City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

August 28, 2002

Larry Read, P.E.
Larry Read & Assoc.
4800-C Juan Tabo NE
Albuquerque, New Mexico 87111

RE: MIDWAY BUSINESS PARK LOT 16-A (E-16/D18)
(5941 Midway Park NE)
ENGINEERS CERTIFICATION FOR CERTIFICATE OF OCCUPANCY
ENGINEERS STAMP DATED 4/23/2001
ENGINEERS CERTIFICATION DATED 1/16/2002

Dear Mr. Read:

Based upon the information provided in your Engineers Certification submittal dated 1/16/2002, the SO19 approval by the City's Storm Drainage Maintenance Inspector, and the recent approval by AMAFCA concerning the improvements adjacent to the North Diversion Channel, the above referenced site is approved for Permanent Certificate of Occupancy.

If I can be of further assistance, please contact me at 924-3981.

Sincerely,

Teresa A. Martin
Hydrology Plan Checker
Developement & Bldg. Ser. Division
BLB

C: Certificate of Occupancy Clerk, COA
approval file
drainage file

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

January 18, 2002

Larry Read, P.E.
Larry Read & Assoc.
4800-C Juan Tabo NE
Albuquerque, New Mexico 87111

RE: MIDWAY BUSINESS PARK LOT 16-A (E-16/D18)
(5941 Midway Park NE)
ENGINEERS CERTIFICATION FOR CERTIFICATE OF OCCUPANCY
ENGINEERS STAMP DATED 4/23/2001
ENGINEERS CERTIFICATION DATED 1/16/2002

Dear Mr. Read:

We are in receipt of your Engineers Certification dated 1/16/2002 for the above referenced site; However, a Certificate of Occupancy from City Hydrology **can not** be issued at this time.

In reviewing your Engineers Certification, it was noted that the AMAFCA concerns (see letter dated My 31, 2001) concerning Item 1: "Some type of onsite debris basin/oil separator, like the attached Outlet Structure Detail, will be required. A hooded inlet (such as a SNOUT) will also be acceptable. This Best Management Practices (BMP) feature will be maintained by the owner." was not addressed in the drawings nor in your Engineers Certification. Verification of the installation of this item will be required prior to a Cerificate of Occupancy being issued.

When the outstanding drainage issue has been addressed and an Engineers Certification has been resubmitted to our office addressing this outstanding drainage issue, a Certificate of Occupancy can be issued.

If you have any questions, please feel free to contact me at 924-3981 or Brad Bingham at 924-3986.

Sincerely,

Teresa A. Martin

Teresa Martin
Hydrology Plan Checker
Public Works Department/COA
BLB

c: File

Albuquerque Metropolitan Arroyo Flood Control Authority

2600 PROSPECT NE • ALBUQUERQUE, NM 87107

PHONE: (505) 884-2215
FAX: (505) 884-0214

FILE

E-16/D18

May 31, 2001

Mr. Larry Read, P.E.
Larry Read & Associates, Inc.
Box 194 8100-M4 Wyoming Blvd. NE
Albuquerque, NM 87113

Re: Drainage Report for Office/Warehouse at Midway Park, ZAP E-16
Engineer's Stamp Dated April 23, 2001

Dear Mr. Read:

AMAFCA has reviewed the referenced submittal and has the following comments:

1. Some type of onsite debris basin/oil separator, like the attached Outlet Structure Detail, will be required. A hooded inlet (such as a SNOUT) will also be acceptable. This Best Management Practices (BMP) feature will be maintained by the owner.
2. The rundowns to the earthen side channel should be concrete to the toe of slope with cutoff walls and riprap protection at the end (see attached detail). Riprap may need to be hand-placed under the bike trail across the earthen channel.

If you have any questions, please call me or Jerry Lovato at 884-2215. On an unrelated matter, I am sending current Easement and Encroachment forms for development in North Albuquerque Acres.

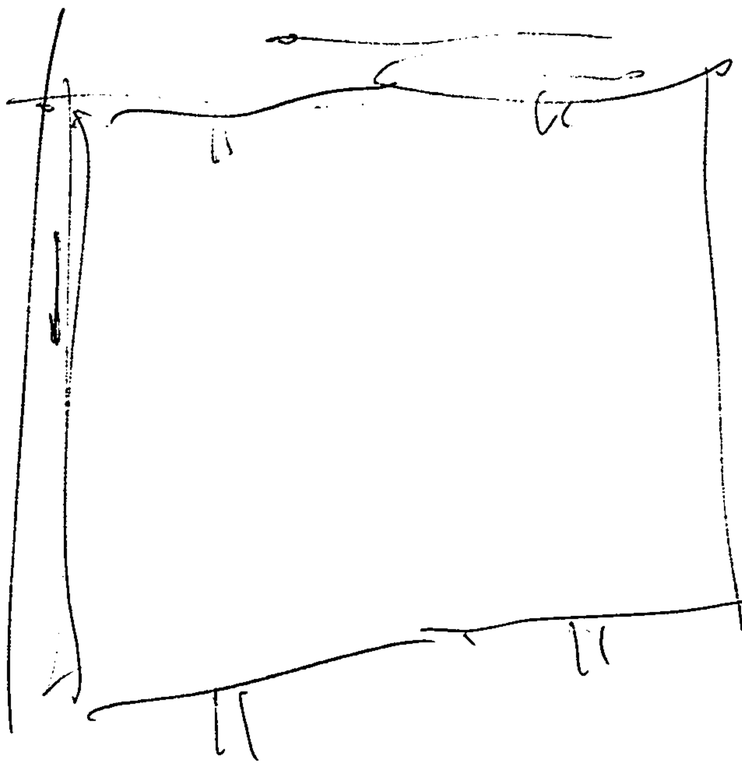
Sincerely,
AMAFCA

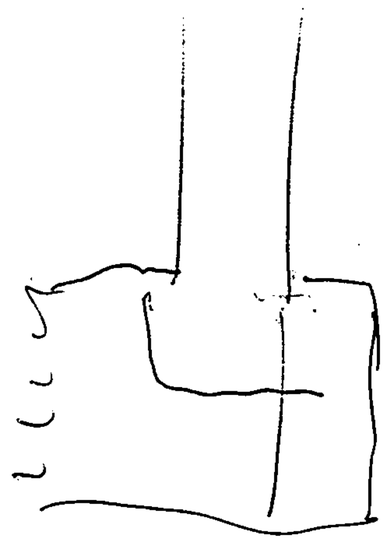
Lynn M. Mazur

Lynn M. Mazur, P.E.
Development Review Engineer

enclosures

Cc: Loren Meinz, COA Hydrologist
Jerry Lovato, AMAFCA





City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

January 18, 2002

no C.O. yet

Larry Read, P.E.
Larry Read & Assoc.
4800-C Juan Tabo NE
Albuquerque, New Mexico 87111

RE: MIDWAY BUSINESS PARK LOT 16-A (E-16/D18)
(5941 Midway Park NE)
ENGINEERS CERTIFICATION FOR CERTIFICATE OF OCCUPANCY
ENGINEERS STAMP DATED 4/23/2001
ENGINEERS CERTIFICATION DATED 1/16/2002

Dear Mr.Read:

Verify debris basin/oil-water separator installed per AMAFCA letter date 5-31-01

Based upon the information provided in your Engineers Certification submittal dated 1/17/2002, the above referenced site is approved for a Permanent Certificate of Occupancy.

If I can be of further assistance, please contact me at 924-3981.

Sincerely,

Teresa A. Martin
Hydrology Plan Checker
Public Works Department

C: Vickie Chavez, COA
drainage file
approval file

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

April 30, 2001

Larry Read & Associates
8100-M4 Wyoming Blvd.
Albuquerque, NM 87113

RE: Grading and Drainage Plan for Lot 16-A, Midway Business Park, 5941 Midway Park Rd., (E16/D18), Engineer stamp dated 4/23/2001.

Dear Mr. Read,

The referenced Grading and Drainage Plan is approved for Site Plan for Building Permit, Building Permit, and Grading. Any of the proposed construction on the North Diversion Channel rundowns will require separate permits from AMAFCA. Contact Jerry Lovato, AMAFCA, 884-2215.

Also, the plan is approved for SO-19 permit, which is required for construction within the City right-of-way.

Prior to Certificate of Occupancy, an Engineer's Certification per the DPM checklist for completion of site grading and drainage per the plan is required for Hydrology approval. Also required is final approval and signoff by the City inspector for the SO-19 work.

If you have any questions, please call me at 924-3980.

Sincerely,

Loren D. Meinz, P.E.
Hydrology Division

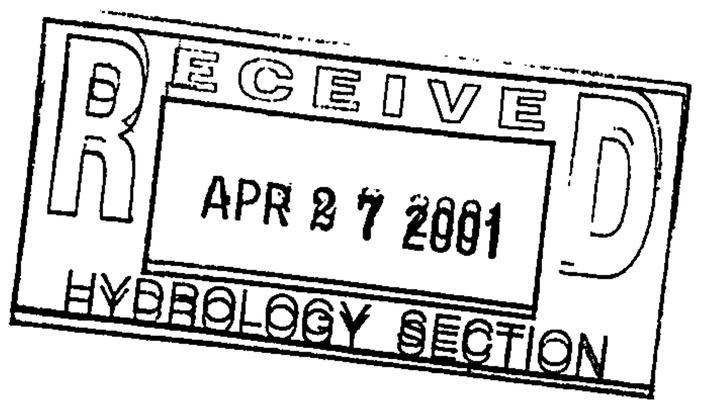
c: Terri Martin
File

DRAINAGE REPORT

for

NEW OFFICE/WAREHOUSE DEVELOPMENT
5941 MIDWAY PARK, N.E.
ALBUQUERQUE, NEW MEXICO

April 23, 2001



Prepared by
Larry D. Read, P.E.
Box 194 8100-M4 Wyoming Blvd., N.E.
Albuquerque, New Mexico 87113
(505) 237-8421

DRAINAGE REPORT

for

NEW OFFICE/WAREHOUSE DEVELOPMENT
5941 MIDWAY PARK, N.E.
ALBUQUERQUE, NEW MEXICO

April 23, 2001

LOCATION & DESCRIPTION

The proposed site is located within the Midway Business Park Development at 5941 Midway Park, N.E. (see **Exhibit 1**). The site was previously developed as the Frito-Lay Warehouse that burned several years ago. As such, the existing paved parking lot and building foundations remain. The proposed development is a new office/warehouse building with associated parking. The proposed building footprint is approximately 38,400 square feet (see **Exhibit 5**).

The legal description of the site is Lot 16-A, Midway Business Park

FLOODPLAIN STATUS

This property, as shown on FIRM Map Panel 3501C0136-D, effective September 20, 1996, is not within any designated floodplain. **Exhibit 2** is a printout of the COA GIS map with the adjacent floodplains shown.

METHODOLOGY

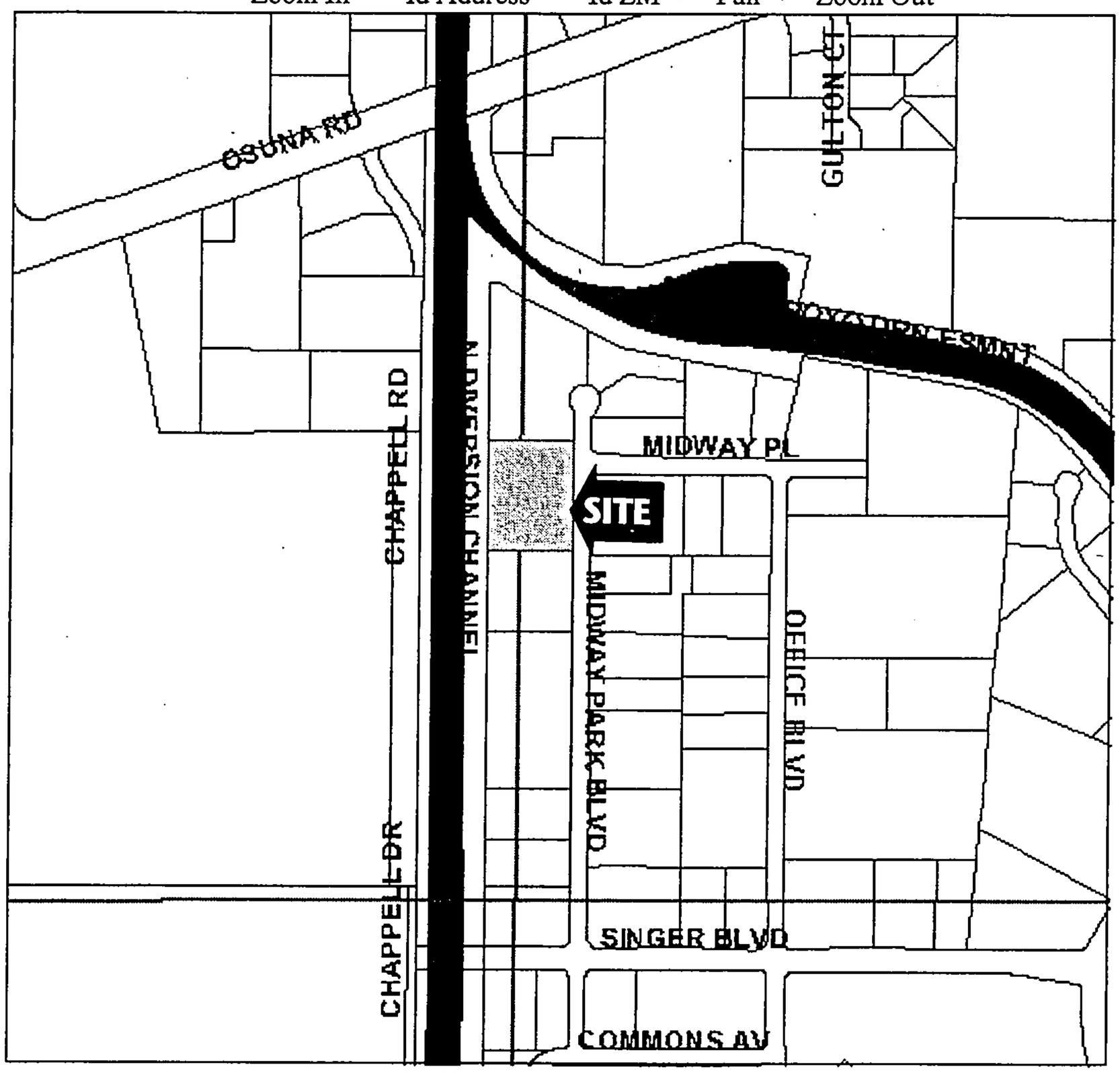
The hydrology for this project was analyzed using the Quick Calculation Method as documented in the June 1997 release of the City of Albuquerque Development Process Manual, Section 22.2.

PRECIPITATION

The 100-yr, 6-hr duration storm was used as the design storm for this analysis. This site is within Zone 2 as identified in the City of Albuquerque Development Process Manual, Section 22.2. Tables within this section were used to establish the 6-hour precipitation, 10-day precipitation, excess precipitation, and peak discharge.

Activate By 'Clicking' on the Map

○ Zoom In ◉ Id Address ○ Id ZM ○ Pan ○ Zoom Out



ReDraw Screen

Flood Zones

Zone A | Zone AO | Zone AH | Zone AE

elected Address: 5941 MIDWAY PARK BLVD NE
Zoning: IP
Lot/Block/Subd: 16A , 0000 , MIDWAY BUSINESS PARK
Council District/Name: TWO , GRIEGO
County Commission: 1
Rep District/Sen District: 17 , 13
Nbr Assoc: Nothing Selected
oning: IP
Voter Pct: 15
High Sch District: Valley
lid Sch District: Taft
lem Sch District: Mission Ave.

CITYWIDE V

LAYER LEG

- ☑ STREET NAMES
- ☐ PARKS
- ☐ CITY LIMITS
- ☑ ZONE MAP GRID
- ☐ NBR BOUNDARY
- ☐ COMMUNITY PLANNIN
- ☐ WATER LINES
- ☐ SEWER LINES
- ☐ STORM DRAINS
- ☐ ZONING
- ☑ LOT NUMBERS Zoom Fu
- ☐ ZIP CODES
- ☐ COUNCIL DISTRICTS
- ☑ FLOOD ZONES
- ☑ PARCELS
- ☐ CONTROL STATIONS

ZOOM SCAL

MEDIUM

TEXT SCAL

MEDIUM

SERVICES
PROXIMITY SEA

EXISTING DRAINAGE

The existing site has been graded and paved as shown in **Figure 4**. There are four drainage basins that drain to different locations. Basin A is a portion of an earthen berm that drains south across the property line into the parking lot of the adjacent parcel. Basin B is a portion of the earthen berm plus the landscape area between the existing curb and property line that drains east into the Midway Park. Basin C is the northern portion of the paved parking lot that drains toward the northwest where it enters the concrete lined drainage channel along the north property line. Basin D includes a portion of the berm discussed above, the old building slab, and portion of the paved parking lot that drains through an earthen swale to the off-site side channel that parallels the west property line.

Midway Park is a 48' paved street that drains north to a concrete lined channel along the north property line of this site. The concrete lined drainage channel drains west into the earthen side channel along the west property line. There are numerous side channel inlets that discharge flow in the earthen side channel into the North Diversion Channel. One such side channel inlet is located near the south center portion of this site. All of the side channel inlets have bridges over the channel for the bike path that parallels the earthen side channel.

All runoff from this site, regardless of the initial discharge point from the site, eventually ends up in the earthen side channel and North Diversion Channel.

FULLY DEVELOPED CONDITION

The proposed grading to redevelop this site is shown on the Grading Plan (see **Figure 5** in the rear pocket of this report). The ultimate discharge point, the earthen side channel along the west property line and the North Diversion Channel remains unchanged from the existing conditions. However, the runoff from Existing Drainage Basin A that currently crosses the property line has been redirected into Midway Park through the proposed new driveway in the southern portion of the site. Basins B and C direct runoff from the paved parking lot between the building and Midway Park into the street through two 24" wide sidewalk culverts. Basin D routes runoff from the groin area of the paved parking lot into Midway Park through the existing driveway. Basin E includes all of the paved parking lot to the west of the building face and all of the building roof. The runoff from this basin is directed west where it discharges through two 10' wide curb cuts with lined riprap swales into the earthen side channel.

Table 1 is the Quick Calculation Printout of the hydrology calculations for the site and related off-site drainage basins. The difference between the existing total site runoff (12.5 cfs) and the proposed total site runoff (13.5 cfs) is a total increase of 1.04 cfs (8.3%) and is below the normal allowable discharge for a commercial site of 13.62 cfs (90% D and 10% C).

Additionally, in the Appendix are calculations of the capacity of Midway Park and the concrete drainage channel. The additional runoff routed to Midway Park from On-Site Basins A thru D (3.40 cfs) can be accommodated in the street section with the 100-year flow depth at 0.64 feet and the energy grade line at 0.83 feet. The concrete lined channel also can accommodate the increased flow due to the diversion with the 100-year flow depth at 0.88 feet while the channel walls are 1.26' high. The new energy grade in the channel at 1.11 feet is still below the top of the channel walls.

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(10 day) (acre-ft)	V(10 day) (cu-ft)	Q (cfs)
EXISTING CONDITIONS											
A	0.1980	0.00	50.00	50.00	0.00	0.96	0.02	686	0.02	686	0.54
B	0.1710	0.00	46.00	47.00	7.00	1.04	0.01	645	0.02	714	0.49
C	1.2800	0.00	0.00	0.00	100.00	2.12	0.23	9,850	0.40	17,285	6.02
D	1.3430	0.00	16.00	17.00	67.00	1.74	0.19	8,469	0.31	13,696	5.44
TOTAL RUNOFF	2.99						0.45	19651	0.74	32381	12.48
ON-SITE PROPOSED CONDITIONS											
A	0.1580	0.00	15.00	14.00	71.00	1.78	0.02	1,021	0.04	1,673	0.65
B	0.2620	0.00	10.00	9.00	81.00	1.90	0.04	1,804	0.07	3,037	1.13
C	0.2430	0.00	7.00	8.00	85.00	1.95	0.04	1,717	0.07	2,917	1.07
D	0.1320	0.00	14.00	14.00	72.00	1.79	0.02	860	0.03	1,412	0.55
E	2.1910	0.00	2.00	2.00	96.00	2.07	0.38	16,490	0.66	28,707	10.12
TOTAL RUNOFF	2.99						0.50	21893	0.87	37745	13.52
OFF-SITE CONDITIONS											
A	13.9900	0.00	5.00	5.00	90.00	2.00	2.34	101,745	4.01	174,874	62.97
B	3.5710	0.00	5.00	5.00	90.00	2.00	0.60	25,971	1.02	44,637	16.07
TOTAL RUNOFF	17.56						2.93	127716	5.04	219511	79.04

EXCESS PRECIP.		0.53	0.78	1.13	2.12	E_i (in)
PEAK DISCHARGE		1.56	2.28	3.14	4.7	Q_{Pi} (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 = 2

$P_{6\text{-HR}}$ (in.) = 2.35

$P_{24\text{-HR}}$ (in.) = 2.75

P_{10DAY} (in.) = 3.95

A.M.A.F.C.A. NORTH DIVERSION CHANNEL

5100

N 00°00'39" E

315.61

5100

415.00

S 89°50'55" E

CONC. DITCH

BUILDING

LOT 15-A

BASIN D

CONC. PAD

5105

DOCK

RAMP

RAMP

ASPHALT

ASPHALT

5105

BASIN A

BASIN C

ASPHALT

ASPHALT

ASPHALT

5105

CONC. DITCH

316.63

BUILDING

LOT 17-A

BASIN B

N 89°50'55" W

415.00

5110

BASIN B

BASIN B

BASIN B

S 00°09'05" W

5105

STANDARD CURB AND GUTTER

MIDWAY PARK BOULEVARD, N.E.
(68' R/W)

0 7.5 15 30 60 90
GRAPHIC SCALE IN FEET:

N

LEGAL DESCRIPTION

LOT 16-A, MIDWAY BUSINESS PARK

ON-SITE DRAINAGE BASINS EXISTING CONDITION FIGURE 4

FLOW ELEV IN MIDWAY POST DEVELOPMENT
Worksheet for Irregular Channel

Street.

Project Description	
Project File	c:\haestad\fmw\midway.fm2
Worksheet	CHANNEL
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

Input Data		
Channel Slope	0.005500 ft/ft	
Elevation range: 99.13 ft to 100.00 ft.		
Discharge	66.37	cfs

Station (ft)	Elevation (ft)	Start Station	End Station	Roughness
0.00	100.00	0.00	68.00	0.017
10.00	99.80			
10.08	99.13			
34.00	99.61			
58.00	99.13			
58.08	99.80			
68.00	100.00			

Results		
Wtd. Mannings Coefficient	0.017	
Water Surface Elevation	99.77	ft
Flow Area	19.19	ft²
Wetted Perimeter	49.22	ft
Top Width	48.07	ft
Height	0.64	ft
Critical Depth	99.76	ft
Critical Slope	0.005946	ft/ft
Velocity	3.46	ft/s
Velocity Head	0.19	ft
Specific Energy	99.96	ft
Froude Number	0.97	
Flow is subcritical.		

EXISTING FLOW ELEVATION IN MIDWAY
Worksheet for Irregular Channel

Project Description	
Project File	c:\haestad\fmw\midway.fm2
Worksheet	CHANNEL
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

Input Data		
Channel Slope	0.005500 ft/ft	
Elevation range: 99.13 ft to 100.00 ft.		
Discharge	62.97	cfs

Station (ft)	Elevation (ft)	Start Station	End Station	Roughness
0.00	100.00	0.00	68.00	0.017
10.00	99.80			
10.08	99.13			
34.00	99.61			
58.00	99.13			
58.08	99.80			
68.00	100.00			

Results		
Wtd. Mannings Coefficient	0.017	
Water Surface Elevation	99.76	ft
Flow Area	18.59	ft²
Wetted Perimeter	49.19	ft
Top Width	48.07	ft
Height	0.63	ft
Critical Depth	99.75	ft
Critical Slope	0.006012	ft/ft
Velocity	3.39	ft/s
Velocity Head	0.18	ft
Specific Energy	99.94	ft
Froude Number	0.96	
Flow is subcritical.		

EXISTING FLOW IN DRAINAGE CHANNEL
Worksheet for Irregular Channel

N. side channel.

Project Description	
Project File	c:\haestad\fmw\midway.fm2
Worksheet	DRAINAGE CHANNEL CAPACITY
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

Input Data

Channel Slope 0.010779 ft/ft

Elevation range: 98.24 ft to 100.00 ft.

Station (ft)	Elevation (ft)	Start Station	End Station	Roughness
0.00	100.00	0.00	15.52	0.013
0.01	98.74			
7.76	98.24			
15.51	98.74			
15.52	100.00			

Discharge 79.04 cfs

Results

Wtd. Mannings Coefficient	0.013	
Water Surface Elevation	99.10	ft
Flow Area	9.52	ft²
Wetted Perimeter	16.26	ft
Top Width	15.51	ft
Height	0.86	ft
Critical Depth	99.42	ft
Critical Slope	0.002826	ft/ft
Velocity	8.30	ft/s
Velocity Head	1.07	ft
Specific Energy	100.18	ft
Froude Number	1.87	

Flow is supercritical.

PROPOSED FLOW IN DRAINAGE CHANNEL
Worksheet for Irregular Channel

N side channel

Project Description	
Project File	c:\haestad\fmw\midway.fm2
Worksheet	DRAINAGE CHANNEL CAPACITY
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Water Elevation

Input Data		
Channel Slope	0.010779 ft/ft	
Elevation range: 98.24 ft to 100.00 ft.		
Discharge	82.44	cfs

Station (ft)	Elevation (ft)	Start Station	End Station	Roughness
0.00	100.00	0.00	15.52	0.013
0.01	98.74			
7.76	98.24			
15.51	98.74			
15.52	100.00			

Results		
Wtd. Mannings Coefficient	0.013	
Water Surface Elevation	99.12	ft
Flow Area	9.77	ft²
Wetted Perimeter	16.29	ft
Top Width	15.51	ft
Height	0.88	ft
Critical Depth	99.45	ft
Critical Slope	0.002812	ft/ft
Velocity	8.44	ft/s
Velocity Head	1.11	ft
Specific Energy	100.23	ft
Froude Number	1.87	
Flow is supercritical.		