

SUMMIT COUNTY D.O.E.S. NOTES

- ALL SANITARY SEWERS AND APPURTENANCES SHALL BE CONSTRUCTED IN STRICT ACCORDANCE WITH CURRENT STANDARDS AND SPECIFICATIONS OF THE DEPARTMENT OF ENVIRONMENTAL SERVICES (D.O.E.S.).
- ROOF DRAINS, FOUNDATION DRAINS AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER ARE PROHIBITED. ORDINANCE 85-656, APPROVED 10/08/85
- APPROVAL BY THE SUMMIT COUNTY D.O.E.S. OFFICE CONSTITUTES NEITHER EXPRESSED NOR IMPLIED WARRANTIES AS TO THE FITNESS, ACCURACY, OR SUFFICIENCY OF PLANS, DESIGNS OR SPECIFICATIONS.
- THE DESIGN ENGINEER CERTIFIES THAT ALL UTILITIES IN EXISTING AND PROPOSED ROADS AND EASEMENTS ARE SHOWN.
- ALL SANITARY SEWERS SHALL PASS THE AIR ACCEPTANCE TEST PRIOR TO ACCEPTANCE BY D.O.E.S.
- ALL SANITARY SEWER SHALL BE VIDEO TAPED BY THE CONTRACTOR AND FOUND TO BE FREE OF DEFECTS AND ALL FOREIGN MATTER AND IN PROPER ALIGNMENT PRIOR TO FORMAL ACCEPTANCE BY THE D.O.E.S.
- ALL MANHOLES SHALL BE SUPPLIED WITH SOLID COVERS EXCEPT IN EASEMENTS WHERE MANHOLE COVERS SHALL BE SOILD-LOCKING TYPE.
- ALL SANITARY SEWER LATERALS SHALL BE EXTENDED TO NOT LESS THAN 15 FEET INTO THE PROPERTY.
- ALL SANITARY SEWER LATERALS SHALL BE LAID AT NO LESS THAN A 1% GRADE.
- SANITARY SEWER MATERIALS SHALL CONFORM TO D.O.E.S. AND O.E.P.A. STANDARDS.
- THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ALL DAMAGE TO THE EXISTING SEWERAGE SYSTEM RESULTING FROM NON-CONFORMANCE WITH SUMMIT COUNTY STANDARDS OR GENERAL NEGLIGENCE.
- A 12" MAXIMUM MANHOLE GRADE ADJUSTMENT IS PERMITTED. ADJUSTMENT IS TO BE MADE WITH PRECAST GRADE RINGS OR RED BRICK (TWO COURSES MAXIMUM). A MINIMUM OF ONE (1) GRADE RING IS REQUIRED AT EACH.
- INTERNAL CHIMNEY SEALS SHALL BE INSTALLED IN ALL MANHOLES.
- MANHOLE COVER INSERTS SHALL BE PROVIDED FOR ALL MANHOLES, REGARDLESS OF THE TYPE OF COVER REQUIRED.
- WHERE INLET AND OUTLET PIPES CONNECT TO MANHOLES, A FLEXIBLE WATERTIGHT JOINT AS APPROVED BY THE SUMMIT COUNTY D.O.E.S. IS REQUIRED.
- SANITARY SEWER MATERIALS SHALL CONSIST OF P.V.C. SDR 35 MEETING A.S.T.M. D-3034 WITH JOINTS CONFORMING TO ASTM D-3212 OR P.V.C. TRUSS MEETING A.S.T.M. 2680.
- THE CONTRACTOR MUST ALERT THE UTILITIES PROTECTION SERVICE AT 1-800-362-2764 AT LEAST 48 HOURS BEFORE ANY EXCAVATION HAS BEGUN.
- ALL ROUGH GRADING (WITHIN 6" OF FINISHED GRADE) SHALL BE COMPLETED WITHIN THE RIGHT-OF-WAY PRIOR TO SANITARY SEWER AND WATER LINE CONSTRUCTION.
- NO SEWER CONSTRUCTION WILL BE PERMITTED UNTIL SUCH TIME THAT THE PLANS ARE APPROVED BY D.O.E.S. AND THE O.E.P.A. INCLUDING PAYMENT OF REVIEW AND "PERMIT TO INSTALL" FEES REQUIRED BY THE O.E.P.A.

20. ALL SANITARY SEWERS CONTAINED HEREIN ARE TO BE PUBLICLY OWNED AND MAINTAINED.
21. SEWER DEPTHS IN EXCESS OF 25 FT SHALL UTILIZE SDR 26 P.V.C. PIPE MATERIALS.

OEPA NOTES

- THE SANITARY SEWERS MUST PASS A LEAKAGE TEST WHICH SHALL BE A LOW PRESSURE AIR TEST IN ACCORDANCE WITH THE TEN STATES STANDARDS SECTION 33.95 WITH A LEAKAGE LIMIT OF 100 GAL./IN./MI./DAY.
- ALL SANITARY MANHOLES SHALL BE WATER TESTED PER ASTM SPECIFICATION C 969-82 OR AIR TESTED PER ASTM SPECIFICATION C 1244-93 TO VERIFY WATER TIGHTNESS AND PROPER CONSTRUCTION PER PLAN DETAILS.
- ALL FLEXIBLE SANITARY SEWERS MUST PASS A DEFLECTION TEST (5% MAXIMUM).
- ALL WATER MAIN SHALL BE INSTALLED AND PRESSURE TESTED PER AWWA C-600
- ALL WATER MAIN SHALL BE DISINFECTED PER AWWA C-651.
- THE WATER MAIN SHALL MAINTAIN A MINIMUM OF 35 PSI TO THE CURB STOP DURING NORMAL OPERATING CONDITIONS.
- BOOSTER PUMPS ARE NOT PERMITTED ON WATER SERVICE CONNECTIONS.
- A MINIMUM OF 18 INCHES VERTICAL AND 10 FEET HORIZONTAL CLEARANCE SHALL BE MAINTAINED BETWEEN THE WATER MAIN AND STORM SEWERS.
- A MINIMUM OF 18 INCHES VERTICAL AND 10 FEET HORIZONTAL CLEARANCE SHALL BE MAINTAINED BETWEEN THE WATER MAIN AND SANITARY SEWERS.
- ALL SANITARY SEWERS SHALL HAVE RESILIENT CONNECTORS USED FOR CONNECTIONS BETWEEN REINFORCED CONCRETE MANHOLES CONFORMING TO SPECIFICATION C 478 AND PIPES, BETWEEN WASTEWATER STRUCTURES AND PIPES, AND BETWEEN PRECAST REINFORCED CONCRETE PIPE AND LATERALS PER ASTM C-923.
- MANHOLE TESTING MUST CONFORM TO ASTM SPECIFICATION ASTM C1244.
- SEWER LINE TESTING MUST CONFORM TO ASTM SPECIFICATION ASTM F1417.
- A MINIMUM 35 PSI PRESSURE SHALL BE DELIVERED TO THE CURB STOP BOXES DURING NORMAL OPERATING CONDITIONS FOR ALL WATER SERVICE CONNECTIONS.

PULTE HOMES OF OHIO NOTES/REQUIREMENTS

- SEE "HOUSE UTILITY STUB OUT TYPICALS" PLAN SHEET FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
- STAMP ALL CURBS TO SHOW "SA" FOR SANITARY SEWERS; "SS" FOR STORM SEWERS; "W" FOR WATER LINES; "MH" FOR MANHOLES; "C" FOR DRY UTILITY CONDUITS, LIGHTING, IRRIGATION, ETC.
- LIGHTING REQUIREMENTS, STANDARD SPACING FOR STREET LIGHTING IS AS FOLLOWS:
 - ONE LIGHT ON THE LEFT-HAND SIDE (AS YOU APPROACH) AT EACH INTERSECTION.
 - ONE LIGHT AT THE END OF EACH CUL-DE-SAC THAT IS MORE THAN 3 LOTS DEEP.
 - ON LONG ISLANDS IN AN ENTRY-WAY: ONE LIGHT AT EACH END OF THE ISLAND.
 - ON LONG STRETCHES OF ROAD PLACE A LIGHT EVERY 500 FT.
 - ON SIGNIFICANT CURVES IN THE ROAD, PLACE A LIGHT AT THE APEX AND ON THE OUTSIDE OF THE CURVE.
- IRRIGATION IS REQUIRED IN ALL MAJOR COMMON AREAS INCLUDING THE ENTRY-WAY. THESE AREAS WILL BE LINED OUT AND AGREED TO.
- NOTES FOR HOUSE CONNECTIONS:
 - SANITARY LATERAL STUB CONNECTIONS SHALL BE MARKED WITH A STEEL FENCE POST AND PAINTED "GREEN".
 - STORM LATERAL STUB CONNECTIONS SHALL BE MARKED WITH A GALVANIZED STEEL FENCE POST, UNPAINTED.
 - BOTH THE SANITARY AND STORM LATERALS SHALL HAVE CLEANOUTS INSTALLED BY THE SITE CONTRACTOR AT THE "START/STOP" LINE AS SHOWN HEREON. THE LATERALS SHALL BE TEMP. PLUGGED WITH A REMOVABLE CAP. THE CLEANOUT SHALL EXTEND FIVE (5) FEET ABOVE THE PROPOSED FINISH GRADE WITH A TEMPORARY CAP. THE HOME BUILDER CONTRACTOR SHALL COMPLETE ALL INSTALLATIONS BY MAKING THE APPROPRIATE CONNECTIONS AND TESTING ALL CONNECTIONS ALL THE WAY TO THE MAIN LINES, ENSURING THAT THERE ARE NO CROSS CONNECTIONS. THE HOME BUILDER CONTRACTOR SHALL CUT DOWN THE CLEANOUTS TO THE CONSTRUCTED FINISH LOT GRADE AND PROVIDE A PERMANENT INVERTED NUT SCREW IN CAP.
 - THE SITE CONTRACTOR SHALL LEAVE A FIVE (5) FOOT COIL OF EXCESS LENGTH OF THE INSTALLED WATER CONNECTION AT THE "START/STOP" LINE SHOWN HEREON IN THE BOTTOM OF THE TRENCH LAID FLAT, WHICH CAN BE EXTENDED BY THE HOME BUILDER CONTRACTOR FOR MAKING THE TIE-ON. THE END OF THE LINE SHALL BE TEMPORARILY CAPPED BY THE SITE CONTRACTOR, ENSURING NO CONTAMINATES ENTER THE LINE.
 - THE END OF THE WATER LEAD CONNECTION AT THE "START/STOP" LINE SHALL BE MARKED WITH A #4 REBAR PAINTED "BLUE" WITH AN END OF REBAR SAFETY CAP TIGHTLY SECURED.
 - TRENCH PLUGS ARE REQUIRED ON ALL UTILITY CONNECTION TRENCHES AND SHALL BE LOCATED EIGHT (8) FEET SHORT OF THE SETBACK LINE, INSTALLED BY THE SITE CONTRACTOR. THIS SHALL BE A THREE (3) FOOT WIDE CLAY COLLAR.

AKRON WATER NOTES

AKRON PUBLIC UTILITIES BUREAU
WATER MAIN NOTES
11-1-2013

- The contractor shall supply all of the water main materials, including the ductile iron pipe, fittings and fitting restraints, hydrants and valves, polyethylene encasement, all other appurtenances and any items specially itemized as required for the water main installation. All water main materials shall comply with the City of Akron, Akron Engineering Bureau, Construction and Material Specifications (Latest Edition) Item 715, Water Main Materials. Installation of all water main materials shall be in accordance with Section 250, Water Mains. Submittals of material specifications are to be made to the Utilities Engineer prior to purchasing material.
- Must maintain a ten-foot minimum horizontal clearance from edge of all water main pipe to edge of all sanitary and storm sewer pipes and/or force main pipes.
- Must maintain an 18-inch minimum vertical clearance from edge of all water main pipe and/or service lines to edge of all sanitary sewer and storm pipes where they cross.
- The contractor must maintain a 12-inch minimum vertical clearance from edge of all water main pipe to edge of all direct burial conduits, concrete encased electrical conduits, light pole bases, and hand hole pull boxes.
- The contractor must maintain a 36-inch minimum horizontal clearance from edge of all water main pipe to edge of all direct burial conduits, concrete encased electrical conduits, light pole bases, and hand hole pull boxes.
- Where water mains cross sewer trenches, the trench is to be backfilled with approved granular material.
- Approved pipe fittings, bolts, etc., for Akron system water main installation:
 - Pipe: Class 53 ductile iron per AWWA C151 specifications, with cement-lining per AWWA C104. Labeled polyethylene encasement per AWWA C105 is required.
 - Pipe Joints: Push-on joints (Tyton, Bell-Tite, etc.), per AWWA C151 specifications with plain or restraining rubber gaskets per AWWA C111 specifications.
 - Fittings: Class 350 ductile iron compact fittings per AWWA C153 or full thickness castings per AWWA C110 are acceptable, with mechanical joint ends and ductile iron follower glands. Anchor pipe is required on all hydrant runs between the tee and hydrant run valve.

Restrained pipe systems: Push-on joint with Field Lock (4 through 12-inch only) or Fast Grip gaskets (4 through 12-inch only), or mechanical joint with restrained follower glands, and 6 ounce zinc anode caps on every bolt thread. Super Lock, TR Flex or Flex-Ring required on all 16-inch or larger pipe diameters.

Restrained fitting devices: All valves, bends, offsets, hydrant inlets, caps, plugs, and branches of tees and wyes must be restrained using mechanical joint with restrained follower glands or restraining gaskets. Hardwood blocking is required for all diameters 4 through 8-inch, concrete blocking and strapping for all diameters 12-inch and larger. Concrete blocking is required on all fire lines and on all diameters in areas over 100 psi. Restrained joints for diameters 12-inch and under shall be installed for a length of 30 feet on each side of a valve, bend or offset using Field-Lock or Fast-Grip restraining gaskets or mechanical joint with restrained follower glands. Restrained joints for diameters 16-inch and larger, shall be installed for a length of 30 feet on each side of a valve, bend or offset using mechanical joint with restrained follower glands.

Mechanical Joint T-head Bolts: All mechanical joints shall be made with Cor-Ten or construction-grade alloyed ductile iron bolts. T-head bolts shall be 1/2-inch longer than standard length and must include a 6 oz. zinc anode cap on every bolt thread.

Hydrants: Akron-style Mueller "Centurian" Model A423; Kennedy "Guardian" Model K-81A; Ed "FlowMaster" CD250; American Flow Control Model B62B with 6-inch inlet, American Flow Control Model B84B with 8-inch inlet. Threads shall be Akron style as shown on Akron Water Works Standard Construction Drawings F-3258 and F-3440. Hydrants must be lead-free per NSF 61-G.

Gate Valves: Resilient-seat wedge (RSW) valves with restrained mechanical joints. Valves shall have non-rising stems and shall open to the right (clockwise).

Butterfly Valves, 16-inch and up: Restrained mechanical joint or shouldered (not grooved) Victaulic ends with Style 44N couplings and stainless steel 316 bolts. Rubber seals in the valve must be replaceable. Flanged end or wafer-style valves are not acceptable.

Valve Boxes: Bibby, Tyler, Bingham and Taylor or East Jordan brands are acceptable for compatibility.

Curb Boxes: Riser pipe must be of yoloy corrosion resistant material. Plug must be cast iron and thread into a brass ring.

- Compacted premium backfill is required for underground construction under or within three feet of any proposed or existing sidewalk or pavement. The backfilling shall conform to Section 551.09 of the City of Akron Construction and Material Specifications, Latest Edition.
- Any existing water mains, hydrants, valves, valve boxes, meter vaults, service lines, or curb boxes that are damaged or must be adjusted and/or moved must be repaired, adjusted, moved and/or replaced at the contractor's expense. Contact Doug Zwahlen, Water Distribution Supervisor, at (330) 375-2420 to schedule this work.
- No taps for water services shall be made until after the mainline has been tested and sterilized. All taps 2-inch and smaller shall be made by the contractor and inspected by the City of Akron. All brass fittings used shall be lead-free per NSF 61-G.
- All water main construction shall be inspected by the City of Akron. Notify the City of Akron (Tony Puglia or Doug Zwahlen) at (330) 375-2420 at least 48 hours prior to beginning construction and for all preconstruction meetings.
- Prior to acceptance, the water line shall be pressure tested, as specified in AWWA C600, and disinfected as specified in AWWA C651 latest revisions, by the contractor.
- Use extreme caution when excavating in the area of existing water main pipes, valves, hydrants and thrust blocks.
- The contractor shall supply a temporary safe water service to all homes that will have their water service interrupted by this construction.
- The proposed facilities must maintain a minimum of 35 psi pressure delivered to the curb stop during normal operating conditions.
- Booster pumps are not permitted on service connections.

ADDITIONAL NOTE:

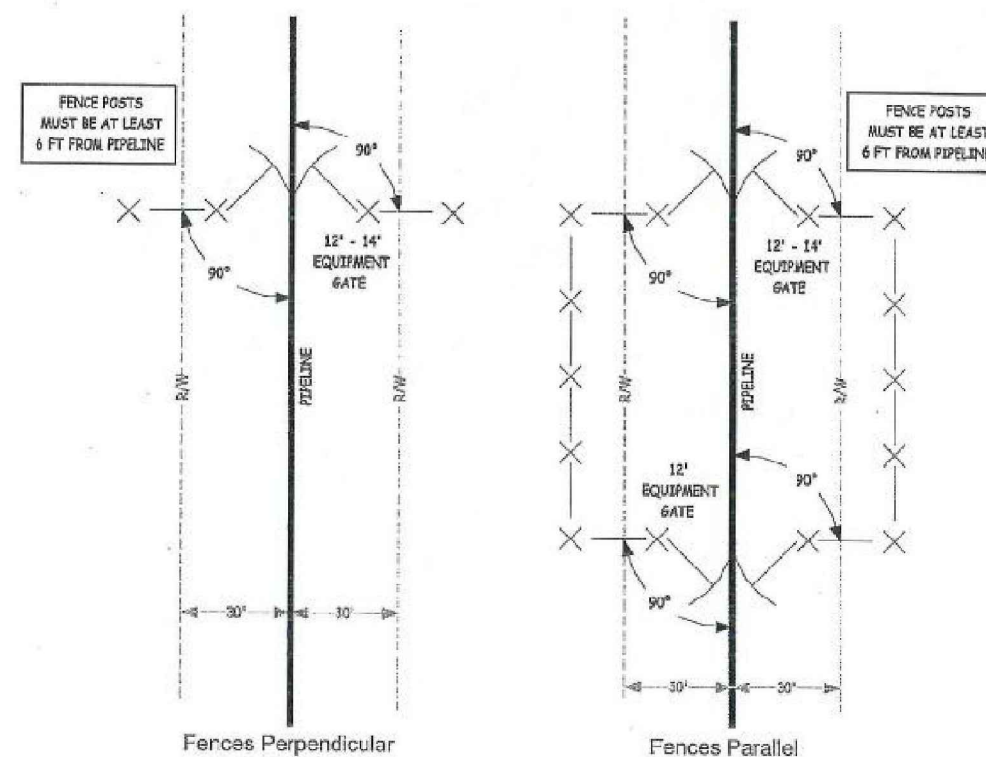
- In casing pipe, all joints shall be restrained by using either Field Lock or Fast Grip restraining gaskets (4 through 12-inch only) or boltless (TR Flex) anchors. Carrier pipe shall have casing spacers with plastic runners. Sand shall be blown into the annular space. Wooden runners are not allowed.

DOMINION EAST OHIO

**DOMINION EAST OHIO
LANDSCAPING/FENCE GUIDELINES
WITHIN PIPELINE EASEMENTS**

ACCEPTABLE	NOT ACCEPTABLE
Agricultural Crops Flower Gardens Small (< 3' High) Shrubs/Bushes Grass (Preferred) Fences (Per Diagram Below)	Trees Bunkers/Earth Landscape Mounds Ponds Rock Gardens Improvements Requiring a Permit Landscape or Retaining Walls Outside Swimming Pools or Hot Tubs No Dumping of Debris in Easement

No such improvements may be made by others within Dominion East Ohio gas well or brine/oil tank easement areas.
Fencing Examples



- FENCES CANNOT IMPEDE DOMINION'S ACCESS TO ITS FACILITIES.
- NO FENCES MAY BE PARALLEL TO THE PIPELINE WITHIN THE RIGHT-OF-WAY.
- 12" - 14" EQUIPMENT GATE MUST HAVE DOMINION LOCK TO ALLOW 24-HOUR ACCESS.
- CALL OUPS 48 HOURS BEFORE ANY DIGGING (1-800-362-2764) TO HAVE ALL UTILITIES LOCATED.

Revised November 8, 2002 (This document is a part of the Dominion Restrictions document.)

Surface Loading Assessment Form

A field assessment and pipe stress analysis is required whenever a track or wheeled axle vehicle, exceeding 17 tons, crosses Dominion East Ohio's transmission, storage, gathering, or high pressure distribution pipeline(s). Complete the following information and return to Dominion East Ohio for review.

- Duration (in days) or number of crossings:
- Make, Model, and year of vehicle or machine:
- Gross vehicle weight fully loaded:
- Number of axles:
- Load distribution (% of total weight per axle):
- Axle spacing:
- Tire configuration (dual vs. single):
- Tire size (diameter and width):

- If track operated:
- Shoe spacing:
 - Length of track:
 - Shoe width:

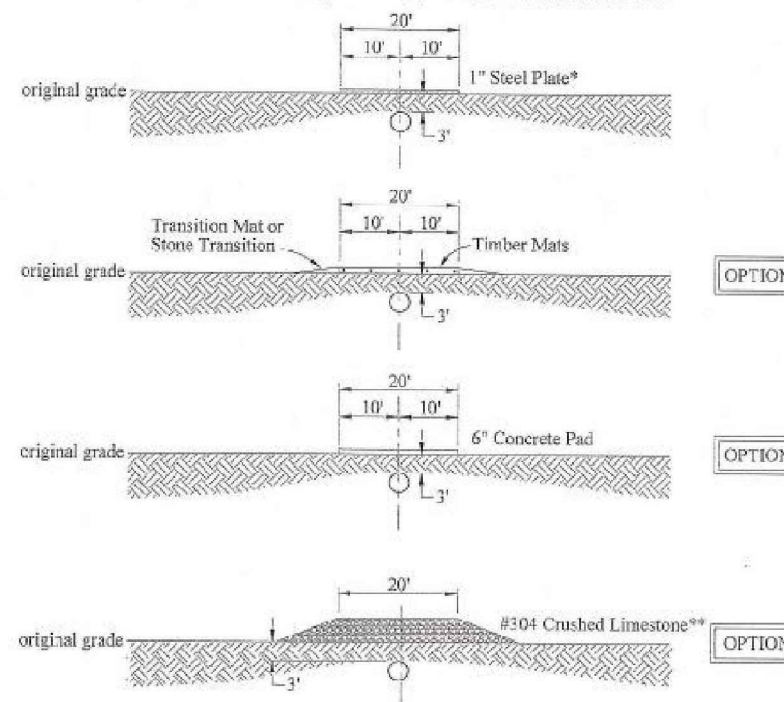
The crossing party must verify the depth of DEO's pipelines by excavating or hand digging to temporarily expose the pipeline. Contact the Ohio Utility Protection Service (OUPS) (1-800-362-2764) at least 2 days prior to excavation to submit an excavation ticket. A DEO inspector will meet the crossing party onsite to oversee depth verification.

Pipeline Crossing Specification Drawing

Revised March 15, 2011

Specification Drawing for crossing natural gas pipelines. Generally, by heavy (greater than 17 tons GVW) weighted vehicles or equipment on wheeled axles over stable soil conditions. Unstable soil crossings will be reviewed as needed, but should be avoided.

*Sheet plans shall be placed at all crossings where there is soil or existing access road to prevent soil displacement. Plans should be overlapped and secured. (3) of 10 for length when multiple plans are used.



- NOTES:
- Agency/person requesting to cross must submit detailed load information.
 - All mitigation options (1, 2 and 3) require DEO Engineering approval.
 - Low ground pressure equipment such as tractors and bulldozers may not require mitigation.
 - Impact loads can be caused by dropped objects and should be avoided.
 - Crossing speed should be as low as possible.

SEE SHEET 5 FOR ADDITIONAL DEO NOTES AND DETAIL.

BID ITEM STABILIZED TURF

STABILIZED TURF WITH STAMP METAL PLAQUES
EMBEDDED IN CONCRETE WALK AT BEGINNING OF PATH AND ALUMINUM SIGN MOUNTED
4X4 TREATED POSTS AT THE REAR PROPERTY CORNERS PER PULTE SPECIFICATIONS.
PART 1 GENERAL

- DESCRIPTION: Work consists of furnishing, placing and compacting an aggregate, topsoil, and seed mixture for the base course and top course for Stabilized Turf Area construction, including furnishing water required for compaction.
- SUBMITTALS:
 - If materials are obtained from a commercial source, submit certification from the supplier stating that aggregate meets the requirements of this section.
- RELATED WORK
 - Earthwork
 - Topsoil
 - Seeding and Mulching
- RELATED DOCUMENTS: Drawings and general provisions of Contract, including Division 1 Specification sections, apply to work of this section.

PART 2 PRODUCTS

2.03 AGGREGATE: AASHTO #57 stone (crushed, not washed).

2.04 TOPSOIL:
2.05 SIGNAGE - SEE DETAILS AND PULTE SPECIFICATIONS
PART 3 EXECUTION

- PREPARING SURFACE: Complete the adjoining pavement before placing the engineered aggregate-topsoil (EAT) mixture for the Stabilized Turf Area. Scarify the area where the mixture is to be placed to a depth of 3 inches. Reduce all clods and sod to a maximum size of 4 inches.
- MIXING, PLACING, AND COMPACTING:
 - Base Course Engineered Aggregate-Topsoil (EAT) Mixture.

- Furnish a mixture of 70 percent aggregate (±5%) and 30 percent topsoil (±5%) by volume with sufficient water for compaction.
- Mix the components into a uniform mixture. Spread the mixture on the prepared surface in a uniform layer. Shape the mixture to the line, grade, and cross-section. Remove all clods and stones greater than 2 inches in diameter.
- Compact each layer in accordance with ODOT CMS. Determine the maximum density of the mixture according to AASHTO 99 method C. Compact the mixture to at least 90 percent of the maximum density. Determine the in-place density according to AASHTO T 238 or other approved test procedures.

B. Top Course Engineered Aggregate-Topsoil (EAT) Mixture.

- Furnish a mixture of 40 percent aggregate and 60 percent topsoil by volume with sufficient water for compaction.
- Mix the components into a uniform mixture. Spread the mixture on the prepared surface in a uniform layer. Shape the mixture to the line, grade, and cross-section. Remove all clods and stones greater than 2 inches in diameter. Before compaction, dry seed the mixture surface.
- Compact each layer in accordance with ODOT CMS. Determine the maximum density of the mixture according to AASHTO 99 method C. Compact the mixture to at least 90 percent of the maximum density. Determine the in-place density according to AASHTO T 238 or other approved test procedures. After compaction, dry seed the surface again.

3.03 MAINTENANCE: Maintain engineered aggregate-topsoil (EAT) courses in a satisfactory condition until surfaced or until final acceptance.

PART 4 MEASUREMENT AND PAYMENT

- MEASUREMENT: Stabilized Turf will be measured by square yard. This will include all earthwork, geotextile materials, EAT, compaction, and seed required.
- PAYMENT: Payment per square yard shall be included in the contract as item, "Stabilized Turf".



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	08/12/14	REVISED PER LOCAL AGENCY COMMENTS

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

GENERAL NOTES

ISSUED FOR:

PERMIT	06-02-14
BID	06-02-14
CONSTRUCTION	09-16-14
RECORD	-

PROJECT MANAGER	DESIGNER
MAL	KB

JOB NO
2013258.00

6/81