

**NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT INFORMATION**

NPDES PERMIT (0H0000004) # \_\_\_\_\_

PERMITEE (DEVELOPER) \_\_\_\_\_

CO-PERMITEE (CONTRACTOR) \_\_\_\_\_

**GENERAL EROSION AND SEDIMENT CONTROL NOTES**

EROSION CONTROL SHALL CONSIST OF TEMPORARY CONTROL MEASURES AS DETAILED ON THE PLANS OR ORDERED BY THE GOVERNING AGENCY DURING THE LIFE OF THE CONTRACT TO CONTROL SOIL EROSION AND SEDIMENTATION THROUGH USE OF EROSION CONTROL PERMANENT BEST MANAGEMENT PRACTICES (BMP'S).

ADDITIONAL EROSION CONTROL BMP'S MAY BE MANDATED BY THE GOVERNING AGENCY AT ANY TIME DURING THIS PROJECT AS UNFORSEEN SITUATIONS MAY ARISE THAT WARRANT FURTHER EROSION AND SEDIMENT CONTROL PRACTICES.

TEMPORARY EROSION AND SEDIMENT CONTROL ITEMS, THE LOCATION AND SIZE OF WHICH ARE DETAILED ON THE PLANS, SHALL BE INSTALLED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF ANY CLEARING OR EARTHWORK OPERATIONS. CONDITIONS THAT REQUIRE ADDITIONAL OR MODIFIED TEMPORARY OR PERMANENT BMP'S SHALL BE APPROVED BY THE DESIGN ENGINEER AND REFLECTED ON THE REVISED STORM WATER POLLUTION PREVENTION PLAN (SWP3).

SEDIMENT BASINS, SEDIMENT TRAPS, AND PERMETER SEDIMENT CONTROLS, SHALL BE IMPLEMENTED AS THE FIRST STEP OF GRADING AND WITHIN 7 DAYS FROM THE START OF GRUBBING. THEY SHALL CONTINUE TO FUNCTION UNTIL DISTURBED AREAS ARE RE-ESTABLISHED WITH TEMPORARY VEGETATION. NO SEDIMENT CONTROLS SHALL BE PLACED IN A STREAM.

TRENCH DEWATERING OR GROUND WATER, WHICH CONTAINS SEDIMENT SHALL PASS THROUGH A SEDIMENT SETTLING BASIN OR EQUALLY EFFECTIVE SEDIMENT CONTROL DEVICE. ALTERNATIVES MAY INCLUDE DEWATERING INTO SUMP PIT, FILTER BAG OR EXISTING VEGETATED UPSLOPE AREA. SEDIMENT LADEN WATER SHALL NOT BE DISCHARGED TO STREAMS OR THE STORM SEWER SYSTEM.

THE SWP3, NOTES, DETAILED DRAWINGS AND ANY ADDENDUMS ARE INTENDED TO SERVE AS BASIC GUIDELINES. ALL EROSION CONTROL PRACTICES SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE OHIO DEPARTMENT OF NATURAL RESOURCES (ODNR) RAINWATER AND LAND DEVELOPMENT MANUAL AND THE NPDES STORM WATER DISCHARGE PERMIT.

ALL CAST IRON CATCH BASINS, GRATES AND INLET COVERS SHALL HAVE THE MESSAGE "DUMP NO WASTE, DRAINS TO WATERWAYS".

**STORMWATER QUALITY MAINTENANCE NOTES**

ALL TEMPORARY AND PERMANENT CONTROL PRACTICES SHALL BE MAINTAINED AND REPAIRED AS NEEDED TO ENSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. ALL SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED IN A FUNCTIONAL CONDITION UNTIL ALL UP-SLOPE AREAS THEY CONTROL ARE PERMANENTLY STABILIZED. THE CONTRACTOR SHALL COMPLY WITH THE INSPECTION AND MAINTENANCE SCHEDULE INCLUDED WITH THE APPROVED PLANS FOR THE PROPOSED EROSION CONTROLS. A WRITTEN DOCUMENT CONTAINING THE SIGNATURES OF ALL CONTRACTORS AND SUB-CONTRACTORS INVOLVED IN THE IMPLEMENTATION OF THE BMP'S MUST BE MAINTAINED AS PROOF ACKNOWLEDGING THAT THEY REVIEWED AND UNDERSTAND THE CONDITIONS AND RESPONSIBILITIES OF THE SWP3.

PROPERTY OWNER SHALL BE RESPONSIBLE FOR OVERSEEING MAINTENANCE OF ALL EROSION CONTROL AND WATER QUALITY PRACTICES. OWNER SHALL MAINTAIN PROPER OPERATION. IF PROPERTY SHOULD TRANSFER OWNER NEW OWNER WILL ASSUME RESPONSIBILITY FOR ALL INSPECTIONS, ANY REQUIRED MAINTENANCE AND/OR REPAIRS.

SEE "OPEA CONSTRUCTION SITE INSPECTION CHECKLIST" FOR INSPECTIONS OCCURRING DURING THE CONSTRUCTION PROCESS. SEE "OPERATION AND MAINTENANCE INSPECTION REPORT FOR STORMWATER MANAGEMENT PONDS" FOR INSPECTIONS OCCURRING AFTER SITE STABILIZATION. INSPECTION REPORTS CAN BE OBTAINED BY CONTACTING THE DESIGN ENGINEER.

INSPECTIONS AND REQUIRED MAINTENANCE OCCURRING DURING THE CONSTRUCTION PROCESS ARE THE RESPONSIBILITY OF THE SITE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COSTS ATTRIBUTED TO REPAIRS DURING CONSTRUCTION ACTIVITIES.

INSPECTIONS AND REQUIRED MAINTENANCE OCCURRING AFTER THE SITE IS STABILIZED ARE THE RESPONSIBILITY OF THE OWNER OR A QUALIFIED AGENT OF THE OWNER. THE OWNER SHALL BE RESPONSIBLE FOR ANY COSTS ATTRIBUTED TO REPAIRS AFTER SITE STABILIZATION.

SEE "OPERATION AND MAINTENANCE INSPECTION REPORT FOR STORMWATER MANAGEMENT PONDS" FOR TIMING ON INSPECTION FREQUENCY. NOTE THAT ADDITIONAL INSPECTIONS MAY BE REQUIRED IN THE FIRST YEAR TO ENSURE PROPER OPERATION OF STORM WATER MANAGEMENT FACILITIES.

PERPETUAL MAINTENANCE INSPECTION REPORTS ARE TO BE SUBMITTED TO THE COMMUNITY BY MAY 1ST OF EACH AND EVERY YEAR AFTER THE BEST MANAGEMENT PRACTICE (BMP) HAS BEEN COMPLETED.

**INSPECTION (DURING CONSTRUCTION)**  
ALL STORMWATER CONTROLS ON THE SITE ARE INSPECTED AT LEAST EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN ONE-HALF INCH OF RAIN PER 24 HOUR PERIOD. A WRITTEN RECORD DOCUMENTATING THE RESULTS OF THESE INSPECTIONS MUST BE CREATED AND MAINTAINED WITH THE SWP3. DISTURBED AREAS AND AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION SHALL BE INSPECTED FOR EVIDENCE OF OR THE POTENTIAL FOR: POLLUTANTS ENTERING THE EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE SWP3 SHALL BE OBSERVED TO ENSURE THAT THOSE ARE OPERATING CORRECTLY. DISCHARGE LOCATIONS SHALL BE INSPECTED TO ASCERTAIN WHETHER EROSION AND SEDIMENT CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO THE RECEIVING WATERS. LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE SHALL BE INSPECTED FOR EVIDENCE OF OFF-SITE VEHICLE TRACKING.

**I. WHEN PRACTICES REQUIRE REPAIR OR MAINTENANCE**  
IF THE INSPECTION REVEALS THAT A CONTROL PRACTICE IS IN NEED OF REPAIR OR MAINTENANCE, WITH EXCEPTION OF A SEDIMENT SETTLING POND, IT MUST BE REPAIRED OR MAINTAINED WITHIN THREE DAYS OF INSPECTION. SEDIMENT SETTLING PONDS MUST BE REPAIRED OR MAINTAINED WITHIN 10 DAYS OF THE INSPECTION. SEDIMENT SETTLING PONDS MUST BE REPAIRED OR MAINTAINED WITHIN 10 DAYS OF THE INSPECTION.

**II. WHEN PRACTICES FAIL TO PROVIDE THEIR INTENDED FUNCTION**  
IF THE 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 10 DAYS OF INSPECTION.

**III. WHEN PRACTICES DEFECTED ON THE SWP3 ARE NOT INSTALLED**  
IF THE INSPECTION REVEALS THAT A CONTROL PRACTICE HAS NOT BEEN IMPLEMENTED IN ACCORDANCE WITH THE SWP3, THE SWP3 MUST BE AMENDED AND THE NEW CONTROL PRACTICE MUST BE INSTALLED WITHIN 10 DAYS OF THE INSPECTION. IF THE INSPECTION REVEALS THAT THE PLANNED CONTROL PRACTICE IS NOT NEEDED, THE RECORD MUST CONTAIN A STATEMENT OF EXPLANATION AS TO WHY THE CONTROL PRACTICE IS NOT NEEDED.

**NON SEDIMENT SITE POLLUTION CONTROLS**

NO SOLID OR LIQUID WASTE, INCLUDING BUILDING MATERIALS, SHALL BE DISCHARGED IN STORMWATER RUNOFF. ALL NECESSARY BMP'S MUST BE IMPLEMENTED TO PREVENT THE DISCHARGE OF NON-SEDIMENT POLLUTANTS TO THE DRAINAGE SYSTEM OF THE SITE OR SURFACE WATERS OF THE STATE. NO EXPOSURE OF STORMWATER TO WASTE MATERIALS IS RECOMMENDED.

**HANDLING OF TOXIC AND HAZARDOUS WASTES**  
DO: PREVENTS SPILLS, USE PRODUCTS UP - FOLLOW LABEL DIRECTIONS FOR DISPOSAL - REMOVE LIDS FROM EMPTY BOTTLES AND CANS WHEN DISPOSING IN TRASH - RECYCLE WASTES WHENEVER POSSIBLE.  
DON'T: POUR INTO WATERWAYS, STORM DRAINS, ONTO GROUND - POUR INTO SINKS, FLOOR DRAIN OR SEPTIC TANKS - BURY CHEMICALS OR CONTAINERS - BURN CHEMICALS OR CONTAINERS - MIX CHEMICALS TOGETHER.

**WASTE DISPOSAL**  
CONTAINERS (E.G., DUMPSTERS, DRUMS) SHALL BE AVAILABLE FOR DISPOSAL OF DEBRIS, TRASH, HAZARDOUS OR PETROLEUM WASTES. ALL CONTAINERS MUST BE COVERED AND LEAK-PROOF. ALL WASTE MATERIAL SHALL BE DISPOSSED OF AT FACILITIES APPROVED FOR THE PERTINENT MATERIAL.

**CLEAN HARD FILL**  
BRICKS, HARDENING CONCRETE, AND SOIL WASTE SHALL BE FREE FROM CONTAMINATION WHICH MAY LEACH CONSTITUENTS TO WATERS OF THE STATE.

CLEAN CONSTRUCTION WASTES THAT WILL BE DISPOSED INTO THE PROPERTY, SHALL BE SUBJECT TO ANY LOCAL PROHIBITIONS FROM THIS TYPE OF DISPOSAL.

**FUEL/LIQUID TANK STORAGE**  
ALL FUEL/LIQUID TANKS AND DRUMS SHALL BE STORED IN A MARKED STORAGE AREA. A DIKE SHALL BE CONSTRUCTED AROUND THIS STORAGE AREA WITH A MINIMUM CAPACITY EQUAL TO 110% OF THE VOLUME OF ALL CONTAINERS IN THE STORAGE AREA.

**CONSTRUCTION & DEMOLITION DEBRIS**  
ALL CONSTRUCTION & DEMOLITION DEBRIS (C&DD) WASTE SHALL BE DISPOSSED OF IN AN OHIO EPA APPROVED C&DD LANDFILL AS REQUIRED BY OHIO REVISED CODE (ORC) 3714. CONSTRUCTION DEBRIS MAY BE DISPOSSED OF ON-SITE, BUT DEMOLITION DEBRIS MUST BE DISPOSSED IN A OHIO EPA APPROVED LANDFILL. ALSO, MATERIALS WHICH CONTAIN ASBESTOS MUST COMPLY WITH AIR POLLUTION REGULATIONS (SEE OHIO ADMINISTRATIVE CODE (OAC) 3745-20).

**CONSTRUCTION CHEMICAL COMPOUNDS**  
AREA SHALL BE DESIGNATED FOR MIXING OR STORAGE OF COMPOUNDS SUCH AS FERTILIZERS, LIME ASPHALT, OR CONCRETE. THESE DESIGNATED AREAS SHALL BE LOCATED AWAY FROM WATERCOURSES, DRAINAGE DITCHES, FIELD DRAINS, OR OTHER STORMWATER DRAINAGE AREA.

**EQUIPMENT FUELING & MAINTENANCE**  
EQUIPMENT FUELING & MAINTENANCE SHALL BE IN DESIGNATED AREAS ONLY.

**CONCRETE WASH WATER**  
ALL DESIGNATED CONCRETE WASHOUT AREAS SHALL BE LOCATED AWAY FROM WATERCOURSES, DRAINAGE DITCHES, FIELD DRAINS, OR OTHER STORMWATER DRAINAGE AREAS.

**CONTAMINATED SOILS**  
ALL CONTAMINATED SOIL MUST BE TREATED AND/OR DISPOSSED IN OHIO EPA APPROVED SOLID WASTE MANAGEMENT FACILITIES OR HAZARDOUS WASTE TREATMENT, STORAGE OR DISPOSAL FACILITIES (TSD'S).

**SPILL PREVENTION CONTROL & COUNTERMEASURES**  
A SPILL PREVENTION CONTROL AND COUNTERMEASURES (SPCC) PLAN MUST BE DEVELOPED FOR SITES WITH ONE ABOVE-GROUND STORAGE TANK OF 660 GALLONS OR MORE, TOTAL ABOVE-GROUND STORAGE OF 1,330 GALLONS, OR BELOW-GROUND STORAGE OF 42,000 GALLONS OF FUEL.  
NOTE, IT IS THE CONTRACTOR'S RESPONSIBILITY TO DEVELOP THE SPCC PLAN IF HIS ON-SITE STORAGE TANKS WILL BE ABOVE THESE LIMITS.

**SPILL REPORTING REQUIREMENTS**  
THE CONTRACTOR SHALL CONTACT THE OHIO EPA AT 800-282-9378, THE LOCAL FIRE DEPARTMENT, AND THE LOCAL EMERGENCY PLANNING COMMITTEE IN THE EVENT OF A PETROLEUM SPILL (>25 GALLONS) OR THE PRESENCE OF SHEEN, ON PROJECTS NORTH OF ROUTE 2 THE COAST GUARD MUST BE NOTIFIED AT (216) 937-0111.

**TRENCH AND GROUND WATER CONTROL**  
THERE SHALL BE NO SEDIMENT/LADEN OR TURBID DISCHARGES TO WATER RESOURCES OR WETLANDS RESULTING FROM DEWATERING ACTIVITIES. IF TRENCH OR GROUND WATER CONTAINS SEDIMENT, IT MUST PASS THROUGH A SEDIMENT-SETTLING POND OR OTHER EQUALLY EFFECTIVE SEDIMENT CONTROL DEVICE. PRIOR TO BEING DISCHARGED FROM THE CONSTRUCTION SITE. ALTERNATIVELY, SEDIMENT MAY BE REMOVED BY SETTLING IN PLACE OR BY DEWATERING INTO A SUMP PIT, FILTER BAG OR LANDFILL. CONSTRUCTION GROUND WATER DEWATERING WHICH DOES NOT CONTAIN SEDIMENT OR OTHER POLLUTANTS IS NOT REQUIRED TO BE TREATED PRIOR TO DISCHARGE. HOWEVER, CARE MUST BE TAKEN WHEN DISCHARGING GROUND WATER TO ENSURE THAT IT DOES NOT BECOME POLLUTANT-LADEN BY TRAVERSING OVER DISTURBED SOILS OR OTHER POLLUTANT SOURCES.

**OPEN BURNING**  
OPEN BURNING IS NOT PERMITTED.

**DUST CONTROL/SUPPRESSANTS**  
DUST SUPPRESSANT SHALL BE USED ONLY MAY NOT BE USED AS A DUST SUPPRESSANT. NO DUST SUPPRESSANT SHALL BE APPLIED NEAR CATCH BASINS, STORM SEWERS OR OTHER DRAINAGE WAYS.

**AIR PERMITTING REQUIREMENTS**  
CERTAIN ACTIVITIES ASSOCIATED WITH CONSTRUCTION WILL REQUIRE AIR PERMITS. ACTIVITIES INCLUDING BUT NOT LIMITED TO MOBILE CONCRETE BATCH PLANTS, MOBILE ASPHALT PLANTS, CONCRETE CRUSHERS, LARGE GENERATORS, ETC, WILL REQUIRE SPECIFIC OHIO EPA AIR PERMITS FOR INSTALLATION AND OPERATION.

**PROCESS WASTE WATER/LEACHATE MANAGEMENT**  
DISCHARGES INCLUDING BUT NOT LIMITED TO VEHICLE/AND OR EQUIPMENT WASHING, LEACHATE ASSOCIATED WITH ON-SITE WASTE DISPOSAL, CONCRETE WASHOUTS, ETC. ARE A PROCESS WASTEWATER AND ARE NOT AUTHORIZED FOR DISCHARGE UNDER 0H0000003. ALL PROCESS WASTE WATER MUST BE COLLECTED AND PROPERLY DISPOSSED OF AT AN APPROVED DISPOSAL FACILITY.

**SOIL STABILIZATION CONTROLS**

**CLEARING & GRUBBING**  
LIMITS OF CLEARING AND GRADING SHALL BE CLEARLY MARKED ON THE SITE WITH SIGNAGE, FLAGGING AND/OR CONSTRUCTION FENCING.

THE CONTRACTOR SHALL LIMIT THE SURFACE AREA OF ERODABLE EARTH MATERIAL EXPOSED BY EXCAVATION, BORROW, AND FILL OPERATIONS AND PROVIDE IMMEDIATE PERMANENT OR TEMPORARY CONTROL MEASURES TO PREVENT CONTAMINATION OF ADJACENT STREAMS OR OTHER WATER COURSES, LAKES, PONDS, WETLANDS OR OTHER AREAS OF WATER IMPOUNDMENT.

**CONSTRUCTION ENTRANCE**  
A STONED CONSTRUCTION ENTRANCE SHALL BE INSTALLED FOR ALL INGRESS & EGRESS TO THE SITE. THE MINIMUM DIMENSIONS OF THE DRIVE SHALL BE 20 FT. WIDE AND 50 FT. LONG. THE STONE SHALL BE 12 INCHES DEEP WITH AN UNDERLAIN GEOTEXTILE FABRIC. THE DRIVE SHALL BE INSTALLED PRIOR TO ANY CLEARING AND GRUBBING. SEDIMENTS SHALL BE REMOVED FROM ROADWAYS DAILY.

**STABILIZATION**  
PERMANENT AND TEMPORARY STABILIZATION ARE DEFINED IN PART VII OF THE OPEA AUTHORIZATION FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM OHIO EPA PERMIT NO. 0H000003 EFFECTIVE DATE 4/21/08 - EXPIRATION DATE 4/20/13 DISTURBED AREAS MUST BE STABILIZED AS SPECIFIED IN THE FOLLOWING TABLES BELOW:

**TEMPORARY SEEDING**  
SEEDING AREAS SHALL BE INSPECTED AND WHERE THE SEED HAS NOT PRODUCED 80% COVER SHALL BE RESEEDD AS NECESSARY BY THE CONTRACTOR. AREAS SHALL BE STABILIZED WITH MULCH WHEN CONDITIONS PROHIBIT SEEDING.

STRAW MULCHING SHALL BE APPLIED AT A RATE 2-3 STANDARD 45 LB. BALES PER 1000 SQ.FT. OF DISTURBED AREA OR 2 TONS PER ACRE. ALL HYDROSEEDING MUST BE STRAW MULCHED ACCORDING TO THE ABOVE SPECIFICATIONS UNLESS IT IS WATERED WEEKLY.

ALL DETENTION PONDS, RETENTION PONDS, WATER QUALITY STRUCTURES, SEDIMENT PONDS, SEDIMENT TRAPS, EARTHEN DIVERSIONS OR EMBANKMENTS SHALL BE SEEDD AND MULCHED WITHIN 7 DAYS OF COMPLETED CONSTRUCTION.

TEMPORARY STABILIZATION	
AREA REQUIRING TEMPORARY STABILIZATION	TIME FRAME TO APPLY EROSION CONTROL
ANY DISTURBED AREAS WITHIN 50 FT. OF A STREAM AND NOT AT FINAL GRADE	WITHIN TWO DAYS OF THE MOST RECENT DISTURBANCE IF THE AREA WILL REMAIN IDLE FOR MORE THAN 14 DAYS
FOR ALL CONSTRUCTION ACTIVITIES, ANY DISTURBED AREAS THAT WILL BE DORMANT FOR MORE THAN 21 DAYS BUT LESS THAN ONE YEAR, AND NOT WITHIN 50 FT. OF STREAM	WITHIN SEVEN DAYS OF THE MOST RECENT DISTURBANCE WITHIN THE AREA FOR RESIDENTIAL SUBDIVISIONS, DISTURBED AREAS MUST BE STABILIZED AT LEAST SEVEN DAYS PRIOR TO TRANSFER OF PERMIT COVERAGE FOR THE INDIVIDUAL LOT(S)
DISTURBED AREAS THAT WILL BE IDLE OVER WINTER	PRIOR TO ONSET OF WINTER WEATHER (NOV.1) STRAW MULCH 2 TO 3 BALES PER 1000 SQ.FT. AND OR 2 TONS PER ACRE

PERMANENT STABILIZATION	
AREA REQUIRING PERMANENT STABILIZATION	TIME FRAME TO APPLY EROSION CONTROL
ANY AREA THAT WILL LIE DORMANT FOR ONE YEAR OR MORE	WITHIN SEVEN DAYS OF THE MOST RECENT DISTURBANCE
ANY AREA WITHIN 50 FT. OF A STREAM AND AT FINAL GRADE	WITHIN TWO DAYS OF REACHING FINAL GRADE
ANY OTHER AREAS AT FINAL GRADE	WITHIN SEVEN DAYS OF REACHING FINAL GRADE WITHIN THAT AREA

PERMANENT SEEDING SPECIFICATIONS			
Seed Mix	lb./ac.	lb. / 1000sqft	Notes:
General Use			
Creeping Red Fescue	20-40	1/2-1	
Domestic Ryegrass	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	Do not seed later than August.
Tall Fescue	20	1/2	
Flat Peg	20	1/2	Do not seed later than August.
Tall Fescue	20	1/2	
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 Ryegrass	60	1 1/2	
Kentucky Bluegrass	60	1 1/2	For Shaded areas.
Creeping Red Fescue	60	1 1/2	

Note: other approved seed species may be substituted.

**PERMANENT STABILIZATION OF CONVEYANCE CHANNELS**  
OPERATORS SHALL UNDERTAKE SPECIAL MEASURES TO STABILIZE CHANNELS AND OUTFALLS AND PREVENT EROSION FLOWS. MEASURES MAY INCLUDE SEEDING, DORMANT SEEDING (AS DEFINED IN THE COMPARABLE PRACTICE, GROUND WATER DEWATERING WHICH DOES NOT CONTAIN SEDIMENT OR OTHER POLLUTANTS IS NOT REQUIRED TO BE TREATED PRIOR TO DISCHARGE. HOWEVER, CARE MUST BE TAKEN WHEN DISCHARGING GROUND WATER TO ENSURE THAT IT DOES NOT BECOME POLLUTANT-LADEN BY TRAVERSING OVER DISTURBED SOILS OR OTHER POLLUTANT SOURCES.

**TEMPORARY SEDIMENT CONTROLS**

**SILT FENCE**  
SILT FLOW RUNOFF FROM DENUDED AREAS SHALL BE INTERCEPTED BY SILT FENCE OR DIVERSIONS TO PROTECT ADJACENT PROPERTIES AND WATER RESOURCES FROM SEDIMENT TRANSPORTED VIA SHEET FLOW. WHERE INTENDED TO PROVIDE SEDIMENT CONTROL, SILT FENCES SHALL BE PLACED ON A LEVEL CONTOUR. THE EPA PERMIT NO. 0H0000002 DOES NOT PRECLUDE THE USE OF OTHER SEDIMENT BARRIERS DESIGNED TO CONTROL SHEET FLOW RUNOFF. SILT FENCE IS NOT PERMITTED TO BE USED FOR CONTROLLING CONCENTRATED SURFACEWATER FLOW (ONLY SHEET FLOW).

THE SIZE OF THE DRAINAGE AREA THAT CAN BE TREATED BY SILT FENCE VARIES WITH TOPOGRAPHY. THE FOLLOWING TABLE IS TO BE USED TO DETERMINE THE MAXIMUM UPSTREAM DISTANCE THAT IS ALLOWABLE TO BE TREATED BY THE SILT FENCE IN ORDER TO FUNCTION PROPERLY:

SLOPE	SLOPE LENGTH (FT)	
0-2%	FLATTER THAN 50:1	250
2-10%	50:1-10:1	125
10%-20%	10:1-5:1	100
20%-33%	5:1-3:1	75
33%-50%	3:1-2:1	50
>50%	>2:1	25

**INLET PROTECTION**  
OTHER EROSION AND SEDIMENT CONTROL PRACTICES SHALL MINIMIZE SEDIMENT LADEN WATER ENTERING ACTIVE STORM DRAIN SYSTEMS, UNLESS THE STORM DRAIN SYSTEM DRAINS TO A SEDIMENT POND. INLET PROTECTION IS MANDATORY WHERE SEDIMENT SETTLING PONDS WILL NOT BE IMPLEMENTED.

**TEMPORARY RUN-OFF CONTROLS**

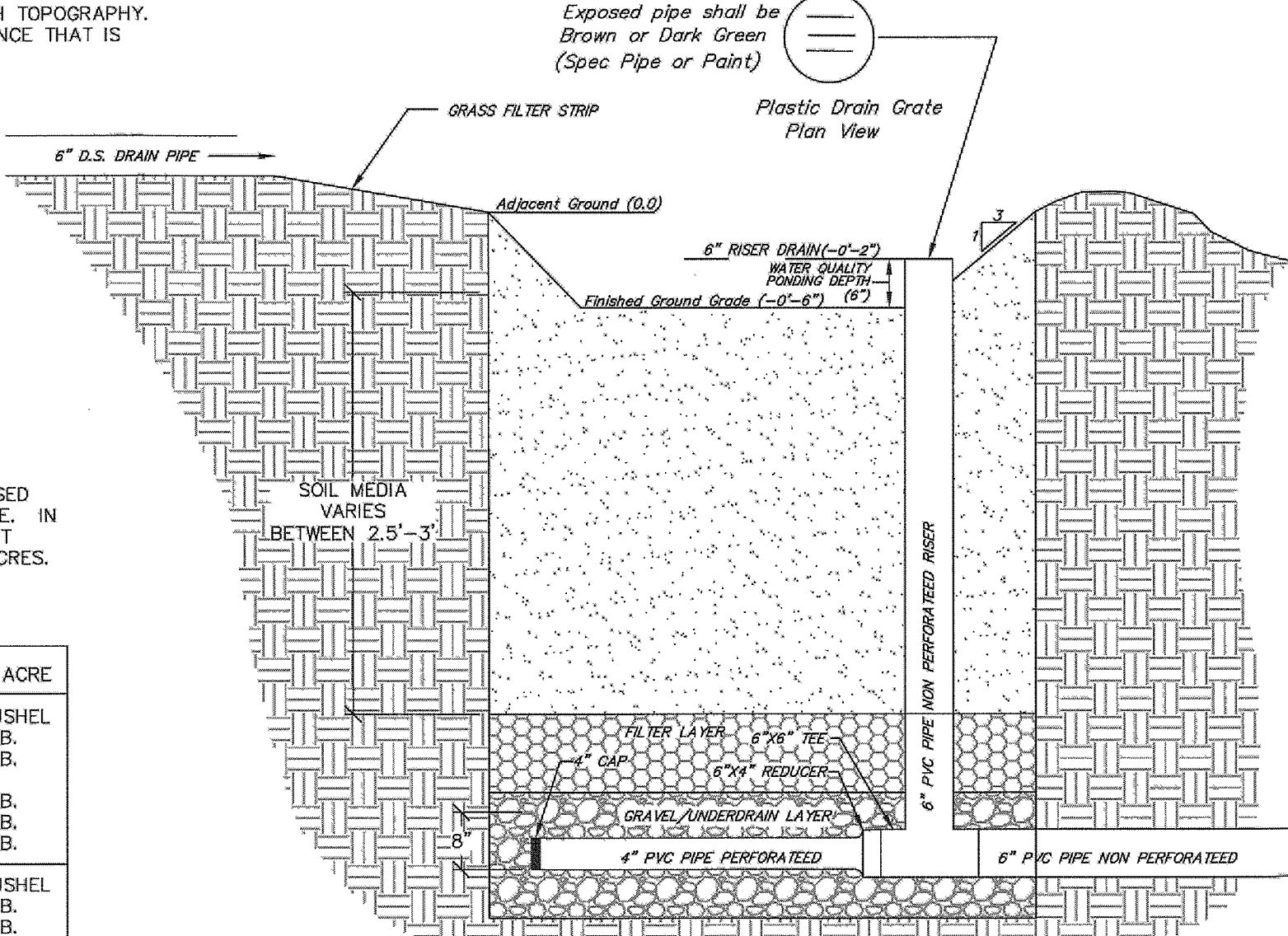
**DIVERSION SWALES**  
STORMWATER DIVERSION PRACTICES SHALL BE USED TO KEEP RUNOFF AWAY FROM DISTURBED AREAS AND STEEP SLOPES WHERE PRACTICAL. DIVERSIONS SHOULD BE USED IN LOCATIONS WHERE THE DRAINAGE AREA EXCEEDS THE CAPACITY OF THE SILT FENCE. IN SUCH CASES, THE RUNOFF SHOULD BE DIVERTED INTO A SEDIMENT BASIN OR SEDIMENT TRAP. DIVERSION SWALES, DIKES OR BERMS, MAY RECEIVE FROM AREAS UP TO 10 ACRES.

TEMPORARY SEEDING SPECIFICATIONS			
SEEDING DATES	SPECIES	LB. / 1000SQFT	PER ACRE
MARCH 1 TO AUGUST 15	OATS	3	4 BUSH.
	TALL FESCUE	1	40 LB.
	ANNUAL RYEGRASS	1	40 LB.
	PERENNIAL RYEGRASS	1	40 LB.
AUGUST 16 TO NOVEMBER 1	RYE	1	2 BUSH.
	TALL FESCUE	1	40 LB.
	ANNUAL RYEGRASS	1	40 LB.
	PERENNIAL RYEGRASS	1	40 LB.
NOVEMBER 1 TO SPRING SEEDING	WHEAT	1	40 LB.
	TALL FESCUE	1	40 LB.
	ANNUAL RYEGRASS	1	40 LB.
	PERENNIAL RYEGRASS	1	40 LB.

USE MULCH ONLY, SODDING PRACTICES OR DORMANT SEEDING.  
NOTE: OTHER APPROVED SEED SPECIES MAY BE SUBSTITUTED.

**CONSTRUCTION SEQUENCE NARRATIVE**

- PROVIDE SAFE AND SECURE PEDESTRIAN AND VEHICULAR TRAFFIC CIRCULATION THROUGHOUT THE ENTIRETY OF THE CONSTRUCTION SEQUENCE WITH WELL DEFINED CONSTRUCTION BOUNDARIES TO BE ACCESSED BY CONSTRUCTION PERSONNEL ONLY. ALL EROSION CONTROLS ARE TO BE THOROUGHLY INSPECTED BY THE CONTRACTOR UPON THE COMPLETION OF EACH WORK DAY AND MAINTAINED THROUGHOUT THE REQUIRED LIFE OF THE CONTROL AS SPECIFIED BY THE APPROVED SWP3 PLANS AND NARRATIVE. CONTRACTOR MUST REVIEW THE SWP3 AND NARRATIVE.
- CONTRACTOR SHALL COMPLETE AND SUBMIT THE OPEA CO-PERMITEE NOTICE OF INTENT (N.O.I.) APPLICATION. ALL OPERATORS AT THE CONSTRUCTION SITE ARE REQUIRED TO BECOME CO-PERMITEES. INSTRUCTIONS AND FORMS CAN BE OBTAINED AT THE OPEA WEBSITE: <http://www.epa.state.oh.us/dsw/storm/stormform.html>
- INSTALL STONE CONSTRUCTION ENTRANCE FOR ACCESS TO CONSTRUCTION AREAS OF SITE.
- DELIVER CONSTRUCTION TRAILER TO SITE AND ESTABLISH TEMPORARY POWER AND TELEPHONE SERVICE.
- ALL TEMPORARY UTILITY SERVICES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- STAKEOUT LIMITS OF DISTURBANCE
- INSTALL TEMPORARY INLET PROTECTION ON ALL EXISTING CATCH BASINS. INLET PROTECTION SHALL BE INSTALLED AS PER PLAN DESIGNATION.
- INSTALL ALL FILTER FABRIC FENCE WHERE SHOWN ON PLANS. FILTER FABRIC FENCE SHALL BE INSTALLED AS PER PLAN DESIGNATION.
- BEGIN CLEARING AND GRUBBING WITHIN THE DISTURBANCE LIMITS AS REQUIRED.
- REMOVE TOPSOIL FROM AREAS AS NECESSARY. REMOVE FROM SITE PER OHIO ENVIRONMENTAL PROTECTION AGENCY (OHIO EPA) STANDARDS OR TEMPORARILY STOCKPILE MATERIAL IN DESIGNATED AREAS.
- AT A MINIMUM ALL CONTROLS ARE INSPECTED AT LEAST EVERY 7 DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN 0.5 INCH PER 24 HOUR PERIOD. IF THE INSPECTION REVEALS THAT A CONTROL PRACTICE IS IN NEED OF REPAIR OR MAINTENANCE, WITH THE EXCEPTION OF A SEDIMENT SETTLING POND, IT MUST BE REPAIRED OR MAINTAINED WITHIN 3 DAYS OF THE INSPECTION. SEDIMENT SETTLING PONDS MUST BE REPAIRED WITHIN 10 DAYS OF THE INSPECTION.
- TEMPORARILY STORE MATERIAL EXCAVATED FOR CONSTRUCTION AT DESIGNATED AREAS. MATERIAL TO BE MAINTAINED FOR DUST CONTROL BY USE OF A COVER OR OTHER METHODS APPROVED BY OHIO EPA.
- BEGIN EARTHMOVING, EXCAVATION AND SITE GRADING OPERATIONS.
- TEMPORARY STABILIZATION PROVIDES EROSION CONTROL ON AREAS IN BETWEEN CONSTRUCTION OPERATIONS. GRASSES WHICH ARE QUICK GROWING ARE SEEDD AND USUALLY STAW MULCHED TO PROVIDE PROMPT, TEMPORARY SOIL STABILIZATION. TEMPORARY STABILIZATION IS REQUIRED BY OHIO EPA'S GENERAL CONSTRUCTION PERMIT TO BE APPLIED ON DISTURBED SOIL AREAS WITHIN 7 DAYS IF THE AREA IS INTENDED TO BE DORMANT FOR GREATER THAN 14 DAYS, OR WITHIN 2 DAYS IF THE AREA IS WITHIN 50 FEET OF JURISDICTIONAL WATER (STREAM OR WETLAND).
- REPAIR/STABILIZE ALL AREAS DESIGNATED FOR TEMPORARY SEEDING AND MULCHING. INCLUDING AREAS WHERE SLOPE IS 3:1 OR GREATER, WHICH REQUIRE A MULCH NETTING. ANY AREAS AT FINAL GRADE OR THAT WILL LIE DORMANT FOR ONE YEAR OR MORE REQUIRE PERMANENT SEEDING WITHIN 7 DAYS OF THE MOST RECENT DISTURBANCE (REFER TO OHIO'S RAINWATER AND LAND DEVELOPMENT MANUAL). IN ADDITION, ANY AREAS WITHIN 50 FEET OF A STREAM AND AT FINAL GRADE REQUIRE EROSION CONTROLS WITHIN 2 DAYS OF REACHING FINAL GRADE. NOTE THAT A 70 % VEGETATIVE DENSITY IS REQUIRED ON ALL DISTURBED SOIL AREAS FOR STABILIZATION.
- MAINTAIN TEMPORARY CONTROLS UNTIL REMOVAL IS WARRANTED DUE TO PROGRESSION OF WORK.
- STABILIZE ALL DISTURBED AREAS WITH PERMANENT SEED AND MULCHING OR CROWNVECH SEEDING IMMEDIATELY UPON REACHING FINAL GRADE.
- CONSTRUCTION OF HOUSE TO BEGIN UPON EXCAVATION OF FOUNDATION AREA.
- AFTER HOUSE CONSTRUCTION INSTALLATION OF SEPTIC, DRIVE AND FINAL GRADING ACTIVITIES SHALL OCCUR.
- ALL REMAINING TEMPORARY SEDIMENT CONTROL PRACTICES (INLET PROTECT, SILT FENCE, ETC.) SHALL BE REMOVED UPON SITE STABILIZATION. NOTE 80% VEGETATIVE DENSITY IS REQUIRED ON ALL DISTURBED SOIL AREAS FOR STABILIZATION. ORANGE CONSTRUCTION FENCE SHALL REMAIN ALONG THE RIPARIAN SETBACK LIMITS UNTIL THE CONSTRUCTION AND SITE LANDSCAPING ACTIVITIES ARE COMPLETE.
- RESEED AND REDRESS ANY AREAS THAT MAY REQUIRE ATTENTION IMMEDIATELY. NOTE THAT LAWN AREAS WILL NOT BE DEEMED STABLE UNTIL A UNIFORM 80% VEGETATIVE DENSITY IS ACHIEVED.
- IF, FOR ANY REASON, THE PROJECT IS SUSPENDED, THE CONTRACTOR SHALL INSURE THAT ALL INSTALLED EROSION MEASURES ARE FUNCTIONING AND PROPERLY MAINTAINED DURING THIS PERIOD, AND THAT ALL BARED SOILS ARE SEEDD AND MULCHED WITH TEMPORARY SEED MIXTURE.
- ONCE FINAL STABILIZATION HAS BEEN ACHIEVED THE CONTRACTOR SHALL COMPLETE AND SUBMIT THE OPEA NOTICE OF TERMINATION (N.O.T) APPLICATION. INSTRUCTIONS AND APPLICATIONS ARE ALSO LOCATED ON THE EPA WEBSITE (SEE STEP #1). CONTRACTOR SHOULD VERIFY WITH THE OWNER THAT THE TERMS OF THE CONTRACT HAVE BEEN FINALIZED PRIOR TO SUBMITTING THE N.O.T.
- ALL QUESTIONS REGARDING EROSION CONTROL ARE TO BE DIRECTED TO POLARIS ENGINEERING AND SURVEYING AT (440) 944-4433 OR TO THE APPROPRIATE COUNTY CONSERVATION DISTRICT FOR REVIEW PRIOR TO THE COMMENCEMENT OF SUCH CHANGES AT THE CONSTRUCTION SITE.



*Bio-Retention Cell Cross Section*  
*N.T.S.*

**GENERAL NOTES**  
CONSTRUCTION OF BIORETENTION BMP SHALL TAKE PLACE AFTER LAND GRADING IS COMPLETE AND THE CONTRIBUTING AREA HAS BEEN STABILIZED. CONSTRUCTION OF BIORETENTION BMP SHALL NOT OCCUR DURING PERIODS OF PRECIPITATION.  
**PRE-TREATMENT AREA**  
PRE-TREATMENT IS NECESSARY TO ENSURE LONG-TERM FUNCTION OF BIORETENTION PRACTICES. HIGH SEDIMENT LOADS CAUSE CLOSING OF THE BIORETENTION SURFACE AND FAILURE OF THE PRACTICE. PRE-TREATMENT IS DESIGNED TO CAPTURE EXCESSIVE SEDIMENT BEFORE IT REACHES THE FILTER BED AREA AND TO DISSIPATE ENERGY SO THAT FLOWS INTO THE PRACTICE DON'T ERODE ADJACENT SOILS OR SCOUR THE FILTER BED. PRE-TREATMENT OPTIONS VARY BASED ON WHETHER FLOW IS CONCENTRATED OR ENTERS THE PRACTICE AS SHEET FLOW. IDEALLY, PAVED AREAS WILL BE DIRECTED TO THE BIORETENTION PRACTICE AS SHEET FLOW. FOR MANY BIORETENTION AREAS, BOTH TYPES OF PRE-TREATMENT ARE NECESSARY.  
A. SHEET FLOWS FROM PAVED AREAS SHALL USE A GRAVEL VERGE (A SHALLOW TONE-FILLED TRENCH) AT THE EDGE OF THE PAVEMENT TO DISSIPATE ENERGY AND SPREAD FLOW ONTO GRASS FILTER AT LEAST 10' LONG WITH A 4:1 OR FLATTER SIDE SLOPES.  
B. FOR CONCENTRATED FLOWS, THE DISCHARGE MUST PASS THROUGH EITHER A GRASS SWALE OR A PRETREATMENT FOREBAY. THE GRASS SWALE MUST BE AT LEAST 20' IN LENGTH WITH A DISCHARGE OF 1 FPS OR LESS FOR THE 1-YEAR 24-HOUR STORM EVENT. THE FOREBAY(S) MUST BE SIZED TO CAPTURE AT LEAST 20% OF THE WQV. CONCENTRATED FLOWS INTO THE GRASS SWALE OR FOREBAY SHALL HAVE AN AFRON STABILIZED WITH APPROPRIATELY SIZED RIPRAP/STONE.

**FILTER BED AND PONDING AREA:**  
THE BIORETENTION PRACTICE IS DESIGNED TO CAPTURE AND TEMPORARILY STORE THE ENTIRE WATER QUALITY VOLUME (WQV) SO THAT IT WILL INFILTRATE THROUGH THE FILTER MEDIA. THE PONDING DEPTH FOR THE WQV SHOULD BE LESS THAN OR EQUAL TO 12 INCHES TO ENSURE THE WQV DRAINS IN A TIMELY FASHION (~24HR) IN PREPARATION FOR THE NEXT RUNOFF EVENT. THE DEPTH OF THE PONDING IS CONTROLLED BY THE HEIGHT OF THE OVERFLOW STRUCTURE OR THE BERM CONTAINING RUNOFF. (NOTE: ADDITIONAL STORAGE CAN BE INCLUDED ABOVE THE WQV, WITH APPROPRIATE OUTLET, TO ACHIEVE ADDITIONAL VOLUME REDUCTION OR TO HELP MEET PEAK DISCHARGE REQUIREMENTS.)

**MULCH:**  
IF THE BIO-RETENTION AREA IS NOT VEGETATED WITH DENSE TURF, A MINIMUM 3 INCH LAYER OF COARSE SHREDDED HARDWOOD MULCH SHALL BE PLACED AROUND THE PLANTS AND OVER THE PLANTING SOIL. BESIDES PROTECTING THE FILTER BED SURFACE FROM EROSION, THE MULCH CREATES AND ORGANIC LAYER CONDUCTIVE TO FILTERING, CAPTURING AND DEGRADING POLLUTANTS, AND PROMOTING BIOLOGICAL GROWTH. FINE MULCHES AND FINE OR CHIPPED HARDWOOD MULCHES MAY NOT BE USED SINCE THEY WILL FLOAT AND MOVE, BLOCKING DRAINAGE OR LEAVING THE AREA WITH HIGH FLOWS.

**PLANTING SOIL SPECIFICATIONS:**  
THE PLANTING SOIL FILTERS THE TREATMENT VOLUME, DETAINS RUNOFF IN THE AVAILABLE VOID SPACE AND PROVIDES A MEDIA FOR PLANT GROWTH AND A BIOLOGICAL COMMUNITY. MUCH OF THE POLLUTANT REMOVAL OCCURS IN THIS ZONE DUE TO FILTERING, ION EXCHANGE, ADSORPTION, AND PLANT UPTAKE. THE PLANTING SOIL (AN ENGINEERED SOIL MEDIA) SHALL BE AT LEAST 2" DEEP AND UP TO 4" IN DEPTH (SETTLED) DEPENDING ON THE PLANNED VEGETATION. GREATER DEPTH IS NECESSARY TO PREVENT FINES FROM THE PLANTING SOIL MIGRATING DOWN THROUGH TO THE UNDERDRAIN OR TO THE SUBSOIL BELOW THE PRACTICE.  
3" OF CLEAN MEDIUM CONCRETE SAND (ASTM C-33) OVER THREE INCHES OF #8 OR #78 STONE (PEA GRAVEL).

**GRAVEL LAYER AND UNDERDRAIN SYSTEM:**  
A GRAVEL BED CONSISTING OF #57 WASHED STONE (EXCLUDING RECYCLED CONCRETE) SHALL BE PROVIDED AS DRAINAGE MEDIA AND BEDDING MATERIAL FOR UNDERDRAIN PIPES AND AS THE WATER STORAGE RESERVOIR IN WHOLE OR AS A PART (WITH 6 INCHES OF SOIL MEDIA) FOR THE PURPOSE OF DENTRIFICATION. THE GRAVEL LAYER SHALL GENERALLY BE 10-12" THICK WITH A MINIMUM OF 3-IN. OF GRAVEL PROVIDED ABOVE AND BELOW UNDERDRAIN PIPES. THE THICKNESS OF THE GRAVEL LAYER (OR SUMP) BELOW THE DRAIN MAY BE INCREASED TO PROMOTE INFILTRATION INTO THE UNDERLYING SOIL.

**UNDERDRAINS SHALL BE PERFORATED PIPE CAPABLE OF WITHSTANDING THE EXPECTED LOAD ABOVE AND EXCEEDING THE DRAINAGE CAPACITY OF THE PLANTING SOIL LAYER. THE FOLLOWING REQUIREMENTS APPLY TO UNDERDRAINS:**

- UNDERDRAIN SYSTEM SHALL BE PLACED LEVEL, OR ON POSITIVE SLOPE.
- UNDERDRAIN PIPES SHALL BE A MINIMUM 4" DIAMETER PERFORATED PVC PIPE WITH THE HOLES ORIENTED DOWNWARD.
- UNDERDRAINS ARE PLACED WITHIN A LAYER OF #57 WASHED GRAVEL, HAVING A MINIMUM OF 3" OF GRAVEL ABOVE AND 3" OF GRAVEL BELOW THE PIPE.
- UNDERDRAIN PIPES SHALL END WITH AN EL