DRAINAGE PLAN:

LEGAL DESCRIPTION: LOT B-1, MARIPOSA SQUARE

SITE AREA: 1.904 ACRES

FLOOD HAZARD STATEMENT: F.E.M.A. FLOODWAY BOUNDARY AND FLOODWAY MAP DATED NOVEMBER 4, 2016 (PANEL NO. 35001C0326J) INDICATES A FLOOD HAZARD ZONE X WHICH IS AN AREA DETERMINED TO BE OUTSIDE THE 500-YEAR FLOODPLAIN.

EXISTING DRAINAGE CONDITIONS:

THE DRAINAGE ANALYSIS FOR THIS SITE IS IN ACCORDANCE WITH SETION 22 OF THE CITY OF ALBUQUERQUE DEVELOPMENT PROCESS MANUAL (DPM), ENTITLED "DRAINAGE, FLOOD CONTROL, AND EROSION CONTROL." THE DESIGN STORM USED FOR BOTH UNDEVELOPED AND DEVELOPED CONDITIONS IS THE 100-YEAR, 6-HOUR STORM EVENT FOR RUNOFF. THE SITE IS LOCATED IN ZONE 1 SO THE 100-YEAR, 6-HOUR STORM EVENT IS 2.23 INCHES. UNDER EXISTING CONDITIONS LOT B-1 IS UNDEVELOPED AND THEREFORE ASSUMED TO BE LAND TREATMENT A.

LOT B-1 IS LOCATED IN NORTHWEST ALBUQUERQUE, JUST SOUTH OF THE LADERA-72ND STREET INTERSECTION. CURRENTLY THE SITE IS UNDEVELOPED. THE PROPERTY DRAINS FROM WEST TO EAST TO 72ND STREET. THE RUNOFF FROM THE SITE IS COLLECTED IN A STORM DRAIN IN 72ND STREET WHICH DRAINS NORTH TO THE LADERA POND SYSTEM. THE EXISTING PEAK RUNOFF FROM LOT B-1 UNDER EXISTING CONDITIONS IS 2.46 CFS AND 3,041 CUBIC FEET OF RUNOFF VOLUME DURING A 100-YEAR, 6-HOUR STORM. THERE ARE NO OFF-SITE FLOWS THAT REACH THE PROPERTY.

DEVELOPED DRAINAGE CONDITIONS:

THIS PROJECT INVOLVES THE CONSTRUCTION OF A STORAGE UNIT FACILITY. THE SITE HAS BEEN DIVIDED INTO TWO DRAINAGE BASINS, BASIN A AND BASIN B. BASIN A IS LOCATED IN THE SOUTHWEST CORNER OF THE SITE. IT INCLUDES THE OFFICE AND ENTRANCE PARKING. THE REMAINDER OF THE SITE IS BASIN B, WHICH INCLUDES THE STORAGE UNIT AREA AND DRIVEWAYS. BASIN A DRAINS FROM NORTHWEST TO SOUTHEAST INTO THE LANDSCAPED AREA. ALL RUNOFF IS CONVEYED IN THE PAVED AREAS TO A FIRST FLUSH POND LOCATED AT THE SOUTHEAST PART OF THE BASIN. THE FIRST FLUSH POND HAS A VOLUME OF 203 CUBIC-FEET. THE POND OVERFLOWS TO THE EAST TO THE LANDSCAPED AREA ON THE SOUTH END OF BASIN B WHERE A SERIES OF FIRST FLUSH PONDS ARE LOCATED.

BASIN B DRAINS FROM NORTH TO SOUTH TO THE LANDSCAPED AREA ALONG THE SOUTH BOUNDARY OF THE PROPERTY. RUNOFF FROM BASIN B IS CONVEYED IN 2-FOOT WIDE CONCRETE SWALES IN THE NORTH-SOUTH DRIVEWAYS, EXCEPT FOR THE EASTERN MOST DRIVEWAY WHERE THE RUNOFF IS CONVEYED IN THE GUTTER SECTION OF THE CURB AND GUTTER LOCATED ALONG THE EAST PROPERTY LINE. AT THE SOUTH EDGE OF THE PAVED DRIVEWAYS 2-FOOT WIDE CURB CUTS ARE LOCATED AT THE LOCATION OF THE CONCRETE SWALES OR GUTTER SECTION TO ALLOW THE RUNOFF TO DRAIN INTO THE FIRST FLUSH PONDS LOCATED IN THE LANDSCAPED AREA ALONG THE SOUTH PROPERTY BOUNDARY. THERE IS A SERIES OF FIRST FLUSH PONDS LOCATED IN THE SOUTHERN 10-FOOT WIDE LANDSCAPED AREA. THESE FIRST FLUSH PONDS OVERFLOW FROM WEST TO EAST. THE TOTAL VOLUME OF THE FIRST FLUSH PONDS IS 1,922 CUBIC-FEET. IN THE LANDSCAPED ARE AT THE EAST PROPERTY LINE IS A 24-INCH SIDEWALK CULVERT WHICH DRAINS THE FIRST FLUSH PONDS OVERFLOW TO 72ND STREET TO BE COLLECTED BY THE EXISTING STORM DRAIN NORTH OF THE SITE.

100-YEAR HYDROLOGIC CALCULATIONS

BASIN #	AREA (acre)	LAND TREATMENT A (%)	B (%)	C (%)	D (%)	WEIGHTED E (in)	100-YEAR PRECIPITATION V (6-hr) (acre-ft)	V (6-hr) (cu-ft)	V(24-hr) (acre-ft)	V(24-hr) (cu-ft)	Q (cfs)
EXISTING CONDITIONS											
BASIN A	0.2531	100.00	0.00	0.00	0.00	0.44	0.01	404	0.01	404	0.33
BASIN B	1.6509	100.00	0.00	0.00	0.00	0.44	0.06	2,637	0.06	2,637	2.13
TOTAL RUNOFF	1.9040						0.07	3,041	0.07	3,041	2.46
PROPOSED CONDITIONS											
BASIN A	0.2531	0.00	17.50	17.50	65.00	1.57	0.03	1,443	0.04	1,718	0.94
BASIN B	1.6509	0.00	3.10	3.20	93.70	1.90	0.26	11,376	0.32	13,959	7.02
TOTAL RUNOFF	1.9040						0.29	12,820	0.36	15,677	7.95
EXCESS PRECIP.		0.44	0.67	0.99	1.97	E (in)					
PEAK DISCHARGE		1.29	2.03	2.87	4.37	Q_{Pk} (cfs)					

WEIGHTED E (in) = $(E_A)(\%A) + (E_B)(\%B) + (E_C)(\%C) + (E_D)(\%D)$

$V_{6\text{-}HR}$ (acre-ft) = (WEIGHTED E)(AREA)/12

V_{10DAY} (acre-ft) = $V_{6\text{-}HR} + (A_D)(P_{10DAY} - P_{6\text{-}HR})/12$

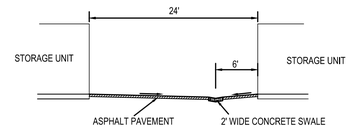
Q (cfs) = $(Q_{PA})(A_A) + (Q_{PB})(A_B) + (Q_{PC})(A_C) + (Q_{PD})(A_D)$

ZONE = 1

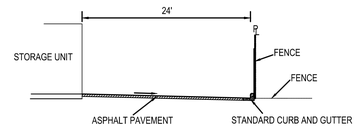
$P_{6\text{-}HR}$ (in.) = 2.23

$P_{24\text{-}HR}$ (in.) = 2.69

P_{10DAY} (in.) = 3.67



SECTION A-A
NTS



SECTION B-B
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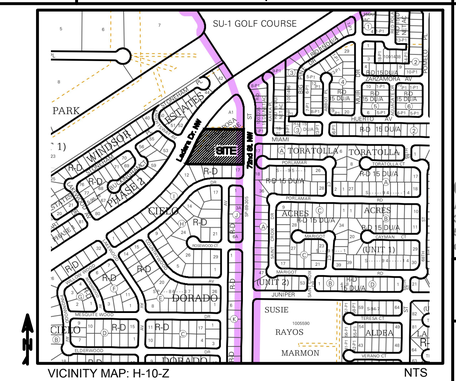
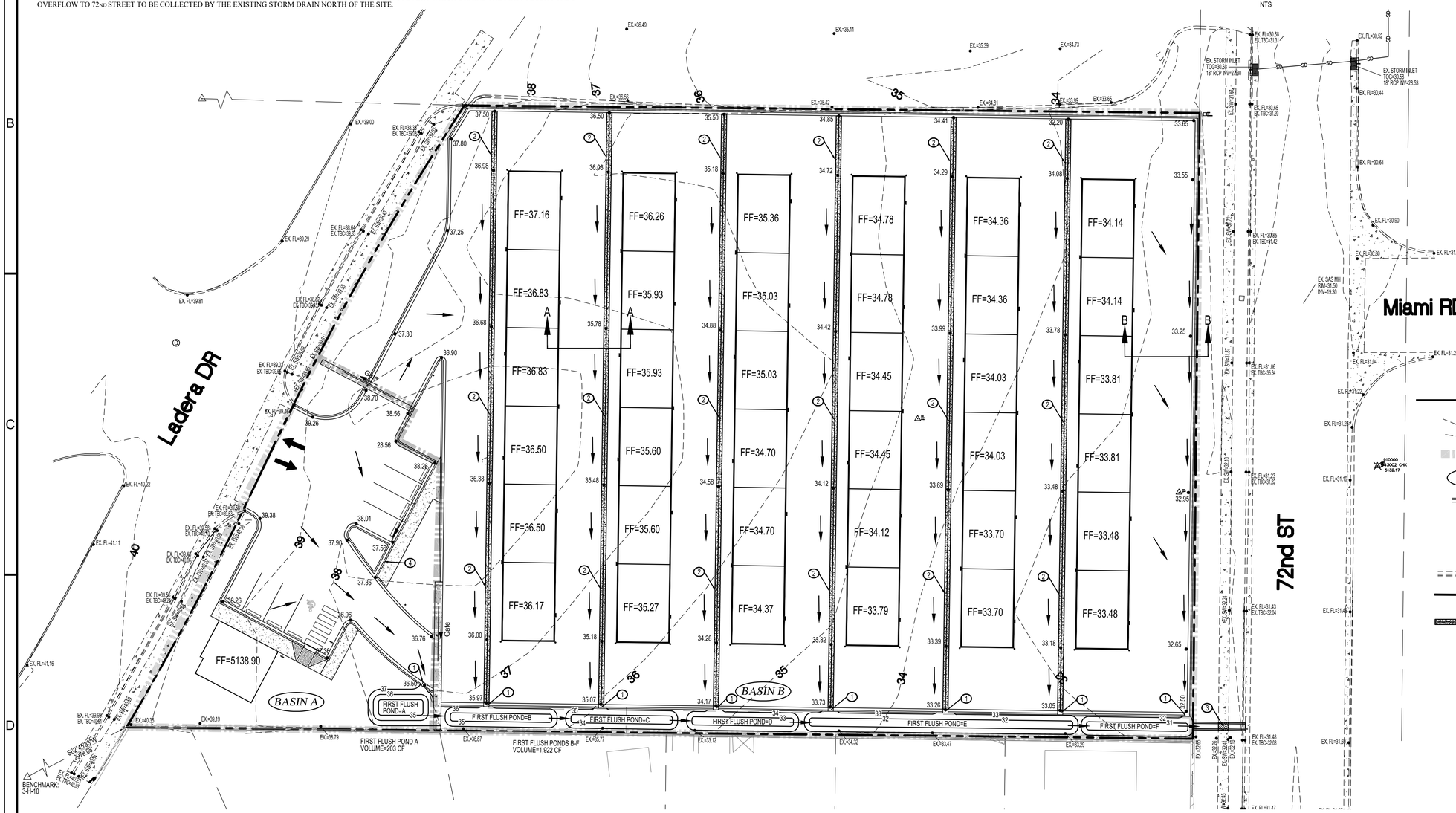


VICINITY MAP: H-10-Z NTS



KEYED NOTES

1. 2' CURB CUT
2. 2' WIDE CONCRETE SWALE
3. 24" SIDEWALK CULVERT PER COA STD DWG 2236 INV. W=31.86 INV. E=31.60
4. 12" SIDEWALK CULVERT PER COA STD DWG 2236 INV. N=37.56 INV. S=37.36

GENERAL NOTE

- ALL ELEVATIONS ARE AT FLOWLINE

LEGEND

- EXIST. MAJOR CONTOURS
- EXIST. MINOR CONTOURS
- BASIN BOUNDARY
- BASIN NUMBER (B-1)
- PROPOSED CURB AND GUTTER
- PROPOSED SPOT ELEVATIONS (52.48)
- EXISTING SPOT ELEVATIONS (EX. FL=31.23, EX. TBC=31.82)
- PROPOSED FLOW DIRECTION
- EXISTING CURB & GUTTER
- PROPERTY BOUNDARY (THIS IS NOT A BOUNDARY SURVEY)
- PROPOSED 2' CONCRETE SWALE

BAR SCALE 0 10 20 40

SCALE:1"=20'

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Project Title: Ladera Self Storage
Tract B1 of Tracts A1 & B1, Mariposa Square Subdivision
Albuquerque, NM 87120

Drawing Title: Conceptual Grading and Drainage Plan

Documents Issued For: Environmental Planning Commission

DAVID R. THOMPSON 9677 LICENSED PROFESSIONAL ENGINEER 5-31-18

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