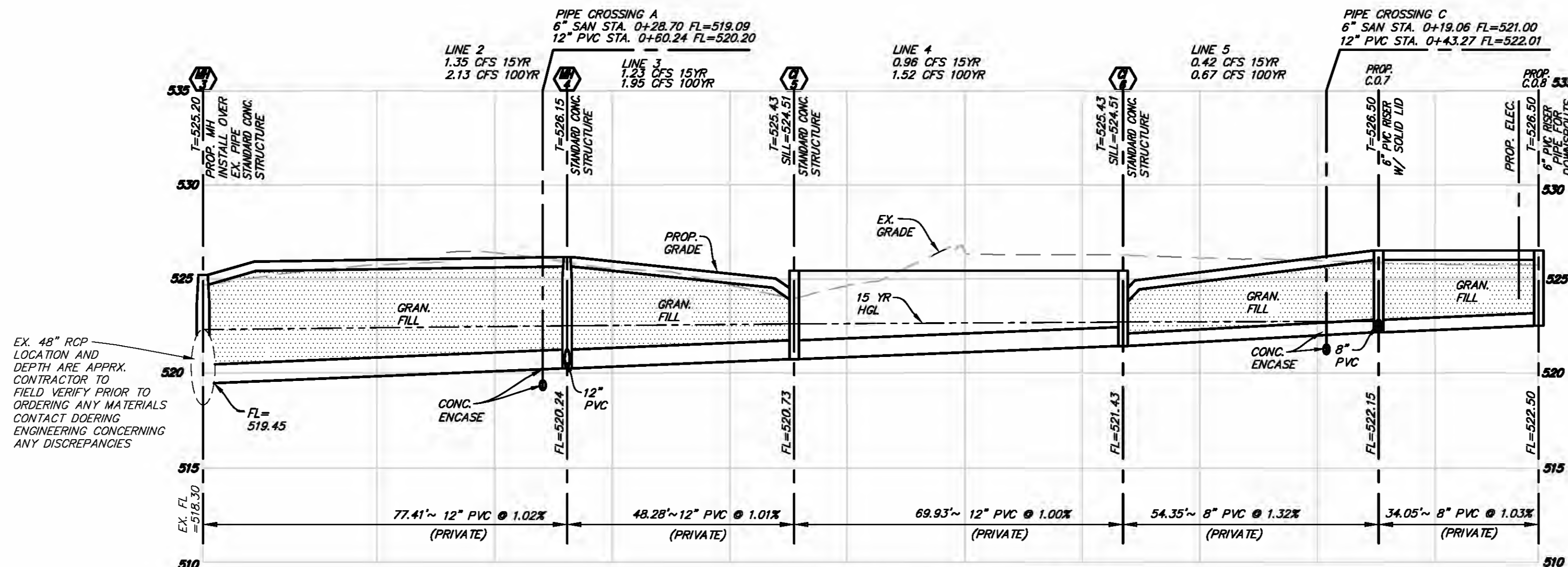


**STORM SEWER PROFILE**

SCALE 1"=5' VERT.  
SCALE 1"=20' HORIZ.

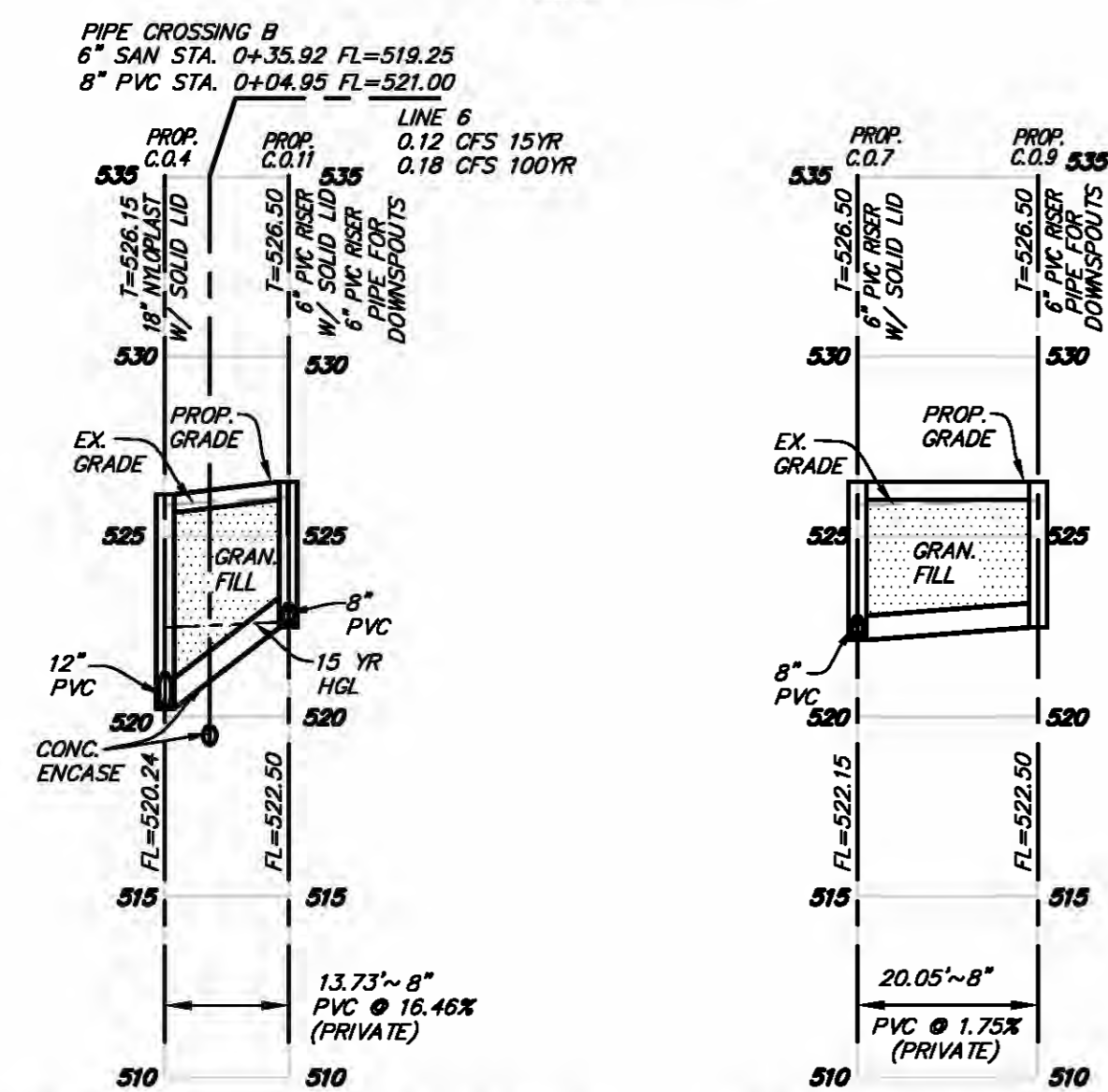
EX. 48" RCP LOCATION AND DEPTH ARE APPROX. CONTRACTOR TO FIELD VERIFY PRIOR TO ORDERING ANY MATERIALS CONTACT DOERING ENGINEERING CONCERNING ANY DISCREPANCIES



**STORM SEWER PROFILE**

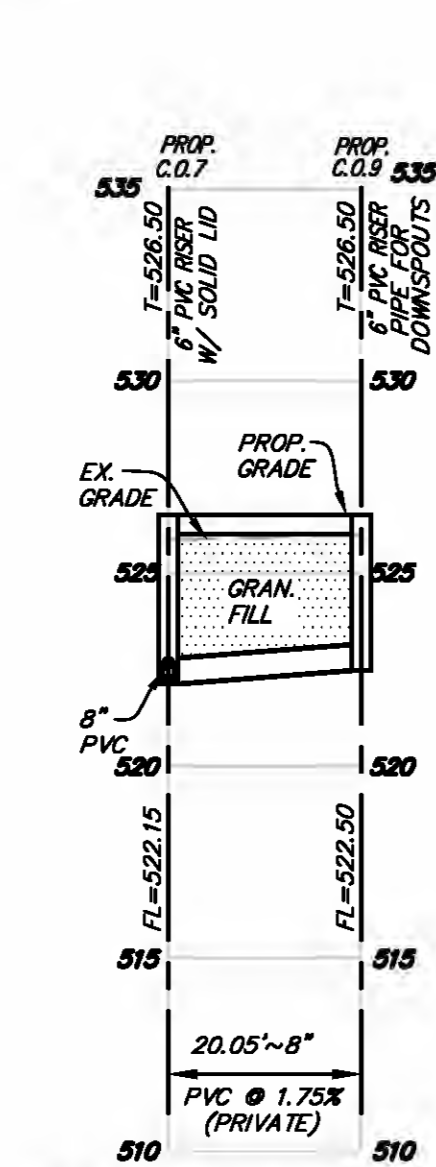
SCALE 1"=5' VERT.  
SCALE 1"=20' HORIZ.

EX. 48" RCP LOCATION AND DEPTH ARE APPROX. CONTRACTOR TO FIELD VERIFY PRIOR TO ORDERING ANY MATERIALS CONTACT DOERING ENGINEERING CONCERNING ANY DISCREPANCIES



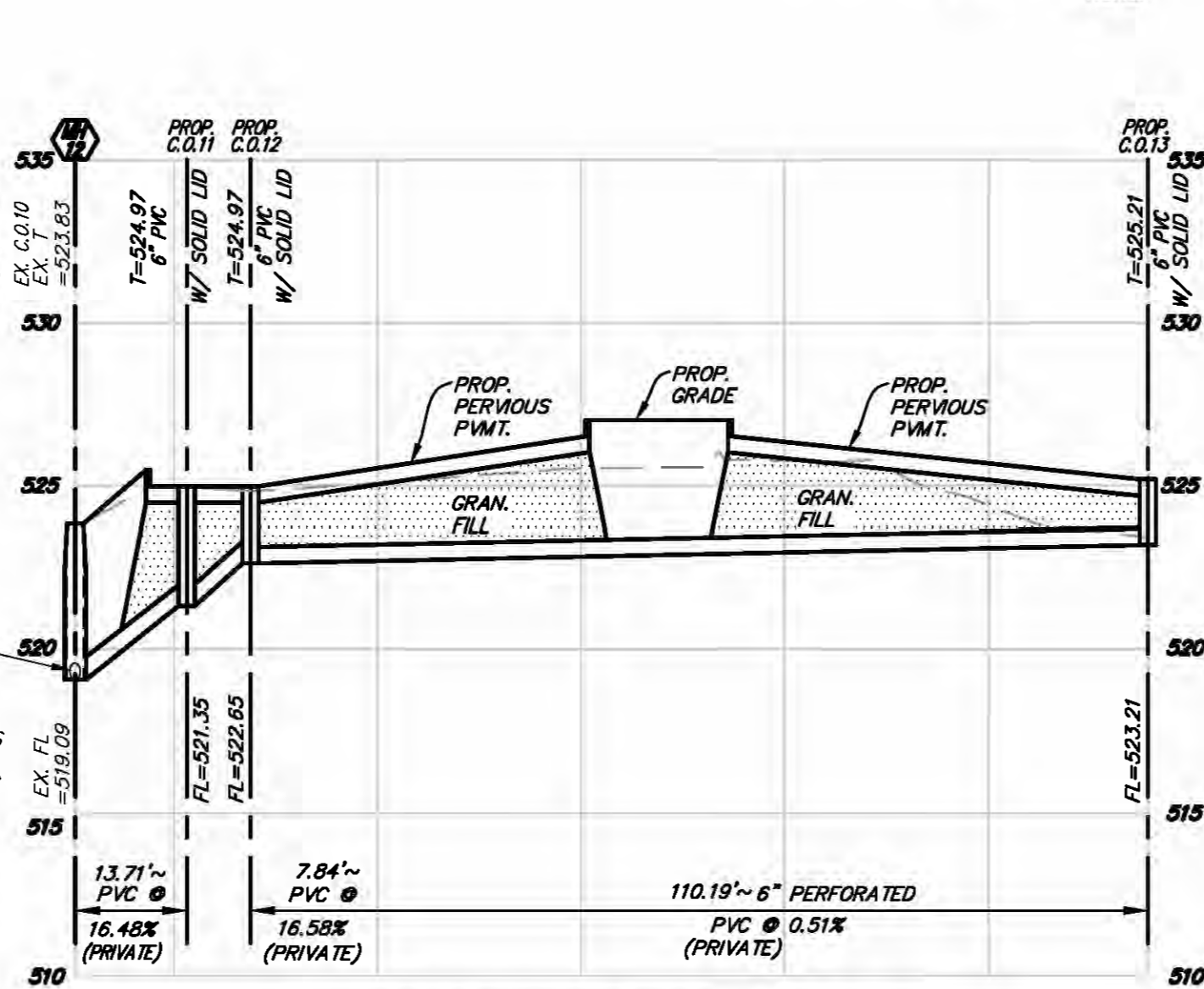
**STORM SEWER PROFILE**

SCALE 1"=5' VERT.  
SCALE 1"=20' HORIZ.



**STORM SEWER PROFILE**

SCALE 1"=5' VERT.  
SCALE 1"=20' HORIZ.

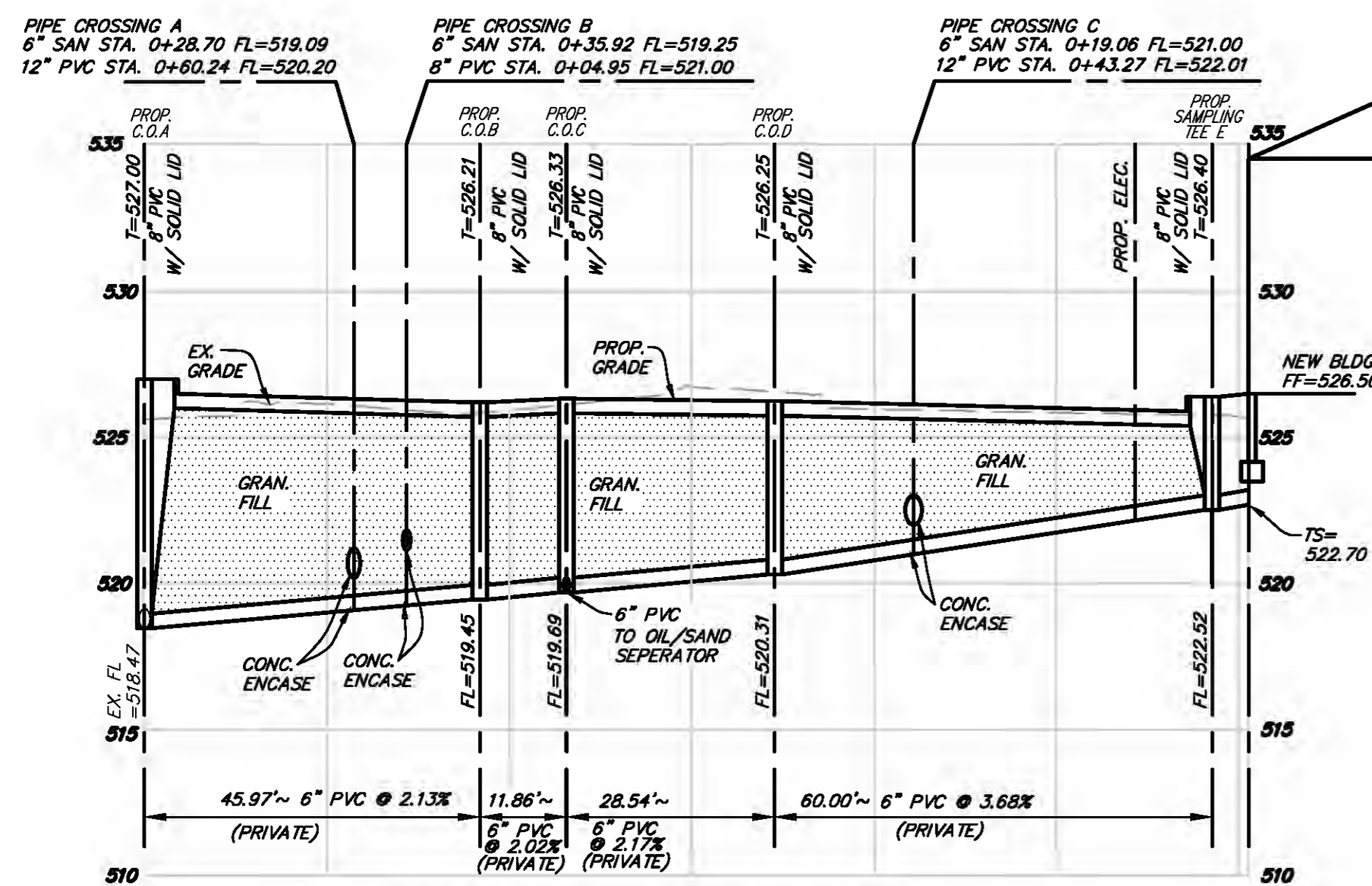


**STORM SEWER PROFILE**

SCALE 1"=5' VERT.  
SCALE 1"=20' HORIZ.

REMOVE EX. CO. AND REPLACE WITH PROP. STANDARD CONC. MANHOLE STRUCTURE SAME TOP AND FL AS EXISTING STRUCTURE

EX. 6" RCP LOCATION AND DEPTH ARE APPROX. CONTRACTOR TO FIELD VERIFY PRIOR TO ORDERING ANY MATERIALS CONTACT DOERING ENGINEERING CONCERNING ANY DISCREPANCIES



**SANITARY SEWER PROFILE**

SCALE 1"=5' VERT.  
SCALE 1"=20' HORIZ.

15 YR. EVENT HYDRAFLOW STORM SEWER 2005 VER.																				
LINE NO.	LINE ID	LINE LENGTH (FT.)	LINE SIZE (IN.)	LINE SLOPE (%)	LINE KNOWN Q (CFS)	FLOW RATE Q (CFS)	CAPACITY FULL (CFS)	CRITICAL DEPTH (FT.)	INVERT DN (FT.)	INVERT UP (FT.)	GRND/RM DN (FT.)	GRND/RM UP (FT.)	HGL DN (FT.)	HGL UP (FT.)	VEL DN (FT./S.)	VEL UP (FT./S.)	N-VALUE	MINOR LOSS (FT.)	DEFL. ANGLE (DEG.)	FREE. BOARD
1	MH 1 TO CI 2	68.45	12	1.33	0.34	0.34	4.11	0.25	520.3	521.21	525.85	524.29	522.3	522.31	0.43	0	0.013	0	80.7	1.98
2	MH 3 TO C.O. 4	77.41	12	1.02	0	1.35	3.6	0.49	519.45	520.24	525.92	526.15	522.3	522.46	1.72	0.05	0.013	0.05	-4.7	3.69
3	C.O. 4 TO CI 5	48.28	12	1.01	0.27	1.23	3.59	0.47	520.24	520.73	526.15	524.61	522.5	522.52	1.57	0.04	0.013	0.06	5.6	1.93
4	CI 5 TO CI 6	69.93	12	1	0.84	0.96	3.96	0.42	520.73	521.43	524.61	524.51	522.6	522.65	1.22	0.02	0.013	0.03	90	1.83
5	CI 6 TO C.O. 7	54.35	8	1.32	0.67	0.87	1.39	0.31	521.43	522.15	524.61	526.5	522.74	522.77	1.2	0.02	0.013	0.03	69.6	3.73
6	C.O. 7 TO C.O. 10	13.73	8	16.46	0.12	0.12	4.9	0.16	520.24	522.5	526.15	526.5	522.5	522.66	0.34	0	0.013	0.05	89	3.84

100 YR. EVENT HYDRAFLOW STORM SEWER 2005 VER.																				
LINE NO.	LINE ID	LINE LENGTH (FT.)	LINE SIZE (IN.)	LINE SLOPE (%)	LINE KNOWN Q (CFS)	FLOW RATE Q (CFS)	CAPACITY FULL (CFS)	CRITICAL DEPTH (FT.)	INVERT DN (FT.)	INVERT UP (FT.)	GRND/RM DN (FT.)	GRND/RM UP (FT.)	HGL DN (FT.)	HGL UP (FT.)	VEL DN (FT./S.)	VEL UP (FT./S.)	N-VALUE	MINOR LOSS (FT.)	DEFL. ANGLE (DEG.)	FREE. BOARD
1	MH 1 TO CI 2	68.45	12	1.33	0.54	0.54	4.11	0.31	520.3	521.21	525.85	524.29	522.3	522.32	0.69	0.01	0.013	0.01	80.7	1.97
2	MH 3 TO C.O. 4	77.41	12	1.02	0	2.13	3.6	0.62	519.45	520.24	525.92	526.15	522.3	522.58	2.71	0.11	0.013	0.11	-4.7	3.46
3	C.O. 4 TO CI 5	48.28	12	1.01	0.43	1.95	3.59	0.59	520.24	520.73	526.15	524.61	522.7	522.85	1.53	0.06	0.013	0.14	5.5	1.81
4	CI 5 TO CI 6	69.93	12	1	0.86	1.52	3.96	0.52	520.73	521.43	524.61	524.51	522.9	523.19	1.34	0.06	0.013	0.09	90	1.25
5	CI 6 TO C.O. 7	54.35	8	1.32	0.67	0.87	1.39	0.39	521.43	522.15	524.61	526.5	523.3	523.42	1.92	0.06	0.013	0.06	69.6	3.02
6	C.O. 7 TO C.O. 10	13.73	8	16.46	0.18	0.18	4.9	0.2	520.24	522.6	526.15	526.5	522.8	522.78	0.52	0	0.013	0.02	89	3.88

**NOTE**

A 5/8" TRASH BAR SHALL BE CENTERED WITHIN THE OPENING OF ALL INLETS.

Revised	Comment
2/17/16	1ST SUB TO CITY
2/23/16	REV. PER CITY CHECK LIST
4/7/16	REV. PER CITY COMMENTS
5/12/16	REV. PER CITY COMMENTS
6/13/16	REV. PER SEWER CONTRACTOR
7/17/16	REV. PER SEWER CONTRACTOR
10/3/16	3/4" ENTRANCE TO TOM GINNIVER

Missouri Office  
6300 Oaklin Rd.  
St. Louis, MO 63114  
Telephone: (314) 467-8919  
Fax: (314) 845-1718

**Doering Engineering Inc.**  
CIVIL ENGINEERING • PLANNING • SURVEYING

Seal  
STATE OF MISSOURI  
Professional Engineer  
Mark A. Doering  
10/3/16  
Professional Engineer

MARK A. DOERING  
CIVIL ENGINEER E-23059  
10/3/16  
MO. EXPIRATION DATE:  
DECEMBER 31 2014  
IL. EXPIRATION DATE:  
DECEMBER 31 2013  
MO. CORPORATE  
LICENSE NO. 001347  
IL. CORPORATE  
LICENSE NO. 184.003035

PLAZA TIRE  
1000 N MAIN ST.  
O'FALLON, MO 63366  
SEWER PROFILES

Date: 2/17/16  
Project: Number: 15030  
File Name: 15030D  
Drawn By: JAB  
Check By: MAD  
Sheet  
C7