

Shrine of Our Lady of Guadalupe
St. Juan Diego Pilgrim House

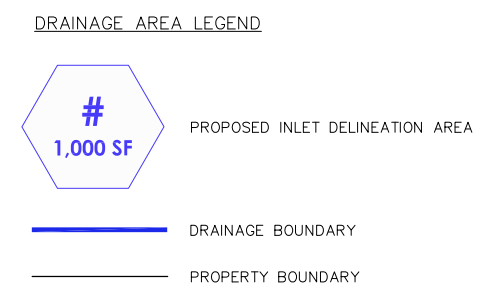
Storm Sewer Drainage Areas

Area	Total (SF)	Roof (SF)	Pavement (SF)	Pervious (SF)	Required Capacity (GPM)	Required Capacity (CFS)
1	905	0	534	371	20	0.0
2	905	0	534	371	20	0.0
3	1,534	0	1,534	0	47	0.1
4	1,341	0	1,341	0	41	0.1
5	1,624	0	1,325	299	44	0.1
6	5,416	4,358	430	628	187	0.4
7	1,081	0	1,081	0	33	0.1
8	418	0	418	0	13	0.0
9	9,898	0	6,762	3,136	238	0.5
10	9,714	9,714	0	0	374	0.8
11	3,066	3,066	0	0	118	0.3
12	4,968	4,968	0	0	191	0.4

Pipe Sizing Calculations

Pipe	Pipe Size (in)	Slope (%)	Area Served	Required Capacity (GPM)	Provided Capacity (GPM)	Provided Capacity (CFS)
P1	12	2.08%	1,2,3,4,5,6,7,8,9	643	2,306	5.1
P2	12	2.08%	2,3,4,5,6,7,8,9	623	2,306	5.1
P3A	12	2.08%	3,4,5,6,7,8,9	603	2,306	5.1
P3B	12	1.04%	3,4,5,6	319	1,631	3.6
P4	10	1.04%	4,5,6	272	1,003	2.2
P5	8	1.04%	5,6	251	553	1.2
P6	8	1.04%	6	187	553	1.2
P7	12	1.04%	7,8,9	284	1,631	3.6
P8	10	1.04%	8,9	251	1,003	2.2
P9	10	1.04%	9	238	1,003	2.2
P10	8	10.56%	10	374	1,763	3.9
P11	10	1.04%	11,12	309	1,003	2.2
P12A	10	1.04%	11,12	309	1,003	2.2
P12B	10	1.04%	12	191	1,004	10.7

- Notes:
- Capacity of pipe based on Manning's Equation, assuming open channel flow.
 - Per SPS 382.36, required capacity is based on the 10-year, 24-hour storm event.
 - Required Capacity per SPS 382.34(5)(a)(1) using Area Method, where:
REQUIRED CAPACITY (GPM) = [PAVEMENT AREA (sq. ft.)/32.5] + [ROOF AREA (sq. ft.)/26] + [PERVIOUS AREA (sq. ft.)/104]
 - Area 1 (2115 City View Dr) subcatchments based on Concept Layout - Alternate 2, dated 6/15/17.
 - Area 2 (2205 Crossroads Dr) subcatchments are based on the ratios of pavement, roof, and pervious areas in Area 1 (2115 City View Drive).



NO.	DATE	REVISIONS	REMARKS

DATE: 08/09/2024
DRAFTER: CKNA/CSHE
CHECKED: JKAS
PROJECT NO.: 200196

EXH