

SANDSTONE APARTMENTS

A Residential Complex

Dover Township, Athens County, Ohio

February 2017

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GENERAL NOTES

- CONTRACTOR SHALL COORDINATE WITH OWNERS OF UTILITIES FOR REMOVAL, DISCONNECTION, ABANDONMENT, OR RELOCATION OF ANY UTILITIES AS REQUIRED TO PERFORM THE WORK SHOWN IN THESE PLANS.
- ANY INCIDENTAL WORK REQUIRED FOR COMPLETION OF THIS PROJECT, INCLUDING, BUT NOT LIMITED TO, SAW CUTTING OF PAVEMENT, REMOVAL OF TREES, PAVEMENT, WALKS, AND UTILITIES, AND MAINTAINING TRAFFIC, SHALL BE INCLUDED IN THE PRICE BID FOR THE SITE WORK. WHETHER OR NOT SUCH ITEMS ARE SPECIFICALLY CALLED OUT IN THESE PLANS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FAMILIARIZE HIMSELF WITH ALL SITE CONDITIONS WHICH MAY AFFECT THE PERFORMANCE OF THE WORK REQUIRED FOR THIS PROJECT.
- THE CONTRACTOR AND SUBCONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COMPLYING WITH ALL FEDERAL, STATE, AND LOCAL SAFETY REQUIREMENTS, TOGETHER WITH EXERCISING PRECAUTIONS AT ALL TIMES FOR THE PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND PROPERTY. IT IS ALSO THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SUBCONTRACTOR TO INITIATE, MAINTAIN, AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS, AND PROGRAMS IN CONNECTION WITH THE WORK.
- EXISTING UTILITIES SHOWN ARE FROM BEST AVAILABLE RECORDS AND FIELD INVESTIGATION, AND ARE NOT NECESSARILY COMPLETE OR EXACT. THE CONTRACTOR IS RESPONSIBLE FOR THE INVESTIGATION, LOCATION, SUPPORT, PROTECTION, AND RESTORATION OF ALL EXISTING UTILITIES AND APPURTENANCES WHETHER SHOWN ON THESE PLANS OR NOT. THE CONTRACTOR SHALL EXPOSE ALL UTILITIES OR STRUCTURES PRIOR TO CONSTRUCTION TO VERIFY THE VERTICAL AND HORIZONTAL EFFECT ON THE PROPOSED CONSTRUCTION, AND SHALL MAKE ADJUSTMENTS IN ELEVATIONS TO PROVIDE SUFFICIENT CLEARANCE BETWEEN THE PROPOSED AND EXISTING UTILITIES. CONTRACTOR SHALL CALL THE OHIO UTILITIES PROTECTION SERVICE (1-800-362-2764) 3 WORKING DAYS PRIOR TO WORK IN THE VICINITY OF THEIR UNDERGROUND LINES.
- THE OHIO DEPARTMENT OF TRANSPORTATION, CONSTRUCTION AND MATERIAL SPECIFICATIONS, 2010 EDITION ARE HEREBY MADE A PART OF THESE PLANS
- REFER TO ARCHITECTURAL DRAWINGS FOR ALL BUILDING ITEMS. INCLUDING MECHANICAL, ELECTRICAL, PLUMBING, FOUNDATION, SIGN, ETC.



VICINITY MAP

LEGEND			
Symbol	Description	Symbol	Description
○	Ex. Clean Out	— SAN —	Ex. Sanitary Sewer
⊠	Ex. Pad Mounted Transformer	— ST —	Ex. Storm Sewer
⊞	Ex. Communications Junction Box	— CS —	Ex. Underground Gas Line
⊙	Ex. Utility Pole With Anchor	— G —	Ex. Telephone Communications
⊞	Ex. Double Storm Curb Inlet	— V —	Ex. Cable Television
⊙	Fire Hydrant	— UGE —	Ex. Video Surveillance Cable
⊙	Water Valve	— E —	Ex. Underground Electric
♿	Ex. Handicap Pavement Marking	— PL —	Ex. Overhead Electric
⊞	Ex. Telephone Terminal Box	— R/W —	Ex. Property Line
⊞	Sanitary Manhole	— X —	Ex. Street Right Of Way Line
⊞	Hardwood Tree	○	Ex. Chainlink Fence
⊞	Pine Tree	⊞	Ex. Light Pole
---	Edge of Asphalt Pavement	⊞	Ex. Manhole Storm Or Sanitary
---	Edge of Gravel Pavement	○	Ex. Yard Drain
---	Center Line of Survey	○	Ex. Down Spout
---	Contour Line	⊙	Iron Pin Found
---	Power Pole	⊙	Iron Pin Set 3/4" Rebar with Identification Cap
— E —	Overhead Electric	▲	Railroad Spike Set
⊞	Telephone Terminal Box	⊞	ODOT R/W Concrete Monument Found
SB ⊞	Soil Boring Sample Hole		
— G —	Proposed Gas Line		
— ST —	Proposed Storm Pipe		
⊞	Proposed Storm Catch Basin		
⊞	Proposed Street Light		
⊞	Proposed Yard Light		
⊞	Proposed Manhole		

GEOTECHNICAL NOTE

A SUBSURFACE EXPLORATION FOR THIS SITE WAS PERFORMED BY GEOTECHNICAL CONSULTANTS INC. THE REPORT ON THIS INVESTIGATION, DATED July 18, 2016, WAS RELIED UPON IN PREPARING THESE PLANS. CONTRACTOR SHALL OBTAIN A COPY OF THIS REPORT AND FOLLOW ALL RECOMMENDATIONS CONTAINED THEREIN DURING THE CONSTRUCTION OF THIS PROJECT.

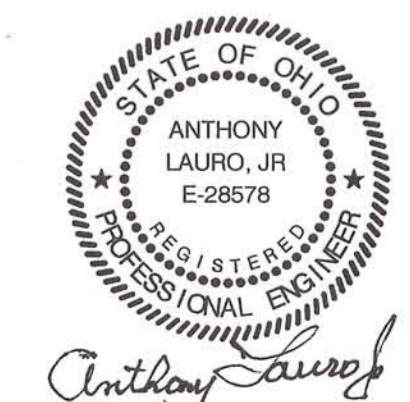
DRAWING INDEX		EPA Water Submission	EPA Sewer Submission
Sheet 1	TITLE SHEET	×	×
Sheet 2-3	NOTES, SPECIFICATIONS & DETAILS	×	×
Sheet 4	SECTIONS & DETAILS	×	×
Sheet 5	EXISTING CONDITIONS	×	×
Sheet 6-7	LAYOUT PLAN		
Sheet 8-9	GRADING PLAN		
Sheet 10-11	UTILITY PLAN	×	×
Sheet 12	SANITARY PROFILE	×	×
Sheet 13	STORM PROFILE		
Sheet 14	WATERLINE PROFILE	×	×
Sheet 15-17	SWPPP		
Sheet 18-19	LANDSCAPE PLAN		



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TITLE

SANDSTONE APARTMENTS
PART OF SW 1/4 SECTION 19, T-10-N, R-14-W
DOVER TOWNSHIP, ATHENS COUNTY, OHIO

SCALE: AS NOTED
DRAWN BY: L. PURDOM
CHECKED BY: A. LAURO
DRAWING NUMBER: 1
SHEET NUMBER: 19

REFERENCE SPECIFICATIONS

The Ohio Department of Transportation 2007 Construction and Material Specifications, including all supplements thereto, together with the requirements of County of Athens, Ohio Regulations shall govern all materials and workmanship involved in the improvements shown on these plans, except as such specifications are modified by the following specifications or by the construction details set forth herein.

CONTRACT SPECIFICATIONS

All contract specifications accompanying these plans are to be considered a part thereof. "Owner" shall refer to the project owner/developer and/or his representatives. "Consultant" shall refer to the consulting engineer responsible for the design of the project. "Local Government" shall refer to those agencies responsible for the installation, inspection, final ownership, etc. that is providing said service and/or responsible for the benefit of the public. "Contractor" shall refer to the general contractor and all sub-contractors performing work on the project.

MISCELLANEOUS WORK ITEMS

All items of work called for on the plans for which no specific method of payment is provided shall be performed by the Contractor and the cost of same shall be included in the price for the related items.

CONTINGENCY QUANTITIES

The Contractor shall not order materials or perform work listed in the estimate of quantities for items designated by plan note to be used "as directed by the Consultant/Owner" unless authorized by the Consultant and/or Owner.

PERMITS

The contractor shall obtain all necessary permits prior to construction and/or coordinate permit approval with Owner.

INSPECTION

All inspection on this project will be provided by representatives of the Owner, local government, and affected water/sewer/utility companies. The Contractor shall notify the Owner, local government, and affected water/sewer/utility companies at least 24 hours prior to construction.

SITE VISIT

The Contractor is required to visit the site and fully inform himself concerning all conditions affecting the scope of the work. Failure to visit the site shall not relieve him from any responsibility in the performance of this contract.

PRE-CONSTRUCTION MEETING

The Contractor shall coordinate a pre-construction meeting with the Owner prior to the commencement of work for this project. The prime contractor and all available subcontractors along with representatives from the affected private utility companies shall be present.

The Contractor shall submit a tentative work schedule to the Owner at the time of the pre-construction meeting. This schedule will detail the timing of the work activities for the various aspects of the project.

SAFETY REQUIREMENTS

The Contractor and subcontractors shall be solely responsible for all federal, state and local safety requirements, together with exercising precautions at all times for the protection of persons (including employees) and property. It is also the sole responsibility of the Contractor and subcontractor to initiate, maintain and supervise all safety requirements, precautions and programs in connection with the work.

EXISTING UTILITIES

The identify and location of the existing underground utility facilities know to be located in the construction area have been shown on the plans as accurately as provided by the owners of the underground utility. The Owner and/or the Consultant assumes no responsibility to the accuracy or the depths of the underground facilities whether or not shown on the plans.

Investigation, location, support, protection and restoration of all existing utilities and appurtenances shall be the responsibility of the Contractor. Additionally, the Contractor is responsible to coordinate this construction activity along with the relocation of any utilities as required by the plan with the owner of the affected utility.

Private utility manholes within the limits of the work shall be readjusted to grade by the respective utility.

Gas line/service, service boxes and appurtenances within the work limits and in conflict with the project construction shall be relocated by the owner of the utility.

Utility poles within the influence of the water/sanitary/storm line trenches or earthwork operations shall be reinforced by utility company prior to these construction activities. Notification of the utility company prior to construction shall be the responsibility of the Contractor.

Abandonment (capping, etc.) of existing utility facilities shall be performed by the respective utility company. Upon completion of same, the Contractor shall be responsible to remove any or all of the necessary utility as required to complete the project. The cost of all removal along with the proper disposal thereof should be included in the bid price for the project.

The Contractor shall expose any utility line or structure (public or private) sufficiently in advance of laying pipe or duct in order that the Consultant may determine the exact elevation and make any necessary adjustments. Cost of the above, if any, shall be included in the price bid for the various items in the contract.

The Contractor shall cause notice to be given to the Ohio Utilities Protection Service (telephone: 800-362-2764, toll free) and to the owners of the underground utilities who are not members of a registered underground protection service in accordance with Section 153.64 of the Ohio Revised Code. The above mentioned notice shall be given at least 48 hours prior to start of construction.

The following utilities and owners are located within the work limits of this project:

UTILITY	OWNER	TELEPHONE
ELECTRIC:	American Electric Power (AEP) 1 River side Plaza Columbus, Ohio 43215	(800) 672-2231 (600) 272-2177
TELEPHONE:	Frontier Communications 754 West Union Street Athens, Ohio 45701 Contact: Mike Edwards	(740) 954-5203 (740) 474-9197
GAS:	Columbia Gas of Ohio 843 Platt Avenue Chillicothe, Ohio 45601 Contact: Tiffany Woodyard	(740) 772-9131 (740) 474-7197
CABLE TV:	Frontier Communications 754 West Union Street Athens, Ohio 45701 Contact: Mike Edwards	(740) 474-9197 (740) 772-781
	Time Warner Cable 32 Enterprise Drive Chillicothe, OH 45601 Contact: Jerry Pennington Email: Jerry.Pennington@twcable.com	
SANITARY WATER:	The Plains Water & Sewer District 36 North Plains Road The Plains, OH 45680 Contact: Rich Kasler (740) 593-7146 Before 2:30PM Phone: (740) 797-3235 Fax: (740) 593-0051	

SITE CLEARING

The Contractor shall field review the extent of site clearing with the Owner and/or Consultant. No clearing shall be performed until formal authorization has been obtained from the Owner.

All trees (or shrubs), whether shown or not shown on the plans, are to be preserved unless approval to remove is given in writing by the Owner and/or Consultant or their removal has been designated on the plans. This work shall be performed under the price bid for clearing and grubbing and shall include the offsite removal and disposal of all stumps and clearing debris. Burning or burying of the stumps/debris is not permitted.

The Contractor shall use special precautions to avoid damage to all other trees. When, in the opinion of the Owner and/or Consultant, trunks or branches of trees would be endangered by the use of mechanical excavation devices, hand excavation will be required.

CONSTRUCTION LAYOUT

All construction layout stakes for this development shall be provided as outlined in the contract documents.

The Contractor shall carefully preserve bench marks, property corners, reference points, stakes, and other survey reference monuments or markers. In the event that the reference monuments or markers are disturbed or destroyed, the Contractor shall be responsible for restorations. Resetting of markers shall be performed by an Ohio Professional Surveyor as approved by the Consultant.

RIGHTS-OF-WAY

In addition to direct requirements of the contract specifications, the Contractor shall observe and conform to the specific requirements of all rights-of way including easements, court entries, rights-of-entry or action filed in court in accordance with the code of applicable governing agency. The cost of the operations necessary to fulfill such requirements shall be included in the price bid of the various items of the contract unless specific provision is made in the contract specifications.

TRAFFIC MAINTENANCE

All traffic control devices shall be furnished, erected, maintained and removed by the Contractor as directed by the local government in accordance with the Ohio Manual of Uniform Traffic Control Devices (current edition), copies of which are available from the Ohio Department of Transportation, Office of Traffic Engineering, P.O. Box 899, 1980 West Broad Street, Columbus, Ohio 43216.

All permanent traffic controls not in conflict with the temporary traffic controls shall be maintained throughout this project by the Contractor. Permanent traffic controls may be temporarily relocated, as approved by the local government. The Contractor shall assume all liability for missing, damaged or improperly placed signs.

The Contractor shall be responsible for the reinstallation and/or replacement, under direction of the local government, of all permanent traffic control devices damaged or removed during the construction. Permanent traffic control no longer in conflict with temporary traffic control shall be replaced immediately as directed by the local government.

ROCK EXCAVATION

No extra compensation shall be paid for any excavation required in rock or shale. The bidder shall examine the soils report (if applicable) and/or local county soil survey if he feels that any rock excavation will be required and adjust his bids accordingly.

DRAINAGE MAINTENANCE

The flow in all sewers, drains, field tiles and watercourses encountered shall be maintained by the Contractor at his expense, and whenever such watercourses and drains are disturbed or destroyed during construction activities, they shall be restored by the Contractor at his own cost and expense to a condition equal to or greater than that prior to construction.

CONDUIT END TREATMENT

Immediately after placement of any conduits, the Contractor shall construct the end treatments required by the plans at both the inlet and outlet ends. This shall include headwalls, concrete riprap, rock channel protection, sodding, etc.

EROSION AND SEDIMENT CONTROL

Erosion and sediment control measures are required for this project and for compliance with Ohio Environmental Protection Agency General Permit for Construction Stormwater. Erosion and sediment control measures relating to this project are included on sheets 16 and 17 of the (SWPPP) Storm Water Pollution Prevention Plan. The Storm Water Pollution Prevention Plan reflects a schematic diagram of the intended erosion and sediment control measures for compliance with the required standards. General practices and/or site field conditions may warrant variation in the placement or use of the specified controls. The Contractor shall be solely responsible for providing necessary and adequate measures for proper erosion and sediment control through the project completion.

The erosion control measures included in the Storm Water Pollution Prevention Plan and erosion control details shall be installed prior to initial land disturbance activities or as soon as practical. Sediment shall be prevented from discharging from the project site by installing and maintaining silt fence, straw bales, sediment basins, etc. as shown on the plans. If shown on these plans, energy-dissipation devices or erosion control at the outfall of the storm sewer system shall be installed at the time of the construction of the outfall.

The Contractor shall control wastes, garbage, debris, wastewater, and other substances on the site in such a way that they shall not be transported from the site by the action of winds, storm water runoff, or other forces. Proper disposal or management of all wastes and unused building material, appropriate to the nature of the waste or material is required. Compliance is required with all state or local regulations regarding waste disposal, sanitary sewer or septic systems.

Public or private roadways shall be kept cleared of accumulated sediment. The Contractor shall in stall a stabilized construction entrance prior to initial land disturbance activities. Bulk clearing of accumulated sediment shall not include flushing the area with water. Cleared sediment shall be returned to the point of likely origin or other suitable location.

All on-site storm drain inlets shall be protected against sedimentation with straw bales, filter fabric or equivalent barriers as shown on the plans.

All disturbed areas to remain inactive for more than twenty-one (21) days shall be stabilized by seeding, sodding, mulching, covering or by other equivalent erosion control measures within seven (7) days. Permanent soil stabilization shall be provided within seven (7) days after final grade is established. All slopes and perimeter areas are to be stabilized immediately after grading activities are complete.

The erosion control plan shall be implemented on all disturbed areas within the construction site. All measures involving erosion control practices shall be installed under the guidance of qualified personnel experienced in erosion control and following the plans and specifications included herein.

At a minimum, all erosion and sediment controls on the site shall be inspected at least once every seven (7) calendar days and within twenty-four (24) hours after any storm event of one-half (1/2) inch or greater. Erosion and sediment controls shall be inspected in accordance with the conditions of applicable NPDES permits.

During the period of construction activity, all sediment basins and other erosion control measures shall be maintained by the Contractor. At completion of construction, the Contractor shall coordinate the transfer of maintenance responsibilities, if required, with the Owner. Maintenance shall be in accordance with the Ohio Environmental Protection Agency standards and specifications for soil erosion and sediment control, and the Storm Water Pollution Prevention Plan for this project.

Existing vegetation shall be protected as much as practical.

All temporary erosion and sediment control practices shall be removed and disposed of within thirty (30) days after final site stabilization is achieved or after the temporary practices are no longer needed. Trapped sediment shall be permanently stabilized to prevent further erosion.

The erosion control plan must be retained on-site at all times during the period of construction.

Contractor shall consult County of Athens for additional erosion, sediment and stormwater control measures and requirements.

Contractor shall work closely with the County of Athens regarding all erosion, sediment and stormwater control measures and requirements.

RESTORATION AND CLEANUP

It is the intent of the Owner to keep inconvenience to the adjoining property owners to an absolute minimum. All work is to continue on a uniform basis and on schedule, particularly the restoration and cleanup of disturbed areas after construction.

The tracking of mud, dirt or debris, or spillage of same upon local streets and residential drives or sidewalks, is prohibited and any such occurrence shall be cleaned-up immediately by the Contractor.

All fences, signs, concrete steps, drainage structures, or other physical features removed, disturbed or damaged during work under the contract shall be restored to their original condition by the contractor unless otherwise specified.

STORAGE OF EQUIPMENT AND MATERIALS

No materials, including pipe, shall be stored within the right-of-way or within twenty (20) feet of any intersecting street or driveway. During non-working hours, storage of equipment shall comply with these same requirements. Compliance with these requirements shall not in any way relieve the Contractor of his legal responsibilities or liabilities for the safety of the public. The Contractor shall indicate his intent with regard to storage of material at the pre-construction meeting.

SANITARY CONVENIENCE FACILITIES

The Contractor shall furnish and maintain sanitary convenience facilities for the workmen and inspectors for the duration of the work. Cost shall be included in the unit price bid for the various work items.

STREAM CROSSINGS

Items under erosion and sediment controls as listed in these specifications shall be considered and implemented at all stream crossings.

Sewers and water mains entering or crossing streams/ditches shall be constructed of ductile iron pipe with mechanical joints to ten feet past the top of the embankment; otherwise they shall be constructed so they will remain watertight and free from changes in alignment or grade.

Sewers and water mains crossing streams shall be installed so that one full length of pipe is located so both joints will be as far from the stream crossing as practically possible.

For open cut applications, material used to backfill the trench shall be stone, coarse aggregate, washed gravel or other such materials in accordance with O.D.O.T. backfill materials which will not readily erode, cause siltation, damage pipe during placement or corrode the pipe.

Least evasive construction procedures shall be employed to minimize disturbance to stream water, bed and banks. Such procedures shall provide adequate control of siltation and erosion by limiting excavation, minimizing disturbance and uprooting of trees and vegetation, unnecessary dumping of soil or debris, and prevention of pumping silt laden water into the stream.

All construction along, in or through stream shall be limited to times of low stream water flow.

Cleanup, grading, seeding and planting or restoration of all work areas shall begin immediately. Exposed areas shall not remain unprotected for more than seven (7) days.

WATER MAINS

Pipe, fittings, valves, and hydrants shall conform to the most recent applicable standards of the American Water Works Association (AWWA). National Sanitation Foundation for Potable Water (NSF-PW) approved pipe is acceptable for pipe sizes of 3 inches in diameter and smaller.

All water lines constructed under this plan shall be in accordance with the specifications of County of Athens and the Ohio Department of Transportation 2010 Construction and Materials Specifications Item 638.

Notify water company of conduit installation at least one week prior to installation.

Water service to existing customers of the County of Athens shall be maintained.

Water line pipe and fittings shall be polyvinyl chloride (PVC) SDR 21 or ductile iron and fittings shall be ductile iron fittings in accordance with ASTM D2241 and/or NSF Standard 14. Water Meter shall be SENSUS WDS-10006-02 iPERL Water Management System Electromagnetic Flow Measurement System 1" meters for each apartment building and 3/4" Meter for the Community Building, w/ FlexNet SmartPoint M2 radio transceiver.

Water service laterals shall be 1-1/2" for all unit buildings and 1" for all other buildings and Yard Hydrants Iron Pipe Size (IPS) continuous pipe with no joints with a minimum working pressure of 200 p.s.i. Water service laterals shall be K-copper or polyethylene plastic tubing or pipe. All plastic pipe shall bear the ASTM/AWWA marking number. Backflow preventers shall be used on all water service laterals.

Gate valves shall be resilient seat type, have non-rising stems, open by turning to the left, have vertical stems, have mechanical joint ends, have 2" square operating nut, and be supported on concrete pad with steel reinforcement to hold pipe in place.

Cast iron valve boxes shall be three piece, adjustable screw type with cover. They shall have a 5-1/4" shaft opening and shall be suitable for the depth of cover as specified on the plans. Covers shall be of the non-tilt type with the word "WATER" cast in relief. Valve box shall be Mueller or equal.

A minimum water pressure of 35 p.s.i. throughout the system shall be maintained.

Water lines shall be laid at least 10 feet horizontally from any existing or proposed gravity sewer, force main, septic tank, leach field, and/or subsoil treatment system. The distance shall be measured edge to edge.

No water lines should be closer than 10 feet from any sanitary sewer manhole and in no event shall a water line pass through or come into contact with any part of a sanitary sewer manhole. No water main joints shall be laid closer than 10 feet to a sanitary manhole. The distance shall be measured edge to edge.

Water lines crossing sanitary sewers shall provide a vertical separation of 18" above the outside of the sanitary sewer. If the 18" vertical separation cannot be met, the sanitary sewer shall be encased in concrete or constructed of water line material that can withstand 50 psi and extend that requirement 10 feet beyond the crossing in each direction.

At crossings, one full length of water pipe shall be located so both joints will be as far from the sanitary sewer as practically possible. Special structural support for the water and sanitary sewer pipes may be required.

Concrete anchors and thrust blocking shall be provided at all horizontal and vertical bends, tees, plugs, valves and hydrants to prevent movement of the pipe. Rodding may be used in lieu of and/or in addition to blocking as approved by local water authority. The Contractor is fully responsible for providing concrete blocking to the extent sufficient to guarantee the operation of the pipe under both the test and design pressures.

Water service lateral locations shown on the plans are approximate and shall be field located during construction to serve the individual structures.

The installed pipe shall be pressure tested and leakage tested in accordance with the appropriate AWWA Standard (C600/C605).

All new distribution systems shall be disinfected in accordance with AWWA C651. Two or more sets of consecutive safe microbiological samples, taken at least 24 hours apart, shall be obtained before putting the new line into service.

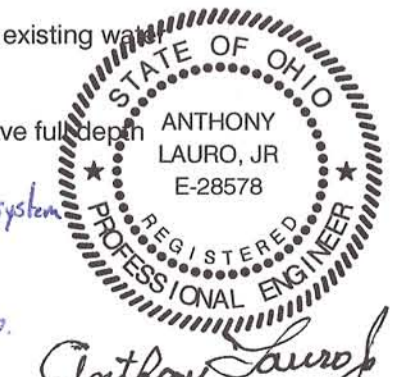
No connections to service taps shall be performed until disinfection is complete.

The Contractor shall notify the local water authority 24 hours prior to making any connections to the existing water line.

All open cut water lines within a 1:1 ratio to the bottom of the cut and edge of concrete curb shall have full depth compacted granular backfill.

A minimum pressure of 20psi at ground level at all points in the distribution system. Under all conditions of flow will be maintained.

Booster pumps are to be installed in accordance with OAC 3745-95-07 per 3/4/17 email with Anthony Lauro. 3/31/17



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4			
3	EPA Permit Submission	02-01-2017	
2	80% Submission	09-22-2016	
1	Date of Drawing	09-01-2016	
0	REV.		DESCRIPTION

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NOTES

SANDSTONE APARTMENTS
PART OF SW 1/4 SECTION 19, T-10-N, R-14-W
DOVER TOWNSHIP, ATHENS COUNTY, OHIO

SCALE:	AS NOTED
DRAWN BY:	L. PURDOM
CHECKED BY:	A. LAURO
DRAWING NUMBER	
SHEET NUMBER	2 19

SANITARY SEWERS

Acceptable sanitary sewer materials are as follows:

ITEM	MATERIAL SPEC.	JOINT SPEC.
PVC Gravity Pipe (SDR 35)	ASTM D3034	ASTM D3212
PVC Force Main Pipe	AWWA C900 ASTM D2241	ASTM D3139 ASTM D3139
Ductile Iron Gravity Pipe	ASTM A536	AWWA C111
Precast Conc. Manhole	ASTM C478	ASTM C443

Bedding Class II as described in ASTM D2321 (AASHTO M43 Size 67, 7 or 8) shall be used. Class II bedding materials shall have 100% passing a 3/4" sieve.

All sanitary sewers constructed under this plan shall be in accordance with the specifications of County of Athens, Ohio.

Where a sanitary sewer and water main cross, the sewer line shall be at such an elevation that the crown of the sewer is at least eighteen (18) inches, measured between the outside pipe walls, below the bottom of the water main.

Sanitary sewers and manholes shall be laid at least ten (10) feet horizontal separation from any water main separated edge to edge.

Roof drains, sump pumps, foundation drains and all other clean water connections to new sanitary sewers are prohibited.

All sewer pipe connections to manhole shall be sealed with hydraulic gaskets as manufactured by Dura-Tech, Inc., Press-Seal Gasket Company, Kor-n-Seal or equal.

All service laterals shall be laid at a minimum grade of one quarter inch per foot and be constructed at the time of construction of the main sewer.

Sanitary service lateral locations shown on the plans are approximate and shall be field located during construction to serve the individual structures. Sanitary service laterals shall be installed 18" below water main as minimum slope permits. In the event that sanitary service laterals pass within 18" of water line design, contractor shall place 2" x 2" stake at approximate intersection. Contractor shall make all possible provisions to prevent conflict between sanitary service laterals and water line design.

Where sewer lines pass through or enter manholes, the invert channels shall be smooth and semicircular in cross section and shall be formed directly in the concrete of the manhole base. Changes of direction of flow within the manholes shall be made with a smooth curve with as long a radius as possible. The depth of the flow channel shall be 0.8 x the diameter of the outlet pipe. The floor of the manhole outside the channels shall be smooth and slope toward the channel not less than one (1) inch per foot.

The design of the manhole shall be such that the use of adjusting rings to bring the manhole rim elevation to its specified elevation are not needed, if necessary, adjustment of manhole casting to final grade shall be accomplished with precast concrete adjusting rings. The adjusting rings should be sized so that the adjustment to final grade will require a maximum of three (3) adjusting rings. A 1/4" thick trowelable mastic such as Farberite, or equal, shall be placed between each joint of the adjustment rings and the rings shall be water proofed on the outside with the use of a 1 inch plaster coating or elastomeric chimney seal with stainless steel clamp. The joint between the manhole frame and chimney or cone shall be 3/4" thick and made using non-shrink grout. Sealant used between the adjustment or grade rings of the chimney shall not be used in this joint.

All manhole lift holes shall be sealed with water tight non-shrink grout or expanding Portland cement mixture such as Octoplug, or equal.

All manhole wall joints shall be rubber o-ring type conforming to ASTM C443. All joints shall also be sealed externally with either a trowelable mastic such as Farberite (or equal) or Ram-Nek (or equal).

All sanitary sewers within a 1:1 ratio to the flowline and edge of concrete curb shall have full depth compacted granular backfill.

County of Athens, Ohio- GENERAL NOTES

Any modification to the specifications or changes to the work as shown on these drawings shall have prior written approval of County of Athens, Ohio.

The contractor shall notify the County of Athens, Ohio at least 3 working days prior to the commencement of any construction.

The tracking or spillage of mud, dirt, or debris upon county roads is prohibited and any such occurrence shall be cleaned up immediately by the contractor.

If the contractor fails to keep the work area clean of debris, or fails to clean mud or dirt off of county streets, the county may take action and assess the applicant for the costs that are incurred.

No nonumber tire vehicle shall be moved on county roads; exceptions may be granted by County of Athens, Ohio where short distances and special circumstances are involved. Granting of exceptions shall be in writing and any resulting damage shall be repaired to the satisfaction of County of Athens, Ohio.

All field tile broken during excavation shall be replaced to its original condition or connected to the storm sewer system as directed by County of Athens, Ohio.

Approval of these plans is contingent on all easements required for the construction of the work being secured and submitted to the county for recording prior to commencement of the work, and no work which requires an easement will be allowed to proceed until this has been done.

All trenches shall be backfilled or securely plated during nonworking hours.

At all utility crossings where the existing utility is exposed in the trench, the backfill shall consist of compacted granular material between the deeper and shallower pipe. Where proposed utilities or services cross proposed or existing pavement area, backfill shall be compacted granular material extending at least 3 feet beyond the back of curb or edge of pavement. Cost is to be included in the price bid for related pipe.

Following completion of construction, a proof survey shall be provided to County of Athens, Ohio which shall document as-built elevations, dimensions, slopes, and alignments of all elements of this project. The proof survey shall be prepared, signed, and submitted by an Ohio professional surveyor.

If allowed, the contractor shall obtain a blasting permit from the local township fire department before blasting for rock excavation may begin. The contractor shall submit blasting reports upon completion of blasting to the County of Athens, Ohio, the applicant, and the applicant's engineer. Top of rock elevations shall be shown on as-built drawings.

Proposed utilities to be installed in embankment areas shall be placed after the embankment has been placed and compacted according to the specifications.

When unknown or incorrectly located underground utilities are encountered during construction, the contractor shall immediately notify the applicant and County of Athens, Ohio.

County of Athens GENERAL NOTES (SEWERS)

All sewers constructed under this plan shall meet the County of Athens, Ohio specifications.

The minimum requirements for sanitary sewer pipe shall be vitrified clay pipe ASTM C 700.

Pipe for all 6-inch house services shall be PVC plastic sewer pipe, ASTM D-3034, SDR 35. All service extensions shall be laid at a minimum grade of one-quarter-inch per foot and shall be constructed at the time of construction of the main sewer.

Approved wye poles made of 2" x 2" lumber shall be furnished and placed at all wye branches and at the end of extended service. The cost of this work to be included in the price bid for the sewer items.

Service risers shall be installed where depths from wyes to the existing or proposed elevations exceed 12 feet with the tops of the risers 9 feet ± below the existing or proposed surface elevation, whichever is higher, provided that basement service shall still be provided. The contractor shall verify the elevation of any house service at the wye pole to ensure that every effort is made to provide basement service to the existing structure. Where service risers are not installed, a minimum 5 foot length of lateral pipe of the same size as the wye opening shall be installed.

The wye locations shown on the plans are approximate and shall be field located during construction to serve the individual structures.

Manhole covers for sanitary sewers shall conform to the standard drawings except they shall be stamped with "sanitary sewer." Manhole covers shall be vented except in pavement, where every third cover shall be vented, except when located in drainage swales or areas subject to sheet flow.

The contractor shall install a temporary bulkhead where directed on the plans prior to construction of the proposed sewers and maintain same until said sewers are accepted by City of Logan, Ohio.

The maximum trench width at the top of pipe barrel shall be not greater than outside diameter of pipe plus 16 inches, or 30 inches, whichever is greater.

An electronically detectable identification tape shall be installed at a depth of approximately 3 feet in all sanitary sewer trenches (except service laterals), over nonmetallic sanitary sewer lines.

A connection permit shall be obtained from County of Athens, Ohio with payment of associated fees to County of Athens, Ohio before connections are made into the proposed sanitary sewer system. No sanitary sewer connections shall be sold until the sanitary sewers have passed the leakage test by the contractor.

Service shall be provided to each building unit. Sanitary Sewer is designed for slab on grade only. Special provisions shall be made if basement is installed.

MANHOLE TESTING

Each manhole shall be vacuum tested from the top of manhole frame to the manhole base.

All pipes entering the manhole shall be plugged, taking care to securely brace the plug from being drawn into the manhole.

The test head shall be placed and the seal inflated in accordance with the manufacturers recommendations.

A vacuum of 10 inches of mercury shall be drawn and the vacuum pump shut off. With the valves closed, the time shall be measured for the vacuum to drop to nine (9) inches. The manhole shall pass if the time is greater than 60 seconds for 48" diameter, 75 seconds for 60" diameter, and 90 seconds for 72" diameter manholes.

If the manhole fails the initial test, necessary repairs shall be made. Retesting shall proceed until a satisfactory test is obtained.

PIPE DEFLECTION TESTING FOR PVC PIPE

Deflection tests may be run 60 to 75 days after final full backfill has been placed.

Sophisticated, electronic equipment has been developed to measure and record deflection in flexible pipe. No pipe shall exceed a deflection of 5%.

If such equipment is not available, the deflection test can be run by use of rigid balls or mandrels, having diameters equal to 95% of the inside diameter of the pipe, pulled through the sewer line. If rigid balls or mandrels are used, tests shall be performed without mechanical pulling devices.

During sewer construction, all service laterals, stubs and fittings shall be tested per local sanitary sewer authority regulations and ASTM C301.

SANITARY LEAKAGE TESTING

The maximum allowable leakage inward or outward (infiltration or exfiltration) for any sanitary sewer section tested, including all manholes, is 100 gallons per inch of diameter per mile of pipe per day (or the computed equivalent for shorter periods of time).

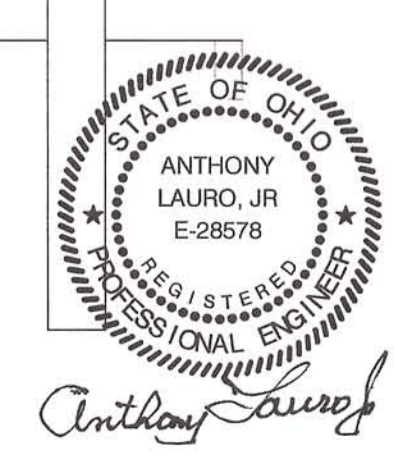
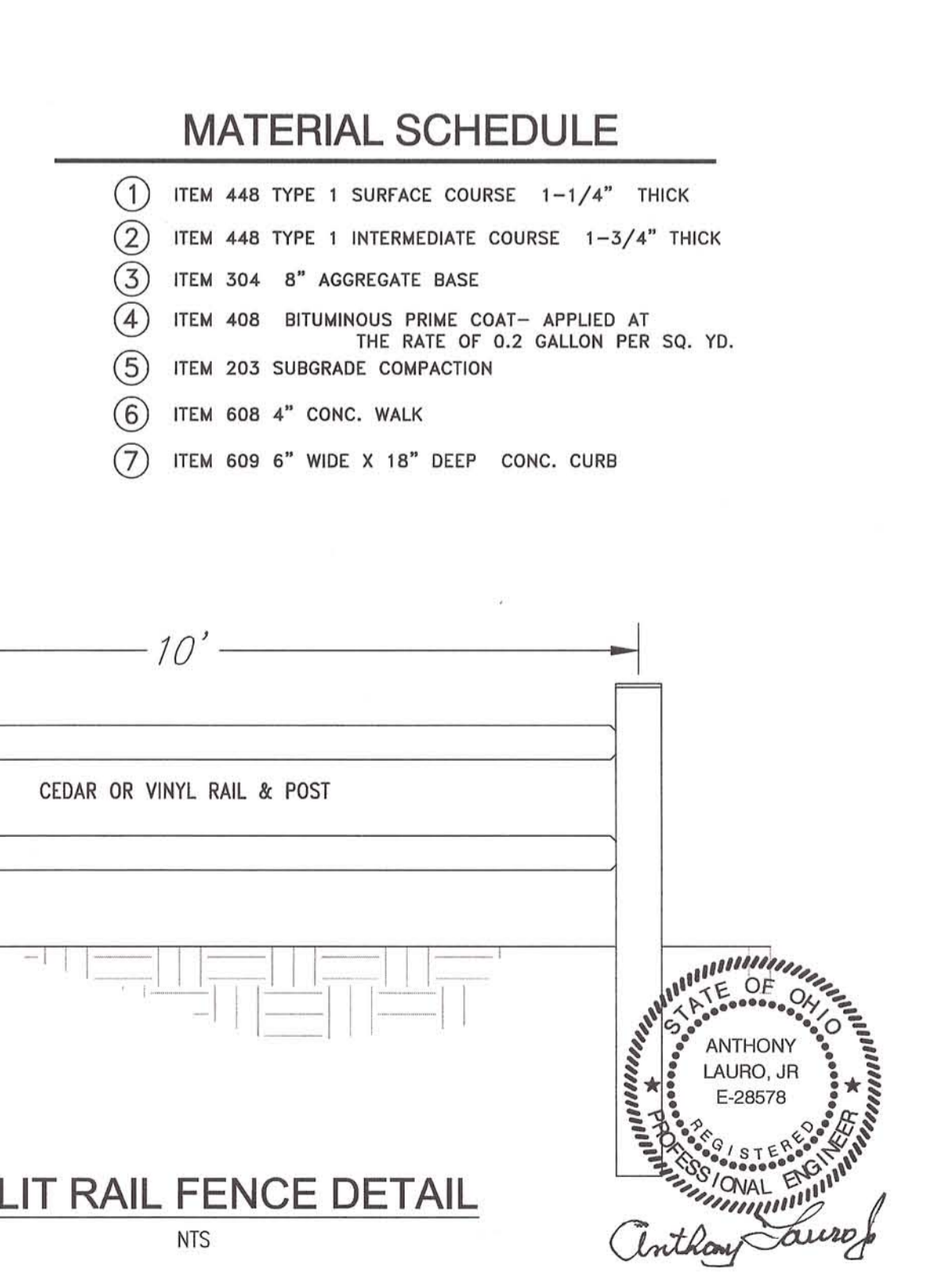
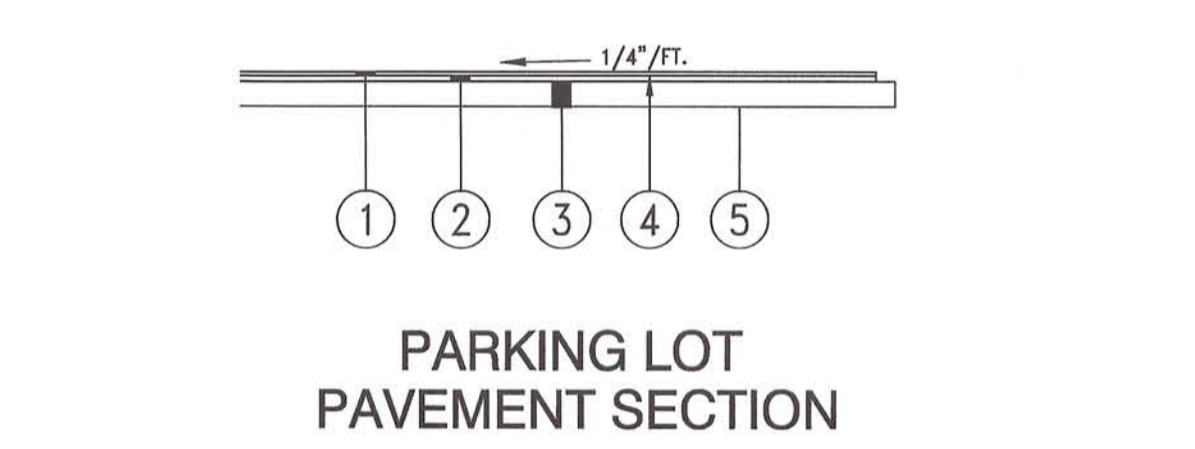
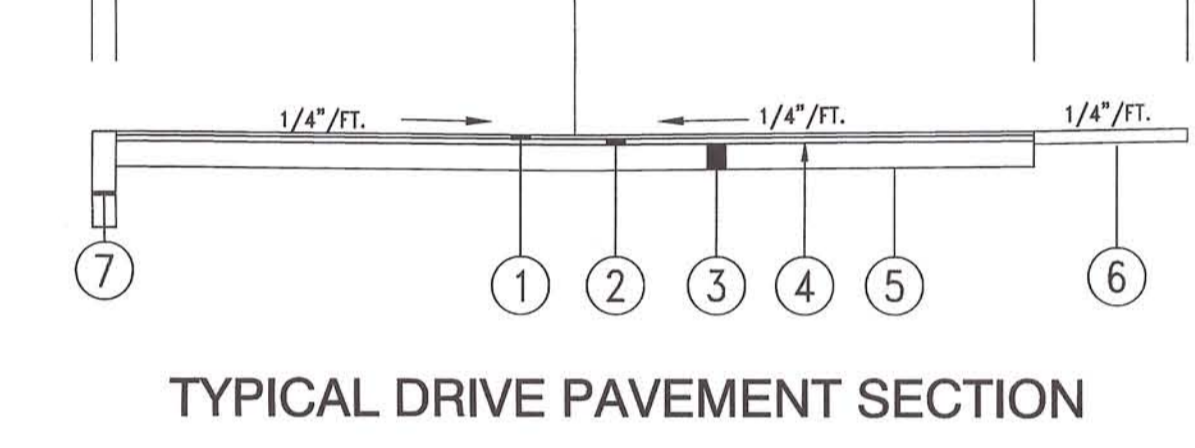
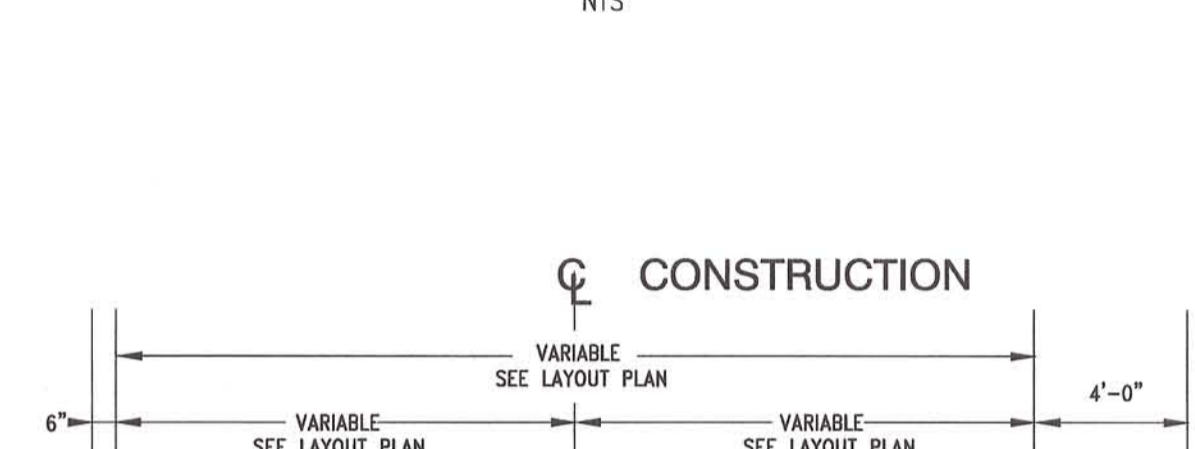
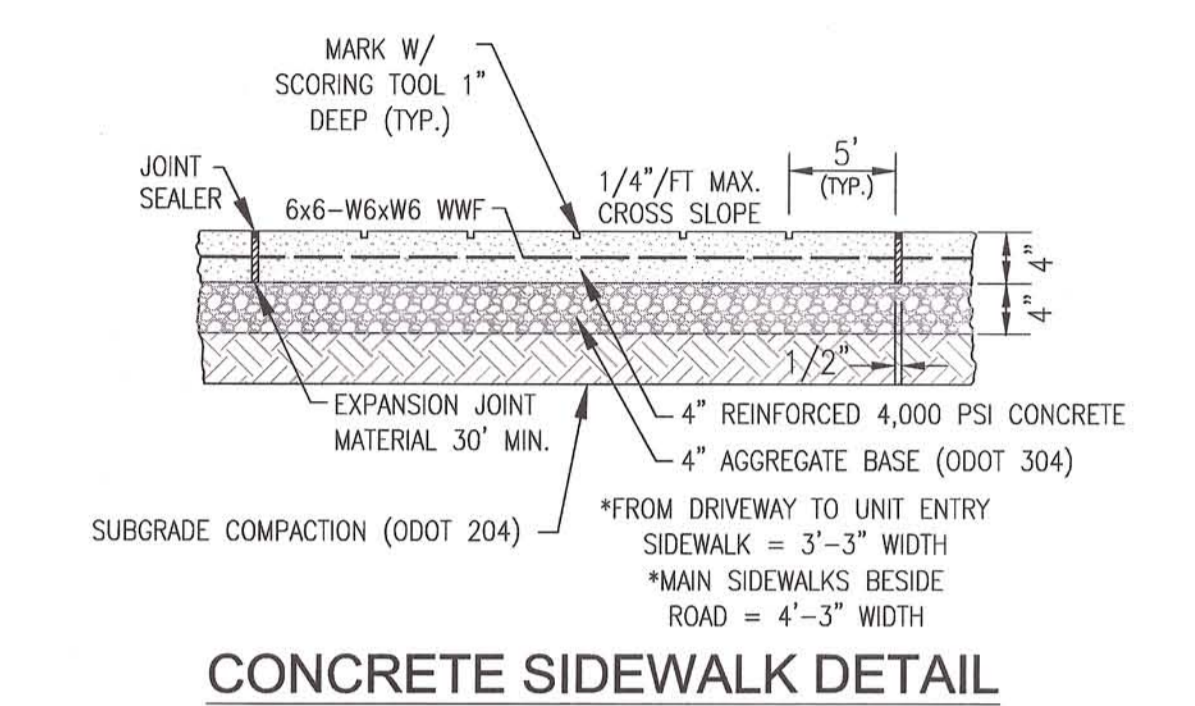
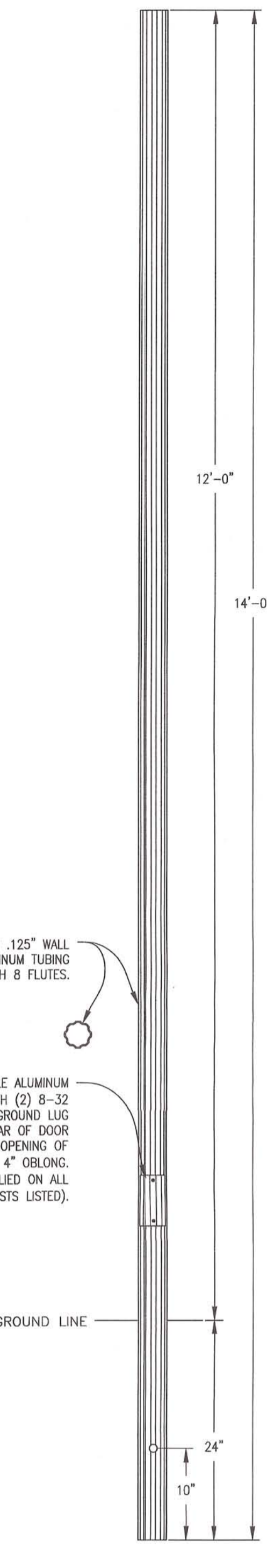
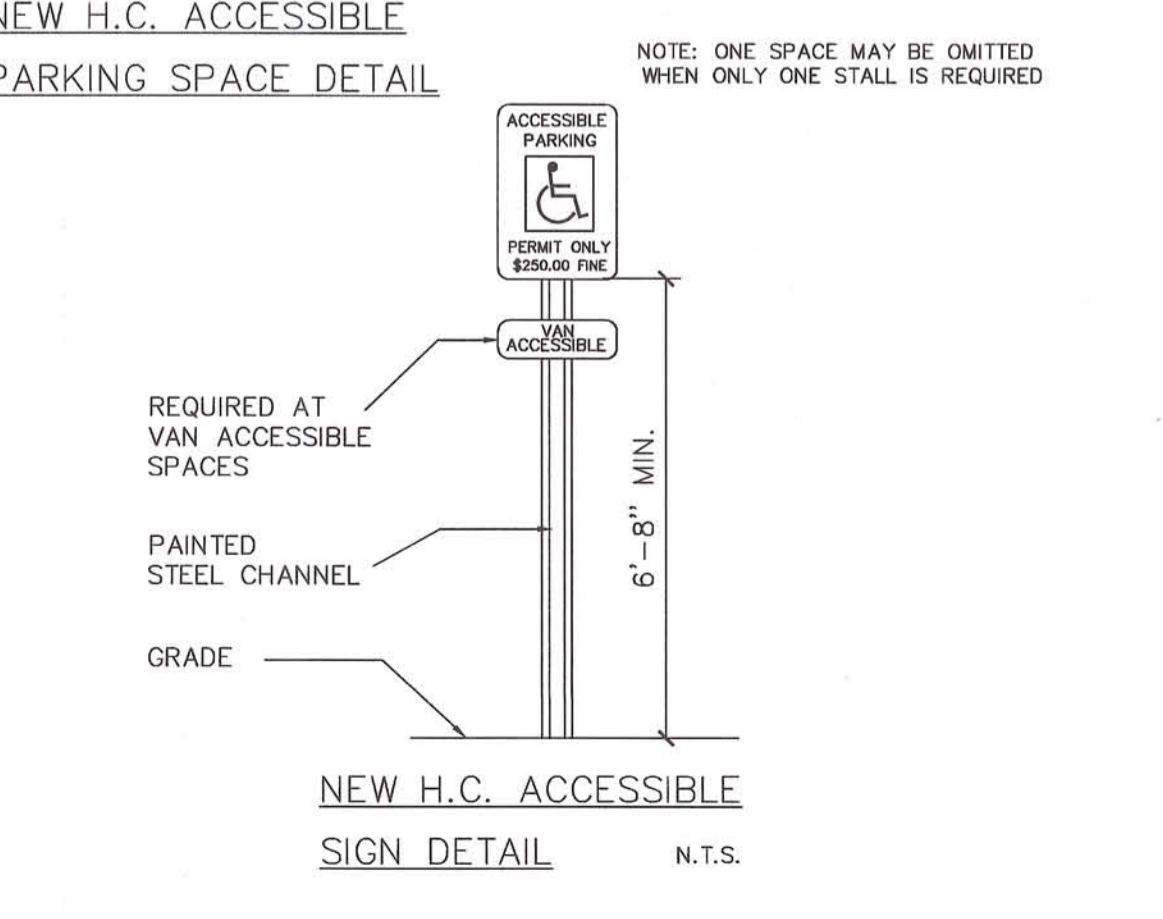
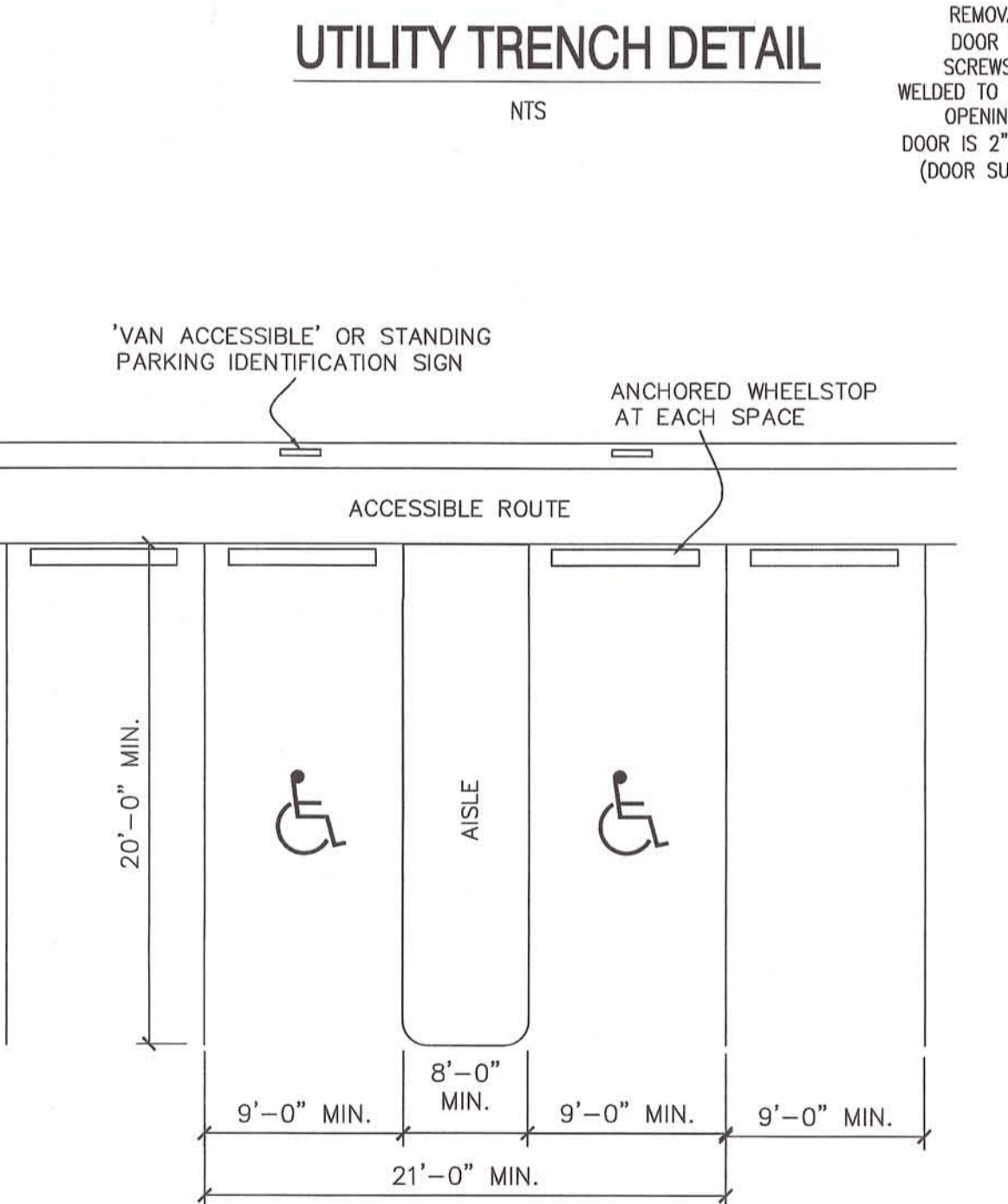
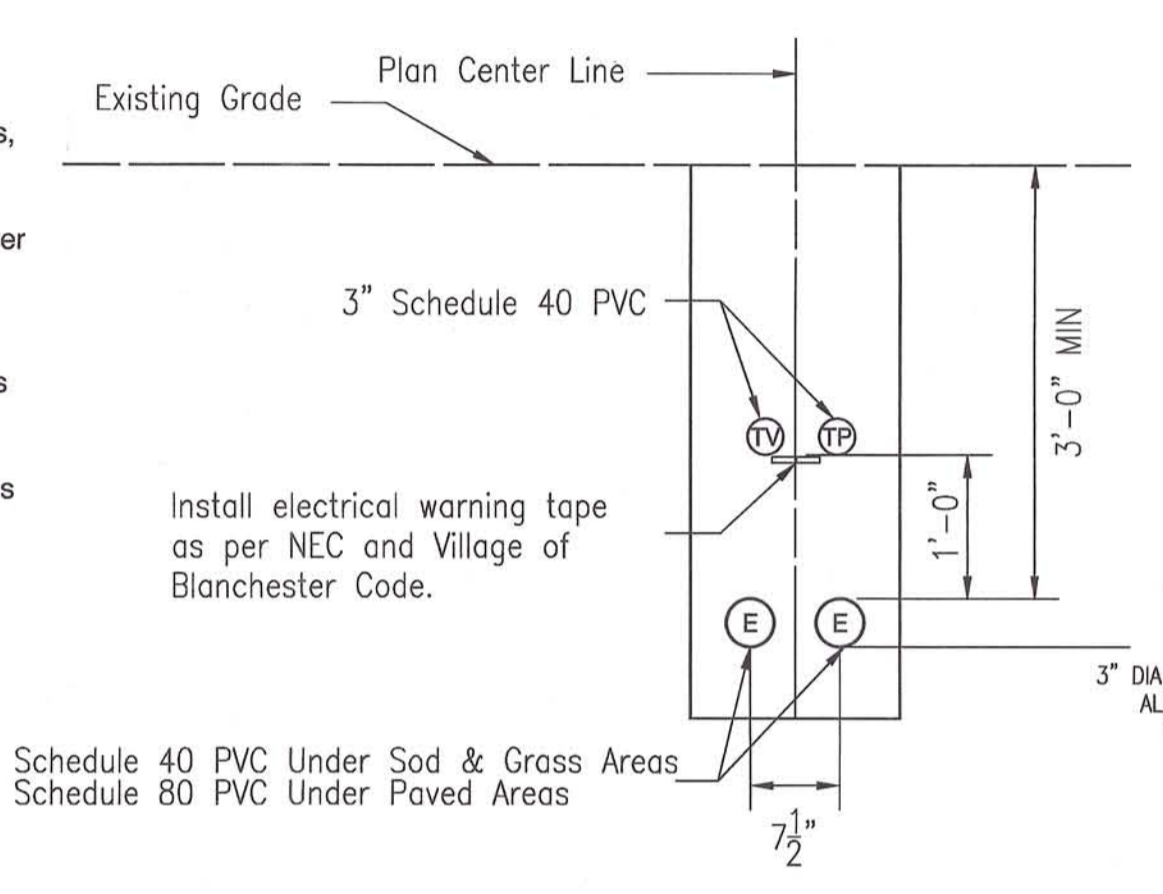
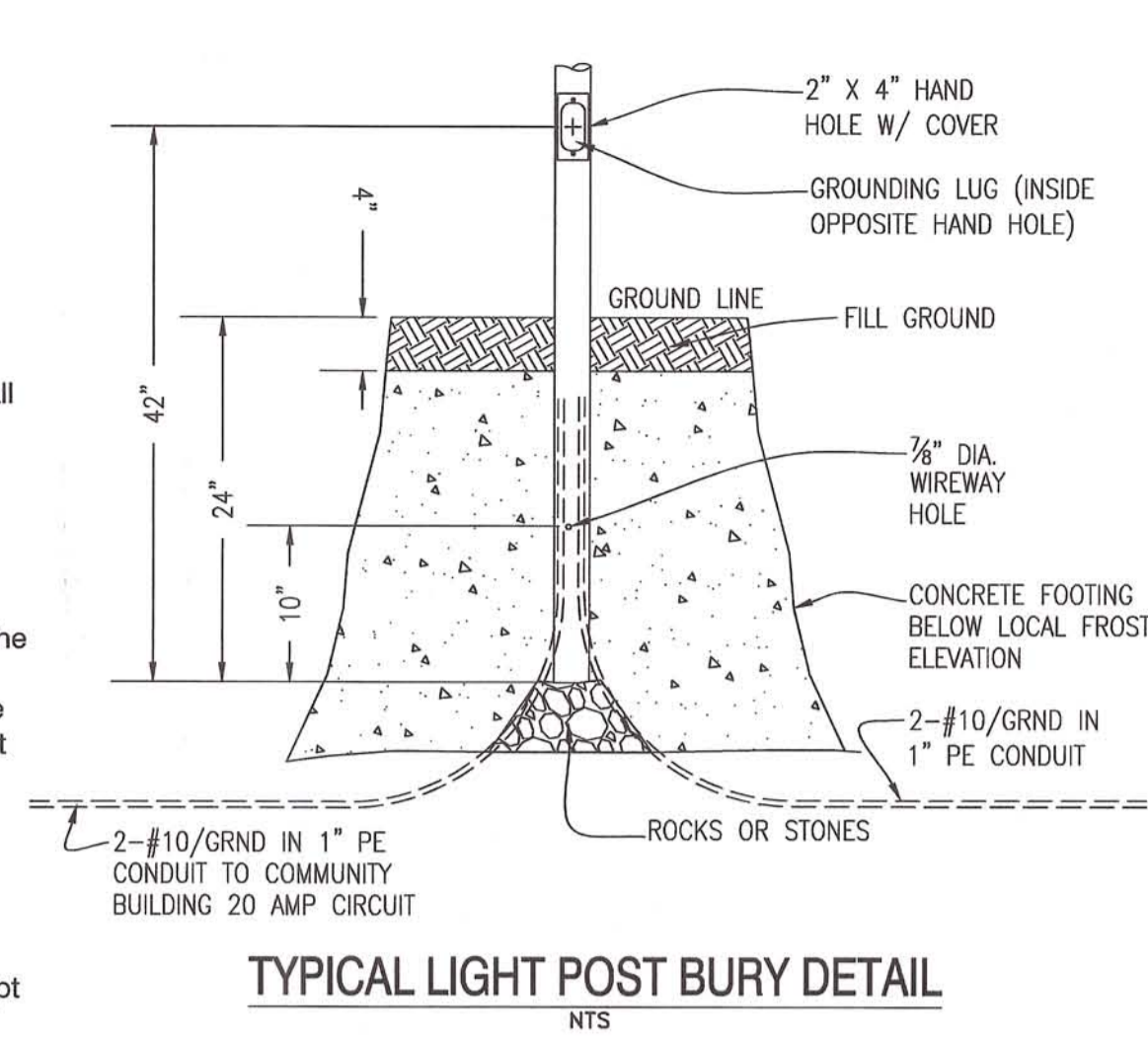
Either one of the following tests may be used as approved by local sanitary sewer authority:

Exfiltration Test - The entire length of section to be tested shall be filled and maintained full of water for a period of approximately 24 hours prior to the start of the test. If the water level in the upper manhole has dropped during this 24 hour period, the level shall be raised to the test elevation mark prior to measurement of leakage. The inlet(s) of the upstream and downstream manholes shall be closed with water tight bulkheads. Then the sewer and the upstream manhole shall be filled with water until the elevation of water in the upstream manhole is two feet higher than the top of the pipe in the line being tested, or two feet above the existing groundwater in the trench, whichever is the higher elevation. The exfiltration will be measured by determining the amount of water required to maintain the initial water elevation for one hour from the start of the test. If the average head above the section being tested exceeds two feet then allowable leakage can be increased by 5% for each additional foot of head. This test is preferable for dry areas where groundwater head over the pipe does not exist at the time of the test.

Low Pressure Air Test - After backfilling, the air test shall be conducted between two consecutive manholes. All pipe outlets must be plugged in the section being tested with suitable test plugs. One of the plugs used at a manhole must be tapped and equipped for an air inlet connection for filling the line from the air compressor. Air shall be supplied slowly to the test section until the internal pressure reaches approximately four (4) p.s.i. If pipe is below existing groundwater level, the internal pressure shall be increased by the average back pressure of any groundwater that may be over the pipe. Minimum permissible pressure holding times for runs of single pipe diameter and for systems of 4 inch, 6 inch, or 8 inch laterals in combination with trunk lines shall be as published in tables by the National Clay Pipe Institute.

An air pressure correction is necessary when the prevailing groundwater is above the sewer line being tested. Under this condition, the air test pressure shall be increased 0.433 p.s.i. for each foot the groundwater level is above the invert of the pipe. If the prevailing groundwater is more than two feet above the invert of the pipe, the exfiltration test should be used. Thus, internal air pressures should never exceed 5.0 p.s.i.

At least two minutes shall be allowed for the air pressure to stabilize. When the pressure has stabilized and is at or above 3.5 p.s.i., the air supply shall be disconnected and timing shall begin with a stop watch. The stop watch shall be allowed to run until the pressure has dropped 1.0 p.s.i. If the time shown on the stop watch is greater than the specified minimum time, the section shall be considered to have passed the test. Time may be interpolated as needed.



02-01-2017	PA Permit Submission	REV.	DESCRIPTION
09-22-2016	80% Submission	1	
98-01-2015	Date of Drawing	0	

LRP
Purdum & Associates, Inc.
1606 Dogwood Ridge Road
Whiteland, Ohio 45694
Phone: (740) 574-2534
Fax: (740) 574-2535
loran.purdum@lrpurdum.com

LAURO ENGINEERING
1606 Dogwood Ridge Road
Whiteland, Ohio 45694
Phone: (740) 357-6067

NOTES AND DETAILS

SANDSTONE APARTMENTS

PART OF SW 1/4 SECTION 19, T-10-N, R-14-W DOVER TOWNSHIP, ATHENS COUNTY, OHIO

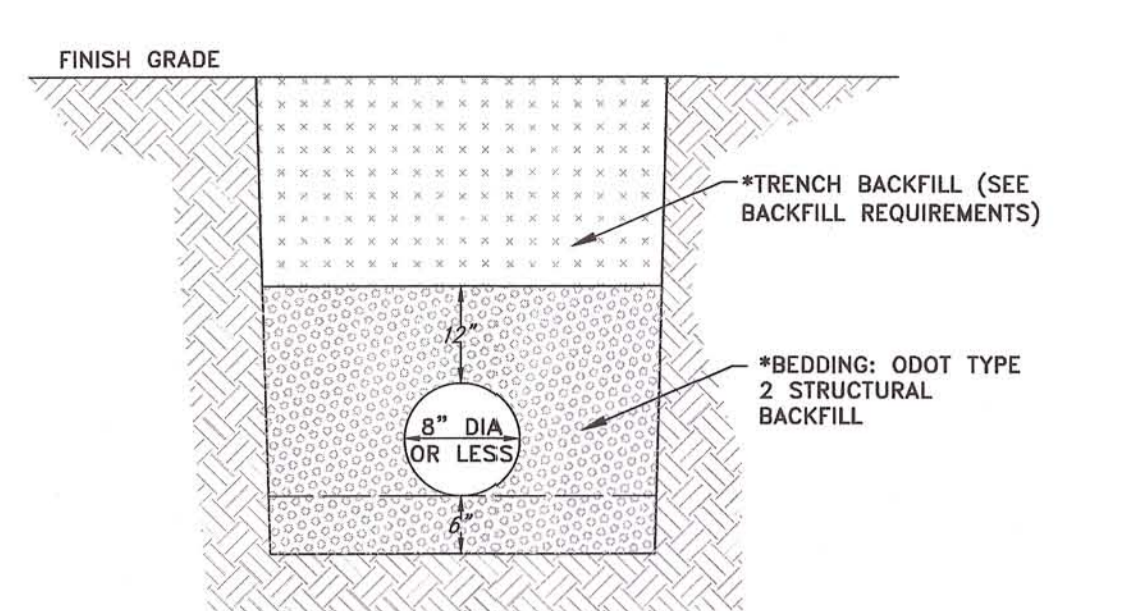
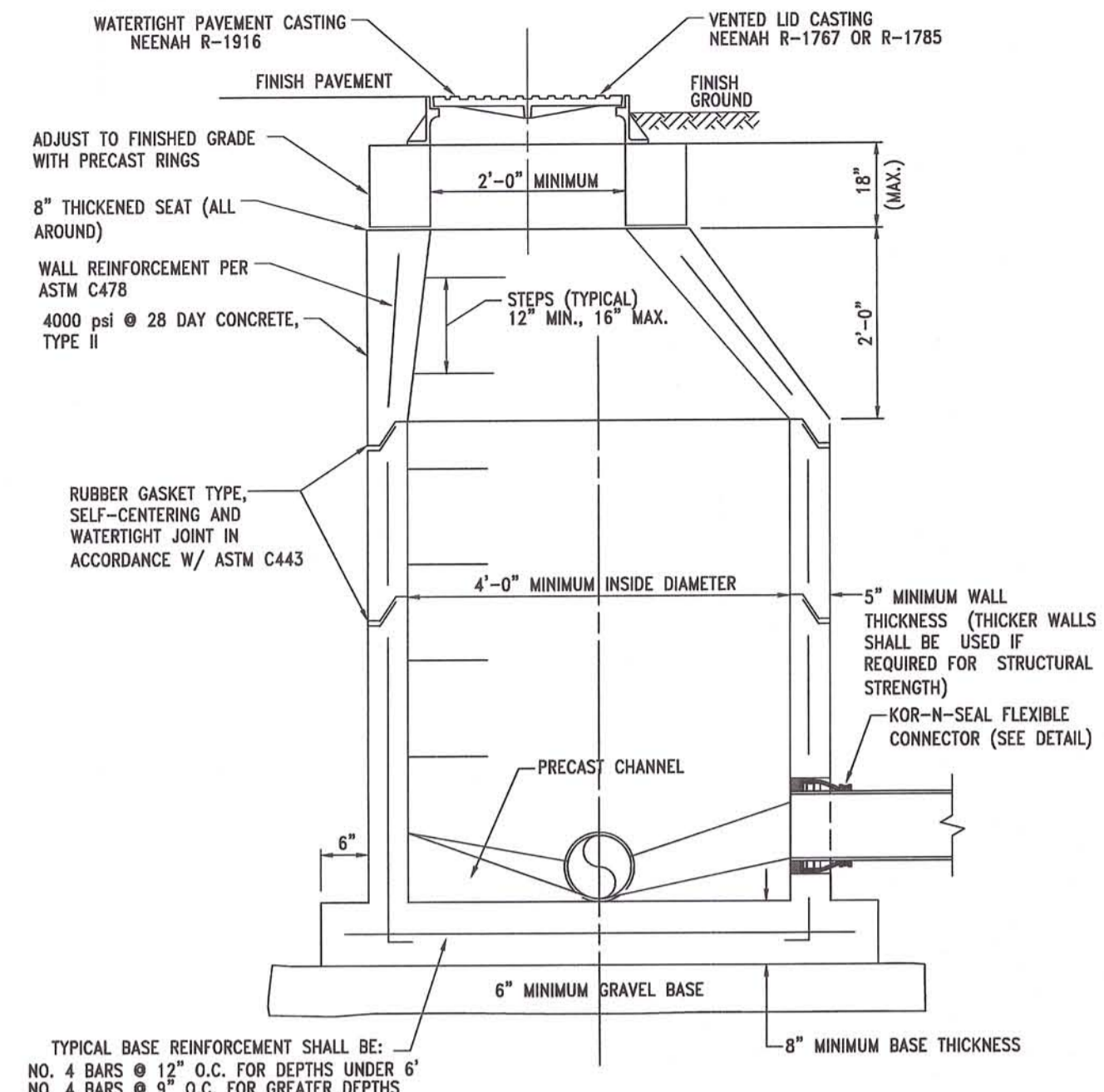
SCALE: AS NOTED

DRAWN BY: L. PURDOM

CHECKED BY: A. LAURO

DRAWING NUMBER

SHEET NUMBER 3 OF 19



***ALL SANITARY BEDDING AND BACKFILL SHALL COMPLY WITH CLASS A, B, OR C IN ASTM C-12 FOR RIGID PIPE AND CLASS IA OR IB, II, OR III IN ASTM D-2321 FOR FLEXIBLE PIPE. ALL BEDDING MATERIAL SHALL HAVE 100% PASSING A 3/4" SIEVE AND SHALL COMPLY WITH AASHTO M43 SIZE 67, 7 OR 8.**

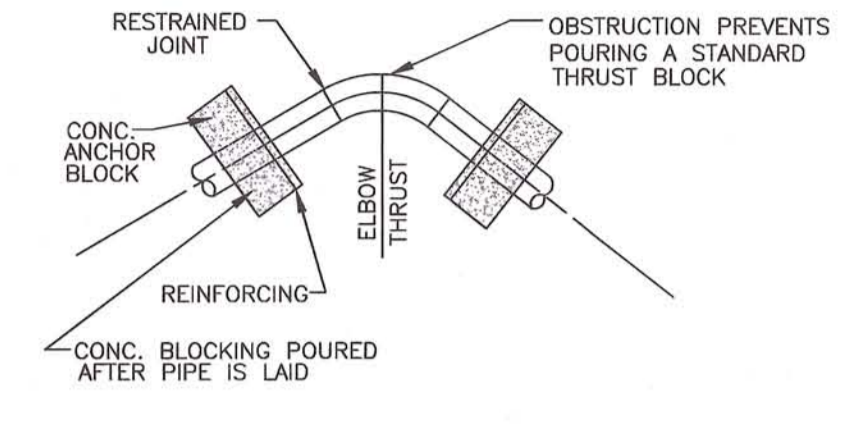
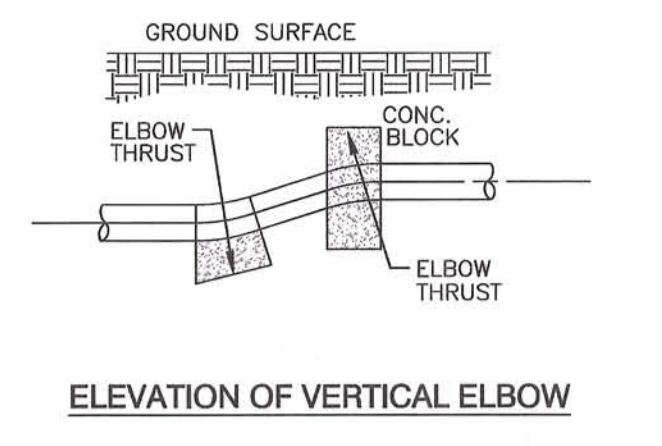
BACKFILL REQUIREMENTS

1. TYPE B SANITARY CONDUITS - SANITARY CONDUITS UNDER PAVEMENT: BACKFILL WITH ODOT STRUCTURAL BACKFILL FOR THE FULL DEPTH OF THE TRENCH ACCORDING TO ODOT CMS ITEM 603.

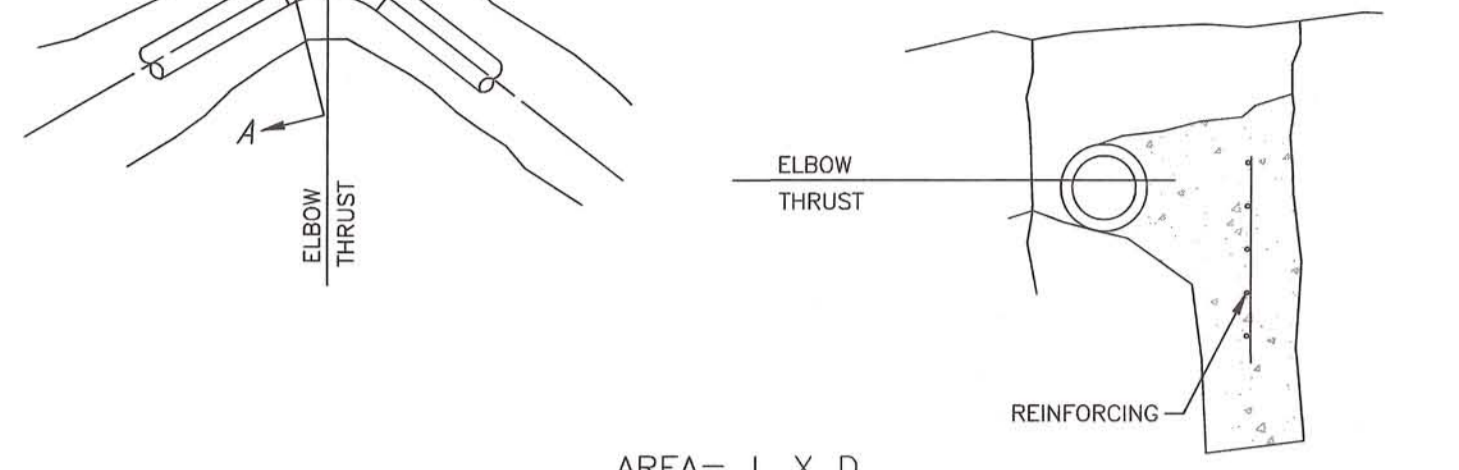
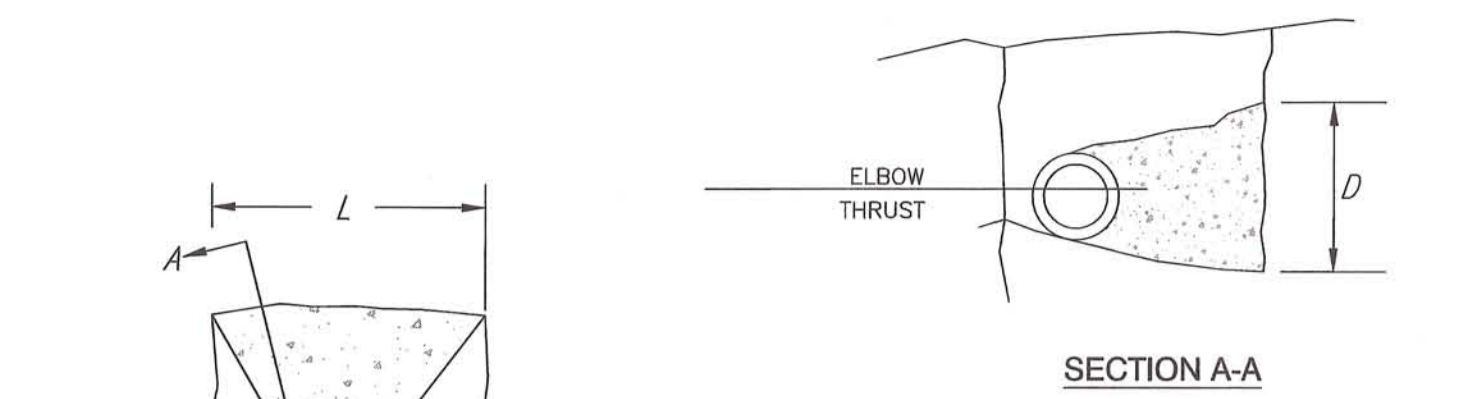
2. TYPE C SANITARY CONDUITS - SANITARY CONDUITS NOT UNDER PAVEMENT: BACKFILL WITH SOIL, GRANULAR EMBANKMENT, OR STRUCTURAL BACKFILL FOR THE FULL DEPTH OF THE TRENCH ACCORDING TO ODOT CMS ITEM 603.

CONSULT ODOT CMS ITEM 603 FOR ALL OTHER SANITARY CONDUIT INSTALLATION REQUIREMENTS NOT IDENTIFIED IN THESE PLANS.

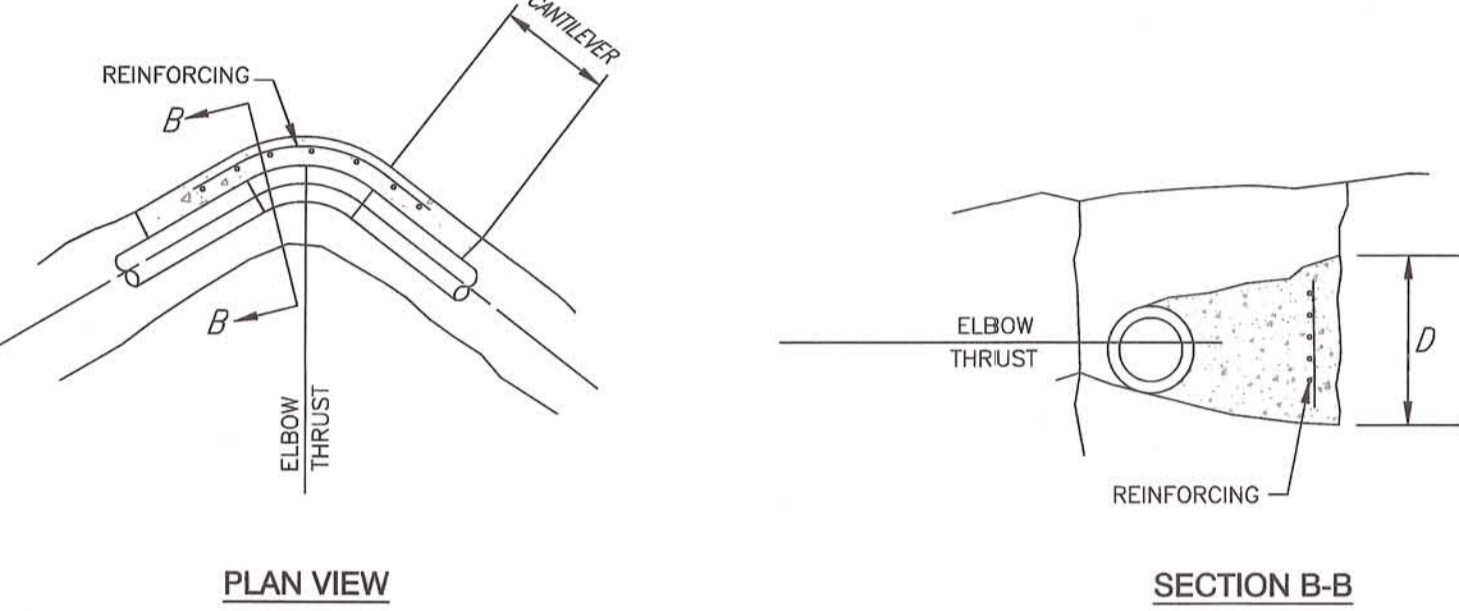
SANITARY TRENCH DETAIL



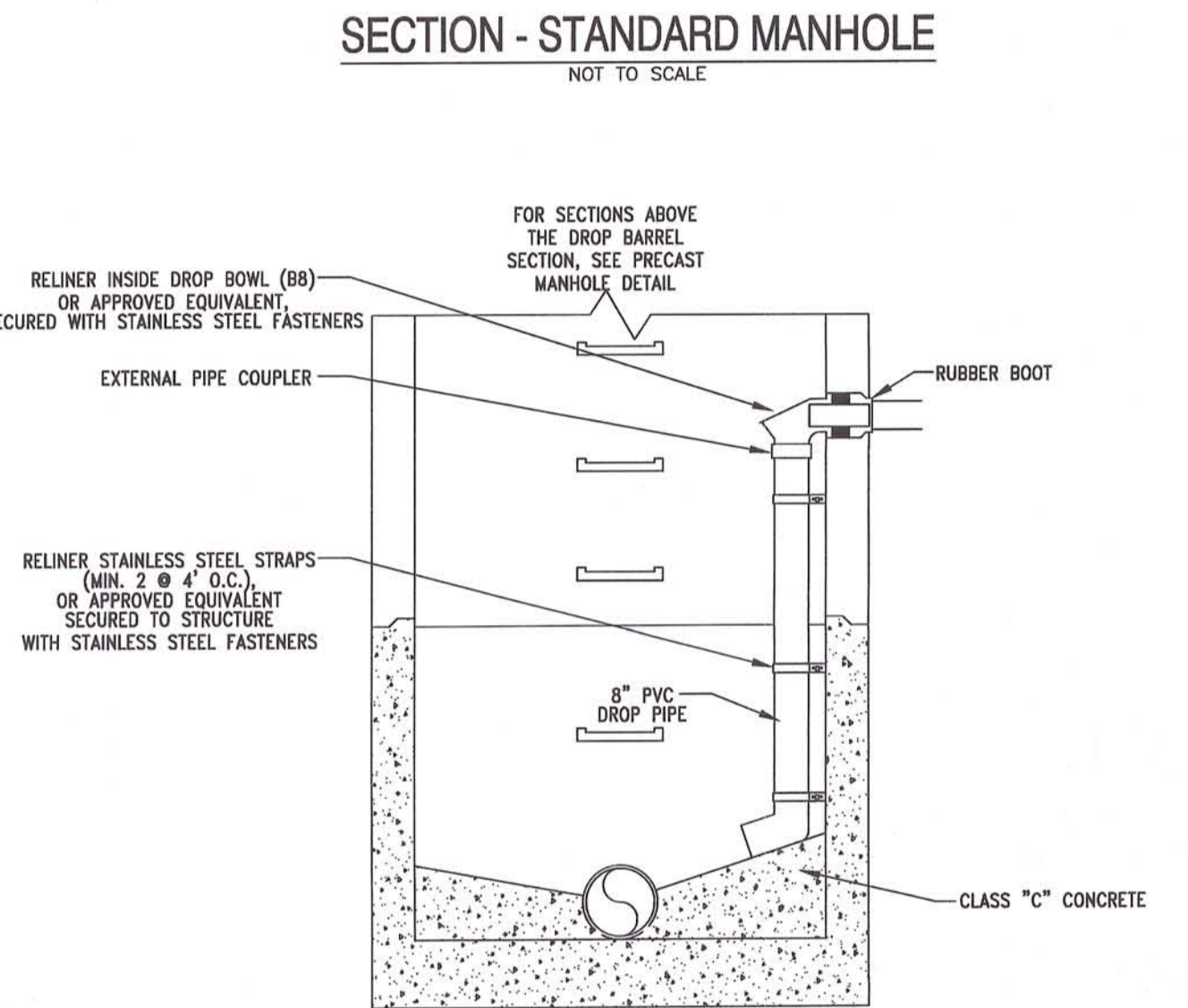
ANCHORING DETAILS



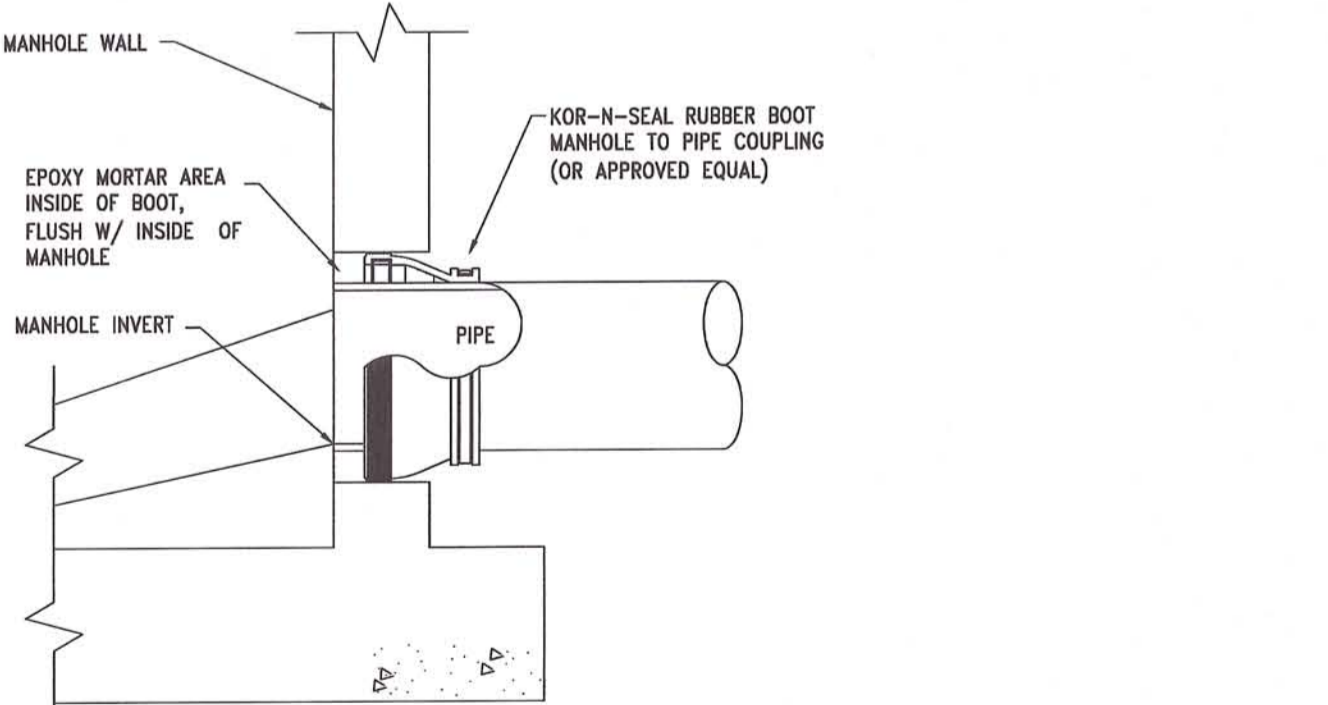
AREA = L X D



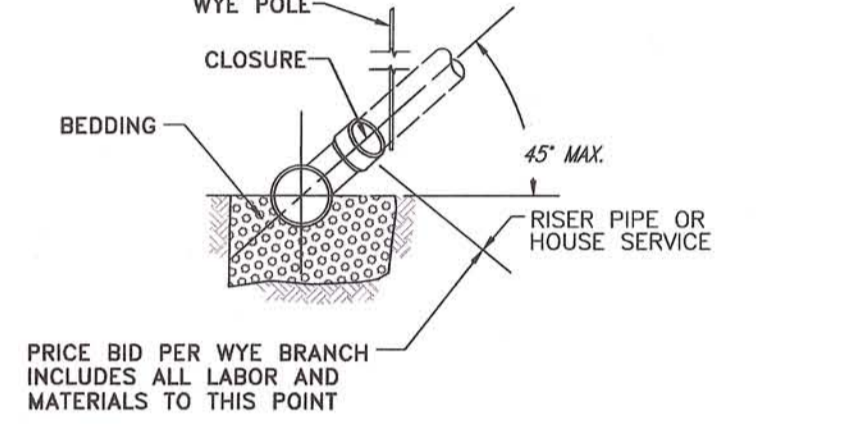
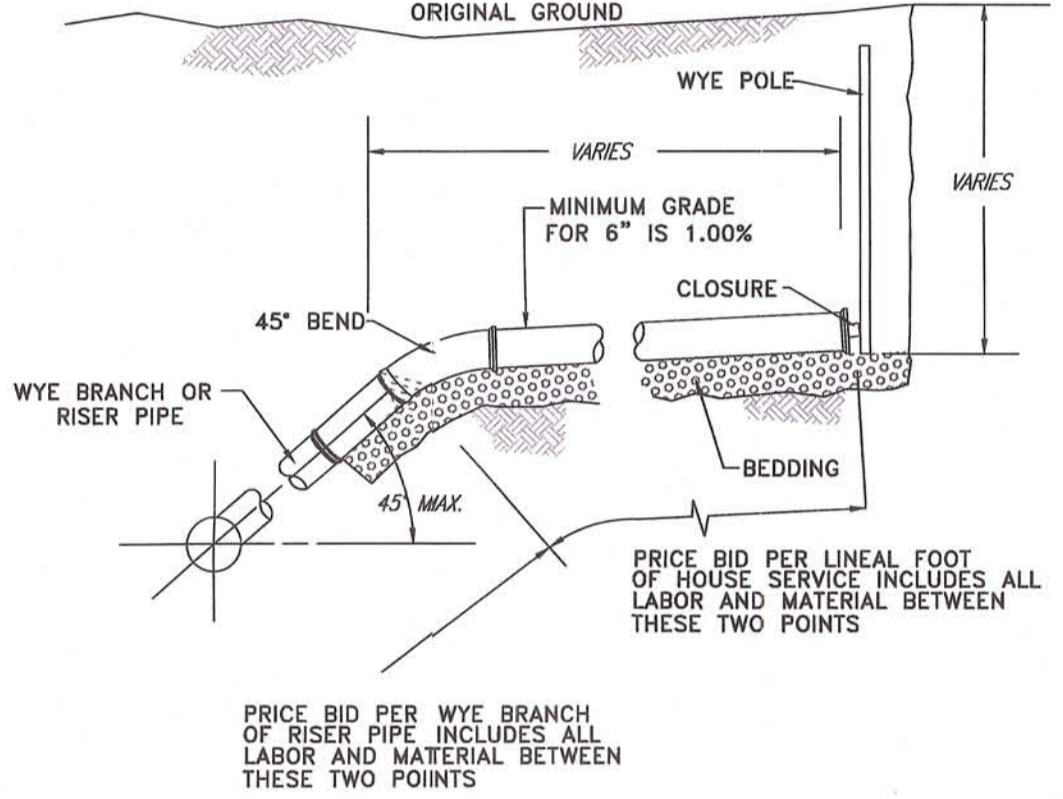
THRUST BLOCKING DETAILS



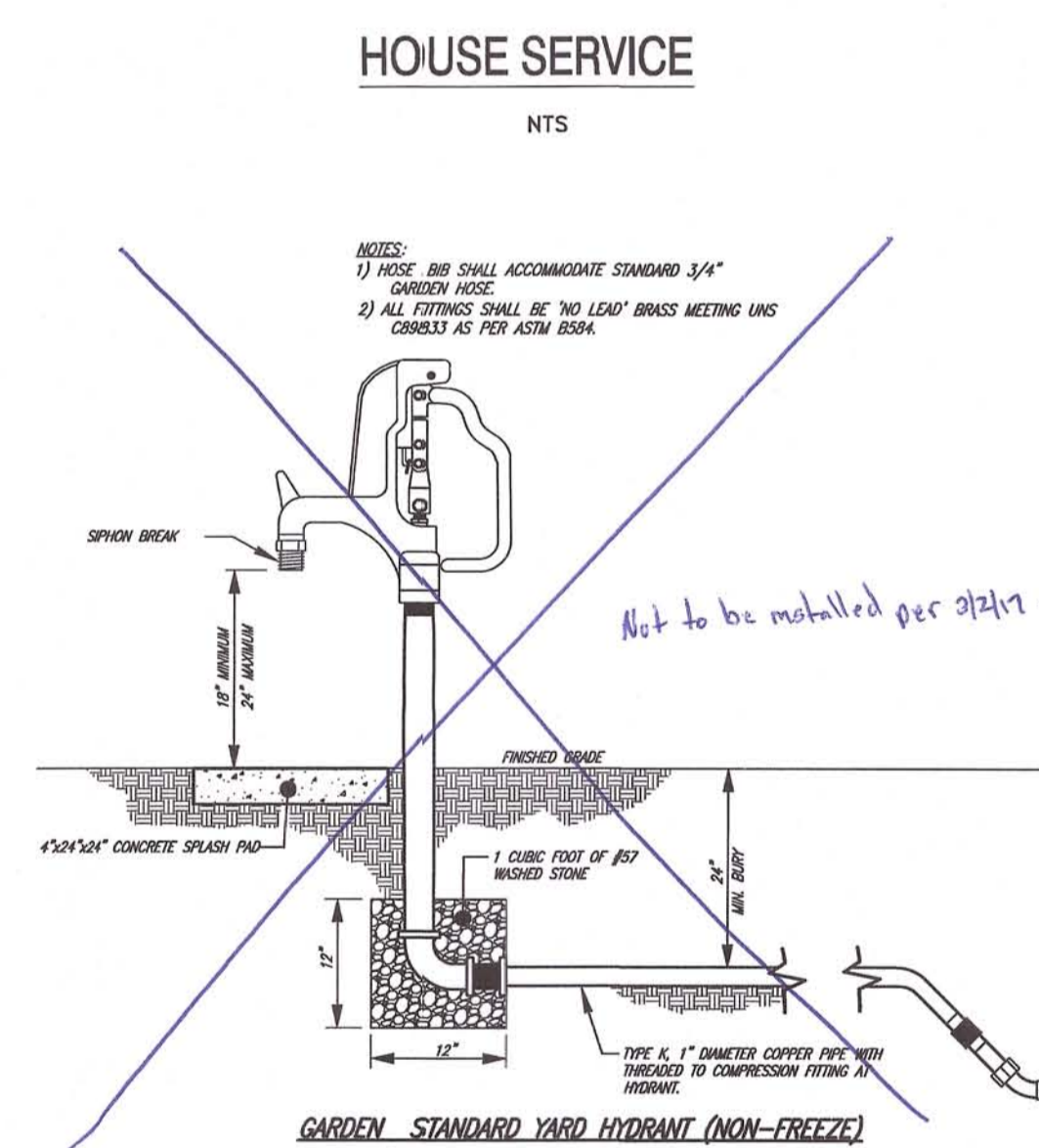
SECTION - DROP MANHOLE



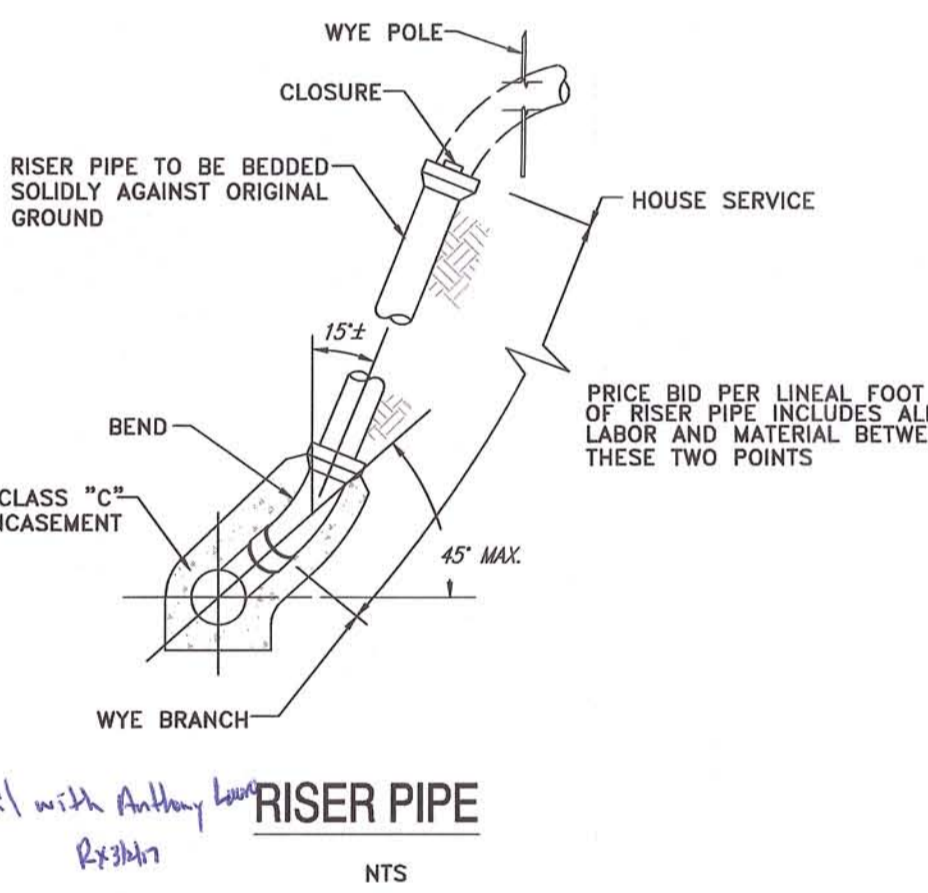
FLEXIBLE MANHOLE PIPE CONNECTION



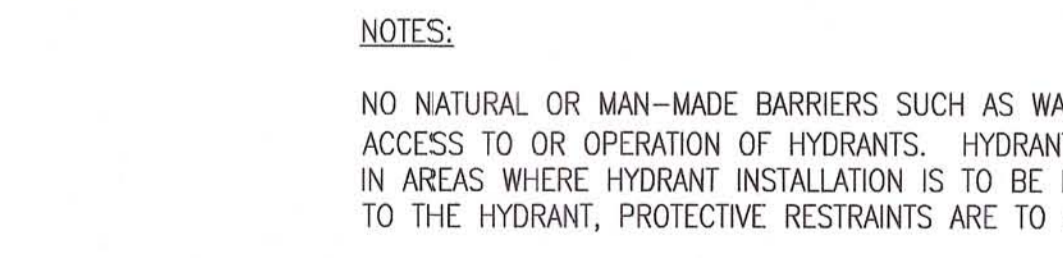
WYE BRANCH



HOUSE SERVICE



RISER PIPE



GARDEN STANDARD YARD HYDRANT (NON-FREEZE)

NOTES:

NO NATURAL OR MAN-MADE BARRIERS SUCH AS WALLS, FENCES, POSTS, CURBS, SHRUBBERY OR TREES SHALL BE INSTALLED AS TO IMPEDE THE USE, ACCESS TO OR OPERATION OF HYDRANTS. HYDRANTS SHALL HAVE A MINIMUM CLEAR DISTANCE OF THREE (3) FEET ON ALL SIDES. IN AREAS WHERE HYDRANT INSTALLATION IS TO BE IN ROADWAY, PARKING LOT OR OTHER AREAS WHERE TRUCK OR AUTO TRAFFIC MIGHT CAUSE DAMAGE TO THE HYDRANT, PROTECTIVE RESTRAINTS ARE TO BE INSTALLED.

FIRE HYDRANTS SHALL BE AWWA BREAKABLE TYPE WITH 5 1/4" COMPRESSION TYPE MAIN VALVE, 2 - 2 1/2" HOSE NOZZLES, 1 - 4 1/2" STREAMER NOZZLE, 6" MECHANICAL JOINT INLET AND NATIONAL STANDARD 1 1/2" PENTAGON OPERATING NUT FOR INSTALLATION IN A 48" DEEP TRENCH. HYDRANT NOZZLE THREADING SHALL CONFORM TO SPECIFICATION B26-1925 OF ASA FOR THE NATIONAL STANDARD FIRE HOSE THREAD. HYDRANT SHALL OPEN TO LEFT AND SHALL BE RATED FOR 250 LBS. WORKING PRESSURE. HYDRANTS SHALL BE AMERICAN FLOW CONTROL 5-1/4 B84B-5 TRAFFIC MODEL FIRE HYDRANT, OR A LOCAL GOVERNMENT APPROVED EQUAL. DEVELOPER/CONTRACTOR SHALL ULTIMATELY WORK WITH LOCAL GOVERNMENT AND THE LOCAL FIRE DEPARTMENT AS TO THE TYPE, NUMBER AND LOCATION OF FIRE HYDRANTS WITHIN SUBDIVISION. CONTRACTOR SHALL ENSURE THAT DRAIN OPENING DRAINS INTO CRUSHED STONE FILL. 3/4" TIE RODS ARE TO BE PROVIDED ON EACH SIDE OF PIPE BETWEEN TEE AND VALVE AND BETWEEN HYDRANT AND VALVE.

GATE VALVES SHALL CONFORM TO LATEST SPECIFICATIONS OF AWWA, SECTION C-509 FOR RESILIENT SEATED VALVES. VALVES SHALL BE NON-RISING STEM TYPE, OPEN LEFT, 2" SQUARE OPERATING NUT, STANDARD MECHANICAL JOINT, A-2370-20 AS MANUFACTURED BY MUELLER COMPANY, DECATUR, ILLINOIS, AMERICAN FLOW COMPANY OR CLOW.

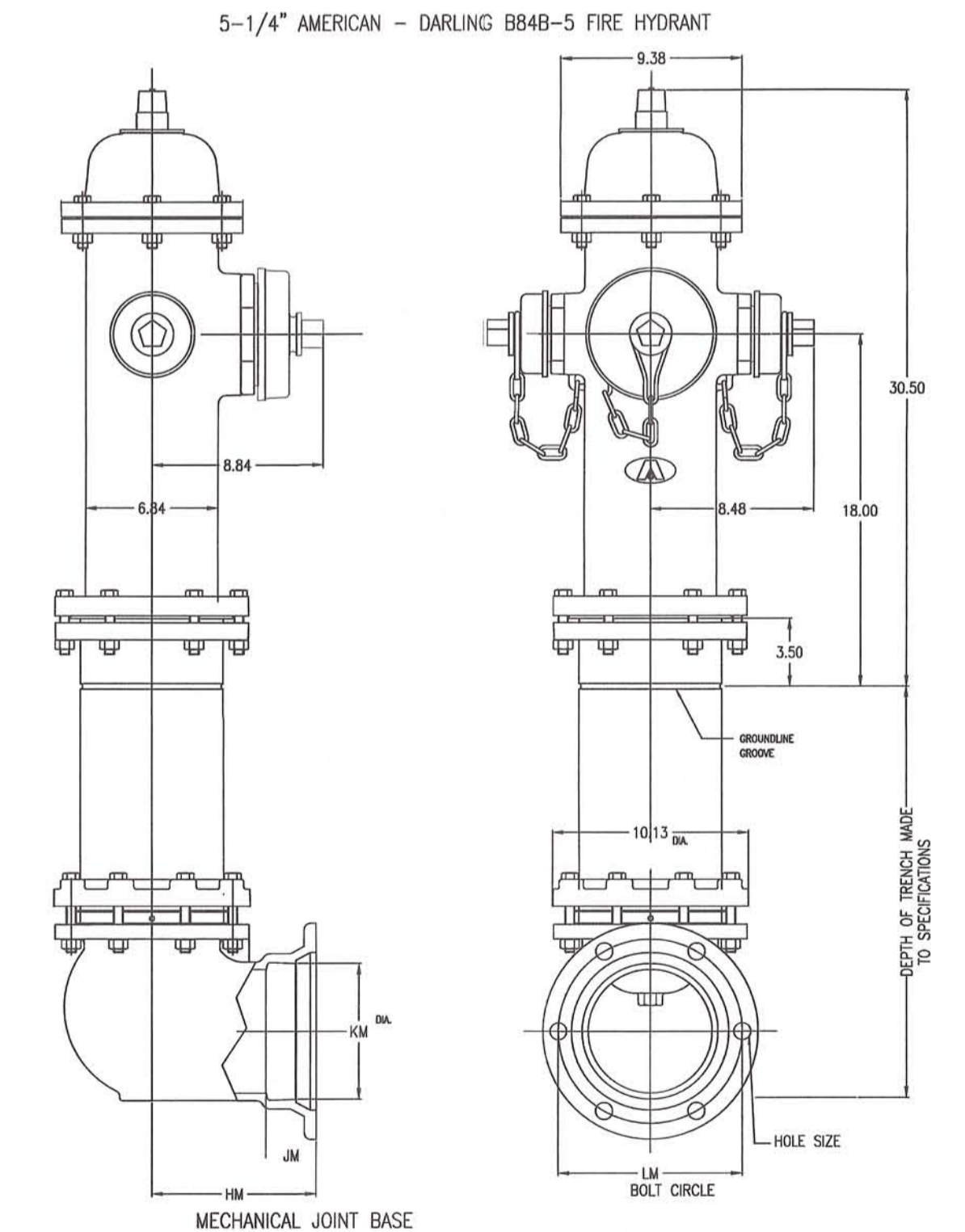
VALVE BOXES SHALL BE TWO PIECE, 5 1/4" SHAFT BUFFALO SCREW TYPE NO. H-10360, SIZE 564-S AS MANUFACTURED BY MUELLER COMPANY, DECATUR, ILLINOIS OR A LOCAL GOVERNMENT APPROVED EQUAL. THE LID SHALL HAVE THE WORD "WATER" CAST NEATLY AND LEGIBLY IN IT.

THRUST BLOCK AREA TABLE

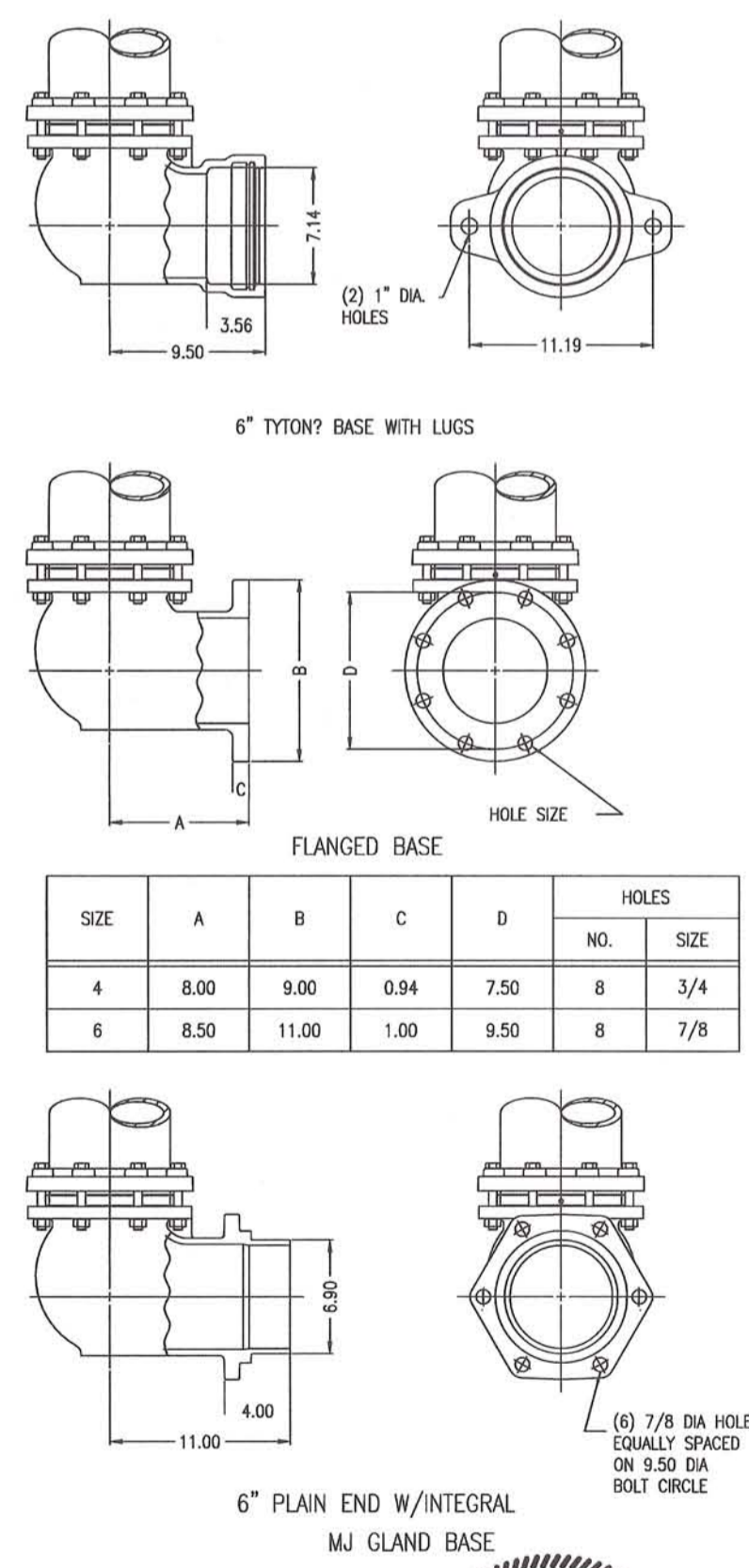
MINIMUM THRUST BLOCK AREA (IN SQ. FT.) REQUIRED AT BENDS AND DEAD ENDS IN SOILS WITH A SAFE BEARING LOAD OF 2,000 PSF

NOM. PIPE DIA. IN.	DEAD END OR TEE	90° BEND	45° BEND	22-1/2° BEND	11-1/4° BEND
100 PSIG MAXIMUM INTERNAL PRESSURE					
2" - 4"	1.0	2.0	1.0	1.0	0.5
6"	2.0	3.0	1.5	1.0	0.5
8"	3.5	4.5	2.5	1.5	1.0
10"	5.0	7.0	4.0	2.0	1.0
12"	7.0	10.0	5.5	3.0	1.5
14"	9.5	13.0	7.0	4.0	2.0
16"	18.0	25.5	14.0	7.0	3.5
24"	39.5	55.5	30.0	15.5	8.0
150 PSIG MAXIMUM INTERNAL PRESSURE					
2" - 4"	1.5	2.5	1.5	1.0	0.5
6"	3.0	4.0	2.5	1.5	0.5
8"	5.0	7.0	4.0	2.0	1.0
10"	7.5	10.5	5.5	3.0	1.5
12"	10.5	14.5	8.0	4.0	2.0
14"	14.0	19.5	10.5	5.5	3.0
16"	18.0	25.5	14.0	7.0	3.5
24"	39.5	55.5	30.0	15.5	8.0
200 PSIG MAXIMUM INTERNAL PRESSURE					
2" - 4"	2.0	3.0	2.0	1.0	1.0
6"	4.0	5.5	3.0	1.5	1.0
8"	6.5	9.0	6.0	2.5	1.5
10"	10.0	14.0	7.5	4.0	2.0
12"	14.0	19.5	10.5	5.5	3.0
14"	18.5	26.0	14.0	7.5	4.0
16"	24.0	34.0	18.5	9.5	5.0
24"	52.5	74.0	40.0	20.5	10.5
250 PSIG MAXIMUM INTERNAL PRESSURE					
2" - 4"	4.0	5.0	3.0	1.5	1.0
6"	5.0	7.0	4.0	2.0	1.0
8"	8.0	11.5	6.5	3.5	2.0
10"	12.0	17.0	9.5	5.0	2.5
12"	17.5	24.5	13.0	7.0	3.5
14"	23.0	32.5	17.5	9.0	4.5
16"	30.0	42.0	23.0	12.0	6.0
24"	35.5	92.5	50.0	25.5	13.0
300 PSIG MAXIMUM INTERNAL PRESSURE					
2" - 4"	5.0	6.5	3.5	2.0	1.0
6"	6.0	8.0	4.5	2.5	1.0
8"	10.0	14.0	7.5	4.0	2.0
10"	14.5	20.5	11.0	6.0	3.0
12"	20.5	29.0	16.0	8.0	4.0
14"	28.0	39.0	21.0	11.0	5.5
16"	36.0	50.5	27.5	14.0	7.0
24"	78.5	111.0	60.0	31.0	15.5
350 PSIG MAXIMUM INTERNAL PRESSURE					
2" - 4"	6.0	8.0	4.0	2.5	1.0
6"	6.5	9.5	5.0	3.0	1.5
8"	11.5	16.0	9.0	4.5	2.5
10"	17.0	24.0	13.0	7.0	3.5
12"	24.0	34.0	16.5	9.5	5.5
14"	32.5	45.5	25.0	13.0	6.5
16"	42.0	59.0	32.0	16.5	8.5
24"	91.5	129.5	70.0	36.0	18.0

NOTE: ALL BENDS 11-1/4" AND LARGER, INCLUDING TEES, SHALL BE ANCHORED AGAINST THRUST.



SIZE	HM	JM	KM	LM	HOLES	
					NO.	SIZE
4	8.50	2.50	4.91	7.50	4	7/8
6	8.50	2.50	7.03	9.50	6	7/8
8	10.25	2.50	9.18	11.75	6	7/8



SIZE	A	B	C	D	HOLES	
					NO.	SIZE
4	8.00	9.00	0.94	7.50	8	3/4
6	8.50	11.00	1.00	9.50	8	7/8

WATER SUPPLY APPROVED
OHIO ENVIRONMENTAL PROTECTION AGENCY
AS EVIDENCED BY COPY OF LETTER OF APPROVAL HERETO ATTACHED

STATE OF OHIO
ANTHONY LAURO, JR.
E-28578
REGISTERED PROFESSIONAL ENGINEER

LAURO ENGINEERING
1606 Dogwood Ridge Road
Wheelersburg, Ohio 45694
Phone: (740) 574-2334
Fax: (740) 574-2335
loren.purdum@laurum.com

TYPICAL SECTIONS & STANDARDS & DETAILS

SANDSTONE APARTMENTS
PART OF SW 1/4 SECTION 19, T-10-N, R-14-W
DOVER TOWNSHIP, ATHENS COUNTY, OHIO

SCALE: AS NOTED
DRAWN BY: L. PURDUM
CHECKED BY: A. LAURO
DRAWING NUMBER
SHEET NUMBER 4 OF 19

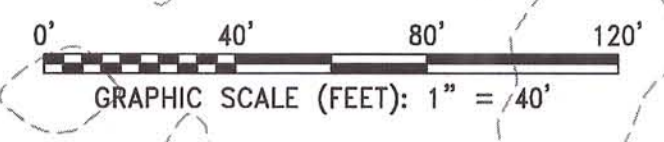
HAMLEY RUN ADDITION
Plat Book 10, Page 47

BUCKEYE COMMUNITY SERVICES, INC.
Volume 369, Page 271

GREGORY M. LINSKOTT
Volume 375, Page 569
Tract One

GREGORY M. LINSKOTT
Volume 375, Page 569
Tract Two

Athens Sewer & Water Lift Station



Hartmand Road

GILBERT HARTMANS SECOND ADDITION
Plat Book 7, Page 226

GILBERT HARTMANS FIRST ADDITION
Plat Book 7, Page 226

JAMES & RUSSLYNN STALDER
Official Record 72, Page 589

MICHAEL P. & PATRICIA E. MCSTEEN
Official Record 491, Page 1285

EILEEN M. ASHWORTH & ALICE M. IRVIN
OR 178, Page 491

GEORGE R. TINKHAM
SMILEY A. TINKHAM
Volume 334, Page 925

RUTH E. THOMPSON
Volume 226, Page 732
Volume 253, Page 640

JACKIE A. HAID
Official Record 464, Page 5

STEPHEN M. KEMPTON
Official Record 382, Page 777

PAUL B. MULLINS
NEIL D. MULLINS
Official Record 521, Page 2144

AMBER N. ROBERTS
Volume 489, Page 160

JANNA NICOLE SWART
KARA ELIZABETH COZORT
CHRISTINE ANN HART
Official Record 511, Page 232
Parcel No. 2
Parcel No. 1
Parcel No: G01-01902003-00
1.9493 Acres By Survey

JANNA NICOLE SWART
KARA ELIZABETH COZORT
CHRISTINE ANN HART
Official Record 511, Page 232
Parcel No. 1
Parcel No: G01-01902002-00
9.9559 Acres By Survey

L. DARLENE HOLDCROFT
Volume 208, Page 176

State Route 692

9.8700 Acres

2.0351 Acres

WATER SUPPLY APPROVED
AS EVIDENCED BY COPY OF
LETTER OF APPROVAL
HERE TO ATTACHED

JENNIFER RICE
Official Record 346, Page 102

Hopewell Health Center

DEDDENS DEVELOPMENT II, LTD.
OR 352, Page 1700
Tract Two



Loren R. Purdom

LEGEND

- Ref. No. (Symbol)
- Parcel No. (Symbol)
- Iron Pin Found (Symbol)
- Iron Pin Set 5/8" Rebar with Identification Cap (Symbol)
- Railroad Spike Set (Symbol)
- ODOT R/W Concrete Monument Found (Symbol)
- Hardwood Tree (Symbol)
- Pine Tree (Symbol)
- Fire Hydrant (Symbol)
- Water Valve (Symbol)
- Sanitary Manhole (Symbol)
- Edge of Asphalt Pavement (Symbol)
- Edge of Gravel Pavement (Symbol)
- Center Line of Survey (Symbol)
- Contour Line (Symbol)
- Power Pole (Symbol)
- Overhead Electric (Symbol)
- Telephone Terminal Box (Symbol)
- Soil Boring Sample Hole (Symbol)
- Natural Gas Transmission Line (Symbol)

REV	DATE	DESCRIPTION
5	09-25-2016	EPA Permit Submission
4	07-15-2016	80% Submission
3		Date of Drawing
2		
1		
0		

LAURO ENGINEERING
1606 Dogwood Ridge Road
Wheelersburg, Ohio 45694
Phone: (740) 574-2535
Fax: (740) 357-6067
loren.purdom@laurum.com

EXISTING SITE CONDITIONS

SANDSTONE APARTMENTS
PART OF SW 1/4 SECTION 19, T-10-N, R-14-W
DOVER TOWNSHIP, ATHENS COUNTY, OHIO

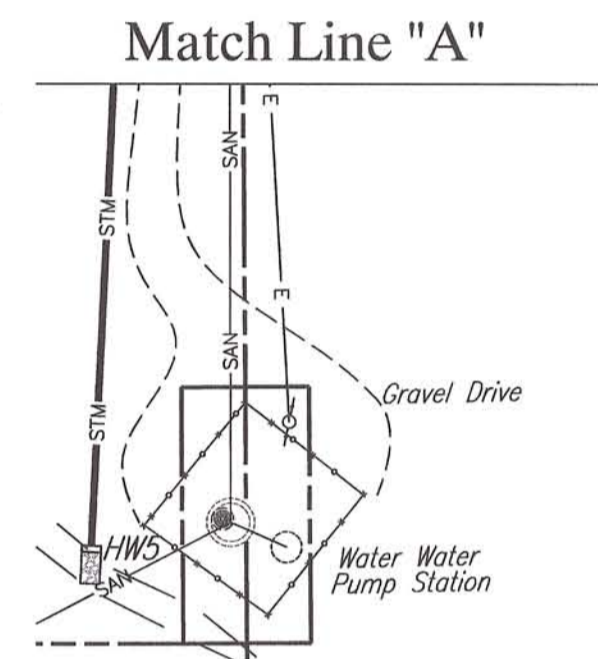
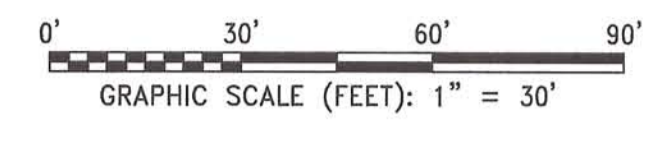
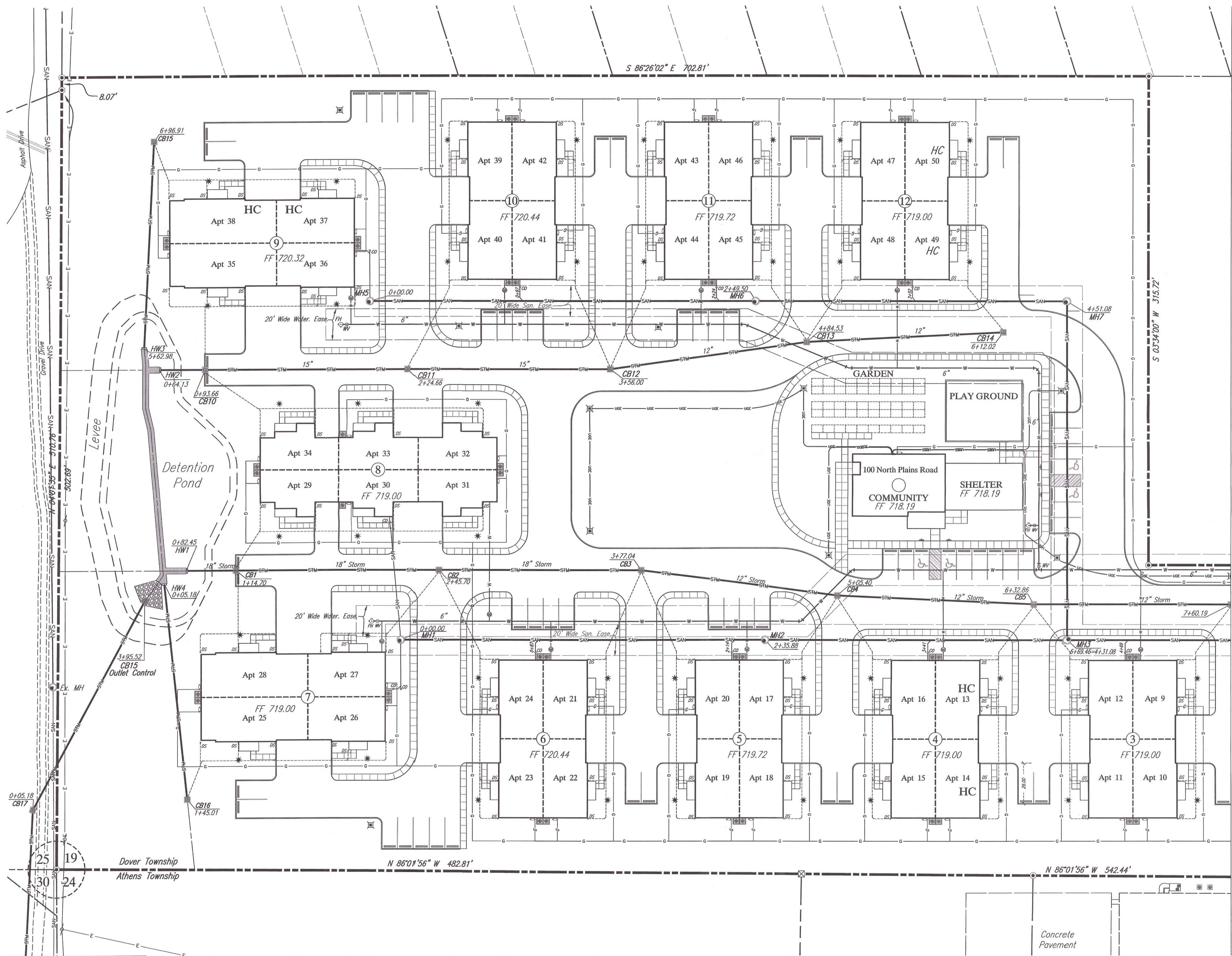
SCALE: AS NOTED

DRAWN BY: L. PURDOM

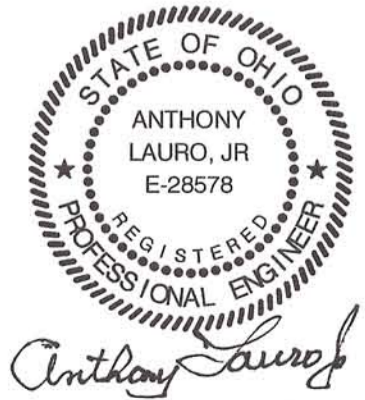
CHECKED BY: T. Royal

DRAWING NUMBER

SHEET NUMBER
5
19



WATER SUPPLY APPROVED
 OHIO ENVIRONMENTAL PROTECTION AGENCY
 AS EVIDENCED BY COPY OF
 LETTER OF APPROVAL
 HERETO ATTACHED



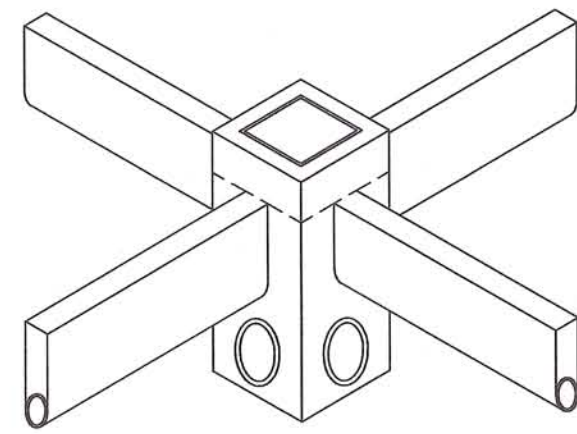
5	REV.	DESCRIPTION	DATE
4			
3	2	EPA Permit Submission	02-01-2017
2	1	80% Submission	09-22-2016
1	0	Date of Drawing	09-01-2016

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UTILITY PLAN WEST

SANDSTONE APARTMENTS
 PART OF SW 1/4 SECTION 19, T-10-N, R-14-W
 DOVER TOWNSHIP, ATHENS COUNTY, OHIO

SCALE:	AS NOTED
DRAWN BY:	L. PURDOM
CHECKED BY:	
DRAWING NUMBER	
SHEET NUMBER	10 / 19



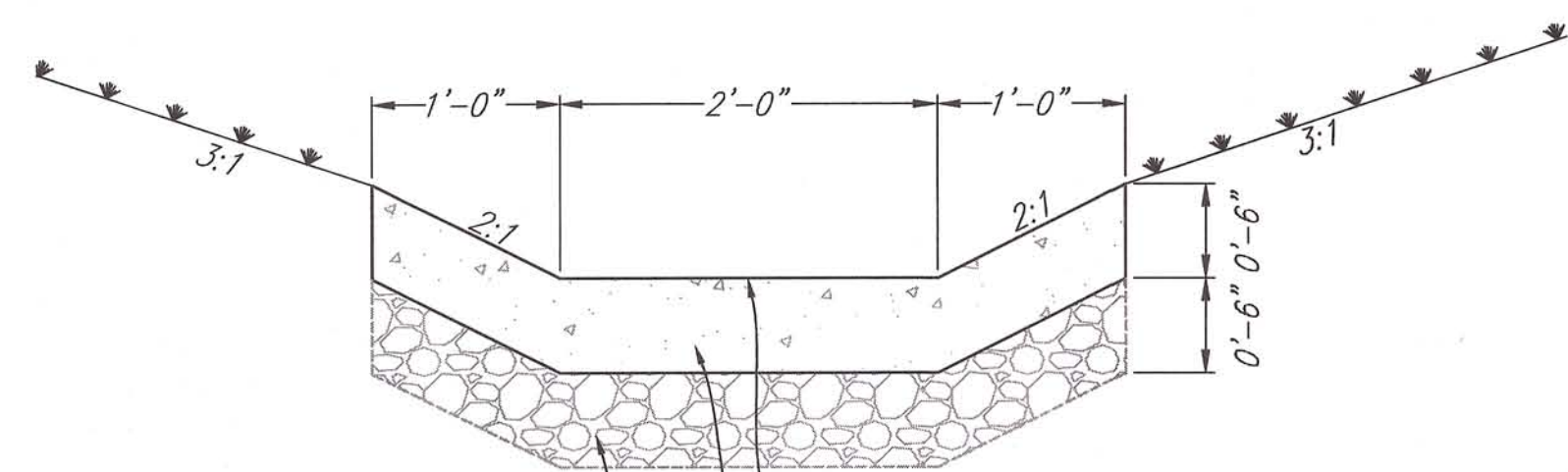
FINGER DRAIN ISOMETRIC
4 INCH FINGER DRAINS

FINGER DRAINS SHALL BE INSTALLED AT EACH CATCH BASIN WHICH IS IN A PAVED AREA.

FLOW LINE OF THE DRAIN SHALL BE A MINIMUM OF 12 INCHES BELOW THE SUBGRADE OF THE PAVED AREA AND SHALL EXTEND 10 FEET FROM THE OUTSIDE CATCH BASIN WALL.

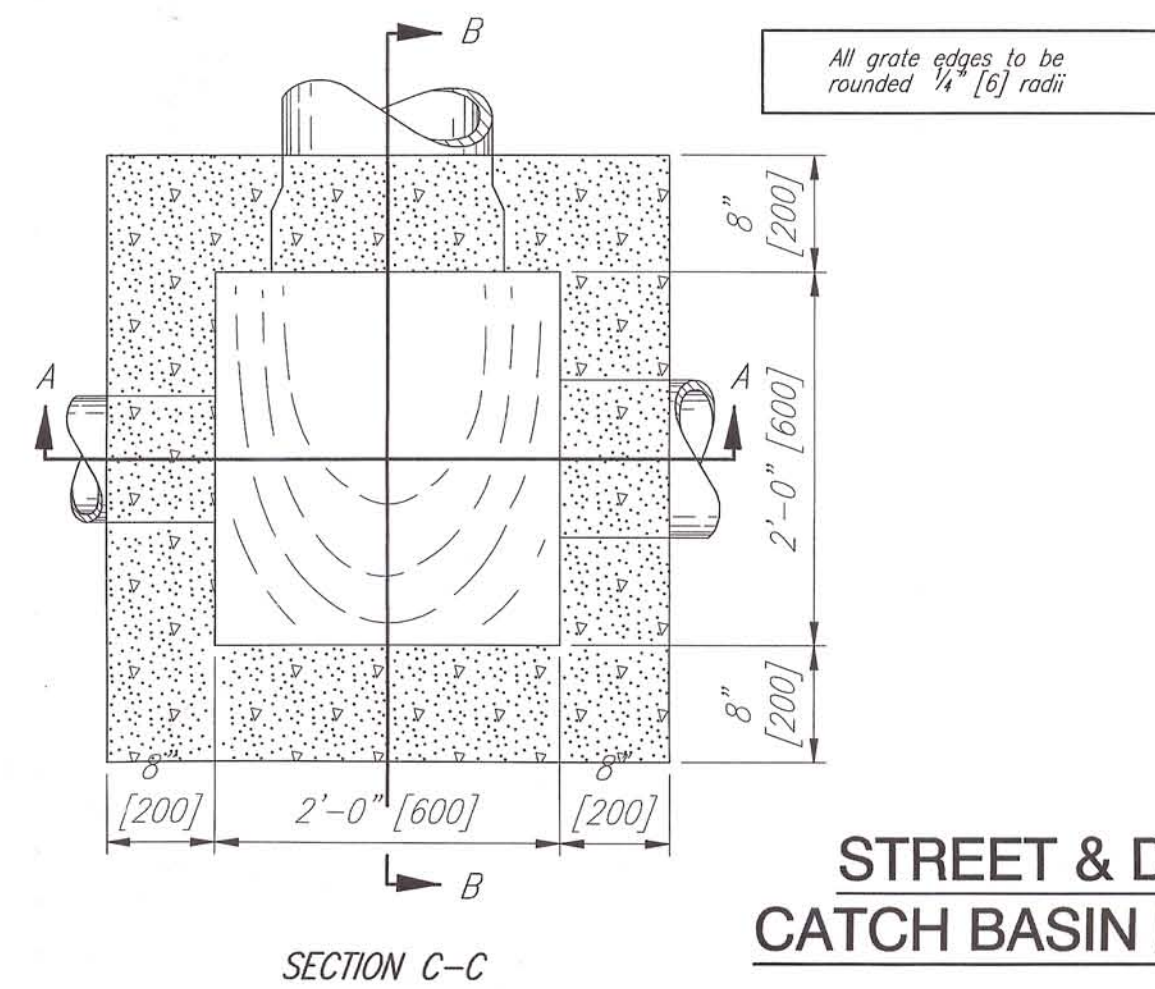
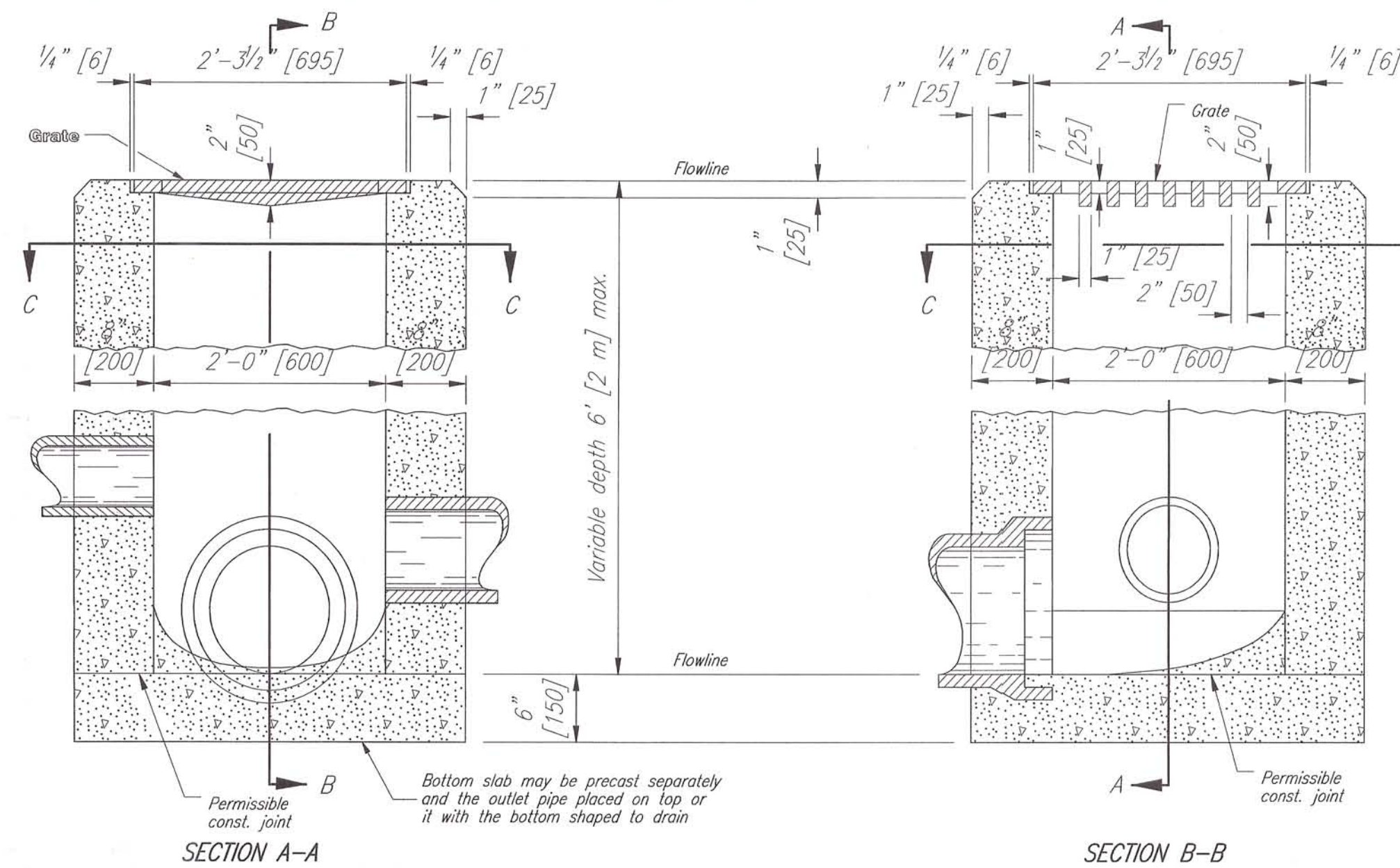
THE INVERT OF THE DRAIN SHALL FLOW TO THE CATCH BASIN AT A MINIMUM OF 0.5 PERCENT GRADE.

THE 4 INCH DRAINS SHALL BE INSTALLED IN ACCORDANCE WITH THE ODOT CMS ITEM 605 UNDERDRAINS WITH FILTER FABRIC.

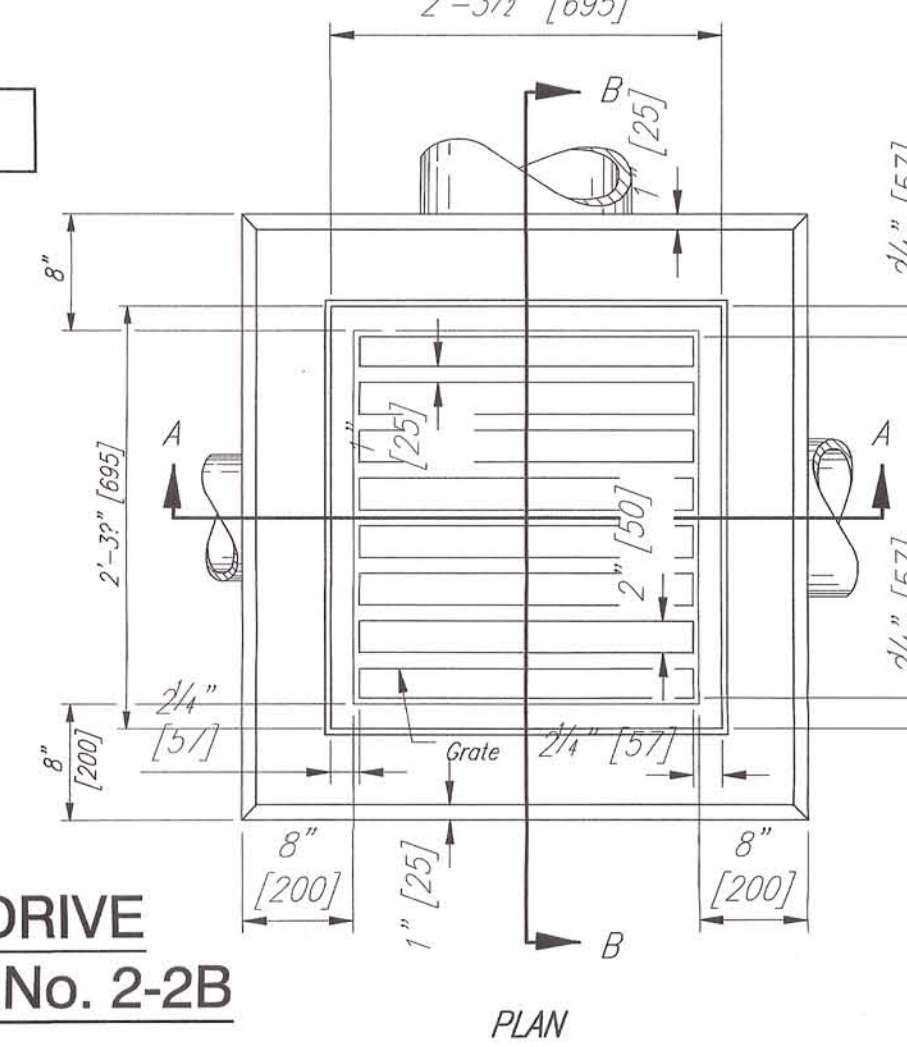


Provide Contraction Joints at 10' Intervals
ODOT 4000 PSI Class "C" Concrete
ODOT 304 Aggregate Base

DETENTION POND PAVED GUTTER



STREET & DRIVE
CATCH BASIN No. 2-2B



PLAN

NOTES

CATCH BASINS 2-2A & B: This sheet depicts Catch Basin 2-2B. See Sheet 1 of 2 for Catch Basin 2-2A.

GRATE: The design shall be essentially the same and equally as strong as the one shown (see Construction Information Table), or meet the requirements of CMS 711.14. Grate openings and dimensions shall not differ from those shown here unless otherwise shown in the plans.

If necessary, bicycle safe grates shall be specified in the plans. Bicycle safe grates shall be Mesh No. R-4859-C or East Jordan No. 5110 type M3 or approved equals.

As of January 1, 2003, the following text shall be cast into the top of the grate:

"DRAINS TO WATERWAY" "DUMP NO WASTE"

Text shall be printed in bold, capital letters with a minimum height of 1/2". "WATERWAY" may be substituted with "STREAM", "RIVER", "LAKE", etc. Actual placement and logo may vary per manufacturer.

WALLS: Brick or cast-in-place walls have a nominal thickness of 8" [200]. Precast walls shall have a minimum thickness of 6" [150] and be reinforced sufficiently to permit shipping and handling without damage.

CONCRETE: Cast-in-place concrete is to be Class C. All precast concrete shall meet the requirements of CMS 706.13 and marked with the catch basin number.

PRECAST BASE: If a precast base is used, it shall be set deep enough so that the top can be placed on the base to provide the grate elevation specified in the plans. Layers of brick shall not be used to adjust the top elevation.

LOCATION AND ELEVATION: When given on the plans, location and elevation are at the top center of the grate. When side openings are provided, the elevation shall be at the flow line of the side inlet.

MINIMUM DEPTH: The minimum depth of CB No. 2-2B shall be the outside diameter (O.D.) of the outlet pipe plus 4" [100].

2-2B GRATE ELEVATION: Grate elevation is to be placed 4" to 6" [100 to 150] below normal ditch returning to normal 10' to 15' [3 m to 5 m] each side of the inlet.

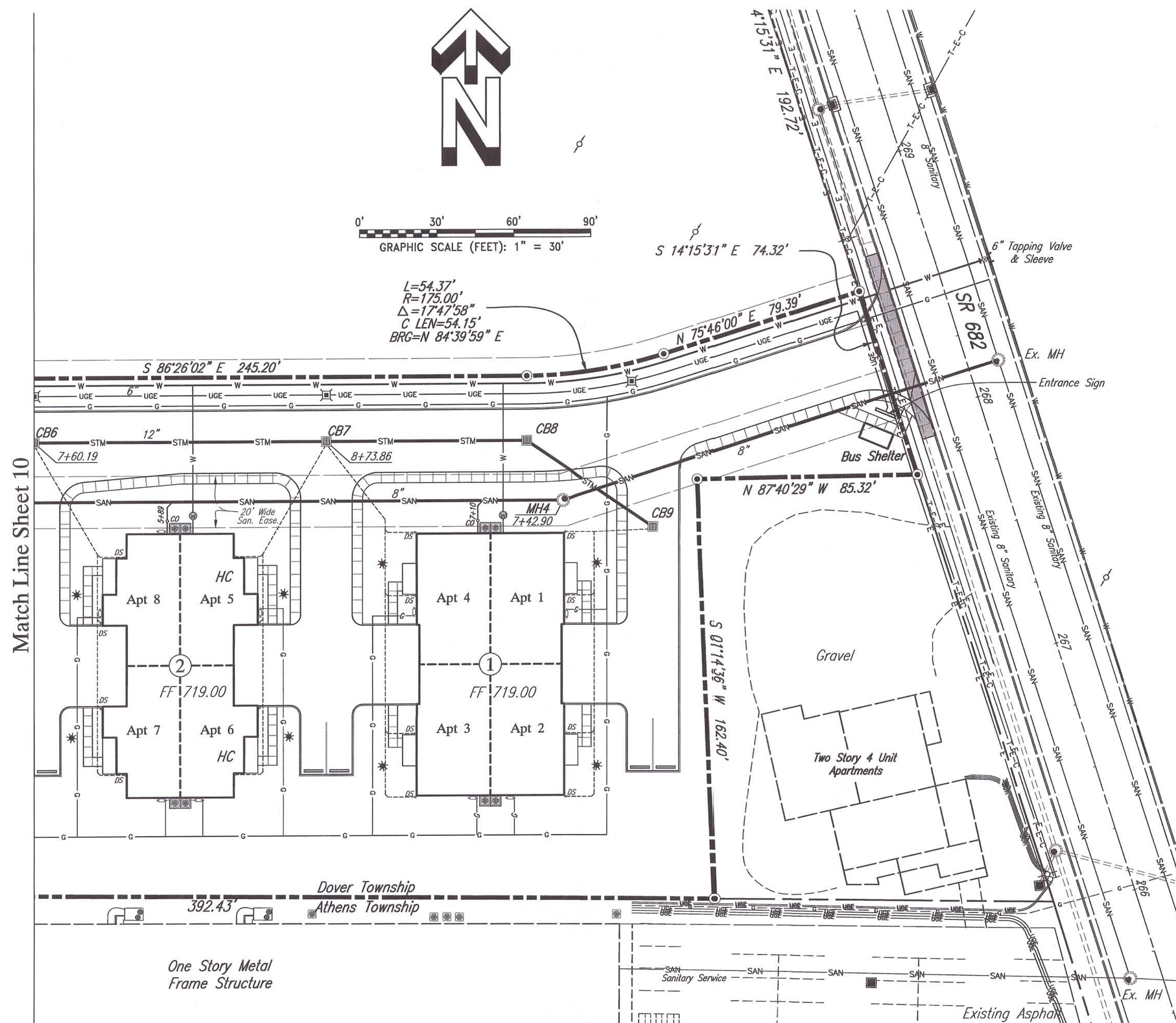
OPENINGS: Any pipe openings greater than 4" [100] from the outside of the pipe to the structure require the Engineer's approval. Fill all voids per CMS 604.

PAYMENT: All materials and labor, including excavation and backfilling, shall be paid for under Item 604 - Catch Basin, No. 2-2B.

CONSTRUCTION INFORMATION

Minimum weight (mass) of grate, 120 lbs. [54 kg]

CATCH BASIN	OUTLET PIPE SIZE
2-2A	12" to 21" [300 to 525]
2-2B	12" to 21" [300 to 525]



Match Line Sheet 10



L=54.37'
R=175.00'
Δ=174°58'
C LEN=54.15'
BRG=N 84°39'59" E



Anthony Lauro

NO.	DATE	DESCRIPTION
5	09-01-2016	REV.
4	09-22-2016	REV.
3	02-01-2017	REV.
2	09-22-2016	REV.
1	09-22-2016	REV.
0	09-01-2016	REV.

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UTILITY PLAN
EAST

SANDSTONE APARTMENTS
PART OF SW 1/4 SECTION 19, T-10-N, R-14-W
DOVER TOWNSHIP, ATHENS COUNTY, OHIO

SCALE:
AS NOTED
DRAWN BY:
L. PURDOM
CHECKED BY:

DRAWING NUMBER
SHEET NUMBER
11
19

