

# VALLI-HI ACRES WATERLINE EXTENSION

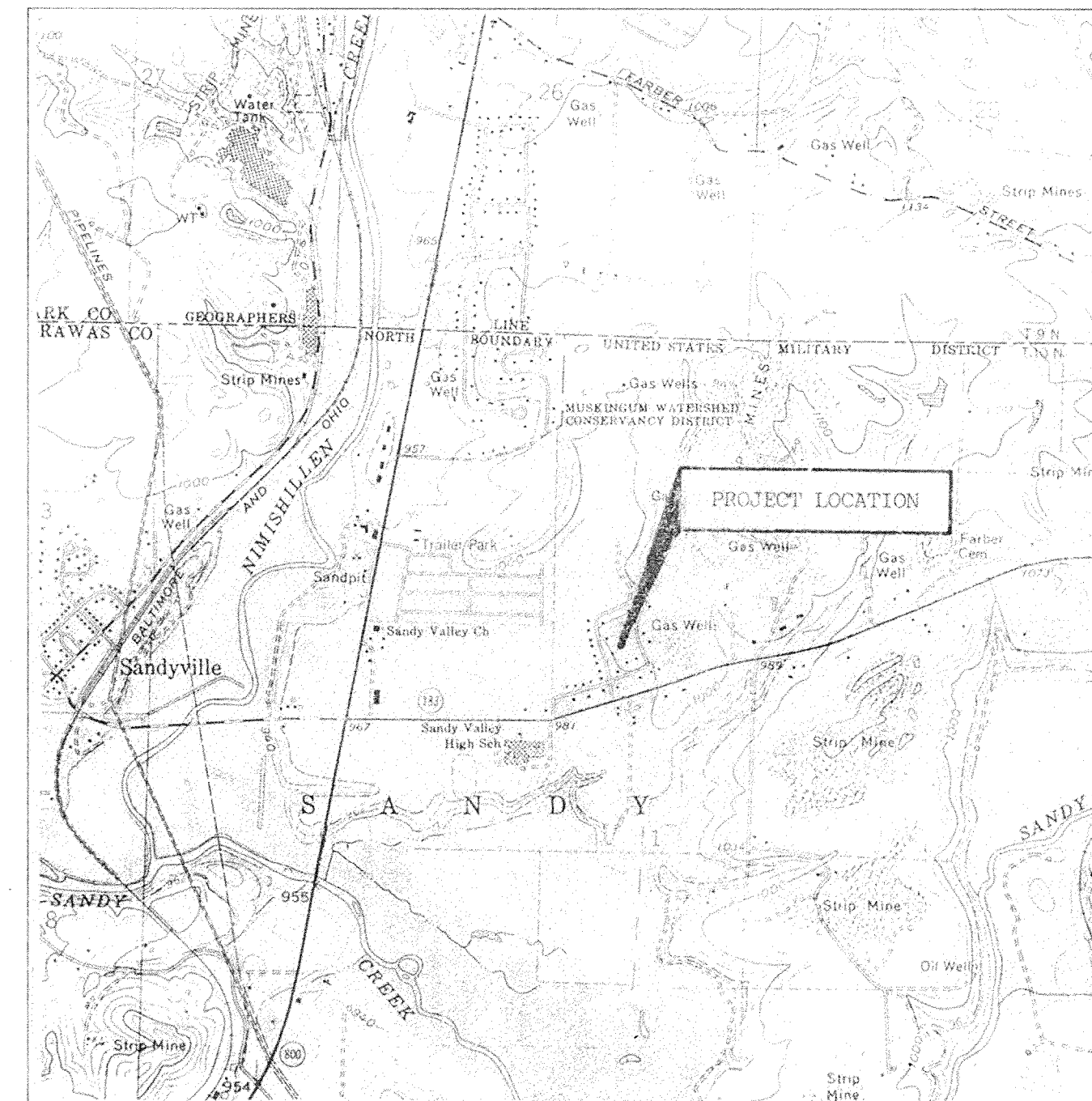
## SANDY TOWNSHIP

### TUSCARAWAS COUNTY, OHIO

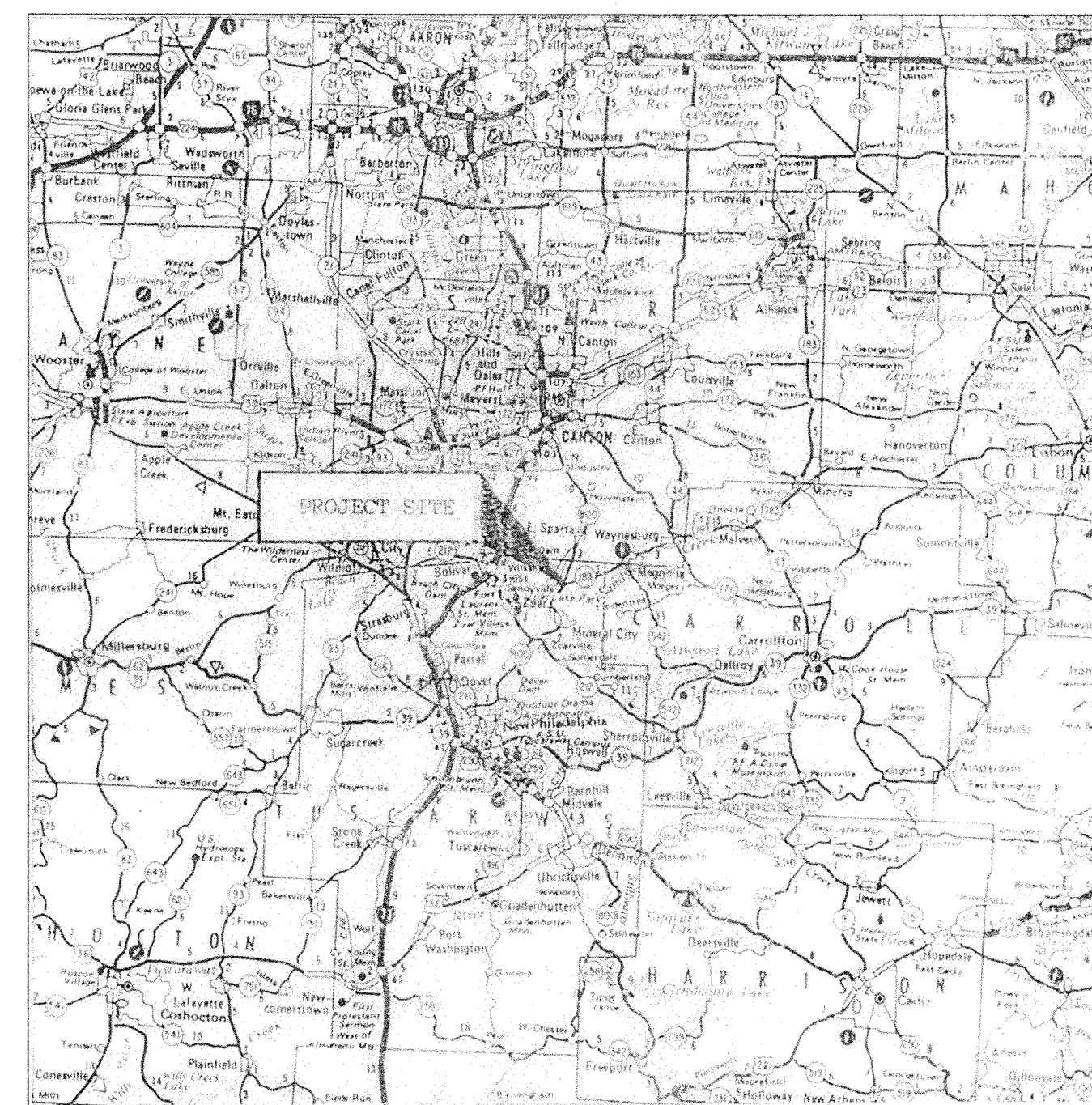
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*copy sent Tim  
7/21/95*



VICINITY MAP  
SCALE: 1" = 2000'



LOCATION MAP  
SCALE: 1" = 10 Miles

#### COUNTY OFFICIALS

##### TUSCARAWAS COUNTY COMMISSIONERS

John W. Zion, President

Stephen A. Smith, Vice President

William E. Winters

##### COUNTY SANITARY ENGINEER

Arthur B. Taylor, P.E.

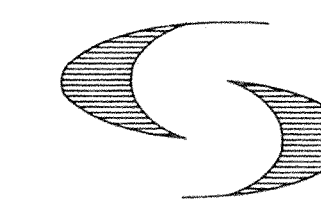
##### TUSCARAWAS COUNTY AUDITOR

John A. Beitzel

##### TUSCARAWAS COUNTY ADMINISTRATOR

John A. Wysocki

Plans Prepared and  
Recommended By:



Civil Design Associates, Inc.

Consulting Engineers & Surveyors

1760 Brightwood Road, S.E.  
New Philadelphia, Ohio 44663

JUNE, 1995

Civil Design Associates, Inc.  
Consulting Engineers & Surveyors  
New Philadelphia, Ohio 44663  
(216) 339-4242

TITLE SHEET

VALLI-HI ACRES  
WATERLINE EXTENSION

PROJECT No.  
9479

SHEET No.

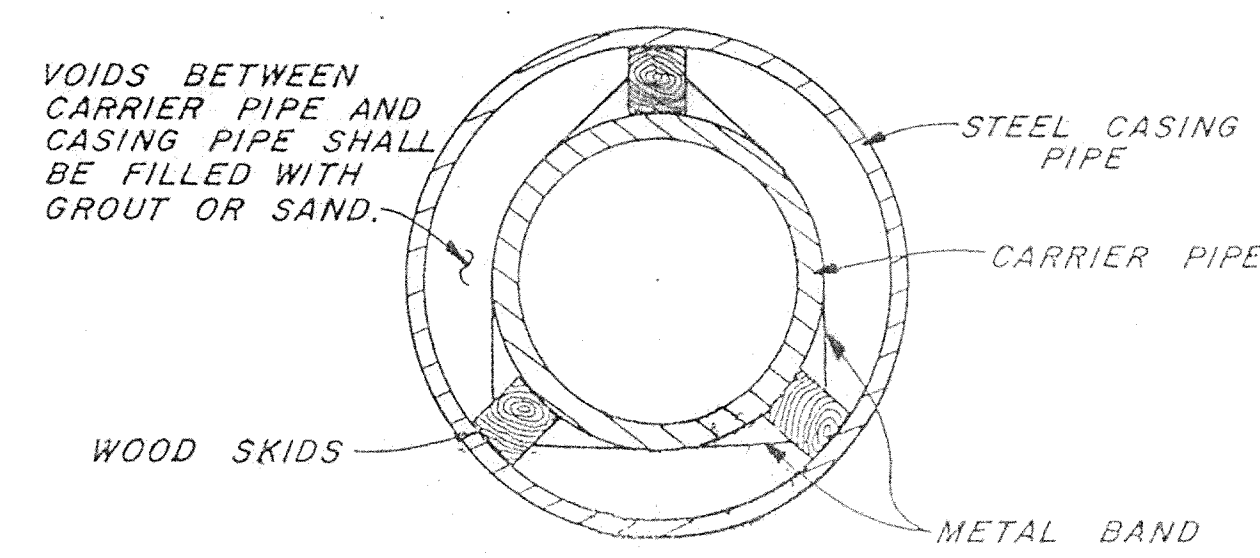
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DATE  
8-30-95  
DRAWN BY  
H.D.M.

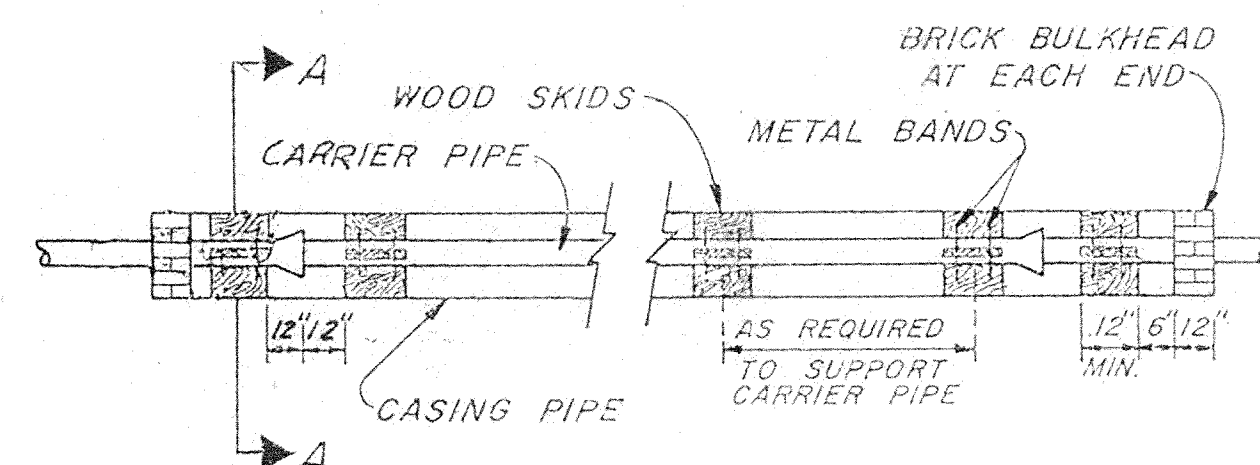
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Consulting Engineers \* Surveyors

REVISIONS				
Rev. No.	DESCRIPTION	DATE	BY	CHKD

**CARRIER / CASING PIPE DETAIL**



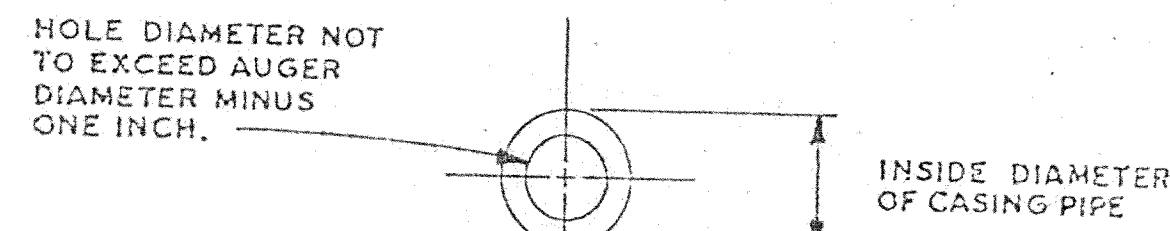
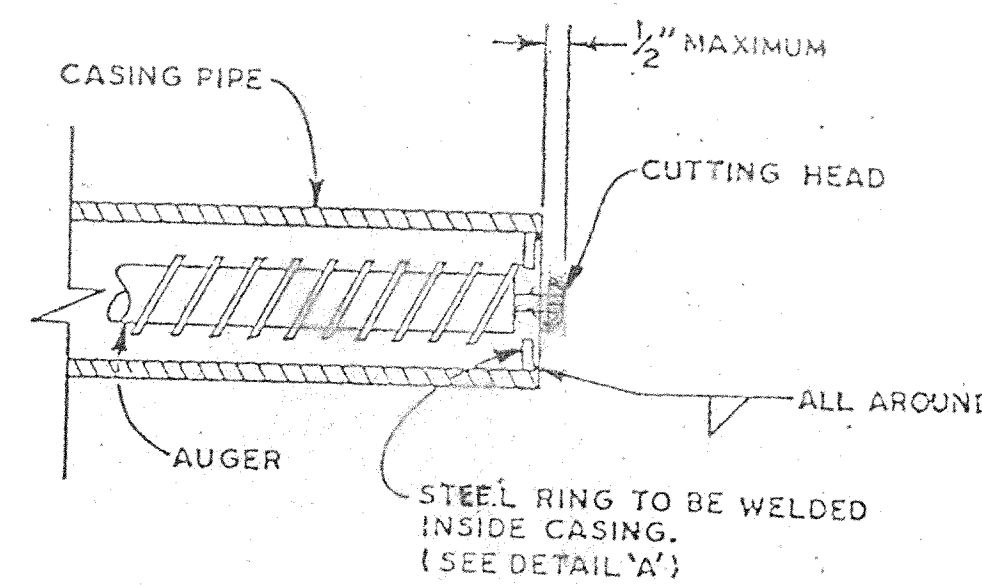
SECTION A-A



ALL DIMENSIONS ARE TYPICAL  
SKIDS SHALL NOT BE CONTINUOUS

PLAN

**BORING AUGER ARRANGEMENT**



DETAIL 'A'  
(AUGER STOP RING)

**GENERAL**

Granular backfill shall be used under pavement, sidewalks and curbs or as directed by the resident project representative.

Care shall be taken to not disturb existing storm drains during construction. Where storm drains are disturbed restoration shall be included for payment under item for pipe installation.

The Contractor shall notify the property owner prior to disturbing or removal of any existing shrubbery or trees within the street right-of-way or permanent easement limits, and outside construction limits. Payment shall be included under item for pipe installation.

The Contractor shall preserve all cornerstones, iron pins, concrete monuments, or any other type of land monument. He shall have all land monuments in the proximity of the work rechecked. He shall replace destroyed or damaged monuments and shall furnish a certification by a registered surveyor that the monuments have been rechecked.

Special care shall be taken to avoid damage to trees and their root systems not shown to be removed. Machine excavation shall not be used when, in the opinion of the Engineer, it would endanger tree roots. The operation of all equipment, particularly when employing booms, the storage of materials and the disposition of excavation shall be conducted in the manner which will not injure trees, trunks, branches or their roots unless such trees are designated by the Engineer for removal.

All excavated material and all materials used in construction of the work shall be piled in a manner that will not endanger the work and that will leave driveways, hydrants under pressure, valve pit covers, valve boxes, curb stop boxes, or other utility controls unobstructed and accessible while the work is being completed. Ditches shall be kept clear and satisfactory provisions shall be made for street drainage and natural watercourses shall not be obstructed. During the progress of the work, all material piles shall be kept trimmed up and maintained in a neat manner. All excavated waste material shall be removed from the project site, as directed by the Engineer.

The cost for regrading and seeding the work area shall be included in the respective bid items as noted in the specifications. Any area disturbed during construction shall be restored as directed by the Engineer at no additional cost.

**UTILITIES**

Listed below are utilities located within the project construction limits together with their respective owners:

COLUMBIA GAS TRANSMISSION  
3151 Lincoln Way West  
P.O. Drawer  
Wooster, OH 44691  
(216)264-2201

COLUMBIA GAS DISTRIBUTION  
14827 Oyster Road  
Alliance, OH 44801  
(216)821-7750

AMERITECH (OHIO BELL)  
2525 State Road  
Cuyahoga Falls, OH 44223  
(216)494-2258

NORTHEAST OHIO NATURAL GAS  
1425 N. Wooster Avenue  
Strasbourg, OH 44680  
(216)878-5589

EAST OHIO GAS COMPANY  
332 Second Street, N.W.  
Canton, OH 44702  
(216)478-1700

BUCKEYE-FRANKLIN COMPANY  
State Route 800  
Zoozville, OH 44698  
(216)859-2485

WARNER CABLE  
5520 Whipple Avenue, N.W.  
Canton, OH 44702  
(216)494-8752

OHIO POWER COMPANY  
305 Cleveland Avenue, S.W.  
Canton, OH 44702  
(216)456-8173

GTE  
1121 Tuscarawas Avenue, N.W.  
New Philadelphia, OH 44663  
(800)362-2764

TUSCARAWAS COUNTY WATER & SEWER  
1801 Edgebrook Blvd.  
Canton, OH 44704  
(216)874-3704

The location of the underground utilities shown on the plans are as obtained from the Owners as required by Section 153.64 O.R.C.

**MATERIAL SPECIFICATIONS**

Waterline shall be constructed of AWWA C-900, Class 150, DR 18, PVC pipe.

All waterline shall be laid in a granular bedding of no less than 6 inches, and shall extend at least 6 inches above the top of the pipe. The granular material shall have 100% passing a 3/4" sieve.

The types of hydrants and control valves shall be approved by the Tuscarawas County Water and Sewer Department.

**TESTING AND STERILIZATION**

Hydrostatic pressure and leakage tests shall be applied to all waterlines in accordance with AWWA Standard C-900.

After completion of the installation and pressure testing of potable waterlines, flush the pipe of test water and disinfect in accordance with AWWA C-651 with a chlorine solution made from liquid chlorine or from HTH or similar compounds and having a concentration of 50 ppm chlorine (Cl<sub>2</sub>). Keep the chlorine solution in the waterline for 24 hours. Following chlorination, thoroughly flush the pipe and refill with potable water, and have bacteriological tests performed by an independent laboratory and the Tuscarawas County Water Department. Both tests shall come back negative for acceptance.

Dispose of the residual chlorinated water flushed from the new installation in an environmentally safe manner. Consult local agencies in advance for recommended means of disposal of residual chlorinated water. Take caution during flushing in pool drainage areas to prevent flash flooding.

**STATE ROUTE 183/800 RIGHT-OF-WAY**

All work within State right-of-way must be performed in accordance with the provisions of the permit.

Upon completion of this work the contractor shall restore all disturbed highway right-of-way and facilities (including seeding and mulching) to a condition equal to or better than that which originally existed. All backfill within the State's Right-of-Way must be in accordance with the provisions of the Dept. of Highway Construction & Material Specifications. The backfill material shall meet the requirements of Sec. 310.02 and the method of backfilling shall be done according to Sec. 803.06. All excess and discarded material shall be removed from State Right-of-Way. No machinery or material to be stored on the pavement at any time. Traffic to be maintained as per State Traffic Control Manual. All work on State Right-of-Way to be performed in a manner satisfactory to the Ohio Department of Transportation, Division of Highways. The Contractor shall furnish all labor, material and equipment necessary to complete and maintain the project.

The Contractor is held responsible for keeping the State Route free and clear of mud and debris in the area of their operation. They are also responsible for the clearance of any mud and debris caused by the activities of any sub-contractor or other agent of theirs involved in the operation.

**STATE ROUTE 212 CROSSINGS**

Casing pipe shall be steel having a minimum yield strength of 35,000 psi, 18" nominal diameter, 0.375 inches nominal thickness.

Casing pipe shall be steel having a minimum yield strength of 35,000 psi, 18" nominal diameter, 0.375 inches nominal thickness.

All casing pipe joints shall be fully welded completely around the circumference of the pipe.

Casing pipe shall be so constructed as to prevent leakage of any substance from the casing throughout its length. Casing shall be installed so as to prevent the formation of a waterway under the Railroad, and with an even bearing throughout its length, and shall slope to one end.

Casing pipes shall be installed by the following method:

Boring - This method consists of pushing the pipe into the fill with a boring auger rotating within the pipe to remove the spoil. When augers, or similar devices, are used for pipe placement, the front of the pipe shall be provided with mechanical arrangements or devices that will positively prevent the auger and cutting head from leading the pipe so that there will be no unsupported excavation ahead of the pipe. The auger and cutting head arrangement shall be removable from within the pipe in the event an obstruction is encountered. The over-cut by the cutting head shall not exceed the outside diameter of the pipe by more than one-half inch. The face of the cutting head shall be arranged to provide reasonable obstruction to the free flow of soft or poor material.

The use of water or other liquids to facilitate casing emplacement and spoil removal is prohibited.

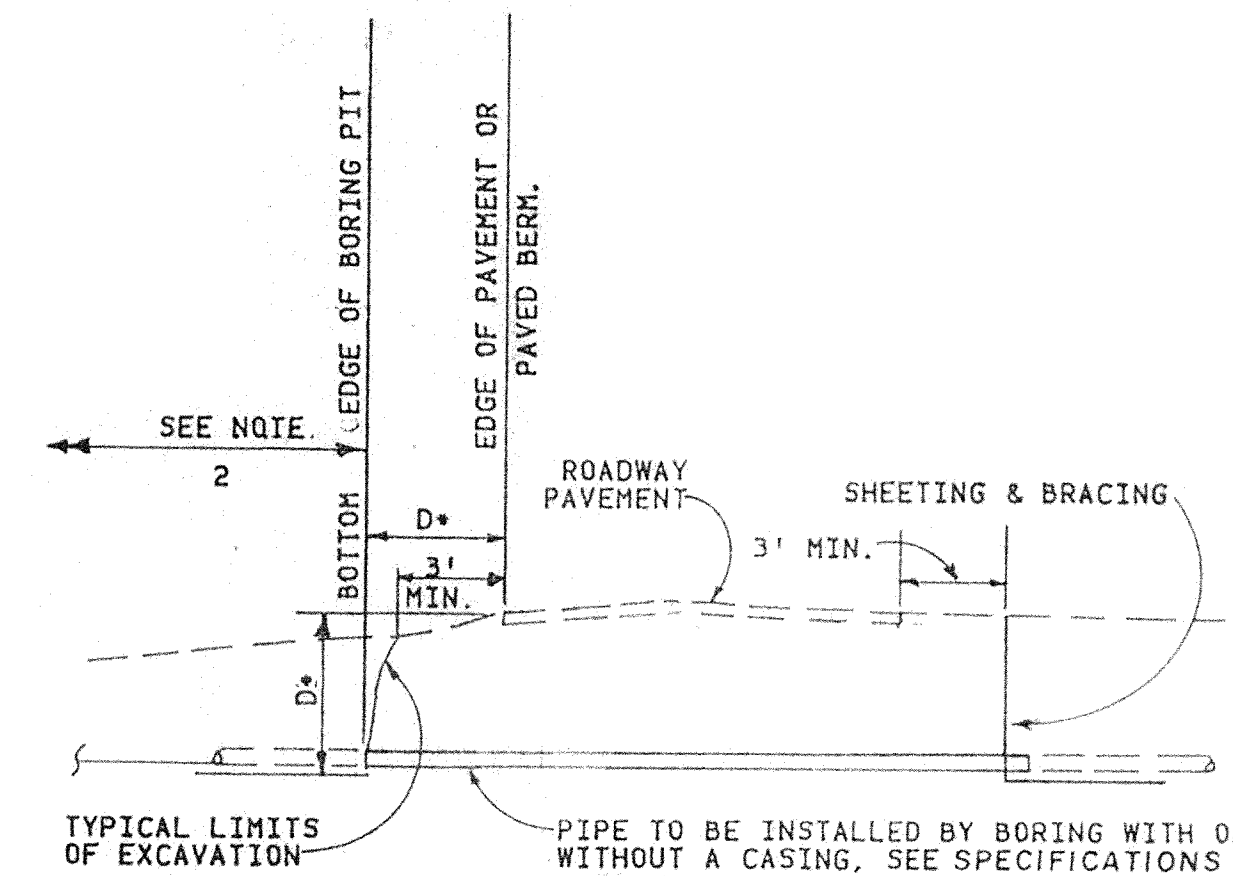
Any method which employs simultaneous boring and jacking or drilling and jacking for pipes over 8 inches in diameter which does not have the above approved arrangement WILL NOT BE PERMITTED.

If an obstruction is encountered during installation to stop the forward action of the pipe and it becomes evident that it is impossible to advance the pipe, operations will cease and the pipe shall be abandoned in place and filled completely with grout.

Bored or jacked installations shall have a bored hole essentially the same as the outside diameter of the pipe plus the thickness of the protective coating. If voids should develop or if the bored hole diameter is greater than the outside diameter of the pipe (plus coating) by more than approximately 1 inch, grouting or other methods approved by the Chief Engineer shall be employed to fill such voids.

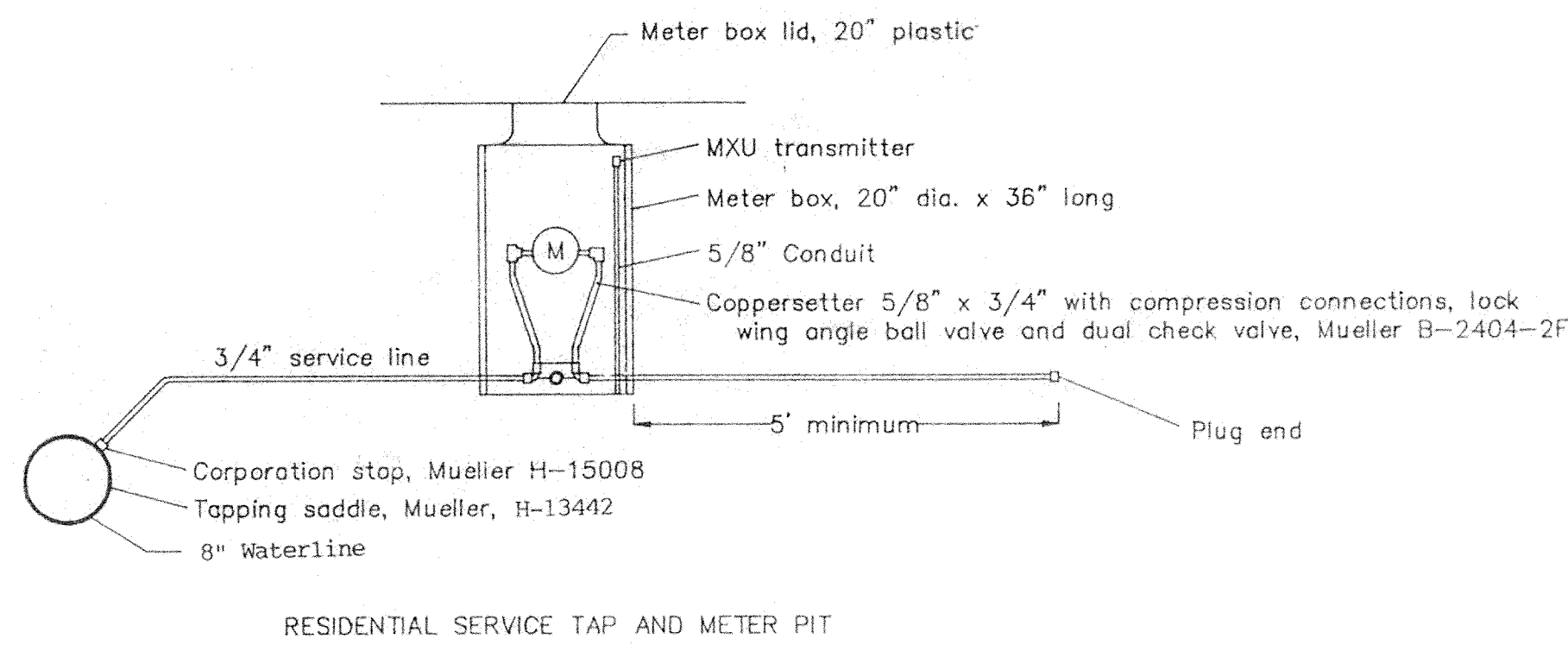
A minimum of 10 feet horizontal and 18 inch vertical separation (crossings), measured outside to outside, shall be maintained between all waterlines and sanitary sewers.

**TYPICAL BORING DETAIL**

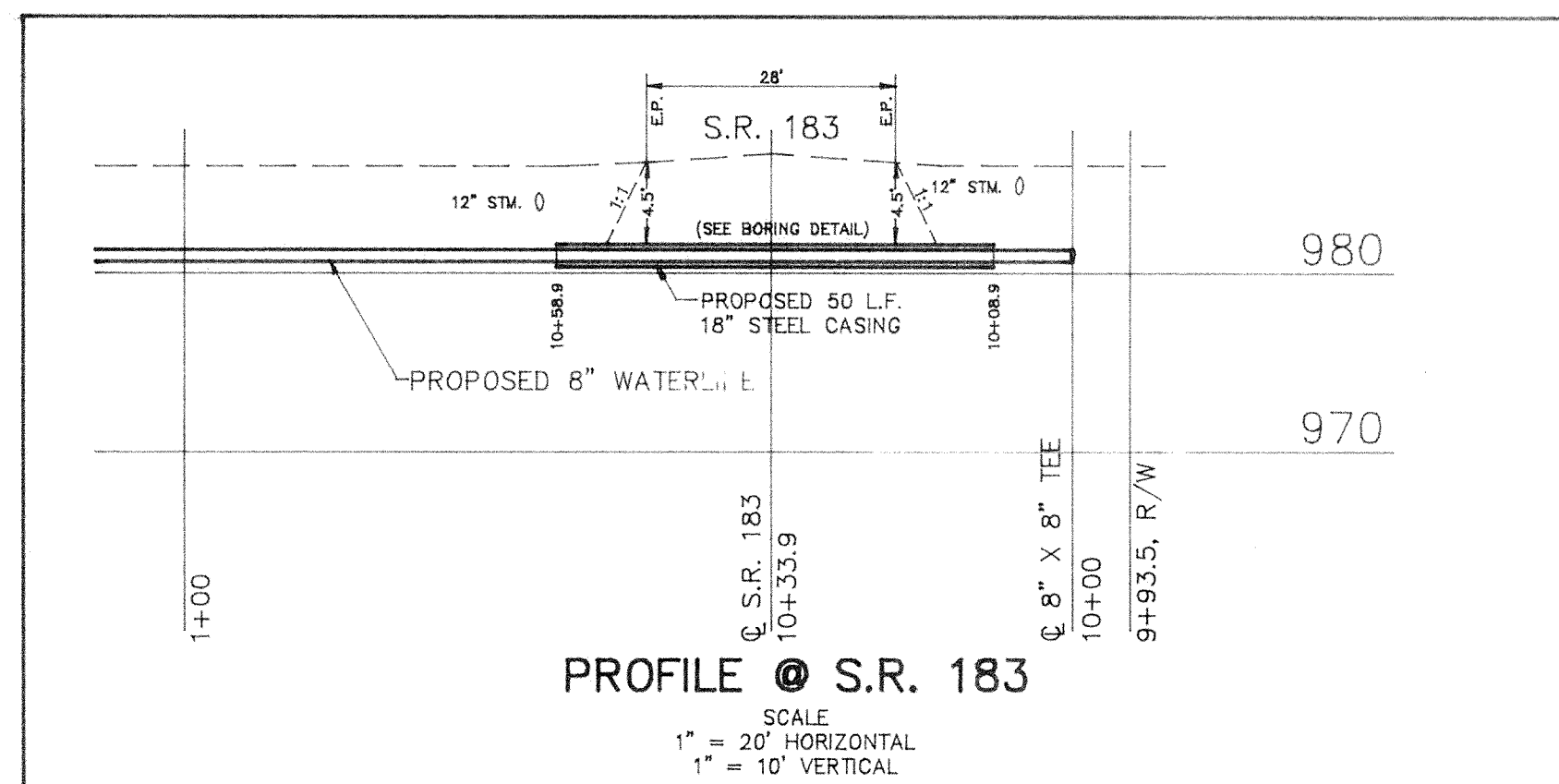


\* THE BOTTOM EDGE OF BORING PIT OR TRENCH IS TO BE NO CLOSER TO THE EDGE OF PAVEMENT OR PAVED BERM THAN THE DEPTH BELOW PAVEMENT, UNLESS APPROVED SHEETING AND BRACING IS INSTALLED.

- NOTE:
- IF A CASING IS INSTALLED THE VOIDS SHALL BE PROPERLY FILLED.
  - LIMITS OF BORING PIT NOT TO EXCEED LENGTH OF BORING EQUIPMENT PLUS ONE LENGTH OF PIPE OR AS SHOWN ON THE PLANS.



RESIDENTIAL SERVICE TAP AND METER PIT



NOTE:  
3/4" COPPER WATER SERVICE WITH TAPPING SADDLE AND METER PIT ON LOT LINE IS TO BE INSTALLED FOR EACH RESIDENCE. THE LOCATION OF EACH WATER SERVICE IS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

Civil Design Associates, Inc.  
Consulting Engineers • Surveyors  
1760 Bingham Rd. S.E.  
New Philadelphia, Ohio 44663  
(216) 338-4292

GENERAL NOTES

VALLI-HI ACRES  
WATERLINE EXTENSION

PROJECT No.  
9479

SHEET No.

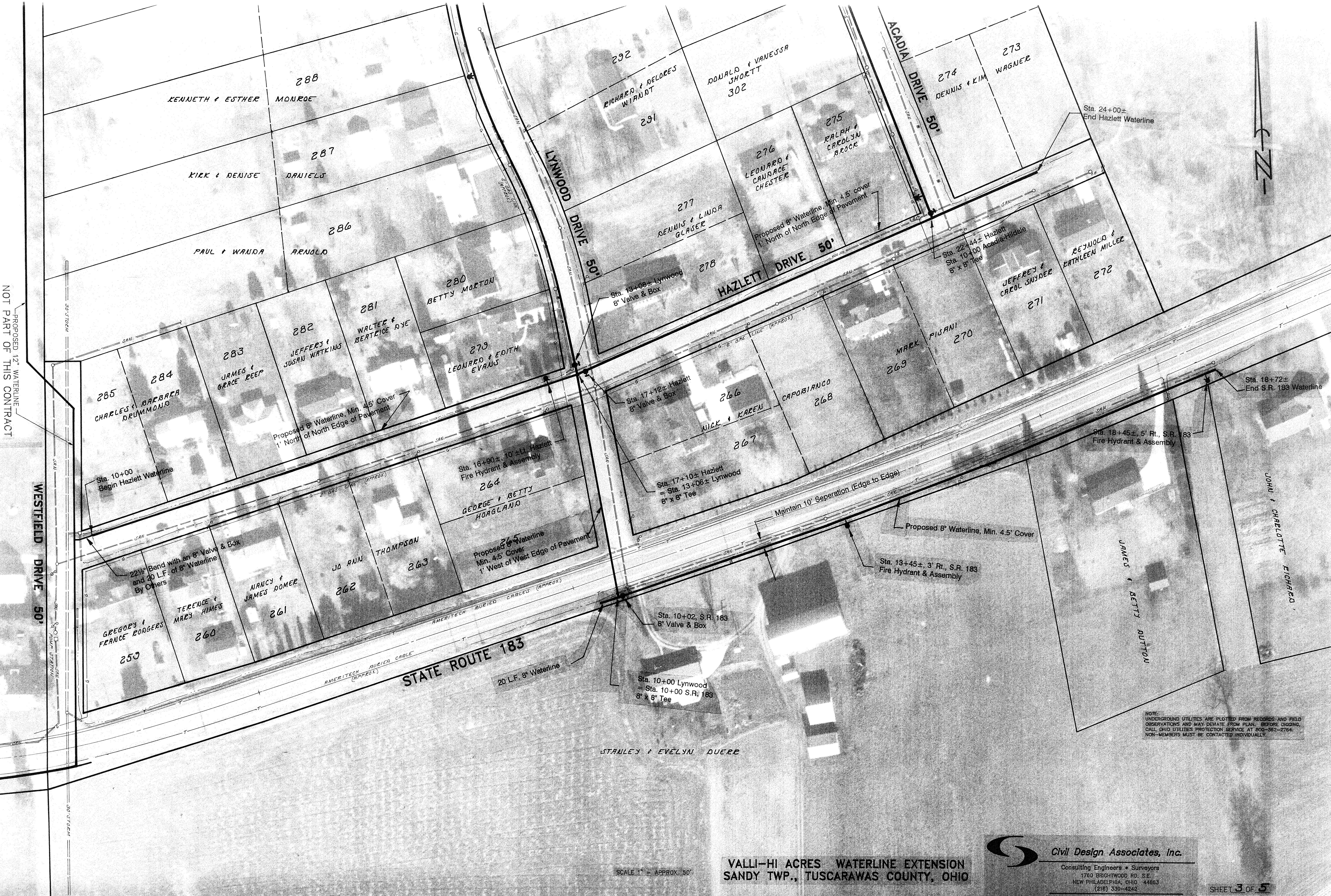
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PHQ



Rev. No.	DESCRIPTION	DATE	BY	CHKD

NOT PART OF THIS CONTRACT

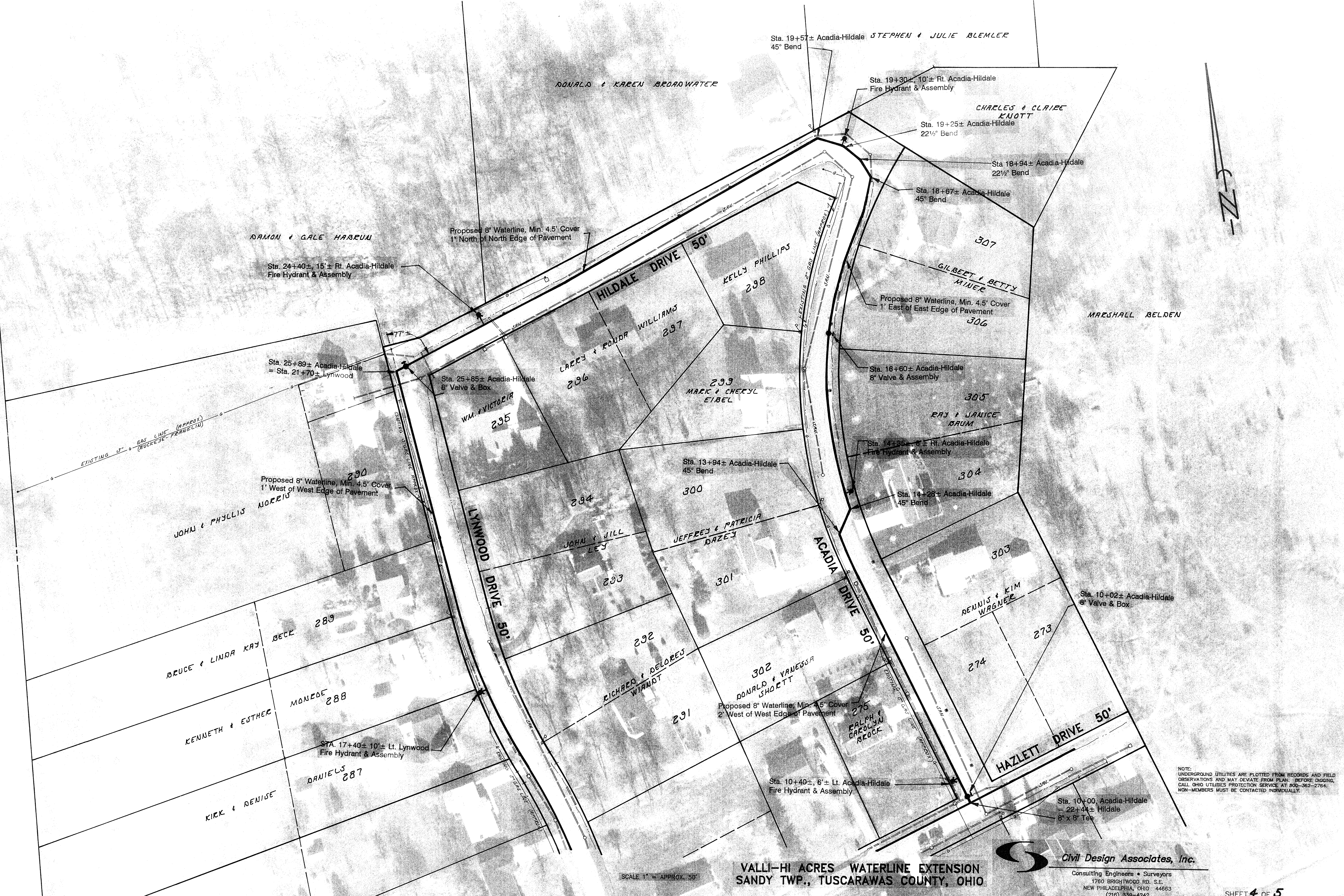


NOTE:  
UNDERGROUND UTILITIES ARE PLOTTED FROM RECORDS AND FIELD  
OBSERVATIONS AND MAY DEVIATE FROM PLAN. BEFORE DIGGING,  
CALL OHIO UTILITIES PROTECTION SERVICE AT 800-362-2764.  
NON-MEMBERS MUST BE CONTACTED INDIVIDUALLY.

SCALE 1" = APPROX. 50'

**VALLI-HI ACRES WATERLINE EXTENSION  
SANDY TWP., TUSCARAWAS COUNTY, OHIO**

 **Civil Design Associates, Inc.**  
 Consulting Engineers • Surveyors  
 1760 BRIGHTWOOD RD. S.E.  
 NEW PHILADELPHIA, OHIO 44663  
 (216) 339-4242

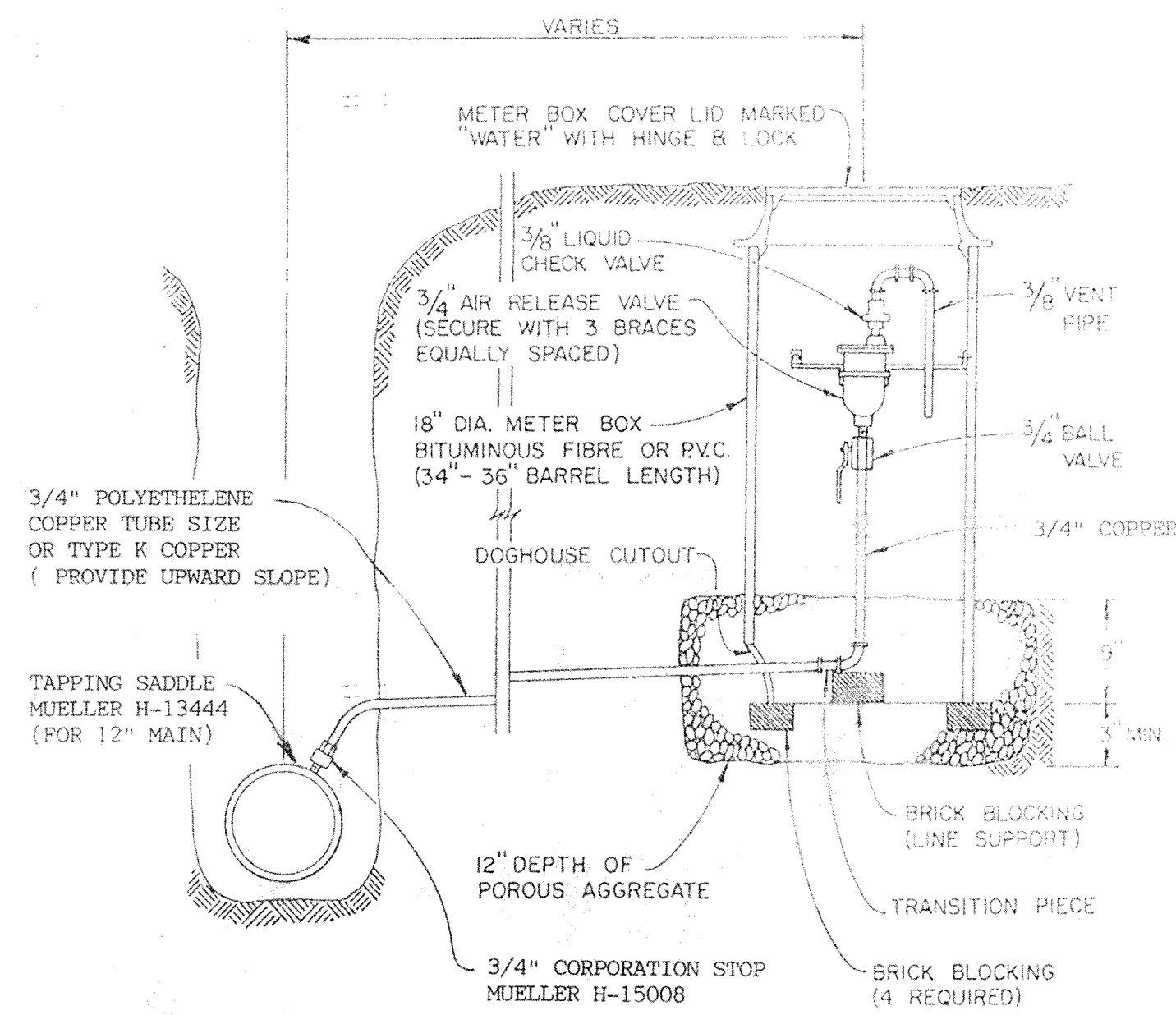


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SANDY TWP., TUSCARAWAS COUNTY, OHIO**

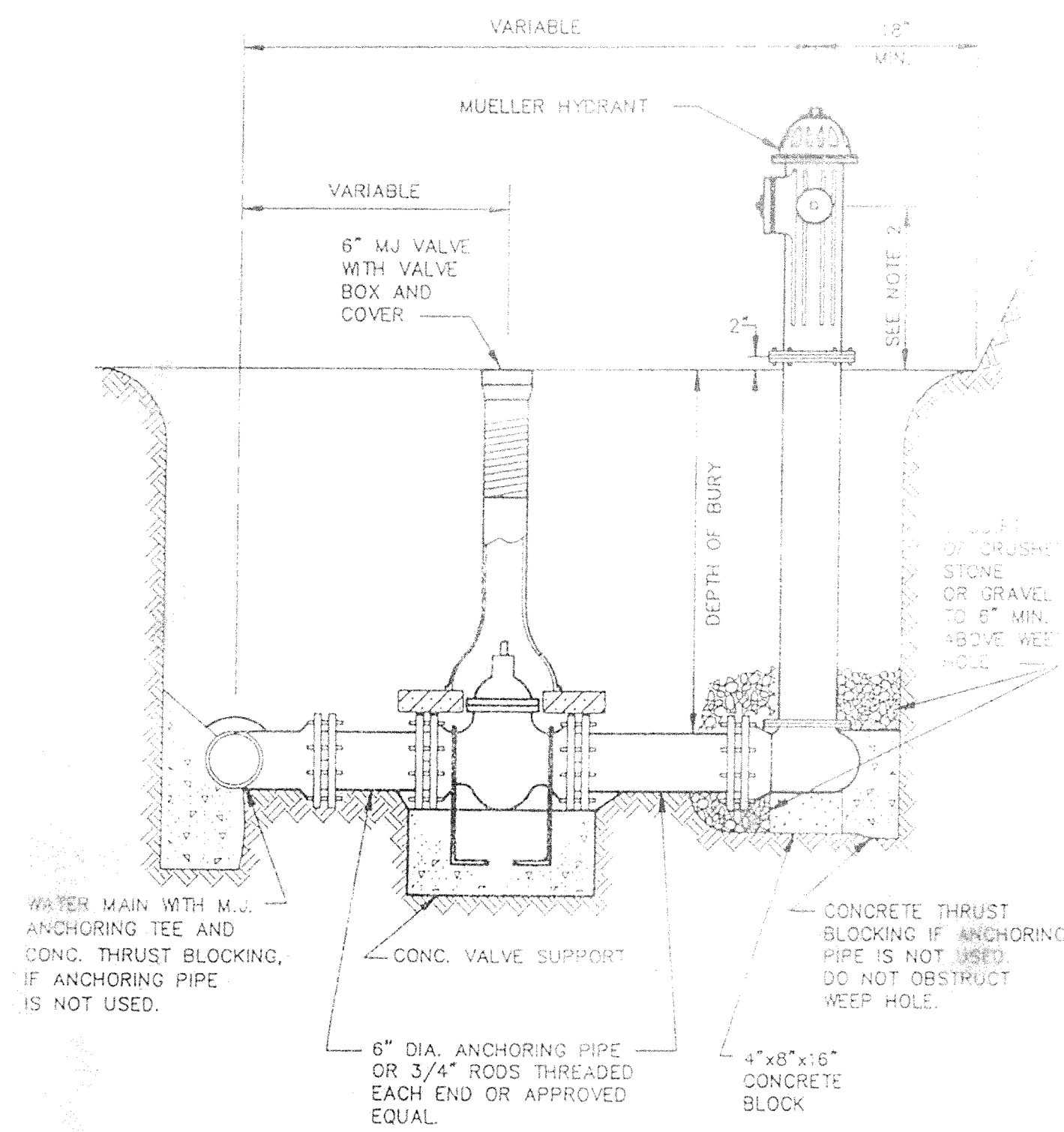
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**TYPICAL AIR RELEASE VALVE ASSEMBLY  
(OFFSET FROM PIPELINE)**



NOTES:  
METER BOX COVER SHALL BE SET FLUSH WITH GROUND SURFACE.  
AIR RELEASE VALVE ASSEMBLY SHALL NOT BE INSTALLED IN TRAFFIC AREAS.

ROMAC INDUSTRIES, INC.  
**GRIP RING™ PIPE RESTRAINER**



NOTES:  
1. ALL CONCRETE IS FILL CONCRETE.  
2. TO BE 12\"/>

**FIRE HYDRANT ASSEMBLY  
WITH VALVE AND VALVE BOX**

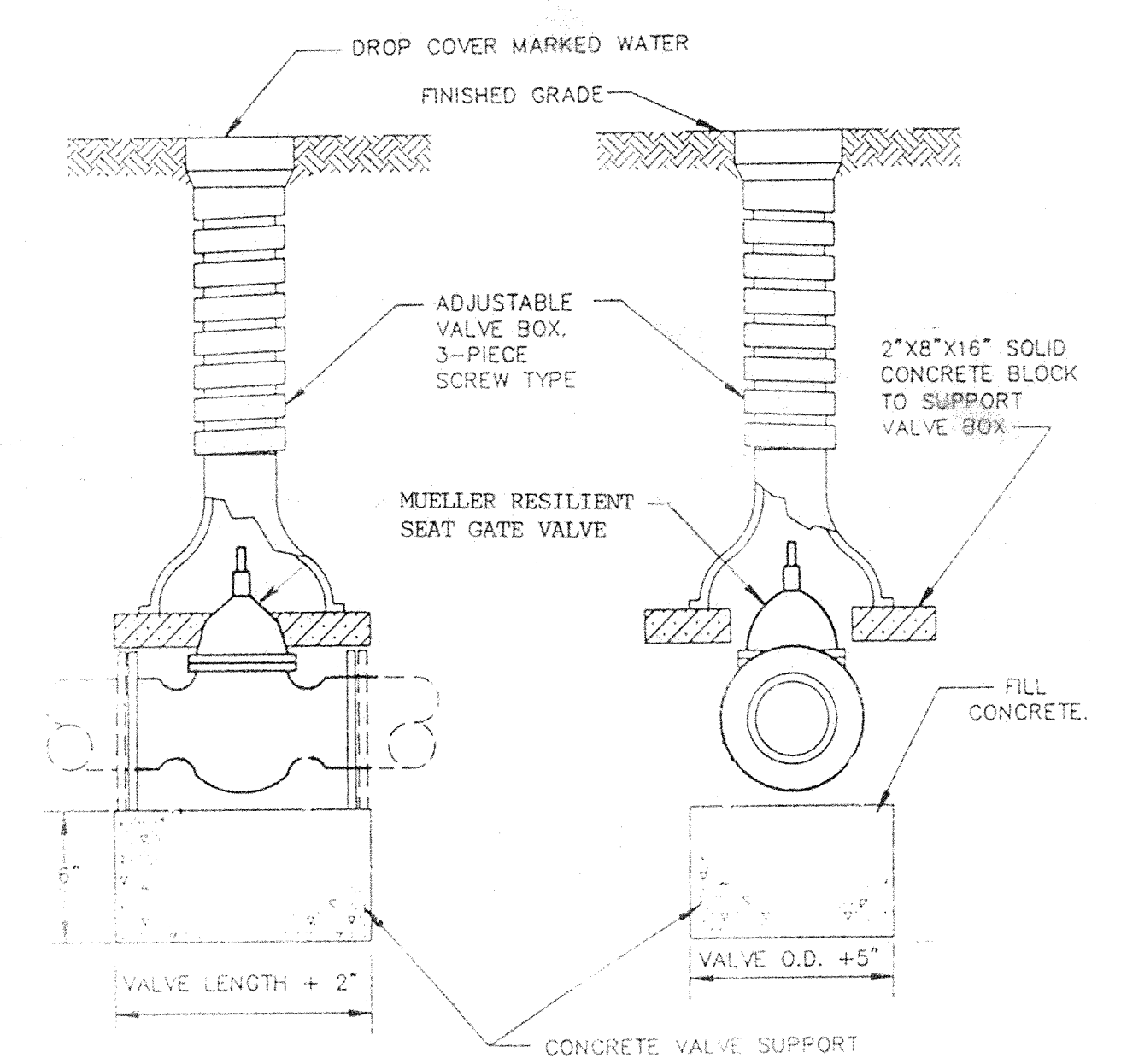
**USE**  
The Romac Grip Ring is used for the restraint of mechanical joint pipe, valves, fittings, and fire hydrants in water distribution and fire protection lines. Grip Rings replace costly concrete thrust blocks, corrodible steel tie rods and clamps, and fittings using radial bolts or pads.

**PIPE COMPATIBILITY**  
Grip Rings may be used on most Ductile Iron, Cast Iron, PVC, and steel pipe. See Grip Ring Pipe Restrainer Application Chart (Romac Document Number 20-9-GR-002) for specific applications.

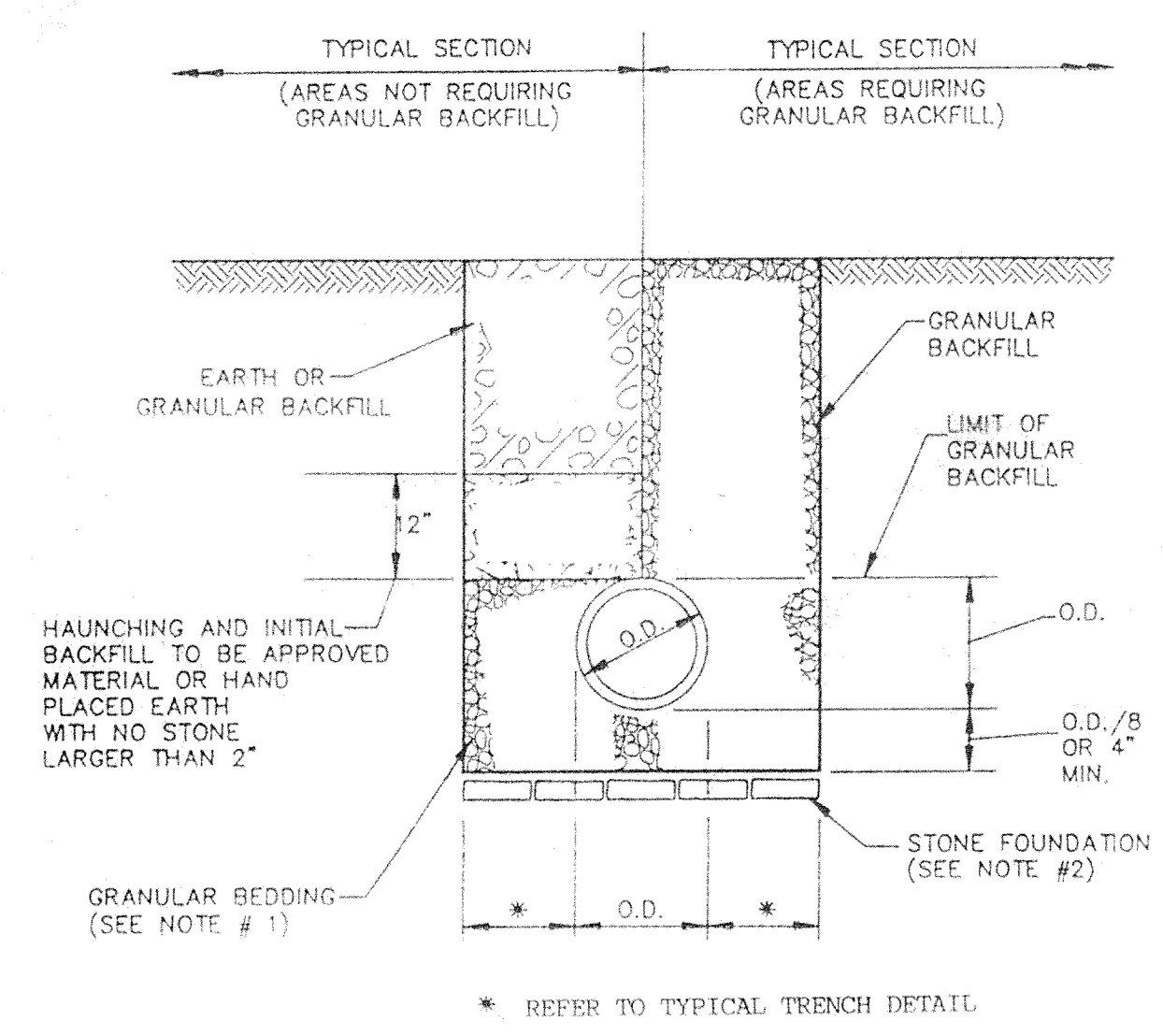
**SIZES**  
Grip Rings are available for Ductile Iron and steel (IPS) size pipe, in nominal sizes of 4\"/>

**MATERIALS**  
Gland (Follower) Ductile (nodular) iron, meeting or exceeding ASTM A 536-80, Grade 65-45-12.  
Ring Ductile (nodular) iron, meeting or exceeding ASTM A 536-80, Grade 65-45-12. Heat treated using a proprietary process to assure proper penetration of rigid pipe materials.  
Gasket A standard MJ gasket is used with this fitting. See ANSI/AWWA C111/A21.11 for specifications. Transition gaskets may be used for steel (IPS) pipe sizes. Special gasket compounds are available for petroleum, chemical, or high temperature service.  
Bolts and Nuts Standard MJ tee-bolts and nuts are used with this fitting. See ANSI/AWWA C111/A21.11 for specifications.  
Coatings and Colors Shop coat applied to the castings for corrosion protection in transit. Glands are yellow to distinguish them from standard MJ fittings. Rings are color coded BLACK for Ductile Iron size and RED for IPS.

**PERFORMANCE**  
May be used up to the pressure rating of the pipe when used on Ductile Iron and PVC pipe, except that the 10\"/>

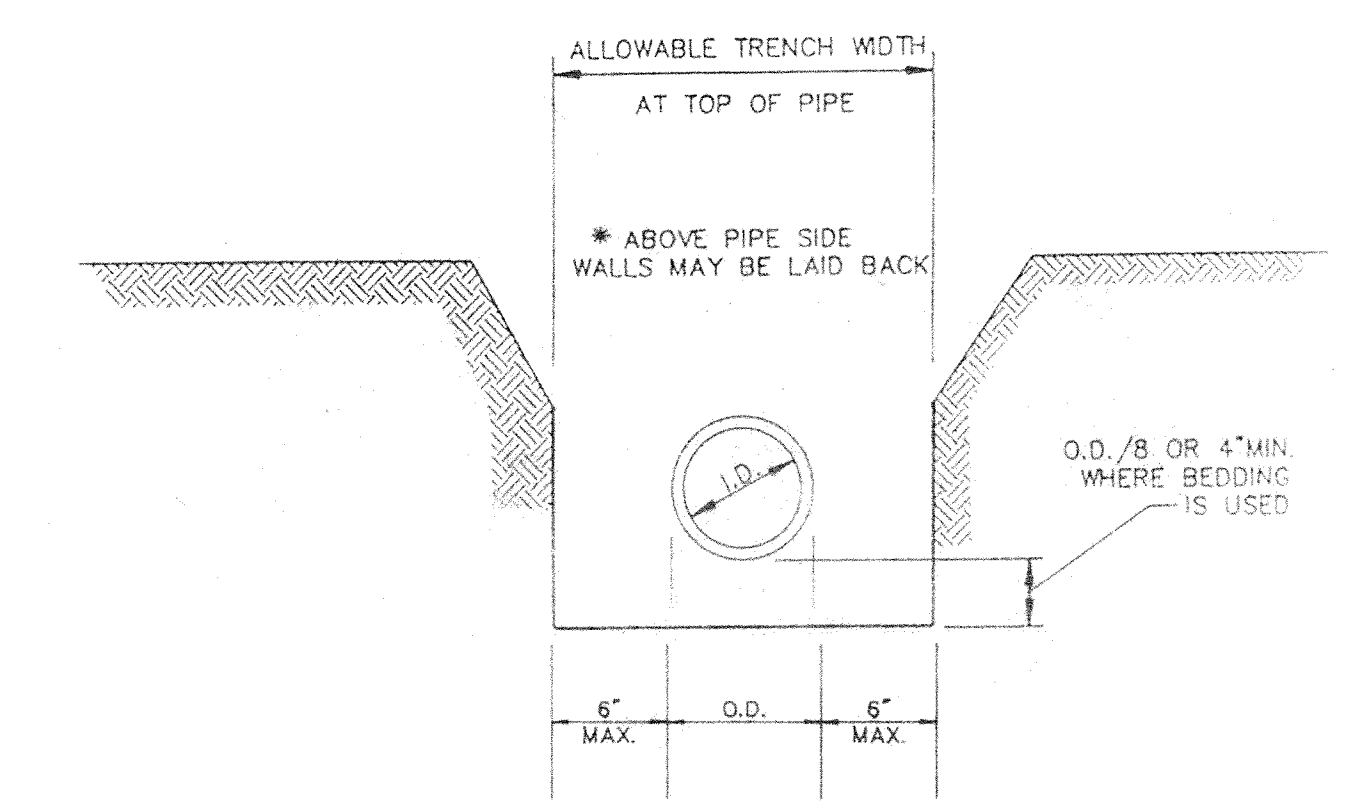


**SIDE VIEW** **END VIEW**  
TYPICAL VALVE AND VALVE BOX SETTING



NOTES:  
1. USE CLASS I, II, OR III GRANULAR BEDDING MATERIAL AS DESIGNATED IN THE APPLICABLE PIPE SPECIFICATION.  
2. USE STONE FOUNDATION WHEN THE NATURAL FOUNDATION PROVES UNSUITABLE AS DETERMINED BY THE RESIDENT PROJECT REPRESENTATIVE AND IN ACCORDANCE WITH THE SPECIFICATIONS.

**PIPE BEDDING / BACKFILL DETAIL  
FOR ALL FLEXIBLE SEWER AND WATER PIPE**



\*INCLUDE ALL COSTS ASSOCIATED WITH RESTORATION, REPAIR, REPLACEMENT, OUTSIDE THE ALLOWABLE TRENCH WIDTH AT TOP OF PIPE.

**TYPICAL TRENCH DETAIL**

Rev. No.	DESCRIPTION	DATE	BY	CHKD