

# CITY OF CARLSBAD

## EAST ROSE STREET SEWER IMPROVEMENTS

BID NO. 2021-10



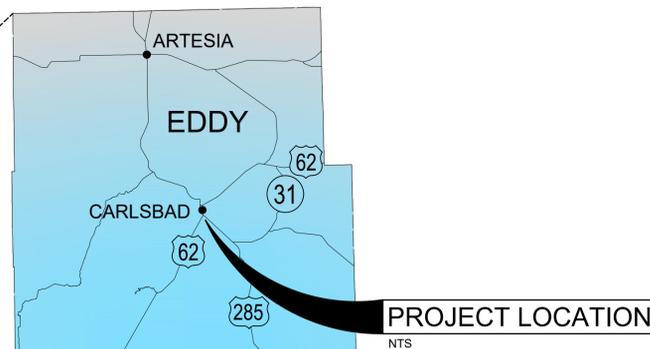
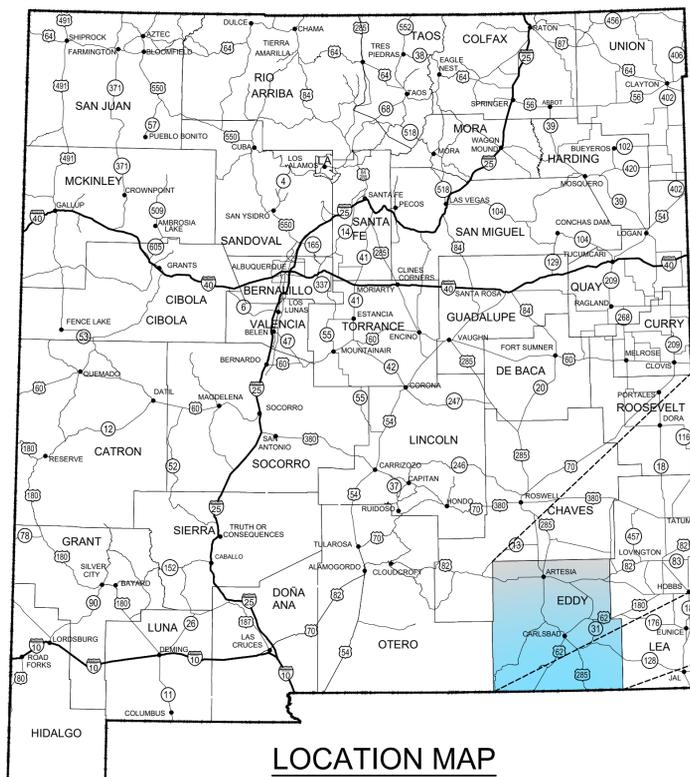
EDDY COUNTY, CITY OF CARLSBAD, NEW MEXICO

October 2021

PROJECT DESCRIPTION:  
INSTALLATION OF 1,454 LINEAR FEET OF 8" FORCE MAIN,  
2 MANHOLES AND ASSOCIATED APPURTENANCES

### DRAWING INDEX

Sheet No.	Sheet Title
G-1	COVER AND DRAWING INDEX
G-2	GENERAL NOTES AND ABBREVIATIONS
G-3	SITE PLAN AND DRAWING KEY INDEX
G-4	SURVEY CONTROL
C-1	PLAN AND PROFILE STA 0+00 TO 5+00
C-2	PLAN AND PROFILE STA 5+00 TO 10+00
C-3	PLAN AND PROFILE STA 10+00 TO 14+54.2
DT-1	SEWER DETAILS (1 of 3)
DT-2	SEWER DETAILS (2 of 3)
DT-3	SEWER DETAILS (3 of 3)
T-1	TEMPORARY TRAFFIC CONTROL



THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECTION AND SUPERVISION ON BEHALF OF SOUDER, MILLER & ASSOCIATES.

*Keaton P. Chancellor* 10-11-2021  
 KEATON CHANCELLOR, P.E. DATE  
 PROJECT MANAGER

THE SEAL AND SIGNATURE OF THE PROFESSIONAL REGISTRANT IDENTIFIED ON THIS COVER SHEET DOES NOT SUGGEST RESPONSIBLE CHARGE FOR ALL SHEETS CONTAINED WITHIN THIS PACKAGE; PLAN SHEETS NOT SIGNED AND SEALED ARE NOT THE RESPONSIBILITY OF THE PROFESSIONAL REGISTRANT IDENTIFIED ON THIS COVER SHEET. PLEASE REFER TO PROFESSIONAL REGISTRANTS IDENTIFIED ON INDIVIDUAL PLAN SHEETS.

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Rev #	Date	Description	By	Chk'd

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NOTICE OF EXTENDED PAYMENT PROVISION - THIS CONTRACT  
 ALLOWS THE OWNER TO MAKE PAYMENT WITHIN 45 DAYS AFTER  
 SUBMISSION OF AN UNDISPUTED REQUEST FOR PAYMENT.

P:\6-CoC East Rose Street Sewer Improvements (6E29911)\CAD\Civil\Construction\East Rose (6E29911) Cover.dwg, 10/11/2021 1:55:19 PM kpc







CITY OF CARLSBAD  
EAST ROSE STREET SEWER IMPROVEMENTS  
SURVEY CONTROL SHEET



1002  
FOUND 3" BRASS CAP  
N=503969.89  
E=576283.01  
EL=3133.57

1000  
FOUND REBAR WITH CAP - ILLEGIBLE  
N=503986.62  
E=577067.36  
EL=3131.94

1001  
FOUND 1" STEEL PIPE  
N=503984.73  
E=577002.28  
EL=3132.00

801  
FOUND 5/8" IRON ROD - NO CAP  
N=503652.38  
E=578051.19  
EL=3129.37

PROJECT COORDINATE SYSTEM INFORMATION

COORDINATE SYSTEM

MODIFIED US STATE PLANE 1983  
NEW MEXICO EAST ZONE  
ALL DISTANCES ARE GROUND DISTANCES, UNITS ARE US SURVEY FEET  
ALL COORDINATES ARE GROUND COORDINATES  
GRID TO GROUND SCALE FACTOR= 1.0002353846  
SCALED FROM: N32°23'07.81703" W104°12'56.00300" (N = 503998.13 E = 577693.38)

VERTICAL DATUM

NAVD 1988  
GEOID 12B (CONUS) WAS UTILIZED TO ESTABLISH ORTHO HEIGHTS

METHODS

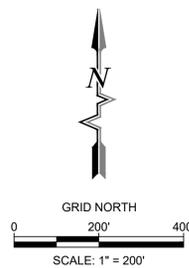
ALL CONTROL ON THIS PROJECT WAS OBSERVED AND SET BETWEEN AUGUST 7, 2019 AND JUNE 10, 2020. THE FINAL ADJUSTMENT BEING MADE JUNE 27, 2020. ALL POINTS WERE OBSERVED USING TRIMBLE R8 GPS RECEIVERS UTILIZING RTK GPS METHODS

I, DARRYL D. COSTER, NEW MEXICO PROFESSIONAL SURVEYOR NO. 21204, DO HEREBY CERTIFY THAT THIS CONTROL SURVEY REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION BASED ON AN ACTUAL SURVEY ON THE GROUND AS DESCRIBED HEREIN; THAT I AM RESPONSIBLE FOR THIS SURVEY; AND THAT THE SURVEY AND REPORT MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.

*D. Coster*  
DARRYL D. COSTER, N.M.P.S. 21204



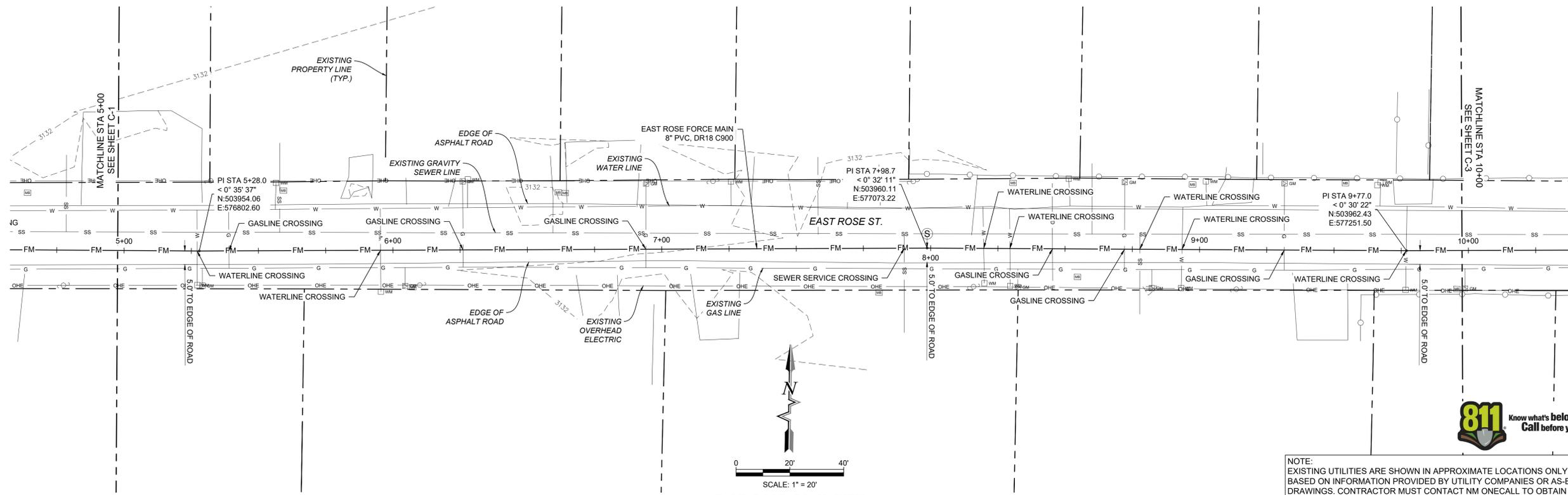
7/6/2021  
DATE



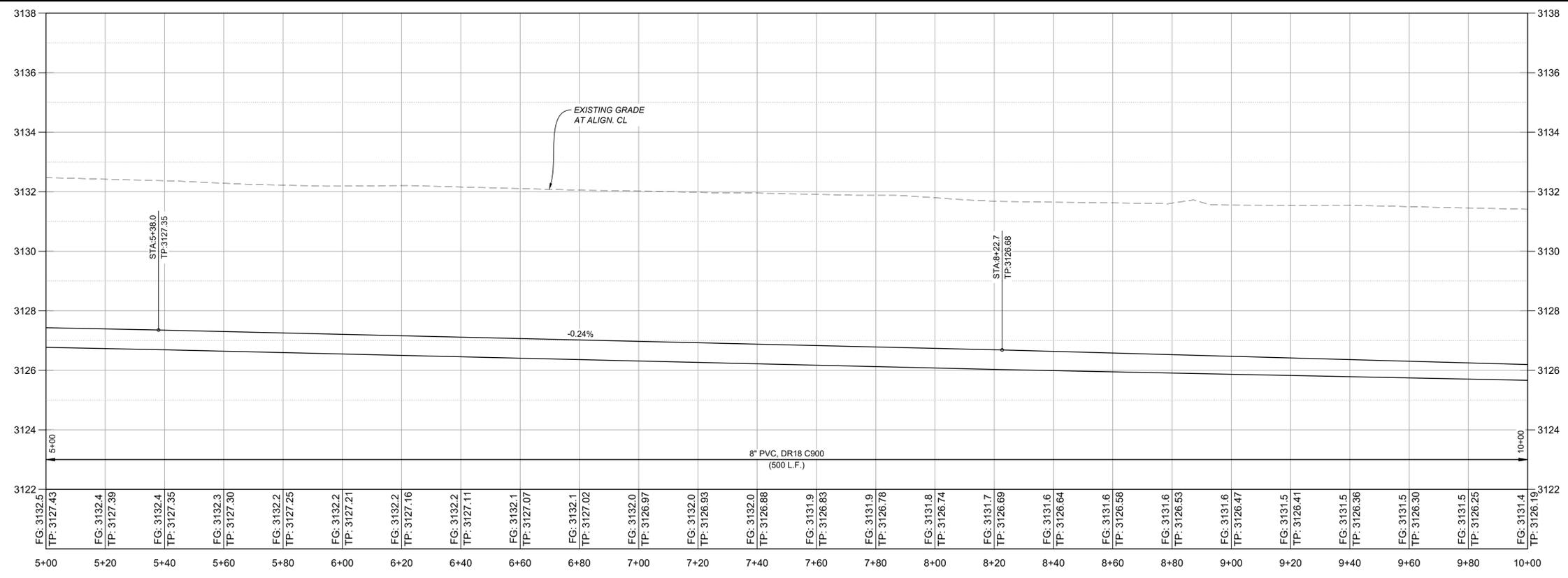
Point Table				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
801	503652.38	578051.19	3129.37	FOUND 5/8" IRON ROD - NO CAP
1000	503986.62	577067.36	3131.94	FOUND REBAR WITH CAP - ILLEGIBLE
1001	503984.73	577002.28	3132.00	FOUND 1" STEEL PIPE
1002	503969.89	576283.01	3133.57	FOUND 3" BRASS CAP

CITY OF CARLSBAD	CARLSBAD, NM	SMA Engineering • Environmental • Surveying Serving the Southwest & Rocky Mountains 5454 Venice Avenue NE, Suite D Albuquerque, NM 87113 Phone (505) 299-0942 Toll-Free (877) 299-0942 Fax (505) 293-3400 www.soudermiller.com	SOUDER, MILLER & ASSOCIATES	By: <i>CMK</i>	
CITY OF CARLSBAD EAST ROSE STREET SEWER IMPROVEMENTS SURVEY CONTROL					
Designed KPC	Drawn AAV	Checked JMG			
Date: October 2021					
Scale: Horiz: 1" = 200' Vert: N/A					
Project No: 6E29911					
Sheet: <b>G-4</b>					





NOTE:  
EXISTING UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY, BASED ON INFORMATION PROVIDED BY UTILITY COMPANIES OR AS-BUILT DRAWINGS. CONTRACTOR MUST CONTACT NM ONECALL TO OBTAIN SPOTS AND SHALL VERIFY HORIZONTAL AND VERTICAL LOCATIONS IN THE FIELD. SEE GENERAL NOTES FOR FURTHER INFORMATION.



**EAST ROSE PROFILE VIEW  
8" FORCE MAIN**

Rev #	Date	Description	By

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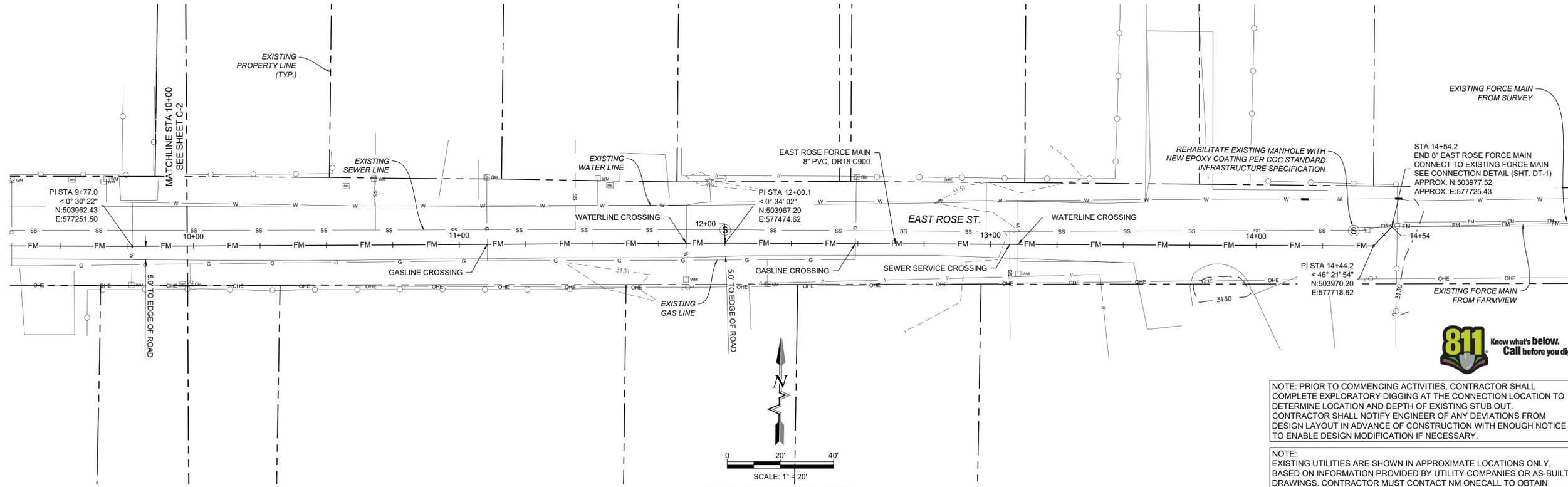
CITY OF CARLSBAD  
CARLSBAD, NM

**CITY OF CARLSBAD  
EAST ROSE STREET SEWER IMPROVEMENTS  
PLAN AND PROFILE STA 5+00 TO 10+00**

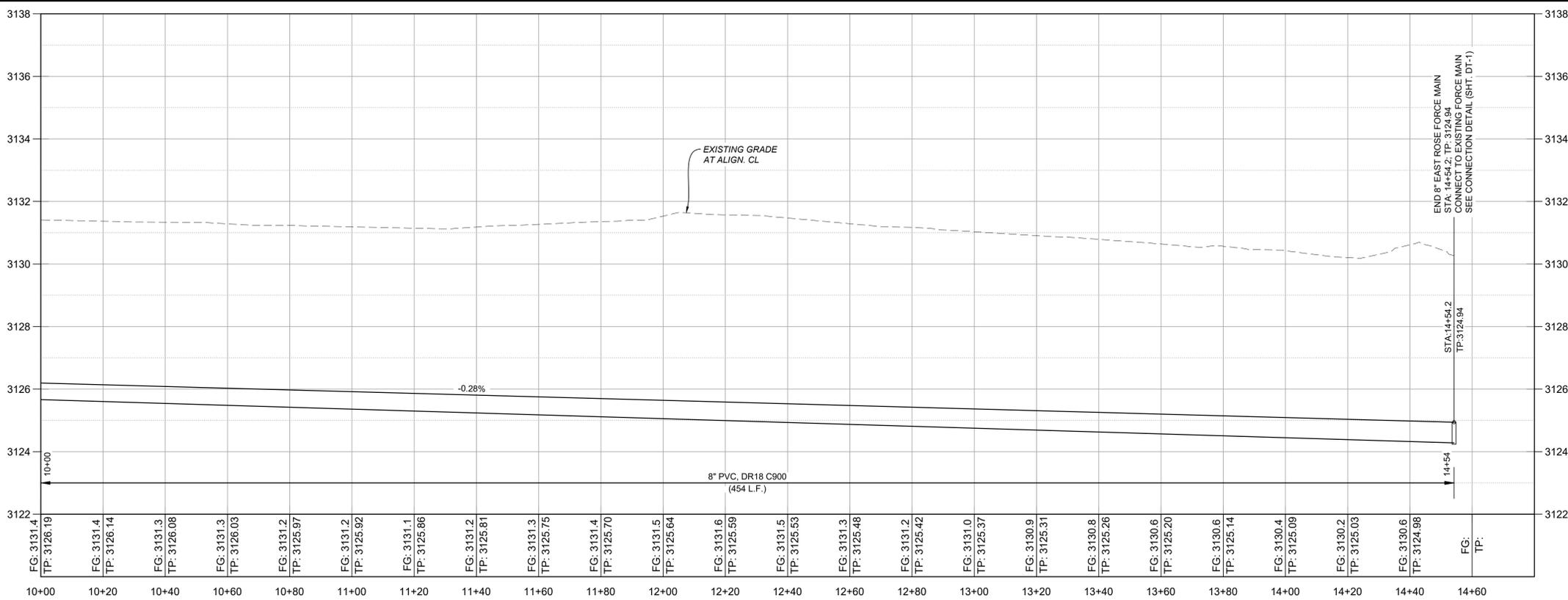
THIS DRAWING IS INCOMPLETE AND NOT TO BE USED FOR CONSTRUCTION UNLESS IT IS STAMPED, SIGNED AND DATED

Designed: KPC	Drawn: AAV	Checked: JMG
---------------	------------	--------------

Date: October 2021  
Scale: Horiz: 1" = 20'  
Vert: 1" = 2'  
Project No: 6E29911  
Sheet: C-2



EAST ROSE PLAN VIEW  
8" FORCE MAIN



EAST ROSE PROFILE VIEW  
8" FORCEMAIN

Rev #	Date	Description	By

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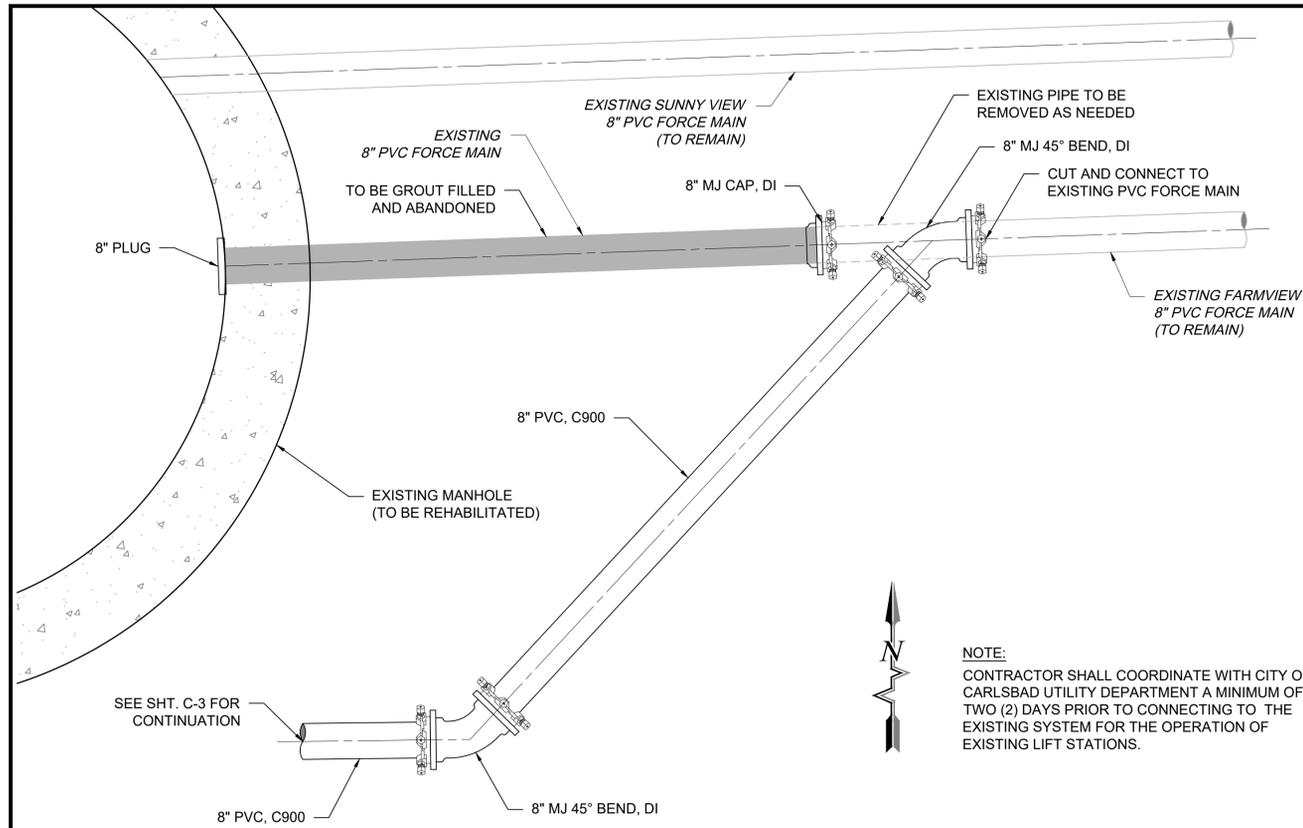
CITY OF CARLSBAD  
CITY OF CARLSBAD  
EAST ROSE STREET SEWER IMPROVEMENTS  
PLAN AND PROFILE STA 10+00 TO 14+54.2

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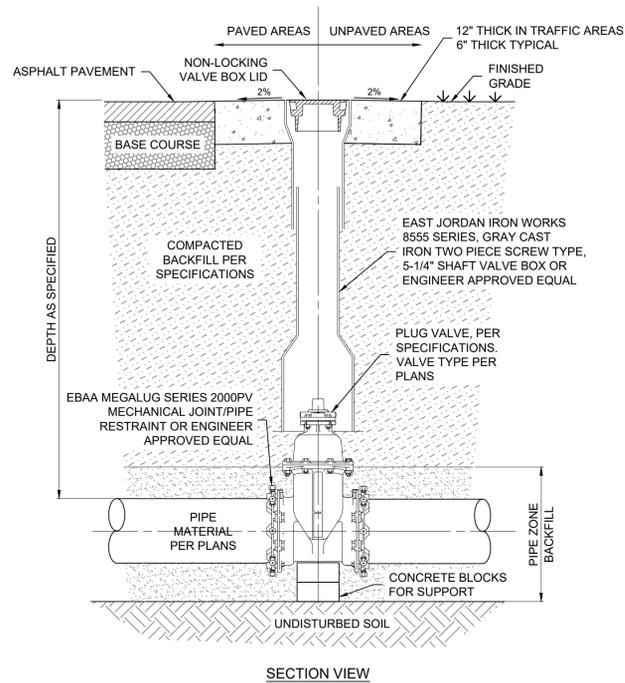
Designed	Drawn	Checked
KPC	AAV	JMG

Date: October 2021  
Scale: Horiz: 1" = 20'  
Vert: 1" = 2'

Project No: 6E29911  
Sheet: C-3

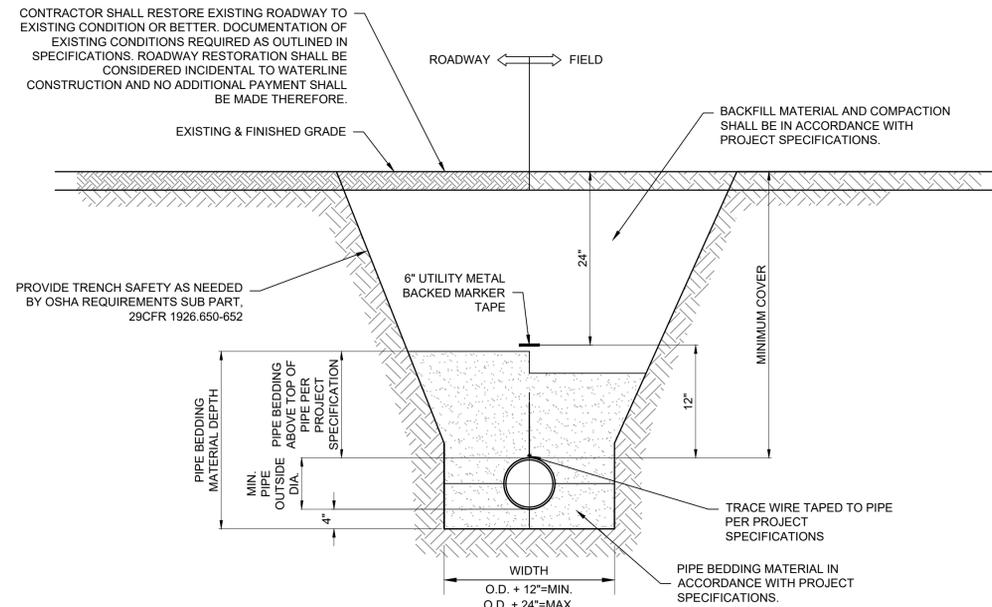


1 CONNECTION DETAIL  
DT-1  
NOT TO SCALE

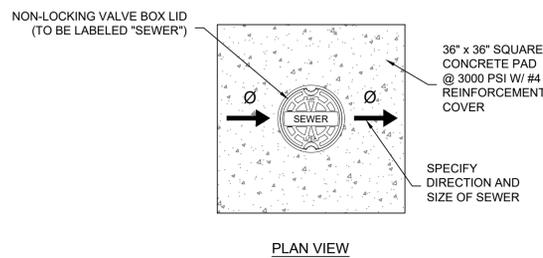


2 PLUG VALVE DETAIL  
DT-1  
NOT TO SCALE

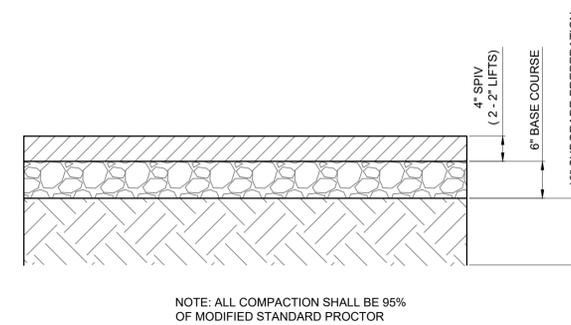
**NOTE:**  
CONTRACTOR SHALL COORDINATE WITH CITY OF CARLSBAD UTILITY DEPARTMENT A MINIMUM OF TWO (2) DAYS PRIOR TO CONNECTING TO THE EXISTING SYSTEM FOR THE OPERATION OF EXISTING LIFT STATIONS.



3 TRENCH DETAIL  
DT-1  
NOT TO SCALE



- NOTE:**
- 1) CONTRACTOR TO MATCH GATE VALVE OR PLUG VALVE AND PIPE RESTRAINTS TO SPECIFIED PIPE CLASSIFICATION CALLOUT.
  - 2) GATE VALVES AND PLUG VALVES SHALL BE RESTRAINED PER DEAD END REQUIREMENTS IN JOINT RESTRAIN TABLE, IN EACH DIRECTION OF THE PIPE.
  - 3) REFER TO TECHNICAL SPECIFICATIONS FOR ALL BACKFILL, BASE COURSE AND ASPHALT SPECIFICATIONS.
  - 4) VALVE BOX EXTENSION SHOULD NOT CONTACT THE PIPELINE MAIN PLUG.



3 PAVEMENT SECTION  
DT-1  
NOT TO SCALE

- NOTES:**
1. 3 FT. MINIMUM COVER DEPTH BELOW GRADE, OR AS SHOWN ON PLANS.
  2. BACKFILL MATERIAL AND COMPACTION SHALL BE IN ACCORDANCE WITH PROJECT SPECIFICATIONS.
  3. MINIMUM 10 FOOT HORIZONTAL SEPARATION BETWEEN SEWER MAINLINES AND WATER MAINLINES.
  4. RESTORE TRENCHES IN ROADWAYS AND CROSSING DRIVEWAYS TO SAME OR BETTER CONDITION.

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CITY OF CARLSBAD  
EAST ROSE STREET SEWER IMPROVEMENTS  
SEWER DETAILS (1 of 3)



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Designed KPC Drawn AAV Checked JMG

Date: October 2021

Scale: Horiz: N/A Vert: N/A

Project No: 6E29911

Sheet: DT-1

LENGTH IN FEET REQUIRED FOR ALL PVC RESTRAINED JOINTS  
(VALUES IN PARENTHESIS ARE FOR DUCTILE IRON PIPE RESTRAINED JOINTS)

HORIZONTAL BEND						
PIPE DIA.	DEAD END	90° BEND	45° BEND	22.5° BEND	11.25° BEND	
8-INCH	98	29	12	6	3	

RESTRAINED EACH WAY  
GATE VALVES TO BE RESTRAINED IN SAME MANNER AS DEAD ENDS

VERTICAL OFFSET						
BEND	PIPE DIAMETER 6-INCH					
	Ld = 6		Ld = 7		Ld = 8	
	UPPER BEND	LOWER BEND	UPPER BEND	LOWER BEND	UPPER BEND	LOWER BEND
45°	41	9	41	8	41	7
22.5°	20	5	20	4	20	3
11.25°	10	2	10	2	10	2

RESTRAINED EACH WAY  
FOR Ld > 4 CONSULT ENGINEER

8" x 8" x 8" TEE/WYE		8" x 10" REDUCER	
RUN	BRANCH	40	
20' Lr	1	RESTRAINED ON LARGE SIDE OF THE REDUCER	
10' Lr	2	10" x 12" REDUCER	
8' Lr	22	41	
6' Lr	41	RESTRAINED ON LARGE SIDE OF THE REDUCER	
4' Lr	60		
2' Lr	79		

RESTRAINED ALONG THE

8" x 8" x 8" TEE/WYE		8" x 10" REDUCER	
RUN	BRANCH	40	
20' Lr	1	RESTRAINED ON LARGE SIDE OF THE REDUCER	
10' Lr	2	10" x 12" REDUCER	
8' Lr	22	41	
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2' Lr	79		

RESTRAINED ALONG THE

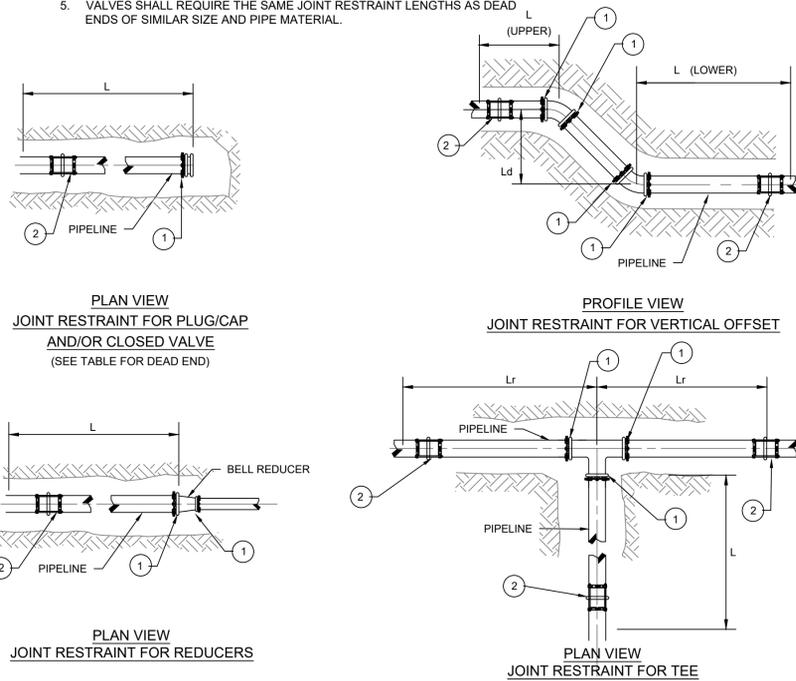
TABLE APPLIES TO PVC AND DUCTILE IRON PIPE FOR THE FOLLOWING CONDITIONS

- TEST PRESSURE: 150 PSIG
- SOIL TYPE: M1
- TRENCH TYPE: 5
- DEPTH OF COVER: 48"
- SAFETY FACTOR: 2

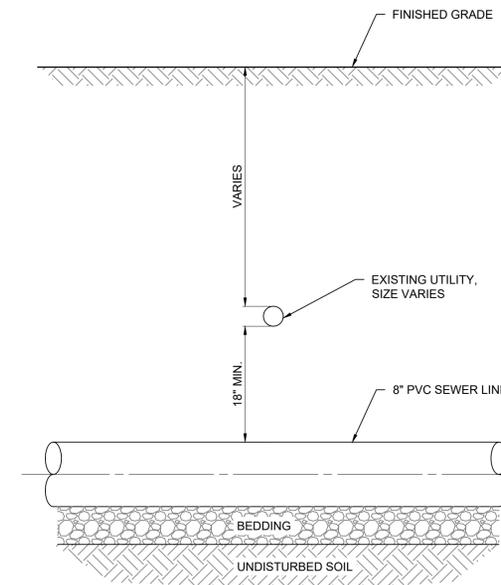
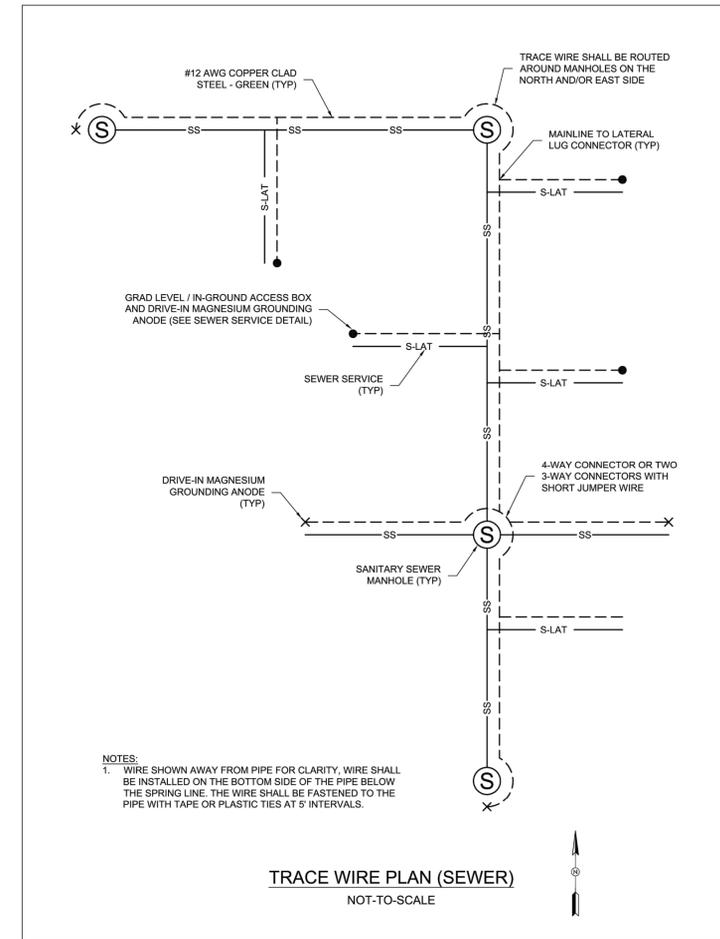
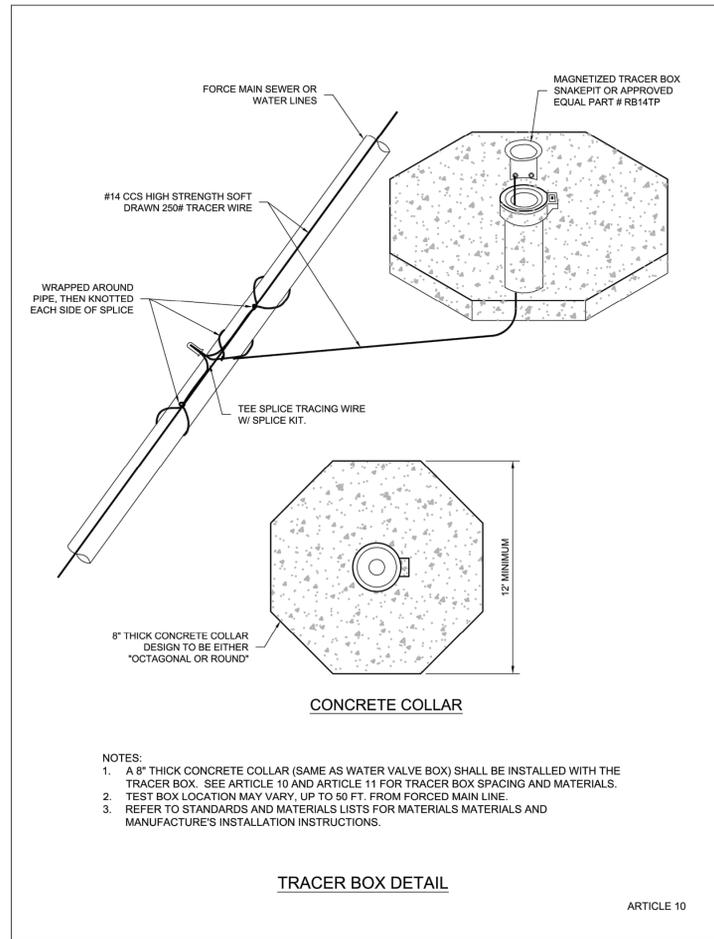
IF EXCAVATED NATIVE MATERIAL IS TO BE USED FOR PIPE EMBEDMENT, CONTRACTOR TO SUBMIT REVISED JOINT RESTRAINT TABLE REFLECTING APPROPRIATE SOIL TYPE.

NOTES:

- MECHANICAL JOINT RESTRAINT FOR PVC C900 OR DUCTILE IRON PIPE. (USE EBAA IRON SERIES 2000 PV JOINT RESTRAINTS FOR AWWA C-900 PVC PIPE AND SERIES 1100 FOR DUCTILE IRON PIPE, OR APPROVED EQUAL.)
- BELL JOINT RESTRAINT HARNESS FOR C900 PVC OR DUCTILE IRON PIPE. (USE EBAA IRON SERIES 1600 JOINT RESTRAINT FOR AWWA C-900 PVC PIPE AND SERIES 1700 FOR DUCTILE IRON PIPE, OR APPROVED EQUAL.)
- NO CONCRETE THRUST BLOCKING SHALL BE INSTALLED UNLESS EXPLICITLY APPROVED OR REQUESTED BY THE ENGINEER IN WRITING. RESTRAINED JOINTS SHALL BE USED AT ALL PIPE FITTINGS PER THIS DETAIL AS A MINIMUM STANDARD. MINIMUM RESTRAINT LENGTHS SHALL BE PER MANUFACTURER RECOMMENDATIONS AND WITH REGARD TO SPECIFIC SITE CONDITIONS AND SYSTEM OPERATING PARAMETERS.
- L = LENGTH IN WHICH ALL JOINTS SHALL BE RESTRAINED
- VALVES SHALL REQUIRE THE SAME JOINT RESTRAINT LENGTHS AS DEAD ENDS OF SIMILAR SIZE AND PIPE MATERIAL.



1 PIPE RESTRAINTS FOR PVC PIPE AT BENDS  
DT-2 NOT TO SCALE



2 UTILITY CROSSING DETAIL  
DT-2 NOT TO SCALE

By: CJK

Description:

Rev # Date:

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CITY OF CARLSBAD  
EAST ROSE STREET SEWER IMPROVEMENTS  
SEWER DETAILS (2 of 3)

KEATON P. CHANCELLOR  
Professional Engineer  
10-27-2021

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Designed	Drawn	Checked
KPC	AAV	JMG

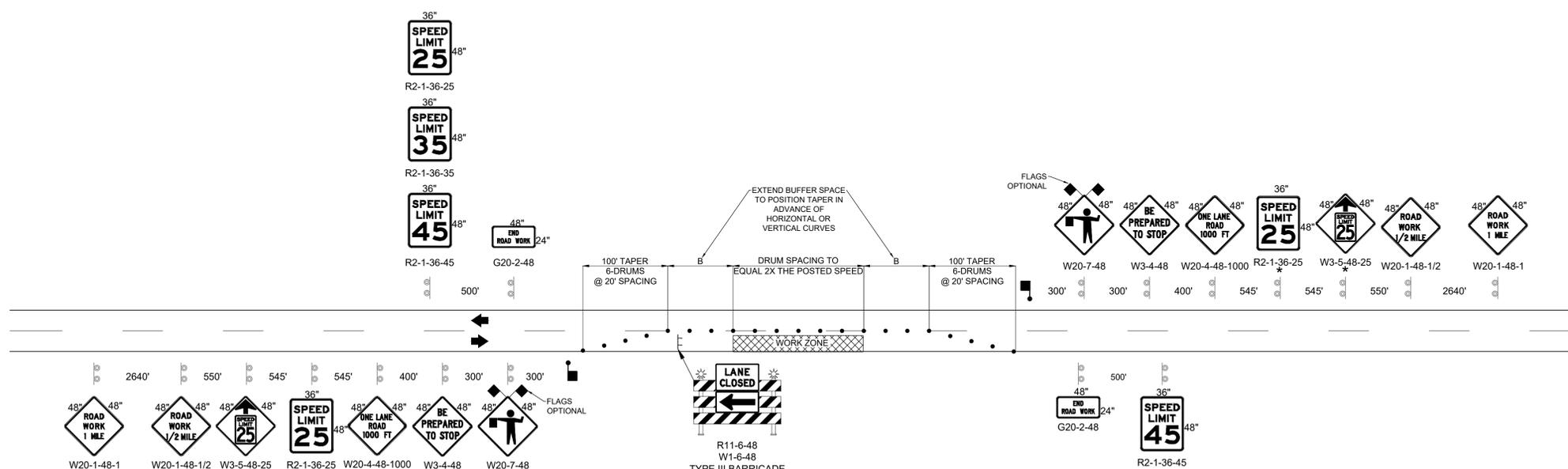
Date: October 2021

Scale: Horiz: N/A  
Vert: N/A

Project No: 6E29911

Sheet: DT-2





**TYPICAL SIGNING AND DRUM PLACEMENT**  
 WORKING HOURS - FOR DETOUR CONNECTION AND OBLITERATION  
 \* DENOTES DEPENDANT OF EXISTING SPEED LIMIT

LONGITUDINAL BUFFER			
SPEED (MPH)	LENGTH "B" (FEET)	DRUMS (EACH)	SPACING (FEET)
25	155 MIN	7	25 MAX
35	250 MIN	7	35 MAX
45	360 MIN	8	45 MAX

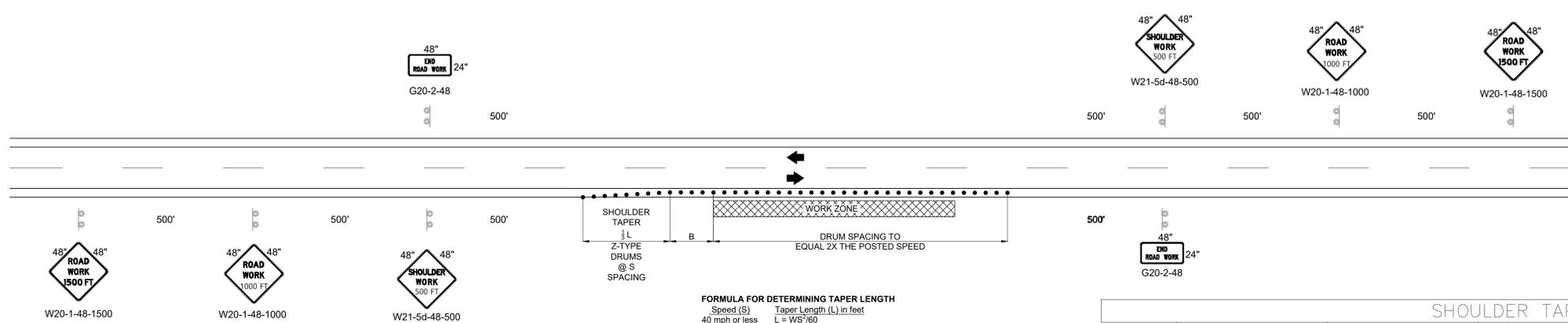
• DEVICE SPACING MAY BE REDUCED AND ADDITIONAL DEVICES USED AS NEEDED

**LEGEND**

- TYPE B WARNING LIGHT
- FLAGGER STATION
- FLUORESCENT ORANGE FLAG

**GENERAL NOTES**

1. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR OBTAINING NEW MEXICO DEPARTMENT OF TRANSPORTATION APPROVAL OF A TRAFFIC CONTROL PLAN, WITHIN THE RIGHTS-OF-WAY AND ITS UTILIZATION, MAINTENANCE AND REMOVAL.
2. THE TRAFFIC CONTROL SUPERVISOR SHALL SET TRAFFIC CONTROL DEVICES TO DEFINE WORK ZONE AT THE BEGINNING OF EACH WORK DAY.
3. FLAGGER AND CORRESPONDING SIGNING SHALL BE USED FOR CONSTRUCTION AT ALL INTERSECTION AND SIDE STREETS AS PER THESE PLANS AND PROJECT MANAGER'S DIRECTIONS.
4. THE CONTRACTOR SHALL REMOVE AND RESET OR COVER ALL CONFLICTING PERMANENT SIGNING AS DIRECTED BY THE PROJECT MANAGER.
5. THE CONTRACTOR SHALL PROVIDE ACCESS TO ALL DRIVEWAYS AND TURNOUTS AT ALL TIMES.
6. THIS DRAWING SHALL NOT APPLY TO FREEWAYS OR ROADWAYS WITH A POSTED SPEED LIMIT ABOVE 45 MPH.
7. SHOULDER WORK SCENARIO SHALL NOT ENCR OACH OR REDUCE ADJACENT TRAVEL LANE WIDTH.
8. AT THE END OF THE WORKING DAY, IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE A DRIVING SURFACE FREE OF OBSTRUCTIONS (TWO-WAY TRAFFIC).
9. SIGNS SHALL MEET SPECIFICATIONS IN THE STANDARD HIGHWAY SIGNS MANUAL AND CURRENT EDITION OF THE MUTCD.



**FORMULA FOR DETERMINING TAPER LENGTH**  
 Speed (S) Taper Length (L) in feet  
 40 mph or less L = WS<sup>2</sup>/60  
 45 mph or more L = WS

**TYPICAL DRUM PLACEMENT**  
 SHOULDER WORK (LEFT AND/OR RIGHT)

By: CJKD

Description

Rev # Date

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**CITY OF CARLSBAD**

**EAST ROSE STREET SEWER IMPROVEMENTS**

**TRAFFIC CONTROL**

CITY OF CARLSBAD

KEATON P. CHANCELOTT  
 PROFESSIONAL ENGINEER

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Designed	Drawn	Checked
KARC	AAV	JMG

Date: October 2021  
 Scale: Horiz: NTS  
 Vert:  
 Project No: 6E29911  
 Sheet: T-1