City of Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

December 28, 1999

Bradley L. Bingham & Rick Beltramo, PE
Bohannan Huston, Inc
7500 Jefferson NE
Albuquerque, NM 87109

Re: Grading and Drainage Certification – Townhomes at Sandia Plaza,
Engineer's Stamp dated 2-19-99 (G21/D39)
Engineering Certification dated 12-13-99

Dear Mr.'s Bingham & Beltramo,

Based upon the information provided in your submittal dated 12-20-99, Engineering Certification for the above referenced subdivision is approved for Release of Financial Guaranty.

If I can be of further assistance, please contact me at 924-3986

Sincerely,

Bradley L. Bingham

Bradley L. Bingham, PE
Hydrology Review Engineer

C: Terri Martin, PWD – CoA#613781
file

City of Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

March 11, 1999

Bradley L. Bingham, P.E.
Bohannan-Huston, Inc.
7500 Jefferson St. NE
Albuquerque, New Mexico 87109

RE: Drainage Report and Grading and Drainage Plan for Townhomes at Sandia Plaza, (G21/D39) Engineer's Stamp Dated 2/19/99.

Dear Mr. Bingham:

Based on the information provided in the submittal of February 25, 1999, the above referenced plan is approved for Preliminary Plat action by the DRB.

This plan is also approved for Rough Grading. The top-soil disturbance permit may be obtained after DRB approves the Grading Plan.

Prior to Final Plat or DRC approval, please provide a detail or note on the plan to indicate how the backyard flows are conveyed to the channel. Prior to Final Plat sign-off, the Subdivision Improvements Agreement (SIA) must be in place. As you are aware, the Grading and Drainage Certification of this approved plan is required prior to release of the SIA.

If you have any questions, or if I may be of further assistance to you, please call me at 924-3982.

Sincerely,

Susan M. Calongne, P.E.
City/County Floodplain Administrator

c: Jude Baca, Developer
File

DRAINAGE REPORT
FOR THE
TOWNHOMES AT SANDIA PLAZA

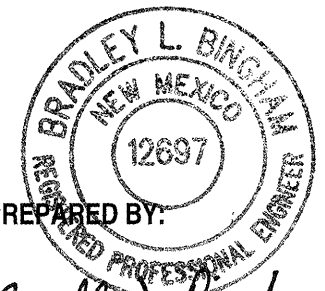
FEBRUARY 9, 1999

PREPARED BY:

BOHANNAN HUSTON, INC.
COURTYARD I
7500 JEFFERSON STREET N.E.
ALBUQUERQUE, NM 87109

PREPARED FOR:

JUDE BACA
3913 72nd STREET, NW
ALBUQUERQUE, NM 87120



PREPARED BY:

Bradley J. Bingham 2/25/99

Bradley Bingham, P.E. Date

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I. INTRODUCTION

This Drainage Report will address the developed storm runoff of the property legally described as the Westerly Portion of Tract "L-2" of the Land Division Plat of Tract "L" of La Reina de Los Altos, Unit 2. For this report, it will be known as the Townhomes at Sandia Plaza. This tract contains approximately 2.9 acres and has been planned to have 18 attached single-family dwellings. This subdivision is part of the Embudito Arroyo watershed.

The Townhomes at Sandia Plaza are bounded by Sandia Plaza Condominiums on the east, Embudito Arroyo on the west, North Glenwood Hills Arroyo on the south, and by the Sungate Apartments on the north.

See vicinity map for location (**Figure 1**).

This report is necessary in order to obtain approval for preliminary platting and rough grading for the Townhomes at Sandia Plaza. Prior to final plat and building permit approvals of this project, final grading plans and work order construction plans must be approved by the City of Albuquerque (COA) and the Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA).

II. METHODOLOGY

Existing and proposed site hydrological conditions were analyzed for the 100-year, 6-hour storm in accordance with the revised Section 22.2, Hydrology, of the Development Process Manual (DPM) for the City of Albuquerque, dated January 1993. Street capacities were analyzed using Manning's equation, consistent with the revised DPM Section 22.2. All data and calculations supporting this report are located in **Appendix B.** The new rational method hydrologic procedures identified within the revised DPM Section 22.2 are utilized to determine peak flow rates for design of the storm drainage improvements within the projects. The 100-year, 6-hour storm is used as the design event. The results are included in **Appendix A.**

III. EXISTING CONDITIONS

A. Topography and Existing Drainage Patterns

The Townhomes at Sandia Plaza will be sited on undeveloped land that slopes to the southwest at approximately 2% to 4%, and sandy soils that are highly absorptive. Vegetation is light, consisting of weeds and desert grasses. The site is near the confluence of the Embudito Arroyo and North Glenwood Hills Arroyo, both of which are concrete lined. Existing runoff enters both of the arroyos at locations shown on the Existing Conditions Drainage Plan (**Plate 2**). This site is not located within a FEMA floodplain, as the 100-year flood is confined to the constructed channel.

B. Offsite Drainage

The Sandia Plaza Condominium site drains toward the southern border of this site. The drainage from Basin 6 combines with Basin UD 1 and enters the Embudito Arroyo at AP#1. Basin UD 2 enters the North Glenwood Hills Arroyo along its boundary, but for analysis purposes, it will be assumed to enter at AP#2 (see Existing Conditions Drainage Plan, **Plate 2**).

IV. LAND TREATMENTS

The onsite and offsite land treatments were determined using the actual pervious and impervious areas. See **Appendix A** for a summary and calculations of each area.

V. PROPOSED DEVELOPED CONDITIONS

The proposed development consists of a single-family, attached-unit residential subdivision with some offsite utility installation and paving. The 18 proposed lots on 2.24 acres produce a density of 8.0 D.U. per acre. The proposed lot configuration is shown on the Preliminary Plat (See **Plate 1)**. Access to the site will be through the existing travelways of Sandia Plaza Condominiums; therefore, no new streets are being proposed with this development. Improvements to the existing travelways and entrances onto Juan Tabo Boulevard are proposed as shown on the Grading Plan (see **Plate 4**).

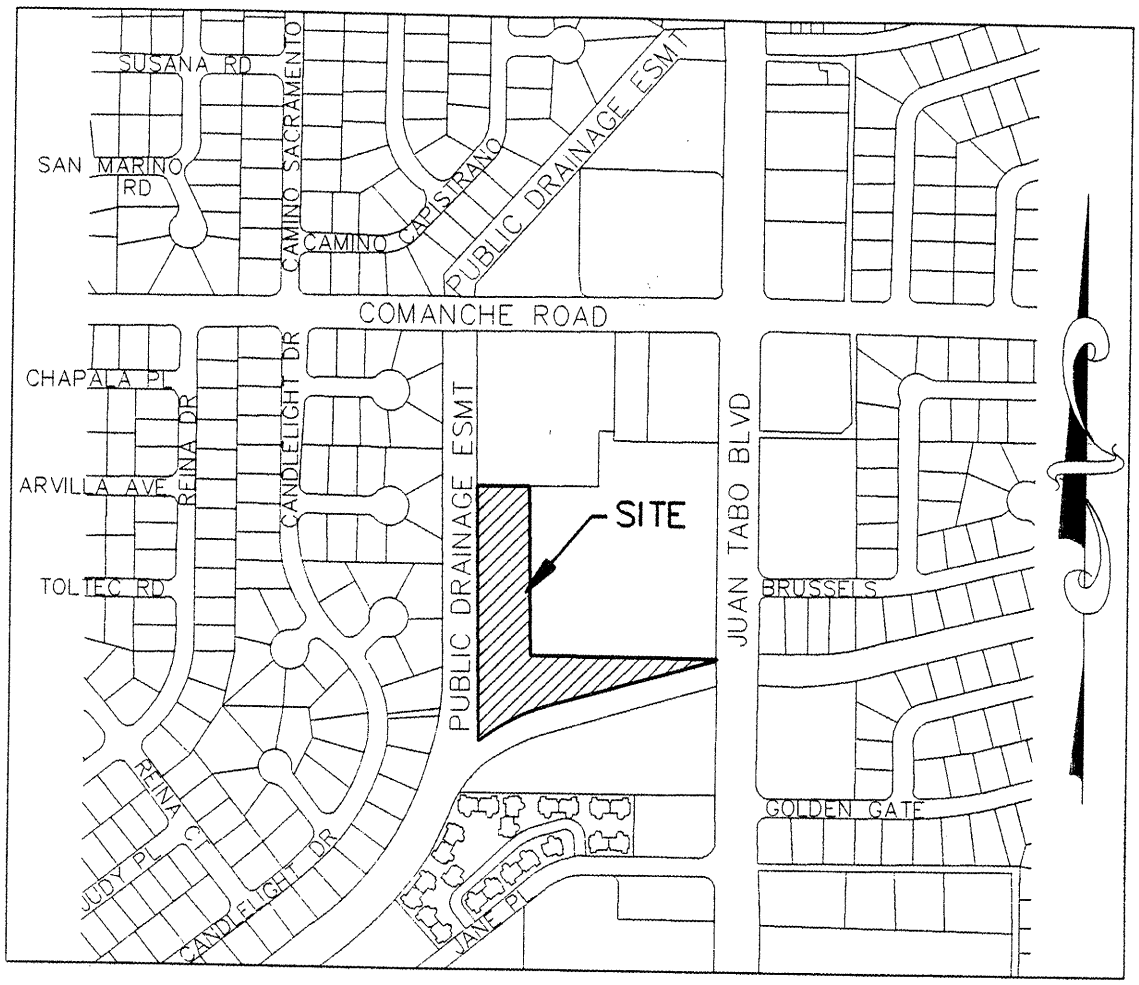
The runoff from the backyards of the townhomes (*Basin 2*) shall drain to rear of the lots and into a proposed swale west of the rear property line. This swale flows to the south and enters the Embudito Arroyo at AP#1 (see **Plate 3**). The runoff from the proposed building pads and pavement will combine with the offsite runoff from the Sandia Plaza Condominiums (*Basin 6*) and enter the North Glenwood Hills Arroyo at AP#2. Under proposed conditions, the drainage patterns for Basins 3 and 4 shall remain the same as existing drainage patterns.

Under existing conditions, Basin UD1 and Offsite Basin 6 generate 3.76 CFS and 19.15 CFS, respectively. The combined 22.91 CFS from these two areas merges into an existing swale near the southern end of Basin UD1 and empties into Embudito Arroyo (see analysis point AP#1 on the Existing Conditions Drainage Plan, **Plate 2**). Existing Conditions Basin UD2 generates 1.52 CFS and sheet flows into the North Glenwood Hills Arroyo. Under proposed conditions, this pattern of flow is altered. Basin 2 and Offsite Basin 3 flow to AP#1 with a combined total of 2.01 CFS, which is a reduction of 20.90 CFS from existing conditions. AP#2 receives a total of 36.91 CFS from Basin 1, Offsite Basin 4, and Offsite Basin 6. Basin 5 will sheet flow, as it did under existing conditions, contributing 0.86 CFS to the North Glenwood Hills Arroyo. Due to the proposed grading, the major portion of the site runoff has been rerouted from the Embudito Arroyo to the North Glenwood Hills Arroyo. This change will have little impact on the drainage channels, as both AP#1 and AP#2 are immediately upstream from the confluence of the two arroyos.

VI. CONCLUSION

The runoff from the site will enter the Embudito Arroyo and the North Glenwood Hills Arroyo at AP#1 and AP#2 as shown on the Proposed Conditions Drainage Plan (see **Plate 3**). The total of 39.78 CFS at these two analysis points represents a minimal increase of 5.92 CFS over the total for existing conditions (Basin UD1, Basin UD2 and Offsite 6). This drainage plan maintains existing drainage patterns and allows for acceptable management of the storm runoff generated by the construction of the Townhomes at Sandia Plaza.

FIGURE 1



VICINITY MAP

ZONE ATLAS MAP NO. G-21-Z
N.T.S.

AHYMO SUMMARY TABLE (AHYMO194) - AMAFCA Hydrologic Model - January, 1994 RUN DATE (MON/DAY/YR) =02/18/1999
INPUT FILE = in.txt USER NO.= BOHN_HNM.STE

COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	NOTATION
*S Developed Townhomes at Sandia Plaza										
START										TIME= .00
RAINFALL TYPE= 1										RAIN6= 2.900
COMPUTE NM HYD	1.00	-	1	.00253	8.15	.332	2.46299	1.499	5.031	PER IMP= 85.00
COMPUTE NM HYD	2.00	-	2	.00059	1.11	.034	1.07607	1.499	2.949	PER IMP= .00
COMPUTE NM HYD	3.00	-	3	.00038	.92	.029	1.45332	1.499	3.772	PER IMP= .00
COMPUTE NM HYD	4.00	-	4	.00008	.20	.006	1.45332	1.499	3.946	PER IMP= .00
COMPUTE NM HYD	1E	-	5	.00038	.86	.027	1.32902	1.499	3.521	PER IMP= .00
COMPUTE NM HYD	6.00	-	6	.00956	28.56	1.147	2.24989	1.499	4.668	PER IMP= 75.00
*S COMBINE HYDROGRAPHS FOR BASINS 1+4+6										
ADD HYD	20.00	1& 4	20	.00261	8.35	.339	2.43190	1.499	4.998	
ADD HYD	21.00	6&20	21	.01217	36.91	1.486	2.28891	1.499	4.739	
*S COMBINE HYDROGRAPHS FOR BASINS 2+3										
ADD HYD	22.00	2& 3	22	.00097	2.03	.063	1.22361	1.499	3.271	
FINISH										

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```
*
*S Developed Townhomes at Sandia Plaza
START                RAINFALL BEGINS AT 0.00 HOURS
*                     100 YEAR RETURN PERIOD
*************************************************************************
*
*       ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
*       ::                          MISC. DATA                        ::
*       ::         RAINFALL RETURN PERIOD_____________  100-YEAR      ::
*       ::         RAINFALL DURATION__________________  6-HOUR        ::
*       ::         ZONE 4                                               ::
*       ::         RAINFALL DEPTHS: 1 HOUR (P60)___  2.23 INCHES       ::
*       ::         (UNADJUSTED)      6 HOUR (P360)__  2.90 INCHES      ::
*       ::                           24 HOUR (P1440)_  3.65 INCHES      ::
*       ::                                                              ::
*       ::         RAINFALL DATA TAKEN FROM NOAA.                       ::
*       ::                                                              ::
*       ::                 HYDROGRAPH METHODOLOGY                       ::
*       ::                                                              ::
*       ::         CITY OF ALBQ. DPM VOL. 2, SECTION 22.2 July, 1997    ::
*       ::         INITIAL ABSTRACTION - INFILTRATION METHOD            ::
*       ::         Tc CALCULATIONS PER C.O.A. DPM 22.2-B.4              ::
*       ::         AMAFCA AHYMO VERSION MARCH 20,1992                   ::
*       ::                                                              ::
*       ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
*                            BEGIN  ANALYSIS
*************************************************************************
*
RAINFALL             TYPE=1 RAIN QUARTER=0.0 RAIN ONE=2.23
                     RAIN SIX=2.90 RAIN DAY=3.65 DT=0.0333

**** COMPUTE AND PRINT NM HYD DATA FOR BASIN 1 *********
COMPUTE NM HYD       ID=1 HYD=1  AREA=0.00253 PER A=0 PER B=0
                     PER C=15.0 PER D=85.0  TP=.133  RAINFALL=-1
PRINT HYD               ID=1   CODE=10
**** COMPUTE AND PRINT NM HYD DATA FOR BASIN 2 *********
COMPUTE NM HYD       ID=2 HYD=2  AREA=0.00059 PER A=0 PER B=100.0
                     PER C=0 PER D=0  TP=.133  RAINFALL=-1
PRINT HYD               ID=2   CODE=10
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PRINT HYD               ID=3   CODE=10
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COMPUTE NM HYD       ID=4 HYD=4  AREA=0.00008 PER A=0 PER B=0
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PRINT HYD               ID=4   CODE=10
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PRINT HYD               ID=5   CODE=10
**** COMPUTE AND PRINT NM HYD DATA FOR EXISTING BASIN 6 *********
COMPUTE NM HYD       ID=6 HYD=6  AREA=0.00956 PER A=0 PER B=25.0
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PRINT HYD               ID=6   CODE=10
*
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**** COMBINE HYDROGRAPHS FOR BASINS 1+4+6**********
*S COMBINE HYDROGRAPHS FOR BASINS 1+4+6
ADD HYD                 ID=20 HYD=20 ID I=1 ID II=4
ADD HYD                 ID=21 HYD=21 ID I=6 ID II=20
*
PRINT HYD               ID=21   CODE=10
*************************************************************
**** COMBINE HYDROGRAPHS FOR BASINS 2+3**********
*S COMBINE HYDROGRAPHS FOR BASINS 2+3
ADD HYD                 ID=22 HYD=22 ID I=2 ID II=3
*
PRINT HYD               ID=22   CODE=10
*
FINISH
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A-2

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         INPUT FILE = in.txt


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*S Developed Townhomes at Sandia Plaza
START                RAINFALL BEGINS AT 0.00 HOURS
*                      100 YEAR RETURN PERIOD
*******************************************************************************
*
*       ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
*       ::                          MISC. DATA                          ::
*       ::         RAINFALL RETURN PERIOD_______________  100-YEAR      ::
*       ::         RAINFALL DURATION____________________  6-HOUR        ::
*       ::             ZONE 4                                           ::

*       ::         RAINFALL DEPTHS: 1 HOUR (P60)___  2.23 INCHES       ::
*       ::         (UNADJUSTED)      6 HOUR (P360)__  2.90 INCHES       ::
*       ::                          24 HOUR (P1440)_  3.65 INCHES       ::
*       ::                                                              ::
*       ::         RAINFALL DATA TAKEN FROM NOAA.                       ::
*       ::                                                              ::
*       ::                 HYDROGRAPH METHODOLOGY                       ::
*       ::                                                              ::
*       ::         CITY OF ALBQ. DPM VOL. 2, SECTION 22.2 July, 1997    ::
*       ::         INITIAL ABSTRACTION - INFILTRATION METHOD             ::
*       ::         Tc CALCULATIONS PER C.O.A. DPM 22.2-B.4               ::
*       ::         AMAFCA AHYMO VERSION MARCH 20,1992                   ::
*       ::                                                              ::
*       ::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
*                            BEGIN  ANALYSIS
*******************************************************************************
*
RAINFALL             TYPE=1 RAIN QUARTER=0.0 RAIN ONE=2.23
                     RAIN SIX=2.90 RAIN DAY=3.65 DT=0.0333


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                  DT =     .033300 HOURS       END TIME =     5.994000 HOURS
                     .0000   .0055   .0110   .0167   .0225   .0284   .0344
                     .0406   .0469   .0534   .0600   .0667   .0737   .0808
                     .0881   .0957   .1034   .1114   .1196   .1281   .1369
                     .1459   .1553   .1651   .1752   .1858   .1968   .2083
                     .2204   .2331   .2465   .2529   .2594   .2665   .2810
                     .3143   .3657   .4396   .5406   .6734   .8430  1.0542
                    1.3121  1.5597  1.6613  1.7468  1.8227  1.8918  1.9553
                    2.0143  2.0694  2.1210  2.1697  2.2155  2.2588  2.2998
                    2.3386  2.3755  2.4104  2.4436  2.4751  2.4845  2.4923
                    2.4998  2.5070  2.5139  2.5206  2.5271  2.5334  2.5396
                    2.5456  2.5514  2.5571  2.5627  2.5681  2.5734  2.5786
                    2.5837  2.5887  2.5937  2.5985  2.6032  2.6079  2.6125
                    2.6170  2.6215  2.6258  2.6301  2.6344  2.6386  2.6427
                    2.6468  2.6508  2.6548  2.6588  2.6626  2.6665  2.6703
                    2.6740  2.6777  2.6814  2.6850  2.6886  2.6921  2.6957
                    2.6991  2.7026  2.7060  2.7094  2.7127  2.7160  2.7193
                    2.7226  2.7258  2.7290  2.7322  2.7354  2.7385  2.7416
                    2.7447  2.7477  2.7507  2.7537  2.7567  2.7597  2.7626
                    2.7655  2.7684  2.7713  2.7741  2.7770  2.7798  2.7826
                    2.7854  2.7881  2.7909  2.7936  2.7963  2.7990  2.8017
                    2.8043  2.8069  2.8096  2.8122  2.8148  2.8173  2.8199
                    2.8225  2.8250  2.8275  2.8300  2.8325  2.8350  2.8375
                    2.8399  2.8423  2.8448  2.8472  2.8496  2.8520  2.8544
                    2.8567  2.8591  2.8614  2.8637  2.8661  2.8684  2.8707
                    2.8730  2.8752  2.8775  2.8798  2.8820  2.8842  2.8865
                    2.8887  2.8909  2.8931  2.8953  2.8974  2.8996

**** COMPUTE AND PRINT NM HYD DATA FOR BASIN 1 *********
COMPUTE NM HYD       ID=1 HYD=1  AREA=0.00253 PER A=0 PER B=0
                                 PER C=15.0 PER D=85.0  TP=.133  RAINFALL=-1

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    UNIT PEAK =   8.5094    CFS   UNIT VOLUME =    .9981       B =   526.28       P60 = 2.2300
    AREA =      .002151 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300
```


A-3

```
    K =   .109680HR    TP =   .133000HR    K/TP RATIO =   .824663     SHAPE CONSTANT, N =  4.329256
    UNIT PEAK =   1.0745    CFS   UNIT VOLUME =     .9882       B =   376.56      P60 = 2.2300
    AREA =      .000380 SQ MI    IA =    .35000 INCHES    INF =    .83000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

PRINT HYD                 ID=1   CODE=10

                                        OUTFLOW HYDROGRAPH REACH     1.00

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
TIME      FLOW
      HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS
 HRS       CFS
     .000        .0         1.665       4.2         3.330        .1         4.995        .1
6.660        .0
     .333        .0         1.998       2.0         3.663        .1         5.328        .1
     .666        .1         2.331        .5         3.996        .1         5.661        .1
     .999        .4         2.664        .2         4.329        .1         5.994        .1
    1.332       2.5         2.997        .1         4.662        .1         6.327        .0

    RUNOFF VOLUME =     2.46299 INCHES     =        .3323 ACRE-FEET
    PEAK DISCHARGE RATE =       8.15 CFS  AT   1.499 HOURS   BASIN AREA =   .0025 SQ. MI.


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    AREA =      .000590 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
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PRINT HYD                 ID=2   CODE=10

                                        OUTFLOW HYDROGRAPH REACH     2.00

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
TIME      FLOW
      HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS
 HRS       CFS
     .000        .0          .666        .0         1.332        .1         1.998        .1
2.664        .0
     .333        .0          .999        .0         1.665        .6         2.331        .0
2.997        .0

    RUNOFF VOLUME =     1.07607 INCHES     =        .0339 ACRE-FEET
    PEAK DISCHARGE RATE =       1.11 CFS  AT   1.499 HOURS   BASIN AREA =   .0006 SQ. MI.


**** COMPUTE AND PRINT NM HYD DATA FOR OFFSITE BASIN 3 *********
COMPUTE NM HYD       ID=3 HYD=3  AREA=0.00038 PER A=0 PER B=0
                                 PER C=100.0 PER D=0  TP=.133  RAINFALL=-1

    K =   .109680HR    TP =   .133000HR    K/TP RATIO =   .824663     SHAPE CONSTANT, N =  4.329256
    UNIT PEAK =   1.0759    CFS   UNIT VOLUME =     .9882       B =   376.56      P60 = 2.2300
    AREA =      .000380 SQ MI    IA =    .35000 INCHES    INF =    .83000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

PRINT HYD                 ID=3   CODE=10

                                        OUTFLOW HYDROGRAPH REACH     3.00

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
TIME      FLOW
      HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS
 HRS       CFS
     .000        .0          .666        .0         1.332        .2         1.998        .2
2.664        .0
     .333        .0          .999        .0         1.665        .5         2.331        .0

    RUNOFF VOLUME =     1.45332 INCHES     =        .0295 ACRE-FEET
    PEAK DISCHARGE RATE =        .92 CFS  AT   1.499 HOURS   BASIN AREA =   .0004 SQ. MI.
```


A-4

```
**** COMPUTE AND PRINT NM HYD DATA FOR OFFSITE BASIN 4 *********
COMPUTE NM HYD       ID=4 HYD=4  AREA=0.00008 PER A=0 PER B=0
                                 PER C=100.0 PER D=0  TP=.133  RAINFALL=-1

    K =   .109680HR    TP =   .133000HR    K/TP RATIO =   .824663     SHAPE CONSTANT, N =  4.329256
    UNIT PEAK =   .22650    CFS   UNIT VOLUME =    .9446       B =   376.56      P60 = 2.2300
    AREA =      .000080 SQ MI    IA =    .35000 INCHES    INF =    .83000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

PRINT HYD                  ID=4   CODE=10

                                        OUTFLOW HYDROGRAPH REACH     4.00

     TIME      FLOW           TIME      FLOW           TIME      FLOW           TIME      FLOW
TIME      FLOW
      HRS       CFS            HRS       CFS            HRS       CFS            HRS       CFS
 HRS       CFS
     .000        .0           .666        .0          1.332        .0          1.998        .0
     .333        .0           .999        .0          1.665        .1          2.331        .0

    RUNOFF VOLUME =     1.45332 INCHES     =        .0062 ACRE-FEET
    PEAK DISCHARGE RATE =        .20 CFS  AT   1.499 HOURS   BASIN AREA =   .0001 SQ. MI.


**** COMPUTE AND PRINT NM HYD DATA FOR BASIN 5 *********
COMPUTE NM HYD       ID=5 HYD=1E  AREA=0.00038 PER A=0 PER B=30.0
                                 PER C=70.0 PER D=0  TP=.133  RAINFALL=-1

    K =   .117108HR    TP =   .133000HR    K/TP RATIO =   .880508     SHAPE CONSTANT, N =  4.031033
    UNIT PEAK =   1.0207    CFS   UNIT VOLUME =    .9878       B =   357.23      P60 = 2.2300
    AREA =      .000380 SQ MI    IA =    .39500 INCHES    INF =    .95600 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

PRINT HYD                  ID=5   CODE=10

                                        HYDROGRAPH FROM AREA 1E

     TIME      FLOW           TIME      FLOW           TIME      FLOW           TIME      FLOW
TIME      FLOW
      HRS       CFS            HRS       CFS            HRS       CFS            HRS       CFS
 HRS       CFS
     .000        .0           .666        .0          1.332        .2          1.998        .1
2.664        .0
     .333        .0           .999        .0          1.665        .5          2.331        .0

    RUNOFF VOLUME =     1.32902 INCHES     =        .0269 ACRE-FEET
    PEAK DISCHARGE RATE =        .86 CFS  AT   1.499 HOURS   BASIN AREA =   .0004 SQ. MI.


**** COMPUTE AND PRINT NM HYD DATA FOR EXISTING BASIN 6 *********
COMPUTE NM HYD       ID=6 HYD=6  AREA=0.00956 PER A=0 PER B=25.0
                                 PER C=0 PER D=75.0  TP=.133  RAINFALL=-1

    K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
    UNIT PEAK =   28.371    CFS   UNIT VOLUME =    .9990       B =   526.28      P60 = 2.2300
    AREA =      .007170 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300


    K =   .134438HR    TP =   .133000HR    K/TP RATIO =  1.010815     SHAPE CONSTANT, N =  3.492236
    UNIT PEAK =   5.7461    CFS   UNIT VOLUME =    .9980       B =   319.76      P60 = 2.2300
    AREA =      .002390 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

PRINT HYD                  ID=6   CODE=10

                                        OUTFLOW HYDROGRAPH REACH     6.00

     TIME      FLOW           TIME      FLOW           TIME      FLOW           TIME      FLOW
TIME      FLOW
      HRS       CFS            HRS       CFS            HRS       CFS            HRS       CFS
 HRS       CFS
     .000        .0          1.665       14.8          3.330        .4          4.995        .3
6.660        .0
     .333        .0          1.998        6.5          3.663        .3          5.328        .3
```


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```
                                                    Out
6.993         .0
      .666         .5          2.331         1.6          3.996         .3          5.661         .3
      .999        1.3          2.664          .8          4.329         .3          5.994         .3
     1.332        8.2          2.997          .5          4.662         .3          6.327         .0

    RUNOFF VOLUME =      2.24989 INCHES      =       1.1471 ACRE-FEET
    PEAK DISCHARGE RATE =       28.56 CFS  AT    1.499 HOURS    BASIN AREA =    .0096 SQ. MI.


*
*****************************************************************
**** COMBINE HYDROGRAPHS FOR BASINS 1+4+6**********
*S COMBINE HYDROGRAPHS FOR BASINS 1+4+6
ADD HYD                  ID=20 HYD=20 ID I=1 ID II=4
ADD HYD                  ID=21 HYD=21 ID I=6 ID II=20
*
PRINT HYD                    ID=21   CODE=10

                                          OUTFLOW HYDROGRAPH REACH     21.00

     TIME      FLOW           TIME      FLOW           TIME      FLOW           TIME      FLOW
TIME      FLOW
      HRS       CFS            HRS       CFS            HRS       CFS            HRS       CFS
 HRS       CFS
     .000         .0          1.665        19.0         3.330         .5          4.995         .4
6.660         .0
     .333         .0          1.998         8.5         3.663         .4          5.328         .4
6.993         .0
     .666         .6          2.331         2.1         3.996         .4          5.661         .4
     .999        1.6          2.664         1.0         4.329         .4          5.994         .4
    1.332       10.8          2.997          .6         4.662         .4          6.327         .0

    RUNOFF VOLUME =      2.28891 INCHES      =       1.4856 ACRE-FEET
    PEAK DISCHARGE RATE =       36.91 CFS  AT    1.499 HOURS    BASIN AREA =    .0122 SQ. MI.


*****************************************************************
**** COMBINE HYDROGRAPHS FOR BASINS 2+3**********
*S COMBINE HYDROGRAPHS FOR BASINS 2+3
ADD HYD                  ID=22 HYD=22 ID I=2 ID II=3
*
PRINT HYD                    ID=22   CODE=10

                                          OUTFLOW HYDROGRAPH REACH     22.00

     TIME      FLOW           TIME      FLOW           TIME      FLOW           TIME      FLOW
TIME      FLOW
      HRS       CFS            HRS       CFS            HRS       CFS            HRS       CFS
 HRS       CFS
     .000         .0          .666          .0         1.332         .4          1.998         .3
2.664         .0
     .333         .0          .999          .0         1.665        1.1          2.331         .1
2.997         .0

    RUNOFF VOLUME =      1.22361 INCHES      =        .0633 ACRE-FEET
    PEAK DISCHARGE RATE =        2.03 CFS  AT    1.499 HOURS    BASIN AREA =    .0010 SQ. MI.


*
FINISH

    NORMAL PROGRAM FINISH          END TIME (HR:MIN:SEC) = 11:16:08
```


A-6

10-YR STORM DISCHARGE (cfs/acre)

EXISTING CONDITIONS

BASIN	AREA (ACRES)	% LAND TREATMENT* A	B	C	D	10-YR DISCHARGE - (CFS/ACRE)** 0.87	1.45	2.26	3.57	Q(10-YR) UNDEVELOPED (CFS)
UD1	1.71	100.00	0.00	0.00	0.00	0.87	1.45	2.26	3.57	1.49
UD2	0.52	10.00	80.00	10.00	0.00	0.87	1.45	2.26	3.57	0.77
										2.25

PROPOSED CONDITIONS

BASIN	AREA (ACRES)	% LAND TREATMENT* A	B	C	D	10-YR DISCHARGE - (CFS/ACRE)** 0.87	1.45	2.26	3.57	Q(10-YR) DEVELOPED (CFS)
OFF SITE										
3	0.24	0.00	0.00	100.00	0.00	0.87	1.45	2.26	3.57	0.54
4	0.05	0.00	0.00	100.00	0.00	0.87	1.45	2.26	3.57	0.11
6	6.12	0.00	25.00	0.00	75.00	0.87	1.45	2.26	3.57	18.60
ON SITE										
1	1.62	0.00	0.00	15.00	85.00	0.87	1.45	2.26	3.57	5.47
2	0.38	0.00	100.00	0.00	0.00	0.87	1.45	2.26	3.57	0.55
5	0.24	0.00	30.00	70.00	0.00	0.87	1.45	2.26	3.57	0.48
										25.76

PEAK DISCHARGE (cfs/acre)

EXISTING CONDITIONS

BASIN	AREA (ACRES)	% LAND TREATMENT* A	B	C	D	PEAK DISCHARGE - (CFS/ACRE)** 2.2	2.92	3.73	5.25	Q(100-YR) UNDEVELOPED (CFS)
UD1	1.71	100.00	0.00	0.00	0.00	2.2	2.92	3.73	5.25	3.76
UD2	0.52	10.00	80.00	10.00	0.00	2.2	2.92	3.73	5.25	1.52
										5.29

PROPOSED CONDITIONS

BASIN	AREA (ACRES)	% LAND TREATMENT* A	B	C	D	PEAK DISCHARGE - (CFS/ACRE)** 2.2	2.92	3.73	5.25	Q(100-YR) DEVELOPED (CFS)
OFF SITE										
3	0.24	0.00	0.00	100.00	0.00	2.2	2.92	3.73	5.25	0.90
4	0.05	0.00	0.00	100.00	0.00	2.2	2.92	3.73	5.25	0.19
6	6.12	0.00	25.00	0.00	75.00	2.2	2.92	3.73	5.25	28.57
ON SITE										
1	1.62	0.00	0.00	15.00	85.00	2.2	2.92	3.73	5.25	8.14
2	0.38	0.00	100.00	0.00	0.00	2.2	2.92	3.73	5.25	1.11
5	0.24	0.00	30.00	70.00	0.00	2.2	2.92	3.73	5.25	0.84
										39.73

BASIN	TOTAL AREA (ac)	PROPOSED LAND TREATMENT AREAS A (ac)	B (ac)	C (ac)	D (ac)	PEAK DISCHARGE RATE A (cfs/ac)		B (cfs/ac)		C (cfs/ac)		D (cfs/ac)		PROPOSED PEAK DISCHARGE 10 YR (cfs)	100 YR (cfs)
PHASE I															
OFFSITE BASINS															
3	0.24	0.00	0.00	0.24	0.00	0.87	2.20	1.45	2.92	2.26	3.73	3.57	5.25	0.54	0.90
4	0.05	0.00	0.00	0.05	0.00	0.87	2.20	1.45	2.92	2.26	3.73	3.57	5.25	0.11	0.19
6	6.12	0.00	1.53	0.00	4.59	0.87	2.20	1.45	2.92	2.26	3.73	3.57	5.25	18.60	28.57
	6.17													19.26	29.65
ON-SITE BASINS															
1	1.62	0.00	0.00	0.24	1.38	0.87	2.20	1.45	2.92	2.26	3.73	3.57	5.25	5.47	8.14
2	0.38	0.00	0.38	0.00	0.00	0.87	2.20	1.45	2.92	2.26	3.73	3.57	5.25	0.55	1.11
5	0.24	0.00	0.07	0.17	0.00	0.87	2.20	1.45	2.92	2.26	3.73	3.57	5.25	0.49	0.84
	2.24													6.51	10.09
														25.77	**39.74**
Total	**8.41**														

Channel Calculator

Given Input Data:

Shape	Trapezoidal
Solving for	Depth of Flow
Flowrate	2.0100 cfs
Slope	0.0240 ft/ft
Manning's n	0.0280
Height	4.0000 in
Bottom width	28.0000 in
Left slope	0.2500 ft/ft
Right slope	0.2500 ft/ft

Computed Results:

Depth	2.8147 in
Velocity	2.6193 fps
Flow area	0.7674 ft2
Flow perimeter	51.2107 in
Hydraulic radius	2.1578 in
Top width	50.5177 in
Area	1.2222 ft2
Perimeter	60.9848 in
Percent full	70.3679 %

Critical Information

Critical depth	2.9467 in
Critical slope	0.0203 ft/ft
Critical velocity	2.4688 fps
Critical area	0.8142 ft2
Critical perimeter	52.2990 in
Critical hydraulic radius	2.2417 in
Critical top width	51.5735 in
Specific energy	0.3412 ft
Minimum energy	0.3683 ft
Froude number	1.0816
Flow condition	Supercritical

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***** PC PROGRAM STREAM SEPTEMBER 1994 *****

MANNING'S N= .017 SLOPE= .028

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.73	3	20.00	0.00	5	40.63	0.73
2	0.63	0.40	4	40.00	0.40	6	0.00	0.00

WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)
0.01	0.01	0.00	0.0	0.98	0.43	0.98	0.00	0.01
0.02	0.02	0.02	0.0	1.97	0.68	1.97	0.01	0.03
0.03	0.03	0.04	0.0	2.95	0.89	2.95	0.01	0.04
0.04	0.04	0.08	0.1	3.94	1.08	3.94	0.02	0.06
0.05	0.05	0.12	0.2	4.92	1.25	4.92	0.02	0.07
0.06	0.06	0.18	0.3	5.91	1.41	5.91	0.03	0.09
0.07	0.07	0.24	0.4	6.89	1.56	6.89	0.04	0.11
0.08	0.08	0.31	0.5	7.88	1.71	7.87	0.05	0.13
0.09	0.09	0.40	0.7	8.86	1.85	8.86	0.05	0.14
0.10	0.10	0.49	1.0	9.84	1.98	9.84	0.06	0.16
0.11	0.11	0.60	1.3	10.83	2.12	10.83	0.07	0.18
0.12	0.12	0.71	1.6	11.81	2.24	11.81	0.08	0.20
0.13	0.13	0.83	2.0	12.80	2.36	12.80	0.09	0.22
0.14	0.14	0.96	2.4	13.78	2.48	13.78	0.10	0.24
0.15	0.15	1.11	2.9	14.77	2.60	14.76	0.11	0.26
0.16	0.16	1.26	3.4	15.75	2.72	15.75	0.11	0.27
0.17	0.17	1.42	4.0	16.74	2.83	16.73	0.12	0.29
0.18	0.18	1.59	4.7	17.72	2.94	17.72	0.13	0.31
0.19	0.19	1.78	5.4	18.70	3.04	18.70	0.14	0.33
0.20	0.20	1.97	6.2	19.69	3.15	19.69	0.15	0.35
0.21	0.21	2.17	7.1	20.67	3.25	20.67	0.16	0.37
0.22	0.22	2.38	8.0	21.66	3.36	21.65	0.18	0.40
0.23	0.23	2.60	9.0	22.64	3.46	22.64	0.19	0.42
0.24	0.24	2.83	10.1	23.63	3.56	23.62	0.20	0.44
0.25	0.25	3.08	11.2	24.61	3.66	24.61	0.21	0.46
0.26	0.26	3.33	12.5	25.60	3.75	25.59	0.22	0.48
0.27	0.27	3.59	13.8	26.58	3.85	26.57	0.23	0.50
0.28	0.28	3.86	15.2	27.56	3.94	27.56	0.24	0.52
0.29	0.29	4.14	16.7	28.55	4.04	28.54	0.25	0.54
0.30	0.30	4.43	18.3	29.53	4.13	29.53	0.26	0.56
0.31	0.31	4.73	20.0	30.52	4.22	30.51	0.28	0.59
0.32	0.32	5.04	21.7	31.50	4.31	31.50	0.29	0.61
0.33	0.33	5.36	23.6	32.49	4.40	32.48	0.30	0.63
0.34	0.34	5.69	25.5	33.47	4.49	33.46	0.31	0.65
0.35	0.35	6.03	27.6	34.46	4.58	34.45	0.33	0.68
0.36	0.36	6.38	29.7	35.44	4.66	35.43	0.34	0.70
0.37	0.37	6.74	32.0	36.42	4.75	36.42	0.35	0.72
0.38	0.38	7.11	34.3	37.41	4.83	37.40	0.36	0.74
0.39	0.39	7.49	36.8	38.39	4.92	38.39	0.38	0.77
0.40	0.40	7.87	39.4	39.38	5.00	39.37	0.39	0.79
0.41	0.41	8.27	42.7	39.42	5.16	39.41	0.41	0.82
0.42	0.42	8.66	46.1	39.46	5.32	39.45	0.44	0.86
0.43	0.43	9.06	49.6	39.51	5.48	39.48	0.47	0.90
0.44	0.44	9.45	53.2	39.55	5.63	39.52	0.49	0.93
0.45	0.45	9.85	57.0	39.59	5.78	39.56	0.52	0.97

WSEL (FT)	DEPTH INC (FT)	FLOW AREA SQ.FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID (FT)	VEL HEAD (FT)	ENERGY HEAD (FT)
0.47	0.47	10.64	64.7	39.68	6.08	39.64	0.57	1.04
0.48	0.48	11.04	68.7	39.72	6.23	39.68	0.60	1.08
0.49	0.49	11.43	72.8	39.77	6.37	39.71	0.63	1.12
0.50	0.50	11.83	77.1	39.81	6.51	39.75	0.66	1.16
0.51	0.51	12.23	81.4	39.85	6.65	39.79	0.69	1.20
0.52	0.52	12.63	85.8	39.90	6.79	39.83	0.72	1.24
0.53	0.53	13.02	90.3	39.94	6.93	39.87	0.75	1.28
0.54	0.54	13.42	94.8	39.98	7.07	39.90	0.78	1.32
0.55	0.55	13.82	99.5	40.02	7.20	39.94	0.80	1.35
0.56	0.56	14.22	104.3	40.07	7.33	39.98	0.83	1.39
0.57	0.57	14.62	109.1	40.11	7.46	40.02	0.87	1.44
0.58	0.58	15.02	114.1	40.15	7.59	40.06	0.90	1.48
0.59	0.59	15.42	119.1	40.20	7.72	40.10	0.93	1.52
0.60	0.60	15.82	124.2	40.24	7.85	40.13	0.96	1.56
0.61	0.61	16.23	129.4	40.28	7.98	40.17	0.99	1.60
0.62	0.62	16.63	134.7	40.33	8.10	40.21	1.02	1.64
0.63	0.63	17.03	140.1	40.37	8.23	40.25	1.05	1.68
0.64	0.64	17.43	145.6	40.41	8.35	40.29	1.08	1.72
0.65	0.65	17.84	151.1	40.46	8.47	40.32	1.11	1.76
0.66	0.66	18.24	156.7	40.50	8.59	40.36	1.15	1.81

INVERTED CROWN SECTION (40')

MOUNTABLE ROLL CURB

← 100 year Q = 36.9 cfs

Energy Grade Line contained in pavement section

0.67	0.67	18.64	162.5	40.54	8.71	40.40	1.18	1.85
0.68	0.68	19.05	168.3	40.59	8.83	40.44	1.21	1.89
0.69	0.69	19.45	174.1	40.63	8.95	40.48	1.24	1.93
0.70	0.70	19.86	180.1	40.67	9.07	40.52	1.28	1.98
0.71	0.71	20.26	186.1	40.71	9.19	40.55	1.31	2.02
0.72	0.72	20.67	192.2	40.76	9.30	40.59	1.34	2.06
0.73	0.73	21.07	198.4	40.80	9.42	40.63	1.38	2.11

DRB Case No.
*DRC Project No.*_____
Date Submitted _____

Figure 12
INFRASTRUCTURE LIST
EXHIBIT "A "
TO SUBDIVISION IMPROVEMENTS AGREEMENT
DEVELOPMENT REVIEW BOARD (D.R.B.) REQUIRED INFRASTRUCTURE LIST

TOWNHOMES AT SANDIA PLAZA

Following is a summary of Public/Private infrastructure required to be constructed or financially guaranteed to be constructed for the above development. This summary is not necessarily a complete listing. During the design process, if the City determines that appurtenant items have not been included in the summary, those items will be included in the listing and related financial guarantee, if the items normally are Subdivider responsibility. In addition, any unforeseen items which arise during construction which are necessary to complete the project and which normally are the Subdivider's responsibility are the responsibility of the Subdivider and will be included in the financial guarantee provided to the City.

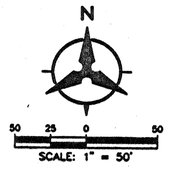
SIZE	***TYPE OF IMPROVEMENT***	***LOCATION***	***FROM***	***TO***
PAVING				
Width varies- 8' Minimum	Residential Pavement w/PCC C&G ONE side,	Western and southern boundary of Tract L-2		
STORM DRAINAGE				
N/A	Entrance structure to North Glenwood Hills Arroyo	510' west of Juan Tabo crossing		
SANITARY SEWER				
8" Dia	Sewerline incl. MH's & Service Lines	Public Utility Easement along western edge of Tract I-2	Southern end of site	Northern end of site
WATER				
6" Dia	Waterline incl. water valves	Public Utility Easement along western edge of Tract L-2	Southern property line	Northern property line

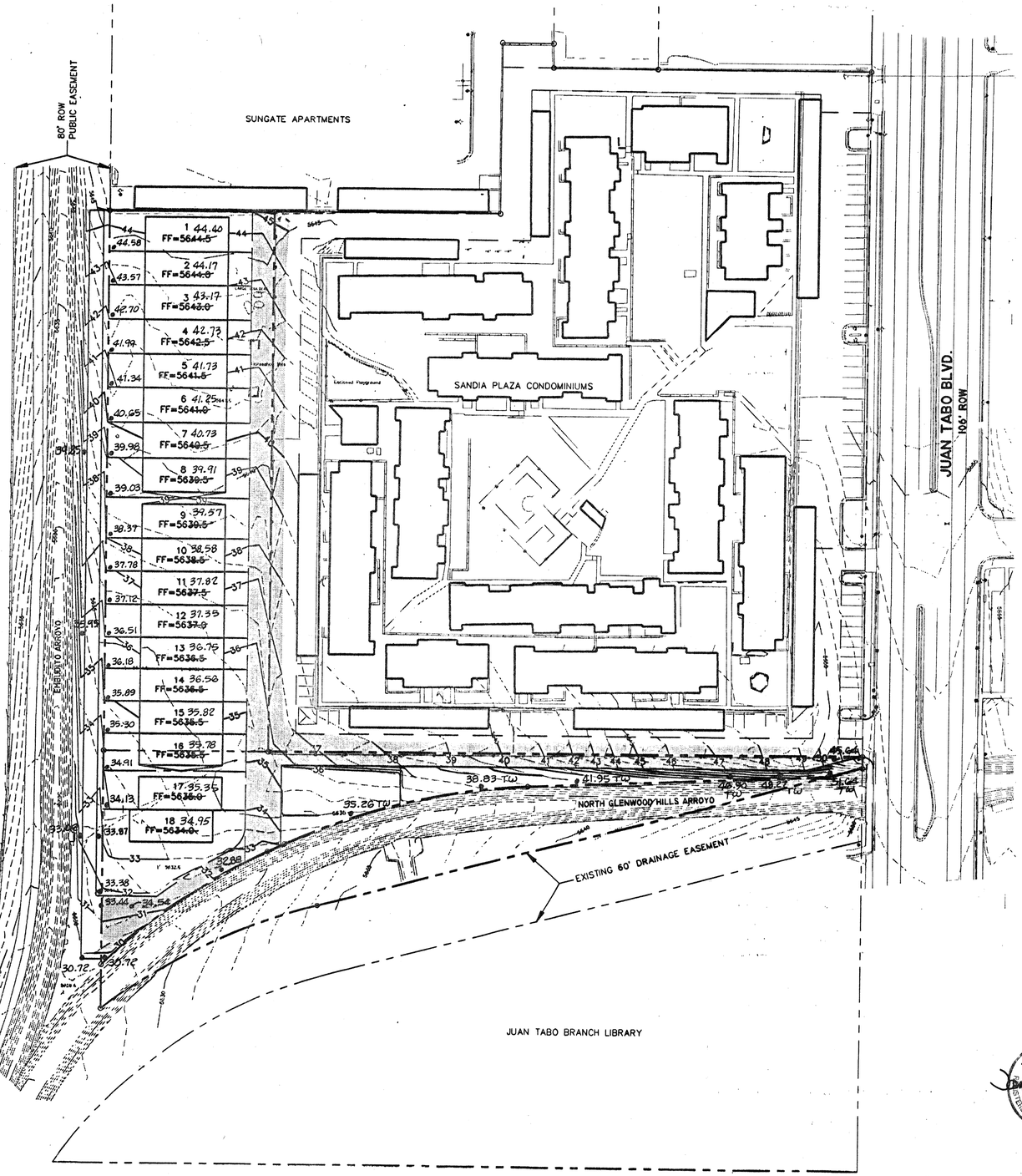
G & D cert. 1

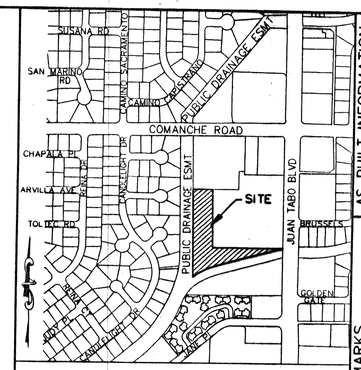
Prepared by _____
Print Name: Bradley Bingham, P.E.
Firm: Bohannan Huston

****

D-1







VICINITY MAP
ZONE ATLAS MAP NO. G-21-Z
N.T.S.

GRADING & DRAINAGE CERTIFICATION

I, RICK BELTRAMO, OF BOHANNAN-HUSTON, N.M.P.E. # 10596 HEREBY CERTIFY THAT THE AS-BUILT DRAINAGE CONDITIONS OF THE SITE ARE IN SUBSTANTIAL COMPLIANCE WITH THE APPROVED GRADING AND DRAINAGE PLAN, TO THE BEST OF MY KNOWLEDGE AND BELIEF. AS-BUILT ELEVATIONS, VERIFIED BY BOHANNAN-HUSTON, ARE SHOWN ON THE PLAN. THIS STATEMENT DOES NOT REPRESENT CERTIFICATION OF CONTRACTOR'S METHODS OR MATERIALS.

NAME

12/13/99
DATE

RICHARD LYNN BELTRAMO NEW MEXICO 10596 REGISTERED PROFESSIONAL ENGINEER

GENERAL NOTES

1. CONTRACTOR MUST OBTAIN A TOPSOIL DISTURBANCE PERMIT FROM THE ENVIRONMENTAL HEALTH DIVISION PRIOR TO CONSTRUCTION.
2. THE CONTRACTOR SHALL CONFORM TO ALL CITY, COUNTY, STATE, AND FEDERAL DUST CONTROL MEASURES AND REQUIREMENTS AND WILL BE RESPONSIBLE FOR PREPARING AND OBTAINING ALL NECESSARY APPLICATIONS AND APPROVALS.
3. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE LOTS INTO PUBLIC RIGHT-OF-WAY. THIS CAN BE ACHIEVED BY CONSTRUCTING TEMPORARY BERMS AS PER DETAIL SHEET 3 AND WETTING THE SOIL TO KEEP IT FROM BLOWING.
4. BOULDERS, GREATER THAN 3 FEET IN DIAMETER, EXCAVATED DURING GRADING ACTIVITIES SHALL BE STOCKPILED AND DISPOSED OF AT THE DISCRETION OF THE OWNER.
5. ALL WALLS SHOWN ARE TO BE PLACED ALONG PROPERTY LINE. (WALLS ARE SHOWN OFFSET FOR VISUAL PURPOSE ONLY.)
6. ALL DEVELOPED FLOWS SHALL DRAIN TOWARDS STREET.

SURVEY INFORMATION
FIELD NOTES BY DATE

BENCH MARKS

AS-BUILT INFORMATION
CONTRACTOR C.N.DORE DATE 10/98
WORK STAKED BY BH DATE 10/98
ACCEPTANCE BY DATE
FIELD VERIFICATION BY BH DATE 10/99
DRAWING COMPILATION BY BH DATE 12/99

MICRO-FILM INFORMATION
RECORDED BY DATE
NO.

ENGINEER'S SEAL
BRADLEY L. BINGHAM NEW MEXICO 12697 REGISTERED PROFESSIONAL ENGINEER
2/19/99

No.	Date	REMARKS / REVISIONS / DESIGN	By
		DESIGN	DATE: 02/16/99
		Designed By: CAB	
		Drawn By: CAB	DATE: 02/16/99
		Checked By: BB	DATE: 02/16/99

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HYDROLOGY SECTION

Bohannan ▲ Huston
Courtyard One 7500 JEFFERSON NE Albuquerque NEW MEXICO 87109
ENGINEERS PLANNERS PHOTOGRAMMETRISTS SURVEYORS SOFTWARE DEVELOPERS

JAMES P. WHEELER, JR. NEW MEXICO 12641 REGISTERED PROFESSIONAL ENGINEER
12/22/99

RECORD DRAWING
DATE: 12-8-99

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING DEVELOPMENT GROUP

TOWNHOMES AT SANDIA PLAZA
GRADING PLAN

Design Review Committee	City Engineer Approval	Last Design Update	Mo./Day/Yr.	Mo./Day/Yr.
APPROVED JUN 21 1999 DESIGN REVIEW COMMITTEE				

City Project No.	Zone Map No.	Sheet	Of
613781	G-21-Z	X	X

PLATE 4

FEBRUARY 16, 1999
SHEET 3 OF 11

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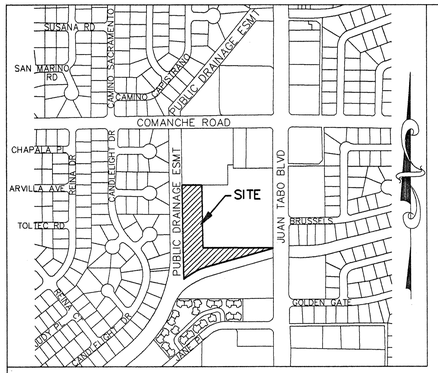
PRELIMINARY PLAT FOR THE
TOWNHOMES AT SANDIA PLAZA

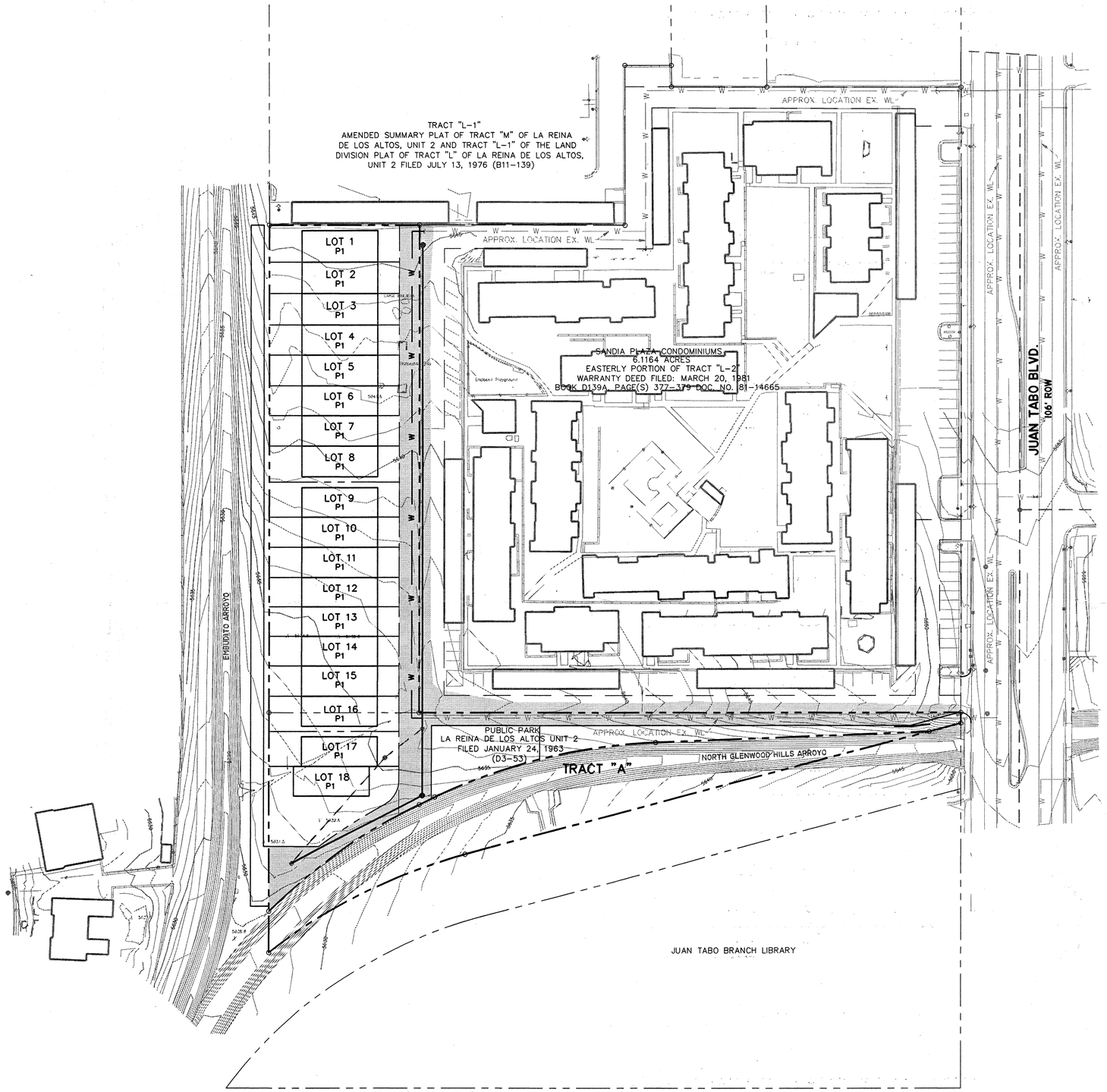
ALBUQUERQUE, NEW MEXICO
FEBRUARY, 1999
WESTERLY PORTION OF TRACT "L-2"
LAND DIVISION PLAT OF TRACT "L" OF
LA REINA DE LOS ALTOS, UNIT 2



VICINITY MAP
ZONE ATLAS MAP NO. G-21-Z
N.T.S.

LEGEND

- SUBDIVISION BOUNDARY LINE
- NEW LOT LINE
- ADJOINING PROPERTY LINE
- MONUMENT TIE LINE
- EXISTING EASEMENT LINE
- NEW EASEMENT LINE
- ▲ CENTERLINE MONUMENT TO BE INSTALLED
- ● FOUND REBAR W\CAP
- △ CITY OF ALBUQUERQUE SURVEY CONTROL MONUMENT



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FEB 25 1999
HYDROLOGY SECTION

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50 25 0 50
SCALE: 1" = 50'

GENERAL NOTES:

1. EXISTING ZONING R-2
2. GROSS ACRES AS CURRENTLY PLATTED: 2.8964 ACRES
   NET ACREAGE AFTER ROW DEDICATION: 2.2401 ACRES
3. TOTAL NUMBER OF LOTS: 18 D.U.
4. PROPOSED DENSITY: 8.0 D.U./ACRE OVERALL
5. MINIMUM LOT DIMENSIONS:
   REQUIRED: 22' x 100'
   PROVIDED: 28' x 120"
6. ALL STREETS, UTILITIES AND DRAINAGE IMPROVEMENTS ARE TO BE PUBLIC, AND DEDICATED FOR MAINTENANCE TO THE CITY OF ALBUQUERQUE.
7. ALL LOTS SHOWN WITH THE P1 DESIGNATION SHALL CONFORM TO INTERMITTENT PARKING DESIGN CRITERIA. ITEM #1.
8. LOTS SETBACKS SHALL CONFORM TO R-2 ZONE REGULATIONS. REQUIRED SET BACKS SHALL INCLUDE:
   FRONT YARD: 20' (TYP.)
   (15' w/20' TO GARAGE MIN.)
   SIDE YARD: 5' (MIN.)
   BACKYARD: 15' (MIN)

SURVEY NOTES:

1. ALL BOUNDARY CORNERS SHOWN (●) ARE FOUND REBAR W\CAP.
2. ALL STREET CENTERLINE MONUMENTATION SHALL BE INSTALLED AT ALL CENTERLINE PC'S, PTS, ANGLE POINTS, AND STREET INTERSECTIONS AND SHOWN THUS (▲) AND WILL BE MARKED BY (4") ALUMINUM CAP STAMPED "CITY OF ALBUQUERQUE CENTERLINE MONUMENTATION MARKED, DO NOT DISTURB PLS 6544".
3. THE SUBDIVISION BOUNDARY WILL BE TIED TO THE NEW MEXICO STATE PLANE COORDINATE SYSTEM AS SHOWN.
4. BASIS OF BEARINGS WILL BE NEW MEXICO STATE PLANE BEARINGS.
5. DISTANCES SHALL BE GROUND DISTANCES.
6. MANHOLES WILL BE OFFSET AT ALL POINTS OF CURVATURE, TANGENCY STREET INTERSECTIONS, AND ALL OTHER ANGLE POINTS TO ALLOW USE OF CENTERLINE MONUMENTATION.

APPROVED FOR MONUMENTATION AND STREET NAMES

CITY SURVEYOR DATE

OWNER DATE

OWNER DATE

Bohannan ▲ Huston
Courtyard One 7500 JEFFERSON NE Albuquerque NEW MEXICO 87109
ENGINEERS PLANNERS PHOTOGRAMMETRISTS SURVEYORS SOFTWARE DEVELOPERS

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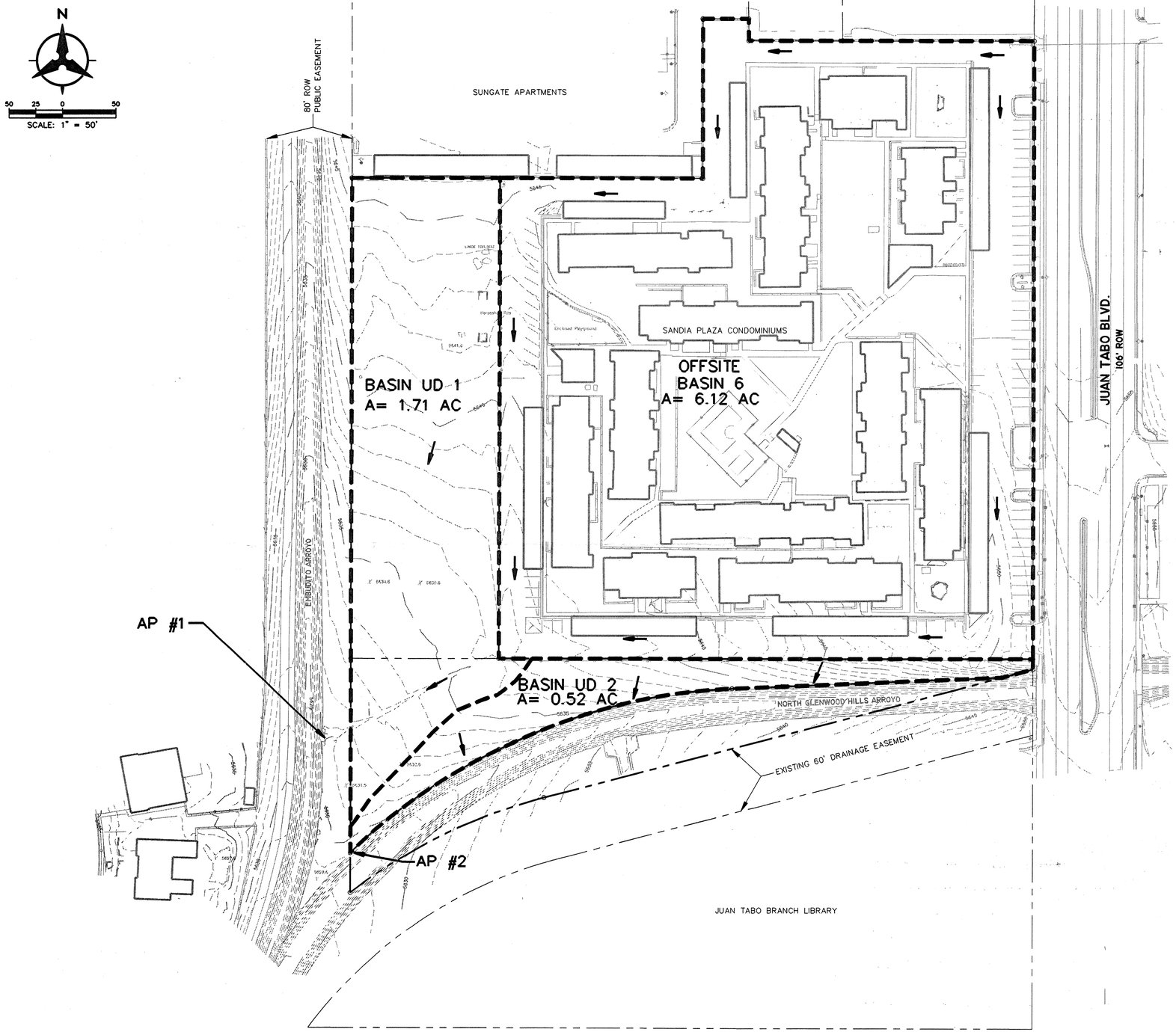
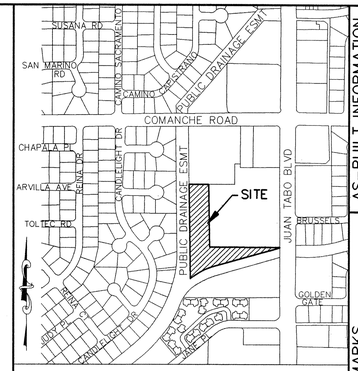
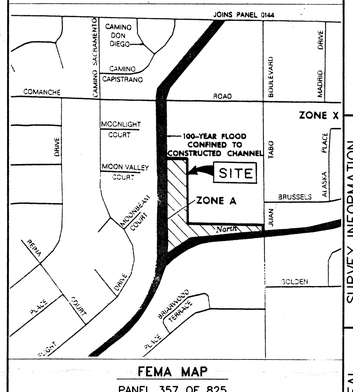




VICINITY MAP
ZONE ATLAS MAP NO. G-21-Z
N.T.S.



FEMA MAP
PANEL 357 OF 825

ENGINEER'S SEAL

BRADLEY L. BINGHAM
NEW MEXICO
12697
REGISTERED PROFESSIONAL ENGINEER
2/19/99

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AS-BUILT INFORMATION

	DATE
CONTRACTOR	
WORK STAKED BY	DATE
INSPECTED BY	
ACCEPTANCE BY	DATE
FIELD VERIFICATION BY	DATE
DRAWINGS CORRECTED BY	DATE

MICRO-FILM INFORMATION

	DATE
RECORDED BY	
NO.	

BENCH MARKS

SURVEY INFORMATION
FIELD NOTES

NO.	BY	DATE

No.	Date	By	REMARKS
			REVISIONS
			DESIGN

Designed By: CAB DATE: 01/22/99
Drawn By: CAB DATE: 01/22/99
Checked By: BB DATE:

Bohannan ▲ Huston
Courtyard One 7500 JEFFERSON NE Albuquerque NEW MEXICO 87109
ENGINEERS PLANNERS PHOTOGRAMMETRISTS SURVEYORS SOFTWARE DEVELOPERS

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING DEVELOPMENT GROUP

TOWNHOMES AT SANDIA PLAZA
DRAINAGE PLAN
EXISTING CONDITIONS

Design Review Committee	City Engineer Approval	Last Design Update	Mo./Day/Yr.	Mo./Day/Yr.

City Project No.	Zone Map No.	Sheet	Of
XXX	G-21-Z	1	2

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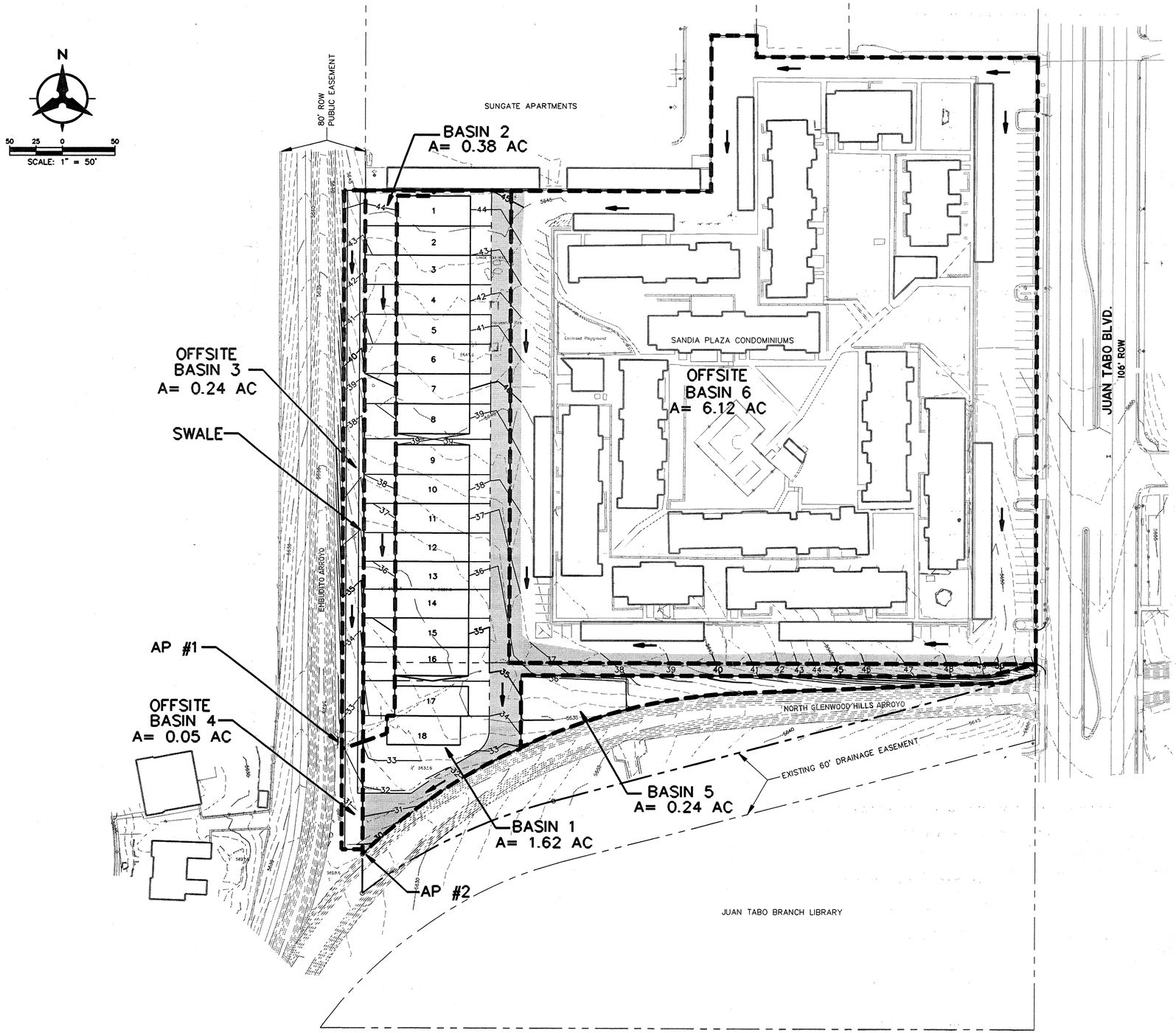
PLATE 2



SUMMARY TABLE		
ANALYSIS POINT	BASIN	Q100
AP#1	ONSITE 2	1.11 CFS
	OFFSITE 3	0.90 CFS
AP#2	ONSITE 1	8.14 CFS
	OFFSITE 4	0.19 CFS
	ONSITE 5	0.84 CFS
	OFFSITE 6	28.57 CFS

AS-BUILT INFORMATION
CONTRACTOR DATE
WORK STAKED BY DATE
WORK INSPECTED BY DATE
ACCEPTANCE BY DATE
FIELD VERIFICATION BY DATE
DRAWING CORRECTED BY DATE
MICRO-FILM INFORMATION
RECORDED BY DATE
NO.

BENCH MARKS

SURVEY INFORMATION
FIELD NOTES

NO.	BY	DATE

ENGINEER'S SEAL
BRADLEY L. BINGHAM
NEW MEXICO
12697
REGISTERED PROFESSIONAL ENGINEER

No.	Date	By
	REMARKS	
	REVISIONS	
	DESIGN	

Designed By: CAB DATE: 01/22/99
Drawn By: CAB DATE: 01/22/99
Checked By: BB DATE:

Bohannan ▲ Huston
Courtyard One 7500 JEFFERSON NE Albuquerque NEW MEXICO 87109
ENGINEERS PLANNERS PHOTOGRAMMETRISTS SURVEYORS SOFTWARE DEVELOPERS

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FEB 25 1999
HYDROLOGY SECTION

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING DEVELOPMENT GROUP

TOWNHOMES AT SANDIA PLAZA
DRAINAGE PLAN
PROPOSED CONDITIONS

Design Review Committee	City Engineer Approval	Last Design Update	Mo./Day/Yr.	Mo./Day/Yr.

City Project No.	Zone Map No.	Sheet	Of
XXX	G-21-Z	2	2

PLATE 3

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