CITY OF ALBUQUERQUE

Planning Department
Alan Varela, Director

Mayor Timothy M. Keller

June 23, 2025

Mitchell Monnin
Burkhardt Engineering
28 North Cherry St.
Germantown, OH, 45327

RE: McMahon Commons
99999 McMahon Blvd NW
Conceptual Grading & Drainage Plans
Engineer's Stamp Date: 06/19/2025
Hydrology File: A10D002G

Dear Mr. Lutz:

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

Based upon the information provided in your submittal received 06/19/2025, the Grading Plans and Drainage Report are approved for Building Permit, Grading Permit, and Work Order. Please attach a copy of this approved plan in the construction sets for Building Permit processing along with a copy of this letter.

PRIOR TO CERTIFICATE OF OCCUPANCY:

1. Engineer's Certification, per the DPM Part 6-14 (F): *Engineer's Certification Checklist For Non-Subdivision* is required.

As a reminder, if the project total area of disturbance (including the staging area and any work within the adjacent Right-of-Way) is 1 acre or more, then an Erosion and Sediment Control (ESC) Plan and Owner's certified Notice of Intent (NOI) is required to be submitted to the Stormwater Quality Engineer (Doug Hughes, PE, jhughes@cabq.gov , 505-924-3420) 14 days prior to any earth disturbance.

If you have any questions, please contact me at 505-924-3314 or amontoya@cabq.gov.

Sincerely,

Anthony Montoya, Jr., P.E. CFM
Senior Engineer, Hydrology
Planning Department, Development Review Services

BURKHARDT
ENGINEERS ▾ SURVEYORS

City of Albuquerque
Planning Department
Development Review Services
HYDROLOGY SECTION
APPROVED
DATE: 6/23/2025
BY:
HydroTrans # A10D002G
THE APPROVAL OF THESE PLANS/REPORTS SHALL NOT BE CONSTRUED TO PERMIT VIOLATIONS OF ANY CITY ORDINANCE OR STATE LAW, AND SHALL NOT PREVENT THE CITY OF ALBUQUERQUE FROM REQUIRING CORRECTIONS FOR ERRORS OR DIMENSIONS IN PLANS, SPECIFICATIONS, OR CONSTRUCTION DOCUMENTS. SUCH APPROVED PLANS/REPORTS SHALL NOT BE CHANGED, MODIFIED OR ALTERED WITHOUT AUTHORIZATION.
THE APPROVAL OF THESE PLANS/REPORTS SHALL EXPIRE TWO (2) YEARS AFTER THE APPROVAL DATE IF NO BUILDING PERMIT HAS BEEN PULLED ON THE DEVELOPMENT.

City of Albuquerque New Mexico

Department of Municipal Development

Issue Date: June 19, 2025

DRAINAGE REPORT

for:

McMahon Boulevard NW Widening

Universe Blvd NW to Kayenta Blvd NW

City Project No.: _____

RYAN JOSEPH MORRISSEY
NEW MEXICO
25323
PROFESSIONAL ENGINEER

6/19/2025

I, Ryan J. Morrissey NMPE No. 25323, hereby certify that this report was duly prepared by me or directly under my supervision.

A 28 North Cherry Street, Germantown, OH 45327 E info@burkhardtinc.com P 937-388-0060 BURKHARDTINC.COM

TABLE OF CONTENTS

A 28 North Cherry Street, Germantown, OH 45327 E info@burkhardtinc.com P 937-388-0060 BURKHARDTINC.COM

1. EXECUTIVE SUMMARY

The proposed roadway, drainage, utility improvements within McMahon Blvd NW between Universe Blvd NW and Kayenta Blvd NW (City Project No.:_____) are in support of retail property development of Tracts A-1, A-2, A-3 & A-4 McMahon Commons Subdivision. Proposed Infrastructure Improvements include installation of two east bound lanes in McMahon Blvd NW as widening along with curb cuts for McMahon Commons commercial development, road paint & striping, water & sewer main extensions and underground stormwater catchment structures & pipes.

The current Drainage Report covering McMahon Blvd NW by AECOM dated August 31st, 2022, ABQ Hydrology File No.: A10D012, City Project No.: 722690 accounts for McMahon Blvd NW in full build out condition and contributing drainage areas. McMahon Commons (5.922 acres) was accounted for as an undeveloped subbasin which requires attention as developed to maintain McMahon Blvd NW street capacity. The commercial development of Tracts A-1, A-2, A-3 & A-4 McMahon Commons Subdivision will result in surface flows which will exceed street capacity.

In order to maintain McMahon Blvd NW street capacity, stormwater will need to be collected and conveyed in underground pipe system out to adjacent Calabacillas Arroyo. A Preliminary Drainage Plan (dated August 23rd, 2024 & ABQ Hydrology File No.: A10D002G) has been coordinated and approved by City Hydrology and AMAFCA. Work Order Plans will be designed and approved in support of these public improvements.

McMahon Commons and all Road Improvements are located in Flood Zone "X" on FEMA's Flood Insurance Rate Map, Community Panel No. 35001C0103H, dated August 16th, 2012. Zone "X" is defined as areas in which is outside the 0.2% annual chance floodplain. Ultimate discharge via proposed stormwater system will be to the Calabacillas Arryo within 1% annual chance flood with BFE determined to be 5361.

Hydraulic analysis was performed in accordance with City of Albuquerque Development Process Manual (DPM) to show stormwater management which will maintain McMahon Blvd NW street capacity per current AECOM Drainage Report dated August 31st, 2022, ABQ Hydrology File No.: A10D012, City Project No.: 722690. Inlet and capacity analysis of proposed stormwater system show reduction in surface flow and adequate capacity for new underground system. A portion of the underground system will be part of City Project No.: 722690 and is included in calculations as full build-out conditions.

There will be no adverse effect to surrounding private properties, public right-of-way or Calabacillas Arroyo due to proposed Infrastructure Improvements or McMahon Commons commercial developments.

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2. PROJECT LOCATION

The McMahon Blvd NW project area associated with this drainage report ultimately discharges into the Calabacillas Arroya, an AMAFCA-managed regional drainage facility located to the East of the McMahon Commons development. The Calabacillas Arroya is a mapped Special Flood Hazard Area (SFHA) per FEMA Flood Insurance Rate Maps (FIRMs) 35001C0103H and 35001C0104H, both effective 8/16/2012. The project location is shown below in Figure 2-1.

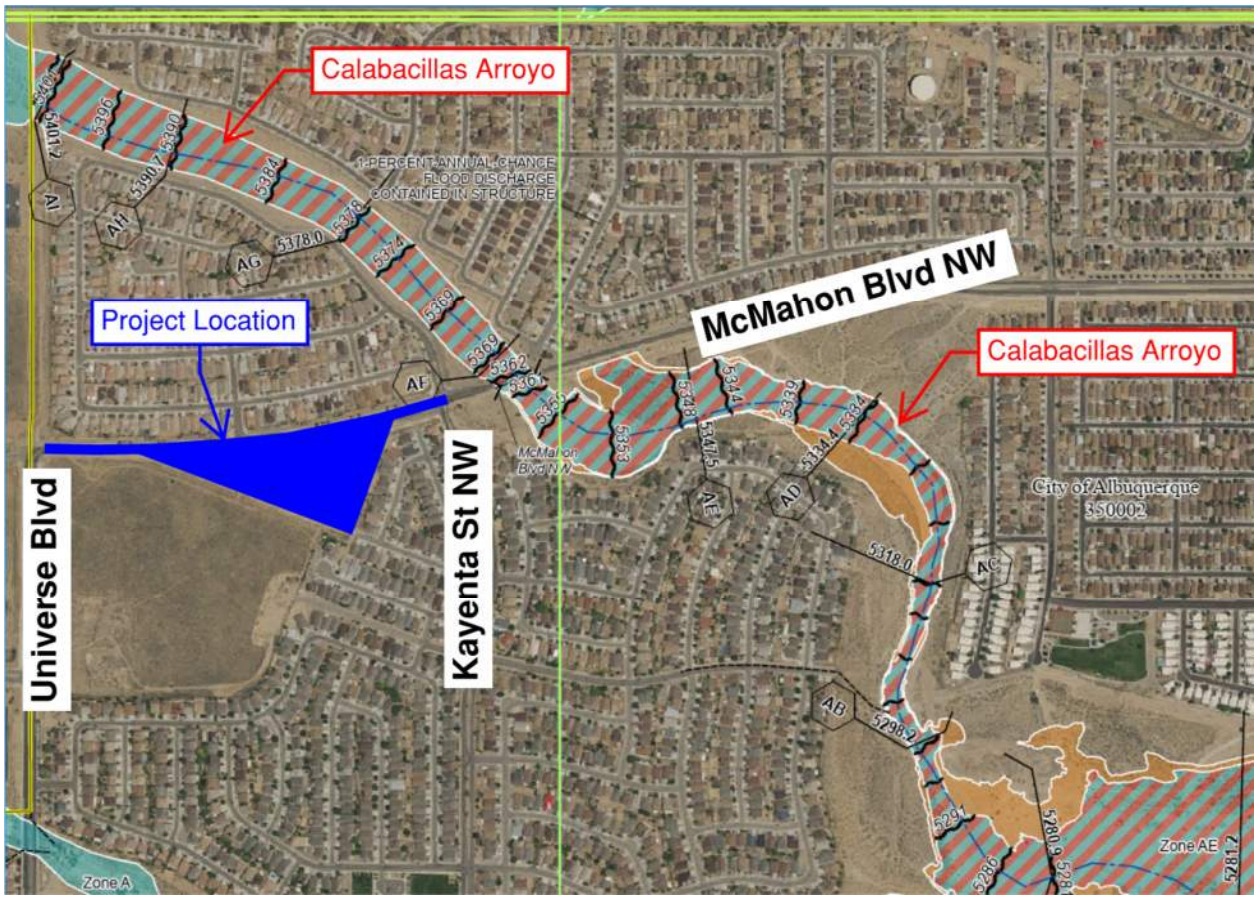

Figure 2-1: FEMA MAP / Project Location

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3. MODIFIED BASIN WATERSHEDS

3.1 References and Regulations

- City of Albuquerque Development Process Manual (DPM) 2020-06-08
- AMAFCA Technical Standards Manual (October 2024)
- McMahon Blvd NW by AECOM (8/31/2022) ABQ Hydrology File No.:A10D012
- McMahon Blvd NW Widening – Kayenta Street to Rockcliff Drive by AECOM - City Project No.: 722690

3.2 Contributing Drainage

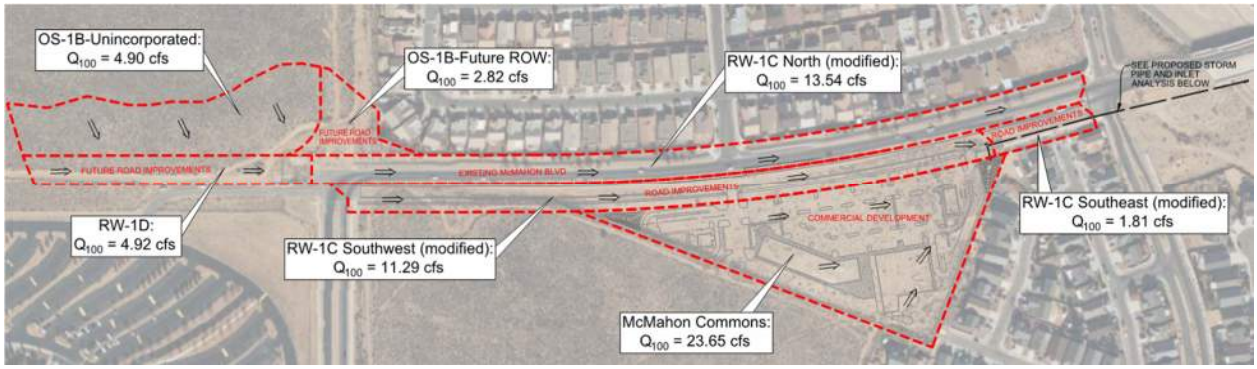

Figure 3.1: Drainage Area Map

The following basins contribute to McMahon Blvd NW and have been accounted for in calculations.

- **OS-1B-Unincorporated:**
  - Jurisdiction: City of Rio Rancho
  - Development Status: Undeveloped
  - Existing undeveloped area free discharges to McMahon Blvd NW.
  - Future development will need to be restricted.
- **RW-1D:**
  - Current Development Status: Undeveloped ROW
  - Jurisdiction: City of Albuquerque
  - Existing undeveloped area free discharges to McMahon Blvd NW.
  - Future development will free discharge to the westbound lanes of McMahon Blvd NW.
- **OS-1B-Future ROW:**
  - Jurisdiction: City of Albuquerque
  - Current Development Status: Undeveloped ROW
  - Existing undeveloped area free discharges to McMahon Blvd NW.
  - Future development will free discharge to the westbound lanes of McMahon Blvd NW.
- **RW-1C Southwest (modified):**
  - Jurisdiction: City of Albuquerque
  - Current Development Status: Undeveloped ROW
  - Existing undeveloped area free discharges to McMahon Blvd NW.
  - As part of this project, development will free discharge to the proposed westbound lanes of McMahon Blvd NW.
- **RW-1C North (modified):**
  - Jurisdiction: City of Albuquerque
  - Current Development Status: Developed ROW
  - Existing developed area free discharges to McMahon Blvd NW.
- **McMahon Commons (Anasazi-U3):**
  - Jurisdiction: City of Albuquerque
  - Current Development Status: Undeveloped
  - Existing undeveloped area discharges to McMahon Blvd NW.
  - As part of this project, discharge from this development will be restricted before outletting into McMahon Blvd NW.
- **RW-1C Southeast (modified):**
  - Jurisdiction: City of Albuquerque
  - Current Development Status: Partially Developed ROW
  - Existing partially developed area free discharges to McMahon Blvd NW.
  - As part of this project, the developed ROW will be collected into a proposed storm sewer system via inlet structures and storm piping.

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4. HYDROLOGY

4.1 Existing Roadway Flow Pattern

The section of McMahon Blvd between Universe Blvd and Kayenta St, currently directs stormwater East along the roadway surface towards a large curb cut at the southeast intersection of McMahon Blvd NW & Kayenta St. The water then sheet flows along the natural grade, discharging into the Calabacillas Arroyo.

This project will retain the ultimate outfall of the Calabacillas Arroyo with the alteration of redirecting most of the surface flow underground via proposed series of inlets and underground storm piping.

4.2 Precipitation

The modeled storm was a 24-hr NRCS Frequency Storm with the peak at hour 12 and a 5-minute intensity duration. Tables 4-1 & 4-2 are pulled from the City of Albuquerque DPM and are used for calculating the Peak 100-year discharge and 100-year Volume in Tables 4-3 & 4-4.

Table 4-1: 100-Year Peak Discharge (cfs/acre)

	Landcover			
Zone	A	B	C	D
1	1.54	2.16	2.87	4.12

Table 4-2: 6-hour Excess Precipitation, E' (in)

	Landcover			
Zone	A	B	C	D
1	0.55	0.73	0.95	2.24

4.3 Drainage Area Discharges

Table 4-3 below summarizes the land condition of the drainage basins listed in section 3.2 of this report to show the peak 100-year discharges that are accounted for in this report's calculations. This project will be accounting for a fully developed McMahon Commons Subdivision with 90% impervious coverage that will be collected via a stormwater quality basin and outletted into the proposed underground storm system within McMahon Blvd. Table 4-4 below shows the development of McMahon Commons from the existing to proposed conditions.

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Table 4-3: Peak Discharge Summary – Proposed Conditions

Basin Name	Area (acres)	Landcover				Unit Discharge (cfs)	Peak Q_{100} (cfs)	Volume $V_{(100)360}$ (acre-ft))
		A (%)	B (%)	C (%)	D (%)			
OS-1B-Unincorporated	**3.05**	**95**	0	**5**	0	**1.61**	**4.90**	**0.20**
OS-1B-Future ROW	**0.78**	0	0	**40**	**60**	**3.62**	**2.82**	**0.10**
RW-1D	**1.36**	0	0	**40**	**60**	**3.62**	**4.92**	**0.20**
RW-1C North (modified)	**3.74**	0	0	**40**	**60**	**3.62**	**13.54**	**0.54**
RW-1C Southwest (modified)*	**3.12**	0	0	**40**	**60**	**3.62**	**11.29**	**0.45**
RW-1C Southeast (modified)*	**0.50**	0	0	**40**	**60**	**3.62**	**1.81**	**0.07**
McMahon Commons Developed (Anasazi-U3)*	**5.92**	0	0	**10**	**90**	**4.00**	**23.65**	**1.04**
***Indicates a drainage area that will be modified as part of this project.**								

Table 4-4: McMahon Commons (Anasazi-U3) Peak Discharge Summary – Existing and Proposed

Watershed	Area (acres)	Landcover				Unit Discharge (cfs)	Peak Q_{100} (cfs)	Volume $V_{(100)360}$ (acre-ft))
		A (%)	B (%)	C (%)	D (%)			
Existing Conditions								
Tract A-1	**0.92**	0	0	**100**	0	**2.87**	**2.64**	**0.07**
Tract A-2	**2.33**	0	0	**100**	0	**2.87**	**6.69**	**0.18**
Tract A-3	**1.80**	0	0	**100**	0	**2.87**	**5.15**	**0.14**
Tract A-4	**0.88**	0	0	**100**	0	**2.87**	**2.51**	**0.07**
Total Runoff	**5.92**					**2.87**	**16.99**	**0.47**
Full Developed Conditions								
Tract A-1	**0.92**	0	0	**10**	**90**	**4.00**	**3.67**	**0.16**
Tract A-2	**2.33**	0	0	**10**	**90**	**4.00**	**9.31**	**0.41**
Tract A-3	**1.80**	0	0	**10**	**90**	**4.00**	**7.17**	**0.32**
Tract A-4	**0.88**	0	0	**10**	**90**	**4.00**	**3.50**	**0.15**
Total Runoff	**5.92**					**4.00**	**23.65**	**1.04**

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5. STORMWATER MANAGEMENT SUMMARY

This project proposes the installation of an underground storm sewer system that will collect the runoff from the McMahon Blvd NW roadway via curb inlets. This system will also be accepting the discharge from the Stormwater Quality Basin that will serve McMahon Commons. The proposed roadway inlets will be bypassing some of the stormwater that will continue to surface flow per existing roadway drainage patterns. These bypassed flows are less than the street capacity values per the Approved 8/31/22 Drainage Report Exhibit found in the Appendix.

5.1 McMahons Common Water Quality Basin

Stormwater from the proposed McMahon Commons development will be collected at a stormwater quality basin in the northeast corner of the site and discharged via drainage structure into the proposed storm sewer system in McMahon Blvd NW right-of-way. The stormwater quality basin outlet is designed for the 100-year flowrate and will accept all impervious areas from the proposed development.

- Stormwater Quality: The individual lots will be responsible for stormwater quality as they are developed.
- Stormwater Detention: Stormwater detention is not required.
- Peak Q_{100}: The peak discharge from the McMahon Commons watershed has been calculated to be 23.65 cfs that will be discharged through a 24" outlet pipe and structure in the WQ basin.

5.2 McMahon Blvd NW Stormwater Routing

The proposed storm sewer system within McMahon Blvd NW will be routing stormwater from the seven basin watersheds described in section 3.2, including the McMahon Commons Development, into three roadway inlets as Table 5-1 below illustrates. Inlets CI4, DI-01, and DI-03 have been modeled to show what flow is being captured vs bypassed during the 100-year storm event.

Table 5-1: Bypass Flows at Inlets

Inlet ID	Contributing Watershed(s)	Carryover Q_{100} (cfs)	Total Peak Q_{100} (cfs)	Captured Q_{100} (cfs)	Bypass Q_{100} (cfs)	Bypass Destination
CI4	RW-1C Southwest (modified)	0	11.29	7.70	3.59	DI-03
DI-03	RW-1C Southwest (modified) RW-1C Southeast (modified)	3.59	5.4	4.62	0.78	Off-Site
DI-01	OS-1B-Unincorporated OS-1B-Future ROW RW-1C North (modified) RW-1D	0	26.18	13.06	13.12	Off-Site

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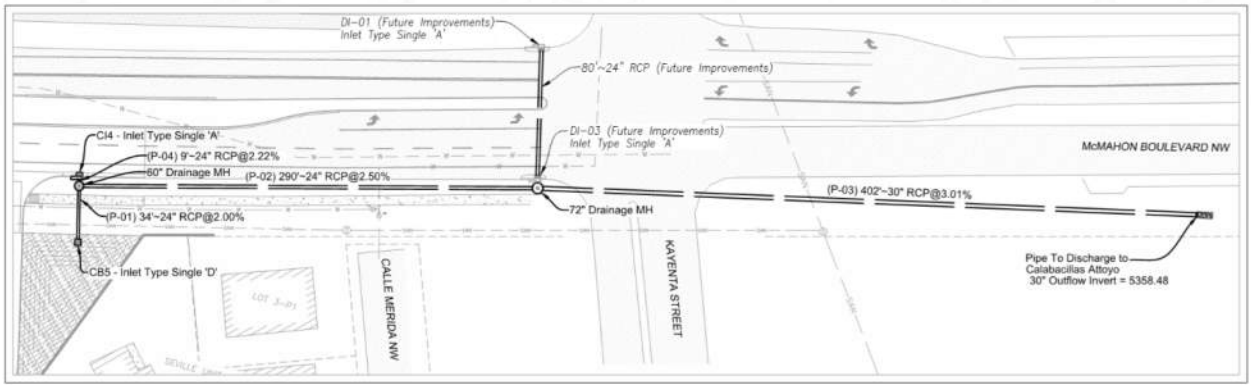

Figure 5.1: Inlet Summary & Pipe Capacity

Once the bypass flows have been calculated, the hydraulic grade line at each inlet and the flow through each pipe can be found as shown in the tables below.

Table 5-2: Hydraulic Grade Line at Each Inlet

Structure	Grate Elevation	100-HGL Elev
DI-03 (Future Improvements)	5383.43	5372.94
DI-01 (Future Improvements)	5383.60	5373.37
CI4	5385.05	5379.14
CB5	5386.00	5381.52

Table 5-3: Storm Pipe Capacity Summary

Pipe #	Size (in)	Length (LF)	Slope (%)	Capacity (cfs)	Q_{100} (cfs)
P-01	24"	34'	2.00%	32.00	23.65
P-02	24"	290'	2.50%	35.77	31.35
P-03	30"	402'	3.01%	71.16	49.03
P-04	24"	9'	2.22%	33.70	7.70

Stormwater will ultimately be carried to the Calabacillas Arroyo and discharge via storm pipe P-03. P-03 is a 30" RCP pipe with enough capacity to carry the 100-year storm to the Arroyo. The proposed roadway improvements and McMahon Commons development will bring an overall decrease to the surface runoff to the Arroyo because of the addition of the storm inlets.

There will be no adverse effect to the surrounding properties or public right-of-way due to roadway or site development.

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6. APPENDIX - EXHIBITS

Vicinity Map A-10-Z

FEMA Map Exhibit

McMahon Commons Plat

Approved Preliminary Grading & Drainage Plans

Proposed Stormwater System Plan & Profile

Map & Table from 8/31/22 Drainage Report

Inlet & Pipe Analysis Summary

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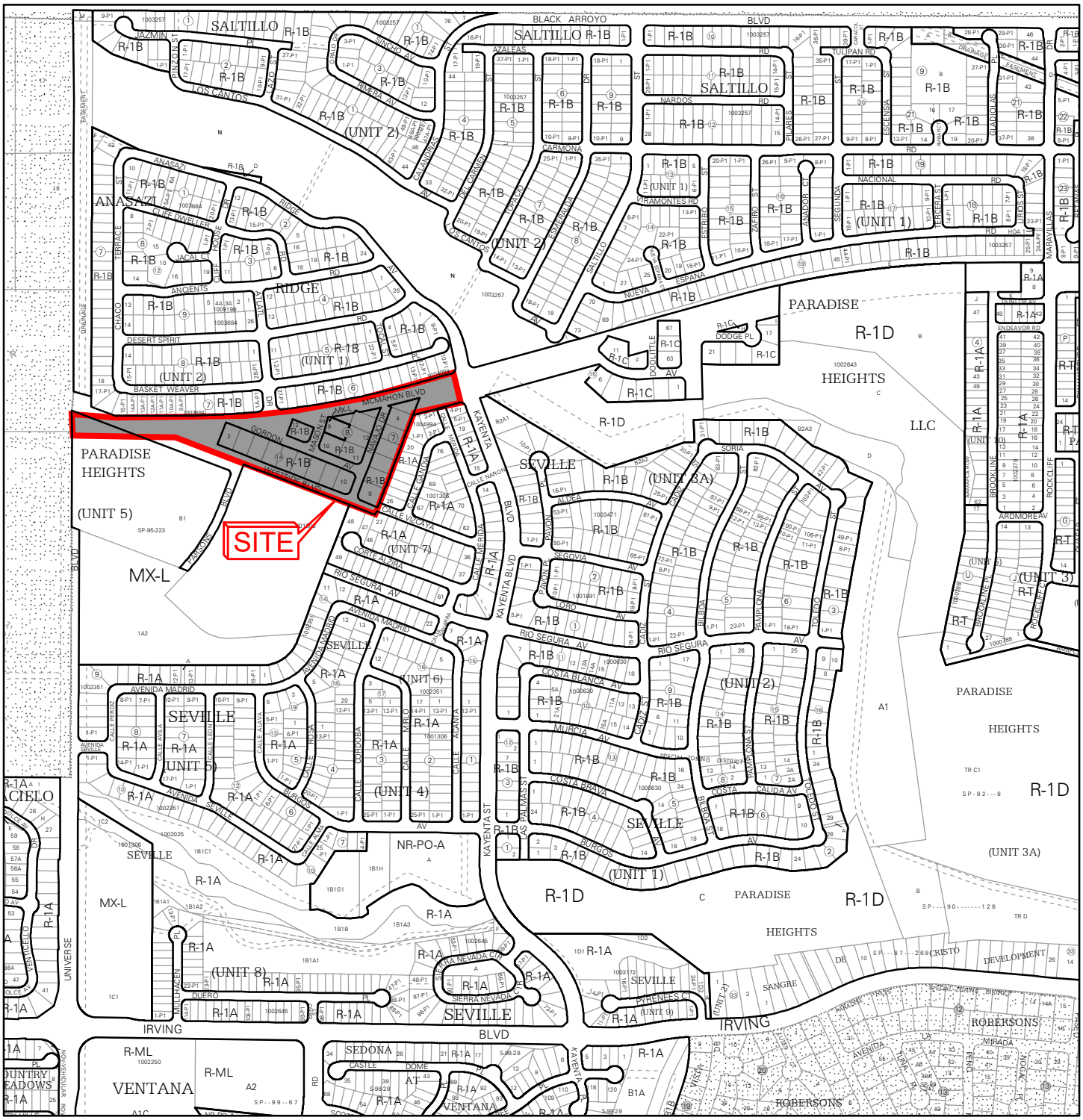


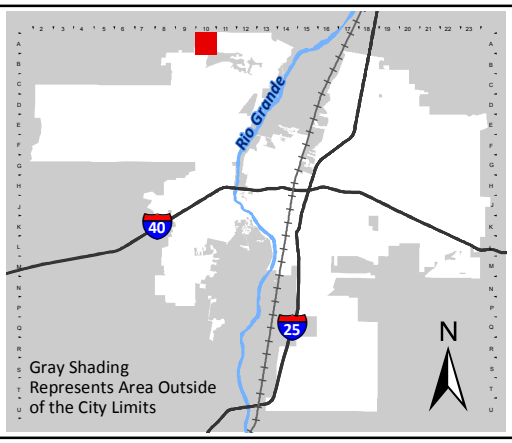
For more details about the Integrated Development Ordinance visit: http://www.cabq.gov/planning/codes-policies-regulations/integrated-development-ordinance

IDO Zone Atlas
May 2018

Albuquerque Geographic Information System

IDO Zoning information as of May 17, 2018

The Zone Districts and Overlay Zones are established by the Integrated Development Ordinance (IDO).



Zone Atlas Page:

A-10-Z

- Easement
- Escarpment
- Petroglyph National Monument
- Areas Outside of City Limits
- Airport Protection Overlay (APO) Zone
- Character Protection Overlay (CPO) Zone
- Historic Protection Overlay (HPO) Zone
- View Protection Overlay (VPO) Zone

Feet: 0 250 500 1,000

FEMA FLOODPLAIN MAP

National Flood Hazard Layer FIRMette

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

- SPECIAL FLOOD HAZARD AREAS: Without Base Flood Elevation (BFE) Zone A, V, A99; With BFE or Depth Zone AE, AO, AH, VE, AR; Regulatory Floodway
- OTHER AREAS OF FLOOD HAZARD: 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X; Future Conditions 1% Annual Chance Flood Hazard Zone X; Area with Reduced Flood Risk due to Levee. See Notes. Zone X; Area with Flood Risk due to Levee Zone D
- OTHER AREAS: NO SCREEN Area of Minimal Flood Hazard Zone X; Effective LOMRs; Area of Undetermined Flood Hazard Zone D
- GENERAL STRUCTURES: Channel, Culvert, or Storm Sewer; Levee, Dike, or Floodwall
- OTHER FEATURES: 20.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation; Coastal Transect; Base Flood Elevation Line (BFE); Limit of Study; Jurisdiction Boundary; Coastal Transect Baseline; Profile Baseline; Hydrographic Feature
- MAP PANELS: Digital Data Available; No Digital Data Available; Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 12/8/2024 at 5:24 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

FIRM # 35001C0103H, effective date: August 16, 2012

Zone "X": Areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees for 100-year flood.

SCALE: N/A

DATE: 12/05/2024

BY: MKS

STORM WATER REPORT EXHIBIT FOR

McMahon Commons

5.922 Acre Parent Tract A of Bulk Land Plat

City of Albuquerque - Bernalillo County - New Mexico

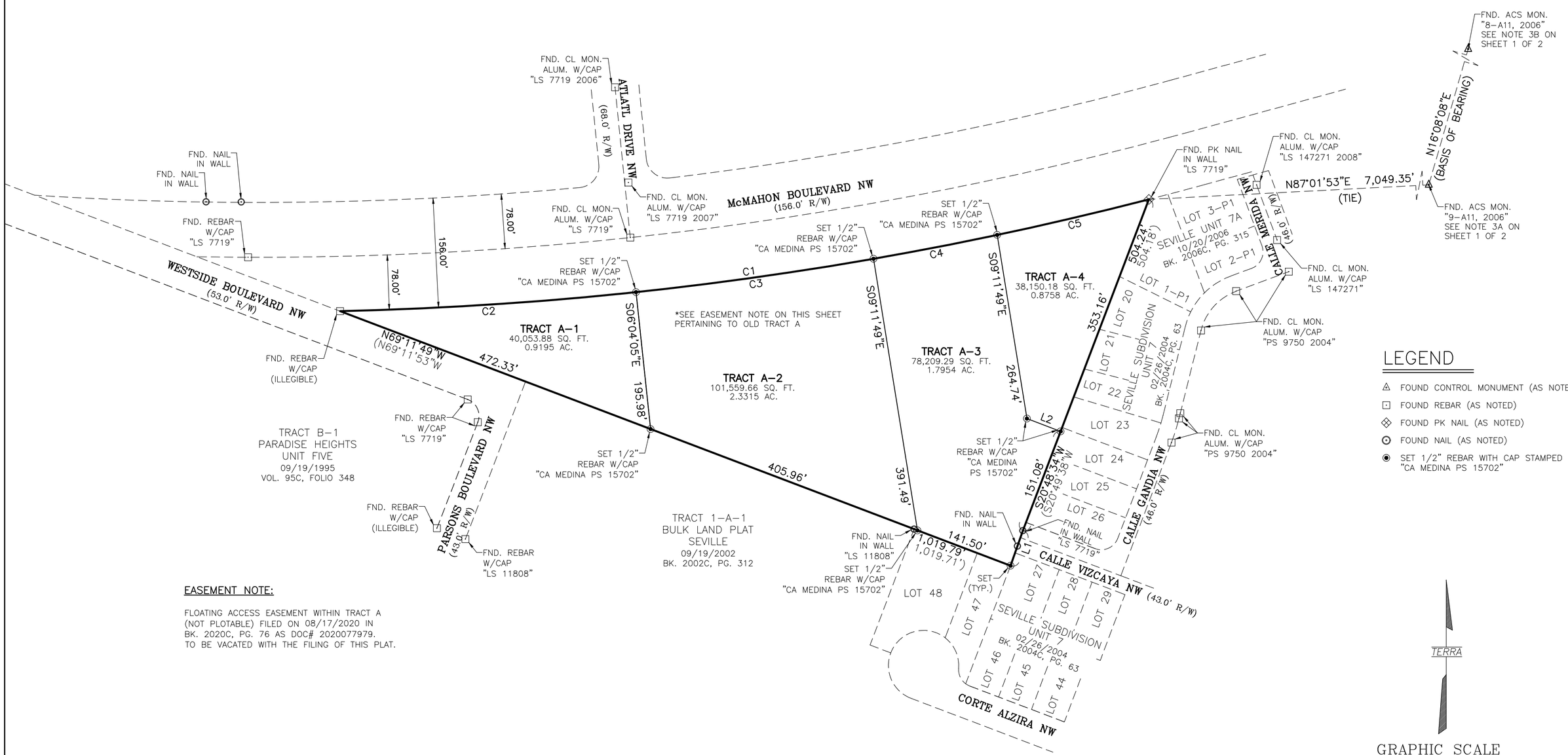
BURKHARDT ENGINEERS • SURVEYORS

28 North Cherry Street | Germantown, Ohio 45327 | Phone: 937-388-0060 | BURKHARDTINC.COM

CIVIL ENGINEERING | LAND SURVEYING | NATIONAL RETAIL SITE DEVELOPMENT

PROJ. NO. 23.156 BASE DWG. 23.156.dwg TAB FILE DR-1

PLAT OF
TRACTS A-1, A-2, A-3 & A-4
MCMAHON COMMONS
SITUATE WITHIN
PROJECTED SECTION 3, T. 11 N., R. 2 E., N.M.P.M.
TOWN OF ALAMEDA GRANT
CITY OF ALBUQUERQUE
BERNALILLO COUNTY, NEW MEXICO
FEBRUARY 2024



LEGEND

- FOUND CONTROL MONUMENT (AS NOTED)
- FOUND REBAR (AS NOTED)
- FOUND PK NAIL (AS NOTED)
- FOUND NAIL (AS NOTED)
- SET 1/2" REBAR WITH CAP STAMPED "CA MEDINA PS 15702"

EASEMENT NOTE:

FLOATING ACCESS EASEMENT WITHIN TRACT A (NOT PLOTABLE) FILED ON 08/17/2020 IN BK. 2020C, PG. 76 AS DOC# 2020077979. TO BE VACATED WITH THE FILING OF THIS PLAT.

LINE TABLE		
LINE	BEARING	DISTANCE
L1	S19°27'50"W	52.88'
	(S19°28'54"W)	(52.88')
L2	S69°11'49"E	51.34'

CURVE TABLE					
CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	5078.00'	1163.55'	1161.01'	N82°07'38"E	13°07'43"
	(5078.01')	(1163.62')	(1161.07')	(N82°07'53"E)	(13°07'45")
C2	5078.00'	421.82'	421.69'	N86°18'42"E	4°45'34"
C3	5078.00'	341.02'	340.95'	N82°00'29"E	3°50'52"
C4	5078.00'	179.09'	179.08'	N79°04'26"E	2°01'15"
C5	5078.00'	221.63'	221.61'	N76°48'48"E	2°30'02"

TERRA

GRAPHIC SCALE

0 100 200 300

(IN FEET)
1 inch = 100 ft.

TERRA LAND SURVEYS, LLC

P.O. BOX 2532 • CORRALES, NM 87048 • (505) 792-0513

TERRA PROJECT NO. 2022–202

X:\PROJECTS\2022 PROJECTS\2022-202\S\2022-202-FINAL PLAT TRACT A.DWG DRAWN BY: MWE

CITY OF ALBUQUERQUE

Planning Department
Alan Varela, Director

Mayor Timothy M. Keller

September 3, 2024

Ryan Morrissey, P.E.
Burkhardt Engineering
28 North Cherry St.
Germantown, OH, 45327

RE: McMahon Commons
Conceptual Grading & Drainage Plans
Engineer's Stamp Date: 08/23/24
Hydrology File: A10D002G

Dear Mr. Morrissey:

Based upon the information provided in your submittal received 08/23/2024, the Conceptual Grading & Drainage Plans are preliminary approved for action by the Development Hearing Officer (DHO) on Preliminary Plat/Final Plat.

PRIOR TO WORK ORDER / GRADING PERMIT:

1. Please submit the Grading & Drainage Plan to Hydrology for review and approval. This digital (.pdf) is emailed to PLNDRS@cabq.gov along with the Drainage Transportation Information Sheet.

As a reminder, if the project total area of disturbance (including the staging area and any work within the adjacent Right-of-Way) is 1 acre or more, then an Erosion and Sediment Control (ESC) Plan and Owner's certified Notice of Intent (NOI) is required to be submitted to the Stormwater Quality Engineer (Doug Hughes, PE, jhughes@cabq.gov, 924-3420) 14 days prior to any earth disturbance.

If you have any questions, please contact me at 924-3995 or rbrissette@cabq.gov.

Sincerely,

Renée C. Brissette

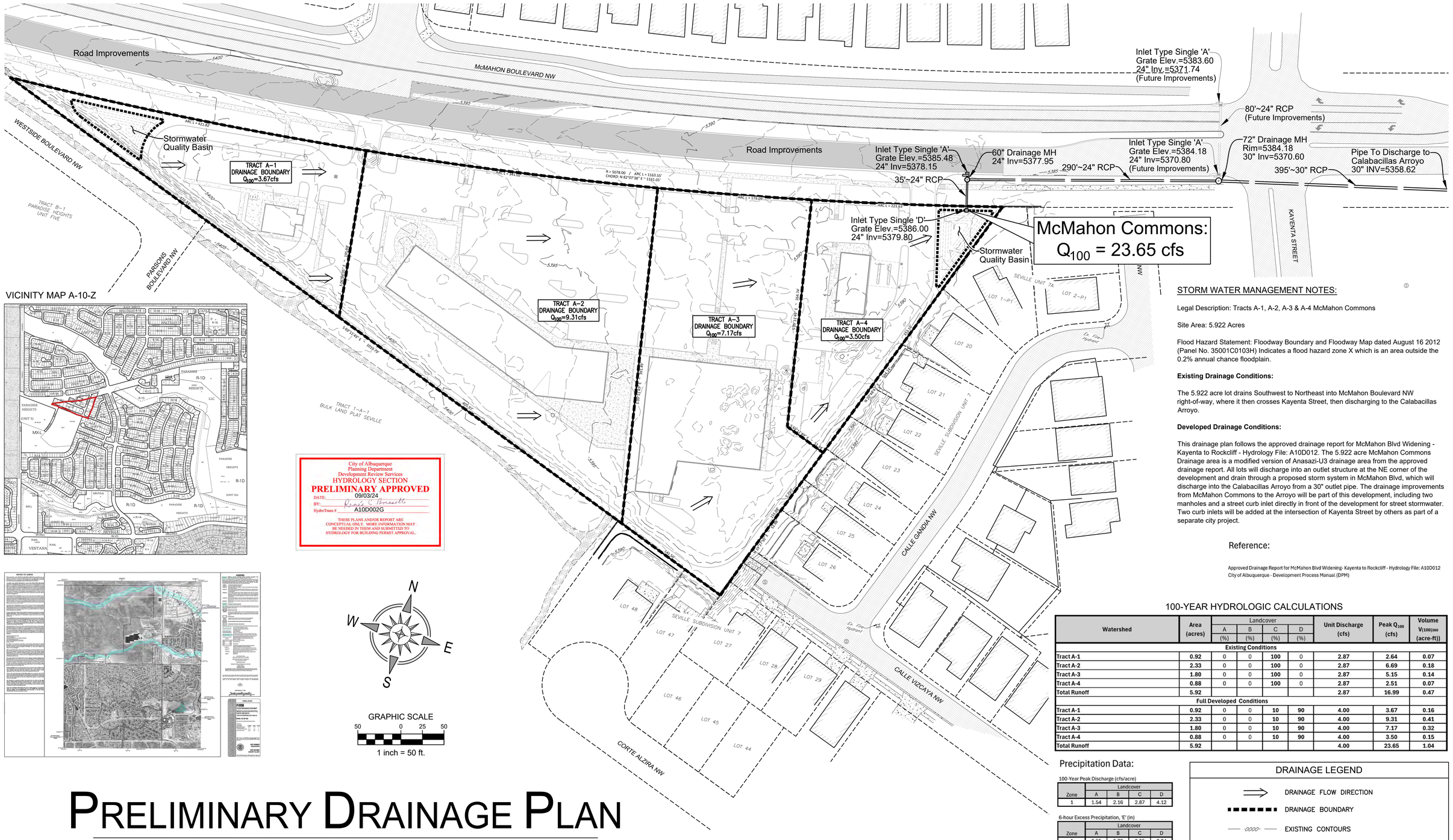
Renée C. Brissette, P.E. CFM
Senior Engineer, Hydrology
Planning Department

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov



VICINITY MAP A-10-Z

GRAPHIC SCALE

50 0 25 50

1 inch = 50 ft.

City of Albuquerque
Planning Department
Development Review Services
HYDROLOGY SECTION
PRELIMINARY APPROVED
DATE: 09/03/24
BY: René C. Brissette
HydroTrans # A10D002G
THESE PLANS AND/OR REPORT ARE CONCEPTUAL ONLY. MORE INFORMATION MAY BE NEEDED IN THEM AND SUBMITTED TO HYDROLOGY FOR BUILDING PERMIT APPROVAL.

STORM WATER MANAGEMENT NOTES:

Legal Description: Tracts A-1, A-2, A-3 & A-4 McMahon Commons

Site Area: 5.922 Acres

Flood Hazard Statement: Floodway Boundary and Floodway Map dated August 16 2012 (Panel No. 35001C0103H) Indicates a flood hazard zone X which is an area outside the 0.2% annual chance floodplain.

Existing Drainage Conditions:

The 5.922 acre lot drains Southwest to Northeast into McMahon Boulevard NW right-of-way, where it then crosses Kayenta Street, then discharging to the Calabacillas Arroyo.

Developed Drainage Conditions:

This drainage plan follows the approved drainage report for McMahon Blvd Widening - Kayenta to Rockcliff - Hydrology File: A10D012. The 5.922 acre McMahon Commons Drainage area is a modified version of Anasazi-U3 drainage area from the approved drainage report. All lots will discharge into an outlet structure at the NE corner of the development and drain through a proposed storm system in McMahon Blvd, which will discharge into the Calabacillas Arroyo from a 30" outlet pipe. The drainage improvements from McMahon Commons to the Arroyo will be part of this development, including two manholes and a street curb inlet directly in front of the development for street stormwater. Two curb inlets will be added at the intersection of Kayenta Street by others as part of a separate city project.

Reference:

Approved Drainage Report for McMahon Blvd Widening- Kayenta to Rockcliff - Hydrology File: A10D012
City of Albuquerque - Development Process Manual (DPM)

100-YEAR HYDROLOGIC CALCULATIONS

Watershed	Area (acres)	Landcover A (%)	Landcover B (%)	Landcover C (%)	Landcover D (%)	Unit Discharge (cfs)	Peak Q_{100} (cfs)	Volume $V_{(100)360}$ (acre-ft))
Existing Conditions								
Tract A-1	**0.92**	0	0	**100**	0	**2.87**	**2.64**	**0.07**
Tract A-2	**2.33**	0	0	**100**	0	**2.87**	**6.69**	**0.18**
Tract A-3	**1.80**	0	0	**100**	0	**2.87**	**5.15**	**0.14**
Tract A-4	**0.88**	0	0	**100**	0	**2.87**	**2.51**	**0.07**
Total Runoff	**5.92**					**2.87**	**16.99**	**0.47**
Full Developed Conditions								
Tract A-1	**0.92**	0	0	**10**	**90**	**4.00**	**3.67**	**0.16**
Tract A-2	**2.33**	0	0	**10**	**90**	**4.00**	**9.31**	**0.41**
Tract A-3	**1.80**	0	0	**10**	**90**	**4.00**	**7.17**	**0.32**
Tract A-4	**0.88**	0	0	**10**	**90**	**4.00**	**3.50**	**0.15**
Total Runoff	**5.92**					**4.00**	**23.65**	**1.04**

Precipitation Data:

100-Year Peak Discharge (cfs/acre)

Zone	Landcover A	B	C	D
1	1.54	2.16	2.87	4.12

6-hour Excess Precipitation, 'E' (in)

Zone	Landcover A	B	C	D
1	0.55	0.73	0.95	2.24

DRAINAGE LEGEND

DRAINAGE FLOW DIRECTION

DRAINAGE BOUNDARY

EXISTING CONTOURS

PRELIMINARY DRAINAGE PLAN

MCMAHON COMMONS

5.922 ACRE PARENT TRACT A OF BULK LAND PLAT

CITY OF ALBUQUERQUE - BERNALILLO COUNTY - NEW MEXICO

VERTICAL & HORIZONTAL CONTROL:

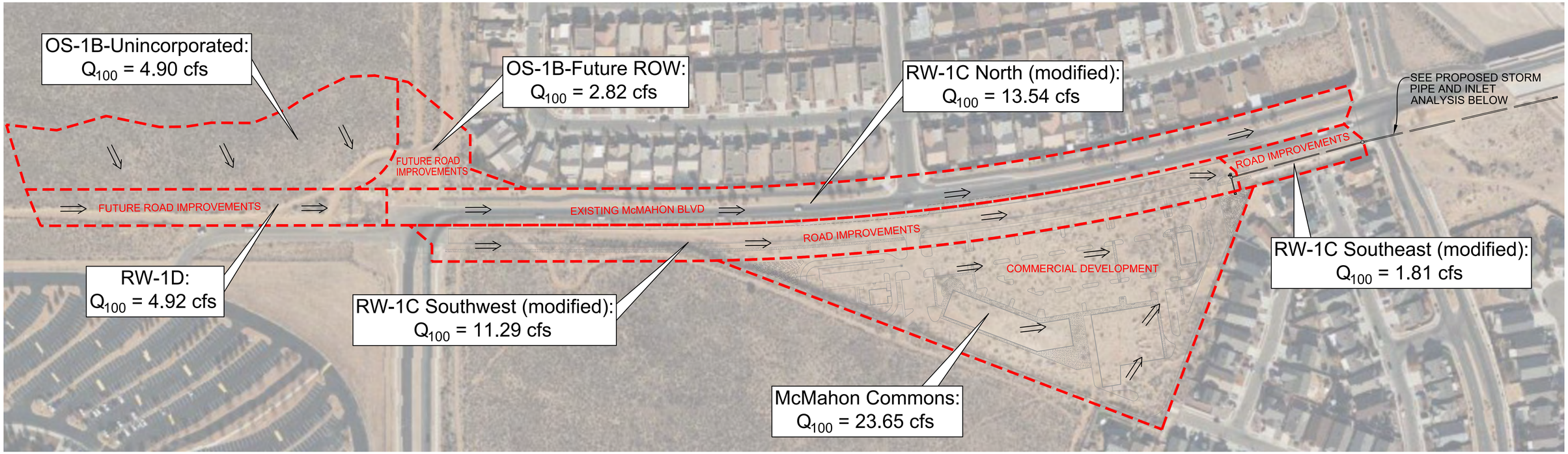
Existing conditions and topography are based on a field survey of the subject area performed and compiled by Terra Land Surveys, LLC in December 2022.
*Basis of Bearing: Bearings are based State Plane Coordinate System, South Zone, NAVD88.

BM#1 Description: ACS Control Monument "9-A11 2006" in the Intersection of Unser Blvd NW & McMahon Blvd NW Elevation: 5301.647

RYAN JOSEPH MORISSETT
NEW MEXICO
25323
PROFESSIONAL ENGINEER
8/23/2024

BURKHARDT ENGINEERS SURVEYORS
28 North Cherry Street | Germantown, Ohio 45327 | Phone: 937-388-0060 | BURKHARDTINC.COM
CIVIL ENGINEERING | LAND SURVEYING | NATIONAL RETAIL SITE DEVELOPMENT

Design: RJM	Proj: 23.156
Draw: MCM	Dwg: 23-156.dwg
Check: RJM	Tab: Prelim
Scale: 1"=50'	
Date: 08.23.2024	
Sheet: 1 OF 2	



Peak Discharge Summary Table

Watershed	Area (acres)	Landcover A (%)	Landcover B (%)	Landcover C (%)	Landcover D (%)	Unit Discharge (cfs)	Peak Q_{100} (cfs)	Volume $V_{(100)360}$ (acre-ft))
OS-1B-Unincorporated	3.05	95	0	5	0	1.61	4.90	0.20
OS-1B-Future ROW	0.78	0	0	40	60	3.62	2.82	0.10
RW-1D	1.36	0	0	40	60	3.62	4.92	0.20
RW-1C North (modified)	3.74	0	0	40	60	3.62	13.54	0.54
RW-1C Southwest (modified)	3.12	0	0	40	60	3.62	11.29	0.45
RW-1C Southeast (modified)	0.50	0	0	40	60	3.62	1.81	0.07
McMahon Commons Developed	5.92	0	0	10	90	4.00	23.65	1.04

Notes:
McMahon Commons Drainage Area is a modified version of Anasazi-U3 drainage area from original approved drainage report.
McMahon Comments will retain Water Quality Volume only, being first 0.42 Inches of rainfall on Landcover D.
Watersheds will drain through proposed storm system in McMahon Blvd, which will discharge into the Calabacillas Arroyo

N W E S

GRAPHIC SCALE
100 0 50
1 inch = 100 ft.

Reference:

Approved Drainage Report for McMahon Blvd Widening- Kayenta to Rockcliff - Hydrology File: A10D012
City of Albuquerque - Development Process Manual (DPM)

Precipitation Data:

100-Year Peak Discharge (cfs/acre)

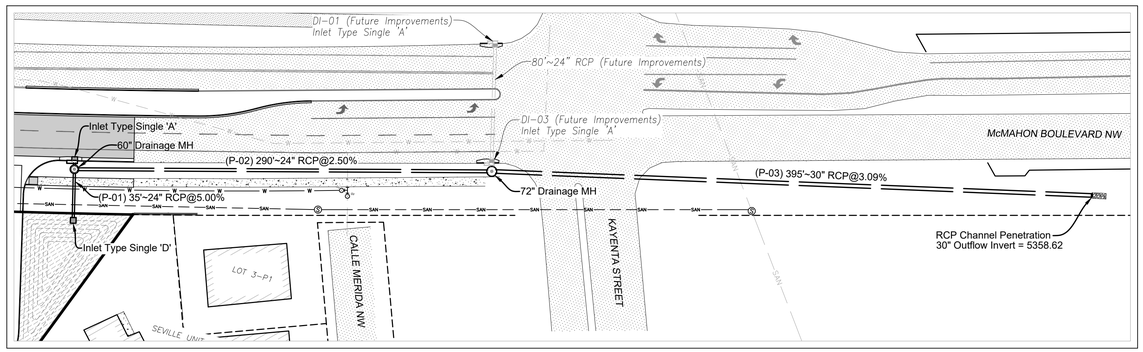
Zone	Landcover A	Landcover B	Landcover C	Landcover D
1	1.54	2.16	2.87	4.12

6-hour Excess Precipitation, 'E' (in)

Zone	Landcover A	Landcover B	Landcover C	Landcover D
1	0.55	0.73	0.95	2.24

City of Albuquerque
Planning Department
Development Review Services
HYDROLOGY SECTION
PRELIMINARY APPROVED
DATE: 09/03/24
BY: George C. Vincentis
HydroTrans # A10D002G
THESE PLANS AND/OR REPORT ARE CONCEPTUAL ONLY. MORE INFORMATION MAY BE NEEDED IN THEM AND SUBMITTED TO HYDROLOGY FOR BUILDING PERMIT APPROVAL.

INLET SUMMARY & PIPE CAPACITY ANALYSIS



Storm Pipe Capacity Summary:

Pipe #	Size (in)	Length (LF)	Slope (%)	Capacity (cfs)	Q_{100} (cfs)
P-01	24"	35'	5.00%	50.59	23.65
P-02	24"	290'	2.50%	35.77	34.94
P-03	30"	395'	3.09%	72.10	62.93

Drainage Inlet Summary:

Structure	Grate Elevation	100-HGL Elev
DI-03 (by others)	5384.18	5373.01
DI-01 (by others)	5383.60	5375.88
Inlet Type Single 'A'	5385.48	5382.09
Inlet Type Single 'D'	5386.00	5383.14

N W E S

GRAPHIC SCALE
50 0 25 50
1 inch = 50 ft.

DRAINAGE AREA MAP & DETAILS

MCMAHON COMMONS

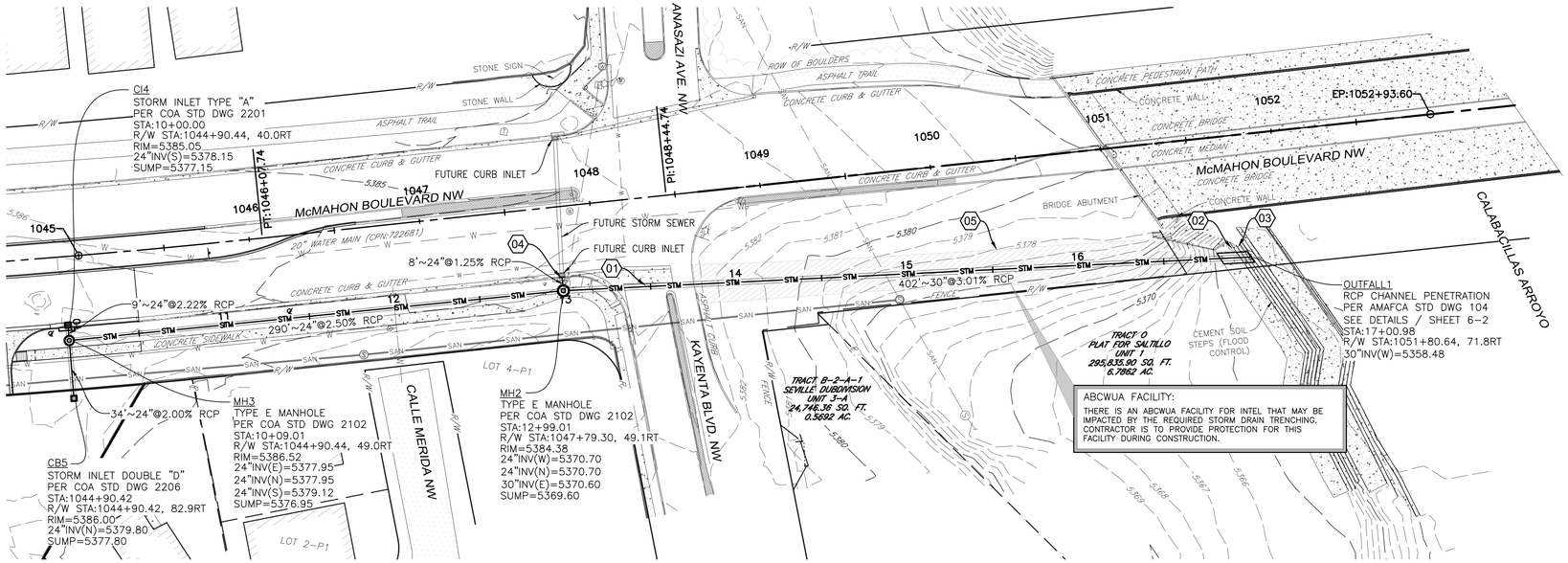
5.922 ACRE PARENT TRACT A OF BULK LAND PLAT

CITY OF ALBUQUERQUE - BERNALILLO COUNTY - NEW MEXICO

RYAN JOSEPH MORISSETTE NEW MEXICO 25323 PROFESSIONAL ENGINEER
8/23/2024

BURKHARDT ENGINEERS ▾ SURVEYORS
28 North Cherry Street | Germantown, Ohio 45327 | Phone: 937-388-0060 | BURKHARDTINC.COM
CIVIL ENGINEERING | LAND SURVEYING | NATIONAL RETAIL SITE DEVELOPMENT

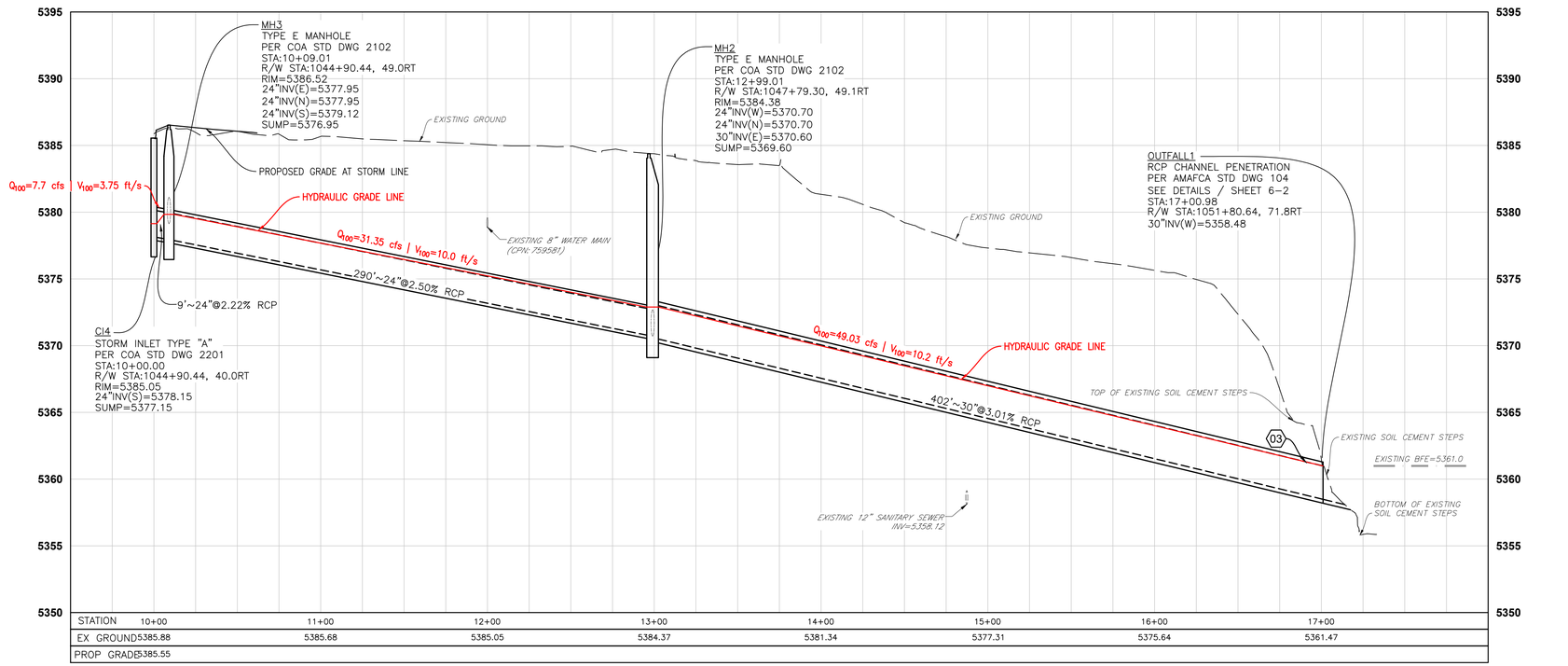
Design: RJM	Proj: 23.156
Draw: RJM	Dwg: 23-156.dwg
Check: RJM	Tab: Prelim
Scale: 1"=100'	
Date: 08.23.2024	
Sheet: 2 OF 2	



CONSTRUCTION NOTES

1. IF PRINTED SHEET IS NOT 24"X36" USE GRAPHIC SCALE ACCORDINGLY.
2. ALL DIMENSIONS ARE TO LIP OF GUTTER OR FRONT OF SIDEWALK UNLESS OTHERWISE NOTED.
3. GATE STATIONING IS WEST MOST POINT.

GRAPHIC SCALE
40 0 20 40
1 inch = 40 ft.



DRAINAGE PLAN KEYNOTES

(01) REPAIR AND REPLACE EXISTING CURB AND PAVEMENT AS NECESSARY TO INSTALL PROPOSED STORM SEWER. SEE REMOVALS PLAN.

(02) REPAIR AND REPLACE CONCRETE STEPS AS NECESSARY TO INSTALL PROPOSED STORM SEWER. SEE REMOVALS PLAN.

(03) CONSTRUCT STORM SEWER OUTFLOW INTO CALABACILLAS ARROYO PER AMAFCA STD DWG 104, "RCP CHANNEL PENETRATION, PIPE DIAMETER >12", <45° SKEW. SEE DETAILS / SHEET 6-2

(04) CAP 24" STORM STORM SEWER STUB FOR FUTURE ROADWAY IMPROVEMENTS.

(05) PROPOSED TRENCH FOR STORM SEWER PER CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS SECTION 701 AND OSHA 29CFR 1926.650 SUBPART "P". SEE CROSS SECTIONS.

STORM LEGEND

- PROPOSED STORM LINE
- PROPOSED STORM MANHOLE
- PROPOSED STORM CURB INLET
- PROPOSED HYDRAULIC GRADE LINE (HGL)

HORIZ 1 inch = 40 feet: 0 20 40 80
VERT 1 inch= 5 feet: 0 2.5 5 10

VERTICAL & HORIZONTAL CONTROL:

Existing conditions and topography are based on a field survey of the subject area performed and compiled by Terra Land Surveys, LLC in December 2022.
*Basis of Bearing: Bearings are based State Plane Coordinate System, South Zone, NAVD88.

BM#1 Description: ACS Control Monument "9-A11 2006"
Elevation: 5301.647

NOTIFY CITY OF ALBUQUERQUE - CLEAN CITY DEPARTMENT PRIOR TO DEMOLITION. SALVAGE LANDSCAPE & IRRIGATION IN MEDIAN TO CLEAN CITY DEPARTMENT. CALL: 505.263.8859

TAKE CAUTION DURING EXCAVATION:
THERE ARE UNDERGROUND UTILITY MAINS IN THE CONSTRUCTION AREA WHICH MAY NOT HAVE BEEN LOCATED ACCURATELY BY THE SURVEYOR / UTILITY OWNERS. NOTIFY "811" IN ADVANCE OF DIGGING TO HAVE LINES MARKED.

811 Know what's below. Call before you dig.

AS-BUILT INFORMATION
CONTRACTOR — DATE
WORK STAKED BY — DATE
INSPECTOR'S ACCEPTANCE BY — DATE
FIELD VERIFICATION BY — DATE
DRAWINGS CORRECTED BY — DATE

BENCH MARKS
ACS Control Monument "9-A11 2006"
Elevation = 5301.647 (NAVD 88)

MICRO-FILM INFORMATION
RECORDED BY — DATE
NO.

SURVEY INFORMATION
FIELD NOTES
NO. | BY | DATE

ENGINEER'S SEAL

REVISIONS

NO.	DATE	REMARKS	BY	DATE

DESIGNED BY MKS 06/06/2025
DRAWN BY MKS 06/06/2025
CHECKED BY RJM 06/06/2025

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CIVIL ENGINEERING | LAND SURVEYING | NATIONAL RETAIL SITE DEVELOPMENT

CITY OF ALBUQUERQUE
DEPARTMENT OF MUNICIPAL DEVELOPMENT
ENGINEERING DIVISION

McMAHON BOULEVARD WIDENING
UNIVERSE BLVD. NW TO KAYTENTA BLVD. NW
DRAINAGE PLAN AND PROFILE

Design Review Committee	City Engineer Approval	Last Design Update	Mo./Day/Yr.	Mo./Day/Yr.

City Project No.	Zone Map No.	Sheet
XXXXXX	A-10	6-1

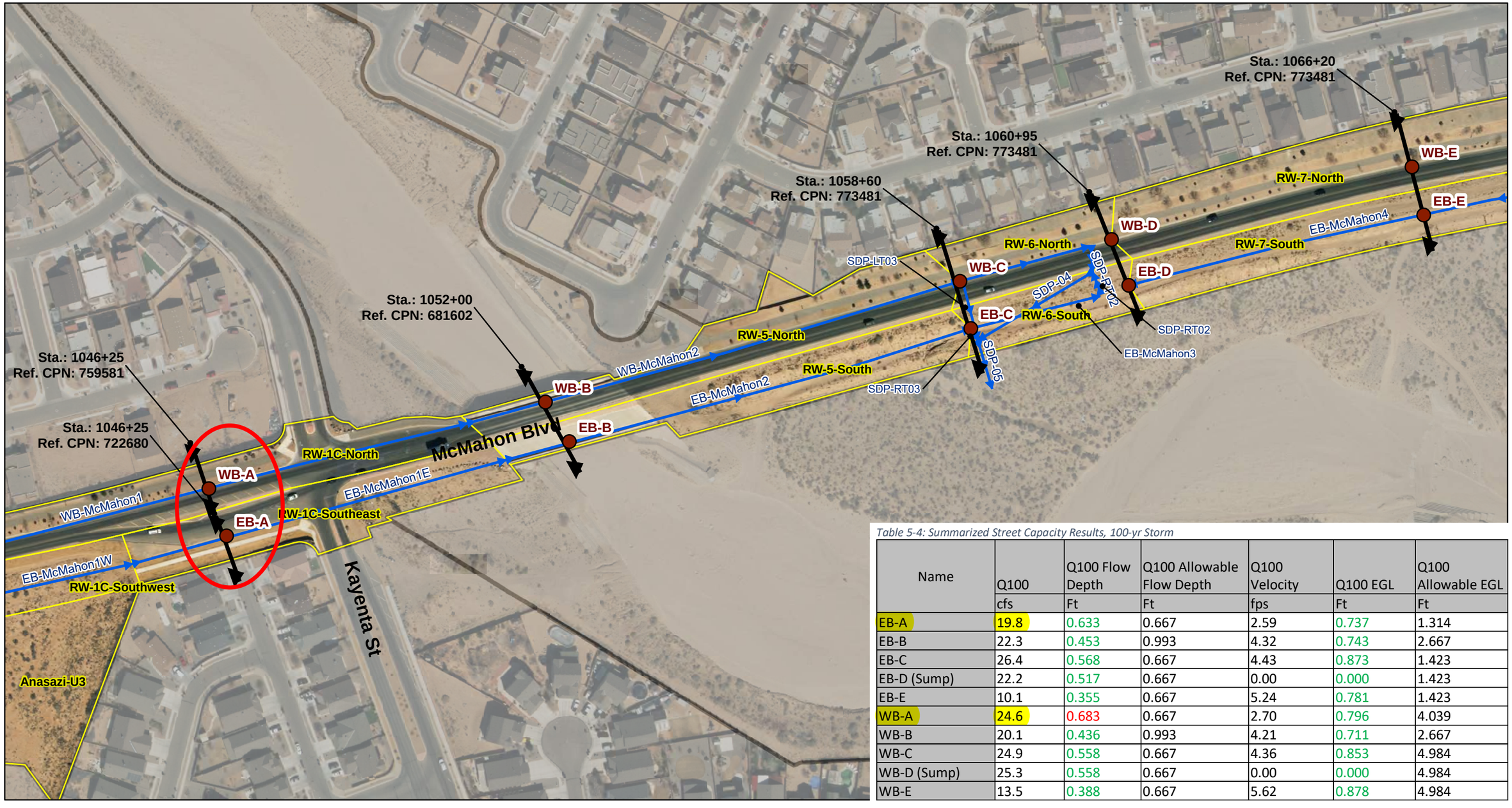


Table 5-4: Summarized Street Capacity Results, 100-yr Storm

Name	Q100	Q100 Flow Depth	Q100 Allowable Flow Depth	Q100 Velocity	Q100 EGL	Q100 Allowable EGL
	cfs	Ft	Ft	fps	Ft	Ft
EB-A	19.8	0.633	0.667	2.59	0.737	1.314
EB-B	22.3	0.453	0.993	4.32	0.743	2.667
EB-C	26.4	0.568	0.667	4.43	0.873	1.423
EB-D (Sump)	22.2	0.517	0.667	0.00	0.000	1.423
EB-E	10.1	0.355	0.667	5.24	0.781	1.423
WB-A	24.6	0.683	0.667	2.70	0.796	4.039
WB-B	20.1	0.436	0.993	4.21	0.711	2.667
WB-C	24.9	0.558	0.667	4.36	0.853	4.984
WB-D (Sump)	25.3	0.558	0.667	0.00	0.000	4.984
WB-E	13.5	0.388	0.667	5.62	0.878	4.984

Project: McMahon Blvd Widening
Location: Bernalillo County, NM
Prepared for: City of Albuquerque
CABQ CPN: 722690
AECOM Project No.: 60645365

0 150 300 Feet
1 inch = 150 feet

N

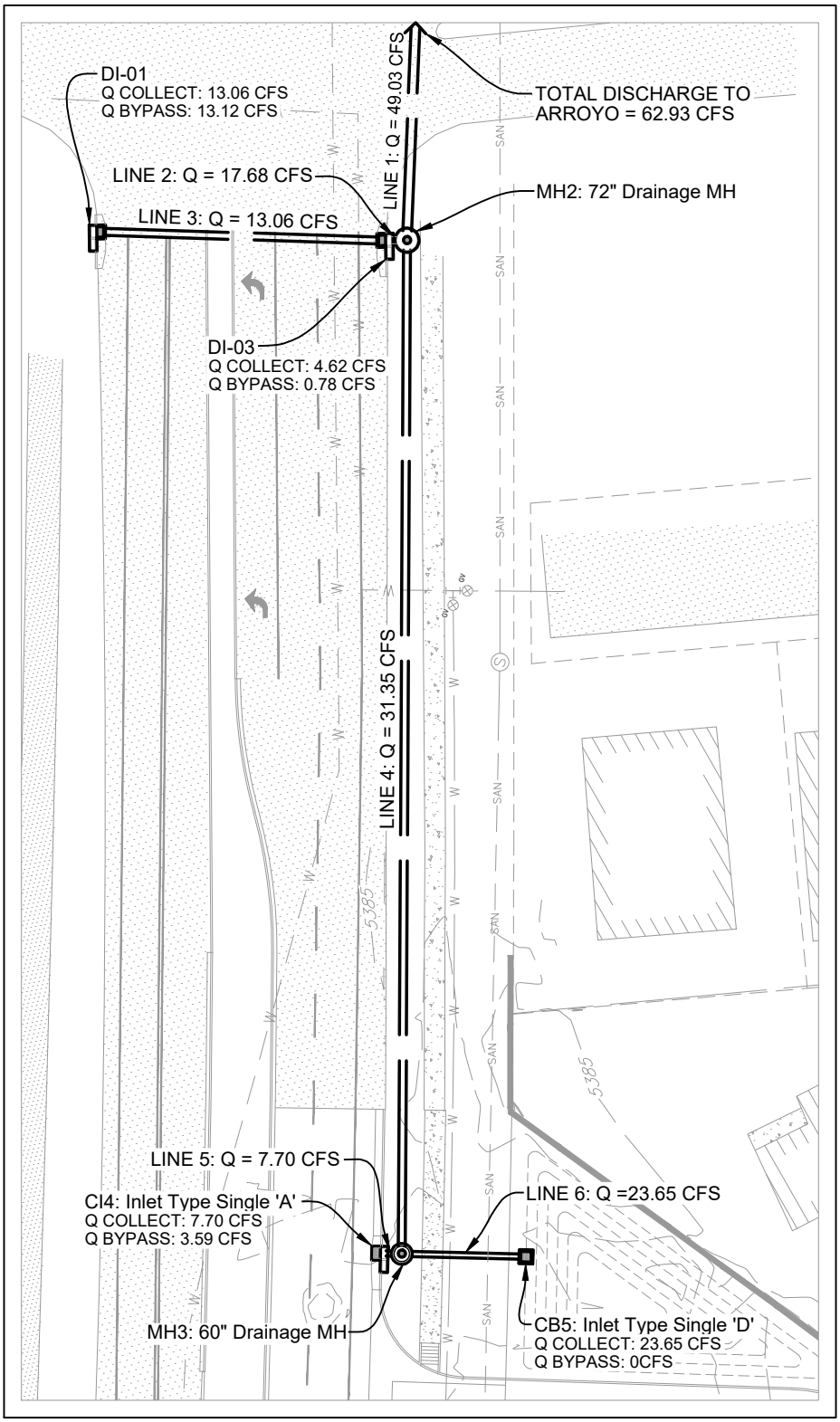
Legend

- Analysis Point
- Cross Section
- Reaches
- Contributing Drainage Basins
- Non-Contributing Drainage

AECOM

McMahon Blvd Widening
Analysis Points
Figure 5-1

INLET & PIPE ANALYSIS SUMMARY



SCALE: 1"=50'

DATE: 06/09/2025

BY: MCM

STORM WATER REPORT EXHIBIT FOR

McMahon Commons

5.922 Acre Parent Tract A of Bulk Land Plat

City of Albuquerque - Bernalillo County - New Mexico

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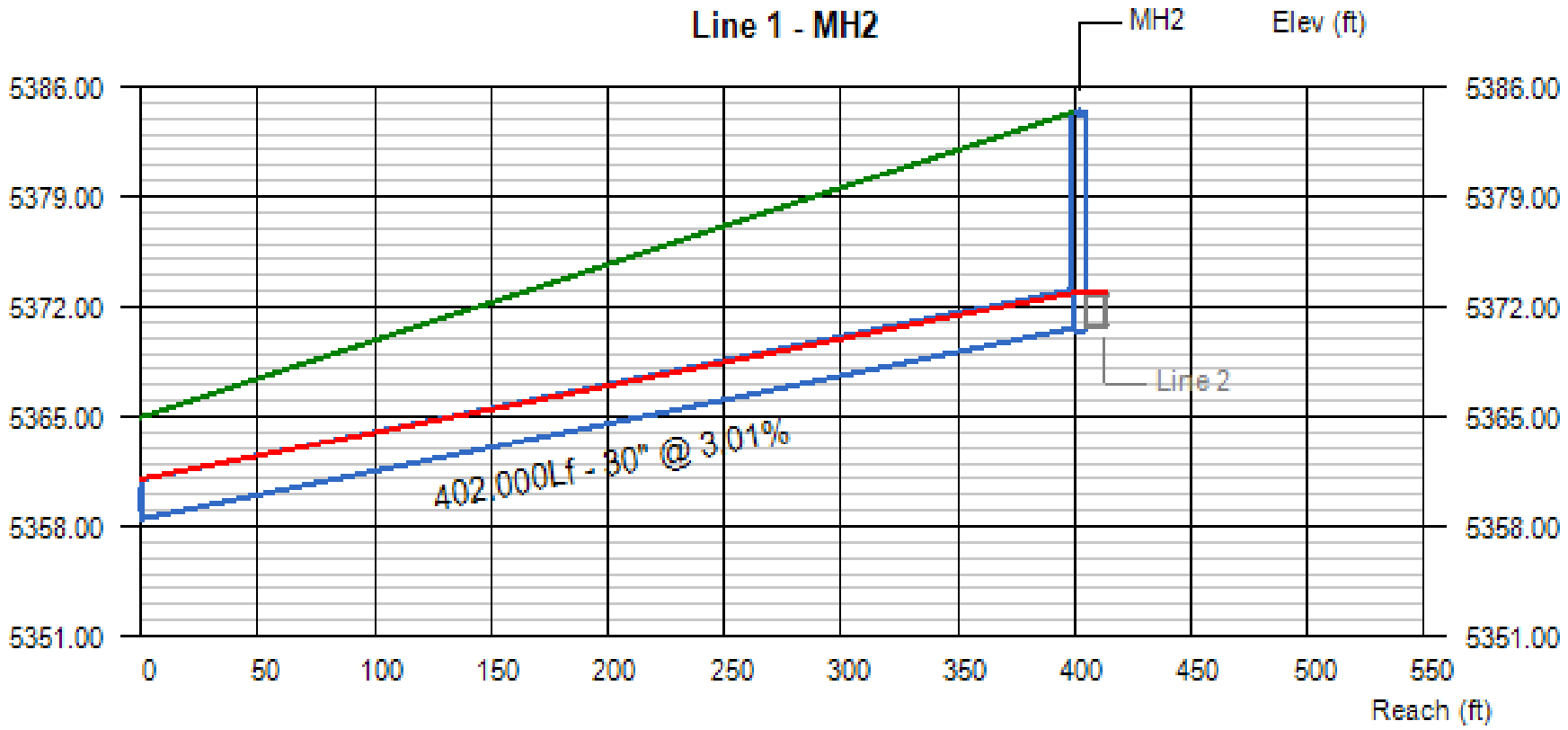
PROJ. NO. 23.156 BASE DWG. McMahon Prelim Exhibits.dwg TAB FILE DR-1

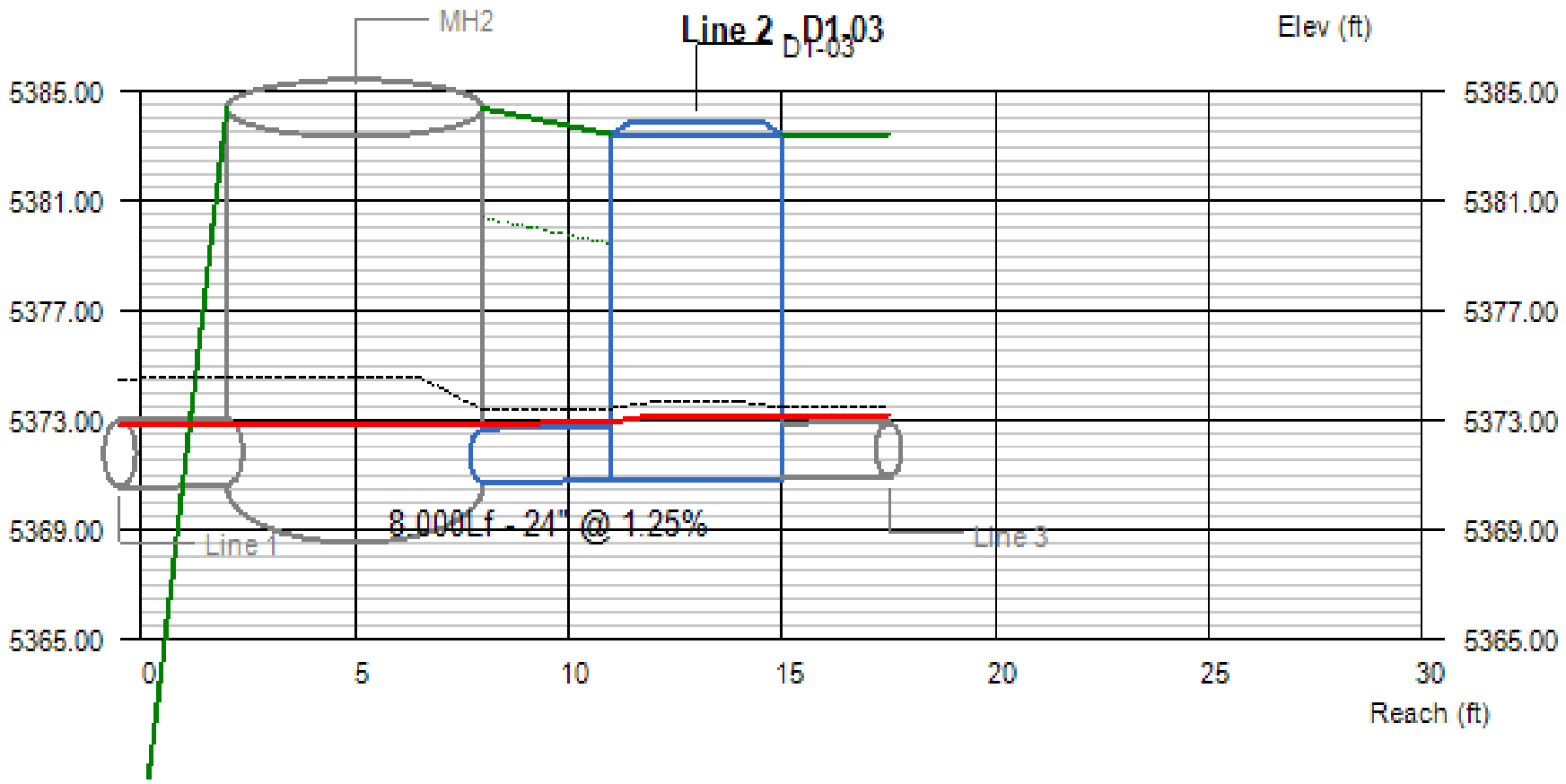
Line Profile (Line 1) - MH2



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
1	49.03	5358.48	5370.60	2.50	2.29	2.29	5361.00	5372.89	5372.89	9.99	10.42	4.00	11.28

McMahon | No. Lines: 6 | Run Date: 6/9/2025

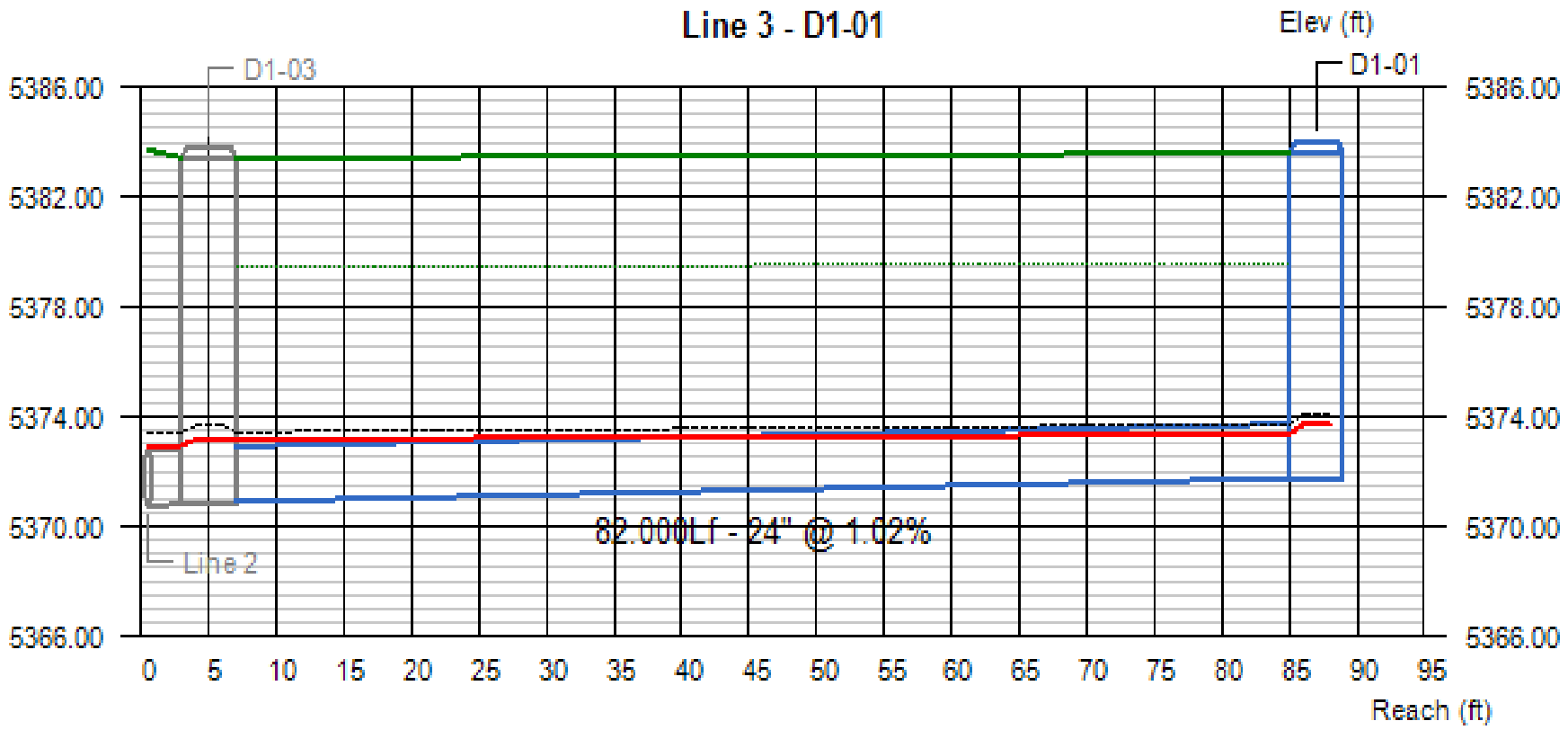
Line Profile (Line 2) - D1-03



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
2	17.68	5370.70	5370.80	2.00	2.00	2.38	5372.89	5372.94	5373.18	5.63	5.63	11.68	10.63

McMahon | No. Lines: 6 | Run Date: 6/9/2025

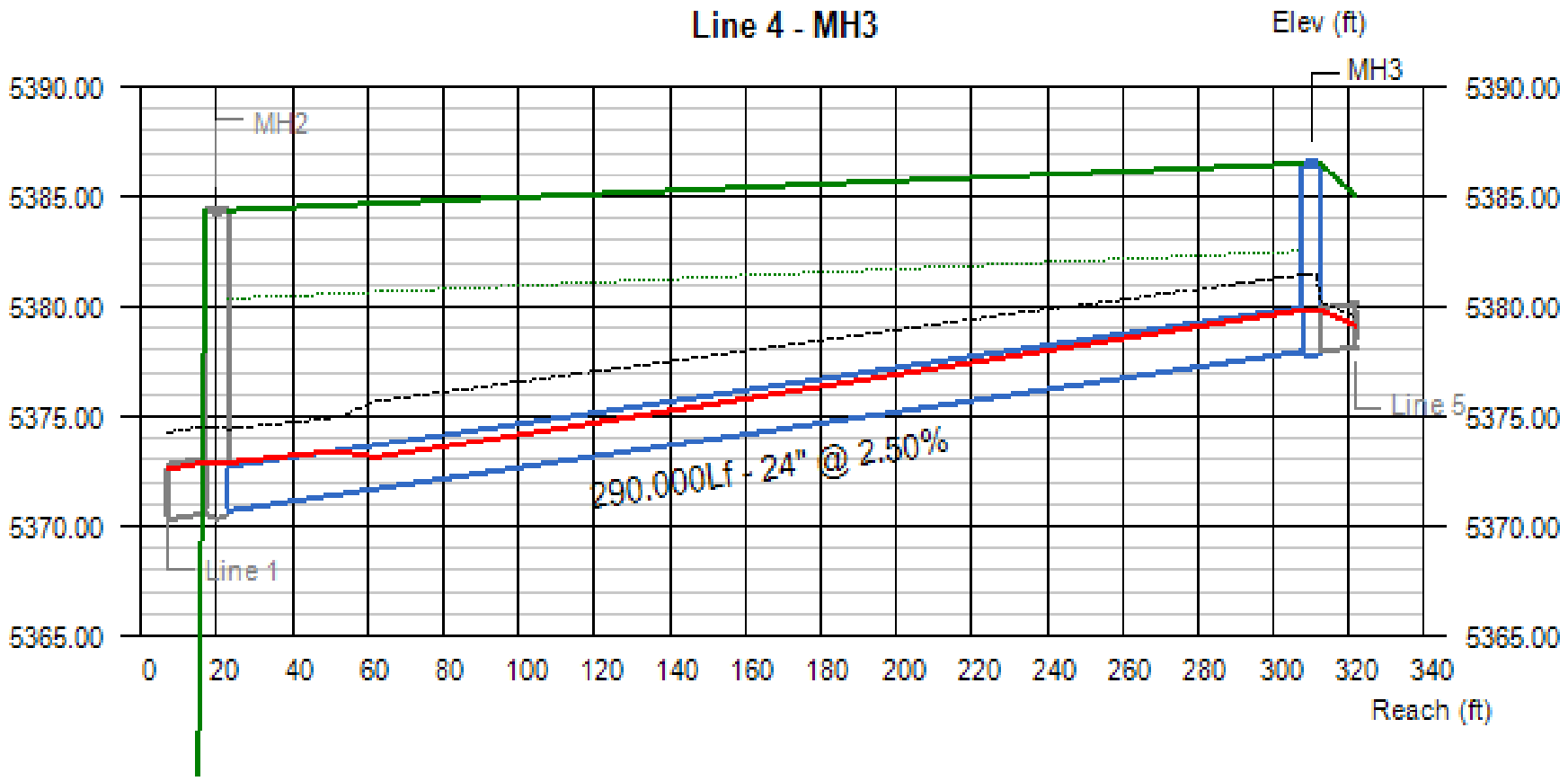
Line Profile (Line 3) - D1-01



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
3	13.06	5370.90	5371.74	2.00	1.63	1.98	5373.18	5373.37	5373.72	4.16	4.76	10.53	9.86

McMahon | No. Lines: 6 | Run Date: 6/9/2025

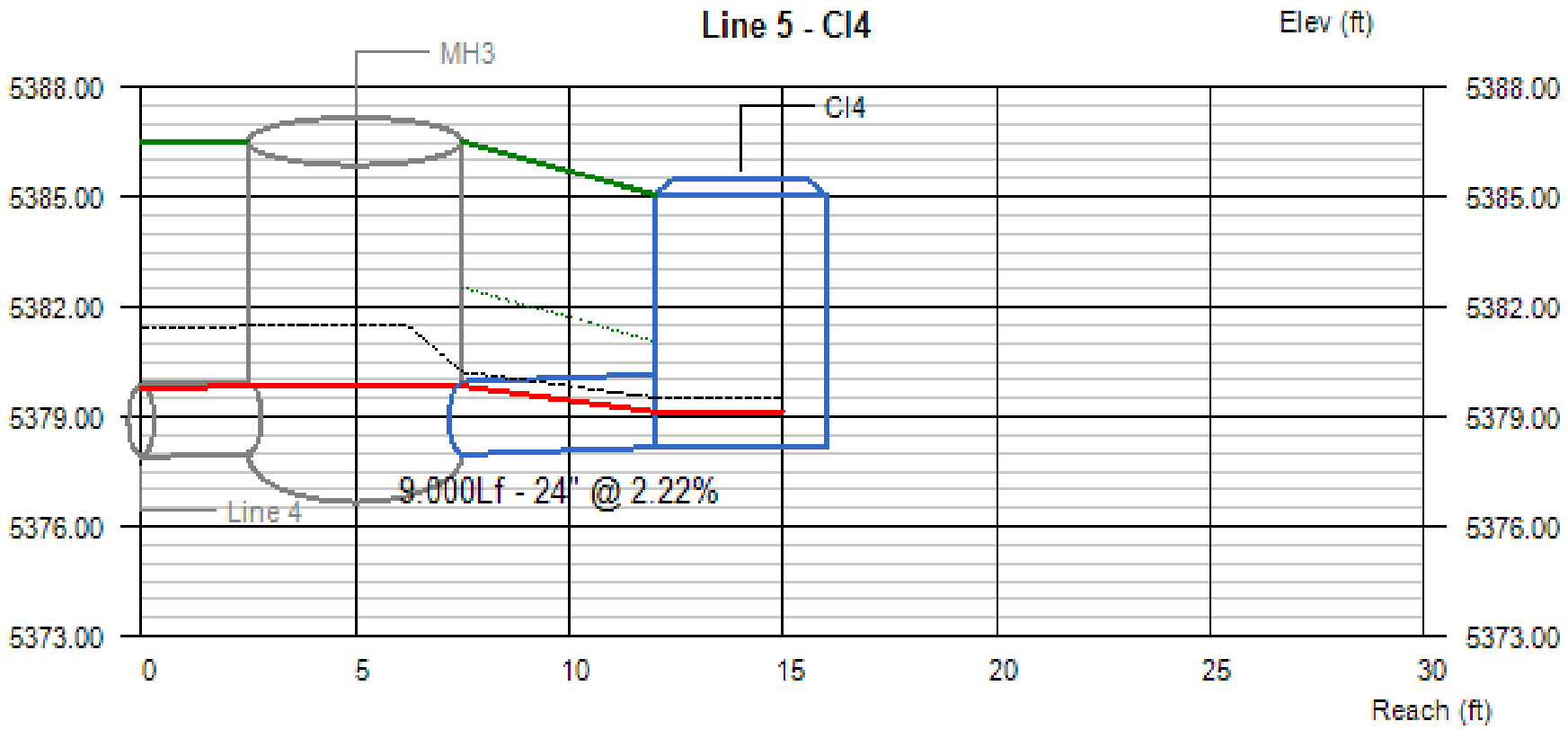
Line Profile (Line 4) - MH3



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
4	31.35	5370.70	5377.95	2.00	1.88	1.88	5372.89	5379.83 j	5379.83	9.98	10.23	11.68	6.57

McMahon | No. Lines: 6 | Run Date: 6/9/2025

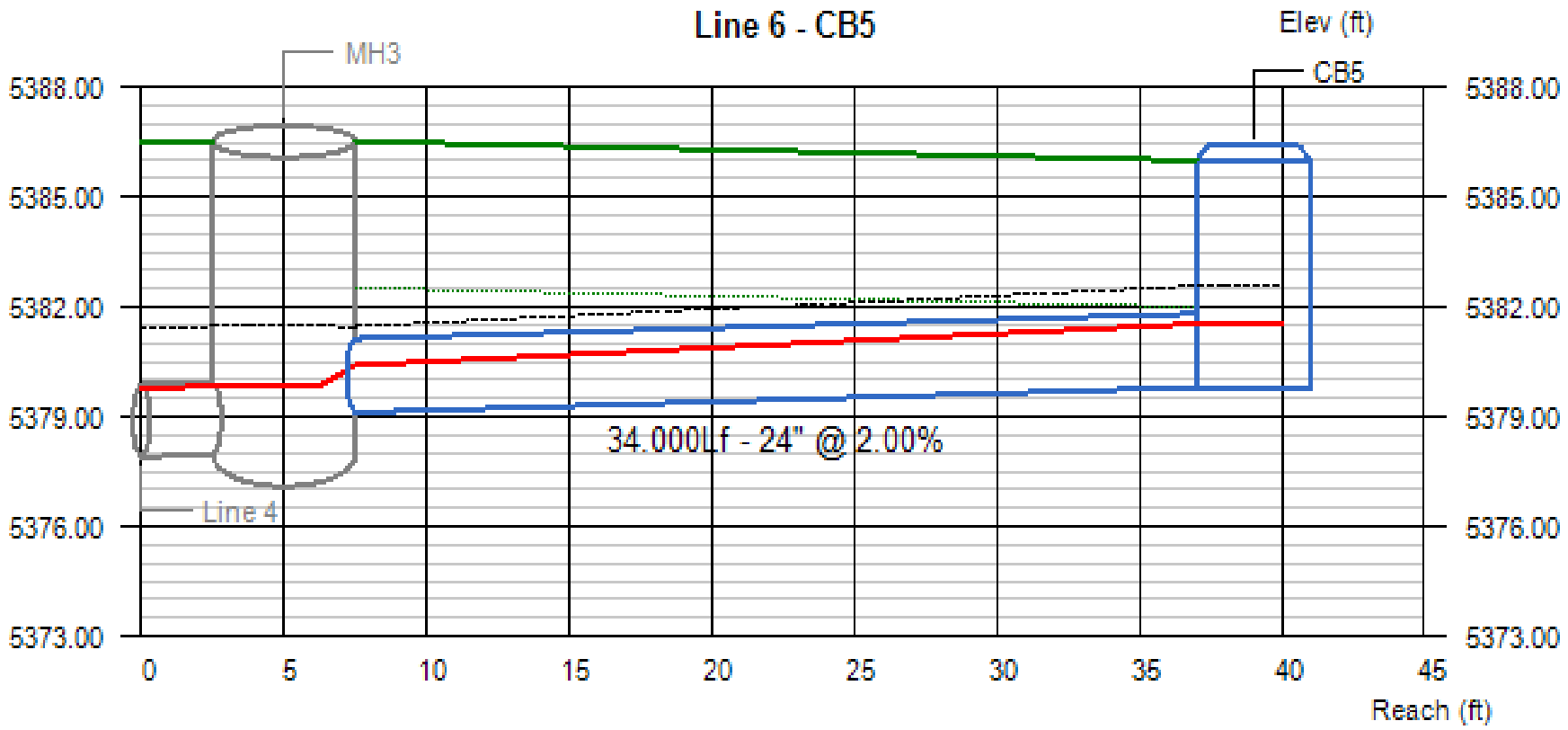
Line Profile (Line 5) - CI4



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
5	7.70	5377.95	5378.15	1.88	0.99	0.99	5379.83	5379.14	5379.14	2.51	4.99	6.57	4.90

McMahon | No. Lines: 6 | Run Date: 6/9/2025

Line Profile (Line 6) - CB5



Line #	Q	Invert Elevation		Depth of Flow			Hydraulic Grade Line			Velocity		Cover	
	(cfs)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Hw (ft)	Dn (ft)	Up (ft)	Jnct (ft)	Dn (ft/s)	Up (ft/s)	Dn (ft)	Up (ft)
6	23.65	5379.12	5379.80	1.28	1.72	1.72	5380.40	5381.52	5381.52	11.14	8.21	5.40	4.20

McMahon | No. Lines: 6 | Run Date: 6/9/2025