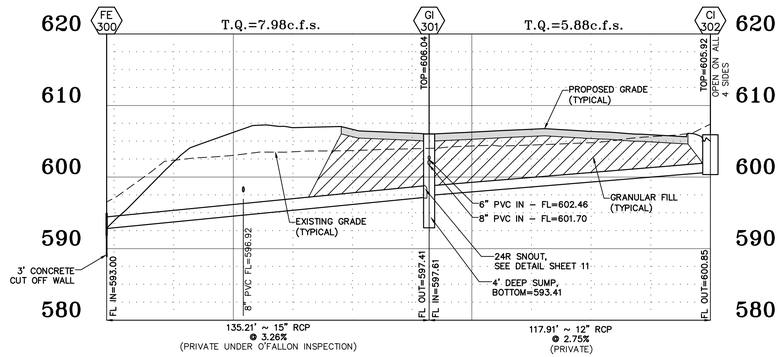
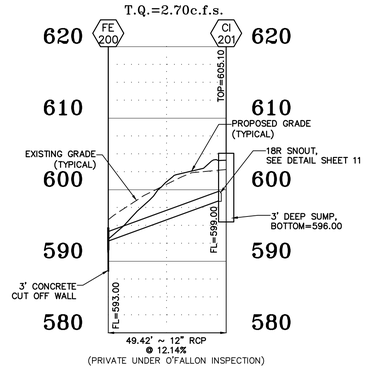


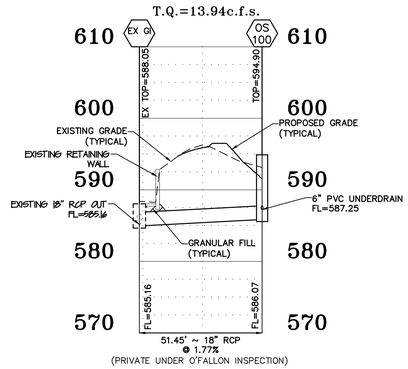
STORM PROFILE

HORIZONTAL SCALE: 1"=30'
VERTICAL SCALE: 1"=10'



STORM PROFILE

HORIZONTAL SCALE: 1"=30'
VERTICAL SCALE: 1"=10'



STORM PROFILE

HORIZONTAL SCALE: 1"=30'
VERTICAL SCALE: 1"=10'

St Charles County Government
Hydraulic Review Output Data

\\VAULTSERVER\FileFolders\12000\12478E - Daycare_CRE Management\Engineering\Hydraulics\12478E hydraulics 8-29-23.txt
9/19/2023
Calculations Under Full Flow

	Upp Str	Low Str	PL	S	Upp FL LN	Low FL LN	PS	Upp ST EL	Depth HY GR	Upp HY EL	Low HY EL	Hydr Grade	FR Head	VEL	VEL Head	Junc Loss	Turn Loss	Curve Loss	STR Grade	Inl Cap	DR Area	P.I.	Q	TQ	Pipe Cap	Remarks
1	CI302	GI301	118	12	600.85	597.61	2.75	605.92	3.23	602.69	598.61	0.02720	3.21	7.49	0.87	0.87	0.00	0.00						5.88	5.91	
2	GI301	FE300	135	15	597.41	593.00	3.26	606.04	7.89	598.15*	593.15	0.01530	2.07	6.50	0.66	0.00	0.05	0.00						7.98	11.66	593.15
3	CI201	FE200	49	12	599.00	593.00	12.14	605.10	5.78	599.32*	593.15	0.00570	0.28	3.44	0.18	0.18	0.00	0.00						2.70	12.41	593.15
4	OS100	EXGI	51	18	586.07	585.16	1.77	594.90	6.13	588.77	586.89	0.01760	0.91	7.89	0.97	0.97	0.00	0.00						13.94	13.98	586.89

Hydraulic Calculations of the Existing Storm Sewer System Downstream of the Detention Basin Predeveloped vs Postdeveloped Detained Flow Future Buildout
Children's Lighthouse Childcare Center
03-12478E
September 19, 2023

Predeveloped 15 Year 20 Minute

	Upp Str	Low Str	PL	S	Upp FL LN	Low FL LN	PS	Upp ST EL	Depth HY GR	Upp HY EL	Low HY EL	Hydr Grade	FR Head	VEL	VEL Head	Junc Loss	Turn Loss	Curve Loss	STR Grade	Inl Cap	DR Area	P.I.	Q	TQ	Pipe Cap	Remarks
1	EXGI 3	EXGI 1	50	12	586.30	585.16	2.27	591.49	4.60	586.89	586.89	0.00000	0.00	0.13	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.10	0.10	5.37	
2	EXOS	EXGI 2	56	12	588.00	586.50	2.66	591.87	-6.63	598.50	594.33	0.04720	2.66	9.85	1.51	1.51	0.00	0.00	0	0.00	0.00	0.00	7.74	7.74	5.81	
3	EXAI	EXGI 2	130	12	590.28	586.50	2.91	599.19	4.16	595.03	594.33	0.00430	0.56	2.97	0.14	0.14	0.00	0.00	0	0.00	0.00	0.00	2.33	2.33	6.08	
4	EXGI 2	EXGI 1	47	12	586.50	585.16	2.84	591.60	-2.73	594.33	586.89	0.08900	4.20	13.53	2.84	3.24	0.00	0.00	0	0.00	0.00	0.00	0.56	10.63	6.00	
5	EXGI 1	EXMH	22	18	585.16	585.15	0.05	588.05	1.16	586.89	586.65	0.01110	0.24	6.27	0.61	0.00	0.00	0.00	0	0.00	0.00	0.00	0.45	11.08	2.35	
6	EXMH	EXFE	82	21	585.15	583.91	1.51	588.86	2.60	586.26	585.66	0.00490	0.40	4.61	0.33	0.00	0.20	0.00	0	0.00	0.00	0.00	0.00	11.08	19.47	INSDTOP=585.66

Postdeveloped 15 Year 20 Minute (detained flow from basin)

	Upp Str	Low Str	PL	S	Upp FL LN	Low FL LN	PS	Upp ST EL	Depth HY GR	Upp HY EL	Low HY EL	Hydr Grade	FR Head	VEL	VEL Head	Junc Loss	Turn Loss	Curve Loss	STR Grade	Inl Cap	DR Area	P.I.	Q	TQ	Pipe Cap	Remarks
1	EXGI 3	EXGI 1	50	12	586.30	585.16	2.27	591.49	4.78	586.71	586.67	0.00050	0.03	0.98	0.01	0.01	0.00	0.00	0	0.00	0.00	0.00	0.77	0.77	5.37	0
2	OS 100	EXGI 1	51	18	586.07	585.16	1.77	594.90	8.23	586.67	586.67	0.00000	0.00	0.06	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.10	0.10	13.98	0
3	EXAI	EXGI 2	130	12	590.28	586.50	2.91	599.19	8.47	590.72*	587.50	0.00440	0.57	3.02	0.14	0.14	0.00	0.00	0	0.00	0.00	0.00	2.37	2.37	6.08	0
4	EXGI 2	EXGI 1	47	12	586.50	585.16	2.84	591.60	4.56	587.04	586.67	0.00670	0.32	3.71	0.21	0.00	0.05	0.00	0	0.00	0.00	0.00	0.54	2.91	6.00	0
5	EXGI 1	EXMH	22	18	585.16	585.15	0.05	588.05	1.38	586.67	586.65	0.00110	0.02	1.97	0.06	0.00	0.00	0.00	0	0.00	0.00	0.00	0.47	3.48	2.35	0
6	EXMH	EXFE	82	21	585.15	583.91	1.51	588.86	3.14	585.72	585.66	0.00050	0.04	1.45	0.03	0.00	0.02	0.00	0	0.00	0.00	0.00	0.00	3.48	19.47	INSDTOP=585.66

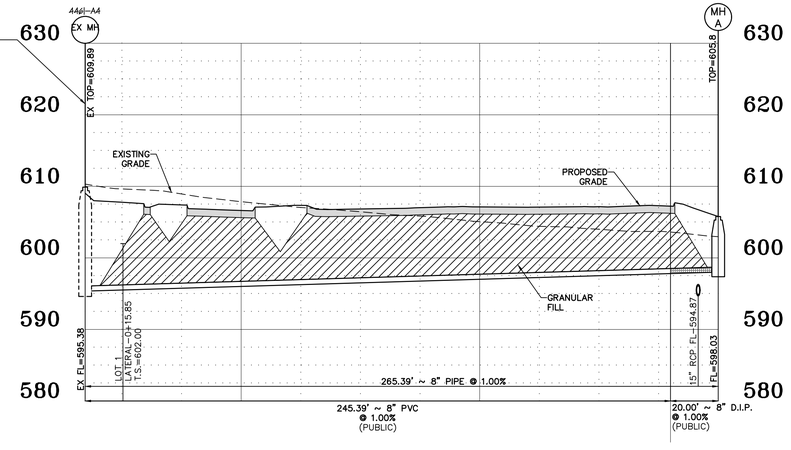
Predeveloped 100 Year 20 Minute

	Upp Str	Low Str	PL	S	Upp FL LN	Low FL LN	PS	Upp ST EL	Depth HY GR	Upp HY EL	Low HY EL	Hydr Grade	FR Head	VEL	VEL Head	Junc Loss	Turn Loss	Curve Loss	STR Grade	Inl Cap	DR Area	P.I.	Q	TQ	Pipe Cap	Remarks
1	EXGI 3	EXGI 1	50	12	586.30	585.16	2.27	591.49	4.29	587.20	587.20	0.00000	0.00	0.18	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.14	0.14	5.37	
2	EXOS	EXGI 2	56	12	588.00	586.50	2.66	591.87	-16.51	608.38	600.78	0.08600	4.85	13.31	2.75	2.75	0.00	0.00	0	0.00	0.00	0.00	10.45	10.45	5.81	
3	EXAI	EXGI 2	130	12	590.28	586.50	2.91	599.19	-2.85	602.04	600.78	0.00780	1.01	4.01	0.25	0.25	0.00	0.00	0	0.00	0.00	0.00	3.15	3.15	6.08	
4	EXGI 2	EXGI 1	47	12	586.50	585.16	2.84	591.60	-9.18	600.78	587.20	0.16250	7.67	18.28	5.19	5.91	0.00	0.00	0	0.00	0.00	0.00	0.76	14.36	6.00	
5	EXGI 1	EXMH	22	18	585.16	585.15	0.05	588.05	0.85	587.20	586.76	0.02030	0.44	8.47	1.11	0.00	0.00	0.00	0	0.00	0.00	0.00	0.61	14.97	2.35	
6	EXMH	EXFE	82	21	585.15	583.91	1.51	588.86	2.10	586.76	585.66	0.00890	0.73	6.22	0.60	0.00	0.37	0.00	0	0.00	0.00	0.00	0.00	14.97	19.47	INSDTOP=585.66

Postdeveloped 100 Year 20 Minute (detained flow from basin - max future build out)

	Upp Str	Low Str	PL	S	Upp FL LN	Low FL LN	PS	Upp ST EL	Depth HY GR	Upp HY EL	Low HY EL	Hydr Grade	FR Head	VEL	VEL Head	Junc Loss	Turn Loss	Curve Loss	STR Grade	Inl Cap	DR Area	P.I.	Q	TQ	Pipe Cap	Remarks
1	EXGI 3	EXGI 1	50	12	586.30	585.16	2.27	591.49	4.72	586.77	586.69	0.00090	0.05	1.32	0.03	0.03	0.00	0.00	0	0.00	0.00	0.00	1.04	1.04	5.37	0
2	OS 100	EXGI 1	51	18	586.07	585.16	1.77	594.90	8.21	586.69	586.69	0.00000	0.00	0.08	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.14	0.14	13.98	0
3	EXAI	EXGI 2	130	12	590.28	586.50	2.91	599.19	8.40	590.79*	587.50	0.00810	1.05	4.07	0.26	0.26	0.00	0.00	0	0.00	0.00	0.00	3.20	3.20	6.08	0
4	EXGI 2	EXGI 1	47	12	586.50	585.16	2.84	591.60	4.24	587.36	586.69	0.01220	0.58	5.00	0.39	0.00	0.09	0.00	0	0.00	0.00	0.00	0.73	3.93	6.00	0
5	EXGI 1	EXMH	22	18	585.16	585.15	0.05	588.05	1.36	586.69	586.65	0.00200	0.04	2.66	0.11	0.00	0.00	0.00	0	0.00	0.00	0.00	0.63	4.70	2.35	0
6	EXMH	EXFE	82	21	585.15	583.91	1.51	588.86	3.09	585.77	585.66	0.00090	0.07	1.95	0.06	0.00	0.04	0.00	0	0.00	0.00	0.00	0.00	4.70	19.47	INSDTOP=585.66

CONNECTION MUST BE CORE DRILLED AND INSTALL LINK-SEAL MODULAR SEAL. GROUT AROUND CONNECTION TO SEAL TIGHT. MODIFY INVERT TO DRAIN PROPERLY.



SANITARY PROFILE

HORIZONTAL SCALE: 1"=30'
VERTICAL SCALE: 1"=10'

PROJECT TITLE:
CHILDREN'S LIGHTHOUSE
EARLY LEARNING CENTER
2570 SOMMERS ROAD
O'FALLON, MISSOURI 63368

Box Project # 06-12478E Issue Date: 9/21/2023

ENGINEERING SURVEYING LAND PLANNING
221 Point West Blvd.
St. Charles, MO 63301
636-928-5552
FAX 928-1718

DISCLAIMER OF RESPONSIBILITY
I hereby specify that the documents intended to be authenticated by my seal are limited to this sheet, and I hereby disclaim any responsibility for all other Drawings, Specifications, Estimates, Reports or other documents or instruments relating to or intended to be used for any part or parts of the architectural or engineering project or survey.

STATE OF MISSOURI
CLIFFORD L. HEITMANN
NUMBER E-29817
REGISTERED PROFESSIONAL ENGINEER
11-3-23

CLIFFORD L. HEITMANN
CIVIL ENGINEER
E29817

REVISIONS

11-3-23	city, county, dcsd & pswd2 comments

Developer / Owner:
JAFRI LLC. ASHLEY FANGMAN
4010 CORKWOOD CT.
COLUMBIA, MO 65203
417-766-8874 - ashleyfangmann@gmail.com

STORM AND SANITARY PROFILES

P+Z No. # 23-004744
Approval Date: July 6, 2023
City No. #

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