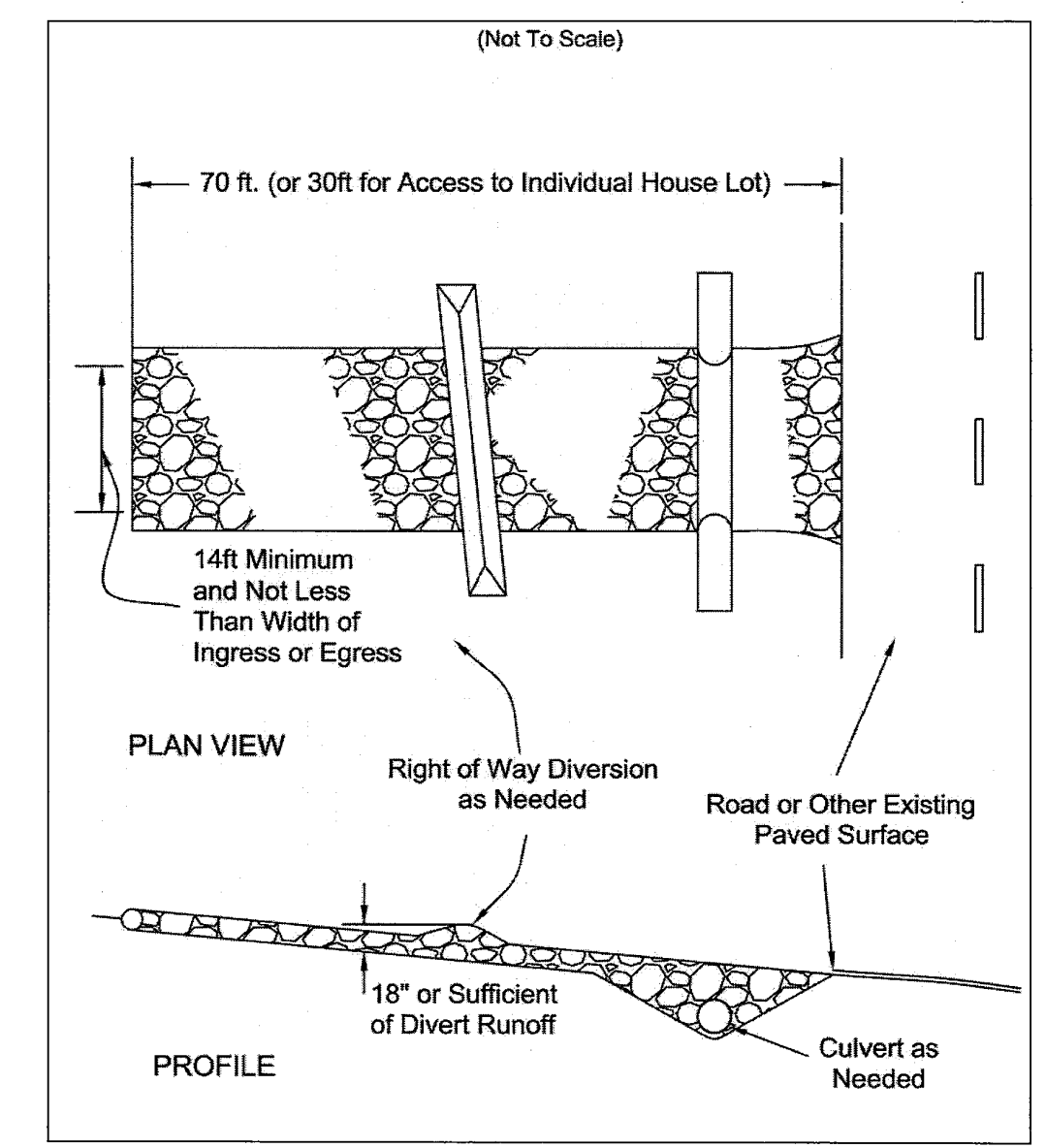


Specifications for
Additional Construction Site Pollution Controls

- Construction personnel, including subcontractors who may use or handle hazardous or toxic materials, shall be made aware of the following general guidelines regarding disposal and handling of hazardous and construction wastes:
 - Prevent 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 or onto the ground
 - Don't pour down the sink, floor drain or septic tanks
 - Don't bury chemicals or containers
 - Don't burn chemicals or containers
 - Don't mix chemicals together
- Containers shall be provided for the proper collection of all waste material including construction debris, trash, petroleum products and any hazardous materials used on-site. Containers shall be covered and not leaking. All waste material shall be disposed of at facilities approved for that material. Construction Demolition and Debris (CD&D) waste must be disposed of at an Ohio EPA approved CD&D landfill.
- No construction related waste materials are to be buried on-site. By exception, clean fill (bricks, hardened concrete, soil) may be utilized in a way which does not encroach upon natural wetlands, streams or floodplains or result in the contamination of waters of the state.
- Handling Construction Chemicals. Mixing, pumping, transferring or other handling of construction chemicals such as fertilizer, lime, asphalt, concrete drying compounds, and all other potentially hazardous materials shall be performed in an area away from any watercourse, ditch or storm drain.
- Equipment Fueling and Maintenance, oil changing, etc., shall be performed away from watercourses, ditches or storm drains, in an area designated for that purpose. The designated area shall be equipped for recycling oil and catching spills. Secondary containment shall be provided for all fuel oil storage tanks. These areas must be inspected every seven days and within 24 hrs. of a 0.5 inch or greater rain event to ensure there are no exposed materials which would contaminate storm water. Site operators must be aware that Spill Prevention Control and Countermeasures (SPCC) requirements may apply. An SPCC plan is required for sites with one single above ground tank of 660 gallons or more, accumulative above ground storage of 1330 gallons or more, or 42,000 gallons of underground storage. Contaminated soils must be disposed of in accordance with Item 8.
- Concrete Wash Water shall not be allowed to flow to streams, ditches, storm drains, or any other water conveyance. A sump or pit with no potential for discharge shall be constructed if needed to contain concrete wash water. Field tile or other subsurface drainage structures within 10 ft. of the sump shall be cut and plugged. For small projects, truck chutes may be rinsed away from any water conveyances.
- Spill Reporting Requirements: Spills on pavement shall be absorbed with sawdust or kitty litter and disposed of with the trash at a licensed sanitary landfill. Hazardous or industrial wastes such as most solvents, gasoline, oil-based paints, and cement curing compounds require special handling. Spills shall be reported to Ohio EPA (1-800-282-9378). Spills of 25 gallons or more of petroleum products shall be reported to Ohio EPA, the local fire department, and the Local Emergency Planning Committee within 30 min. of the discovery of the release. All spills which contact waters of the state must be reported to Ohio EPA.
- Contaminated Soils. If substances such as oil, diesel fuel, hydraulic fluid, antifreeze, etc. are spilled, leaked, or released onto the soil, the soil should be dug up and disposed of at licensed sanitary landfill or other approved petroleum contaminated soil remediation facility. (not a construction/demolition debris landfill). Note that storm water run off associated with contaminated soils are not authorized under Ohio EPA's General Storm Water Permit associated with Construction Activities.
- Open Burning. No materials containing rubber, grease, asphalt, or petroleum products, such as tires, autogates, plastics or plastic coated wire may be burned (OAC 3745-19). Open burning is not allowed in restricted areas, which are defined as: 1) within corporation limits; 2) within 1000 feet outside a municipal corporation having a population of 1000 to 10,000; and 3) a one mile zone outside of a corporation of 10, 000 or more. Outside of restricted areas, no open burning is allowed within a 1000 feet of an inhabited building on another property. Open burning is permissible in a restricted area for: heating tar, welding, smudge pots and similar occupational needs, and heating for warmth or outdoor barbecues. Outside of restricted areas, open burning is permissible for landscape or land-clearing wastes (plant material, with prior written permission from Ohio EPA), and agricultural wastes, excluding buildings.
- Dust Control or dust suppressants shall be used to prevent nuisance conditions, in accordance with the manufacturer's specifications and in a manner, which prevent a discharge to waters of the state. Sufficient distance must be provided between applications and nearby bridges, catch basins, and other waterways. Application (excluding water) may not occur when rain is imminent as noted in the short term forecast. Used oil may not be applied for dust control.
- Other Air Permitting Requirements: Certain activities associated with construction will require air permits including but not limited to: mobile concrete batch plants, mobile asphalt plants, concrete crushers, large generators, etc. These activities will require specific Ohio EPA Air Permits for installation and operation. Operators must seek authorization from the corresponding district of Ohio EPA. For demolition of all commercial sites, a Notification for Restoration and Demolition must be submitted to Ohio EPA to determine if asbestos corrective actions are required.
- Process Waste Water/Leachate Management. Ohio EPA's Construction General Permit only allows the discharge of storm water and does not include other waste streams/discharges such as vehicle and/or equipment washing, on-site septic leachate concrete wash outs, which are considered process wastewaters. All process wastewaters must be collected and properly disposed at an approved disposal facility. In the event, leachate or septic is discharged; it must be isolated for collection and proper disposal and corrective actions taken to eliminate the source of waste water.
- A Permit To Install (PTI) is required prior to the construction of all centralized sanitary systems, including sewer extensions, and sewerage systems (except those serving one, two, and three family dwellings) and potable water lines. Plans must be submitted and approved by Ohio EPA. Issuance of an Ohio EPA Construction General Storm Water Permit does not authorize the installation of any sewerage system where Ohio EPA has not approved a PTI.

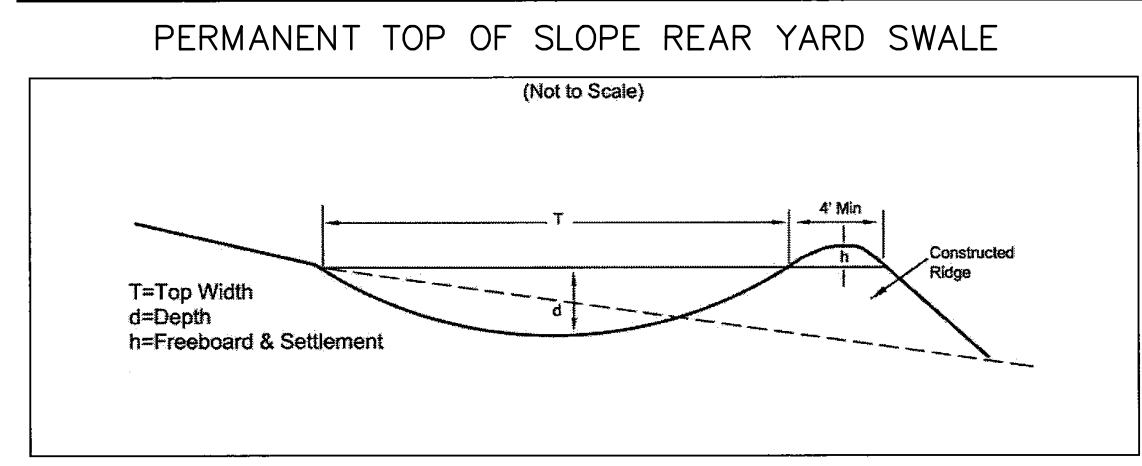
Specifications for
Construction Entrance



Specifications for
Construction Entrance

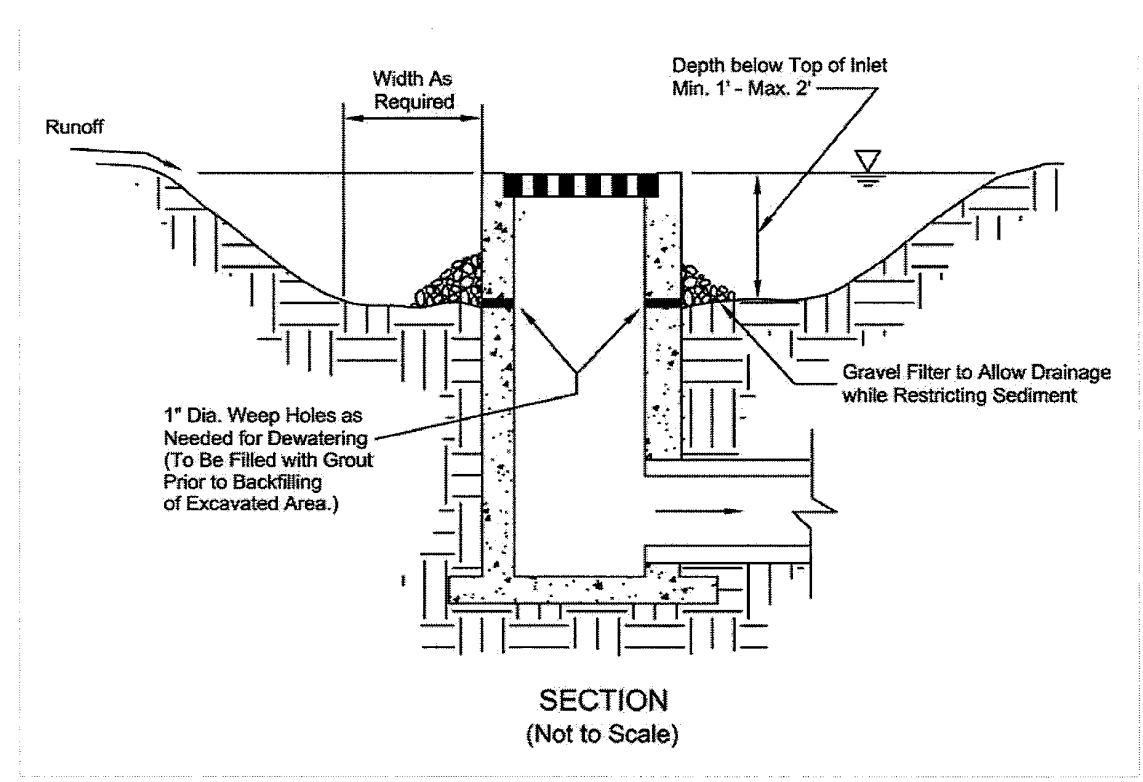
- Stone Size—ODOT # 2 (1.5-2.5 inch) stone shall be used, or recycled concrete equivalent.
 - Length—The construction entrance shall be as long as required to stabilize high traffic areas but not less than 70 ft. (exception: apply 30 ft. minimum to single residence lots).
 - Thickness -The stone layer shall be at least 6 inches thick for light duty entrances or at least 10 inches for heavy duty use.
 - Width -The entrance shall be at least 14 feet wide, but not less than the full width at points where ingress or egress occurs.
 - Geotextile -A geotextile shall be laid over the entire area prior to placing stone. It shall be composed of strong rot-proof polymeric fibers and meet the following specifications:
- | Geotextile Specification for Construction Entrance | |
|--|----------------------------|
| Minimum Tensile Strength | 200 lbs. |
| Minimum Puncture Strength | 90 psi. |
| Minimum Tear Strength | 50 lbs. |
| Minimum Burst Strength | 320 psi. |
| Minimum Elongation | 20% |
| Equivalent Opening Size | EOS < 0.6 mm. |
| Permittivity | 1×10 ⁻³ cm/sec. |
- Timing—The construction entrance shall be installed as soon as is practicable before major grading activities.
 - Culvert -A pipe or culvert shall be constructed under the entrance if needed to prevent surface water from flowing across the entrance or to prevent runoff from being directed 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, washed 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.
 - Removal—the entrance shall remain in place until the disturbed area is stabilized or replaced with a permanent roadway or entrance.

Specifications for
Diversion



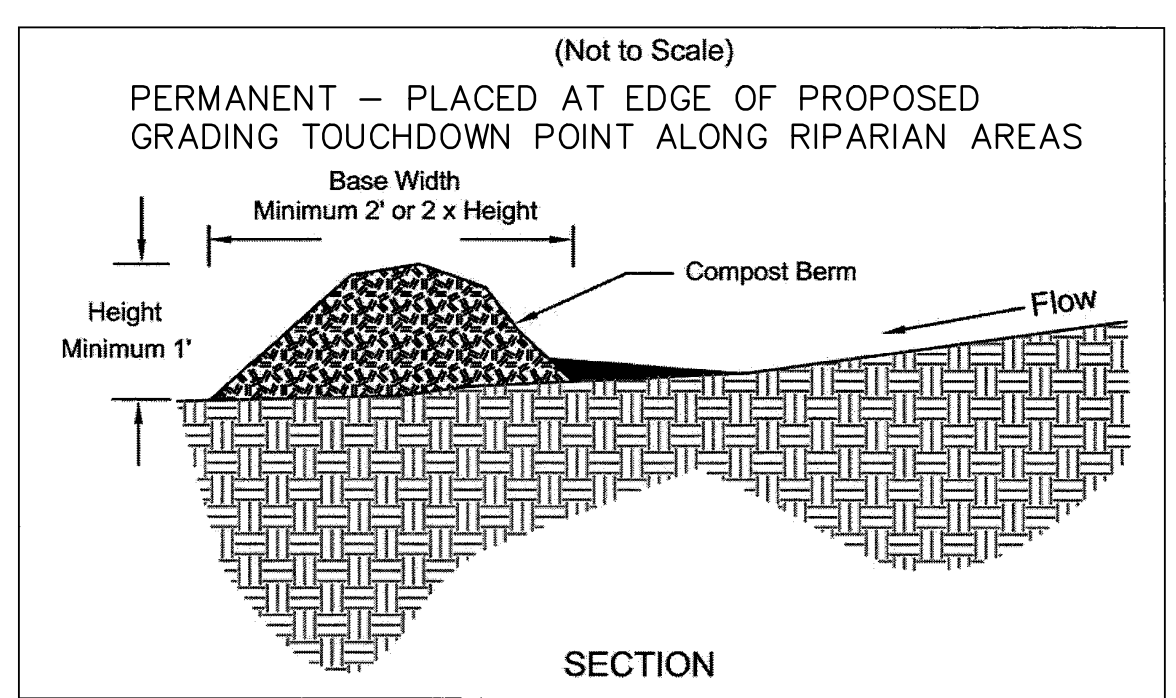
- All trees, brush, stumps, and other unsuitable material shall be removed from the work site.
- The diversion shall be excavated and shaped to the proper grade and cross section.
- Fill material used in the construction of the channel shall be well compacted in uniform layers not exceeding 9 inches using the wheel treads or tracks of the construction equipment to prevent unequal settlement.
- Excess earth shall be graded or disposed of so that it will not restrict flow to the channel or interfere with its functioning.
- Fertilizing, seeding, and mulching shall conform to the recommendations in the applicable vegetative specifications.
- Construction shall be sequenced so that the newly constructed channel is stabilized prior to becoming operational. To aid in the establishment of vegetation, surface water may be prevented from entering the newly constructed channel through the establishment period.
- Gullies that may form in the channel or other erosion damage that occurs before the grass lining becomes established shall be repaired without delay.

Specifications for
Excavated Drop Inlet Sediment Protection



- The excavated trap should be sized to provide a minimum storage capacity calculated at the rate of 135 cubic yards for one (1) acre of drainage area. A trap should be no less than one (1) foot, nor more than two (2) feet deep measured from the top of the inlet structure. Side slopes should not be steeper than 2:1.
- The slopes of the trap may vary to fit the drainage area and terrain.
- Where the area receives concentrated flows, such as in a highway median, provide the trap with a shape having a 2:1 ratio of length to width, with the length oriented in the direction of the flow.
- Sediment should be removed and the trap restored to the original depth when the sediment has accumulated to 40% the design depth of the trap. Removed sediment should be spread in a suitable area and stabilized so it will not erode.
- During final grading, the inlet should be protected with geotextile-stone inlet protection. Once final grading is achieved, sod or a suitable temporary erosion control material shall be implemented to protect the area until permanent vegetation is established.

Specifications for
Filter Berm



- Materials - Compost used for filter berms shall be weed, pathogen and insect free and free of any refuse, contaminants or other materials toxic to plant growth. They shall be derived from a well-decomposed source of organic matter and consist of a particles ranging from 1/4" to 3".
- Installation - Filter berms will be placed on a level line across slopes, generally parallel to the base of the slope or other affected area. On slopes approaching 2:1, additional berms shall be provided at the top and as needed mid-slope. Filter berms are not to be used in concentrated flow situations or in runoff channels.
- Maintenance - Inspect filter berms after each significant rain, maintaining the berms in a functional condition at all times. Remove sediments collected at the base of the filter berms when they reach 1/3 of the exposed height of the practice. Where the filter berm deteriorates or fails it will be repaired or replaced with a more effective alternative.
- Removal - Filter berms no longer needed will be dispersed on site in a manner that will facilitate seeding.

Specifications for
Permanent Seeding

- Site Preparation**
- Subsoiler, plow, or other implement shall be used to reduce soil compaction and allow maximum infiltration. (Maximizing infiltration will help control both runoff rate and water quality.) 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.
 - Topsoil 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 pounds per 1,000-sq. ft. or 2 tons per acre.
 - Fertilizer—Fertilizer shall be applied as recommended by a soil test. In place of a soil test, fertilizer shall be applied at a rate of 25 pounds per 1,000-sq. ft. or 1000 pounds per acre of a 10-10-10 or 12-12-12 analysis.
 - The lime and fertilizer shall be worked into the soil with a disk harrow, spring-tooth harrow, or other suitable field 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. If seeding occurs outside of the above-specified dates, additional mulch and irrigation may be required to ensure a minimum of 80% germination. Tillage for seedbed preparation should be done when the soil is dry enough to crumble and not form ribbons when compressed by hand. For winter seeding, see the following section on dormant seeding.

- Dormant Seeding**
- Seedings should not be made from October 1 through November 20. During this period, the seeds are likely to germinate but probably will not be able to survive the winter.
 - The following methods may be used for "Dormant Seeding":
 Straw and Mulch Anchoring Methods
 Straw mulch shall be anchored immediately to minimize loss by wind or water.

- Mechanical—A disk, crimper, or similar type tool shall be set straight to punch or anchor the mulch material into the soil. Straw mechanically anchored shall not be finely chopped but, generally, be left longer than 6 inches.
- Mulch Netting—Netting shall be used according to the manufacturer's recommendations. Netting may be necessary to hold mulch in place in areas of concentrated runoff and on critical slopes.
- Asphalt Emulsion—Asphalt shall be applied as recommended by the manufacture or at the rate of 160 gallons per acre.
- Synthetic Binders—Synthetic binders such as Acrylic DLR (Agr-Tac), DCA-70, Petrosol, Terra Tack, or equivalent may be used at rates specified by the manufacturer.
- Wood Cellulose Fiber—Wood cellulose fiber shall be applied at a net dry weight of 50 pounds per acre. The wood cellulose fiber shall be mixed with water with the mixture containing a maximum of 50 pounds cellulose per 100 gallons of water.

Table 7.10.2 Permanent Seeding

Seed Mix	Seeding Rate		Notes:
	Lbs./acre	Lbs./1,000 Sq. Feet	
General Use			
Creeping Red Fescue	20-40	12-1	For close mowing & for waterways with <2.0 ft/sec velocity
Domestic Ryegrass	10-20	1/4-1/2	
Kentucky Bluegrass	20-40	12-1	
Tall Fescue	40-50	1-1 1/4	
Turf-type (dwarf) Fescue	90	2 1/4	
Steep Banks or Cut Slopes			
Tall Fescue	40-50	1-1 1/4	
Crown Vetch	10-20	1/4-1/2	Do not seed later than August
Tall Fescue	20-30	1/2-3/4	
Flat Pea	20-25	1/2-3/4	Do not seed later than August
Tall Fescue	20-30	1/2-3/4	
Road Ditches and Swales			
Tall Fescue	40-50	1-1 1/4	
Turf-type (dwarf) Fescue	90	2 1/4	
Kentucky Bluegrass	5	0.1	
Lawns			
Kentucky Bluegrass	100-120	2	
Perennial Ryegrass		2	
Kentucky Bluegrass	100-120	2	For shaded areas
Creeping Red Fescue		1-1/2	

Note: Other approved seed species may be substituted.

REV.	DATE	DESCRIPTION
1	06/02/14	REVISED PER LOCAL AGENCY COMMENTS
2	06/27/14	REVISED PER LOCAL AGENCY COMMENTS
3	07/18/14	REVISED PER LOCAL AGENCY COMMENTS
4	07/25/14	REVISED PER LOCAL AGENCY COMMENTS
5	08/01/14	MILLER PARCEL UTILITY UPDATE
6	08/05/14	COMMENTS FOR GRADING APPROVAL
7	08/20/14	REVISED PER LOCAL AGENCY COMMENTS
8	08/22/14	SANITARY REVISION MH 300-302
9	09/12/14	REVISED PER LOCAL AGENCY COMMENTS

THE PRESERVE AT MILLER'S FARM
 SE CORNER OF SR 18 AND MEDINA LINE RD
 COPLEY, OHIO 44321

SWPP NOTES
 AND DETAILS

ISSUED FOR:	
PERMIT	06-02-14
BID	06-02-14
CONSTRUCTION	09-16-14
RECORD	-

PROJECT MANAGER	DESIGNER
MAL	KB

JOB NO.
2013258.00

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