

# TRUMBULL COUNTY, OHIO

## LORDSTOWN - EDA PROJECT NO. 06-01-04789

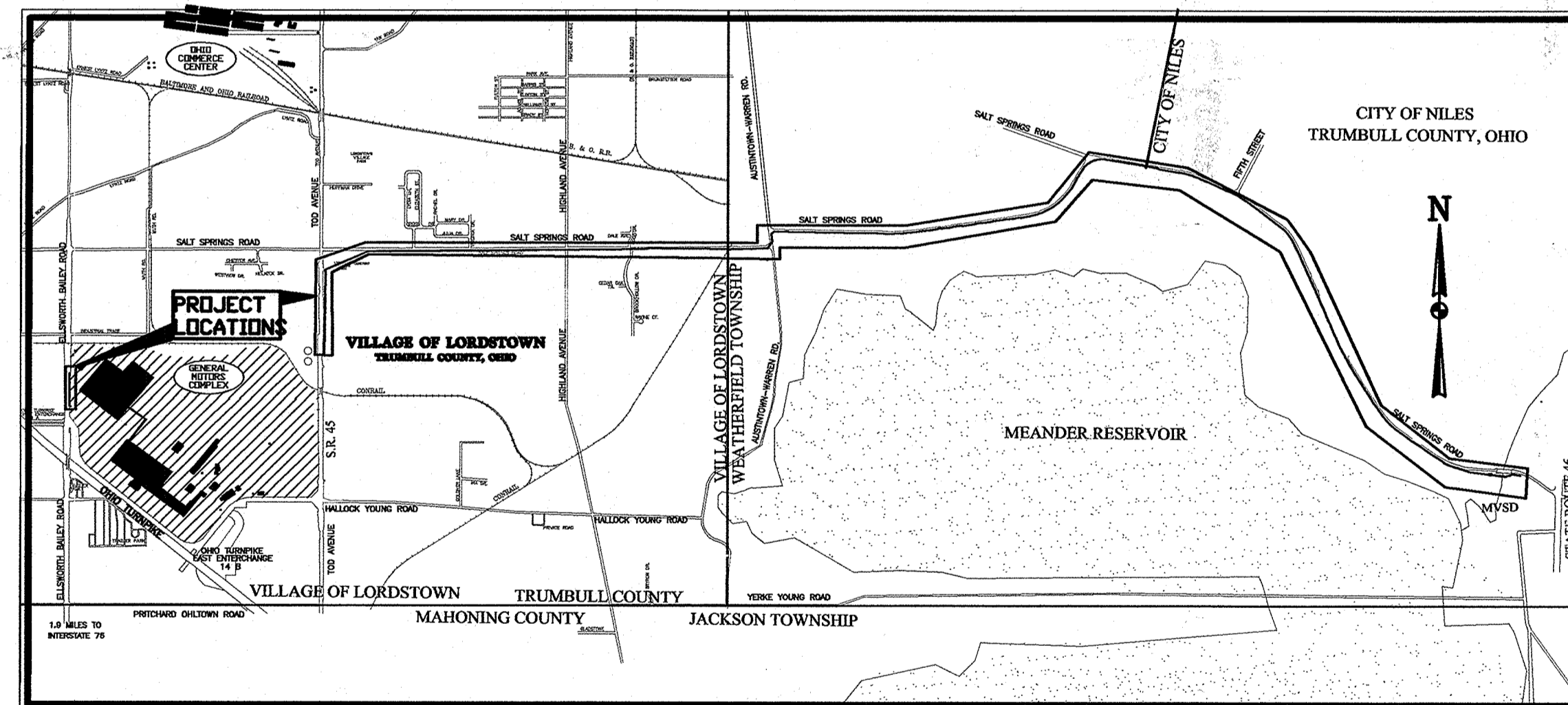
# 24" SUPPLY LINE AND WATER IMPROVEMENTS

CONTRACT "A" - WATERLINE AND APPURTENANCES  
 CONTRACT "B" - ELECTRICAL - TELEMETRY

OCTOBER 2004

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**LOCATION MAP**  
SCALE: N.T.S.

### VILLAGE OF LORDSTOWN

MICHAEL CHAFFEE.  
 JUDITH A. HALL.  
 SHARON A. EBLING.

MAYOR  
 CLERK  
 TREASURER

### COUNCIL

RICHARD BIGGS  
 JAMES LONDON  
 MARY JANE WILSON

WILLIAM DRAY  
 KAREN JONES  
 RICHARD MORGAN

PLANS PREPARED BY:



# AS-BUILT SET

# GENERAL NOTES

## EXISTING DATA

EACH CONTRACTOR SHALL VISIT THE SITE PERSONALLY TO ASCERTAIN THE NATURE OF THE WORK AND THOROUGHLY FAMILIARIZE HIMSELF WITH THE SITE PRIOR TO BID SUBMISSION.

EXISTING STRUCTURES, GRADES, PIPING, ETC. ARE INDICATED IN APPROXIMATE LOCATION ON THE PLAN. INFORMATION SHOWN IS NOT GUARANTEED TO BE CORRECT AND COMPLETE. THE DATA SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR. THE EXISTENCE OF FACILITIES ABOVE OR BELOW GROUND, WHICH MAY NOT BE SHOWN, WILL NOT BE A BASIS FOR A CLAIM FOR EXTRA WORK.

EXISTING UNDERGROUND UTILITIES SHOWN ARE FROM RECORDS PROVIDED BY UTILITY COMPANIES AND ARE APPROXIMATE ONLY. SERVICE LATERALS ARE NOT SHOWN.

## SUBSURFACE CONDITIONS

IT IS THE OBLIGATION AND RESPONSIBILITY OF THE BIDDER TO MAKE HIS OWN INVESTIGATIONS OF SUBSURFACE CONDITIONS PRIOR TO SUBMITTING HIS PROPOSAL.

## UTILITY NOTIFICATION

AT LEAST TWO WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION OPERATIONS IN AN AREA WHICH MAY INVOLVE UNDERGROUND UTILITY FACILITIES, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER, THE OHIO UTILITY PROTECTION SERVICE (1-800-382-2764) AND THE OWNERS OF EACH UNDERGROUND UTILITY FACILITY SHOWN IN THE PLANS. THE OWNER OF THE UNDERGROUND UTILITY FACILITY SHALL WITHIN FORTY-EIGHT HOURS, EXCLUDING SATURDAYS, SUNDAYS, AND LEGAL HOLIDAYS, AFTER NOTICE IS RECEIVED, STAKE, MARK OR OTHERWISE DESIGNATE THE LOCATION OF THE UNDERGROUND UTILITY FACILITIES IN THE CONSTRUCTION AREA IN SUCH A MANNER AS TO INDICATE THEIR COURSE TOGETHER WITH THE APPROXIMATE DEPTH AT WHICH THEY WERE INSTALLED. THE MARKING OR LOCATING SHALL BE COORDINATED TO STAY APPROXIMATELY TWO DAYS AHEAD OF THE PLANNED CONSTRUCTION.

## UTILITIES AND PUBLIC SERVICE CORPORATIONS

THE CONTRACTOR SHALL NOTIFY, AT LEAST 48 HOURS BEFORE BREAKING GROUND, ALL PUBLIC SERVICE CORPORATIONS HAVING WIRE, POLES, PIPES, CONDUITS OR OTHER STRUCTURES THAT MAY BE AFFECTED BY THIS OPERATION.

### A. THE UTILITIES WITHIN THE LIMITS OF THIS PROJECT ARE AS FOLLOWS:

EASTERN STATES OIL & GAS  
4188 S.R. 14  
RAVENNA, OHIO 44266

SPRINT LOCAL OPERATIONS  
220 S. PARK AVE., P.O. BOX 311  
WARREN, OHIO 44482

GATHERCO INC.  
6273 FRANK AVE., N.W.  
NORTH CANTON, OHIO 44720

TRUMBULL CO. SANITARY ENGINEER  
7500 ANDERSON AVE.  
WARREN, OHIO 44484

LORDSTOWN ROAD & WATER DEPTS.  
1455 SALT SPRINGS ROAD  
LORDSTOWN, OHIO 44481

CITY OF WARREN WATER DEPARTMENT  
580 LAIRD AVE. S.E.  
WARREN, OHIO 44483

DOMINION EAST OHIO  
7015 FREEDOM AVE.  
NORTH CANTON, OHIO 44720-7381

CITY OF NILES ROAD AND WATER DEPTS  
34 STATE ST. W  
NILES, OH 44446

TRUMBULL COUNTY ENGINEER  
650 N. RIVER RD. N.W.  
WARREN, OH 44483

BUCKEYE PIPE  
4911 E. HIGH ST.  
MANTUA, OHIO 44255

DOMINION TELECOM  
ATTN: ROGER LIPSCOMB  
1-412-846-0252

## NOTIFICATION OF SAFETY FORCES

THE CONTRACTOR SHALL NOTIFY THE LORDSTOWN VILLAGE AND WEATHERFIELD TOWNSHIP POLICE AND FIRE DEPARTMENTS, AND LOCAL SCHOOL DISTRICT TRANSPORTATION SUPERVISORS, AT LEAST 48 HOURS IN ADVANCE OF ANY STREET CLOSING OR TRAFFIC CHANGE.

## BENCH MARKS

BENCH MARKS WHICH ARE GIVEN HEREIN ARE BASED ON AN U.S.G.S. DATUM.

## STATIONING

ALL STATIONING SHOWN IS REFERENCED TO THE BASELINE AS SHOWN.

## ROAD CLOSING, DETOURS AND TRAFFIC CONTROL

- THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING TRAFFIC CONTROL PLANS AND COORDINATION OF ALL VILLAGE, TOWNSHIP, AND COUNTY ROADS DURING CONSTRUCTION.
- STREETS SHALL NOT BE UNNECESSARILY OBSTRUCTED AND, UNLESS THE ENGINEER SHALL AUTHORIZE IN WRITING THE COMPLETE CLOSING OF THE STREET, THE CONTRACTOR SHALL TAKE SUCH MEASURES, AT HIS OWN EXPENSE, AS MAY BE NECESSARY TO KEEP THE STREET OR ROAD OPEN AND SAFE FOR TRAFFIC. THE CONTRACTOR SHALL FURNISH AND ERECT, WITHOUT COST TO THE OWNER, SUBSTANTIAL BARRICADES TO PROTECT THE TRAVELING PUBLIC.
- STATE ROUTES ARE TO BE KEPT OPEN AT ALL TIMES DURING CONSTRUCTION.
- NO SEPARATE PAYMENT SHALL BE MADE FOR MAINTAINING TRAFFIC, PROVIDING BARRICADES, ETC., AND ALL COSTS SHALL BE INCLUDED UNDER THE APPLICABLE BID ITEM(S) TO WHICH THE WORK IS RELATED.

## EROSION CONTROL

- THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING TEMPORARY/PERMANENT EROSION CONTROL MEASURES INCLUDING BUT NOT LIMITED TO STRAW BALES STAKED-IN-PLACE, BALE INLET FILTERS, BALE DITCH CHECKS, BALE FILTER DIKES, EROSION CONTROL MATTING, TEMPORARY AND PERMANENT SEEDING, TEMPORARY MULCHING, ETC. ALL AS SET FORTH IN THE CONTRACT SPECIFICATIONS.
- NO SEPARATE PAYMENT WILL BE MADE FOR THESE EROSION CONTROL MEASURES AND ALL COSTS SHALL BE INCLUDED UNDER THE APPLICABLE ITEM(S) TO WHICH THE WORK IS RELATED.

## RESPONSIBLE EMPLOYEE REQUIREMENT

THE CONTRACTOR SHALL PROVIDE AT LEAST ONE (1) RESPONSIBLE WORKER FROM THE PROJECT TO ANSWER EMERGENCY CALLS AND PERFORM EMERGENCY SERVICE DURING NON-WORKING HOURS OF ANY CONDITION RESULTING FROM THE CONTRACTOR'S CONSTRUCTION ACTIVITIES WHICH REPRESENTS A HAZARD TO THE PUBLIC. THIS WORKER SHALL BE PROVIDED WITH PRIVATE TELEPHONE SERVICE TO BE USED EXCLUSIVELY FOR THE PURPOSE, AND SHALL MAKE HIMSELF AVAILABLE AT ANY TIME OF THE DAY OR NIGHT AND ANY DAY OF THE WEEK FOR THIS EMERGENCY WORK. THIS WORKER SHALL ALSO BE PROVIDED WITH A PROPER VEHICLE, SUPPLIES AND MATERIALS AND BE GIVEN SUFFICIENT AUTHORITY TO ADEQUATELY PERFORM THIS EXTENDED ASSIGNMENT.

## EXISTING FACILITIES

THE ATTENTION OF THE CONTRACTOR IS DIRECTED TO THE FACT THAT THE WORK UNDER THIS CONTRACT CONSISTS OF MODIFICATIONS AND ADDITIONS TO THE EXISTING WATERLINE SYSTEMS INVOLVING ALTERATIONS TO EXISTING INSTALLATIONS. IT IS OF PRIME IMPORTANCE THE CONTRACTOR, IN PERFORMANCE OF HIS WORK, NOT DISRUPT THE OPERATION OF THE EXISTING FACILITIES IN ANY MANNER OR AT ANY TIME WITHOUT THE EXPRESS PRIOR APPROVAL OF THE OWNER OR THE ENGINEER. PRIOR NOTICE SHALL BE GIVEN TO THE OWNER OR THE ENGINEER BY THE CONTRACTOR NOT LESS THAN 24 HOURS IN ADVANCE OF ANY INTERRUPTION TO BE MADE. ALSO THE CONTRACTOR SHALL COMPLY IN ALL RESPECTS WITH INSTRUCTIONS ISSUED BY THE OWNER AND/OR THE ENGINEER REGARDING THE INTERRUPTION.

ALL EXISTING SEWER AND WATER SERVICE CONNECTIONS SHALL BE PROTECTED AND MAINTAINED IN SERVICE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING THESE CONNECTIONS WITH AID OF THE COUNTY SEWER, VILLAGE OF LORDSTOWN WATER, AND CITY OF NILES WATER DEPARTMENTS.

## DRIVEWAY REPAIR

DRIVEWAY PAVEMENT REMOVED OR DAMAGED DURING CONSTRUCTION OF IMPROVEMENTS SHALL BE REPLACED IN ACCORDANCE WITH THE REQUIREMENTS SHOWN IN THE DETAILS ON SHEET NO. 28 OF 31.

## ACCESSIBILITY TO PRIVATE PROPERTY

ACCESS TO ALL DRIVEWAYS AND PARKING AREAS WITHIN THE PROJECT LIMITS SHALL BE MAINTAINED AT ALL TIMES EXCEPT WHILE LAYING THE IMPROVEMENTS ACROSS THE DRIVE. THE TRENCH SHALL BE BACKFILLED AT THE END OF EACH WORK DAY TO PROVIDE ACCESS.

## UTILITY CONNECTIONS

EXISTING UTILITY SERVICE CONNECTIONS SHALL BE PROTECTED AND MAINTAINED IN SERVICE. ANY EXISTING WATERLINE, SANITARY SEWER, GAS LINE, ETC., IN OR OUTSIDE OF THE CONSTRUCTION LIMITS, DAMAGED DURING CONSTRUCTION OF THE PROPOSED PROJECT, WILL BE REPLACED AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING THESE CONNECTIONS WITH AID OF THE UTILITY AUTHORITY.

THE STREETS, CROSSWALKS AND SIDEWALKS SHALL BE KEPT CLEAN, CLEAR AND FREE FOR PASSAGE OF VEHICLES OR PEDESTRIANS, UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER. A STRAIGHT AND CONTINUOUS PASSAGEWAY ON SIDEWALKS AND OVER CROSSWALKS, AT LEAST THREE (3) FEET IN WIDTH, SHALL BE PRESERVED FREE FROM OBSTRUCTIONS.

## EXCAVATED MATERIAL

ALL EXCAVATED MATERIAL AND ALL MATERIAL USED IN CONSTRUCTION OF THE WORK SHALL BE PILED IN A MANNER THAT WILL NOT ENDANGER THE WORK AND THAT WILL LEAVE DRIVEWAYS, HYDRANT UNDER PRESSURE, VALVE PIT COVERS, VALVE BOXES, OR OTHER CONTROLS UNOBSTRUCTED AND ACCESSIBLE WHILE THE WORK IS BEING COMPLETED. 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.

## PRESERVATION OF PROPERTY CORNERS AND SURVEY MARKERS

THE CONTRACTOR SHALL PRESERVE ALL CORNERSTONES, IRON PINS, CONCRETE MONUMENTS, OR ANY TYPE OF LAND MONUMENT. HE SHALL HAVE ALL LAND MONUMENTS IN THE PROXIMITY OF THE WORK REFERENCED. HE SHALL REPLACE DESTROYED OR DAMAGED MONUMENTS AND SHALL FURNISH A CERTIFICATION BY AN OHIO REGISTERED SURVEYOR THAT THE MONUMENTS HAVE BEEN RESTORED.

## PRESERVATION OF PRIVATE PROPERTY

SHRUBBERY, LAWNS, DRIVEWAYS, MAILBOXES AND OTHER PROPERTY DAMAGED DURING CONSTRUCTION OPERATIONS SHALL BE REPLACED OR REBUILT TO ORIGINAL CONDITION USING THE SAME PLANTS OR MATERIALS ORIGINALLY ENCOUNTERED. NO SEPARATE PAYMENT WILL BE MADE FOR COST INCURRED IN THE RESTORATION OF SHRUBBERY, DRIVEWAYS, SIDEWALKS, AND OTHER PROPERTY, EXCEPT AS NOTED ON THE DRAWINGS OR OTHERWISE DESIGNATED IN THE SPECIFICATIONS, AND ALL SUCH COSTS SHALL BE INCLUDED UNDER THE APPLICABLE ITEM(S) TO WHICH THE WORK IS RELATED.

## CONTRACTOR'S RESPONSIBILITIES

CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK COMPETENTLY AND EFFICIENTLY, DEVOTING SUCH ATTENTION THERETO AND APPLYING SUCH SKILLS AND EXPERTISE AS MAY BE NECESSARY TO PERFORM THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES OF CONSTRUCTION, BUT CONTRACTOR SHALL NOT BE RESPONSIBLE FOR THE NEGLIGENCE OF OTHERS IN THE DESIGN OR SELECTION OF A SPECIFIC MEANS, METHOD, TECHNIQUE, SEQUENCE OR PROCEDURE OF CONSTRUCTION WHICH IS INDICATED IN AND REQUIRED BY THE CONTRACT DOCUMENTS. CONTRACTOR SHALL BE RESPONSIBLE TO SEE THAT THE FINISHED WORK COMPLIES ACCURATELY WITH THE CONTRACT DOCUMENTS.

CONTRACTOR SHALL KEEP ON THE WORK AT ALL TIMES DURING ITS PROGRESS A COMPETENT RESIDENT SUPERINTENDENT, WHO SHALL NOT BE REPLACED WITHOUT WRITTEN NOTICE TO OWNER AND ENGINEER EXCEPT UNDER EXTRAORDINARY CIRCUMSTANCES. THE RESIDENT SUPERINTENDENT MUST BE PRESENT DURING ALL WORK, THIS NOT ONLY INCLUDES THE CONTRACTOR'S WORK, BUT ALSO ALL OF HIS SUB-CONTRACTORS WORK. THE SUPERINTENDENT WILL BE CONTRACTOR'S REPRESENTATIVE AT THE SITE AND SHALL HAVE AUTHORITY TO ACT ON BEHALF OF CONTRACTOR. ALL COMMUNICATIONS GIVEN TO THE SUPERINTENDENT SHALL BE AS BINDING AS IF GIVEN TO CONTRACTOR.

## TRENCH MAINTENANCE

IN THE EVENT THAT PAVEMENT RESTORATION IS NOT COMPLETED PRIOR TO THE END OF THE PAVING SEASON, THE CONTRACTOR SHALL PLACE A MINIMUM OF 24" OF LEAN MORTAR BACKFILL IN THE TOP OF THE TRENCH. THIS MATERIAL SHALL BE PLANNED TO A DEPTH SUFFICIENT TO PLACE FINAL PAVEMENT RESTORATION WHEN WEATHER PERMITS. THIS INCLUDES, BUT IS NOT LIMITED TO, PERIODIC CHECKING AND REPAIRS AS NECESSARY. THIS WORK SHALL BE PERFORMED TO THE SATISFACTION OF THE ENGINEER. THERE WILL BE NO SEPARATE OR EXTRA PAYMENT FOR THIS WORK AND ALL COSTS SHALL BE INCLUDED UNDER THE APPLICABLE BID ITEMS.

## STORM SEWERS

THE CONTRACTOR MUST BE AWARE OF THE EXISTENCE OF STORM SEWERS (VARIOUS SIZES) AND CATCH BASINS THROUGHOUT THE PROJECT. THE CONTRACTOR SHALL EXERCISE CARE TO PROTECT THESE FACILITIES AND SHALL REMOVE AND REPLACE SAME WHEN THE WATERLINE CONSTRUCTION SO DICTATES. NO EXTRA OR SEPARATE PAYMENT SHALL BE MADE FOR THIS WORK AND ALL COSTS SHALL BE INCLUDED UNDER THE APPLICABLE BID ITEM(S) TO WHICH THE WORK IS RELATED.

## SAFETY PROCEDURES

CONTRACTOR SHALL COMPLY WITH ALL FEDERAL OCCUPATIONAL, SAFETY, AND HEALTH ADMINISTRATION (OSHA) REQUIREMENTS DURING ALL PHASES OF CONSTRUCTION.

## RIGHT-OF-WAY

- ALL WORK WITHIN THE RIGHT-OF-WAY LIMITS OF STREETS UNDER THE JURISDICTION OF LORDSTOWN, NILES, OR TRUMBULL COUNTY SHALL CONFORM IN ALL RESPECTS WITH THE GOVERNMENT AUTHORITY. THE CONTRACTOR SHALL BE GUIDED BY THESE REQUIREMENTS IN EXECUTING THE WORK AND SHALL CONSULT WITH THE OFFICIALS HAVING PROPER JURISDICTION RELATIVE TO THIS TYPE OF WORK DURING THE PERFORMANCE OF THIS PORTION OF THE WORK.
- THE CONTRACTOR, AT ALL TIMES, SHALL KEEP INFORMED AS TO THE RIGHT-OF-WAY LIMITS OF THE PROPOSED WORK AND CONFINE ALL OPERATIONS OF HIS WORK TO THIS AREA UNLESS OTHERWISE DIRECTED BY THE ENGINEER. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY CLAIMS FOR DAMAGES RESULTING FROM OPERATIONS CARRIED OUT IN LOCATIONS OUTSIDE THE DESIGNATED WORK AREAS.
- RESTORATION OF RIGHT-OF-WAY AREAS SHALL BE GENERALLY IN ACCORDANCE WITH THE PROVISIONS OF THE CONTRACT SPECIFICATIONS. PARTICULAR ATTENTION SHALL BE GIVEN TO RESTORING THESE AREAS TO THEIR ORIGINAL CONDITION TO THE SATISFACTION OF THE PROPERTY OWNER AND THE ENGINEER INCLUDING LANDSCAPING AND DRAINAGE PATTERNS.
- THE CONTRACTOR SHALL USE WATER OR CALCIUM CHLORIDE, DEPENDENT ON EXISTING CONDITIONS, TO CONTROL EXCESSIVE DUST OR MUD CONDITIONS DURING CONSTRUCTION OR WHILE MAINTAINING SURFACE AREA AT THE DIRECTION OF THE ENGINEER AND AT NO ADDITIONAL COST TO THE OWNER.
- STREET PAVING, WALKS, EXISTING PIPING AND CURBING WHERE BROKEN INTO SHALL RESTORED BY CONTRACTOR AND SHALL BE REPAVED OR REBUILT, USING THE SAME TYPE OF CONSTRUCTION AND AT LEAST EQUAL QUALITY OF MATERIALS AS IN THE ORIGINAL, UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING ALL SUCH WORK INCLUDING SUBGRADE AND BASE COURSE WHERE PRESENT SO THAT IT IS EQUAL IN QUALITY OF MATERIAL AND WORKMANSHIP TO THE ORIGINAL PAVEMENT OR STRUCTURE, UNLESS OTHERWISE SPECIFIED. THE PERMANENT REPLACEMENT OF PAVEMENT AND CONCRETE SIDEWALKS OVER ANY SECTION OF TRENCH WILL NOT BE PERMITTED UNTIL AT LEAST FOURTEEN (14) DAYS AFTER THE BACKFILLING OF THAT SECTION OF TRENCH IS COMPLETED.
- IN NARROW OR CONGESTED STREETS OR ALLEYS, WHEN SO DIRECTED, THE CONTRACTOR SHALL COMPLETE HIS WORK UP TO A POINT DESIGNATED BY THE ENGINEER BEFORE OPENING THE WORK AHEAD, IN ORDER TO GIVE ACCESS TO GARAGES AND OTHER PLACES. THE CONTRACTOR SHALL IN ALL CASES SO ARRANGE HIS WORK AS TO CAUSE THE LEAST INCONVENIENCE TO PROPERTY OWNERS CONSISTENT WITH THE PROPER PROSECUTION OF THE WORK AS DETERMINED BY THE ENGINEER.

## INSPECTION, TESTING, PAYMENT

ALL WATERLINE IMPROVEMENT WORK PERFORMED BY THE CONTRACTOR SHALL BE IMMEDIATELY INSPECTED FOLLOWING COMPLETION AND THE CONTRACTOR SHALL SCHEDULE ALL WORK REQUIRED IN A MANNER WHICH WILL MAKE POSSIBLE COMPLETE INSPECTION OF THE WORK, INCLUDING TESTING. NO ESTIMATE FOR PAYMENT WILL BE PREPARED FOR WORK WHICH HAS NOT BEEN INSPECTED AND LOGGED BY THE ENGINEER IN ANY AND ALL RESPECTS AND THIS CONDITION FOR PAYMENT WILL NOT BE WAIVED BY THE OWNER UNDER ANY CIRCUMSTANCES. FOR THIS REASON, NO REACH OF WATERLINE SHALL BE ELIGIBLE FOR PAYMENT UNTIL ALL WORK IS COMPLETED, INSPECTED AND TESTED. FAILURE OR NEGLIGENCE ON THE PART OF THE ENGINEER TO CONDEMN OR REJECT ANY BAD OR INFERIOR WORK OR MATERIALS SHALL NOT BE CONSTRUED TO IMPLY AN ACCEPTANCE OF SUCH WORK OR MATERIALS IF SUCH BAD OR INFERIOR MATERIALS OR WORK BECOME EVIDENT AT ANY TIME PRIOR TO THE FINAL ACCEPTANCE OF THE WORK AND THE RELEASE OF THE CONTRACTOR BY THE OWNER. NOR SHALL IT BE CONSTRUED AS BARRING THE OWNER AT ANY SUBSEQUENT TIME FROM THE RECOVERY OF DAMAGES IN SUCH SUM OF MONEY AS MAY BE NEEDED TO BUILD ANEW ALL PORTIONS OF THE WORK IN WHICH FRAUD WAS PRACTICED OR IMPROPER MATERIALS HIDDEN, WHENEVER FOUND.

## UTILITY POLES AND UNDERGROUND FACILITIES

THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THE LOCAL TELEPHONE AND ELECTRIC COMPANIES. ALL COSTS ASSOCIATED WITH THE RELOCATION OF ANY UTILITY POLES OR UNDERGROUND FACILITIES AND ANY WORK REQUIRED BY THE UTILITY COMPANIES SHALL BE INCLUDED IN THE PRICE BID PER LINEAL FOOT OF WATERLINE. NO EXTRA OR SEPARATE PAYMENT SHALL BE MADE FOR THIS WORK AND ALL COSTS SHALL BE INCLUDED UNDER THE APPLICABLE BID ITEM(S) TO WHICH THE WORK IS RELATED.

## WATERLINES

THE CONTRACTOR SHALL EXERCISE EXTREME CARE AND COORDINATE ALL WORK WITH THE VILLAGE OF LORDSTOWN AND CITY OF NILES WATER DEPARTMENTS WHEN WORKING IN THE VICINITY OF EXISTING WATERLINES AND FIRE HYDRANTS. DISTURBANCE OF THE BLOCKING FOR ANY HYDRANT OR WATERLINE SHALL NOT BE DONE WITHOUT THE APPROVAL OF THE VILLAGE OF LORDSTOWN OR CITY OF NILES WATER DEPARTMENTS.

## DUCTILE IRON PIPE

ALL DUCTILE IRON PIPE AND FITTINGS SHALL CONFORM TO AWWA C110, C111, C115, C150 AND C151.

INSTALLATION AND PRESURE TESTING OF THE WATER MAIN SHALL CONFORM TO AWWA C600. DISINFECTION OF THE WATERMAIN SHALL CONFORM TO AWWA C651. MINIMUM GROUND COVER SHALL BE 4 FEET.

## EPA GENERAL NOTES

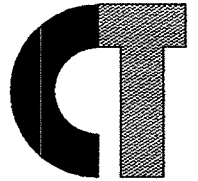
- A MINIMUM OF 35 PSI SHALL BE MAINTAINED TO THE CURB STOP DURING NORMAL OPERATING CONDITIONS.
- BOOSTER PUMPS ARE NOT PERMITTED ON SERVICE CONNECTIONS.

## NATIONWIDE PERMIT FROM U.S. ARMY CORPS OF ENGINEERS

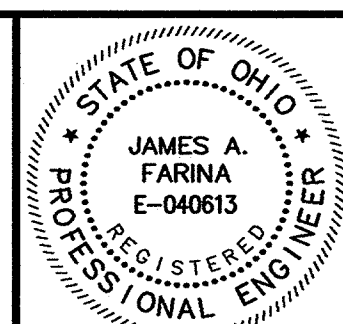
THE WATERLINE AND STORM SEWER CONSTRUCTION IN THESE PLANS ARE PERMITTED UNDER A NATIONWIDE PERMIT FROM THE ARMY CORP OF ENGINEERS FOR THE STATE OF OHIO. THE PERMIT IS AVAILABLE FOR VIEWING AND DOWNLOADING AT <http://www.lrp.usace.army.mil/or/or-1/permits.htm>. THE CONTRACTOR SHALL COMPLY WITH ALL ITEMS PERTINENT TO THE WORK BE DONE. NO EXTRA OR SEPARATE PAYMENT WILL BE MADE TO THE CONTRACTOR FOR ANY ITEMS OR CONSTRUCTION METHODS REQUIRED BY THE PERMIT.

## CATCH BASINS

ALL PROPOSED CATCH BASINS SHALL BE AS PER THE OHIO DEPARTMENT OF TRANSPORTATION STANDARD CONSTRUCTION DRAWINGS AND SHALL HAVE BICYCLE SAFE GRATES.



**CT Consultants**  
engineers | architects | planners  
80 Westchester Square, Unit 6 Youngstown, Ohio 44515  
330.792.1999 www.ctconsultants.com



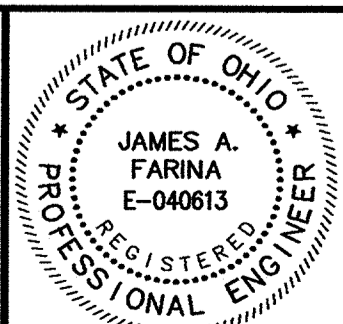
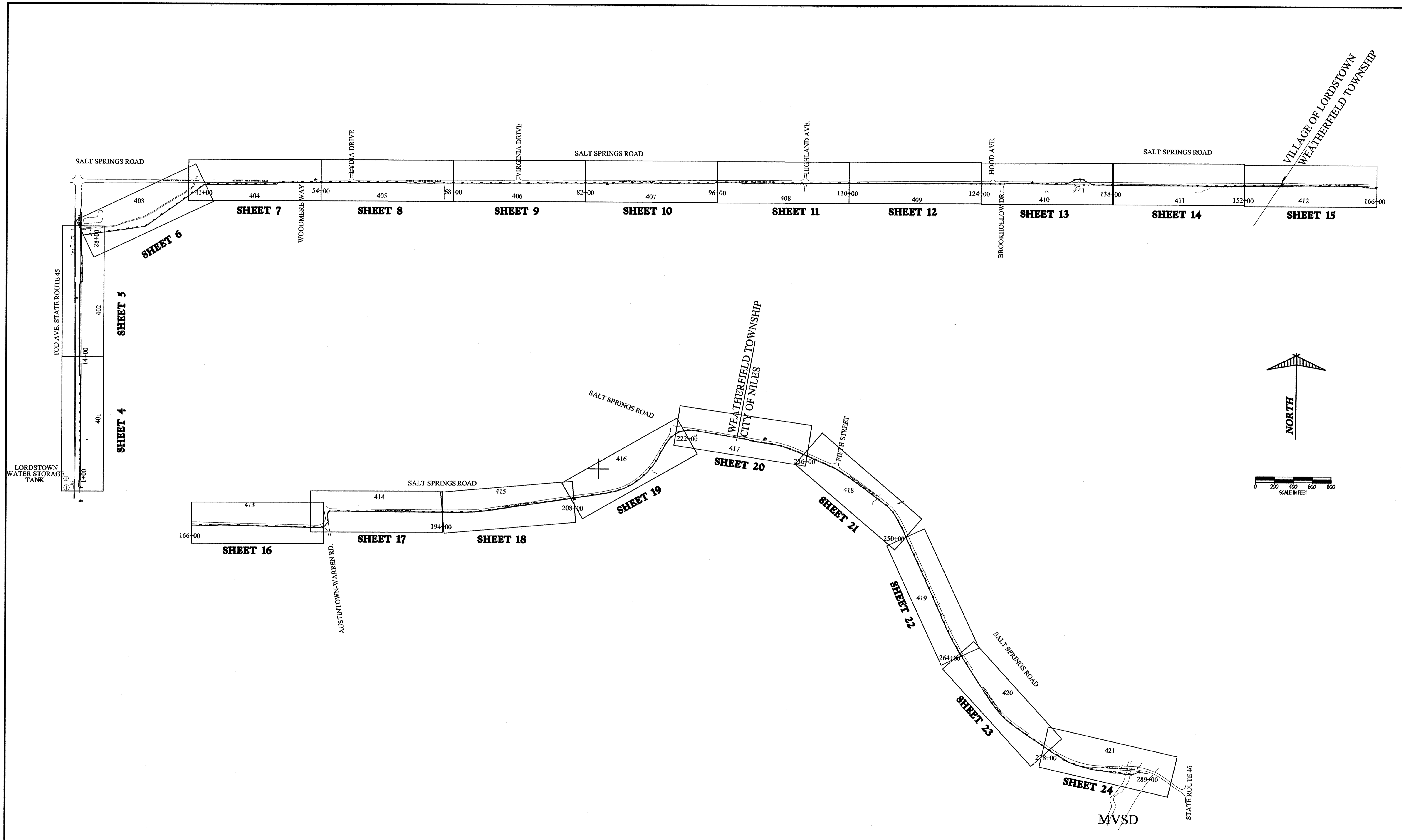
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	RECORD DRAWING	05/09/06	MAB	JAF

VILLAGE OF LORDSTOWN  
24" WATER SUPPLY LINE  
TRUMBULL COUNTY, OHIO

DATE: 5-28-04  
DRAWN BY: J.K.  
CHECKED BY: J.A.F.  
APPROVED BY: J.A.F.  
F.B. No. PG. —

## GENERAL NOTES

SCALE	
HOR.	none
VERT.	
CONTRACT No.	
02285	
SHEET NO.	OF
2	31

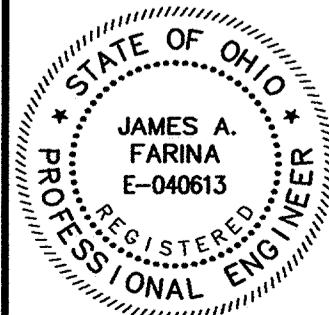
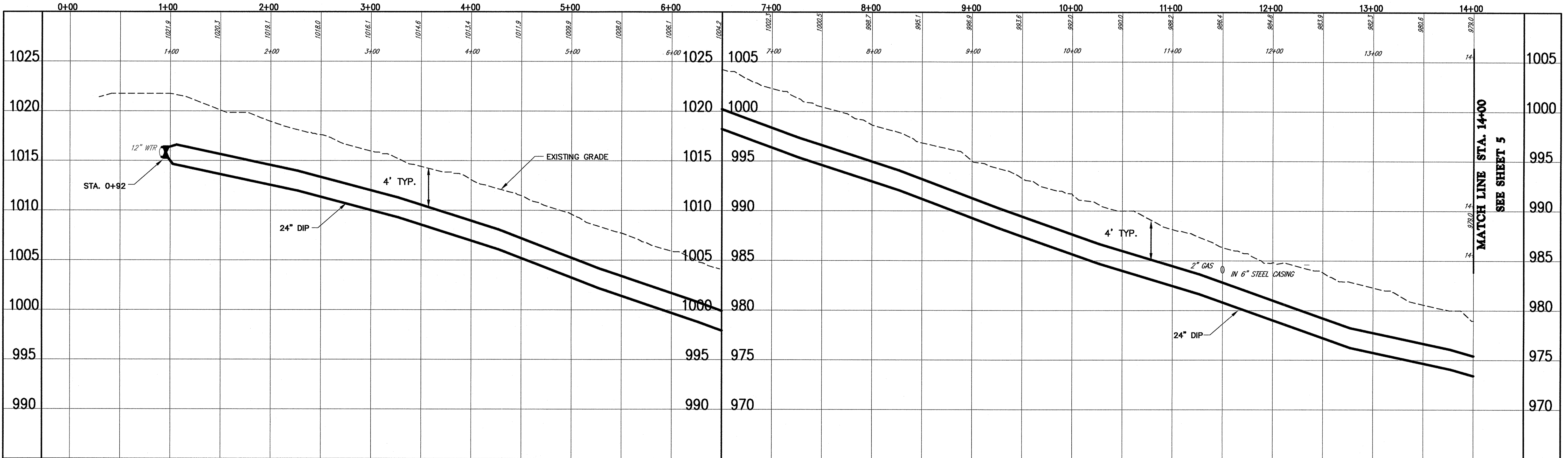
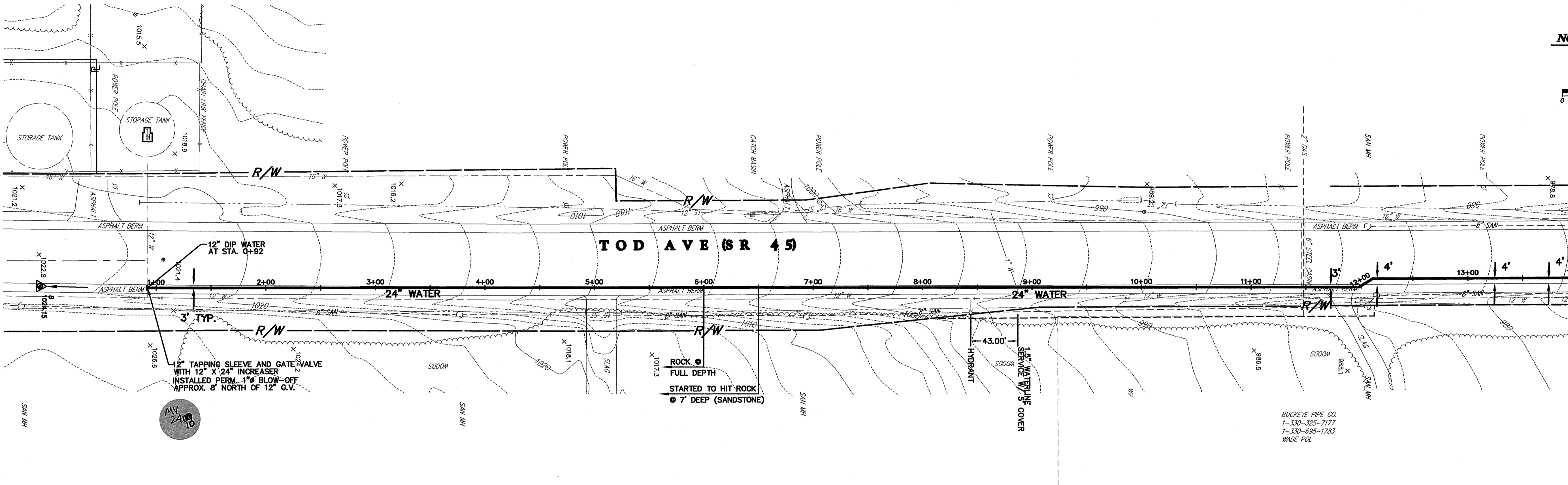


REV. NO.	DESCRIPTION	DATE	BY	CHK'D.
1	RECORD DRAWING	05/09/06	MAB	JAF

NORTH



MATCH LINE STA. 14+00  
SEE SHEET 5



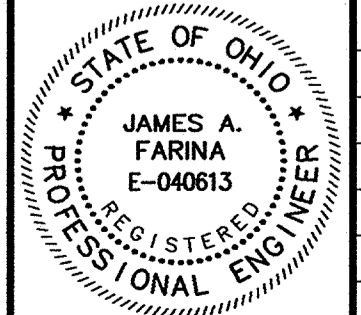
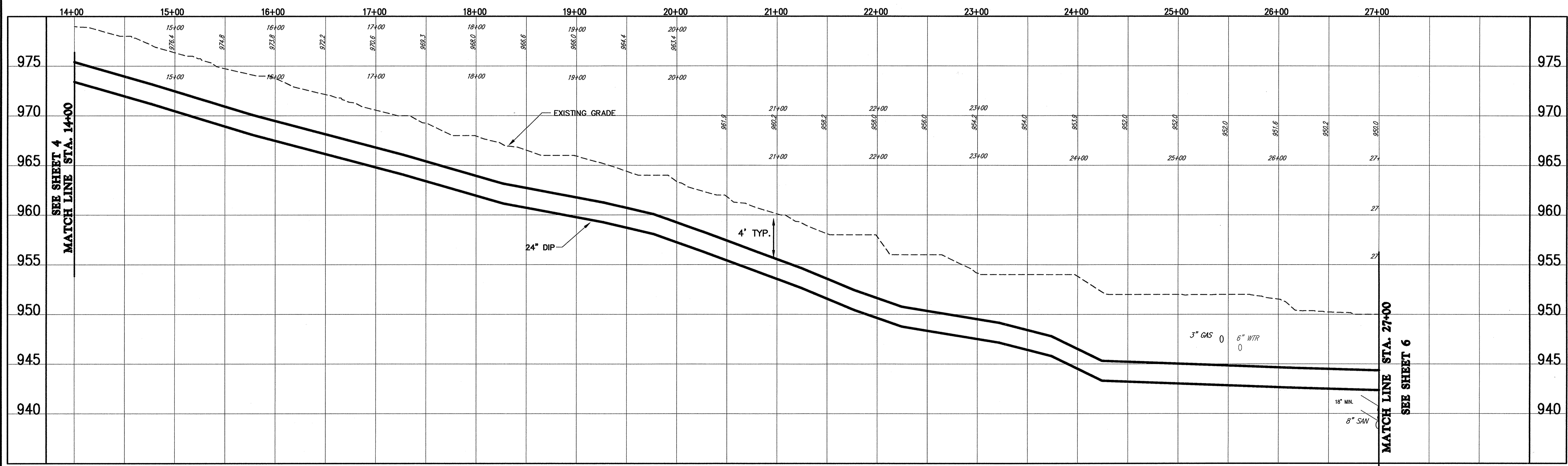
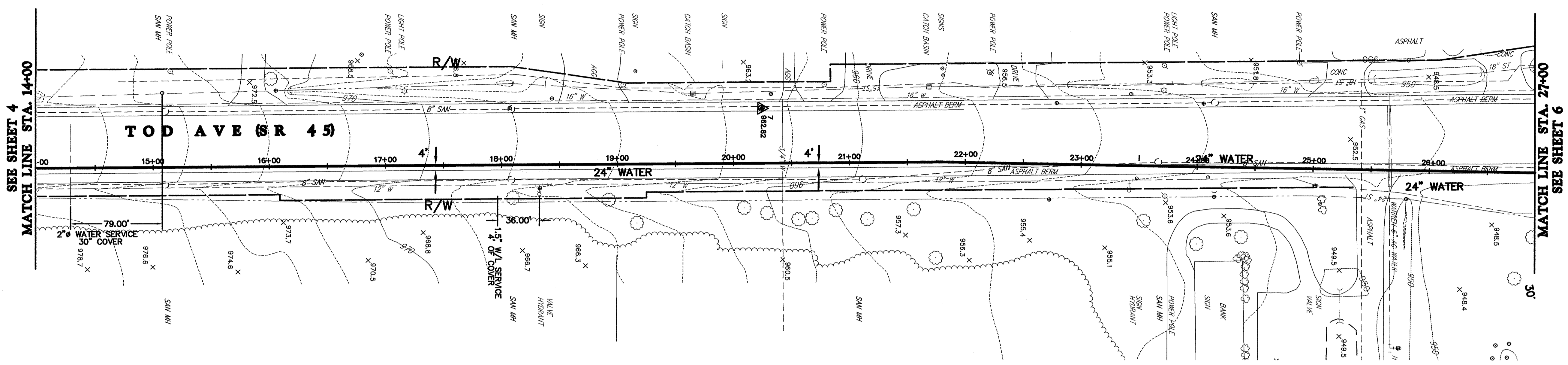
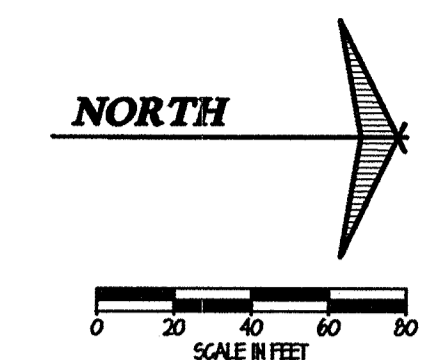
REV. NO.	DESCRIPTION	DATE	BY	CHK'D.
	RECORD DRAWINGS	05/09/06	MAB	JAF

VILLAGE OF LORDSTOWN  
24" WATER SUPPLY LINE  
TRUMBULL COUNTY, OHIO

DATE:	12-30-03
DRAWN BY:	J.K.
CHECKED BY:	J.A.F.
APPROVED BY:	J.A.F.
F.B. No.:	PG. --

PLAN & PROFILE  
TOD AVENUE (S.R. 45)  
WATERLINE STA. 1+00W  
TO WATERLINE STA. 5+00W

SCALE	1"=50'
VERT.	1"=5'
CONTRACT No.	02285
SHEET NO.	4
OF	31



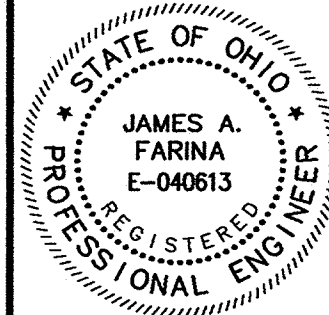
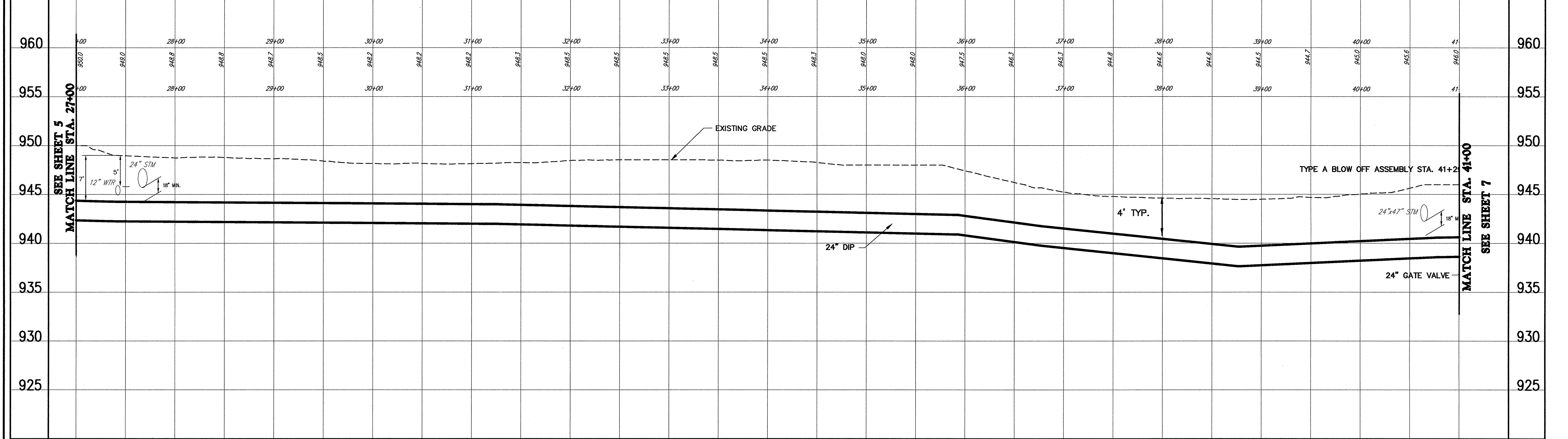
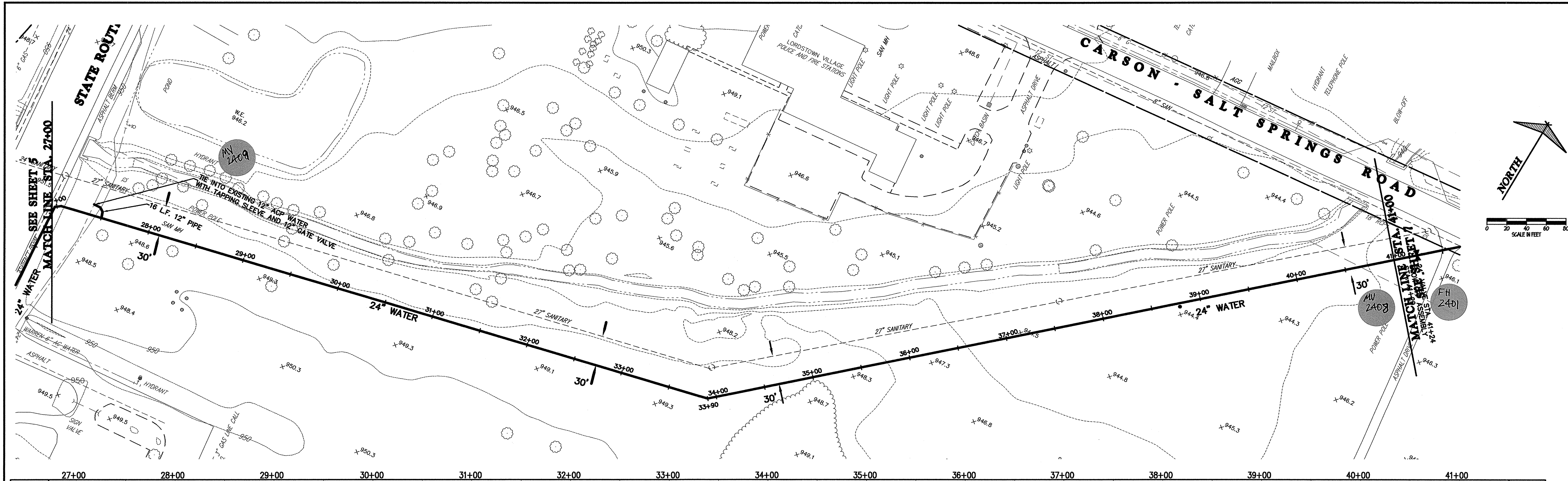
REV. NO.	DESCRIPTION	DATE	BY	CHK'D.
	RECORD DRAWINGS	05/09/06	MAB	JAF

VILLAGE OF LORDSTOWN  
**24" WATER SUPPLY LINE**  
 TRUMBULL COUNTY, OHIO

DATE: 12-30-03  
 DRAWN BY: J.K.  
 CHECKED BY: J.A.F.  
 APPROVED BY: J.A.F.  
 F.B. No. PG.

**PLAN & PROFILE**  
**TOD AVENUE (S.R. 45)**  
**WATERLINE STA. 14+00**  
**TO WATERLINE STA. 27+00**

SCALE	
HOR.	1"=50'
VERT.	1"=5'
CONTRACT No.	
02285	
SHEET NO.	OF
5	31



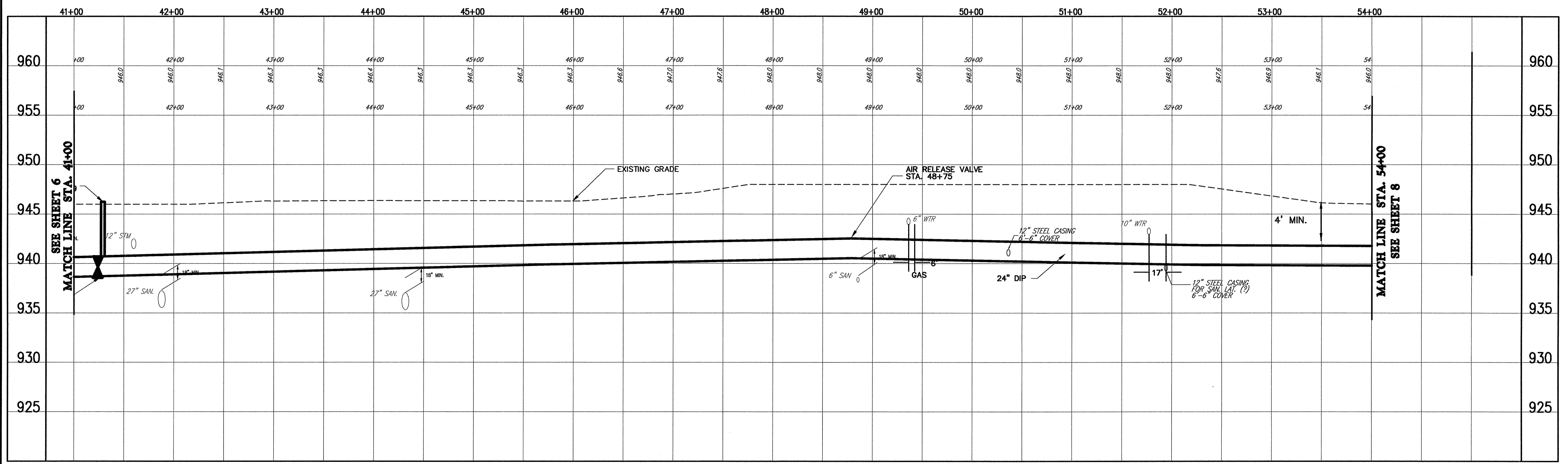
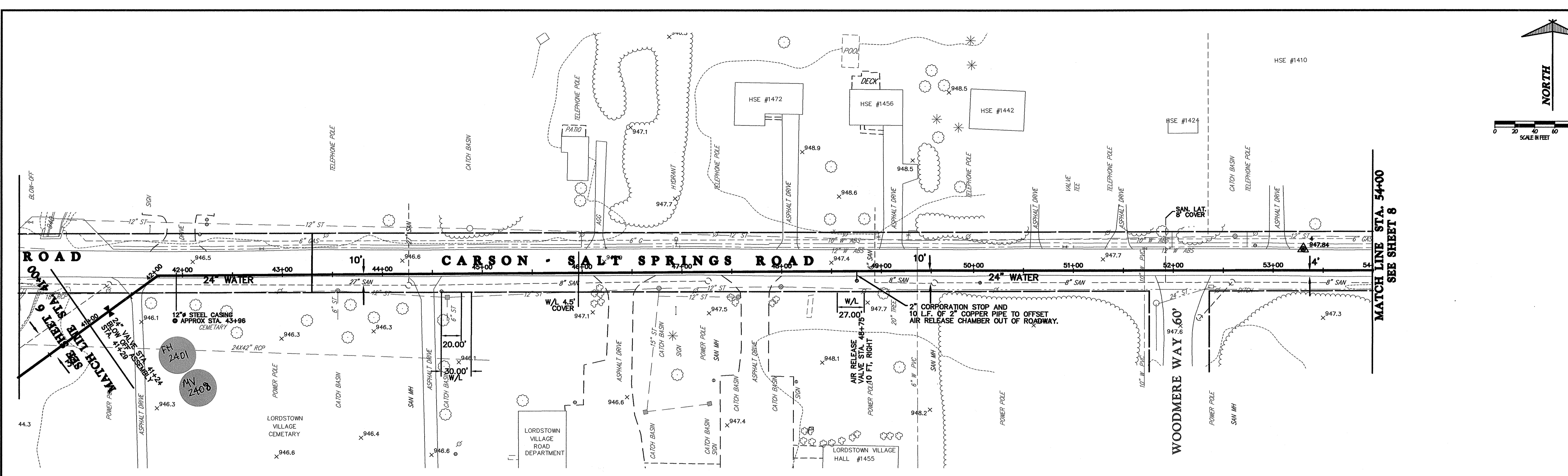
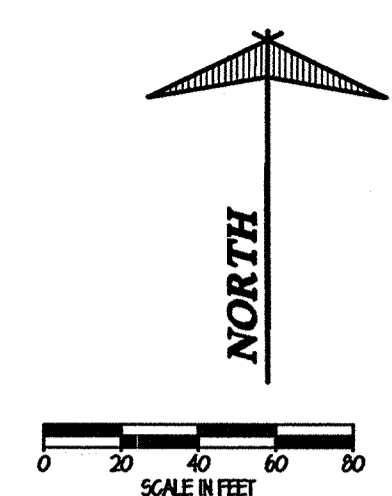
REV. NO.	DESCRIPTION	DATE	BY	CHK'D.
	RECORD DRAWINGS	05/09/06	MAB	JAF

VILLAGE OF LORDSTOWN  
**24" WATER SUPPLY LINE**  
 TRUMBULL COUNTY, OHIO

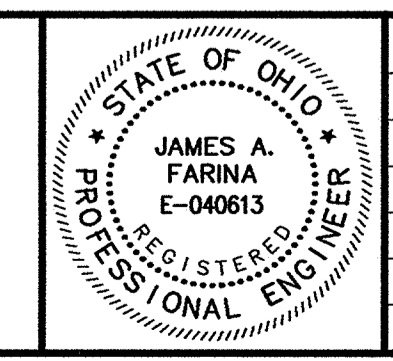
DATE: 12-30-03  
 DRAWN BY: J.K.  
 CHECKED BY: J.A.F.  
 APPROVED BY: J.A.F.  
 F.B. No. PG.

**PLAN & PROFILE**  
**TOD AVENUE (S.R. 45)**  
**WATERLINE STA. 27+00**  
**TO WATERLINE STA. 41+00**

SCALE	1"=50'
HOR.	1"=50'
VERT.	1"=5'
CONTRACT NO.	02285
SHEET NO.	6
OF	31



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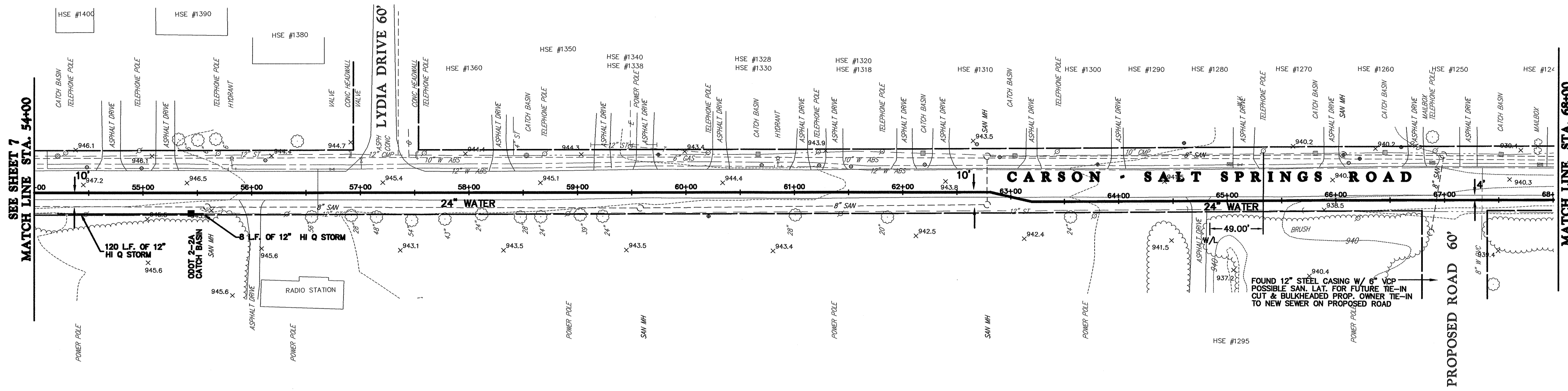
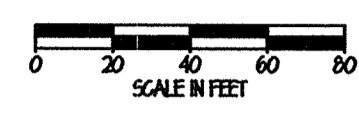
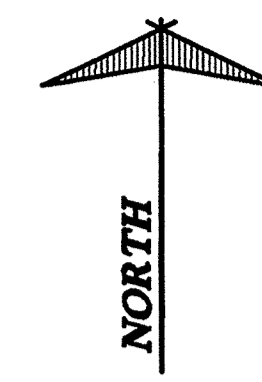
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	RECORD DRAWINGS	05/09/06	MAB	JAF

VILLAGE OF LORDSTOWN  
**24" WATER SUPPLY LINE**  
TRUMBULL COUNTY, OHIO

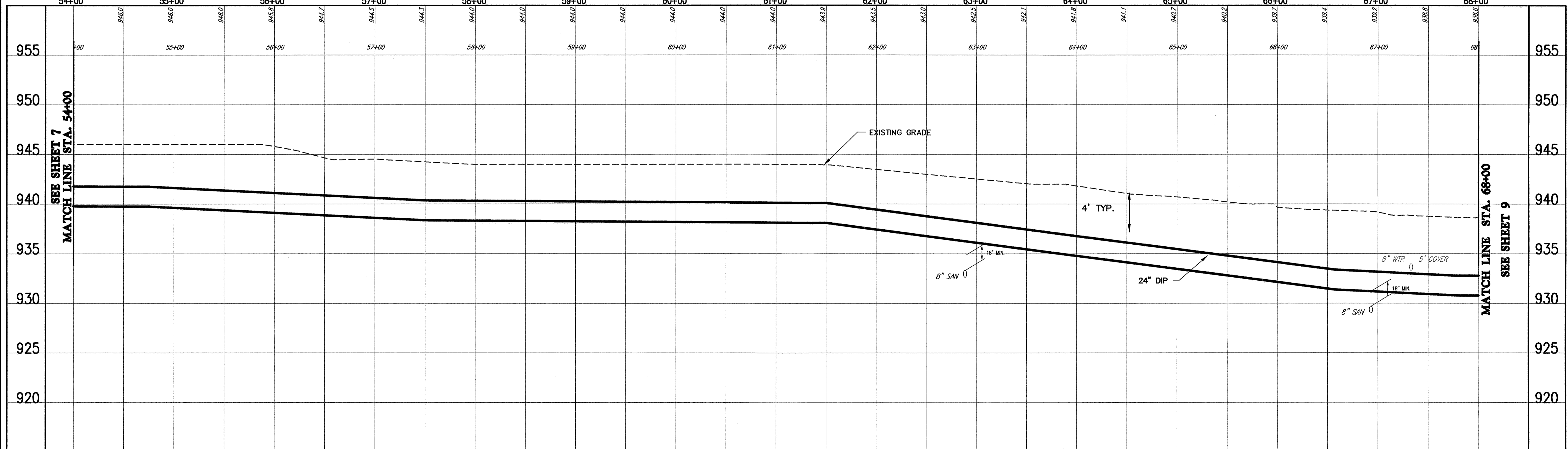
DATE: 5-28-04  
DRAWN BY: J.K.  
CHECKED BY: J.A.F.  
APPROVED BY: J.A.F.  
F.B. No. PG.

**PLAN & PROFILE**  
**SALT SPRINGS ROAD**  
**WATERLINE STA. 1+00W**  
**TO WATERLINE STA. 5+00W**

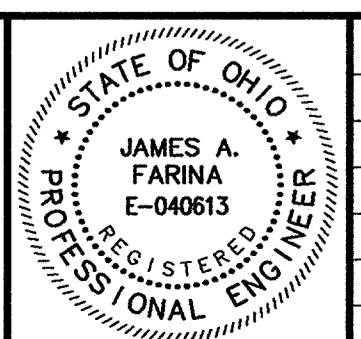
SCALE	
HOR.	1"=50'
VERT.	1"=5'
CONTRACT No.	
<b>02285</b>	
SHEET NO.	OF
<b>7</b>	<b>31</b>



54+00 55+00 56+00 57+00 58+00 59+00 60+00 61+00 62+00 63+00 64+00 65+00 66+00 67+00 68+00



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REV. NO.	DESCRIPTION	DATE	BY	CHK'D.
	RECORD DRAWINGS	05/09/06	MAB	JAF

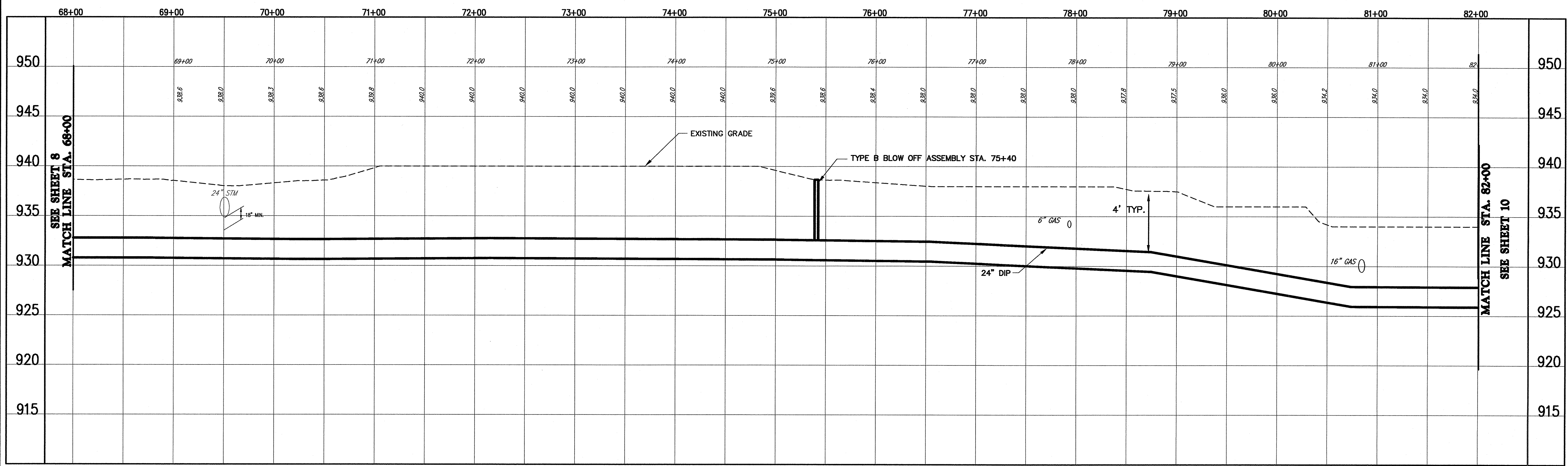
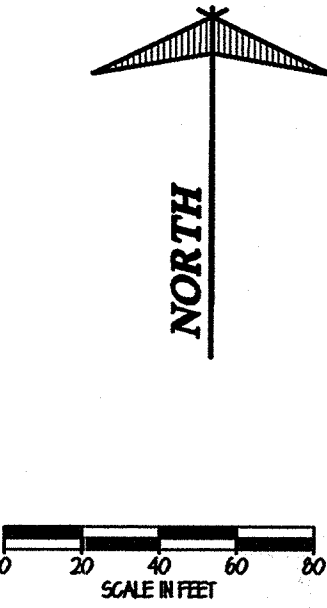
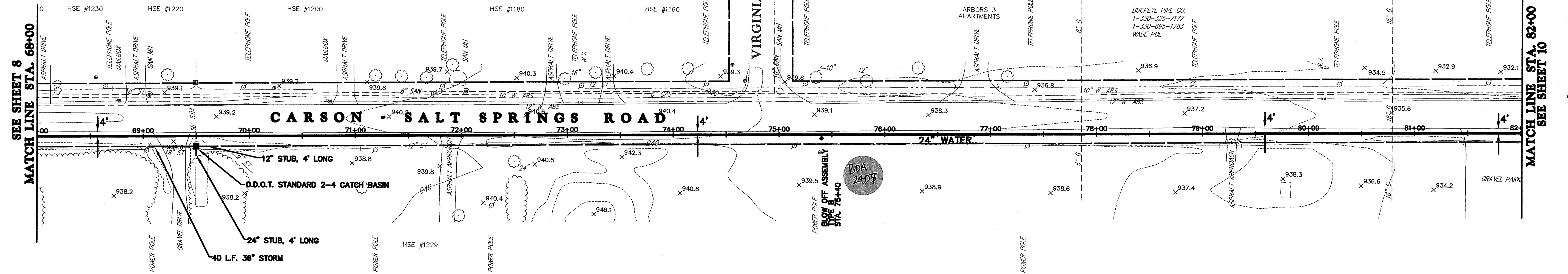
VILLAGE OF LORDSTOWN  
24" WATER SUPPLY LINE  
TRUMBULL COUNTY, OHIO

DATE:	5-28-04
DRAWN BY:	J.K.
CHECKED BY:	J.A.F.
APPROVED BY:	J.A.F.
F.B. No.:	PG. --

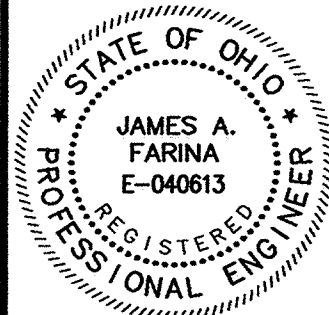
PLAN & PROFILE  
SALT SPRINGS ROAD  
WATERLINE STA. 54+00W  
TO WATERLINE STA. 68+00W

SCALE	HOR. 1"=50'
VERT. 1"=5'	CONTRACT No.
	02285
SHEET NO.	OF
8	31





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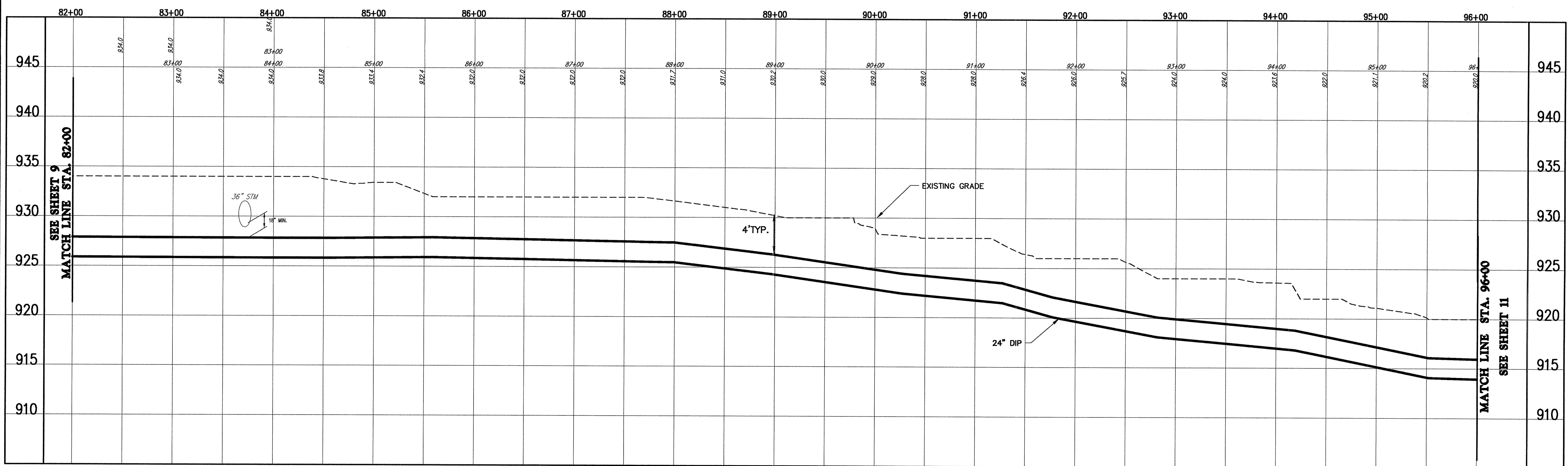
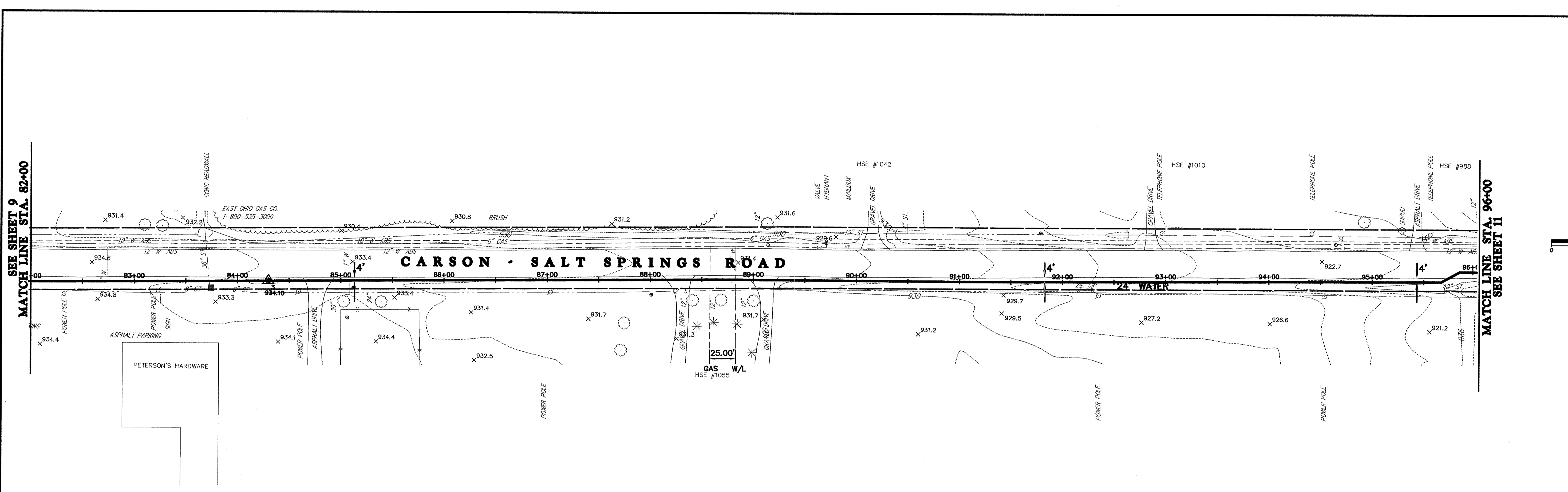
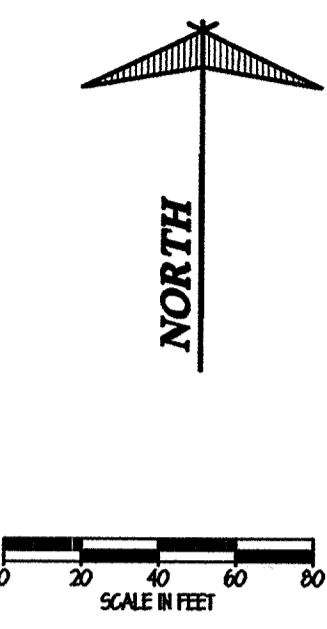
REV. NO.	DESCRIPTION	DATE	BY	CHK'D.
	RECORD DRAWINGS	05/09/06	MAB	JAF

VILLAGE OF LORDSTOWN  
**24" WATER SUPPLY LINE**  
TRUMBULL COUNTY, OHIO

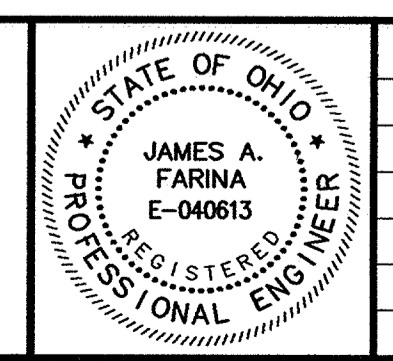
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DRAWN BY: J.K.  
CHECKED BY: J.A.F.  
APPROVED BY: J.A.F.  
F.B. No. PG.

**PLAN & PROFILE**  
**SALT SPRINGS ROAD**  
**WATERLINE STA. 68+00**  
**TO WATERLINE STA. 82+00**

SCALE	
HOR.	1"=50'
VERT.	1"=5'
CONTRACT No.	
02285	
SHEET NO.	OF
9	31



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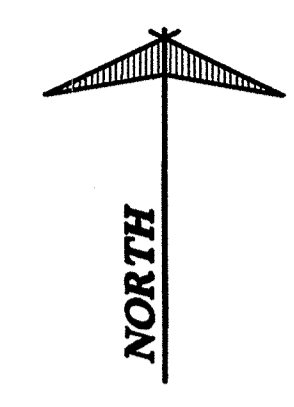
REV. NO.	DESCRIPTION	DATE	BY	CHK'D.
	<b>RECORD DRAWINGS</b>	<b>05/09/06</b>	<b>MAB</b>	<b>JAF</b>

VILLAGE OF LORDSTOWN  
**24" WATER SUPPLY LINE**  
TRUMBULL COUNTY, OHIO

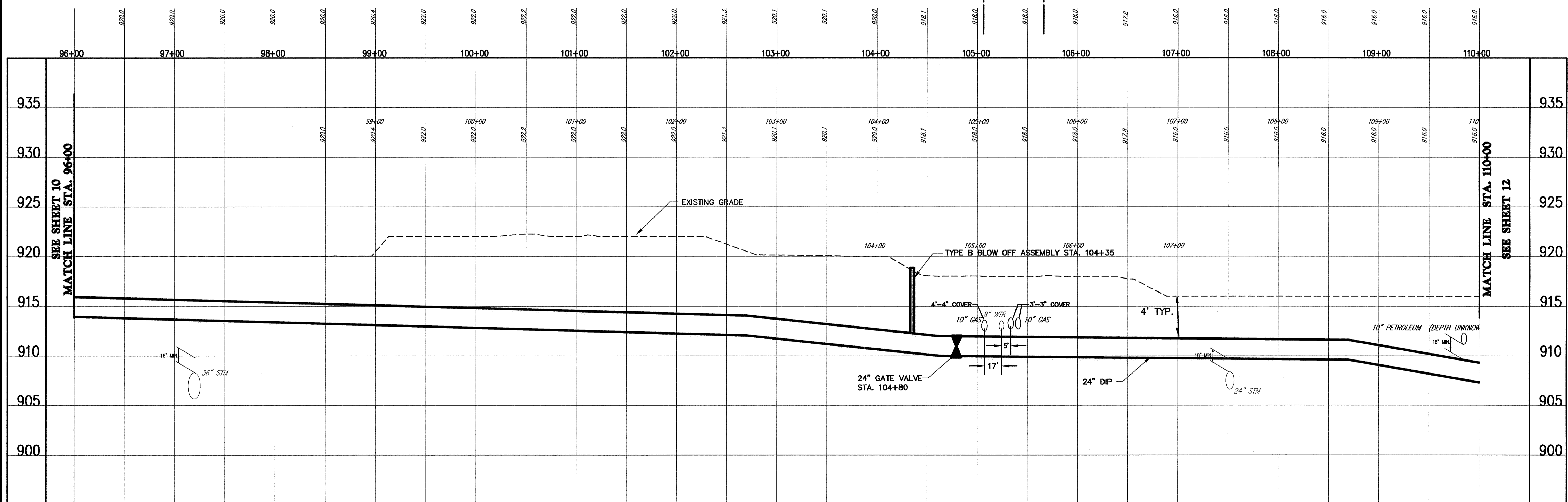
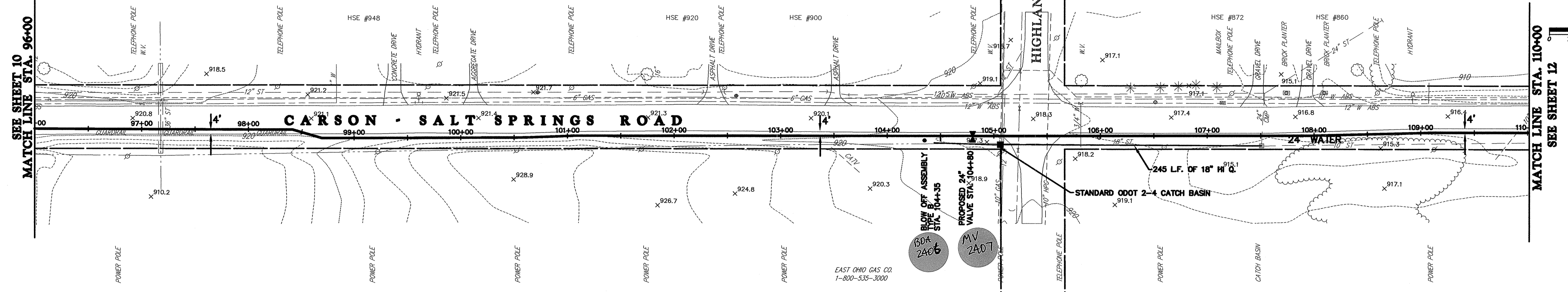
DATE:	12-30-03
DRAWN BY:	J.K.
CHECKED BY:	J.A.F.
APPROVED BY:	J.A.F.
F.B. No.:	PG. --

**PLAN & PROFILE**  
**SALT SPRINGS ROAD**  
**WATERLINE STA. 82+00**  
**TO WATERLINE STA. 96+00**

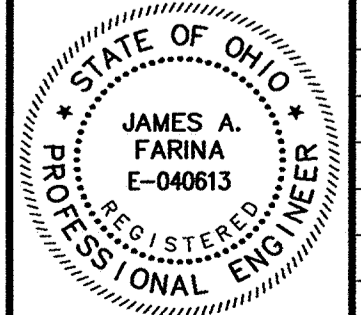
SCALE	
HOR.	1"=50'
VERT.	1"=5'
CONTRACT No.	
<b>02285</b>	
SHEET NO.	OF
<b>10</b>	<b>31</b>



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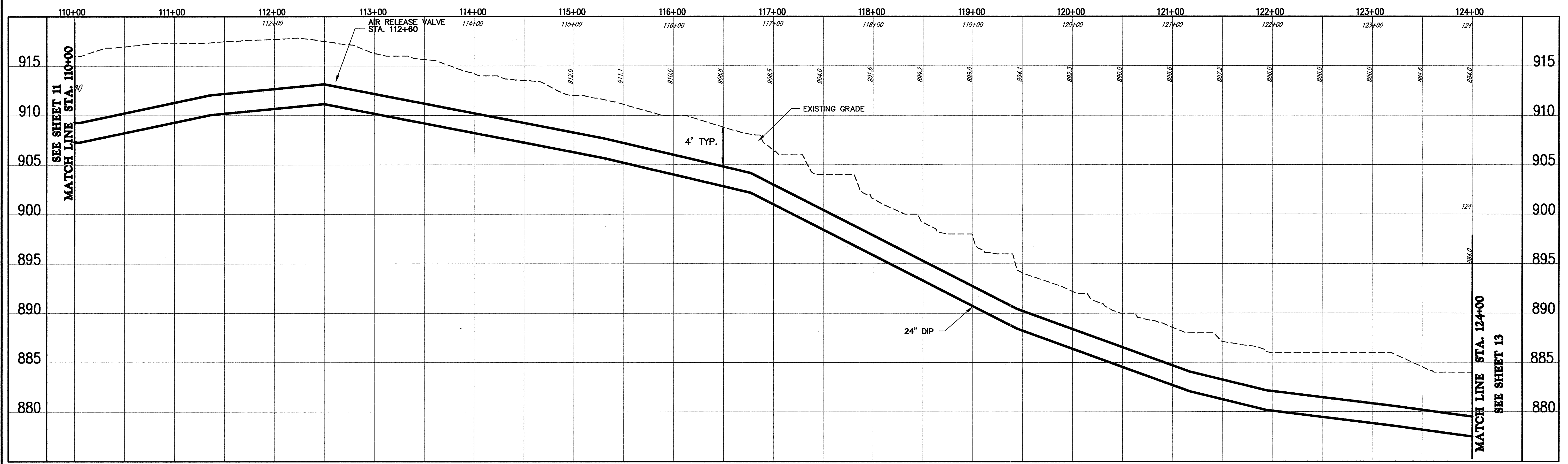
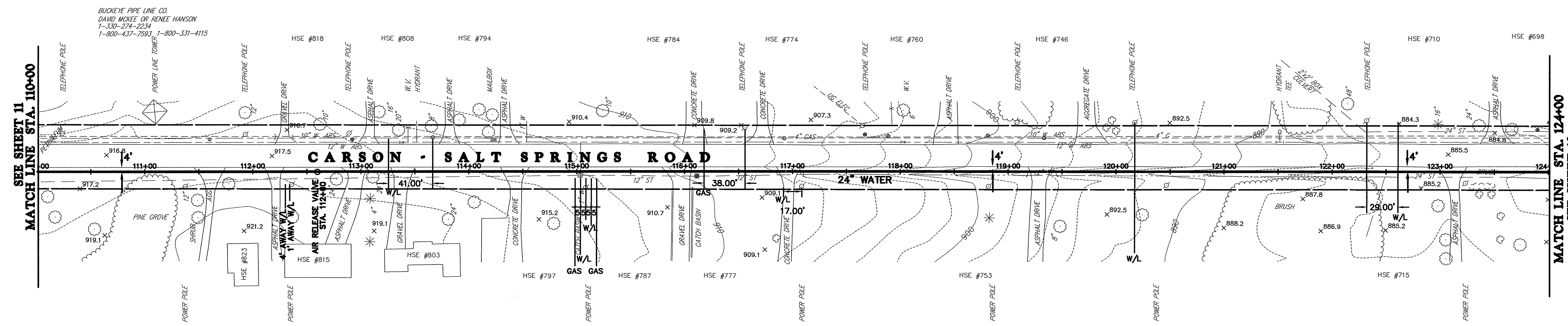
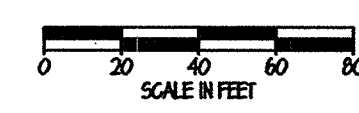
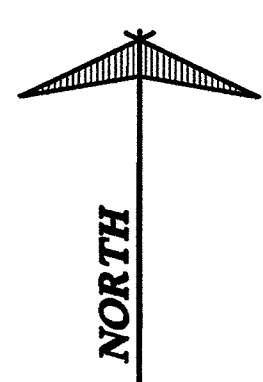
REV. NO.	DESCRIPTION	DATE	BY	CHK'D.
	RECORD DRAWINGS	05/09/06	MAB	JAF

VILLAGE OF LORDSTOWN  
**24" WATER SUPPLY LINE**  
TRUMBULL COUNTY, OHIO

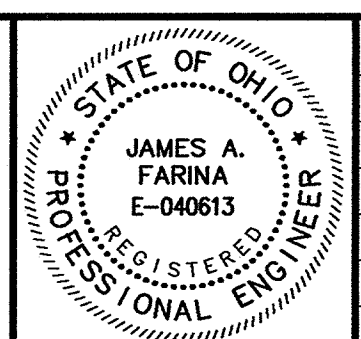
DATE:	5-28-04
DRAWN BY:	J.K.
CHECKED BY:	J.A.F.
APPROVED BY:	J.A.F.
F.B. No.:	PG. —

**PLAN & PROFILE**  
**SALT SPRINGS ROAD**  
**WATERLINE STA. 96+00**  
**TO WATERLINE STA. 110+00**

SCALE	HOR. 1"=50'
VERT. 1"=5'	CONTRACT No.
	<b>02285</b>
SHEET NO.	OF
<b>11</b>	<b>31</b>



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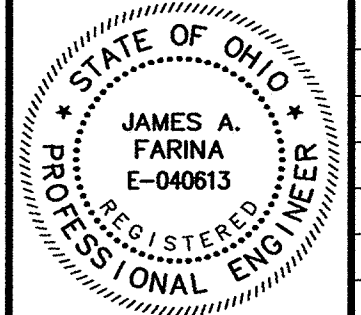
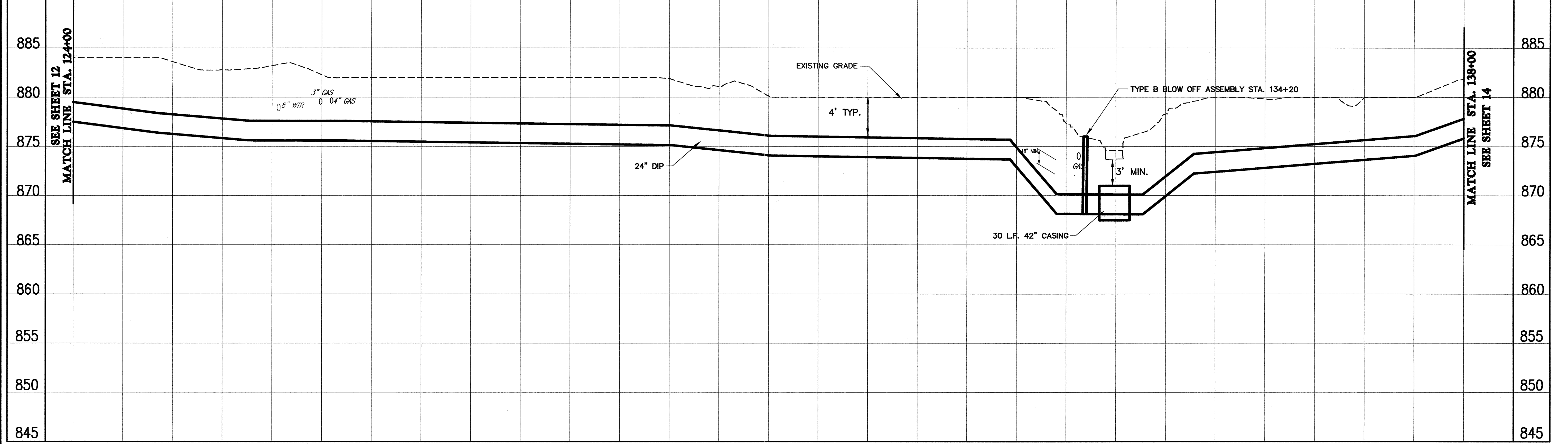
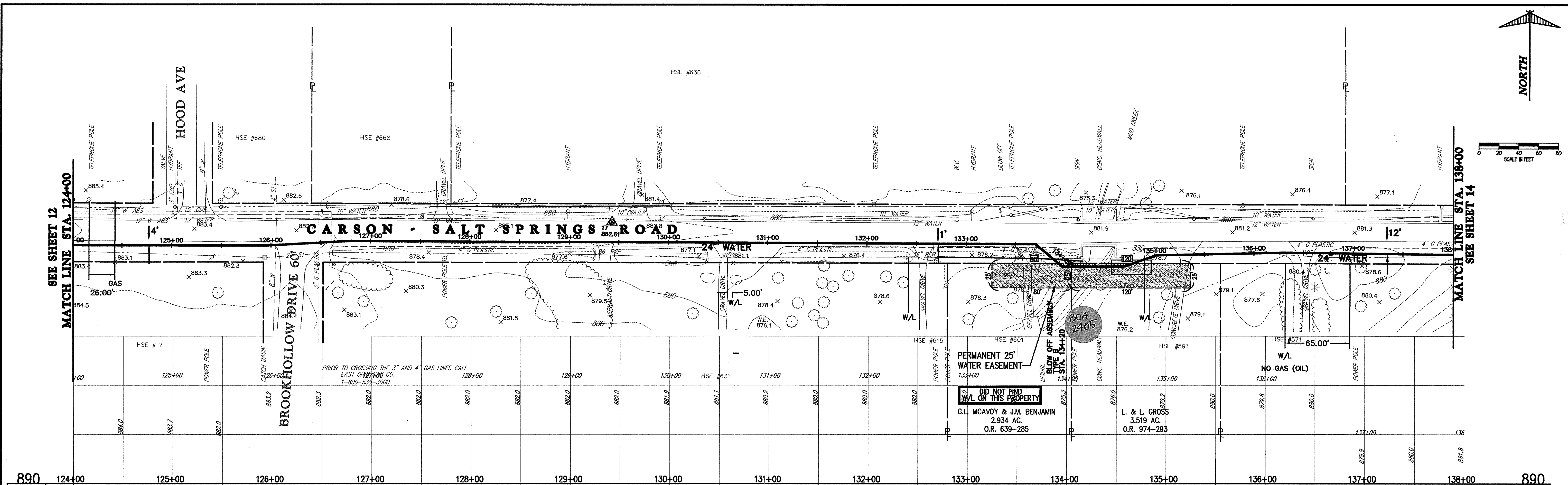
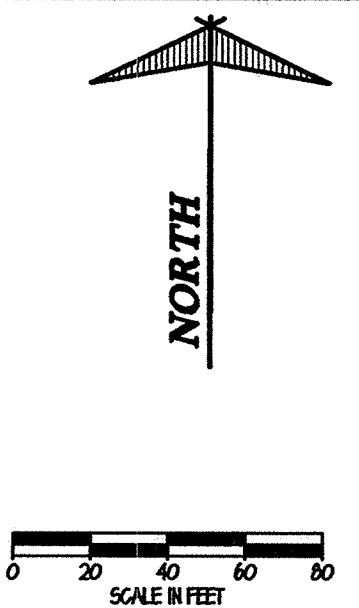
REV. NO.	DESCRIPTION	DATE	BY	CHK'D.
	RECORD DRAWINGS	05/09/06	MAB	JAF

VILLAGE OF LORDSTOWN  
**24" WATER SUPPLY LINE**  
TRUMBULL COUNTY, OHIO

DATE: 12-30-03  
DRAWN BY: J.K.  
CHECKED BY: J.A.F.  
APPROVED BY: J.A.F.  
F.B. No. PG. 1

**PLAN & PROFILE**  
**SALT SPRINGS ROAD**  
**WATERLINE STA. 110+00**  
**TO WATERLINE STA. 124+00**

SCALE	HOR. 1"=50'
VERT. 1"=5'	
CONTRACT NO.	02285
SHEET NO.	12
OF	31



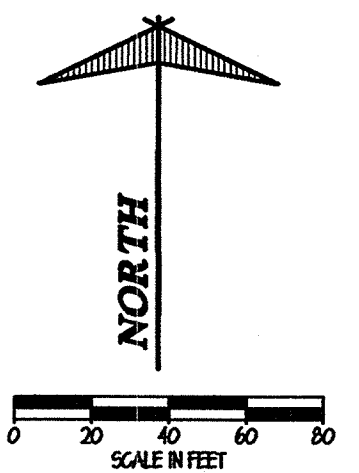
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	RECORD DRAWINGS	05/09/06	MAB	JAF

VILLAGE OF LORDSTOWN  
**24" WATER SUPPLY LINE**  
 TRUMBULL COUNTY, OHIO

DATE	5-28-04
DRAWN BY	J.K.
CHECKED BY	J.A.F.
APPROVED BY	J.A.F.
F.B. No.	PG.

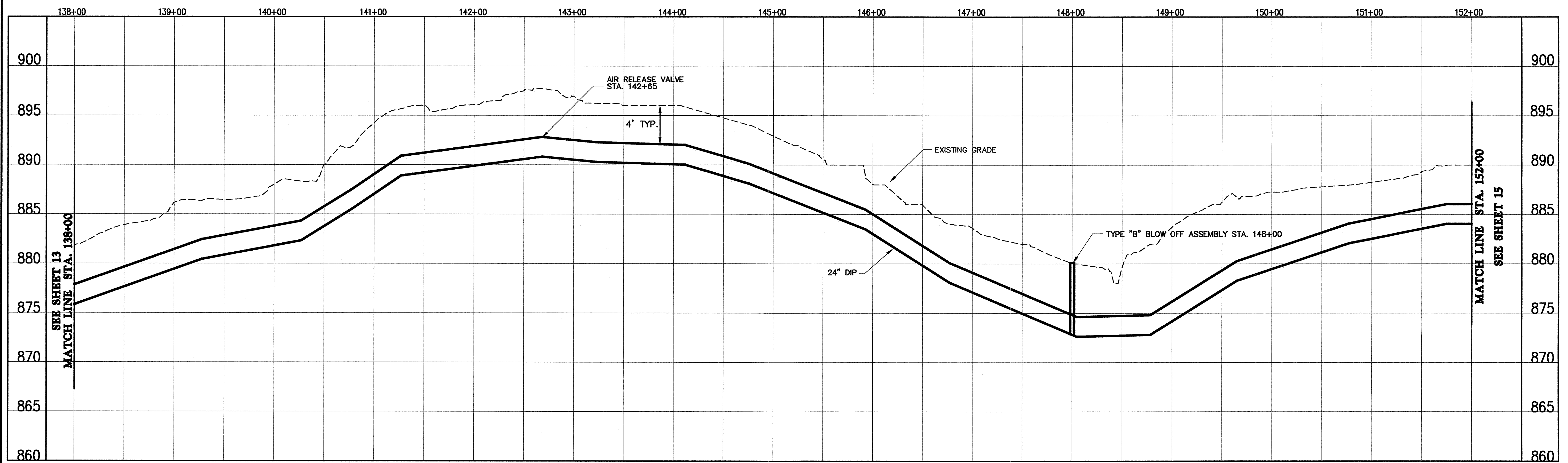
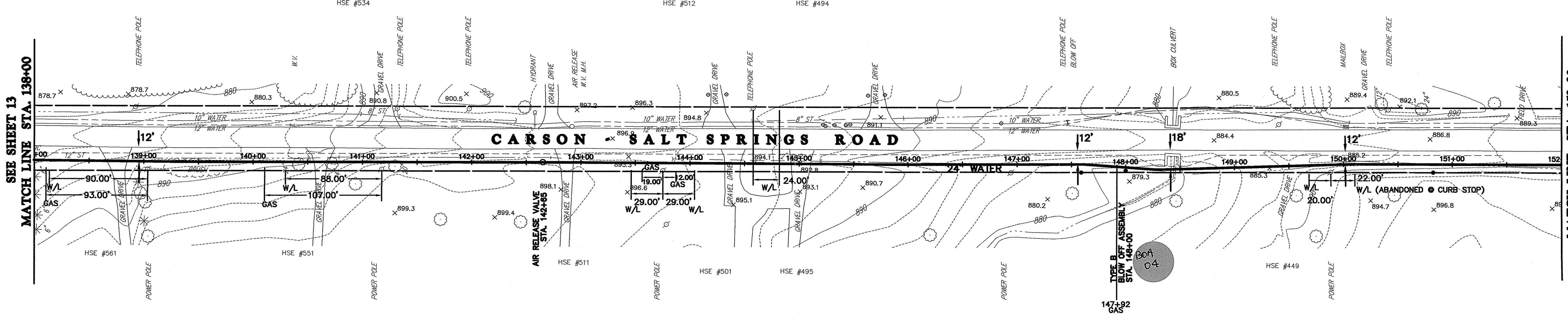
PLAN & PROFILE  
**SALT SPRINGS ROAD**  
**WATERLINE STA. 124+00**  
**TO WATERLINE STA. 138+00**

SCALE	
HOR.	1"=50'
VERT.	1"=5'
CONTRACT NO.	
02285	
SHEET NO.	OF
13	31

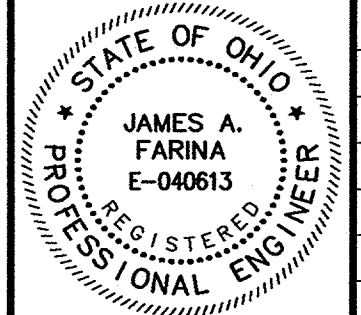


SEE SHEET 13  
MATCH LINE STA. 138+00

MATCH LINE STA. 152+00  
SEE SHEET 15



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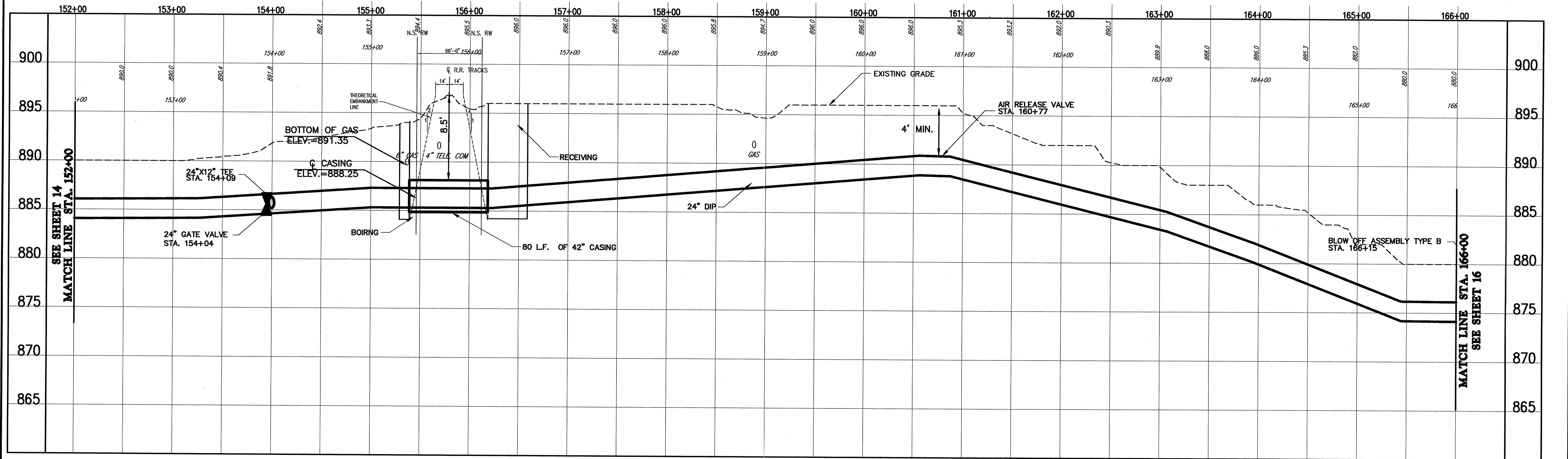
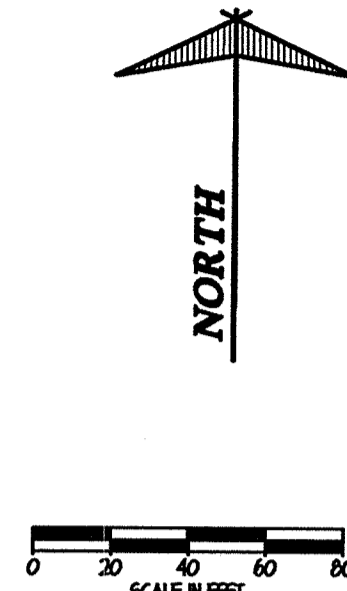
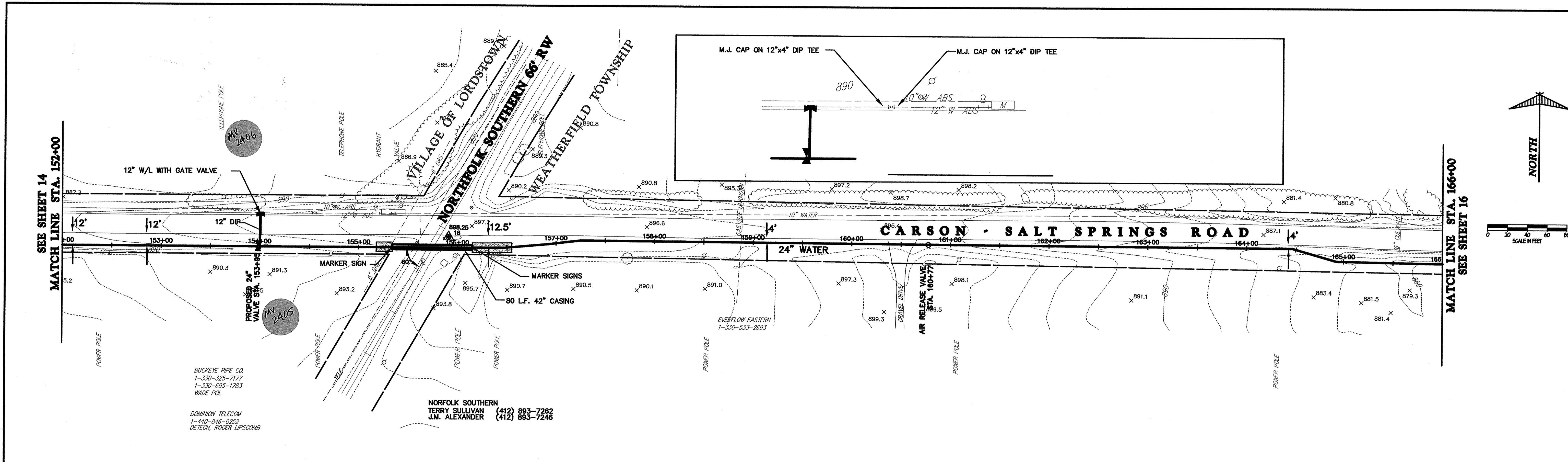
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	RECORD DRAWINGS	05/09/06	MAB	JAF

VILLAGE OF LORDSTOWN  
**24" WATER SUPPLY LINE**  
TRUMBULL COUNTY, OHIO

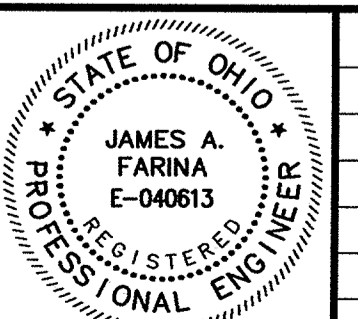
DATE: 5-28-04  
DRAWN BY: J.K.  
CHECKED BY: J.A.F.  
APPROVED BY: J.A.F.  
F.B. No. PG.

**PLAN & PROFILE**  
**SALT SPRINGS ROAD**  
**WATERLINE STA. 138+00**  
**TO WATERLINE STA. 152+00**

SCALE	
HOR.	1"=50'
VERT.	1"=5'
CONTRACT No.	
<b>02285</b>	
SHEET NO.	OF
<b>14</b>	<b>31</b>



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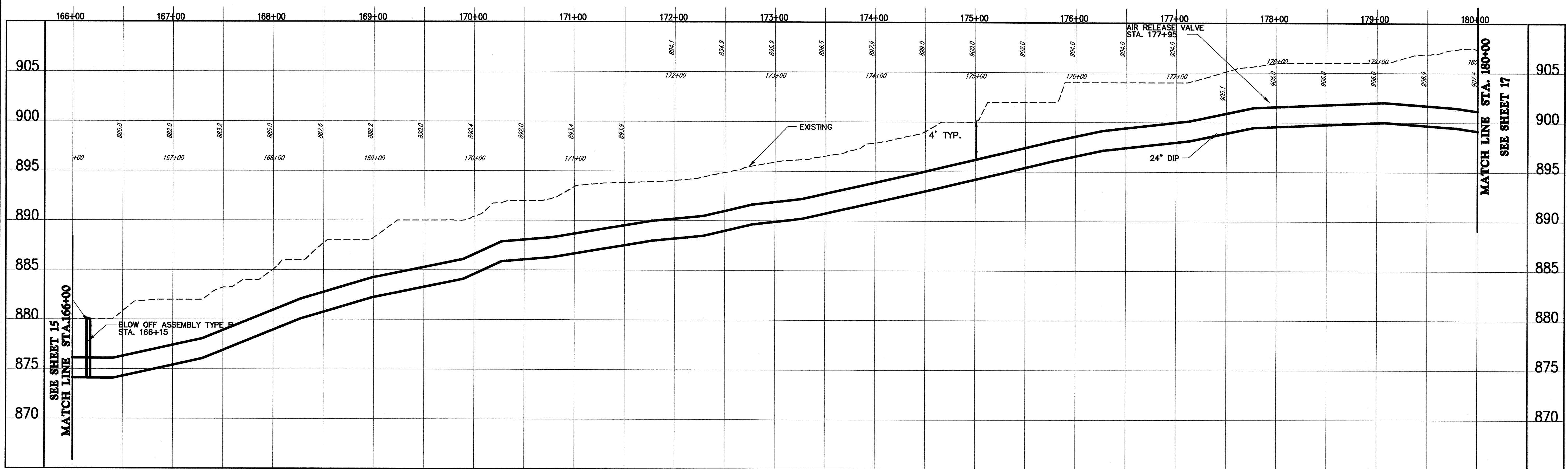
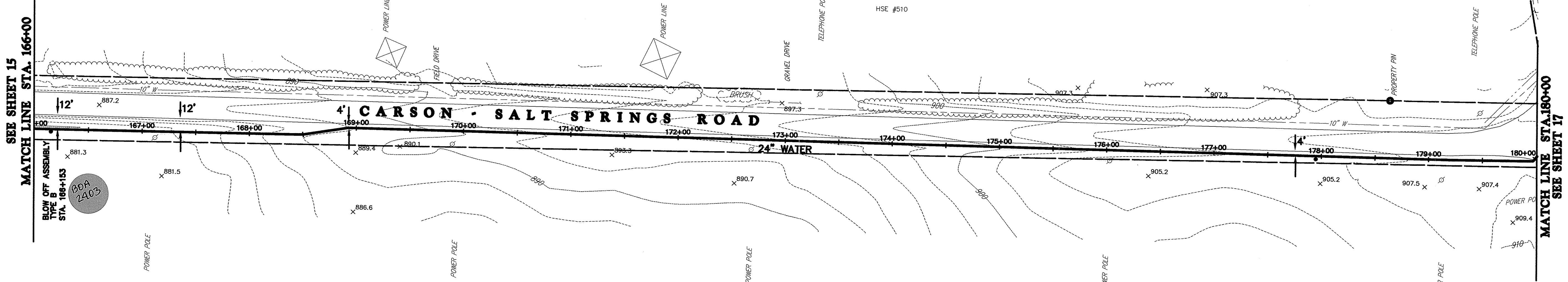
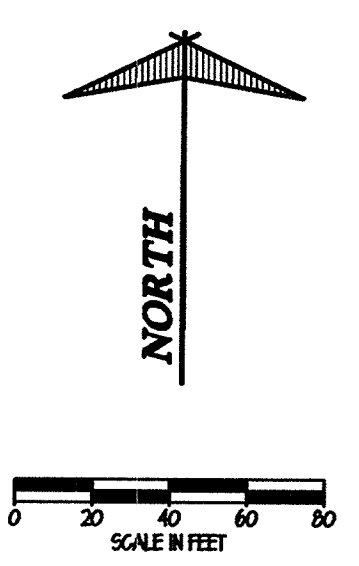
REV. NO.	DESCRIPTION	DATE	BY	CHK'D.
	<b>RECORD DRAWINGS</b>	<b>05/09/06</b>	<b>MAB</b>	<b>JAF</b>

**VILLAGE OF LORDSTOWN**  
**24" WATER SUPPLY LINE**  
**TRUMBULL COUNTY, OHIO**

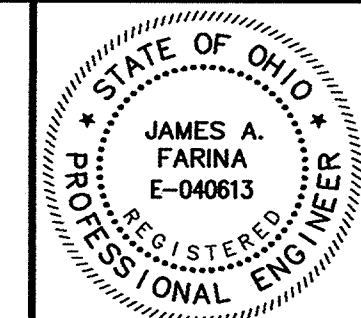
DATE:	12-30-03
DRAWN BY:	J.K.
CHECKED BY:	J.A.F.
APPROVED BY:	J.A.F.
F.B. No.:	PG. --

**PLAN & PROFILE**  
**SALT SPRINGS ROAD**  
**WATERLINE STA. 1+00W**  
**TO WATERLINE STA. 5+00W**

SCALE	HOR.	1"=50'
	VERT.	1"=5'
CONTRACT No.		
<b>02285</b>		
SHEET NO.	OF	
<b>15</b>	<b>31</b>	



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REV. NO.	DESCRIPTION	DATE	BY	CHK'D.
	<b>RECORD DRAWINGS</b>	<b>05/09/06</b>	<b>MAB</b>	<b>JAF</b>

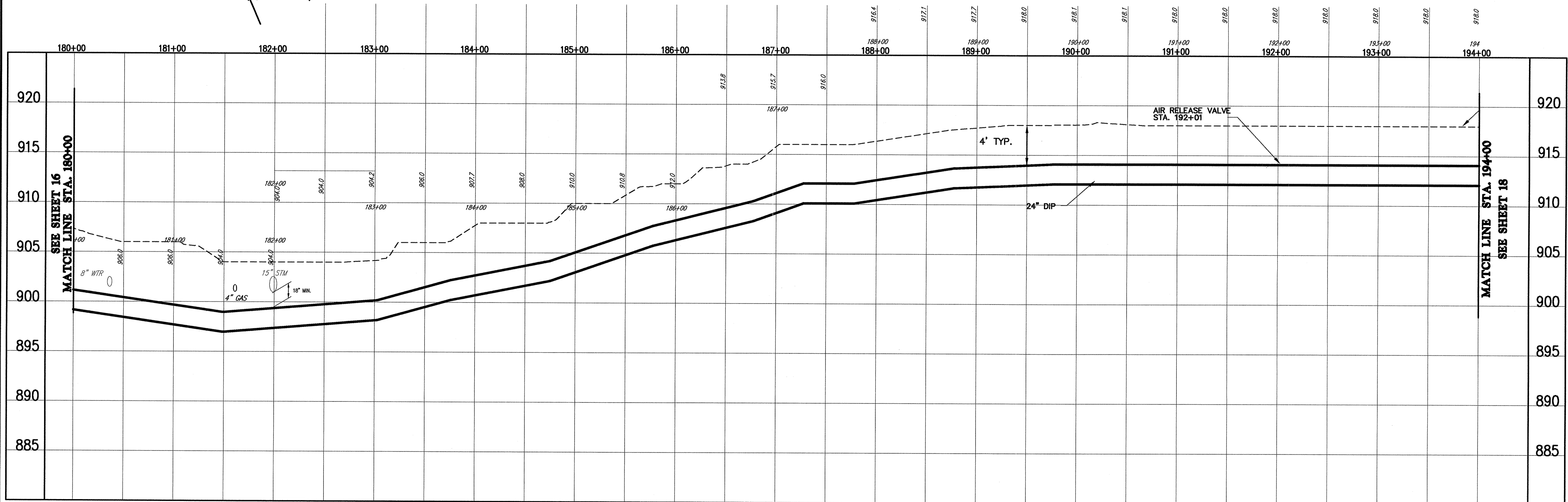
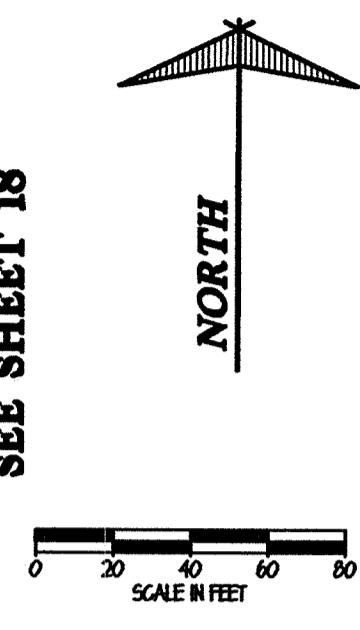
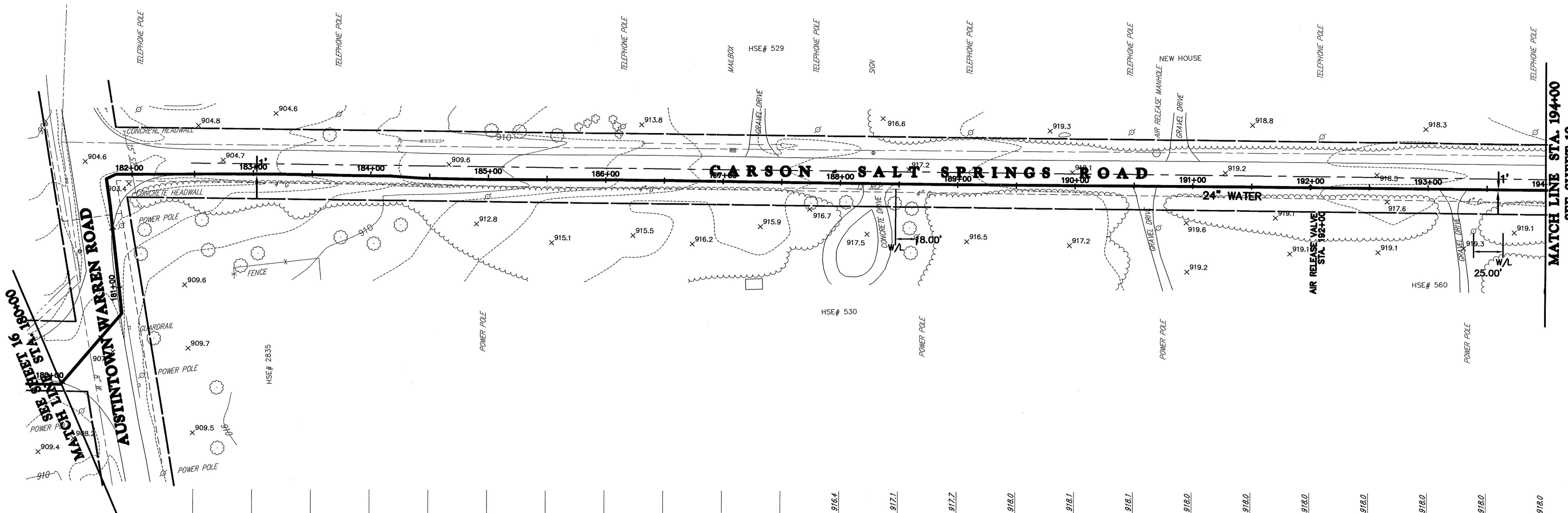
**VILLAGE OF LORDSTOWN**  
**24" WATER SUPPLY LINE**  
**TRUMBULL COUNTY, OHIO**

DATE:	5-28-04
DRAWN BY:	J.K.
CHECKED BY:	J.A.F.
APPROVED BY:	J.A.F.
F.B. No.:	PG. --

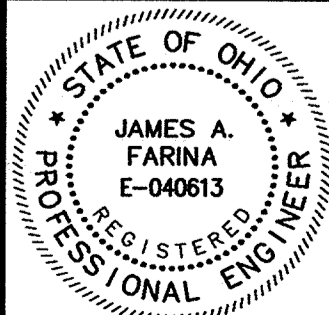
**PLAN & PROFILE**  
**SALT SPRINGS ROAD**  
**WATERLINE STA. 166+00**  
**TO WATERLINE STA. 180+00**

SCALE	1"=50'
VERT.	1"=5'
CONTRACT NO.	<b>02285</b>
SHEET NO.	<b>16</b>
OF	<b>31</b>





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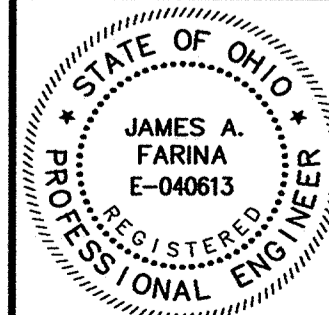
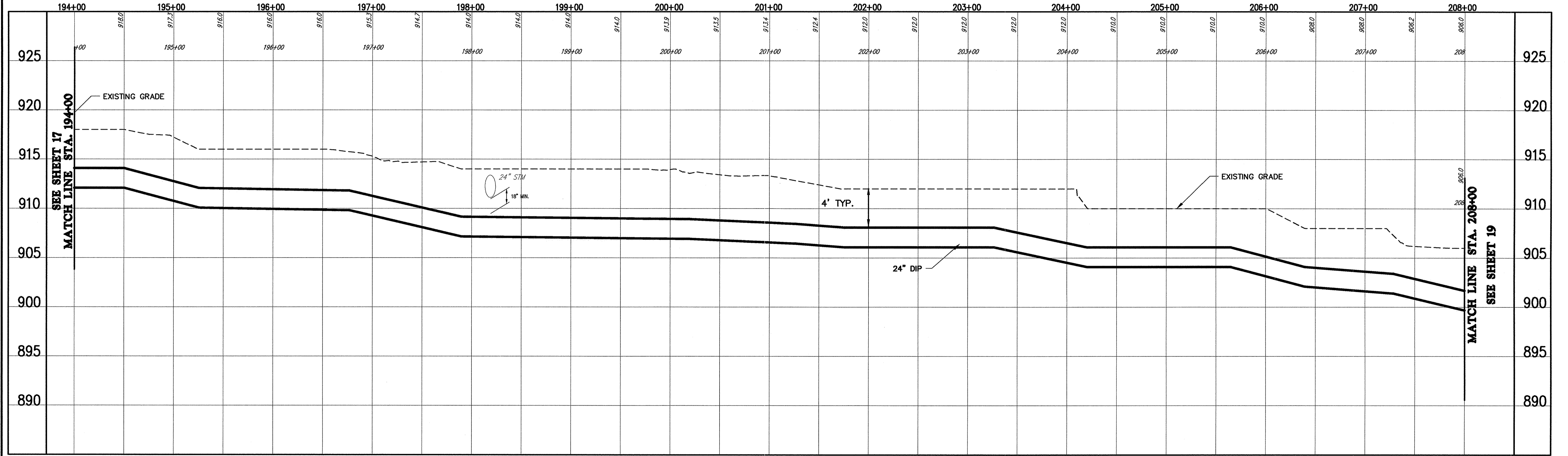
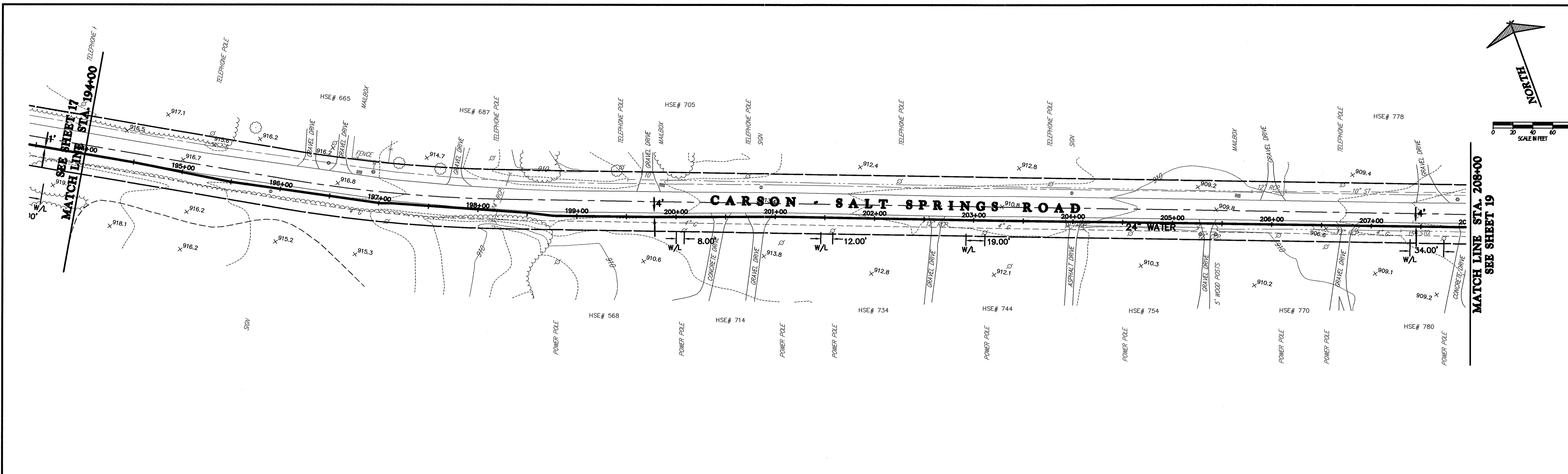
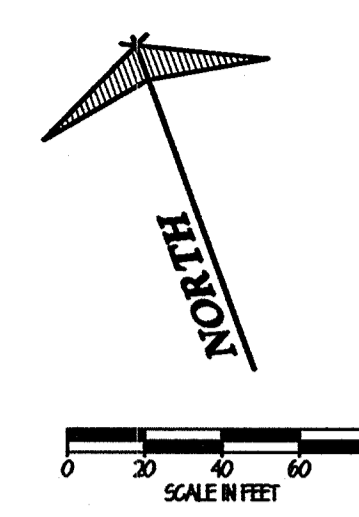
REV. NO.	DESCRIPTION	DATE	BY	CHK'D.
	RECORD DRAWINGS	05/09/06	MAB	JAF

VILLAGE OF LORDSTOWN  
**24" WATER SUPPLY LINE**  
TRUMBULL COUNTY, OHIO

DATE:	5-28-04
DRAWN BY:	J.K.
CHECKED BY:	J.A.F.
APPROVED BY:	J.A.F.
F.B. No.:	PG. --

**PLAN & PROFILE**  
**SALT SPRINGS ROAD**  
**WATERLINE STA. 180+00**  
**TO WATERLINE STA. 194+00**

SCALE	HOR. 1"=50'	VERT. 1"=5'
CONTRACT No.	02285	
SHEET NO.	17	OF 31



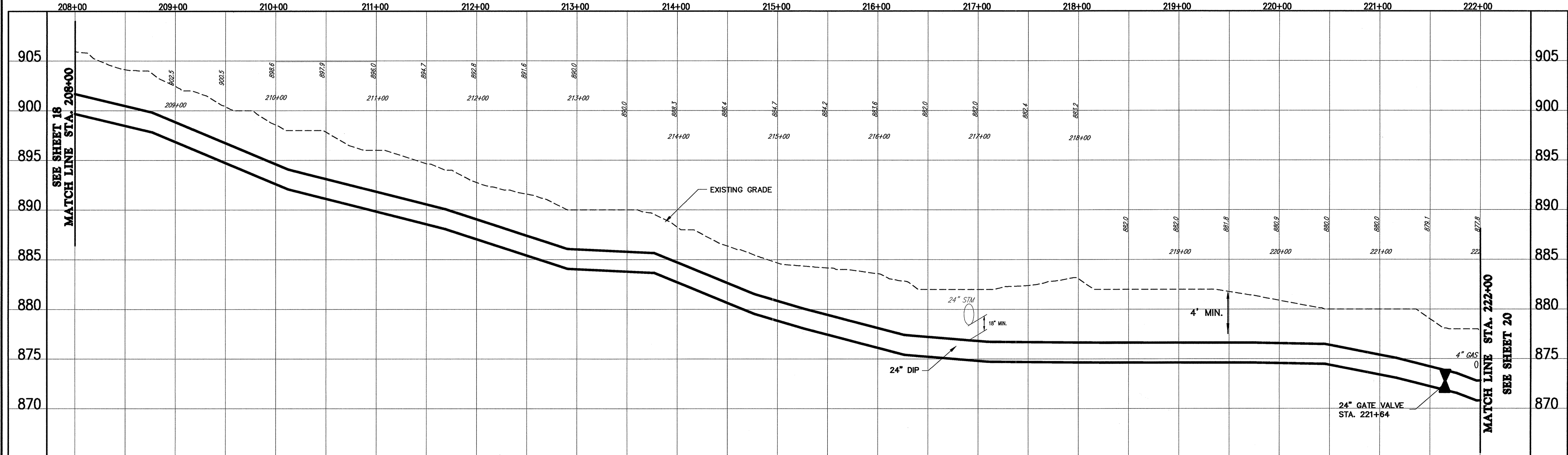
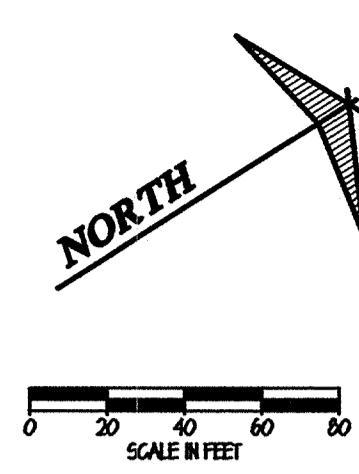
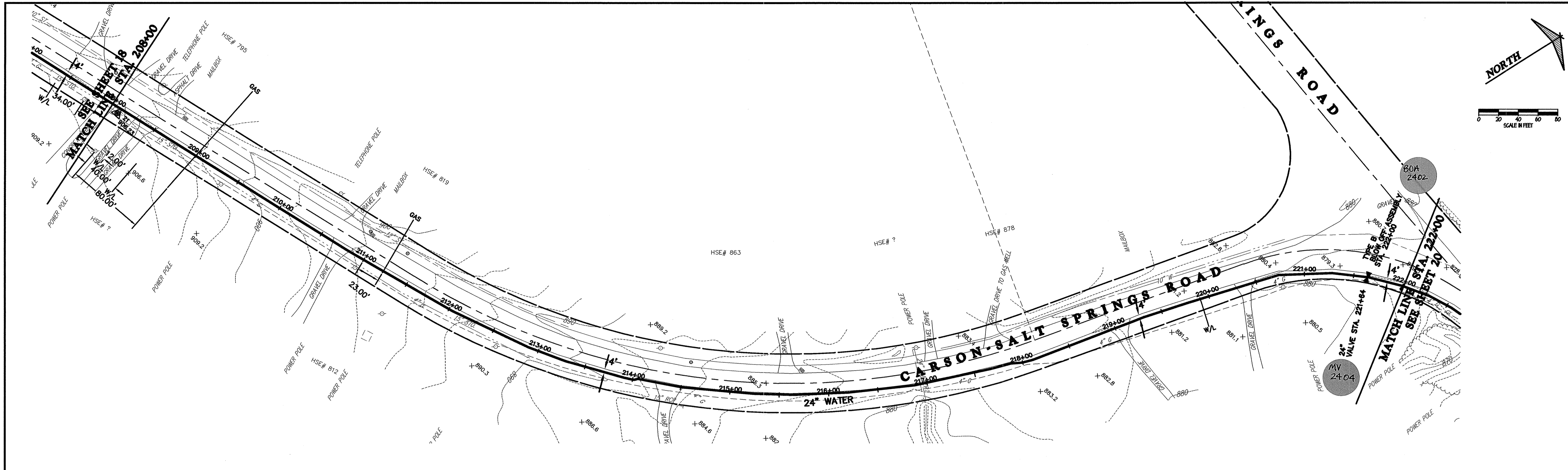
REV. NO.	DESCRIPTION	DATE	BY	CHK'D.
	RECORD DRAWINGS	05/09/06	MAB	JAF

VILLAGE OF LORDSTOWN  
**24" WATER SUPPLY LINE**  
 TRUMBULL COUNTY, OHIO

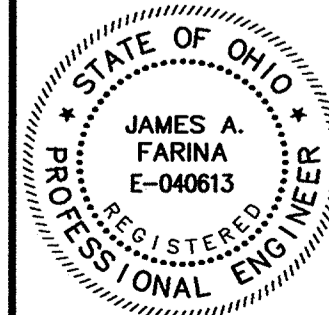
DATE:	5-28-04
DRAWN BY:	J.K.
CHECKED BY:	J.A.F.
APPROVED BY:	J.A.F.
F.B. No.:	PG. 1

**PLAN & PROFILE**  
**SALT SPRINGS ROAD**  
**WATERLINE STA. 194+00**  
**TO WATERLINE STA. 208+00**

SCALE	
HOR.	1"=50'
VERT.	1"=5'
CONTRACT No.	
<b>02285</b>	
SHEET NO.	OF
<b>18</b>	<b>31</b>



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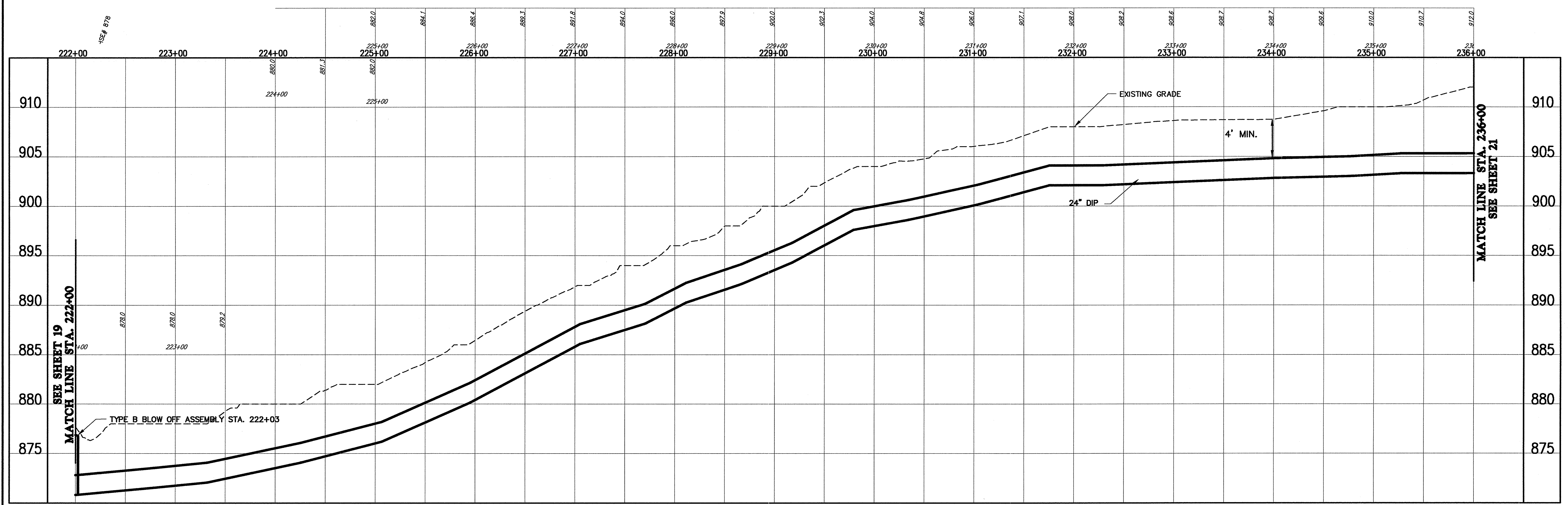
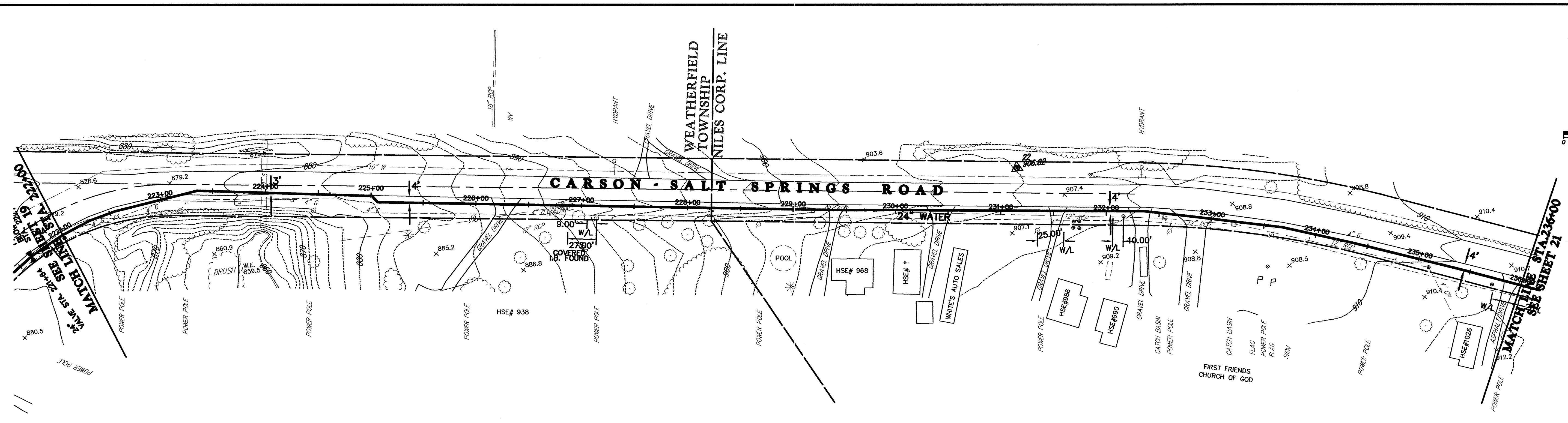
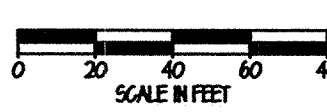
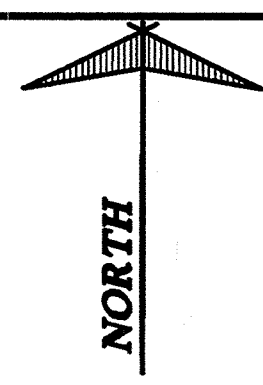
REV. NO.	DESCRIPTION	DATE	BY	CHK'D.
	RECORD DRAWINGS	05/09/06	MAB	JAF

VILLAGE OF LORDSTOWN  
**24" WATER SUPPLY LINE**  
TRUMBULL COUNTY, OHIO

DATE: 5-28-04  
DRAWN BY: J.K.  
CHECKED BY: J.A.F.  
APPROVED BY: J.A.F.  
F.B. No. PG.

**PLAN & PROFILE**  
**SALT SPRINGS ROAD**  
**WATERLINE STA. 208+00**  
**TO WATERLINE STA. 222+00**

SCALE	
HOR.	1"=50'
VERT.	1"=5'
CONTRACT No.	
<b>02285</b>	
SHEET NO.	OF
<b>19</b>	<b>31</b>



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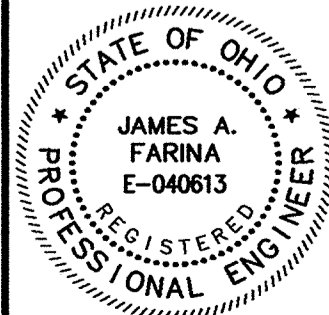
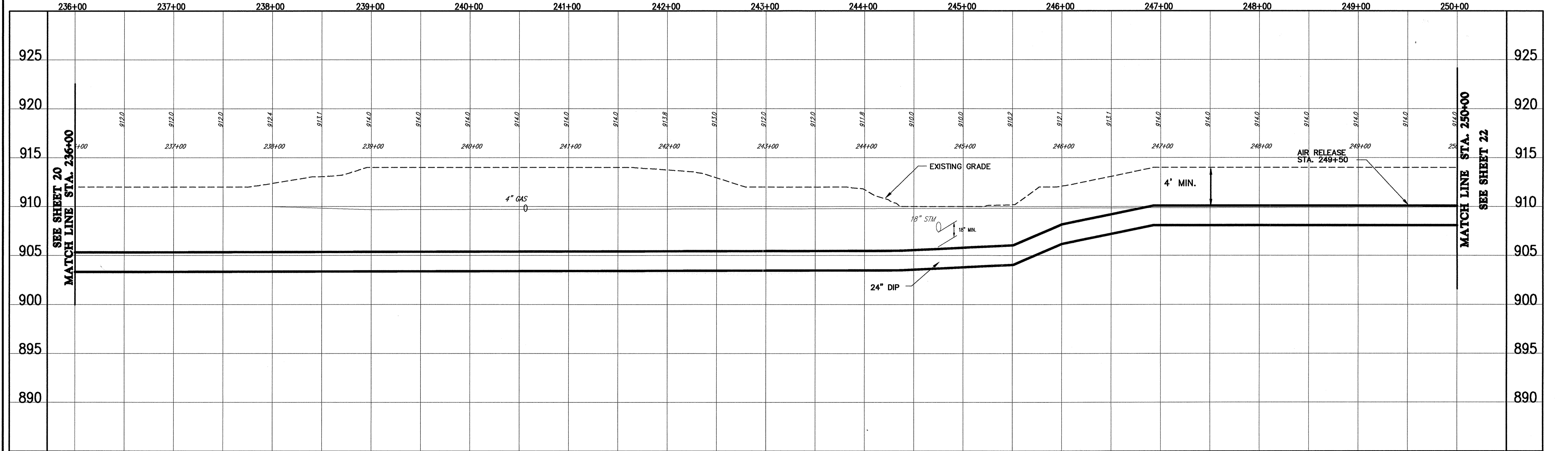
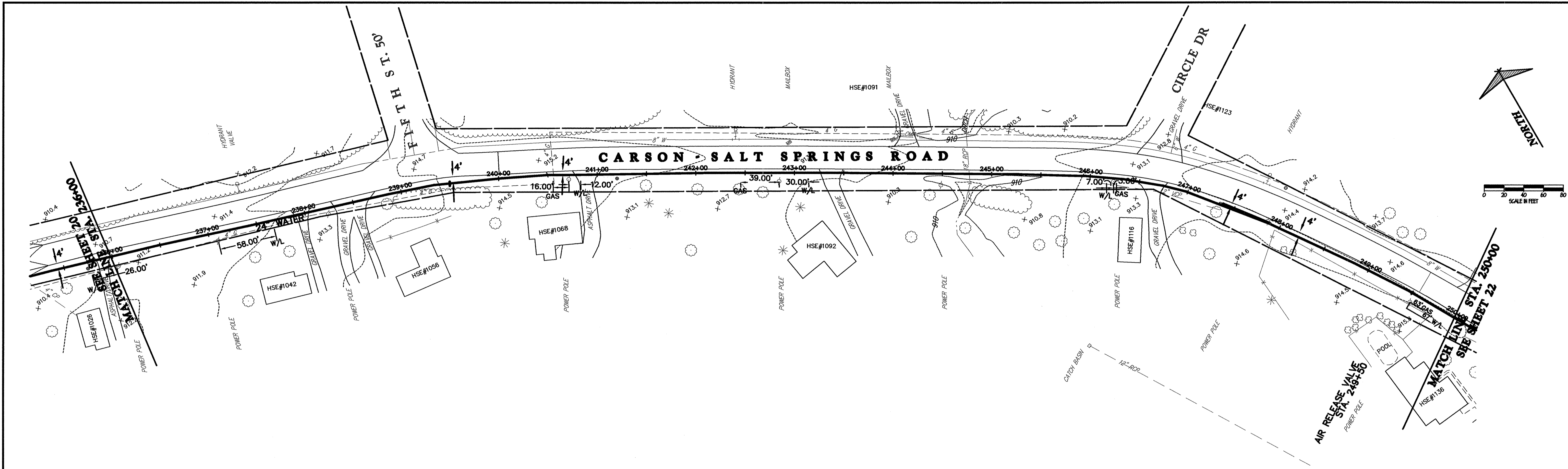
REV. NO.	DESCRIPTION	DATE	BY	CHK'D.
	RECORD DRAWINGS	05/09/06	MAB	JAF

VILLAGE OF LORDSTOWN  
24" WATER SUPPLY LINE  
TRUMBULL COUNTY, OHIO

DATE:	6-08-04
DRAWN BY:	J.K.
CHECKED BY:	J.A.F.
APPROVED BY:	J.A.F.
F.B. No.:	PG. -

**PLAN & PROFILE**  
**SALT SPRINGS ROAD**  
**WATERLINE STA. 222+00**  
**TO WATERLINE STA. 236+00**

SCALE	1"=50'
VERT.	1"=5'
CONTRACT No.	02285
SHEET NO.	20
OF	31



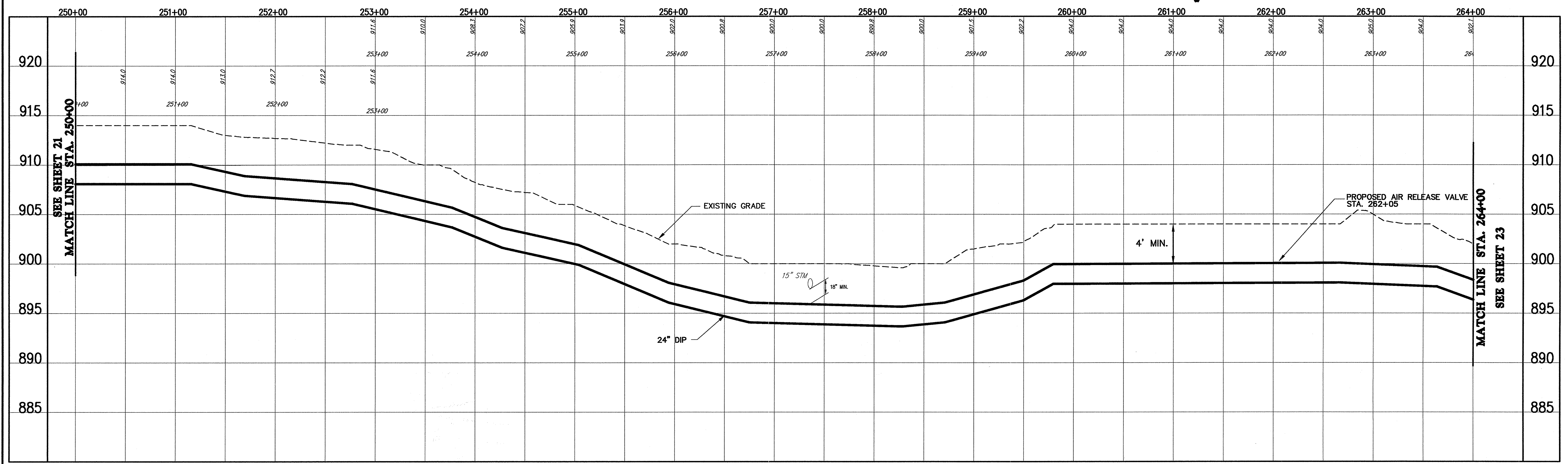
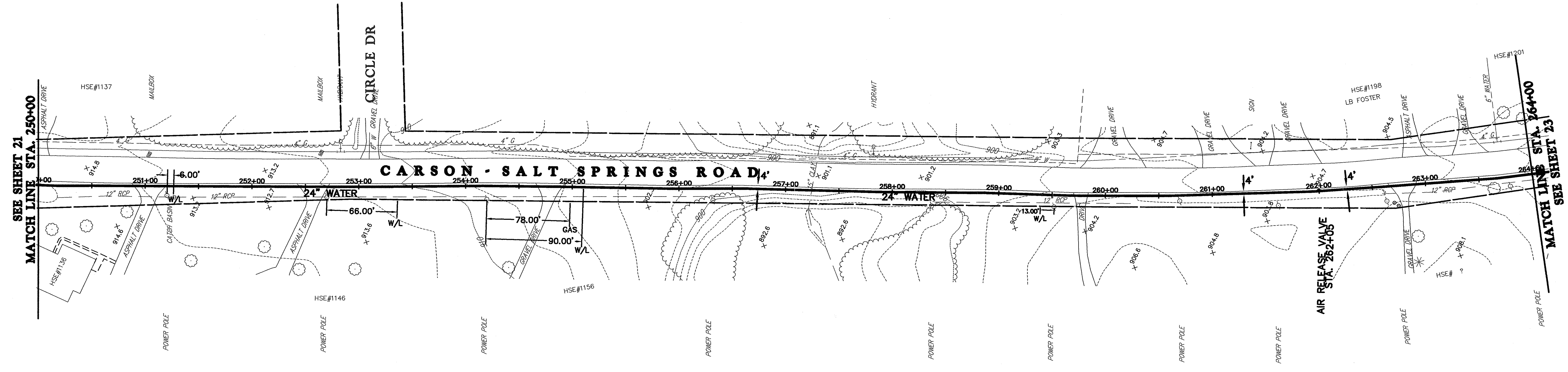
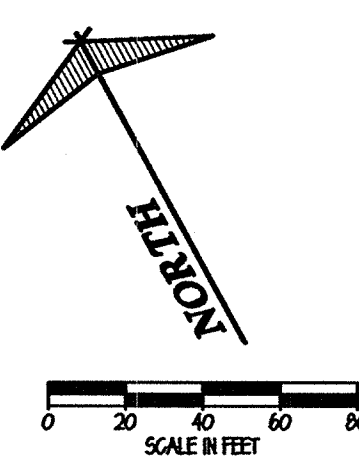
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	RECORD DRAWINGS	05/09/06	MAB	JAF

VILLAGE OF LORDSTOWN  
**24" WATER SUPPLY LINE**  
 TRUMBULL COUNTY, OHIO

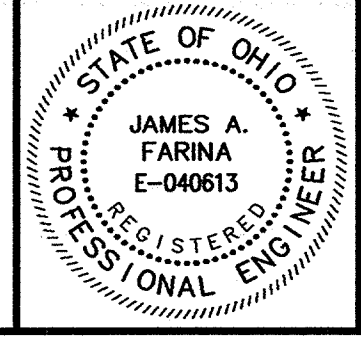
DATE: 6-08-04  
 DRAWN BY: J.K.  
 CHECKED BY: J.A.F.  
 APPROVED BY: J.A.F.  
 F.B. No. PG.

**PLAN & PROFILE**  
**SALT SPRINGS ROAD**  
**WATERLINE STA. 236+00**  
**TO WATERLINE STA. 250+00**

SCALE	
HOR.	1"=50'
VERT.	1"=5'
CONTRACT No.	
<b>02285</b>	
SHEET NO.	OF
<b>21</b>	<b>31</b>



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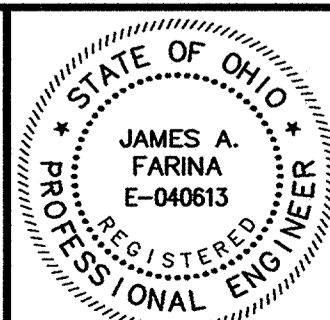
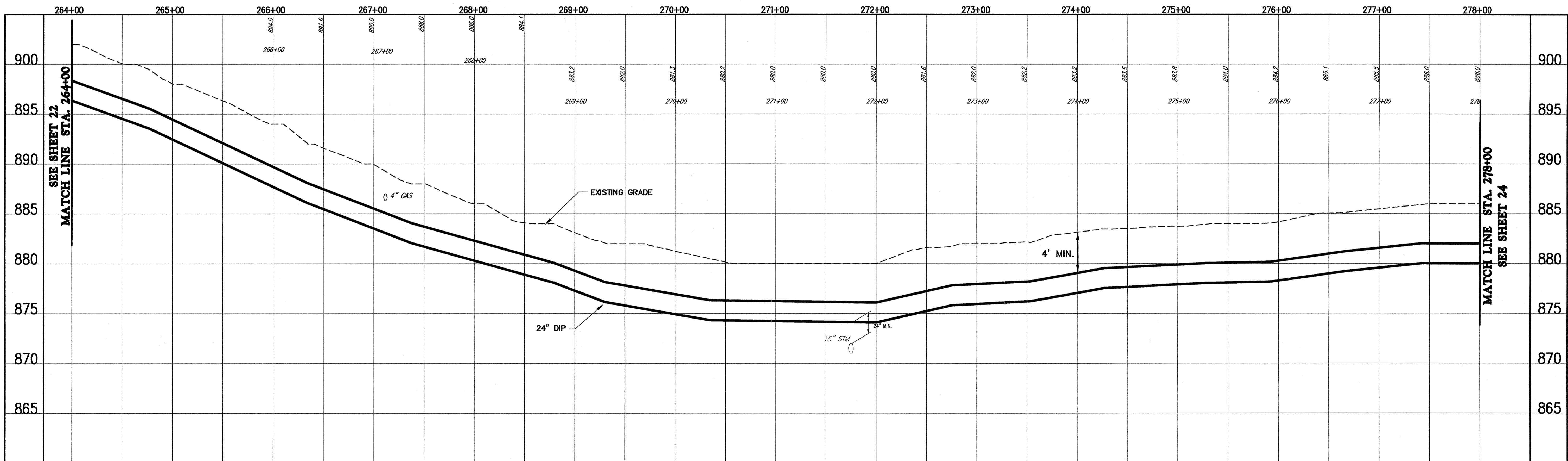
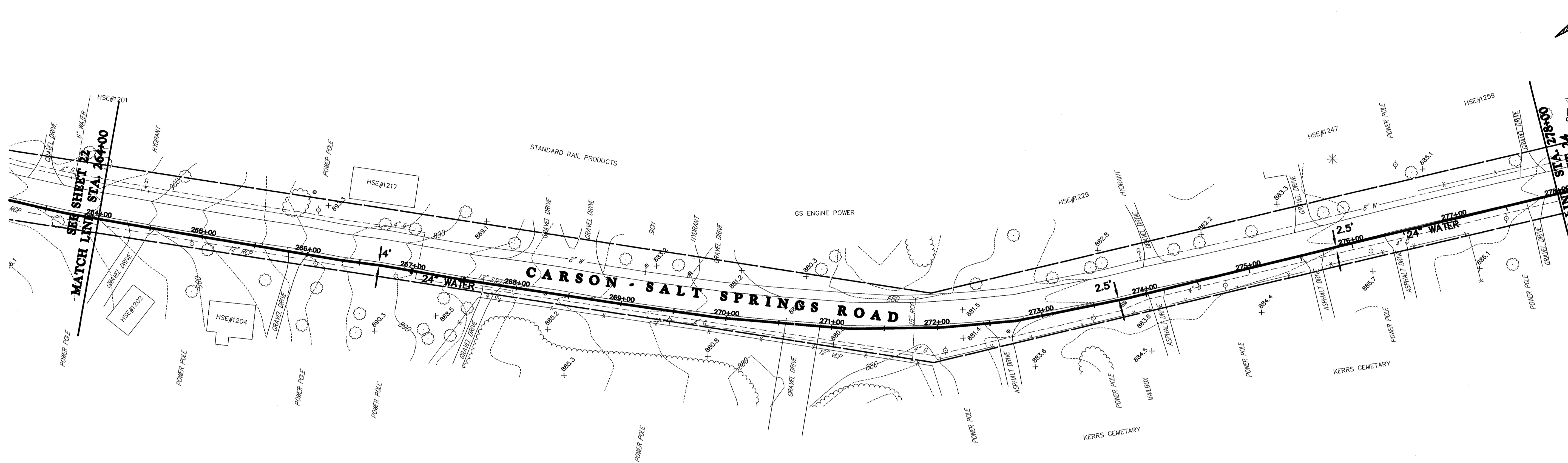
REV. NO.	DESCRIPTION	DATE	BY	CHK'D.
	RECORD DRAWINGS	05/09/06	MAB	JAF

VILLAGE OF LORDSTOWN  
24" WATER SUPPLY LINE  
TRUMBULL COUNTY, OHIO

DATE:	6-08-04
DRAWN BY:	J.K.
CHECKED BY:	J.A.F.
APPROVED BY:	J.A.F.
F.B. No.:	PG. -

PLAN & PROFILE  
SALT SPRINGS ROAD  
WATERLINE STA. 250+00  
TO WATERLINE STA. 264+00

SCALE	1"=50'
VERT.	1"=5'
CONTRACT No.	02285
SHEET NO.	22
OF	31



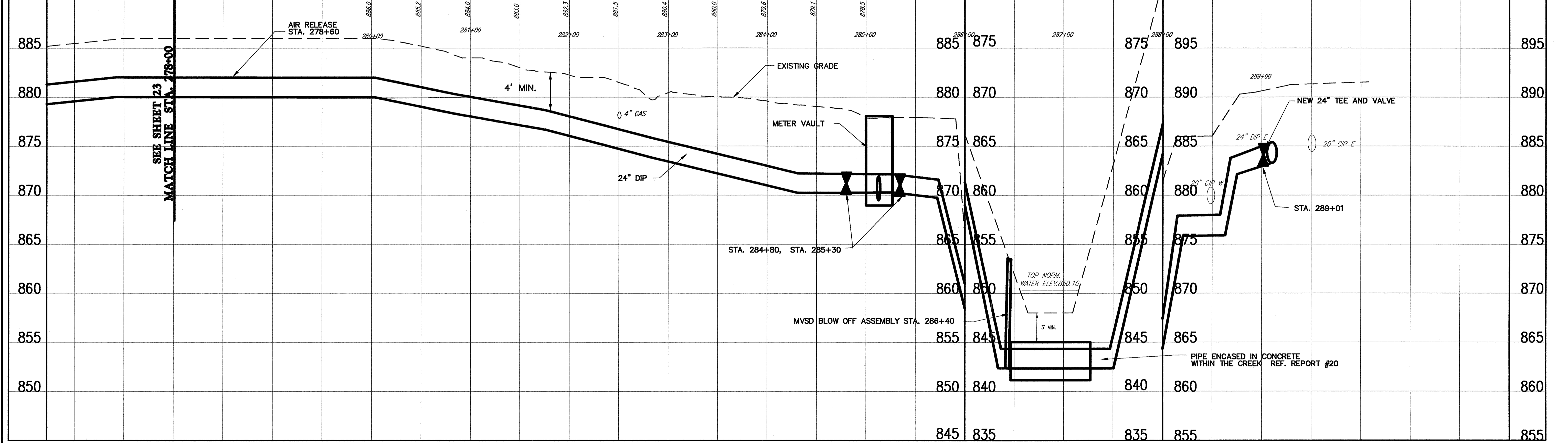
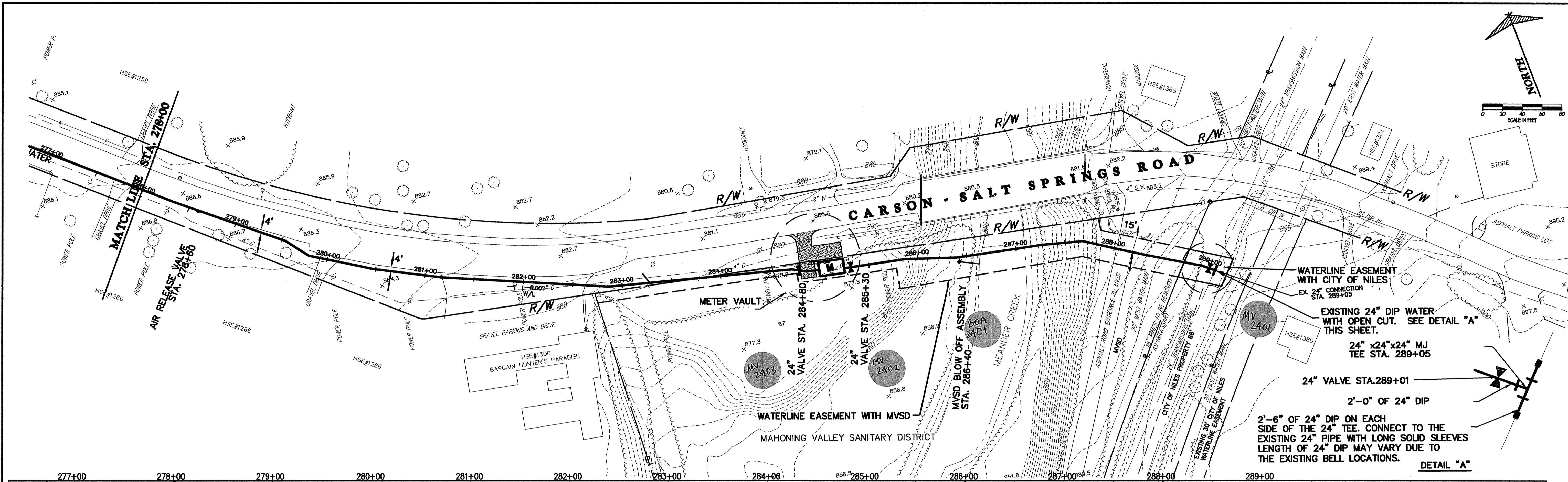
REV. NO.	DESCRIPTION	DATE	BY	CHK'D.
	RECORD DRAWINGS	05/09/06	MAB	JAF

VILLAGE OF LORDSTOWN  
 24" WATER SUPPLY LINE  
 TRUMBULL COUNTY, OHIO

DATE: 6-08-04  
 DRAWN BY: J.K.  
 CHECKED BY: J.A.F.  
 APPROVED BY: J.A.F.  
 F.B. No. PG.

PLAN & PROFILE  
 SALT SPRINGS ROAD  
 WATERLINE STA. 264+00  
 TO WATERLINE STA. 278+00

SCALE	1"=50'
VERT.	1"=5'
CONTRACT NO.	02285
SHEET NO.	23
OF	31



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REV. NO.	DESCRIPTION	DATE	BY	CHK'D.
	RECORD DRAWINGS	05/09/06	MAB	JAF

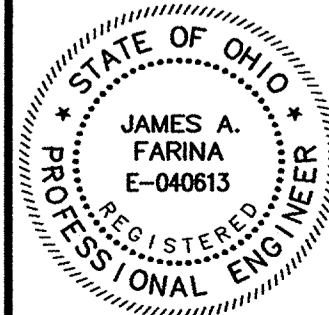
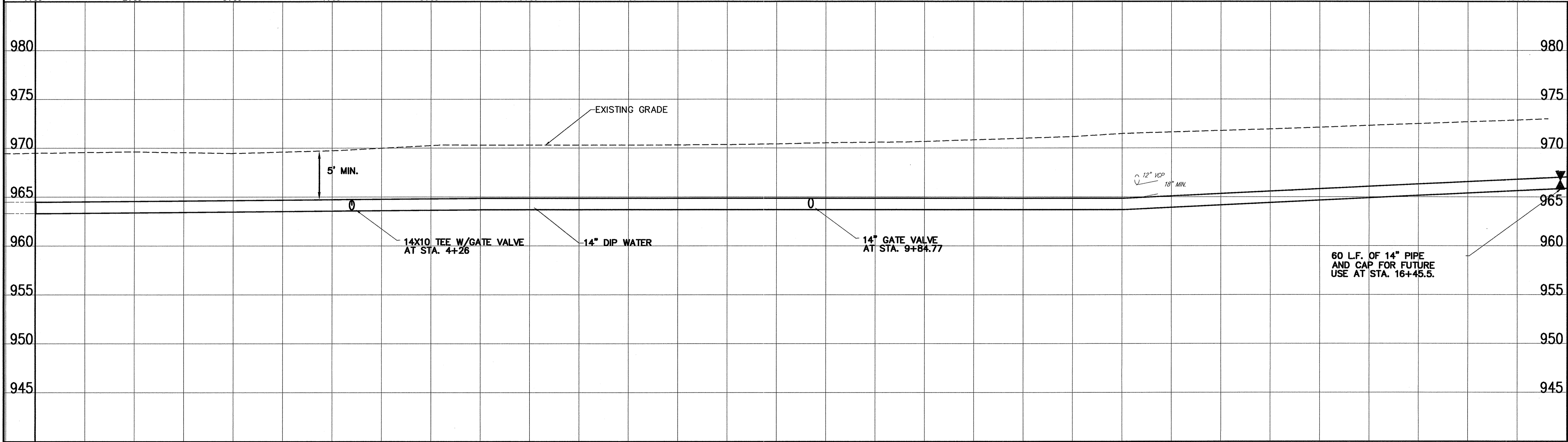
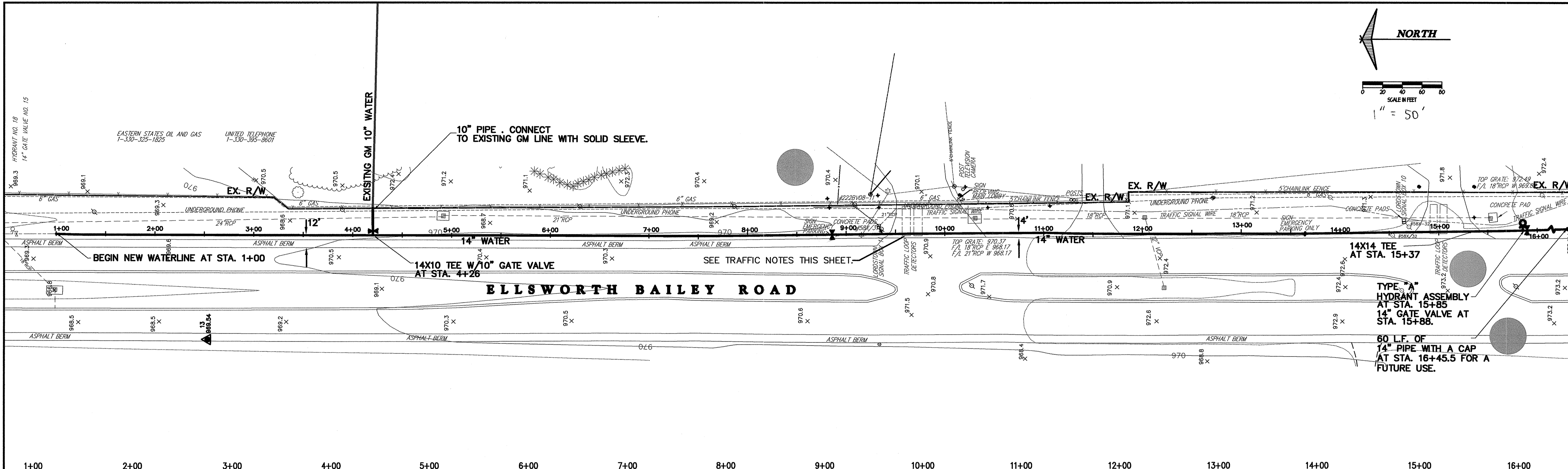
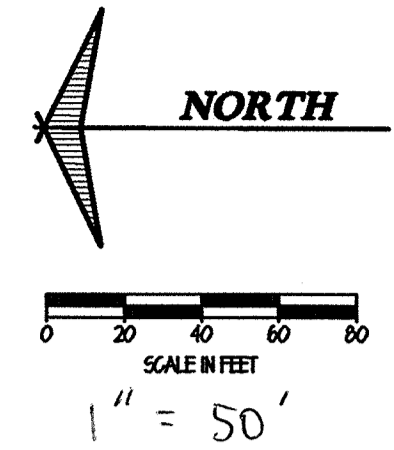
VILLAGE OF LORDSTOWN  
**24" WATER SUPPLY LINE**  
TRUMBULL COUNTY, OHIO

DATE	6-08-04
DRAWN BY	J.K.
CHECKED BY	J.A.F.
APPROVED BY	J.A.F.
F.B. No.	PG.

**PLAN & PROFILE**  
**SALT SPRINGS ROAD**  
**WATERLINE STA. 278+00**  
**TO WATERLINE STA. 289+05**

SCALE	HOR. 1"=50'
VERT.	1"=5'
CONTRACT No.	02285
SHEET NO.	24
OF	31





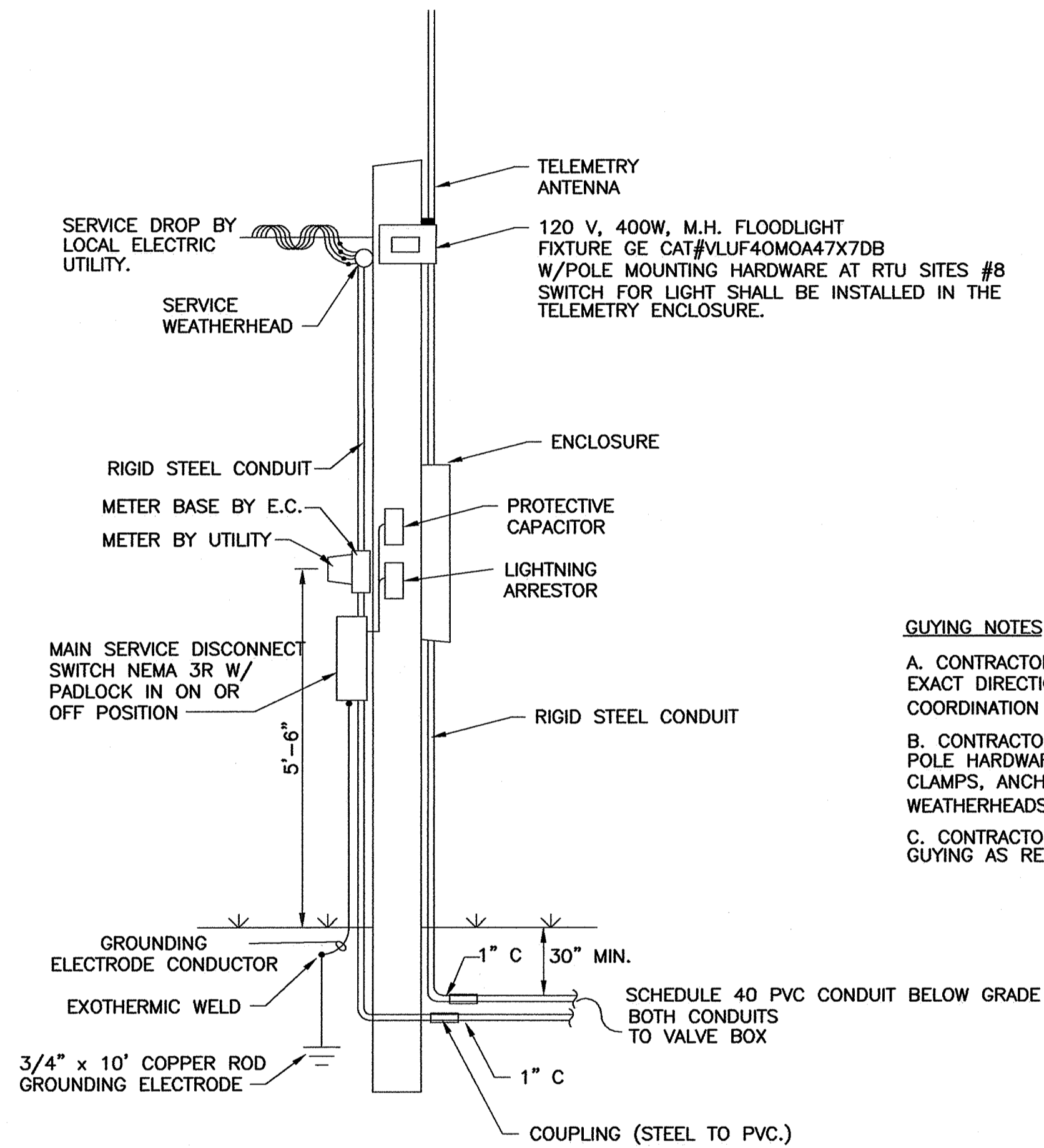
REV. NO.	DESCRIPTION	DATE	BY	CHK'D.
	RECORD DRAWINGS	05/09/06	MAB	JAF

VILLAGE OF LORDSTOWN  
**24" WATER SUPPLY LINE**  
 TRUMBULL COUNTY, OHIO

DATE: 7-30-03  
 DRAWN BY: J.K.  
 CHECKED BY: J.A.F.  
 APPROVED BY: J.A.F.  
 F.B. No. PG.

**PLAN & PROFILE  
 BAILEY ROAD  
 WATERLINE STA. 1+00  
 TO WATERLINE STA. 16+50**

SCALE	
HOR.	1"=50'
VERT.	1"=5'
CONTRACT No.	
<b>02285</b>	
SHEET NO.	OF
<b>25</b>	<b>31</b>



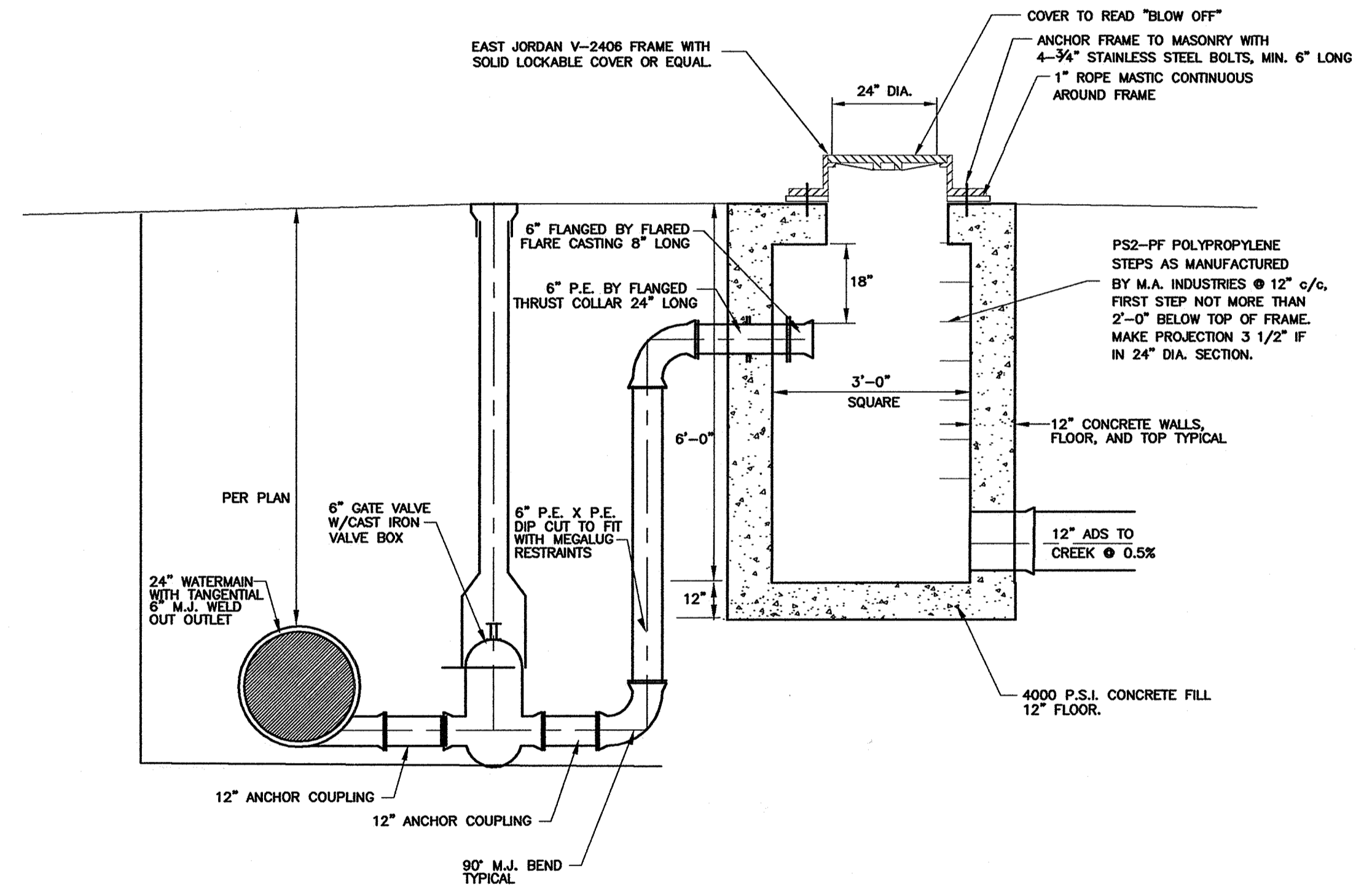
**GUYING NOTES**

- A. CONTRACTOR SHALL DETERMINE THE EXACT DIRECTION OF GUYING IN COORDINATION WITH THE POWER CO.
- B. CONTRACTOR SHALL FURNISH AND INSTALL POLE HARDWARE SUCH AS GUY WIRES, CLAMPS, ANCHORS, CABLE SUPPORTS, WEATHERHEADS, ETC.
- C. CONTRACTOR SHALL FURNISH GUYING AS REQUIRED.

**NOTES**

- 1. CONTRACTOR SHALL FURNISH AN ANTENNA POLE AT EACH SITE (10 EACH). LOCATION TO BE DETERMINED BY THE OWNER IN THE FIELD. SEE SECTION 16719 FOR LOCATIONS AND "RADIO PATH STUDY" FOR HEIGHTS.
- 2. CONTRACTOR SHALL COORDINATE THE ELECTRICAL SERVICE AT THE SITES NOTED WITH THE LOCAL UTILITY COMPANY. ALL COSTS ASSOCIATED WITH THIS SERVICE INCLUDING ANY CONNECTION FEES, PERMIT FEES, ETC. SHALL BE PAID BY THE CONTRACTOR. SERVICE SHALL BE PLACED IN THE NAME OF VILLAGE OF LORDSTOWN.
- 3. SERVICE SIZE TO BE ADEQUATE TO ACCOMMODATE HEATERS AND TELEMETRY.

**STANDARD SERVICE POLE DETAIL**



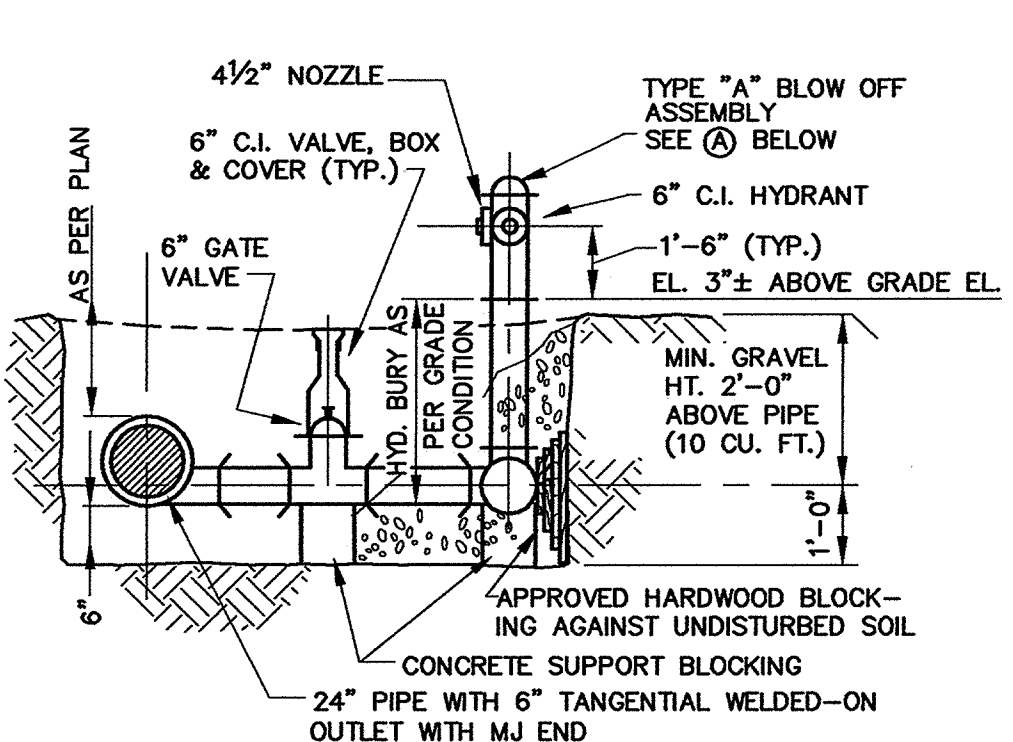
**MVSD STANDARD BLOW-OFF**

REV. NO.	DESCRIPTION	DATE	BY	CHK'D.
	<b>RECORD DRAWINGS</b>	<b>05/09/06</b>	<b>MAB</b>	<b>JAF</b>

DATE:	6-04-04
DRAWN BY:	J.K.
CHECKED BY:	J.A.F.
APPROVED BY:	J.A.F.
F.B. No.:	PG. —

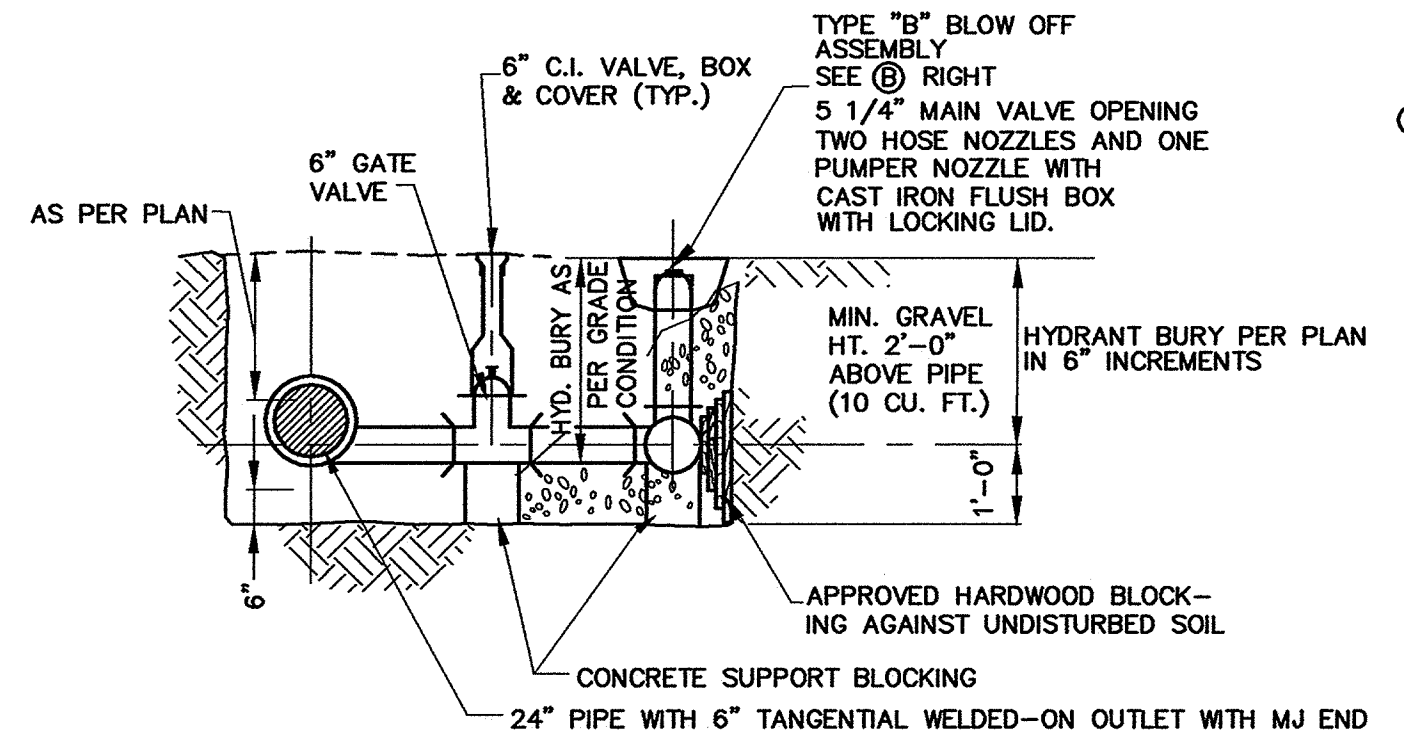
**STANDARD DETAILS**

SCALE	
HOR.	1"=50'
VERT.	1"=5'
CONTRACT No.	
<b>02285</b>	
SHEET NO.	OF
<b>26</b>	<b>31</b>



SECTION 1-1  
TYPE "A" BLOW OFF ASSEMBLY

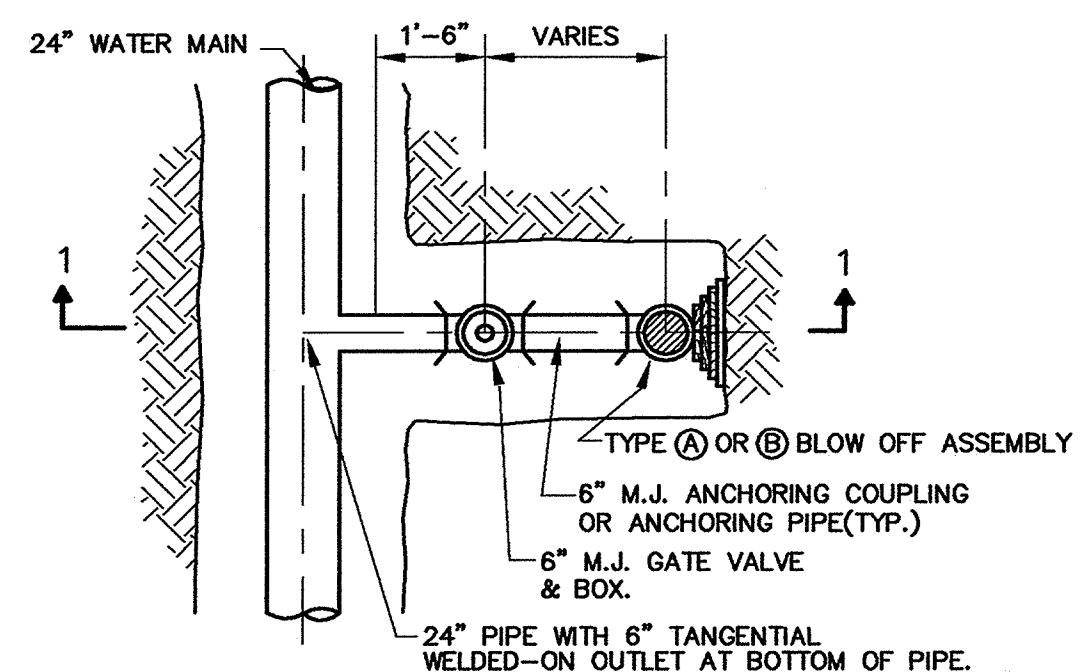
**TYPE "A" BLOW OFF ASSEMBLY**  
 HYDRANT - MUELLER SUPER CENTURION A-421, 3 WAY AWWA C502  
 NOZZLES - 7 1/2 THREADS PER INCH PENTAGONAL SHAPED OPERATING NUT OPEN COUNTERCLOCKWISE  
 INCLUDE TRAFFIC FEATURE SAFETY FLANGE COLOR - SAFETY YELLOW COLOR - TOP BONNET WHITE APPLY (2) TWO COATS OF PAINT IN THE FIELD AS PER SPECIFICATIONS  
 M.J. GATE VALVE - AWWA C509 GRAVEL O.D.O.T. ITEM 703, #57 WASHED GRAVEL



SECTION 1-1  
TYPE "B" BLOW OFF ASSEMBLY

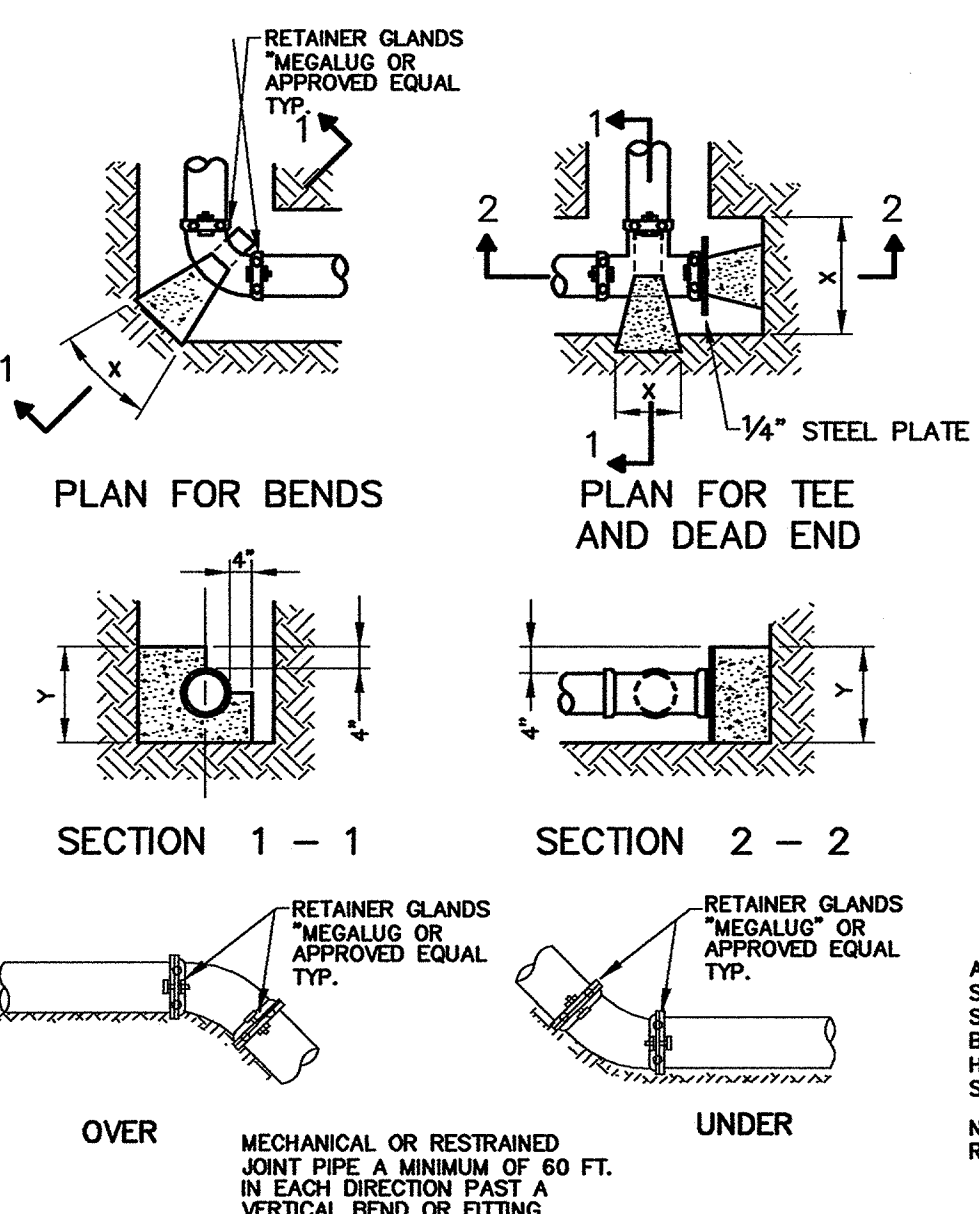
**TYPE "B" BLOW OFF ASSEMBLY**  
 HYDRANT - MUELLER 5 1/4" FLUSH TYPE FIRE HYDRANT A-415, 3 WAY AWWA C502  
 NOZZLES - 7 1/2 THREADS PER INCH PENTAGONAL SHAPED OPERATING NUT OPEN COUNTERCLOCKWISE  
 INCLUDE TRAFFIC FEATURE SAFETY FLANGE HYDRANT COLOR - SAFETY YELLOW LID COLOR - BLUE  
 M.J. GATE VALVE - AWWA C509 GRAVEL O.D.O.T. ITEM 703, #57 WASHED GRAVEL  
 APPLY (2) TWO COATS OF PAINT TO LID AND HYDRANT IN THE FIELD AS PER SPECIFICATIONS

- NOTES**
- ANCHORED M.J. SPIGOT OR M.J. RETAINER GLAND - OPTIONAL AS REQUIRED FOR LATERAL CLEARANCE.
  - THE STANDARD HYD. BURY IS 6". HOWEVER, TO MEET THE SPECIFIED AND ILLUSTRATED MAIN COVER AND HYDRANT SETTINGS RESPECTIVE TO EACH HYDRANT LOCATION, IT WILL BE NECESSARY TO INSTALL A HYDRANT BURY THAT IS COMMENSURATE WITH THE LOCAL DEPTH REQUIREMENTS. IN EACH SUCH CASE, PROVIDE A LENGTHEN OR SHORTENED HYDRANT BURY, AS NECESSARY TO ACHIEVE PROPER ASSEMBLY.
  - VALVE BOX TO BE SUPPORTED AT ITS BASE SO AS TO NOT CAUSE DAMAGE TO ANY OF THE OPERATING MECHANISM. (TOP OF BOX TO BE FLUSH WITH FINISH GRADE.)



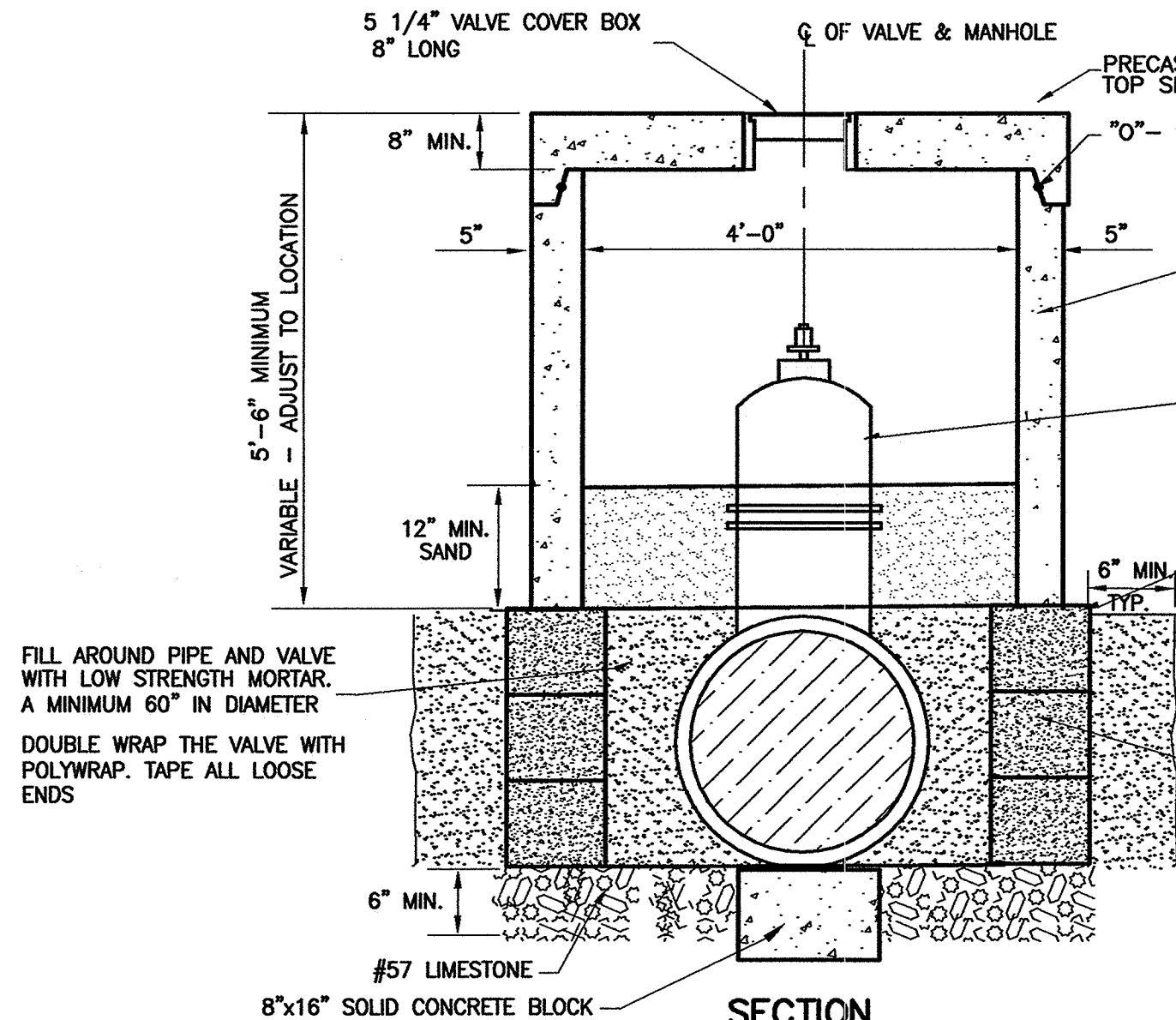
PLAN

BLOW OFF ASSEMBLY DETAILS



VERTICAL BENDS

THRUST BLOCKING DETAIL FOR EXISTING WATER LINE CROSSINGS AND TIE-INS



SECTION

24" GATE VALVE COVER DETAIL

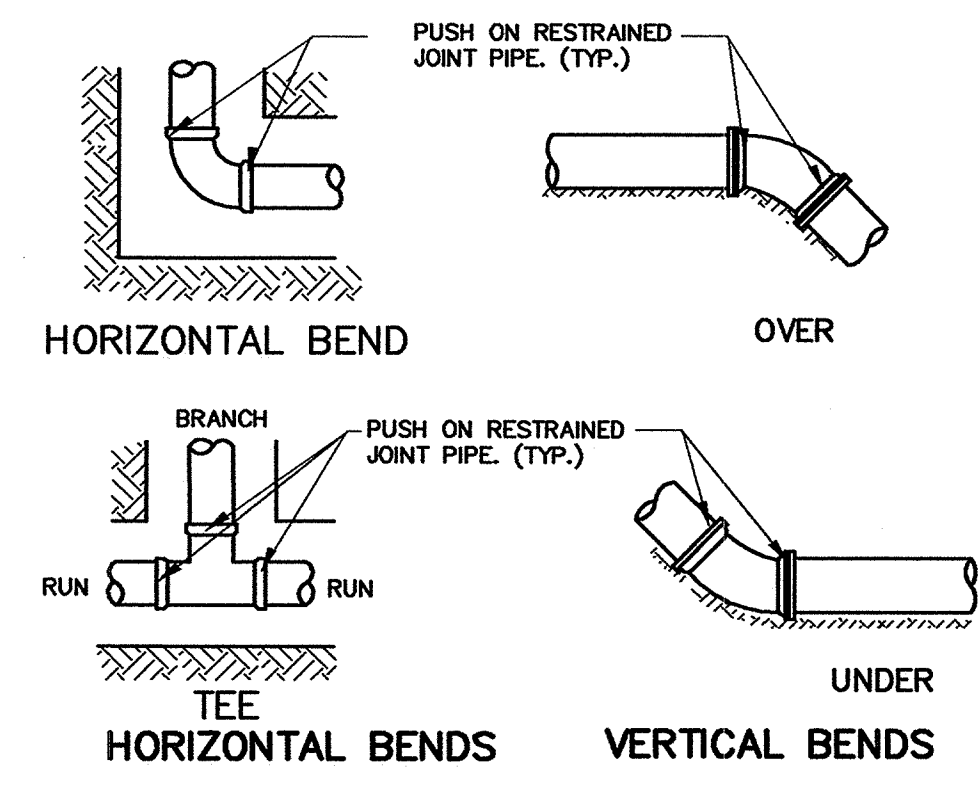
MINIMUM RESTRAINED JOINT PIPE LENGTHS BEFORE AND AFTER EACH FITTING SPECIFIED BELOW

PIPE SIZE	11 1/4" BEND		22 1/2" BEND		45° BEND		90° BEND	
	HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL
8"	20 L.F.	20 L.F.	40 L.F.	60 L.F.	60 L.F.	100 L.F.	100 L.F.	220 L.F.
10"	20 L.F.	20 L.F.	40 L.F.	60 L.F.	60 L.F.	100 L.F.	100 L.F.	220 L.F.
12"	20 L.F.	20 L.F.	40 L.F.	60 L.F.	60 L.F.	100 L.F.	100 L.F.	220 L.F.
24"	20 L.F.	20 L.F.	40 L.F.	60 L.F.	60 L.F.	100 L.F.	100 L.F.	220 L.F.

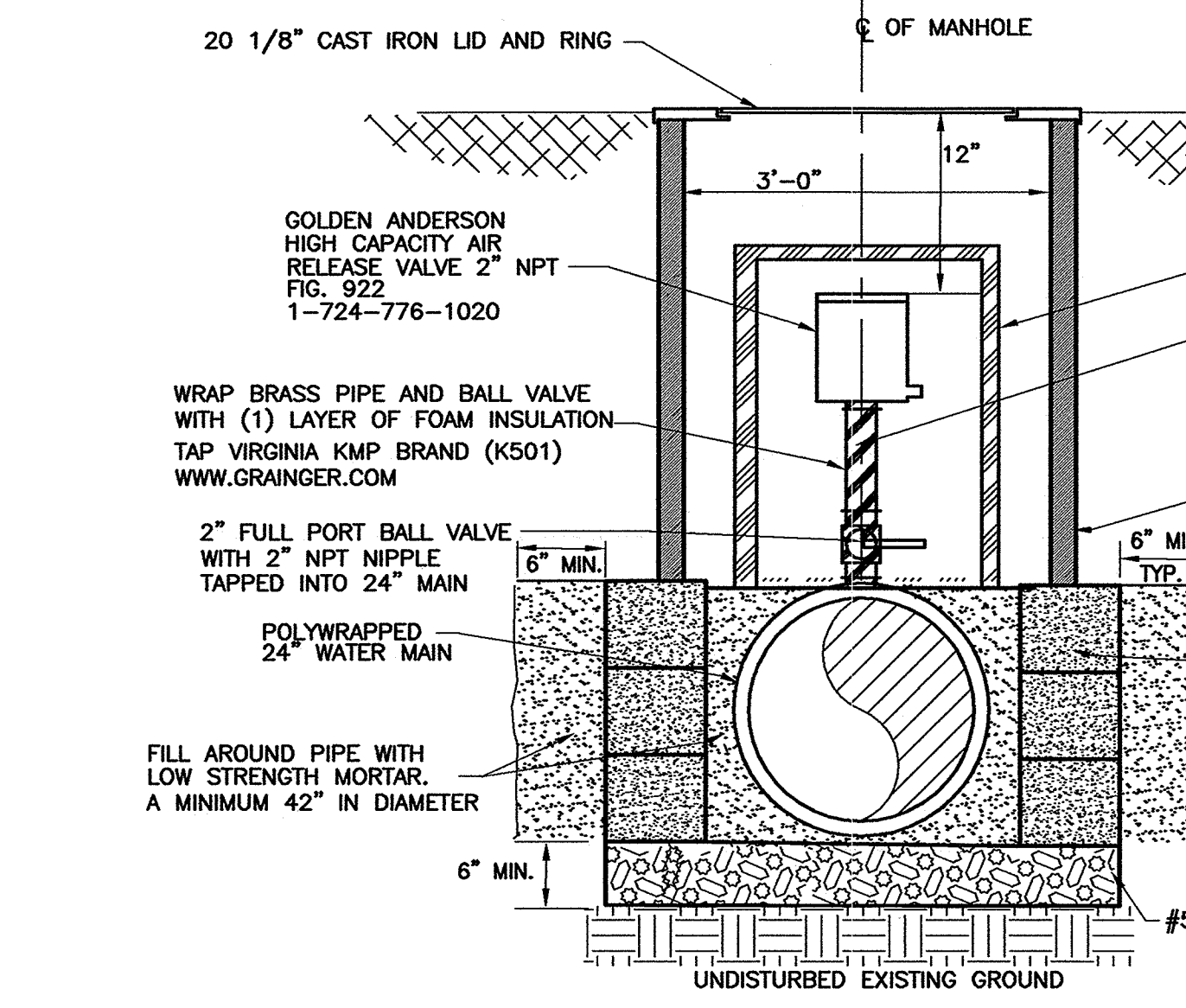
BRANCH SIZE	24" TEE		REDUCER		DEAD END		STEEL CASING	
	RUN	BRANCH	SIZE	LENGTH	PIPE SIZE	LENGTH	LOCATION	LENGTH
8"	100 L.F.	60 L.F.	10" - 8"	20 L.F.	8"	80 L.F.	INSIDE CASING	ALL
10"	100 L.F.	60 L.F.	12" - 10"	20 L.F.	10"	100 L.F.	FROM END OF CASING	40 L.F.
12"	100 L.F.	60 L.F.	24" - 12"	80 L.F.	12"	100 L.F.		
24"	100 L.F.	100 L.F.			24"	120 L.F.		

RESTRAINED JOINT PIPE LENGTH REQUIREMENTS



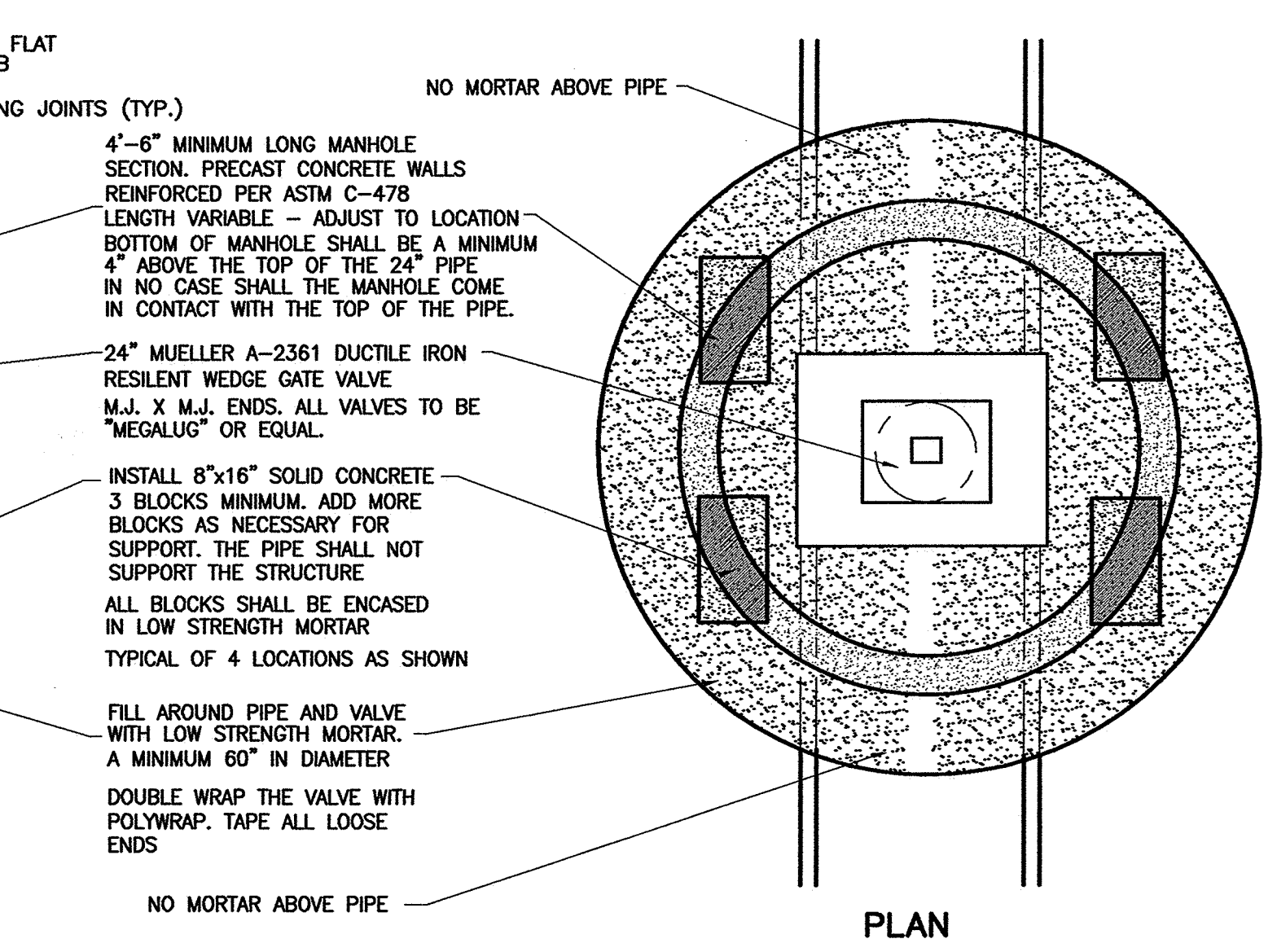
NOTES:

- ALL DUCTILE IRON WATERLINE SHALL BE POLYWRAPPED, SEE SPECIFICATIONS FOR POLYWRAP THICKNESS.
- ALL WATERLINE INSIDE STEEL CASING AND 40 L.F. FROM THE END OF EACH SIDE OF THE CASING SHALL BE RESTRAINED JOINT PIPE.
- WHEN A FITTING IS ROTATED OR USED IN A COMBINED MANNER THE GREATER RESTRAINED LENGTH SHALL APPLY.  
 EX. 45° BEND ROTATED ANY DEGREE DOWNWARD AT AN INCLINED DIAGONAL RUN SHALL BE RESTRAINED IN EACH DIRECTION AS A VERTICAL BEND.  
 EX. 24" TEE LEFT AT THE END OF A RUN SHALL BE CONSIDERED A DEAD END.

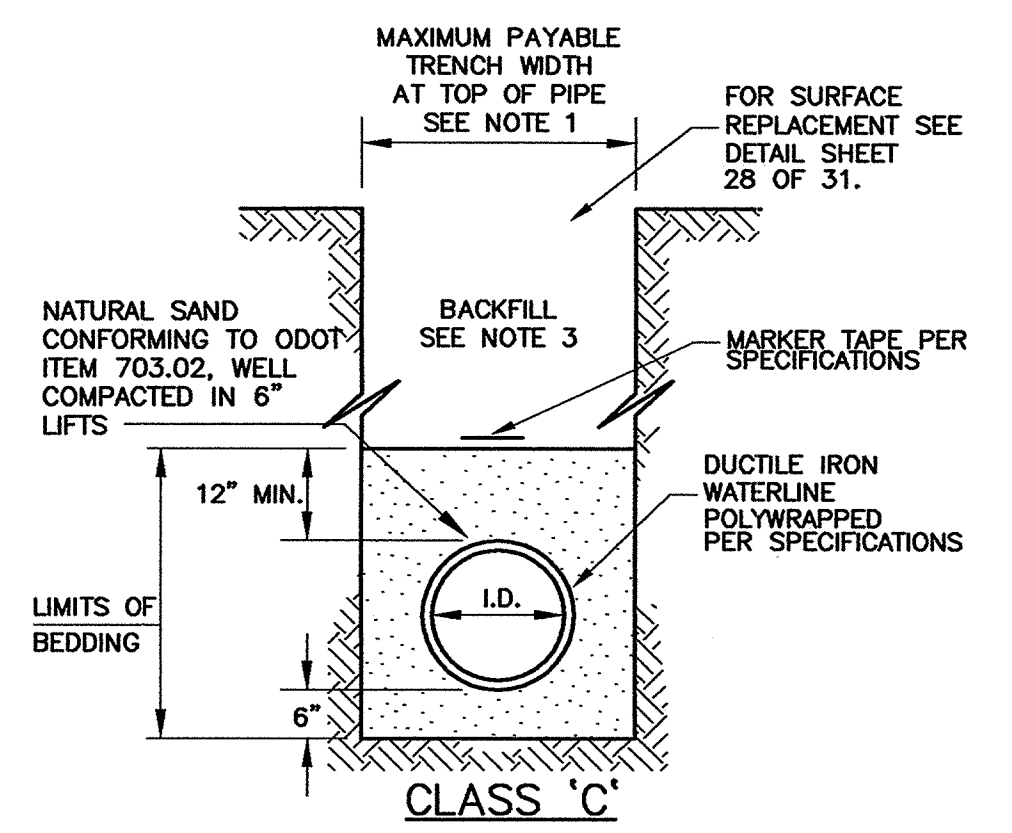


SECTION

AIR RELEASE VALVE CHAMBER ABOVE MAIN



PLAN

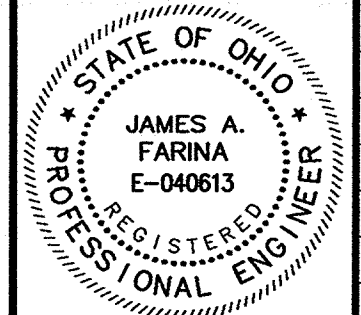


NOTES:

- MAXIMUM PAY LIMIT FOR THE WIDTH OF THE TRENCH AT THE TOP OF THE PIPE SHALL BE ID + 24".
- ALL TRENCH EXCAVATION SHALL CONFORM TO THE RULES AND REGULATIONS OF THE OHIO STATE INDUSTRIAL COMMISSION (OSIC) AND THE FEDERAL OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA).
- ALL BACKFILL SHALL BE TAMPED WITH MACHINE MOUNTED TAMPING EQUIPMENT. NO FLOODING, JETTING OR PUDDLING OF BACKFILL WILL BE PERMITTED. BACKFILL SHALL BE COMPACTED TO 100% OF MAXIMUM LABORATORY DRY DENSITY PER ASTM D 698. BACKFILL SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTIONS 02234 (COMPACTED BACKFILL), 02235 (COMPACTED GRANULAR BACKFILL) OR 02236 (LOW STRENGTH MORTAR BACKFILL). DUCTILE IRON PIPE BEDDING TO BE IN ACCORDANCE WITH AWWA C151.
- ALL BACKFILL FOR DIP WATER MAIN THAT CROSS THE PAVED PORTION OF THE ROADWAY SHALL BE BACKFILLED WITH LOW STRENGTH MORTAR TO FINISH GRADE. PRIOR TO PAVEMENT RESTORATION THE TRENCH SHALL BE PLANNED TO PERMIT TRENCH PAVEMENT REPLACEMENT.
- ALL BEDDING SHALL BE AS SHOWN AND SPECIFIED.
- SLAG BEDDING SHALL NOT BE USED.
- POLYETHYLENE MARKER TAPE TO BE 4" WATER BLUE IN COLOR AND PRINTED "WATER MAIN". NO EXTRA OR SEPARATE PAYMENT SHALL BE MADE FOR THIS MARKER TAPE AND ALL COSTS SHALL BE INCLUDED IN THE APPLICABLE BID ITEM(S).
- ALL WATER MAIN, BENDS, AND FITTINGS SHALL BE DUCTILE IRON PIPE MINIMUM PRESSURE CLASS 200 AS PER THE SPECIFICATIONS. ALL BENDS AND FITTINGS SHALL BE BOLTLESS RESTRAINED JOINT PIPE WITH ADDITIONAL RESTRAINED JOINT PIPE TO THE LENGTHS SPECIFIED ON THIS SHEET AND THE PLAN SHEETS. ALL WATERLINE THAT IS INSTALLED INSIDE STEEL CASING IT SHALL BE PRESSURE CLASS 200 BOLTLESS RESTRAINED JOINT PIPE. SEE THE BORING DETAILS ON SHEET 28 OF 31.

TRENCH & BEDDING DETAILS

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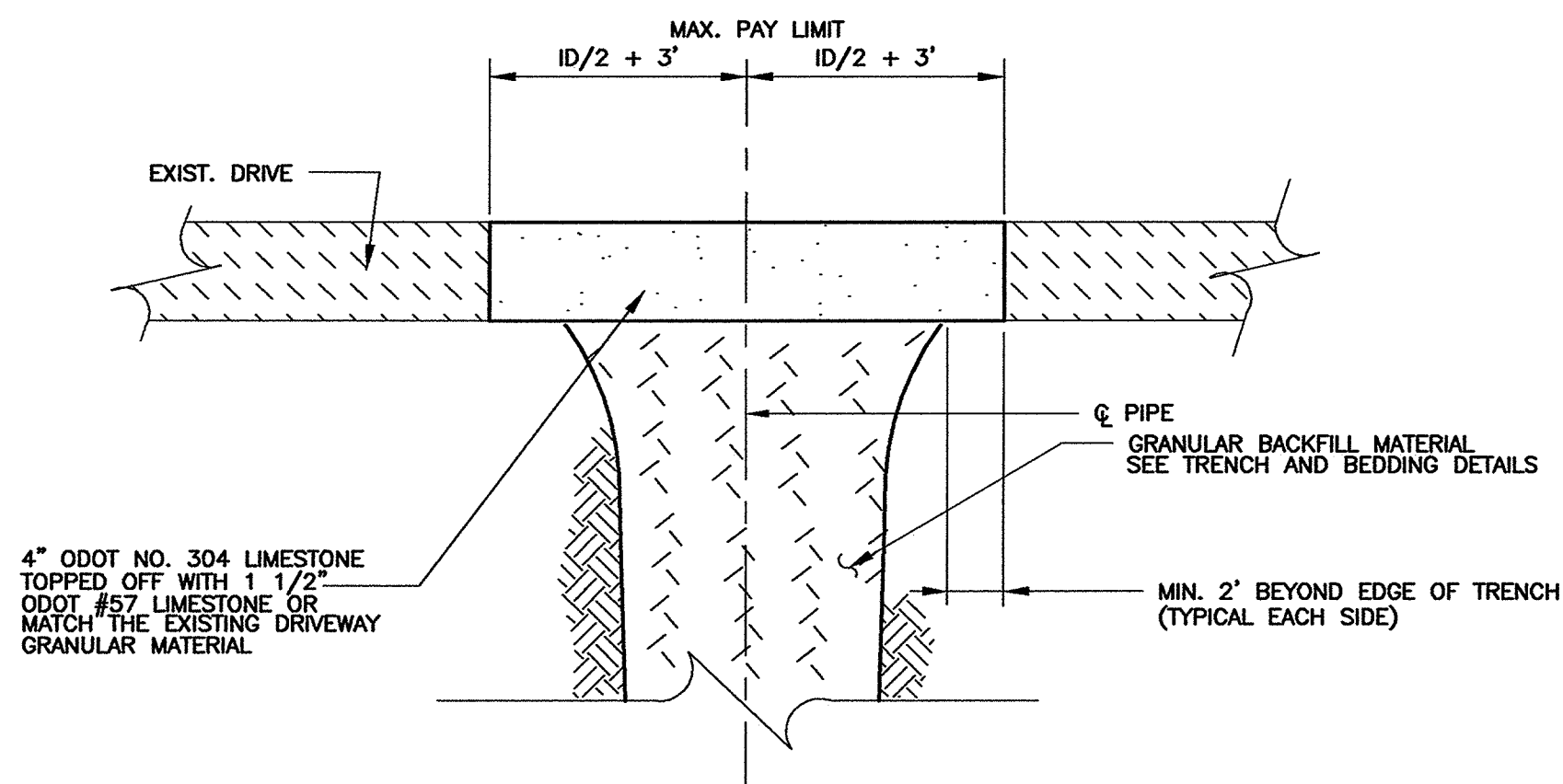
REV. NO.	DESCRIPTION	DATE	BY	CHK'D.
	RECORD DRAWINGS	05/09/06	MAB	JAF

VILLAGE OF LORDSTOWN  
 24" WATER SUPPLY LINE  
 TRUMBULL COUNTY, OHIO

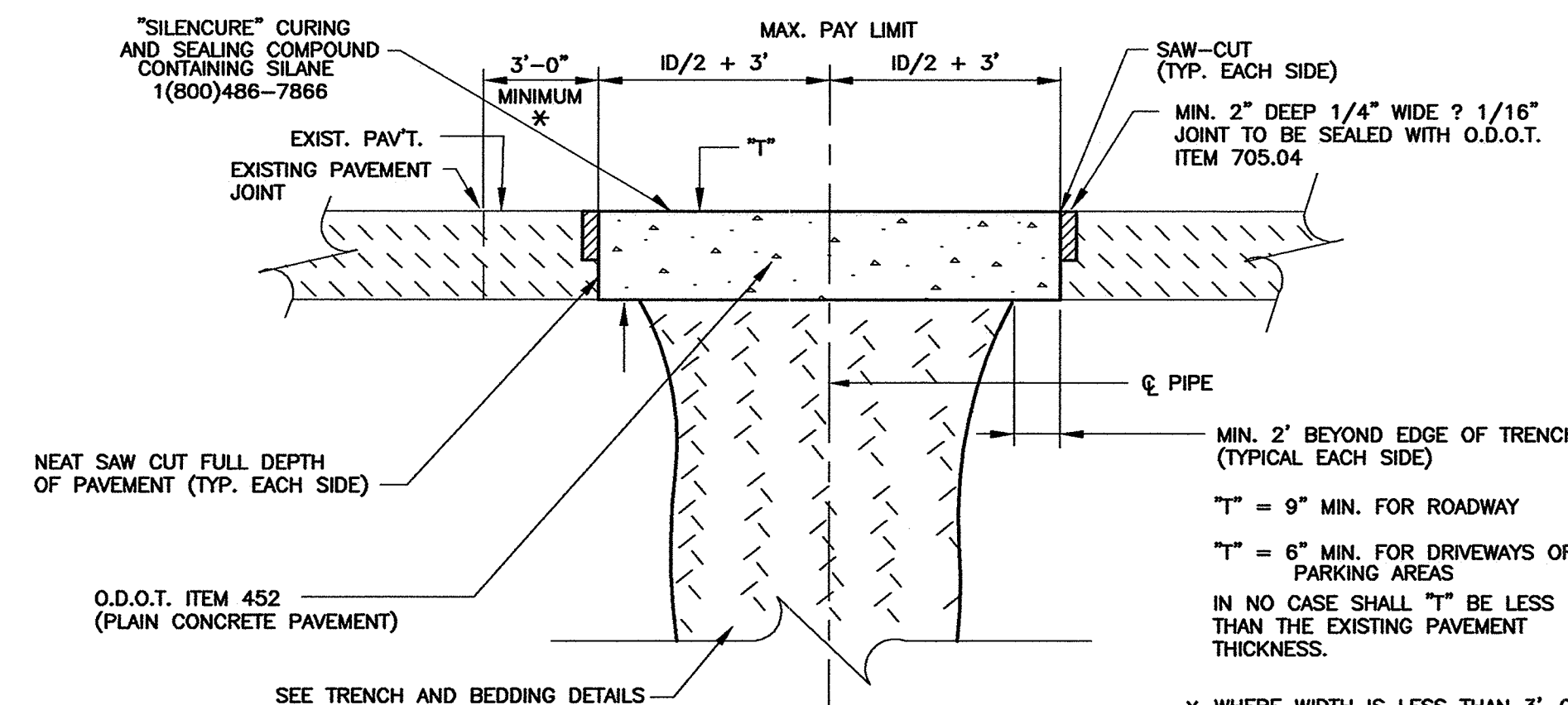
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DRAWN BY:	J.K.
CHECKED BY:	J.A.F.
APPROVED BY:	J.A.F.
F.B. No.:	PG. 27

STANDARD DETAILS

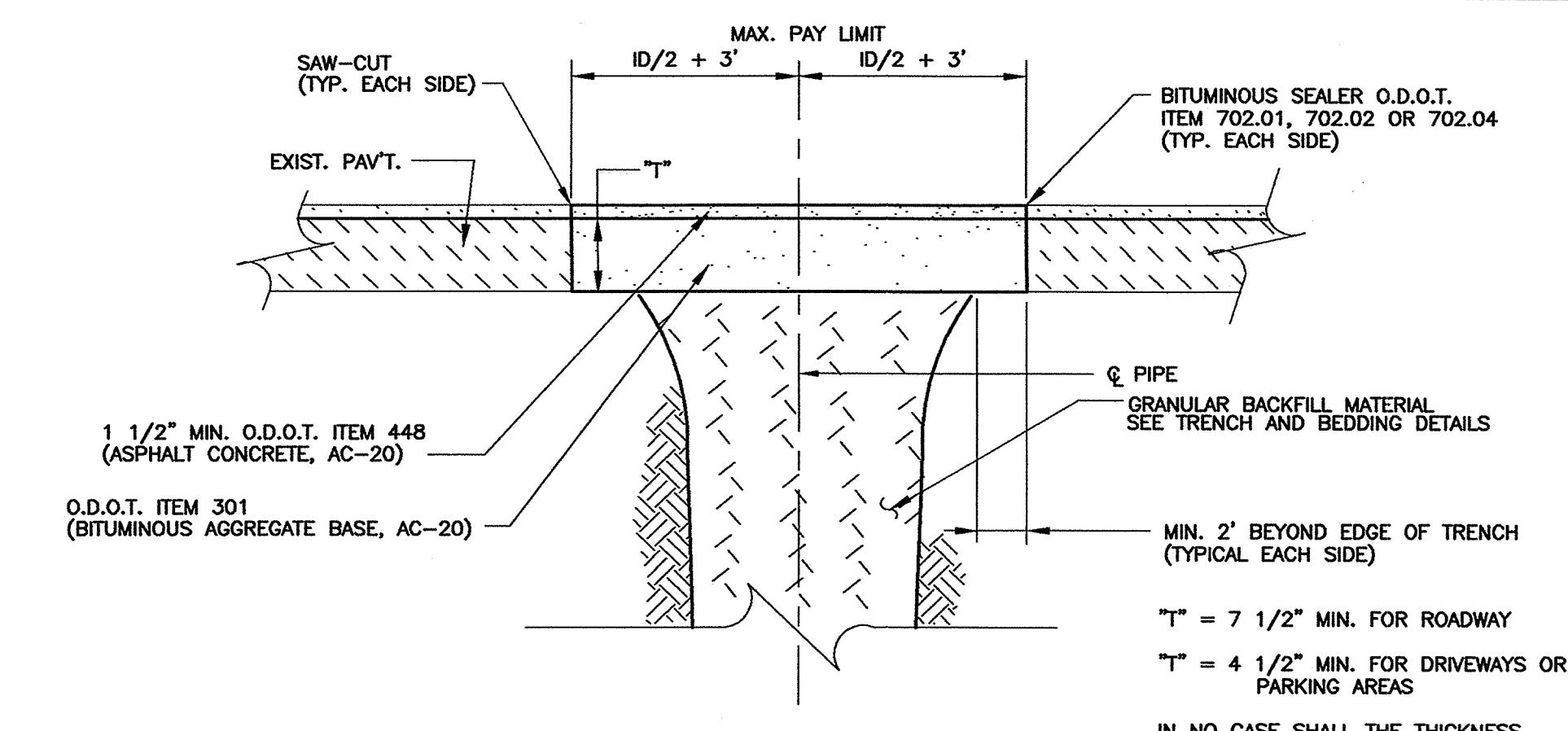
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HOR.	NONE
VERT.	NONE
CONTRACT No.	02285
SHEET NO.	27
OF	31



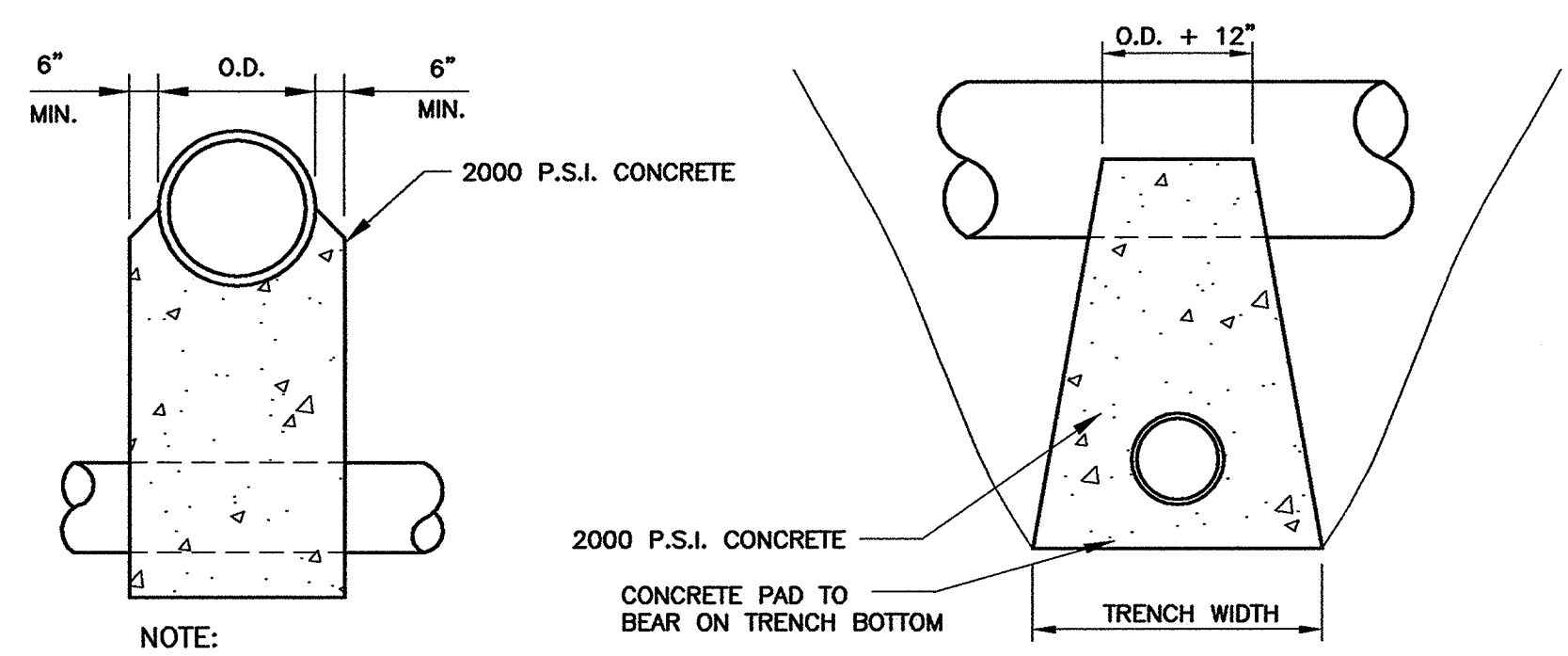
**TYPE B AGGREGATE DRIVE REPLACEMENT**



**TYPE A PAVEMENT REPLACEMENT**  
PLAIN CONCRETE PAVEMENT

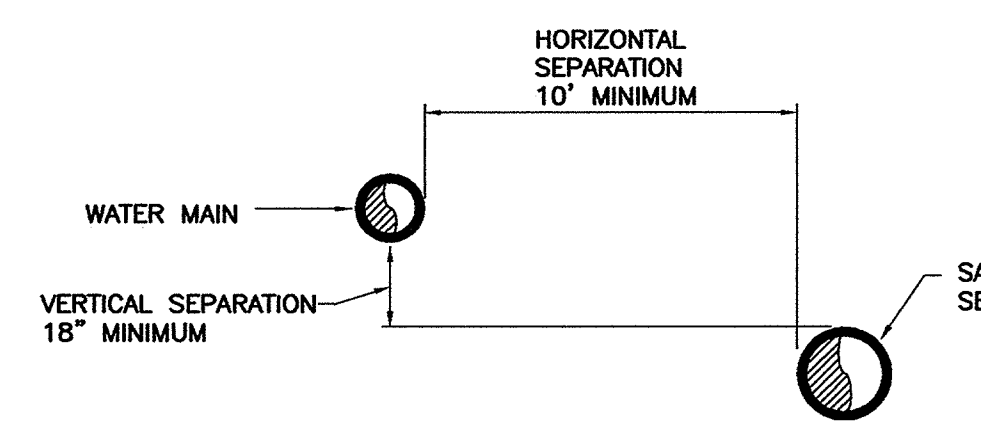


**TYPE C PAVEMENT REPLACEMENT**  
ASPHALT CONCRETE/BITUMINOUS AGGREGATE BASE



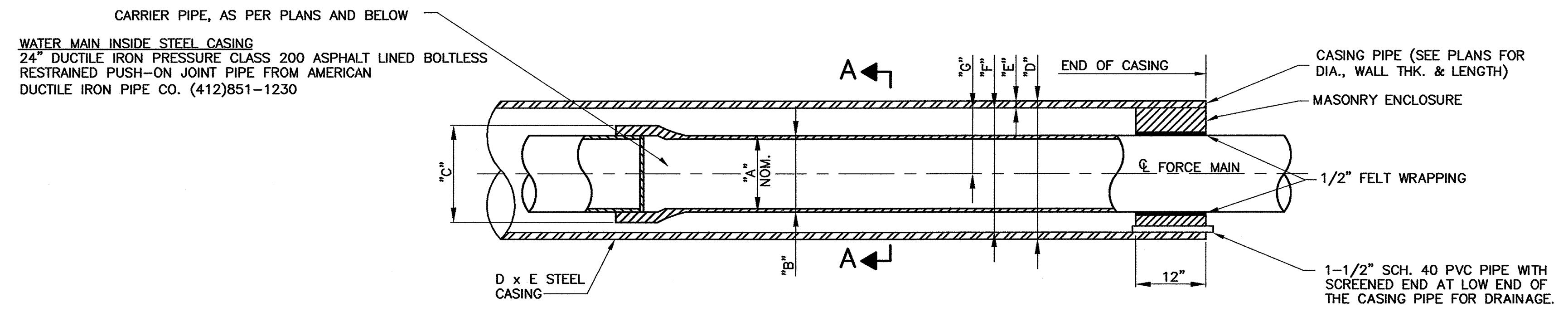
**NOTE:**  
UNLESS OTHERWISE DIRECTED BY THE ENGINEER, WHERE TWO PIPES (SEWER & WATER) CROSS EACH OTHER, A CONCRETE PAD AND CRADLE SEPARATOR SHALL BE PLACED BETWEEN THEM AS INDICATED ABOVE. WHERE PERMISSION IS GRANTED TO OMIT THE CONCRETE PADS, GRANULAR BACKFILL SHALL BE TAMPED IN 6" LAYERS AROUND BOTH PIPES. SUCH TAMPED BACKFILL SHALL BE CONTINUOUS FROM THE CRADLE OF THE LOWER PIPE TO THE TOP OF THE UPPER PIPE AND AT THE BOTTOM SHALL EXTEND IN BOTH DIRECTIONS, FOR THE FULL WIDTH OF THE TRENCH. SEE "SEWERS RELATIVE TO WATER MAINS" DETAIL FOR ADDITIONAL INFORMATION.

**PIPE CROSSING DETAIL**



**SEWERS RELATIVE TO WATER MAINS**

- NOTES:**
- A TEN FEET MINIMUM HORIZONTAL SEPARATION (OUT-TO-OUT, CLEAR) WILL BE MAINTAINED BETWEEN THE WATER LINE AND SANITARY SEWER.
  - AN 18-INCH MINIMUM VERTICAL SEPARATION (OUT-TO-OUT, CLEAR) WILL BE MAINTAINED BETWEEN THE WATER LINE AND SANITARY SEWER AT ALL CROSSINGS.
  - A FOUR FEET MINIMUM HORIZONTAL SEPARATION (OUT-TO-OUT, CLEAR) WILL BE MAINTAINED BETWEEN THE WATER LINE AND STORM SEWER.
  - AN 12-INCH MINIMUM VERTICAL SEPARATION (OUT-TO-OUT, CLEAR) WILL BE MAINTAINED BETWEEN THE WATER LINE AND STORM SEWER AT ALL CROSSINGS.

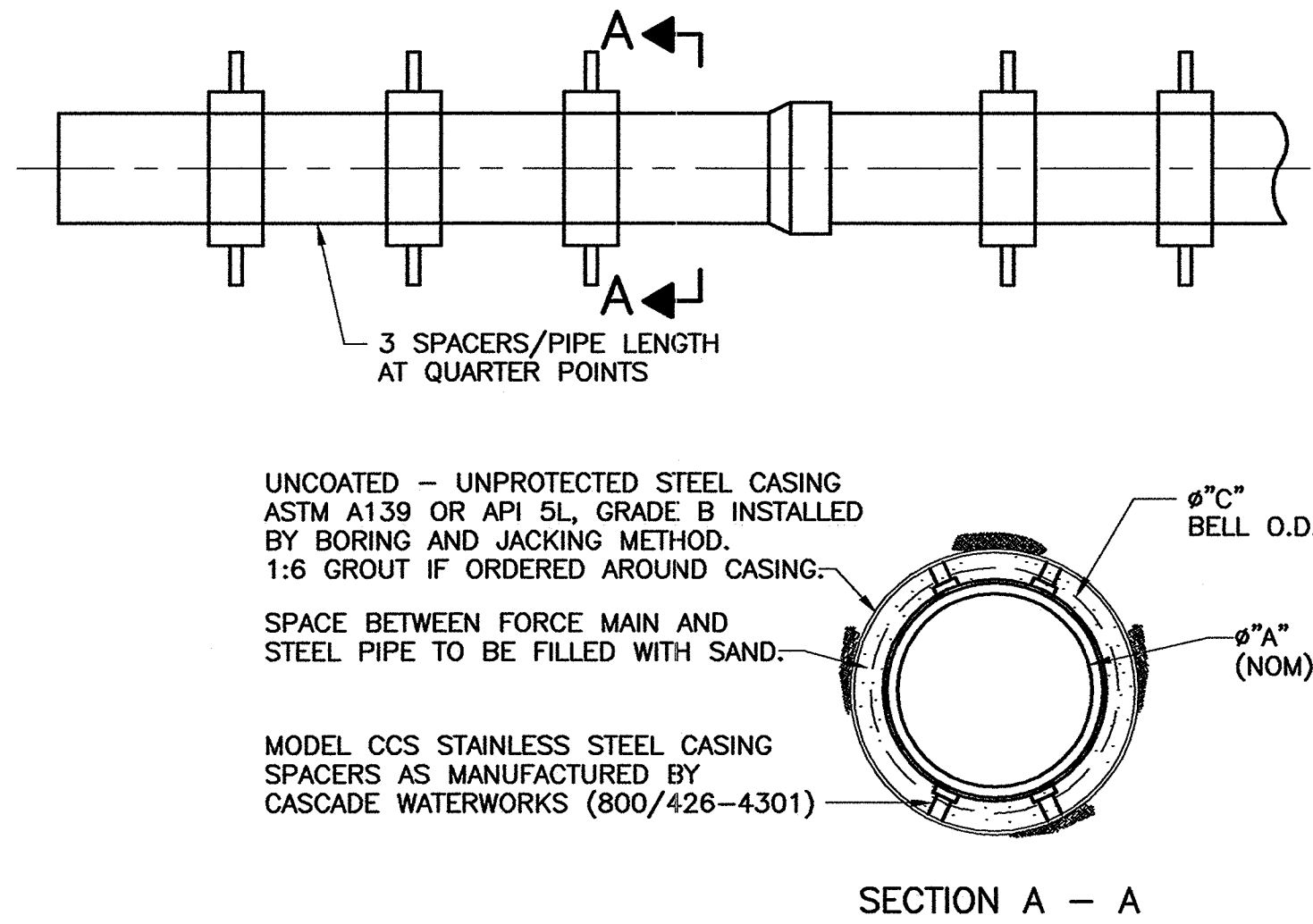


**CASING DETAIL**

A	B	C	D	E	F	G
24"	25.80	28.50	42"	5/8"	41 1/4"	20.625

**BORING MATERIALS SPECIFICATIONS 24" WATER MAIN**

DESCRIPTION	CASING PIPE	CARRIER PIPE
SIZE	42" O.D.	24" NOMINAL I.D.
PROPOSED USE	N/A	FORCE MAIN
MATERIAL	STEEL	DUCTILE IRON
WEIGHT/L.F.	166.7 LB./L.F.	86.7 LB./L.F.
MIN. YIELD STRENGTH	35,000 P.S.I.	42,000 P.S.I.
MIN. TEST PRESSURE	N/A	150 P.S.I.
MAX. OPERATING PRESSURE	N/A	110 P.S.I.
JOINT TYPE	WELDED	BOLTLESS RESTRAINED
EXTERNAL COATING	NONE	BITUMASTIC
CATHODIC PROTECTION	NONE	NONE



**SECTION A - A**

AT THE RAILROAD BORE ONLY:  
6. THE CONTRACTOR SHALL INSTALL TWO SIGNS AT EACH END OF THE CASING AT GROUND LEVEL SHOWING THE FOLLOWING INFORMATION:

LORDSTOWN WATER DEPARTMENT  
1455 SALT SPRINGS ROAD  
LORDSTOWN, OHIO 44481

THE SIGNS SHALL BE 12" X 18" DURABLE, WEATHERPROOF, 0.080 GAGE ALUMINUM, WHITE BACKGROUND WITH GREEN 3/4" LETTERING. THE SIGNS SHALL BE A MINIMUM A 5'-0" HIGH AND SHALL BE INSTALLED ON PREDRILLED U-CHANNEL GALVANIZED STEEL POSTS AND FASTENERS.

24" DIP WATER LINE  
WITH 100 PSI PRESSURE  
5 FEET DEEP  
IN CASE OF EMERGENCY  
CALL 1(330)824-2510

**TYPICAL BORING INSTALLATION DETAIL**

- NOTES:**
- CONTRACTOR'S FAILURE TO MAINTAIN THE CASING PIPE ON THE LINE AND GRADE AS SHOWN OR DIRECTED, RESULTING IN THE USE OF ADDITIONAL PIPE AND/OR FITTINGS TO MAKE CONNECTIONS MAY BE CAUSE FOR REJECTION OF CASING INSTALLATION.
  - ALL SPACERS 8" WIDE WITH 4 RUNNERS PER SPACER.
  - IN ALL INSTANCES, A SPACER WILL BE PROVIDED TO SUPPORT CARRIER PIPE WITHIN 2 FEET OF THE ENDS OF THE CASING PIPE.
  - CARRIER PIPE TO BE CENTERED WITHIN THE CASING PIPE.
  - RUNNERS TO BE ULTRA HIGH MOLECULAR WEIGHT POLYMER.

**CT Consultants**  
engineers | architects | planners  
80 Westchester Square, Unit 6 Youngstown, Ohio 44515  
330.792.1999 www.ctconsultants.com

REV. NO.	DESCRIPTION	DATE	BY	CHK'D.
NO.1	EPA REVIEW ADDITIONS	3/04	J.K.	J.A.F.
	RECORD DRAWINGS	05-09-06	M.A.B.	J.A.F.

**VILLAGE OF LORDSTOWN**  
**24" WATER SUPPLY LINE**  
**TRUMBULL COUNTY, OHIO**

DATE: 7-30-03

DRAWN BY: J.K.

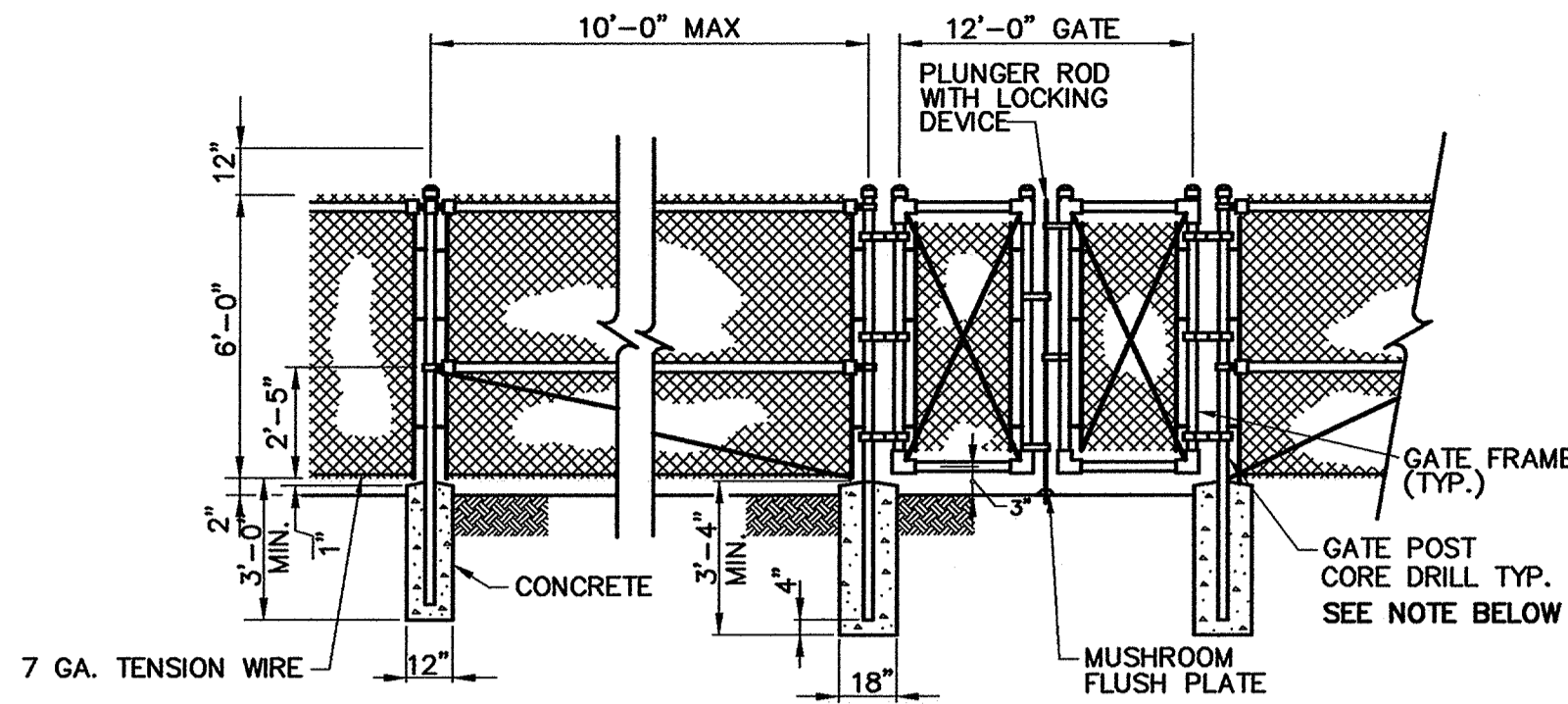
CHECKED BY: J.A.F.

APPROVED BY: J.A.F.

F.B. No. PG.

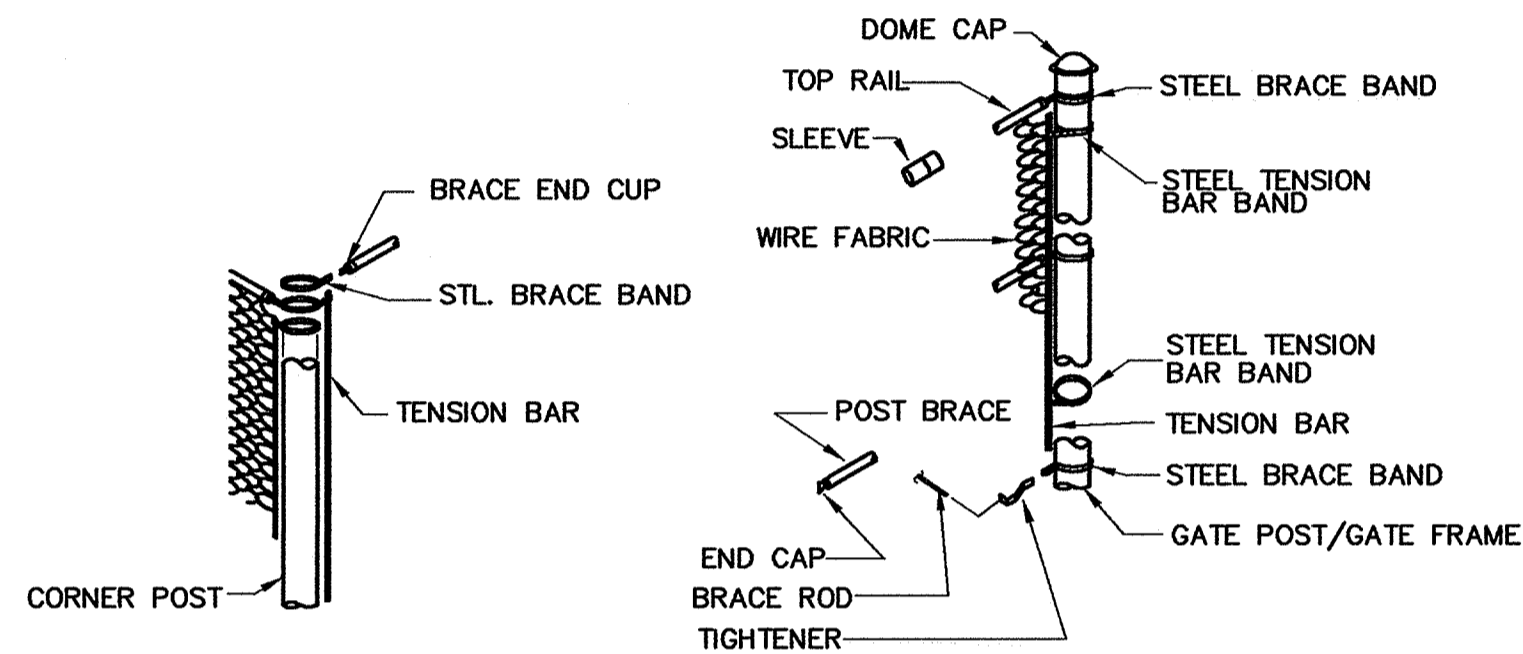
**STANDARD DETAILS**

SCALE	
HOR.	AS NOTED
VERT.	
CONTRACT No.	
<b>02285</b>	
SHEET NO.	OF
<b>28</b>	<b>31</b>

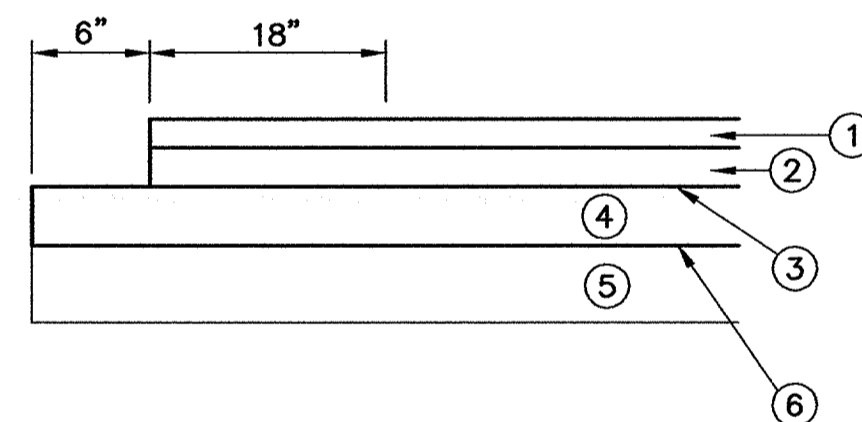


**FENCE POST NOTE:**

ALL FENCE POSTS WITHIN THE LIMITS OF ASPHALT PAVING SHALL BE INSTALLED AFTER THE ALL PAVING IS COMPLETED. THE CONTRACTOR SHALL CORE DRILL AND EXCAVATE ALL FENCE POST FOUNDATIONS. PAVING AROUND EXISTING POSTS WILL NOT BE PERMITTED. INCLUDE ALL COSTS INCURRED FOR THE ABOVE WORK IN THE APPLICABLE BID ITEMS.



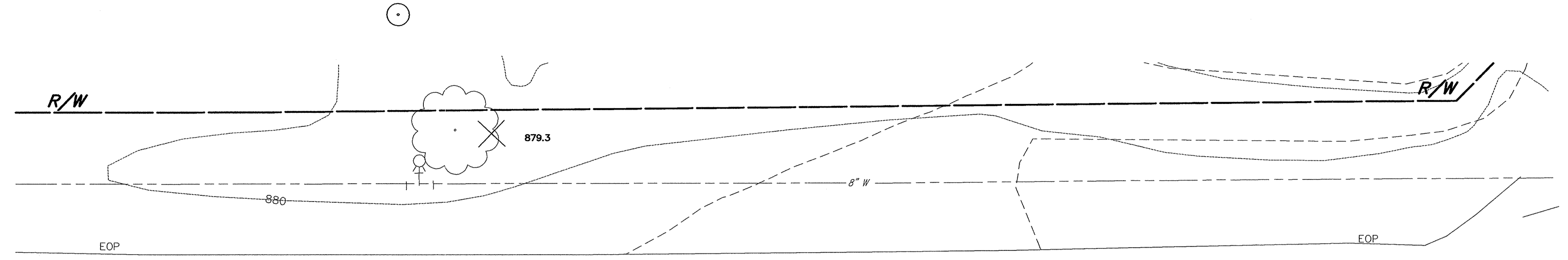
**CHAIN LINK FENCE DETAIL**



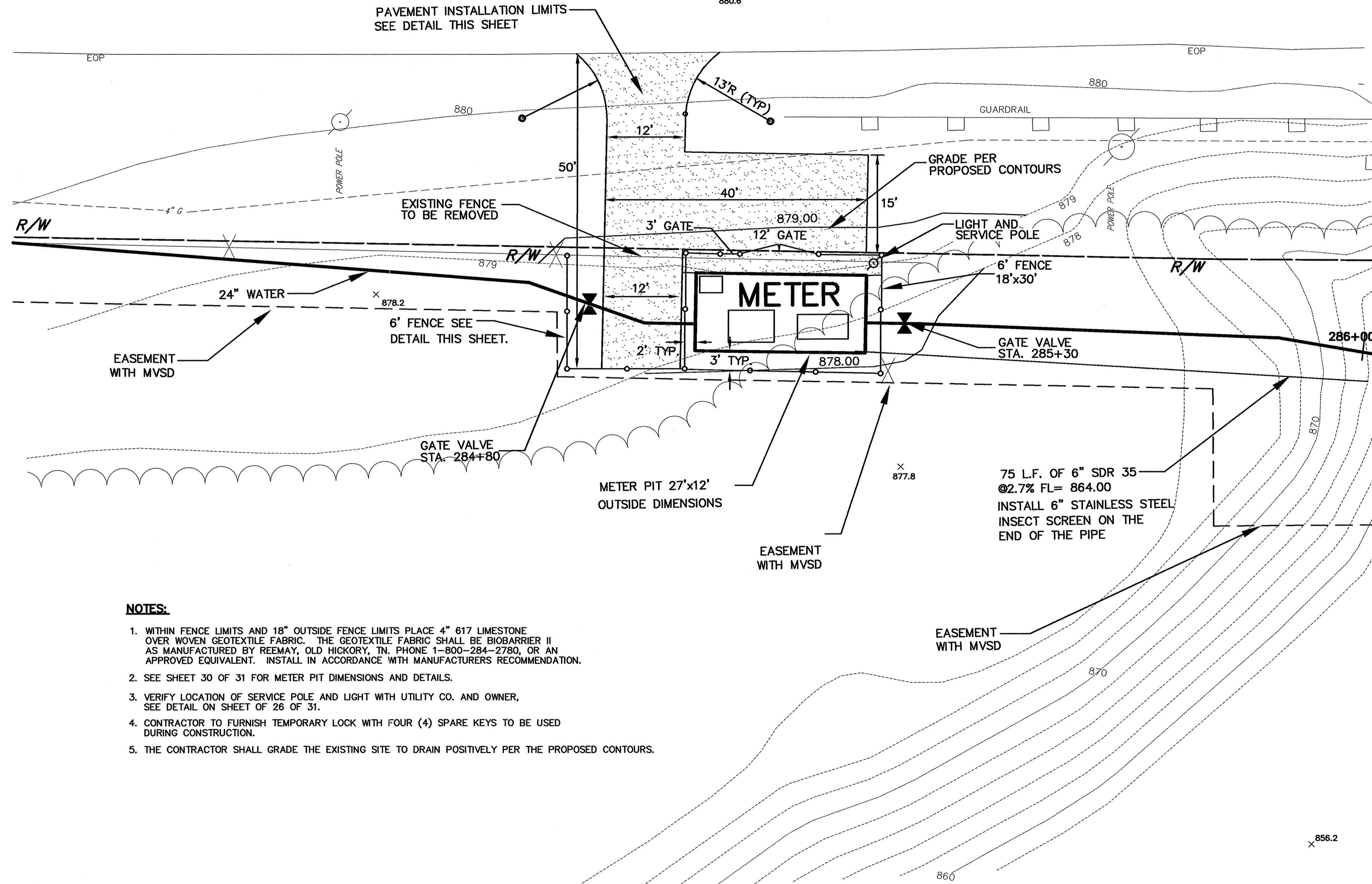
- ① 1 1/4" ODOT ITEM 448 SURFACE COURSE
- ② 3" ODOT ITEM 448 INTERMEDIATE ASPHALT
- ③ ODOT ITEM 408 PRIME COAT
- ④ 6" OF COMPACTED 304 LIMESTONE
- ⑤ EXISTING 304 SLAG BACKFILL
- ⑥ ODOT 203 SUBGRADE COMPACTION

**PAVEMENT DETAIL**

SCALE: N.T.S.



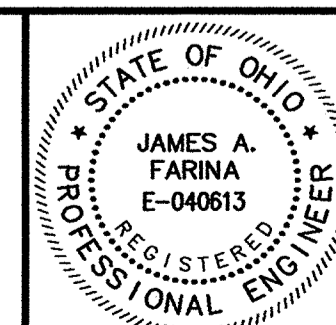
**CARSON - SALT SPRINGS ROAD**



**NOTES:**

1. WITHIN FENCE LIMITS AND 18" OUTSIDE FENCE LIMITS PLACE 4" 617 LIMESTONE OVER WOVEN GEOTEXTILE FABRIC. THE GEOTEXTILE FABRIC SHALL BE BIOBARRIER II AS MANUFACTURED BY REEMAY, OLD HICKORY, TN, PHONE 1-800-284-2780, OR AN APPROVED EQUIVALENT. INSTALL IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATION.
2. SEE SHEET 30 OF 31 FOR METER PIT DIMENSIONS AND DETAILS.
3. VERIFY LOCATION OF SERVICE POLE AND LIGHT WITH UTILITY CO. AND OWNER, SEE DETAIL ON SHEET OF 26 OF 31.
4. CONTRACTOR TO FURNISH TEMPORARY LOCK WITH FOUR (4) SPARE KEYS TO BE USED DURING CONSTRUCTION.
5. THE CONTRACTOR SHALL GRADE THE EXISTING SITE TO DRAIN POSITIVELY PER THE PROPOSED CONTOURS.

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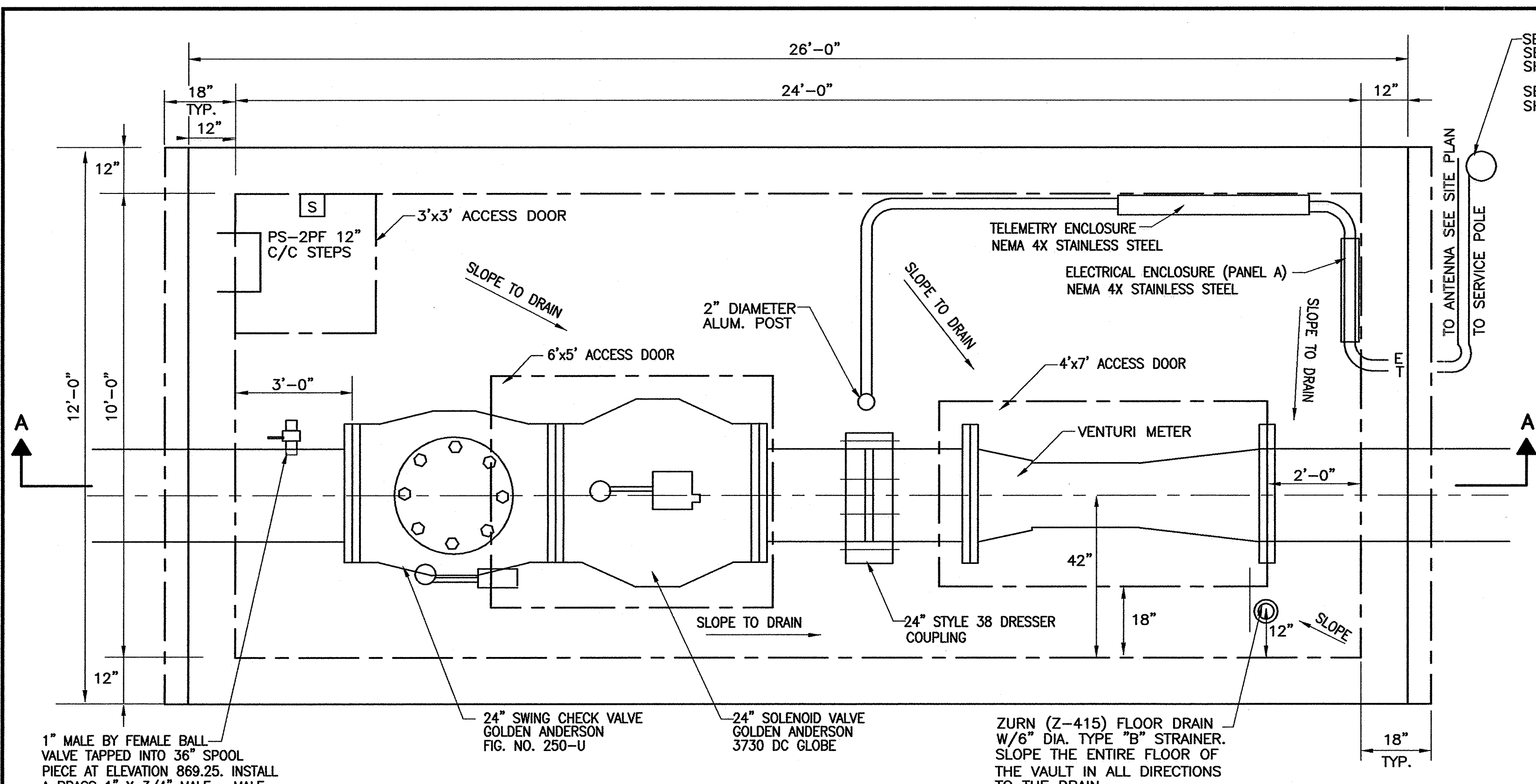
REV. NO.	DESCRIPTION	DATE	BY	CHK'D.
	RECORD DRAWINGS	05-09-06	M.A.B.	J.A.F.

**VILLAGE OF LORDSTOWN**  
**24" WATER SUPPLY LINE**  
**TRUMBULL COUNTY, OHIO**

DATE:	6-03-04
DRAWN BY:	J.K.
CHECKED BY:	J.A.F.
APPROVED BY:	J.A.F.
F.B. No.:	PG. 1

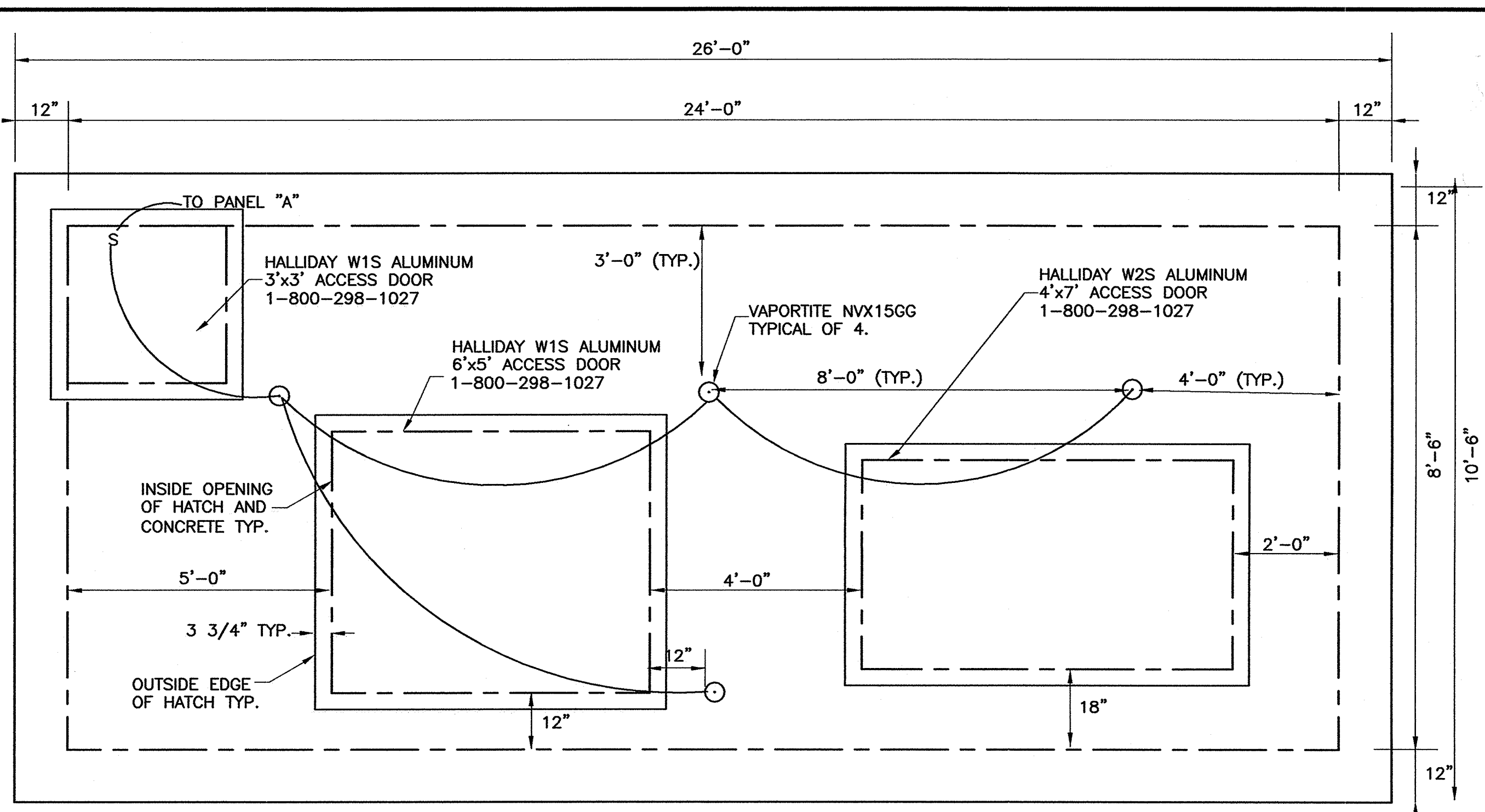
**METER VAULT SITE PLAN**

SCALE	1"=10'
HOR.	1"=10'
VERT.	-
CONTRACT No.	02285
SHEET NO.	29
OF	31



**PLAN VIEW VENTURI METER VAULT**  
SCALE 1/2"=1'

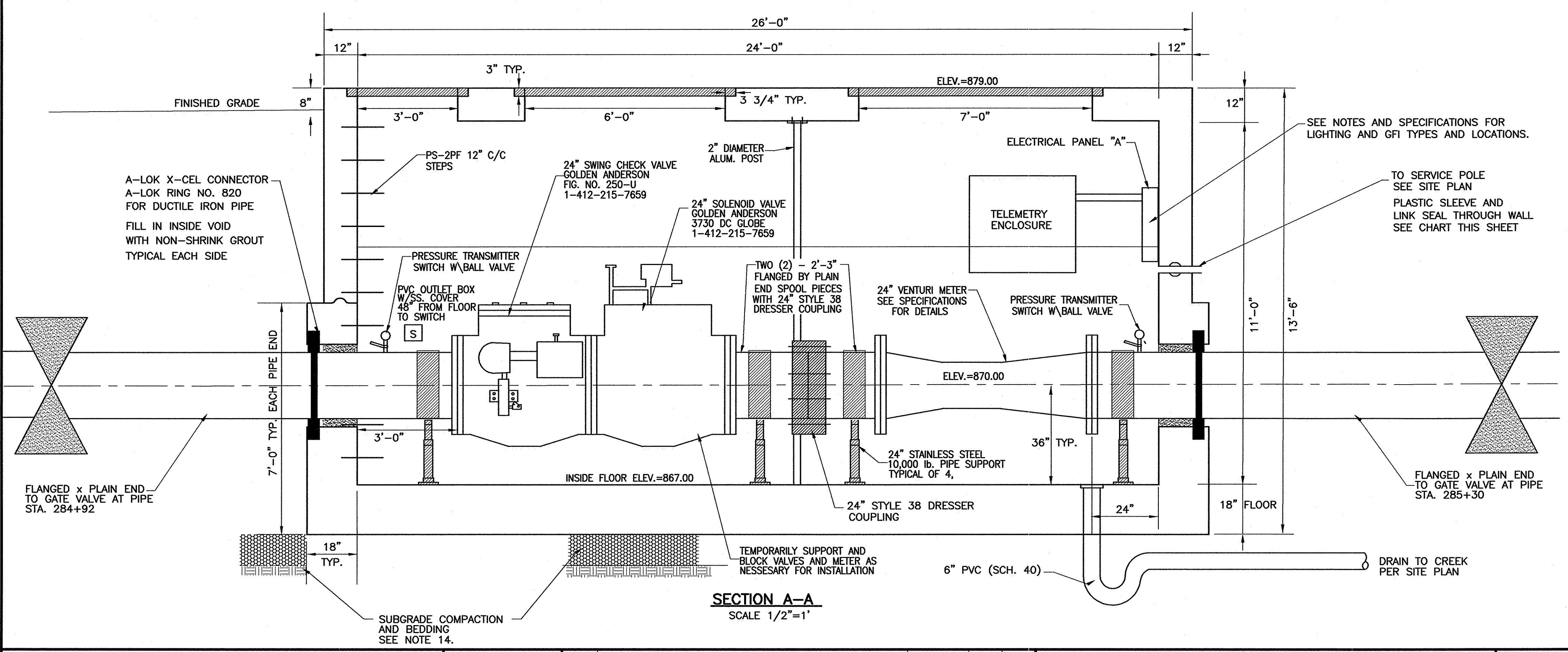
1" MALE BY FEMALE BALL VALVE TAPPED INTO 3/8" SPOOL PIECE AT ELEVATION 869.25. INSTALL A BRASS 1" X 3/4" MALE X MALE REDUCER UNION. 3/4" SHALL FIT STANDARD HOSE BIB CONNECTION VALVE SHALL BE APOLLO 70-340 SERIES 316 STAINLESS STEEL BALL AND STEM



**TOP SLAB VENTURI METER VAULT**  
SCALE 1/2"=1'

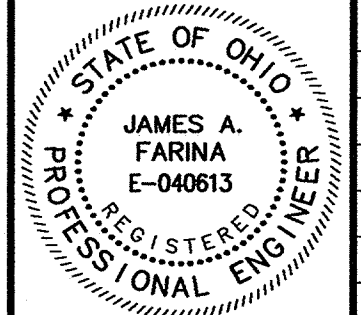
**NOTES**

- ALL PIPING WITHIN VAULT SHALL BE FLANGED DUCTILE IRON PIPE W/ACIPCO PRIMER NO. 1 AND STAINLESS STEEL NUTS AND BOLTS.
- ALL INTERIOR PIPING AND VALVES SHALL BE COATED WITH TMEC SERIES 27 F.C. TYPOXY (BLUE) OR AN APPROVED EQUAL.
- PRESSURE TRANSMITTERS SHALL BE ENDRESS & HAUSER PMC 71 WITH HART AND INTEGRAL DISPLAY.
- ACCESS COVERS SHALL BE INSTALLED IN STRICT ACCORDANCE TO THE MANUFACTURERS RECOMMENDATION.
- CONTRACTOR SHALL EXTEND THE HATCH DRAINS TO WITHIN 6" OF FLOOR. LINES SHALL BE ATTACHED WITH FIBERGLASS FASTENERS WITH STAINLESS STEEL SCREWS. LINES TO BE 1/2" SCH. 80 PVC.
- PIPE SUPPORTS TO BE APOLLO PIPE SUPPORT 2410-PSA-02-2228 ADJUSTABLE STAINLESS STEEL 10,000 LB. CAPACITY 1(918)251-6780
- RUN CONTROLLING WIRING FROM THE TELEMETRY PANEL TO PRESSURE TRANSMITTERS ALONG THE CEILING AND DROP DOWN THE WALLS. CONDUIT TO BE SCH. 80 PVC AND ALL FASTENERS SHALL BE FIBERGLASS WITH STAINLESS STEEL SCREWS.
- THE METER SHALL BE PROVIDED AS PER THE SPECIFICATIONS, GALLON REGISTER AND ELECTRONIC COMMUNICATION REGISTERS (ECR) COMPATIBLE WITH THE TELEMETRY SYSTEM SPECIFIED, 1-800-638-3751.
- THE VENTURI METER ASSEMBLY SPECIFIED SHALL INCLUDE THE INSTRUMENTS REQUIRED TO ACCUMULATE, RECORD, TOTALIZE AND COMMUNICATE WITH THE SPECIFIED TELEMETRY SYSTEM.
- RUN CONTROL WIRING FROM INSTRUMENTATION TO THE METER AND SOLENOID VALVE ALONG THE CEILING AND DROP DOWN TO THE METER AND VALVE ALONG THE ALUMINUM POSTS TO BE FURNISHED. ALL FASTENERS SHALL BE FIBERGLASS WITH STAINLESS STEEL SCREWS. PLASTIC SNAP TIES SHALL BE USED TO ATTACH TO THE ALUMINUM POST.
- 2" DIAMETER ALUMINUM POST SHALL BE 6063-T5 ALUMINUM ALLOY, SCHEDULE 40, AND SHALL BE MOUNTED TO THE FLOOR AND CEILING WITH FLOOR FLANGES AND STAINLESS STEEL BOLTS.
- WALLS, TOP OF SLAB SHALL BE A MINIMUM OF 12" THICK AND THE BOTTOM SLAB SHALL BE A MINIMUM OF 18" THICK. DESIGN SHALL INCLUDE H-20 TRAFFIC BEARING REINFORCEMENT.
- ELECTRICAL ENCLOSURE TO INCLUDE ONE (1) GFI RECEPTACLE.
- THE CONTRACTOR SHALL OVEREXCAVATE AND COMPACT THE EXISTING SUBGRADE FOR THE VAULT 2'-0" IN ALL LENGTH AND WIDTH DIMENSIONS (31'x16'). THE CONTRACTOR SHALL UNDERCUT AN ADDITIONAL 12" AND INSTALL NO.# 57 LIMESTONE BEDDING PRIOR TO PLACING THE VAULT. ALL FOUNDATION MATERIAL FOUND TO BE UNSUITABLE FOR BEARING THE PROPOSED STRUCTURE SHALL BE REMOVED AND REPLACED WITH GRANULAR MATERIAL.



**SECTION A-A**  
SCALE 1/2"=1'

PIPE MATERIAL	CS MODEL PLASTIC SLEEVE	LINK SEAL
SCH 80 PVC CONDUIT	CS-3-12	LS-300



REV. NO.	DESCRIPTION	DATE	BY	CHK'D.
1	RECORD DRAWINGS	05-09-06	M.A.B.	J.A.F.

**VILLAGE OF LORDSTOWN**  
**24" WATER SUPPLY LINE**  
**TRUMBULL COUNTY, OHIO**

DATE:	6-04-04
DRAWN BY:	J.K.
CHECKED BY:	J.A.F.
APPROVED BY:	J.A.F.
F.B. No.:	PG. 31

**METER VAULT DETAILS**

SCALE	AS NOTED
VERT.	N/A
CONTRACT NO.	02285
SHEET NO.	30
OF	31

**SPECIFICATIONS FOR TEMPORARY SEEDING**

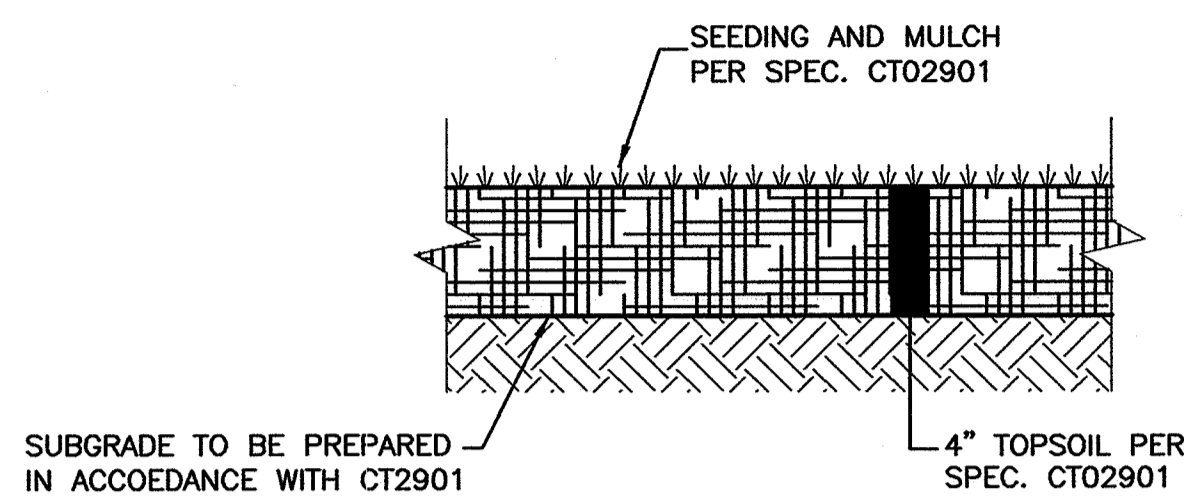
**NOTES:**

- 1.1 STRUCTURAL EROSION – AND SEDIMENT–CONTROL PRACTICES SUCH AS DIVERSIONS AND SEDIMENT TRAPS SHALL BE INSTALLED AND STABILIZED WITH TEMPORARY SEEDING PRIOR TO GRADING THE REST OF THE CONSTRUCTION–SITE.
- 1.2 TEMPORARY SEED SHALL BE APPLIED BETWEEN CONSTRUCTION OPERATIONS ON SOIL THAT WILL NOT BE GRADED OR REWORKED FOR 45 DAYS OR MORE. THESE IDLE AREAS SHOULD BE SEED AS SOON AS POSSIBLE AFTER GRADING OR SHALL BE SEED WITHIN 7 DAYS. SEVERAL APPLICATIONS OF TEMPORARY SEEDING ARE NECESSARY ON TYPICAL CONSTRUCTION PROJECTS.
- 1.3 THE SEEDBED SHOULD BE PULVERIZED AND LOOSE TO ENSURE THE SUCCESS OF ESTABLISHING VEGETATION. HOWEVER, TEMPORARY SEEDING SHALL NOT BE POSTPONED IF IDEAL SEEDBED PREPARATION IS NOT POSSIBLE.
- 1.4 SOIL AMENDMENTS – APPLICATIONS OF TEMPORARY VEGETATION SHALL ESTABLISH ADEQUATE STANDS OF VEGETATION WHICH MAY REQUIRE THE USE OF SOIL AMENDMENTS. SOIL TESTS SHOULD BE TAKEN ON THE SITE TO PREDICT THE NEED FOR LIME AND FERTILIZER.
- 1.5 SEEDING METHOD – SEED SHALL BE APPLIED UNIFORMLY WITH A CYCLONE SEEDER, DRILL, CULTIPACKER SEEDER, OR HYDROSEEDER. WHEN FEASIBLE, SEED THAT HAS BEEN BROADCAST SHALL BE COVERED BY RAKING OR DRAGGING AND THEN LIGHTLY TAMPED INTO PLACE USING A ROLLER OR CULTIPACKER. IF HYDROSEEDING IS USED, THE SEED AND FERTILIZER WILL BE MIXED ON–SITE AND THE SEEDING SHALL BE DONE IMMEDIATELY AND WITHOUT INTERRUPTION.

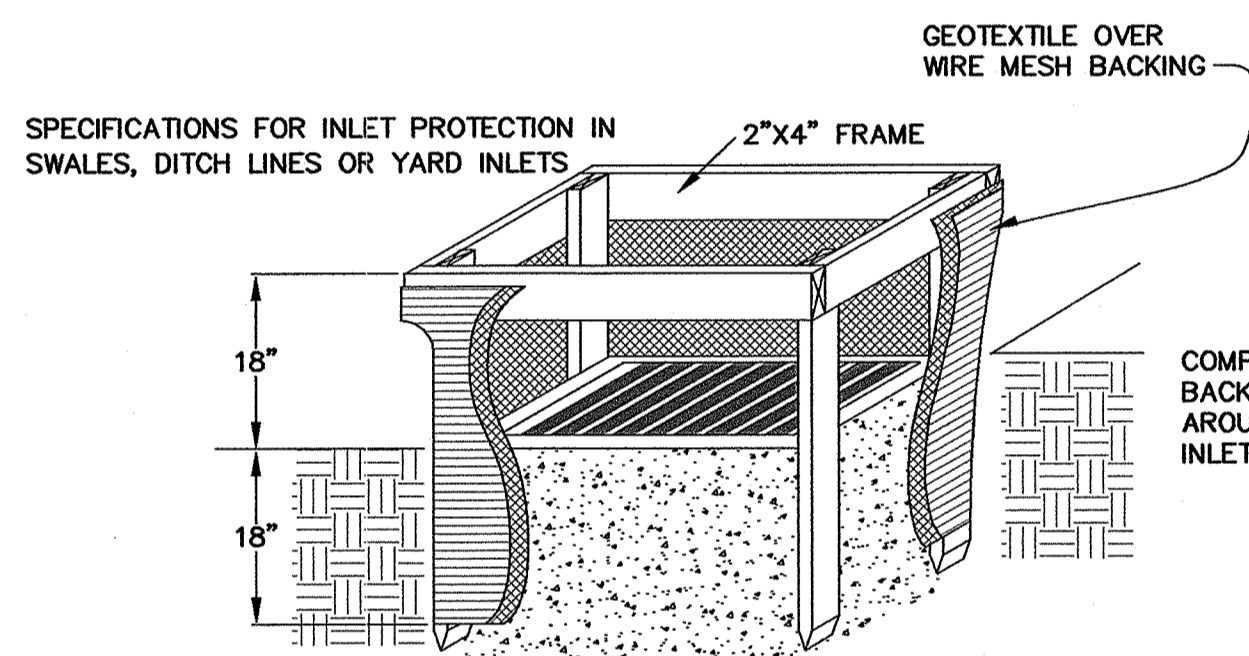
**MULCHING TEMPORARY SEEDING**

- 2.1 APPLICATIONS OF TEMPORARY SEEDING SHALL INCLUDE MULCH WHICH SHALL BE APPLIED DURING OR IMMEDIATELY AFTER SEEDING. SEEDINGS MADE DURING OPTIMUM SEEDING DATES AND WITH FAVORABLE SOIL CONDITIONS AND ON VERY FLAT AREAS MAY NOT NEED MULCH TO ACHIEVE ADEQUATE STABILIZATION.
- 2.2 MATERIALS
  - STRAW – IF STRAW IS USED, IT SHALL BE UNROTTED SMALL–GRAIN STRAW APPLIED AT THE RATE OF 2 TONS/AC. OR 90 LB./1,000 SQ. FT. (TWO–THREE BALES). THE MULCH SHALL BE SPREAD UNIFORMLY BY HAND OR MECHANICALLY SO THE SOIL SURFACE IS COVERED. FOR UNIFORM DISTRIBUTION OF HAND–SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000 SQ. FT. SECTIONS AND SPREAD TWO 45 LB. BALES OF STRAW IN EACH SECTION.
  - HYDROSEEDERS – IF WOOD CELLULOSE FIBER IS USED, IT SHALL BE USED AT 2,000 LB./AC. OR 46 LB./1,000 SQ. FT.
  - OTHER– OTHER ACCEPTABLE MULCHES INCLUDE MULCH MATTINGS APPLIED ACCORDING TO MANUFACTURER’S RECOMMENDATIONS OR WOOD CHIPS APPLIED AT 6 TONS/AC.
- 2.3 STRAW MULCH ANCHORING METHODS
  - A. STRAW MULCH SHALL BE ANCHORED IMMEDIATELY TO MINIMIZE LOSS BY WIND OR WATER.
  - MECHANICAL – A DISK, CRIMPER, OR SIMILAR TYPE TOOL SHALL BE SET STRAIGHT TO PUNCH OR ANCHOR THE MULCH MATERIAL INTO THE SOIL. STRAW MECHANICALLY ANCHORED SHALL NOT BE FINELY CHOPPED BUT, GENERALLY, BE LOFT LONGER THAN 6 INCHES.
  - MULCH NETTINGS – NETTINGS SHALL BE USED ACCORDING TO THE MANUFACTURER’S RECOMMENDATIONS. NETTING MAY BE NECESSARY TO HOLD MULCH IN PLACE IN AREAS OF CONCENTRATED RUNOFF AND ON CRITICAL SLOPES.
  - ASPHALT EMULSION – ASPHALT SHALL BE APPLIED AS RECOMMENDED BY THE MANUFACTURER OR AT THE RATE OF 160 GAL./ACRE.
  - SYNTHETIC BINDERS – SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRI–TAC), DCA–70, PETROSET, TERRA TACK OR EQUAL MAY BE USED AT RATES RECOMMENDED BY THE MANUFACTURER.
  - WOOD CELLULOSE FIBER – WOOD CELLULOSE FIBER BINDER SHALL BE APPLIED AT A NET DRY WEIGHT OF 750 LB./ACRE. THE WOOD CELLULOSE FIBER SHALL BE MIXED WITH WATER AND THE MIXTURE SHALL CONTAIN A MAXIMUM OF 50 LB./100 GAL.

TEMPORARY SEEDING SPECIES SELECTION			
SEEDING DATES	SPECIES	LB./1,000 FT.	PER AC.
MARCH 1 TO AUGUST 15	OATS	3	4 BUSHEL
	TALL FESCUE	1	40 LB.
	ANNUAL RYEGRASS	1	40 LB.
	PERENNIAL RYEGRASS	1	40 LB.
	TALL FESCUE	1	40 LB.
	ANNUAL RYEGRASS	1	40 LB.
AUGUST 16 TO NOVEMBER 1	RYE	3	2 BUSHEL
	TALL FESCUE	1	40 LB.
	ANNUAL RYEGRASS	1	40 LB.
	WHEAT	3	2 BUSHEL
	TALL FESCUE	1	40 LB.
	ANNUAL RYEGRASS	1	40 LB.
NOVEMBER 1 TO SPRING SEEDING	USE MULCH ONLY, SODDING PRACTICES OR DORMANT SEEDING		



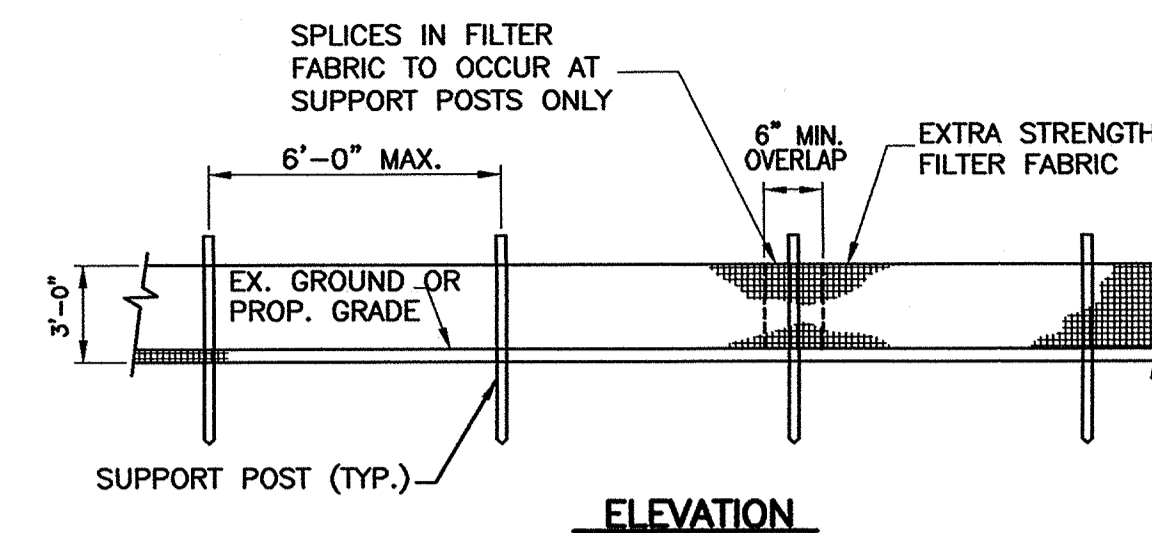
**PERMANENT SEEDING DETAIL**  
NOT TO SCALE



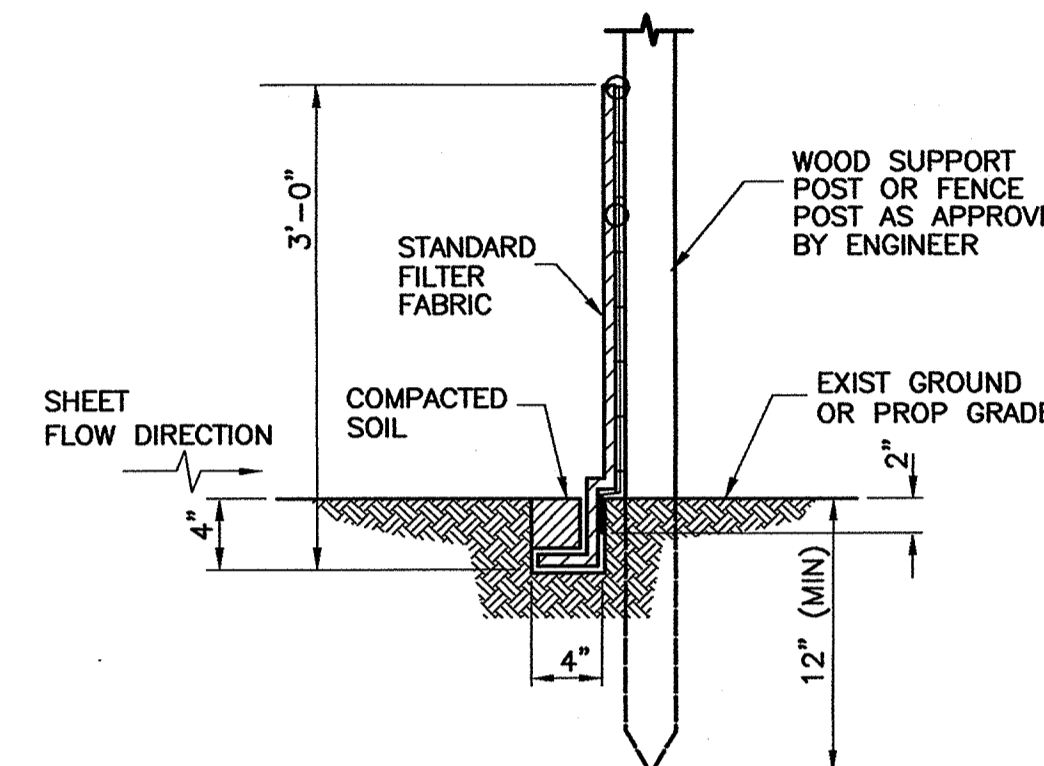
**INLET PROTECTION**  
NO SCALE

**SPECIFICATIONS FOR INLET PROTECTION IN SWALES, DITCH LINES OR YARD INLETS**

1. INLET PROTECTION SHALL BE CONSTRUCTED EITHER BEFORE UPSLOPE LAND DISTURBANCE BEGINS OR BEFORE THE STORM DRAIN BECOMES OPERATIONAL.
2. THE EARTH AROUND THE INLET SHALL BE EXCAVATED COMPLETELY TO A DEPTH AT LEAST 18 INCHES.
3. THE WOODEN FRAME SHALL BE CONSTRUCTED OF 2–BY–4–INCH CONSTRUCTION–GRADE LUMBER. THE 2–BY–4–INCH POSTS SHALL BE DRIVEN 1 FOOT INTO THE GROUND AT FOUR CORNERS OF THE INLET AND THE TOP PORTION OF 2–BY–4–INCH FRAME ASSEMBLED USING THE OVERLAP JOINT SHOWN. THE TOP OF THE FRAME SHALL BE AT LEAST 6 INCHES BELOW ADJACENT ROADS IF PONDED WATER WOULD POSE A SAFETY HAZARD TO TRAFFIC.
4. WIRE MESH SHALL BE OF SUFFICIENT STRENGTH TO SUPPORT FABRIC WITH WATER FULLY IMPOUNDED AGAINST IT. IT SHALL BE STRETCHED TIGHTLY AROUND THE FRAME AND FASTENED SECURELY TO THE FRAME.
5. GEOTEXTILE SHALL HAVE AN EQUIVALENT OPENING SIZE OF 20–40 SIEVE AND BE RESISTANT TO SUNLIGHT. IT SHALL BE STRETCHED TIGHTLY AROUND THE FRAME AND FASTENED SECURELY. IT SHALL EXTEND FROM THE TOP OF THE FRAME TO 18 INCHES BELOW THE INLET NOTCH ELEVATION. THE GEOTEXTILE SHALL OVERLAP ACROSS ONE SIDE OF THE INLET SO THE ENDS OF THE CLOTH ARE NOT FASTENED TO THE SAME POST.
6. BACKFILL SHALL BE PLACED AROUND THE INLET IN COMPACTED 6 INCH LAYERS UNTIL THE EARTH IS EVEN WITH NOTCH ELEVATION ON ENDS AND TOP ELEVATION ON SIDES.
7. A COMPACTED EARTH DIKE OR A CHECK DAM SHALL BE CONSTRUCTED IN THE DITCH LINE BELOW THE INLET IF THE INLET IS NOT IN A DEPRESSION AND IF RUNOFF BYPASSING THE INLET WILL NOT FLOW TO A SETTLING POND. THE TOP OF EARTH DIKES SHALL BE AT LEAST 6 INCHES HIGHER THAN THE TOP OF THE FRAME.



**ELEVATION**



**SECTION**

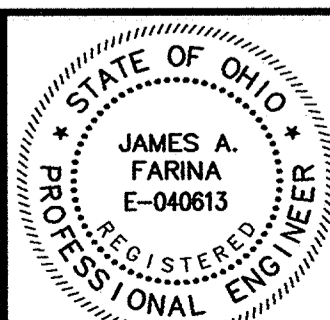
**SILT FENCE DETAIL**  
NOT TO SCALE

**NOTES:**

1. SILT FENCE SHALL BE CONSTRUCTED BEFORE UPSLOPE LAND DISTURBANCE BEGINS.
2. ALL SILT FENCE SHALL BE PLACED AS CLOSE TO THE CONTOUR AS POSSIBLE SO THAT WATER WILL NOT CONCENTRATE AT LOW POINTS IN THE FENCE AND SO THAT SMALL SWALES OR DEPRESSIONS WHICH MAY CARRY SMALL CONCENTRATED FLOWS TO THE SILT FENCE ARE DISSIPATED ALONG ITS LENGTH.
3. TO PREVENT WATER PONDED BY THE SILT FENCE FROM FLOWING AROUND THE ENDS, EACH END SHALL BE CONSTRUCTED UPSLOPE SO THAT THE ENDS ARE AT A HIGHER ELEVATION.
4. WHERE POSSIBLE, SILT FENCE SHALL BE PLACED ON THE FLATTEST AREA AVAILABLE. WHERE POSSIBLE, VEGETATION SHALL BE PRESERVED FOR 5 FEET (OR AS MUCH AS POSSIBLE) UPSLOPE FROM THE SILT FENCE. IF VEGETATION IS REMOVED, IT SHALL BE REESTABLISHED WITHIN 7 DAYS FROM THE INSTALLATION OF THE SILT FENCE.
5. THE HEIGHT OF THE SILT FENCE SHALL BE A MINIMUM OF 16 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
6. THE SILT FENCE SHALL BE PLACED IN A TRENCH CUT A MINIMUM OF 6 INCHES DEEP. THE TRENCH SHALL BE CUT WITH A TRENCHER, CABLE LAYING MACHINE, OR OTHER SUITABLE DEVICE WHICH WILL ENSURE AN ADEQUATELY UNIFORM TRENCH DEPTH.
7. THE SILT FENCE SHALL BE PLACED WITH THE STAKES ON THE DOWNSLOPE SIDE OF THE GEOTEXTILE AND SO THAT 8 INCHES OF CLOTH ARE BELOW THE GROUND SURFACE. EXCESS MATERIAL SHALL LAY ON THE BOTTOM OF THE 6–INCH–DEEP TRENCH. THE TRENCH SHALL BE BACKFILLED AND COMPACTED.
8. SEAMS BETWEEN SECTION OF SILT FENCE SHALL BE OVERLAPPED WITH THE END STAKES OF EACH SECTION WRAPPED TOGETHER BEFORE DRIVING INTO THE GROUND.
9. MAINTENANCE – SILT FENCE SHALL ALLOW RUNOFF TO PASS ONLY AS DIFFUSE FLOW THROUGH THE GEOTEXTILE. IF RUNOFF OVERTOPS THE SILT FENCE, FLOWS UNDER OR AROUND THE ENDS, OR IN ANY OTHER WAY BECOMES A CONCENTRATED FLOW, ONE OF THE FOLLOWING SHALL BE PERFORMED, AS APPROPRIATE: 1) THE LAYOUT OF THE SILT FENCE SHALL BE CHANGED, 2) ACCUMULATED SEDIMENT SHALL BE REMOVED, OR 3) OTHER PRACTICES SHALL BE INSTALLED.
10. SILT FENCE MATERIALS
  - A. FENCE POSTS – THE LENGTH SHALL BE A MINIMUM OF 32 INCHES LONG. WOOD POSTS WILL BE 2 X 2 INCH HARDWOOD OF SOUND QUALITY. THE MAXIMUM SPACING BETWEEN POSTS SHALL BE 10 FEET.
  - B. SILT FENCE FABRIC (SEE CHART BELOW):

FABRIC PROPERTIES	VALUES	TEST METHOD
GRAB TENSILE STRENGTH	90 LB. MINIMUM	ASTM D 1682
MULLEN BURST STRENGTH	190 PSI MINIMUM	ASTM D 3786
SLURRY FLOW RATE	0.3 GAL./MIN./F2 MAXIMUM	
EQUIVALENT OPENING SIZE	40–80	US STD. SIEVE CW–02215
ULTRAVIOLET RADIATION STABILITY	90% MINIMUM	ASTM–G–26

**CT Consultants**  
engineers | architects | planners  
80 Westchester Square, Unit 6 Youngstown, Ohio 44515  
330.792.1999 www.ctconsultants.com



REV. NO.	DESCRIPTION	DATE	BY	CHK'D.
	RECORD DRAWINGS	05–09–06	M.A.B.	J.A.F.

**VILLAGE OF LORDSTOWN**  
**24" WATER SUPPLY LINE**  
**TRUMBULL COUNTY, OHIO**

DATE:	—
DRAWN BY:	—
CHECKED BY:	—
APPROVED BY:	—
F.B. No.:	— PG. —

**EROSION CONTROL DETAILS**

SCALE	
HOR.	AS NOTED
VERT.	—
CONTRACT No.	
<b>02285</b>	
SHEET NO.	OF
<b>31</b>	<b>31</b>