CITY OF ALBUQUERQUE

PLANNING DEPARTMENT – Development Review Services

Richard J. Berry, Mayor

August 27, 2015

Scott M. McGee, P.E.
9700 Tanoan Dr NE
Albuquerque, NM 87111

RE: **Marie Hughes Elementary School** – 2701 Mojave Street, NW
Grading and Drainage Plan for Building Permit
Engineer's Stamp Date 7-31-2015 (D11D007)

Dear Mr. McGee:

Based upon the information provided in your submittal received 8-4-15, the above referenced plan cannot be approved for Building Permit until the following comments are addressed:

1. In the street capacity calculations:
   a. Provide a basin map showing the upstream drainage area contributing to the street flows.
   b. In the Manning's equation, show how input values are determined.
   c. Show that the inlets can collect flows from the street and this development without flooding .
   d. Are inlets in a sump? Contour information is cut off.
2. The older plan by JMA in 1995 states that the outfall for this site was the Mariposa Diversion Channel, and there is already a penetration into the channel. Discharging directly into the Channel is the preferable option and should be re-evaluated. I believe there is already a penetration into the channel.
3. Analysis Points:
   a. Provide calculations for inlet and culvert capacities shown on table in "Notes"
   b. The 4 Analysis Points add to 6.8cfs, but the total is 32.7 cfs. Provide an onsite basin map showing the contributing flows from each basin.
   c. Show amount of flow at all discharge points – into streets, ponds , inlets, etc.
   d. Basin Map should show how much flow is going in private storm drain system. Provide capacity calculations for the private Storm Drain.
4. How much flow is discharging into the most easterly pond (connected to inlet)? How much flow is discharging out of pond? Since it is functioning as detention pond, what is the Max WSEL? Provide calculations.

PO Box 1293

Albuquerque

New Mexico 87103

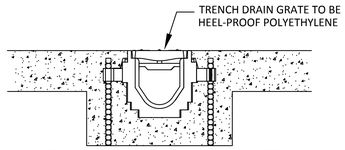
www.cabq.gov

If you have any questions, you can contact me at 924-3695.

Sincerely,

Rita Harmon, P.E.
Senior Engineer, Planning Dept.
Development Review Services

Orig: Drainage file
c.pdf Addressee via Email



TRENCH DRAIN

N.T.S.

KEYED NOTES

A. INSTALL NEW TRENCH DRAIN (ZURN Z886 6" WIDTH OR APPROVED EQUAL) FROM BUILDING ROOF DRAIN TO TREE WELL AND FROM TREE WELL TO CURB AT MINIMUM 2% SLOPE.

B. INSTALL NEW 24" X 8" DEEP TRENCH DRAIN (NEENAH R-4999HX OR APPROVED EQUAL) WITH BOLTED COVER.

C. INSTALL NEW 18" x18" AREA DRAIN WITH NYLOPLAST 18" DRAIN BASIN.

D. INSTALL NEW 12" STORM DRAIN LINE (HDPE OR PVC SDR35) BETWEEN DRAIN BASINS AS SHOWN.

E. INSTALL NEW 18" STORM DRAIN LINE (RCP) UNDER BUILDING AS SHOWN.

F. INSTALL NEW 24" X 6" DEEP TRENCH DRAIN (NEENAH R-4999HX OR APPROVED EQUAL) WITH BOLTED COVER.

G. INSTALL STORM INLET TYPE 'A' PER CITY STD DWG # 2201-2202.

H. INSTALL NEW 12" x12" AREA DRAIN WITH NYLOPLAST 12" DRAIN BASIN.

VICINITY MAP D-11 NOT TO SCALE

LEGEND

- EXISTING CONSTRUCTION
- NEW CONTOUR
- NEW SD LINE
- PROPERTY LINE
- FF — FINISH FLOOR ELEV
- 71.1 — NEW SPOT ELEVATION
- TC 33.8 / FL 33.3 — TOP OF CURB / FLOW LINE
- RD — ROOF DRAIN

DRAINAGE

LEGAL: Tract 21, The High Range at Taylor Ranch 1

AREA: 9.93 acres

TBM: A chiseled 'X' on the back of the south curb of Mojave Street NW as shown on the plan.
ELEV= 5133.67 (NAVD 1988)

SURVEYOR: High Mesa Consulting Group dated August, 2013

FLOOD HAZARD: From FEMA Panel 112 of 825 (09/26/2008), the site is shown to be within Zone 'X' which is outside the 0.2% annual chance floodplain.

EXISTING CONDITIONS: The site is an existing school facility which was previously developed as the Marie Hughes Elementary School. It includes a school building, play field, asphalt parking areas, and a number of portable buildings. The site slopes down from the northwest to the east at slopes varying from 1.5- 5%. The site is bordered by single-family homes on the west and north. Mojave Street NW borders the site on the south and east sides. Offsite flow does not enter the site as abutting residential lots have backyard walls.

FIRST FLUSH: Q=(0.44-0.10)(237,902)/12= 6,740 CF
This volume will be stored in the various detention ponds located throughout the site which provide 6,762 CF storage volume.

OFFSITE FLOWS: Offsite flows do not enter this site.

PROPOSED IMPROVEMENTS: The new building is 75,900 SF (2-story) proposed to be located where the play field was previously at the east side of the site.

DRAINAGE APPROACH: The proposed drainage plan will follow historic flow paths and the approved Grading Plan. Site runoff is shown in the following table using multiple analysis points. A proposed pond located on the east side of the site will discharge through a 12" piped connection to an existing drop inlet on the west side of Mojave Street. The 12" drain is being installed by CPN 741382.

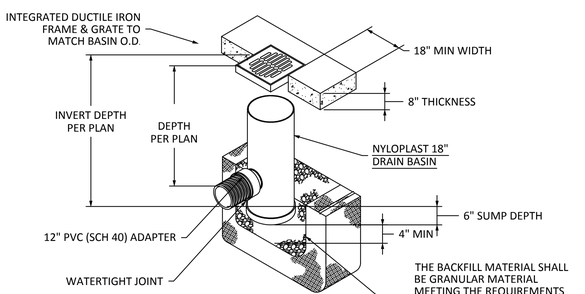
ANALYSIS POINT #	AREA (AC)	LAND USE % B	C	D	Q (CFS)	NOTES
1	2.0	4	6	90	8.4	CULVERT CAPACITY =8.8 CFS
2	2.1	10	85	5	6.0	CAPACITY = 6.6 CFS
3	1.7	0	25	75	6.8	INLET CAPACITY= 6.8 CFS
4	1.0	0	30	70	4.0	DRAIN CAPACITY= 9.2 CFS

HYDROLOGY: For precipitation Zone 1 & 18% B, 44% C & 38% D land treatment
Existing Q= (1.79)(2.03)+ (4.37)(2.87)+(3.77)(4.37)= 32.6 CFS

The proposed building, impervious areas, and walks are 55% of the area with the balance of the site considered as land treatment type 'C'.
Proposed Q= (1.79)(2.03)+ (4.05)(2.87)+(3.99)(4.37)= 32.7CFS

This minor runoff increase (0.1 CFS) will be retained onsite and the proposed discharge rate will be held to the historic rate. Onsite improvements will honor existing water bars at all 4 existing entry drives to the site.

NYLOPLAST 18" DRAIN BASIN:



THE BACKFILL MATERIAL SHALL BE GRANULAR MATERIAL MEETING THE REQUIREMENTS OF CLASS I OR CLASS II MATERIAL AS DEFINED IN ASTM D2321. BEDDING & BACKFILL FOR SURFACE DRAINAGE INLETS SHALL BE PLACED & COMPACTED UNIFORMLY IN ACCORDANCE WITH ASTM D2321.

GRADING PLAN

1" = 30 FT

0 30' 60'

G. DONALD DUDLEY AIA
ARCHITECT
ARCHITECTURE • INTERIORS • PLANNING
AIA • NCARB • LEED AP
SIMMS TOWER STUDIO 850
400 GOLD AVENUE SW
ALBUQUERQUE, NEW MEXICO
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PUBLIC SCHOOL • CAPITAL OUTLAY COUNCIL

ALBUQUERQUE PUBLIC SCHOOLS Expect Great Things!

MARIE HUGHES ELEMENTARY SCHOOL
5701 Mojave St, NW
Albuquerque, NM 87120

MARK	DATE	DESCRIPTION

GDDA PROJECT NO: 13-004
DATE: 08.10.2015
DRAWN BY: cb
CHECKED BY: smm
SET NO:
SHEET TITLE: GRADING PLAN

C101