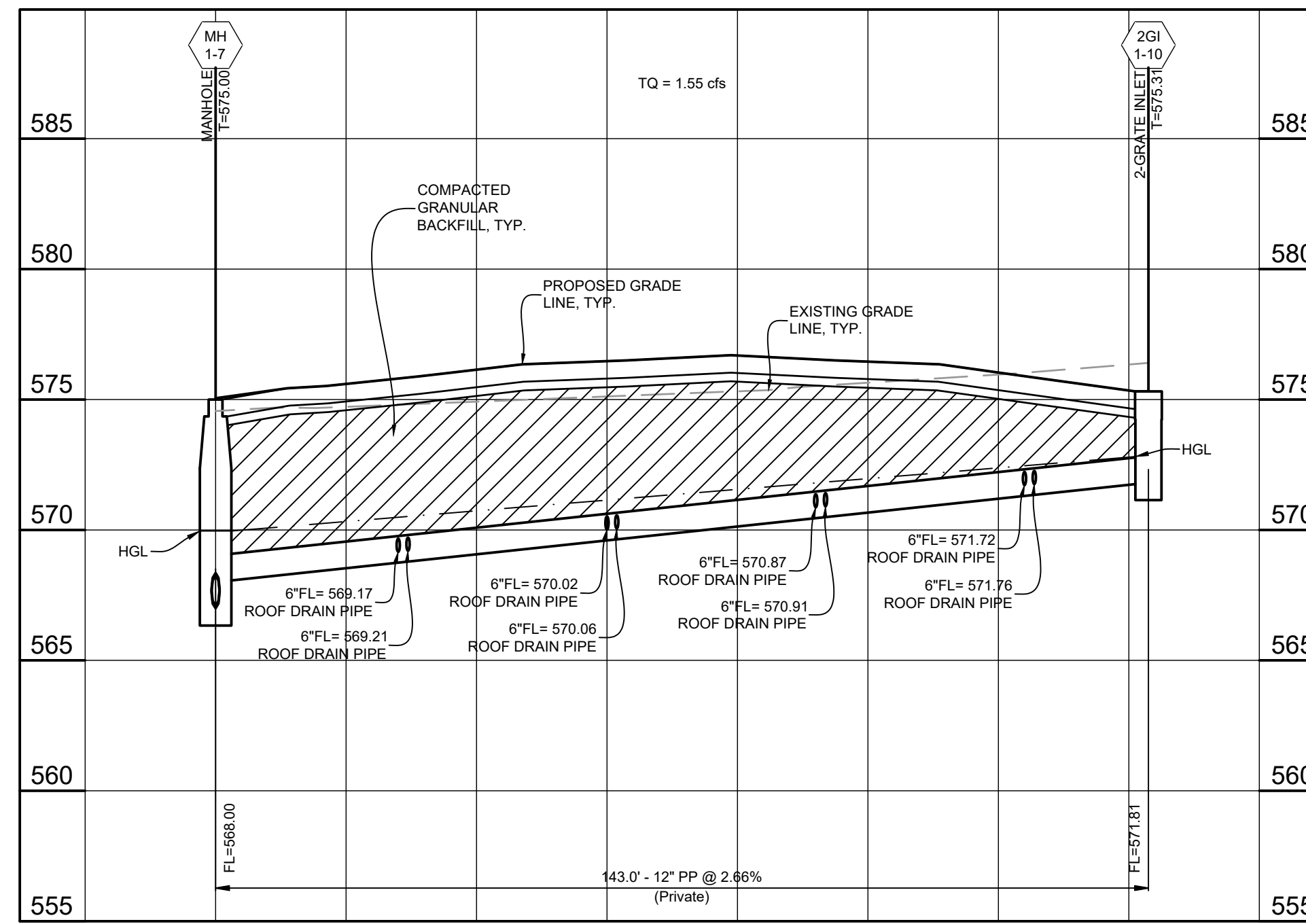


STORM01A



STORM01B

LEGEND:

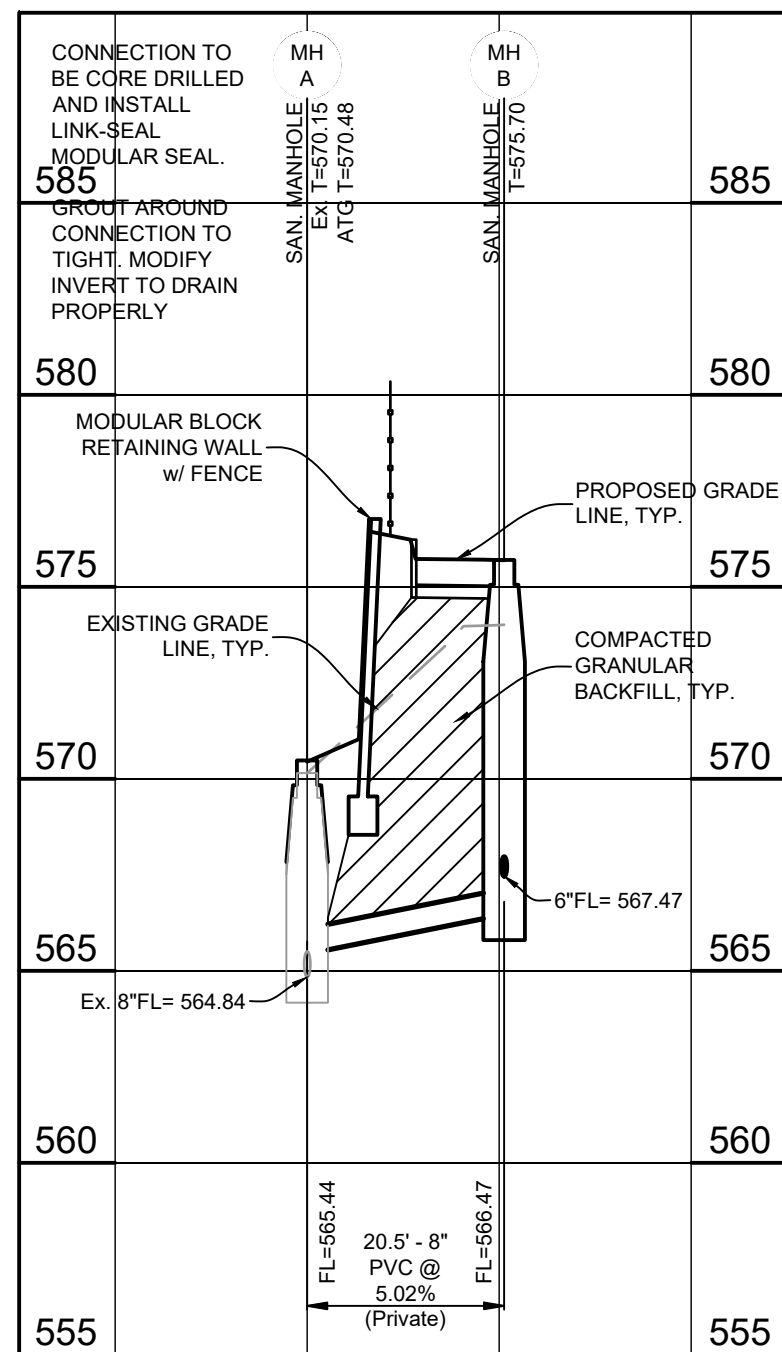
- FL - FLOW LINE OF STRUCTURE
- HGL - HYDRAULIC GRADE LINE (15-YR STORM*)
- PP - POLYPROPYLENE PIPE
- RCP - REINFORCED CONCRETE PIPE
- T - TOP OF STRUCTURE
- TC - TOP OF CURB AT STRUCTURE
- TG - TOP OF GRATE
- TQ - TOTAL FLOW (15-YR STORM*)

* TOTAL FLOW, "TQ", SHOWN ON THESE PROFILES IS BASED ON THE 15-YR, 20-MIN DESIGN STORM WITH A GROUND SATURATION FACTOR OF 1.1 APPLIED.

GRANULAR BACKFILL NOTE:
1. COMPACTED GRANULAR BACKFILL SHALL BE PLACED UNDER PAVEMENT AND CURB FOR ALL ITEMS REQUIRING TRENCH BACKFILL.

CONCRETE ENCASUREMENT NOTE:
1. ENCASE WITH CONCRETE BOTH SANITARY AND STORM SEWER AT CROSSING WHEN STORM SEWER IS WITHIN 18 INCHES ABOVE SANITARY SEWER. ADD CONCRETE CRADLE TO ONLY RCP STORM SEWER AND ENCASE FLEXIBLE STORM SEWER WHEN IT IS MORE THAN 18 INCHES ABOVE SANITARY LINE PER CITY OF FALLON.

EXISTING UTILITY DISCLAIMER:
1. EXISTING UTILITIES (UNDERGROUND ELECTRIC, GAS, AND WATER) ARE SHOWN APPROXIMATELY. THESE LOCATIONS WERE PLOTTED FROM MISSOURI ONE-CALL SYSTEM MARKINGS AT THE TIME OF THE SURVEY FIELD WORK. DEPTHS WERE NOT FIELD LOCATED, AND ARE SHOWN AT INDUSTRY STANDARDS.



DUCKETT CREEK SANITARY DISTRICT (DCSD) NOTES:
1. ABANDONMENT OF EXISTING LATERALS REQUIRES DCSD INSPECTION.
2. CONTACT DCSD INSPECTION DEPARTMENT AT 638-441-1244 TO SCHEDULE INSPECTION. 48-HOUR ADVANCED NOTICE IS REQUIRED.

System Name = Storm01
Description = Storm 01 - Onsite Storm Sewers to Connection with DS Storm
Sewer Type = Storm
System Number = 1
Return Period (yr) = 15
Rainfall duration (min) = 20
Runoff Factor Multiplier = 1.000
Starting HGL Elev. (ft) = 554.75
Use St. Louis Co./MSD Losses? = Y

STRUCTURES UPR/LWR	FLOWLINES UPR/LWR	SIZE/ ANGLE	LENGTH/ CURVED?	n	AREA/ PI	Qadd	Qtotal/ Qfull	Cons/ Reqds	Yn/ Yc	PARTIAL V/Y	FULL V/Vhead	LOSSES F/C	COND U/L	HGL UPR/LWR	UPR STR TOP/FRBD	
2GI 1-10	571.81	12"	143.00	0.013	0.45	1.55	1.55	2.66	0.35	1.97	1.97	2.85	0.08	OF	572.89	575.31
MH 1-7	568.00	90°	N	N	3.44		5.83	0.19	0.53	1.96	0.06	0.00	0.00	FP	569.96	2.42
CI 1-9	567.92	15"	37.06	0.013	0.12	0.46	0.46	0.86	0.23	0.37	0.37	0.00	0.00	FP	570.00	571.92
CI 1-8	567.60	46°	N	N	3.83		6.02	0.01	0.26	2.40	0.00	0.00	0.00	FP	570.00	1.92
CI 1-8	567.50	15"	36.51	0.013	0.25	0.90	1.36	1.10	0.38	1.11	1.11	0.02	0.02	FP	570.00	573.50
MH 1-7	567.10	56°	N	N	3.60		6.78	0.04	0.46	2.86	0.02	0.00	0.00	FP	569.96	3.50
MH 1-7	567.00	15"	162.75	0.013	0.05	0.19	3.10	1.00	0.61	2.53	2.53	0.37	0.08	FP	569.96	575.00
MH 1-2	565.37	86°	N	N	3.80		6.48	0.23	0.71	4.11	1.10	0.00	0.03	FP	569.48	5.04
2GI 1-6	573.06	12"	54.82	0.013	0.43	1.13	1.13	1.68	0.34	1.75	1.44	0.49	0.49	ND	573.89	576.56
2GI 1-5	572.14	36°	N	N	2.63		4.63	0.10	0.45	0.77	0.03	0.00	0.00	OJ	572.91	2.67
2GI 1-5	572.04	12"	36.00	0.013	0.09	0.31	1.44	1.44	0.40	2.45	1.83	0.22	0.45	ND	572.91	576.04
MH 1-4	571.52	36°	N	N	3.44		4.29	0.16	0.51	0.70	0.05	0.00	0.01	OJ	572.22	3.13
MH 1-4	571.42	12"	56.17	0.013	0.00	0.00	1.44	1.37	0.40	1.89	1.83	0.25	0.36	ND	572.22	576.92
2GI 1-3	570.65	13°	N	N	1.70		4.18	0.16	0.51	0.93	0.05	0.00	0.04	OJ	571.58	4.70
2GI 1-3	570.55	15"	105.87	0.013	0.22	0.77	2.21	1.45	0.46	5.46	1.80	1.53	0.57	OC	571.58	576.55
MH 1-2	569.02	4°	N	N	3.50		7.79	0.12	0.59	0.46	0.05	0.00	0.01	ND	569.48	4.97
MH 1-2	565.27	18"	26.60	0.013	0.00	0.00	5.31	1.20	0.71	3.00	3.00	0.07	0.14	OC	566.75	576.10
2GI 1-1	564.95	90°	N	N	1.70		11.55	0.25	0.89	1.55	0.14	0.00	0.04	FP	566.50	9.35
2GI 1-1	564.85	18"	18.31	0.013	0.16	0.56	5.87	1.37	0.73	3.32	3.32	0.22	0.06	FP	566.50	575.50
CI 1-60E	564.60	0°	N	N	3.50		12.31	0.31	0.94	1.53	0.17	0.00	0.09	FP	566.13	9.00
CI 1-60E	564.50	24"	37.00	0.013	0.24	0.87	6.74	1.00	0.75	2.15	2.15	0.03	0.00	OC	566.13	571.50
AI 1-60D	564.13	88°	N	N	3.63		22.68	0.09	0.92	1.97	0.07	0.00	0.00	OJ	566.10	5.37
AI 1-60D	564.03	24"	245.11	0.013	0.12	0.46	7.20	4.60	0.52	2.29	2.29	11.28	0.02	OF	566.10	571.00
JB 1-60C	552.75	0°	N	N	3.83		48.66	0.10	0.95	2.00	0.08	0.00	0.05	OJ	554.75	4.90

LEGEND

UPR - At upper end of pipe	Yn - Normal depth (ft)	COND - Flow condition code at each pipe end:
LWR - At lower end of pipe	Yc - Critical depth (ft)	FP - full pipe flow
SIZE - Sewer size (diam or WxH)		OC - open channel flow
ANGLE - Downstream deflection (deg)	PARTIAL - Conditions at lower end of pipe	ND - set to normal depth
LENGTH - Pipe length (ft)	FULL - Conditions assuming full pipe flow	CD - set to critical depth
CURVED - Pipe is curved?	V - Velocity (fps)	OF - initially set to open channel
n - Manning's roughness factor	Y - Depth (ft)	depth then set to full pipe flow
AREA - Upper drainage area (ac)	Vhead - Velocity head (ft)	OJ - open channel flow but hydraulic jump may occur downstream
F1 - Runoff factor (cfs/ac)	LOSSES - Major and minor head losses	
Qadd - Added flowrate (cfs)	F - Friction in pipe (ft)	HGL - Hydraulic grade line elevation (ft)
Qtotal - Total flowrate (cfs)	C - Curve in pipe (ft)	
Qfull - Pipe full capacity (cfs)	V - Velocities in upper structure (ft)	TOP - Elev. of top of upper struct (ft ssl)
Cons - Construction slope of pipe (%)	T - Turns in upper structure (ft)	FRBD - Difference btwn upper HGL and TOP (ft)
Reqds - Minimum required slope (%)		

- Notes:
- Friction losses computed w/ Manning's formula if full pipe flow or back-calculated if open channel flow (simulating flow profile)
 - HGL at upper structure losses calculated with actual inflowing velocities using iterative procedure
 - Velocity and turn structure loss components only computed for incoming pipes with invert elevations below outlet crown elevation

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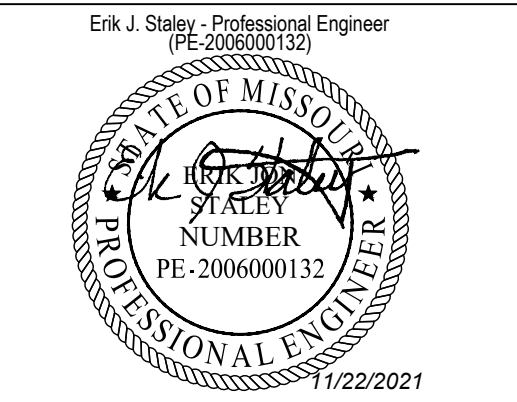
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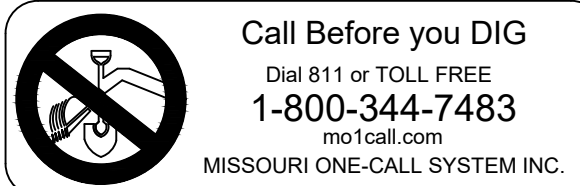
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