

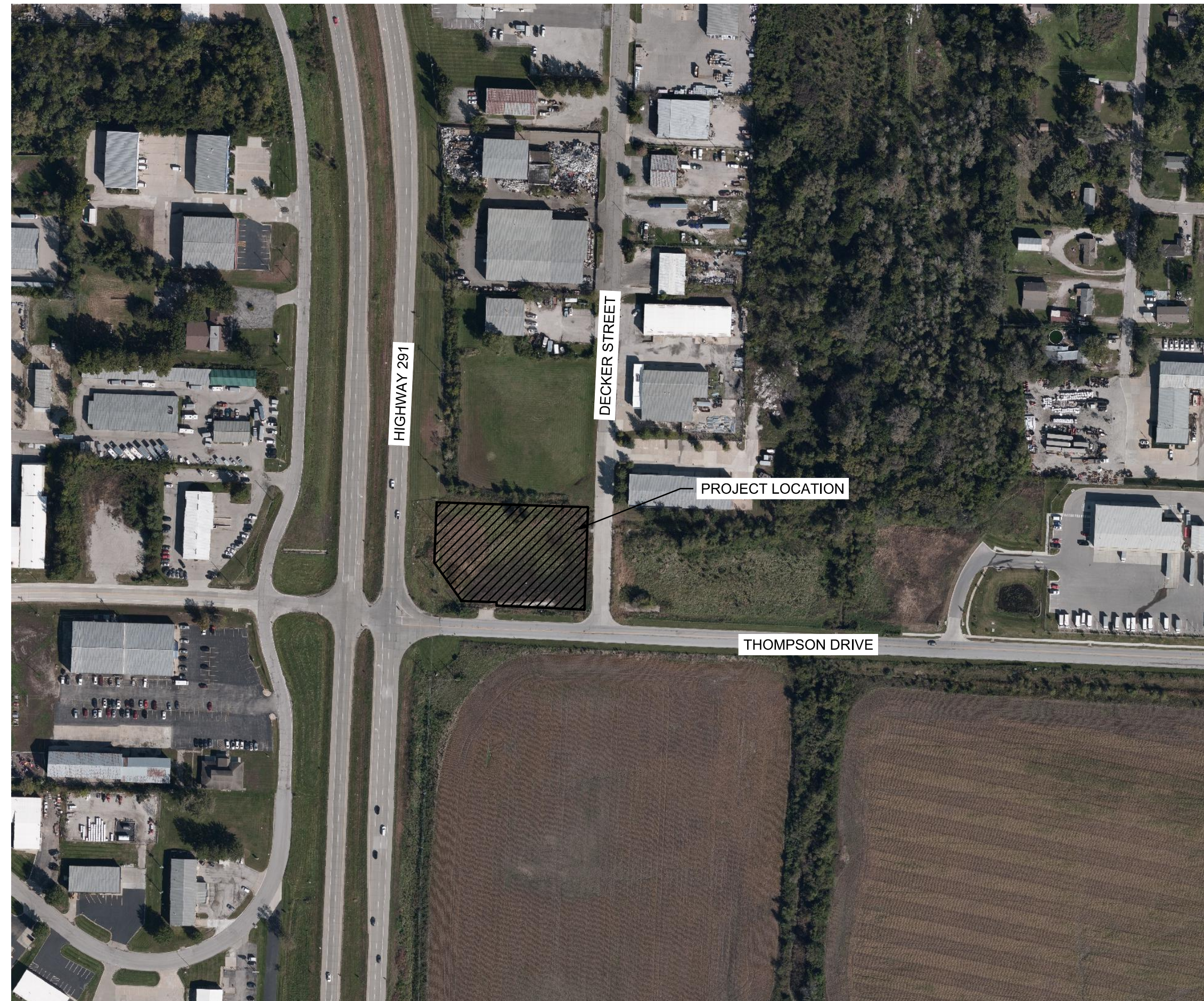
# MIDWEST CARWASH PUBLIC WATER MAIN EXTENSION PLAN

LOT 13, LEMONE-SMITH BUSINESS & RETAIL CENTER, PLAT 8, A SUBDIVISION IN  
LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

DEVELOPMENT TEAM CONTACT INFORMATION	
OWNER/DEVELOPER	
MIDWEST WASH GROUP	JASON BOHNERT MIDWEST WASH GROUP CELL: 816-258-0583 FAX: 816-793-3780 jbohnert@midwestwashgroup.com
CIVIL ENGINEER	
MITCH PLEAK  OLSSON	7301 W 133RD STREET SUITE 200 OVERLAND PARK, KS 66213 PH: 913-381-1170 mpleak@olsson.com
UTILITY AND GOVERNING AGENCY CONTACT INFORMATION	
CITY OF LEE'S SUMMIT, MISSOURI	220 SE GREEN LEE'S SUMMIT, MO 64063
CITY HALL	816.969.1000
BUILDING INSPECTIONS	816.969.1200
SPECIAL INSPECTIONS	816.969.1200
BUILDING PERMITS	816.969.1200
LAND DEVELOPMENT DIVISION/INSPECTIONS	816.969.1200
TRAFFIC OPERATIONS	816.969.1800
LEE'S SUMMIT WATER UTILITIES	1200 SE HAMBLEN ROAD LEE'S SUMMIT, MO 64081
LEE'S SUMMIT WATER & SERVICES	816.969.1940
LEE'S SUMMIT PUBLIC WORKS	816.969.1800
SPIRE (MGE)	314.342.0500
EVERGY	8700 EAST FRONT STREET KANSAS CITY, MO 64120 816.471.5275
TELEPHONE SERVICE	
AT&T	816.221.1781
CABLE TELEVISION SERVICE	
SPECTRUM	877.772.2253
GOOGLE FIBER	877.454.6959





















































THE CONTRACTOR SHALL ADHERE TO THE PROVISIONS OF THE SENATE BILL NUMBER 583, 78TH GENERAL ASSEMBLY OF THE STATE OF MISSOURI. THE BILL REQUIRES THAT ANY PERSON OR FIRM DOING EXCAVATION ON PUBLIC RIGHT-OF-WAY DO SO ONLY AFTER GIVING NOTICE TO, & OBTAINING INFORMATION FROM, UTILITY COMPANIES. STATE LAW REQUIRES 48 HOURS ADVANCE NOTICE. CALL 1-800-DIG-RITE.

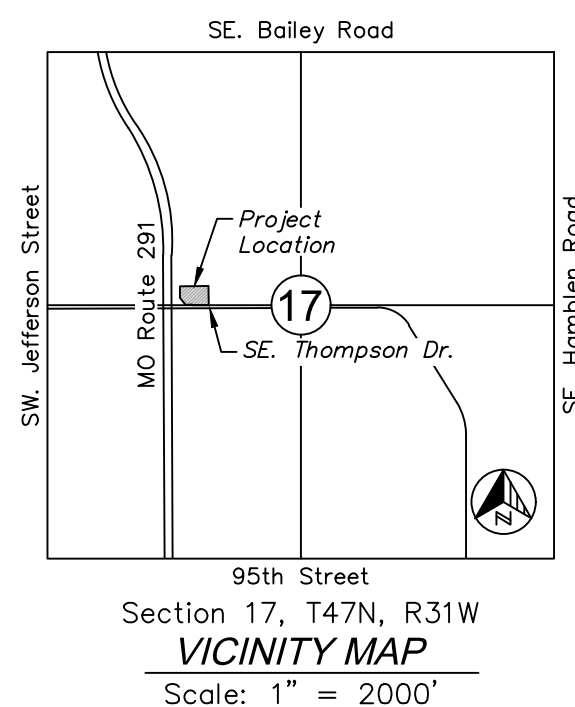


NOT TO SCALE

### LEGEND

	SECTION CORNER		OVERHEAD POWER LINE
	ALUMINUM MONUMENT		GAS LINE
	SET 1/2" REBAR W/LC 114 CAP IN CONCRETE		UNDERGROUND POWER LINE
	FOUND 1/2" REBAR		UNDERGROUND TELEPHONE LINE
	FIRE HYDRANT		SANITARY SEWER LINE
	WATER VALVE		STORM LINE
	WATER METER		WATER LINE
	WATER METER PIT		TELEPHONE MANHOLE
	GAS VALVE		TELEPHONE PEDESTAL
	GAS METER		TELEPHONE CABINET
	SPRINKLER BOX		TRAFFIC SIGNAL BOX
	SANITARY SEWER MANHOLE		TRAFFIC SIGNAL POLE
	STORM SEWER MANHOLE		CABLE BOX
	SANITARY SEWER CLEANOUT		FIBER OPTIC BOX
	ELECTRIC BOX		TELEVISION PEDESTAL
	BREAKER BOX		TELEPHONE BOOTH
	ELECTRIC METER		AIR CONDITIONING UNIT
	TRANSFORMER		GRATE INLET
	POWER POLE		WOOD POST
	POWER POLE/W LIGHT		BOLLARD
	GUY WIRE		STEEL POST
	LIGHT POLE		COLUMN
	YARD LIGHT		FLAG POLE
	BOREHOLE LOCATION		BUSH
			SIGN
			TREE

Sheet List Table	
Sheet Number	Sheet Title
WM1.00	TITLE SHEET
WM1.01	GENERAL NOTES
WM2.00	GENERAL LAYOUT PLAN
WM3.00	WATER MAIN PLAN AND PROFILE
WM4.00	DETAILS SHEET
WM4.01	DETAILS SHEET



Property Owner:  
Midwest Wash Group, LLC  
1362 NW. Windsor Drive  
Lee's Summit, MO 64086

Prepared For:  
Kadean Construction  
Attn: Rob Geist  
1821 McGee Street  
Kansas City, MO 64108

Prepared By:  
Olsson, Inc.  
7301 West 133rd Street, Suite 200  
Overland Park, KS 66213  
Phone: (913) 381-1170  
Fax: (913) 381-1174

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DATE: May 08, 2023 2:19pm XREFS: C\_XBASE\_02204040 C\_PBASE\_02204040 C\_WAT\_TBLK\_02204040 USER: bpoynr2

GENERAL NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT THE PLANS IN THEIR POSSESSION ARE THE MOST CURRENT VERSION ISSUED, ARE FULLY COORDINATED WITH ALL SUBCONTRACTORS, AND PRESENT ON SITE AT ALL TIMES. CURRENT PLANS PREPARED BY OLSSON MAY BE OBTAINED AT THE DIRECTION OF OLSSON'S CLIENT. DIRECT REQUESTS TO OLSSON MAY REQUIRE ADDITIONAL AUTHORIZATIONS, AGREEMENTS, AND/OR FEES. PLEASE CONTACT THE ENGINEER FOR INFORMATION.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DEVIATIONS FROM THESE PLANS UNLESS WRITTEN APPROVAL FROM ENGINEER, OWNER, AND DEVELOPER.
3. ALL WORK AND MATERIALS SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE OWNER OR THE OWNER'S REPRESENTATIVE.
4. ALL ESTIMATES OF QUANTITIES ARE FOR INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING QUANTITIES AND ITEMS OF WORK.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL LABOR, MATERIALS, AND EQUIPMENT REQUIRED TO COMPLETE THE WORK SHOWN IN THE PLANS.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS, PAYING ALL FEES, AND FOR OTHERWISE COMPLYING WITH ALL APPLICABLE REGULATIONS GOVERNING THE WORK.
7. THE CONTRACTOR SHALL NOT ENGAGE IN ACTIVITIES THAT MAY ENCROACH ON WATERS OF THE U.S., INCLUDING WETLANDS, UNTIL ANY NECESSARY PERMITS MAY BE OBTAINED. THE CONTRACTOR SHALL REVIEW AND COMPLY WITH ALL CONDITIONS DESCRIBED IN THE PERMIT.
8. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, THE SAFETY OF ALL PERSONS INCLUDING VISITORS AND THE GENERAL PUBLIC, AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY THROUGHOUT THE PROJECT AND NOT BE LIMITED BY WORKING HOURS. ANY CONSTRUCTION OBSERVATION BY THE ENGINEER OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES.
9. PRIOR TO COMMENCEMENT OF WORK THE CONTRACTOR SHALL NOTIFY AND COORDINATE WITH ALL UTILITY COMPANIES AND OBTAIN ANY RELEVANT INFORMATION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
10. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL BOUNDARY CORNERS AND SECTION CORNERS. ANY BOUNDARY CORNER AND/OR SECTION CORNER DISTURBED OR DAMAGED BY CONSTRUCTION ACTIVITIES SHALL BE RESET BY A LAND SURVEYOR LICENSED IN THE STATE OF MISSOURI, AT THE CONTRACTOR'S EXPENSE.
11. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ADJACENT PROPERTIES AND SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT DAMAGE DURING CONSTRUCTION. THE CONTRACTOR IS ALSO RESPONSIBLE FOR REPAIRING ANY DAMAGE RESULTING FROM CONSTRUCTION ACTIVITIES.
12. PRIOR TO MOVING OFF THE JOB THE CONTRACTOR SHALL NOTIFY THE OWNER AND ENGINEER TO PERFORM A FINAL WALK-THROUGH OF THE CONSTRUCTION SITE.
13. THE CONTRACTOR SHALL CONTACT THE CITY'S DEVELOPMENT SERVICES ENGINEERING INSPECTION TO SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE FIELD ENGINEERING INSPECTOR PRIOR TO ANY LAND DISTURBANCE WORK AT (816) 969-1200.

REFERENCES

1. UNLESS EXPLICITLY DESCRIBED OTHERWISE WITHIN THESE PLANS THE FOLLOWING SHALL APPLY:
  - A. ALL CONSTRUCTION, INCLUDING THOSE LISTED BELOW, SHALL CONFORM TO THE LATEST CODES AND ORDINANCES OF LEE'S SUMMIT, MISSOURI.
  - B. ALL CONSTRUCTION IN MODOT RIGHT-OF-WAY SHALL CONFORM TO THE LATEST SPECIFICATIONS ADOPTED BY U.S. DEPARTMENT OF TRANSPORTATION AND MODOT.
  - C. ALL TRAFFIC CONTROL SIGNAGE SHALL CONFORM WITH THE CURRENT EDITION OF THE MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
  - D. ALL UTILITY EXTENSIONS AND CONSTRUCTION SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE UTILITY COMPANIES.
  - E. ALL EXTERIOR PAVEMENT (PCC, ASPHALT, ETC.) SHALL BE IN CONFORMANCE WITH THE SPECIFICATIONS OF LEE'S SUMMIT, MISSOURI
4. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE DELIVERY MANAGER AND COORDINATING ANY MAILBOXES THAT MAY BE DISTURBED. FAILURE TO DO SO MAY SUBJECT THE CONTRACTOR TO PROSECUTION BY THE FEDERAL GOVERNMENT.

EXISTING CONDITIONS

1. THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH THE EXISTING CONDITIONS OF THE PROJECT AREA.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING THEIR OWN INVESTIGATIONS AND MAKING THEIR OWN ASSUMPTIONS REGARDING SITE SURFACE AND SUBSURFACE CONDITIONS. THIS INCLUDES THE LOCATION AND CONSISTENCY OF ANY EXISTING ROCK LAYERS UNDERLYING THE PROJECT SITE. CONTACT THE ENGINEER REGARDING ANY DISCREPANCIES THAT MAY AFFECT THE ABILITY TO CONSTRUCT FROM THESE PLANS AS DESIGNED.
3. EXISTING CONDITIONS WERE DETERMINED THROUGH A VARIETY OF METHODS THAT MAY INCLUDE SURVEY, AERIAL IMAGERY, AVAILABLE RECORDS, GIS DATA, ETC. SUBSURFACE CONDITIONS ARE APPROXIMATE AND MAY NOT INCLUDE ALL UTILITIES AND OTHER SITE IMPROVEMENTS PRESENT ON SITE. THE CONTRACTOR SHALL MAKE EXPLORATION EXCAVATIONS AND LOCATE EXISTING UNDERGROUND UTILITIES SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT REVISIONS TO PLANS WHEN CONFLICTS AND DISCREPANCIES ARE FOUND.

CONSTRUCTION

1. THE CONTRACTOR SHALL INSTALL TRAFFIC CONTROL WHILE WORKING IN THE PUBLIC RIGHT-OF-WAY AS SHOWN IN THESE PLANS. IF PLANS ARE NOT PROVIDED, CONTRACTOR SHALL COORDINATE AND PROVIDE CONTROLS TO THE SATISFACTION OF THE RIGHT-OF-WAY OWNER.
2. THE CONTRACTOR SHALL PROTECT ALL TREES OVER 3" CALIPER FROM DAMAGE. NO TREE SHALL BE REMOVED WITHOUT PERMISSION OF THE OWNER, UNLESS SHOWN OTHERWISE ON THESE PLANS.
3. THE CONTRACTOR SHALL DISPOSE ALL WASTE MATERIAL RESULTING FROM THE PROJECT OFF-SITE AND IN STRICT CONFORMANCE WITH ALL LOCAL CODES AND ORDINANCES.
4. ALL MANHOLES, CATCH BASINS, UTILITY VALVES AND METER PITS ARE TO BE ADJUSTED OR REBUILT TO GRADE AS REQUIRED. NOT ALL ADJUSTMENTS ARE INDICATED IN THE PLANS.
5. THE CONTRACTOR SHALL STREET SWEEP OR OTHERWISE CLEAN ALL ACCESS ROUTES TO THE SITE AT CONCLUSION OF THE PROJECT.

SHOP DRAWINGS

1. THE CONTRACTOR SHALL SUBMIT SHOP DRAWING A MINIMUM OF 7 DAYS PRIOR TO THE REQUESTED DATE OF APPROVAL. ENGINEER SHALL REVIEW SHOP DRAWINGS OR SAMPLES CONFORMANCE WITH THE DESIGN FOR THIS PROJECT AS DESCRIBED IN THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ERRORS OR OMISSIONS IN SHOP DRAWINGS. THE ENGINEER'S REVIEW SHALL NOT EXTEND TO MEANS OR METHODS OF CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY VARIATION FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS UNLESS CONTRACTOR HAS NOTIFIED ENGINEER OF EACH SUCH VARIATION AT THE TIME OF SUBMISSION, AND OBTAINED ENGINEER'S WRITTEN APPROVAL OF EACH SUCH VARIATION. PRIOR TO SUBMITTING EACH SHOP DRAWING OR SAMPLE, CONTRACTOR SHALL HAVE REVIEWED AND VERIFIED:
  - A. ALL FIELD MEASUREMENTS, QUANTITIES, DIMENSIONS, SPECIFIED PERFORMANCE CRITERIA, INSTALLATION REQUIREMENTS, MATERIALS, CATALOG NUMBERS AND SIMILAR INFORMATION WITH RESPECT THERETO;
  - B. ALL MATERIALS WITH RESPECT TO INTENDED USE, FABRICATION, SHIPPING, HANDLING, STORAGE, ASSEMBLY AND INSTALLATION PERTAINING TO THE PERFORMANCE OF THE WORK;
  - C. ALL INFORMATION RELATIVE TO MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES OF CONSTRUCTION AND SAFETY PRECAUTIONS AND PROGRAMS INCIDENT THERETO;
  - D. CONTRACTOR SHALL ALSO HAVE REVIEWED AND COORDINATED EACH SHOP DRAWING OR SAMPLE WITH OTHER SHOP DRAWINGS AND SAMPLES, AND WITH THE REQUIREMENTS OF THE WORK AND THE CONTRACT DOCUMENTS.
  - E. ALL SUBMITTED SHOP DRAWINGS SHALL BEAR A STAMP OR SPECIFIC WRITTEN INDICATION AND SIGNATURE THAT CONTRACTOR HAS FULLY COMPLETED THE ABOVE TASKS.
2. SHOP DRAWINGS AS DESCRIBED ABOVE ARE REQUIRED FOR, BUT NOT LIMITED TO, THE FOLLOWING:
  - A. ANY ITEMS IN THESE PLANS THAT ALLOW FOR AN "APPROVED EQUAL" ALTERNATIVE.

WATER PLAN NOTES

1. PRIOR TO COMMENCEMENT OF WORK THE CONTRACTOR SHALL NOTIFY AND COORDINATE CONSTRUCTION WITH UTILITY OWNER.
2. ALL PIPE LENGTHS ARE CALCULATED LINEARLY FROM CENTER OF FITTING OR WALL OF VAULT.
3. COORDINATES ARE PROVIDED ALONG PIPE CENTERLINE. ADDITIONAL COORDINATES PROVIDED ARE PER LOCAL CODES AND ORDINANCES OR AS AN AID WHEN ORIENTING INSTALLATIONS.
4. THE CONTRACTOR SHALL EXPOSE EXISTING UTILITIES AT LOCATIONS OF POSSIBLE CONFLICT AND POINTS OF CONNECTION PRIOR TO ANY CONSTRUCTION OF WATER.
5. WATER PIPE TRENCHES SHALL BE CONSTRUCTED SUCH THAT UNDISTURBED EXISTING SOIL OR FILL COMPACTED TO 95% PROCTOR DENSITY IS AT A DEPTH THAT IS 18" ABOVE TOP OF PROPOSED PIPE.
6. ALL PUBLIC WATER LINES SHALL BE A MINIMUM OF 42 INCHES AND MAXIMUM OF 84 INCHES (7') BELOW THE FINISHED GRADE ELEVATIONS SHOWN HEREIN UNLESS OTHERWISE NOTED.
7. IF AN AS-BUILT OF A WATER LINE IS REQUIRED OR EXPECTED THE CONTRACTOR SHALL NOT BACKFILL THE TRENCH UNTIL AN AS-BUILT SURVEY IS CONDUCTED.
8. DISINFECTION AND PRESSURE TESTING OF WATER LINES SHALL BE PERFORMED AND PAID FOR BY THE CONTRACTOR AND AS REQUIRED BY THE UTILITY OWNER.
9. ALL EXISTING FIRE HYDRANTS ON SITE OR IN THE RIGHT-OF-WAY BETWEEN PROPERTY AND ROADWAY SHALL BE REPAINTED PER LOCAL CODES AND ORDINANCES.
10. TRACING TAPE SHALL BE INSTALLED ALONG ALL NON-METALLIC SURFACES OR AS DIRECTED BY LOCAL CODES AND ORDINANCES.

NOTES

1. NO GAS WELLS ARE PRESENT ON THE PROPERTY BASED ON THE "ENVIRONMENTAL IMPACT STUDY OF ABANDONED OIL AND GAS WELLS IN LEE'S SUMMIT, MISSOURI", BY EDWARD ALTON MAY, JR. DATED 1995.

ESTIMATE OF QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	AS-BUILT
1	12" AWWA C905	L.F.	260.82	
2	12" X 12" TEE	EA.	1	
3	12" X 16" TEE	EA.	1	
4	12" GATE VALVES	EA.	4	
5	16" GATE VALVES	EA.	2	
6	12" 45° BENDS WITH THRUST BLOCKS	EA.	2	
7	12" 22.5° BENDS	EA.	4	
8	ENCASEMENTS PER CITY STANDARD DETAIL	L.F.	10	
9	ABANDONED WATER MAIN	L.F.	590	

\* COORDINATION WITH CITY STAFF ON FIRE HYDRANT LOCATION AND QUANTITY.

SUMMARY OF QUANTITIES AS INDICATED ABOVE AND ANY QUANTITIES AS SHOWN WITHIN THE PLANS HAVE BEEN PROVIDED FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR USE IN PREPARATION OF CONTRACT DOCUMENTS. QUANTITIES INTENDED FOR, BUT NOT LIMITED TO, THE PREPARATION OF PROPOSALS AND BID DOCUMENTS SHALL BE INDEPENDENTLY EVALUATED BY THE ESTIMATING PARTY BASED UPON THE CONTENTS OF THESE PLANS.

olsson

7301 West 133rd Street, Suite 200  
Overland Park, KS 66213-4750  
TEL 913.381.1170  
www.olsson.com

STATE OF MISSOURI  
MITCHELL ALAN BLEAK  
Professional Engineer  
NUMBER  
PE-2009016764  
05-8-23

BY

REVISIONS DESCRIPTION

DATE

REV. NO.

REVISIONS

GENERAL NOTES  
WATER MAIN EXTENSION PLANS

MIDWEST CAR WASH  
WATER DISTRICT #7

LEE'S SUMMIT, MO

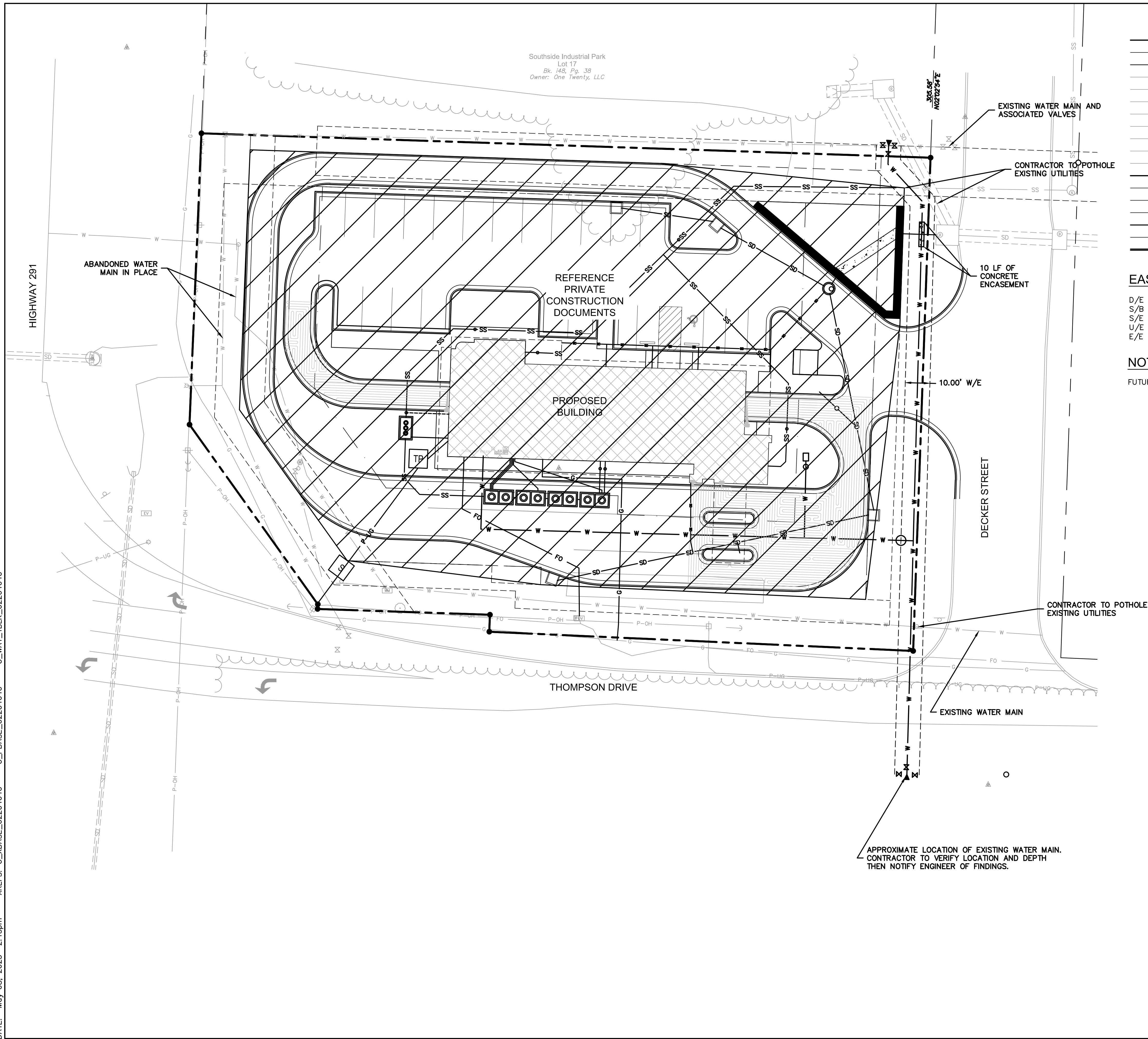
2023

drawn by: \_\_\_\_\_ CAD  
checked by: \_\_\_\_\_ LWM  
approved by: \_\_\_\_\_ MAP  
QA/QC by: \_\_\_\_\_ MAP  
project no.: 022-04040  
drawing no.: C\_WAT\_TTL01\_02204040  
date: \_\_\_\_\_


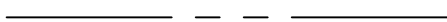
















SHEET  
WM1.01



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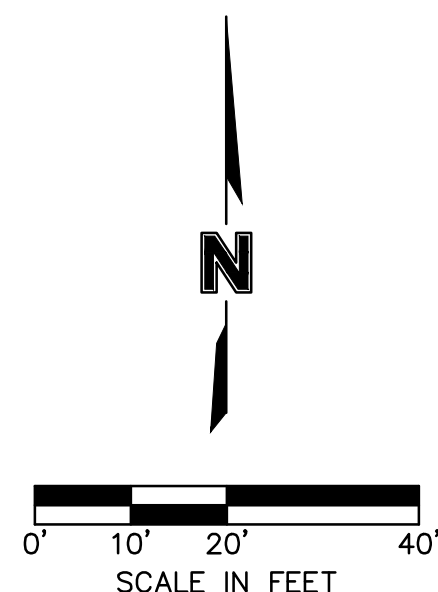
- |   |   |
|---|---|
|            | PROPERTY LINE                           |
|            | INTERNAL LOT LINES                      |
|            | SECTION LINE                            |
|  CATV      | EXISTING CABLE TELEVISION LINES         |
|  FO        | EXISTING FIBER OPTICS                   |
|  TEL       | EXISTING UNDERGROUND COMMUNICATION LINE |
|  G         | EXISTING NATURAL GAS PIPE               |
|  P-OH      | EXISTING OVERHEAD POWER LINE            |
|  P-UG      | EXISTING UNDERGROUND POWER LINE         |
|  SS        | EXISTING SANITARY SEWER                 |
|  W         | EXISTING WATER PIPE                     |
|  <b>W</b>  | PROPOSED WATER PIPE                     |
|  FP        | PROPOSED FIRE PROTECTION LINE           |
|  UGE       | PROPOSED UNDERGROUND ELECTRIC LINE      |
|  G         | PROPOSED GAS LINE                       |
|  <b>SS</b> | PROPOSED PUBLIC SANITARY SEWER MAIN     |
|  SS        | PROPOSED SANITARY SEWER SERVICE LINE    |
|  <b>SD</b> | PROPOSED STORM LINE                     |

### EASEMENT/SETBACK LEGEND

D/E STORM DRAINAGE EASEMENT  
S/B PROPERTY SETBACK  
S/E SANITARY SEWER EASEMENT  
U/E UTILITY EASEMENT  
E/E ELECTRIC EASEMENT

NOTE

FUTURE IMPROVEMENTS ARE SHOWN FOR REFERENCE ONLY.



GENERAL LAYOUT PLAN  
WATER MAIN EXTENSION PLANS

MIDWEST CAR WASH  
WATER DISTRICT #7

LEE'S SUMMIT, MO

2023

REVISIONS

9V

REVISIONS DESCRIPTION

REV.	DATE
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**Olsson**

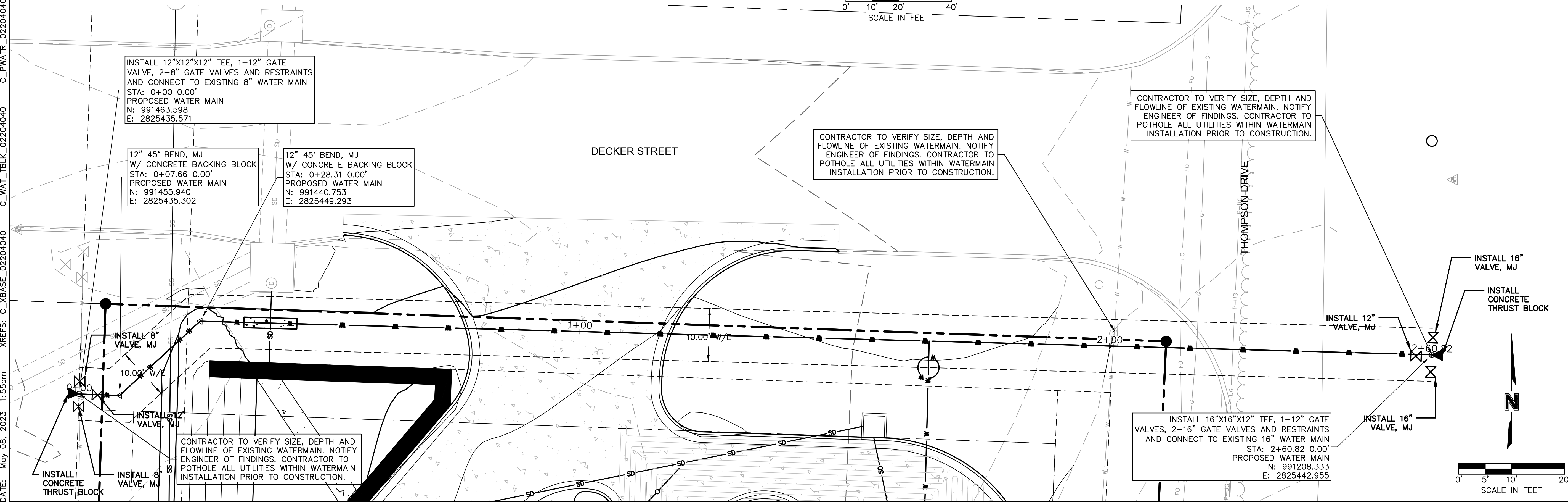
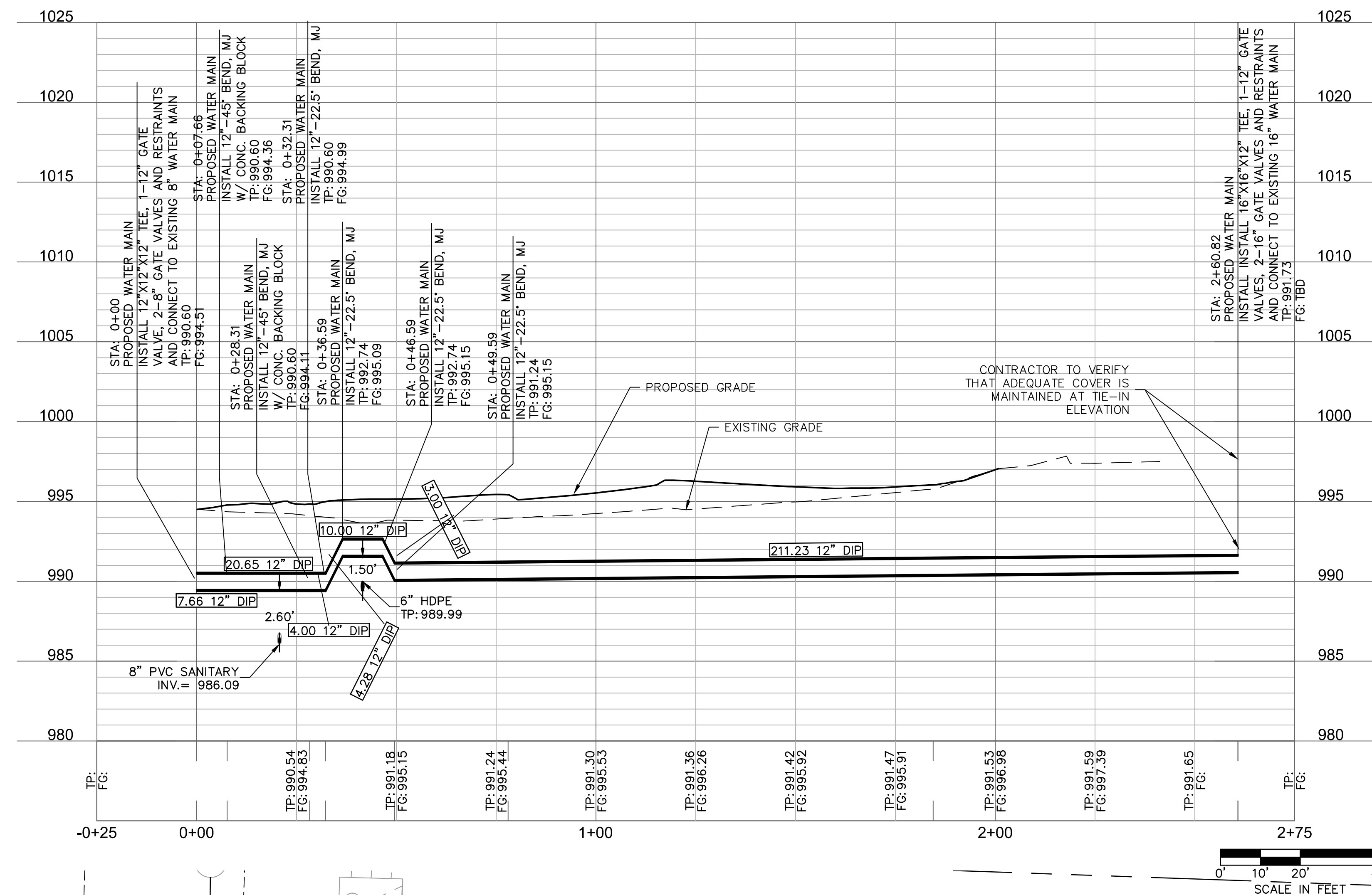
7301 West 133rd Street, Suite 200  
Overland Park, KS 66213-4750  
TEL 913.381.1170 [www.olsson.com](http://www.olsson.com)

SHEET  
WM2.00


























drawn by: \_\_\_\_\_ CAD  
checked by: \_\_\_\_\_ LWM  
approved by: \_\_\_\_\_ MAP  
QA/QC by: \_\_\_\_\_ MAP  
project no.: \_\_\_\_\_ 022-04040  
drawing no.: C\_WAT\_SIT01\_02204040  
date: \_\_\_\_\_



## PROPOSED WATER MAIN (-0+25 - 2+75)



### LEGEND



	PROPERTY LINE
	INTERNAL LOT LINES
	SECTION LINE
 CATV	EXISTING CABLE TELEVISION LINES
 FO	EXISTING FIBER OPTICS
 TEL	EXISTING UNDERGROUND COMMUNICATION LINE
 G	EXISTING NATURAL GAS PIPE
 P-OH	EXISTING OVERHEAD POWER LINE
 P-UG	EXISTING UNDERGROUND POWER LINE
 SS	EXISTING SANITARY SEWER
 W	EXISTING WATER PIPE
 <b>W</b>	 <b>W</b> PROPOSED WATER PIPE
 FP	 FP PROPOSED FIRE PROTECTION LINE
 UGE	 UGE PROPOSED UNDERGROUND ELECTRIC LINE
 G	 G PROPOSED GAS LINE
 <b>SS</b>	 <b>SS</b> PROPOSED PUBLIC SANITARY SEWER MAIN
 <b>SS</b>	 <b>SS</b> PROPOSED SANITARY SEWER SERVICE LINE
 <b>SO</b>	 <b>SO</b> PROPOSED STORM LINE

### EASEMENT/SETBACK LEGEND

D/E STORM DRAINAGE EASEMENT  
S/B PROPERTY SETBACK  
S/E SANITARY SEWER EASEMENT  
U/E UTILITY EASEMENT  
E/E ELECTRIC EASEMENT

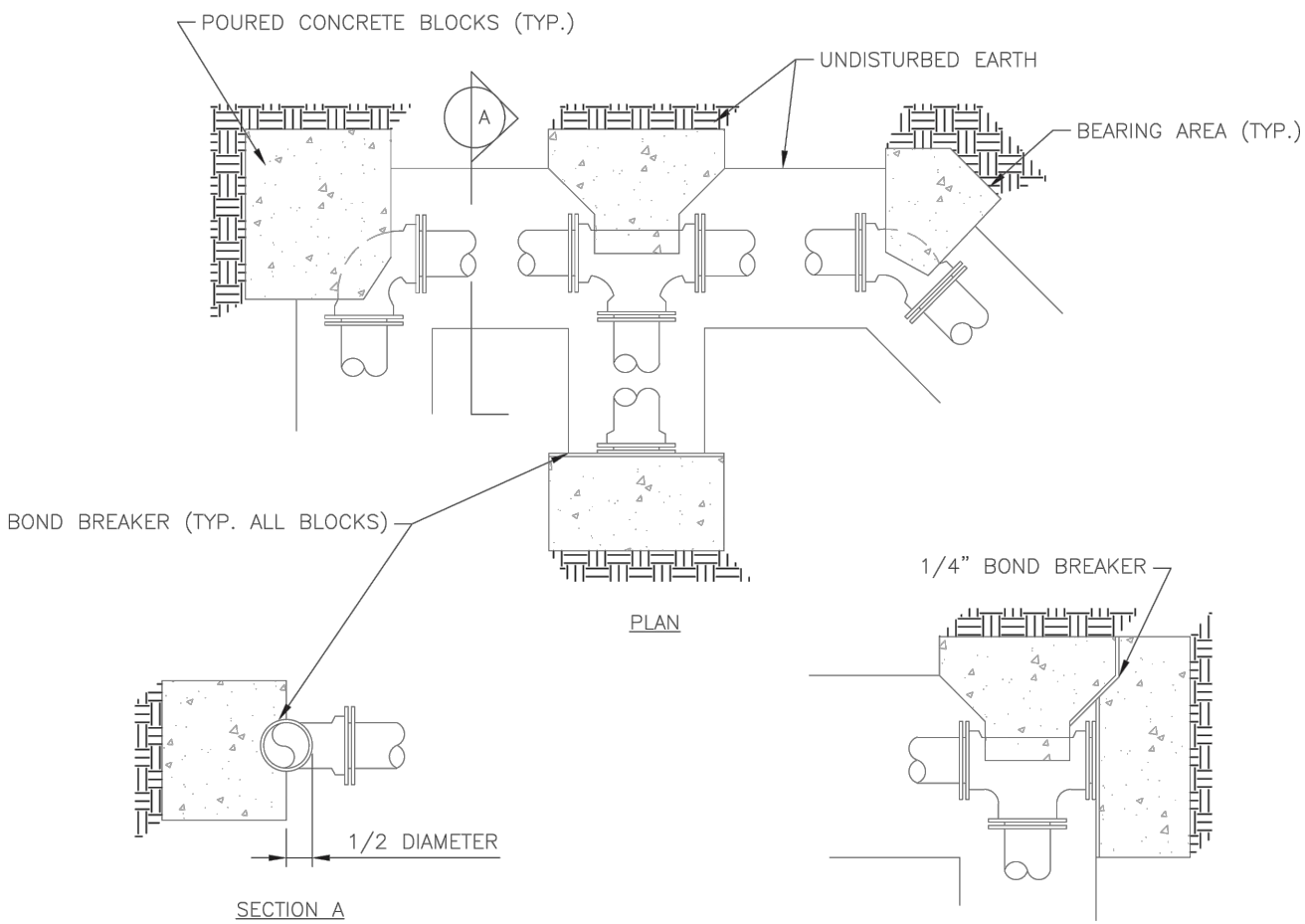
NOTE

1. FUTURE IMPROVEMENTS ARE SHOWN FOR REFERENCE ONLY.
2. MAINTAIN 42" MINIMUM COVER
3. VERTICAL BENDS NOT SHOWN IN PLANN VIEW.  
CONTRACTOR RO INSTALL AS NECESSARY TO MAINTAIN MINIMUM COVER AND AVOID CONFLICTS WITH OTHER UTILITIES.
4. ALL MJ FITTING JOINTS ARE TO BE RESTRAINED PER CITY STANDARDS
5. CONTRACTOR TO COORDINATE WATERLINE SHUTDOWN WITH CITY OF LEE SUMMIT.
6. PIPE DEFLECTION SHALL NOT EXCEED DEFLECTION LIMITS LISTED IN AWWA C600.

<div style="text-align: right;">  </div>						7301 West 133rd Street, Suite 200 Overland Park, KS 66213-4750 TEL 913.381.1170    www.olsson.com					
											
				REV.	DATE	REVISIONS DESCRIPTION	BY				
								<b>REVISIONS</b>			
<b>##### WATER MAIN EXTENSION PLANS</b>						<b>2023</b>					
<b>MIDWEST CAR WASH WATER DISTRICT #7</b>						<b>LEE'S SUMMIT, MO</b>					
drawing by: _____ CAD checked by: _____ LWM approved by: _____ MAP QA/QC by: _____ MAP project no.: 022-04040 drawing no.: C_WAT_UTL01-02204040 date: _____											
<b>SHEET</b> <b>#####</b>											



REQUIRED CONCRETE BEARING AREA (SQUARE FEET - SF)					
NOM. DIA. (INCHES)	180 TEE, PLUG	90 BEND	45 BEND	22.5 BEND	11.25 BEND
6	4.7	6.7	4.0	4.0	4.0
8	8.4	11.8	6.4	4.0	4.0
10	13.1	18.5	10.0	5.1	4.0
12	18.8	26.7	14.4	7.4	4.0
14	25.7	36.3	19.6	10.0	5.0
16	33.5	47.4	25.6	13.1	6.6
18	42.4	REST. JT.	32.5	16.5	8.3
20	REST. JT.	REST. JT.	40.1	20.4	10.3
24	REST. JT.	REST. JT.	REST. JT.	29.4	14.8

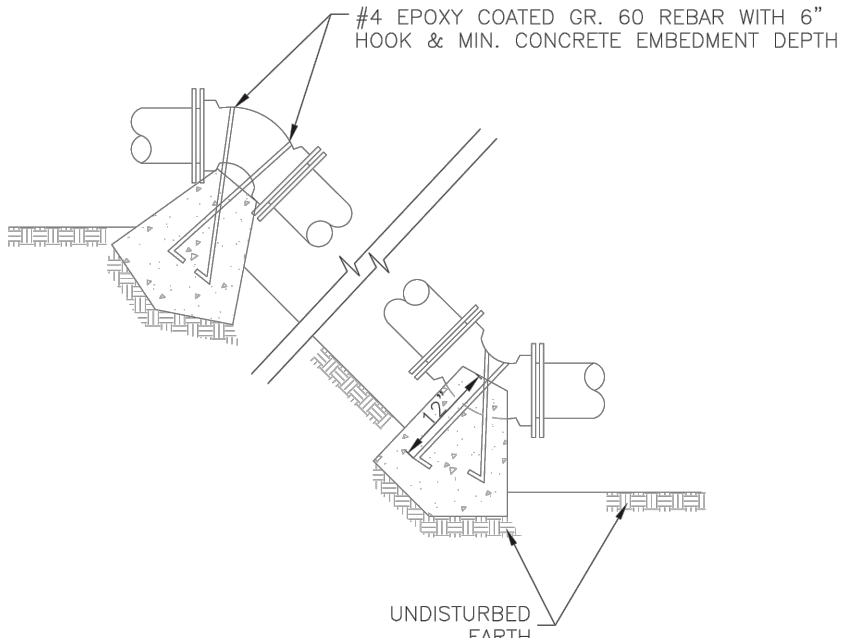


- NOTES:
1. ALL BENDS WITHOUT RESTRAINED JOINTS SHALL HAVE CONCRETE THRUST BLOCKS INSTALLED FOR RESTRAINT.
  2. MEGA LUGS MAY BE USED ONLY IN CONJUNCTION WITH CONCRETE THRUST BLOCKING.
  3. BEARING AREA MUST BE AGAINST UNDISTURBED SOIL.
  4. DO NOT COVER JOINTS OR BOLTS (WHERE APPLICABLE) WITH CONCRETE.



Date: 01/2016  
Drawn By: JN  
Checked By: DL  
WAT-1

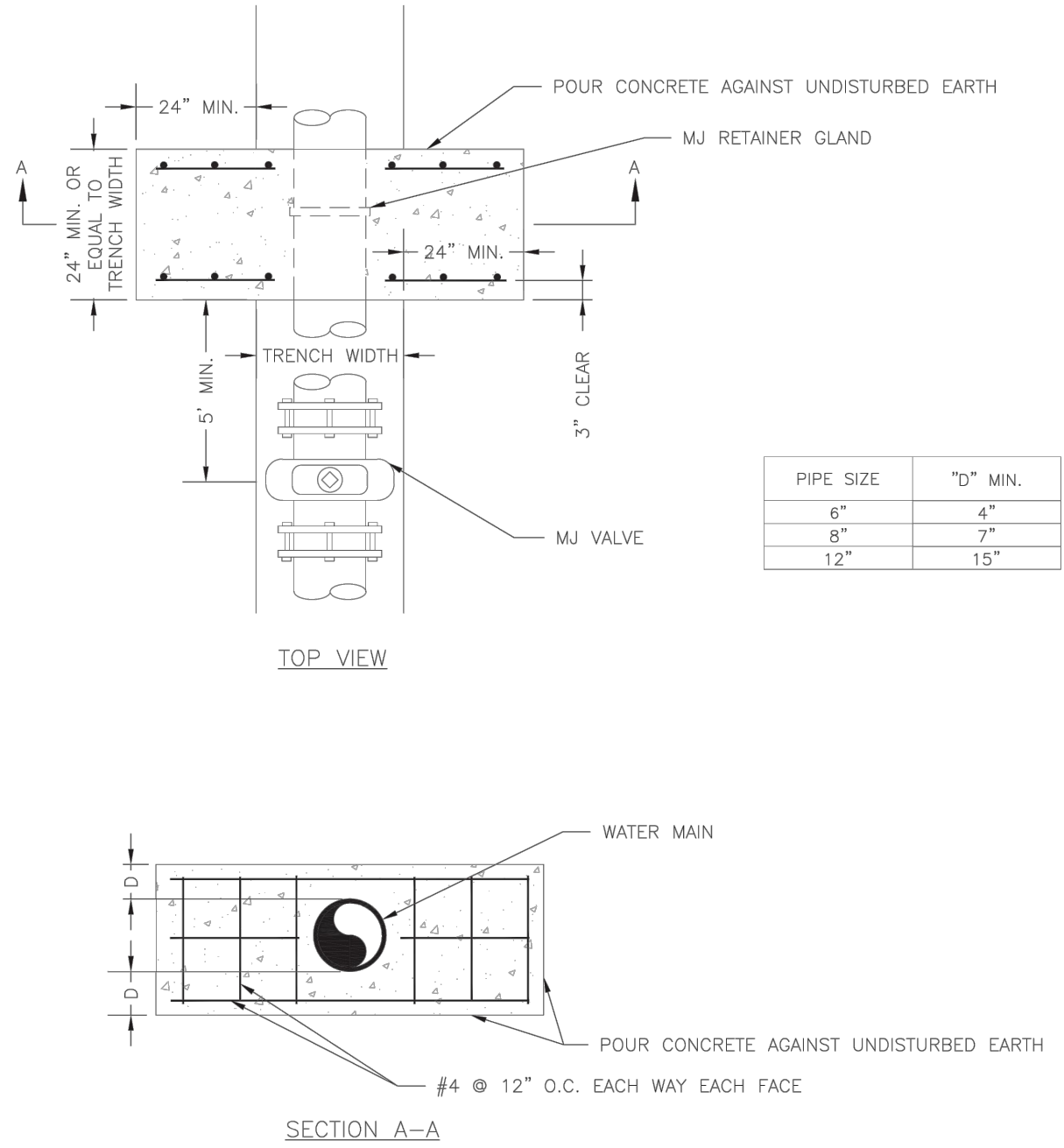
REQUIRED CONCRETE VOLUME (CUBIC FEET - CF)					
NOM. DIA. (INCHES)	180 TEE, PLUG	90 BEND	45 BEND	22.5 BEND	11.25 BEND
6	50.5	71.4	38.6	19.7	9.9
8	89.8	126.9	68.7	35.0	17.6
10	140.2	198.3	107.3	54.7	27.5
12	202.0	REST. JT.	154.6	78.8	39.6
14	REST. JT.	REST. JT.	210.4	107.3	53.9
16	REST. JT.	REST. JT.	REST. JT.	140.1	70.4
18	REST. JT.	REST. JT.	REST. JT.	177.3	89.1
20	REST. JT.	REST. JT.	REST. JT.	REST. JT.	110.0
24	REST. JT.	REST. JT.	REST. JT.	REST. JT.	158.4



- NOTES:
1. ALL BENDS WITHOUT RESTRAINED JOINTS SHALL HAVE CONCRETE THRUST BLOCKS INSTALLED FOR RESTRAINT.
  2. MEGA LUGS MAY BE USED ONLY IN CONJUNCTION WITH CONCRETE THRUST BLOCKING.
  3. BEARING MUST BE AGAINST UNDISTURBED SOIL.
  4. DO NOT COVER JOINTS OR BOLTS (WHERE APPLICABLE) WITH CONCRETE.



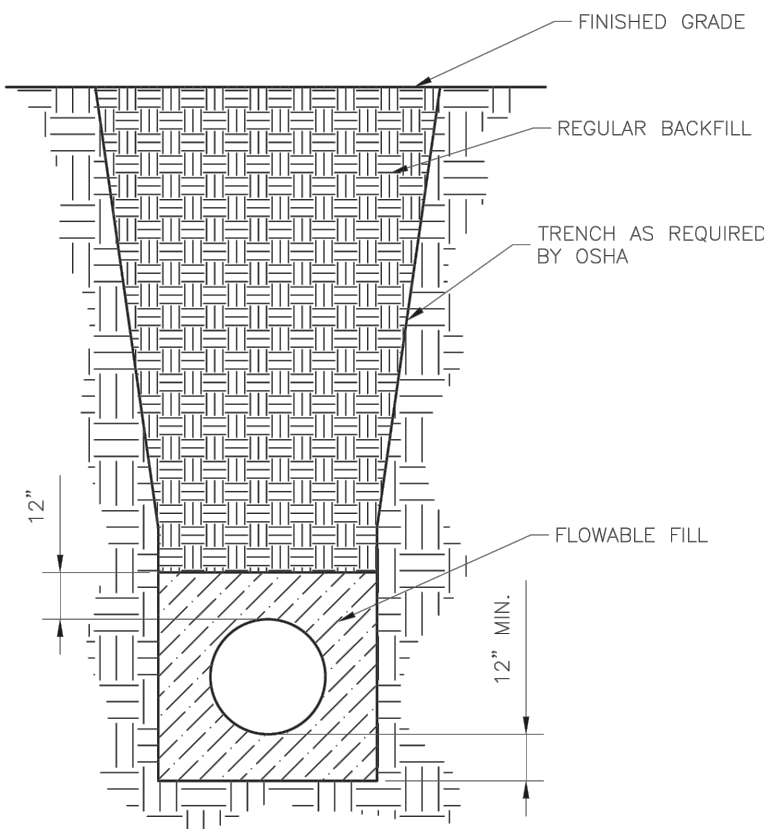
Date: WAT-2  
Drawn By: JN  
Checked By: DL  
WAT-2



NOTE:  
THIS DETAIL NOT TO BE USED FOR PIPE GREATER THAN 12"



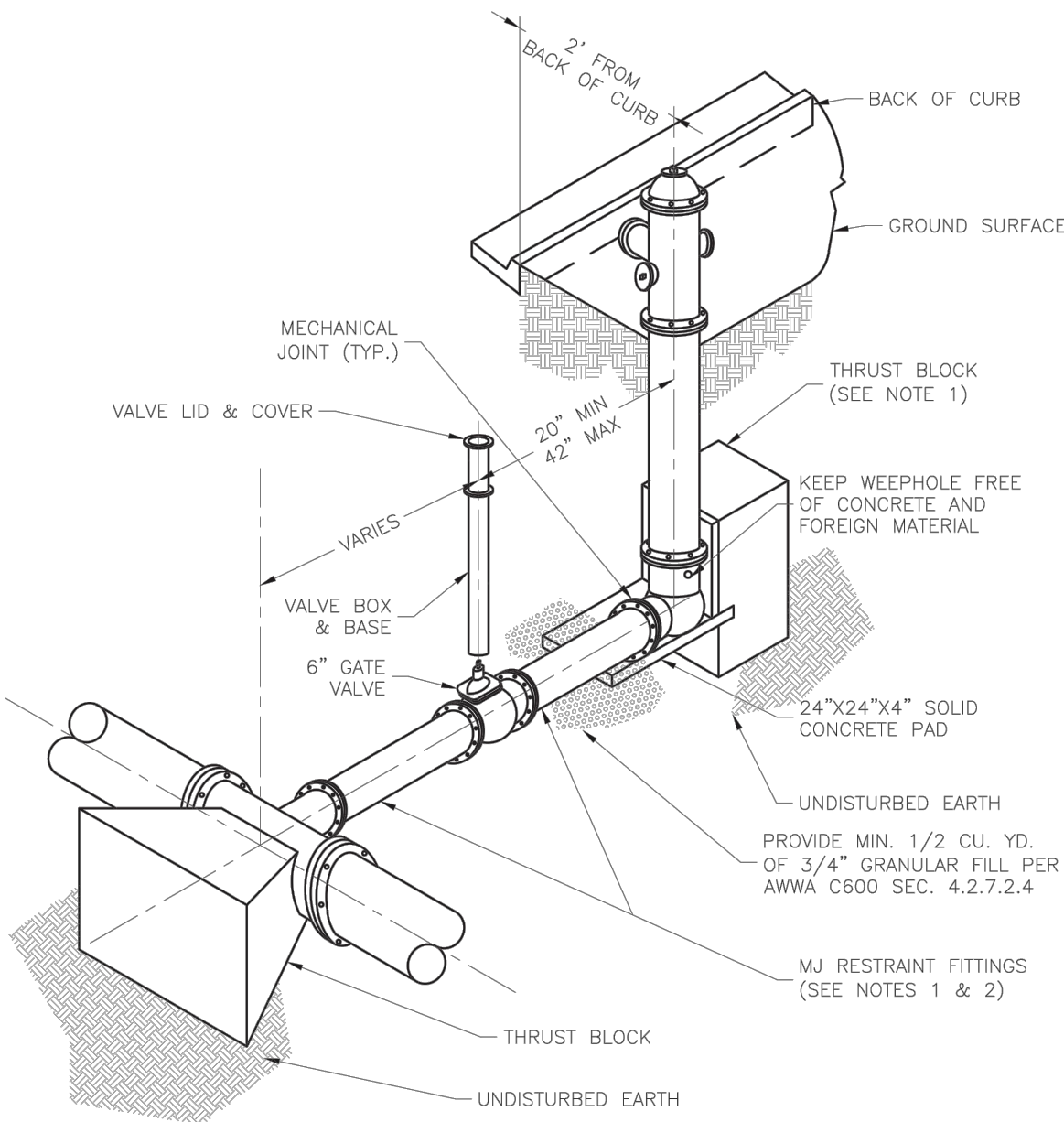
Date: 01/2016  
Drawn By: JN  
Checked By: DL  
WAT-3



- NOTES:
1. FLOWABLE FILL SHALL MEET THE REQUIREMENTS OF THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL.
  2. REGULAR BACKFILL ABOVE THE TRENCH CHECK SHALL BE FREE OF DEBRIS, ORGANIC MATTER, AND STONES > 6" IN ANY DIMENSION.
  3. TOP OF FLOWABLE BACKFILL SHALL EXTEND 12" ABOVE THE TOP OF THE PIPE.
  4. LENGTH OF TRENCH CHECK SHALL BE A MINIMUM OF 12".



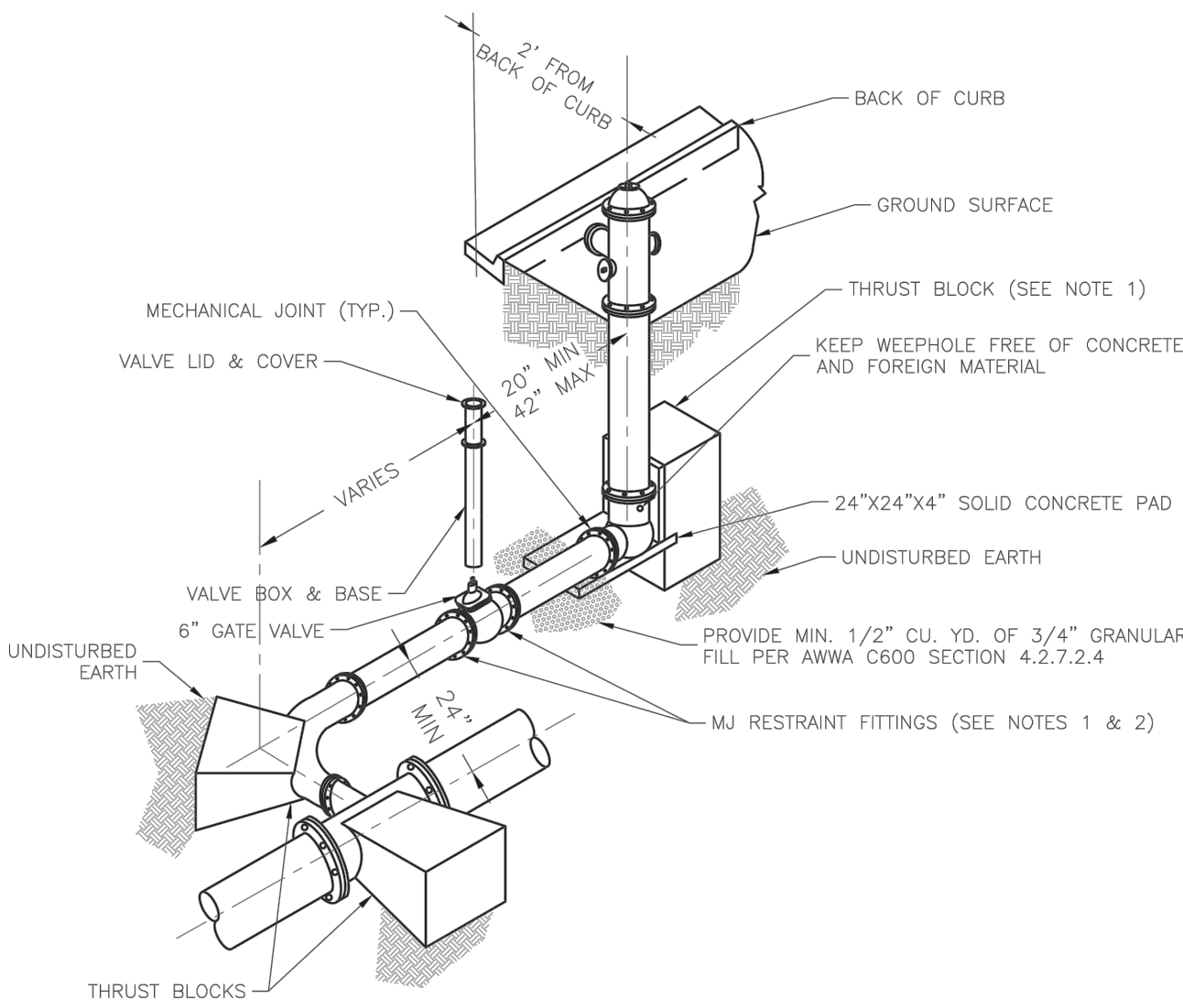
Date: 01/2016  
Drawn By: JN  
Checked By: DL  
WAT-6



- NOTES:
1. WHEN RETAINER GLANDS ARE USED IN LIEU OF MECHANICAL JOINT (MJ) RESTRAINT FITTINGS, HORIZONTAL THRUST BLOCKS ARE REQUIRED.
  2. GATE VALVE MAY BE BOLTED DIRECTLY TO MJ RESTRAINT TEE.
  3. SEE APPROVED PRODUCTS LIST FOR WATER UTILITIES FOR FIRE HYDRANT, VALVES, VALVE BOX LID, AND COVER.
  4. BOTTOM HYDRANT FLANGE SHALL BE 2" TO 6" ABOVE FINISHED GRADE.
  5. FOR STREETS WITHOUT CURBS FIRE HYDRANTS SHALL BE PLACED WITHIN 1 FOOT OF THE R/W LINE, BUT NOT MORE THAN 10' FROM EDGE OF PAVEMENT. FIRE HYDRANT SHALL NOT BE PLACED IN BOTTOM OF DITCH.
  6. HYDRANT SHALL BE ROTATED AS DIRECTED BY INSPECTOR.



Date: 01/2016  
Drawn By: JN  
Checked By: DL  
WAT-7



- NOTES:
1. WHEN RETAINER GLANDS ARE USED IN LIEU OF MECHANICAL JOINT (MJ) RESTRAINT FITTINGS, HORIZONTAL THRUST BLOCKS ARE REQUIRED.
  2. GATE VALVE MAY BE BOLTED DIRECTLY TO MJ RESTRAINT TEE.
  3. SEE APPROVED PRODUCTS LIST FOR WATER UTILITIES FOR FIRE HYDRANT, VALVES, VALVE BOX LID, AND COVER.
  4. BOTTOM HYDRANT FLANGE SHALL BE 2" TO 6" ABOVE FINISHED GRADE.
  5. FOR STREETS WITHOUT CURBS FIRE HYDRANTS SHALL BE PLACED WITHIN 1 FOOT OF THE R/W LINE, BUT NOT MORE THAN 10' FROM EDGE OF PAVEMENT. FIRE HYDRANT SHALL NOT BE PLACED IN BOTTOM OF DITCH.
  6. HYDRANT SHALL BE ROTATED AS DIRECTED BY INSPECTOR.



Date: 01/2016  
Drawn By: JN  
Checked By: DL  
WAT-8

DETAILS SHEET  
WATER MAIN EXTENSION PLANS

MIDWEST CAR WASH  
WATER DISTRICT #7

LEE'S SUMMIT, MO

2023

drawn by: \_\_\_\_\_ CAD  
checked by: \_\_\_\_\_ LWM  
approved by: \_\_\_\_\_ MAP  
QA/QC by: \_\_\_\_\_ MAP  
project no.: 022-04040  
drawing no.: C\_WAT\_TTL01\_02204040  
date: \_\_\_\_\_

SHEET  
WM4.00

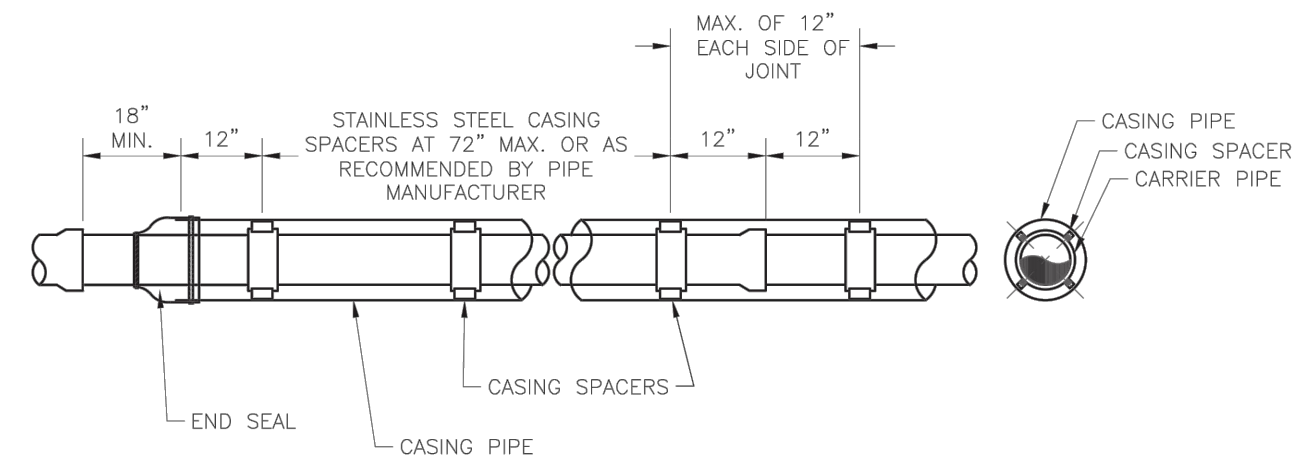


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REVISIONS





## NOTES

- NOTES:  
1. REFER TO SPECIFICATION SECTION 3900 FOR ADDITIONAL INFORMATION.  
2. LENGTH, DIAMETER, AND WALL THICKNESS TO BE SHOWN ON CONSTRUCTION PLANS.



**LEE'S SUMMIT**  
MISSOURI

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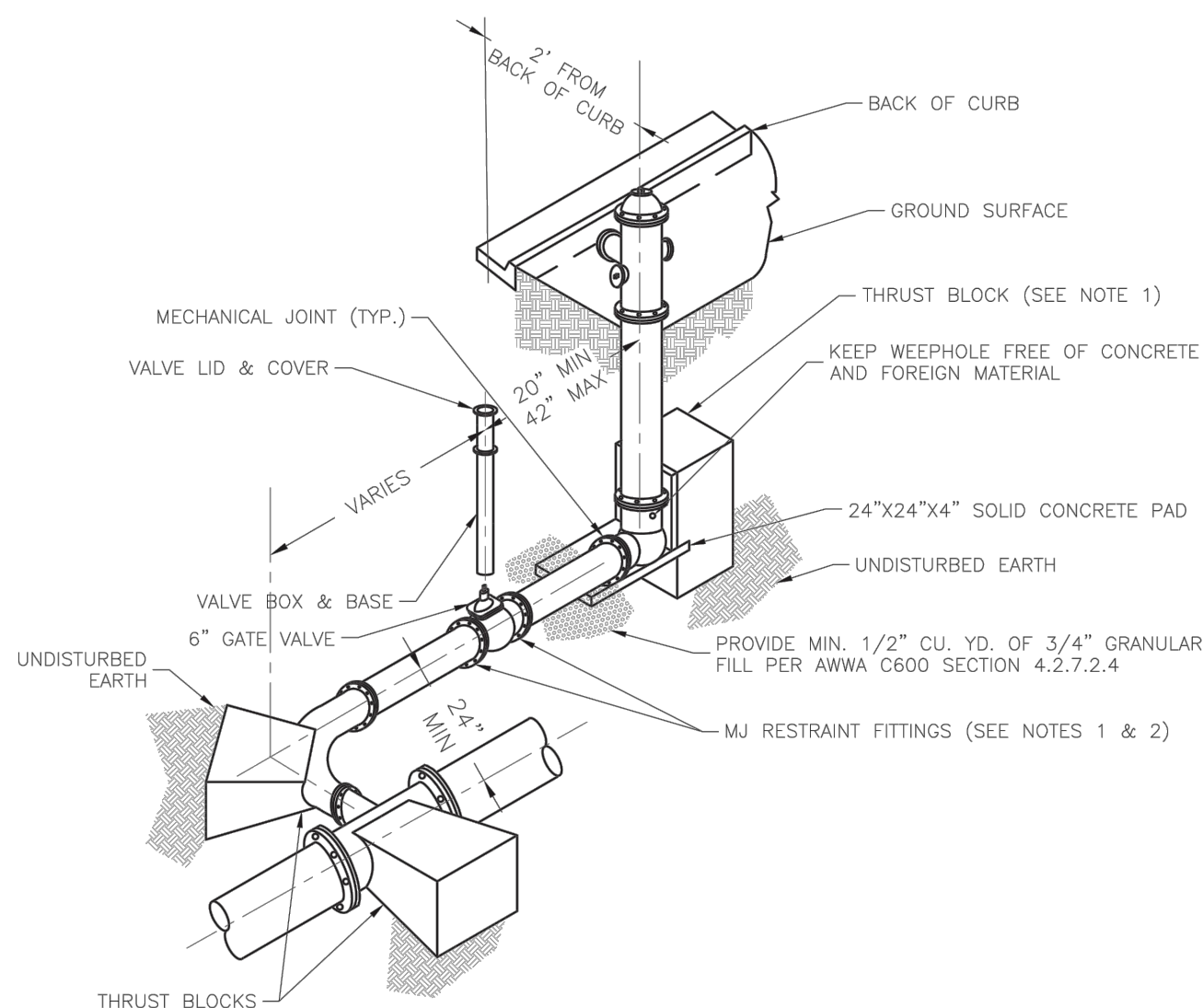
### WATER CASING PIPE DETAIL

Date: 01/2016

Drawn By: JN

Checked By: D

WAT-5



NOTES:

1. WHEN RETAINER GLANDS ARE USED IN LIEU OF MECHANICAL JOINT (MJ) RESTRAINT FITTINGS, HORIZONTAL THRUST BLOCKS ARE REQUIRED.
2. GATE VALVE MAY BE BOLTED DIRECTLY TO MJ RESTRAINT TEE.
3. SEE APPROVED PRODUCTS LIST FOR WATER UTILITIES FOR FIRE HYDRANT, VALVES, VALVE BOX LID, AND COVER.
4. BOTTOM HYDRANT FLANGE SHALL BE 2" TO 6" ABOVE FINISHED GRADE.
5. FOR STREETS WITHOUT CURBS FIRE HYDRANTS SHALL BE PLACED WITHIN 1 FOOT OF THE R/W LINE, BUT NOT MORE THAN 10' FROM EDGE OF PAVEMENT. FIRE HYDRANT SHALL NOT BE PLACED IN BOTTOM OF DITCH.
6. HYDRANT SHALL BE ROTATED AS DIRECTED BY INSPECTOR.



**LEE'S SUMMIT**  
MISSOURI

PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

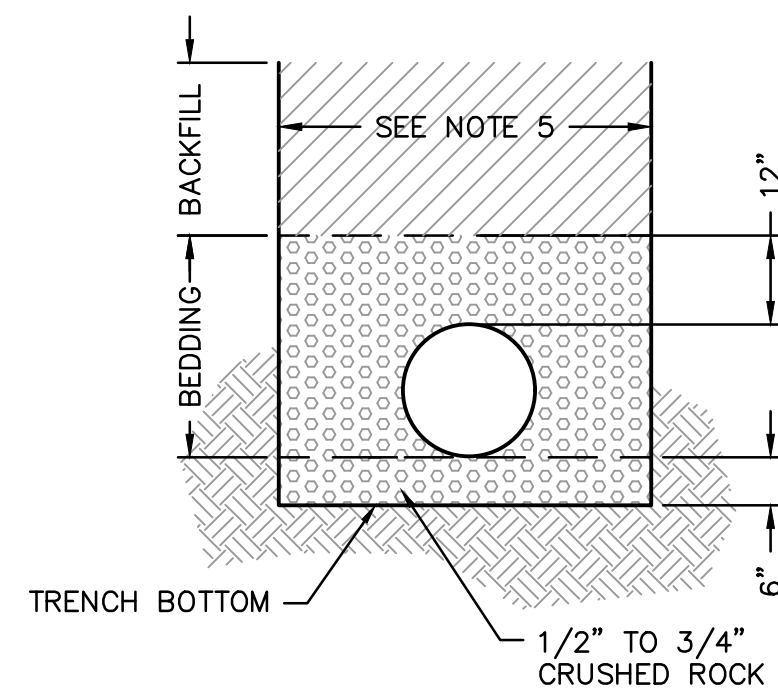
HYDRANT WITH 90 DEGREE BEND

Date: 01/2016

Drawn By: JN

Checked By: D

WAT-8



### TYPICAL TRENCH SECTION

NOTES:

1. BELL HOLES SHALL BE DUG SO THAT NO PART OF THE BELL SHALL BE IN CONTACT WITH THE TRENCH BOTTOM.
2. BEDDING AGGREGATE MATERIAL SHALL BE PER SECTION 6900 AND 2102 OF THE CITY DESIGN AND CONSTRUCTION MANUAL. BEDDING AGGREGATE SHALL BE PLACED FROM A LEVEL 6 INCHES BELOW THE BOTTOM OF THE PIPE TO A LEVEL 12 INCHES ABOVE THE TOP OF THE PIPE AS SHOWN ABOVE.
3. BACKFILL MATERIAL AND PLACEMENT SHALL BE PER SECTION 6900 AND 2102 OF THE CITY DESIGN AND CONSTRUCTION MANUAL.
4. TRENCHING SHALL BE IN ACCORDANCE WITH CURRENT OSHA REGULATIONS. SLOPES MUST NOT EXTEND BELOW TOP OF BEDDING.
5. MINIMUM AND MAXIMUM TRENCH WIDTHS SHALL BE IN ACCORDANCE WITH PIPE MANUFACTURERS RECOMMENDATION AS APPROVED ON ENGINEERING PLANS.

## UNDERGROUND PIPE INSTALLATION FOR WATER PIPING

NOT TO SCALE

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## REVISIONS

DETAILS SHEET  
WATER MAIN EXTENSION PLANS

MIDWEST CAR WASH  
WATER DISTRICT #7

LEE'S SUMMIT, MO

2023

drawn by: \_\_\_\_\_ CAD  
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date:

SHEET  
WM4.01