

CITY OF ALBUQUERQUE



Richard J. Berry, Mayor

October 4, 2017

Fred C. Arfman, P.E.
Isaacson & Arfman, P.A.
128 Monroe St. N.E
Albuquerque, NM, 87108

RE: 5720 McMahon Blvd NW –McMahon Market Place New Shell Building
Grading Plan and Drainage Report
Stamp Date: 9/15/17
Hydrology File: A11D011H

Dear Mr. Arfman:

PO Box 1293 Based upon the information provided in your re-submittal received 9/19/2017, the Grading
Plan and Drainage Report is approved for Building Permit and SO-19 Permit.

Albuquerque Please attach a copy of this approved plan in the construction sets when submitting for a
building permit. Prior to Certificate of Occupancy release, Engineer Certification per the
DPM checklist will be required.

NM 87103 If you have any questions, please contact me at 924-3995 or rbrissette@cabq.gov.

www.cabq.gov Sincerely,

Reneé C. Brissette

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



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 09/2015)

Project Title: _____ **Building Permit #:** _____ **City Drainage #:** _____
DRB#: _____ **EPC#:** _____ **Work Order#:** _____
Legal Description: _____
City Address: _____

Engineering Firm: _____ **Contact:** _____
Address: _____
Phone#: _____ **Fax#:** _____ **E-mail:** _____
bryanb@iacivil.com

Owner: _____ **Contact:** _____
Address: _____
Phone#: _____ **Fax#:** _____ **E-mail:** _____

Architect: _____ **Contact:** _____
Address: _____
Phone#: _____ **Fax#:** _____ **E-mail:** _____

Other Contact: _____ **Contact:** _____
Address: _____
Phone#: _____ **Fax#:** _____ **E-mail:** _____

Check all that Apply:

DEPARTMENT:

☒ HYDROLOGY/ DRAINAGE
☐ TRAFFIC/ TRANSPORTATION
☐ MS4/ EROSION & SEDIMENT CONTROL

TYPE OF SUBMITTAL:

☒ ENGINEER ARCHITECT CERTIFICATION
☐ CONCEPTUAL G & D PLAN
☒ GRADING PLAN
☐ DRAINAGE MASTER PLAN
☐ DRAINAGE REPORT
☐ CLOMR/LOMR
☐ TRAFFIC CIRCULATION LAYOUT (TCL)
☐ TRAFFIC IMPACT STUDY (TIS)
☐ EROSION & SEDIMENT CONTROL PLAN (ESC)
☐ OTHER (SPECIFY) _____

CHECK TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

☒ BUILDING PERMIT APPROVAL
☐ CERTIFICATE OF OCCUPANCY
☐ PRELIMINARY PLAT APPROVAL
☐ SITE PLAN FOR SUB'D APPROVAL
☐ SITE PLAN FOR BLDG. PERMIT APPROVAL
☐ FINAL PLAT APPROVAL
☐ SIA/ RELEASE OF FINANCIAL GUARANTEE
☐ FOUNDATION PERMIT APPROVAL
☒ GRADING PERMIT APPROVAL
☒ SO-19 APPROVAL
☒ PAVING PERMIT APPROVAL
☐ GRADING/ PAD CERTIFICATION
☐ WORK ORDER APPROVAL
☐ CLOMR/LOMR
☐ PRE-DESIGN MEETING
☐ OTHER (SPECIFY) _____

IS THIS A RESUBMITTAL?: ☐ Yes ☒ No

DATE SUBMITTED: September 19, 2017 By: Fred C. Arfman

COA STAFF: _____ ELECTRONIC SUBMITTAL RECEIVED: _____



September 15, 2017

Reneé Brissette, P.E.
Senior Engineer, Hydrology
City of Albuquerque, Planning Dept.

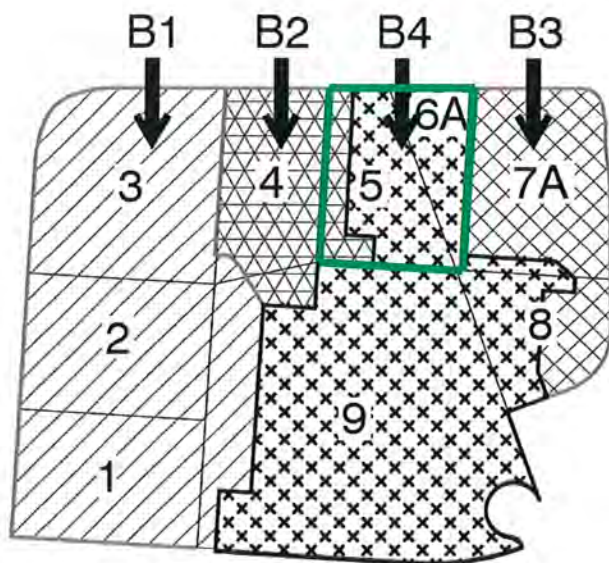
RE: McMahon Market Place LOT 5A and 6A1 – TAP ROOM AND RETAIL SHELL BUILDINGS

Dear Ms. Brissette,

Included with this letter is a copy of the proposed Drainage and Grading Plan for the above referenced project.

As noted in the McMahon Marketplace DMP which governs the entire 12.13 acre McMahon Marketplace, as the overall property continues to develop, the 41.55 cfs maximum discharge rate will be adhered to.

Per the DMP image below, Lots 5 & 6A (replatted to 5A and 6A1) fall within drainage sub-basins B2 (free discharge) and B4 (proposed on-site detention pond). In addition, all of sub-basin B3 will drain through this properties detention pond after passing through an existing detention pond with outlet structure controlling discharge to 4.07 cfs during the 100-year 6-hour storm event.



MCMAHON MARKETPLACE - OVERALL

The properties (1.22 acres) will generate 5.0 cfs during the 100-year 6-hour storm event.

CALCULATIONS: McMahon Marketplace - Lots 5A and 6A1 : September 15, 2017

Based on Drainage Design Criteria for City of Albuquerque Section 22.2, DPM, Vol 2, dated Jan., 1993

ON-SITE				
AREA OF SITE:	53199	SF	=	1.22
100-year, 6-hour				
DEVELOPED FLOWS:			EXCESS PRECIP:	
		Treatment SF	%	Precip. Zone 1
Area A	=	0	0%	E _A = 0.44
Area B	=	2660	5%	E _B = 0.67
Area C	=	4256	8%	E _C = 0.99
Area D	=	46283	87%	E _D = 1.97
Total Area	=	53199	100%	

On-Site Weighted Excess Precipitation (100-Year, 6-Hour Storm)

$$\text{Weighted E} = \frac{E_A A_A + E_B A_B + E_C A_C + E_D A_D}{A_A + A_B + A_C + A_D}$$

Developed E	=	1.83 in.
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On-Site Volume of Runoff: V₃₆₀ =

$$E * A / 12$$

Developed V ₃₆₀	=	8098 CF
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On-Site Peak Discharge Rate: Q_p = Q_{pA}A_A + Q_{pB}A_B + Q_{pC}A_C + Q_{pD}A_D / 43,560

For Precipitation Zone 1

$$Q_{pA} = 1.29$$

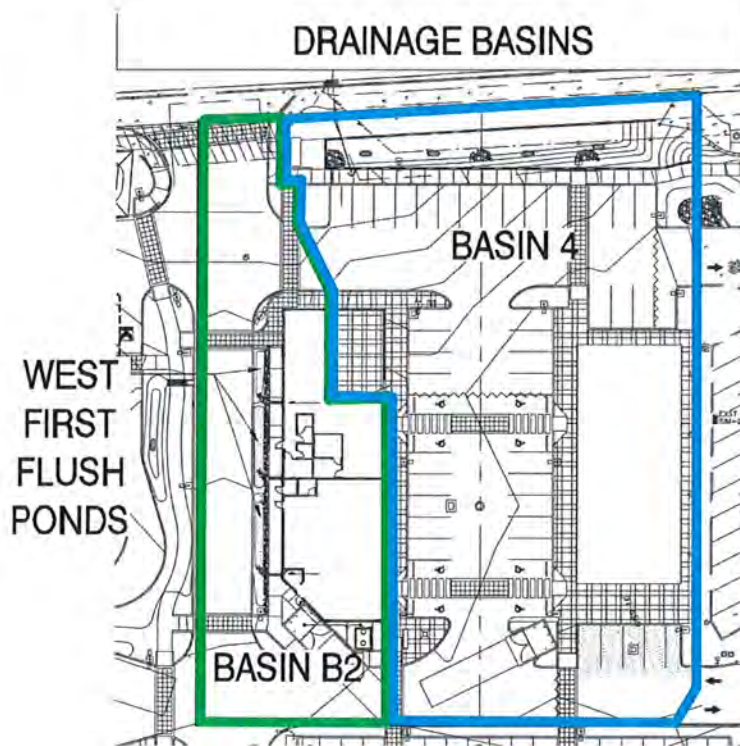
$$Q_{pC} = 2.87$$

$$Q_{pB} = 2.03$$

$$Q_{pD} = 4.37$$

Developed Q _p	=	5.0 CFS
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This on-site flow will be handled as follows:



The west portion of the site including the Lot 5A building and west access drive (outlined in green as Basin B2) will free discharge to McMahon Blvd. via DMP basin B2

BASIN NO.	B2	DESCRIPTION	
Area of basin flows =	15909	SF	= 0.4 Ac.
The following calculations are based on Treatment areas as shown in table to the right			
Sub-basin Weighted Excess Precipitation (see formula above)		LAND TREATMENT	
Weighted E = 1.86 in.		A =	0%
Sub-basin Volume of Runoff (see formula above)		B =	5%
V ₃₆₀ = 2461 CF		C =	5%
Sub-basin Peak Discharge Rate: (see formula above)		D =	90%
Q _p = 1.5 cfs		FIRST FLUSH VOL.	
		406 CF	

The east portion consisting of the east building and the central parking area (outlined in blue as Basin 4) will discharge to the combined first flush retention / detention pond on the north end of the site.

BASIN NO.	4	DESCRIPTION	
Area of basin flows =	37291	SF	= 0.9 Ac.
The following calculations are based on Treatment areas as shown in table to the right			
Sub-basin Weighted Excess Precipitation (see formula above)		LAND TREATMENT	
Weighted E = 1.82 in.		A =	0%
Sub-basin Volume of Runoff (see formula above)		B =	0%
V ₃₆₀ = 5665 CF		C =	15%
Sub-basin Peak Discharge Rate: (see formula above)		D =	85%
Q _p = 3.5 cfs		FIRST FLUSH VOL.	
		898 CF	

With the construction of Lots 5A and 6A1 within MDP Basin B4, the discharge from the overall McMahon Marketplace property will be:

MDP Basin B1 (4.6 acre) will continue to drain to the west private storm drain system. Based on fully developed land treatment ration of 0 : 5 : 10 : 85, the MDP discharge = 19.1 cfs.

MDP Basin B2 (1.2 acre) will free discharge 4.8 cfs to McMahon Blvd. based on an approved land treatment ration of 0 : 15 : 11 : 74.

MDB Basin B3 (1.5 acre) is detained within the McDonald's detention pond and released via orifice control at a rate of 4.07 cfs via an 18" rcp extended to the public storm drain in McMahon Blvd. This storm drain conflicts with the proposed pond on Lots 5A and 6A1. Because this is a shared storm drain system, this project proposes removing the western portion of 18" rcp. The 4.07 cfs discharge from Basin B3 will be accepted into the proposed pond and the new outfall will be sized (orifice control) to discharge the allowable Basin B4 plus the full 4.07 cfs from Basin B3.

As noted on the DMP, the fully developed property is permitted a total discharge of 41.55 cfs.

MDP Basin B1	19.1 cfs	
MDP Basin B2	4.8 cfs	
MDP Basin B3 (previously discharging 4.07 to the public storm drain)		0 cfs
MDP Basin B4	Permitted discharge = $41.55 - 19.1 - 4.8 = 17.65$ cfs	

In the interim condition, the total discharge to the proposed detention pond = 18.47 cfs

MDP Basin B4 (proposed developed portion)	3.5 cfs
MDP Basin B3	4.07 cfs
MDP Basin B4 (undeveloped portion)	10.9 cfs (based on 0 : 5 : 80 : 15) see below

BASIN NO.	B4	undeveloped	DESCRIPTION	
Area of basin flows =		155945	SF	= 3.6 Ac.
The following calculations are based on Treatment areas as shown in table to the right				
Sub-basin Weighted Excess Precipitation (see formula above)				LAND TREATMENT
Weighted E = 1.12 in.				A = 0%
Sub-basin Volume of Runoff (see formula above)				B = 5%
V ₃₆₀ = 14568 CF				C = 80%
Sub-basin Peak Discharge Rate: (see formula above)				D = 15%
Q _p = 10.9 cfs				FIRST FLUSH VOL.
				663 CF

Maximum permitted discharge = 17.65 cfs
 Required detention = $18.47 \text{ cfs} - 17.65 = 0.82 \text{ cfs}$.

Detention will be provided using orifice control at drain inlets and at the connection to the existing private storm sewer connection to the public McMahon Blvd. system.

The main detention / retention pond volumes will be

Retention: from 5293.0 to 5295.0 = 1901 cf

Lots 5A and 6A1 require 898 cf of first flush storage. The remaining 1003 cf will be utilized by Lot 9 (the southern portion of Basin B4) as required.

The available detention volume will be based on a water surface elevation of 5297.5

The detention volume available = 3415 cf

As shown in the chart below, there is an additional 1968 cf of volume available before the pond would overflow.

MAIN POND			
Contour	Area	Volume	
5293.00	360		
5294.00	968	664 CF	
5295.00	1505	1237 CF	
5296.00	1720	1613 CF	
5297.00	1884	1802 CF	
5297.50	1975	965 CF	
5298.00	2051	1007 CF	
TOTAL VOL.		7286 CF	

1901 cf First flush retention volume between 5293 and 5295

4379 cf Detention for between 5295 and 5297.5

1007 cf freeboard (0.5') from 5297.5 and 5298

ORIFICE EQUATION - 18" PIPE IN POND WALL TO STORM DRAIN

The Orifice Equation is used to calculate the Flow at the opening of a Channel

$$Q = C * A * (2 * g * h)^{0.5}$$

Where

Q	=	12.76	cfs	
C	=	0.6		(indicating that the opening will function at 60% capacity)
A	=	1.77	sq.ft.	
g	=	32.2	ft/sec ²	
h	=	2.25	ft	depth of flow at opening from the center of culvert

18" outlet pipe

Invert of opening = 5295.0

Invert at emergency overflow = 5297.5

Maximum Water surface elevation = 5298.0

At a head of 1.77', the 18" outlet pipe will pass 12.76 cfs. < 17.65 cfs allowable.

The remaining allowable Q (will be released to McMahon Blvd. via covered sidewalk culvert.

ORIFICE EQUATION - OVERFLOW SIDEWALK CULVERTS (TWO 2' WIDE X 0.6' HIGH)

The Orifice Equation is used to calculate the Flow at the opening of a Channel

$$Q = C * A * (2 * g * h)^{0.5}$$

Where

Q	=	4.6	cfs	
C	=	0.6		(indicating that the opening will function at 60% capacity)
A	=	1.675	sq.ft.	
g	=	32.2	ft/sec ²	
h	=	0.33	ft	depth of flow at opening from the center of culvert

At a head of 0.33', a 2.5' wide x 8" high opening in the pond wall will discharge 4.6 cfs.

Invert of opening = 5297.33

Maximum water surface elevation = 5298.0

Total discharge =	18" outlet	12.76 cfs
	2.5' wide x 8" high weir	4.6 cfs
	TOTAL	17.40 < 17.65 cfs

Please don't hesitate to call me or Fred Arfman with any questic

Sincerely,

Isaacson & Arfman, PA

Bryan J. Bobrick
Project Manager

Fred C. A
Principal

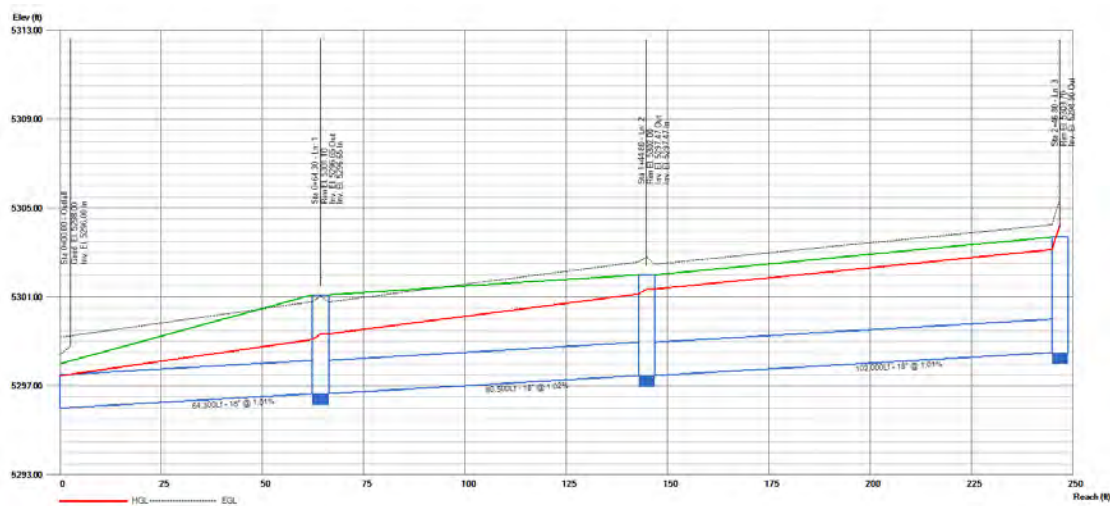


From: [Bryan Bobrick](#)
To: [Brissette, Renee C.](#)
Cc: [Fred Arfman](#)
Subject: Re: McMahon Market Place New Shell Bldg
Date: Wednesday, October 04, 2017 9:27:44 AM
Attachments: [image.png](#)

Rene ,

Per the calculations provided, the pond is permitted to discharge max 17.65 cfs in the fully developed condition to limit the discharge to 41.55 cfs. The pond is not able to detain the difference so, as Lot 9 develops, detention will be provided.

The 18" diameter system is sufficient for the required Q although a 24" would be needed if detention were not required on Lot 9.



Let me know if you need anything else.

Thanks

Bryan Bobrick
Isaacson & Arfman, P.A.
128 Monroe N.E.
Albuquerque, NM 87108
(505) 268-8828

On Wed, Oct 4, 2017 at 8:39 AM, Brissette, Renee C. <rbrissette@cabq.gov> wrote:

Bryan,

What is the future Lot 9 discharge in the storm sewer system? Are you sure that an 18 inch pipe will be able to handle the discharge from Lot 9 and this tract? I would have expected to see a 24 inch pipe.

Rene  C. Brissette, PE CFM

Senior Engineer, Hydrology

Planning Department

Development Review Services Division

600 2nd St. NW

[Albuquerque, NM 87102](#)

[\(505\)924-3995](#)

From: Bryan Bobrick [mailto:bryanb@iacivil.com]
Sent: Wednesday, October 04, 2017 8:32 AM
To: Brissette, Renee C.
Cc: Fred Arfman
Subject: Re: McMahon Market Place New Shell Bldg

Good morning Reneé

Attached is the revised sheet CG-2 with the pipe sizes shown.

Thanks

Bryan Bobrick

Isaacson & Arfman, P.A.

[128 Monroe N.E.](#)

[Albuquerque, NM 87108](#)

[\(505\) 268-8828](#)

On Mon, Oct 2, 2017 at 2:32 PM, Brissette, Renee C. <rbrissette@cabq.gov> wrote:

Bryan,

I am reviewing this project and have only one comment. What is the pipe size for the private storm drain. I do not see the sizes on the Proposed Storm Drain System on Sheet CG-2. Please add the pipe sizes and then email me a pdf of the sheet with the engineer stamp date of 9-15-17. I will then send you the approval letter. Don't forget to include the drainage of the future Lot 9 so that the storm pipe to be installed can handle the all future flows.

If you have any questions, please give me a call.

Reneé C. Brissette, PE CFM

Senior Engineer, Hydrology

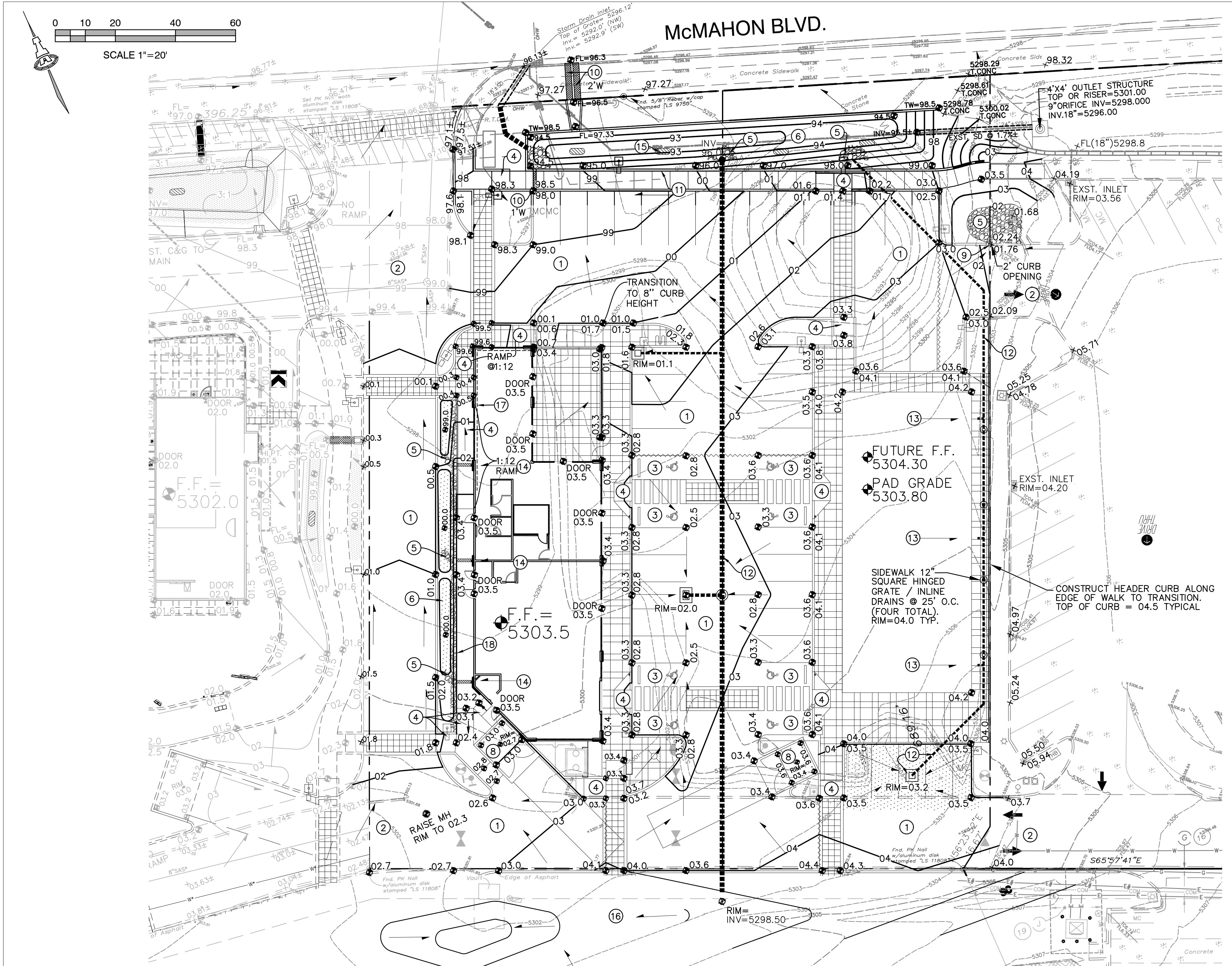
Planning Department

Development Review Services Division

[600 2nd St. NW](#)

[Albuquerque, NM 87102](#)

[\(505\)924-3995](#)



GENERAL NOTES

- PROPOSED SPOT AND CONTOUR ELEVATIONS SHOWN REPRESENT TOP OF FINISH MATERIAL (I.E. TOP OF CONCRETE, TOP OF CONCRETE BUILDING PAD, TOP OF PAVEMENT MATERIAL, TOP OF LANDSCAPING MATERIAL, ETC.). CONTRACTOR SHALL GRADE, COMPACT SUBGRADE AND DETERMINE EARTHWORK ESTIMATES BASED ON ELEVATIONS SHOWN MINUS FINISH MATERIAL THICKNESSES.
- IF FIELD GRADE ADJUSTMENTS ARE REQUIRED, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT FOR INSTRUCTIONS.
- THE ENVIRONMENTAL PROTECTION AGENCY (EPA) AND THE CITY OF ALBUQUERQUE REQUIRE A STORM WATER POLLUTION PREVENTION PLAN (SWPPP), AN NPDES PERMIT, AND AN EROSION AND SEDIMENT CONTROL (ESC) PERMIT FOR PROJECTS WHERE CONSTRUCTION ACTIVITIES MEET THE EPA THRESHOLD. (SWPPP, NPDES PERMIT, AND ESC PLAN BY OTHERS.) A CURRENT CITY-APPROVED ESC PERMIT MUST BE INCLUDED WITH THE CONTRACTOR'S SUBMITTAL FOR A ROUGH GRADING, GRADING, PAVING, BUILDING, OR WORK ORDER PERMIT. CONTRACTOR SHALL COORDINATE WITH OWNER TO DETERMINE WHO WILL PREPARE SWPPP AND INSPECT REQUIRED ELEMENTS.
- IF THE SITE IS SMALL ENOUGH NOT TO REQUIRE A SWPPP/NPDES PERMIT (LESS THAN ONE ACRE), THE CONTRACTOR SHALL STILL BE RESPONSIBLE FOR USING EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMP'S) TO ENSURE THAT NO SOIL ERODES FROM THE SITE ONTO ADJACENT PUBLIC RIGHT-OF-WAY.
- MEASURES REQUIRED FOR EROSION AND SEDIMENT CONTROL SHALL BE INCIDENTAL TO THE PROJECT COST.
- WHERE GRADES BETWEEN NEW AND EXISTING ARE SHOWN AS 'MATCH' OR '+', TRANSITIONS SHALL BE SMOOTH.
- PAVEMENT GRADES IN MARKED HANDICAPPED PARKING AREAS SHALL NOT EXCEED 2.0% IN ANY DIRECTION. FOR ALL ACCESSIBLE ROUTES, MAXIMUM ALLOWABLE CROSS SLOPE IS 2.0% AND MAXIMUM LONGITUDINAL SLOPE WITHOUT RAMP IS 5.0%. FOLLOW ALL ADA ACCESSIBILITY GUIDELINES OR CITY CODES, WHICHEVER IS MORE STRINGENT.
- ALL EROSION PROTECTION TO BE INSTALLED AS 3" AVG. DIA. ANGULAR FACED ROCK (F.F. ROCK) PLACED OVER GEOTEX 501 NON-WOVEN GEOTEXTILE (O.E.).
- SIDESLOPES STEEPER THAN 3:1 BUT LESS THAN 2:1 MUST HAVE PERMANENT EROSION PROTECTION INSTALLED, TYPICAL. NO SLOPE SHALL BE STEEPER THAN 2:1.
- FIRST FLUSH BASIN DESIGN PARAMETERS AND STORMWATER CONTROL MEASURES SHOWN ON THIS PLAN TO BE STRICTLY ADHERED TO FOR CERTIFICATION PURPOSES.
- POST-CONSTRUCTION MAINTENANCE FOR PRIVATE STORMWATER FACILITIES WILL BE THE RESPONSIBILITY OF THE FACILITIES OWNER. PERIODIC INSPECTION AND CERTIFICATIONS OF THE FACILITIES MAY BE REQUIRED BY THE CITY ENGINEER. ENGINEER RECOMMENDS THAT OWNER INSPECT SITE YEARLY AND AFTER EACH RAINFALL TO IDENTIFY NEW AREAS OF EROSION AND INSTALL ADDITIONAL EROSION PROTECTION AS NEEDED BASED ON ACTUAL OCCURRENCES.
- FOR ENGINEER'S CERTIFICATION OF SUBSTANTIAL COMPLIANCE (FOR CERTIFICATE OF OCCUPANCY) CONTRACTOR SHALL PROVIDE AN AUTOCAD FORMAT AS-BUILT SURVEY PREPARED BY A LICENSED SURVEYOR WHICH INCLUDES:
 - AS-BUILT SPOT ELEVATIONS AT EACH DESIGN SPOT ELEVATION SHOWN ON THE APPROVED PLAN;
 - TOP AND BOTTOM ELEVATIONS AS REQUIRED TO DEFINE THE PERIMETER OF PONDS (TO BE USED BY ENGINEER TO CALCULATE AS-BUILT VOLUME PROVIDED);
 - ALL CONSTRUCTION, INCLUDING DRAIN INLETS, PIPES AND PONDS SHOWN ON THIS PLAN MUST BE CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THE APPROVED PLAN IN ORDER TO RECEIVE ENGINEER'S CERTIFICATION.
- GRADING OF FIRST FLUSH BASINS WILL BE INSPECTED AS PART OF ENGINEER'S CERTIFICATION FOR CERTIFICATE OF OCCUPANCY. DURING LANDSCAPING, FIRST FLUSH BASINS WILL BE SMOOTHLY INTEGRATED INTO LANDSCAPING WHILE MAINTAINING REQUIRED TOP AND BOTTOM ELEVATION, VOLUME AND INLET / OVERFLOW ELEVATIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE INSTALLATION OF ALL WORK RELATED TO PROPOSED STORM DRAINS SHOWN ON THIS PLAN INCLUDING: TRENCHING, BACKFILL, SUPPORTS, INLETS, WATER QUALITY FEATURES, EROSION CONTROL FEATURES, TESTING AND CLEANING. ANY WORK NOT ACCEPTED BY THE ARCHITECT OR ENGINEER DUE TO IMPROPER WORKMANSHIP OR LACK OF PROPER COORDINATION SHALL BE REMOVED AND CORRECTLY INSTALLED AT THE CONTRACTOR'S EXPENSE, AS DIRECTED.
- MINIMUM COVER FOR STORM DRAIN PIPES SHALL BE 12", UNLESS OTHERWISE NOTED.
- STORM DRAINS SHALL BE INSTALLED PRIOR TO SURFACE IMPROVEMENTS SUCH AS PAVEMENT, SIDEWALKS, AND LANDSCAPING.
- CONTRACTOR SHALL BE RESPONSIBLE FOR CONNECTIONS TO ROOF DOWNSPOUTS AND ALL NECESSARY FITTINGS. FITTING COSTS SHALL BE INCIDENTAL.
- TRENCHING, BORING, AND JACKING SHALL BE CONSTRUCTED IN ACCORDANCE WITH COA SPEC. SECT. 700. ALL BACKFILL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY PER ASTM D-1557.
- ALL INLET AND AREA DRAIN RINGS & GRATES, MANHOLE RINGS & COVERS, AND OTHER SURFACE FEATURES SHALL BE ADJUSTED TO FINISHED GRADE, UNLESS OTHERWISE NOTED ON THE PLANS.
- ALL STORM DRAIN CROSSINGS OF WATER AND SEWER LINES SHALL HAVE 18" MIN CLEARANCE. IF 18" CLEARANCE IS NOT POSSIBLE, CONTACT THE ENGINEER AND / OR ARCHITECT IMMEDIATELY.
- HDPE PIPE SHALL BE ADS N-12 (WATERTIGHT) OR ENGINEER APPROVED EQUIVALENT. HDPE PIPE SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
- PVC PIPES SHALL BE PVC SDR-35, INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
- STORM DRAINS SHALL BE INSTALLED AT INVERTS AND SLOPES SPECIFIED ON THE PLANS. THE PIPE SHALL DRAIN AT A CONSTANT SLOPE BETWEEN FITTINGS AND MANHOLES. THE PIPE SHALL DRAIN TOWARD THE OUTLET AT ALL LOCATIONS.

KEYED NOTES

- UNDERLINED TEXT REFERENCES DETAILS PROVIDED ON CG-2
- CONSTRUCT PROPOSED PAVING / WALKS / CROSSWALKS / CURB AND GUTTER TO ELEVATIONS SHOWN. SEE PAVING PLAN FOR PAVEMENT MATERIAL, EXTENTS, SECTIONS, PARKING LAYOUT, DIMENSIONS, STRIPING, ETC. PROVIDE SMOOTH TRANSITION TO EXISTING.
 - EXISTING PAVING TO REMAIN. PROVIDE SMOOTH TRANSITIONS.
 - CONSTRUCT HC PARKING AREA TO ADA STANDARDS. MAX. 2% SLOPE IN ANY DIRECTION.
 - CONSTRUCT ADA COMPLIANT HANDICAP ACCESS RAMP AT ELEVATIONS SHOWN (1" PER FOOT - LENGTH VARIES). MAX. 2% CROSS-SLOPE. SEE ARCHITECTURAL FOR ADDITIONAL INFORMATION.
 - INSTALL ROCK EROSION PROTECTION AT CURB OPENINGS. WITHIN FLOWLINES CARRYING CONCENTRATED FLOW (2' WIDE) AND TO LIMITS HATCHED PER LEGEND.
 - DOT HATCHED AREA REPRESENTS EXTENTS OF 'FIRST FLUSH' RETENTION PONDING. CONSTRUCT TO ELEVATIONS SHOWN.
 - NOT USED
 - CONSTRUCT NEW CONCRETE DUMPSTER PAD AND ENCLOSURE AT ELEVATIONS SHOWN. INSTALL FLOOR DRAIN AT RIM ELEVATION SHOWN & EXTEND TO SANITARY SEWER GREASE TRAP (SEE UTILITY PLAN).
 - PROVIDE 24" WIDE CURB OPENING AT FLOWLINE SHOWN.
 - CONSTRUCT COVERED SIDEWALK CULVERT PER C.O.A. STD. DWG. 2236. SEE PLAN FOR WIDTH.
 - CONSTRUCT RETAINING WALL TO ACHIEVE GRADE TRANSITIONS SHOWN. GRADES PROVIDED EACH SIDE REFLECT FINISH GRADES. SEE ARCHITECTURAL FOR INFORMATION RE: STRUCTURAL DESIGN, GUARDRAILS, ADDITIONAL WALL HEIGHT, CONSTRUCTION DETAILS, WEPPHOLES, ETC.
 - INSTALL PRIVATE STORM DRAIN SYSTEM.
 - FUTURE LOT 6A1 ROOF DISCHARGE TO BE PIPED DIRECTLY TO STORM DRAIN SYSTEM. SEE PLUMBING PLANS FOR CONTINUATION.
 - LOT 5A ROOF DISCHARGE TO BE RELEASED TO WEST SIDE OF BUILDING.
 - CONSTRUCT FOUR A PERCOLATION TRENCHES (DO NOT LOCATE WITHIN THE 10' WIDE P.U.E.).
 - INTERIM GRADING ON ADJACENT PROPERTY TO ELEVATIONS SHOWN (SAME OWNER). PERMISSION TO GRADE WILL BE PROVIDED TO COA HYDROLOGY.
 - CONSTRUCT RETAINING / DEEPENED STEM WALL THIS AREA. SEE ARCHITECTURAL.
 - PROVIDE GUARDRAIL ALONG EDGE OF WALK ADJACENT TO > 3:1 SLOPE. SEE ARCHITECTURAL.

S.O.19 : NOTICE TO CONTRACTORS

- AN EXCAVATION / CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN THE CITY RIGHT-OF-WAY.
- ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED, EXCEPT AS OTHERWISE STATED OR PROVIDED FOR HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1986 EDITION AS REVISED THROUGH UPDATE #8.
- TWO WORKING DAYS PRIOR TO ANY EXCAVATION, THE CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM (CALL '811') FOR LOCATION OF EXISTING UTILITIES.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL CONSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
- BACKFILL COMPACTION SHALL BE ACCORDING TO TRAFFIC / STREET USE.
- MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
- WORK ON ARTERIAL STREETS SHALL BE PERFORMED ON A 24-HOUR BASIS.
- THE WORK IN THE CITY ROW MUST BE INSPECTED AND ACCEPTED. THE CONTRACTOR MUST CONTACT JASON RODRIGUEZ AT 235-8016 AND CONSTRUCTION COORDINATION AT 924-3416 TO SCHEDULE INSPECTIONS.

APPROVAL	NAME	DATE
INSPECTOR		

LEGEND

	EXISTING SPOT ELEVATION
	EXISTING CONTOUR
	PROPOSED CONTOUR (1' INCREMENT)
	PROPOSED CONTOUR (0.1' INCREMENT)
	PROPOSED SPOT ELEVATION
	FLOW ARROW
	FINISH FLOOR ELEVATION
	PROPOSED GRADE BREAK
	PROPOSED FIRST FLUSH RETENTION PONDING AREA
	PERCOLATION TRENCH
	LIMITS OF EROSION CONTROL

VICINITY MAP



PROJECT DATA

PROPERTY: THE SITE IS TWO UNDEVELOPED COMMERCIAL PROPERTIES WITHIN C.O.A. VICINITY MAP A-11. THE SITE IS BOUND TO THE EAST, SOUTH AND WEST BY MCMAHON MARKETPLACE DRIVES AND COMMERCIAL PROPERTIES AND NORTH BY MCMAHON BLVD.

SITE AREA: 1.22 ACRES

PROPOSED IMPROVEMENTS: THE PROPOSED IMPROVEMENTS INCLUDE TWO MULTI-UNIT RETAIL PADS, PAVED PARKING, PEDESTRIAN WALKS, DRAINAGE IMPROVEMENTS, AND LANDSCAPING.

LEGAL: LOTS 5A AND 6A-1, MCMAHON MARKETPLACE, CITY OF ALBUQUERQUE, NEW MEXICO.

BENCHMARK: VERTICAL DATUM IS BASED UPON THE ALBUQUERQUE CONTROL SURVEY MONUMENT "9-A11", ELEVATION = 5301.647 (NAVD 1988)

OFF-SITE: A PORTION OF LOT 8 (DEVELOPED) AND LOT 9 (PARTIALLY DEVELOPED) WILL CONTINUE TO DRAIN THROUGH THIS PROPERTY AS PROVIDED IN THE AMENDED DRAINAGE MANAGEMENT PLAN.

FLOOD HAZARD: PROPERTY IS LOCATED WITHIN ZONE X, DESIGNATING AREAS DETERMINED TO BE OUTSIDE THE 100-YEAR FLOOD PLAIN ACCORDING TO THE FLOOD INSURANCE RATE MAP, BERNALILLO COUNTY, NEW MEXICO AND INCORPORATED AREAS MAP NO. 35001C0104H, MAP REVISED AUGUST 16, 2012.

DRAINAGE PLAN CONCEPT: PER THE AMENDED DRAINAGE MANAGEMENT PLAN PREPARED BY ISAACSON & ARFMAN PA DATED 07-13-17, THE WHOLE OF THE MCMAHON MARKETPLACE PROPERTY MAY DISCHARGE 41.55 CFS. MASTER PLANNED BASINS B1, B2 AND B3, FULLY DEVELOPED, WILL DISCHARGE 28.0 CFS. THE PROPOSED SITE FALLS WITHIN MASTER PLANNED BASINS B2 (PERMITTED FREE DISCHARGE) AND B4 (REQUIRING DETENTION TO 10 MINUTES) DISCHARGE TO 13.55 CFS. THE SITE IS CURRENTLY UNDEVELOPED OTHER THAN EXISTING ACCESS ROADS CONSTRUCTED AS PART OF THE ADJACENT DEVELOPMENTS.

STORMWATER CONTROL MEASURES ARE REQUIRED TO PROVIDE MANAGEMENT OF 'FIRST FLUSH' DEFINED AS THE 90TH PERCENTILE STORM EVENT OR 0.34" (0.44" LESS 0.1" FOR INITIAL ABSTRACTION) OF STORMWATER WHICH DISCHARGES DIRECTLY TO A PUBLIC STORM DRAINAGE SYSTEM.

FIRST FLUSH RETENTION PONDS WILL BE CONSTRUCTED WITHIN THE LANDSCAPE AREAS AS DESIGNATED BY DOT HATCH. STORM WATER FROM THE IMPERVIOUS AREAS SHALL BE DIRECTED TO THESE PONDS. STORMWATER WILL THEN FREE DISCHARGE TO THE NORTH ACCESS ROAD

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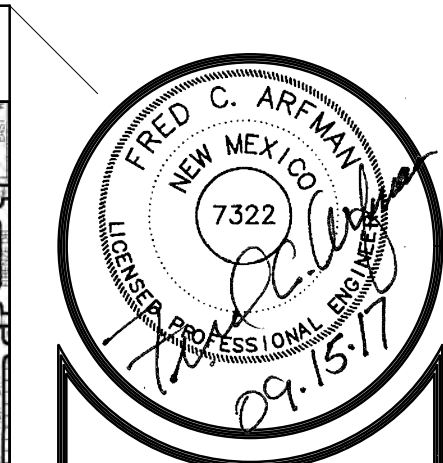
SURVEYOR: RUSS P. HUGG, NMPS NO. 9750
SURV-TEK, INC.
9384 VALLEY VIEW DR. NW, 87114
TELEPHONE: (505) 897-3366

CONSTRUCTION STAKING / LAYOUT

UPON WRITTEN REQUEST COORDINATED THROUGH THE PROJECT ARCHITECT, THE ELECTRONIC FILE OF THE GRADING AND DRAINAGE WILL BE PROVIDED TO THE CONTRACTOR FOR VERTICAL CONTROL. DO NOT USE THIS PLAN FOR PROJECT STAKING.

SITE CONSTRUCTION LAYOUT / STAKING SHALL BE COORDINATED WITH THE ARCHITECT USING THE ARCHITECT PROVIDED SITE PLAN.

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GRADING & DRAINAGE PLAN

DATE: 12 JAN 2017
DRAWN BY: BJB
CHECKED BY: FCA
VERIFIED BY:

REVISIONS

NO.	DESCRIPTION

SHEET NO:
CG-1

