DRAINAGE REPORT
FOR
JACKSON WINK MMA ACADEMY

301 Martin Luther King Jr NE
Albuquerque, New Mexico 87103

Prepared For:

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PURPOSE AND SCOPE

This project involves the re-development of the subject property for Jackson Wink MMA Academy, a training center for mixed martial arts. The project proposes site improvements to support the development, including access, grading, drainage and utility improvements.

The purpose of this report is to outline the criteria for re-development of the site and demonstrate that this project will not negatively impact the project site, or upstream and downstream properties. This report is prepared and submitted in support of a building permit application.

The scope of this report is to provide analysis of the existing and improved conditions utilizing state of the art technological storm drainage modeling tools, thereby demonstrating the before and after behavior of the project site during rainfall events. It will be demonstrated that this project will be developed in accordance with the City of Albuquerque, Development Process Manual, Volume 2, the City of Albuquerque Drainage Ordinance, and the approved drainage master plan for the watershed.

EXISTING CONDITIONS

The 1.50-acre project site is fully developed. Site improvements consist of a 16,080-square foot building with site improvements constructed to support the previous property use. The site is bounded north by developed residential property, on the east by developed office property, on the south by Martin Luther King Jr Blvd, and on the west by Broadway Blvd.

All site flows drain west to Broadway by paving improvements and landscaped yard swales. The site was developed in 1978 when commercial properties were required to retain developed storm water. As a result this site retains approximately 13,460-cf within four (4) existing retention ponds. The ponds are not equipped with drains or constructed overflow spillways. The ponds appear to overflow to the west, and eventually to Broadway over the sidewalks or through the drivepads.

No off-site flows enter the property. The upstream boundaries of the site are sealed by solid perimeter walls.

As shown by FIRM Panel 35001C0334G, this property is not located within a mapped 100 year floodplain.

DRAINAGE MASTERPLANS

The property was originally developed as an office building in the 1970's. The Drainage Master Plan, prepared by Kent Trauernicht, a New Mexico Licensed Architect,

recommended on-site retention ponding in accordance with the City's drainage criteria at the time. This project was designed to retain approximately 13,460-cf of excess runoff within four (5) on-site retention ponds. The site also accepted runoff from the parcel to the east, which was undeveloped at the time.

The Drainage Master Plan is provided in the Appendix for review.

MARTIN LUTHER KING JR – BROADWAY WIDENING – PROJECT 785402

The City of Albuquerque Department of Municipal Development is planning the widening of Martin Luther King Jr Boulevard NE (MLK) to provide additional turning lanes and bicycle lanes. The project requires additional right of way. The proposed right of way take at the northeast corner of the intersection impacts the Jackson Wink MMA Academy. Construction of a new right turn and bike lanes encroaches into Detention Pond D at the southwest corner of the project site. The pond outfall, a 12-inch pipe drainage to a storm inlet within MLK, will be provided by the City as a part of the MLK Widening Project.

PROJECT PHASING

The construction schedules for the Jackson Wink MMA Academy and the MLK Widening Project do not coincide; therefore the 12-inch outlet pipe draining Detention Pond D will not be available when the private site work is complete. As a result, the project will be phased. Phase 1 consists of all site work except for construction of the 6 parking spaces located at the southwest corner of the site. After construction of the MLK Widening Project is complete and the 12-inch pond outlet pipe is in place, Phase 2 will be constructed and the project will be complete. The site will operate under a Temporary Certificate of Occupancy until Phase 2 is complete.

PROPOSED CONDITIONS

As shown by the Grading and Drainage Plan (see back pocket), the property is to be re-developed by upgrading and expanding the existing building, and re-constructing the site improvements. The existing parking lot will be resurfaced and re-striped. Additional parking will be provided by expanding the existing parking lot. One of the redundant retention ponds will be removed to allow for expansion of the parking lot. The existing retention ponds located in the northeast and northwest corners of the site will remain in their current conditions. The existing pond located at the southwest corner of the site will be re-built and equipped with an outfall drain connection an existing public storm inlet within MLK.

A Pre-design conference with City Hydrology Staff established the maximum discharge rate from the site at 2.75 cfs/acre (4.13 cfs total), or existing conditions (4.12 cfs/acre, or 6.18 cfs total). We have selected the latter, which will be managed by the re-

constructed pond at the southwest corner of the site.

As shown by the Developed Drainage Basins Map, Figure 3, the developed site is divided into 5 drainage basins. Each drainage basin is described below:

Basin A is an existing closed basin that drains to existing retention Pond A.

Basin B is consists of the building roof and the landscaped area along the north side of the building draining to existing retention Pond B.

Basin C is a small basin that will free discharge thru the drivepad at Broadway.

Basin D is the largest onsite basin. It consists of the front parking lot and public areas. It drains to Pond D which will be converted to a detention pond by connecting a 12-inch storm drain to the existing storm inlet at MLK.

Basin E is an area reserved to be purchased by the City as right-of-way for the proposed Martin Luther King Jr Blvd widening project. Approximately one-half of the basin drains to MLK. The remainder drains to Pond D.

As shown by the AHYMO output files and the Pond Routing Calculations, by converting the existing retention ponds to detention ponds the total developed discharge from the site is calculated at 5.04 cfs, less than the existing peak discharge of 6.18 cfs.

90th Percentile Storm

In accordance with the City of Albuquerque Drainage Ordinance, effective May 12, 2014, all new development projects are required to manage the runoff which occurs during the 90th percentile storm event. In order to comply with this criteria, where practical, all surface drainage shall be routed through landscaped areas before release into downstream drainage facilities. Calculations are provided to demonstrate the First Flush storage proposed on-site.

CALCULATIONS

Hydrology

The calculations contained herein define the 100-year/6-hour rainfall event falling within the project site and contributing off-site areas under existing and developed conditions. The hydrology is per the City of Albuquerque, Development Process Manual, Chapter 22, Volume 2, 1997 Revision. The AHYMO 97 model is used to determine peak runoff. The calculations are presented to demonstrate the capacity and function of all proposed storm drainage improvements.

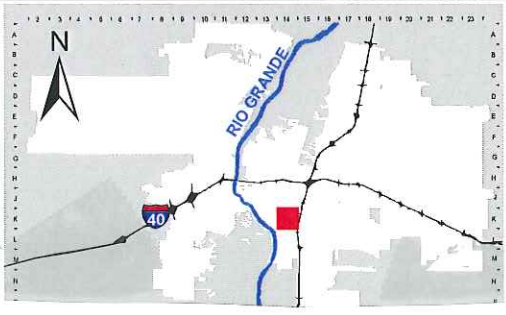
APPENDIX

MAPS

For more current information and details visit: http://www.cabq.gov/gis

Albuquerque Geographic Information System

Map amended through: 9/2/2014



LOCATION MAP

FIGURE 1

Zone Atlas Page:

K-14-Z

Selected Symbols

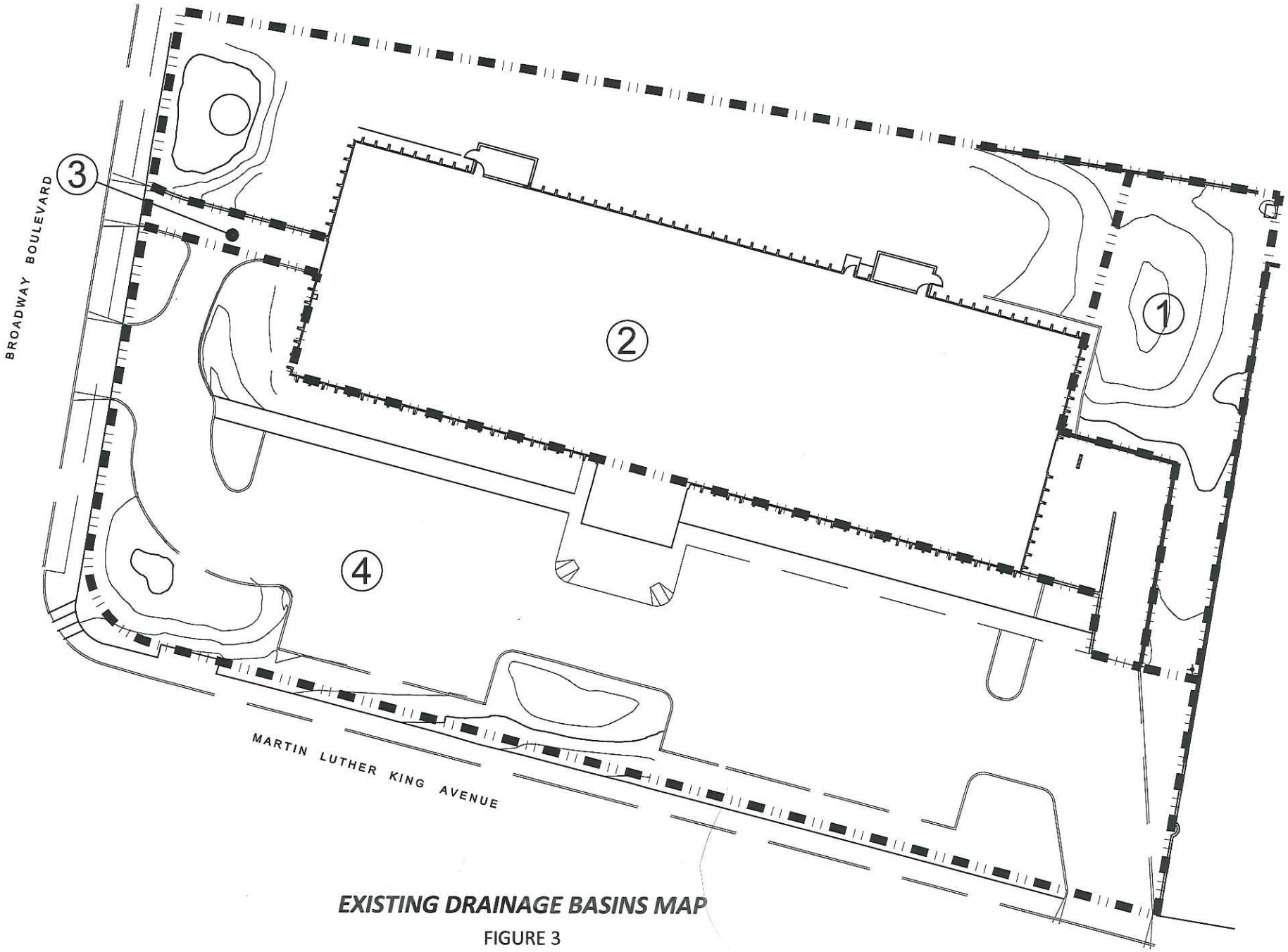
- SECTOR PLANS
- Design Overlay Zones
- City Historic Zones
- H-1 Buffer Zone
- Escarpment
- 2 Mile Airport Zone
- Airport Noise Contours
- Wall Overlay Zone
- Iroglyph Mon.

Feet

750 1,500

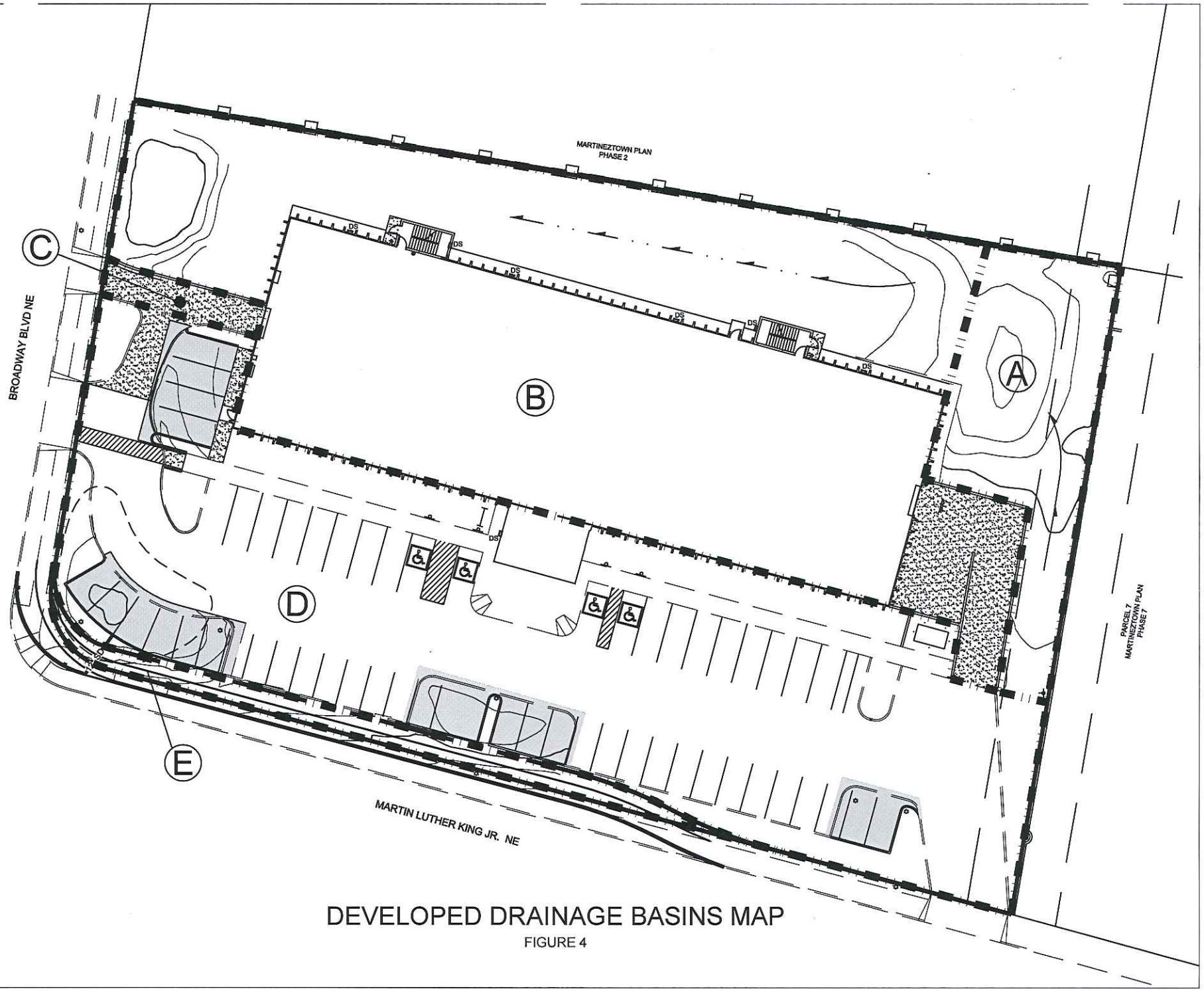
FIRM PANEL

FIGURE 2



EXISTING DRAINAGE BASINS MAP

FIGURE 3



DEVELOPED DRAINAGE BASINS MAP

FIGURE 4

STORM DRAIN FACITILITIES MAP

FIGURE 5

CALCULATIONS

PONDING CRITERIA

SITE PONDING CRITERIA

I. FIRST FLUSH

By ordinance the site is required to retain the 90th percentile rainfall depth. In order to comply with this criteria, where practical, all surface areas will be routed through landscaped areas before release to downstream public drainage facilities. This is a re-developing site that is fully landscaped. Surface areas were constructed to drain directly to on-site retention ponds. The proposed plan will rout runoff through two existing retention ponds and one reconstructed detention pond. Storage in excess of the 90th percentile rainfall will be provided as illustrated below.

90th percentile depth	0.44"
Less initial abstraction	0.10"
Total retained depth	034"

Ponding requirement = Ad(0.34") = 0.92 ac(43,560 sf/ac)(0.34"/12"/ft) = 1,135 cf

First Flush storage provided:

Pond A	755 cf
Pond B	417 cf
Total	1,172 cf

This site is re-developing and must accept many of the existing surface improvements as they are. It must also be noted that all roof drainage is routed overland through Basin "B" which is landscaped with established sod. Initial abstraction and infiltration will be must higher than typical and is not considered in the requirement. Given these reasons the site complies with the Ordinance to the maximum extent possible.

II. DETENTION POND CRITERIA

The DMP for this site recommended on-site retention ponding in accordance with the drainage criteria at the time of development. Pre-design meetings with City staff established the allowable discharge rate at either the calculated existing discharge or 2.75 cfs/acre. As determined by Ahymo, the existing conditions discharge from the site (assuming no retention storage) is 6.18 cfs, or 4.12 cfs/acre.

Since the site is fully developed and re-developing, most of the historic drainage patterns and improvements will remain. The existing retention ponds in Basins "A" and "B" will remain.

On-site Basin "C" will free discharge 0.11 cfs thru the west drivepad. Basin "D" will drain through reconstructed detention Pond D. Pond D will be converted to a detention pond by connecting a 12" Storm drain to a storm inlet at Martin Luther King Jr.

The proposed detention pond capacities are summarized below:

POND D - STORAGE INDICATION TABLE

ELEVATION feet	Q OUT cfs	AREA sf	VOLUME acre feet
4965.00	0.00	0	0.0000
4965.50	1.00	37.5	0.0009
4966.00	2.10	637.5	0.0146
4966.20	2.40	805.5	0.0185

As illustrated by the AHYMO Output file, the discharge from Pond D is calculated at 2.28 cfs, with a maximum water surface elevation of 4966.12 feet.

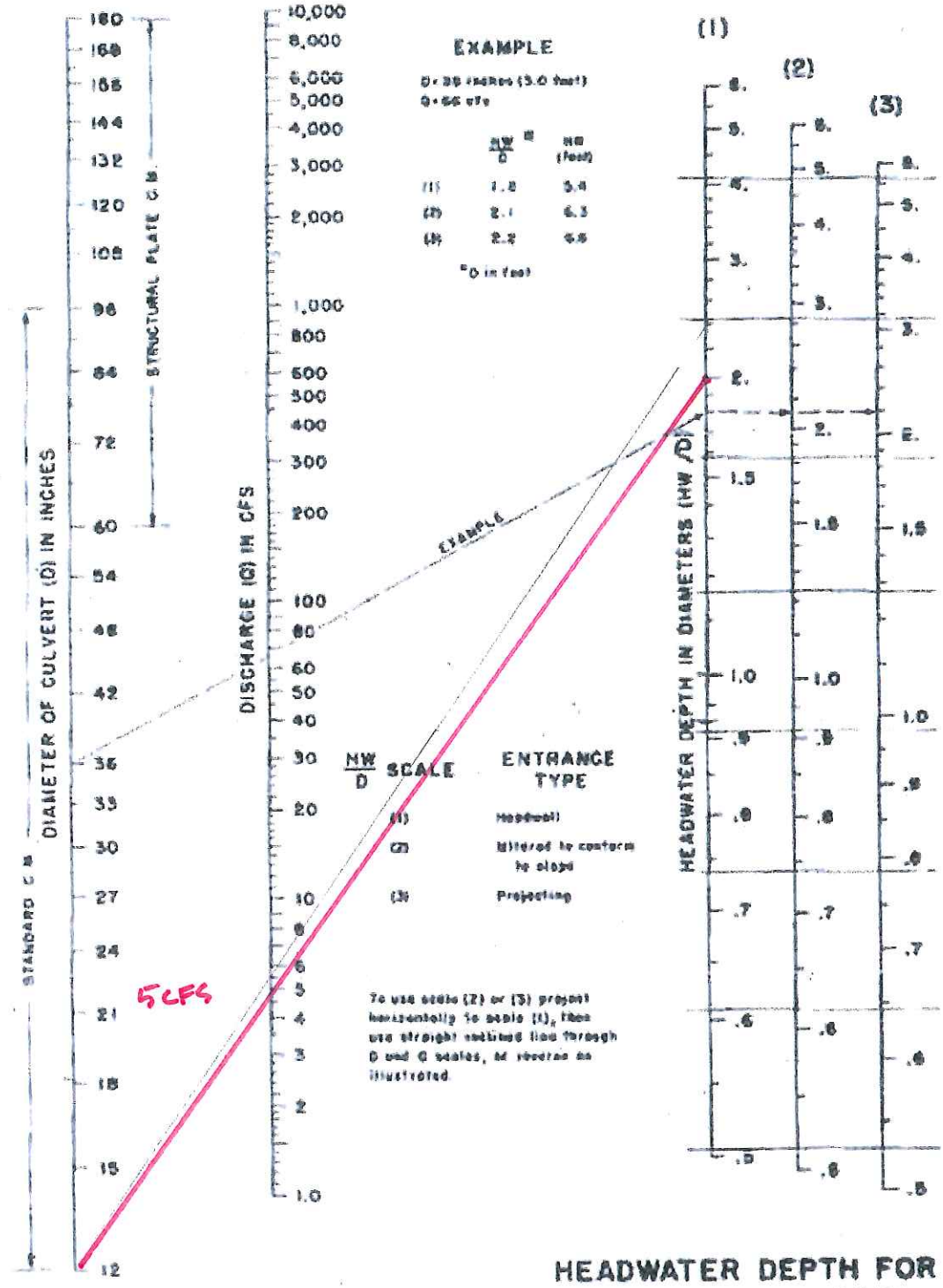
The total developed discharge from the project site is as follows:

Basin A	0 cfs
Basin B	2.65 cfs ##
Basin C	0.11 cfs
Basin D	2.28 cfs
Total	5.04 cfs<Q100 Existing (6.18 cfs)

the existing pond within Basin B retains 417 cf.

DRAINAGE STRUCTURE CAPACITIES

1.



HEADWATER DEPTH FOR
C. M. PIPE CULVERTS
WITH INLET CONTROL

BUREAU OF PUBLIC ROADS JAN 1963

Q100 POND 'D' = 2.28 CFS < 5 CFS ✓

2.

Free Online Manning Pipe Flow Calculator

Manning Formula Uniform Pipe Flow at Given Slope and Depth

Can you help me translate this calculator to your language or host this calculator at your web site?

Printable Title

Printable Subtitle

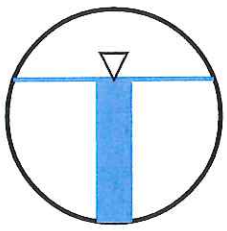
Q100 POND 'b' = 2.28 CFS < 3.98 CFS ✓

Set units: m | mm | ft | inches

Pipe diameter, d_0	1 ft
Manning roughness, n ?	.013
Pressure slope (possibly ? equal to pipe slope), S_0	2 % rise/run
Percent of (or ratio to) full depth (100% or 1 if flowing full)	67 %

Results:

Flow, q	3.9768	cfs
Velocity, v	7.1095	ft/sec
Velocity head, h_v	0.7856	ft
Flow area	0.5594	ft^2
Wetted perimeter	1.9177	ft
Hydraulic radius	0.2917	ft
Top width, T	0.9404	ft
Froude number, F	1.63	
Shear stress (tractive force), tau	0.8367	psf



Please give us your valued words of suggestion or praise. Did this free calculator exceed your expectations in every way?

Last Modified 02/13/2015 16:50:00

AHYMO INPUT FILE

```
**************************************************************************
*
*                          JACKSON-WINK MMA ACADEMY
*                             PROJECT HYDROLOGY
**************************************************************************
START                TIME=0.0  PUNCH CODE=0
LOCATION             ALBUQUERQUE
RAINFALL             TYPE=1  RAIN QUARTER=0.0  RAIN ONE=2.01
                     RAIN SIX=2.35  RAIN DAY=2.75  DT=0.03333 HRS
**************************************************************************
************************
* EXISTING CONDITIONS  *
************************
* SITE - 1.50 ACRES
COMPUTE NM HYD       ID=1  HYD NO=EX-SITE  DA=0.002344 SQ MI
                     PER A=0 PER B=27 PER C=12  PER D=61
                     TP=0.1333 HR  MASS RAIN=-1
PRINT HYD            ID=1  CODE=20
* BASIN 1 - 0.11 ACRES
COMPUTE NM HYD       ID=2  HYD NO=EX-1  DA=0.000172 SQ MI
                     PER A=0 PER B=100 PER C=0 PER D=0
                     TP=0.1333 HR  MASS RAIN=-1
PRINT HYD            ID=2  CODE=20
* BASIN 2 - 0.67 ACRES
COMPUTE NM HYD       ID=3  HYD NO=EX-2  DA=0.001047 SQ MI
                     PER A=0 PER B=50 PER C=0 PER D=50
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PRINT HYD            ID=3  CODE=20
* BASIN 3 - 0.02 ACRES
COMPUTE NM HYD       ID=4  HYD NO=EX-3  DA=0.000031 SQ MI
                     PER A=0 PER B=0 PER C=0 PER D=100
                     TP=0.1333 HR  MASS RAIN=-1
PRINT HYD            ID=4  CODE=20
* BASIN 4 - 0.70 ACRES
COMPUTE NM HYD       ID=5  HYD NO=EX-4  DA=0.001094 SQ MI
                     PER A=0 PER B=0 PER C=32 PER D=68
                     TP=0.1333 HR  MASS RAIN=-1
PRINT HYD            ID=5  CODE=20
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* DEVELOPED CONDITIONS  *
************************
* SITE - 1.50 ACRES
COMPUTE NM HYD       ID=6  HYD NO=DEV-SITE  DA=0.002344 SQ MI
                     PER A=0 PER B=26 PER C=13  PER D=61
                     TP=0.1333 HR  MASS RAIN=-1
PRINT HYD            ID=6  CODE=20
* BASIN A - 0.11 ACRES
COMPUTE NM HYD       ID=7  HYD NO=DEV-A  DA=0.000172 SQ MI
                     PER A=0 PER B=100 PER C=0 PER D=0
                     TP=0.1333 HR  MASS RAIN=-1
PRINT HYD            ID=7  CODE=20
* BASIN B - 0.67 ACRES
COMPUTE NM HYD       ID=8  HYD NO=DEV-B  DA=0.001047 SQ MI
                     PER A=0 PER B=44 PER C=0 PER D=56
```

```
                    TP=0.1333 HR  MASS RAIN=-1
PRINT HYD           ID=8  CODE=20
* BASIN C - 0.02 ACRES
COMPUTE NM HYD      ID=9  HYD NO=DEV-C  DA=0.000031 SQ MI
                    PER A=0 PER B=0 PER C=0 PER D=100
                    TP=0.1333 HR  MASS RAIN=-1
PRINT HYD           ID=9  CODE=20
* BASIN D - 0.66 ACRES
COMPUTE NM HYD      ID=10  HYD NO=DEV-D  DA=0.00103 SQ MI
                    PER A=0 PER B=0 PER C=25 PER D=75
                    TP=0.1333 HR  MASS RAIN=-1
PRINT HYD           ID=10  CODE=20
* BASIN E - 0.04 ACRES
COMPUTE NM HYD      ID=11  HYD NO=DEV-E  DA=0.000063 SQ MI
                    PER A=0 PER B=0 PER C=50 PER D=50
                    TP=0.1333 HR  MASS RAIN=-1
PRINT HYD           ID=11  CODE=20
DIVIDE HYD          ID=11  PER=-50   ID I=12   HYD NO=E-MLK
                                     ID II=13  HYD NO=E-POND-IN
PRINT HYD           ID=13  CODE=20
ADD HYD             ID=14 HYD NO=POND-D-IN   ID I=10 ID II=13
PRINT HYD           ID=14 CODE=20
*****************************************************************
* ROUTE DEVELOPED SITE THROUGH DETENTION POND AT AP-1           *
* THRU 12 INCH SD TO EXIST STORM INLET AT MLK                   *
*****************************************************************
ROUTE RESERVOIR     ID=15 HYD NO=POND.E.OUT  INFLOW ID=14  CODE=10
                    OUT (CFS)   STORAGE (AC-FT)    ELEV (FT)
                    0.0           0                  65.00
                    1.0           0.00086            65.50
                    2.1           0.01005            66.00
                    2.4           0.01850            66.20
PRINT HYD           ID=15 CODE=20
FINISH
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AHYMO PROGRAM SUMMARY TABLE (AHYMO-S4) - Ver. S4.01a, Rel: 01a RUN DATE (MON/DAY/YR) =05/06/2015
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LOCATION		ALBUQUERQUE									
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COMPUTE NM HYD	EX-1	-	2	0.00017	0.31	0.009	0.95319	1.533	2.858	PER IMP=	0.00
COMPUTE NM HYD	EX-2	-	3	0.00105	2.56	0.085	1.52818	1.533	3.823	PER IMP=	50.00
COMPUTE NM HYD	EX-3	-	4	0.00003	0.11	0.003	2.10318	1.500	5.308	PER IMP=	100.00
COMPUTE NM HYD	EX-4	-	5	0.00109	3.10	0.106	1.81783	1.533	4.425	PER IMP=	68.00
COMPUTE NM HYD	DEV-SITE	-	6	0.00234	6.19	0.211	1.68660	1.533	4.127	PER IMP=	61.00
COMPUTE NM HYD	DEV-A	-	7	0.00017	0.31	0.009	0.95319	1.533	2.858	PER IMP=	0.00
COMPUTE NM HYD	DEV-B	-	8	0.00105	2.65	0.089	1.59718	1.533	3.949	PER IMP=	56.00
COMPUTE NM HYD	DEV-C	-	9	0.00003	0.11	0.003	2.10318	1.500	5.308	PER IMP=	100.00
COMPUTE NM HYD	DEV-D	-	10	0.00103	2.98	0.103	1.88025	1.533	4.521	PER IMP=	75.00
COMPUTE NM HYD	DEV-E	-	11	0.00006	0.19	0.006	1.65733	1.533	4.622	PER IMP=	50.00
DIVIDE HYD	E-MLK	11	12	0.00003	0.09	0.003	1.62886	1.533	4.622		
	E-POND-IN	and	13	0.00003	0.09	0.003	1.62886	1.533	4.622		
ADD HYD	POND-D-IN	10&13	14	0.00106	3.07	0.106	1.87241	1.533	4.524		
ROUTE RESERVOIR	POND.E.OUT	14	15	0.00106	2.28	0.106	1.87241	1.633	3.349	AC-FT=	0.015
FINISH											

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         START TIME (HR:MIN:SEC) = 14:37:45     USER NO.= Lorenz-NMSingleA33825816
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*                        JACKSON-WINK MMA ACADEMY
*                           PROJECT HYDROLOGY
**************************************************************************
START              TIME=0.0  PUNCH CODE=0
LOCATION           ALBUQUERQUE
     City of Albuquerque soil infiltration values (LAND FACTORS) used for computations.
     Land Treatment     Initial Abstr.(in)    Unif. Infilt.(in/hour)
          A             0.65                  1.67
          B             0.50                  1.25
          C             0.35                  0.83
          D             0.10                  0.04

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                   RAIN SIX=2.35  RAIN DAY=2.75  DT=0.03333 HRS

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                 0.0372  0.0424  0.0480  0.0537  0.0595  0.0654  0.0713
                 0.0776  0.0838  0.0904  0.0974  0.1044  0.1124  0.1204
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                 0.3284  0.3829  0.4374  0.5117  0.6058  0.7000  0.9502
                 1.2011  1.3965  1.5355  1.6746  1.7448  1.8147  1.8717
                 1.9157  1.9597  1.9903  2.0208  2.0473  2.0696  2.0919
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                 2.1721  2.1775  2.1829  2.1879  2.1928  2.1977  2.2024
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                 2.2485  2.2502  2.2518  2.2534  2.2550  2.2565  2.2581
                 2.2596  2.2610  2.2625  2.2640  2.2654  2.2668  2.2682
                 2.2697  2.2710  2.2724  2.2738  2.2751  2.2765  2.2778
                 2.2791  2.2804  2.2817  2.2830  2.2843  2.2856  2.2868
                 2.2881  2.2893  2.2905  2.2917  2.2929  2.2941  2.2953
                 2.2965  2.2977  2.2988  2.3000  2.3012  2.3023  2.3034
                 2.3045  2.3057  2.3068  2.3079  2.3090  2.3100  2.3111
                 2.3122  2.3132  2.3143  2.3153  2.3164  2.3174  2.3184
                 2.3195  2.3205  2.3215  2.3225  2.3235  2.3245  2.3255
                 2.3264  2.3274  2.3284  2.3293  2.3303  2.3312  2.3322
                 2.3331  2.3341  2.3350  2.3359  2.3368  2.3377  2.3386
                 2.3395  2.3404  2.3413  2.3422  2.3431  2.3440  2.3448
                 2.3457  2.3466  2.3474  2.3483  2.3491  2.3500
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```
*****************************************************************************
************************
* EXISTING CONDITIONS  *
************************
* SITE - 1.50 ACRES
COMPUTE NM HYD       ID=1  HYD NO=EX-SITE  DA=0.002344 SQ MI
                     PER A=0 PER B=27 PER C=12  PER D=61
                     TP=0.1333 HR  MASS RAIN=-1

     K =  0.072649HR    TP =  0.133300HR    K/TP RATIO =  0.545000     SHAPE CONSTANT, N =  7.106428
     UNIT PEAK =   5.6451    CFS   UNIT VOLUME =   0.9973       B =   526.28      P60 = 2.0100
     AREA =     0.001430 SQ MI    IA =   0.10000 INCHES    INF =   0.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.033330


     K =  0.124506HR    TP =  0.133300HR    K/TP RATIO =  0.934025     SHAPE CONSTANT, N =  3.786679
     UNIT PEAK =   2.3364    CFS   UNIT VOLUME =   0.9945       B =   340.69      P60 = 2.0100
     AREA =     0.000914 SQ MI    IA =   0.45385 INCHES    INF =   1.12077 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.033330

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                                        HYDROGRAPH FROM AREA EX-SITE

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS
     0.000      0.0          1.333      1.5          2.666      0.1          4.000      0.0          5.333      0.0
     0.667      0.0          2.000      0.8          3.333      0.0          4.666      0.0          5.999      0.0

    RUNOFF VOLUME =     1.68405 INCHES     =       0.2105 ACRE-FEET
    PEAK DISCHARGE RATE =       6.18 CFS  AT   1.533 HOURS   BASIN AREA =  0.0023 SQ. MI.


* BASIN 1 - 0.11 ACRES
COMPUTE NM HYD       ID=2  HYD NO=EX-1  DA=0.000172 SQ MI
                     PER A=0 PER B=100 PER C=0 PER D=0
                     TP=0.1333 HR  MASS RAIN=-1

     K =  0.132088HR    TP =  0.133300HR    K/TP RATIO =  0.990905     SHAPE CONSTANT, N =  3.562974
     UNIT PEAK =  0.41923    CFS   UNIT VOLUME =   0.9666       B =   324.90      P60 = 2.0100
     AREA =     0.000172 SQ MI    IA =   0.50000 INCHES    INF =   1.25000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.033330

PRINT HYD            ID=2  CODE=20

                                        HYDROGRAPH FROM AREA EX-1

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
```

HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS
0.000	0.0	0.667	0.0	1.333	0.0	2.000	0.0		

RUNOFF VOLUME = 0.95319 INCHES = 0.0087 ACRE-FEET
PEAK DISCHARGE RATE = 0.31 CFS AT 1.533 HOURS BASIN AREA = 0.0002 SQ. MI.

```
* BASIN 2 - 0.67 ACRES
COMPUTE NM HYD      ID=3  HYD NO=EX-2  DA=0.001047 SQ MI
                    PER A=0 PER B=50 PER C=0 PER D=50
                    TP=0.1333 HR  MASS RAIN=-1

     K =  0.072649HR    TP =  0.133300HR    K/TP RATIO =  0.545000     SHAPE CONSTANT, N =  7.106428
     UNIT PEAK =   2.0668    CFS   UNIT VOLUME =   0.9941       B =   526.28      P60 = 2.0100
     AREA =     0.000524 SQ MI    IA =   0.10000 INCHES    INF =   0.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.033330


     K =  0.132088HR    TP =  0.133300HR    K/TP RATIO =  0.990905     SHAPE CONSTANT, N =  3.562974
     UNIT PEAK =   1.2760    CFS   UNIT VOLUME =   0.9900       B =   324.90      P60 = 2.0100
     AREA =     0.000524 SQ MI    IA =   0.50000 INCHES    INF =   1.25000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.033330

PRINT HYD           ID=3  CODE=20
```

HYDROGRAPH FROM AREA EX-2

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
0.000	0.0	1.333	0.6	2.666	0.0	4.000	0.0	5.333	0.0
0.667	0.0	2.000	0.3	3.333	0.0	4.666	0.0	5.999	0.0

RUNOFF VOLUME = 1.52818 INCHES = 0.0853 ACRE-FEET
PEAK DISCHARGE RATE = 2.56 CFS AT 1.533 HOURS BASIN AREA = 0.0010 SQ. MI.

```
* BASIN 3 - 0.02 ACRES
COMPUTE NM HYD      ID=4  HYD NO=EX-3  DA=0.000031 SQ MI
                    PER A=0 PER B=0 PER C=0 PER D=100
                    TP=0.1333 HR  MASS RAIN=-1

     K =  0.072649HR    TP =  0.133300HR    K/TP RATIO =  0.545000     SHAPE CONSTANT, N =  7.106428
     UNIT PEAK =  0.12239    CFS   UNIT VOLUME =   0.9033       B =   526.28      P60 = 2.0100
     AREA =     0.000031 SQ MI    IA =   0.10000 INCHES    INF =   0.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.033330

PRINT HYD           ID=4  CODE=20
```

HYDROGRAPH FROM AREA EX-3

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
0.000	0.0	0.667	0.0	1.333	0.0	2.000	0.0		

RUNOFF VOLUME = 2.10318 INCHES = 0.0035 ACRE-FEET
PEAK DISCHARGE RATE = 0.11 CFS AT 1.500 HOURS BASIN AREA = 0.0000 SQ. MI.

```
* BASIN 4 - 0.70 ACRES
COMPUTE NM HYD      ID=5  HYD NO=EX-4  DA=0.001094 SQ MI
                    PER A=0 PER B=0 PER C=32 PER D=68
                    TP=0.1333 HR  MASS RAIN=-1
```

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428
UNIT PEAK = 2.9370 CFS UNIT VOLUME = 0.9955 B = 526.28 P60 = 2.0100
AREA = 0.000744 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033330

K = 0.107446HR TP = 0.133300HR K/TP RATIO = 0.806046 SHAPE CONSTANT, N = 4.440407
UNIT PEAK = 1.0073 CFS UNIT VOLUME = 0.9879 B = 383.54 P60 = 2.0100
AREA = 0.000350 SQ MI IA = 0.35000 INCHES INF = 0.83000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033330

```
PRINT HYD           ID=5  CODE=20
```

HYDROGRAPH FROM AREA EX-4

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
0.000	0.0	1.333	0.8	2.666	0.0	4.000	0.0	5.333	0.0
0.667	0.0	2.000	0.4	3.333	0.0	4.666	0.0	5.999	0.0

RUNOFF VOLUME = 1.81783 INCHES = 0.1061 ACRE-FEET
PEAK DISCHARGE RATE = 3.10 CFS AT 1.533 HOURS BASIN AREA = 0.0011 SQ. MI.

```
************************
* DEVELOPED CONDITIONS  *
************************
* SITE - 1.50 ACRES
COMPUTE NM HYD      ID=6  HYD NO=DEV-SITE  DA=0.002344 SQ MI
                    PER A=0 PER B=26 PER C=13  PER D=61
                    TP=0.1333 HR  MASS RAIN=-1
```

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428

```
     UNIT PEAK =   5.6451    CFS   UNIT VOLUME =   0.9973       B =   526.28      P60 = 2.0100
     AREA =     0.001430 SQ MI    IA =   0.10000 INCHES    INF =   0.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.033330


     K =  0.123874HR    TP =  0.133300HR    K/TP RATIO =  0.929285     SHAPE CONSTANT, N =  3.806885
     UNIT PEAK =   2.3460    CFS   UNIT VOLUME =   0.9946       B =   342.09      P60 = 2.0100
     AREA =     0.000914 SQ MI    IA =   0.45000 INCHES    INF =   1.11000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.033330

PRINT HYD           ID=6  CODE=20

                                    HYDROGRAPH FROM AREA DEV-SITE

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS
     0.000      0.0          1.333      1.5          2.666      0.1          4.000      0.0          5.333      0.0
     0.667      0.0          2.000      0.8          3.333      0.0          4.666      0.0          5.999      0.0

    RUNOFF VOLUME =     1.68660 INCHES     =       0.2108 ACRE-FEET
    PEAK DISCHARGE RATE =       6.19 CFS  AT   1.533 HOURS   BASIN AREA =  0.0023 SQ. MI.


* BASIN A - 0.11 ACRES
COMPUTE NM HYD      ID=7  HYD NO=DEV-A  DA=0.000172 SQ MI
                    PER A=0 PER B=100 PER C=0 PER D=0
                    TP=0.1333 HR  MASS RAIN=-1

     K =  0.132088HR    TP =  0.133300HR    K/TP RATIO =  0.990905     SHAPE CONSTANT, N =  3.562974
     UNIT PEAK =  0.41923    CFS   UNIT VOLUME =   0.9666       B =   324.90      P60 = 2.0100
     AREA =     0.000172 SQ MI    IA =   0.50000 INCHES    INF =   1.25000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.033330

PRINT HYD           ID=7  CODE=20

                                    HYDROGRAPH FROM AREA DEV-A

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS
     0.000      0.0          0.667      0.0          1.333      0.0          2.000      0.0

    RUNOFF VOLUME =     0.95319 INCHES     =       0.0087 ACRE-FEET
    PEAK DISCHARGE RATE =       0.31 CFS  AT   1.533 HOURS   BASIN AREA =  0.0002 SQ. MI.


* BASIN B - 0.67 ACRES
COMPUTE NM HYD      ID=8  HYD NO=DEV-B  DA=0.001047 SQ MI
                    PER A=0 PER B=44 PER C=0 PER D=56
```

```
                    TP=0.1333 HR  MASS RAIN=-1

     K =  0.072649HR    TP =  0.133300HR    K/TP RATIO =  0.545000     SHAPE CONSTANT, N =  7.106428
     UNIT PEAK =   2.3148    CFS   UNIT VOLUME =   0.9941       B =   526.28      P60 = 2.0100
     AREA =     0.000586 SQ MI    IA =   0.10000 INCHES    INF =   0.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.033330


     K =  0.132088HR    TP =  0.133300HR    K/TP RATIO =  0.990905     SHAPE CONSTANT, N =  3.562974
     UNIT PEAK =   1.1229    CFS   UNIT VOLUME =   0.9881       B =   324.90      P60 = 2.0100
     AREA =     0.000461 SQ MI    IA =   0.50000 INCHES    INF =   1.25000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.033330

PRINT HYD           ID=8  CODE=20

                                    HYDROGRAPH FROM AREA DEV-B

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS
     0.000       0.0         1.333       0.6         2.666       0.0         4.000       0.0         5.333       0.0
     0.667       0.0         2.000       0.3         3.333       0.0         4.666       0.0         5.999       0.0

    RUNOFF VOLUME =     1.59718 INCHES     =       0.0892 ACRE-FEET
    PEAK DISCHARGE RATE =       2.65 CFS  AT   1.533 HOURS   BASIN AREA =  0.0010 SQ. MI.


* BASIN C - 0.02 ACRES
COMPUTE NM HYD      ID=9  HYD NO=DEV-C  DA=0.000031 SQ MI
                    PER A=0 PER B=0 PER C=0 PER D=100
                    TP=0.1333 HR  MASS RAIN=-1

     K =  0.072649HR    TP =  0.133300HR    K/TP RATIO =  0.545000     SHAPE CONSTANT, N =  7.106428
     UNIT PEAK =  0.12239    CFS   UNIT VOLUME =   0.9033       B =   526.28      P60 = 2.0100
     AREA =     0.000031 SQ MI    IA =   0.10000 INCHES    INF =   0.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.033330

PRINT HYD           ID=9  CODE=20

                                    HYDROGRAPH FROM AREA DEV-C

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS
     0.000       0.0         0.667       0.0         1.333       0.0         2.000       0.0

    RUNOFF VOLUME =     2.10318 INCHES     =       0.0035 ACRE-FEET
    PEAK DISCHARGE RATE =       0.11 CFS  AT   1.500 HOURS   BASIN AREA =  0.0000 SQ. MI.
```

```
* BASIN D - 0.66 ACRES
COMPUTE NM HYD       ID=10  HYD NO=DEV-D  DA=0.00103 SQ MI
                     PER A=0 PER B=0 PER C=25 PER D=75
                     TP=0.1333 HR  MASS RAIN=-1

     K =  0.072649HR    TP =  0.133300HR    K/TP RATIO =  0.545000     SHAPE CONSTANT, N =  7.106428
     UNIT PEAK =   3.0499    CFS   UNIT VOLUME =   0.9955       B =   526.28      P60 = 2.0100
     AREA =     0.000773 SQ MI    IA =   0.10000 INCHES    INF =   0.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.033330


     K =  0.107446HR    TP =  0.133300HR    K/TP RATIO =  0.806046     SHAPE CONSTANT, N =  4.440407
     UNIT PEAK =  0.74089    CFS   UNIT VOLUME =   0.9833       B =   383.54      P60 = 2.0100
     AREA =     0.000258 SQ MI    IA =   0.35000 INCHES    INF =   0.83000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.033330

PRINT HYD            ID=10  CODE=20

                                        HYDROGRAPH FROM AREA DEV-D

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS
     0.000      0.0          1.333      0.8          2.666      0.0          4.000      0.0          5.333      0.0
     0.667      0.0          2.000      0.4          3.333      0.0          4.666      0.0          5.999      0.0

    RUNOFF VOLUME =     1.88025 INCHES     =       0.1033 ACRE-FEET
    PEAK DISCHARGE RATE =       2.98 CFS  AT   1.533 HOURS   BASIN AREA =  0.0010 SQ. MI.


* BASIN E - 0.04 ACRES
COMPUTE NM HYD       ID=11  HYD NO=DEV-E  DA=0.000063 SQ MI
                     PER A=0 PER B=0 PER C=50 PER D=50
                     TP=0.1333 HR  MASS RAIN=-1

     K =  0.072649HR    TP =  0.133300HR    K/TP RATIO =  0.545000     SHAPE CONSTANT, N =  7.106428
     UNIT PEAK =  0.12436    CFS   UNIT VOLUME =   0.9033       B =   526.28      P60 = 2.0100
     AREA =     0.000032 SQ MI    IA =   0.10000 INCHES    INF =   0.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.033330


     K =  0.107446HR    TP =  0.133300HR    K/TP RATIO =  0.806046     SHAPE CONSTANT, N =  4.440407
     UNIT PEAK =  0.90633E-01CFS   UNIT VOLUME =   0.8782       B =   383.54      P60 = 2.0100
     AREA =     0.000032 SQ MI    IA =   0.35000 INCHES    INF =   0.83000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.033330

PRINT HYD            ID=11  CODE=20

                                        HYDROGRAPH FROM AREA DEV-E
```

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
0.000	0.0	0.667	0.0	1.333	0.0	2.000	0.0		

RUNOFF VOLUME = 1.65733 INCHES = 0.0056 ACRE-FEET
PEAK DISCHARGE RATE = 0.19 CFS AT 1.533 HOURS BASIN AREA = 0.0001 SQ. MI.

```
DIVIDE HYD          ID=11  PER=-50   ID I=12   HYD NO=E-MLK
                                      ID II=13  HYD NO=E-POND-IN
PRINT HYD           ID=13  CODE=20
```

HYDROGRAPH FROM AREA E-POND-IN

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
0.000	0.0	0.667	0.0	1.333	0.0	2.000	0.0		

RUNOFF VOLUME = 1.62886 INCHES = 0.0027 ACRE-FEET
PEAK DISCHARGE RATE = 0.09 CFS AT 1.533 HOURS BASIN AREA = 0.0000 SQ. MI.

```
ADD HYD             ID=14 HYD NO=POND-D-IN   ID I=10 ID II=13
PRINT HYD           ID=14 CODE=20
```

HYDROGRAPH FROM AREA POND-D-IN

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
0.000	0.0	1.333	0.8	2.666	0.0	4.000	0.0	5.333	0.0
0.667	0.0	2.000	0.4	3.333	0.0	4.666	0.0	5.999	0.0

RUNOFF VOLUME = 1.87241 INCHES = 0.1060 ACRE-FEET
PEAK DISCHARGE RATE = 3.07 CFS AT 1.533 HOURS BASIN AREA = 0.0011 SQ. MI.

```
*****************************************************************
* ROUTE DEVELOPED SITE THROUGH DETENTION POND AT AP-1           *
* THRU 12 INCH SD TO EXIST STORM INLET AT MLK                   *
*****************************************************************
ROUTE RESERVOIR     ID=15 HYD NO=POND.E.OUT  INFLOW ID=14  CODE=10
                    OUT (CFS)   STORAGE (AC-FT)    ELEV (FT)
                    0.0           0                65.00
                    1.0           0.00086          65.50
                    2.1           0.01005          66.00
                    2.4           0.01850          66.20
```

```
 *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *

   TIME       INFLOW     ELEV       VOLUME     OUTFLOW
   (HRS)      (CFS)      (FEET)     (AC-FT)    (CFS)

    0.00        0.00      65.00       0.000       0.00
    0.33        0.00      65.00       0.000       0.00
    0.67        0.00      65.00       0.000       0.00
    1.00        0.09      65.04       0.000       0.08
    1.33        0.84      65.39       0.001       0.78
    1.67        1.75      66.09       0.014       2.24
    2.00        0.42      65.22       0.000       0.44
    2.33        0.12      65.06       0.000       0.12
    2.67        0.02      65.01       0.000       0.02
    3.00        0.01      65.00       0.000       0.01
    3.33        0.01      65.00       0.000       0.01
    3.67        0.00      65.00       0.000       0.00
 PEAK DISCHARGE =         2.275 CFS - PEAK OCCURS AT HOUR    1.63
 MAXIMUM WATER SURFACE ELEVATION =        66.117
 MAXIMUM STORAGE =         0.0150 AC-FT       INCREMENTAL TIME=    0.033330HRS

PRINT HYD           ID=15 CODE=20

                                    HYDROGRAPH FROM AREA POND.E.OUT

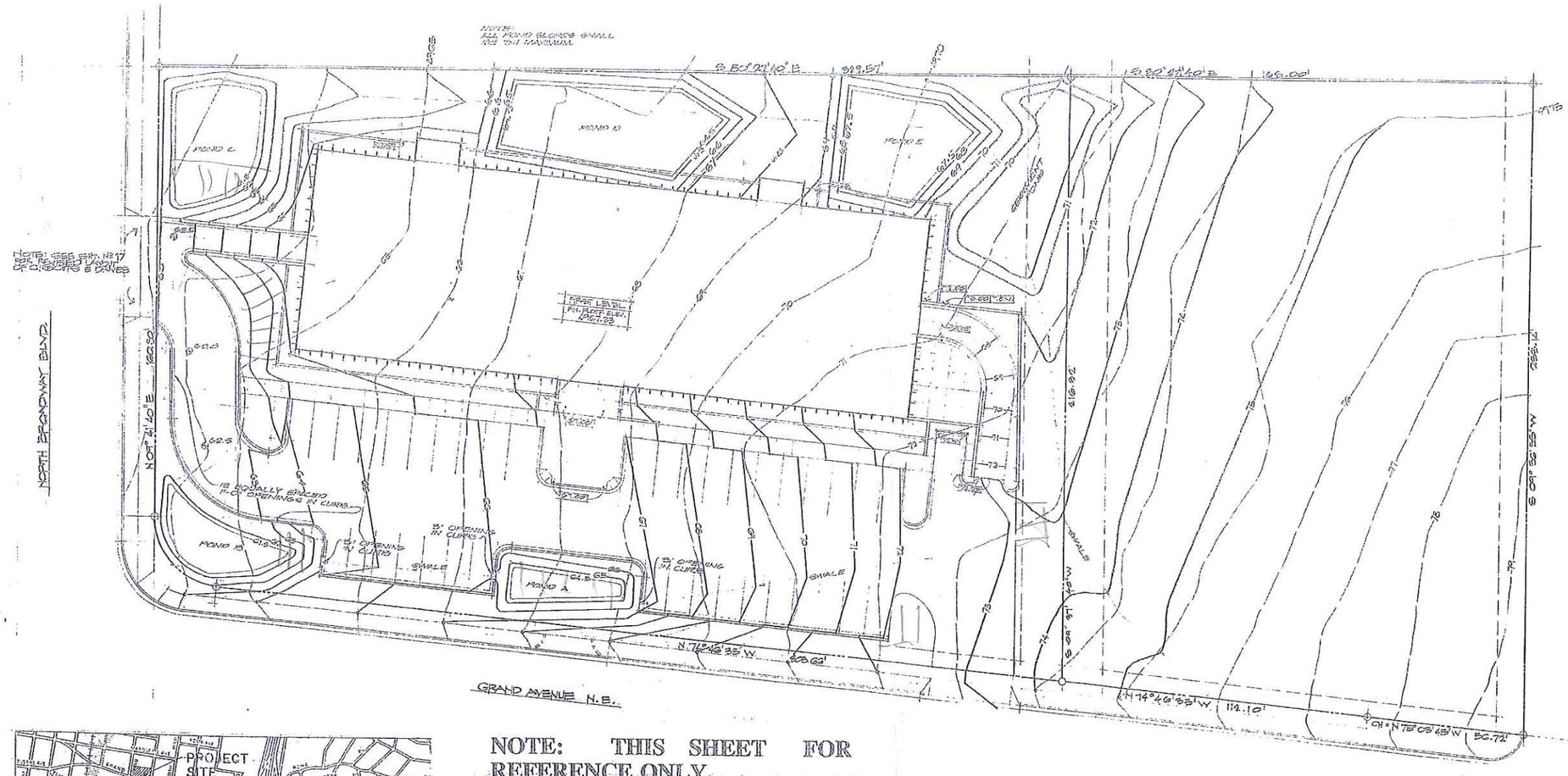
    TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
     HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS
    0.000      0.0          1.333      0.8          2.666      0.0          4.000      0.0          5.333      0.0
    0.667      0.0          2.000      0.4          3.333      0.0          4.666      0.0          5.999      0.0

   RUNOFF VOLUME =     1.87241 INCHES     =       0.1060 ACRE-FEET
   PEAK DISCHARGE RATE =       2.28 CFS  AT   1.633 HOURS   BASIN AREA =  0.0011 SQ. MI.


FINISH

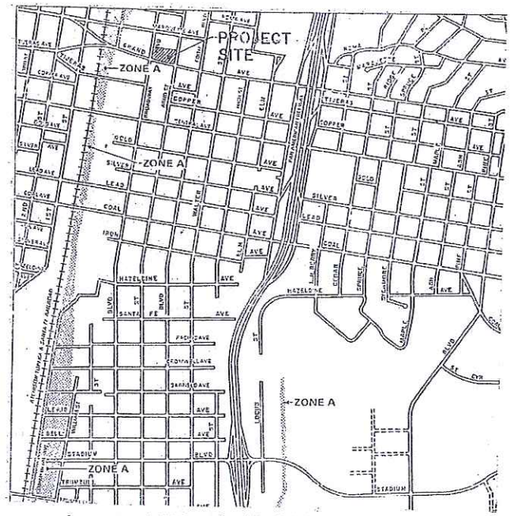
   NORMAL PROGRAM FINISH          END TIME (HR:MIN:SEC) = 14:37:45
```

DRAINAGE MASTERPLAN



GRADING - SITE PLAN

SCALE: 1"=20'-0"



NOTE: THIS SHEET FOR REFERENCE ONLY

DRAINAGE PLAN

The following items concerning the FBI Building Drainage Plan are contained hereon:

1. Vicinity Map
2. Flood Hazard Map
3. Site Plan
4. Calculations

The proposed building is located at the northeast corner of the intersection of Grand Avenue, N.E. and Broadway Boulevard, N.E. The building will have offices on the second floor and a parking garage on the ground level. There will be additional parking adjacent to the building. This drainage plan does not provide for any development of the eastern portion of the property.

The natural slope of the land is from east to west at approximately 3 percent. The project: (1) does not lie in a flood plain, (2) does not lie adjacent to a natural or artificial water course, and (3) has no drainage easements on the property.

The land to the north is multi-family units with a block wall separating the two sites. The site is higher than the two bordering streets, and a paved alley along the east boundary intercepts runoff from the east; therefore, the property does not receive any significant flows from upland properties. Erosion will not result from upland runoff or from the proposed construction activities. This development will not block any drainage from adjacent properties.

The grading plan shows: (1) existing contours at 1'0" intervals, (2) proposed contours, (3) swales, (4) continuity between existing and proposed contours, (5) that the elevation at the property line will match the existing sidewalk, (6) that all runoff will be conveyed into ponding areas before leaving the site and (7) that retaining walls are required adjacent to the driveway ramp.

The ponds will retain in excess of the percent of the runoff that results from a 10 year frequency storm. The ponds are 15 inches in depth and therefore do not require fencing.

CALCULATIONS

Area of Parcel = 65,100 sf

Impervious Area = 43,495 sf

Required Pond Volume = 65,100 x 0.18 = 11,718 cf

POND VOLUMES

Note: Entire roof slopes to north.

Pond A

$\left(\frac{2.3 + 1.3}{2}\right)$ 1 (400) + $\left(\frac{1.3 + 0.5}{2}\right)\frac{1}{2}$ 400 = 930 cf

Pond B

$\left(\frac{2.7 + 1.5}{2}\right)$ 400 (1) = 840 cf

Pond C

$\left(\frac{4.0 + 2.9}{2}\right)$ 400 (1) = 1,380 cf

Pond BC

14.5 (400) $\frac{1}{2}$ = 2,900 cf

Pond D

$\left(\frac{5.8 + 4.8}{2}\right)$ 400 (1) + $\left(\frac{4.8 + 3.8}{2}\right)$ 400 $\left(\frac{1}{2}\right)$ = 2,180 cf

Pond E

$\left(\frac{4.8 + 3.6}{2}\right)$ 400 (1) + $\left(\frac{3.6 + 2.7}{2}\right)$ 400 $\left(\frac{1}{2}\right)$ = 2,320 cf

Sediment Pond

$\left(\frac{5.8 + 3.8}{2}\right)$ 400 (1) = 1,920 cf

Total Pond Volume = 13,460 cf

PROJECT SITE

VICINITY MAP K-14-Z

BANES SOUTHWEST
4322 SECOND ST NW
ALBUQUERQUE, NEW MEXICO 87105
PHONE (505) 344-3461 FAX 344-3425

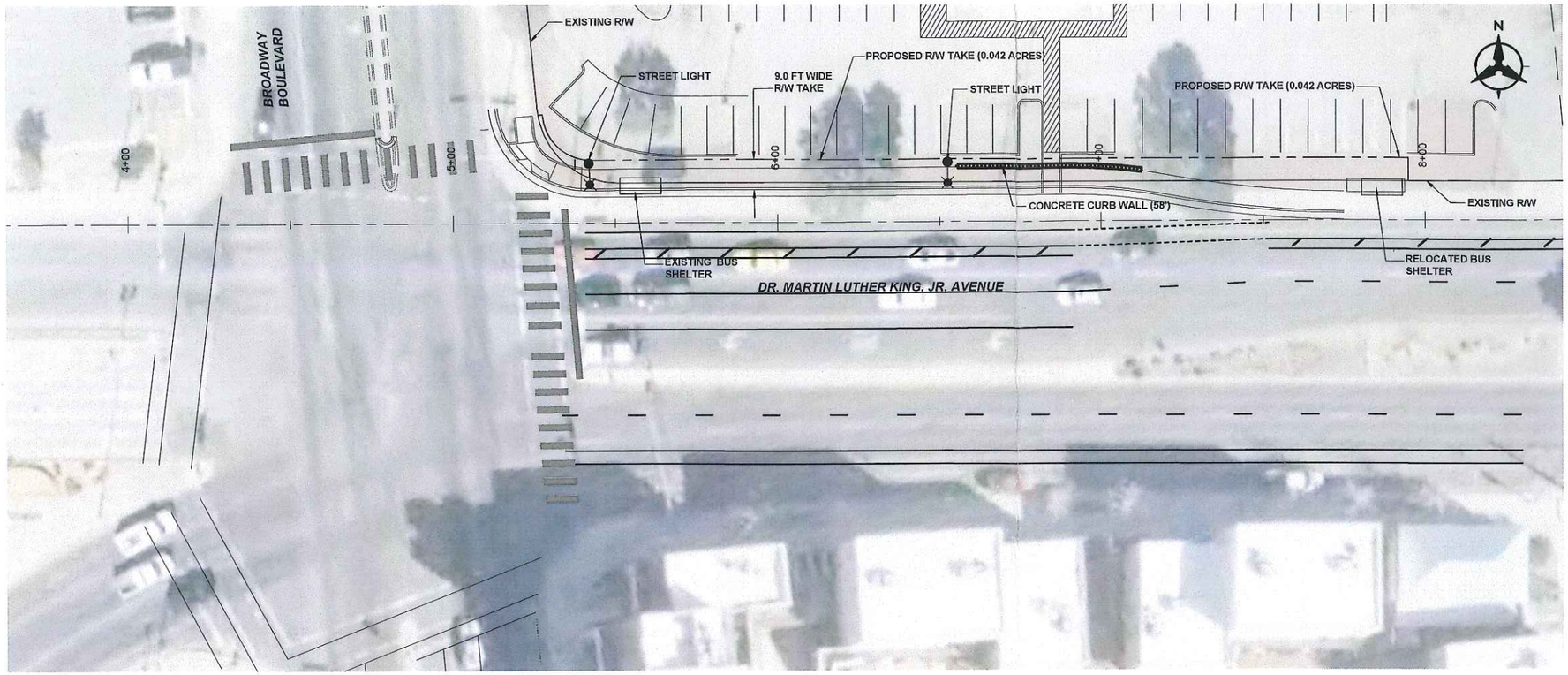
REVISION

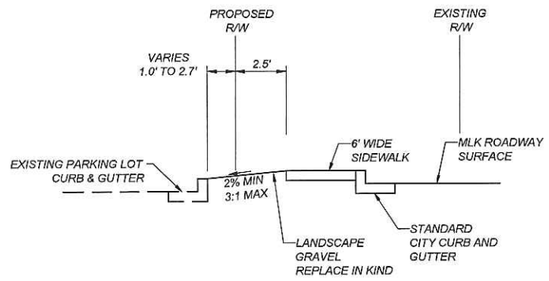
DEA OF ALBUQUERQUE
301 GRAND AVE NE
ALBUQUERQUE, NEW MEXICO

FOR REFERENCE ONLY

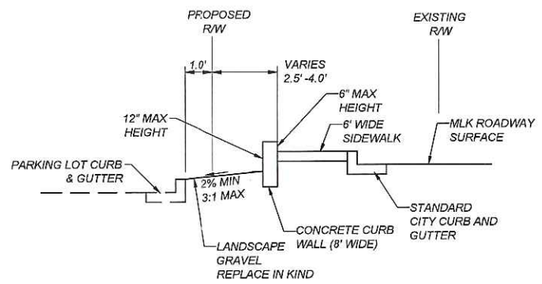
18

DATE
C9309
PROJECT NO.





RIGHT TURN LANE TYPICAL SECTION 1
STA 5+25 TO STA 6+55
STA 7+15 TO STA 7+75
NTS



RIGHT TURN LANE TYPICAL SECTION 2
STA 6+55 TO STA 7+15
NTS

EXHIBITS

CITY OF ALBUQUERQUE

June 9, 2015

Dennis Lorenz, P.E.
Lorenz Design & Consulting
2501 Rio Grande Blvd. NW Suite A
Albuquerque, New Mexico 87107

RE: **Jackson-Wink MMA Academy**
Grading and Drainage Plan & Report
Engineers Stamp Date 5/8/15 (K14-D005)

Dear Mr. Lorenz,

Based upon the information provided in your submittal received 5/11/2015, the above referenced Grading and Drainage Plan cannot be approved for Grading Permit or Building Permit until the following comments are addressed.

- The flows leaving the south side of the structure need to pass through a landscape buffer before leaving the site via the proposed 12" pipe into the storm sewer system. The 12" pipe should be extended into the landscape area, which is to remain, with a stand pipe and beehive cap.

If you have any questions please contact 6me at 924-3695 or Rudy Rael at 924-3977.

Sincerely,

Rita Harmon, P.E.
Senior Engineer, Hydrology
Planning Department

RR/CC
C: File

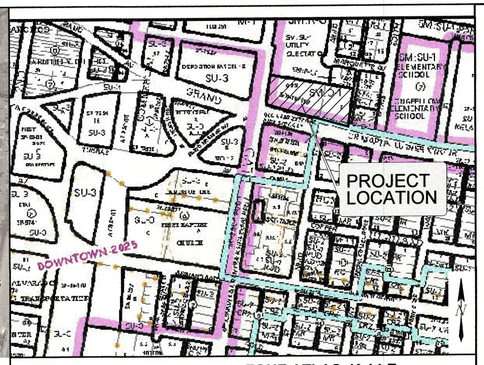
PO Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

FIRM PANEL 35001C0334G



VICINITY MAP ZONE ATLAS K-14-Z

KEYED NOTES

1. EXISTING CONCRETE STANDARD CURB AND GUTTER.
2. EXISTING PUBLIC SIDEWALK.
3. EXISTING DRIVEPAD TO REMAIN.
4. EXISTING ASPHALT PAVEMENT TO BE RECONDITIONED PER GEOTECHNICAL EVALUATION.
5. EXISTING CONCRETE TURNDOWN SIDEWALK.
6. EXISTING CONCRETE RETAINING WALL.
7. EXISTING HANDICAP RAMP.
8. EXISTING CONCRETE PAVEMENT.
9. EXISTING CONCRETE CURB.
10. EXISTING TRENCH DRAIN.
11. EXISTING STORM DRAIN.
12. EXISTING REFUSE PAD.
13. EXISTING LIGHT POLE TO REMAIN.
14. EXISTING LIGHT POLE TO BE RELOCATED.
15. RELOCATED LIGHT POLE.
16. DIRECTION OF ROOF DRAINAGE-TYPICAL.
17. EXISTING LANDSCAPING TO REMAIN. SEE LANDSCAPE PLAN.
18. EXISTING PUBLIC LIGHT POLE.
19. NEW 4-INCH WHITE PARKING STRIPE - TYP.
20. NEW HANDICAP PARKING SYMBOL PER CODE-TYP.
21. NEW PREDSTRIAN ACCESSIBLE ROUTE STRIPED PER CODE.
22. INTALL HANDICAP PARKING SIGN ASSEMBLY. SEE SHEET C-2 FOR DETAILS - TYP.
23. INSTALL BIKE RACK.
24. REMOVE & DISPOSE EXISTING LANDSCAPING, CONCRETE CURBS AND PAVEMENT TO LIMITS SHOWN. INSTALL NEW ASPHALT PAVEMENT. SEE SHEEET C-2 FOR DETAILS.
25. REMOVE AND REPLACE EXISTING CONCRETE PAVEMENT AS NECESSARY TO LIMITS SHOWN. SEE SHEET C-2 FOR DETAILS.
26. CONSTRUCT 6-INCH CONCRETE CURB. SEE SHEET C-2.0.
27. CONSTRUCT TURN DOWN SIDEWALK. SEE SHEET C-2.0.
28. REMOVE & DISPOSE EXISTING DAMAGED SIDEWALK. REPLACE WITH HANDICAP RAMP. SEE SHEET C-2 FOR DETAILS.
29. 12 INCH STORM DRAIN TO BE PROVIDED BY CITY PROJECT NO. 785402.
30. CONSTRUCT 12 INCH END SECTION. SEE FOR DETAIL H/C-2.0.
31. INSTALL CONCRETE TIRE STOP - 2 PLACES.
32. CONSTRUCT HANDICAP RAMP @ 12:1.
33. CONSTRUCT 2 - 6-INCH STEPS.

LEGEND

ITEM	EXISTING	PROPOSED
CURB AND GUTTER		
HEADER CURB		
CURB ELEVATIONS	TOP CONC. ELEV FLOWLINE ELEV	TOP CONC. ELEV FLOWLINE ELEV
SPOT ELEV.	× 4977.60	◆ 16.7
RIGHT OF WAY		
EASEMENT		
CENTERLINE		
TOP OF ASPHALT ELEV.	TA 16.2	TA 16.2
FLOWLINE ELEV	EX FL 16.2	FL 16.2
NEW PAVING		
DRAINAGE SWALE		
DIRECTION OF FLOW		
CONCRETE		
BLOCK WALL		
STORM INLET		
TREE		
PHASE BOUNDARY		
DOWNSPOUT	DS	
STORM DRAIN	36" SD	36" SD

DRAINAGE PLAN NOTES

1. **LDC recommends that the Owner obtain a Geotechnical Evaluation of the on-site soils prior to foundation/structural design.**
2. **This Plan recommends positive drainage away from all structures to prohibit ponding of runoff which may cause structural settlement. Future alteration of grades adjacent to the proposed structures is not recommended.**
3. **Irrigation within 10 feet of any proposed structure is not recommended. Introduction of irrigation water into subsurface soils adjacent to the structure could cause settlement.**
4. **This Plan is prepared to establish on-site drainage and grading criteria only. LDC assumes no responsibility for subsurface analysis, foundation/structural design, or utility design.**
5. **Local codes may require all footings to be placed in natural undisturbed soil. If the Contractor plans to place footings on engineered fill, a certification by a registered Professional Engineer will be required. If the contractor wishes LDC to prepare the Certification, we must be notified PRIOR to placement of the fill.**
6. **LDC recommends that the Owner obtain the services of a Geotechnical Engineer to test and inspect all earthwork aspects of the project.**
7. **The property boundary shown on this Plan is given for information only to describe the project limits. Property boundary information shown hereon does not constitute a boundary survey. A boundary survey performed by a licensed New Mexico Registered Professional Surveyor is recommended prior to construction.**
8. **All spot elevations are finished grade or top of pavement, unless noted otherwise.**
9. **The City of Albuquerque has received its EPA MS4 Permit for stormwater quality with an effective date of March 1, 2012.**

PROJECT DATA

SURVEY:

TOPOGRAPHIC SURVEY PERFORMED AND COMPILED BY HARRIS SURVEYING, INC., 2412 MONROE STREET NE ALBUQUERQUE, NEW MEXICO JANUARY 2015.

PROPERTY ADDRESS:

301 MARTIN LUTHER KING JR. BLVD NE, ALBUQUERQUE, NEW MEXICO

LEGAL DESCRIPTION:

PARCELS 8 & 9, PLAT OF MARTINEZ PLAN PHASE 7

PROJECT BENCHMARK

ACS MONUMENT "22_K14" HAVING AN ELEVATION OF 4,966.352.

LORENZ
DESIGN & CONSULTING, LLC
Civil Engineering | Construction Management
2501 Rio Grande Blvd NW, Suite A Albuquerque, New Mexico 87104
Ph: 505-998-0088 Fax: 505-242-0855

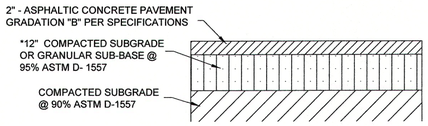
JACKSON WINK ACADEMY MMA GYM
GRADING AND DRAINAGE PLAN
ALBUQUERQUE, NM

PROJECT #14-034

REVISION	DATE
1 CITY ROW TAKE REVISED PARKING	05/08/2015

DATE 05/08/2015

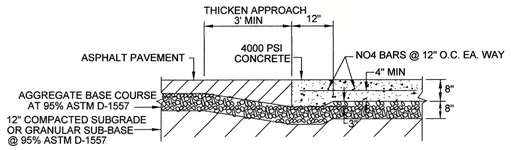
SHEET NUMBER C-1.0



ASPHALT PAVEMENT SECTION — A / C-2.0

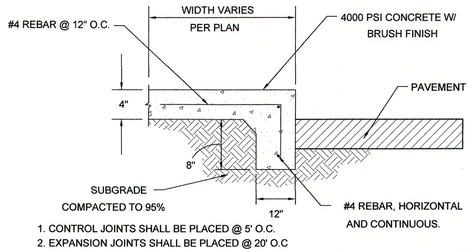
AUTO/PICKUP TRUCK

NTS



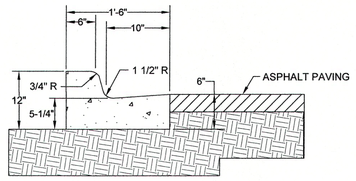
CONCRETE PAVEMENT SECTION — B / C-2.0

NTS



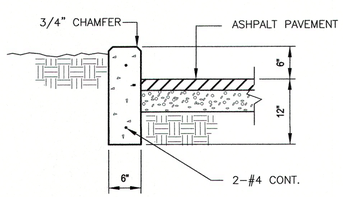
TURN DOWN SIDEWALK — C / C-2.0

NTS



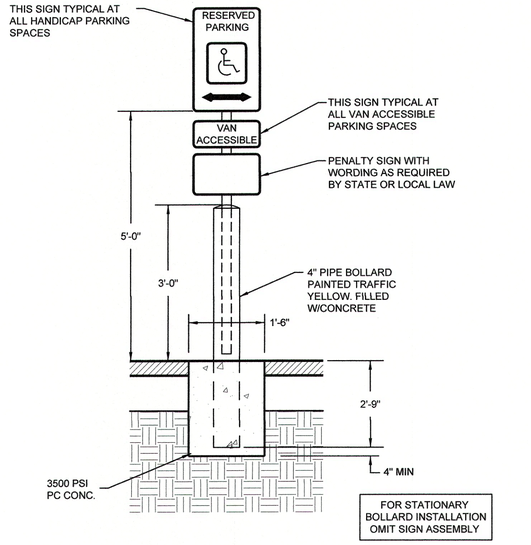
CONCRETE CURB AND GUTTER — D / C-2.0

NTS



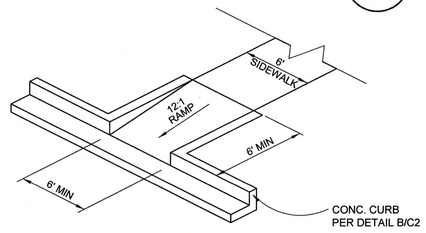
HEADER CURB DETAIL — E / C-2.0

NTS



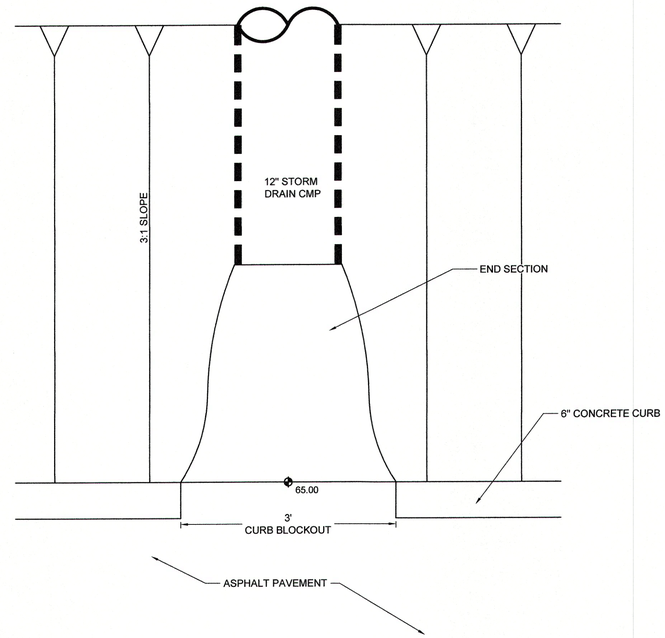
HC SIGN ASSEMBLY / BOLLARD DETAIL — F / C-2.0

NTS



HANDICAP ACCESS RAMP - 1 — G / C-2.0

NTS



POND OUTLET DETAIL — H / C-2.0

NTS

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JACKSON WINK ACADEMY MMA GYM
SITE DETAILS
ALBUQUERQUE, NM
PROJECT #14-034

REVISION DATE
1 CITY ROW TAKE
REVISED PARKING
05/08/2015

RBA
ARCHITECTURE
PLANNING
DESIGN
1100 Park Ave. SW #102
Albuquerque, NM 87102
505.843.9369
www.rbadesign.com

DATE
05/08/2015

SHEET NUMBER
C-2.0