

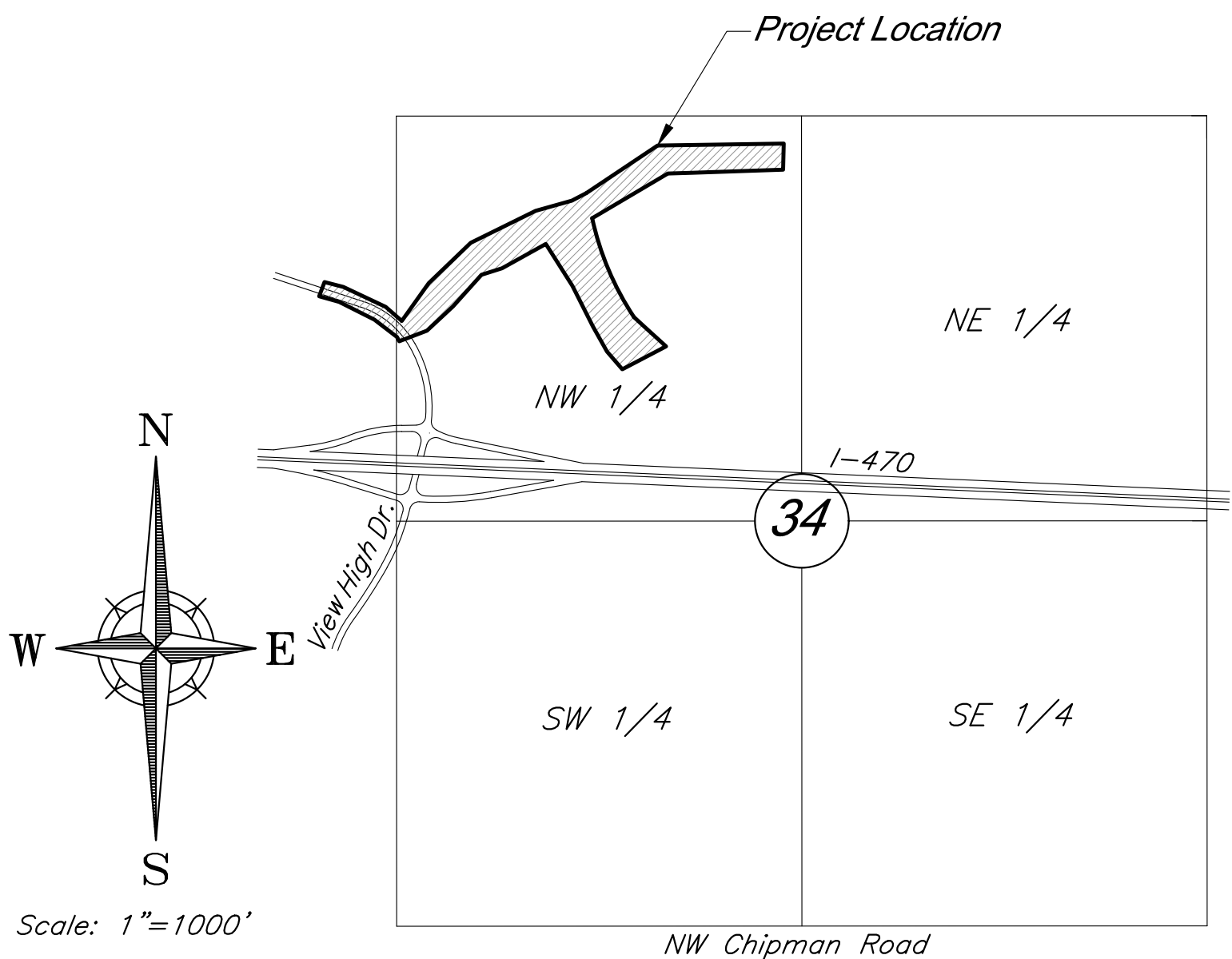
WATER MAIN EXTENSION PLANS
FOR
PARAGON STAR DEVELOPMENT
Sections 33–Township 48–Range 32
City of Kansas City
Jackson County, Missouri

INDEX OF SHEETS

<i>Sht. No.</i>	<i>Description</i>
1	Title Sheet
2	General Layout
3-4	Water Main Plan & Profiles - Line A
5-6	Water Main Plan & Profiles - Line B
7-8	Water Main Plan & Profiles - Line C
9-10	Water Main Details

WATER MAIN SYMBOLS

	NEW	EXISTING	
Water Mains			Other Utilities (Underground Unless Indicated Otherwise)
Encasement Pipe			Underground Cable Television — UGC —
Fire Hydrant Assembly			Underground Electrical Power — UGE —
Backing Block			Underground Telephone — UGT —
Straddle Block			Overhead Electrical Power — OHP —
Valves			Natural Gas — GAS —
Blowoff Assembly or Flushing Assembly			Manhole — S —
Tapping Sleeve and Valve			Sanitary Sewer — SAN —
Air Release Valve			Storm Sewer — ST —
Reducer			Power Pole
Tee			Street Light
Plug			Curb Inlet
Service Lines			Telephone Vault
Connection			Test Borings
Curb Stop			Refusal
Meter			No Refusal
Easements			



VICINITY MAP
Section 33 & 34-T48N-R32W

DEVELOPED AND OWNED BY:
PARAGON STAR LLC
801 NORTHWEST COMMERCE CENTER
LEE'S SUMMIT, MISSOURI 64086
PHONE: (816) 802-6801
CONTACT: Mr. Flip Short
EMAIL: fshort@legacytouch.com

PREPARED & SUBMITTED BY:
GEORGE BUTLER ASSOCIATES, INC.
9801 RENNER BOULEVARD
LENEXA, KANSAS 66219
PHONE: 913-492-0400
FAX: 913-577-8312
CONTACT: BRAD BURTON P.E.
EMAIL: BBURTON@GBATEAM.COM

APPROVED:

Acting Assistant Director for
Acting Director
Water Services Department

DATE:

UTILITY COMPANIES

Kansas City, MO Pollution Control Department	(816) 513-2178
Kansas City, MO Public Works Department	(816) 513-2600
Kansas City, MO Water Services Department	(816) 513-2215
Kansas City Power and Light Company	(816) 556-2200
The Gas Service Company	(816) 756-5261
Southwestern Bell Telephone Company	(816) 275-8337
Missouri State Highway Department	(816) 622-6500
Missouri One Call System	1-800-DIG-RITE
George Butler Associates(GBA)	(913) 492-0400

PROJECT BENCHMARK:

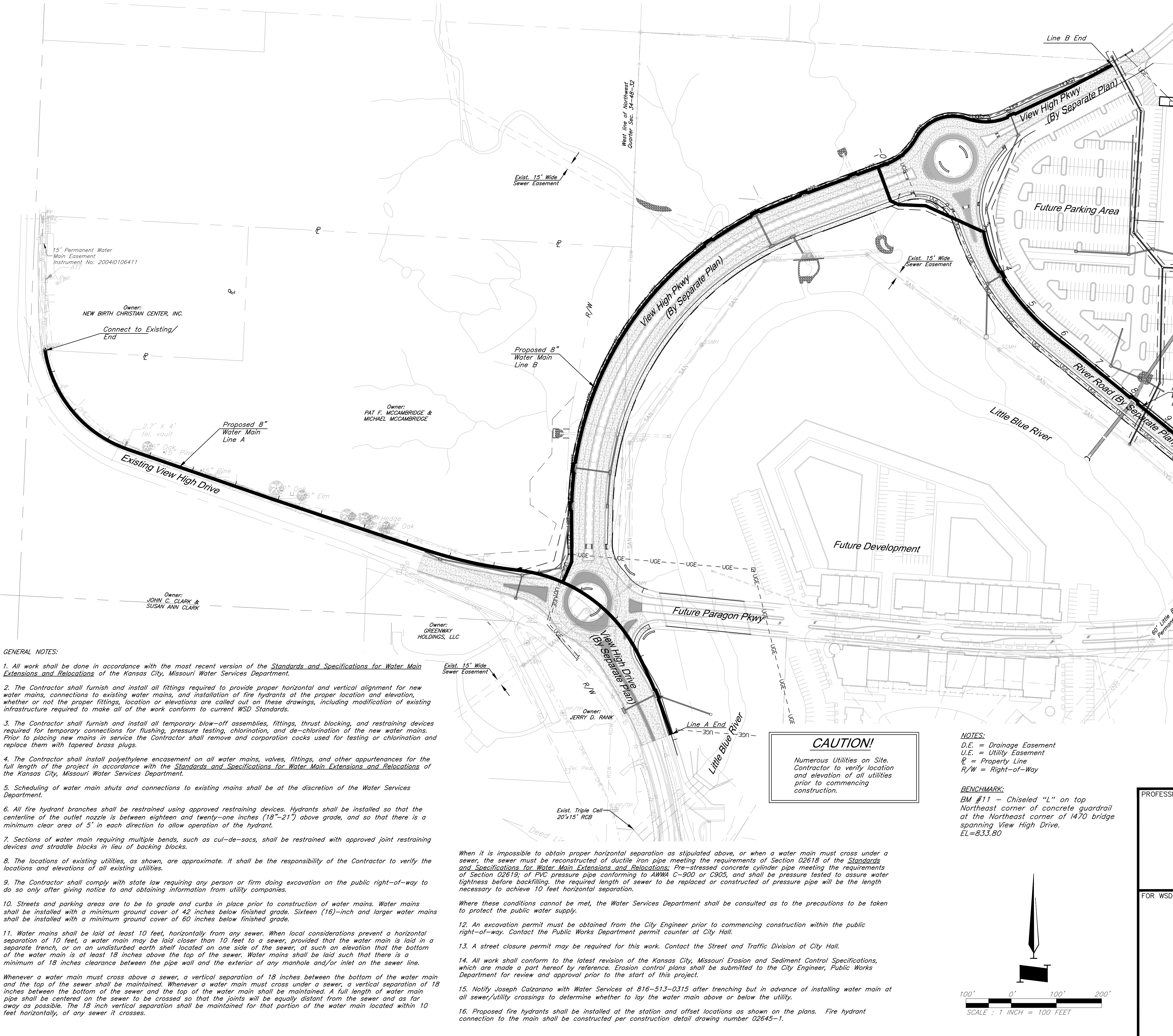
BM #11 – Chiseled "L" on top
Northeast corner of concrete guardrail
at the Northeast corner of I470 bridge
spanning View High Drive.
EL=833.80

GBA
architects
engineers

9801 Renner Boulevard
Lenexa, Kansas 66219
913.492.0400
www.gbateam.com

PROFESSIONAL ENGINEER SEAL		KANSAS CITY, MISSOURI, WATER SERVICES DEPARTMENT					
		WATER MAIN EXTENSION					
		8" WATER MAIN EXTENSION FOR PARAGON STAR KANSAS CITY, JACKSON COUNTY, MISSOURI					
FOR WSD USE							
DRAWN BY: CEL/DRV	CHKD BY: CEL	DATE SUBMITTED	RANGE 32W	TWP 48N	SEC 33		
CONTRACTOR				DATE COMPLETED			
CONTRACT NO.	CON. DATE	MAP NO.	WORK ORDER NO.	DWG NO.			
PROJECT NO.			Sheet 1 of 10				

C:\12720\Civil\3D\Production Drawings\Water Main Plans\KCMO\1272002020.dwg Layout: 2 General Layout --- Thursday, January 17, 2019, 8:29am --- Copyright 2019, George Butler Associates/Effect 002122, Professional Engineer 000205, Professional Land Surveyor 000269



GENERAL NOTES:

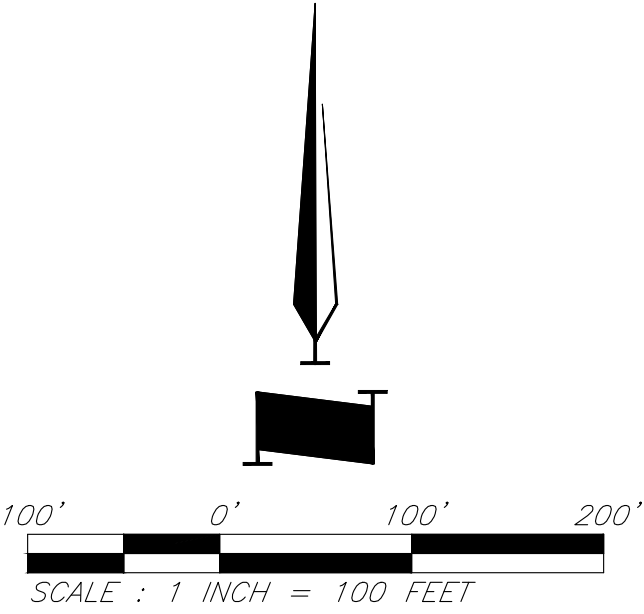
1. All work shall be done in accordance with the most recent version of the Standards and Specifications for Water Main Extensions and Relocations of the Kansas City, Missouri Water Services Department.
2. The Contractor shall furnish and install all fittings required to provide proper horizontal and vertical alignment for new water mains, connections to existing water mains, and installation of fire hydrants at the proper location and elevation, whether or not the proper fittings, location or elevations are called out on these drawings, including modification of existing infrastructure required to make all of the work conform to current WSD Standards.
3. The Contractor shall furnish and install all temporary blow-off assemblies, fittings, thrust blocking, and restraining devices required for temporary connections for flushing, pressure testing, chlorination, and de-chlorination of the new water mains. Prior to placing new mains in service the Contractor shall remove and corporation cocks used for testing or chlorination and replace them with tapered brass plugs.
4. The Contractor shall install polyethylene encasement on all water mains, valves, fittings, and other appurtenances for the full length of the project in accordance with the Standards and Specifications for Water Main Extensions and Relocations of the Kansas City, Missouri Water Services Department.
5. Scheduling of water main shuts and connections to existing mains shall be at the discretion of the Water Services Department.
6. All fire hydrant branches shall be restrained using approved restraining devices. Hydrants shall be installed so that the centerline of the outlet nozzle is between eighteen and twenty-one inches (18"-21") above grade, and so that there is a minimum clear area of 5' in each direction to allow operation of the hydrant.
7. Sections of water main requiring multiple bends, such as cul-de-sacs, shall be restrained with approved joint restraining devices and straddle blocks in lieu of backing blocks.
8. The locations of existing utilities, as shown, are approximate. It shall be the responsibility of the Contractor to verify the locations and elevations of all existing utilities.
9. The Contractor shall comply with state law requiring any person or firm doing excavation on the public right-of-way to do so only after giving notice to and obtaining information from utility companies.
10. Streets and parking areas are to be to grade and curbs in place prior to construction of water mains. Water mains shall be installed with a minimum ground cover of 42 inches below finished grade. Sixteen (16)-inch and larger water mains shall be installed with a minimum ground cover of 60 inches below finished grade.
11. Water mains shall be laid at least 10 feet, horizontally from any sewer. When local considerations prevent a horizontal separation of 10 feet, a water main may be laid closer than 10 feet to a sewer, provided that the water main is laid in a separate trench, or on an undisturbed earth shelf located on one side of the sewer, at such an elevation that the bottom of the water main is at least 18 inches above the top of the sewer. Water mains shall be laid such that there is a minimum of 18 inches clearance between the pipe wall and the exterior of any manhole and/or inlet on the sewer line.

Whenever a water main must cross above a sewer, a vertical separation of 18 inches between the bottom of the water main and the top of the sewer shall be maintained. Whenever a water main must cross under a sewer, a vertical separation of 18 inches between the bottom of the sewer and the top of the water main shall be maintained. A full length of water main pipe shall be centered on the sewer to be crossed so that the joints will be equally distant from the sewer and as far away as possible. The 18 inch vertical separation shall be maintained for that portion of the water main located within 10 feet horizontally, of any sewer it crosses.

- When it is impossible to obtain proper horizontal separation as stipulated above, or when a water main must cross under a sewer, the sewer must be reconstructed of ductile iron pipe meeting the requirements of Section 02618 of the Standards and Specifications for Water Main Extensions and Relocations; Pre-stressed concrete cylinder pipe meeting the requirements of Section 02619; or PVC pressure pipe conforming to AWWA C-900 or C905, and shall be pressure tested to assure water tightness before backfilling, the required length of sewer to be replaced or constructed of pressure pipe will be the length necessary to achieve 10 feet horizontal separation.
- Where these conditions cannot be met, the Water Services Department shall be consulted as to the precautions to be taken to protect the public water supply.
12. An excavation permit must be obtained from the City Engineer prior to commencing construction within the public right-of-way. Contact the Public Works Department permit counter at City Hall.
 13. A street closure permit may be required for this work. Contact the Street and Traffic Division at City Hall.
 14. All work shall conform to the latest revision of the Kansas City, Missouri Erosion and Sediment Control Specifications, which are made a part hereof by reference. Erosion control plans shall be submitted to the City Engineer, Public Works Department for review and approval prior to the start of this project.
 15. Notify Joseph Calzarano with Water Services at 816-513-0315 after trenching but in advance of installing water main at all sewer/utility crossings to determine whether to lay the water main above or below the utility.
 16. Proposed fire hydrants shall be installed at the station and offset locations as shown on the plans. Fire hydrant connection to the main shall be constructed per construction detail drawing number 02645-1.

CAUTION!
Numerous Utilities on Site.
Contractor to verify location and elevation of all utilities prior to commencing construction.

- NOTES:**
D.E. = Drainage Easement
U.E. = Utility Easement
R = Property Line
R/W = Right-of-Way
- BENCHMARK:**
BM #11 - Chiseled "L" on top Northeast corner of concrete guardrail at the Northeast corner of I470 bridge spanning View High Drive.
EL=833.80



DATE:1-18-19

DESIGN BY:CEL

DRAWN BY:DRV

PROJECT NO.:12720

SHEET NO.

TOTAL SHEETS

2

10

GBA

architects

engineers

9801 Renner Boulevard
Lenexa, Kansas 66219
913.492.0400
www.gbateam.com

Bradley D. Burton
Professional Engineer
License No. 25862

Water Main Extension Plans
Paragon Star Development
Kansas City, Missouri

NO.

DATE

REVISIONS

BY

APPROVED

PROFESSIONAL ENGINEER SEAL

FOR WSD USE

KANSAS CITY, MISSOURI, WATER SERVICES DEPARTMENT

WATER MAIN EXTENSION

8" WATER MAIN EXTENSION
FOR PARAGON STAR
KANSAS CITY, JACKSON COUNTY, MISSOURI

DRAWN BY:CEL/DRV

CHKD BY:CEL

DATE SUBMITTED

RANGE32W

TWP48N

SEC33

CONTRACTOR

DATE COMPLETED

CONTRACT NO.

CON. DATE

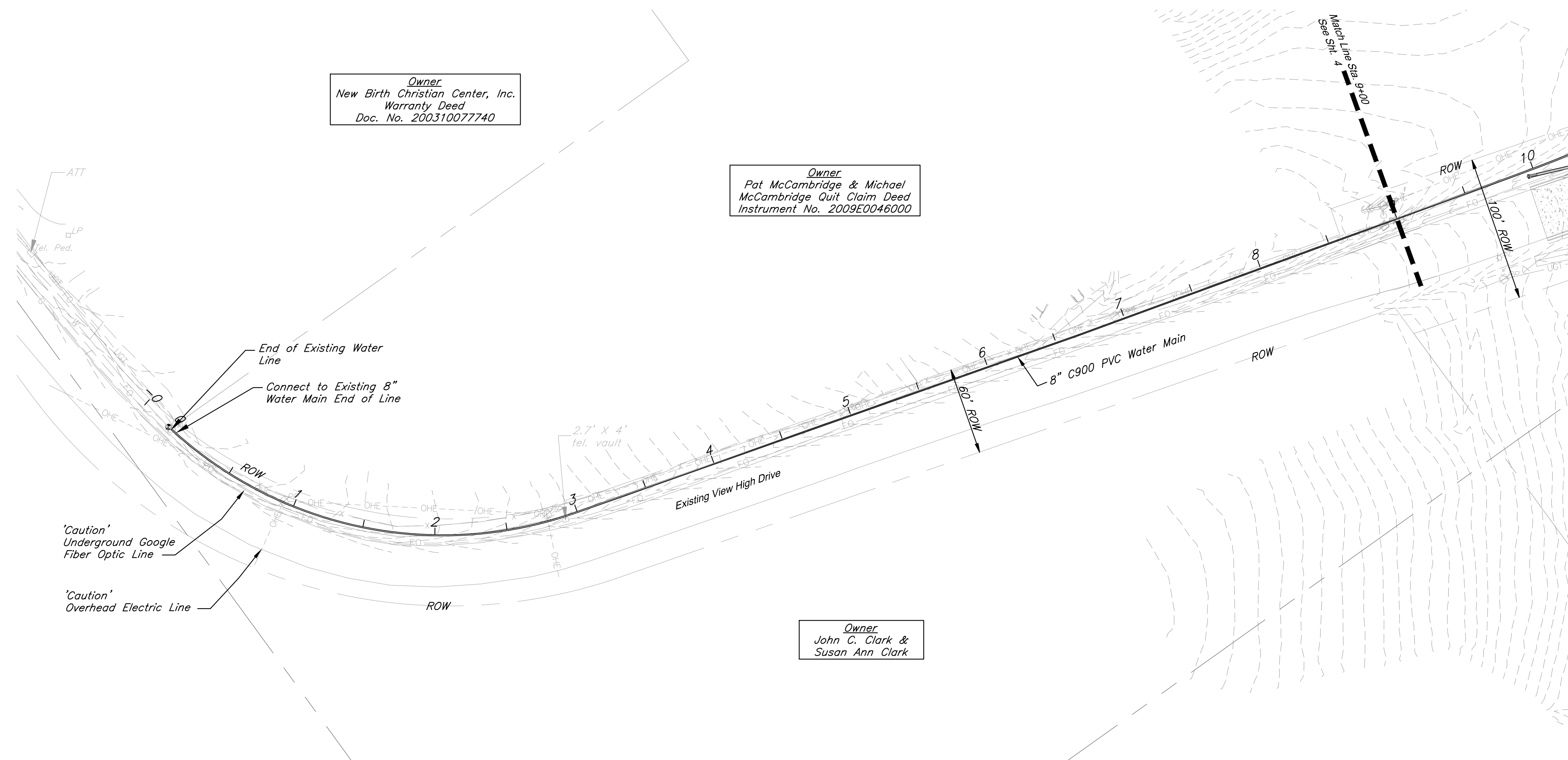
MAP NO.

WORK ORDER NO.

DWG NO.

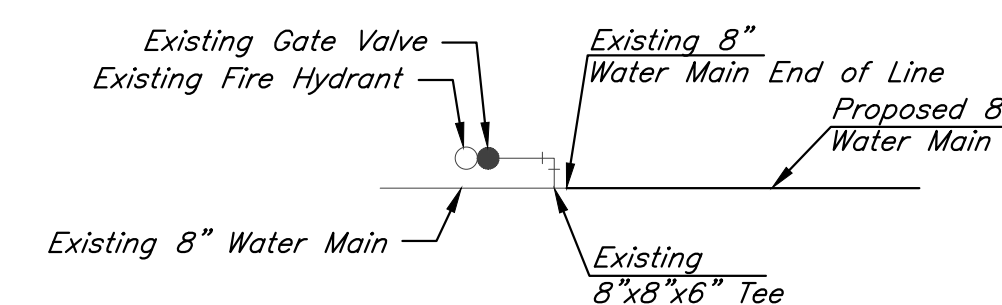
PROJECT NO.

Sheet 2 of 10

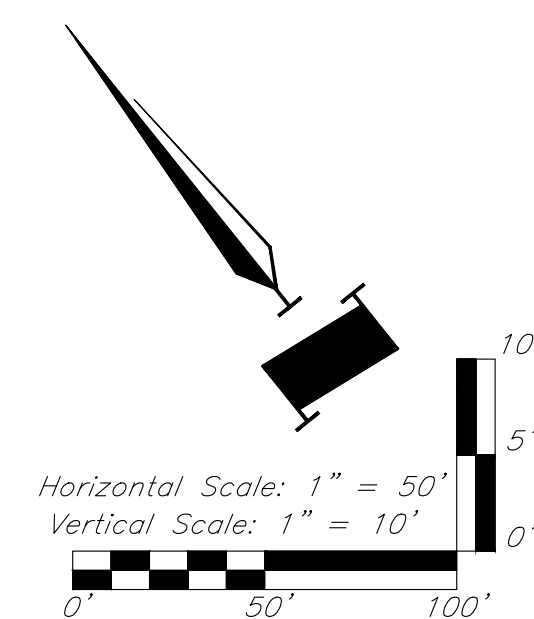
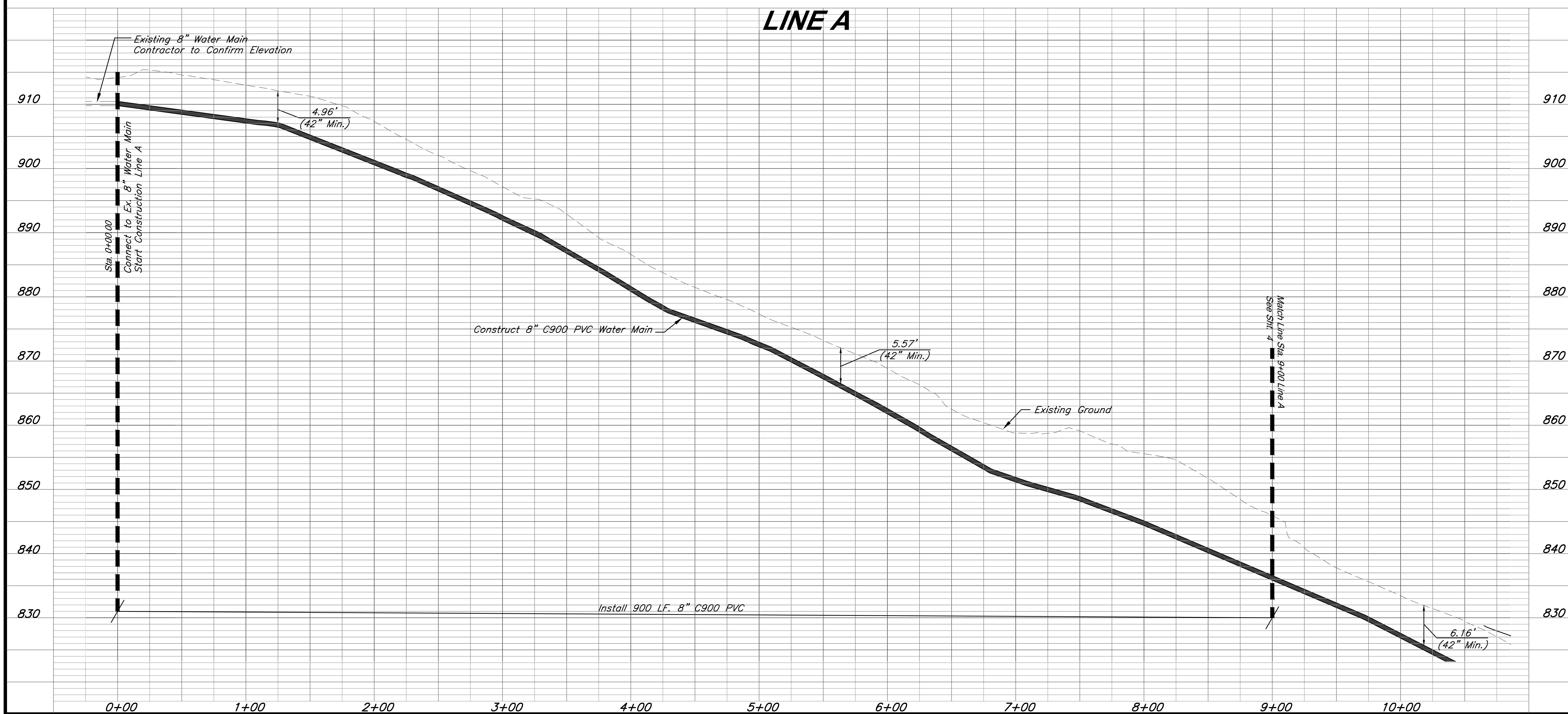


CAUTION!

Numerous Utilities on Site. Contractor to verify location and elevation of all utilities prior to commencing construction.



Connection Detail
Not To Scale



NOTES:

D.E. = Drainage Easement
U.E. = Utility Easement
P = Property Line
R/W = Right-of-Way

BENCHMARK:

BM #11 - Chiseled "L" on top
Northeast corner of concrete guardrail
at the Northeast corner of 1470 bridge
spanning View High Drive.
EL=833.80

PROFESSIONAL ENGINEER SEAL

FOR WSD USE

KANSAS CITY, MISSOURI, WATER SERVICES DEPARTMENT

WATER MAIN EXTENSION

8" WATER MAIN EXTENSION
FOR PARAGON STAR
KANSAS CITY, JACKSON COUNTY, MISSOURI

DRAWN BY. CEL/DRV	CHKD BY. CEL	DATE SUBMITTED	RANGE 32W	TWP 48N	SEC 33
----------------------	-----------------	----------------	--------------	------------	-----------

CONTRACTOR

CONTRACT NO.	CON. DATE	MAP NO.	WORK ORDER NO.	DWG NO.
--------------	-----------	---------	----------------	---------

PROJECT NO.

Sheet 3 of 10

DATE: 1-18-19	
DESIGN BY: CEL	
DRAWN BY: DRV	
PROJECT NO.: 12720	
SHEET NO.	TOTAL SHEETS
3	10

GBA
architects
engineers

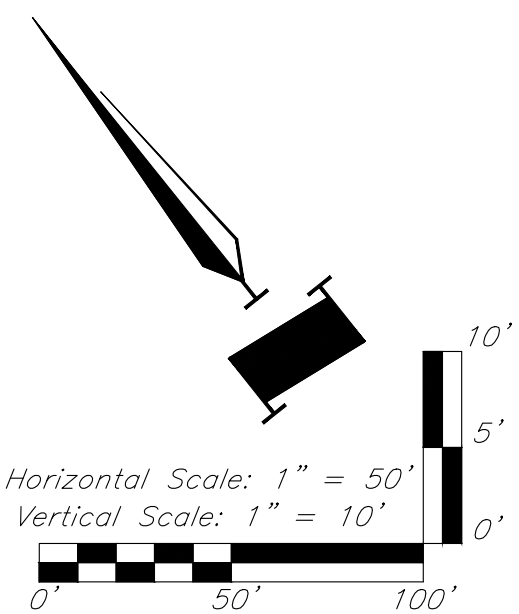
9801 Renner Boulevard
Lenexa, Kansas 66219
913.492.0400
www.qbateam.com

Water Main Extension Plans
Paragon Star Development
Kansas City, Missouri

NO.	DATE	REVISIONS	BY	APPROVED

The diagram illustrates the proposed water main extension and gate valve assembly. It shows a horizontal line representing the water main, with a vertical line intersecting it. The vertical line is labeled "Proposed 2" Blow off assembly". The horizontal line is labeled "Proposed 8" Water Main". A "Proposed 8"x4" Reducer" is shown at the intersection. A "Proposed 4" Gate Valve" is located on the horizontal line to the right of the reducer. A "Proposed Straddle Block" is shown on the horizontal line to the left of the reducer. A "Future Water Main Extension" is indicated by an arrow pointing to the right from the gate valve.

Not To Scale

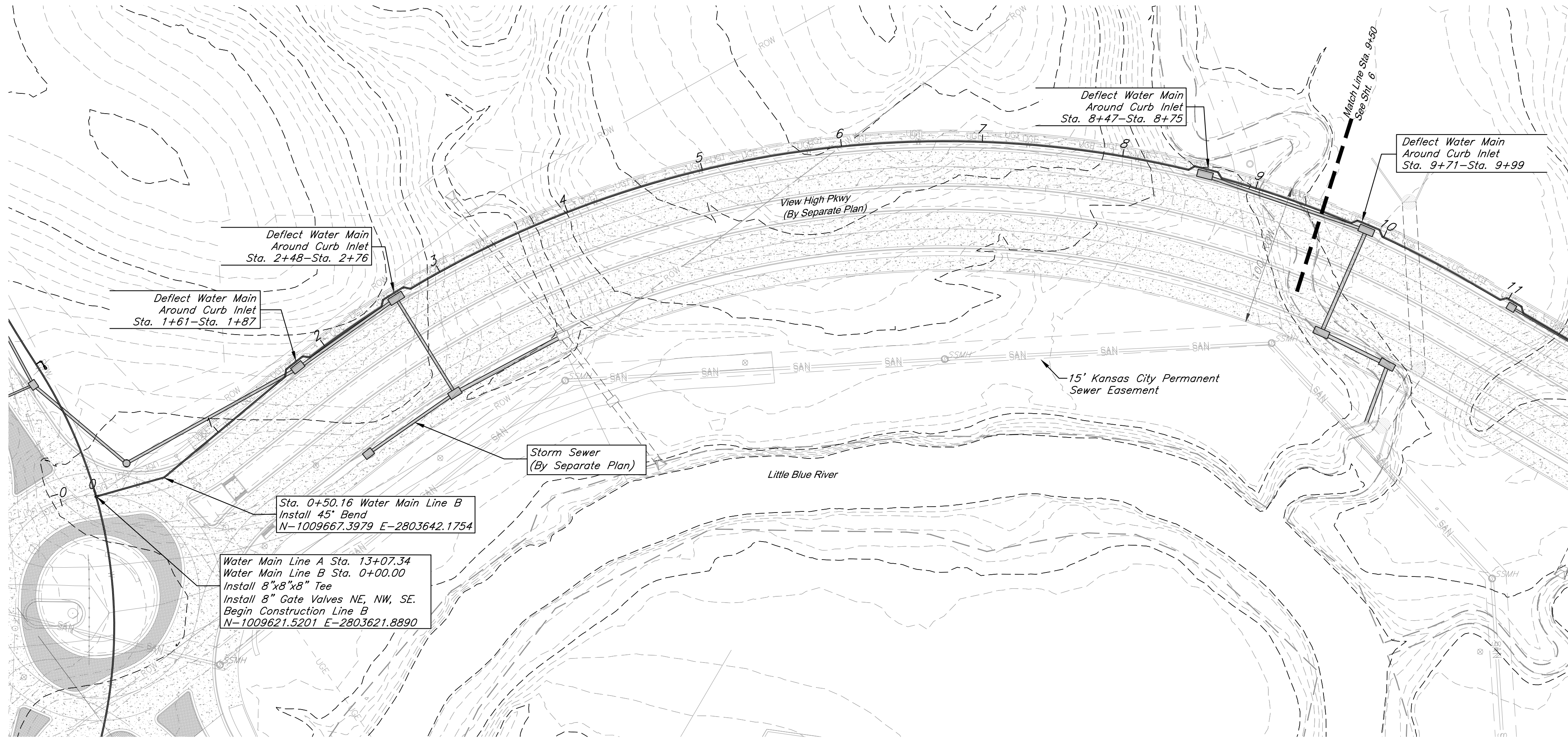


D.E. = Drainage Easement
U.E. = Utility Easement
PL = Property Line
R/W = Right-of-Way

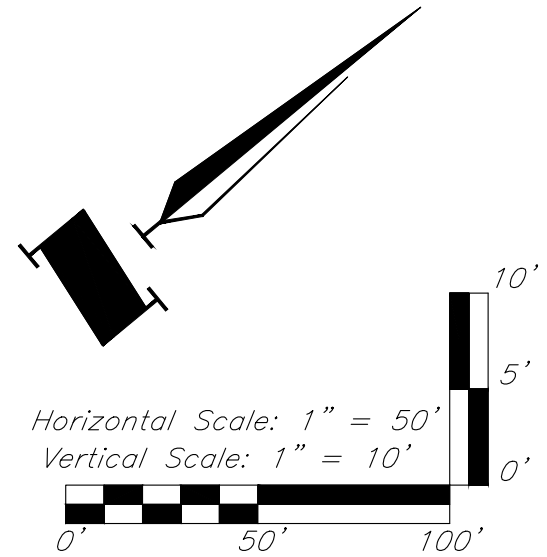
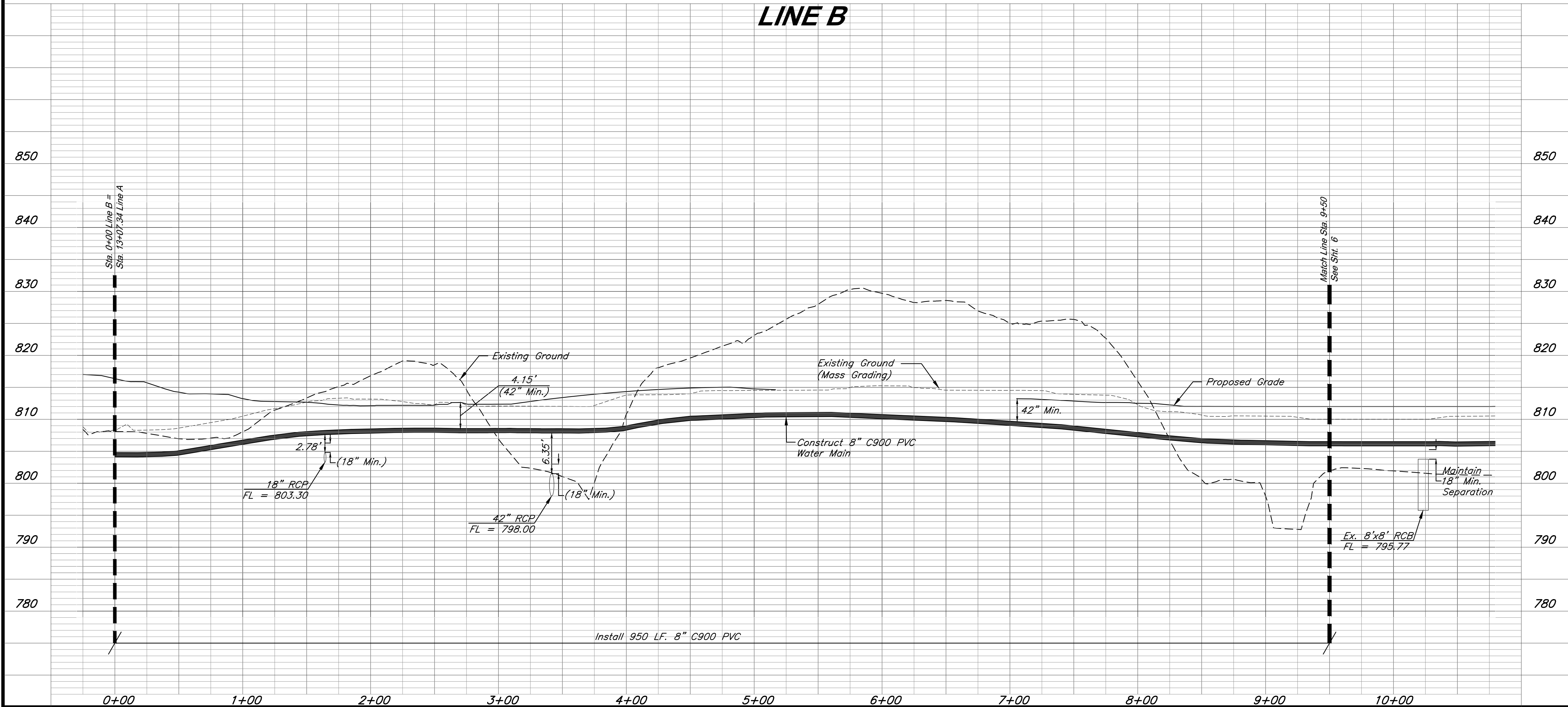
BM #11 - Chiseled "L" on top
Northeast corner of concrete guardrail
at the Northeast corner of 1470 bridge
spanning View High Drive.
EL=833.80

PROFESSIONAL ENGINEER SEAL 	KANSAS CITY, MISSOURI, WATER SERVICES DEPARTMENT WATER MAIN EXTENSION 8" WATER MAIN EXTENSION FOR PARAGON STAR KANSAS CITY, JACKSON COUNTY, MISSOURI																												
FOR WSD USE	<table border="1" style="width: 100%; border-collapse: collapse; font-size: small;"> <tr> <th>DRAWN BY:</th> <th>CHKD BY:</th> <th>DATE SUBMITTED</th> <th>RANGE</th> <th>TWP</th> <th>SEC</th> </tr> <tr> <td><i>CEL/DRV</i></td> <td><i>CEL</i></td> <td></td> <td><i>.32W</i></td> <td><i>48N</i></td> <td><i>.33</i></td> </tr> </table> <table border="1" style="width: 100%; border-collapse: collapse; font-size: small; margin-top: 5px;"> <tr> <th style="width: 75%;">CONTRACTOR</th> <th>DATE COMPLETED</th> </tr> <tr> <td style="height: 20px;"></td> <td></td> </tr> </table> <table border="1" style="width: 100%; border-collapse: collapse; font-size: x-small; margin-top: 5px;"> <tr> <th>CONTRACT NO.</th> <th>CON. DATE</th> <th>MAP NO.</th> <th>WORK ORDER NO.</th> <th>DWG NO.</th> </tr> <tr> <td style="height: 20px;"></td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <table border="1" style="width: 100%; border-collapse: collapse; font-size: large; margin-top: 5px;"> <tr> <td style="width: 40%; text-align: center; padding: 5px;">PROJECT NO.</td> <td style="text-align: center; padding: 5px;">Sheet 4 of 10</td> </tr> </table>	DRAWN BY:	CHKD BY:	DATE SUBMITTED	RANGE	TWP	SEC	<i>CEL/DRV</i>	<i>CEL</i>		<i>.32W</i>	<i>48N</i>	<i>.33</i>	CONTRACTOR	DATE COMPLETED			CONTRACT NO.	CON. DATE	MAP NO.	WORK ORDER NO.	DWG NO.						PROJECT NO.	Sheet 4 of 10
DRAWN BY:	CHKD BY:	DATE SUBMITTED	RANGE	TWP	SEC																								
<i>CEL/DRV</i>	<i>CEL</i>		<i>.32W</i>	<i>48N</i>	<i>.33</i>																								
CONTRACTOR	DATE COMPLETED																												
CONTRACT NO.	CON. DATE	MAP NO.	WORK ORDER NO.	DWG NO.																									
PROJECT NO.	Sheet 4 of 10																												

C:\12720\Civil 3D\Production Drawings\Water Main Plans\KCMO\12720-1601.dwg Layout: 5 Water Main Plan & Profiles - Line B --- Thursday, January 17, 2019, 8:32am --- Copyright 2019, GBA architects engineers, 9801 Renner Boulevard, Lenexa, Kansas 66219, 913.492.0400, www.gbateam.com



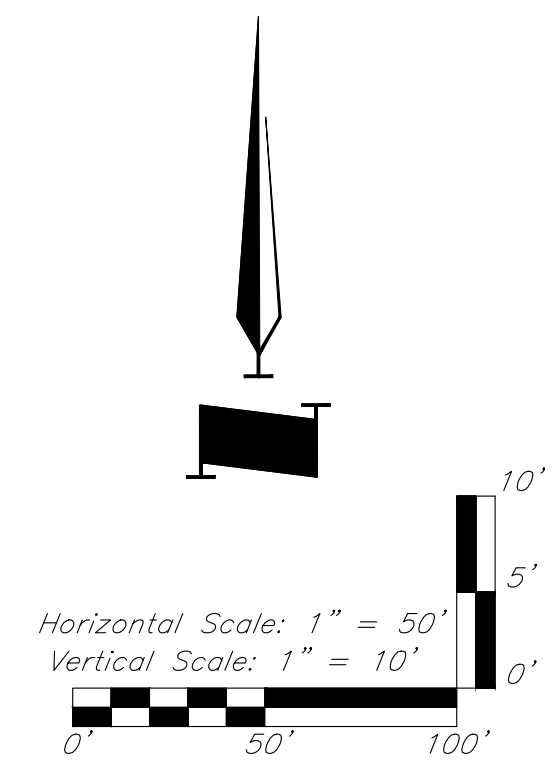
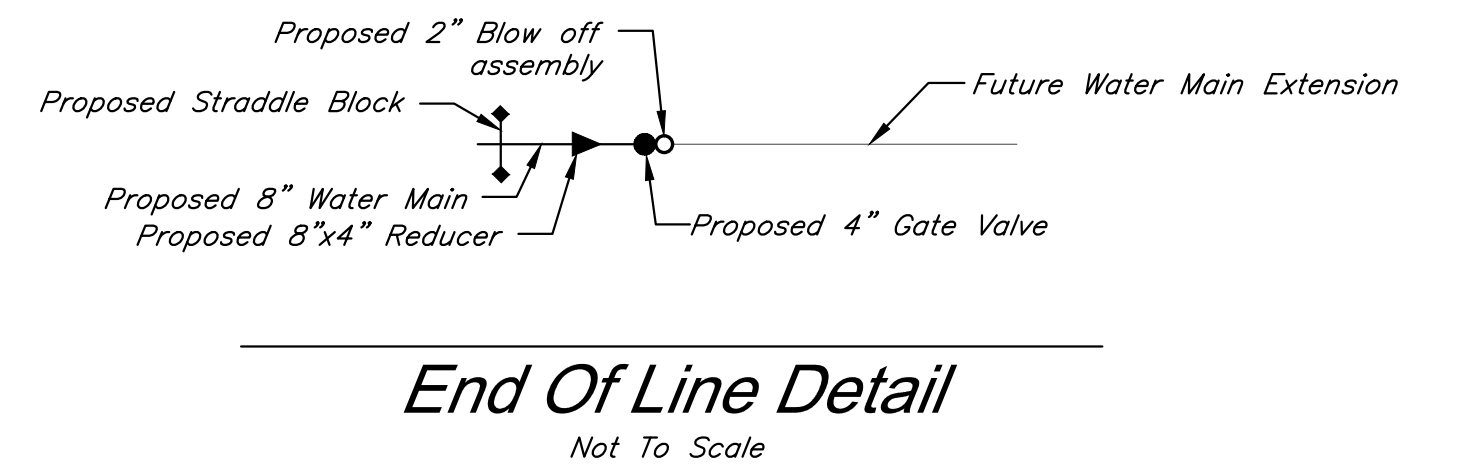
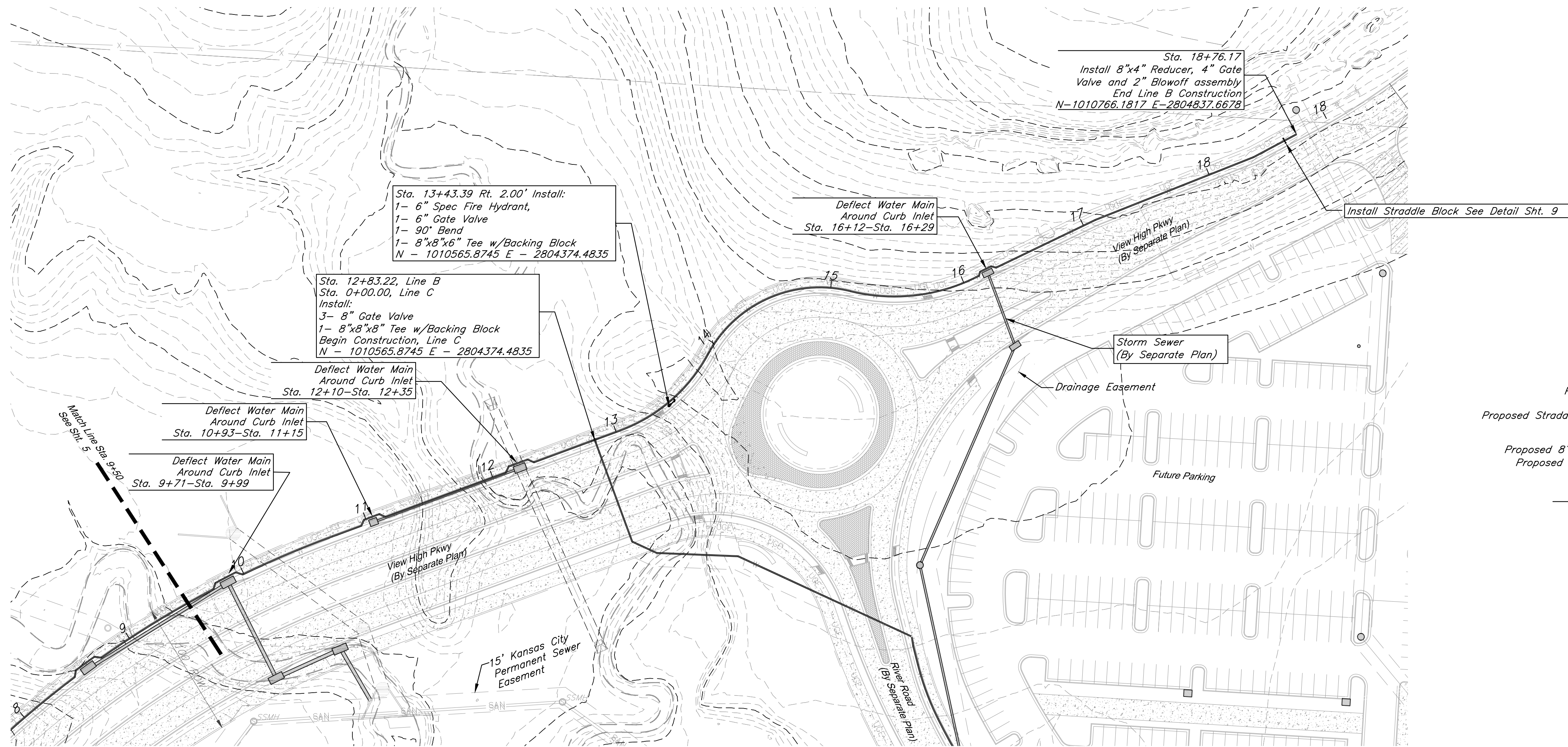
GBA architects engineers 9801 Renner Boulevard Lenexa, Kansas 66219 913.492.0400 www.gbateam.com		DATE: 1-18-19	
		DESIGN BY: CEL	
		DRAWN BY: DRV	
		PROJECT NO.: 12720	
		SHEET NO.	TOTAL SHEETS
		5	10
Bradley D. Burton Professional Engineer License No. 25862		Water Main Extension Plans Paragon Star Development Kansas City, Missouri	
NO.	DATE	REVISIONS	BY APPROVED



NOTES:
D.E. = Drainage Easement
U.E. = Utility Easement
P.L. = Property Line
R/W = Right-of-Way

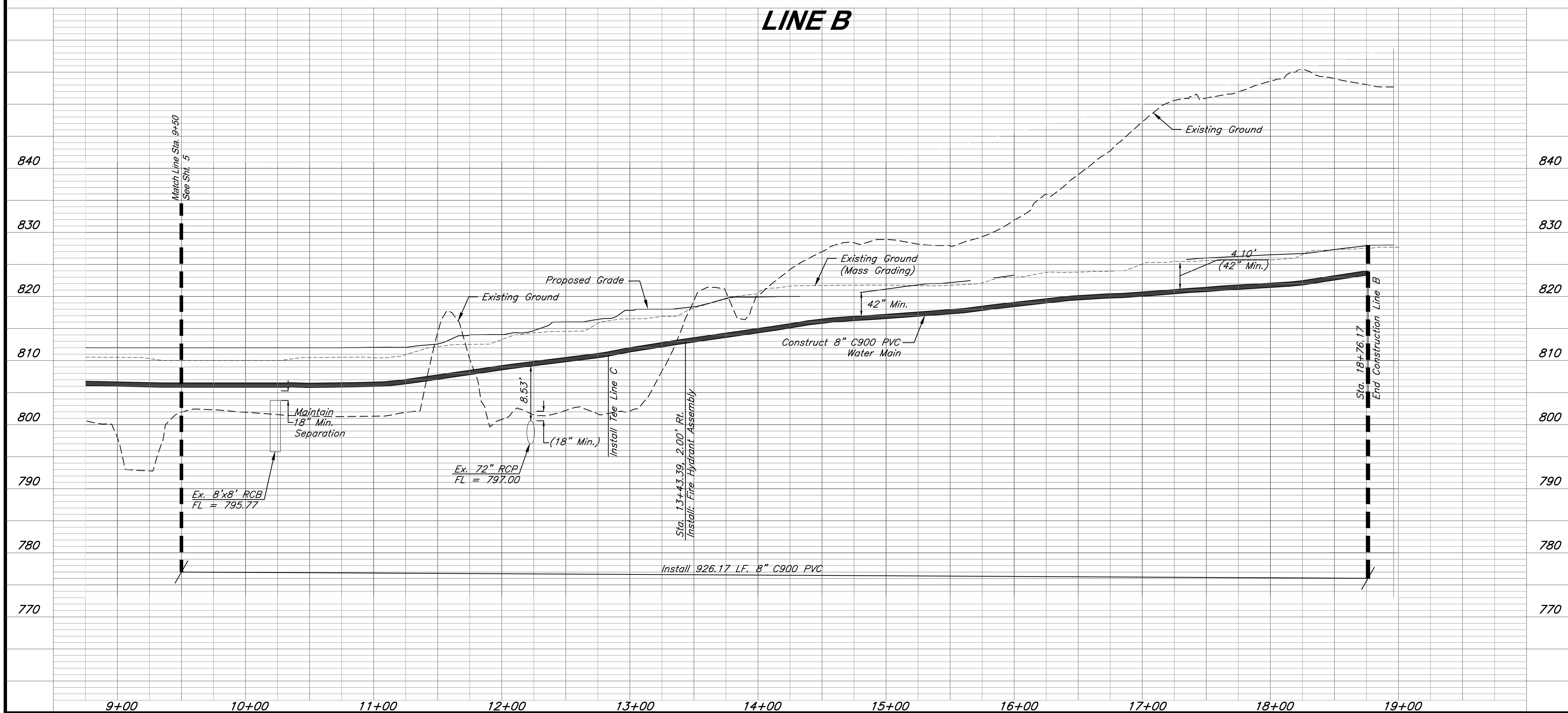
BENCHMARK:
BM #11 - Chiseled "L" on top
Northeast corner of concrete guardrail
at the Northeast corner of 1470 bridge
spanning View High Drive.
EL=833.80

PROFESSIONAL ENGINEER SEAL		KANSAS CITY, MISSOURI, WATER SERVICES DEPARTMENT		
		WATER MAIN EXTENSION		
		8" WATER MAIN EXTENSION FOR PARAGON STAR KANSAS CITY, JACKSON COUNTY, MISSOURI		
FOR WSD USE		DRAWN BY: CEL/DRV	CHKD BY: CEL	DATE SUBMITTED 32W
		CONTRACTOR		DATE COMPLETED
		CONTRACT NO.	CON. DATE	MAP NO.
		PROJECT NO.	Sheet 5 of 10	



NOTES:
D.E. = Drainage Easement
U.E. = Utility Easement
P = Property Line
R/W = Right-of-Way

BENCHMARK:
BM #11 - Chiseled "L" on top
Northeast corner of concrete guardrail
at the Northeast corner of 1470 bridge
spanning View High Drive.
EL=833.80



PROFESSIONAL ENGINEER SEAL

FOR WSD USE

KANSAS CITY, MISSOURI, WATER SERVICES DEPARTMENT

WATER MAIN EXTENSION

8" WATER MAIN EXTENSION
FOR PARAGON STAR
KANSAS CITY, JACKSON COUNTY, MISSOURI

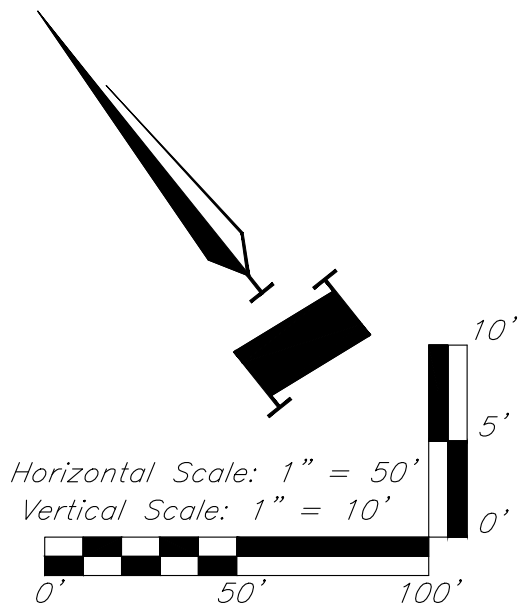
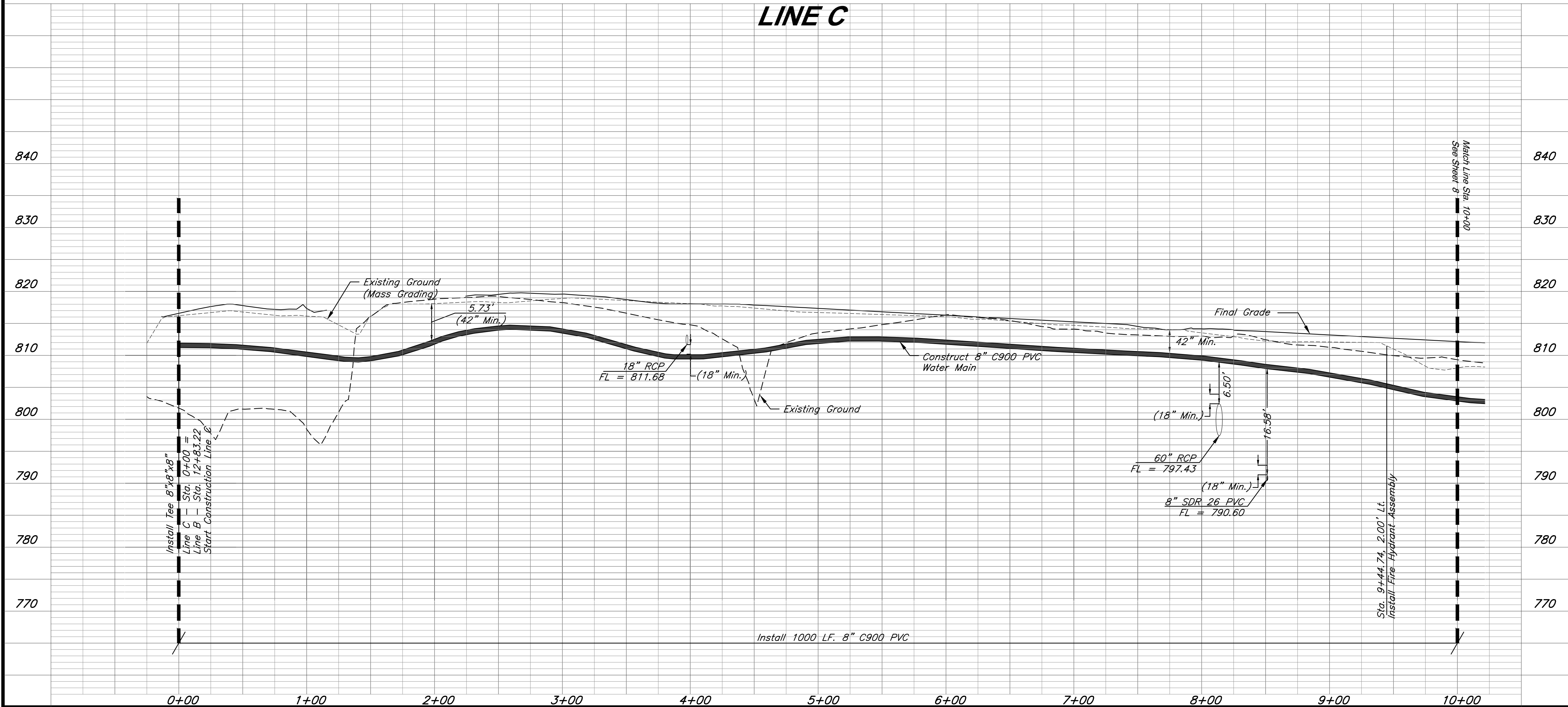
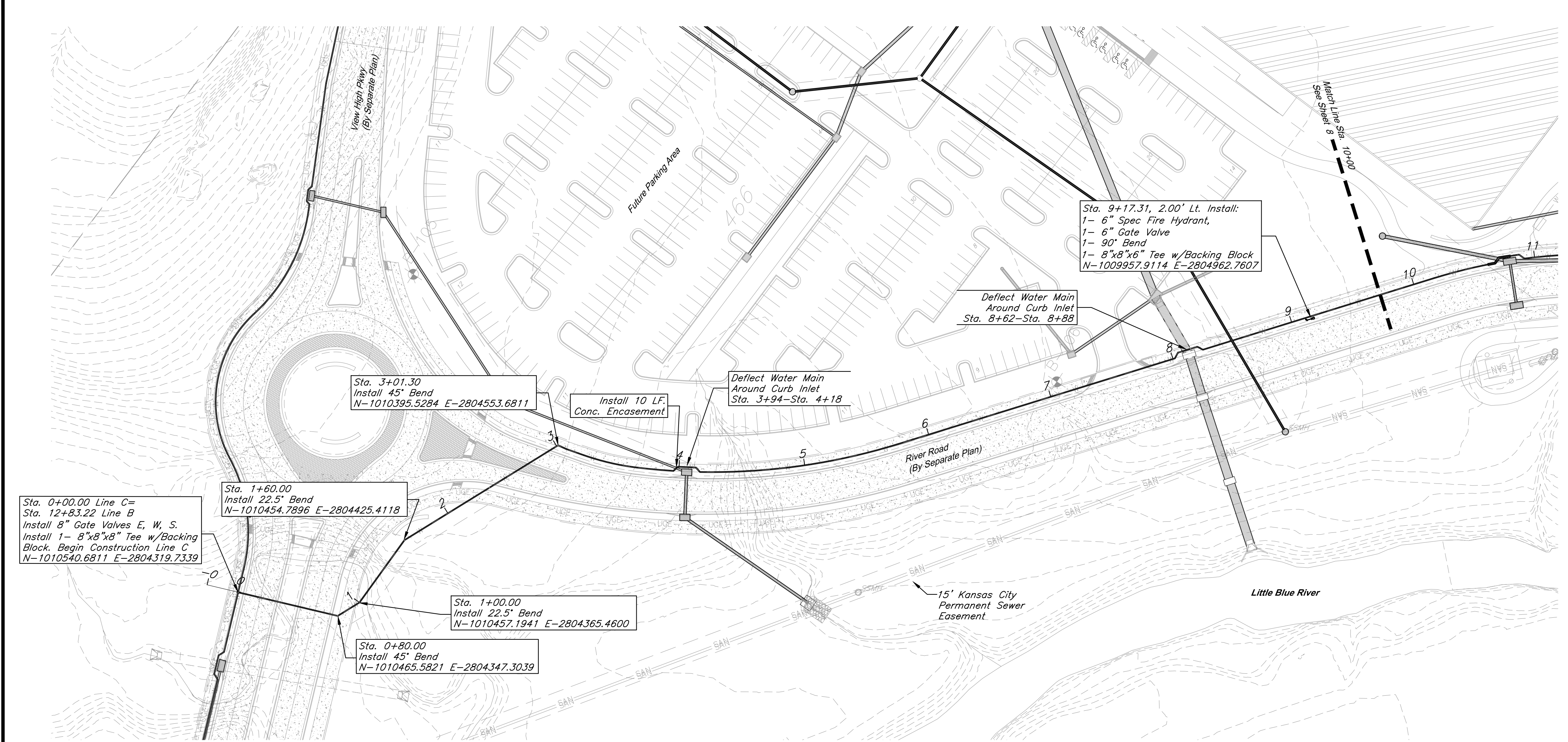
DRAWN BY. CEL/DRV	CHKD BY. CEL	DATE SUBMITTED	RANGE 32W	TWP 48N	SEC 33
----------------------	-----------------	----------------	--------------	------------	-----------

CONTRACTOR	DATE COMPLETED
------------	----------------

CONTRACT NO.	CON. DATE	MAP NO.	WORK ORDER NO.	DWG NO.
--------------	-----------	---------	----------------	---------

PROJECT NO.	Sheet 6 of 10
-------------	---------------

C:\12720\Civil 3D\Production Drawings\Water Main Plans\KCMO\12720C1602.dwg Layout: 7 Water Main Plan & Profiles - Line C -- Thursday, January 17, 2019, 8:34am -- Copyright 2019, GBA architects engineers 000205, Professional Land Surveyor 000209



NOTES:
D.E. = Drainage Easement
U.E. = Utility Easement
P.L. = Property Line
R/W = Right-of-Way

BENCHMARK:
BM #11 - Chiseled "L" on top
Northeast corner of concrete guardrail
at the Northeast corner of 1470 bridge
spanning View High Drive.
EL=833.80

PROFESSIONAL ENGINEER SEAL

KANSAS CITY, MISSOURI, WATER SERVICES DEPARTMENT

WATER MAIN EXTENSION

8" WATER MAIN EXTENSION
FOR PARAGON STAR
KANSAS CITY, JACKSON COUNTY, MISSOURI

FOR WSD USE

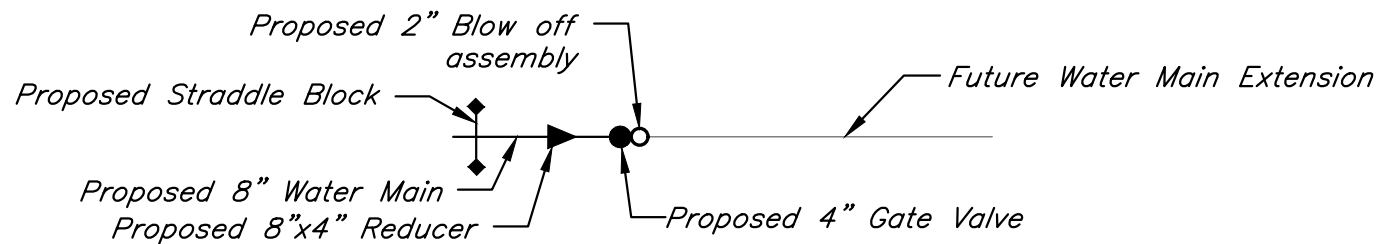
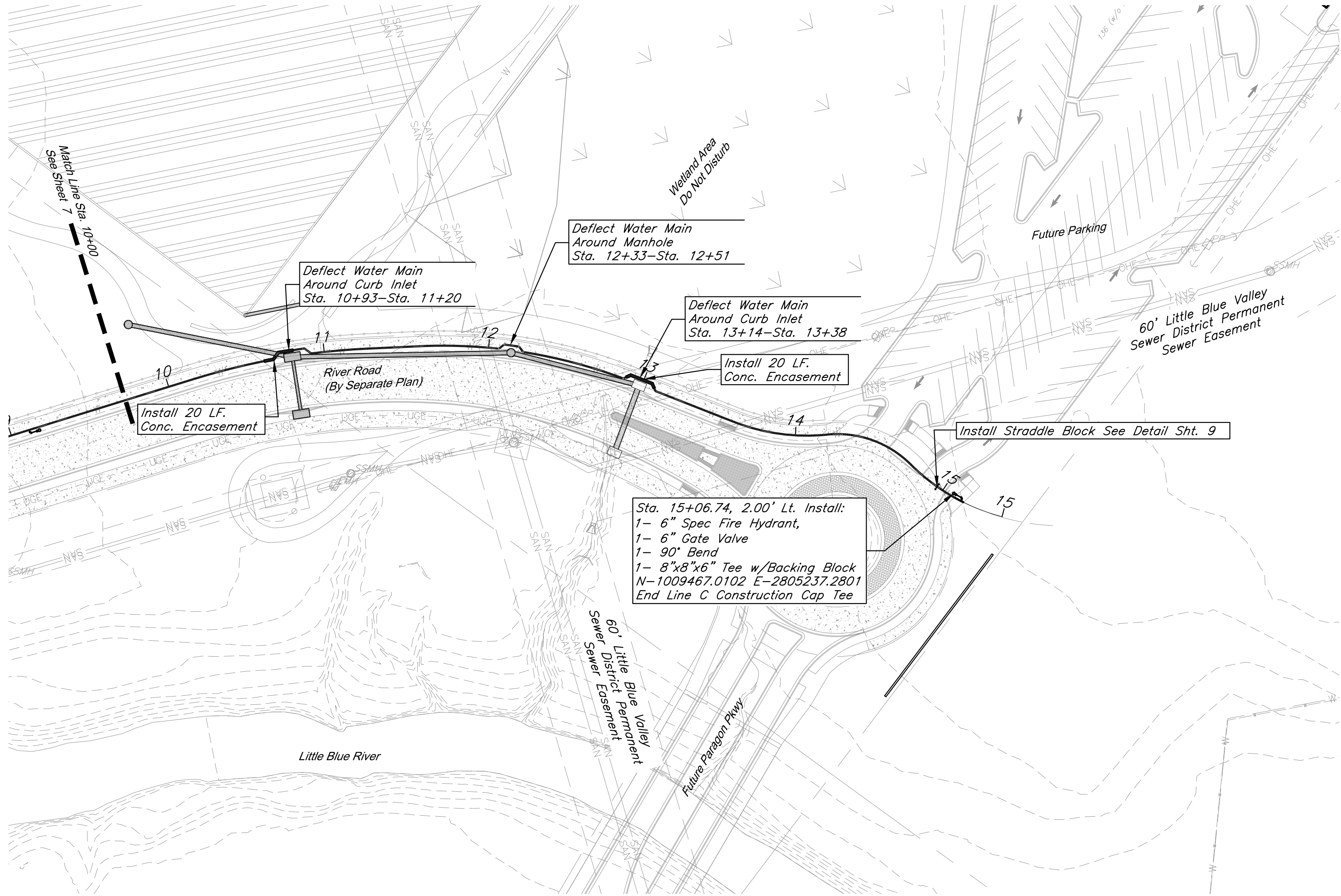
DRAWN BY: CEL/DRV CHKD BY: CEL DATE SUBMITTED: 3/27/19 RANGE: 32W TWP: 48N SEC: 33

CONTRACTOR: DATE COMPLETED:

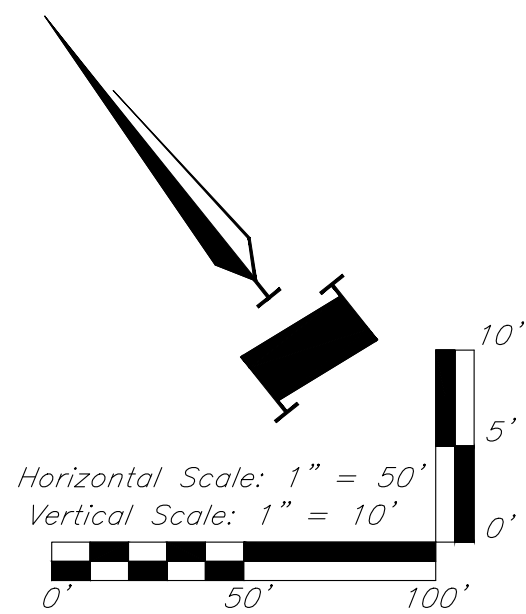
CONTRACT NO.: CON. DATE: MAP NO.: WORK ORDER NO.: DWG NO.:

PROJECT NO. Sheet 7 of 10

C:\12720\Civil 3D\Production Drawings\Water Main Plans\KCMO\12720\1602.dwg Layout: 8 Water Main Plan & Profiles - Line C -- Thursday, January 17, 2019, 8:34am -- Copyright 2019, GBA architects engineers 000205, Professional Land Surveyor 000209

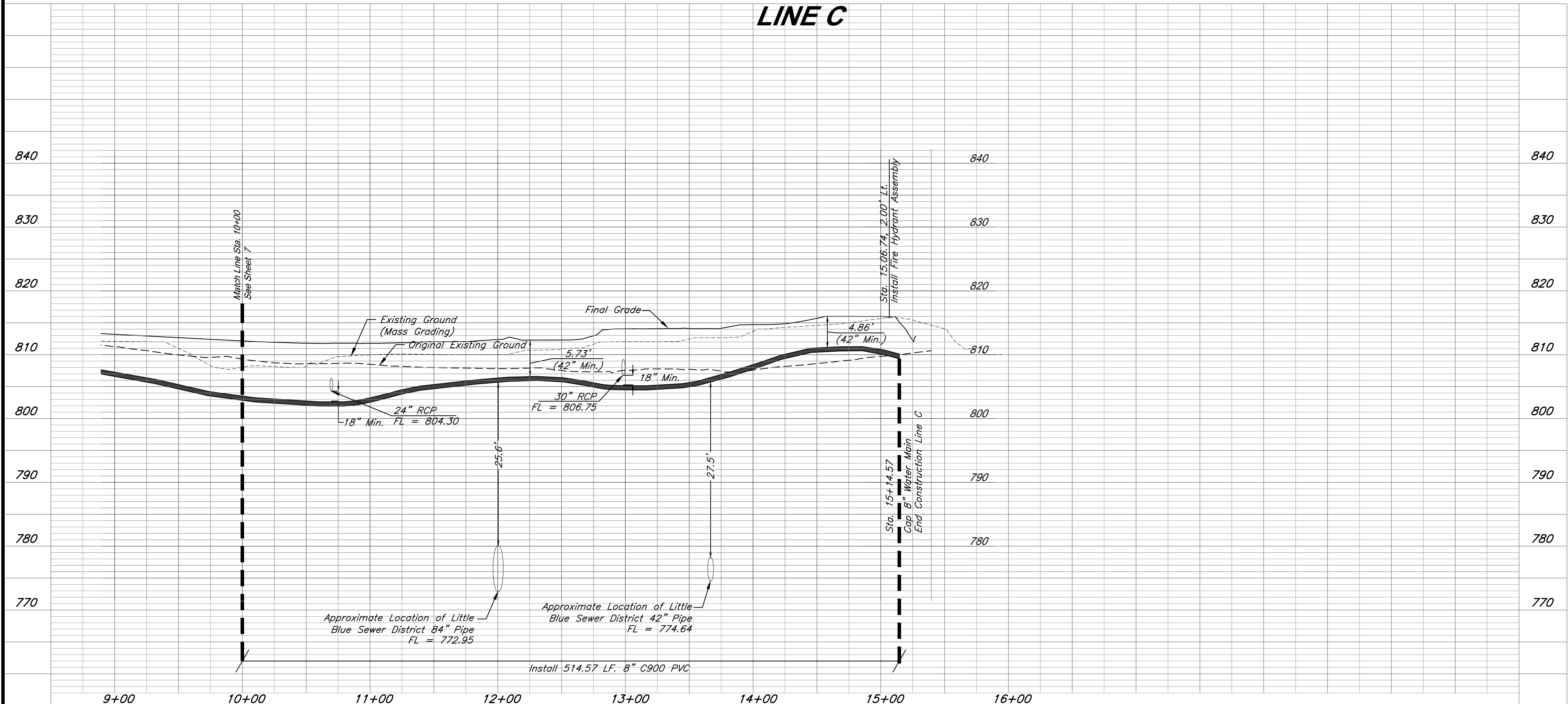


End Of Line Detail
Not To Scale



NOTES:
D.E. = Drainage Easement
U.E. = Utility Easement
P.L. = Property Line
R/W = Right-of-Way

BENCHMARK:
BM #11 - Chiseled "L" on top
Northeast corner of concrete guardrail
at the Northeast corner of 1470 bridge
spanning View High Drive.
EL=833.80



PROFESSIONAL ENGINEER SEAL

KANSAS CITY, MISSOURI, WATER SERVICES DEPARTMENT

WATER MAIN EXTENSION

8" WATER MAIN EXTENSION
FOR PARAGON STAR
KANSAS CITY, JACKSON COUNTY, MISSOURI

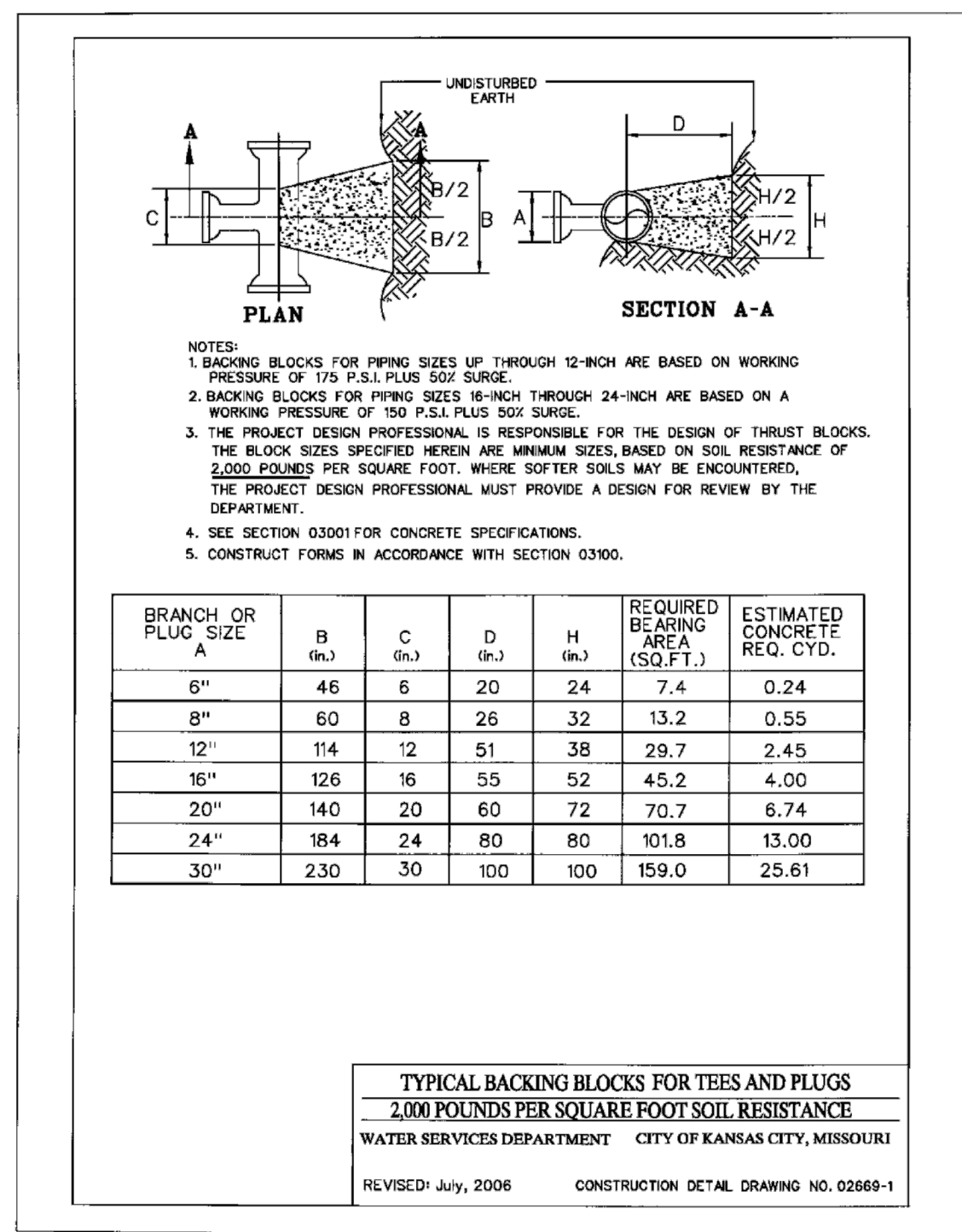
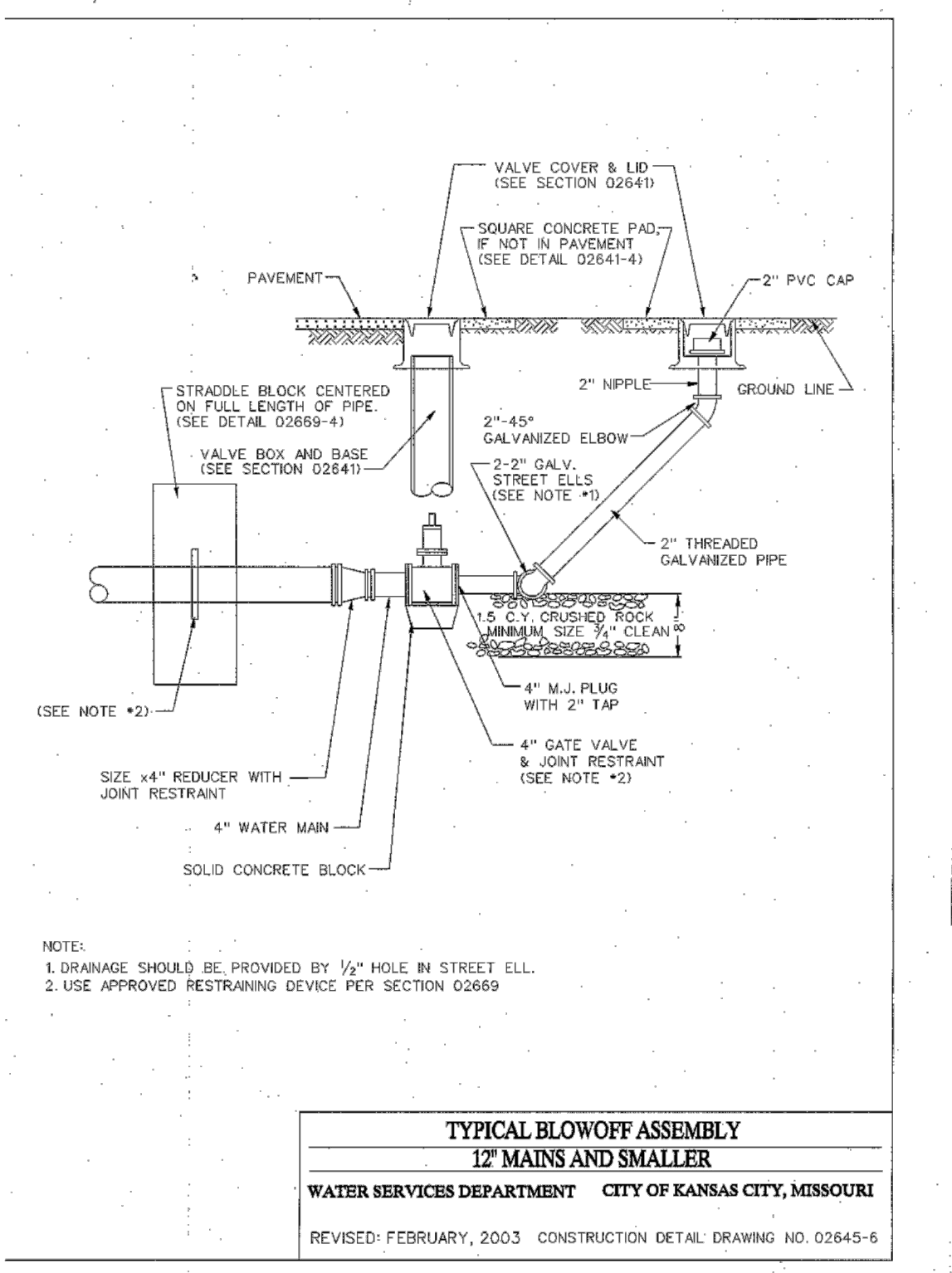
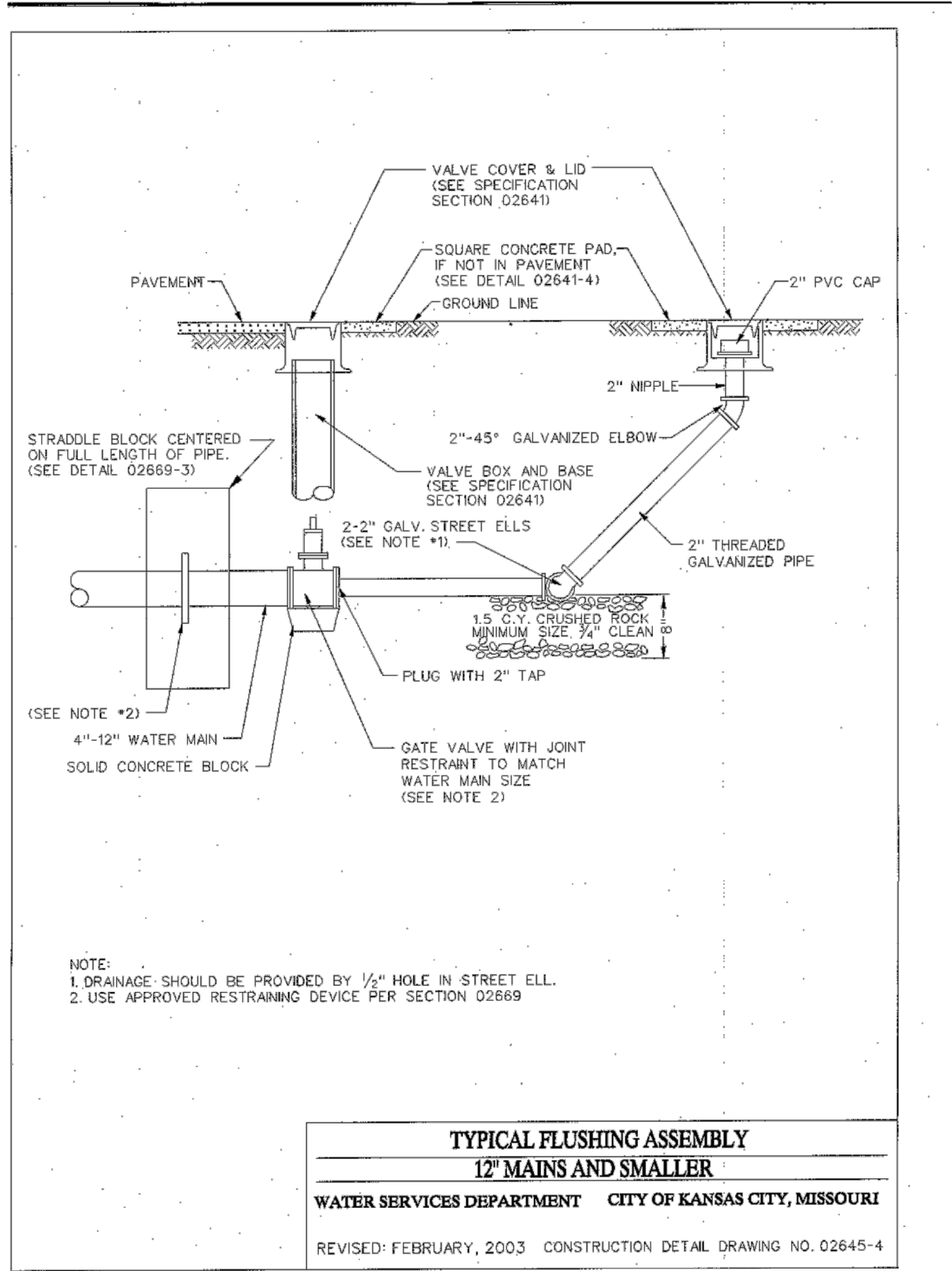
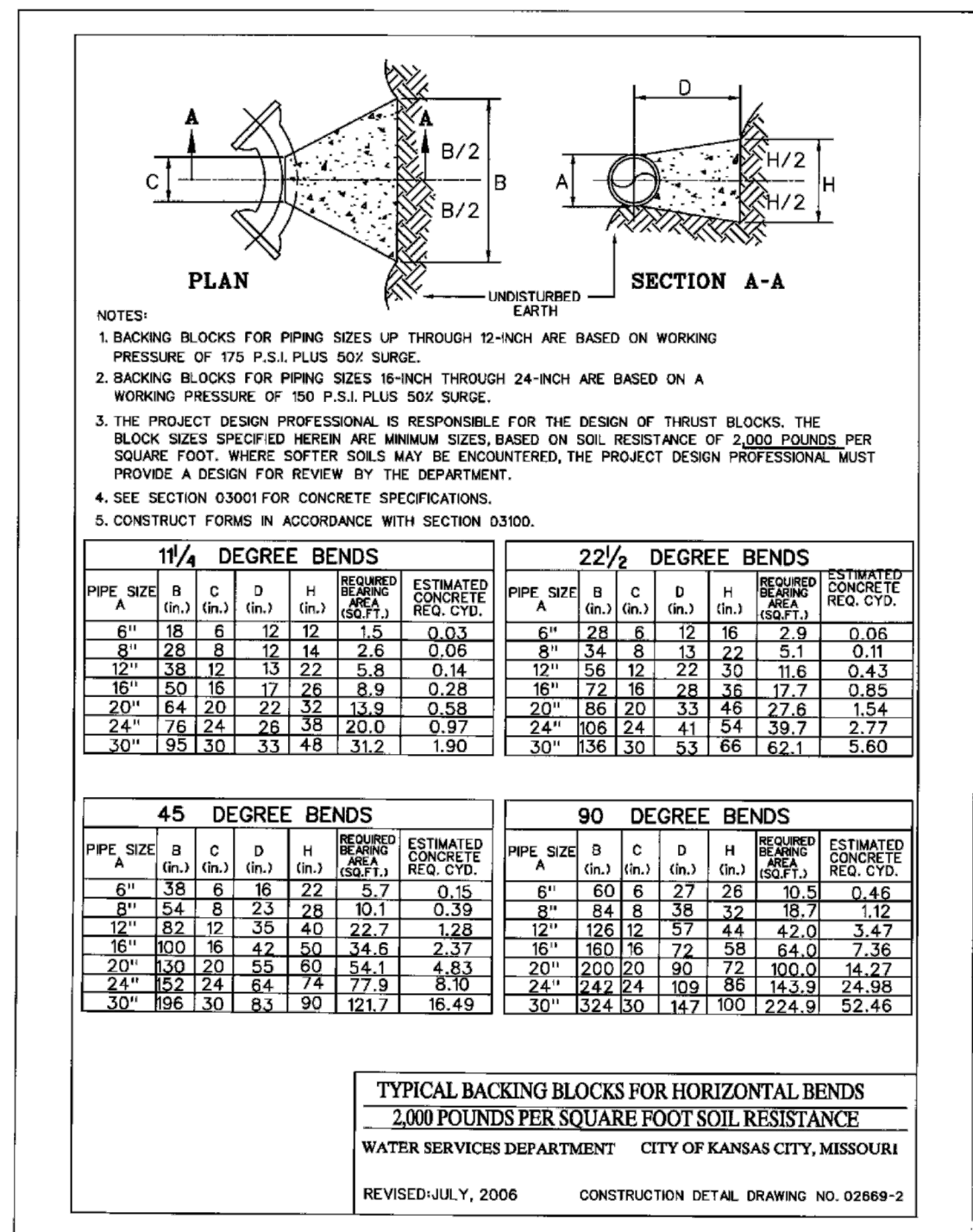
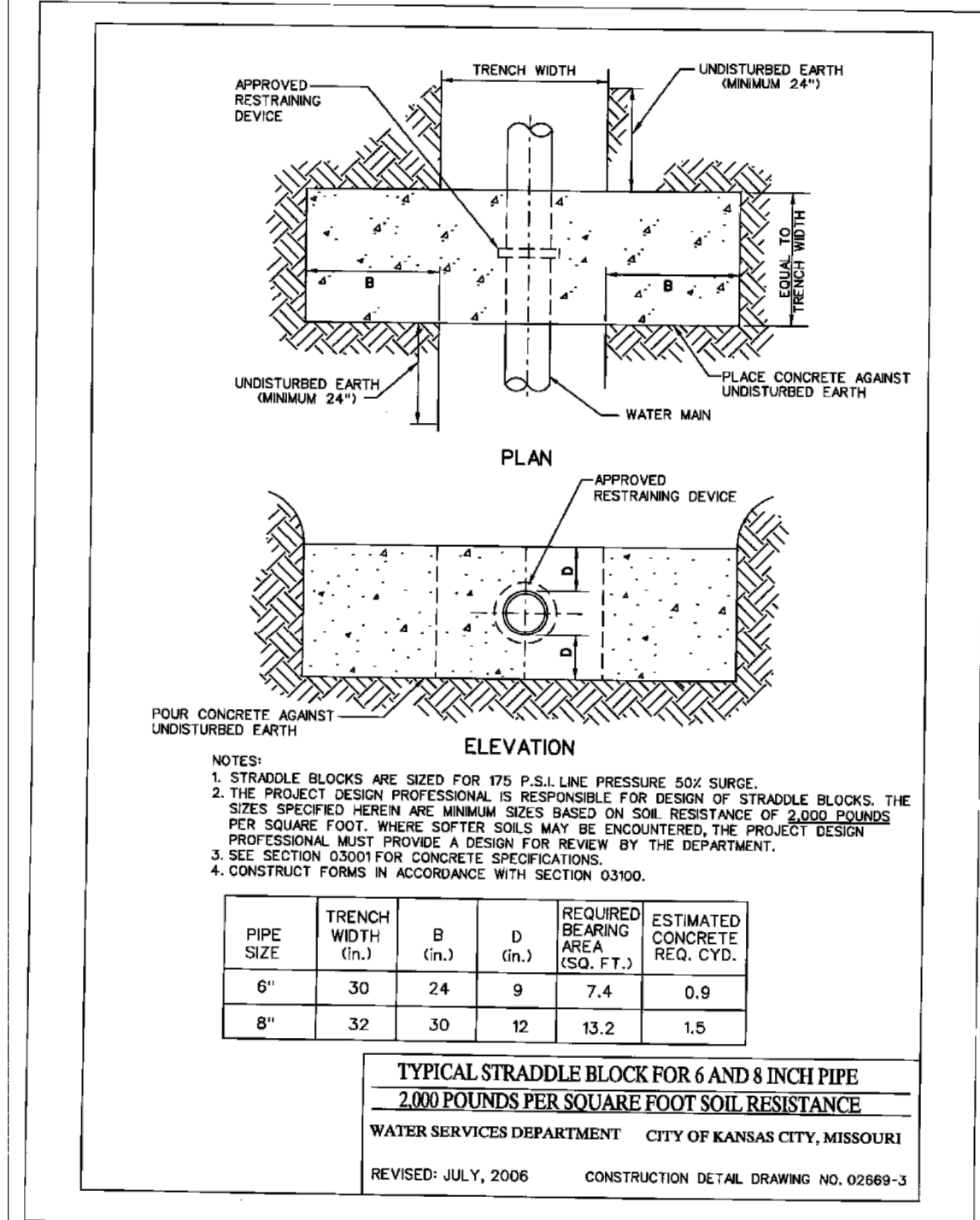
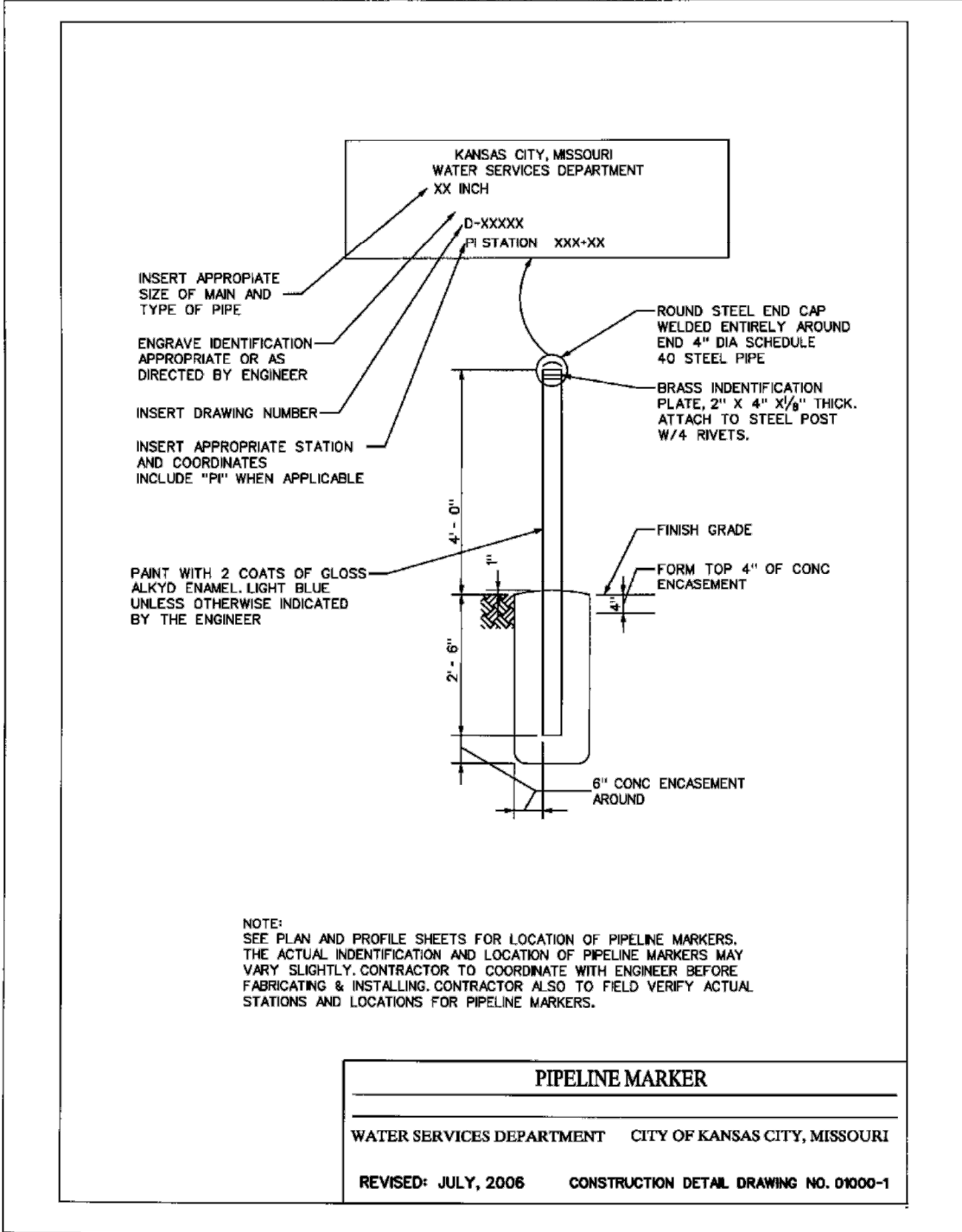
FOR WSD USE

DRAWN BY. CEL/DRV	CHKD BY. CEL	DATE SUBMITTED	RANGE 32W	TWP 48N	SEC 33
CONTRACTOR			DATE COMPLETED		
CONTRACT NO.	CON. DATE	MAP NO.	WORK ORDER NO.	DWG NO.	
PROJECT NO.		Sheet 8 of 10			

C:\12720\Civil 3D\Production Drawings\Water Main Plans\KC\MO\12720C2400.dwg Layout: 9 Water Main Details --- Thursday January 17, 2019, 8:56am --- Copyright 2019, George Butler Associates\gcbt2012, Professional Engineer 000133, Landscape Architect 000205, Professional Land Surveyor 000269

GBA architects engineers 9801 Renner Boulevard Lenexa, Kansas 66219 913.492.0400 www.gbateam.com		DATE: 1-18-19 DESIGN BY: CEL DRAWN BY: DRV PROJECT NO.: 12720 SHEET NO. 9 TOTAL SHEETS 10		
Bradley D. Burton Professional Engineer License No. 25862		Water Main Extension Plans Paragon Star Development Kansas City, Missouri		
NO.	DATE	REVISIONS	BY	APPROVED

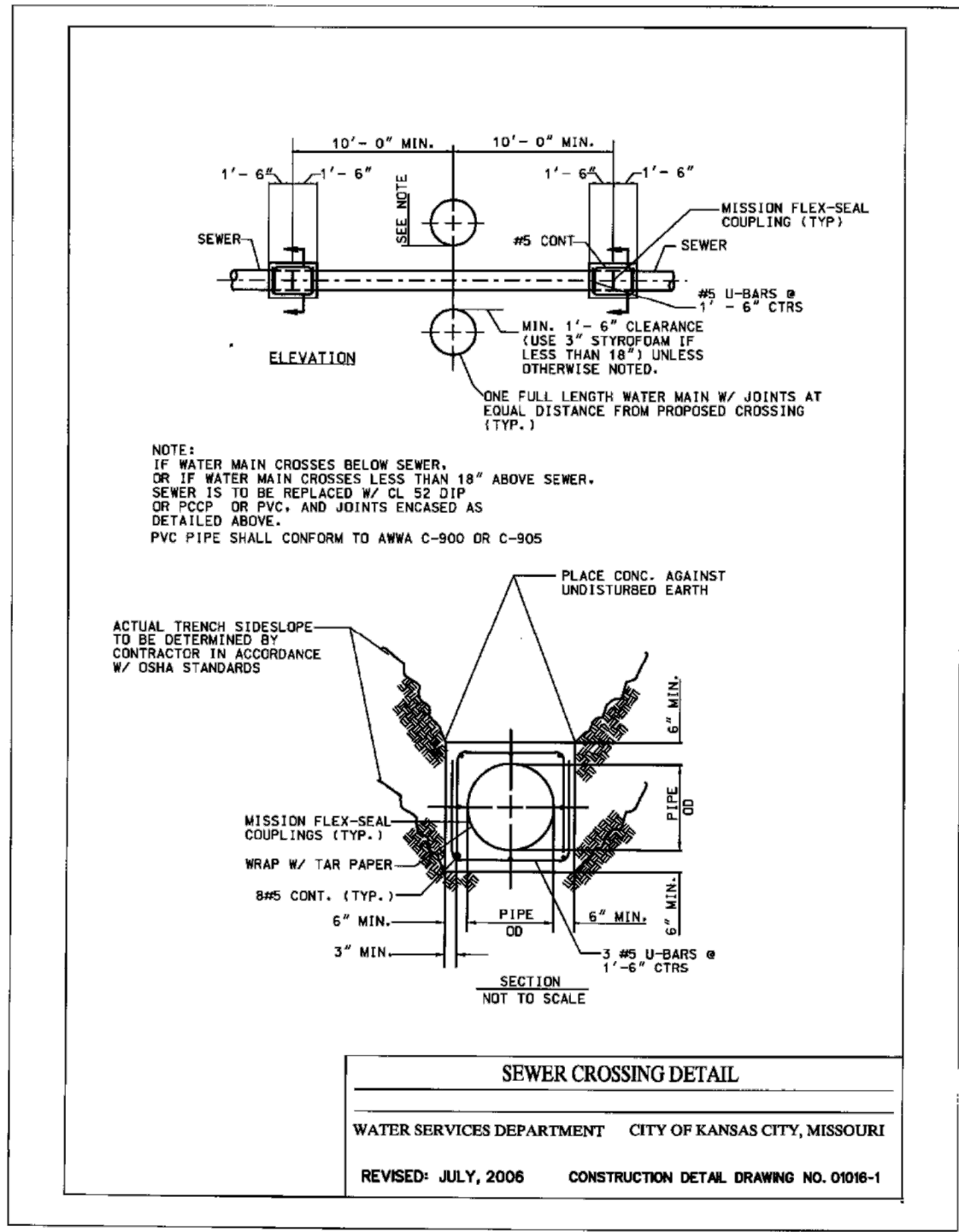
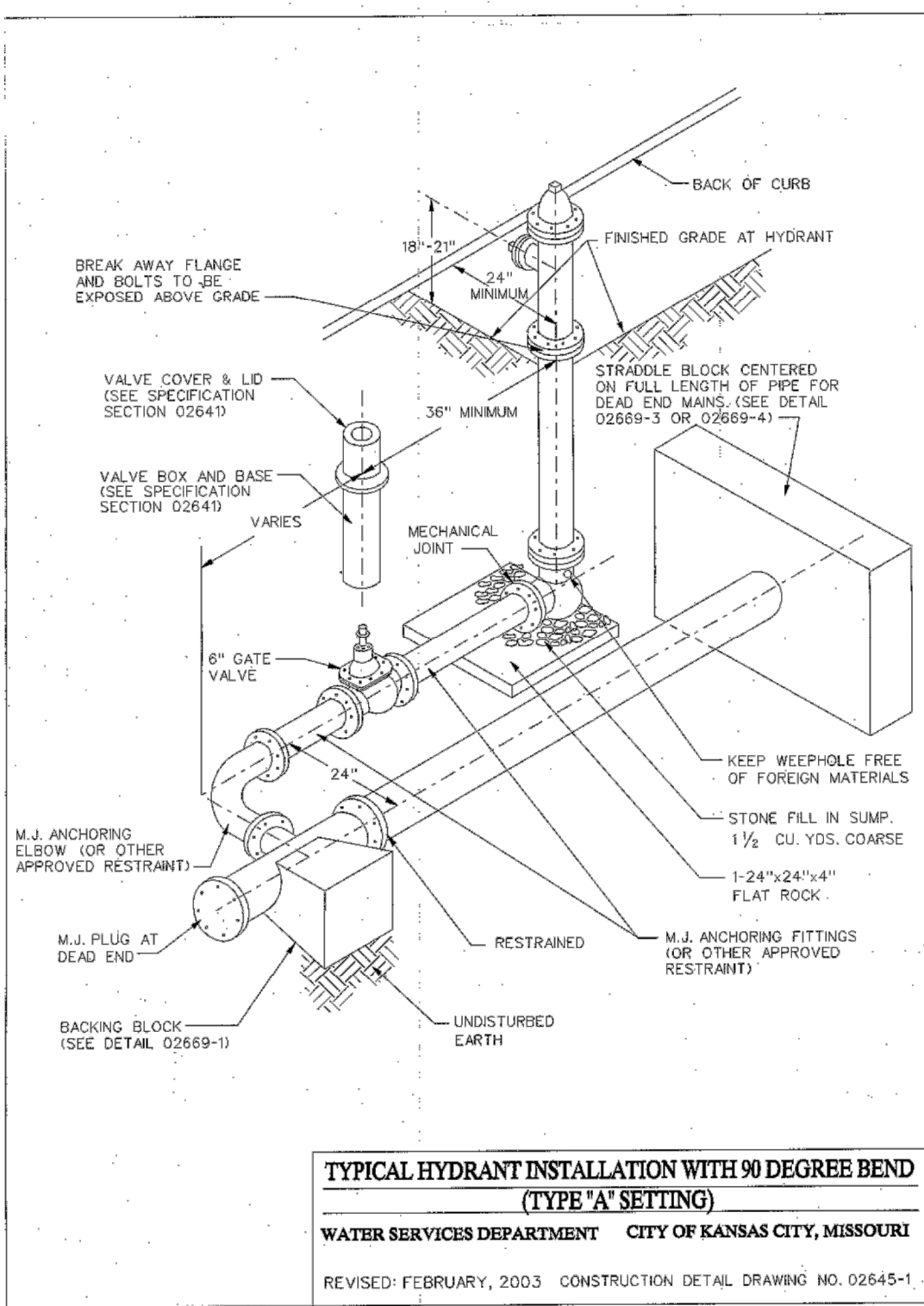
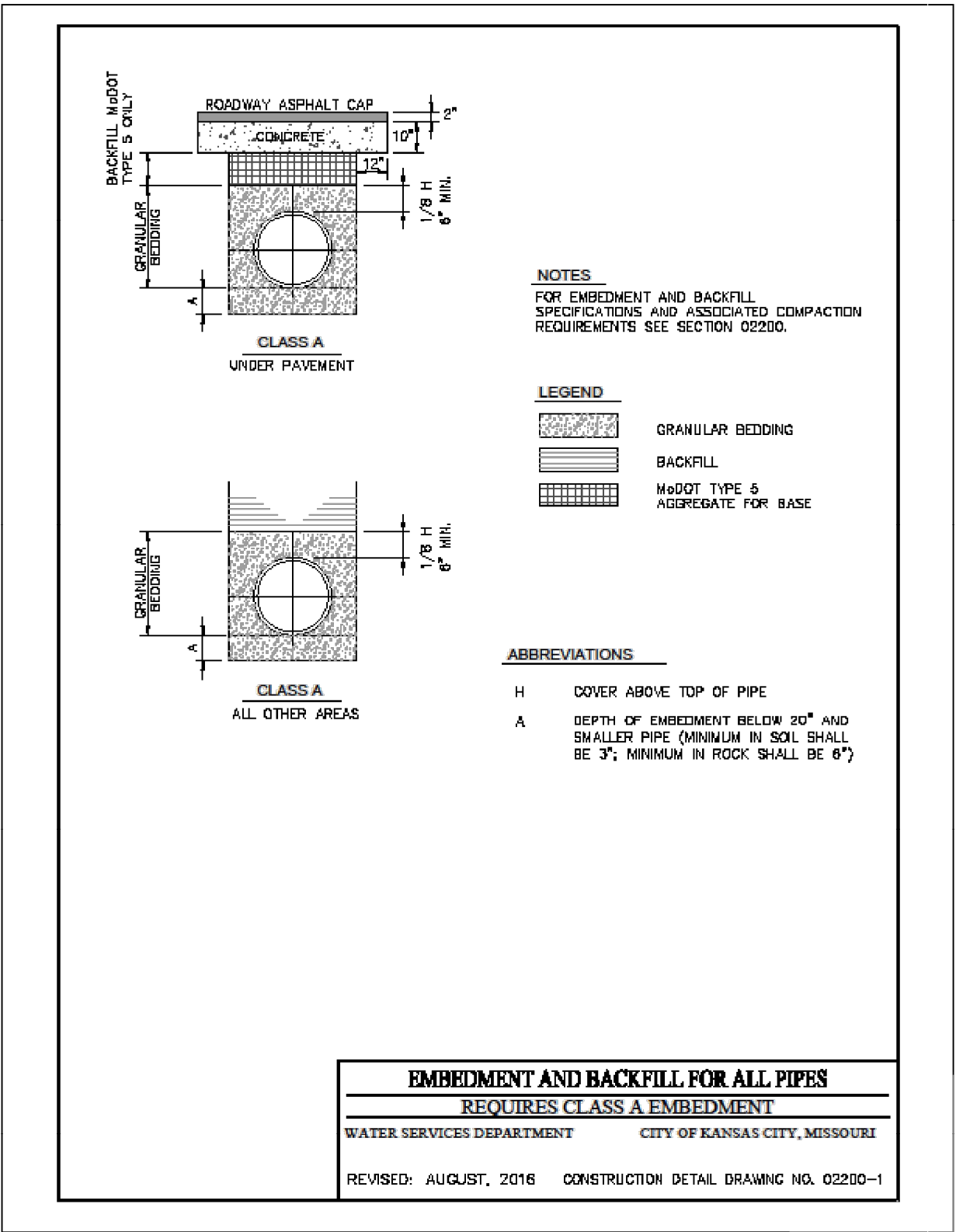
STANDARD DETAILS



PROFESSIONAL ENGINEER SEAL		KANSAS CITY, MISSOURI, WATER SERVICES DEPARTMENT	
FOR WSD USE		WATER MAIN EXTENSION	
		8" WATER MAIN EXTENSION FOR PARAGON STAR KANSAS CITY, JACKSON COUNTY, MISSOURI	
DRAWN BY: CEL/DRV CHKD BY: CEL DATE SUBMITTED: 3/27/19 RANGE: 32W TWP: 48N SEC: 33		CONTRACTOR: DATE COMPLETED:	
CONTRACT NO. []		CON. DATE []	
MAP NO. []		WORK ORDER NO. []	
DWG NO. []		PROJECT NO. []	
Sheet 9 of 10			

C:\12720\Civil 3D\Production Drawings\Water Main Plans\KCMO\12720C2400.dwg Layout: 10 Water Main Details --- Thursday, January 17, 2019, 8:35am --- Copyright 2019, George Butler Associates, Inc. 000205, Professional Engineer 000133, Landscape Architect 000205, Professional Land Surveyor 000059

	GBA architects engineers 9801 Renner Boulevard Lenexa, Kansas 66219 913.492.0400 www.gbateam.com	DATE: 1-18-19		
		DESIGN BY: CEL		
		DRAWN BY: DRV		
		PROJECT NO.: 12720		
		SHEET NO.	TOTAL SHEETS	
		10	10	
Bradley D. Burton Professional Engineer License No. 25862		Water Main Extension Plans Paragon Star Development Kansas City, Missouri		
NO.	DATE	REVISIONS	BY	APPROVED



PROFESSIONAL ENGINEER SEAL	KANSAS CITY, MISSOURI, WATER SERVICES DEPARTMENT					
	WATER MAIN EXTENSION 8" WATER MAIN EXTENSION FOR PARAGON STAR KANSAS CITY, JACKSON COUNTY, MISSOURI					
FOR WSD USE	DRAWN BY:	CHKD BY:	DATE SUBMITTED	RANGE	TWP	SEC
	CEL/DRV	CEL	32W	48N	33	
	CONTRACTOR			DATE COMPLETED		
	CONTRACT NO.	CON. DATE	MAP NO.	WORK ORDER NO.	DWG NO.	
PROJECT NO.			Sheet 10 of 10			