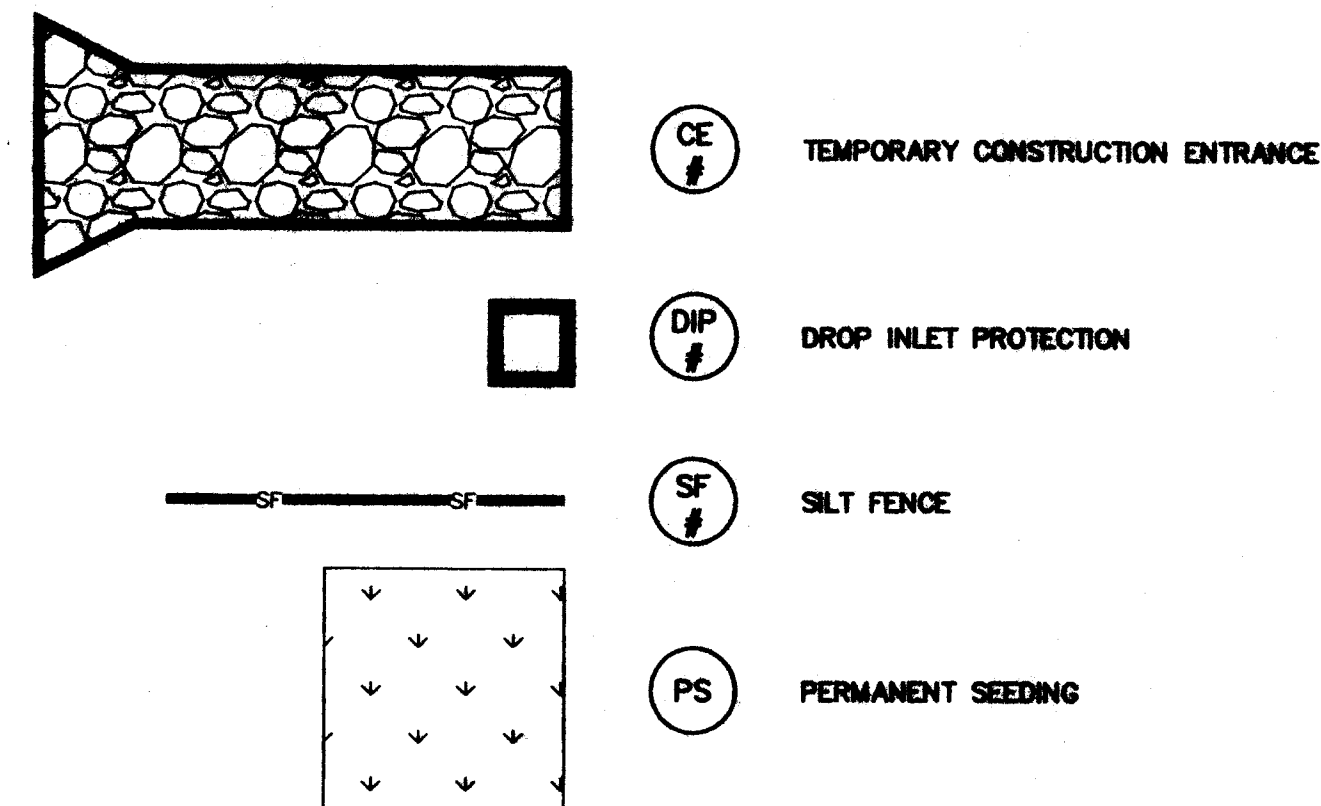
TITLE SHEET



## USDA SITE

BEAVER EXCAVATING Co.  
Pt. OUTLOT 767  
(120.879 Ac.)  
R.I.No.2001/003937

NOTE:  
THE LIMIT OF DISTURBANCE IS NOT SHOWN IN LOCATIONS WHERE  
THE PROPOSED GRADING EXTENDS TO OR BEYOND THE SITE  
PROPERTY LINE.

EROSION/SEDIMENT CONTROL  
BMP LEGEND

**SOIL STOCKPILE PROTECTION** (SO)

LOCATIONS FOR TOPSOIL STOCKPILES SHOULD BE CAREFULLY SELECTED TO INSURE THAT ANY MATERIAL ERODED FROM THE STOCKPILES DOES NOT HAVE DIRECT ACCESS INTO A STORM DRAIN OR DRAINAGEWAY.

THE STOCKPILES SHOULD BE PROTECTED BY EITHER BEING COVERED WITH PLASTIC SHEETING OR BY THE APPLICATION OF TEMPORARY SEEDING.

THE BASE OF THE STOCKPILES SHOULD BE PROTECTED BY A LINE OF SILT FENCE ALONG THE LOWER SIDE(S) OF THE STOCKPILE AND NO CLOSER THAN 6' FROM THE BASE.

THE STOCKPILE PROTECTION SHALL REMAIN IN PLACE AND FUNCTIONING UNTIL THE STOCKPILE HAS BEEN REMOVED.

**EROSION CONTROL BLANKETS:**  
EROSION CONTROL BLANKETS WILL BE USED ON ALL SLOPES GREATER THAN 3:1 (33%).

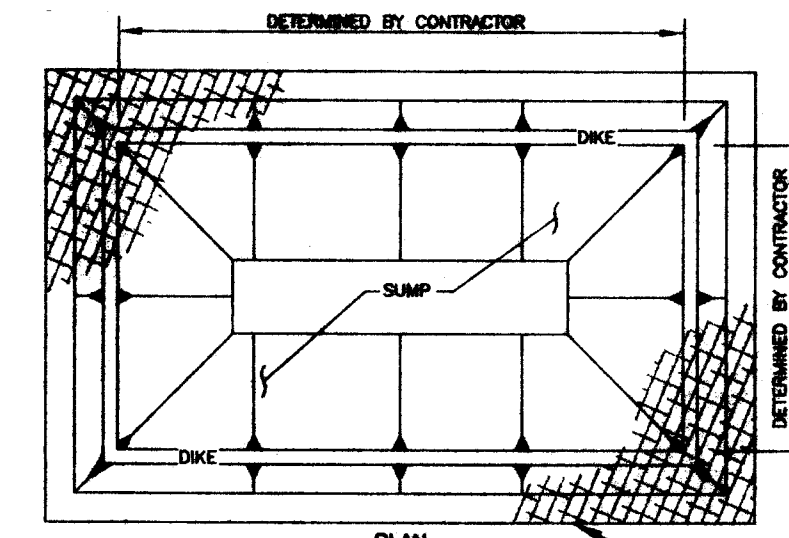
EROSION CONTROL BLANKETS WILL BE USED ON ALL SLOPES GREATER THAN 6:1 (16%) WITH A SLOPE LENGTH OF 20 FEET OR MORE.

OTHER EROSION AND SEDIMENT CONTROL ITEMS MAY BE NECESSARY DUE TO ENVIRONMENTAL CONDITIONS.

## CONCRETE WASH WATER CONTAINMENT SUMP

THE CONCRETE WASH WATER CONTAINMENT SUMP SHALL BE EXCAVATED AND LINED PRIOR TO THE SCHEDULING OF ANY CONCRETE DELIVERIES TO THE SITE.

THE CAPACITY OF THE SUMP SHALL BE DETERMINED BY THE CONTRACTOR AND BASED ON HIS ESTIMATE OF THE VOLUME OF WASH WATER REQUIRED BY THE PROJECT AND THE FREQUENCY OF EMPTYING THE SUMP.

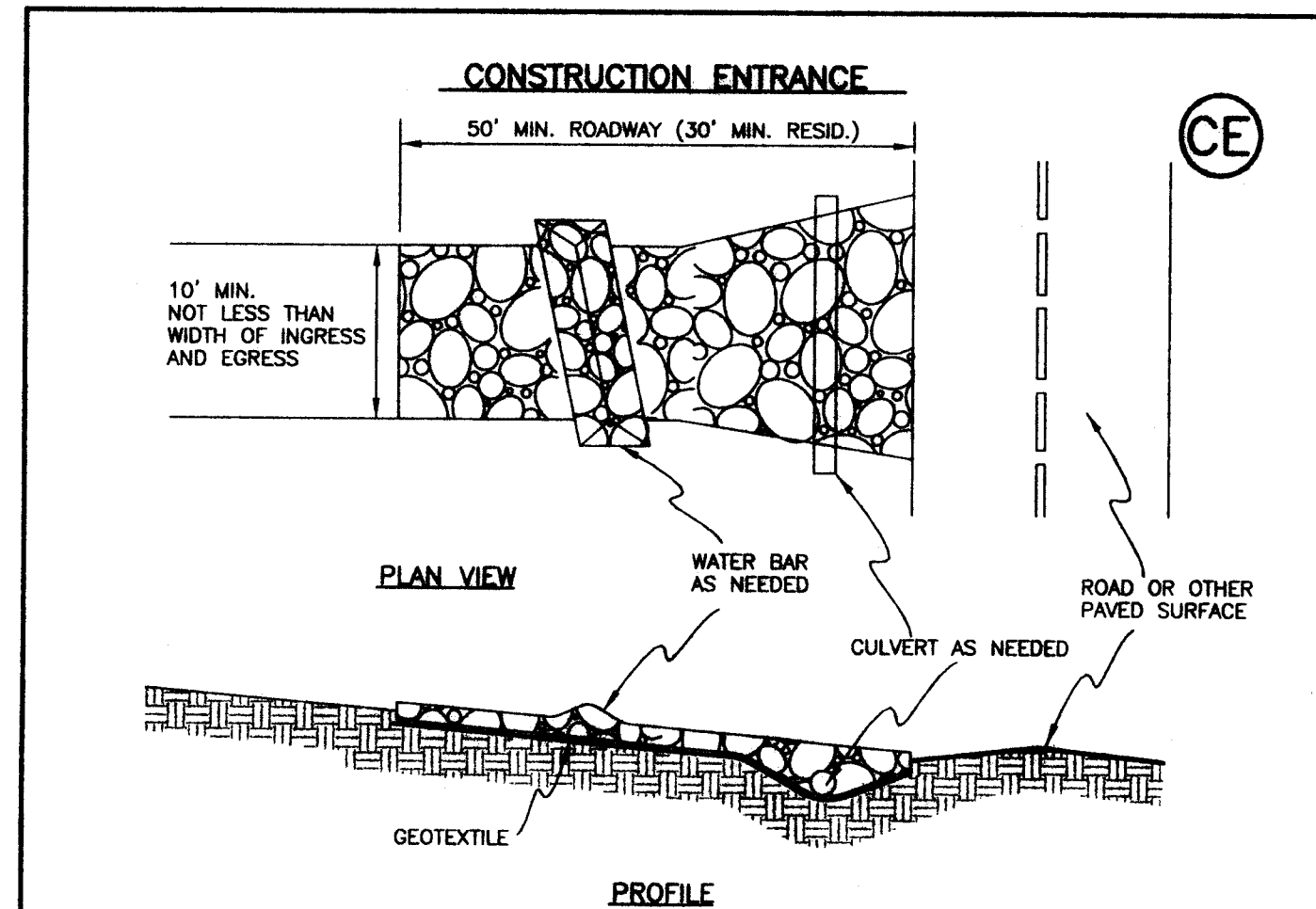


BUSINESS PLACE S.E. - 80'

CATCH BASIN  
T/G=1107.31  
FL 15"(N)CPVC=1104.89  
FL 15"(S)RCP=1104.89  
PROP. FL 6"(NE)=1105.50



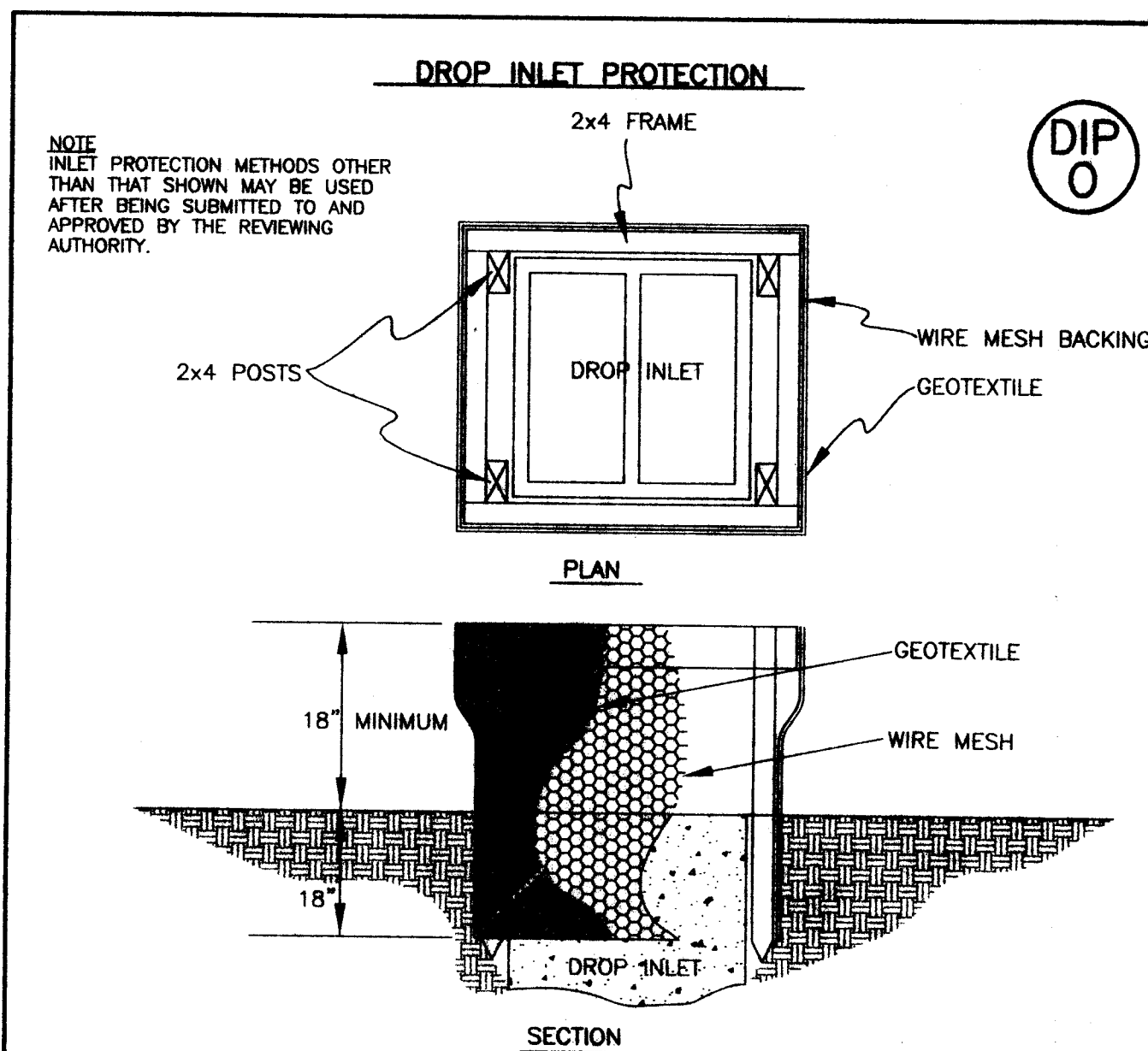
## USDA SITE



FOR ADDITIONAL DETAILS SEE RAINWATER AND LAND DEVELOPMENT

## SPECIFICATIONS

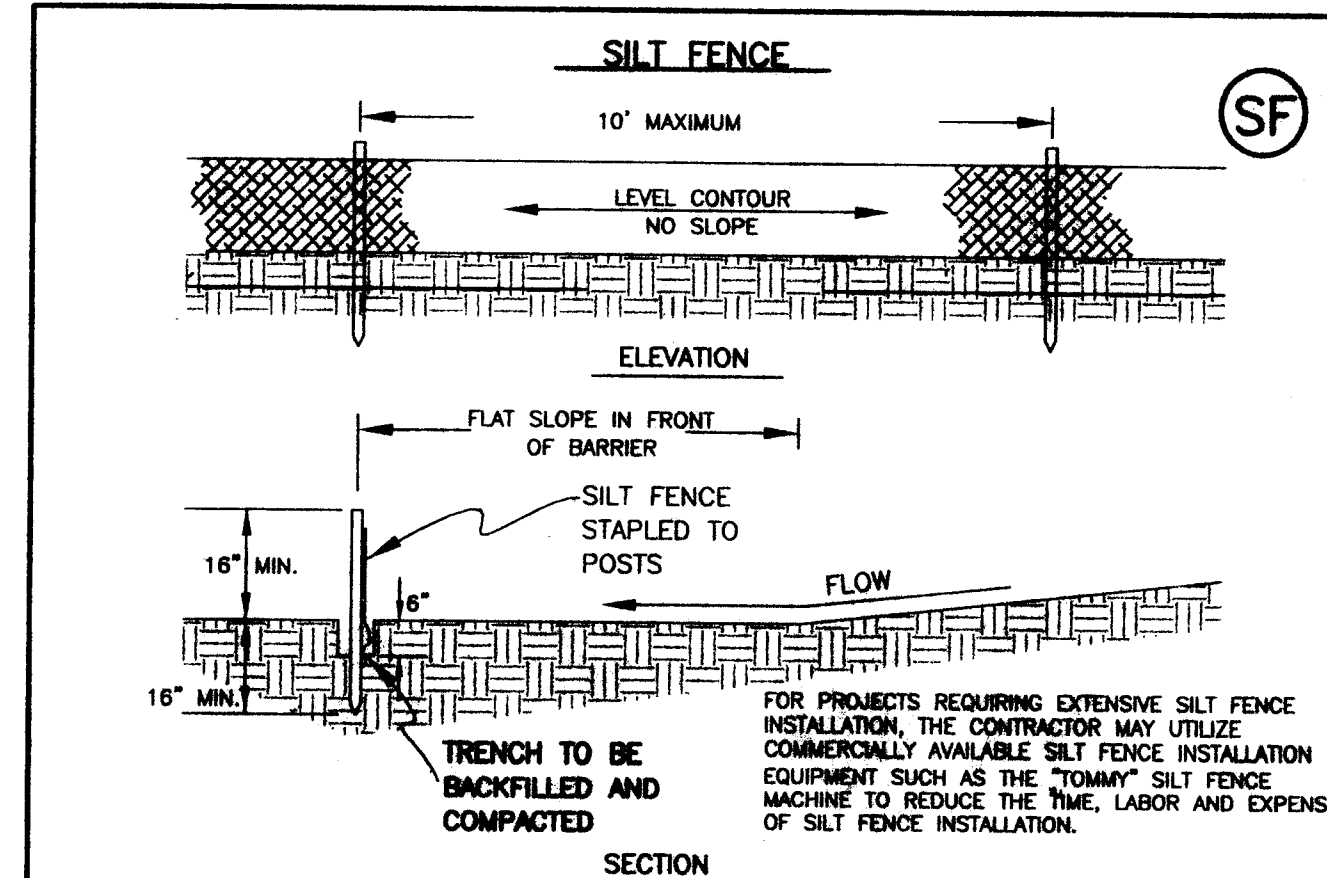
- STONE SIZE - TWO INCH STONE SHALL BE USED, OR RECYCLED CONCRETE EQUIVALENT.
- LENGTH - THE CONSTRUCTION ENTRANCE SHALL BE AS LONG AS REQUIRED TO STABILIZE HIGH TRAFFIC AREAS BUT NOT LESS THAN 50' (EXCEPT ON SINGLE RESIDENCE LOT WHERE A 30' MINIMUM LENGTH APPLIES).
- THICKNESS - THE STONE LAYER SHALL BE AT LEAST 12" THICK.
- WIDTH - THE ENTRANCE SHALL BE AT LEAST 10' WIDE, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS AND EGRESS OCCURS.
- BEDDING - A GEOTEXTILE SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE. IT SHALL HAVE A TENSILE STRENGTH OF AT LEAST 200 LB. AND A MULLEN BURST STRENGTH OF AT LEAST 190 LB.
- CULVERT - A PIPE OR CULVERT SHALL BE CONSTRUCTED UNDER THE ENTRANCE IF NEEDED TO PREVENT SURFACE WATER FLOWING ACROSS THE ENTRANCE FROM BEING DIRECTED OUT ONTO PAVED SURFACES.
- WATER BAR - A WATER BAR SHALL BE CONSTRUCTED AS PART OF THE CONSTRUCTION ENTRANCE IF NEEDED TO PREVENT SURFACE RUNOFF FROM FLOWING THE LENGTH OF THE CONSTRUCTION ENTRANCE AND OUT ONTO PAVED SURFACES.
- MAINTENANCE - TOP DRESSING OF ADDITIONAL STONE SHALL BE APPLIED AS CONDITIONS DEMAND. MUD SPILLED, DROPPED OR TRACKED ONTO PUBLIC ROADS, OR ANY SURFACE WHERE RUNOFF IS NOT CHECKED BY SEDIMENT CONTROLS, SHALL BE REMOVED IMMEDIATELY. REMOVAL SHALL BE ACCOMPLISHED BY SCRAPING OR SWEEPING.
- CONSTRUCTION ENTRANCES SHALL NOT BE RELIED UPON TO REMOVE MUD FROM VEHICLES AND PREVENT OFF-SITE TRACKING. VEHICLES THAT ENTER AND LEAVE THE CONSTRUCTION-SITE SHALL BE RESTRICTED FROM MUDDY AREAS.



FOR ADDITIONAL DETAILS SEE RAINWATER AND LAND DEVELOPMENT

## SPECIFICATIONS

- 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 2x4 CONSTRUCTION GRADE LUMBER. THE 2x4 POSTS SHALL BE DRIVEN 1" INTO THE GROUND AT THE FOUR CORNERS OF THE INLET AND THE TOP PORTIONS OF 2x4 FRAME ASSEMBLED USING THE OVERLAP JOINT SHOWN. THE TOP OF THE FRAME SHALL BE AT LEAST 6" BELOW ADJACENT ROADS IF PONDED WATER WOULD POSE A SAFETY HAZARD TO TRAFFIC.
- WIRE MESH SHALL BE OF SUFFICIENT STRENGTH TO SUPPORT FRAME 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 SIZE OF 20-40 SIEVE AND BE RESISTANT TO SUNLIGHT. IT SHALL BE STRETCHED TIGHTLY AROUND THE FRAME AND FASTENED SECURELY TO IT. IT SHALL EXTEND OVERLAP ACROSS ONE SIDE OF THE INLET SO THE ENDS OF THE CLOTH ARE NOT FASTENED TO THE SAME POST.
- BACKFILL SHALL BE PLACED AROUND THE INLET IN COMPACTED 6" 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 THE EARTH DIKE SHALL BE AT LEAST 6" HIGHER THAN THE TOP OF THE FRAME.

FOR ADDITIONAL DETAILS SEE RAINWATER AND LAND DEVELOPMENT  
SPECIFICATIONS

- SILT FENCE SHALL BE CONSTRUCTED BEFORE UPSLOPE LAND DISTURBANCE BEGINS.
- ALL SILT FENCE SHALL BE PLACED AS CLOSE TO THE CONTOUR AS POSSIBLE SO THAT WATER WILL NOT CONCENTRATE AT LOW POINTS IN THE FENCE AND SO THAT SMALL SWALES OR DEPRESSIONS WHICH MAY CARRY SMALL CONCENTRATED FLOWS TO THE SILT FENCE ARE DISSIPATED ALONG ITS LENGTH.
- TO PREVENT WATER PONDED BY THE SILT FENCE FROM FLOWING AROUND THE ENDS, EACH END SHALL BE CONSTRUCTED UPSLOPE SO THAT THE ENDS ARE AT A HIGHER ELEVATION.
- WHERE POSSIBLE, SILT FENCE SHALL BE PLACED ON THE FLATTEST AREA AVAILABLE.
- WHERE POSSIBLE, VEGETATION SHALL BE PRESERVED FOR 5' (OR AS MUCH AS POSSIBLE) UPSLOPE FROM THE SILT FENCE. IF VEGETATION IS REMOVED, IT SHALL BE REESTABLISHED WITHIN 7 DAYS FROM THE INSTALLATION OF THE SILT FENCE.
- THE HEIGHT OF THE SILT FENCE SHALL BE A MINIMUM OF 18" ABOVE THE ORIGINAL GROUND SURFACE.
- THE SILT FENCE SHALL BE PLACED IN A TRENCH CUT A MINIMUM OF 6" DEEP. THE TRENCH SHALL BE CUT WITH A TRENCHER, CABLE LAYING MACHINE, OR OTHER SUITABLE DEVICE WHICH WILL INSURE AN ADEQUATELY UNIFORM TRENCH DEPTH.
- THE SILT FENCE SHALL BE PLACED WITH THE STAKES ON THE DOWNSLOPE SIDE OF THE GEOTEXTILE AND SO THAT 8" OF CLOTH ARE BELOW THE GROUND SURFACE. EXCESS MATERIAL SHALL LAY ON THE BOTTOM OF THE 6" DEEP TRENCH. THE TRENCH SHALL BE BACKFILLED AND COMPACTED.
- SEAMS BETWEEN SECTIONS OF SILT FENCE SHALL BE OVERLAPPED WITH THE END STAKES OF EACH SECTION WRAPPED TOGETHER BEFORE DRIVING INTO THE GROUND.
- MAINTENANCE - SILT FENCE SHALL ALLOW RUNOFF TO PASS ONLY AS DIFFUSE FLOW THROUGH THE GEOTEXTILE. IF RUNOFF TOPS THE SILT FENCE, FLOWS UNDER OR AROUND THE ENDS, OR IN ANY OTHER WAY BECOMES CONCENTRATED FLOW, ONE OF THE FOLLOWING SHALL BE PERFORMED, AS APPROPRIATE:
  - THE LAYOUT OF THE SILT FENCE SHALL BE CHANGED.
  - ACCUMULATED SEDIMENT SHALL BE REMOVED, OR
  - OTHER PRACTICES SHALL BE INSTALLED.

## CRITERIA FOR SILT FENCE MATERIALS

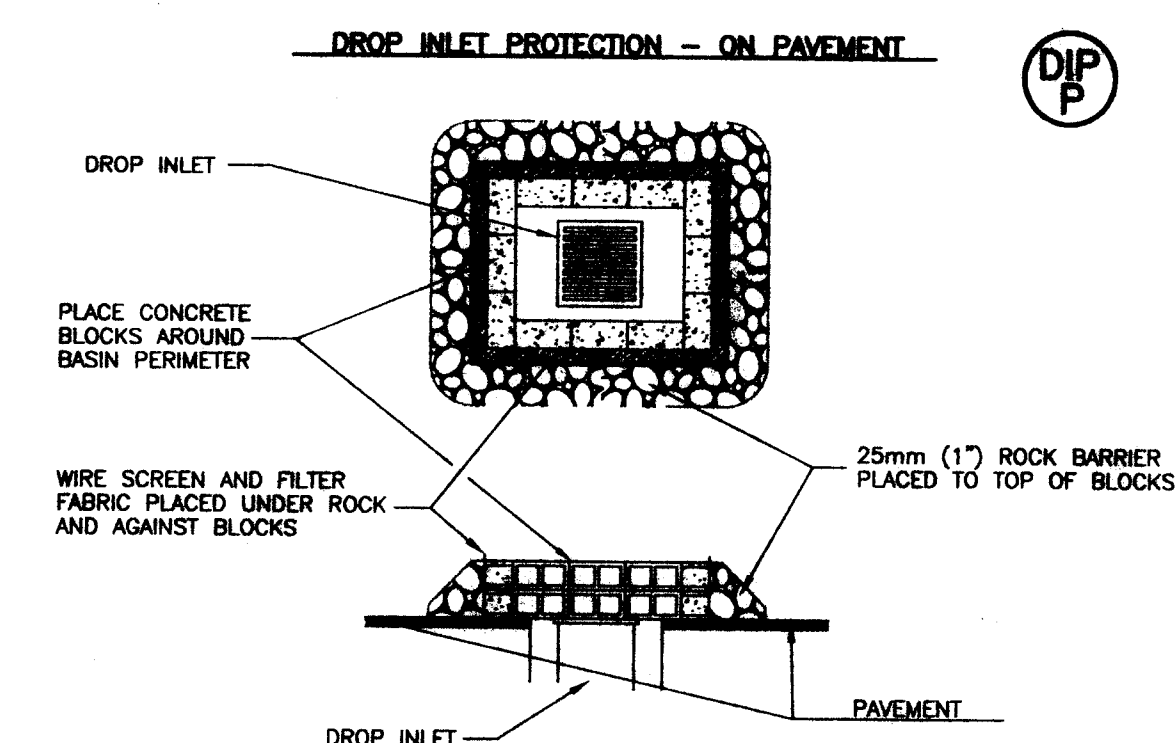
- FENCE POSTS - THE LENGTH SHALL BE A MINIMUM OF 32" LONG. WOOD POSTS WILL BE 2-BY-2" HARDWOOD OF SOUND QUALITY. THE MAXIMUM SPACING BETWEEN POSTS SHALL BE 10 FT.
- SILT FENCE FABRIC - SEE CHART BELOW

FABRIC PROPERTIES	VALUES	TEST METHOD
GRID TENSILE STRENGTH	80 LB. MINIMUM	ASTM D 1002
MULLEN BURST STRENGTH	100 PSI MINIMUM	ASTM D 3786
SURFACE FLOW RATE	0.3 GAL./MIN./SQ. FT. MAXIMUM	US STD. SIEVE 20-2215
EQUIVALENT OPENING SIZE	40-60	ASTM D 3786
ULTRAVIOLET RADIATION STABILITY	90% MINIMUM	ASTM D 2835

## DROP INLET PROTECTION:

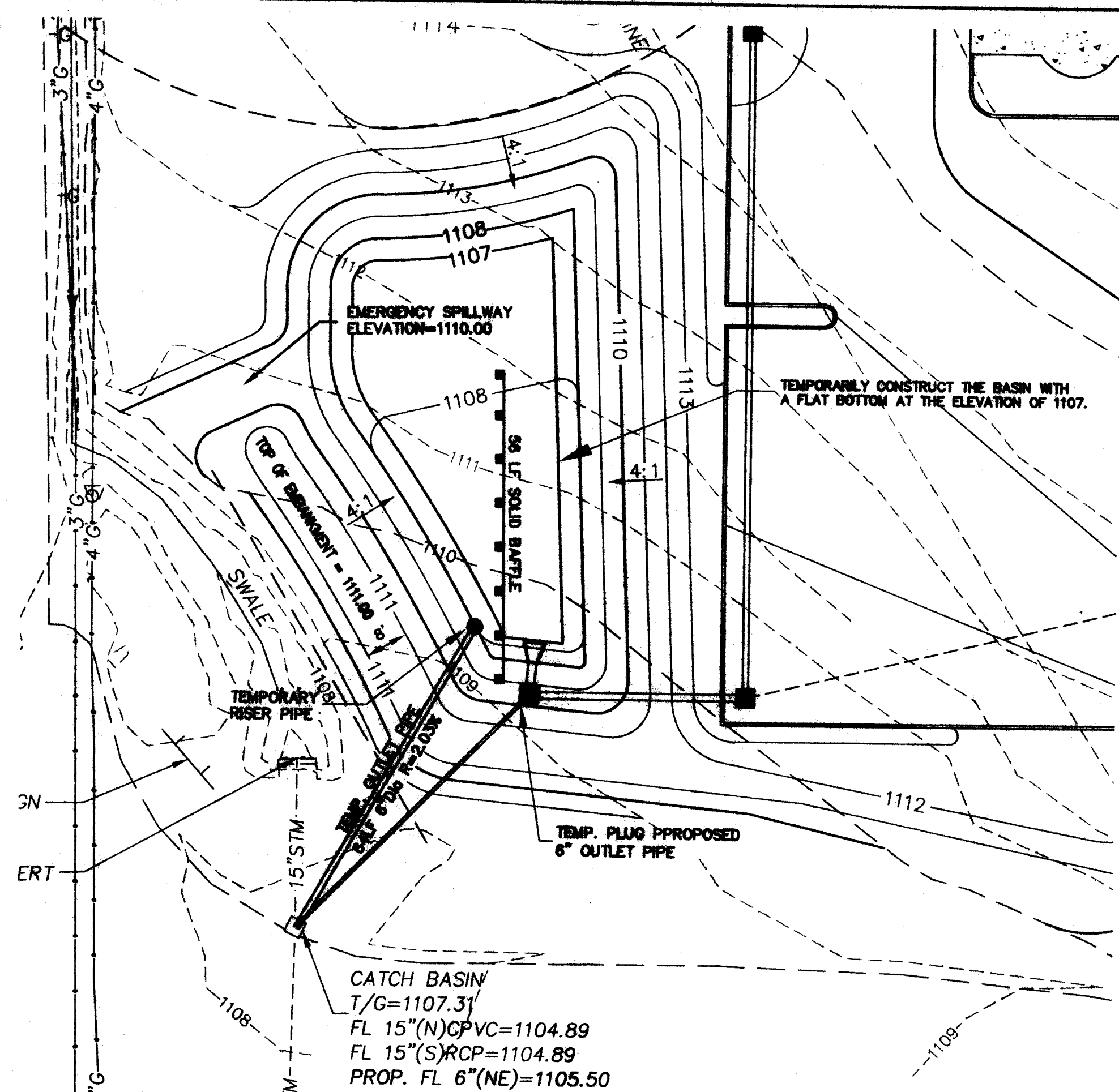
DIP-O DROP INLET PROTECTION FOR UNPAVED AREAS AND PAVED AREAS PRIOR TO THE ACTUAL PAVEMENT INSTALLATION.

DIP-P DROP INLET PROTECTION FOR PAVED AREAS AND TO REPLACE DIP-O WHEN THE PAVEMENT HAS BEEN INSTALLED.



## DROP INLET INSTALLATION SPECIFICATIONS

- DROP INLET PROTECTION TO BE INSTALLED ON PAVEMENT OR ON GROUND WHERE SILT FENCE PROTECTION IS NOT APPROPRIATE.
- CONCRETE BLOCKS TO BE PLACED AROUND PERIMETER OF BASIN WITH OPENINGS HORIZONTAL. BLOCKS TO BE PLACED WITHOUT SPACES BETWEEN BLOCKS.
- WIRE MESH AND FILTER FABRIC TO BE PLACED ON PAVEMENT OR GROUND, EXTENDING 6' +/- UNDER ROCK, AND UP AGAINST FACE OF CONCRETE BLOCKS.
- 25mm (1") ROCK TO BE PLACED AROUND THE CONCRETE BLOCK BARRIER, OVER THE WIRE MESH AND FILTER FABRIC. ROCK MUST BE PLACED TO THE TOP OF THE BLOCKS AND EXTEND OUTWARD A MINIMUM OF TWO TIMES THE HEIGHT OF THE BLOCKS.
- THE INLET PROTECTION MUST REMAIN IN PLACE AND FUNCTIONAL UNTIL THE ENTIRE CONTRIBUTING AREA HAS BEEN STABILIZED.

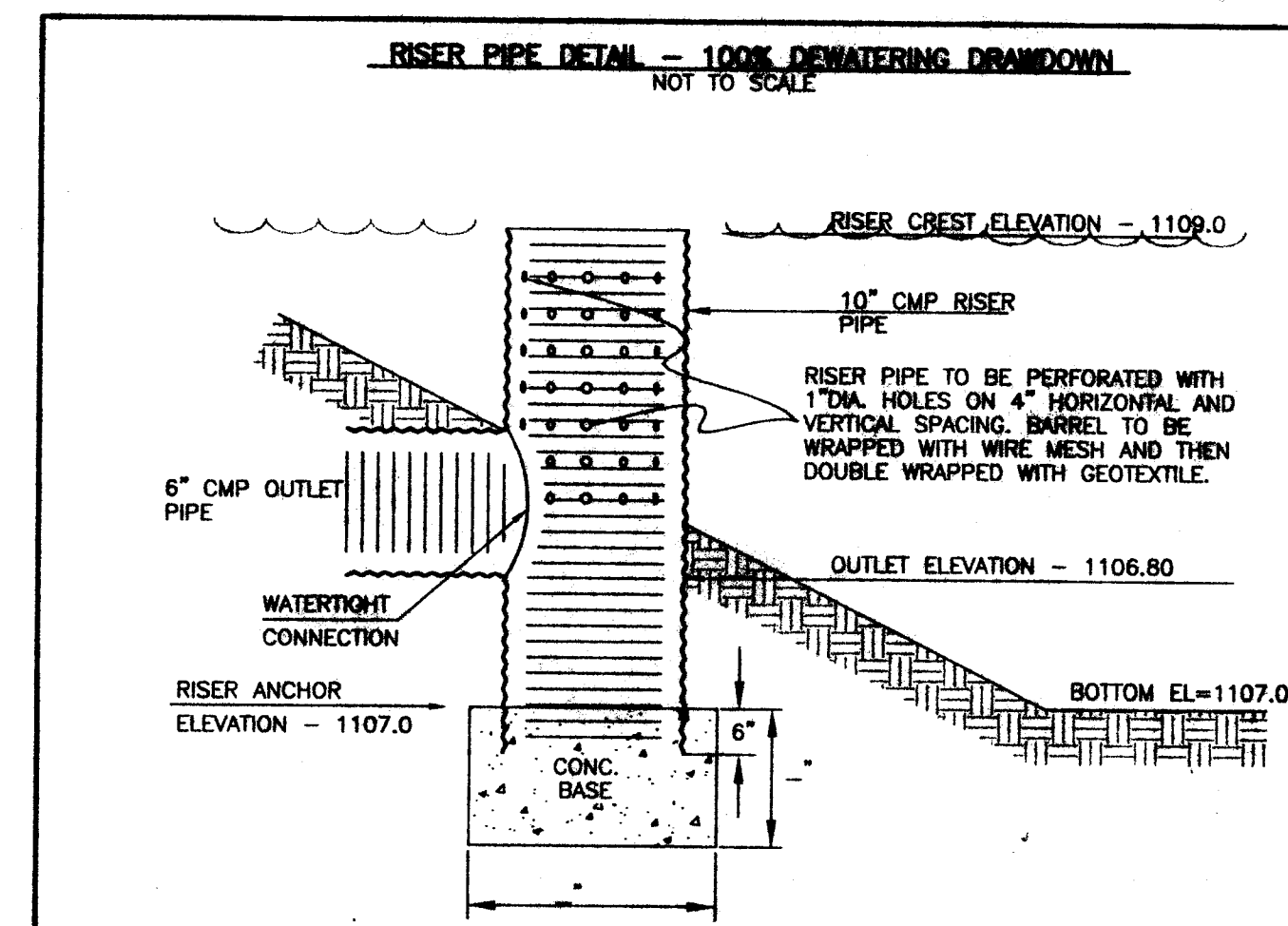


## SPECIFICATIONS

FOR  
TEMPORARY MODIFICATION TO STORMWATER RONS  
USED FOR SEDIMENT CONTROL DURING CONSTRUCTION

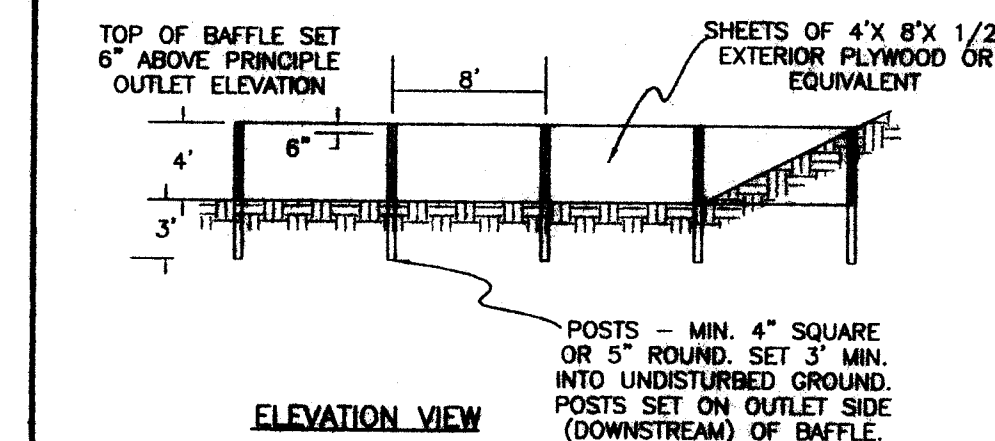
- THE DETENTION/RETENTION BASIN AS DESIGNED, SHALL BE MODIFIED FOR SEDIMENT TRAPPING CAPABILITIES, AND BE OPERATIONAL BEFORE UPSLOPE LAND DISTURBANCE BEGINS.
- SITE PREPARATION--THE SITE SHALL BE PREPARED IN ACCORDANCE WITH THE ENGINEERING PLANS.
- CUT-OFF TRENCH (IF REQUIRED) SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE ENGINEERING PLANS.
- EMBANKMENT--THE EMBANKMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE ENGINEERING PLANS AND SHALL ONLY BE MODIFIED AS INDICATED ON THIS PLAN.
- PIPE SPILLWAY--THE PIPE SPILLWAY SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE ENGINEERING PLANS AND SHALL ONLY BE MODIFIED AS INDICATED ON THIS PLAN.
- RISER PIPE BASE--THE RISER PIPE SHALL BE SET A MINIMUM OF 6" IN THE CONCRETE BASE.
- TRASH RACKS--IF REQUIRED BY THIS PLAN, BOTH THE TOP OF THE RISER AND THE DEWATERING ORIFICE SHALL BE FITTED WITH TRASH RACKS FIRMLY FASTENED TO THE RISER PIPE.
- EMERGENCY SPILLWAY--THE EMERGENCY SPILLWAY SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE ENGINEERING PLANS. IF THE ENGINEERING PLANS DO NOT INCLUDE AN EMERGENCY SPILLWAY, ONE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THIS PLAN.
- SEED AND MULCH--THE ENTIRE INSTALLATION SHALL BE STABILIZED IMMEDIATELY FOLLOWING ITS CONSTRUCTION. IN NO CASE SHALL THE EMBANKMENT OR EMERGENCY SPILLWAY REMAIN BARE FOR MORE THAN 7 DAYS.
- SEDIMENT CLEANOUT--SEDIMENT SHALL BE REMOVED AND THE BASIN RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS FILLED ONE-HALF OF THE POND'S ORIGINAL DEPTH OR AS INDICATED ON THE PLANS. SEDIMENT REMOVED FROM THE BASIN SHALL BE PLACED SO THAT IT WILL NOT ERODE.
- FINAL REMOVAL--TEMPORARY STRUCTURES OR MODIFICATIONS USED FOR SEDIMENT CONTROL DURING CONSTRUCTION SHALL BE REMOVED ONLY AFTER THE UPSTREAM DRAINAGE AREA IS STABILIZED OR AS INDICATED IN THE PLANS. DEWATERING AND REMOVAL SHALL NOT CAUSE SEDIMENT TO BE DISCHARGED.
- SEDIMENT SHALL BE REMOVED AS NEEDED TO ACHIEVE THE DESIGN DEPTH AND DIMENSIONS OF THE PERMANENT POND.

SAFETY NOTE:  
SEDIMENT BASINS AND SEDIMENT TRAPS ARE VERY HAZARDOUS INSTALLATIONS, ESPECIALLY FOR CHILDREN. IT IS ESSENTIAL THAT SEDIMENT BASINS AND SEDIMENT TRAPS BE FENCED TO PREVENT UNAUTHORIZED PERSONS FROM GAINING ACCESS TO THE POOL AREA. THE FENCE SHOULD REMAIN IN PLACE UNTIL THE SEDIMENT TRAP OR SEDIMENT BASIN IS COMPLETELY REMOVED.



## SEDIMENT BASIN/TRAP SOLID BAFFLE

FOR USE IN EXTENDING TRAVEL LENGTH/TIME IN SEDIMENT BASINS/TRAPS TO INCREASE SEDIMENT TRAPPING EFFICIENCY.



SEDIMENT BASIN DESIGN DATA	
DRAINAGE AREA	1.3
SEDIMENT VOLUME REQUIRED	87
EMBANKMENT TOP WIDTH	8'
EMBANKMENT TOP ELEVATION	1111
EMBANKMENT SIDE SLOPES	4:1
EMERGENCY SPILLWAY ELEVATION	1110
EMERGENCY SPILLWAY WIDTH	10'
RISER CREST ELEVATION	1109
DEWATERING ELEVATION	N/A 100%
PIPE OUTLET ELEVATION	1106.8
SEDIMENT CLEANOUT ELEVATION	1107.9
TRASH RACK REQUIRED	NO
BAFFLE REQUIRED	YES

SEDIMENT TRAP EFFICIENCY = 82%



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STORM WATER POLLUTION PREVENTION PLAN

USDA SITE

FOR: C.L. WEBSTER PROPERTIES

DRAWN BY: C.H.B.  
CHECKED BY:  
FIELD BOOK No.  
DATE: 8/27/2003  
SHEET

E3 of E4

PROJ. # 03158

RETENTION/SEDIMENT BASIN

MISC. DETAILS



## USDA SITE

## MULCH

M

## SPECIFICATIONS

MATERIALS:  
MATERIALS MAY BE SELECTED FROM THE FOLLOWING TABLE UNLESS  
SPECIFIED OTHERWISE IN THE PLAN:

ORGANIC MULCH MATERIALS AND APPLICATION RATES			
MULCHES:	RATES:		NOTES:
	Per Acre	Per 1,000 sq.ft.	
Straw	1-1/2 - 2 tons (Minimum 2 tons for winter cover)	70 - 90 lbs.	Free from weeds and coarse matter. Must be anchored. Spread with mulch blower or by hand.
Corn Stalks	4 - 6 tons	185 - 275 lbs.	Cut or shredded in 4-6" lengths. Air-dried. Do not use in fine turf areas. Apply with mulch blower or by hand.
Fiber Mulch	Minimum 1,500 lbs.	35 lbs.	Do not used this mulch for winter cover or during hot, dry months.* Apply as slurry.
Wood Chips	4 - 6 tons	185 - 275 lbs.	Free of coarse matter. Air-dried. Treat with 12 lbs. nitrogen per ton. Do not use in fine turf areas. Apply with mulch blower, chip handler, or by hand.
Bark Chips or Shredded Bark	50 - 70 cu.yds.	1 - 2 cu.yds.	Free of coarse matter. Air-dried. Do not use in fine turf areas. Apply with mulch blower, chip handler, or by hand.

\* When fiber mulch is the only available mulch during periods when straw  
should be used, apply at a minimum rate of 2,000 lbs./ac. OR 45  
lbs./1,000 sq. ft.

PRIOR TO MULCHING:  
COMPLETE THE REQUIRED GRADING AND INSTALL THE NEEDED SEDIMENT  
CONTROL PRACTICES.

LIME AND FERTILIZER SHOULD BE INCORPORATED AND SURFACE  
ROUGHENING ACCOMPLISHED AS NEEDED. SEED SHOULD BE APPLIED PRIOR  
TO MULCHING EXCEPT IN THE FOLLOWING CASES:

- WHERE SEED IS TO BE APPLIED AS PART OF A  
HYDROSEEDER SLURRY CONTAINING FIBER MULCH.
- WHERE SEED IS TO BE APPLIED FOLLOWING A STRAW  
MULCH SPREAD DURING WINTER MONTHS.

## APPLICATION:

MULCH MATERIALS SHALL BE SPREAD UNIFORMLY, BY HAND OR MACHINE.  
WHEN SPREADING MULCH BY HAND, DIVIDE THE AREA TO BE MULCHED INTO  
APPROXIMATELY 1,000 sq. ft. SECTIONS AND PLACE 70-90 lb. (1/2 TO 2  
BALES) OF STRAW IN EACH SECTION TO FACILITATE UNIFORM DISTRIBUTION.

## MULCH ANCHORING:

STRAW MULCH MUST BE ANCHORED IMMEDIATELY AFTER SPREADING TO  
PREVENT DISPLACEMENT. THE FOLLOWING METHODS OF ANCHORING STRAW  
MAY BE USED:

- MULCH ANCHORING TOOL (KRIEMER): THIS METHOD IS  
LIMITED TO USE ON SLOPES NO STEEPER THAN 3:1. MACHINERY  
SHALL BE OPERATED ON THE CONTOUR.
- FIBER MULCH: APPLY FIBER MULCH BY MEANS OF A  
HYDROSEEDER AT A RATE OF 500-750 lbs./acre OVER TOP OF  
STRAW MULCH.
- LIQUID MULCH BINDERS: APPLICATION SHOULD BE HEAVIEST  
AT EDGES OF AREAS AND AT CRESTS OF RIDGES AND BANKS TO  
PREVENT DISPLACEMENT. THE REMAINDER OF THE AREA SHOULD  
HAVE BINDER APPLIED UNIFORMLY. BINDERS MAY BE APPLIED  
AFTER MULCH IS SPREAD OR MAY BE SPRAYED INTO THE MULCH  
AS IT IS BEING BLOWN ONTO THE SOIL.  
a. SYNTHETIC BINDERS: FORMULATED BINDERS OR  
ORGANICALLY FORMULATED PRODUCTS MAY BE USED AS  
RECOMMENDED BY THE MANUFACTURER.  
b. ASPHALT: RECOMMENDED FOR USE ARE RAPID CURING  
(MC-70, RC-250, RC-800), MEDIUM CURING (MC-250,  
MC-800), AND EMULSIFIED ASPHALT (ES-1, ES-2, ES-3, ES-4,  
ES-5, ES-6, ES-7, ES-8, ES-9, ES-10, ES-11, ES-12, ES-13,  
ES-14, ES-15, ES-16, ES-17, ES-18, ES-19, ES-20, ES-21,  
ES-22, ES-23, ES-24, ES-25, ES-26, ES-27, ES-28, ES-29,  
ES-30, ES-31, ES-32, ES-33, ES-34, ES-35, ES-36, ES-37,  
ES-38, ES-39, ES-40, ES-41, ES-42, ES-43, ES-44, ES-45,  
ES-46, ES-47, ES-48, ES-49, ES-50, ES-51, ES-52, ES-53,  
ES-54, ES-55, ES-56, ES-57, ES-58, ES-59, ES-60, ES-61,  
ES-62, ES-63, ES-64, ES-65, ES-66, ES-67, ES-68, ES-69,  
ES-70, ES-71, ES-72, ES-73, ES-74, ES-75, ES-76, ES-77,  
ES-78, ES-79, ES-80, ES-81, ES-82, ES-83, ES-84, ES-85,  
ES-86, ES-87, ES-88, ES-89, ES-90, ES-91, ES-92, ES-93,  
ES-94, ES-95, ES-96, ES-97, ES-98, ES-99, ES-100).  
c. ASPHALT DESIGNATIONS ARE FROM THE ASPHALT  
INSTITUTE SPECIFICATIONS.
- MULCH NETTING: LIGHTWEIGHT PLASTIC, COTTON, OR PAPER  
NETS MAY BE STAPLED OVER THE MULCH IN ACCORDANCE WITH  
THE MANUFACTURER'S RECOMMENDATIONS.

## MAINTENANCE:

INSPECT PER THE SCHEDULE CONTAINED IN THE PLAN TO CHECK FOR  
EROSION. WHERE EROSION IS OBSERVED IN MULCHED AREAS, ADDITIONAL  
MULCH SHOULD BE APPLIED. NETS AND MATS SHOULD BE INSPECTED FOR  
DISLOCATION OR FAILURE. IF WASHOUTS OR BREAKAGE OCCUR, RE-INSTALL  
NETTING OR MATTING AS NECESSARY AFTER REPAIRING DAMAGE TO THE  
SLOPE OR DITCH.

## TEMPORARY SEEDING

TS

- STRUCTURAL EROSION --- AND SEDIMENT CONTROL PRACTICES SUCH  
AS DIVERSIONS AND SEDIMENT TRAPS SHALL BE INSTALLED AND  
STABILIZED WITH TEMPORARY SEEDING PRIOR TO GRADING THE REST  
OF THE CONSTRUCTION-SITE.
- TEMPORARY SEED SHALL BE APPLIED BETWEEN CONSTRUCTION  
OPERATIONS ON SOIL THAT WILL NOT BE GRADED OR REWORKED FOR  
45 DAYS OR MORE. THESE IDLE AREAS SHOULD BE SEED AS SOON  
AS POSSIBLE AFTER GRADING OR SHALL BE SEED WITHIN 7 DAYS.  
SEVERAL APPLICATIONS OF TEMPORARY SEEDING ARE NECESSARY ON  
TYPICAL CONSTRUCTION PROJECTS.
- THE SEEDBED SHOULD BE PULVERIZED AND LOOSE TO ENSURE THE  
SUCCESS OF ESTABLISHING VEGETATION. HOWEVER, TEMPORARY  
SEEDING SHALL NOT BE POSTPONED IF IDEAL SEEDBED IS NOT  
POSSIBLE.
- SOIL AMENDMENTS --- APPLICATIONS OF TEMPORARY VEGETATION SHALL  
ESTABLISH ADEQUATE STANDS OF VEGETATION WHICH MAY REQUIRE  
THE USE OF SOIL AMENDMENTS. SOIL TESTS SHOULD BE TAKEN ON  
THE SITE TO PREDICT THE NEED FOR LIME AND FERTILIZER.
- SEEDING METHOD --- SEED SHALL BE APPLIED UNIFORMLY WITH A  
CYCLONE SPREADER, DRILL, CULTIPACKER SEEDER, OR HYDROSEEDER.  
WHEN FEASIBLE, SEED THAT HAS BEEN BROADCAST SHALL BE  
COVERED BY RAKING OR DRAGGING AND THEN LIGHTLY TAMPED INTO  
PLACE USING A ROLLER OR CULTIPACKER. IF HYDROSEEDING IS USED,  
THE SEED AND FERTILIZER WILL BE MIXED ON-SITE AND THE SEEDING  
SHALL BE DONE IMMEDIATELY AND WITHOUT INTERRUPTION.

TEMPORARY SEEDING SPECIES SELECTION				
SEEDING DATES	SPECIES	LB./1,000 SQ. FT.	PER ACRE	
MARCH 1 TO AUGUST 15	GRASS	3	4 BUSHEL	
	TALL FESCUE	1	40 LBS.	
	ANNUAL RYE GRASS	1	40 LBS.	
	PERENNIAL RYE GRASS	1	40 LBS.	
	TALL FESCUE	1	40 LBS.	
AUGUST 16 TO NOVEMBER 1	RYE	3	2 BUSHEL	
	TALL FESCUE	1	40 LBS.	
	ANNUAL RYE GRASS	1	40 LBS.	
	PERENNIAL RYE GRASS	1	40 LBS.	
	TALL FESCUE	1	40 LBS.	
NOV. 1 TO SPRING SEEDING	MULCH, SODDING OR DORMANT SEEDING ONLY			
	MULCH, SODDING OR DORMANT SEEDING ONLY			
	MULCH, SODDING OR DORMANT SEEDING ONLY			
	MULCH, SODDING OR DORMANT SEEDING ONLY			
	MULCH, SODDING OR DORMANT SEEDING ONLY			

NOTE: OTHER APPROVED SPECIES MAY BE SUBSTITUTED

## PERMANENT SEEDING

PS

## SITE PREPARATION

- A SUBSOILER, PLOW OR OTHER IMPLEMENT SHALL BE USED TO REDUCE  
SOIL COMPACTION AND ALLOW MAXIMUM INFILTRATION. SUBSOILING  
SHOULD BE DONE WHEN THE SOIL MOISTURE IS LOW ENOUGH TO  
ALLOW THE SOIL TO CRACK OR FRACTURE. SUBSOILING SHALL NOT BE  
DONE ON SLIP-PRONE AREAS WHERE SOIL PREPARATION SHOULD BE  
LIMITED TO WHAT IS NECESSARY FOR ESTABLISHING VEGETATION.
- THE SITE SHALL BE GRADED AS NEEDED TO PERMIT THE USE OF  
CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION AND SEEDING.
- RESOIL SHALL BE APPLIED WHERE NEEDED TO ESTABLISH VEGETATION.

## SEEDBED PREPARATION

- LIME --- AGRICULTURAL GROUND LIMESTONE SHALL BE APPLIED TO  
ACID SOIL AS RECOMMENDED BY A SOIL TEST. IN LIEU OF A SOIL  
TEST, LIME SHALL BE APPLIED AT THE RATE OF 100 LB./1,000 S.F.  
OR 2 TONS/ACRE.
- FERTILIZER --- FERTILIZER SHALL BE APPLIED AS RECOMMENDED BY  
A SOIL TEST. IN LIEU OF A SOIL TEST, FERTILIZER SHALL BE APPLIED  
AT A RATE OF 12 LB./1,000 SQ. FT. OR 500 LB./AC. OF 10-10-10  
OR 12-12-12 ANALYSIS.
- THE LIMESTONE AND FERTILIZER SHALL BE WORKED INTO THE SOIL  
WITH A DISK HARRROW, SPRING-TOOTH HARRROW, OR OTHER IMPLEMENT  
TO A DEPTH OF 3 INCHES. ON SLOPING LAND THE SOIL SHALL BE  
WORKED ON THE CONTOUR.

## SEEDING DATES AND SOIL CONDITIONS

- SEEDING SHOULD BE DONE MARCH 1 TO MAY 31 OR AUGUST 1 TO  
SEPTEMBER 30. THESE SEEDING DATES ARE IDEAL BUT, WITH THE USE  
OF ADDITIONAL MULCH AND IRRIGATION SEEDINGS MAY BE MADE ANY  
TIME THROUGHOUT THE GROWING SEASON. TILLAGE/SEEDBED  
PREPARATION SHOULD BE DONE WHEN THE SOIL IS DRY ENOUGH TO  
CRUMBLE AND NOT FORM RIBBONS WHEN COMPRESSED BY HAND.

## DORMANT SEEDINGS

- SEEDINGS SHALL NOT BE PLANTED FROM OCTOBER 1 THROUGH  
NOVEMBER 20.
- THE FOLLOWING METHODS MAY BE USED FOR "DORMANT SEEDING":
  - FROM OCTOBER 1 THROUGH NOVEMBER 20, PREPARE THE  
SEEDBED, ADD THE REQUIRED AMOUNTS OF LIME AND FERTILIZER,  
THEN MULCH AND ANCHOR. AFTER NOVEMBER 20, AND BEFORE  
MARCH 1, BROADCAST THE SELECTED SEED MIXTURE. INCREASE  
THE SEEDING RATES BY 50% FOR THIS TYPE OF SEEDING.
  - FROM NOVEMBER 20 THROUGH MARCH 15, WHEN SOIL  
CONDITIONS PERMIT, PREPARE THE SEEDBED, LIME AND  
FERTILIZE. APPLY THE SELECTED SEED MIXTURE, MULCH AND  
ANCHOR. INCREASE THE SEEDING RATES BY 50% FOR THIS  
TYPE OF SEEDING.
  - APPLY SEED UNIFORMLY WITH A CYCLONE SPREADER, DRILL,  
CULTIPACKER SEEDER, OR HYDRO-SEEDER (SLURRY MAY  
INCLUDE SEED AND FERTILIZER) ON A FIRM, MOIST SEEDBED.
  - WHERE FEASIBLE, EXCEPT WHEN A CULTIPACKER TYPE SEEDER  
IS USED, THE SEEDBED SHOULD BE FIRMED FOLLOWING SEEDING  
OPERATIONS WITH A CULTIPACKER, ROLLER, OR LIGHT DRAG. ON  
SLOPING LAND, SEEDING OPERATIONS SHOULD BE ON THE  
CONTOUR WHERE FEASIBLE.

PERMANENT SEEDING			
SEED MIX	SEEDING RATE		NOTES:
LB./ACRE	LB./1,000 SQ. FT.		
GENERAL USE			
CREeping RED FESCUE	20-40	1/2 - 1	
DOMESTIC RYE GRASS	10-20	1/4 - 1/2	
KENTUCKY BLUEGRASS	10-20	1/4 - 1/2	
TALL FESCUE	40	1	
DWARF FESCUE	40	1	
STEEP BANKS OR CUT SLOPES			
TALL FESCUE	40	1	
CROWN VETCH	10	1/4	
TALL FESCUE	20	1/2	NOT LATER THAN AUGUST
FLAT PEA	20	1/2	
TALL FESCUE	20	1/2	NOT LATER THAN AUGUST
ROAD DITCHES AND SWALES			
TALL FESCUE	40	1	
DWARF FESCUE	90	2 1/4	
KENTUCKY BLUEGRASS	5		
LAWNS			
KENTUCKY BLUEGRASS	60	1 1/2	
PERENNIAL RYE GRASS	60	1 1/2	
KENTUCKY BLUEGRASS	60	1 1/2	
CREeping RED FESCUE	60	1 1/2	FOR SHADED AREAS

NOTE: OTHER APPROVED SEED SPECIES MAY BE SUBSTITUTED

## MULCHING SEE MULCH

## IRRIGATION

- PERMANENT SEEDING SHALL INCLUDE IRRIGATION TO ESTABLISH  
VEGETATION DURING DRY OR HOT WEATHER OR ON ADVERSE SITE  
CONDITIONS AS NEEDED FOR ADEQUATE MOISTURE FOR SEED  
GERMINATION AND PLANT GROWTH.
- EXCESSIVE IRRIGATION RATES SHALL BE AVOIDED AND IRRIGATION  
MONITORED TO PREVENT EROSION AND DAMAGE FROM RUNOFF.

## MAINTENANCE OF PERMANENT SEEDING

- PERMANENT SEEDING SHALL NOT BE CONSIDERED ESTABLISHED FOR AT  
LEAST 1 FULL YEAR FROM THE TIME OF PLANTING. SEEDING AREAS  
SHALL BE INSPECTED FOR FAILURE AND VEGETATION REESTABLISHED  
AS NEEDED. DEPENDING ON SITE CONDITIONS, IT MAY BE NECESSARY  
TO IRRIGATE, FERTILIZE, OVERSEED, OR REESTABLISH PLANTINGS IN  
ORDER TO PROVIDE PERMANENT VEGETATION FOR ADEQUATE EROSION  
CONTROL.
- MAINTENANCE FERTILIZATION RATES SHALL BE ESTABLISHED BY SOIL  
TEST RECOMMENDATIONS OR BY USING THE RATES SHOWN IN THE  
FOLLOWING TABLE.

FERTILIZATION AND MOWING				
MIXTURE	FORMULA	LB./AC.	LIME	MOWING
CREeping RED FESCUE	10-10-10	500		NOT CLOSER THAN 3"
RYE GRASS				
KENTUCKY BLUEGRASS				
TALL FESCUE	10-10-10	500	FALL, YEARLY OR AS NEEDED	NOT CLOSER THAN 4"
DWARF FESCUE	10-10-10	500		NOT CLOSER THAN 2"
CROWN VETCH	0-20-20	400	SPRING, YEARLY FOLLOWING ESTABLISH- MENT AND EVERY 4-7 YEARS THEREAFTER	DO NOT MOW
FLAT PEA	0-20-20	400		DO NOT MOW
FESCUE				

NOTE: SOIL TEST RECOMMENDATIONS PREFERRED OVER ABOVE

## EROSION AND SEDIMENT CONTROL ESTIMATED QUANTITIES

PRACTICE	UNIT	QUANTITY
TEMPORARY SEEDING & MULCH	ACRE	0.80
PERMANENT SEEDING & MULCH	ACRE	0.80
SODDING	SQ. YD.	
MULCHING	SQ. YD.	
MATting	SQ. YD.	
RIPRAP	CU. YAD.	
CONSTRUCTION ROAD STABILIZATION	LIN. FT.	
CONSTRUCTION ENTRANCE	EACH	1
SURFACE ROUGHENING	SQ. YD.	
TEMPORARY DIVERSION DIKE	LIN. FT.	
TEMPORARY FILL DIVERSION	LIN. FT.	
WATER BAR	EACH	
LEVEL SPREADER (RIPRAP)	EACH	
LEVEL SPREADER (GRASS)	EACH	
TEMPORARY SLOPE DRAIN	LIN. FT.	
STORM WATER CONVEYANCE CHANNEL	LIN. FT.	
WATERWAY DROP STRUCTURE	EACH	
CHECK DAM	EACH	
SUBSURFACE DRAINAGE	LIN. FT.	
OUTLET PROTECTION	CU. YD.	
PAVED FLUME	LIN. FT.	
SEDIMENT BASIN (COMPLETE)	EACH	1
SEDIMENT TRAP (COMPLETE)	EACH	
SEDIMENT BASIN/TRAP SAFETY FENCE	LIN. FT.	
DROP INLET SEDIMENT TRAP	EACH	
SILT FENCE	LIN. FT.	394
DROP INLET PROTECTION	EACH	4
CURB INLET PROTECTION	EACH	
VEGETATIVE STREAMBANK STABILIZATION	SQ. YD.	
STRUCTURAL STREAMBANK STABILIZATION	SQ. YD.	
TEMPORARY VEHICLE STREAM CROSSING	EACH	
UTILITY STREAM CROSSING	EACH	
SEDIMENT CONTROL TRENCH	LIN. FT.	
CONTAINMENT BERM	LIN. FT.	
GRADIENT TERRACING	LIN. FT.	

THE ESTIMATE OF QUANTITIES LISTED ABOVE IS APPROXIMATE ONLY AND IS BASED ON  
THE PRACTICES INDICATED ON THE PLAN.

THE ESTIMATED QUANTITIES DO NOT INCLUDE ANY ADDITIONAL MATERIALS THAT MAY BE  
REQUIRED FOR:

- MAINTENANCE, REPLACEMENT AND/OR ADJUSTMENT OF PRACTICES AS  
DETERMINED BY INSPECTIONS.
- MATERIALS REQUIRED FOR ADDITIONAL PRACTICES, NOT INDICATED ON THE  
PLAN, WHICH MAY BE REQUIRED BY ACTUAL FIELD CONDITIONS DURING CONSTRUCTION.

FOR THESE QUANTITIES, THE CONTRACTOR MUST RELY UPON HIS EXPERIENCE IN SIMILAR  
CONSTRUCTION PROJECTS INVOLVING SIMILAR SLOPES, SOIL TYPES, AND SEASONAL  
RAINFALL.

## TOPSOILING

TO

## STRIPPING

TOPSOIL OPERATIONS SHOULD NOT BE PERFORMED WHEN THE SOIL IS WET OR FROZEN. STRIPPING  
SHALL BE CONFINED TO THE IMMEDIATE CONSTRUCTION AREA. ALL PERIMETER DIKES, BASINS, AND  
OTHER SEDIMENT CONTROLS SHALL BE IN PLACE PRIOR TO STRIPPING.

## STOCKPILING

TOPSOIL SHALL BE STOCKPILED IN A MANNER AND LOCATION THAT NATURAL DRAINAGE IS NOT  
OBSTRUCTED AND NO OFF-SITE SEDIMENT DAMAGE SHALL RESULT AND ANY ERODED MATERIAL DOES  
NOT HAVE DIRECT ACCESS TO ANY STORM DRAINS OR DRAINAGEWAYS. STOCKPILE SIDE SLOPES SHALL  
NOT EXCEED 2:1.

## STOCKPILE PROTECTION

PERIMETER CONTROLS (SILT FENCE OR EARTH BARRIER) MUST BE PLACED AROUND THE STOCKPILE  
IMMEDIATELY. TEMPORARY SEEDING OF THE STOCKPILE MUST BE PERFORMED WITHIN 7 DAYS IF THE  
STOCKPILE IS TO REMAIN DORMANT FOR LONGER THAN 30 DAYS.

## SITE PREPARATION AND MAINTENANCE DURING TOPSOILING

BEFORE TOPSOILING, ALL NECESSARY EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS  
DIVERSIONS, GRADE STABILIZATION STRUCTURES, BERMS, DIKES, LEVEL SPREADERS, SEDIMENT BASINS,  
ETC. MUST BE IMPLEMENTED. THESE PRACTICES MUST BE MAINTAINED DURING TOPSOILING.

## LIMING

WHERE THE pH OF THE SUBSOIL IS 6 OR LESS, OR THE SOIL IS COMPOSED OF HEAVY CLAYS,  
AGRICULTURAL LIMESTONE SHALL BE SPREAD IN ACCORDANCE WITH SOIL TESTS OR THE VEGETATIVE  
ESTABLISHMENT PRACTICE BEING USED.

## BONDING

IMMEDIATELY PRIOR TO DUMPING AND SPREADING THE TOPSOIL, THE SUBGRADE SHALL BE LOOSENEED  
BY DISCING OR SCARIFYING TO A DEPTH OF AT LEAST 2" TO ENSURE BONDING OF THE TOPSOIL AND  
SUBSOIL.

## APPLICATION

TOPSOIL SHALL NOT BE PLACED WHILE IN A FROZEN OR MUDDY CONDITION, WHEN TOPSOIL OR  
SUBGRADE IS EXCESSIVELY WET, OR IN A CONDITION THAT THAT MAY OTHERWISE BE DETRIMENTAL TO  
PROPER GRADING OR PROPOSED SODDING OR SEEDING. TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED  
TO A MINIMUM COMPACTED DEPTH OF 2" ON 3:1 OR STEEPER SLOPES AND 4" ON FLATTER SLOPES.  
ANY IRREGULARITIES IN THE SURFACE SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION  
OF DEPRESSIONS OR WATER POCKETS.

TOPSOIL MUST BE COMPACTED ENOUGH TO ENSURE GOOD CONTACT WITH THE UNDERLYING SOIL AND  
TO OBTAIN A LEVEL SURFACE FOR THE ESTABLISHMENT OF HIGH MAINTENANCE TURF. UNDUCE  
COMPACTION SHALL BE AVOIDED BECAUSE IT INCREASES RUNOFF VELOCITY AND VOLUME, AND DETERS  
SEED GERMINATION.

SPECIAL CONSIDERATION SHOULD BE GIVEN TO THE TYPES OF EQUIPMENT USED TO PLACE TOPSOIL  
IN AREAS TO RECEIVE FINE TURF. AVOID UNNECESSARY COMPACTION BY HEAVY MACHINERY WHENEVER  
POSSIBLE. IN AREAS WHICH ARE NOT GOING TO BE MOWED, THE SURFACE SHOULD BE LEFT ROUGH  
IN ACCORDANCE WITH "SURFACE ROUGHENING".

## SOIL STERILANTS

NO SOD OR SEED SHALL BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS  
UNTIL SUFFICIENT TIME HAS ELAPSED TO PERMIT DISSIPATION OF TOXIC MATERIALS.

CUBIC YARDS OF TOPSOIL REQUIRED FOR APPLICATION TO VARIOUS DEPTHS		
DEPTH (INCHES)	PER 1,000 SQUARE FEET	PER ACRE
1	3.1	134
2	6.2	268
3	9.3	403
4	12.4	537
5	15.5	672
6	18.6	806

Topsoiling.dwg

REVISIONS

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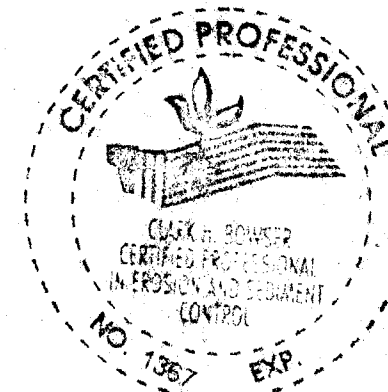
COOPER & ASSOCIATES, LLP  
ENGINEERS AND SURVEYORS

1300 MARKET  
AVENUE, NORTH  
CANTON, OHIO  
44705

STORMWATER POLLUTION PREVENTION PLAN

USDA SITE

FOR: C.L. WEBSTER PROPERTIES



DRAWN BY: C.M.B.

CHECKED BY:

FIELD BOOK NO.

DATE: 9/27/2003

SHEET

E4 OF E4

PROJECT: 03158