CITY OF ALBUQUERQUE

February 10, 2017

Fred C. Arfman, P.E.
Isaacson & Arfman, PA
128 Monroe St NE
Albuquerque, NM 87108

Re: McMahon Market Place New Shell Building
5708 McMahon Blvd. NW
Request for Temporary 30-Day CO – Accepted
Engineer's Stamp dated: 6-30-16 (A11~~D001E~~)
Certification dated: 2-6-17 D011C

Dear Mr. Arfman,

Based on the certification provided in your submittal received 2/6/2017, the above referenced is approved for a 30-day Temporary Release of Occupancy by Hydrology. However, before a permanent CO can be accepted the following comments must be addressed.

- The sidewalk culvert must be a monolithic pour.

An inspection by our office will need to take place after these corrections are made.

If you have any questions, you can contact me at 924-3999 or Totten Elliott at 924-3982.

Sincerely,

Shahab Biazar, P.E.
City Engineer, Planning Dept.
Development Review Services

TE/SB
C: email, Cordova, Camille C.; Connor, Miranda, Rachel; Sandoval, Darlene M.; Blocker, Lois

PO Box 1293
Albuquerque
New Mexico 87103
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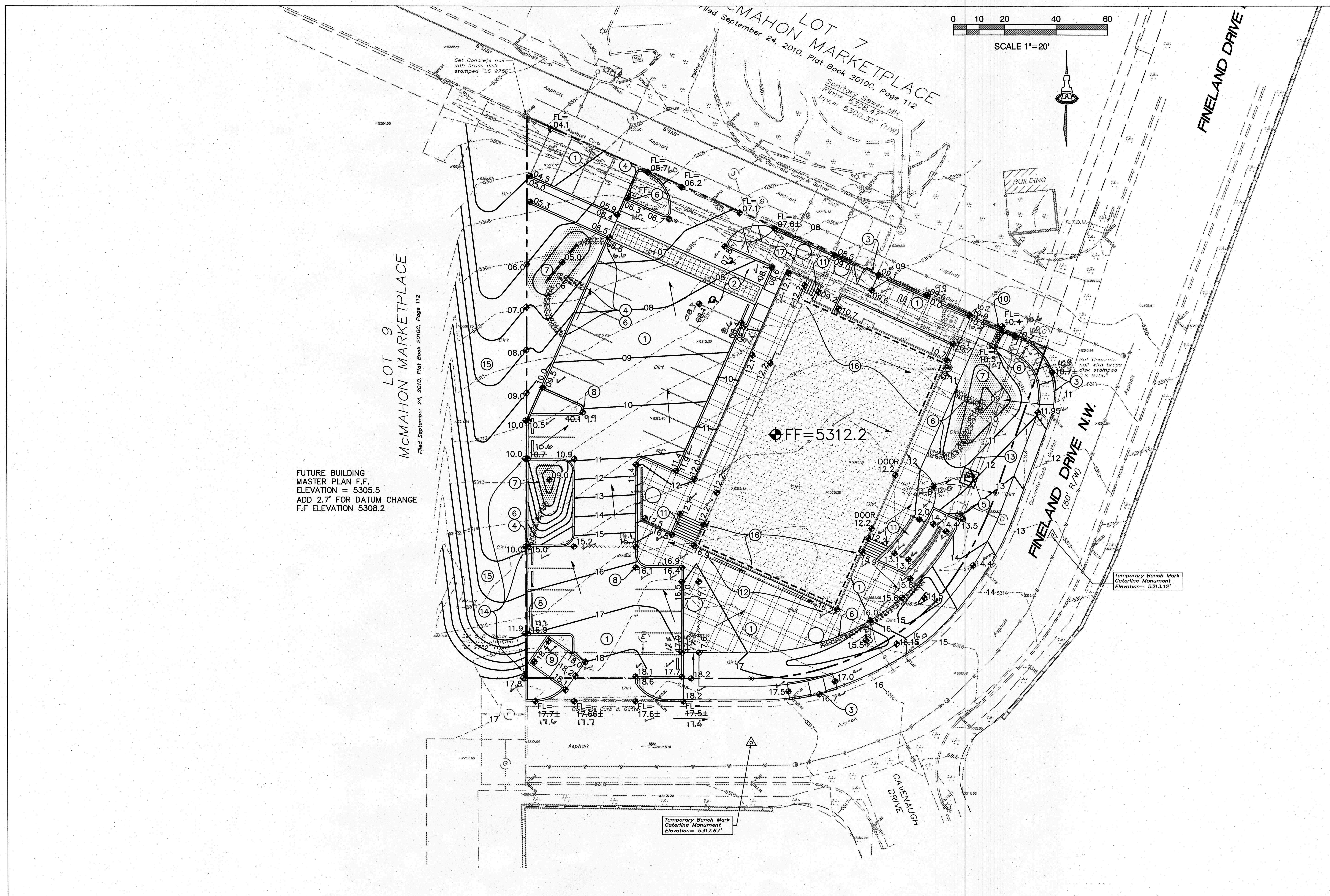
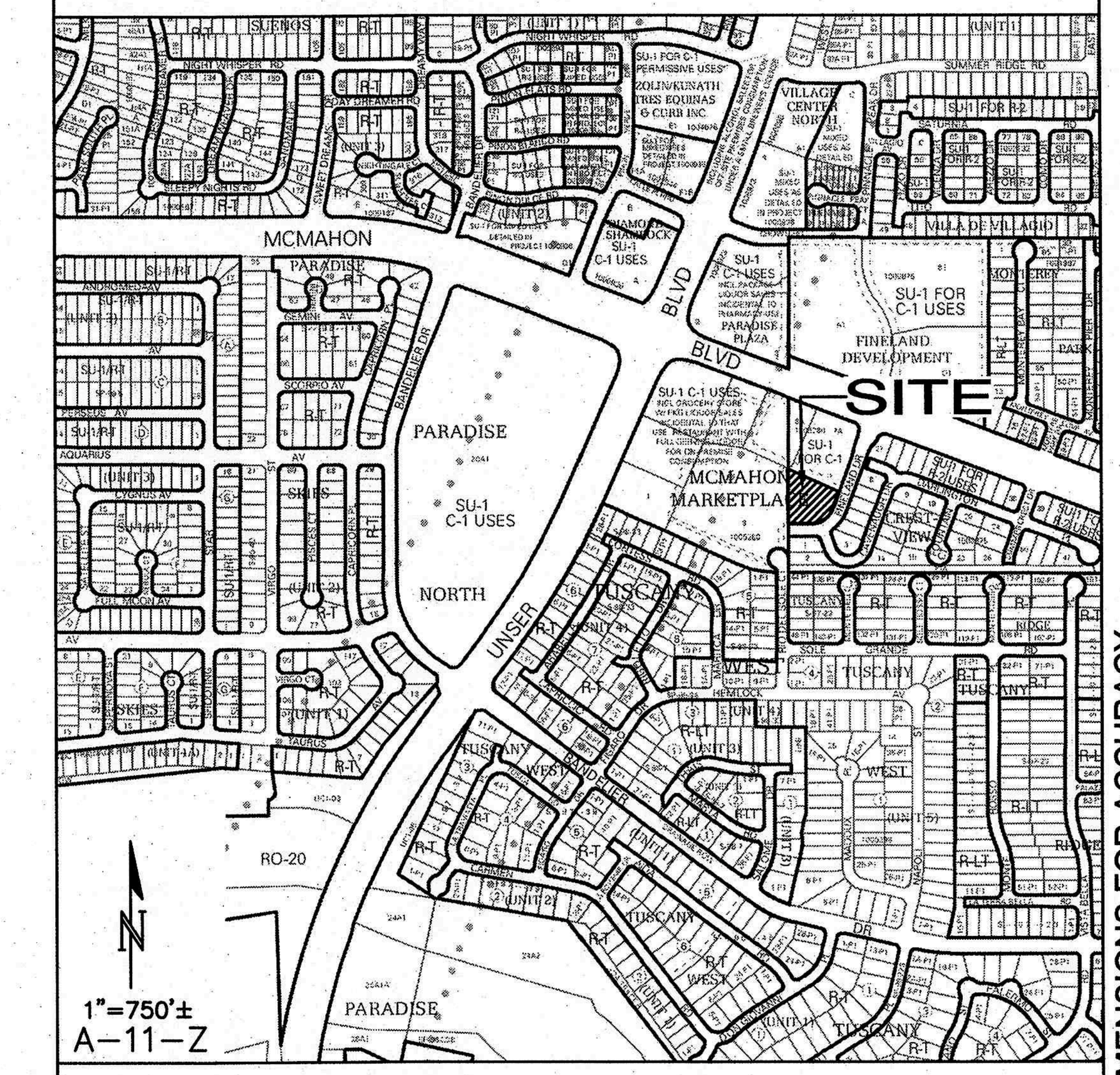


VICINITY MAP



KEYED NOTES

UNDERLINED TEXT REFERENCES DETAILS PROVIDED ON CG-2

1. CONSTRUCT PROPOSED PAVING / WALKS / CURB AND GUTTER TO ELEVATIONS SHOWN. SEE PAVING PLAN FOR PAVEMENT MATERIAL, EXTENTS, SECTIONS, PARKING LAYOUT, DIMENSIONS, STRIPING, ETC.
2. CONSTRUCT HC PARKING AREA TO ADA STANDARDS. MAX. 2% SLOPE IN ANY DIRECTION.
3. CONSTRUCT HANDICAP ACCESS RAMP TO ADA STANDARDS. MAX. 1:12 SLOPE, MAX. 2% CROSS-SLOPE. SEE ARCHITECTURAL FOR ADDITIONAL INFORMATION.
4. PROVIDE 12" WIDE CURB OPENING AT FLOWLINE SHOWN TO PASS DISCHARGE INTO AND OUT OF 'FIRST FLUSH' RETENTION PONDING AREAS. SEE DETAIL SHEET CG-2.
5. PROVIDE TWO 4"ø PIPES THROUGH WALL AT LOW POINT TO DRAIN RAMP.
6. INSTALL ROCK EROSION PROTECTION AT CURB OPENING INLET / OUTLET, EDGE PROTECTION AND WITHIN FLOWLINES CARRYING CONCENTRATED FLOW (3'WIDE). LIMITS HATCHED PER LEGEND. SEE DETAIL SHEET CG-2.
7. DOT HATCHED AREA REPRESENTS EXTENTS OF 'FIRST FLUSH' RETENTION PONDING. CONSTRUCT TO ELEVATIONS SHOWN.
8. NOTE: TO ENSURE READABILITY, NOT ALL PAVEMENT SPOT ELEVATIONS SHOW ADJACENT TOP OF CURB / TOP OF WALK. TEXT SHOWN WITHIN FLOWLINE REPRESENTS FLOWLINE ELEVATION. ADD 0.5' TYPICAL FOR TOP OF ADJACENT CURB OR WALK ELEVATIONS.
9. CONSTRUCT NEW CONCRETE DUMPSTER PAD AND ENCLOSURE AT ELEVATIONS SHOWN.
10. CONSTRUCT 18" WIDE (BOTTOM WIDTH) COVERED SIDEWALK CULVERT PER C.O.A. STD. DWG. 2236. SEE DETAIL SHEET CG-2 FOR ADDITIONAL CONSTRUCTION DETAILS.
11. CONSTRUCT STEPS AND RAMPS TO ACHIEVE GRADE TRANSITION SHOWN. SEE ARCHITECTURAL FOR DETAILS.
12. CONSTRUCT 2.0' WIDE X 0.5" DEPRESSED CONCRETE ALLEY GUTTER INTEGRATED WITH PLAZA ADJACENT TO BUILDING TO DIRECT SURFACE DISCHARGE EAST.
13. EXISTING GAS LINE THIS AREA TO BE RELOCATED. SEE CU-101 FOR ADDITIONAL INFORMATION.
14. CONSTRUCT RETAINING WALL ALONG WEST PROPERTY LINE TO ACHIEVE GRADE TRANSITIONS SHOWN. GRADES PROVIDED EACH SIDE REFLECT FINISH GRADES. SEE ARCHITECTURAL FOR INFORMATION RE: STRUCTURAL DESIGN, ADDITIONAL WALL HEIGHT, CONSTRUCTION DETAILS, ETC.
15. GRADE ADJACENT PROPERTY TO ELEVATIONS SHOWN. PERMISSION TO GRADE WILL BE PROVIDED TO COA HYDROLOGY PRIOR TO APPROVAL FOR BUILDING PERMIT.
16. CONSTRUCT RETAINING / DEEPENED STEM WALL THIS AREA. SEE ARCHITECTURAL.
17. COORDINATE WITH UTILITY COMPANY TO ADJUST VAULT LID TO FINAL GRADE.

DRAINAGE CERTIFICATION

I, **Fred C. Arfman, PE**, NMPE No. 7322, of the firm **Isaacson & Arfman, PA**, hereby certify that this project has been graded and will drain in substantial compliance with and in accordance with the design intent of the approved plan dated June 30, 2016. The record information edited onto the original design document has been obtained by Lorenzo (Larry) Dominguez, NMPS No. 10461, of the firm East Mountain Surveying Co. I further certify that I have personally visited the project site on Jan. 10, 2017 and have determined by visual inspection that the survey data provided is representative of actual site conditions and is true and correct to the best of my knowledge and belief. This certification is submitted in support of a request for **Permanent Certificate of Occupancy**.

The record information presented hereon is not necessarily complete and intended only to verify substantial compliance of the grading and drainage aspects of this project. Those relying on this record document are advised to obtain independent verification of its accuracy before using it for any other purpose.

Fred C. Arfman NMPE #7322

FRED C. ARFMAN NEW MEXICO 7322 02.06.17 PROFESSIONAL ENGINEER

February 06, 2017
Date

LEGEND

×4958.63	EXISTING SPOT ELEVATION
4958	EXISTING CONTOUR
06	PROPOSED CONTOUR (1' INCREMENT)
05.8	PROPOSED CONTOUR (0.1' INCREMENT)
06.2	PROPOSED SPOT ELEVATION
	FLOW ARROW
FF = 5107.0	FINISH FLOOR ELEVATION
	PROPOSED GRADE BREAK
	PROPOSED FIRST FLUSH RETENTION PONDING AREA
	PERCOLATION TRENCH
	LIMITS OF EROSION CONTROL

CONSTRUCTION STAKING / LAYOUT

TO FACILITATE ACCURACY IN CONSTRUCTION STAKING, UPON WRITTEN REQUEST FROM THE CONTRACTOR , A FILE CONTAINING THE ELECTRONIC DATA COMPRISING THE SITE DEVELOPMENT DRAWINGS WILL BE FORWARDED TO THE LICENSED LAND SURVEYOR TO PERFORM CONSTRUCTION STAKING FOR GRADING AND UTILITIES.

SEPARATE APPROVAL FROM THE PROJECT ARCHITECT TO USE ELECTRONIC DATA TO PERFORM CONSTRUCTION STAKING FOR BUILDING AND PAVING WILL BE REQUIRED.

ALL SITE CONSTRUCTION LAYOUT MUST BE PERFORMED BY A LICENSED SURVEYOR USING ELECTRONIC DATA PROVIDED IN AUTOCAD DWG (CURRENT VERSION) BY ISAACSON & ARFMAN, P.A. CONTACT PROJECT CIVIL ENGINEER AT (505)-268-8842

IN ORDER TO MAINTAIN THE INTEGRITY OF HORIZONTAL AND VERTICAL CONTROL FOR THE SITE, THE SURVEYOR EMPLOYED BY THE CONTRACTOR TO PERFORM CONSTRUCTION LAYOUT STAKING SHALL SET AND PROTECT ADDITIONAL TRAVERSE POINTS OUTSIDE THE AREAS OF CONSTRUCTION ACTIVITY.

ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates
128 Monroe Street N.E.
Albuquerque, New Mexico 87108
Ph. 505-268-8828 www.iacivil.com

2169 CG-101.dwg Jun 30,2016

ALL DIMENSIONS ARE TO BE FIELD VERIFIED. IF THERE ARE DISCREPANCIES, PLEASE NOTIFY THE ARCHITECT. DRAWING ARE NOT TO BE SCALED. USE DIMENSIONS FOR ACCURACY.

FRED C. ARFMAN NEW MEXICO 7322 LICENSED PROFESSIONAL ENGINEER 06-30-16

MARTIN FM GRUMMER
ARCHITECT
331 WELLESLEY PLACE NE
ALBUQUERQUE, NEW MEXICO 87106
(505) 265-2507

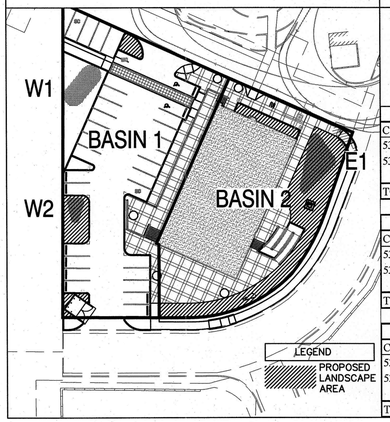
McMAHON MARKET PLACE
NEW SHELL BUILDING
5708 McMAHON BLVD NW
ALBUQUERQUE, NM 87114

GRADING & DRAINAGE PLAN

DATE: 30 JUNE 2016
DRAWN BY: BJB
CHECKED BY: FCA
VERIFIED BY:

REVISIONS

SHEET NO: CG-1



FIRST FLUSH RETENTION

POND W1		
Contour	Area	Volume
5306.50	436	
5305.00	10	335 CF
TOTAL VOL.		335 CF

BASIN 1

REQUIRED VOLUME = 407 CF

PROVIDED VOLUME:
POND W1 = 335 CF
POND W2 = 140 CF

TOTAL = 475 CF

POND W2		
Contour	Area	Volume
5310.50	156	
5309.00	30	140 CF
TOTAL VOL.		140 CF

POND E1		
Contour	Area	Volume
5310.50	590	
5309.00	35	469 CF
TOTAL VOL.		469 CF

BASIN 2

REQUIRED VOLUME = 349 CF

PROVIDED VOLUME:
POND E1 = 469 CF

ON-SITE DRAINAGE BASINS

THE FULLY DEVELOPED PROPERTY WILL DISCHARGE 3.0 CFS DURING A 100-YEAR 6-HOUR STORM.

WEST BASIN: APPROXIMATELY 1.6 CFS WILL DISCHARGE FROM THE PROPOSED PARKING ARE TO THE WEST FIRST FLUSH RETENTION PONDS. AFTER THE REQUIRED FIRST FLUSH VOLUME IS RETAINED, THE BASIN WILL FREE DISCHARGE TO THE NORTH ACCESS ROAD.

EAST BASIN: APPROXIMATELY 1.4 CFS WILL DISCHARGE FROM THE PROPOSED BUILDING ROOF AND SOUTH / EAST PLAZA TO THE EAST FIRST FLUSH RETENTION POND SITUATED WITHIN THE LANDSCAPING. AFTER THE REQUIRED FIRST FLUSH VOLUME IS RETAINED, THE BASIN WILL FREE DISCAHRGE TO THE NORTH ACCESS ROAD.

BASIN NO. 1	DESCRIPTION	WEST SIDE
Area of basin flows =	16905 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)	
Weighted E =	1.81 in.
Sub-basin Volume of Runoff (see formula above)	
V_{360} =	2546 CF
Sub-basin Peak Discharge Rate: (see formula above)	
Q_P =	1.6 cfs

LAND TREATMENT	
A =	0%
B =	5%
C =	10%
D =	85%
FIRST FLUSH VOL.	407 CF

BASIN NO. 2	DESCRIPTION	EAST SIDE
Area of basin flows =	14480 SF =	0.3 Ac.

The following calculations are based on Treatment areas as shown in table to the right

Sub-basin Weighted Excess Precipitation (see formula above)	
Weighted E =	1.81 in.
Sub-basin Volume of Runoff (see formula above)	
V_{360} =	2180 CF
Sub-basin Peak Discharge Rate: (see formula above)	
Q_P =	1.4 cfs

LAND TREATMENT	
A =	0%
B =	5%
C =	10%
D =	85%
FIRST FLUSH VOL.	349 CF

100-YEAR 6-HOUR STORM CALCULATIONS

CALCULATIONS: 2169 LOT 8, MCMAHON MARKETPLACE : June 28, 2016

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

ON-SITE

AREA OF SITE: 31384.98 SF = 0.7
100-year, 6-hour

HISTORIC FLOWS:		Treatment SF	%
Area A	=	7846.245	25%
Area B	=	10984.743	35%
Area C	=	12553.992	40%
Area D	=	0	0%
Total Area	=	31384.98	100%

DEVELOPED FLOWS:		Treatment SF	%
Area A	=	0	0%
Area B	=	1569	5%
Area C	=	3138	10%
Area D	=	26677	85%
Total Area	=	31384.98	100%

EXCESS PRECIP: Precip. Zone 1	
E_A	= 0.44
E_B	= 0.67
E_C	= 0.99
E_D	= 1.97

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

$$\text{Weighted } E = \frac{E_AA_A + E_BA_B + E_CA_C + E_DA_D}{A_A + A_B + A_C + A_D}$$

Historic E	= 0.74 in.	Developed E	= 1.81 in.

On-Site Volume of Runoff: V360 = E*A / 12

Historic V_{360}	= 1937 CF	Developed V_{360}	= 4726 CF

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
Historic Q_P	= 1.6 CFS	Developed Q_P	= 3.0 CFS

PROJECT DATA

PROPERTY: THE SITE IS AN UNDEVELOPED COMMERCIAL PROPERTY WITHIN C.O.A. VICINITY MAP A-11. THE SITE IS BOUND TO THE EAST AND SOUTH BY FINELAND DR. NW, AND TO THE WEST AND NORTH BY MCMAHON MARKETPLACE LOTS AND ACCESS DRIVES.

SITE AREA: 0.7205 ACRES

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

LEGAL: LOT 8 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: NO OFF-SITE DRAINAGE WILL IMPACT THIS PROPERTY.

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: THIS SITE IS ANALYZED AS PART OF THE MCMAHON MARKETPLACE DRAINAGE MANAGEMENT PLAN (DMP) DATED 05/07/10 PREPARED BY BOHANNAN-HUSTON INC. THE SITE IS CURRENTLY UNDEVELOPED BUT SOME GRADING OCCURRED AS PART OF THE ACCESS ROAD CONSTRUCTION. THE SITE FALLS WITHIN DRAINAGE BASIN G WHICH IS PERMITTED FREE DISCHARGE BASED ON A FULLY DEVELOPED CONDITION (0%A; 5%B; 10%C; 85%D).

THE PROPERTY WILL FREE DISCHARGE AFTER FIRST FLUSH RETENTION IS ACHIEVED.

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.

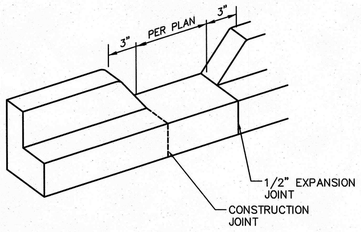
FIRST FLUSH RETENTION PONDS WILL BE CONSTRUCTED WITHIN THE LANDSCAPE AREAS AS DESIGNATED BY DOT HATCH. STORM WATER FROM THE IMPERVIOUS AREAS SHALL BE DIRECTED TO THESE PONDS. STORMWATER WILL THEN FREE DISCHARGE TO THE NORTH ACCESS ROAD

ENGINEER: FRED C. ARFMAN, NMPE 7322
ISAACSON & ARFMAN, PA
128 MONROE NE, 87111
TELEPHONE: (505) 268-8828

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

WELD ⅛" THICK, ⅝" MIN. DIAMETER OVER ALL SCREWS. COMPLETELY COVER SCREW HEADS. GRIND EDGES SMOOTH.

FOR SECURING PLATE USE 1"X5" S.S. ROD ANCHOR, "RED HEAD MULTI-SET II SRM-38 ANCHOR" OR APPROVED EQUAL. INSTALL PER MANUFACTURER'S INSTRUCTIONS AT MAX. 24" O.C., A MINIMUM OF 2 PER SIDE AND ONE WITHIN 6" OF EACH END.



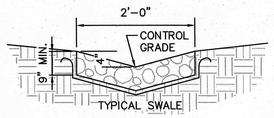
GENERAL NOTES

1. EDGES NOT SPECIFICALLY DIMENSIONED SHALL BE SHAPED WITH A 3/8" EDGING TOOL.

CURB OPENING

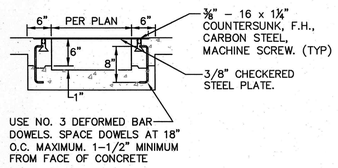
SCALE: N.T.S.

- VARY ANGULAR FACE ROCK SIZE BETWEEN 3" AND 9" DIA. (AVG.=6")
- PLACE GEOTEX 501 NON-WOVEN GEOTEXTILE (O.E.) BENEATH ALL EROSION PROTECTION
- CONSTRUCT ALL EROSION PROTECTION INSET INTO (NOT ON TOP OF) GRADE TO ENSURE RUNOFF CAN BE CAPTURED AND CONVEYED PROPERLY

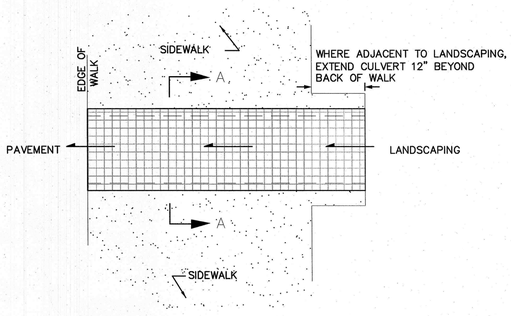


ROCK EROSION PROTECTION

SCALE: N.T.S.



SECTION A-A



PLAN

CONSTRUCT PER C.O.A. STD. DWG. 2236 WITH MODIFICATIONS AS SHOWN ON THIS DETAIL

COVERED SIDEWALK CULVERT

SCALE: N.T.S.

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2169 CG-101.dwg Jun 30,2016

FRED C. ARFMAN NEW MEXICO 7322 LICENSED PROFESSIONAL ENGINEER 6/30/16

MARTIN FM GRUMMER ARCHITECT
331 WELLESLY PLACE NE
ALBUQUERQUE, NEW MEXICO 87106
(505) 265-2507

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McMAHON MARKET PLACE
NEW SHELL BUILDING
5708 McMAHON BLVD NW
ALBUQUERQUE, NM 87114

GRADING & DRAINAGE DETAILS

DATE: 30 JUNE 2016
DRAWN BY: BJB
CHECKED BY: FCA
VERIFIED BY:

REVISIONS

SHEET NO: CG-2