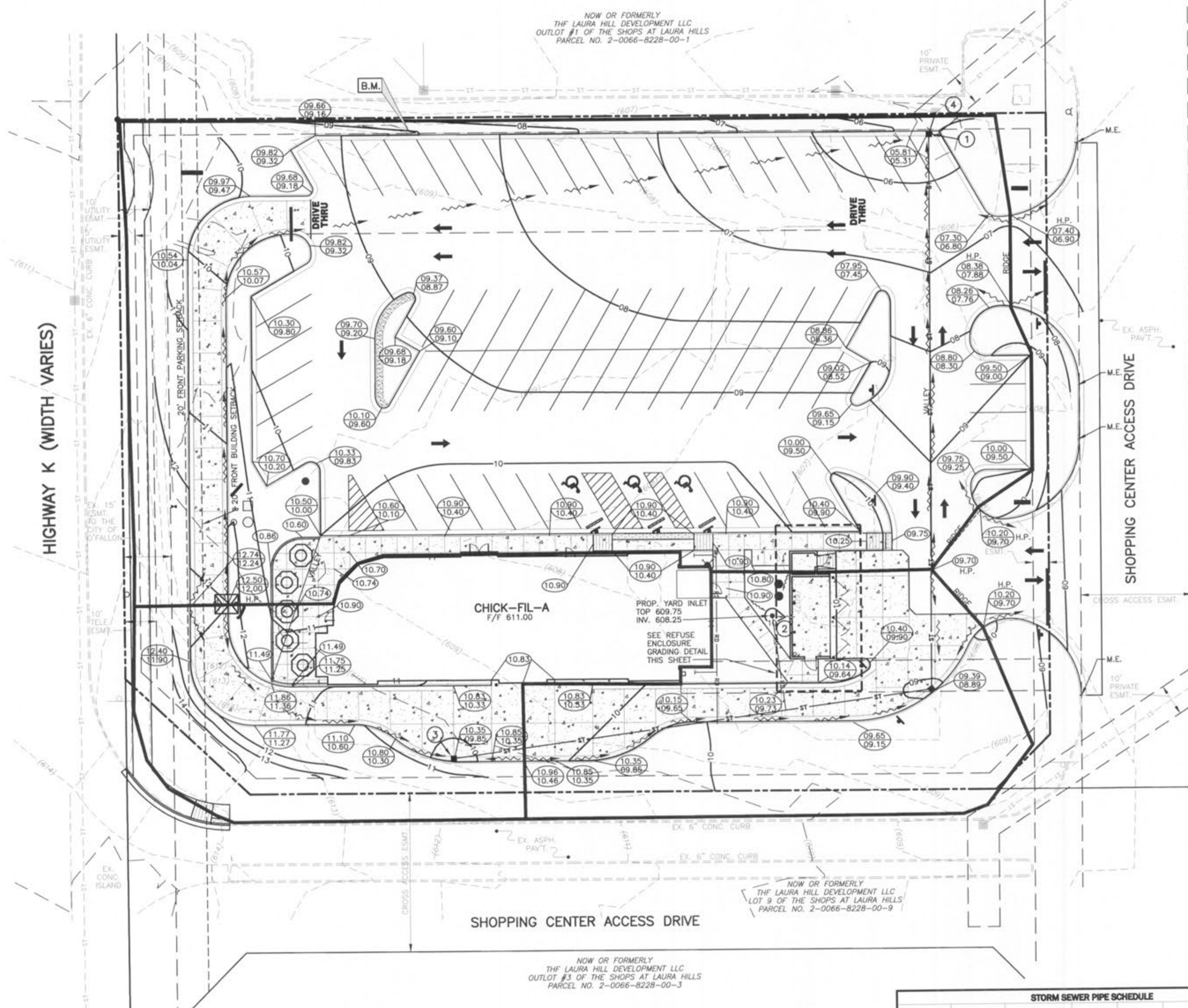


100-YEAR STORM EVENT STORM SEWER CALCULATIONS																										
From Structure	To Structure	Line Length (ft)	Incr. Area (acres)	Total Area (acres)	Runoff Coeff. C	Incr C x A	Total C x A	Inlet Time (min)	Time Conc (min)	Rainfall Intensity (in/hr)	Total Runoff (cfs)	Additional Flow (cfs)	Total Flow (cfs)	Capacity Full (cfs)	Velocity (ft/s)	Pipe Size (in)	Pipe Slope (%)	Inv Elev Up (ft)	Inv Elev Dn (ft)	HGL Up (ft)	HGL Dn (ft)	Grnd/rim Up (ft)	Grnd/rim Dn (ft)	HGL Freeboard Up (ft)	HGL Freeboard Dn (ft)	Line ID
4	5	156.31	0.74	2.13	0.76	0.56	1.56	10.0	12.1	7.7	11.98	0.00	11.98	15.38	7.04	18	2.14	599.48	596.15	600.80	597.85	604.28	600.00	3.48	2.35	EX CPP
1	4	7.12	0.91	1.30	0.72	0.66	1.00	10.0	12.1	7.7	7.67	0.00	7.67	14.52	7.06	15	5.06	600.39	600.03	601.46	601.01	604.28	604.28	3.82	3.27	HDPE STM. SEW.
2	1	174.84	0.22	0.48	0.72	0.16	0.35	10.0	11.3	7.9	2.72	0.00	2.72	4.44	4.66	12	1.56	604.03	601.31	604.73	602.00	606.89	606.31	4.18	3.31	HDPE STM. SEW.
3	2	162.89	0.26	0.26	0.72	0.19	0.19	10.0	10.0	8.2	1.54	0.00	1.54	3.67	3.02	12	1.06	606.85	604.23	606.38	605.00	606.85	606.59	3.47	3.89	HDPE STM. SEW.



LEGEND

- ▲ PROP. FIRE HYDRANT
- △ EX. FIRE HYDRANT
- PROP. VALVE
- EX. VALVE
- PROP. MANHOLE
- EX. MANHOLE
- PROP. CURB INLET
- EX. BOX INLET
- EX. TREE
- EX. PINE TREE
- EX. LIGHT POLE
- EX. GRADE
- PROP. TOP OF CURB ELEV.
- PROP. BOTTOM OF CURB ELEV.
- PROP. FINISHED ELEVATION
- ▬ SPILLING SECTION
- ▬ CATCHING SECTION
- ▬ POSITIVE DRAINAGE
- ▬ EX. FENCE
- ▬ EX. CURB
- ▬ PROP. CONTOURS
- ▬ EX. CONTOURS
- ▬ DRAINAGE DELINEATION BOUNDARY

CITY OF O'FALLON
 15 YEAR, 20 MINUTE STORM EVENT CALCULATIONS
 $Q = P1 \times A$
 COMMERCIAL = 3.85 C.F.S./ACRE

STRUCTURE

#3
 $Q = P1 \times A$
 $Q = 3.85 \times 0.28$
 $Q = 1.00$ CFS

#2
 $Q = P1 \times A$
 $Q = 3.85 \times 0.22$
 $Q = 0.85$ CFS

#1
 $Q = P1 \times A$
 $Q = 3.85 \times 1.39$
 $Q = 5.35$ CFS

SITE BENCH MARK 1
 RR SPIKE SET ON THE EAST SIDE OF POWER POLE
 ELEVATION = 488.05

STORM SEWER PIPE SCHEDULE

FROM STRUCTURE	TO STRUCTURE	PIPE LENGTH, FT.	PIPE SIZE, IN.	PIPE SLOPE, %	PIPE TYPE
4	5	156.3	18	2.14	EX CPP
1	4	7.1	15	6.08	HDPE STM. SEW.
2	1	174.8	12	1.56	HDPE STM. SEW.
3	2	162.9	12	1.06	HDPE STM. SEW.

STORM SEWER STRUCTURE

STRUCTURE	TOP	INV. & SIZE, IN.
1 PROP. CURB INLET	606.31	601.31, 12
W/ 1/2" FINGER DRAINS S & W		600.30, 15
W/ FLOGARD +PLUS C.B. INSERT		
2 PROP. CURB INLET	608.89	604.37, 6
W/ 1/2" FINGER DRAINS N, S & W		604.23, 12
W/ FLOGARD +PLUS C.B. INSERT		604.03, 12
3 PROP. CURB INLET	606.85	606.85, 12
W/ 1/2" FINGER DRAINS N, E & W		
W/ FLOGARD +PLUS C.B. INSERT		
4 EXISTING CATCH BASIN TO BE REMOVED	604.28	600.03, 15 (PROP.)
PROP. CATCH BASIN		599.48, 15 (EX.)
		599.48, 18 (EX.)
5 EXISTING END OF PIPE		606.15, 18

PROVIDE A MARKING ON THE STORM SEWER INLETS. THE CITY WILL ALLOW THE FOLLOWING MARKERS AND ADHESIVE PROCEDURES ONLY AS SHOWN IN THE TABLE BELOW OR AN APPROVED EQUAL. "PEEL AND STICK" ADHESIVE PADS WILL NOT BE ALLOWED.

MANUFACTURER	SIZE	ADHESIVE	STYLE	MESSAGE (PART#)	WEBSITE
ACP INTERNATIONAL	3 7/8"	EPOXY	CRYSTAL CAP	NO DUMPING DRAINS TO WATERWAYS (SD-W-CC)	www.acpinternational.com
DAS MANUFACTURING, INC.	4"	EPOXY	STANDARD STYLE	NO DUMPING DRAINS TO STREAMS (#SDS)	www.dasmanufacturing.com

CHICK-FIL-A
 O'FALLON, MO
 (#2645)
 FSR S08N-144-R
 2106 HIGHWAY K
 O'FALLON, MO
 63366

GBC DESIGN, INC.
 3378 W. Market St.
 Akron, OH 44333-3386
 Phone 330-896-0228 Fax 330-896-5782

CONTACT:
 GARY R. ROUSE

ENGINEER SIGNATURE BLOCK

STATE OF MISSOURI
 GARY R. ROUSE
 NUMBER PE-200705789
 PROFESSIONAL ENGINEER
 3/2/11

Chick-fil-a
 5200 BUFFINGTON RD.
 ATLANTA, GA 30349-2998
 24 HOUR EMERGENCY CONTACT:
 SCOTT D. PATMAN PH404-305-4594

DRAINAGE PLAN

P+Z No. 1810.01
 City No.
 Page No.
C-3.3