

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

Storm Sewer Drainage Areas

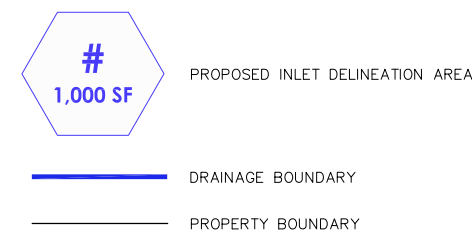
| Area | Total (SF) | Roof (SF) | Pavement (SF) | Pervious (SF) | Required Capacity (GPM) | Required Capacity (CFS) |
|------|------------|-----------|---------------|---------------|-------------------------|-------------------------|
| 1 | 905 | 0 | 534 | 371 | 20 | 0.0 |
| 2 | 905 | 0 | 534 | 371 | 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).

DRAINAGE AREA LEGEND



| NO. | DATE | REVISIONS | REMARKS |
|-----|------|-----------|---------|
| | | | |
| | | | |
| | | | |

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