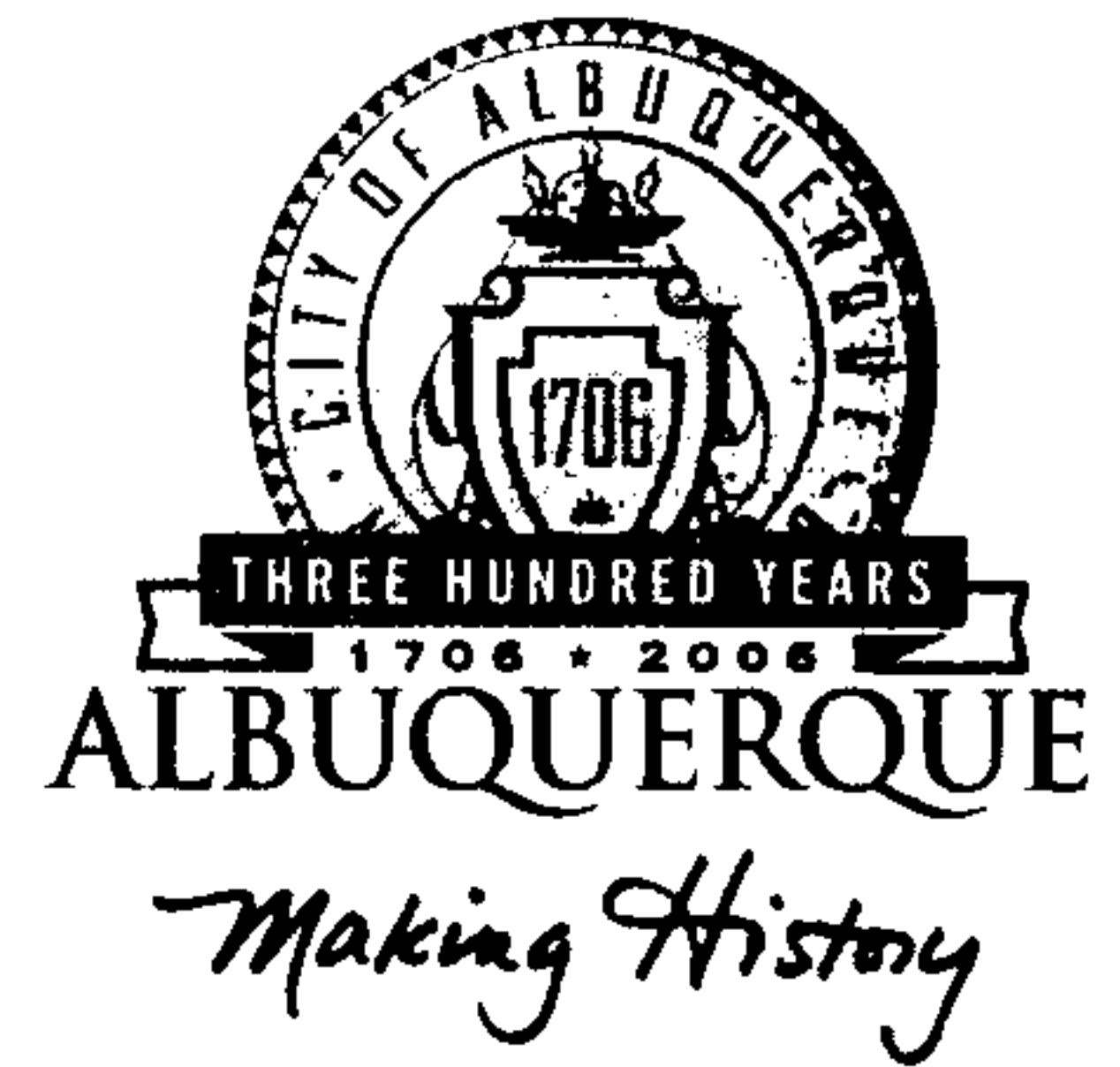
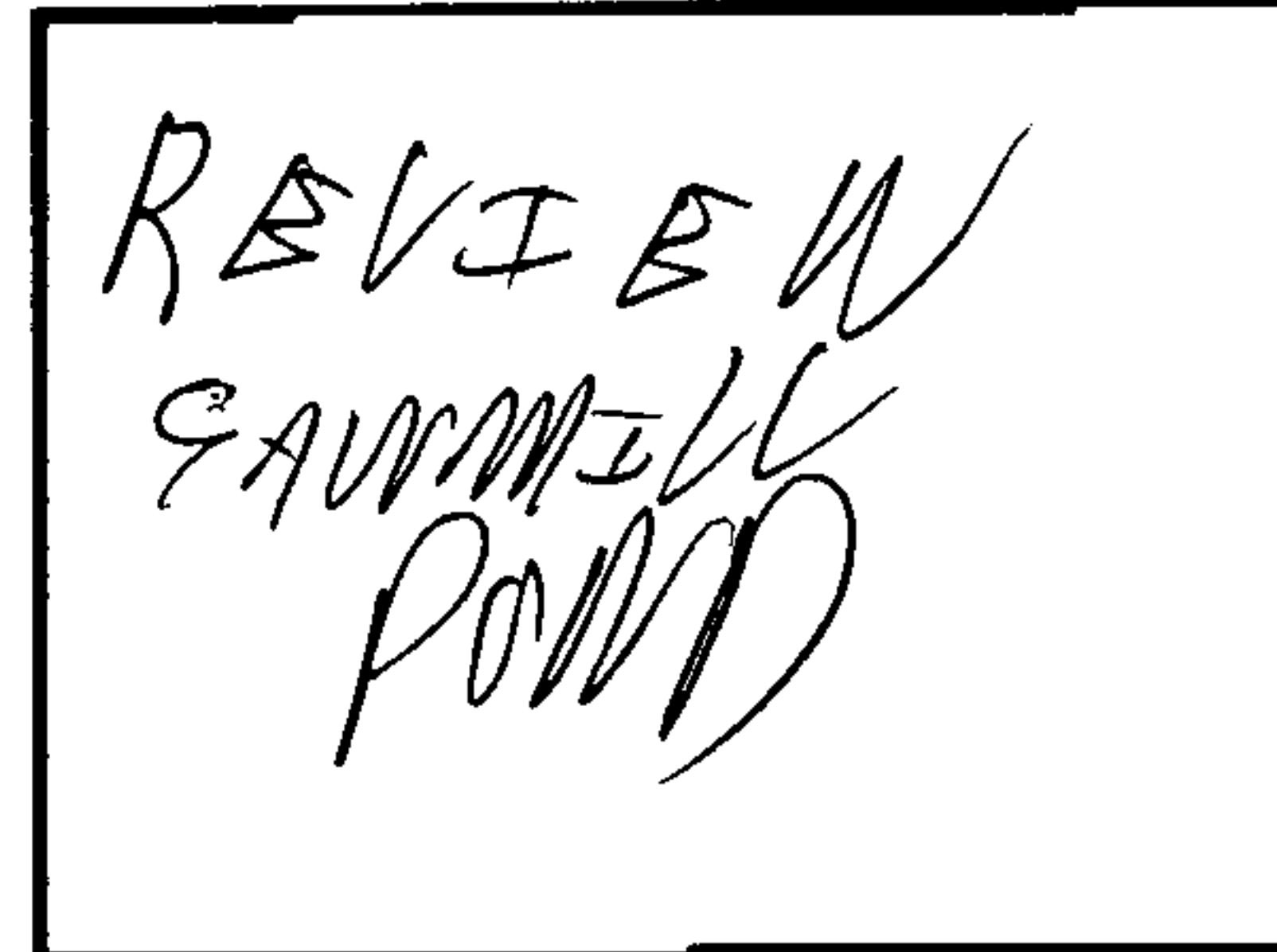


CITY OF ALBUQUERQUE



April 8, 2005

Bruce J. Stidworthy, P.E.
Bohannon Huston, Inc.
7500 Jefferson NE – Courtyard 1
Albuquerque, NM 87109



**Re: Sawmill Lofts Site, 1801 19th Street - Grading and Drainage Plan
Engineer's Stamp dated 4-7-05 (H13 – D25)**

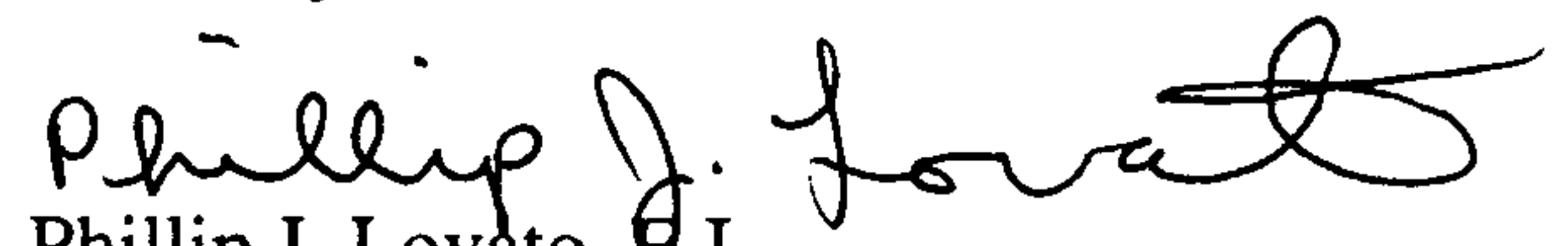
Dear Mr. Stidworthy,

Based upon the information provided in your submittal dated 2-24-05, the above referenced plan is approved for Building Permit. Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology and prior to release of the Certificate of Occupancy an Engineer's Certification of the grading plan per the DPM checklist will be required.

Also, this project requires a National Pollutant Discharge Elimination System (NPDES) permit. Refer to the attachment that is provided with this letter for details. If you have any questions please feel free to call the Municipal Development Department, Hydrology section at 768-3654 (Charles Caruso).

If you have any questions, you can contact me at 924-3990.

Sincerely,


Phillip J. Lovato, E.I.
Engineering Associate, Planning Dept.
Development and Building Services

C: Chuck Caruso, DMD
file

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/11/2002)

PROJECT TITLE: Sawmill Lofts Site ZONE MAP/DRG. FILE # H13/D25
DRB #: _____ EPC#: _____ WORK ORDER#: _____

LEGAL DESCRIPTION: Arbolera De Vida Unit 2 (A replat of Lot C and Lot B-1-A-1 of Duke City Lumber Company)

CITY ADDRESS: 1801 19th Street, Albuquerque, NM

ENGINEERING FIRM: Bohannon Huston, Inc.
ADDRESS: 7500 Jefferson NE – Courtyard I
CITY, STATE: Albuquerque, NM

CONTACT: Bruce Stidworthy
PHONE: (505) 823-1000
ZIP CODE: 87109

OWNER: Sawmill Community Land Trust
ADDRESS: 904 19th Street NW
CITY, STATE: Albuquerque, NM

CONTACT: Ken Balizer
PHONE: 764-0359
ZIP CODE: 87104

ARCHITECT: DPS
ADDRESS: 6801 Jefferson
CITY, STATE: Albuquerque, NM

CONTACT: Dory Wegrzyn
PHONE: 761-9700
ZIP CODE: 87109

SURVEYOR: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

CONTRACTOR: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

CHECK TYPE OF SUBMITTAL:

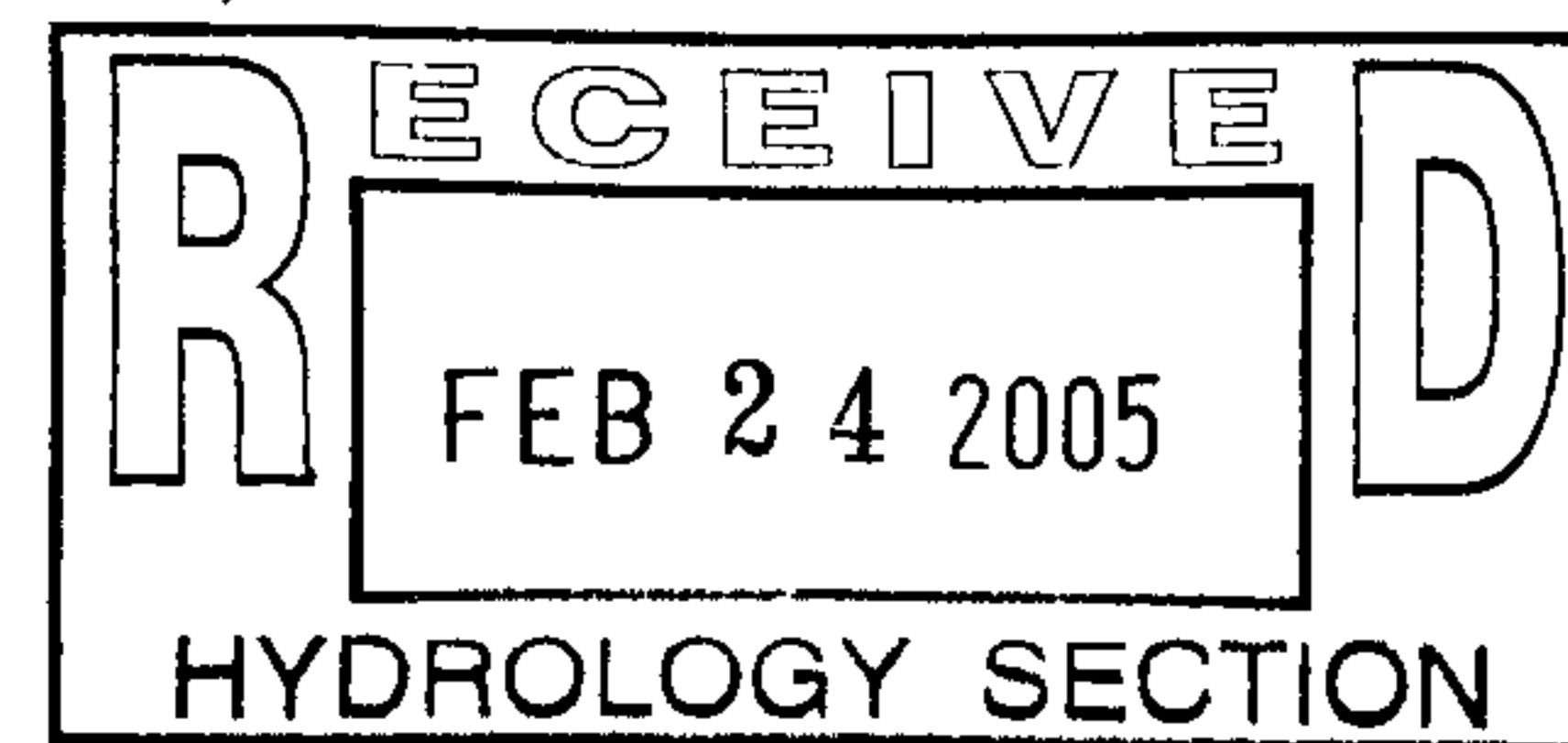
- ☒ DRAINAGE REPORT
- ☐ DRAINAGE PLAN
- ☐ CONCEPTUAL GRADING & DRAINAGE PLAN
- ☒ GRADING PLAN
- ☐ EROSION CONTROL PLAN
- ☐ ENGINEER'S CERTIFICATION (HYDROLOGY)
- ☐ CLOMR/LOMR
- ☐ TRAFFIC CIRCULATION LAYOUT (TCL)
- ☐ ENGINEERS CERTIFICATION (TCL)
- ☐ ENGINEERS CERTIFICATION (DRB APPR. SITE PLAN)
- ☐ OTHER

CHECK TYPE OF APPROVAL SOUGHT:

- ☐ SIA / FINANCIAL GUARANTEE RELEASE
- ☐ PRELIMINARY PLAT APPROVAL
- ☐ S. DEV. PLAN FOR SUB'D. APPROVAL
- ☐ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
- ☐ SECTOR PLAN APPROVAL
- ☐ FINAL PLAT APPROVAL
- ☐ FOUNDATION PERMIT APPROVAL
- ☒ BUILDING PERMIT APPROVAL
- ☐ CERTIFICATE OF OCCUPANCY (PERM.)
- ☐ CERTIFICATE OF OCCUPANCY (TEMP.)
- ☒ GRADING PERMIT APPROVAL
- ☐ PAVING PERMIT APPROVAL
- ☐ WORK ORDER APPROVAL
- ☐ OTHER (SPECIFY)

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☐ YES
- ☐ NO
- ☐ COPY PROVIDED



DATE SUBMITTED: 2/24/05 BY: Bruce Stidworthy/mb

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location and scope of the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

1. **Conceptual Grading and Drainage Plan:** Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.
2. **Drainage Plans:** Required for building permits, grading permits, paving permits and site plans less than five (5) acres.
3. **Drainage Report:** Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or more.

CLIENT/COURIER TRANSMITTAL

To: Brad Bingham
City of Albuquerque - Hydrology
600 2nd St. NW 2nd Floor
Albuquerque, NM 87102

Requested by: Michael Balaskovits

Date: February 24, 2005

Time Due: ☒ This A.M.
☐ This P.M.
☐ Rush _____
☐ By Tomorrow

Phone: 924-3986

Job No.: 050073

Job Name: Sawmill Lofts Site

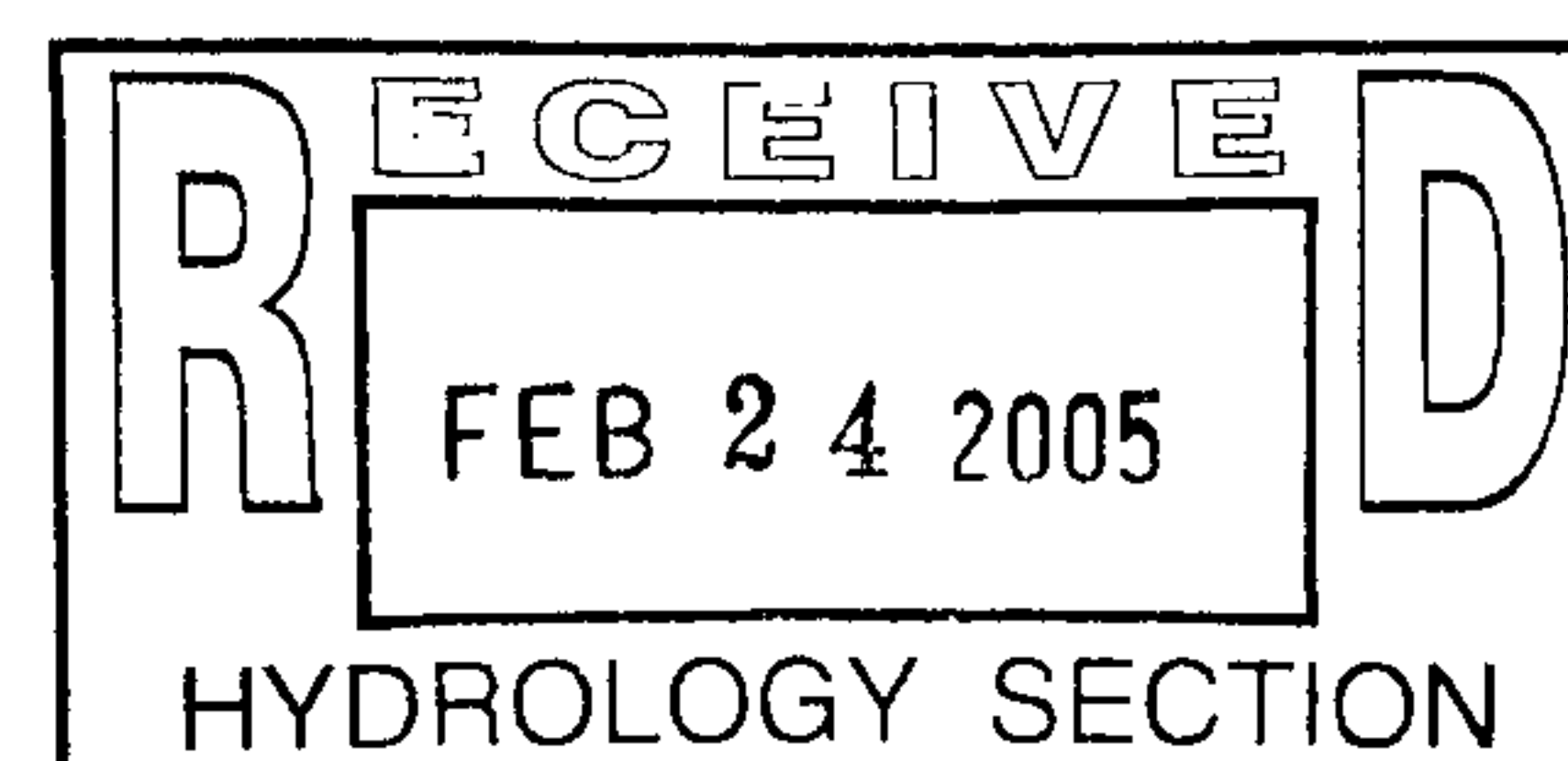
DELIVERY VIA

☒ Courier ☐ Federal Express
☐ Mail ☐ UPS
☐ Other

PICK UP

Item: _____

<u>ITEM NO.</u>	<u>QUANTITY</u>	<u>DESCRIPTION</u>
1	1	Drainage Info Sheet
2	1	Amendment to drainage report for Arbolera De Vida Unit 2
3	1	\$50 check

COMMENTS / INSTRUCTIONS

REC'D BY: _____

AG

DATE: 2-24-05

TIME: 2:45

ENGINEERING 

SPATIAL DATA 

ADVANCED TECHNOLOGIES 

ONE STOP SHOP
CITY OF ALBUQUERQUE PLANNING DEPARTMENT
Development & Building Services

PAID RECEIPT

APPLICANT NAME

AGENT

ADDRESS

PROJECT & APP #

PROJECT NAME

\$ 441032/3424000 Conflict Management Fee

\$ 441006/4983000 DRB Actions

\$ 441006/4971000 EPC/AA/LUCC Actions & All Appeals

\$ 441018/4971000 Public Notification

\$ 50.00 441006/4983000 DRAINAGE PLAN REVIEW OR TRAFFIC IMPACT STUDY***
() Major/Minor Subdivision () Site Development Plan (☒) Bldg Permit
() Letter of Map Revision () Conditional Letter of Map Revision
() Traffic Impact Study

\$ 50.00 TOTAL AMOUNT DUE

***NOTE: If a subsequent submittal is required, bring a copy of this paid receipt with you to avoid an additional charge.

DEKKER/PERICH/SABATINI, LTD

6801 JEFFERSON NE SUITE 100
ALBUQUERQUE, NM 87109
(505) 781-9700
FED #85-0367023

12-92

WELLS FARGO NEW MEXICO, N.A. 0204

Albuquerque, NM 87103-1081
95-219-1070

033635

CHECK NO.

33635

DATE

2/1/2005

AMOUNT

\$50.00

PAY
TO THE
ORDER
OF

CITY OF ALBUQUERQUE

VOID AFTER 90 DAYS

033635 107002192 1047519568

CLIENT/COURIER TRANSMITTAL

To: Brad Bingham
Plaza Del Sol

Requested by: Stephanie Stratton

Date: 4/7/05

Time Due: ☐ This A.M.
☒ This P.M.
☐ Rush _____
☐ By Tomorrow

Phone: 924-3986

Job No.: 050073-

Job Name: Sawmill

DELIVERY VIA

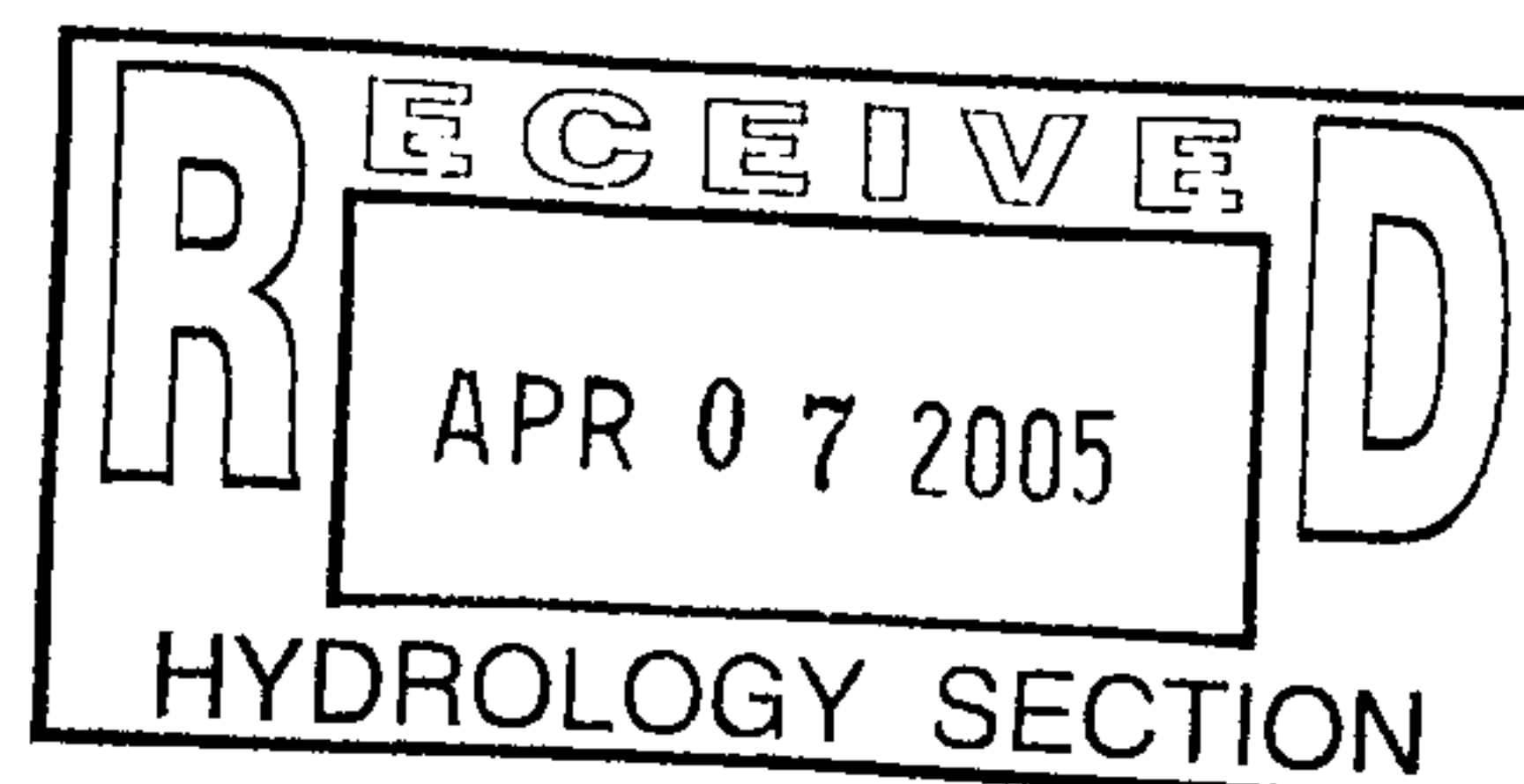
☒ Courier ☐ Federal Express
☐ Mail ☐ UPS
☐ Other

PICK UP

Item: _____

<u>ITEM NO.</u>	<u>QUANTITY</u>	<u>DESCRIPTION</u>
1	1	Revised Grading & Drainage Plan

COMMENTS / INSTRUCTIONS



REC'D BY: *P. Francis*

DATE: 4/7/05 TIME: 3:15

ENGINEERING 
SPATIAL DATA 

ADVANCED TECHNOLOGIES 

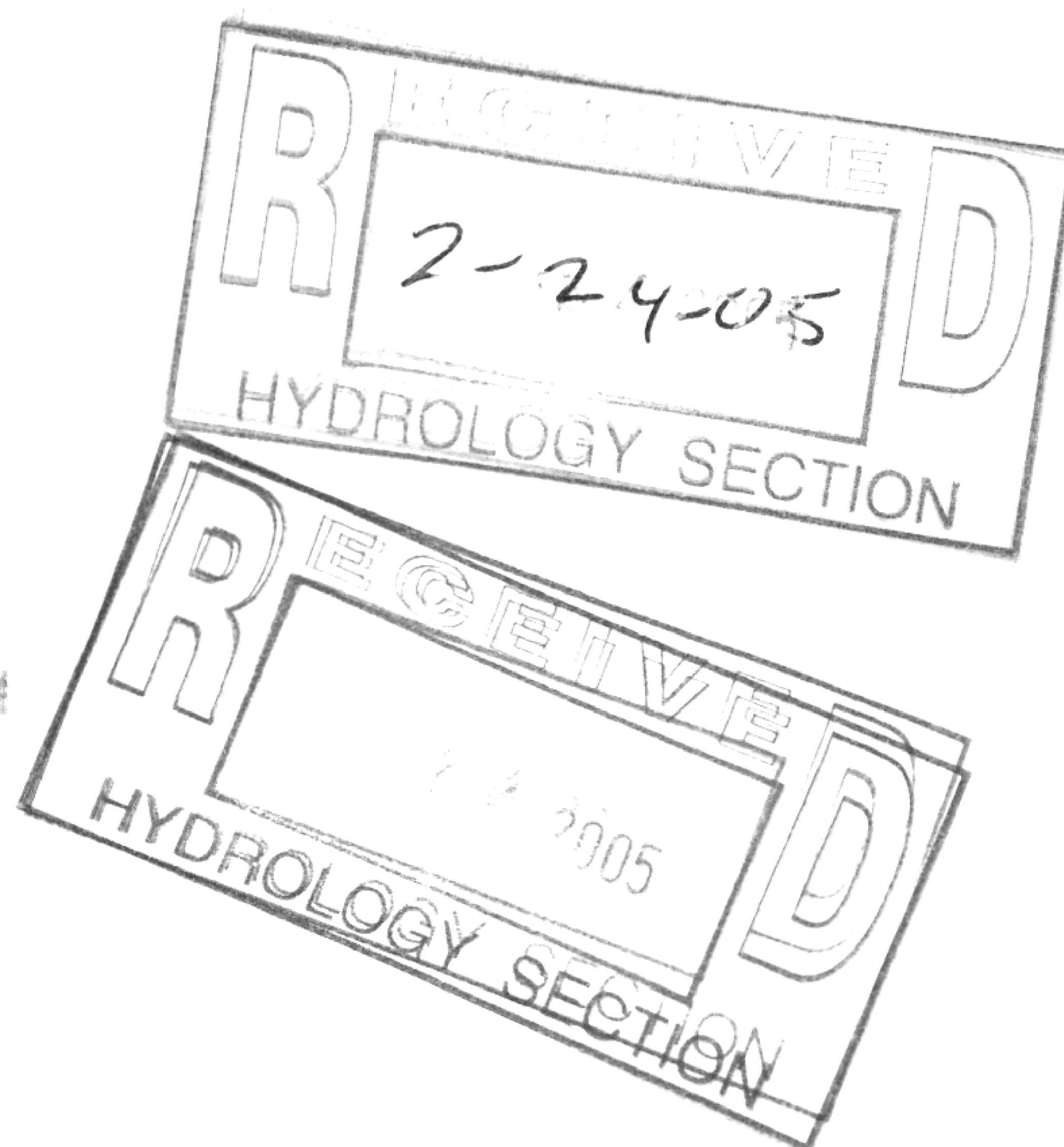
AMENDMENT TO THE DRAINAGE REPORT FOR ARBOLERA DE VIDA UNIT 2 (AKA SAWMILL)

FEBRUARY 24, 2005

Prepared for:
Sawmill Community Land Trust
PO Box 25181
Albuquerque, NM 87125-5181

Bohannon & Huston, Inc.

ENGINEERING &
SPATIAL DATA &
ADVANCED TECHNOLOGIES &



AMENDMENT TO THE
DRAINAGE REPORT
FOR
ARBOLERA DE VIDA - UNIT 2
(aka SAWMILL)

FEBRURARY 24, 2005

Prepared for:

SAWMILL COMMUNITY LAND TRUST
PO BOX 25181
ALBUQUERQUE, NM 87125-5181

Prepared by:

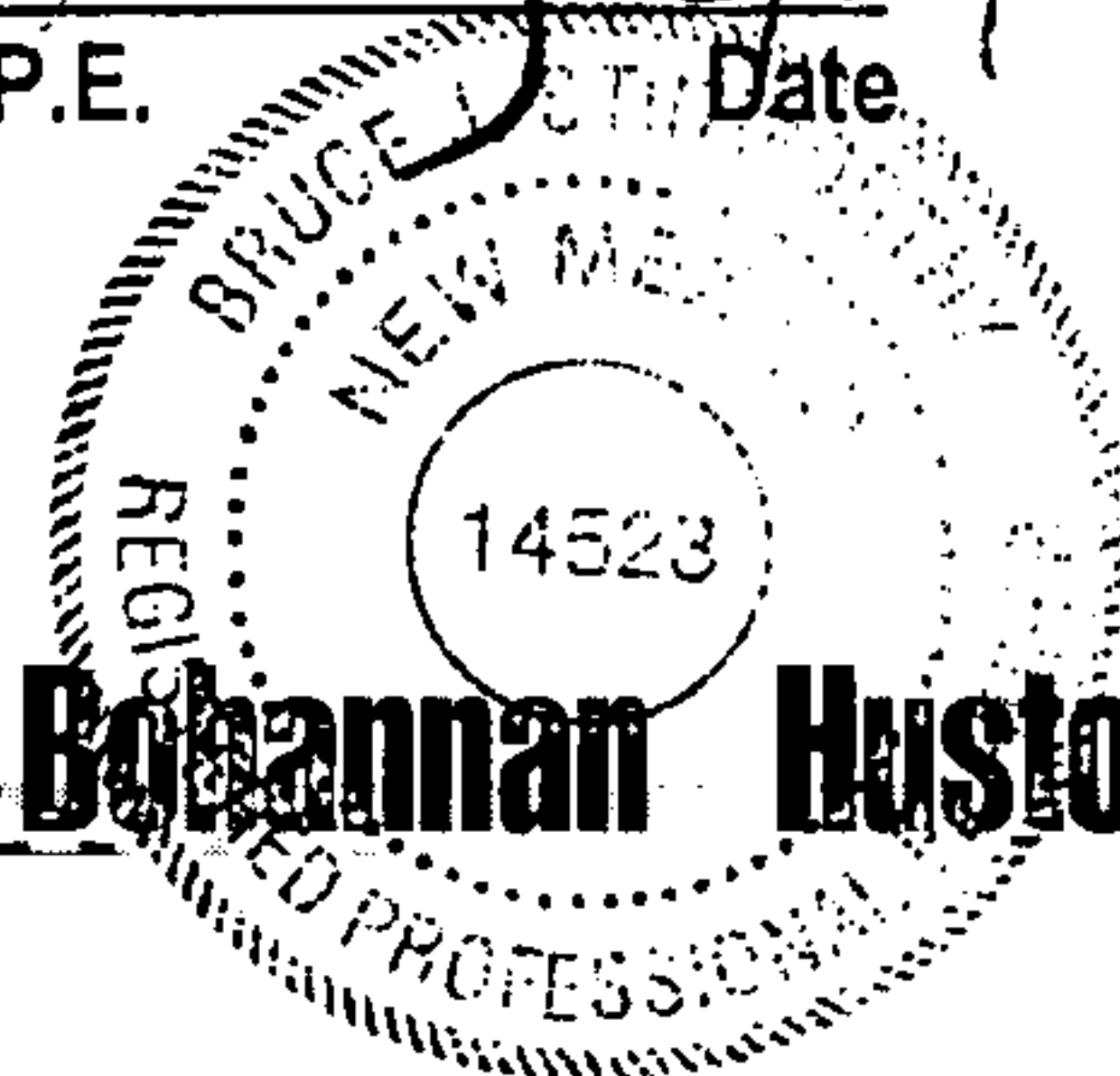
BOHANNAN HUSTON, INC.
COURTYARD I
7500 JEFFERSON STREET NE
ALBUQUERQUE, NM 87109

AMENDMENT PREPARED BY:

UNDER THE SUPERVISION OF:

 2/24/05
Michael J. Balaskovits, E.I. Date

 2/24/05
Bruce J. Stidworthy, P.E. Date



Bohannon Huston INC.

TABLE OF CONTENTS FOR AMENDMENT

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I. <i>PURPOSE</i>	1
II. <i>METHODOLOGIES</i>	1
III. <i>SITE LOCATION AND CHARACTERISTICS</i>	1
IV. <i>PROPOSED AMENDED HYDRAULIC AND HYDROLOGIC CONDITIONS (ARBOLERA DE VIDA – UNIT 2)</i>	1
V. <i>OFFSITE BASIN 4 (SAWMILL LOFTS SITE)</i>	2
VI. <i>CONCLUSION</i>	3

APPENDICES

APPENDIX F: AMENDED AHYMO ANALYSIS

APPENDIX G: POND TABLES

APPENDIX H: ORIFICE PLATE DETAILS

EXHIBITS

EXHIBIT 6: PROPOSED DRAINAGE BASIN MAP (UPDATED)

EXHIBIT 7: SAWMILL LOFTS SITE GRADING AND DRAINAGE PLAN

I. **PURPOSE**

The purpose of this amended section of the approved drainage report for Arbolera De Vida – Unit 2 (Sawmill) is to demonstrate that Offsite Basin 4 (Sawmill Lofts) can drain directly into the new 18" RCP storm drain that ties into the Bellamah Ave. storm drain. The proposed development of the Sawmill Lofts site includes multiple live/work lofts along with associated landscaped and parking areas.

II. **METHODOLOGIES**

Site conditions were analyzed for the 100-year, 6-hour storm event in accordance with City of Albuquerque Development Process Manual Section 22.2 and by performing an AHYMO model to more accurately represent the drainage system.

III. **SITE LOCATION AND CHARACTERISTICS**

The Sawmill Lofts site is located at the northeast corner of Bellamah Ave. and 19th Street. According to Section V.B. of this report, the flow generated within this basin should be collected by a future onsite pond. Further analysis of this report through the AHYMO program resulted in the elimination of this onsite pond and the ability to utilize the new pond (Pond 2) as an outfall for this drainage. (See Appendix F for complete AHYMO Analysis)

IV. **PROPOSED AMENDED HYDRAULIC AND HYDROLOGIC CONDITIONS
(ARBOLERA DE VIDA – UNIT 2)**

The entire Arbolera de Vida, Unit 2 site was reanalyzed using AHYMO resulting in more accurate results. These results developed important characteristics of the site not provided within the approved report. This additional information includes, peak discharge rates, time to peak discharge, maximum water surface elevation, etc. The land treatment percentages, acreages, and contributing basins did not change, however the pond volumes were greater, based on the final DRC plans. The original calculations used for the approved report were based on preliminary plans.

Pond 1-(See Appendix G for full Pond results) **EXHIBIT 6**

The contributing basins for Pond 1 are outlined in ~~Appendix E~~. The total acreage of the contributing basins into this pond is 11.32 acres (Basin 1) as shown on sheet E-1.

The three (3) sub basins and their associated land treatment percentages as shown on sheet E-1 are represented in the AHYMO analysis as Basin 1A, 1B, and 1C. The total volume generated by these basins is equal to 1.13 acre-ft with a peak discharge of 36.47 cfs. (See Exhibit 6 – Proposed Drainage Basin Map – Updated)

Basin 1 (Hydrograph ID BASIN 1) was routed through Pond 1, which has an outfall into Pond 2. The AHYMO analysis showed that the peak discharge from Pond 1 to Pond 2 is equal to 2.80cfs and occurs at hour 2.17. ✓

Pond 2-(See Appendix G for full Pond Results)

The contributing basins for Pond 2 are outlined in Appendix E as well. Three (3) sub basins and their associated land treatment percentages as shown on sheet E-3 are represented in the AHYMO analysis as Basin 2A, 2B, and 2C. According to the AHYMO analysis, the total volume generated by these basins is equal to 1.45 acre-ft with a peak discharge of 39.87cfs. Offsite Basin 4 was added separately to show this pond had capacity to accept the drainage generated from this site. (Volume generated with Offsite Basin 4 = 1.78 acre-ft, peak discharge = 52.51cfs) ✓

2.23

2

1.33

Basin 2 (Hydrograph ID BASIN2) plus the outflow from Pond 1 (Hydrograph ID POND-1) was routed through Pond 2. The outflow for Pond 2 enters an 18" storm drain (Invert=54.00), which runs through the parking area of the Sawmill Lofts site and ties into the 18" storm drain in Bellamah Ave. (Plans have been approved by DRC for this 18" storm drain, see City Project number 617582). The peak discharge that enters this 18" storm drain from Pond 2 is 1.28cfs with a maximum water surface elevation of 54.40. This peak discharge occurs at hour 3.57. ✓

15.7 cfs max from Ave

The 1.28cfs outfall from Pond 2 is less than the maximum allowable 4.1cfs mentioned in the MDP (see section V. Proposed Hydraulic and Hydrologic Conditions, sheet 3 of approved report), thus allowing for additional capacity to enter this storm drain directly from Offsite Basin 4. In addition, Pond 2 has enough capacity to allow the entire volume generated on Offsite Basin 4 to enter this pond (Contributing basins to Pond 2 + Offsite Basin 4 = 1.78 acre-ft < Total Pond Volume = 3.94 acre-ft).

V. **OFFSITE BASIN 4 (SAWMILL LOFTS SITE)**

Offsite Basin 4 (2.92 acres – per updated final signed off DRC set and preliminary plat DRB# 1000029) was modeled in AHMYO to determine the time of peak discharge. In accordance with Appendix A of the approved plan, the developed land treatments were used for this analysis (15% land treatment B and 85% land treatment D-Sheet A-1). The peak discharge for the Sawmill Lofts site was 12.64cfs which occurred at hour 1.5. The time to peak for the Sawmill Lofts site will occur sooner than the time to peak for the outflow of Pond 2. (1.5hour < 3.57hour). This is another factor that allows for the Sawmill Lofts site to drain directly to the 18" storm drain.

The onsite drainage for the Sawmill Lofts is transmitted over the site through multiple storm drain lines and surface flow. There are three storm drain lines that spread throughout the site and tie directly into the 18" storm drain via manhole connections. These lines tie into roof drains and area drains within the site. In

addition to the lines mentioned, there are also two inlets located within the parking lot which pick up surface flow.

In order to mitigate flows entering the Bellamah Ave. storm drain, the furthest downstream manhole on site will have an orifice plate constructed at the invert of the outlet. The allowable head on this orifice plate is 5.63ft which is equivalent to the rim elevation of this manhole (Rim=58.65) minus the elevation of the center of the orifice (Invert of 18" pipe = 52.72, Elev. of center of orifice = 53.05. This resulted in an orifice plate to be constructed as a 7" x 7" opening. The orifice plate will reduce the flow generated on the Sawmill Lofts site to the required 4.1cfs as described in the approved plan. (See Appendix H – Orifice Plate Details)

As the 4.1cfs is discharged into the Bellamah Ave. storm drain, the remainder of the drainage ($12.64 - 4.1 = 8.54$ cfs) will discharge back to Pond 2.

VI. **CONCLUSION**

The drainage report for Arbolera De Vida – Unit 2 storm system has been reanalyzed to demonstrate the safe passage of the 100 year, 6 hour storm event for Sawmill Lofts site (Offsite Basin 4). Based on the DPM methodology and utilizing AHYMO as a means to model the storm system, the maximum allowable discharge of 4.1cfs into the Bellamah Ave. storm drain will be maintained.

It is clear that not only does the peak discharge for the Sawmill Lofts site occur at an earlier time than Pond 2, but the maximum peak discharge for Pond 2 is equal to 1.28cfs at a maximum water surface elevation of 54.40. This not only allows time for the Sawmill Lofts site to drain, but also demonstrates that the allowable 4.1cfs is not completely being utilized by the new system.

This amendment has been prepared in support of drainage report approval and building permit approval for the Sawmill Lofts.

(AMENDED) APPENDICES

APPENDIX F: AHYMO ANALYSIS

APPENDIX G: POND RESULTS

APPENDIX H: ORIFICE DETAILS

APPENDIX F
AHYMO ANALYSIS

AHYMO PROGRAM SUMMARY TABLE (AHYMO_97) -
INPUT FILE = FINAL.HYM

- VERSION: 1997.02c

RUN DATE (MON/DAY/YR) =02/23/2005
USER NO.= AHYMO-S-9702c1BohanHu-AH

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	PAGE = 1 NOTATION
*S AHYMO FILE FOR SAWMILL- ZONE 2, BH PROJ # 05 0073										
*S 6HR, 100YR STORM										
*S Note:										
*S INPUT FILE -- P:\050073\CDP\HYDRO\AHYMO\SAWMILL.HYM										
*S OUTPUT FILE -- P:\050073\CDP\HYDRO\AHYMO\SAWMILL.OUT										
LOCATION ALBUQUERQUE										
RAINFALL TYPE= 1										RAIN6= 2.350
S BASIN COMPUTATIONS										
*S*****BASIN 1*****										
COMPUTE NM HYD	BASIN-1A	-	1	.00184	4.80	.171	1.73723	1.500	4.071 PER IMP=	67.92
COMPUTE NM HYD	BASIN-1B	-	2	.00078	2.27	.083	1.99749	1.500	4.534 PER IMP=	90.00
COMPUTE NM HYD	BASIN-1C	-	3	.01506	29.40	.873	1.08645	1.500	3.049 PER IMP=	.00
ADD HYD	101.00	1& 2	21	.00263	7.07	.254	1.81445	1.500	4.209	
*S***NOTE: ID 22, IS BASIN 1 AS SHOWN ON THE AMENDED BASIN MAP*****										
ADD HYD	BASIN1 21& 3	22		.01769	36.47	1.127	1.19448	1.500	3.221	
*S*****POND 1*****										
ROUTE RESERVOIR	POND-1	22	51	.01769	2.80	.434	.46023	2.166	.247 AC-FT=	.969
*S*****BASIN 2*****										
COMPUTE NM HYD	BASIN-2A	-	4	.00850	22.08	.788	1.73723	1.500	4.059 PER IMP=	67.92
COMPUTE NM HYD	BASIN-2B	-	5	.00081	2.36	.087	1.99749	1.500	4.532 PER IMP=	90.00
COMPUTE NM HYD	BASIN-2C	-	6	.00791	15.43	.458	1.08645	1.500	3.050 PER IMP=	.00
ADD HYD	103.00	4& 5	23	.00931	24.44	.874	1.75988	1.500	4.100	
*S***NOTE: ID 24, IS BASIN 2 AS SHOWN ON THE AMENDED BASIN MAP*****										
ADD HYD	BASIN2 6&23	24		.01722	39.87	1.332	1.45066	1.500	3.618	
*S*****POND 2*****										
ADD HYD	106.00	51&24	26	.03491	39.88	1.766	.94879	1.500	1.785	
ROUTE RESERVOIR	POND-2	26	52	.03491	1.28	.608	.32664	3.566	.057 AC-FT=	1.485
*S*****BASIN 2 + OFFSITE BASIN 4*****										
*SAWMILL LOFTS SITE(OFFSITE BASIN 4)										
COMPUTE NM HYD	SAWMILL	-	7	.00455	12.64	.465	1.91479	1.500	4.341 PER IMP=	85.00
ADD HYD	105.00	7&24	25	.02177	52.51	1.797	1.54766	1.500	3.769	
*S*****POND 2 (INCLUDING OFFSITE BASIN 4)*****										
ADD HYD	107.00	51&25	27	.03946	52.52	2.231	1.06018	1.500	2.080	
ROUTE RESERVOIR	POND-2	27	52	.03946	2.41	1.071	.50901	2.900	.096 AC-FT=	1.782
FINISH										

AHYMO OUTPUT FILE

AHYMO PROGRAM (AHYMO_97) -

- Version: 1997.02c

RUN DATE (MON/DAY/YR) = 02/23/2005

START TIME (HR:MIN:SEC) = 15:45:58

USER NO. = AHYMO-S-9702c1BohanHu-AH

INPUT FILE = FINAL.HYM

*S AHYMO FILE FOR SAWMILL- ZONE 2, BH PROJ # 05 0073

*S 6HR, 100YR STORM

*S Note:

*S INPUT FILE -- P:\050073\CDP\HYDRO\AHYMO\SAWMILL.HYM

*

*S OUTPUT FILE -- P:\050073\CDP\HYDRO\AHYMO\SAWMILL.OUT

*

LOCATION ALBUQUERQUE, NEW MEXICO

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
---	------	------

*

*

* 100 YEAR RAINFALL TABLE

*

RAINFALL TYPE=1 RAIN QUARTER=0.0

RAIN ONE=2.01 IN RAIN SIX=2.35 IN

RAIN DAY=2.75 IN DT=0.03333 HRS

COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.

DT = .033330 HOURS END TIME = 5.999400 HOURS

.0000	.0016	.0033	.0049	.0066	.0084	.0102
-------	-------	-------	-------	-------	-------	-------

.0120	.0139	.0158	.0178	.0199	.0219	.0241
-------	-------	-------	-------	-------	-------	-------

.0263	.0286	.0309	.0333	.0358	.0384	.0411
-------	-------	-------	-------	-------	-------	-------

.0439	.0467	.0497	.0529	.0561	.0596	.0631
-------	-------	-------	-------	-------	-------	-------

.0669	.0709	.0751	.0807	.0866	.0930	.1066
-------	-------	-------	-------	-------	-------	-------

.1371	.1840	.2514	.3434	.4644	.6186	.8106
-------	-------	-------	-------	-------	-------	-------

1.0449	1.2624	1.3533	1.4300	1.4982	1.5602	1.6174
--------	--------	--------	--------	--------	--------	--------

1.6704	1.7200	1.7664	1.8102	1.8514	1.8904	1.9273
--------	--------	--------	--------	--------	--------	--------

1.9622	1.9953	2.0268	2.0566	2.0850	2.0915	2.0976
--------	--------	--------	--------	--------	--------	--------

2.1033	2.1088	2.1140	2.1191	2.1239	2.1285	2.1329
--------	--------	--------	--------	--------	--------	--------

2.1373	2.1414	2.1454	2.1494	2.1531	2.1568	2.1604
--------	--------	--------	--------	--------	--------	--------

2.1639	2.1673	2.1706	2.1739	2.1771	2.1802	2.1832
--------	--------	--------	--------	--------	--------	--------

2.1862	2.1891	2.1919	2.1947	2.1975	2.2002	2.2028
--------	--------	--------	--------	--------	--------	--------

2.2054	2.2080	2.2105	2.2130	2.2154	2.2178	2.2202
--------	--------	--------	--------	--------	--------	--------

2.2225	2.2248	2.2270	2.2293	2.2315	2.2336	2.2358
--------	--------	--------	--------	--------	--------	--------

2.2379	2.2399	2.2420	2.2440	2.2460	2.2480	2.2500
--------	--------	--------	--------	--------	--------	--------

2.2519	2.2538	2.2557	2.2576	2.2594	2.2612	2.2631
--------	--------	--------	--------	--------	--------	--------

2.2648	2.2666	2.2684	2.2701	2.2718	2.2735	2.2752
--------	--------	--------	--------	--------	--------	--------

2.2769	2.2785	2.2802	2.2818	2.2834	2.2850	2.2866
--------	--------	--------	--------	--------	--------	--------

2.2881	2.2897	2.2912	2.2928	2.2943	2.2958	2.2973
2.2987	2.3002	2.3017	2.3031	2.3045	2.3060	2.3074
2.3088	2.3102	2.3115	2.3129	2.3143	2.3156	2.3169
2.3183	2.3196	2.3209	2.3222	2.3235	2.3248	2.3261
2.3273	2.3286	2.3298	2.3311	2.3323	2.3335	2.3348
2.3360	2.3372	2.3384	2.3396	2.3408	2.3419	2.3431
2.3443	2.3454	2.3466	2.3477	2.3488	2.3500	

S BASIN COMPUTATIONS

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*S*****BASIN 1*****

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*BASIN 1A

*CONTRIBUTING BASINS TO 1A -> D-1 & D-2

COMPUTE NM HYD ID=1 HYD=BASIN-1A AREA=.001844 SQ MI

PER A=0 PER B=16.04 PER C=16.04 PER D=67.92

TP=0.1333 HR MASS RAIN=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 4.9447 CFS UNIT VOLUME = .9969 B = 526.28 P60 = 2.0100
 AREA = .001252 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

K = .119767HR TP = .133300HR K/TP RATIO = .898476 SHAPE CONSTANT, N = 3.944947
 UNIT PEAK = 1.5598 CFS UNIT VOLUME = .9919 B = 351.48 P60 = 2.0100
 AREA = .000592 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

PRINT HYD

ID=1

CODE=10

HYDROGRAPH FROM AREA BASIN-1A

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.333	1.2	2.666	.1	4.000	.0	5.333	.0
.333	.0	1.666	2.5	3.000	.0	4.333	.0	5.666	.0
.667	.0	2.000	1.1	3.333	.0	4.666	.0	5.999	.0
1.000	.0	2.333	.2	3.666	.0	5.000	.0	6.333	.0

RUNOFF VOLUME = 1.73723 INCHES = .1708 ACRE-FEET
 PEAK DISCHARGE RATE = 4.80 CFS AT 1.500 HOURS BASIN AREA = .0018 SQ. MI.

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*BASIN 1B

*CONTRIBUTING BASINS TO 1B -> D-3 & D-4

COMPUTE NM HYD ID=2 HYD=BASIN-1B AREA=.000781 SQ MI

PER A=0 PER B=5 PER C=5 PER D=90

TP=0.1333 HR MASS RAIN=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 2.7751 CFS UNIT VOLUME = .9955 B = 526.28 P60 = 2.0100
AREA = .000703 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

K = .119767HR TP = .133300HR K/TP RATIO = .898476 SHAPE CONSTANT, N = 3.944947
UNIT PEAK = .20593 CFS UNIT VOLUME = .9346 B = 351.48 P60 = 2.0100
AREA = .000078 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

PRINT HYD ID=2 CODE=10

HYDROGRAPH FROM AREA BASIN-1B

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.333	.7	2.666	.0	4.000	.0	5.333	.0
.333	.0	1.666	1.2	3.000	.0	4.333	.0	5.666	.0
.667	.0	2.000	.5	3.333	.0	4.666	.0	5.999	.0
1.000	.0	2.333	.1	3.666	.0	5.000	.0	6.333	.0

RUNOFF VOLUME = 1.99749 INCHES = .0832 ACRE-FEET
PEAK DISCHARGE RATE = 2.27 CFS AT 1.500 HOURS BASIN AREA = .0008 SQ. MI.

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*BASIN 1C
*CONTRIBUTING BASINS TO 1C -> OFFSITE BASINS 1A, 1B, 2 & POND 1
COMPUTE NM HYD ID=3 HYD=BASIN-1C AREA=.015063 SQ MI
PER A=0 PER B=10 PER C=90 PER D=0
TP=0.1333 HR MASS RAIN=-1

K = .109910HR TP = .133300HR K/TP RATIO = .824532 SHAPE CONSTANT, N = 4.330009
UNIT PEAK = 42.557 CFS UNIT VOLUME = 1.000 B = 376.60 P60 = 2.0100
AREA = .015063 SQ MI IA = .36500 INCHES INF = .87200 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

PRINT HYD ID=3 CODE=10

HYDROGRAPH FROM AREA BASIN-1C

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.000	.0	2.000	4.0	3.000	.1	4.000	.0
.333	.0	1.333	2.3	2.333	1.1	3.333	.1		
.667	.0	1.666	16.0	2.666	.4	3.666	.0		

RUNOFF VOLUME = 1.08645 INCHES = .8728 ACRE-FEET
PEAK DISCHARGE RATE = 29.40 CFS AT 1.500 HOURS BASIN AREA = .0151 SQ. MI.

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ADD HYD
PRINT HYD

ID=21 HYD=101 ID I=1 ID II=2
ID=21 CODE=10

PARTIAL HYDROGRAPH 101.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.333	1.9	2.666	.1	4.000	.0	5.333	.0
.333	.0	1.666	3.6	3.000	.1	4.333	.0	5.666	.0
.667	.0	2.000	1.6	3.333	.0	4.666	.0	5.999	.0
1.000	.0	2.333	.3	3.666	.0	5.000	.0	6.333	.0

RUNOFF VOLUME = 1.81445 INCHES = .2540 ACRE-Feet
PEAK DISCHARGE RATE = 7.07 CFS AT 1.500 HOURS BASIN AREA = .0026 SQ. MI.

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*S**NOTE: ID 22, IS BASIN 1 AS SHOWN ON THE AMENDED BASIN MAP*****

ADD HYD ID=22 HYD=BASIN1 ID I=21 ID II=3
PRINT HYD ID=22 CODE=10

HYDROGRAPH FROM AREA BASIN1

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.333	4.2	2.666	.5	4.000	.0	5.333	.0
.333	.0	1.666	19.7	3.000	.2	4.333	.0	5.666	.0
.667	.0	2.000	5.6	3.333	.1	4.666	.0	5.999	.0
1.000	.0	2.333	1.4	3.666	.1	5.000	.0	6.333	.0

RUNOFF VOLUME = 1.19448 INCHES = 1.1268 ACRE-Feet
PEAK DISCHARGE RATE = 36.47 CFS AT 1.500 HOURS BASIN AREA = .0177 SQ. MI.

← BASIN 1

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*S*****POND 1*****

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ROUTE RESERVOIR	ID=51	HYD=POND-1	INFLOW ID=22	CODE=10
	OUTFLOW	STORAGE	ELEV	
	(CFS)	(AC-FT)	(FT)	
		0.000	0.0000	52.00
		0.010	0.7014	53.00
		7.920	1.4607	54.00
		9.830	2.2796	55.00

13.188 3.1597 56.00
15.850 4.1027 57.00

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TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	52.00	.000	.00
.33	.00	52.00	.000	.00
.67	.00	52.00	.000	.00
1.00	.00	52.00	.000	.00
1.33	4.21	52.02	.014	.00
1.67	19.68	53.00	.702	.02
2.00	5.56	53.33	.953	2.63
2.33	1.40	53.34	.957	2.68
2.67	.51	53.28	.914	2.22
3.00	.20	53.22	.868	1.75
3.33	.10	53.17	.830	1.35
3.67	.06	53.13	.799	1.03
4.00	.04	53.10	.776	.78
4.33	.03	53.07	.758	.60
4.67	.03	53.06	.744	.46
5.00	.03	53.04	.734	.35
5.33	.04	53.03	.727	.27
5.67	.04	53.03	.721	.21
6.00	.04	53.02	.717	.17
6.33	.00	53.02	.713	.13
6.67	.00	53.01	.710	.10
7.00	.00	53.01	.708	.07
7.33	.00	53.01	.706	.06
7.67	.00	53.00	.704	.04
8.00	.00	53.00	.703	.03
8.33	.00	53.00	.703	.02
8.67	.00	53.00	.702	.02
9.00	.00	53.00	.702	.01
9.33	.00	53.00	.701	.01
9.67	.00	53.00	.701	.01
10.00	.00	53.00	.701	.01
10.33	.00	53.00	.701	.01
10.67	.00	53.00	.700	.01
11.00	.00	53.00	.700	.01
11.33	.00	53.00	.700	.01
11.67	.00	53.00	.699	.01
12.00	.00	53.00	.699	.01
12.33	.00	53.00	.699	.01
12.67	.00	53.00	.699	.01
13.00	.00	53.00	.698	.01
13.33	.00	53.00	.698	.01
13.67	.00	52.99	.698	.01
14.00	.00	52.99	.698	.01
14.33	.00	52.99	.697	.01
14.67	.00	52.99	.697	.01
15.00	.00	52.99	.697	.01

15.33	.00	52.99	.696	.01
15.67	.00	52.99	.696	.01
16.00	.00	52.99	.696	.01
16.33	.00	52.99	.696	.01
16.67	.00	52.99	.695	.01
17.00	.00	52.99	.695	.01
17.33	.00	52.99	.695	.01
17.66	.00	52.99	.695	.01
18.00	.00	52.99	.694	.01
18.33	.00	52.99	.694	.01

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
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18.66	.00	52.99	.694	.01
19.00	.00	52.99	.693	.01
19.33	.00	52.99	.693	.01
19.66	.00	52.99	.693	.01

PEAK DISCHARGE = 2.801 CFS - PEAK OCCURS AT HOUR 2.17
 MAXIMUM WATER SURFACE ELEVATION = 53.353
 MAXIMUM STORAGE = .9693 AC-FT INCREMENTAL TIME= .033330HRS

← Pond 1

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 *S*****BASIN 2*****
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*BASIN 2A
 *CONTRIBUTING BASINS TO 2A -> B-1, B-3, C-1, C-3, C-4, C-5, C-6
 COMPUTE NM HYD ID=4 HYD=BASIN-2A AREA=.0085 SQ MI
 PER A=0 PER B=16.04 PER C=16.04 PER D=67.92
 TP=0.1333 HR MASS RAIN=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 22.793 CFS UNIT VOLUME = .9988 B = 526.28 P60 = 2.0100
 AREA = .005773 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

K = .119767HR TP = .133300HR K/TP RATIO = .898476 SHAPE CONSTANT, N = 3.944947
 UNIT PEAK = 7.1900 CFS UNIT VOLUME = .9985 B = 351.48 P60 = 2.0100
 AREA = .002727 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

PRINT HYD ID=4 CODE=10

HYDROGRAPH FROM AREA BASIN-2A

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.666	11.4	3.333	.1	5.000	.1
						6.666	.0

.333	.0	2.000	4.8	3.666	.1	5.333	.1
.667	.0	2.333	1.1	4.000	.1	5.666	.1
1.000	.0	2.666	.4	4.333	.1	5.999	.1
1.333	5.6	3.000	.2	4.666	.1	6.333	.0

RUNOFF VOLUME = 1.73723 INCHES = .7875 ACRE-Feet
 PEAK DISCHARGE RATE = 22.08 CFS AT 1.500 HOURS BASIN AREA = .0085 SQ. MI.

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*BASIN 2B

*CONTRIBUTING BASINS TO 2B -> B-2, B-4, B-5 & C-2

COMPUTE NM HYD ID=5 HYD=BASIN-2B AREA=.0008125 SQ MI
 PER A=0 PER B=5 PER C=5 PER D=90
 TP=0.1333 HR MASS RAIN=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 2.8870 CFS UNIT VOLUME = .9955 B = 526.28 P60 = 2.0100
 AREA = .000731 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

K = .119767HR TP = .133300HR K/TP RATIO = .898476 SHAPE CONSTANT, N = 3.944947
 UNIT PEAK = .21424 CFS UNIT VOLUME = .9405 B = 351.48 P60 = 2.0100
 AREA = .000081 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

PRINT HYD ID=5 CODE=10

HYDROGRAPH FROM AREA BASIN-2B

TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW
HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS
.000	.0	1.333	.7	2.666	.0	4.000	.0	5.333	.0
.333	.0	1.666	1.2	3.000	.0	4.333	.0	5.666	.0
.667	.0	2.000	.6	3.333	.0	4.666	.0	5.999	.0
1.000	.0	2.333	.1	3.666	.0	5.000	.0	6.333	.0

RUNOFF VOLUME = 1.99749 INCHES = .0866 ACRE-Feet
 PEAK DISCHARGE RATE = 2.36 CFS AT 1.500 HOURS BASIN AREA = .0008 SQ. MI.

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*BASIN 2C

*CONTRIBUTING BASINS TO 2C -> OFFSITE BASINS 3, 5 & POND 2

COMPUTE NM HYD ID=6 HYD=BASIN-2C AREA=.007906 SQ MI
 PER A=0 PER B=10 PER C=90 PER D=0
 TP=0.1333 HR MASS RAIN=-1

K = .109910HR TP = .133300HR K/TP RATIO = .824532 SHAPE CONSTANT, N = 4.330009

UNIT PEAK = 22.336 CFS UNIT VOLUME = .9998 B = 376.60 P60 = 2.0100
 AREA = .007906 SQ MI IA = .36500 INCHES INF = .87200 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

PRINT HYD ID=6 CODE=10

HYDROGRAPH FROM AREA BASIN-2C

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.000	.0	2.000	2.1	3.000	.1		
.333	.0	1.333	1.2	2.333	.6	3.333	.0		
.667	.0	1.666	8.4	2.666	.2	3.666	.0		

RUNOFF VOLUME = 1.08645 INCHES = .4581 ACRE-FEET
 PEAK DISCHARGE RATE = 15.43 CFS AT 1.500 HOURS BASIN AREA = .0079 SQ. MI.

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ADD HYD ID=23 HYD=103 ID I=4 ID II=5
 PRINT HYD ID=23 CODE=10

PARTIAL HYDROGRAPH 103.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.666	12.6	3.333	.2	5.000	.1	6.666	.0
.333	.0	2.000	5.4	3.666	.1	5.333	.1		
.667	.0	2.333	1.2	4.000	.1	5.666	.1		
1.000	.0	2.666	.5	4.333	.1	5.999	.1		
1.333	6.3	3.000	.2	4.666	.1	6.333	.0		

RUNOFF VOLUME = 1.75988 INCHES = .8741 ACRE-FEET
 PEAK DISCHARGE RATE = 24.44 CFS AT 1.500 HOURS BASIN AREA = .0093 SQ. MI.

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 *S**NOTE: ID 24, IS BASIN 2 AS SHOWN ON THE AMENDED BASIN MAP*****
 ADD HYD ID=24 HYD=BASIN2 ID I=6 ID II=23
 PRINT HYD ID=24 CODE=10

HYDROGRAPH FROM AREA BASIN2

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.666	21.0	3.333	.2	5.000	.1	6.666	.0
.333	.0	2.000	7.5	3.666	.1	5.333	.1		
.667	.0	2.333	1.7	4.000	.1	5.666	.1		
1.000	.0	2.666	.7	4.333	.1	5.999	.1		
1.333	7.5	3.000	.3	4.666	.1	6.333	.0		

RUNOFF VOLUME = 1.45066 INCHES = 1.3322 ACRE-Feet
 PEAK DISCHARGE RATE = 39.87 CFS AT 1.500 HOURS BASIN AREA = .0172 SQ. MI.

← BASIN 2

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 *S*****POND 2*****
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 ADD HYD ID=26 HYD=106 ID I=51 ID II=24
 PRINT HYD ID=26 CODE=10

PARTIAL HYDROGRAPH 106.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	4.000	.9	7.999	.0	11.999	.0	15.998	.0
.333	.0	4.333	.7	8.333	.0	12.332	.0	16.332	.0
.667	.0	4.666	.6	8.666	.0	12.665	.0	16.665	.0
1.000	.0	5.000	.5	8.999	.0	12.999	.0	16.998	.0
1.333	7.5	5.333	.4	9.332	.0	13.332	.0	17.332	.0
1.666	21.0	5.666	.3	9.666	.0	13.665	.0	17.665	.0
2.000	10.1	5.999	.3	9.999	.0	13.999	.0	17.998	.0
2.333	4.4	6.333	.1	10.332	.0	14.332	.0	18.331	.0
2.666	2.9	6.666	.1	10.666	.0	14.665	.0	18.665	.0
3.000	2.1	6.999	.1	10.999	.0	14.998	.0	18.998	.0
3.333	1.5	7.333	.1	11.332	.0	15.332	.0	19.331	.0
3.666	1.2	7.666	.0	11.665	.0	15.665	.0	19.665	.0

RUNOFF VOLUME = .94879 INCHES = 1.7663 ACRE-Feet
 PEAK DISCHARGE RATE = 39.88 CFS AT 1.500 HOURS BASIN AREA = .0349 SQ. MI.

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 ROUTE RESERVOIR ID=52 HYD=POND-2 INFLOW ID=26 CODE=10
 OUTFLOW STORAGE ELEV
 (CFS) (AC-FT) (FT)
 0.000 0.0000 52.50
 0.010 0.4143 53.00
 0.010 1.1553 54.00
 3.198 1.9869 55.00
 9.830 2.9156 56.00
 13.188 3.9416 57.00
 15.850 5.0638 58.00

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TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
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.00	.00	52.50	.000	.00
.33	.00	52.50	.000	.00
.67	.00	52.50	.000	.00
1.00	.00	52.50	.000	.00
1.33	7.53	52.54	.033	.00
1.67	21.05	54.00	1.155	.01
2.00	10.11	54.04	1.188	.14
2.33	4.42	54.25	1.360	.79
2.67	2.91	54.33	1.432	1.07
3.00	2.07	54.38	1.468	1.21
3.33	1.54	54.39	1.483	1.27
3.67	1.16	54.40	1.485	1.27
4.00	.90	54.39	1.478	1.25
4.33	.71	54.37	1.466	1.20
4.67	.57	54.36	1.452	1.15
5.00	.46	54.34	1.435	1.08
5.33	.39	54.32	1.418	1.02
5.67	.34	54.30	1.401	.95
6.00	.31	54.28	1.384	.89
6.33	.15	54.25	1.367	.82
6.67	.10	54.23	1.349	.75
7.00	.07	54.21	1.331	.68
7.33	.06	54.19	1.315	.62
7.67	.04	54.17	1.300	.56
8.00	.03	54.16	1.286	.51
8.33	.02	54.14	1.274	.46
8.67	.02	54.13	1.262	.42
9.00	.01	54.12	1.251	.38
9.33	.01	54.10	1.242	.34
9.67	.01	54.09	1.233	.31
10.00	.01	54.08	1.225	.28
10.33	.01	54.08	1.218	.25
10.67	.01	54.07	1.212	.23
11.00	.01	54.06	1.206	.21
11.33	.01	54.06	1.201	.19
11.67	.01	54.05	1.197	.17
12.00	.01	54.04	1.192	.15
12.33	.01	54.04	1.189	.14
12.67	.01	54.04	1.185	.13
13.00	.01	54.03	1.182	.11
13.33	.01	54.03	1.180	.10
13.67	.01	54.03	1.177	.09
14.00	.01	54.02	1.175	.09
14.33	.01	54.02	1.173	.08
14.67	.01	54.02	1.171	.07
15.00	.01	54.02	1.170	.07
15.33	.01	54.02	1.168	.06
15.67	.01	54.01	1.167	.05
16.00	.01	54.01	1.166	.05
16.33	.01	54.01	1.165	.05
16.67	.01	54.01	1.164	.04
17.00	.01	54.01	1.163	.04
17.33	.01	54.01	1.162	.04

17.66	.01	54.01	1.161	.03
18.00	.01	54.01	1.161	.03
18.33	.01	54.01	1.160	.03

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

18.66	.01	54.01	1.160	.03
19.00	.01	54.00	1.159	.03
19.33	.01	54.00	1.159	.02
19.66	.01	54.00	1.159	.02

PEAK DISCHARGE = 1.276 CFS - PEAK OCCURS AT HOUR 3.57
MAXIMUM WATER SURFACE ELEVATION = 54.397
MAXIMUM STORAGE = 1.4854 AC-FT INCREMENTAL TIME= .033330HRS

← Pond 2

*
*

*
*S*****BASIN 2 + OFFSITE BASIN 4*****
*

*
*

*SAWMILL LOFTS SITE(OFFSITE BASIN 4)
COMPUTE NM HYD ID=7 HYD=SAWMILL LOFTS AREA=0.00455SQ MI
PER A=0 PER B=15 PER C=0 PER D=85
TP=0.1333 HR MASS RAIN=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 15.269 CFS UNIT VOLUME = .9987 B = 526.28 P60 = 2.0100
AREA = .003868 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

K = .132088HR TP = .133300HR K/TP RATIO = .990905 SHAPE CONSTANT, N = 3.563124
UNIT PEAK = 1.6635 CFS UNIT VOLUME = .9923 B = 324.91 P60 = 2.0100
AREA = .000683 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

PRINT HYD ID=7 CODE=10

HYDROGRAPH FROM AREA SAWMILL

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.666	6.4	3.333	.1	5.000	.1	6.666	.0
.333	.0	2.000	3.0	3.666	.1	5.333	.1		
.667	.0	2.333	.6	4.000	.1	5.666	.1		
1.000	.0	2.666	.3	4.333	.1	5.999	.1		
1.333	3.6	3.000	.1	4.666	.1	6.333	.0		

RUNOFF VOLUME = 1.91479 INCHES = .4647 ACRE-FEET
PEAK DISCHARGE RATE = 12.64 CFS AT 1.500 HOURS BASIN AREA = .0046 SQ. MI.

← SAWMILL LOFTS
SITE

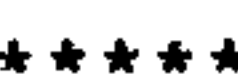
ID=25 HYD=105 ID I=7 ID II=24
ID=25 CODE=10

TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW
HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS
.000	.0	1.666	27.5	3.333	.3	5.000	.2	6.666	.0
.333	.0	2.000	10.5	3.666	.2	5.333	.2		
.667	.0	2.333	2.4	4.000	.2	5.666	.2		
1.000	.0	2.666	1.0	4.333	.2	5.999	.2		
1.333	11.2	3.000	.5	4.666	.2	6.333	.0		

*
*

*
*S*****POND 2 (INCLUDING OFFSITE BASIN 4)*****
*

*
*



ID=27 HYD=107 ID I=51 ID II=25
ID=27 CODE=10

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	4.000	1.0	7.999	.0	11.999	.0	15.998	.0
.333	.0	4.333	.8	8.333	.0	12.332	.0	16.332	.0
.667	.0	4.666	.6	8.666	.0	12.665	.0	16.665	.0
1.000	.0	5.000	.5	8.999	.0	12.999	.0	16.998	.0
1.333	11.2	5.333	.5	9.332	.0	13.332	.0	17.332	.0
1.666	27.5	5.666	.4	9.666	.0	13.665	.0	17.665	.0
2.000	13.1	5.999	.4	9.999	.0	13.999	.0	17.998	.0
2.333	5.1	6.333	.2	10.332	.0	14.332	.0	18.331	.0
2.666	3.2	6.666	.1	10.666	.0	14.665	.0	18.665	.0
3.000	2.2	6.999	.1	10.999	.0	14.998	.0	18.998	.0
3.333	1.6	7.333	.1	11.332	.0	15.332	.0	19.331	.0
3.666	1.2	7.666	.0	11.665	.0	15.665	.0	19.665	.0

RUNOFF VOLUME = 1.06018 INCHES = 2.2310 ACRE-FEET
PEAK DISCHARGE RATE = 52.52 CFS AT 1.500 HOURS BASIN AREA = .0395 SQ. MI.

*
*

ROUTE RESERVOIR	ID=52	HYD=POND-2	INFLOW ID=27	CODE=10
OUTFLOW	STORAGE	ELEV		
(CFS)	(AC-FT)	(FT)		
	0.000	0.0000	52.50	
	0.010	0.4143	53.00	
	0.010	1.1553	54.00	
	3.198	1.9869	55.00	
	9.830	2.9156	56.00	
	13.188	3.9416	57.00	
	15.850	5.0638	58.00	

* * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	52.50	.000	.00
.33	.00	52.50	.000	.00
.67	.00	52.50	.000	.00
1.00	.00	52.50	.000	.00
1.33	11.16	52.56	.051	.00
1.67	27.50	54.00	1.155	.01
2.00	13.11	54.48	1.552	1.53
2.33	5.06	54.69	1.728	2.20
2.67	3.18	54.74	1.774	2.38
3.00	2.21	54.75	1.781	2.41
3.33	1.63	54.74	1.768	2.36
3.67	1.24	54.71	1.743	2.26
4.00	.97	54.67	1.712	2.15
4.33	.77	54.63	1.679	2.02
4.67	.63	54.59	1.644	1.88
5.00	.53	54.55	1.610	1.75
5.33	.46	54.51	1.577	1.63
5.67	.42	54.47	1.546	1.51
6.00	.39	54.44	1.517	1.40
6.33	.16	54.40	1.487	1.28
6.67	.10	54.36	1.457	1.17
7.00	.07	54.33	1.429	1.06
7.33	.06	54.30	1.403	.96
7.67	.04	54.27	1.379	.87
8.00	.03	54.24	1.357	.79
8.33	.02	54.22	1.338	.71
8.67	.02	54.20	1.320	.64
9.00	.01	54.18	1.303	.58
9.33	.01	54.16	1.289	.52
9.67	.01	54.14	1.275	.47
10.00	.01	54.13	1.263	.42
10.33	.01	54.12	1.252	.38
10.67	.01	54.11	1.243	.34
11.00	.01	54.09	1.234	.31

11.33	.01	54.09	1.226	.28
11.67	.01	54.08	1.219	.25
12.00	.01	54.07	1.213	.23
12.33	.01	54.06	1.207	.21
12.67	.01	54.06	1.202	.19
13.00	.01	54.05	1.197	.17
13.33	.01	54.05	1.193	.15
13.67	.01	54.04	1.189	.14
14.00	.01	54.04	1.186	.13
14.33	.01	54.03	1.183	.11
14.67	.01	54.03	1.180	.10
15.00	.01	54.03	1.177	.09
15.33	.01	54.02	1.175	.09
15.67	.01	54.02	1.173	.08
16.00	.01	54.02	1.171	.07
16.33	.01	54.02	1.170	.07
16.67	.01	54.02	1.168	.06
17.00	.01	54.01	1.167	.05
17.33	.01	54.01	1.166	.05
17.66	.01	54.01	1.165	.05
18.00	.01	54.01	1.164	.04
18.33	.01	54.01	1.163	.04

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

18.66	.01	54.01	1.162	.04
19.00	.01	54.01	1.162	.03
19.33	.01	54.01	1.161	.03
19.66	.01	54.01	1.160	.03

PEAK DISCHARGE = 2.412 CFS - PEAK OCCURS AT HOUR 2.90
 MAXIMUM WATER SURFACE ELEVATION = 54.753
 MAXIMUM STORAGE = 1.7818 AC-FT INCREMENTAL TIME= .033330HRS

*
*

FINISH

NORMAL PROGRAM FINISH

END TIME (HR:MIN:SEC) = 15:45:58

AHYMO INPUT FILE

```
*S AHYMO FILE FOR SAWMILL- ZONE 2, BH PROJ # 05 0073
*S 6HR, 100YR STORM
*S Note:
*S INPUT FILE -- P:\050073\CDP\HYDRO\AHYMO\SAWMILL.HYM
*
*S OUTPUT FILE -- P:\050073\CDP\HYDRO\AHYMO\SAWMILL.OUT
*
```

```
*****
LOCATION      ALBUQUERQUE, NEW MEXICO
*
```

```
*****
* 100 YEAR RAINFALL TABLE
*****
*
```

```
RAINFALL              TYPE=1  RAIN QUARTER=0.0
                      RAIN ONE=2.01 IN  RAIN SIX=2.35 IN
                      RAIN DAY=2.75 IN  DT=0.03333 HRS
```

```
*S* BASIN COMPUTATIONS
*****
*
```

```
*S*****BASIN 1*****
*
*****
*
```

```
*BASIN 1A
*CONTRIBUTING BASINS TO 1A -> D-1 & D-2
COMPUTE NM HYD      ID=1  HYD=BASIN-1A  AREA=.001844 SQ MI
                   PER A=0  PER B=16.04  PER C=16.04  PER D=67.92
                   TP=0.1333 HR  MASS RAIN=-1
PRINT HYD           ID=1      CODE=10
*
```

```
*BASIN 1B
*CONTRIBUTING BASINS TO 1B -> D-3 & D-4
COMPUTE NM HYD      ID=2  HYD=BASIN-1B  AREA=.000781 SQ MI
                   PER A=0  PER B=5'  PER C=5  PER D=90
                   TP=0.1333 HR  MASS RAIN=-1
PRINT HYD           ID=2      CODE=10
*
```

```
*BASIN 1C
*CONTRIBUTING BASINS TO 1C -> OFFSITE BASINS 1A, 1B, 2 & POND 1
COMPUTE NM HYD      ID=3  HYD=BASIN-1C  AREA=.015063 SQ MI
                   PER A=0  PER B=10  PER C=90  PER D=0
                   TP=0.1333 HR  MASS RAIN=-1
PRINT HYD           ID=3      CODE=10
*
```

```
ADD HYD              ID=21 HYD=101 ID I=1 ID II=2
PRINT HYD            ID=21 CODE=10
*
```

```
*S**NOTE: ID 22, IS BASIN 1 AS SHOWN ON THE AMENDED BASIN MAP*****
ADD HYD              ID=22 HYD=BASIN1 ID I=21 ID II=3
PRINT HYD            ID=22 CODE=10
*
```

```
*****
*
*S*****POND 1*****
*
```

← NOTE:

ROUTE RESERVOIR ID=51 HYD=POND-1 INFLOW ID=22 CODE=10

OUTFLOW (CFS)	STORAGE (AC-FT)	ELEV (FT)
0.000	0.0000	52.00
0.010	0.7014	53.00
7.920	1.4607	54.00
9.830	2.2796	55.00
13.188	3.1597	56.00
15.850	4.1027	57.00

*

*

*

*S*****BASIN 2*****

*

*

*BASIN 2A

*CONTRIBUTING BASINS TO 2A -> B-1, B-3, C-1, C-3, C-4, C-5, C-6

COMPUTE NM HYD

ID=4 HYD=BASIN-2A AREA=.0085 SQ MI

PER A=0 PER B=16.04 PER C=16.04 PER D=67.92

TP=0.1333 HR MASS RAIN=-1

PRINT HYD

ID=4 CODE=10

*

*

*BASIN 2B

*CONTRIBUTING BASINS TO 2B -> B-2, B-4, B-5 & C-2

COMPUTE NM HYD

ID=5 HYD=BASIN-2B AREA=.0008125 SQ MI

PER A=0 PER B=5 PER C=5 PER D=90

TP=0.1333 HR MASS RAIN=-1

PRINT HYD

ID=5 CODE=10

*

*

*BASIN 2C

*CONTRIBUTING BASINS TO 2C -> OFFSITE BASINS 3, 5 & POND 2

COMPUTE NM HYD

ID=6 HYD=BASIN-2C AREA=.007906 SQ MI

PER A=0 PER B=10 PER C=90 PER D=0

TP=0.1333 HR MASS RAIN=-1

PRINT HYD

ID=6 CODE=10

*

*

ADD HYD

ID=23 HYD=103 ID I=4 ID II=5

PRINT HYD

ID=23 CODE=10

*

*S**NOTE: ID 24, IS BASIN 2 AS SHOWN ON THE AMENDED BASIN MAP*****

← NOTE:

ADD HYD

ID=24 HYD=BASIN2 ID I=6 ID II=23

PRINT HYD

ID=24 CODE=10

*

*

*S*****POND 2*****

*

*

*

ADD HYD

ID=26 HYD=106 ID I=51 ID II=24

PRINT HYD

ID=26 CODE=10

*

*

ROUTE RESERVOIR

ID=52

HYD=POND-2

INFLOW ID=26

CODE=10

OUTFLOW

STORAGE

ELEV

(CFS)	(AC-FT)	(FT)
0.000	0.0000	52.50
0.010	0.4143	53.00
0.010	1.1553	54.00
3.198	1.9869	55.00
9.830	2.9156	56.00
13.188	3.9416	57.00
15.850	5.0638	58.00

*

*

*

*S*****BASIN 2 + OFFSITE BASIN 4*****

*

*

*

*SAWMILL LOFTS SITE(OFFSITE BASIN 4)

COMPUTE NM HYD ID=7 HYD=SAWMILL LOFTS AREA=0.00455SQ MI

PER A=0 PER B=15 PER C=0 PER D=85

TP=0.1333 HR MASS RAIN=-1

PRINT HYD

ID=7 CODE=10

*

ADD HYD

ID=25 HYD=105 ID I=7 ID II=24

PRINT HYD

ID=25 CODE=10

*

*

*

*S*****POND 2 (INCLUDING OFFSITE BASIN 4)*****

*

*

*

ADD HYD

ID=27 HYD=107 ID I=51 ID II=25

PRINT HYD

ID=27 CODE=10

*

*

ROUTE RESERVOIR

ID=52 HYD=POND-2 INFLOW ID=27 CODE=10
OUTFLOW STORAGE ELEV

(CFS)	(AC-FT)	(FT)
0.000	0.0000	52.50
0.010	0.4143	53.00
0.010	1.1553	54.00
3.198	1.9869	55.00
9.830	2.9156	56.00
13.188	3.9416	57.00
15.850	5.0638	58.00

*

*

FINISH



APPENDIX G

POND RESULTS

CALC.

POND 1-					
Orifice Coef			0.62		
Invert of outfall			53		
Orifice Diam (inches)			18		
Outflow (cfs)	Storage Volume (ft ³)	Storage Volume (Ac-ft)	Elev.	Head (ft)	
0.000	0	0.0000	52.00	0.00	
0.010	30552.5	0.7014	53.00	0.00	
7.920	63629.0	1.4607	54.00	0.25	
9.830	99300.5	2.2796	55.00	1.25	
13.188	137638.0	3.1597	56.00	2.25	

Pond Bottom = 52.00

Pond Top = 57.00

Max. Water Surface Elevation = 53.35

Storage Volume = 0.9693acre-ft

Peak Occurs at Hour 2.17

Peak Discharge = 2.80cfs

POND 2-					
Orifice Coef			0.62		
Invert of outfall			54		
Orifice Diam (inches)			18		
Outflow (cfs)	Storage Volume (ft ³)	Storage Volume (Ac-ft)	Elev.	Head (ft)	
0.000	0.0	0.0000	52.50	0.00	
0.010	18047.3	0.4143	53.00	0.00	
0.010	50324.9	1.1553	54.00	0.00	
4.296 3.198	86550.4	1.9869	55.00	0.25	
9.830	127002.0	2.9156	56.00	1.25	
13.188	171697.7	3.9416	57.00	2.25	

Pond Bottom = 52.50

Pond Top = 58.00

Without the contribution of Offsite Basin 4

Max. Water Surface Elevation = 54.40

Storage Volume = 1.49acre-ft

Peak Occurs at Hour 3.57

Peak Discharge = 1.28cfs

Basin 2 + Offsite Basin 4

Max. Water Surface Elevation = 54.75

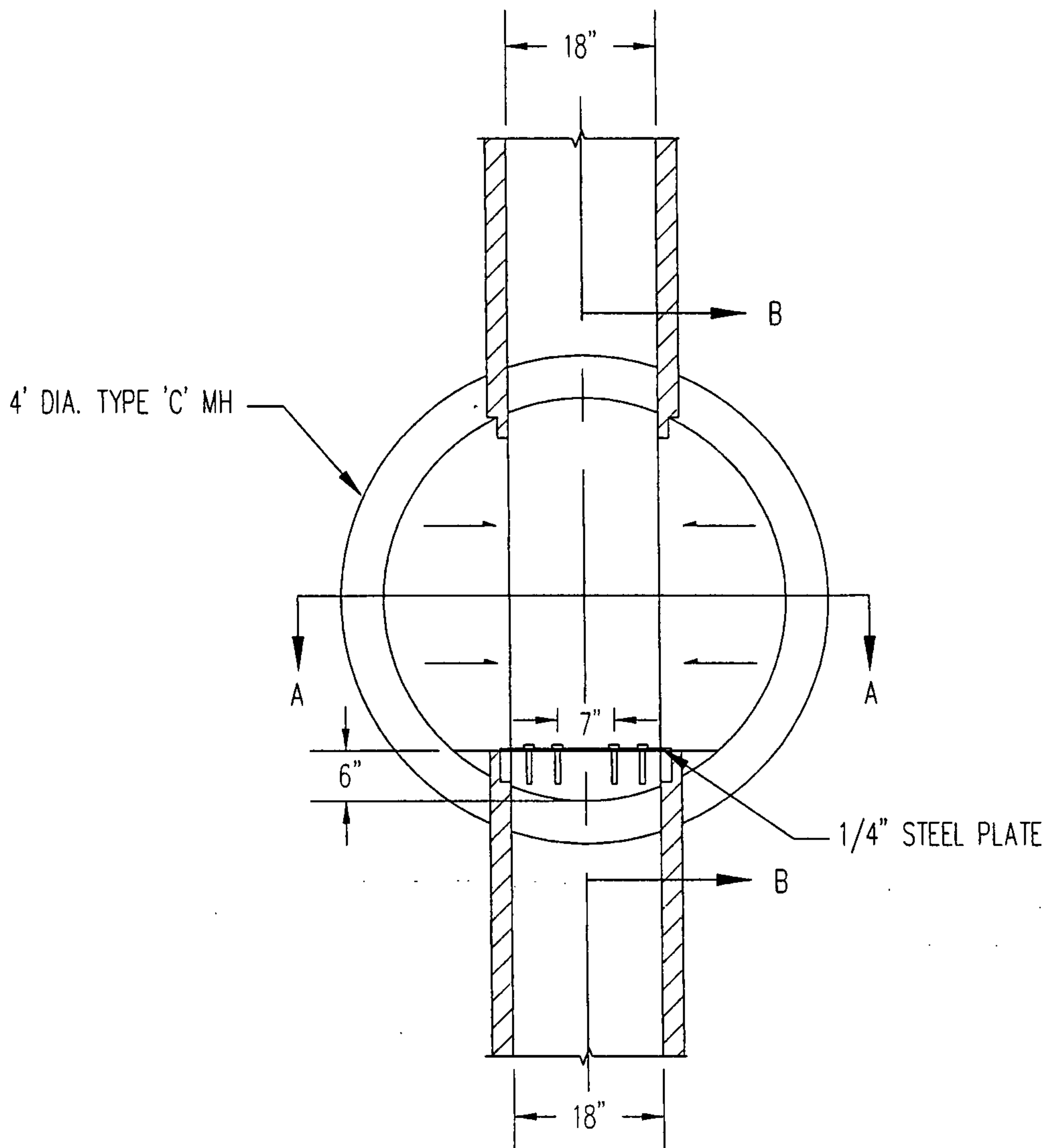
Storage Volume = 1.78acre-ft

Peak Occurs at Hour 2.90

Peak Discharge = 2.41cfs

APPENDIX H

ORIFICE PLATE DETAILS



PLAN
SCALE 1"=2'

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dps@dpsabq.com

DR#1

SAWMILL LOFTS
SAWMILL COMMUNITY LAND TRUST
1801 19TH STREET
ALBUQUERQUE, NEW MEXICO

DRAWN BY

CW

SCALE

AS SHOWN

REVIEWED BY

MJB

DATE ISSUED

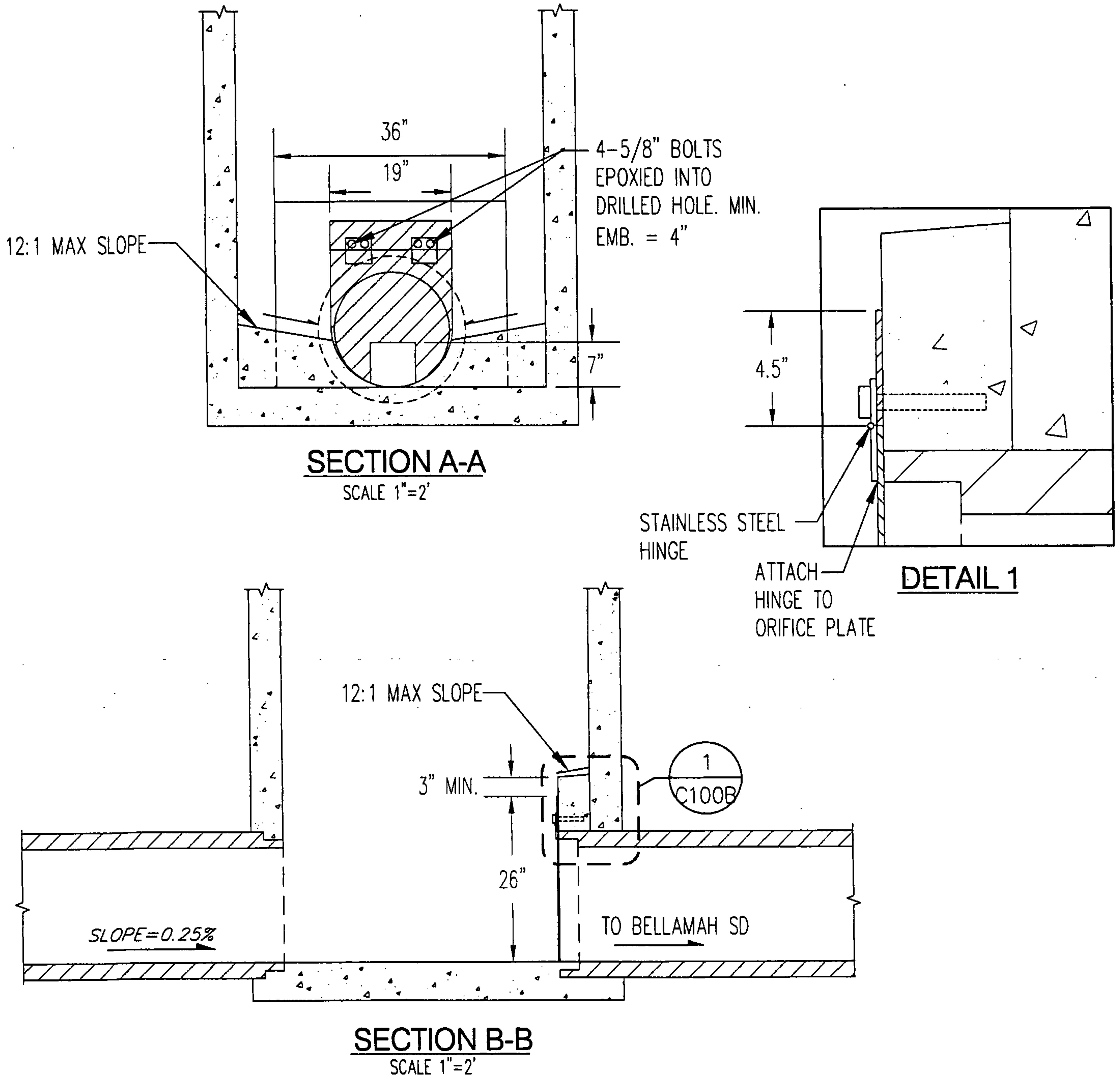
02/21/05

PROJECT NO.

050073

C100A

- 0F



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SAWMILL LOFTS
SAWMILL COMMUNITY LAND TRUST
1801 19TH STREET
ALBUQUERQUE, NEW MEXICO

DRAWN BY	CW	SCALE	AS SHOWN
REVIEWED BY	MJB	C100B	
DATE ISSUED	02/24/05		
PROJECT NO.	050073		

- 6F

EXHIBITS

EXHIBIT 6: PROPOSED DRAINAGE BASIN MAP (UPDATED)

EXHIBIT 7: SAWMILL LOFTS SITE GRADING AND DRAINAGE PLAN

EXHIBIT 6

PROPOSED DRAINAGE BASIN MAP (UPDATED)

EXHIBIT 7

SAWMILL LOFTS SITE GRADING AND DRAINAGE PLAN

DRAINAGE REPORT FOR ARBOLERA DE VIDA – UNIT 2 (AKA SAWMILL)

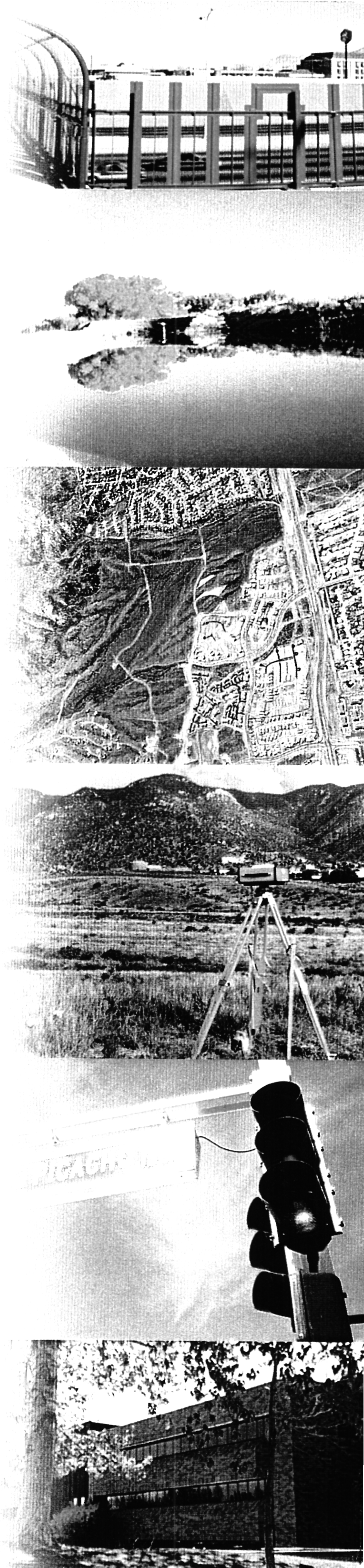
OCTOBER 16, 2003

Prepared for:
Sawmill Community Land Trust
P O Box 25181
Albuquerque NM 87125-5181

ORIGINAL REPORT
11-25-03 (10-16-03)

Bohannon & Huston INC.

ENGINEERING &
SPATIAL DATA &
ADVANCED TECHNOLOGIES &



DRAINAGE REPORT
FOR
ARBOLERA DE VIDA - UNIT 2
(aka SAWMILL)

OCTOBER 16, 2003

Prepared for:

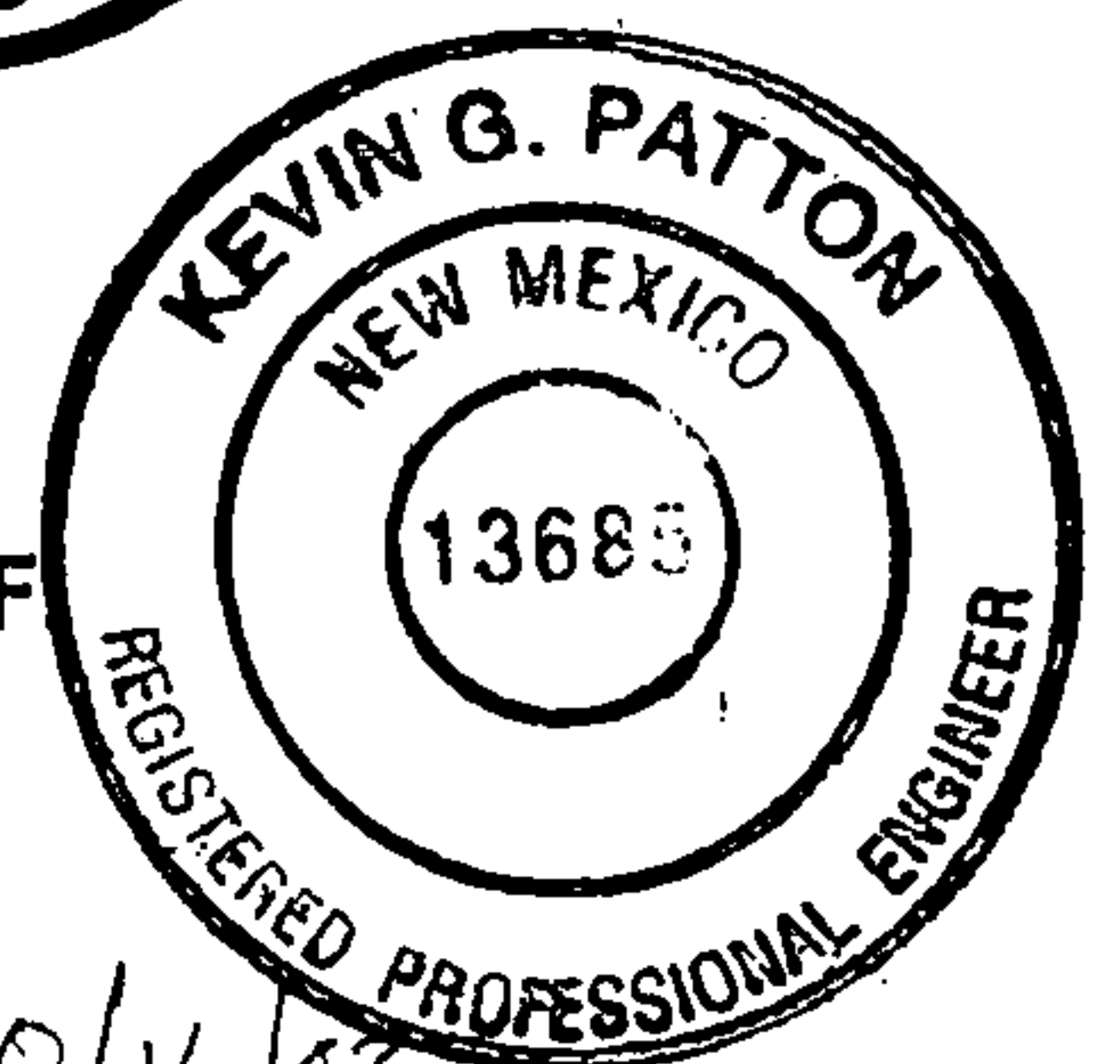
SAWMILL COMMUNITY LAND TRUST
PO BOX 25181
ALBUQUERQUE, NM 87125-5181

Prepared by:

BOHANNAN HUSTON, INC.
COURTYARD I
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ALBUQUERQUE, NM 87109



11/25/03



PREPARED BY:

Jared M. Lee, E.I.

Date

10/16/03

11/25/03

UNDER THE SUPERVISION OF

Kevin G. Patton, P.E.

Date

10/16/03

11/25/03

TABLE OF CONTENTS

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I. PURPOSE	1
II. METHODOLOGIES.....	1
III. SITE LOCATION AND CHARACTERISTICS.....	1
IV. EXISTING HYDRAULIC AND HYDROLOGIC CONDITIONS.....	2
V. PROPOSED HYDRAULIC AND HYDROLOGIC CONDITIONS	3
A. On-Site Basins.....	3
B. Off-Site Basins	5
C. Pond Analysis.....	6
D. Acequia	6
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APPENDICES

- APPENDIX A: BASINS
- APPENDIX B: STREET HYDRAULICS
- APPENDIX C: INLET ANALYSIS
- APPENDIX D: STORM DRAIN ANALYSIS
- APPENDIX E: POND VOLUME CALCULATIONS

EXHIBITS

- EXHIBIT 1: BULK LAND PLAT
- EXHIBIT 2: PRELIMINARY PLAT
- EXHIBIT 3: EXISTING DRAINAGE BASIN MAP
- EXHIBIT 4: PROPOSED DRAINAGE BASIN MAP
- EXHIBIT 5: GRADING AND DRAINAGE PLAN

I. PURPOSE

The purpose of this report is to present the drainage management plans for Arbolera De Vida – Unit 2 and to obtain approval of the preliminary/final plat and grading plan by the City of Albuquerque. The proposed development of Arbolera De Vida – Unit 2 consists of 63 single, low income family detached and attached residential and live-work lots on approximately 8.11 acres.

II. METHODOLOGIES

Site conditions will be analyzed for a 10-year and 100-year, 6-hour storm event in accordance with the City of Albuquerque Drainage Ordinance and the Development Process Manual (DPM) Volume 2, Design Criteria, Section 22.2, Hydrology, for the City of Albuquerque, January 1993.

The site, as described in the 'Site Location and Characteristics' section below, is approximately 8.11 acres. Therefore, Part A of the DPM, Section 22.2, which provides a simplified procedure for projects with sub-basins smaller than 40 acres, was used. Discharge from the site into the existing storm drain that travels west through Bellamah Ave. as stated by the Master Drainage Plan (MDP) for Arbolera de Vida prepared by Avid Engineering, Inc. dated March 31, 1998 will be allowed at a rate no greater than 4.1 cfs.

III. SITE LOCATION AND CHARACTERISTICS

Arbolera de Vida is a planned mixed-use redevelopment project of approximately 29 acres, which will be developed in a phased manner. The project is located near the Old Town area of Albuquerque, south of Interstate 40 and east of Rio Grande Blvd. More specifically, Unit 2 is bordered by 19th Street to the west, Bellamah Avenue to the south, Interstate 40 to the north, and Mill Pond Road and the railroad easement to the east. The site will be accessible from

Zearing Avenue and 19th Street. A permanent emergency access road which ties to existing Aspen Ave. will be built to access Mis Abuelitos Drive.

The site will be constructed in three phases, with the first phase, 2A, from Zearing Avenue to just south of Agua Fresca, and the second phase, 2B, completing the residential sector. The offsite lands north of Aspen and east of the site will be used for future commercial purposes, and be constructed in a third phase, 2C. Although the site will be completed in phases, it will be graded altogether. A temporary turnaround will be built at the end of 18th Street between phase 1 and 2. The street capacities and inlet analysis for this report were based on the assumption that the runoff from all phases would be developed flow, which generate higher flows than actually exist. In the interim, phase 2B will remain graded and the actual runoff generated within phase 2B will be less than what was assumed.

IV. EXISTING HYDRAULIC AND HYDROLOGIC CONDITIONS

In its existing condition, the site consists of mainly undeveloped land. As shown on Panel 331 of 825 of the FEMA FIRM, September 20, 1996, the site does not lie within a designated flood hazard zone (Zone A). The project area includes the abandoned Duke City Lumber Company, which remaining concrete and asphalt millings from the site are located. These millings will be used as base course for the streets to be built with this project. Also an existing railroad track on site will need to be realigned and then removed before any grading occurs. The remaining portion of the site consists of relatively flat undeveloped land. The site was divided into two basins, Existing Basin 1 (18.22 ac $Q_{100}=29.81\text{cfs}$) and Existing Basin 2 (7.01 ac $Q_{100}=12.95\text{cfs}$), see Existing Drainage Basin Map in the Exhibit section at the back of this report. The natural soils consist of sandy clay topsoil, which was underlain by interbedded layers of poorly graded sand and silty sand. Vegetation on the site consists of weeds, grass and some cacti. There is a moderate amount of trash and debris spread across the site. Existing Basin 1 encompasses the majority of the site, including the mounds of concrete and asphalt milling and existing railroad tracks. It is relatively flat undeveloped land that slopes slightly east, with several low points where the existing flow ponds. Existing Basin 2 is the western portion along the existing subdivision.

Existing Basin 2 contains two low points, which were borrow pits for the existing subdivision. The flow from Existing Basin 2 is retained by these two "pits".

V. PROPOSED HYDRAULIC AND HYDROLOGIC CONDITIONS

For additional assistance throughout this portion of the report, please refer to the Existing Drainage Basin Map, Proposed Drainage Basin Map and the Grading and Drainage Plan enclosed in the Exhibit section of this report.

Discharge generated by Arbolera De Vida – Unit 2 will flow south on 18th Street and Mis Abuelitos Drive and east on Agua Fresca and Zearing Avenue when fully developed. There will be two sump conditions, one located at the southeast corner of Zearing Avenue and the other at the southeast corner of Mis Abuelitos Drive. The flow from Mis Abuelitos Drive and Agua Fresca will be collected by an acequia and flow to a pond. The offsite will flow to two ponds, one north and one south of the proposed railroad, and be detained respectively. All of the flow generated by the site will eventually discharge into the respective ponds, and then be released at the flow rate allowed by the MDP (4.1cfs) into the existing storm drain system within Bellamah Ave.

A unique water harvesting system will be utilized to irrigate the landscaping. Wherever standard curb was not necessary, mostly north of the park, rundown curb was used. Water will run from the streets and lots into the channels on either side of the streets, where it will be captured. Also, Pond 1 will be used as an orchard, which will collect run-off from the site and also be irrigated from the existing acequia.

A. On-Site Basins

The proposed site is broken into four (4) major basins. The four basins have been divided into sub-basins for analysis reasons. Major basins are described below. For sub-basin data, see Appendix A at the back of this report.

Basin A (0.49ac, Q100=2.02cfs) encompasses the far west end of Zearing Avenue, up to a high point near 19th Street. It consists of Sub-basins A-1, A-2 and A-3; see Appendix A for more information. Basin A contains two (2) lots, #52A and B and the driveway behind the lots #52A-H. The runoff from Basin A will flow west to 19th Street and be collected by existing inlets.

Basin B (2.32 ac, Q100=9.67cfs) encompasses the southern half of 18th street, up to the lots located north of the Plaza, and the remaining portion of Zearing Avenue, and contains Sub-basins B-1, B-2, B-3, B-4 and B-5; see Appendix A for more information. Basin B consists of twenty (20) lots, #52C-H, 40 A-H, and 16A-F. Basin C (3.64ac, Q100=14.89cfs) encompasses the remaining portion of 18th Street and contains Sub-basins C-1, C-2, C-3, C-4, C-5, and C-6; see Appendix A for more information. Basin C consists of thirty (30) lots, #17A-F, 18-26, 27A-B, 28A-B, 29-35 and 36A-F. Basins B and C will flow south on 18th Street, then east on Zearing Avenue to two double grate type "A" inlets in sump conditions at the southeast corner of Zearing Avenue. The inlet will drain to Pond 2 by a 36" storm drain; see Section C for Pond Analysis. The inlets will be designed for two times the 100-year storm event (26.38cfs each), since there will be no emergency spillway.

Basin D (1.68 ac, Q100=7.07cfs) encompasses all of Mis Abuelitos and Agua Fresca and contains Sub-basins D-1, D-2, D-3, and D-4; see Appendix A for more information. Basin D consists of nine (9) lots, #42-43, 44A-D, and 45-47. Runoff generated by Basin D will flow east down Agua Fresca and south down Mis Abuelitos Drive. This flow will be collected by a private acequia via a curb cut and rundown and then travel to Pond 1; see Section C for Pond Analysis.

In summary, two ponds will collect and retain almost all of the runoff generated by Arbolera De Vida – Unit 2. See Appendix C, Inlet Analysis, for flow distributions.

B. Off-Site Basin

There will be five (5) proposed offsite basins, Offsite 1, 2, 3, 4 and 5, as well as two ponds; see Proposed Drainage Basin Map in the Exhibit section at the back of this report.

Basins Offsite 1A (3.09ac, $Q_{100}= 9.41\text{cfs}$), Offsite 1B (1.28ac, $Q_{100}= 3.90\text{cfs}$) and Offsite 2 (4.14 ac, $Q_{100}=12.61\text{cfs}$) are located in the offsite areas north of the proposed railroad and bordering the east side of the subdivision. The flow generated within these basins will flow into Pond 1, with Offsite 1A draining into the proposed private acequia first. Pond 1 (1.13ac, $Q_{100}= 3.44\text{cfs}$) will retain these offsite flows, as well as the respective onsite flows. The pond will have a storm drain which will allow discharge to Pond 2.

Basin Offsite 3 (0.92ac, $Q_{100}= 2.80\text{cfs}$) is located east of Zearing Ave. and along the proposed railroad. The flow generated within this basin will flow to the inlet in the southeast corner of Zearing and will be collected, along with the street flow, in a sump condition. Basin Offsite 4 (2.54ac, $Q_{100}= 11.10\text{cfs}$) is located west of the proposed railroad and south of the lots along Zearing Ave. The flow generated within this basin will be collected by a future onsite pond, which will be located within the basin.

Basin Offsite 5 (2.17ac, $Q_{100}= 6.79\text{cfs}$) is located in the offsite area southeast of the proposed railroad. The flow generated within the basin will discharge into Pond 2. Pond 2 (1.93ac, $Q_{100}= 5.88\text{cfs}$) will retain the offsite flow and the discharge from Pond 1. The pond will have a storm drain which discharges a controlled flow of 4 cfs and connects to the existing storm system that travels west through Bellamah Ave.

In summary, all of the flow generated by the basins mentioned above would eventually discharge into the respective ponds, which will be released at a controlled rate into the storm drain systems described above.

C. Pond Analysis

Pond 1 (1.13ac, $Q_{100}= 3.44\text{cfs}$), located east of 18th Street, will retain offsite flows, in addition to the respective onsite flows described above. Pond 1 will need to be sized to hold a minimum 100 year-6 hour volume of 1.13 acre-ft. This volume has the capacity to take in 33.14 cfs. The current design pond volume is 2.5 acre-ft. The pond will have a storm drain which will allow controlled discharge to Pond 2 after it reaches one foot in depth. Pond 1 will also be used as an orchard and will be irrigated by the proposed private acequia which connects to the Old Albuquerque Acequia.

Pond 2 (2.23ac, $Q_{100}= 6.78\text{cfs}$), located just southeast of the proposed railroad, will retain the offsite flows mentioned above, as well as the discharge from Pond 1. Pond 2 will need to be sized to hold a minimum 100 year-6 hour volume of 1.35 acre-ft. This volume has the capacity to take in 59.21cfs. The current design pond volume is 1.9 acre-ft. The pond will have a storm drain which discharges to a storm system after it reaches a depth of eighteen inches. The storm drain will allow a controlled discharge up to 4.00 cfs and connect to the existing storm system that travels west through Bellamah Ave as per the MDP. The pond will also have a storm drain tied to Pond 1, which would allow the retention to back-up into the other pond.

A pond system within basin Offsite 3 will need to be constructed at a later time. It will need to be designed to hold a minimum 100 year-6 hour volume of 0.30 acre-ft. This volume has the capacity to take in 8.10 cfs. It will be possible, in the future, to tie the pond to the proposed storm drain that connects to the existing storm system in Bellamah Ave. and release at a controlled rate of up to 1 cfs.

D. Acequia

A private acequia will be built to transport discharge from Mis Abuelitos Drive. It will run along the east side of Mis Abuelitos Drive and connect upstream to the existing Old Albuquerque Acequia. It will drain into the onsite Pond 1 and be used to irrigate the

orchard located within. It will be designed to carry flow from the existing Old Albuquerque Acequia (Q=9.00cfs), basin D (Q=7.11cfs), and Offsite 1A (Q=9.41cfs).

VI. CONCLUSION

This report has provided hydrologic and hydraulic considerations of the proposed development of Arbolera De Vida – Unit 2. This information provides adequate supporting documentation and guidance for approval of this report and to guide future development and phasing of the properties previously mentioned. These flows can be safely conveyed by the improvements proposed in this drainage plan to existing drainage facilities, which have adequate capacity to accept such runoff. Erosion and dust control, consisting of erosion control berms, silt fencing and sedimentation basins, are proposed to prevent soil washing or blowing into paved streets, storm drains, and existing development areas. Therefore, we believe this report supports the preliminary/final plat and grading plan submittals and should be approved as requested.

APPENDICES

APPENDIX A:	BASINS
APPENDIX B:	STREET HYDRAULICS
APPENDIX C:	INLET ANALYSIS
APPENDIX D:	STORM DRAIN ANALYSIS
APPENDIX E:	POND VOLUME CALCULATIONS

APPENDIX A

BASINS

Basin Summary

ARBOLERA DE VIDA - UNIT 2

	BASIN	AREA	UNITS	% LAND TREATMENT				DISCHARGE (CFS)	
	I.D.	(AC)	#	A	B	C	D ¹	10 YR	100YR-
HYRDOLOGICAL VOLUMETRIC & DISCHARGE DATA (EXSISTING)									
TOTAL	1	18.22	0	90.00%	10.00%	0.00%	0.00%	7.89	29.81
	2	7.01	0	60.00%	40.00%	0.00%	0.00%	4.25	12.95
		25.23	0					12.14	42.76
HYRDOLOGICAL VOLUMETRIC & DISCHARGE DATA (DEVELOPED)									
	A-1	0.22	2	0.00%	16.04%	16.04%	67.92%	0.56	0.89
	A-2	0.05	0	0.00%	5.00%	5.00%	90.00%	0.15	0.22
	A-3	0.20	0	0.00%	5.00%	5.00%	90.00%	0.59	0.90
	B-1	0.66	6	0.00%	16.04%	16.04%	67.92%	1.69	2.68
	B-2	0.15	0	0.00%	5.00%	5.00%	90.00%	0.44	0.67
	B-3	1.19	14	0.00%	16.04%	16.04%	67.92%	3.04	4.83
	B-4	0.08	0	0.00%	5.00%	5.00%	90.00%	0.24	0.36
	B-5	0.24	0	0.00%	5.00%	5.00%	90.00%	0.71	1.08
	C-1	0.28	3	0.00%	16.04%	16.04%	67.92%	0.71	1.12
	C-2	0.05	0	0.00%	5.00%	5.00%	90.00%	0.15	0.23
	C-3	0.77	7	0.00%	16.04%	16.04%	67.92%	1.98	3.14
	C-4	0.72	8	0.00%	16.04%	16.04%	67.92%	1.84	2.92
	C-5	0.91	6	0.00%	16.04%	16.04%	67.92%	2.33	3.69
	C-6	0.91	6	0.00%	16.04%	16.04%	67.92%	2.33	3.69
	D-1	0.26	2	0.00%	16.04%	16.04%	67.92%	0.66	1.05
	D-2	0.92	7	0.00%	16.04%	16.04%	67.92%	2.35	3.73
	D-3	0.28	0	0.00%	5.00%	5.00%	90.00%	0.83	1.26
	D-4	0.22	0	0.00%	5.00%	5.00%	90.00%	0.65	0.99
SUBTOTAL		8.11	61					21.25	33.47
	OFFSITE 1A	3.09	0	0.00%	10.00%	90.00%	0.00%	5.04	9.41
	OFFSITE 1B	1.28	0	0.00%	10.00%	90.00%	0.00%	2.09	3.90
	OFFSITE 2	4.14	0	0.00%	10.00%	90.00%	0.00%	6.75	12.61
	OFFSITE 3	0.92	0	0.00%	10.00%	90.00%	0.00%	1.50	2.80
	OFFSITE 4	2.54	0	0.00%	15.00%	0.00%	85.00%	7.14	11.01
	OFFSITE 5	2.17	0	0.00%	0.00%	100.00%	0.00%	3.70	6.79
	POND 1	1.13	0	0.00%	10.00%	90.00%	0.00%	1.84	3.44
	POND 2	1.93	0	0.00%	10.00%	90.00%	0.00%	3.15	5.88
SUBTOTAL		17.20	0.00					31.20	55.83
TOTAL		25.31						52.4	89.3

NOTES: 1) Impervious percentages were calculated from the DPM equation A-4, with the remaining percentages distributed to land treatment type B, due to the relatively flat terrain

$$N = \text{UNITS/ACRES} = 7.5$$

$$\%D = 7 * \text{SQRT}((N * N) + (5 * N)) = 67.9 \%$$

*Table A-4

**Table A-11

A vertical dashed line consisting of 20 short black rectangular segments is positioned on the left side of the page.

APPENDIX B

STREET HYDRAULICS

PC PROGRAM STREAM

SEPTEMBER 1994

28ff/46rw std half 0.50%

MANNING'S N= .017 SLOPE= .005

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.85	4	9.00	0.00	7	0.00	0.00
2	8.37	0.67	5	11.00	0.13	8	0.00	0.00
3	8.83	0.67	6	23.00	0.37	9	0.00	0.00
WSEL	DEPTH	FLOW	FLOW	WETTED	FLOW	TOPWID	VEL	ENERGY
(FT)	INC	AREA	RATE	PER	VEL	(FT)	HEAD	HEAD
	(FT)	SQ. FT.	(CFS)	(FT)	(FPS)		(FT)	(FT)
0.05	0.05	0.02	0.0	0.85	0.51	0.81	0.00	0.05
0.10	0.10	0.08	0.1	1.71	0.81	1.63	0.01	0.11
0.15	0.15	0.19	0.2	3.41	0.91	3.29	0.01	0.16
0.20	0.20	0.42	0.4	5.96	1.06	5.80	0.02	0.22
0.25	0.25	0.77	1.0	8.51	1.25	8.31	0.02	0.27
0.30	0.30	1.25	1.8	11.07	1.45	10.83	0.03	0.33
0.35	0.35	1.86	3.0	13.62	1.64	13.34	0.04	0.39
0.40	0.40	2.56	5.0	14.42	1.95	14.10	0.06	0.46
0.45	0.45	3.26	7.5	14.47	2.29	14.11	0.08	0.53
0.50	0.50	3.97	10.3	14.52	2.60	14.13	0.11	0.61
0.55	0.55	4.67	13.5	14.57	2.90	14.14	0.13	0.68
0.60	0.60	5.38	17.1	14.63	3.17	14.15	0.16	0.76
0.65	0.65	6.09	20.9	14.68	3.44	14.16	0.18	0.83
0.70	0.70	6.83	23.4	16.55	3.43	16.03	0.18	0.88
0.75	0.75	7.69	26.1	18.88	3.40	18.35	0.18	0.93
0.80	0.80	8.67	29.5	21.20	3.40	20.68	0.18	0.98
0.85	0.85	9.76	33.5	23.53	3.44	23.00	0.18	1.03

$$Q_T = 3.70(C-5) + 3.16(C-3) + 1.13(C-1)$$

$$= 7.99 \text{ cfs}$$

$$d = 0.45275 > 0.37 \quad \text{over-centerline}$$

PC PROGRAM STREAM

SEPTEMBER 1994

28ff/46rw std full 0.50%

MANNING'S N= .017 SLOPE= .005

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.85	5	11.00	0.13	9	37.17	0.67
2	8.37	0.67	6	23.00	0.37	10	37.63	0.67
3	8.83	0.67	7	35.00	0.13	11	46.00	0.85
4	9.00	0.00	8	37.00	0.00	12	0.00	0.00
☐ WSEL	DEPTH	FLOW	FLOW	WETTED	FLOW	TOPWID	VEL	ENERGY
	INC	AREA	RATE	PER	VEL		HEAD	HEAD
(FT)	(FT)	SQ. FT.	(CFS)	(FT)	(FPS)	(FT)	(FT)	(FT)
0.05	0.05	0.04	0.0	1.71	0.51	1.63	0.00	0.05
0.10	0.10	0.16	0.1	3.41	0.81	3.25	0.01	0.11
0.15	0.15	0.39	0.4	6.82	0.91	6.58	0.01	0.16
0.20	0.20	0.84	0.9	11.92	1.06	11.60	0.02	0.22
0.25	0.25	1.55	1.9	17.03	1.25	16.63	0.02	0.27
0.30	0.30	2.50	3.6	22.13	1.45	21.65	0.03	0.33
0.35	0.35	3.71	6.1	27.23	1.64	26.68	0.04	0.39
0.40	0.40	5.11	10.0	28.84	1.95	28.20	0.06	0.46
0.45	0.45	6.52	14.9	28.94	2.29	28.23	0.08	0.53
0.50	0.50	7.93	20.6	29.04	2.60	28.25	0.11	0.61
0.55	0.55	9.35	27.1	29.15	2.90	28.28	0.13	0.68
0.60	0.60	10.76	34.2	29.25	3.17	28.30	0.16	0.76
0.65	0.65	12.18	41.9	29.35	3.44	28.33	0.18	0.83
0.70	0.70	13.66	46.8	33.11	3.43	32.05	0.18	0.88
0.75	0.75	15.38	52.3	37.76	3.40	36.70	0.18	0.93
0.80	0.80	17.33	59.0	42.41	3.40	41.35	0.18	0.98
0.85	0.85	19.52	67.1	47.06	3.44	46.00	0.18	1.03

C: $Q_T = 3.72 + 2.95 + 3.70 + 3.16 + 1.13 + 0.23$
 $= 14.89 \text{ cfs}$

$\lambda = 0.45 > 0.37$

$V = 2.29$

$E = 0.53 < 0.85 \quad \underline{\text{OK}}$

$Q_T = 14.89 (C) + 0.34(13-4) + 1.08(13-5) +$
 $4.87(13-3) = 21.18 \text{ cfs}$

$\lambda = 0.5044 > 0.37$

$V = 2.62$

$E = 0.616 < 0.85 \quad \underline{\text{OK}}$

PC PROGRAM STREAM

SEPTEMBER 1994

28ff/46rw std full 0.60%

MANNING'S N= .017 SLOPE= .006

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.85	5	11.00	0.13	9	37.17	0.67
2	8.37	0.67	6	23.00	0.37	10	37.63	0.67
3	8.83	0.67	7	35.00	0.13	11	46.00	0.85
4	9.00	0.00	8	37.00	0.00	12	0.00	0.00

WSEL	DEPTH	FLOW	FLOW	WETTED	FLOW	TOPWID	VEL	ENERGY
(FT)	INC	AREA	RATE	PER	VEL	(FT)	HEAD	HEAD
(FT)	(FT)	SQ. FT.	(CFS)	(FT)	(FPS)	(FT)	(FT)	(FT)
0.05	0.05	0.04	0.0	1.71	0.56	1.63	0.00	0.05
0.10	0.10	0.16	0.1	3.41	0.89	3.25	0.01	0.11
0.15	0.15	0.39	0.4	6.82	1.00	6.58	0.02	0.17
0.20	0.20	0.84	1.0	11.92	1.16	11.60	0.02	0.22
0.25	0.25	1.55	2.1	17.03	1.37	16.63	0.03	0.28
0.30	0.30	2.50	4.0	22.13	1.58	21.65	0.04	0.34
0.35	0.35	3.71	6.7	27.23	1.79	26.68	0.05	0.40
0.40	0.40	5.11	10.9	28.84	2.14	28.20	0.07	0.47
0.45	0.45	6.52	16.4	28.94	2.51	28.23	0.10	0.55
0.50	0.50	7.93	22.6	29.04	2.85	28.25	0.13	0.63
0.55	0.55	9.35	29.6	29.15	3.17	28.28	0.16	0.71
0.60	0.60	10.76	37.4	29.25	3.48	28.30	0.19	0.79
0.65	0.65	12.18	45.9	29.35	3.77	28.33	0.22	0.87
0.70	0.70	13.66	51.3	33.11	3.75	32.05	0.22	0.92
0.75	0.75	15.38	57.2	37.76	3.72	36.70	0.22	0.97
0.80	0.80	17.33	64.6	42.41	3.73	41.35	0.22	1.02
0.85	0.85	19.52	73.5	47.06	3.77	46.00	0.22	1.07

(B+c)

$$Q_T = 14.87(c) + 9.65(13) = 24.52 \text{ cfs}$$

$$d = 0.514 \geq 0.37$$

$$V = 2.94$$

$$E = 0.65 < 0.85 \quad \underline{\underline{OK}}$$

PC PROGRAM STREAM

SEPTEMBER 1994

28ff/46rw std full 0.60%

MANNING'S N= .017 SLOPE= .006

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.85	5	11.00	0.13	9	37.17	0.67
2	8.37	0.67	6	23.00	0.37	10	37.63	0.67
3	8.83	0.67	7	35.00	0.13	11	46.00	0.85
4	9.00	0.00	8	37.00	0.00	12	0.00	0.00

WSEL	DEPTH	FLOW	FLOW	WETTED	FLOW	TOPWID	VEL	ENERGY
(FT)	INC	AREA	RATE	PER	VEL	(FT)	HEAD	HEAD
(FT)	(FT)	SQ. FT.	(CFS)	(FT)	(FPS)	(FT)	(FT)	(FT)
0.05	0.05	0.04	0.0	1.71	0.56	1.63	0.00	0.05
0.10	0.10	0.16	0.1	3.41	0.89	3.25	0.01	0.11
0.15	0.15	0.39	0.4	6.82	1.00	6.58	0.02	0.17
0.20	0.20	0.84	1.0	11.92	1.16	11.60	0.02	0.22
0.25	0.25	1.55	2.1	17.03	1.37	16.63	0.03	0.28
0.30	0.30	2.50	4.0	22.13	1.58	21.65	0.04	0.34
0.35	0.35	3.71	6.7	27.23	1.79	26.68	0.05	0.40
0.40	0.40	5.11	10.9	28.84	2.14	28.20	0.07	0.47
0.45	0.45	6.52	16.4	28.94	2.51	28.23	0.10	0.55
0.50	0.50	7.93	22.6	29.04	2.85	28.25	0.13	0.63
0.55	0.55	9.35	29.6	29.15	3.17	28.28	0.16	0.71
0.60	0.60	10.76	37.4	29.25	3.48	28.30	0.19	0.79
0.65	0.65	12.18	45.9	29.35	3.77	28.33	0.22	0.87
0.70	0.70	13.66	51.3	33.11	3.75	32.05	0.22	0.92
0.75	0.75	15.38	57.2	37.76	3.72	36.70	0.22	0.97
0.80	0.80	17.33	64.6	42.41	3.73	41.35	0.22	1.02
0.85	0.85	19.52	73.5	47.06	3.77	46.00	0.22	1.07

$$Q_T = 1.07 (D-1) + 3.75 (D-2) + 1.23 (D-3) + 1.01 (D-4)$$

$$Q_{100} = 7.11$$

$$d = 0.354$$

$$V = 1.852$$

$$E = 0.415 < 0.85 \checkmark$$

PC PROGRAM STREAM

SEPTEMBER 1994

28ff/46rw std half 0.93%

MANNING'S N= .017 SLOPE= .0093

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.85	4	9.00	0.00	7	0.00	0.00
2	8.37	0.67	5	11.00	0.13	8	0.00	0.00
3	8.83	0.67	6	23.00	0.37	9	0.00	0.00
WSEL	DEPTH	FLOW	FLOW	WETTED	FLOW	TOPWID	VEL	ENERGY
(FT)	INC	AREA	RATE	PER	VEL	(FT)	HEAD	HEAD
	(FT)	SQ.FT.	(CFS)	(FT)	(FPS)		(FT)	(FT)
0.05	0.05	0.02	0.0	0.85	0.70	0.81	0.01	0.06
0.10	0.10	0.08	0.1	1.71	1.11	1.63	0.02	0.12
0.15	0.15	0.19	0.2	3.41	1.24	3.29	0.02	0.17
0.20	0.20	0.42	0.6	5.96	1.44	5.80	0.03	0.23
0.25	0.25	0.77	1.3	8.51	1.70	8.31	0.05	0.30
0.30	0.30	1.25	2.5	11.07	1.97	10.83	0.06	0.36
0.35	0.35	1.86	4.1	13.62	2.23	13.34	0.08	0.43
0.40	0.40	2.56	6.8	14.42	2.66	14.10	0.11	0.51
0.45	0.45	3.26	10.2	14.47	3.12	14.11	0.15	0.60
0.50	0.50	3.97	14.1	14.52	3.55	14.13	0.20	0.70
0.55	0.55	4.67	18.5	14.57	3.95	14.14	0.24	0.79
0.60	0.60	5.38	23.3	14.63	4.33	14.15	0.29	0.89
0.65	0.65	6.09	28.5	14.68	4.69	14.16	0.34	0.99
0.70	0.70	6.83	31.9	16.55	4.67	16.03	0.34	1.04
0.75	0.75	7.69	35.6	18.88	4.63	18.35	0.33	1.08
0.80	0.80	8.67	40.2	21.20	4.64	20.68	0.33	1.13
0.85	0.85	9.76	45.7	23.53	4.69	23.00	0.34	1.19

$$D-4: Q_{100} = 1.01 \quad \frac{1}{2} Q = 0.505 \text{ cfs}$$

$$d = 0.188$$

$$V = 1.3925$$

$$E = 0.215 < 0.25 \checkmark$$

$$0.18 < 0.37 \checkmark$$

PC PROGRAM STREAM

SEPTEMBER 1994

28ff/46rw std half 0.60%

MANNING'S N= .017 SLOPE= .006

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.85	4	9.00	0.00	7	0.00	0.00
2	8.37	0.67	5	11.00	0.13	8	0.00	0.00
3	8.83	0.67	6	23.00	0.37	9	0.00	0.00
☐ WSEL	DEPTH	FLOW	FLOW	WETTED	FLOW	TOPWID	VEL	ENERGY
	INC	AREA	RATE	PER	VEL		HEAD	HEAD
(FT)	(FT)	SQ.FT.	(CFS)	(FT)	(FPS)	(FT)	(FT)	(FT)
0.05	0.05	0.02	0.0	0.85	0.56	0.81	0.00	0.05
0.10	0.10	0.08	0.1	1.71	0.89	1.63	0.01	0.11
0.15	0.15	0.19	0.2	3.41	1.00	3.29	0.02	0.17
0.20	0.20	0.42	0.5	5.96	1.16	5.80	0.02	0.22
0.25	0.25	0.77	1.1	8.51	1.37	8.31	0.03	0.28
0.30	0.30	1.25	2.0	11.07	1.58	10.83	0.04	0.34
0.35	0.35	1.86	3.3	13.62	1.79	13.34	0.05	0.40
0.40	0.40	2.56	5.5	14.42	2.14	14.10	0.07	0.47
0.45	0.45	3.26	8.2	14.47	2.51	14.11	0.10	0.55
0.50	0.50	3.97	11.3	14.52	2.85	14.13	0.13	0.63
0.55	0.55	4.67	14.8	14.57	3.17	14.14	0.16	0.71
0.60	0.60	5.38	18.7	14.63	3.48	14.15	0.19	0.79
0.65	0.65	6.09	22.9	14.68	3.77	14.16	0.22	0.87
0.70	0.70	6.83	25.6	16.55	3.75	16.03	0.22	0.92
0.75	0.75	7.69	28.6	18.88	3.72	18.35	0.22	0.97
0.80	0.80	8.67	32.3	21.20	3.73	20.68	0.22	1.02
0.85	0.85	9.76	36.7	23.53	3.77	23.00	0.22	1.07

$D-3: Q_{100} = 1.28$ $d = 0.26 < 0.37 \checkmark$
 $V = 1.412$
 $E = 0.292 < 0.85 \checkmark$

$Q_T = 3.75(D-2) + 1.01(D-4) + 1.07(D-1)$
 $Q_{100} = 5.83$
 $d = 0.408 > 0.37$ over center line

$A-1: Q_{100} = 0.88$
 $d = 0.23$
 $V = 1.2757$
 $E = 0.254 < 0.85$

PC PROGRAM STREAM

SEPTEMBER 1994

sawmill1 std half 0.50%

MANNING'S N= .017 SLOPE= .005

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	1.17	3	6.19	0.00	5	23.00	1.02
2	4.00	1.09	4	8.38	0.73	6	0.00	0.00
☐ WSEL	DEPTH	FLOW	FLOW	WETTED	FLOW	TOPWID	VEL	ENERGY
	INC	AREA	RATE	PER	VEL		HEAD	HEAD
(FT)	(FT)	SQ.FT.	(CFS)	(FT)	(FPS)	(FT)	(FT)	(FT)
0.05	0.05	0.01	0.0	0.27	0.50	0.25	0.00	0.05
0.10	0.10	0.03	0.0	0.54	0.80	0.50	0.01	0.11
0.15	0.15	0.06	0.1	0.81	1.04	0.75	0.02	0.17
0.20	0.20	0.10	0.1	1.08	1.27	1.00	0.02	0.22
0.25	0.25	0.16	0.2	1.35	1.47	1.25	0.03	0.28
0.30	0.30	0.23	0.4	1.62	1.66	1.50	0.04	0.34
0.35	0.35	0.31	0.6	1.89	1.84	1.75	0.05	0.40
0.40	0.40	0.40	0.8	2.16	2.01	2.00	0.06	0.46
0.45	0.45	0.51	1.1	2.43	2.17	2.25	0.07	0.52
0.50	0.50	0.63	1.5	2.70	2.33	2.50	0.08	0.58
0.55	0.55	0.76	1.9	2.97	2.48	2.75	0.10	0.65
0.60	0.60	0.90	2.4	3.24	2.63	3.00	0.11	0.71
0.65	0.65	1.06	2.9	3.51	2.78	3.25	0.12	0.77
0.70	0.70	1.23	3.6	3.78	2.92	3.51	0.13	0.83
0.75	0.75	1.42	3.8	5.04	2.66	4.74	0.11	0.86
0.80	0.80	1.72	3.9	7.65	2.29	7.34	0.08	0.88
0.85	0.85	2.15	4.7	10.26	2.18	9.94	0.07	0.92
0.90	0.90	2.72	5.9	12.88	2.19	12.54	0.07	0.97
0.95	0.95	3.41	7.7	15.49	2.25	15.14	0.08	1.03
1.00	1.00	4.23	9.9	18.10	2.34	17.74	0.09	1.09
1.05	1.05	5.16	13.2	19.29	2.57	18.92	0.10	1.15
1.10	1.10	6.11	17.2	19.88	2.82	19.50	0.12	1.22
1.15	1.15	7.15	20.7	22.38	2.89	22.00	0.13	1.28
1.17	1.17	7.60	22.2	23.38	2.92	23.00	0.13	1.30

 $Q_{100} =$

6.86 cfs

 $\lambda = 0.9267 < 1.0215 \checkmark$ $V = 2.222$ $E = 1.002 < 1.17 \checkmark$

PC PROGRAM STREAM

SEPTEMBER 1994

sawmill1 std half 0.60%

MANNING'S N= .017 SLOPE= .006

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.81	3	6.19	0.00	5	23.00	1.02
2	4.00	0.73	4	8.38	0.73	6	0.00	0.00
☐ WSEL	DEPTH	FLOW	FLOW	WETTED	FLOW	TOPWID	VEL	ENERGY
	INC	AREA	RATE	PER	VEL		HEAD	HEAD
(FT)	(FT)	SQ. FT.	(CFS)	(FT)	(FPS)	(FT)	(FT)	(FT)
0.05	0.05	0.01	0.0	0.32	0.56	0.30	0.00	0.05
0.10	0.10	0.03	0.0	0.63	0.89	0.60	0.01	0.11
0.15	0.15	0.07	0.1	0.95	1.16	0.90	0.02	0.17
0.20	0.20	0.12	0.2	1.27	1.41	1.20	0.03	0.23
0.25	0.25	0.19	0.3	1.58	1.63	1.50	0.04	0.29
0.30	0.30	0.27	0.5	1.90	1.85	1.80	0.05	0.35
0.35	0.35	0.37	0.8	2.21	2.05	2.10	0.06	0.41
0.40	0.40	0.48	1.1	2.53	2.24	2.40	0.08	0.48
0.45	0.45	0.61	1.5	2.85	2.42	2.70	0.09	0.54
0.50	0.50	0.75	1.9	3.16	2.59	3.00	0.10	0.60
0.55	0.55	0.91	2.5	3.48	2.76	3.30	0.12	0.67
0.60	0.60	1.08	3.2	3.80	2.93	3.60	0.13	0.73
0.65	0.65	1.27	3.9	4.11	3.09	3.90	0.15	0.80
0.70	0.70	1.47	4.8	4.43	3.25	4.20	0.16	0.86
0.75	0.75	1.71	4.6	6.71	2.72	6.48	0.11	0.86
0.80	0.80	2.16	4.7	11.71	2.19	11.48	0.07	0.87
0.85	0.85	2.81	6.3	14.66	2.25	14.43	0.08	0.93
0.90	0.90	3.60	8.6	17.16	2.39	16.93	0.09	0.99
0.95	0.95	4.51	11.4	19.66	2.54	19.43	0.10	1.05
1.00	1.00	5.54	14.9	22.17	2.69	21.93	0.11	1.11
1.02	1.02	6.02	16.6	23.24	2.75	23.00	0.12	1.14

A vertical dashed line runs down the left side of the page, consisting of a series of short, thick black horizontal bars separated by gaps.

APPENDIX C

INLET ANALYSIS

Type "A" Sump - Zearing

ANALYSIS OF AN INLET IN A SUMP CONDITION - Zearing Ave. - Southwest corner of street

INLET TYPE: Double Grate Type "A" with curb opening wings on both sides on inlet.

WEIR: $Q = C * L * H^{1.5}$

Wing opening

C= 3.0

L= 4.0 ft

$Q = 3.0(4.0)H^{1.5} = 12.0H^{1.5}$

Grate opening

C=3.0

L(double grate)=[2(2.67')+2(1.8')]=8.94 ft

$Q = 3.0(8.94)H^{1.5} = 26.82 * H^{1.5}$

ORIFICE: $Q = C * A * (2 * G * H)^{0.5}$

Grate opening

C=0.6

A(double grate)=8.19 sf

$Q = 4.194 * (64.4 * H)^{0.5}$

Wing opening

C=0.6

A=2.0 sf

$Q = 1.2 * (64.4 * H)^{0.5}$

	WS ELEVATION	HEIGHT ABOVE INLET	Q (CFS) WEIR "A" OPENING	Q (CFS) WEIR DOUBLE GRATE	Q (CFS) ORIFICE DOUBLE GRATE	TOTAL Q (CFS)	COMMENTS:
~FL @ INLET	0.00	0.00	0.00	0.00	0.00	0.00	Flow at double "A" inlet w/ two wing openings
	0.10	0.10	0.38	0.85	12.47	1.61	Weir controls on grate analysis
	0.20	0.20	1.07	2.40	17.64	4.55	
	0.30	0.30	1.97	4.41	21.60	8.35	
	0.40	0.40	3.04	6.78	24.94	12.86	
	0.50	0.50	4.24	9.48	27.88	17.97	Q(100 yr) = 13.66 cfs is provided at this depth
	0.60	0.60	5.58	12.46	30.55	23.62	
TOP OF CURB	0.70	0.70	7.03	15.71	32.99	29.76	Q(2x100 yr) = 27.32 cfs is provided at this depth
	0.80	0.80	8.59	19.19	35.27	36.36	
	0.90	0.90	10.25	22.90	37.41	43.39	
ROW LIMIT	1.00	1.00	12.00	26.82	39.43	50.82	

NOTE: The total runoff intercepted by the inlet at the low point in the road is:

$Q_r(100) = 2 * [(\text{runoff of the wing opening}) + (\text{the lesser of the weir or orifice amount taken by the double grate})]$.

THE 100 YR STORM EVENT = 13.66 cfs at the sump condition

THE 2 x 100 YR STORM EVENT = 27.32 cfs at the sump condition

Inlet Analysis - Zearing Ave.

$$Q = 26.38 \text{ cfs} \quad D = 24''$$

$$Q = CA\sqrt{2gh}$$

use $C = 0.8$

$$26.38 \text{ cfs} = 0.8 \left(\frac{\pi (24'')^2}{4} \right) \sqrt{2(32.2 \text{ fps})h}$$

$$26.38 = 0.8 \pi \sqrt{64.4 h}$$

$$10.49 = \sqrt{64.4 h}$$

$$110.17 = 64.4 h$$

$$1.71 = h$$

$$h < \text{depth}$$

$$1.71 < 2.31 \quad \underline{\text{OK}}$$

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SUBJECT _____ CH'D _____ DATE _____

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APPENDIX D

STORM DRAIN ANALYSIS

Analyzer Report

=====

Drainage Structure Analyzer

Channel Hydraulic Analysis

Date: Monday, November 24, 2003 3:47:08 PM

=====

Input Data

 Shape
 Material
 Roughness
 Bottom Width
 Left Slope
 Right Slope
 Bed Slope
 Flow Rate

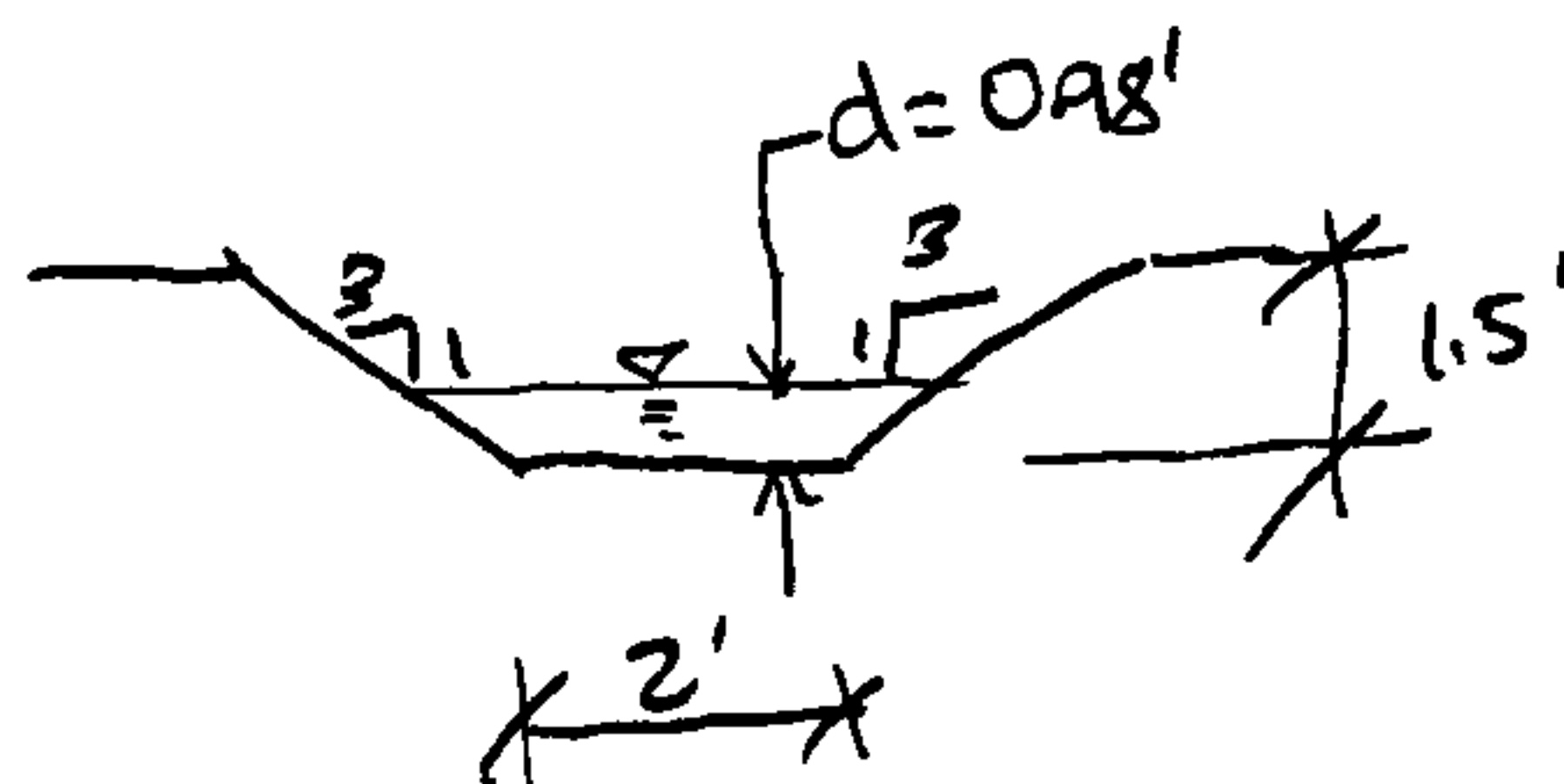
Trapezoidal
 Bare Soil
 0.030000 $\Rightarrow$ Per DPM Table 22.3 B-1
 2.00 ft
 33.333%
 33.333%
 0.600%
 13.0 cfs

Output Results

 Flow Rate
 Depth
 Velocity
 Top Width
 Critical Depth

13.0 cfs
 0.98 ft
 2.69 ft/s $< 3 \text{ fps}$ ok
 7.87 ft
 0.76 ft

subcritica



$$E = \frac{V^2}{2g} + y = \frac{2.69^2}{64.4} + 0.98 = 1.09' < 1.5' \text{ ok}$$

Flow is subcritical $\therefore$ Hydraulic jump not possible

Analyzer Report

===== Drainage Structure Analyzer

Channel Hydraulic Analysis

Date: Monday, November 24, 2003 3:50:35 PM
=====

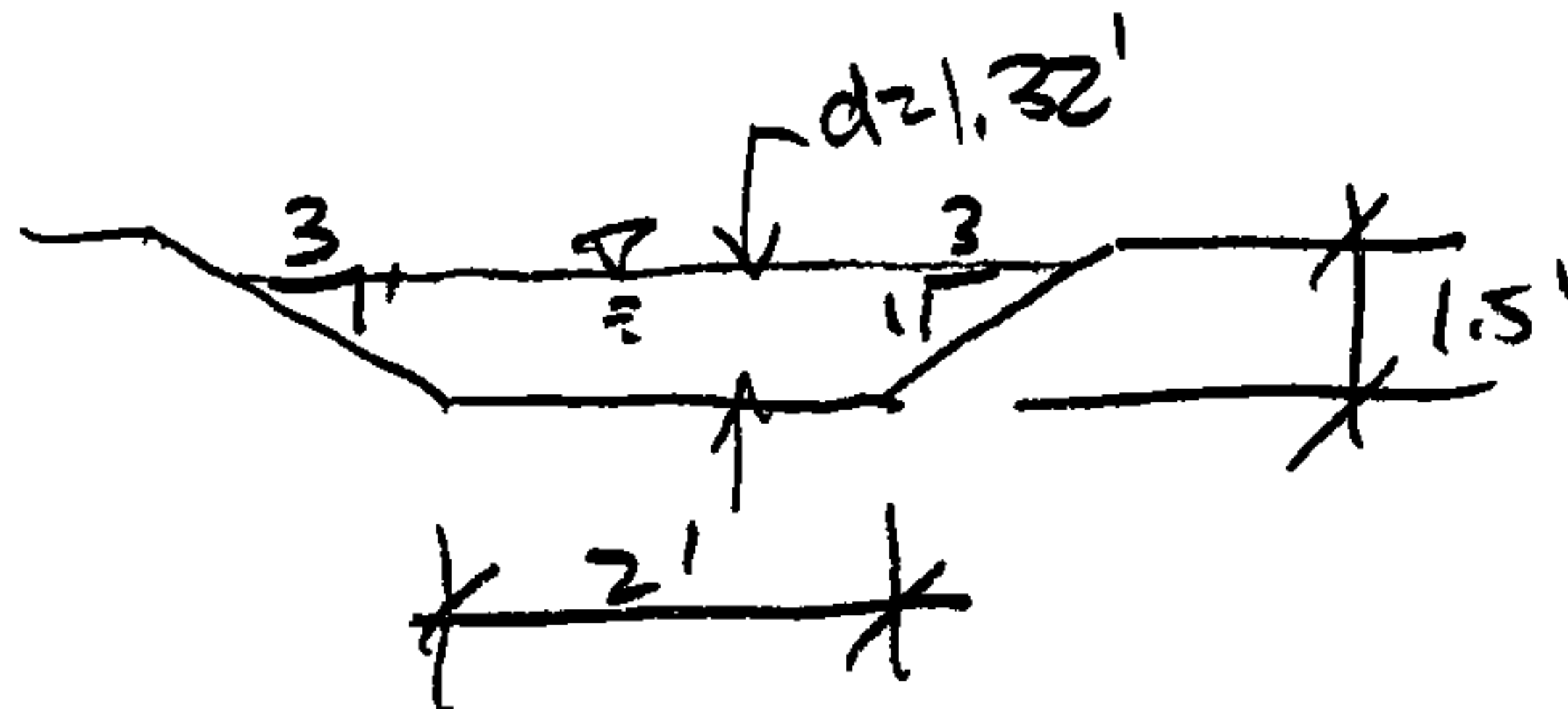
Input Data

Shape Trapezoidal
Material Bare Soil
Roughness 0.030000 => per DPM Table 22.3 B-1
Bottom Width 2.00 ft
Left Slope 33.333%
Right Slope 33.333%
Bed Slope 0.600%
Flow Rate 25.5 cfs

Output Results

Flow Rate 25.5 cfs
Depth 1.32 ft
Velocity 3.22 ft/s ~ 3 f/s ok
Top width 9.95 ft
Critical Depth 1.06 ft

Subcritical



$$E = \frac{V^2}{2g} + y = \frac{3.22^2}{64.4} + 1.32 = 1.48' < 1.5' \text{ ok}$$

Flow is subcritical so hydraulic jump not possible

Analyzer Report

=====

Drainage Structure Analyzer

Hydraulic Analysis

Date: Thursday, June 19, 2003 11:00:59 AM

=====

Input Data

Shape	Circular
Material	RC C76-A
Roughness	0.013000
Method	Manning
Flow Rate	1.0000 cfs
Slope	0.2313%
Size (W x T):	18.00 x 2.5000

Output Results

Flow Rate	1.0000 cfs
Slope	0.2313%
d/D	0.3013
Capacity	5.0519 cfs
Velocity	2.2290 ft/s
Depth	0.4520 ft
Critical Depth	0.3700 ft
Size (W x T):	18.00 x 2.5000

Analyzer Report

Drainage Structure Analyzer

Hydraulic Analysis

Date: Wednesday, September 24, 2003 8:52:26 AM

Input Data

Shape	Circular
Material	RC C76-A
Roughness	0.013000
Method	Manning
Flow Rate	4.0000 cfs
Slope	0.1500%
Size (W x T):	18.00 x 2.5000

Output Results

Flow Rate	4.0000 cfs
Slope	0.1500%
D	0.8047
Capacity	4.0683 cfs
Velocity	2.6248 ft/s
Depth	1.2070 ft
Critical Depth	0.7600 ft
Size (W x T):	18.00 x 2.5000

Analyzer Report

Drainage Structure Analyzer

Hydraulic Analysis

Date: Friday, June 27, 2003 8:37:10 AM

Input Data

Shape	Circular
Material	RC C76-A
Roughness	0.013000
Method	Manning
Flow Rate	13.1900 cfs
Slope	0.6000%
Size (W x T):	24.00 x 3.0000

Output Results

Flow Rate	13.1900 cfs
Slope	0.6000%
V/D	0.6475
Capacity	17.5232 cfs
Velocity	6.1288 ft/s
Depth	1.2950 ft
Critical Depth	1.3000 ft
Size (W x T):	24.00 x 3.0000

APPENDIX E

POND VOLUME CALCULATIONS

Pond 1: 11.32 acres total

$$1.18 \text{ acres} = 16.04\% \text{ B}$$
$$16.04\% \text{ C}$$
$$67.92\% \text{ D}$$

$$0.50 \text{ acres} = 5\% \text{ B}$$
$$5\% \text{ C}$$
$$90\% \text{ D}$$

$$9.64 \text{ acres} = 10\% \text{ B}$$
$$90\% \text{ C}$$

Zone 2: E	A	B	C	D
100 _{yr}	0.53	0.78	1.13	2.12

$$\text{B: } 1.18(0.16) + 0.50(0.05) + 9.64(0.10) = 1.18 \text{ ac}$$

$$\text{C: } 1.18(0.16) + 0.50(0.05) + 9.64(0.90) = 8.89 \text{ ac}$$

$$\text{D: } 1.18(0.679) + 0.50(0.90) = 1.25 \text{ acres}$$

$$E_{ave} = \frac{1.18(0.78) + 8.89(1.13) + 1.25(2.12)}{11.32 \text{ acres}}$$
$$= 1.20 \text{ in.}$$

$$V_{360} = \frac{1.20 \text{ in.}(11.32 \text{ ac})}{12 \text{ in./ft.}} = 1.13 \text{ acre-ft}$$

$$\text{Volume}_{(act)} = 110424.25 \text{ cu. ft.}$$

$$= 2.535 \text{ acre-ft} > 1.13 \text{ ac-ft} \quad \underline{\underline{OK}}$$

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Triangle Volume - Pond 1

Triangle Volume Report

Original Surface: pondtop
Design Surface: pond

Mode: Entire Surface
Cut Factor: 1.0000
Fill Factor: 1.0000

Cut: 110424.2456 cu ft
Fill: 0.0000 cu ft
Net: 110424.2456 cu ft

Cut: 4089.7869 cu yd
Fill: 0.0000 cu yd
Net: 4089.7869 cu yd

Pond: 22.34 acres total

$$6.62 \text{ acres} = 15.35\% \text{ B}$$

$$15.35\% \text{ C}$$

$$69.30\% \text{ D}$$

$$1.02 \text{ acres} = 5\% \text{ B}$$

$$5\% \text{ C}$$

$$90\% \text{ D}$$

$$14.7 \text{ acres} = 10\% \text{ B}$$

$$90\% \text{ C}$$

$$\text{B: } 6.62(0.154) + 1.02(0.05) + 14.7(0.10) = 2.54 \text{ ac}$$

$$\text{C: } 6.62(0.154) + 1.02(0.05) + 14.7(0.90) = 14.3 \text{ ac}$$

$$\text{D: } 6.62(0.693) + 1.02(0.90) = 5.50 \text{ acres}$$

$$E_{ave} = \frac{2.54(0.78) + 14.3(1.13) + 5.50(2.12)}{22.34 \text{ acres}}$$

$$= 1.334 \text{ in.}$$

$$V_{360} = \frac{1.334 \text{ in} (22.34 \text{ ac})}{12 \text{ in/ft}} = 2.48 \text{ acre-ft}$$

$$V_{\text{Pond total}} - V_{\text{Pond 1}} = V_{\text{Pond 2}}$$

$$2.48 - 1.13 = 1.35 \text{ acre-ft}$$

$$V_{\text{Volume}_{act}} = 23807.58 \text{ cu. ft.}$$

$$= 1.924 \text{ acre-ft} > 1.35 \text{ acre-ft} \text{ OK}$$

Bohannon & Huston

PROJECT NAME _____ SHEET _____ OF _____
PROJECT NO. _____ BY _____ DATE _____
SUBJECT _____ CH'D _____ DATE _____

ENGINEERING &
SPATIAL DATA &
ADVANCED TECHNOLOGIES &

Triangle Volume

- Pond 2

Triangle Volume Report

Original Surface: pondtop2

Design Surface: pond2

Mode: Entire Surface

Cut Factor: 1.0000

Fill Factor: 1.0000

Cut: 83807.5823 cu ft

Fill: 0.0000 cu ft

Net: 83807.5823 cu ft

Cut: 3103.9845 cu yd

Fill: 0.0000 cu yd

Net: 3103.9845 cu yd

Pond Bottom
Area = 29,600 $\square$

Offsite 3 Pond: 1.87 acres total

15% B

85% D

Zone 2: E	A	B	C	D
100 yr	0.53	0.78	1.13	2.12

$$E_{ave} = \frac{1.87(0.15)(0.78) + 1.87(0.85)(2.12)}{1.87}$$

$$= 1.919 \text{ in.}$$

$$V_{360} = \frac{1.919 \text{ in} (1.87 \text{ ac})}{12 \text{ in/ft}} = 0.299 \text{ ac-ft}$$

Bohannon & Huston INC.

PROJECT NAME _____ SHEET _____ OF _____
PROJECT NO. _____ BY _____ DATE _____
SUBJECT _____ CH'D _____ DATE _____

ENGINEERING &
SPATIAL DATA &
ADVANCED TECHNOLOGIES & E-5/6

EXHIBITS

- EXHIBIT 1: BULK LAND PLAT
- EXHIBIT 2: PRELIMINARY PLAT
- EXHIBIT 3: EXISTING DRAINAGE BASIN MAP
- EXHIBIT 4: PROPOSED DRAINAGE BASIN MAP
- EXHIBIT 5: GRADING AND DRAINAGE PLAN

A vertical dashed line consisting of 20 short black rectangular segments arranged in a column on the left side of the page.

EXHIBIT 1

BULK LAND PLAT

EXHIBIT 2

PRELIMINARY PLAT

EXHIBIT 3

EXISTING DRAINAGE BASIN MAP

EXHIBIT 4

PROPOSED DRAINAGE BASIN MAP

EXHIBIT 5

GRADING AND DRAINAGE PLAN

Bohannon Δ Huston_{INC.}

Courtyard I
7500 Jefferson St. NE
Albuquerque, NM
87109-4335
www.bhinc.com

voice: 505.823.1000
facsimile: 505.798.7988
toll free: 800.877.5332

CITY OF ALBUQUERQUE



February 20, 2012

Brian C. Patterson, P.E.
Bohannon Huston, Inc.
7500 Jefferson NE
Albuquerque, NM 87109

**Re: Sawmill Community Garden
Grading and Drainage Plan
Engineer's Stamp dated 2-13-12 (H13/D025)**

Dear Mr. Patterson,

Based upon the information provided in your submittal received 2/13/12, the above referenced plan is approved for Grading Permit and Paving Permit. Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology.

Upon completion of the project, please provide an Engineer Certification for our files.

PO Box 1293

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

Albuquerque

Sincerely,

NM 87103

Shahab Biazar, P.E.
Senior Engineer, Planning Dept.
Development and Building Services

www.cabq.gov

C: RER/SB
File

DRAINAGE AND TRANSPORTATION INFORMATION SHEET
(Rev. 12/2005)

PROJECT TITLE: SAWMILL COMMUNITY GARDEN ZONE MAP/DRG. FILE # H-13 10025
DRB#: _____ EPC#: _____ WORK ORDER#: _____

LEGAL DESCRIPTION: A PORTION OF TRACT 2-E-1 PLAT OF ARBOLERA DE VIDA UNIT 2B
CITY ADDRESS: _____

ENGINEERING FIRM: BOHANNAN HUSTON INC.
ADDRESS: 7500 JEFFERSON NE CY1
CITY, STATE: ALBUQUERQUE, NM

CONTACT: BRIAN PATTERSON
PHONE: 823-1000
ZIP CODE: 87109

email b.patterson@bhinc.com

OWNER: SAWMILL COMMUNITY LAND TRUST
ADDRESS: PO BOX 25181
CITY, STATE: ALBUQUERQUE, NM

CONTACT: WADE PATTERSON
PHONE: 764-0359
ZIP CODE: 87125

ARCHITECT: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

SURVEYOR: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

CONTRACTOR: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

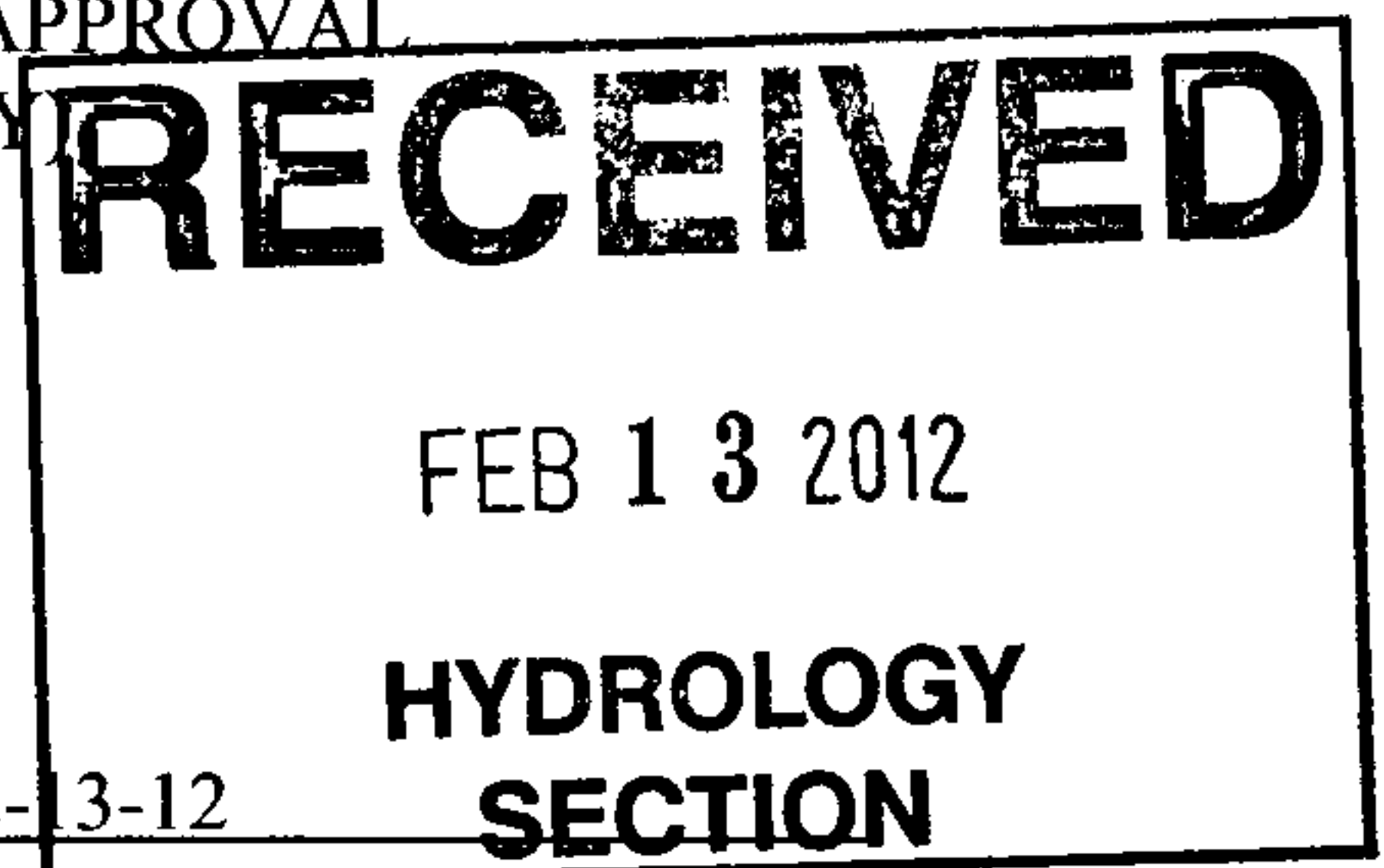
TYPE OF SUBMITTAL:
☐ DRAINAGE REPORT
☒ DRAINAGE PLAN 1st SUBMITTAL
☐ DRAINAGE PLAN RESUBMITTAL
☐ CONCEPTUAL G & D PLAN
☒ GRADING PLAN
☐ EROSION CONTROL PLAN
☐ ENGINEER'S CERT (HYDROLOGY)
☐ CLOMR/LOMR
☐ TRAFFIC CIRCULATION LAYOUT
☐ ENGINEER CERT (TCL)
☐ ENGINEER CERT (DRB SITE PLAN)
☐ OTHER (SPECIFY) _____

CHECK TYPE OF APPROVAL SOUGHT:
☐ SIA/FINANCIAL GUARANTEE RELEASE
☐ PRELIMINARY PLAT APPROVAL
☐ S. DEV. PLAN FOR SUB'D APPROVAL
☐ S. DEV. FOR BLDG. PERMIT APPROVAL
☐ SECTOR PLAN APPROVAL
☐ FINAL PLAT APPROVAL
☐ FOUNDATION PERMIT APPROVAL
☐ BUILDING PERMIT APPROVAL
☐ CERTIFICATE OF OCCUPANCY (PERM)
☐ CERTIFICATE OF OCCUPANCY (TEMP)
☒ GRADING PERMIT APPROVAL
☒ PAVING PERMIT APPROVAL
☐ WORK ORDER APPROVAL
☐ OTHER (SPECIFY) _____

WAS A PRE-DESIGN CONFERENCE ATTENDED:

☐ YES
☐ NO
☐ COPY PROVIDED

SUBMITTED BY: BRIAN PATTERSON, PE DATE: 2-13-12



Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location and scope to the proposed development define the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

1. **Conceptual Grading and Drainage Plan:** Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.
2. **Drainage Plans:** Required for building permits, grading permits, paving permits and site plans less than five (5) acres.
3. **Drainage Report:** Required for subdivision containing more than ten (10) lots or constituting five (5) acres or more.

Courtyard I
7500 Jefferson St. NE
Albuquerque, NM
87109-4335

www.bhinc.com

voice: 505.823.1000
facsimile: 505.798.7988
toll free: 800.877.5332

CLIENT/COURIER TRANSMITTAL

To: Curtis Cherne, PE
COA-PDS
600 2nd St
Albuquerque, NM 87102

Requested by: Brian Patterson

Date: 2-13-12

Time Due: ☒ This A.M.
☐ This P.M.
☐ Rush _____
☐ By Tomorrow _____

Phone: 924-3986
Job No.: 20120248

Job Name: Sawmill Community Gardent

DELIVERY VIA

☒ Courier ☐ Federal Express
☐ Mail ☐ UPS
☐ Other

PICK UP

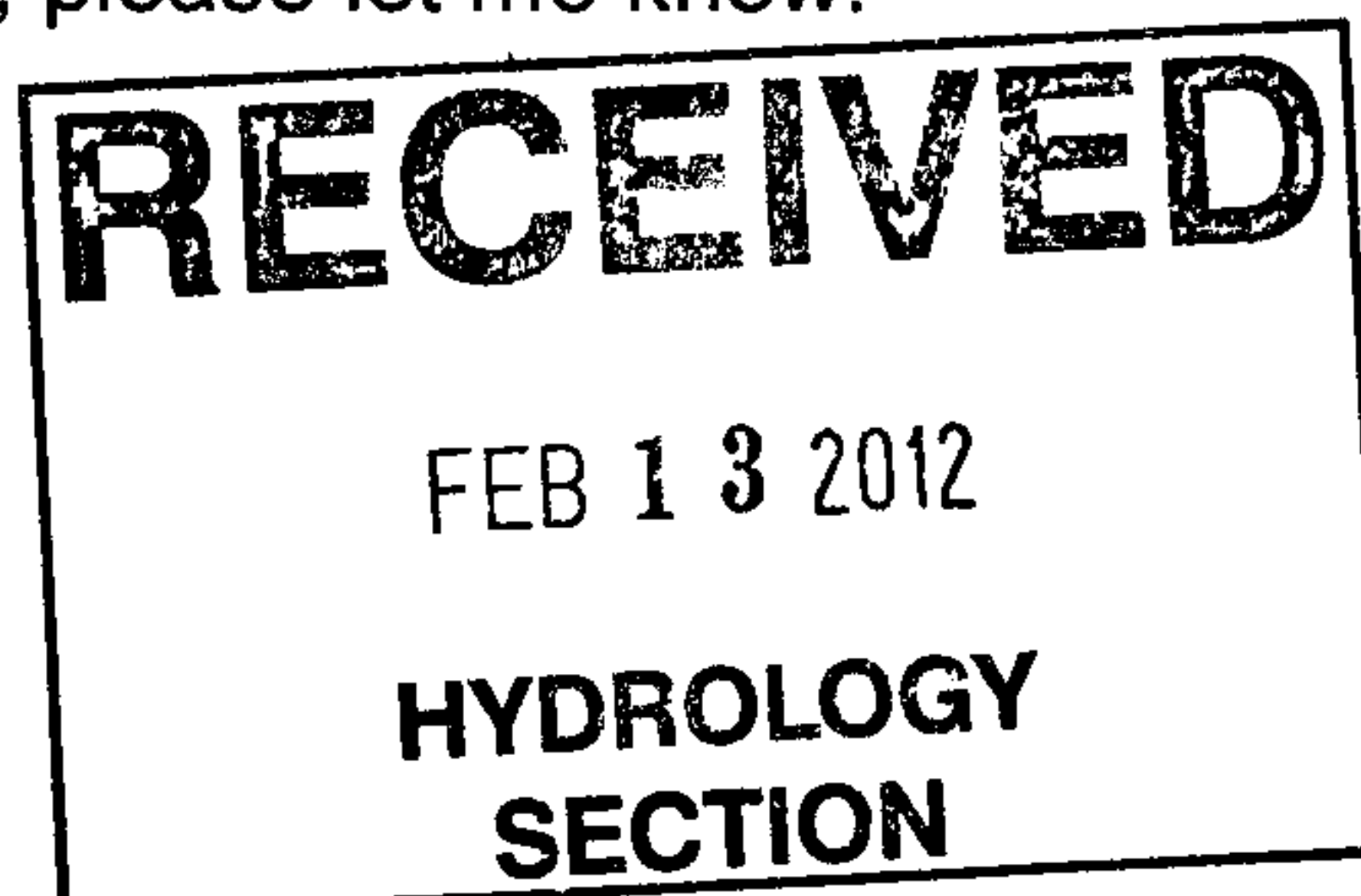
Item: _____

<u>ITEM NO.</u>	<u>QUANTITY</u>	<u>DESCRIPTION</u>
1	1	Grading and Drainage Plan
2	1	Drainage Info Sheet

COMMENTS / INSTRUCTIONS

Curtis,
Attached is the grading and drainage plan for the Sawmill Community Garden for your review and approval.
If you have any questions or comments, please let me know.

Brian



REC'D BY: _____ DATE: _____ TIME: _____



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

February 5, 2004

Kevin Patton, PE
Bohannon Huston, Inc
7500 Jefferson NE
Albuquerque, NM 87109

Re: Arbolera de Vida Unit 2 Subdivision Drainage Report
Engineer Stamp dated 11-25-03 (H13/D25)

Dear Mr. Patton,

Based upon the information provided in your submittal dated 11-25-03, the above referenced report is approved for Work Order, Grading Permit and Final Plat. This is now the plan that must be certified for release of SIA and Financial Guarantee.

If you have any questions, you can contact me at 924-3986.

Sincerely,

Bradley L. Bingham
Bradley L. Bingham, PE
City Hydrologist

C: file

Courtyard I
7500 Jefferson NE
Albuquerque, NM
87109-4335
www.bhinc.com

voice: 505.823.1000
fax: 505.798.7988
toll free: 800.877.5332

November 25, 2003

Brad Bingham, P.E.
Development & Building Services
City of Albuquerque
P. O. Box 1293
Albuquerque, NM 87103

Re: Arbolera de Vida, Unit 2 (H13/D25)
DRB 1000029

Dear Mr. Bingham:

We are providing you with a revised Drainage Report for the subject project. The revision addresses your comment concerning the acequia in your approval letter dated November 19, 2003. The acequia has been redesigned so that the 100-year flow velocities are approximately 3 fps or less, and so that the flow is in a subcritical state. This was accomplished by flattening the longitudinal slope of the acequia and using a Manning's "n" value of 0.03 for bare channels in accordance with DPM Table 22.3 B-1.

Please call if you have questions or if we may be of further assistance to you in your review.

Sincerely,



Christian J. Sholtis, P.E.
Project Engineer
Community Development and Planning

CJS/am
Enclosure

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

H-13/D25

PROJECT TITLE: Arbolera de Vida, Phase 2 ZONE MAP/DRG. FILE # H13/D25
DRB #: 1000029 EPC#: _____ WORK ORDER#: _____

LEGAL DESCRIPTION: Replat of Lot C and Lot B-1-A-1, Duke City Lumber Company Addition, and Lot D-1-A, Arbolera de Vida
CITY ADDRESS: NE Corner of Bellamah Ave. and 19th Street

ENGINEERING FIRM: Bohannon Huston, Inc.
ADDRESS: 7500 Jefferson NE – Courtyard I
CITY, STATE: Albuquerque, NM

CONTACT: Kevin Patton
PHONE: (505) 823-1000
ZIP CODE: 87109

OWNER: City of Albuquerque Development Services
ADDRESS: _____
CITY, STATE: _____

CONTACT: Agent
PHONE: _____
ZIP CODE: _____

AGENT FOR OWNER: Sawmill Community Land Trust
ADDRESS: P.O. Box 25181
CITY, STATE: Albuquerque, NM

CONTACT: Dory Wegrzyn
PHONE: (505) 764-0359
ZIP CODE: 87125-5181

SURVEYOR: Surv Tek, Inc.
ADDRESS: 5643 Paradise Blvd. NW
CITY, STATE: Albuquerque, NM

CONTACT: Garry P. Hugg
PHONE: (505) 897-3377
ZIP CODE: 87114

CONTRACTOR: Not Yet Determined
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

CHECK TYPE OF SUBMITTAL:

- ☒ DRAINAGE REPORT
☐ DRAINAGE PLAN 1st SUBMITTAL, **REQUIRES TCL or equal**
☐ DRAINAGE PLAN RESUBMITTAL
☐ CONCEPTUAL GRADING & DRAINAGE PLAN
☒ GRADING PLAN
☐ EROSION CONTROL PLAN
☐ ENGINEER'S CERTIFICATION (HYDROLOGY)
☐ CLOMR/LOMR
☐ TRAFFIC CIRCULATION LAYOUT (TCL)
☐ ENGINEERS CERTIFICATION (TCL)
☐ ENGINEERS CERTIFICATION (DRB APPR. SITE PLAN)
☒ OTHER (**Resubmittal**)

CHECK TYPE OF APPROVAL SOUGHT:

- ☐ SIA / FINANCIAL GUARANTEE RELEASE
☐ PRELIMINARY PLAT APPROVAL
☐ S. DEV. PLAN FOR SUB'D. APPROVAL
☐ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
☐ SECTOR PLAN APPROVAL
☒ FINAL PLAT APPROVAL
☐ FOUNDATION PERMIT APPROVAL
☐ BUILDING PERMIT APPROVAL
☐ CERTIFICATE OF OCCUPANCY (PERM.)
☐ CERTIFICATE OF OCCUPANCY (TEMP.)
☒ GRADING PERMIT APPROVAL
☐ PAVING PERMIT APPROVAL
☒ WORK ORDER APPROVAL
☐ OTHER (SPECIFY)

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☒ YES
☐ NO
☐ COPY PROVIDED

DATE SUBMITTED: 11-25-03 BY: Kevin G. Patton, PE

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location and scope of the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

1. Conceptual Grading and Drainage Plan: Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.

2. Drainage Plans: Required for building permits, grading permits, paving permits and site plans less than five (5) acres.

3. Drainage Report: Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or more.



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

January 15, 2003

Gilbert Aldaz, PE
Applied Engineering & Survey, Inc.
1605 Blair Dr. NE
Albuquerque, NM 87112

Re: Lots 7, 8 & 9 John Baron Burg Park (part of Arbolera de Vida)

Grading Plan

Engineer's Stamp dated 12-5-02 (H13/D25)

Dear Mr. Aldaz,

Based upon the information provided in your submittal dated 12-5-02, the above referenced plan is approved for Preliminary and Final Plat and Building Permit. Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology. Please keep in mind that removing the existing drivepad and replacing it with curb and gutter and sidewalk on Zearing will be required at Building Permit for lot 9.

Prior to Certificate of Occupancy, an Engineer's Certification is required.

If you have any questions, you can contact me at 924-3986.

Sincerely,

Bradley L. Bingham, PE
Sr. Engineer, Planning Dept
Development and Building Services

C: file

6045.83

File H13/D25

#2

(NO PUBLIC EASEMENT)

DRAINAGE COVENANT

This Drainage Covenant, between Sawmill Community Land Trust ("Owner"), whose address is 904 19th Street NW, Albuquerque, NM 87104, and the City of Albuquerque, New Mexico municipal corporation ("City"), whose address is P.O. Box 1293, Albuquerque, New Mexico 87103, is made in Albuquerque, Bernalillo County, New Mexico and is entered into as of the date Owner signs this Covenant.

1. Recital. Owner is the owner of certain real property described as:
Sawmill Lofts, 1801 19th Street, Albuquerque, NM
Arbolera De Vida Unit 2 (A replat of Lot C and Lot B-1-A-1 of Duke City Lumber Company)
in Bernalillo County, New Mexico (the "Property"). (Give legal description and filing information.)

Pursuant to City ordinances, regulations and other applicable laws, the Owner is required to construct and maintain certain Drainage Facilities on the Property, and the parties wish to enter into this Agreement to establish the obligations and responsibilities of the parties.

2. Description and Construction of Drainage Facilities. Owner shall construct the following "Drainage Facility" within the Property at Owner's sole expense in accordance with the standard plans and specifications approved by the City pursuant to Drainage File No. H13-D25:
Storm Drainage within landscaped area used to help drain half of COA sidewalk.

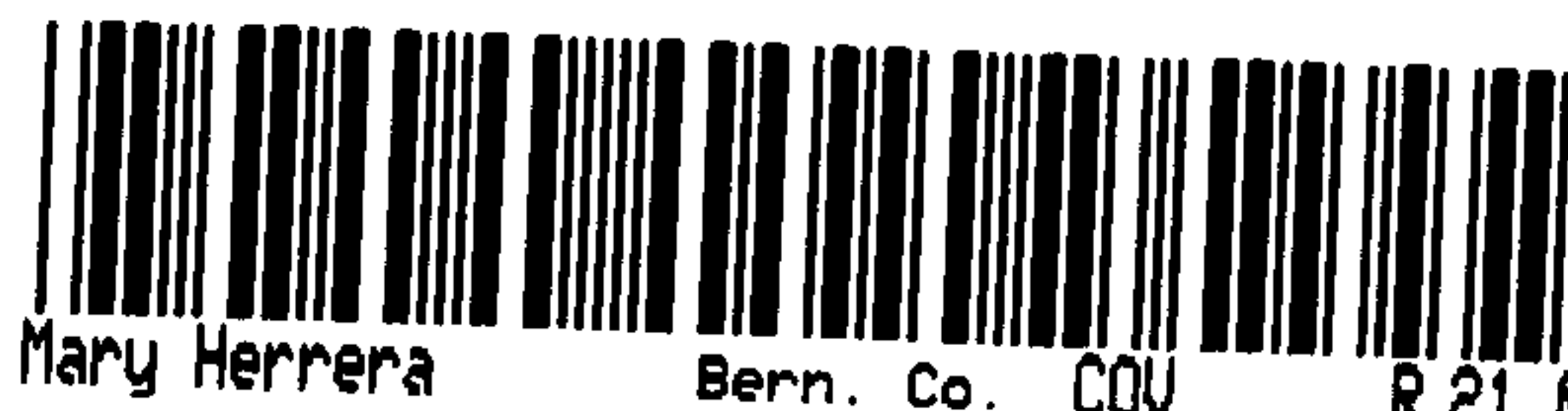
The Drainage Facility is more particularly described in the attached Exhibit A. The Owner will not permit the Drainage Facility to constitute a hazard to the health or safety of the general public.

3. Maintenance of Drainage Facility. The Owner will maintain the Drainage Facility at Owner's cost in accordance with the approved Drainage Report and plans.

4. City's Right of Entry. The City has the right to enter upon the Property at any time and perform whatever inspection, maintenance or repair of the Drainage Facility it deems appropriate, without liability to the Owner.

5. Demand for Construction or Repair. The City may send written notice ("Notice") to the Owner requiring the Owner to construct or repair the Drainage Facility within 30 days ("Deadline") of receipt of the Notice, as provided in Section 11, and the Owner will comply promptly with the requirements of the Notice. The Owner will perform all required work by the Deadline, at Owner's sole expense.

6. Failure to Perform by Owner and Emergency Work by City. If the Owner fails to comply with the terms of the Notice by the Deadline, or if the City determines that an emergency condition exists, the City may perform the work itself. The City may assess the Owner for the cost of the work and for any other



Mary Herrera

Bern. Co. COU

R 21.00

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Page: 1 of 7

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expenses or damages which result from Owner's failure to perform. The Owner agrees promptly to pay the City the amount assessed. If the Owner fails to pay the City within thirty (30) days after the City gives the Owner written notice of the amount due, the City may impose a lien against Owner's Property for the total resulting amount.

7. Liability of City for Repair after Notice or as a Result of Emergency. The City shall not be liable to the Owner for any damages resulting from the City's repair or maintenance following notice to the Owner as required in this agreement or in an emergency unless the damages are the result of the reckless conduct or gross negligence of the City.

8. Indemnification. Owner agrees to indemnify and save the City, its officials, agents and employees harmless from all claims, actions, suits and proceedings arising out of or resulting from the Owner's negligent maintenance, construction, repair or use of the Drainage Facility. To the extent, if at all, Section 56-7-1 NMSA 1978 is applicable to this Agreement, this Agreement to indemnify will not extend to liability, claims, damages, losses or expenses, including attorney's fees, arising out of (1) the preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs or specifications by the indemnitee, or the agents or employees of the indemnitee; or (2) the giving of or the failure to give direction or instructions by the indemnitee, where such giving or failure to give directions or instructions is the primary cause of bodily injury to persons or damage to property.

9. Cancellation of Agreement and Release of Covenant. This Agreement may be released if the Drainage Facility is no longer required for the protection of the public health, safety and welfare by the City filing "Notice of Release" with the Bernalillo County Clerk. The Notice of Release must be signed by the City's Chief Administrative Officer, or his designee, and the approval of the City Hydrologist must be endorsed thereon.

10. Assessment. Nothing in this agreement shall be construed to relieve the Owner, his heirs, assigns, and successors from an assessment against Owner's Property for improvements to the property under a duly authorized and approved Special Assessment District. The parties specifically agree that the value of the Drainage Facility will not reduce the amount assessed by the City.

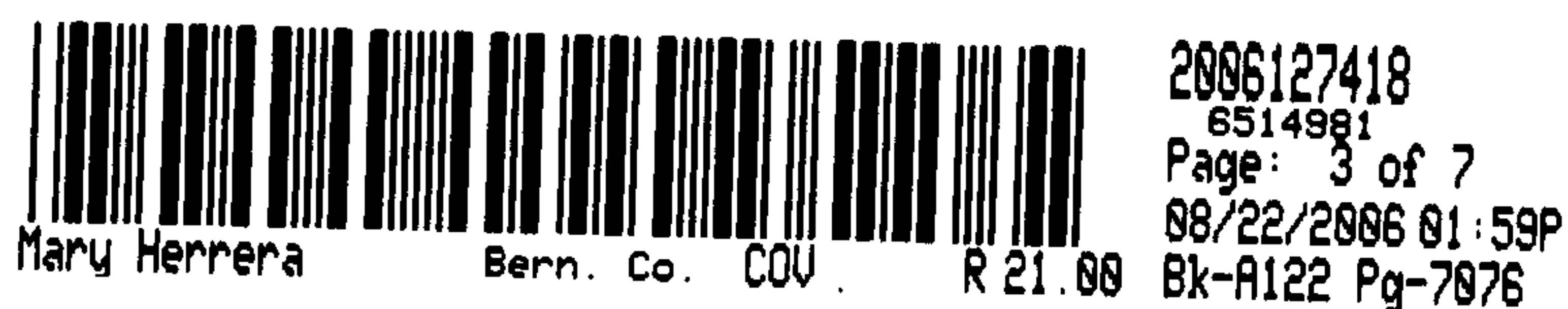
11. Notice. For purposes of given formal written notice to the Owner, Owner's address is:

Sawmill Community Land Trust
904 19th Street NW
Albuquerque, NM 87104

Notice may be given to the Owner either in person or by mailing the notice by regular U.S. mail, postage paid. Notice will be considered to have been received by the Owner within three days after the notice is mailed if there is no actual evidence of receipt. The Owner may change Owner's address by given written notice of the change by Certified Mail, return receipt requested, to the City Public Works Department, P.O. Box 1293, Albuquerque, New Mexico, 87103.



12. Term. This Agreement shall continue until terminated by the City pursuant to Section 9 above.
13. Binding on Owner's Property. The covenants and obligations of the Owner said forth herein shall be binding on Owner, its heirs, personal representatives, assigns and successors and on Owner's Property and shall constitute covenants running the Owner's Property until released by the City.
14. Entire Agreement. This Agreement contains the entire agreement of the parties and supersedes any and all other agreements or understanding, oral or written, whether previous to the execution hereof or contemporaneous herewith regarding this subject matter.
15. Changes to Agreement. Changes to this Agreement are not binding unless made in writing, signed by both parties.
16. Construction and Severability. If any part of this Agreement is held to be invalid or unenforceable, the remainder of the Agreement will remain valid and enforceable if the remainder is reasonably capable of completion.
17. Captions. The captions to the sections or paragraphs of this Agreement are not part of this Agreement and will not affect the meaning of construction of any of its provisions.



CITY OF ALBUQUERQUE:

OWNER:

By: [Signature]
Dr. Bruce Perlman, PhD
Chief Administrative Officer
Dated: 8-22-06

By: [Signature]
Its: Executive Director
Dated: 8/1/2006

REVIEWED BY:

[Signature]
City Engineer
[Signature] 8-8-06

CITY'S ACKNOWLEDGMENT

STATE OF NEW MEXICO)
COUNTY OF BERNALILLO) ss

This instrument was acknowledged before me on August 22, 2006, by James Lewis, Richard Jourte,
Chief Administrative Officer for the City of Albuquerque, a New Mexico municipal corporation, on behalf of the
corporation.

[Signature]
Notary Public

My Commission Expires:

11-25-2007



Mary Herrera

Bern. Co. COU

R 21.00

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Page: 4 of 7
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OWNER'S ACKNOWLEDGMENT

STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

This instrument was acknowledged before me on August 1, 2006, by
Connie Chavez, on behalf of Sawmill Community Land Trust

My Commission Expires: 9/30/2009

Notary Public



Mary Herrera

Bern. Co. COV

R 21.00

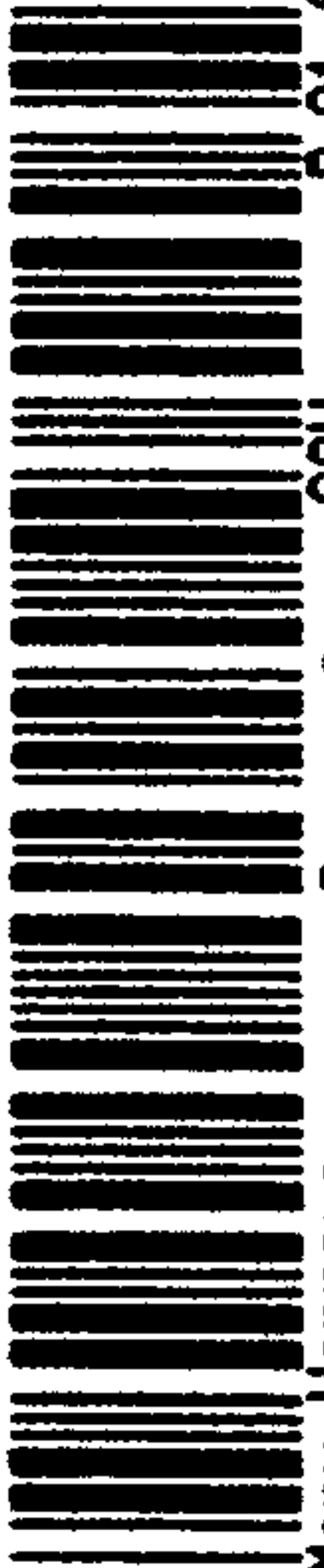
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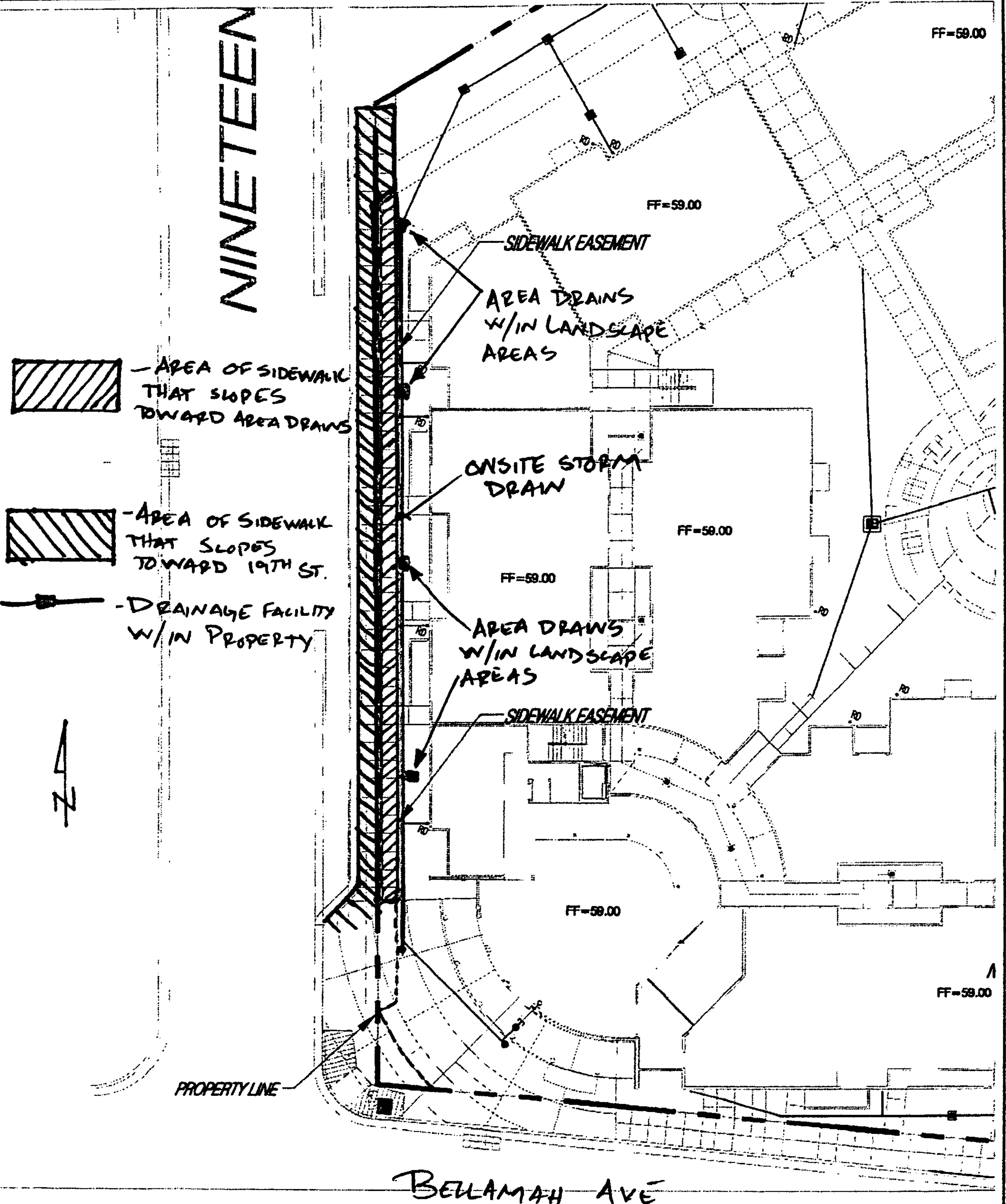
Page: 5 of 7

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Bk-A122 Pg-7076



Bern. Co. COV R 21.00 Mary Herrera



BELLAMAH AVE

Bohannon & Huston

Courtyard I 7600 Jefferson St NE Albuquerque, NM 87109-4335
 ENGINEERING • SPATIAL DATA • ADVANCED TECHNOLOGIES

**SAWMILL LOFTS
 DRAINAGE COVENANT**

DRAWN BY:	MJB	DATE:	07/16/06
CHECKED BY:	BJS	PROJECT NO.	050073
		SHEET NO.	

NINETEEN

FF=59.00

FF=59.00

SIDEWALK EASEMENT



- AREA OF SIDEWALK
 THAT SLOPES
 TOWARD AREA DRAINS



- AREA OF SIDEWALK
 THAT SLOPES
 TOWARD 19TH ST.

ONSITE STORM
 DRAIN

FF=59.00

FF=59.00

AREA DRAINS
 W/IN LANDSCAPE
 AREAS

SIDEWALK EASEMENT

FF=59.00

FF=59.00

N

PROPERTY LINE

BELLAMAH AVE

Bohannon & Huston INC.

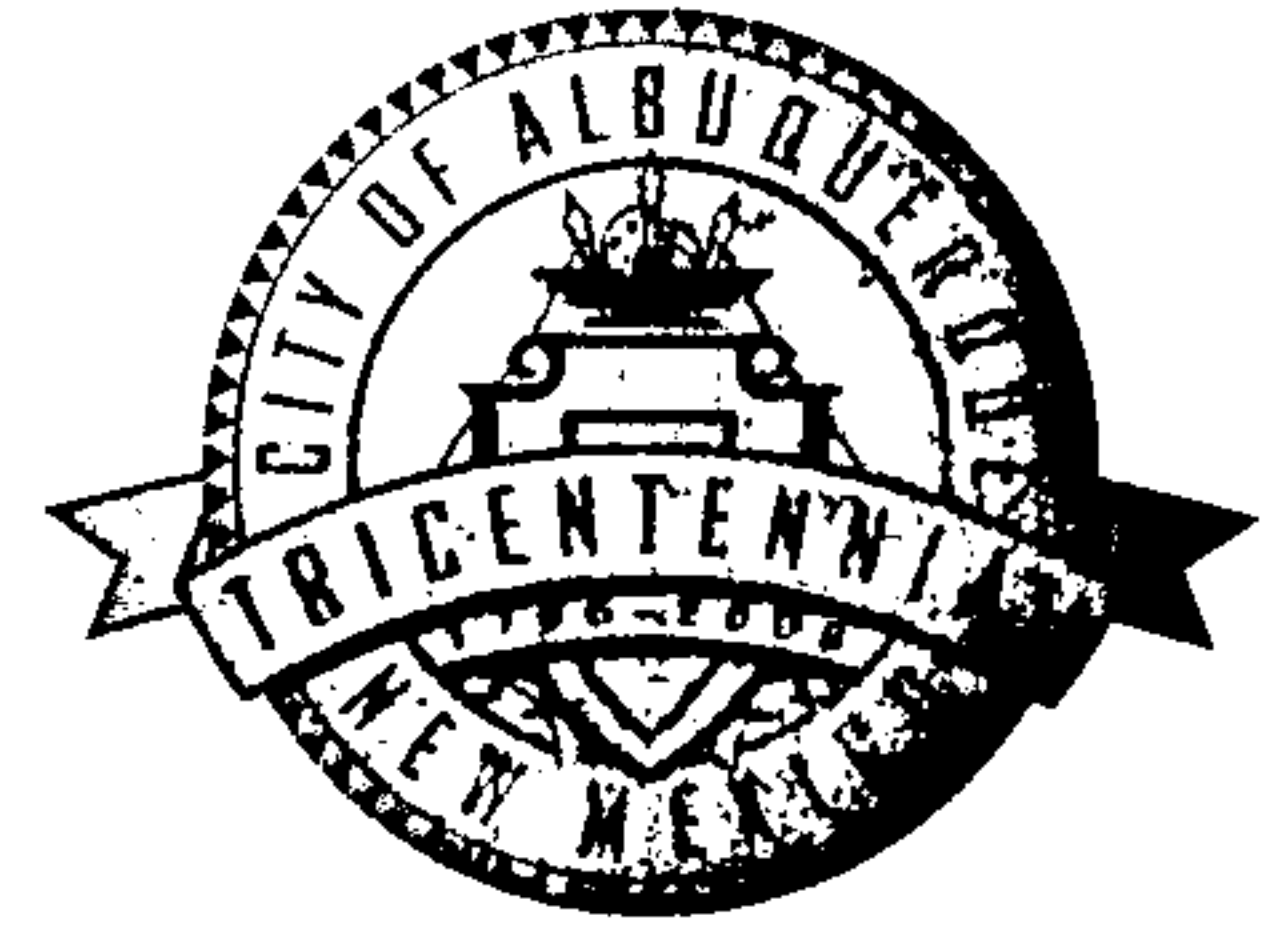
Courtyard I 7500 Jefferson St. NE Albuquerque, NM 87109-4335
 ENGINEERING & SPATIAL DATA & ADVANCED TECHNOLOGIES

SAWMILL LOFTS
 DRAINAGE COVENANT

EXHIBIT A

DRAWN BY:	MJB	DATE:	07/16/06
CHECKED BY:	BJS	PROJECT NO.	050073
		SHEET NO.	

CITY OF ALBUQUERQUE



**Planning Department
Transportation Development Services Section**

June 30, 2006

Ronald A. Witherspoon, Registered Architect
6801 Jefferson NE, Ste 100
Albuquerque, NM 87109

Re: Certification Submittal for Final Building Certificate of Occupancy for
H-13, [D25 / D25]
1801 Bellamah Ave. NW
Architect's Stamp Dated 06/27/06

Dear Mr. Witherspoon:

The TCL / Letter of Certification submitted on June 29, 2006 is sufficient for acceptance by this office for final Certificate of Occupancy (C.O.). Notification has been made to the Building and Safety Section.

Sincerely,

Nilo E. Salgado-Fernandez, P.E.
Senior Traffic Engineer
Development and Building Services
Planning Department

c: Engineer
Hydrology file
CO Clerk

P.O. Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

June 27, 2006

Mr. Nilo E. Salgado-Fernandez, P.E.
Senior Traffic Engineer
Development and Building Services
Planning Department



Dekker/Perich/Sabatini

architecture
interiors
planning
engineering

RE: Sawmill Lofts, 1801 Bellamah Ave, NW, Traffic Circulation Layout.
Request for final Certificate of Occupancy.

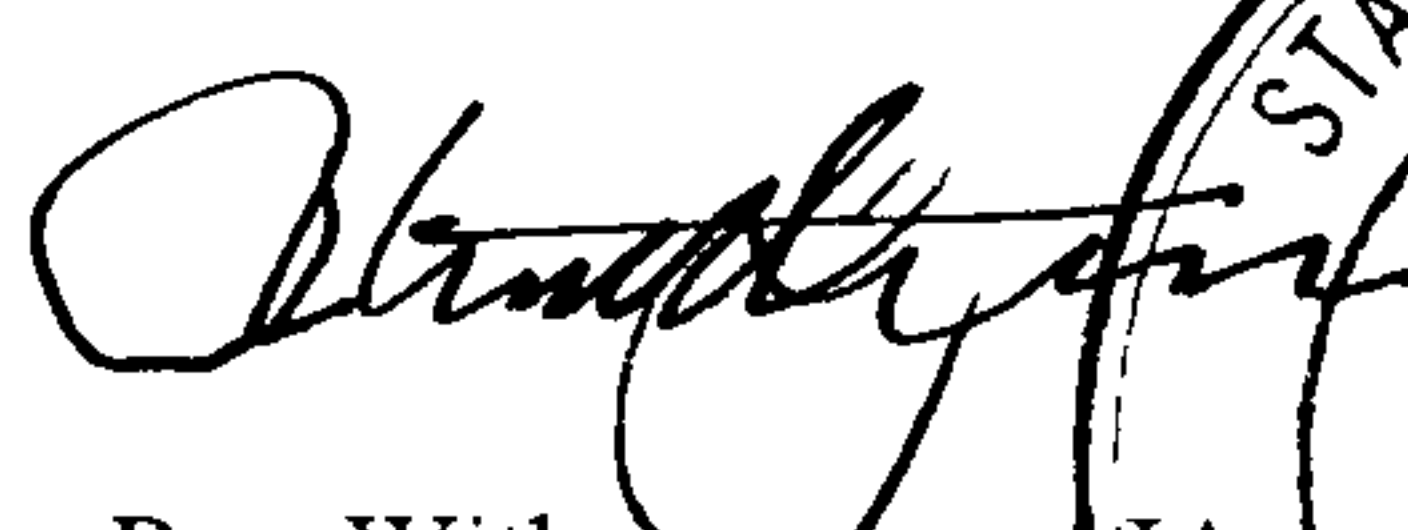
Dear Mr. Salgado,

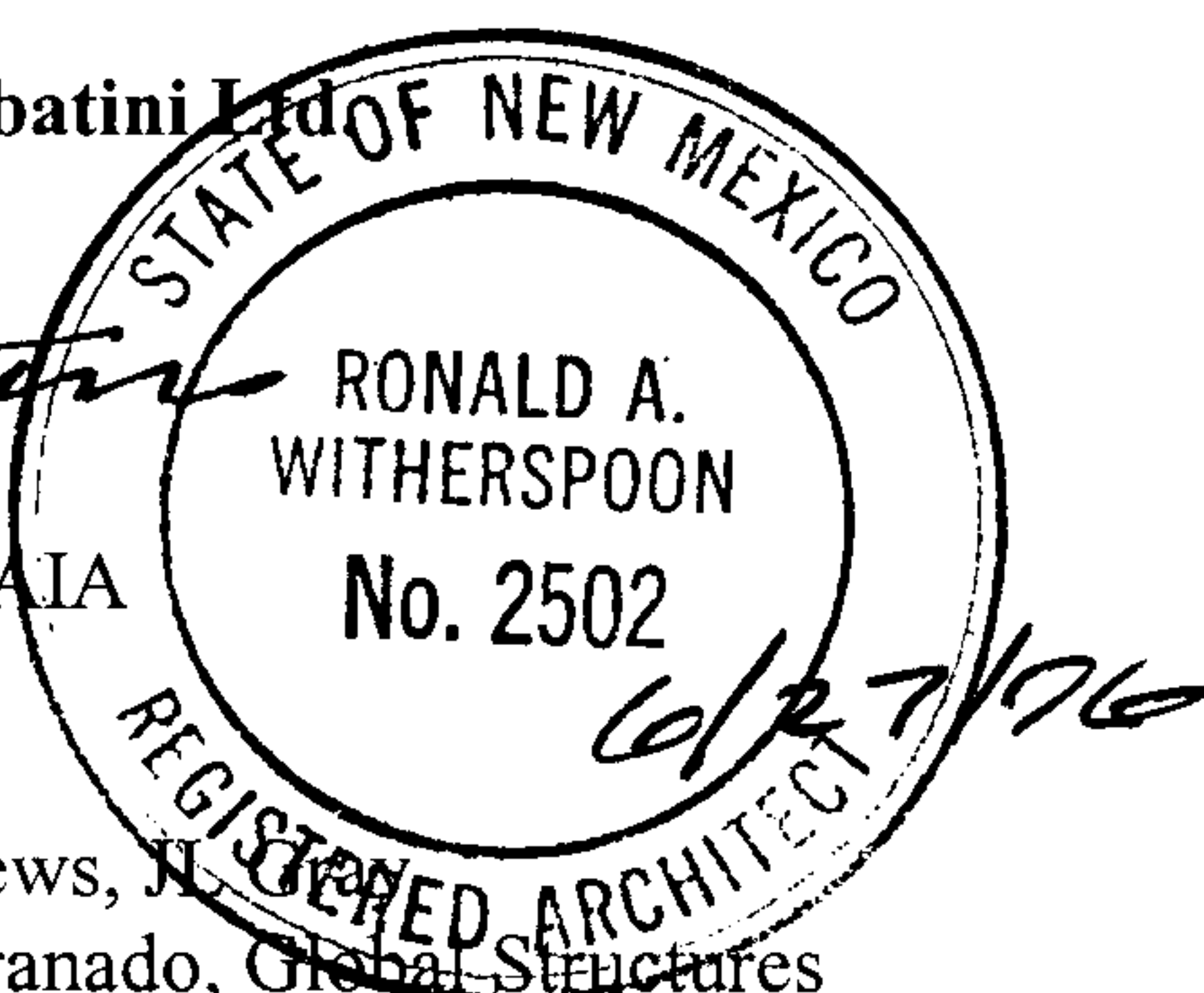
This letter is to request a final Certificate of Occupancy. Based on information provided by the Contractor and site observations, to the best of my information, knowledge, and belief the sidewalks, parking stalls, and drive aisles, have been constructed in substantial compliance with the approved Traffic Circulation Layout. A third refuse enclosure was required by COA Solid Waste Department on 5/18/05 as a condition for Building Permit. This change is shown on the attached drawing.

Feel free to call with any questions or concerns.

Very truly yours,

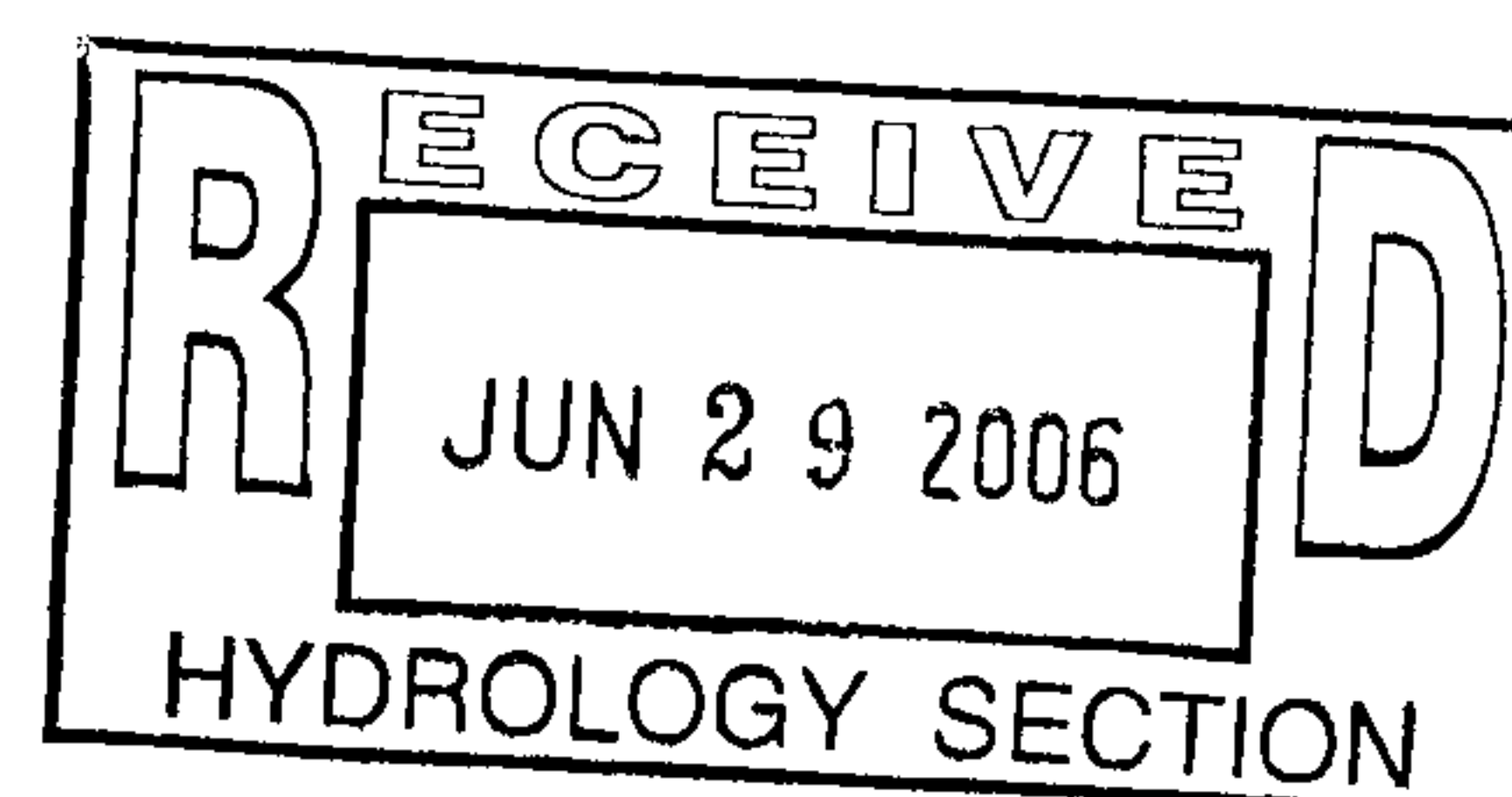
Dekker/Perich/Sabatini Ltd


Ron Witherspoon, AIA
Principal



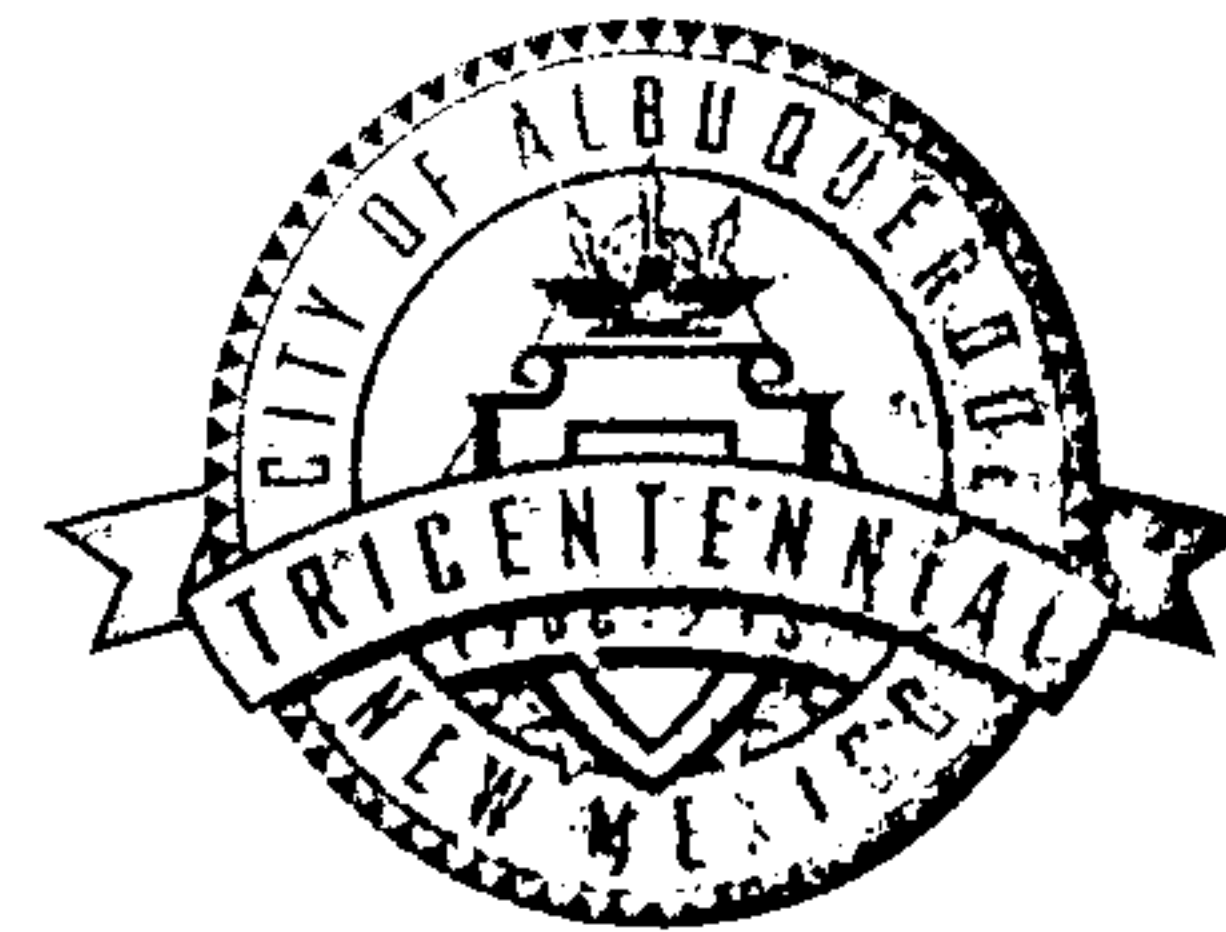
cc. Tom Andrews, J. Gray
Orlando Granado, Global Structures
file

encl. Approved Traffic Circulation Layout



■■■
6801 Jefferson NE
Suite 100
Albuquerque NM
87109
505 761.9700
fax 761.4222
dps@dpsabq.com

CITY OF ALBUQUERQUE



**Planning Department
Transportation Development Services Section**

June 1, 2006

Ronald A. Witherspoon, Registered Architect
Dekker/Perich/Sabatini
6801 Jefferson NE, Ste. 100
Albuquerque, NM 87109

Re: Approval of Temporary Certificate of Occupancy (C.O.) for
Sawmill Lofts, [H-13 / D25]
1801 Bellamah Ave NW
Architect's Stamp Dated 05/30/06

Dear Mr. Witherspoon:

Based on the information provided on your submittal dated May 31, 2006, the above referenced project is approved for a 60-day Temporary C.O.

A Temporary C.O. has been issued allowing the outstanding issues mentioned on the letter dated May 30, 2006 to be completed within this time period. When these remaining issues have been fully completed, are in substantial compliance, and a final Certification for Transportation has been resubmitted to the City's Hydrology office for approval, a Permanent C.O. will be issued.

The Certification package for Final C.O. must include an exact copy of the approved TCL, or signed off D.R.B. Site Plan, which is in each of the two City Permit Plan Sets—the contractor's City field set and the City's plan set in the basement of the Plaza Del Sol building. Package also must include a letter of certification on designer's letterhead-stamped with his seal, signed, and dated. Submit package along with fully completed Drainage Information Sheet to front counter personnel for log in and evaluation by Transportation.

If you have any questions, please call me at 924-3630.

Sincerely,

Nilo E. Salgado-Fernandez, P.E.
Senior Traffic Engineer
Development and Building Services
Planning Department

c: Engineer
Hydrology file
CO Clerk

P.O. Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

May 30, 2005

Ms. Kristal D. Metro
Engineering Associate, Planning Dept.
Development and Building Services



Dekker/Perich/Sabatini

architecture
interiors
planning
engineering

RE: Sawmill Lofts, 1801 Bellamah Ave, NW, Traffic Circulation Layout.
Request for temporary Certificate of Occupancy.

Dear Ms. Metro,

This letter is to request a temporary Certificate of Occupancy. Based on information provided by the Contractor and site observations, to the best of my information, knowledge, and belief the sidewalks, parking stalls, and drive aisles, have been constructed in substantial compliance with the approved Traffic Circulation Layout with the following exceptions:

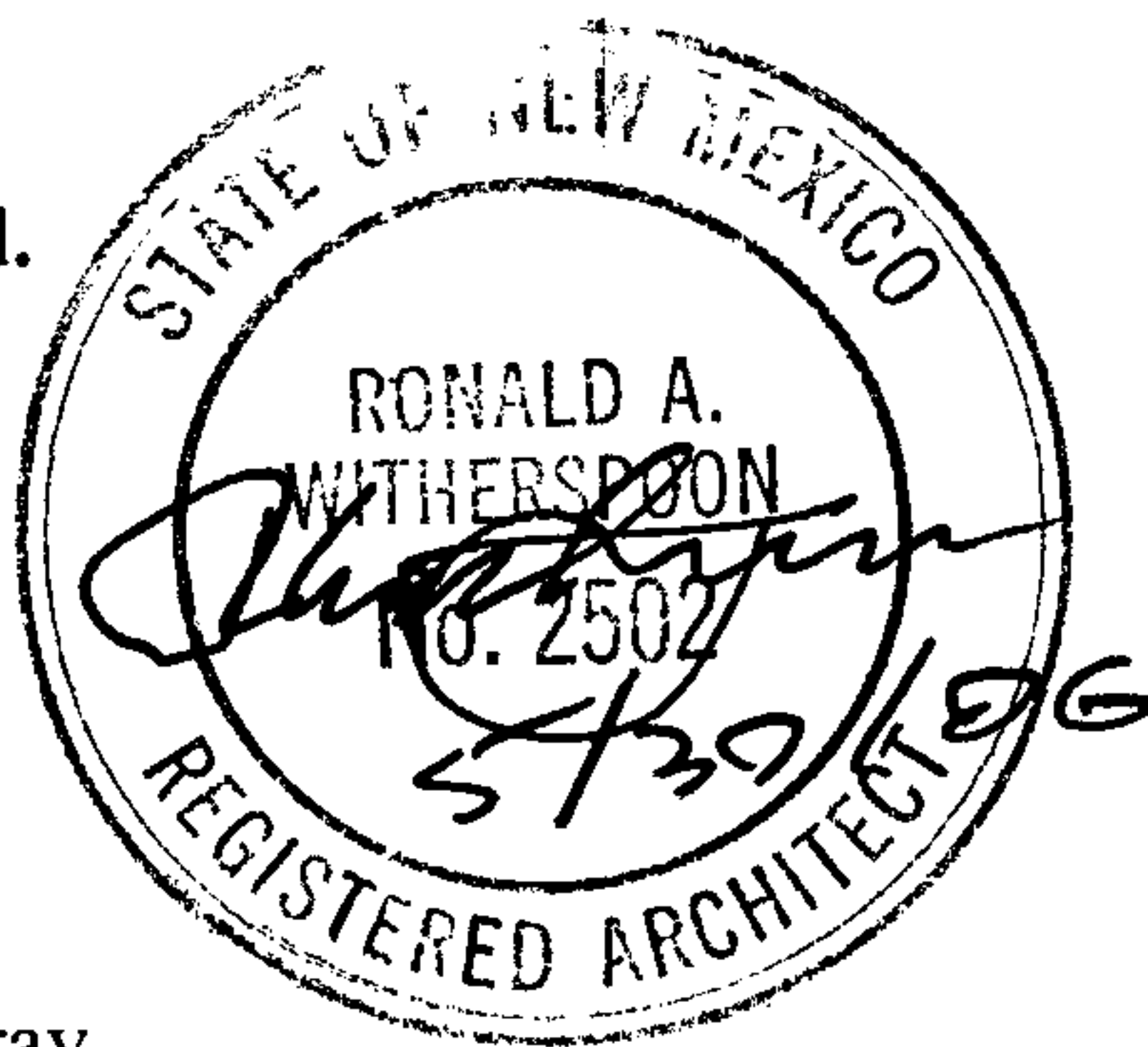
- A third refuse enclosure was required by COA Solid Waste Department on 5/18/05 as a condition for Building Permit. This change is shown on the attached drawing.
- One wheel stop is not yet installed.
- A portion of the sidewalk and the handicap ramp at the corner of 19th street and Bellamah Ave. have not yet been installed. The formwork is in place and awaiting COA inspection scheduled for 5/31/06. This change is shown on the attached drawing.
- The parallel parking on 19th street has not yet been constructed. City work order #617583 has been approved and construction is scheduled to begin on 5/31/06.

Feel free to call with any questions or concerns.

Very truly yours,

Dekker/Perich/Sabatini Ltd.

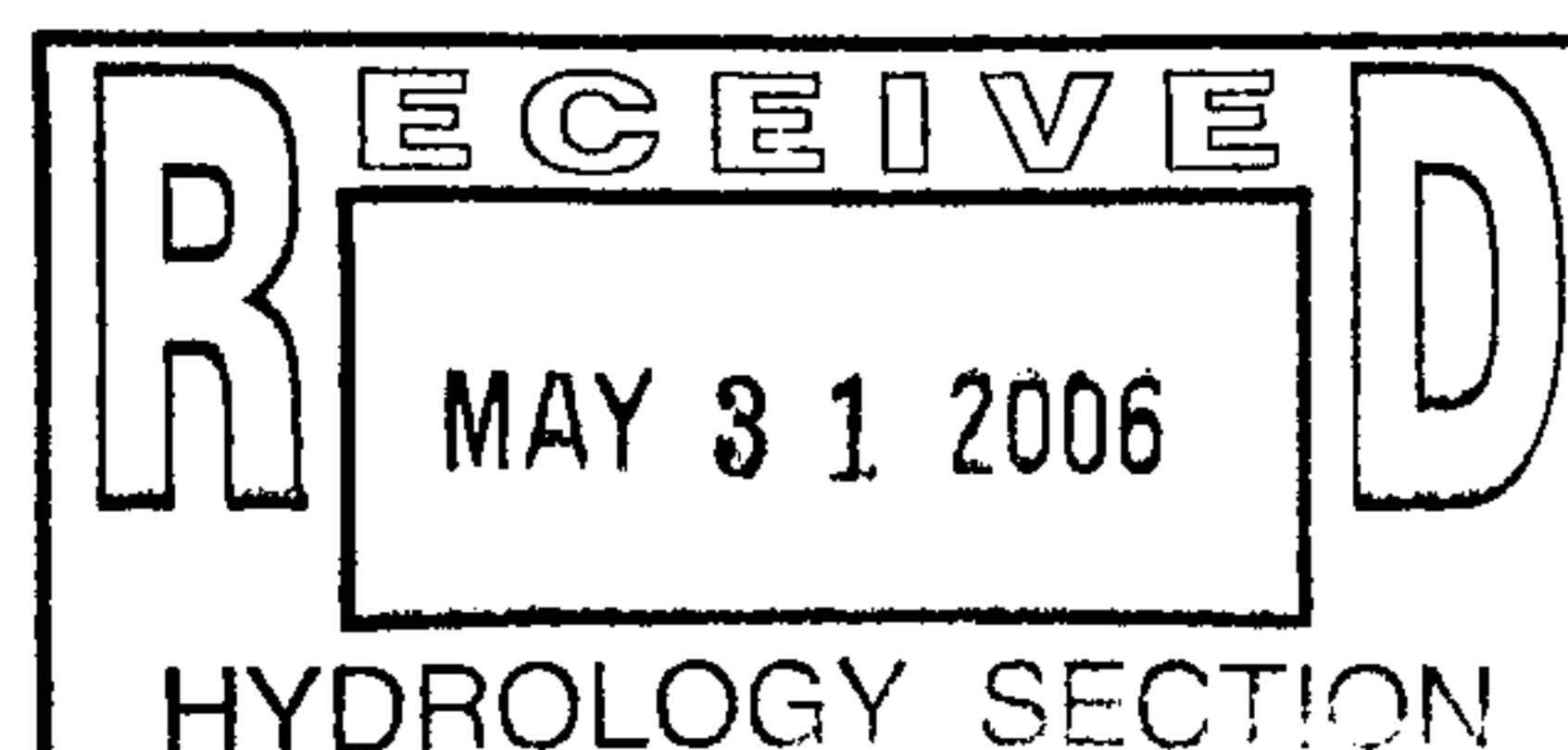
Ron Witherspoon, AIA
Principal



cc. Tom Andrews, JL Gray
Orlando Granado, Global Structures
file

encl. Approved Traffic Circulation Layout with sketches attached.

1



6801 Jefferson NE
Suite 100
Albuquerque NM
87109
505 761.9700
fax 761.4222
dps@dpsabq.com

H13/D025

#2

(NO PUBLIC EASEMENT)

DRAINAGE COVENANT

This Drainage Covenant, between Sawmill Community Land Trust ("Owner"), whose address is 904 19th Street NW, Albuquerque, NM 87104, and the City of Albuquerque, New Mexico municipal corporation ("City"), whose address is P.O. Box 1293, Albuquerque, New Mexico 87103, is made in Albuquerque, Bernalillo County, New Mexico and is entered into as of the date Owner signs this Covenant.

1. Recital. Owner is the owner of certain real property described as:
Sawmill Lofts, 1801 19th Street, Albuquerque, NM
Arbolera De Vida Unit 2 (A replat of Lot C and Lot B-1-A-1 of Duke City Lumber Company)
in Bernalillo County, New Mexico (the "Property"). (Give legal description and filing information.)

Pursuant to City ordinances, regulations and other applicable laws, the Owner is required to construct and maintain certain Drainage Facilities on the Property, and the parties wish to enter into this Agreement to establish the obligations and responsibilities of the parties.

2. Description and Construction of Drainage Facilities. Owner shall construct the following "Drainage Facility" within the Property at Owner's sole expense in accordance with the standard plans and specifications approved by the City pursuant to Drainage File No. H13-D25:
Storm Drainage within landscaped area used to help drain half of COA sidewalk.

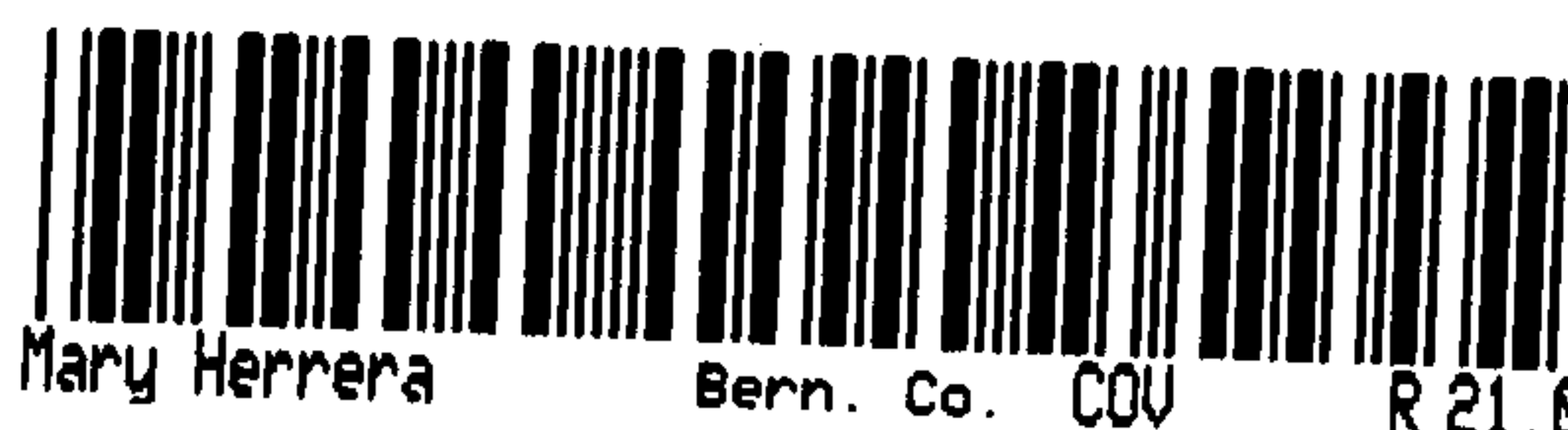
The Drainage Facility is more particularly described in the attached Exhibit A. The Owner will not permit the Drainage Facility to constitute a hazard to the health or safety of the general public.

3. Maintenance of Drainage Facility. The Owner will maintain the Drainage Facility at Owner's cost in accordance with the approved Drainage Report and plans.

4. City's Right of Entry. The City has the right to enter upon the Property at any time and perform whatever inspection, maintenance or repair of the Drainage Facility it deems appropriate, without liability to the Owner.

5. Demand for Construction or Repair. The City may send written notice ("Notice") to the Owner requiring the Owner to construct or repair the Drainage Facility within 30 days ("Deadline") of receipt of the Notice, as provided in Section 11, and the Owner will comply promptly with the requirements of the Notice. The Owner will perform all required work by the Deadline, at Owner's sole expense.

6. Failure to Perform by Owner and Emergency Work by City. If the Owner fails to comply with the terms of the Notice by the Deadline, or if the City determines that an emergency condition exists, the City may perform the work itself. The City may assess the Owner for the cost of the work and for any other



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Page: 1 of 7
08/22/2006 01:59P
Bk-A122 Pg-7076

expenses or damages which result from Owner's failure to perform. The Owner agrees promptly to pay the City the amount assessed. If the Owner fails to pay the City within thirty (30) days after the City gives the Owner written notice of the amount due, the City may impose a lien against Owner's Property for the total resulting amount.

7. Liability of City for Repair after Notice or as a Result of Emergency. The City shall not be liable to the Owner for any damages resulting from the City's repair or maintenance following notice to the Owner as required in this agreement or in an emergency unless the damages are the result of the reckless conduct or gross negligence of the City.

8. Indemnification. Owner agrees to indemnify and save the City, its officials, agents and employees harmless from all claims, actions, suits and proceedings arising out of or resulting from the Owner's negligent maintenance, construction, repair or use of the Drainage Facility. To the extent, if at all, Section 56-7-1 NMSA 1978 is applicable to this Agreement, this Agreement to indemnify will not extend to liability, claims, damages, losses or expenses, including attorney's fees, arising out of (1) the preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs or specifications by the indemnitee, or the agents or employees of the indemnitee; or (2) the giving of or the failure to give direction or instructions by the indemnitee, where such giving or failure to give directions or instructions is the primary cause of bodily injury to persons or damage to property.

9. Cancellation of Agreement and Release of Covenant. This Agreement may be released if the Drainage Facility is no longer required for the protection of the public health, safety and welfare by the City filing "Notice of Release" with the Bernalillo County Clerk. The Notice of Release must be signed by the City's Chief Administrative Officer, or his designee, and the approval of the City Hydrologist must be endorsed thereon.

10. Assessment. Nothing in this agreement shall be construed to relieve the Owner, his heirs, assigns, and successors from an assessment against Owner's Property for improvements to the property under a duly authorized and approved Special Assessment District. The parties specifically agree that the value of the Drainage Facility will not reduce the amount assessed by the City.

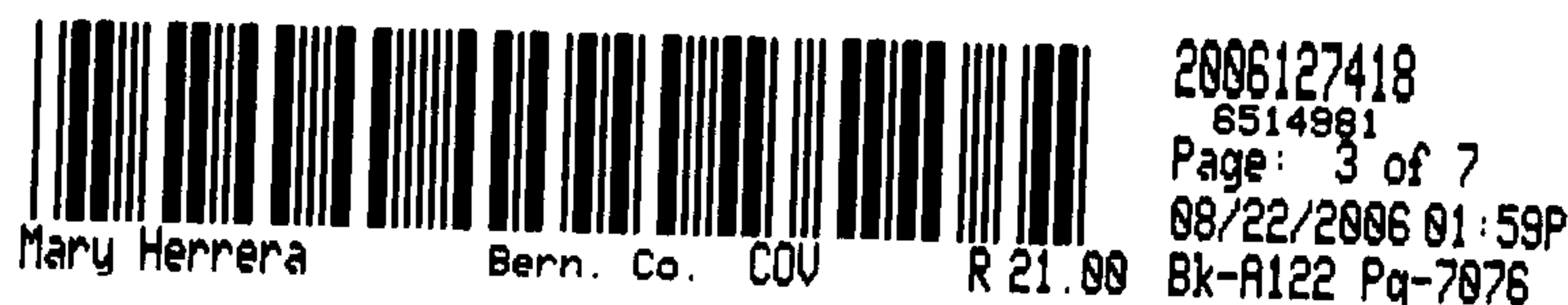
11. Notice. For purposes of given formal written notice to the Owner, Owner's address is:

Sawmill Community Land Trust
904 19th Street NW
Albuquerque, NM 87104

Notice may be given to the Owner either in person or by mailing the notice by regular U.S. mail, postage paid. Notice will be considered to have been received by the Owner within three days after the notice is mailed if there is no actual evidence of receipt. The Owner may change Owner's address by given written notice of the change by Certified Mail, return receipt requested, to the City Public Works Department, P.O. Box 1293, Albuquerque, New Mexico, 87103.



12. Term. This Agreement shall continue until terminated by the City pursuant to Section 9 above.
13. Binding on Owner's Property. The covenants and obligations of the Owner said forth herein shall be binding on Owner, its heirs, personal representatives, assigns and successors and on Owner's Property and shall constitute covenants running the Owner's Property until released by the City.
14. Entire Agreement. This Agreement contains the entire agreement of the parties and supersedes any and all other agreements or understanding, oral or written, whether previous to the execution hereof or contemporaneous herewith regarding this subject matter.
15. Changes to Agreement. Changes to this Agreement are not binding unless made in writing, signed by both parties.
16. Construction and Severability. If any part of this Agreement is held to be invalid or unenforceable, the remainder of the Agreement will remain valid and enforceable if the remainder is reasonably capable of completion.
17. Captions. The captions to the sections or paragraphs of this Agreement are not part of this Agreement and will not affect the meaning of construction of any of its provisions.



CITY OF ALBUQUERQUE:

OWNER:

By: [Signature]
Dr. Bruce Perlman, PhD
Chief Administrative Officer
Dated: 8-22-06

By: [Signature]
Its: Executive Director
Dated: 8/1/2006

REVIEWED BY:

[Signature]
City Engineer
[Signature] 8-2-06

CITY'S ACKNOWLEDGMENT

STATE OF NEW MEXICO)
COUNTY OF BERNALILLO) ss

This instrument was acknowledged before me on August 22, 2006, by Richard Jourtoz, ~~James Lewis~~, Chief Administrative Officer for the City of Albuquerque, a New Mexico municipal corporation, on behalf of the corporation.

[Signature]
Notary Public

My Commission Expires:

11-25-2007



Mary Herrera

Bern. Co. COU

R 21.00

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Page: 4 of 7
08/22/2006 01:59P
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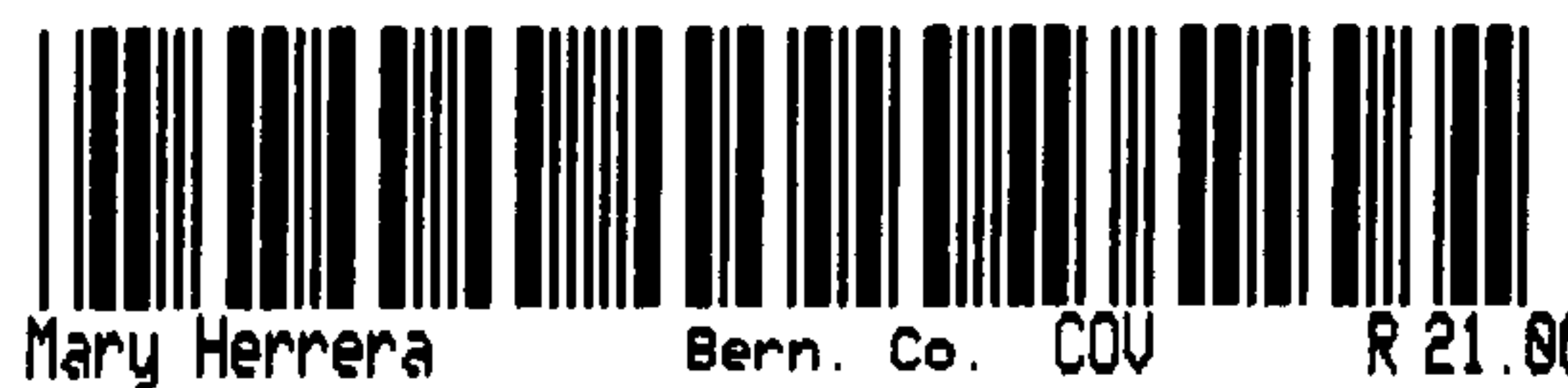
OWNER'S ACKNOWLEDGMENT

STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

This instrument was acknowledged before me on August 1, 2006, by
Connie Chavez, on behalf of Sawmill Community Land Trust

My Commission Expires: 9/30/2009

Notary Public



Mary Herrera

Bern. Co. COV

R 21.00

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6514981
Page: 5 of 7
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Mary Herrera Bern. Co. CQU R 21.6

Mary Herrera	Bern. Co. COU	R 21.00
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NINETEEN

FF=59.00

FF=59.00

-SIDEWALK EASEMENT

AREA DRAINS
W/IN LANDSCAPE
AREAS

- AREA OF SIDEWALK
THAT SLOPES
TOWARD AREA DRAINS

- AREA OF SIDEWALK
THAT SLOPES
TOWARD 19TH ST.

-DRAINAGE FACILITY
W/IN PROPERTY

ON SITE STORM DRAIN

FF=58.00

FF=59.00

AREA DRAWS
W/IN LANDSCAPE
AREAS

-SIDEWALK EASEMENT

FF=58.00

FF=59.00

PROPERTY LINE

BELLAMAH AVE

SAWMILL LOFTS DRAINAGE COVENANT

Bohannon Huston

Courtyard I 7500 Jefferson St. NE Albuquerque, NM 87109-4335
ENGINEERING & SPATIAL DATA & ADVANCED TECHNOLOGIES

DRAWN BY: MJB

DATE: 07/16/06

CHECKED BY: BJS

PROJECT NO.	SHEET NO.
050073	

050073



Mary Herrera Bern. Co. COU

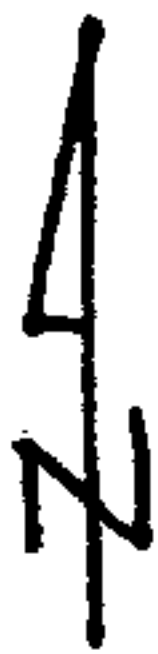
NINETEEN



- AREA OF SIDEWALK
THAT SLOPES
TOWARD AREA DRAINS



- AREA OF SIDEWALK
THAT SLOPES
TOWARD 19TH ST.



PROPERTY LINE

SIDEWALK EASEMENT

ONSITE STORM
DRAIN

AREA DRAWS
W/IN LANDSCAPE
AREAS

SIDEWALK EASEMENT

FF=59.00

FF=59.00

FF=59.00

FF=59.00

FF=59.00

FF=59.00

BELLAMAH AVE

Bohannon & Huston INC.

Courtyard I 7500 Jefferson St NE Albuquerque, NM 87109-4335
ENGINEERING & SPATIAL DATA & ADVANCED TECHNOLOGIES

**SAWMILL LOFTS
DRAINAGE COVENANT**

EXHIBIT A

DRAWN BY: MJB

DATE: 07/16/06

CHECKED BY: BJS

PROJECT NO.
050073

SHEET NO.

8-4-06 2:45pm
on exhibit A.
called Stephanie w/ BHI that if needs to be filled out by Stephanie need to identify drainage facility.

CONTRACT CONTROL FORM

PRELIMINARY REVIEW

Contact Person Pamela Lujan
Phone No. 924- 3996

Project 6175.83
CCN# 200601156
Existing or New (Circle One)

Type of Agreement: Drainage Covenant

Description/Project Name Sawmill Parking Improv
Planning Dept./Division: Design Review

Developer: Sawmill Community

Contract Amount \$	<u>NA</u>	SIA Contract Period:	<u>8-22-2006 - 12-31-2006</u>
Contract Amount \$		SIA Contract Period:	
Contract Amount \$		SIA Contract Period:	
Contract Amount \$		S/W Contract Period:	
Contract Amount \$		S/W Contract Period:	

DRAFT CONTRACT:

Recd by Legal: _____
Returned to Legal: _____ Rejected/Returned to Dept.: WJL Initials: elida
Approved: _____

FINANCIAL GUARANTY:

Letter of Credit No. _____ Date: _____ Attached: Yes ___ No. ___ Initial _____
Other: Type _____ Date: _____ Attached: Yes ___ No. ___ Initial _____

APPROVALS REQUIRED:

FINAL CONTRACT REVIEW

	Date Delivered	Returned to Dept.	Approved By	Approval Date
Utility Div	<u>8-2-06</u>		<u>BAB</u>	<u>8/2/06</u>
Hydrology Div				
Transportation Div	<u>8-3-06</u>	<u>8-8-06</u>		
DRC Chairman	<u>BB06</u>			<u>8-8-06</u>
Legal Dept	<u>8-21-06</u>	<u>8-22-06</u>	<u>WJL</u>	<u>8-21-06</u>
City Engineer			<u>WJL</u>	<u>8-22-06</u>
Finance				
CAO				
ABCWUA				
Other:				

DISTRIBUTION:

User Department.
Vendor
City Clerk
Treasury
Other: _____

Date: 8-24-06

By: FCL

8/25/06

(signature)

8-21-06

(Date)

TO: Kevin Curran, Assistant City Attorney, Legal Department

FROM: Project Administrator, Project Review Sec., PWD

SUBJECT: PROJECT NAME: Sawmill Parallel Parking Imp PROJECT # 617583

The attached documents have been review, approved, initialed and/or signed by the DRC Chairman and are submitted for your action as noted.

8-8-06

ITEM

ACTION
Review & Approval Reference Comments

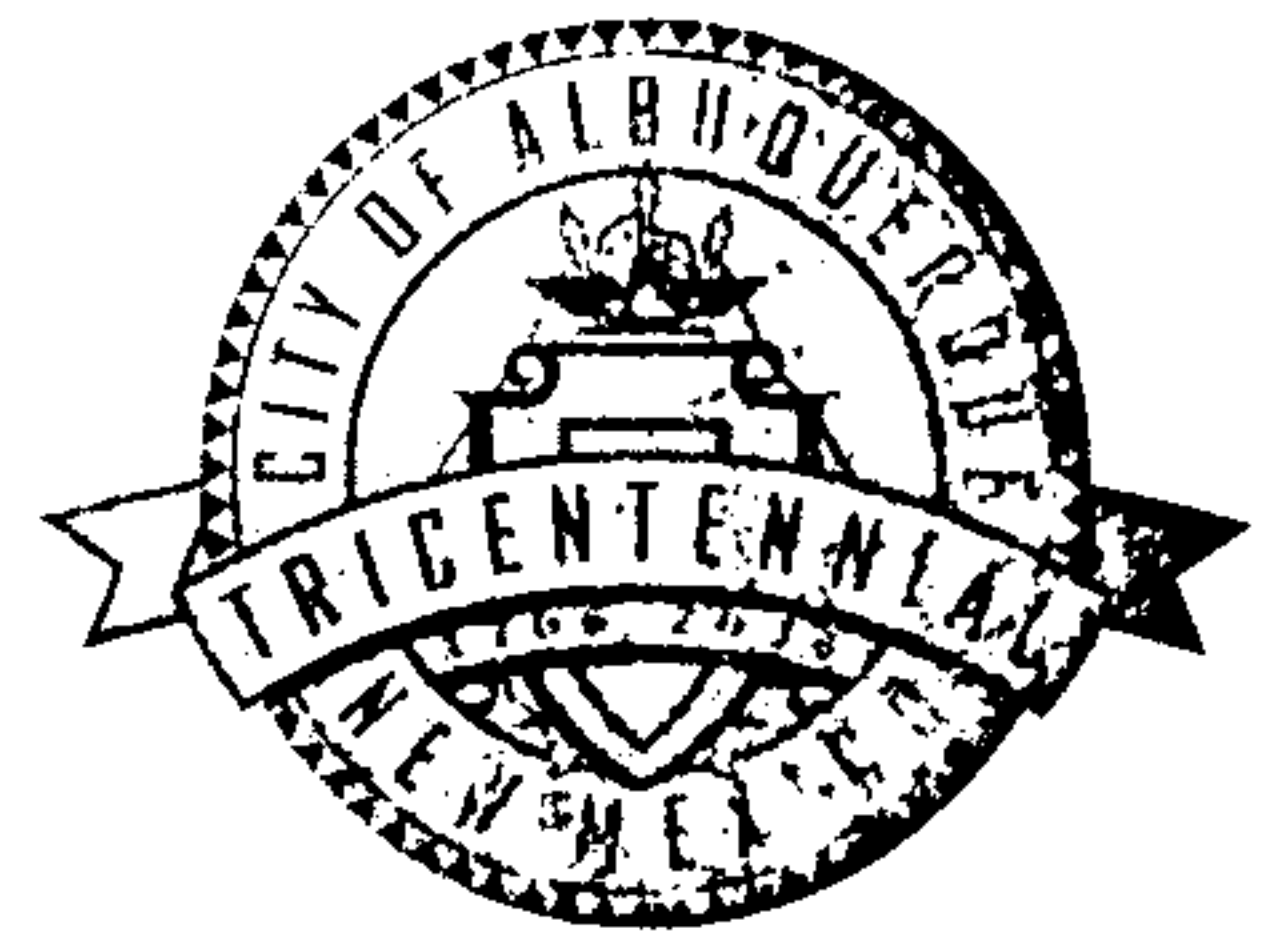
Procedure "A".....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	
Procedure "B".....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	
Procedure "B" Modified Non Work Order.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	
Procedure "C".....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	
Procedure "C" Modified.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	
Special Agreement.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	
Sidewalk Deferral Agreement.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	
Amendment.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	
Assignment.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	
Financial Guarantee.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	
Construction Paperwork:			
Contractors Proposal.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	
Performance/Warranty Bonds.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	
Labor/Material Bonds.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	
Certificate of Insurance.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	
Engineers Cost Estimate.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	
Extension.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	
Release/Agreement.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	
Release/Financial Guarantee.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	
Calling Notice.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	
Letter of Commitment.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	
Reduction Letter.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	
License /agreement.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	
Monitoring Well Permit.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	
Agreement & Covenant.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	
Drainage Covenant.....	☒ ☐ ☐ ☐	☐ ☐ ☐ ☐	
Revocable Permit.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	
Encroachment.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	
Permanent Easement.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	
Temporary Easement.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	
Power of Attorney	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	
Certificate of Work Order Completion	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	
Certificate of Completion and Acceptance	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	
Grading & Drainage Certification	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	
Notice of Acceptance - Centerline Monu.	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	
Corporate Resolution	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	

Other:

Please Call Pamela at 4-3896 if you have any questions regarding the above or when the documents are ready to be picked up.

No. of Attachments ()

CITY OF ALBUQUERQUE



January 23, 2008

Christian J. Sholtis, PE
BOHANNAN-HUSTON, INC.
7500 Jefferson Street NE
Albuquerque, NM 87109

RE: ARBOLERA DE VIDA, UNIT 2B (H-13/D25)
Engineers Certification for Release of Financial Guaranty
Engineers Stamp dated 11/25/2003
Engineers Certification dated 01/22/2008

Mr. Sholtis:

P.O. Box 1293

Based upon the information provided in your Engineer's Certification submittal dated 01/23/2008, the above referenced plan is adequate to satisfy the Grading and Drainage Certification for Release of Financial Guaranty.

Albuquerque

If you have any questions, you can contact me at 924-3982.

New Mexico 87103

Sincerely,

Timothy E. Sims
Plan Checker, Planning Dept. - Hydrology
Development and Building Services

www.cabq.gov

C: Marilyn Maldonado, COA# 617584
File

DRAINAGE

ZONE MAP/DRG. FILE #: H13 / D023

EPC#.

WORK ORDER #. 617584

CITY ADDRESS: 18th Street NW

CONTACT: Christian J. Sholtis, PE

PHONE: (505) 823-1000

ZIP CODE: 87109

CONTACT: Agent

PHONE:

ZIP CODE:

CONTACT: Debra Coleman

PHONE: (505) 764-0359

ZIP CODE: 87125

CONTACT: Thomas Patrick, PS

PHONE: (505) 897-0000

ZIP CODE: 87048

CONTACT:

PHONE: (505) 898-7777

ZIP CODE: 87113

CHECK TYPE OF APPROVAL SOUGHT:

X SIA / FINANCIAL GUARANTEE RELEASE

PRELIMINARY PLAT APPROVAL

S. DEV. PLAN FOR SUB'D APPROVAL

S. DEV. PLAN FOR BLDG. PERMIT APPROVAL

SECTOR PLAN APPROVAL

FINAL PLAT APPROVAL

FOUNDATION PERMIT APPROVAL

BUILDING PERMIT APPROVAL

CERTIFICATE OF OCCUPANCY (PERM.)

CERTIFICATE OF OCCUPANCY (TEMP.)

GRADING PERMIT APPROVAL

PAVING PERMIT APPROVAL

YES

COPY PROVIDED

DATE: 1-23-08

APPROVAL

RECEIVED

JAN 23 2008

**HYDROLOGY
SECTION**

- 1. Conceptual Grading and Drainage Plan:** Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.
- 2. Drainage Plans:** Required for building permits, grading permits, paving permits and site plans less than five (5) acres.
- 3. Drainage Report:** Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or more.

CANCELLATION AND RELEASE OF AGREEMENT AND COVENANT

THIS CANCELLATION AND RELEASE OF AGREEMENT AND COVENANT is made and entered into as of the 12th day of January, 2011, by the City of Albuquerque, ("the City").

WHEREAS, the City and **Sawmill Community Land Trust** entered into an Agreement and Covenant (the "Agreement") dated **November 30, 2004**. The Agreement was recorded **November 17, 2006** in Book **A127** at page **3273** to **3273** as Document No. **2006173750** in the records of the Bernalillo County, New Mexico.

WHEREAS, the Agreement has been replaced with a new Agreement and Covenant dated **December 8, 2010**, which was recorded on **December 28, 2010** as Document No. **2010132341** in the records of the Bernalillo County, New Mexico.

IN WITNESS WHEREOF, the undersigned has executed this Cancellation and Release of the Agreement as of the day and year first above written.

CITY OF ALBUQUERQUE
a municipal corporation

By: [Signature]
Its: City Engineer

He is the

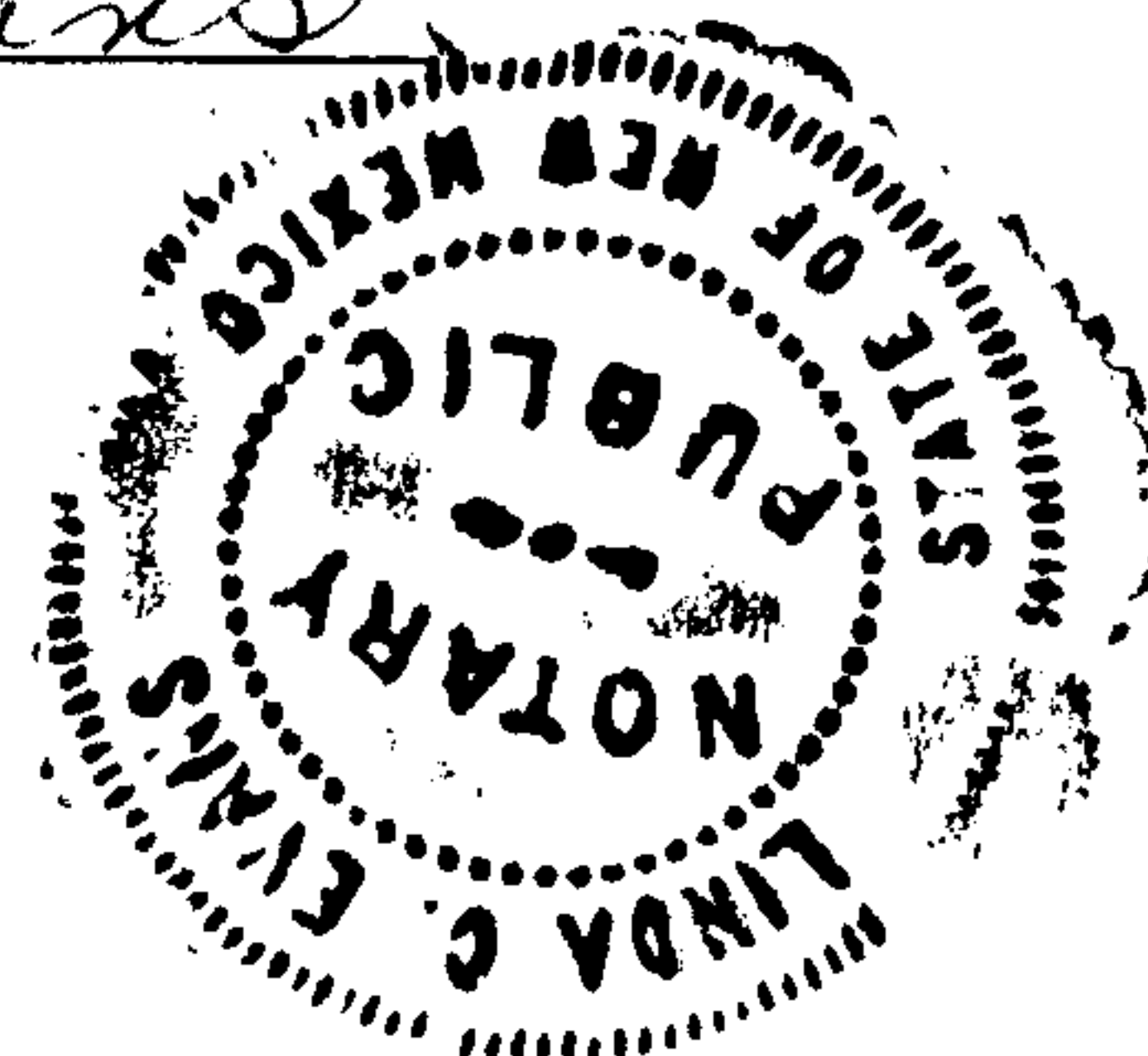
STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

This instrument was acknowledged before me on January 12, 2011 by Richard Dourte, City Engineer, of the City of Albuquerque, a municipal corporation, on behalf of the corporation.

[Signature]
Notary Public

My Commission Expires:

10-07-12



Doc# 2011004102

01/12/2011 02:10 PM Page: 1 of 1
CANC R:\$9.00 M. Toulouse Oliver, Bernalillo County



AGREEMENT AND COVENANT

This Agreement and Covenant ("Agreement"), between the City of Albuquerque, New Mexico ("City") and Sawmill Community Land Trust, ("User") is made in Albuquerque, New Mexico, and is entered into as of the date of recording this Agreement with the Bernalillo County Clerk.

1. Recital. The User is the owner of certain real property ("User's Property") located at the northeast corner of Zearing Ave. and Nineteenth Street NW, in Albuquerque, New Mexico, and more particularly described as: (give legal description and filing information)

Arbolera de Vida, Unit 2B Tract 2-A-1

Recorded on 4/14/08, Doc # 2008041842 Bk. 2008C page 70

The City is the owner of a certain real property, easement or public right-of-way ("City's Property") in the vicinity of, contiguous to, abutting or within User's Property, and more particularly described in a certain Dedication Deed and known as:

A Public Drainage Easement on Tract 2-D-1, Arbolera de Vida, Unit 2B

Recorded on 4/14/08, Doc # 2008041842 Bk. 2008C page 70

A Public Drainage Easement on Tract 2-D-1

Recorded on 12-28-10 Doc.# 2010132340 1-6 pages

The User wishes to construct upon, improve or repair and to maintain the following improvement ("Improvement") on the City's Property (or already has done so):

Two (2) Stormwater Ponds

A sketch of the proposed or existing Improvement is attached as Exhibit A, B and C and made a part of the Agreement.

The City agrees to permit the Improvement to exist on the City's Property provided the User complies with the terms of this Agreement.

2. City Use of City's Property and City Liability. The City has the right to enter upon the City's Property at any time and perform whatever inspection, installation, maintenance, repair, or modification or removal ("Work") it deems appropriate without liability to the User. If the Work affects the Improvement, the City will not be financially or otherwise responsible for rebuilding or repairing the Improvement. The User



3. User's Responsibility for Improvement. The User will be solely responsible for constructing, maintaining, repairing and, if required, removing the Improvement, all in accordance with standards required by the City as per the approved Grading and Drainage Plan H-13/D-25 on file at the City Engineer's office. The User will be solely responsible for paying all related costs. The User will not permit the Improvement to constitute a hazard to the health or safety of the general public or to interfere with the City's use of the City's Property. The User will conform with all applicable laws, ordinances and regulations.

4. Use of the Improvement. If the city's Property is a public right – of - way, it shall be open to the use of the general public at all times, subject to reasonable curtailment during periods of construction, maintenance or repair.

5. Demand for Repair, Modification or Removal. The City may send written notice ("Notice") to the User requiring the User to repair, modify or remove the Improvement within 30 days ("Deadline") and the User will comply promptly with the requirements of the Notice. If removal is demanded, the City also may require the User to return the City's Property to its original condition by the Deadline. The User will perform all required work by the Deadline, at User's sole expense.

6. Failure to Perform by User and Emergency Work by City. If the User fails to comply with the terms of the Notice by the Deadline stated, or, if the City determines that an emergency condition exists, the City may perform the work itself. The City then may assess the User for the cost of the work and for any other expenses or damages which result from User's failure to perform. The User agrees promptly to pay the City the amount assessed. If the User fails to pay the City within thirty (30) days after the City gives the User written notice of the amount due, the City may impose a lien against User's Property for the total resulting amount.

7. Cancellation of Agreement and Release of Covenant. This Agreement may be canceled and User's covenants released by the City at will by the City's mailing to the User notice of the City's intention to record a Cancellation and Release with the Bernalillo County Clerk. The Cancellation and Release will be effective thirty (30) days after the date of mailing the notice to the User unless a later date is stated in the notice of the Cancellation and Release. After the effective date, the City will record the Cancellation and Release with the Bernalillo County Clerk.

Cancellation of this Agreement for any reason shall not release the User from any liability or obligation relating to the installation, operation, maintenance, or removal of the Improvement or any other term of this Agreement.

8. Condemnation. If any part of the User's Property is ever condemned by the City, the User will forego all claims to compensation for any portion of User's structure which encroaches on City Property and for severance damage to the

remaining portion of User's structure on User's Property.

9. Assessment. Nothing in this Agreement shall be construed to relieve the User, his heirs, assigns and successors from an assessment against User's Property for improvements to the City Property under a duly authorized and approved Special Assessment District. The parties specifically agree that the value of the Improvement will not reduce the amount assessed by the City.

10. Notice. For purposes of giving formal written notice to the User, User's address is:

Sawmill Community Land Trust
P.O. Box 25181
Albuquerque, NM 87125

Notice may be given to the User either in person or by mailing the notice by regular U.S. mail, postage paid. Notice will be considered to have been received by the User within 3 days after the notice is mailed if there is no actual evidence of receipt. The User may change User's address by giving written notice of the change by certified mail, return receipt requested, to the City Engineer at P.O. Box 1293, Albuquerque, New Mexico 87103.

11. Indemnification. The User shall be solely responsible for maintaining the premises upon which the Improvements are being constructed in a safe condition. The User agrees to indemnify and hold harmless the City and its officials, agents and employees from any claims, actions, suits or other proceedings arising from or out of the acts or omissions of the User, its agents, representatives, contractors or subcontractors or arising from the failure of the User, its agents, representatives, contractors or subcontractors to perform any act or duty required of the User herein. The indemnification required hereunder shall not be limited as a result of the specifications of any applicable insurance coverage. Nothing herein is intended to impair any right or immunity under the laws of the State of New Mexico.

12. Term. This Agreement shall continue until revoked by the City pursuant to Section 7 above.

13. Binding on User's Property. The covenants and obligations of the User set forth herein shall be binding on User, his heirs assigns and successors and on User's Property and constitute covenants running with User's Property until released by the City.

14. Entire Agreement. This Agreement contains the entire agreement of the parties and supersedes any and all other agreements or understandings, oral or written, whether previous to the execution hereof or contemporaneous herewith.

15. Changes of Agreement. Changes to this Agreement are not binding unless made in writing, signed by both parties.

16. Construction and Severability. If any part of this Agreement is held to be invalid or unenforceable, the remainder of the Agreement will remain valid and enforceable if the remainder is reasonably capable of completion.

17. Captions. The captions to the sections or paragraphs of this Agreement are not part of this Agreement and will not affect the meaning or construction of any of its provisions.

CITY OF ALBUQUERQUE:

By:
Title: City Engineer
Dated: 12-8-10

12/8/10

USER:

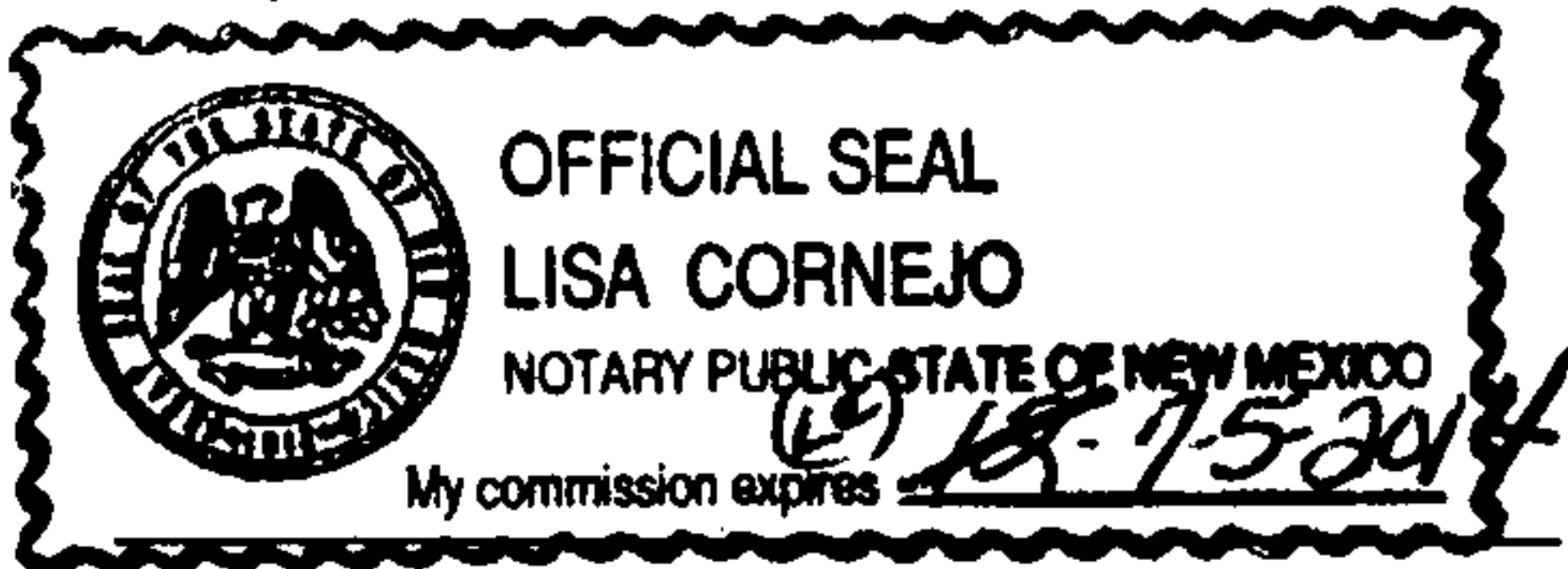
By:
Title: Executive Director
Dated: 8/9/2010

12-2-10

CITY'S NOTARY

[illegible]

This instrument was acknowledged before me on 8th of December, 2010
by Richard Dourte, City Engineer, for the City of Albuquerque, a New Mexico municipal
corporation, on behalf of the corporation.



My Commission Expires:

Lisa Carrojo

Notary Public

USER'S NOTARY

STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

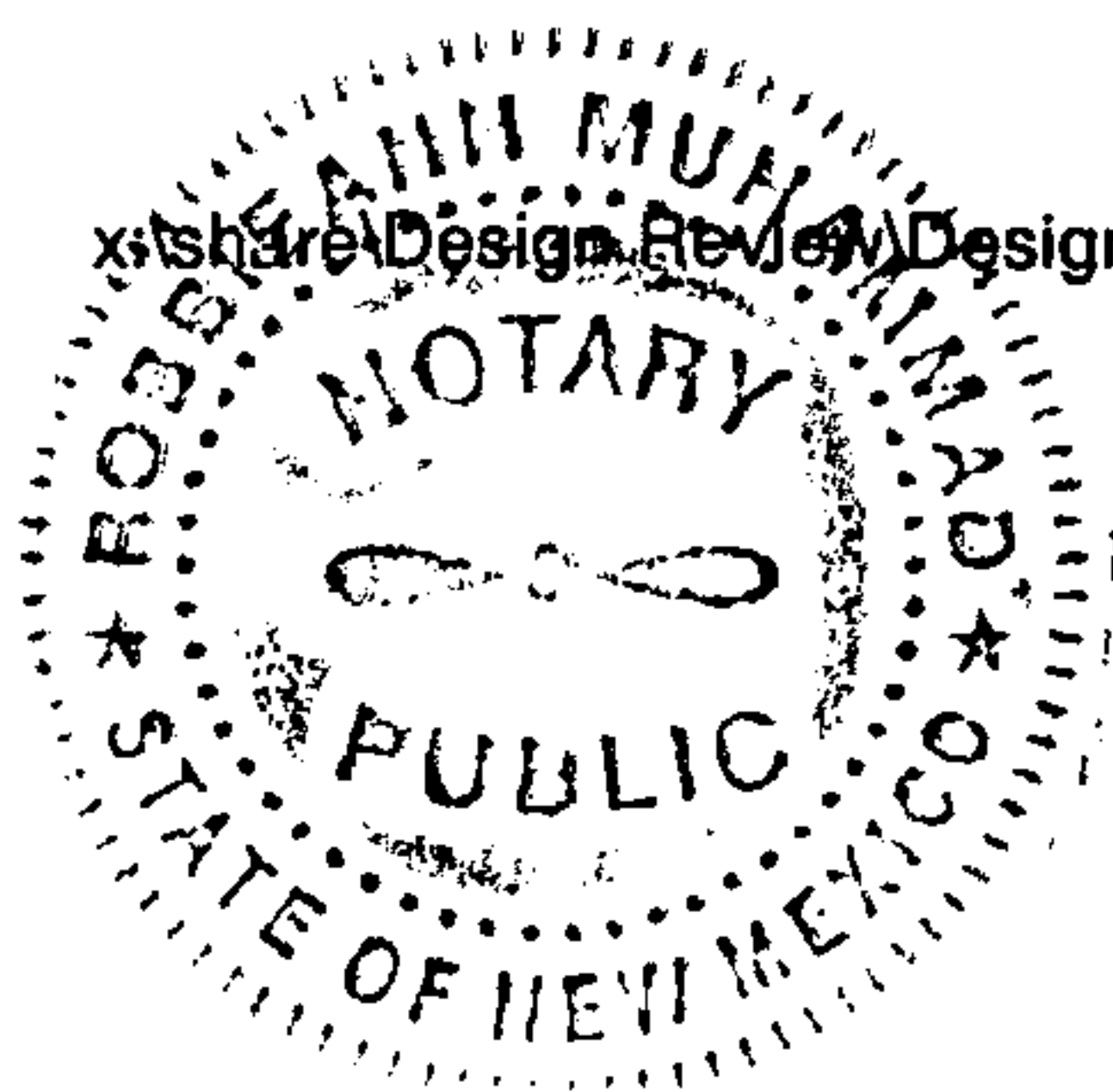
This instrument was acknowledged before me on August 9th,
20 10, by Connie Chavez (name), Executive Director (title),
on behalf of Schmill Community (entity).
Land Trust

Rohit Kumar
Notary Public

Notary Public

My Commission Expires:

August 11, 2012



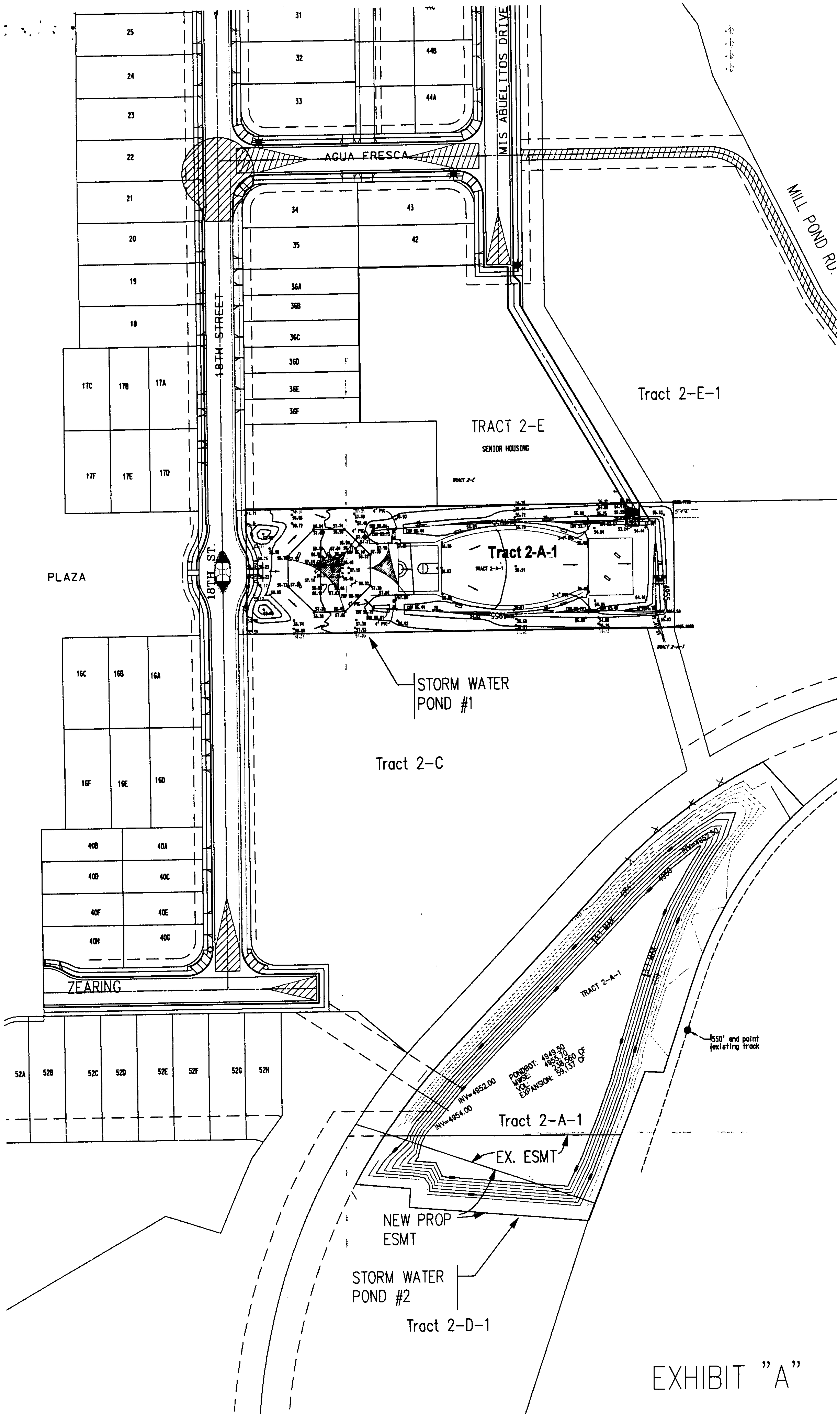
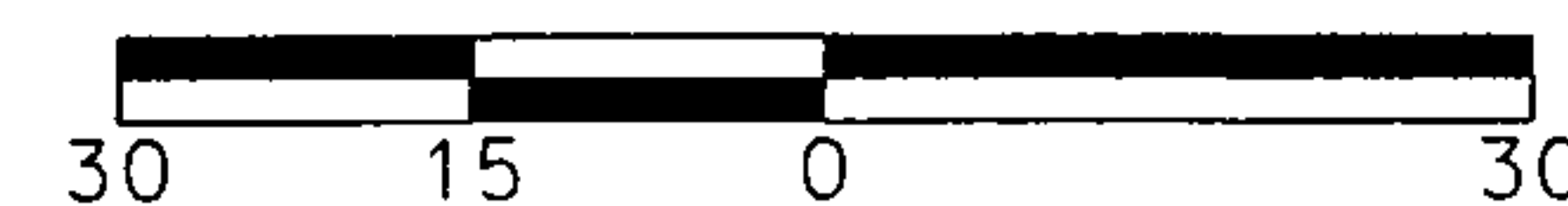
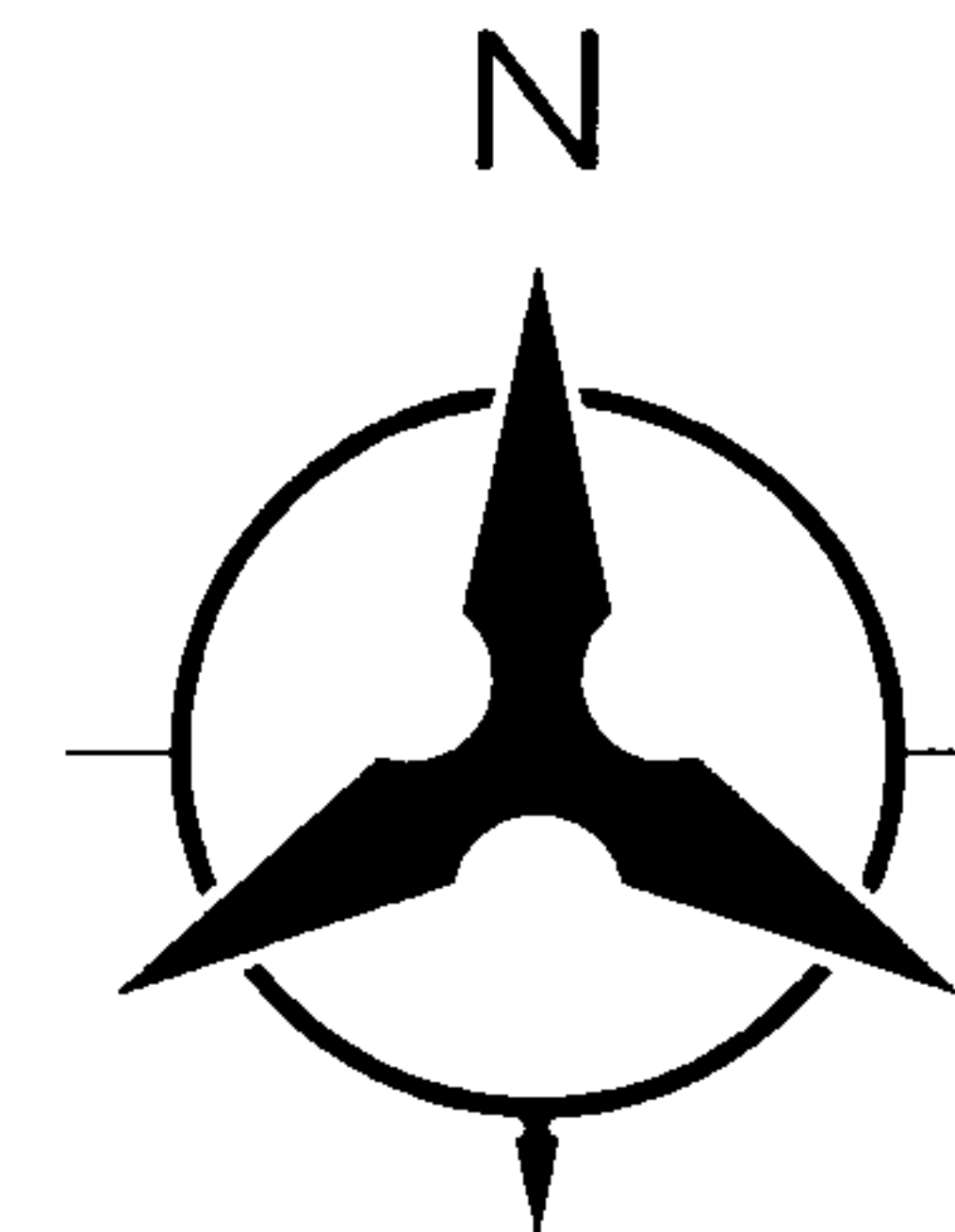


EXHIBIT "A"

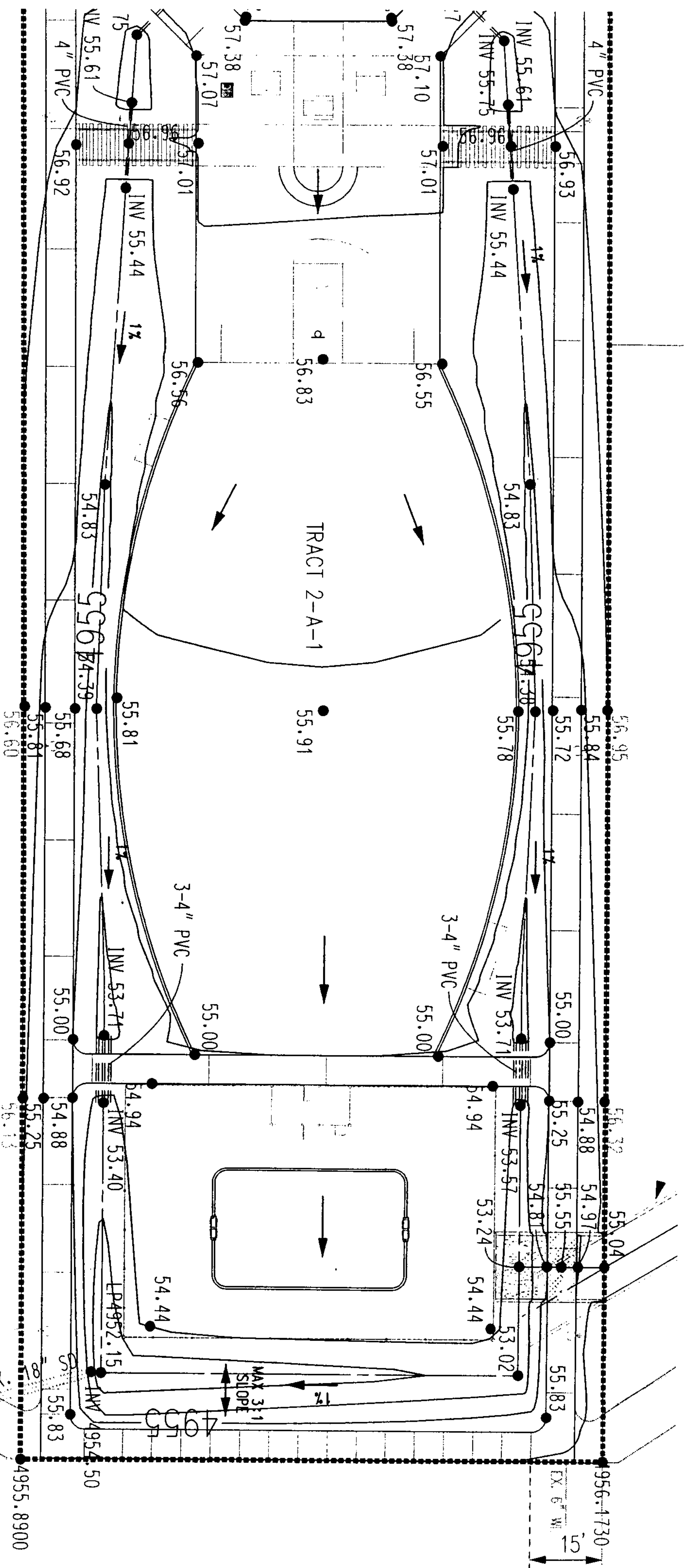
18TH ST.



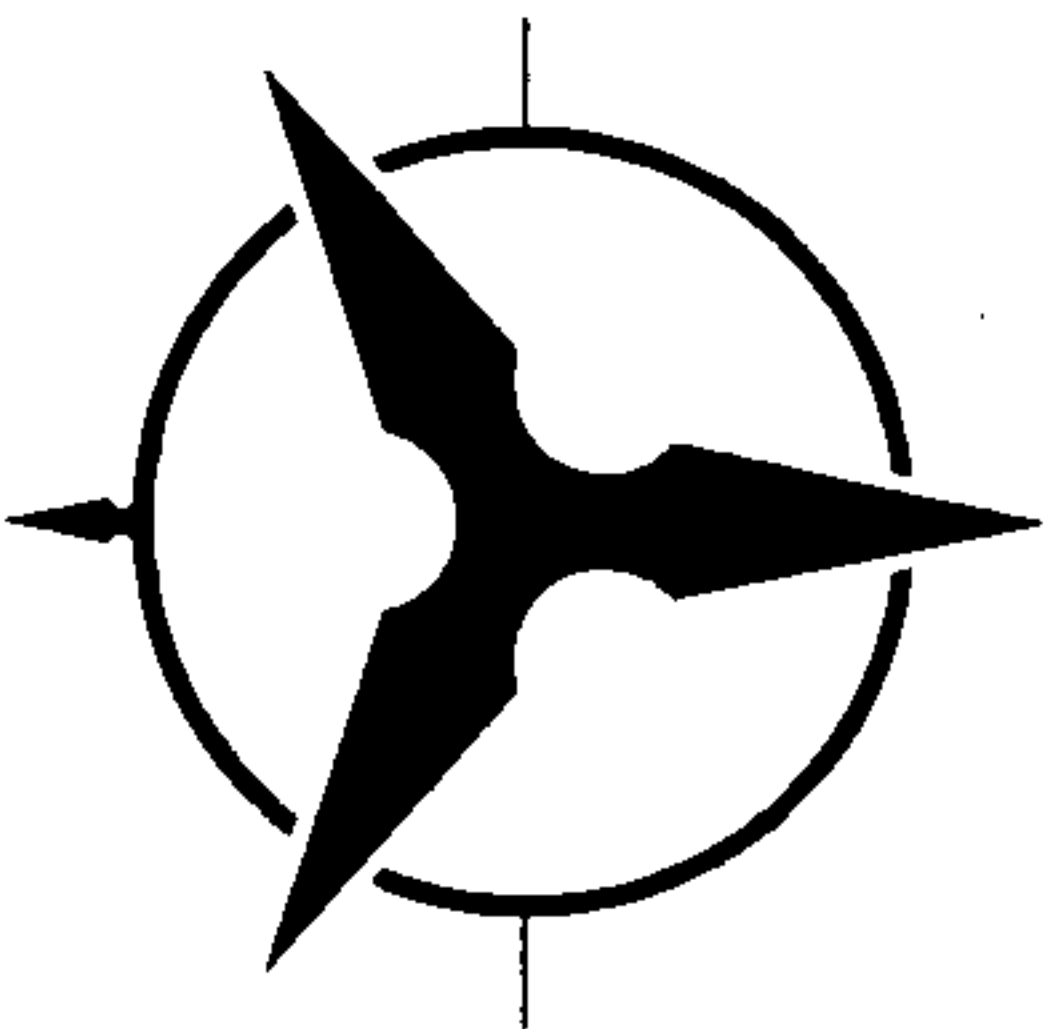
SCALE: 1" = 30'
 { (HORIZ.)

EXHIBIT "B" Sheet
1 of 2

TRACT 2-E



N



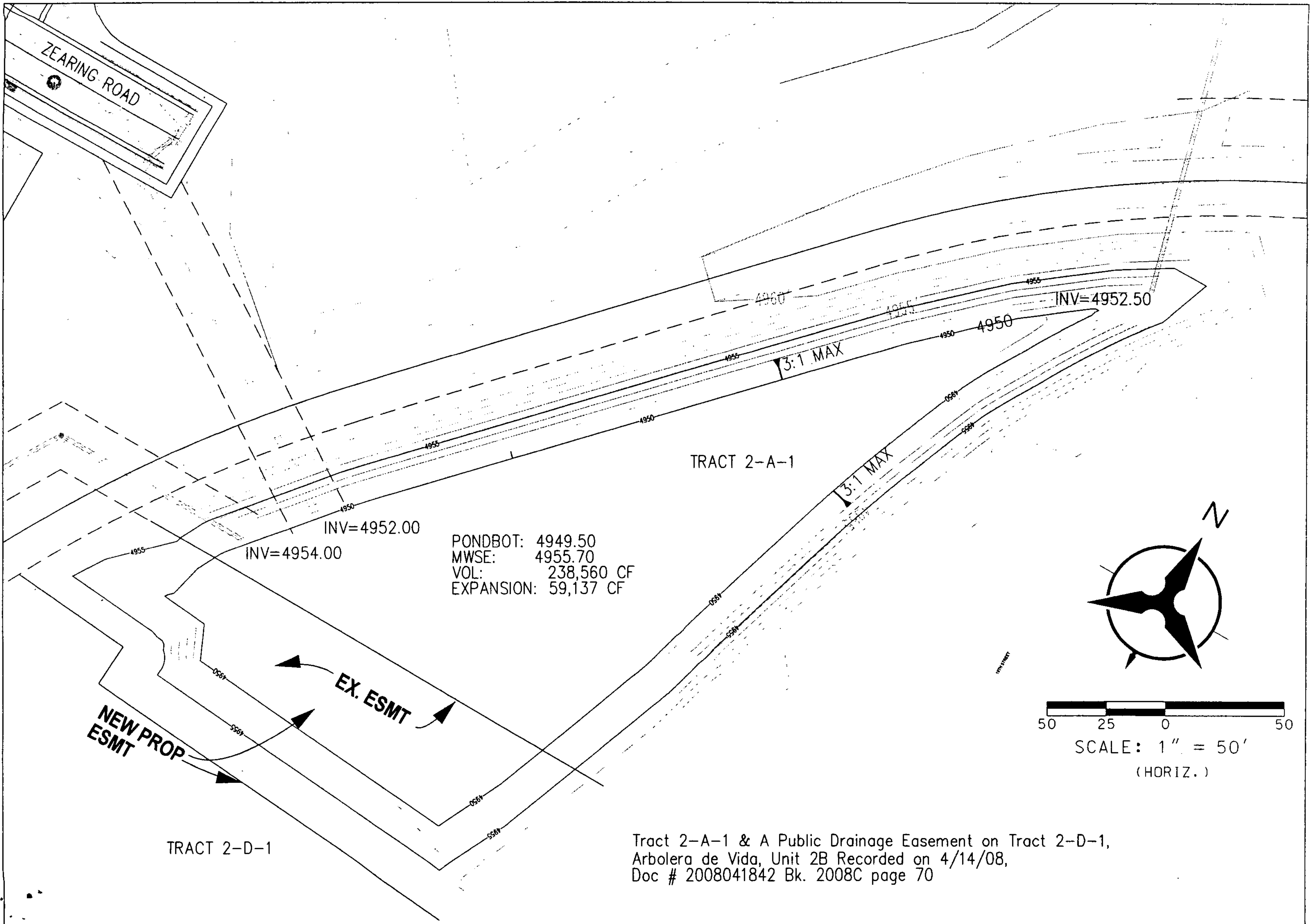
SCALE: 1" = 30'

(HORIZ.)

Tract 2-A-1 & A Public Drainage Easement on Tract 2-D-1,
Arbolera de Vida, Unit 2B Recorded on 4/14/08,
Doc # 2008041842 Bk. 2008C page 70

EXHIBIT "B"

EXHIBIT "B" Sheet
2 of 2



Tract 2-A-1 & A Public Drainage Easement on Tract 2-D-1,
 Arbolera de Vida, Unit 2B Recorded on 4/14/08,
 Doc # 2008041842 Bk. 2008C page 70

H-13/2025
730881
617584
Scanned to DMD
Mapped

AGREEMENT AND COVENANT

11/30/04

This Agreement and Covenant, between the City of Albuquerque, New Mexico ("City") and Sawmill Community Land Trust, ("User") is made in Albuquerque, New Mexico and is entered into as of the date of recording this Agreement with the Bernalillo County Clerk.

1. Recital. The User is the owner of certain real property ("User's Property") located at the northeast corner of Zearing Ave. and Nineteenth Street NW, in Albuquerque, New Mexico, and more particularly described as: (give legal description and filing information)

Arbolera de Vida, Unit 2

Recorded on

10/6/05

Doc # 2005148783

Bk. 2005C

page 325

The City is the owner of certain real property, easement or public right-of-way ("City's Property") in the vicinity of, contiguous to, abutting or within User's Property, and more particularly described as:

A Public Drainage Easement on Tract 4, Arbolera de Vida, Unit 2, which will be granted to the City of Albuquerque with the filing of the final plat for the subdivision.

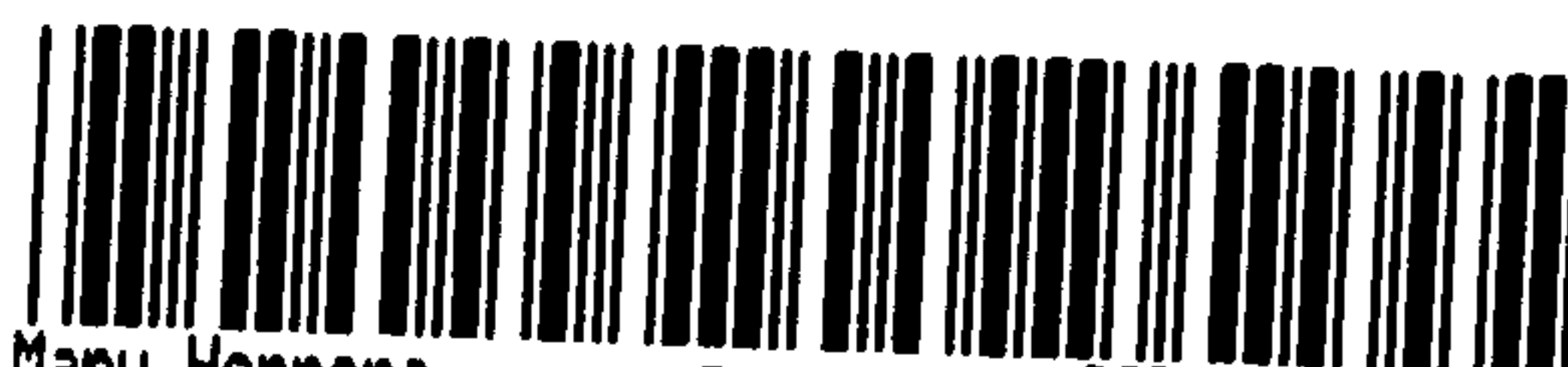
The User wishes to construct upon, improve or repair and to maintain the following "Improvement" on the City's Property (or already has done so):

Two (2) Stormwater Ponds

A sketch of the proposed or existing Improvement is attached as Exhibit A and made a part of this Agreement.

The City agrees to permit the Improvement to exist on the City's Property provided the User complies with the terms of this Agreement.

2. City Use of City's Property and City Liability. The City has the right to enter upon the City's Property at any time and perform whatever inspection, installation, maintenance, repair, modification or removal ("Work") it deems appropriate without liability to the User. If the Work affects the Improvement the



installation, maintenance, repair, modification or removal ("Work") it deems appropriate without liability to the User. If the Work affects the Improvement the City will not be financially or otherwise responsible for rebuilding or repairing the Improvement. The User promptly will repair the Improvement to the City's satisfaction. The cost of repairing the Improvement will be paid by User.

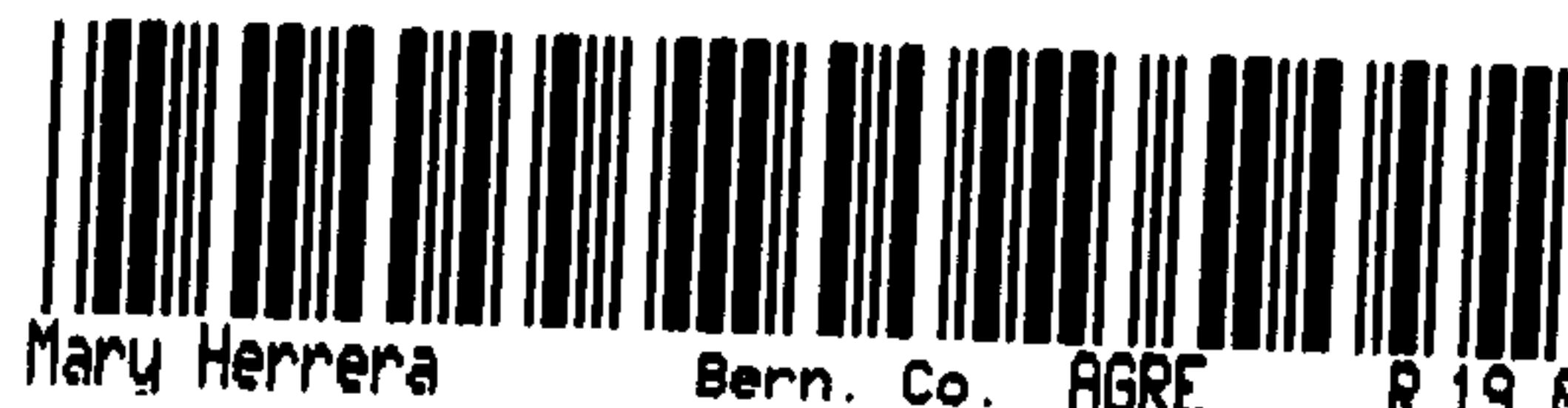
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4. Use of the Improvement. If the City's Property is a public right-of-way, it shall be open to the use of the general public at all times, subject to reasonable curtailment during periods of construction, maintenance or repair.

5. Demand for Repair, Modification or Removal. The City may send written notice ("Notice") to the User requiring the User to repair, modify or remove the Improvement within 30 days ("Deadline") and the User will comply promptly with the requirements of the Notice. If removal is demanded, the City also may require the User to return the City's Property to its original condition by the Deadline. The User will perform all required work by the Deadline, at User's sole expense.

6. Failure to Perform by User and Emergency Work by City. If the User fails to comply with the terms of the Notice by the Deadline stated, or, if the City determines that an emergency condition exists, the City may perform the work itself. The City then may assess the User for the cost of the work and for any other expenses or damages which result from User's failure to perform. The User agrees promptly to pay the City the amount assessed. If the User fails to pay the City within thirty (30) days after the City gives the User written notice of the amount due, the City may impose a lien against User's Property for the total resulting amount.

7. Cancellation of Agreement and Release of Covenant. This Agreement may be canceled and User's covenants released by the City at will by the City's mailing to the User notice of the City's intention to record a Cancellation and Release with the Bernalillo County Clerk. The Cancellation and Release will be effective thirty (30) days after the date of mailing the notice to the User unless a later date is stated in the notice or the Cancellation and Release. After the effective date, the City will record the Cancellation and Release with the Bernalillo



County Clerk.

8. Condemnation. If any part of the User's Property is ever condemned by the City, the User will forego all claims to compensation for any portion of User's structure which encroaches on City Property and for severance damage to the remaining portion of User's structure on User's Property.

9. Assessment. Nothing in this Agreement shall be construed to relieve the User, his heirs, assigns and successors from an assessment against User's Property for improvements to the City Property under a duly authorized and approved Special Assessment District. The parties specifically agree that the value of the Improvement will not reduce the amount assessed by the City.

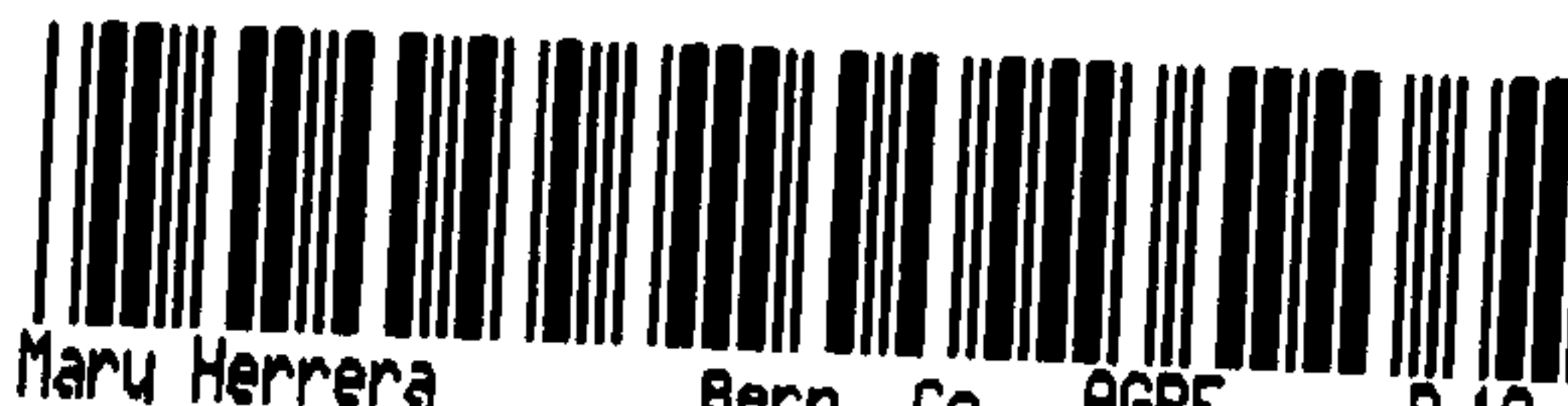
10. Notice. For purposes of giving formal written notice to the User, User's address is:

Sawmill Community Land Trust
P.O. Box 25181
Albuquerque, NM 87125

Notice may be given to the User either in person or by mailing the notice by regular U.S. mail, postage paid. Notice will be considered to have been received by the User within 3 days after the notice is mailed if there is no actual evidence of receipt. The User may change User's address by giving written notice of the change by certified mail, return receipt requested, to the City Engineer at P.O. Box 1293, Albuquerque, New Mexico 87103.

11. Indemnification. The User agrees to defend, indemnify and hold harmless the City, its officials, agents and employees from and against any and all claims, actions, suits or proceedings of any kind brought against said parties as a result of User's use of the City's Property. To the extent, if at all, Section 56-7-1 NMSA 1978 is applicable to this Agreement, this Agreement to indemnify will not extend to liability, claims, damages, losses or expenses, including attorney's fees, arising out of (1) the preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs or specifications by the indemnitee, or the agents or employees of the indemnitee; or (2) the giving of or the failure to give direction or instructions by the indemnitee, where such giving or failure to give directions or instructions is the primary cause of bodily injury to persons or damage to property.

12. Term. This Agreement shall continue until revoked by the City pursuant



to Section 7 above.

13. Binding on User's Property. The covenants and obligations of the User set forth herein shall be binding on User, his heirs assigns and successors and on User's Property and constitute covenants running with User's Property until released by the City.

14. Entire Agreement. This Agreement contains the entire agreement of the parties and supersedes any and all other agreements or understandings, oral or written, whether previous to the execution hereof or contemporaneous herewith.

15. Changes of Agreement. Changes to this Agreement are not binding unless made in writing, signed by both parties.

16. Construction and Severability. If any part of this Agreement is held to be invalid or unenforceable, the remainder of the Agreement will remain valid and enforceable if the remainder is reasonably capable of completion.

17. Captions. The captions to the sections or paragraphs of this Agreement are not part of this Agreement and will not affect the meaning or construction of any of its provisions.

CITY OF ALBUQUERQUE:

By: Richard D. Dorte
Title: City Engineer
Dated: 11-30-04

KJG ulz404

9/11/04

USER:

By: Ken Balaguer
Title: 10-27-04
Dated: Exec. Director

CITY'S ACKNOWLEDGMENT

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

This instrument was acknowledged before me on November 30, 2004 by Richard Dorte, City Engineer, Planning Department, for the City of Albuquerque, a New Mexico municipal corporation, on behalf of the corporation.



Maru Herrera

Bern. Co. AGRE

R 19.00

2006173750

6561314

Page: 4 of 6

11/17/2006 11:01A

Bk-A127 Pg-3273

Gloria S. Navarro
Notary Public

My Commission Expires:
11-25-2007

USER'S ACKNOWLEDGMENT

STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

This instrument was acknowledged before me on *October 27, 2004*
by *Ken Bulizer, Executive Director*, on behalf of *Summit Community Land Tr*

My Commission Expires: *1-27-2005*

Notary Public

Cherie M. Vigil



2006173750
6581314
Page: 5 of 6
11/17/2006 11:01A
Bk-A127 Pg-3273

OLD ALBUQUERQUE ACEQUIA

19TH STREET

ARROLERA DE VIDA
FILED: MAY 4. 1979

PHASE

AGUAFRESCA

PHASE 2A

TRACT 7

TRACT 8

TRACT 4

STORMWATER
POND #1

TRACT 5

TRACT 3**TRACT 4**

LOT B-1-A-2
DUKE CITY LUMBER
COMPANY ADDITION
FILED: DECEMBER 15, 1995
(95C-451)

STORMWATER
POND #2

**LOT B-2-A
DUKE CITY LUMBER
COMPANY ADDITION
FILED: SEPTEMBER 17, 1990
(90C-222)**

N.T.S.

EXHIBIT 'A'

2006173750

6561314

Page: 6 of 6

11/17/2006 11:01A

Bk-A127 Pg-3273

Bern. Co. AGRE

Mary Herrera

NINETEEN THIRTY

**EXISTING
LOT C
DUKE CITY LUMBER
COMPANY ADDITION
2.138 ACRES
FROM JOSEPH W. CO.
T. 10 N. R. 2 E.**

TRACE 1

TRACT 2

BELLAMAH AVENUE

BELLAMAH AV.

ATTN: Pam

ARBOLERA DE VIDA UNIT 2

(BEING A REPLAT OF TRACTS 2 AND 15, ARBOLERA DE VIDA)

WITHIN

THE TOWN OF ALBUQUERQUE GRANT

IN

PROJECTED SECTIONS 7 AND 18, TOWNSHIP 10 NORTH, RANGE 3 EAST
NEW MEXICO PRINCIPAL MERIDIAN
CITY OF ALBUQUERQUE
BERNALILLO COUNTY, NEW MEXICO

AUGUST, 2005



IN

urrent and paid

ETC

✓

10/6/05

Date

n this plat are granted for the

llation, maintenance, and
ground electrical lines,
nent and related facilities
e electrical service.

on, maintenance, and service of
ther equipment and facilities
e natural gas.

allation, maintenance, and
id other related equipment and
to provide communication
ted to ground pedestals and

tior), maintenance, and service
related equipment and
to provide Cable TV service.

l, construct, reconstruct,
dify, renew, operate, and
scribed above, together with
sements, including sufficient
formers, with the right and
hrubs or bushes which

PROJECT NUMBER: 1000029

Application Number: OS DRB-01428

PLAT APPROVAL

Utility Approvals

10/17/05

ADDENDUM TO COVER PAGE

11/24/04

(Date)

TO: Kevin Curran, Assistant City Attorney, Legal Department

FROM: Project Administrator, Project Review Sec., PWD

SUBJECT: PROJECT NAME: Auburn de Vida #2 PROJECT # 617582

The attached documents have been review, approved, initialed and/or signed by the DRC Chairman and are submitted for your action as noted.

<u>ITEM</u>	<u>ACTION</u>		<u>Comments</u>
	<u>Review & Approval</u>	<u>Reference</u>	
Procedure "A".....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	_____
Procedure "B".....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	_____
Procedure "B" Modified Non Work Order.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	_____
Procedure "C".....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	_____
Procedure "C" Modified.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	_____
Special Agreement.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	_____
Sidewalk Deferral Agreement.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	_____
Amendment.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	_____
Assignment.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	_____
Financial Guarantee.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	_____
Construction Paperwork:			
Contractors Proposal.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	_____
Performance/Warranty Bonds.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	_____
Labor/Material Bonds.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	_____
Certificate of Insurance.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	_____
Engineers Cost Estimate.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	_____
Extension.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	_____
Release/Agreement.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	_____
Release/Financial Guarantee.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	_____
Calling Notice.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	_____
Letter of Commitment.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	_____
Reduction Letter.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	_____
License Agreement.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	_____
Monitoring Well Permit.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	_____
Agreement & Covenant.....	☒ ☐ ☐ ☐	☐ ☐ ☐ ☐	_____
Drainage Covenant.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	_____
Revocable Permit.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	_____
Encroachment.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	_____
Permanent Easement.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	_____
Temporary Easement.....	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	_____
Power of Attorney	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	_____
Certificate of Work Order Completion	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	_____
Certificate of Completion and Acceptance	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	_____
Grading & Drainage Certification	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	_____
Notice of Acceptance - Centerline Monu.	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	_____
Corporate Resolution	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	_____

Other:

Please Call Kathy at 43996 if you have any questions regarding the above or when the documents are ready to be picked up.

No. of Attachments (1)



Sawmill Community
Land Trust

www.sawmillclt.org

Lisa E. Powell
Program Manager

(505) 764-0359
lpowell@sawmillclt.org

Villa Nueva Community Bldg
990 18th St NW 2nd floor
PO Box 25181
Albuquerque, NM 87125
fax (505) 243-6756

We're building more than just homes, we're building neighborhoods!

B-20-12

I met w/ Lisa Powell and Wade
concerning required maintenance of the Leese
Swamp pond.

The side slopes of the pond have
some erosion and in one spot a stick
of pipe and the end section fell off
because the soil supporting the pipe
eroded away.

I gave them a copy of the ^{and the cut} ₅₋₁₂₋₀₈
agreement, and Covenant(s) and discussed
some techniques to prevent erosion in
the future.

They are getting quotes for the work.

Cont. a chm

CITY OF ALBUQUERQUE
PLANNING DEPARTMENT
DEVELOPMENT SERVICE / HYDROLOGY SECTION

DATE: 10-5-11
CONFERENCE RECAP

ZONE ATLAS PAGE NO: 1413
DRAINAGE FILE: 141310057 141310025A
ZONING: _____
DRB: _____
SUBJECT: _____
STREET ADDRESS (IF KNOWN): _____
SUBDIVISION NAME: Sawmill Village

APPROVAL REQUESTED:

ATTENDANCE: Doug Hughes, Bruce Stidworthy, Mike Balaskovitz, Curtis Cherne

FINDINGS:

Sawmill Village will accept 1 or 2 cfs for storms greater than the 100 yr - 6 hr storm along the north edge and the north east corner of Sawmill village (1 cfs at each pt)

Engineer Certification of Sawmill Village to include acceptance of offsite flows mentioned above.

THE UNDERSIGNED AGREES THAT THE ABOVE FINDINGS ARE SUMMARIZED ACCURATELY AND ARE SUBJECT TO CHANGE IF FURTHER INVESTIGATION REVEALS THAT THEY ARE NOT REASONABLE OR THAT THEY ARE BASED ON INACCURATE INFORMATION.

SIGNED: Curtis A. Cherne
NAME (PRINT): Curtis A. Cherne

SIGNED: Doug Hughes
NAME (PRINT): Doug Hughes
Bruce Stidworthy
NAME (PRINT): Bruce Stidworthy

NOTE PLEASE PROVIDE A COPY OF THIS RECAP WITH YOUR DRAINAGE SUBMITTAL.

Cherne, Curtis

From: Cherne, Curtis
Sent: Friday, September 23, 2011 10:19 AM
To: 'Doug Hughes'
Cc: 'Michael Balaskovits'
Subject: Tract B1A2 and Sawmill Village

Good morning,

Per our conversation yesterday concerning the proposed development (proposed area) at Tract B1A2 and offsite flows at Sawmill Village (Sawmill).

I visited the site(s) this morning to attempt to confirm the contours shown our GIS to aid in making a determination for drainage for the proposed development. I also looked at the approved Grading Plan for Sawmill.

It is evident that the Sawmill site accepted offsite flows in the existing condition near the northeast and northwest corners of Sawmill. There is approx. a 2 foot cut south of the northeast corner of Sawmill and the proposed site is about 2 feet higher than Sawmill about 100 to 150 feet west of the northwest corner of Sawmill. It is also evident that there was an existing swale along the west edge of the proposed development into Sawmill. It appears this area has been filled.

It does not look like any flows leave the proposed area to the east thru UPS. There is evidence of ponding inside the proposed area along the eastern edge and it looks like there is a high point in the UPS site in the first drive aisle. There is also a 2" or so lip of asphalt on the UPS side. The existing alley gutter near the south end along the eastern edge of the proposed area drains west from UPS as evidenced by the sediment inside the proposed area in the valley gutter.

The railroad tracks will make it difficult to drain the proposed area north. Therefore, it seems south and southwest seem to be the historic flow path and therefore should be the proposed.

In the spirit of the drainage ordinance the Sawmill site should accept offsite flows from the proposed development. It seems the two discharge points should be in the northeast and northwest corners of Sawmill. It seems the 1 cfs at each point (2 cfs total) you are requesting is most likely less than existing and could be easily accommodated by Sawmill.

Hydrology has an approved DMP and Grading Plan that do not mention or account for offsite flows from Tract B1A2. It was missed, but that does not make it right. Would the best way to remedy this be for the three of us to meet to discuss?

Curtis

Cherne, Curtis

From: Doug Hughes [Doug@goodwinengineers.com]
Sent: Friday, September 30, 2011 2:04 PM
To: Michael Balaskovits
Cc: John MacKenzie; Cherne, Curtis ; Mark Goodwin
Subject: RE: Tract B1A2 and Sawmill Village
Attachments: Sawmill B1A2 EXISTING.pdf

Mike,

It is good that we both have projects to work on. The close proximity of them is probably no accident. I am busy the first half of the week next week but can meet any time after 1:30 PM Wednesday. John MacKenzie would like to join us, and Curtis is the one who suggested that we meet. So how does Wednesday at 1:30 work for everyone.

We don't have an exact development plan, or any layout that we are actually pursuing. The owner is considering several different variations of high density residential development.

We are gathering records and I am trying to identify the drainage, utility and traffic constraints on the property. The attached sketch summarizes my analysis of existing drainage patterns. The 2004 Bernalillo County topo (see attached) shows a ridge running north/south through the middle of the site, and the site slopes east and west at an average of 1% away from that ridge.. Most of the existing site is impervious and the remainder is bare packed dirt or gravel, so existing runoff is relatively high (100-YR flow is 11.27 cfs to the southwest and 16.63 cfs to the southeast).

In 2004, drainage from the west half of Tract B1A2 combined with drainage from Sawmill Village site and flowed through a large shallow pond on the Sawmill Village property that drained south into Bellamah Ave. Several other properties drained into Bellamah Ave but now they all go through a series of ponds because Bellamah Ave and its storm drain do not have enough capacity to allow free discharge from those properties. It seems reasonable that the Bellamah drainage capacity should be prorated among all of the properties that drain into Bellamah Ave.

Though the site is in the middle of the Sawmill/Wells Park Sector Development Plan, the hydrology department doesn't seem to have any comprehensive plan for that area in their records. Neither Curtis nor I were able to make sense of the numerous plans in his files for the Sawmill Village development. I am trying to figure out what the capacity of Bellamah Ave is and how much of that capacity belongs to Tract B1A2. I am also trying to figure out what provision has been made for that drainage to get to Bellamah Ave. through the Sawmill Village development. Can you meet with us to discuss these two issues?

Doug Hughes, PE

MARK GOODWIN & ASSOCIATES, PA
(505) 828-2200
(505) 797-9539 fax
(505) 821-9313 cell
doug@goodwinengineers.com

From: Michael Balaskovits [mailto:mbalaskovits@bhinc.com]

9/30/2011

Sent: Thursday, September 29, 2011 3:15 PM
To: Doug Hughes
Subject: RE: Tract B1A2 and Sawmill Village

Doug, we have to stop meeting like this. Sorry it's taken so long for my response. Would you like to get together sometime next week to discuss further. I'd like to understand exactly what you have planned for your development, how far along you are, and to see if we can come up with something together. Let me know your availability for early next week. Thanks!!

As a side note, we have DRB the 12 and we are looking to get approval at that time for our project.

Mike Balaskovits, PE, LEED AP
Community Development and Planning
BHI

From: Doug Hughes [mailto:Doug@goodwinengineers.com]
Sent: Friday, September 23, 2011 1:27 PM
To: Cherne, Curtis
Cc: Michael Balaskovits
Subject: RE: Tract B1A2 and Sawmill Village

Ok, when and where shall we meet? I have a meeting Monday 12 till 3, otherwise I am available. Your office or the site are both fine with me. I would like to review the drainage toward UPS also.

Doug Hughes, PE
MARK GOODWIN & ASSOCIATES, PA
(505) 828-2200
(505) 797-9539 fax
(505) 821-9313 cell
doug@goodwinengineers.com

From: Cherne, Curtis [mailto:CCherne@cabq.gov]
Sent: Friday, September 23, 2011 10:19 AM
To: Doug Hughes
Cc: Michael Balaskovits
Subject: Tract B1A2 and Sawmill Village

Good morning,
Per our conversation yesterday concerning the proposed development (proposed area) at Tract B1A2 and offsite flows at Sawmill Village (Sawmill).

I visited the site(s) this morning to attempt to confirm the contours shown our GIS to aid in making a determination for drainage for the proposed development. I also looked at the approved Grading Plan for Sawmill.

It is evident that the Sawmill site accepted offsite flows in the existing condition near the northeast and northwest corners of Sawmill. There is approx. a 2 foot cut south of the northeast corner of Sawmill and the proposed site is about 2 feet higher than Sawmill about 100 to 150 feet west of the northwest corner of Sawmill. It is also evident that there was an existing swale along the west edge of the proposed development into Sawmill. It appears this area has been filled.

It does not look like any flows leave the proposed area to the east thru UPS. There is evidence of ponding inside the proposed area along the eastern edge and it looks like there is a high point in the UPS site in the first drive aisle. There is also a 2" or so lip of asphalt on the UPS side. The existing alley gutter near the south end along the eastern edge of the proposed area drains west from UPS as evidenced by the sediment inside the proposed

9/30/2011

area in the valley gutter.

The railroad tracks will make it difficult to drain the proposed area north. Therefore, it seems south and southwest seem to be the historic flow path and therefore should be the proposed.

In the spirit of the drainage ordinance the Sawmill site should accept offsite flows from the proposed development. It seems the two discharge points should be in the northeast and northwest corners of Sawmill. It seems the 1 cfs at each point (2 cfs total) you are requesting is most likely less than existing and could be easily accommodated by Sawmill.

Hydrology has an approved DMP and Grading Plan that do not mention or account for offsite flows from Tract B1A2. It was missed, but that does not make it right. Would the best way to remedy this be for the three of us to meet to discuss?

Curtis

SAWMILL VILLAGE: POND ANALYSIS (DRAINAGE CERTIFICATION OCT. 3RD, 2011)

Proposed Ultimate Development Conditions Basin Data Table

This table is based on the DPM Section 22.2, Zone: 2

Basin ID	Area	Area	Land Treatment Percentages				Q(100)	Q(100)	V(100)	V(100)	V(100) _{24HR}
	(SQ. FT)	(AC.)	A	B	C	D	(cfs/ac.)	(CFS)	(inches)	(CF)	(CF)
*A-1	9583	0.22	0.0%	16.0%	16.0%	67.9%	4.06	0.89	1.75	1395	1612
*A-2	2178	0.05	0.0%	5.0%	5.0%	90.0%	4.50	0.23	2.00	364	429
*A-3	8712	0.20	0.0%	5.0%	5.0%	90.0%	4.50	0.90	2.00	1455	1716
B-1	28750	0.66	0.0%	16.0%	16.0%	67.9%	4.06	2.68	1.75	4184	4835
B-2	6534	0.15	0.0%	5.0%	5.0%	90.0%	4.50	0.68	2.00	1091	1287
B-3	51836	1.19	0.0%	16.0%	16.0%	67.9%	4.06	4.83	1.75	7543	8717
B-4	3485	0.08	0.0%	5.0%	5.0%	90.0%	4.50	0.36	2.00	582	686
B-5	10494	0.24	0.0%	5.0%	5.0%	90.0%	4.50	1.08	2.00	1752	2067
C-1	12023	0.28	0.0%	16.0%	16.0%	67.9%	4.06	1.12	1.75	1750	2022
C-2	2195	0.05	0.0%	5.0%	5.0%	90.0%	4.50	0.23	2.00	367	432
C-3	33729	0.77	0.0%	16.0%	16.0%	67.9%	4.06	3.14	1.75	4908	5672
C-4	31363	0.72	0.0%	16.0%	16.0%	67.9%	4.06	2.92	1.75	4564	5274
C-5	39640	0.91	0.0%	16.0%	16.0%	67.9%	4.06	3.70	1.75	5769	6666
C-6	39640	0.91	0.0%	16.0%	16.0%	67.9%	4.06	3.70	1.75	5769	6666
D-1	11326	0.26	0.0%	16.0%	16.0%	67.9%	4.06	1.06	1.75	1648	1905
D-2	40075	0.92	0.0%	16.0%	16.0%	67.9%	4.06	3.74	1.75	5832	6739
D-3	12197	0.28	0.0%	5.0%	5.0%	90.0%	4.50	1.26	2.00	2036	2402
D-4	9583	0.22	0.0%	5.0%	5.0%	90.0%	4.50	0.99	2.00	1600	1887
OFFSITE 1A	134600	3.09	0.0%	0.0%	15.0%	85.0%	4.47	13.80	1.97	22114	25927
OFFSITE 1B	55757	1.28	0.0%	0.0%	15.0%	85.0%	4.47	5.72	1.97	9160	10740
OFFSITE 2	180338	4.14	0.0%	0.0%	15.0%	85.0%	4.47	18.49	1.97	29628	34738
OFFSITE 3	40075	0.92	0.0%	0.0%	15.0%	85.0%	4.47	4.11	1.97	6584	7719
OFFSITE 4	110642	2.54	0.0%	0.0%	15.0%	85.0%	4.47	11.34	1.97	18178	21312
OFFSITE 5	94525	2.17	0.0%	0.0%	10.0%	90.0%	4.54	9.86	2.02	15920	18755
POND 1	49223	1.13	0.0%	10.0%	90.0%	0.0%	3.05	3.45	1.10	4492	4492
POND 2	84071	1.93	0.0%	10.0%	90.0%	0.0%	3.05	5.89	1.10	7671	7671
LOT B-2-A SAMILL	325080	7.46	0.0%	10.0%	0.0%	90.0%	4.46	33.27	1.99	53801	63553

	CF	ACRE-FT
POND 1	88,830	2.04
POND 2	99,783	2.29

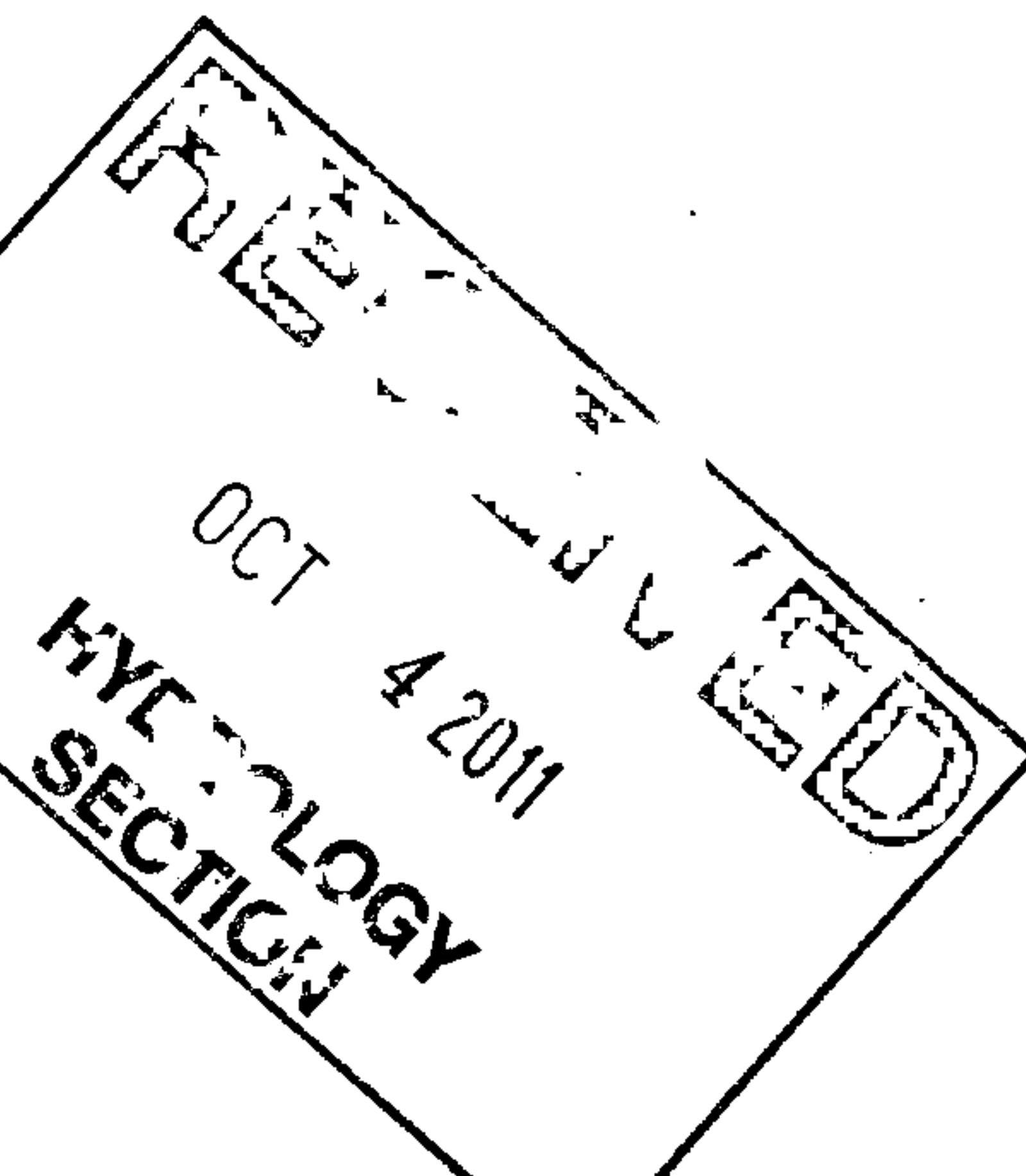
TOTAL POND VOLUME REQUIRED FOR PREVIOUSLY APPROVED PLAN 188,614 4.33

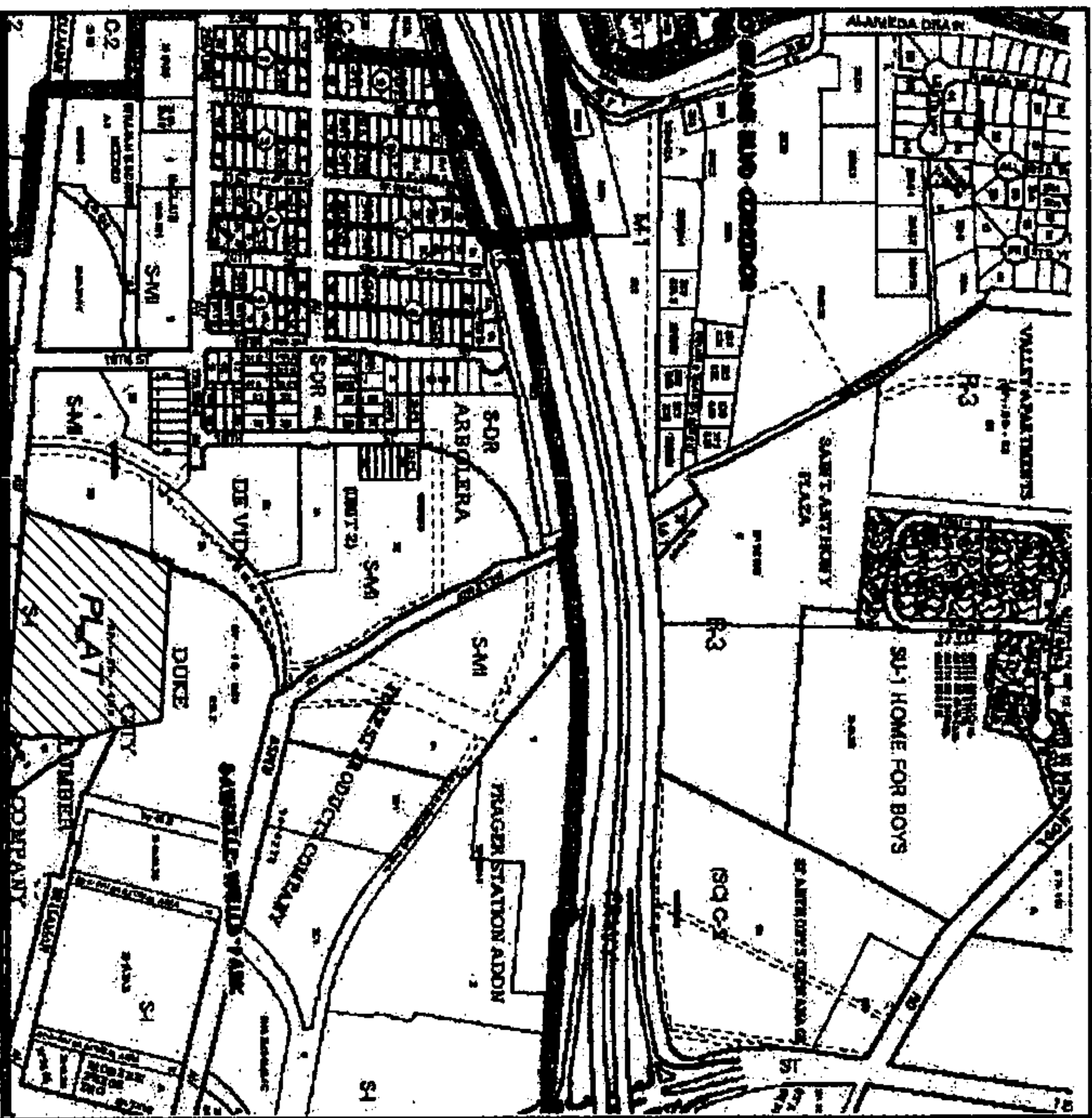
TOTAL POND VOLUME + LOT B-2-A REQUIRED 252,167 5.79

EXISTING POND VOLUME PER DRAINAGE CERTIFICATION DATED 2/17/2007 192100 4.41

EXISTING POND VOLUME PER DRAINAGE CERTIFICATION DATED 10/03/2011 281084 6.45

*ALL POND VOLUMES ARE BASED ON TOTAL VOLUME OF BOTH PONDS AND A MWSEL OF 4955.7





VICINITY MAP
Not to Scale

GENERAL NOTES

1. Bearings are given and based on the New Mexico State Plane Coordinate System, Central Zone (NAD83) and related to grid of the Albuquerque Control Survey Monument 5-113A.
2. Distances are ground.
3. Record plot bearings and distances where they differ from those measured by field survey are shown in parentheses ().
4. All corners are a 5/8" rebar and cap stamped "HUGG L.S. 9750" unless otherwise indicated hereon.
5. Albuquerque City Zone Atlas page H-13.
6. U.C.L.S. Log Number 2007292230.

PURPOSE OF PLAT

- The purpose of this plat is to
- A. Subdivide existing Lot B-2-A into 10 lots as shown hereon.
 - B. Show the Public and Private Easements Vested by 100RB-70051 and 100RB-70058.
 - C. Grant the new easements as shown hereon.

SUBDIVISION DATA

1. Total number of existing Lots : 1
2. Total number of lots created: 10
3. Gross Subdivision acreage: 7.4628 acres.

DOC# 2010062561

2712/2815 09:12 PM Page 1 of 4
HUGG L.S. 9750
NEW MEXICO
BERNALILLO COUNTY
FEBRUARY 18, 2010

070368-SHTS 1, 2 & 3, DWG

TREASURER'S CERTIFICATION

This is to certify that taxes are current and paid on the following:

1013059341 & 1012010
Sawmill Comm. Land Trust

7/1/2010
Bernalillo County Treasurer

PLAT OF
SAWMILL VILLAGE

(BEING A REPLAT OF LOT B-2-A, DUKE CITY LUMBER COMPANY ADDITION)

WITHIN

THE TOWN OF ALBUQUERQUE GRANT

IN

PROJECTED SECTIONS 7 AND 18, TOWNSHIP 10 NORTH, RANGE 3 EAST

NEW MEXICO PRINCIPAL MERIDIAN

CITY OF ALBUQUERQUE

BERNALILLO COUNTY, NEW MEXICO

FEBRUARY, 2010

PUBLIC UTILITY EASEMENTS

PUBLIC UTILITY EASEMENTS shown on this plat are granted for the common and joint use of:

- A. Public Service Company of New Mexico for installation, maintenance, and service of underground electrical lines, transformers, and other equipment and related facilities reasonably necessary to provide electrical service.
- B. New Mexico Gas Company for installation, maintenance, and service of natural gas lines, valves and other equipment and facilities reasonably necessary to provide natural gas.
- C. Qwest Corporation for the installation, maintenance, and service of such lines, cables, and other related equipment and facilities reasonably necessary to provide communication facilities, including but not limited to ground pedestals and closures.
- D. Comcast Cable for the installation, maintenance, and service of such lines, cables, and other related equipment and facilities reasonably necessary to provide Cable TV service.

Included, is the right to build, rebuild, construct, reconstruct, locate, relocate, change, remove, replace, modify, renew, operate and maintain facilities for purposes described above, together with free access to, from, and over said easements, with the right and privilege of going upon, over and across adjoining lands of Grantor for the purposes set forth herein and with the right to utilize the right of way and easement to extend services to easementers of Grantor, including sufficient working area, space for electric transformers, with the right and privilege to firm and grade the easement, with the right and privilege to use the easement for the purpose of installing, maintaining, and repairing the same. No building, structure, or other structure shall be erected or constructed on said easements, nor shall any well be drilled or operated thereon. Property owners shall be solely responsible for correcting any violations of National Electrical Safety Code by construction of poles, decking, or any structures adjacent to or near easements shown on this plat. Easements for electric transformer/switchgear, as installed, shall extend ten (10) feet in front of transformer/switchgear doors and five (5) feet on each side.

DISCLAIMER

In approving this plat, Public Service Company of New Mexico (PNM) and New Mexico Gas Company (NMGC) did not conduct a Title Search of the properties shown hereon. Consequently, PNM and NMGC do not waive or release any easement or easement rights which may have been granted by prior plat, replat or other document and which are not shown on this plat.

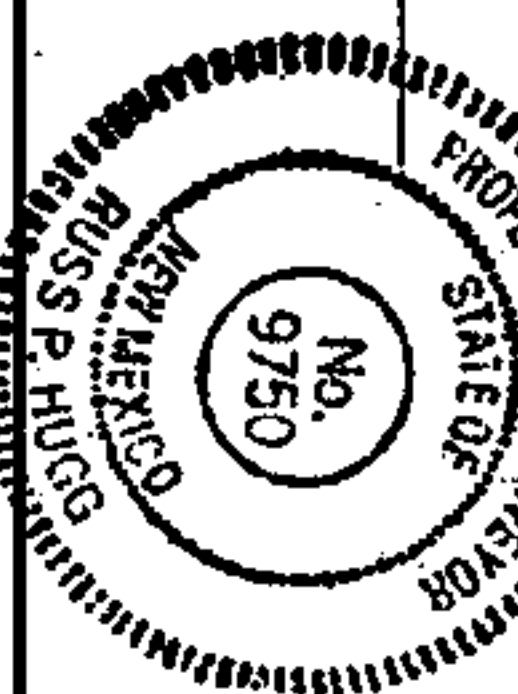
APR AGREEMENT

"The property on this plat is subject to a Pre-Development Facilities Fee Agreement with the Albuquerque Public Schools recorded on June 19, 2007 as Document Number 2007069214."

SURVEYORS CERTIFICATION

I, Russ P. Hugg, New Mexico Professional Surveyor Number 9750, hereby certify that this plat of survey was prepared by me from field notes of an actual ground survey performed by me or under my supervision, that it meets the Standards for Land Surveys in New Mexico as adopted by the New Mexico State Board of Registration for Professional Engineers and Professional Surveyors, that it meets the minimum requirements for accuracy and precision as set forth in the Albuquerque Subdivision Ordinance, that it shows all easements of record, and that it is, in my opinion, correct to the best of my knowledge and belief.

Russ P. Hugg
NMP# No. 9750
February 18, 2010



PLAT APPROVAL

UTILITY APPROVAL

Edmund L. Land
Public Service Company of New Mexico

3-11-2010
Date

Ch-11-11
New Mexico Gas Company

6-21-2010
Date

Michael R. Riving
Qwest Corporation

03-11-10
Date

Robert M. Austin
Comcast

6-22-10
Date

CITY APPROVAL

City Surveyor

2-25-10
Date

Real Property Division

Date

Environmental Health Department

6/30/10
Date

Traffic Engineering, Transportation Division

6/30/10
Date

Utilities Department

04/06/10
Date

Albuquerque Department of Parks and Recreation

4/30/10
Date

Brady J. Bingham

6/30/10
Date

AMAFCA

6/30/10
Date

City Engineer

7-12-10
Date

City Clerk

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PLAT OF
SAWMILL VILLAGE
(BEING A REPLAT OF LOT B-2-A, DUKE CITY LUMBER COMPANY ADDITION)
WITHIN
THE TOWN OF ALBUQUERQUE GRANT
IN
PROJECTED SECTIONS 7 AND 18, TOWNSHIP 10 NORTH, RANGE 3 EAST,
NEW MEXICO PRINCIPAL MERIDIAN
CITY OF ALBUQUERQUE
BERNALILLO COUNTY, NEW MEXICO
FEBRUARY, 2010

LEGAL DESCRIPTION

That certain parcel of land situate within the Town of Albuquerque Grant in projected Sections 7 and 18, Township 10 North, Range 3 East, New Mexico Principal Meridian, City of Albuquerque, Bernalillo County, New Mexico being and comprising all of Lot B-2-A, Duke City Lumber Company Addition as the same is shown and designated on the plat entitled "PLAT OF LOTS B-1-A AND B-2-A, DUKE CITY LUMBER COMPANY ADDITION IN THE CITY OF ALBUQUERQUE, NEW MEXICO, PROJECTED SECTIONS 7 AND 18, T10 N., R3 E., N.M.P.M.", filed in the Office of the County Clerk of Bernalillo County, New Mexico on September 17, 1990 in Volume 90C, Folio 222.

Said Parcel contains 7.4628 acres, more or less.

FREE CONSENT AND DEDICATION

SURVEYED and REPLATED and now comprising PLAT OF SAWMILL VILLAGE (BEING A REPLAT OF LOT B-2-A, DUKE CITY LUMBER COMPANY ADDITION) WITHIN THE TOWN OF ALBUQUERQUE GRANT IN PROJECTED SECTIONS 7 AND 18, TOWNSHIP 10 NORTH, RANGE 3 EAST, NEW MEXICO PRINCIPAL MERIDIAN, CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO, with the free consent of and in accordance with the wishes and desires of the undersigned owner(s) and proprietor(s) thereof. Said owner(s) and proprietor(s) do hereby grant all private and public easements as shown hereon. Said owner(s) and proprietor(s) do hereby warrant that they hold among them, complete and indefeasible title in fee simple to the land subdivided. Said owner(s) and proprietor(s) do hereby consent to all of the foregoing and do hereby represent that they are so authorized to act.

OWNER(S)

LOT B-2-A, DUKE CITY LUMBER COMPANY ADDITION
SAWMILL COMMUNITY LAND TRUST

By:

Connie Chavez
Connie Chavez, Executive Director

ACKNOWLEDGMENT

STATE OF NEW MEXICO
COUNTY OF BERNALILLO SS

This instrument was acknowledged before me on this 2nd day of February, 2010, by Connie Chavez as Executive Director of the Sawmill Community Land Trust.

Quintanilla

09-13-10
My Commission expires



Documents used in the preparation of the survey are as follows:

- Plat entitled "SECOND CORRECTION PLAT ARBOLETA DE VIDA UNIT 2, CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO", filed in the office of the County Clerk of Bernalillo County, New Mexico on June 16, 2006, in Plat Book 2006C, page 192.
- Plat entitled "PLAT OF LOTS B-1-A AND B-2-A, DUKE CITY LUMBER COMPANY ADDITION, CITY OF ALBUQUERQUE, NEW MEXICO", filed in the office of the County Clerk of Bernalillo County, New Mexico on September 17, 1990, in Volume 90C, Folio 222.
- ALTA/ASCM Land Title Survey of Lot B-2-A, Duke City Lumber Company Addition prepared by Gary E. Grisko, New Mexico Professional Surveyor Number 8686, dated February 2004.
- Title Report prepared for this property by First American Title Company Insurance Company, Commitment for Title Insurance Number 973013-AL16/LMC, dated January 26, 2007 and 973013-AL16, LC, dated February 7, 2007.

SECTION 14-14-4-7 PROHIBITION ON PRIVATE RESTRICTIONS ON THE INSTALLATION OF SOLAR COLLECTORS

No property within the area of this plat shall at any time be subject to a deed restriction, covenant, or binding agreement prohibiting solar collectors from being installed on buildings or erected on the lots or parcels within the area of proposed plat. The foregoing requirement shall be a condition to approval of this plat.

DOC# 2010060561

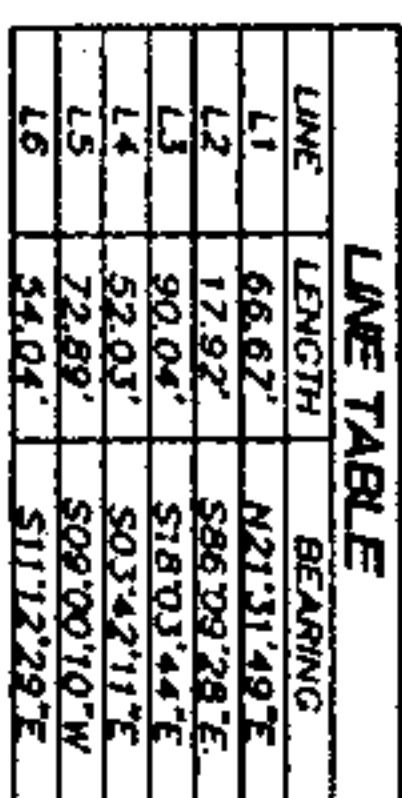
07/17/2010 09:12 AM Page 3 of 4
Touhou Oliveira, Bernalillo Co.
NEW MEXICO
COUNTY OF BERNALILLO

SHEET 2 OF 4

SURV-TEK, INC.

Consulting Surveyors
8004 Valley View Drive, N.E. Albuquerque, New Mexico 87114 Phone: 505-897-5396
Fax: 505-897-5377





(BEING A REPLAT OF LOT B-2-A, DUKE CITY LUMBER COMPANY ADDITION)

**THE TOWN OF ALBUQUERQUE GRANT
IN**

PROJECTED SECTIONS 7 AND 18, TOWNSHIP 10 NORTH, RANGE 3 EAST

NEW MEXICO PRINCIPAL MERIDIAN
CITY OF ALBUQUERQUE

BERNALLILLO COUNTY, NEW MEXICO

FEBRUARY, 2010



SHEET 3 OF 4

SURV TEK, INC.

Consulting Surveyors Phone 606-687-3300
 8884 Valley View Drive, N.W. Albuquerque, New Mexico 87114 Fax: 505-887-8377

NEW TRACTS, LOTS AND EASEMENTS

CURVE LENGTH	RADIUS	TANGENT	CHORD	CHORD BEARING	DELTA
C1	7.32	18.60	3.71	N83°35'43"E	237°8'23"
C2	17.90	44.00	9.07	N83°35'43"E	237°8'23"
C3	22.11	18.60	16.87	S52°05'08"W	86°17'37"

CURVE TABLE

DOCS 2010089561

7/17/2010 00:13:00 Page 1 of 1
 11/11/2010 00:13:00 Page 1 of 1
 11/11/2010 00:13:00 Page 1 of 1

PLAT OF SAWMILL VILLAGE

(BEING A REPLAT OF LOT B-2-A, DUKE CITY LUMBER COMPANY ADDITION)

THE TOWN OF ALBUQUERQUE GRANT

N

NEW MEXICO PRINCIPAL MERIDIAN

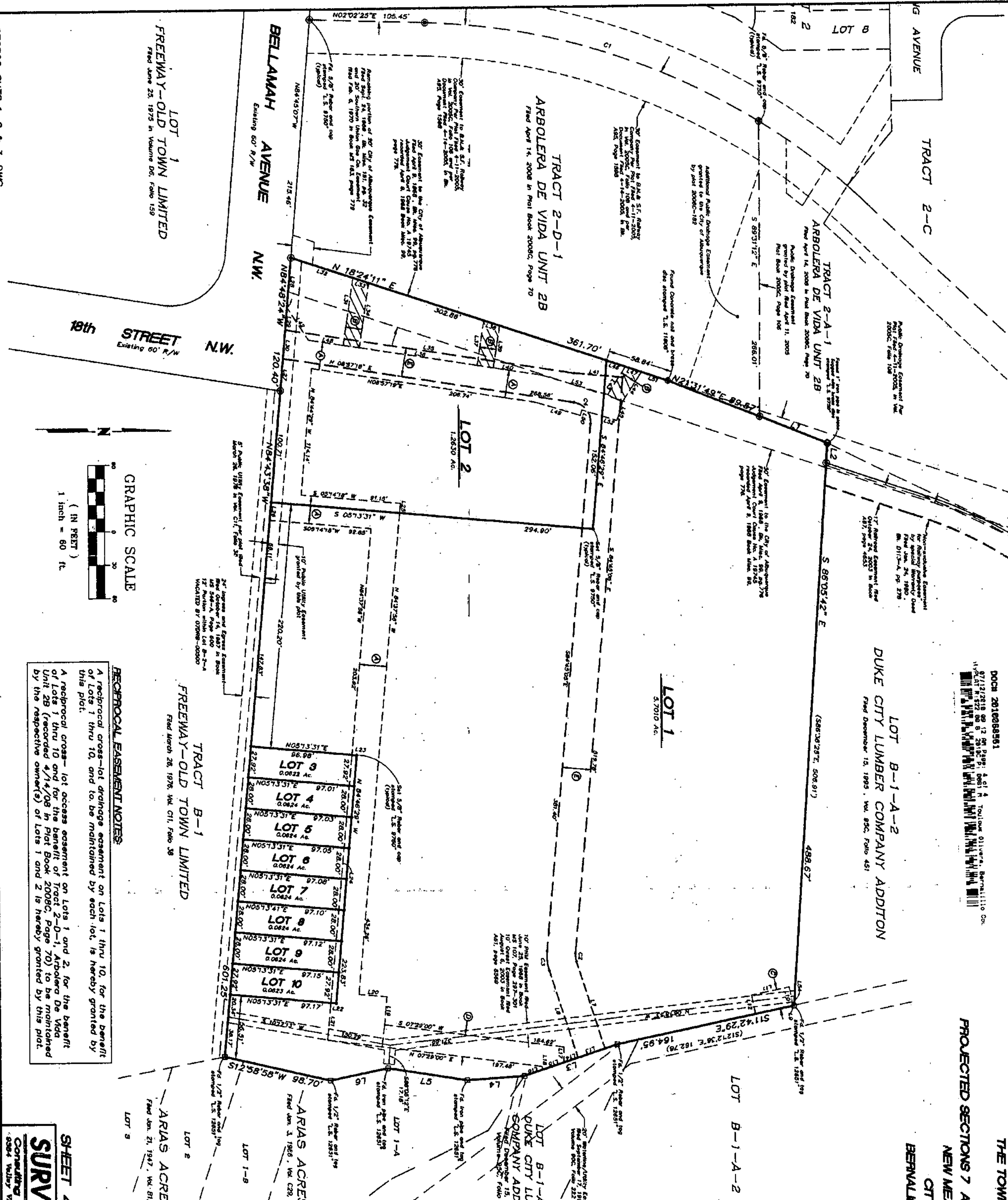
CITY OF ALBUQUERQUE

BERNALILLO COUNTY, NEW MEXICO

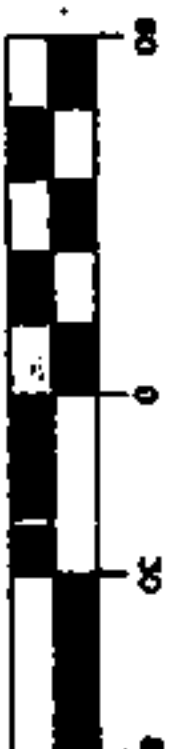
FEBRUARY, 2010

NEW EASEMENT LEGEND

- 25' Public Sanitary Sewer and Water Easement granted to the City of Albuquerque by this plat.
- 15' Private Sanitary Sewer Easement granted by this plat for the benefit of Lot 2-D, Arbolera de Vida. Maintenance of said easement to be the responsibility of the owner(s) of said Lot 2-D.
- Public Waterline Easement granted to the City of Albuquerque by this plat.
- 20' Public Waterline Easement granted to the City of Albuquerque by this plat.
- 26' Public Access Easement to be maintained by the respective owner(s) of Lots 1 and 2 granted to the City of Albuquerque by this plat.



GRAPHIC SCALE



RECIPROCAL EASEMENT NOTES

A reciprocal cross-lot drainage easement on Lots 1 thru 10, for the benefit of Lots 1 thru 10, and to be maintained by each lot, is hereby granted by this plat.
 A reciprocal cross-lot access easement on Lots 1 and 2, for the benefit of Lots 1 thru 10 and for the benefit of Tract 2-D-1, Arbolera de Vida Unit 2B (recorded 4/14/08 in Plot Book 2000C, Page 70) to be maintained by the respective owner(s) of Lots 1 and 2 is hereby granted by this plat.

SHEET 4 OF 4

SURV TEK, INC.

Consulting Surveyors Albuquerque, New Mexico 87114 Phone: 505-877-5368
 8004 Valley View Drive, N.W. Albuquerque, NM 87114 Fax: 505-877-5877

LINE	LENGTH	BEARING
L7	82.23	N71°56'32"E
L8	82.23	N71°56'32"E
L9	18.81	S77°33'02"W
L10	30.00	N72°33'02"E
L11	18.20	N77°33'02"E
L12	21.02	S11°42'29"E
L13	26.00	S18°03'28"E
L14	13.49	S18°04'16"E
L15	21.02	S18°03'44"E
L16	17.35	S18°03'44"E
L17	14.05	N69°50'08"E
L18	3.02	N69°50'08"E
L19	25.41	S84°46'29"E
L20	25.97	N08°13'31"E
L21	33.63	S84°37'56"E
L22	5.02	N05°13'31"E
L23	4.47	N05°13'31"E
L24	22.83	S84°37'56"E
L25	8.71	S84°43'38"E
L26	16.27	S84°43'38"E
L27	28.91	S84°48'24"E
L28	45.31	S84°48'24"E
L29	20.12	S84°48'24"E
L30	26.05	N81°04'39"W
L31	41.12	N81°04'39"W
L32	59.34	N18°24'11"E
L33	15.21	N18°24'11"E
L34	59.05	S81°04'39"E
L35	268.45	N08°57'18"E
L36	108.21	N08°57'18"E
L37	15.21	N18°24'11"E
L38	15.21	N18°24'11"E
L39	38.47	S81°04'39"E
L40	44.98	N08°04'25"E
L41	44.97	N05°11'41"E
L42	35.18	N56°47'28"E
L43	28.87	S56°40'12"W
L44	12.31	S56°40'12"E
L45	12.32	S73°13'40"E
L46	18.12	N18°24'11"E
L47	15.92	N18°24'11"E
L48	31.98	N08°58'14"E
L49	42.54	N16°46'20"E
L50	5.00	N73°13'40"W
L51	25.19	N16°46'20"E
L52	33.91	N16°46'20"E
L53	62.62	N16°46'20"E

CITY OF ALBUQUERQUE
PLANNING DEPARTMENT
HYDROLOGY DEVELOPMENT SECTION

DEVELOPMENT REVIEW BOARD MEMO

DRB PROJECT NO: 1008830

AGENDA ITEM NO: 2

SUBJECT:

Site Plan for Building Permit

ENGINEERING COMMENTS:

Per our discussion, the parking areas were to be gravel. The drainage calculations in the approved drainage report are for gravel, yet the site plan has a note for asphalt.

Please show where the site will be paved and where it will be gravel.

Hydrology has comments on the Infrastructure List.

RESOLUTION COMMENTS:

SIGNED:

Curtis Cherne
Hydrology Section
City Engineer Designee
AMAFCA Designee
924-3986

DATE: 9-14-11

~~for~~

104694

1"

4-17-05 Pond 1 31.36 ac Pond 2 3.94 ac - 1st

2nd no park, west and north of Pond 2

in 07

expand pond 2 by 59137

$$104694 + 59137 = 243831$$

Called Mike B 9-17-11

Told him I had a hard time
putting together the history on the pond
expansions. He is also.

He is going to figure it out

Courtyard I
7500 Jefferson St. NE
Albuquerque, NM
87109-4335

www.bhinc.com

voice: 505.823.1000
facsimile: 505.798.7988
toll free: 800.877.5332

February 21, 2007

Brad Bingham, P.E.
Hydrology Development Division
City of Albuquerque Planning Department
P. O. Box 1293
Albuquerque, NM 87103

Re: Arbolera de Vida, Unit 2 – Grading and Drainage Certification
DRB Case No 1000029; COA Drainage File # H-13/D25

Dear Brad:

The purpose of this letter is to provide you with verification that the revised grading plan Dekker Perich Sabatini revision to the Approved Grading Plan dated 4-05-06. The overall drainage patterns remain the same as noted in the Approved Grading Plan, but Pond #1 grading has been modified.

Dekker Perich Sabatini's revision was to improve the aesthetics of the park. Per our conversation, you would allow the grading revisions to be as-built as long as I provided verification that the overall pond volumes were not affected.

The two pond system was reanalyzed to be a retention pond assuming no allowable discharge when in fact, 4.0 cfs is allowed to discharge from Pond 2 into Bellamah Ave, this is the given safety factor. In order to facilitate the 100-yr, 24 hr storm event, as stated in the previous addendum dated August 9, 2006, the required detention volume for the two ponds is 4.24 acre-ft (see Sheet 1-A). The previous volume was 4.34 acre-ft (see Sheet 1-C). With the revised grading of Pond #1, the volume is 4.41 acre-ft (see Sheet 1-B) thus increasing the capacity of Pond #1.

If you have any questions or require further information, please feel free to contact me at 823-1000.

Sincerely,

Yolanda Padilla, P.E.
Project Engineer
Community Development and Planning

YP
Enclosures

cc:
Kevin Patton, BHI (w/o encl)
Debbra Colman, Sawmill Community Land Trust (w encl)

C70090

Detention Pond Volume Calculations

NOTE: Blue shaded cells require user input, all other cells should not be edited.

ASSUMPTIONS:

1. Area less than 40 acres (simplified hydrograph method)
2. 100-year, 6-hour storm event

Peak Flow per Acre - DPM Section 22.2 Table A-9

Zone	A	B	C	D
1	1.29	2.03	2.87	4.37
2	1.56	2.28	3.14	4.7
3	1.87	2.6	3.45	5.02
4	2.2	2.92	3.73	5.25

Basin Name :

Choose Zone (1 - 4)

Basin Area = (acres)

Exist Conditions				Proposed Conditions			
Treatment	Percentage	Area	Q (cfs)	Treatment	Percentage	Area	Q (cfs)
A	90.0%	22.78	35.54	A	10.0%	0.00	0.00
B	10.0%	2.53	5.77	B	8.5%	2.16	4.92
C	0.0%	0.00	0.00	C	31.5%	7.97	25.03
D	0.0%	0.00	0.00	D	60.0%	15.18	71.35
Q Peak - exist =			41.31	Peak Q Developed =			101.30

Use my calculated exist cond. flow as the peak controlled discharge (1 = yes, or N) ??

If No, what is the maximum allowable discharge ?

Excess Precipitation - DPM Section 22.2 Table A-8

Zone	A	B	C	D
1	0.44	0.67	0.99	1.97
2	0.53	0.78	1.13	2.12
3	0.66	0.92	1.29	2.36
4	0.8	1.08	1.46	2.64

Determine Developed E (avg excess precipitation for the developed basin)

$$\begin{aligned}\%A \times E &= 0.00 \\ \%B \times E &= 0.07 \\ \%C \times E &= 0.36 \\ \%D \times E &= 1.27 \\ \text{Avg E(in)} &= 1.69\end{aligned}$$

Determine Tb (hours)

$$T_b = 0.742$$

Determine Tc (Note: Tc is assumed to be 0.2 hours, this should be checked using DPM 22.2.B.2)

$$T_c = 0.2$$

Determine Tp and Duration of Peak (hours)

$$\begin{aligned}T_p &= 0.22335 \\ \text{Peak Duration} &= 0.14995\end{aligned}$$

Compute the required retention volume using the simple hydrograph, Figure A-3 in DPM Section 22.2

$$\begin{aligned}\text{Time to Control Q (hrs)} &= 0.000 \\ \text{Time to end of Control Q (hrs)} &= 0.741816 \\ \text{Duration of Control Q (hrs)} &= 0.742\end{aligned}$$

Required Detention Volume (CF)	162607	100-yr, 6 hr Event	3.73	acre-ft
Required Detention Volume (CF)	184694	100-yr, 24 hr Event	4.24	acre-ft
Required Detention Volume (CF)	250470	100-yr, 10 day Event	5.75	acre-ft

Elevation	Incremental Volume cu ft	Cumulative Volume cu ft	Acre-Feet	Surface Area sq ft
4949.5000	0.0000	0.0000	0.0000	12813.8035
4950.5000	19612.7201	19612.7201	0.4502	20789.5891
4951.5000	22070.0872	41682.8073	0.9569	23553.1397
4952.5000	-1767.2635	39915.5437	0.9163	39358.6412
4953.5000	58161.6966	98077.2403	2.2515	51188.2706
4954.5000	37415.4832	135492.7234	3.1105	130029.7427
4955.5000	45973.0963	181465.8198	4.1659	155106.0235
4955.6900	10650.6672	192116.4870	4.4104	161881.2429

POND CAPACITY AT CURRENT DESIGN (2/20/07)

→ ALL DATA INVOLVED IN THIS ANALYSIS USES BOTH PONDS
WORKING AS ONE.

POND 2 BOTTOM ELEVATION = 4949.50'

Elevation	Incremental Volume cu ft	Cumulative Volume cu ft	Acres-Feet	Surface Area sq ft
4949.5000	0.0000	0.0000	0.0000	11095.4895
4950.0000	8714.6880	8714.6880	0.2001	12034.2840
4950.5000	9599.2540	18313.9420	0.4204	20112.8467
4951.0000	10520.4642	28834.4062	0.6619	21330.4184
4951.5000	11494.0832	40328.4894	0.9258	23980.7707
4952.0000	9364.1865	49692.6759	1.1408	26056.7959
4952.5000	16710.6767	66403.3525	1.5244	29114.5472
4953.0000	14746.4630	81149.8155	1.8629	35039.8069
4953.5000	15915.6709	97065.4864	2.2283	38598.6645
4954.0000	17106.0162	114171.5027	2.6210	44592.3008
4954.5000	18105.0207	132276.5234	3.0367	46629.6051
4955.0000	20246.7971	152523.3205	3.5015	99109.1048
4955.5000	25618.5811	178141.9016	4.0896	106765.2623
4955.7000	10987.9496	189129.8512	4.3418	107802.2634

ANALYSIS: POND BOTTOM ELEVATIONS = 4949.50

① THIS ELEVATION THE 100YR-24 hr EVENT IS SATISFIED

1. EXCEPT AS PROVIDED HEREIN, GRADING SHALL BE PERFORMED AT THE ELEVATIONS AND IN ACCORDANCE WITH THE DETAILS SHOWN ON THIS PLAN.

2. CONTRACTOR SHALL OBTAIN AND ABIDE BY A TOPSOIL DISTURBANCE PERMIT FROM THE CITY OF ALBUQUERQUE ENVIRONMENTAL HEALTH DIVISION. PRIOR TO CONSTRUCTION, THE COST FOR REQUIRED CONSTRUCTION DUST AND EROSION CONTROL MEASURES SHALL BE INCIDENTAL TO THE PROJECT COST. 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. ALL WORK RELATIVE TO FOUNDATION CONSTRUCTION, SITE PREPARATION, AND PAVEMENT INSTALLATION, AS SHOWN ON THIS PLAN, SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE SOILS REPORT PREPARED BY VINYARD & ASSOC. ALL OTHER WORK, UNLESS OTHERWISE STATED OR PROVIDED FOR HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS (FIRST PRIORITY), AND/OR THE CITY OF ALBUQUERQUE (COAI STANDARD SPECIFICATIONS FOR PUBLIC WORKS (SECOND PRIORITY).

4. TWO WORKING DAYS PRIOR TO EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE (765-1264) FOR LOCATION OF EXISTING UTILITIES.

5. PRIOR TO GRADING, ALL VEGETATION DEBRIS AND NEAR SURFACE ORGANICALLY CONTAMINATED SOIL SHALL BE STRIPPED FROM ALL AREAS TO BE GRADED. VEGETATION AND DEBRIS SHALL BE DISPOSED OF OFF-SITE OR STOCK-PILED FOR USE IN PLANTERS AND NON-STRUCTURAL FILLS.

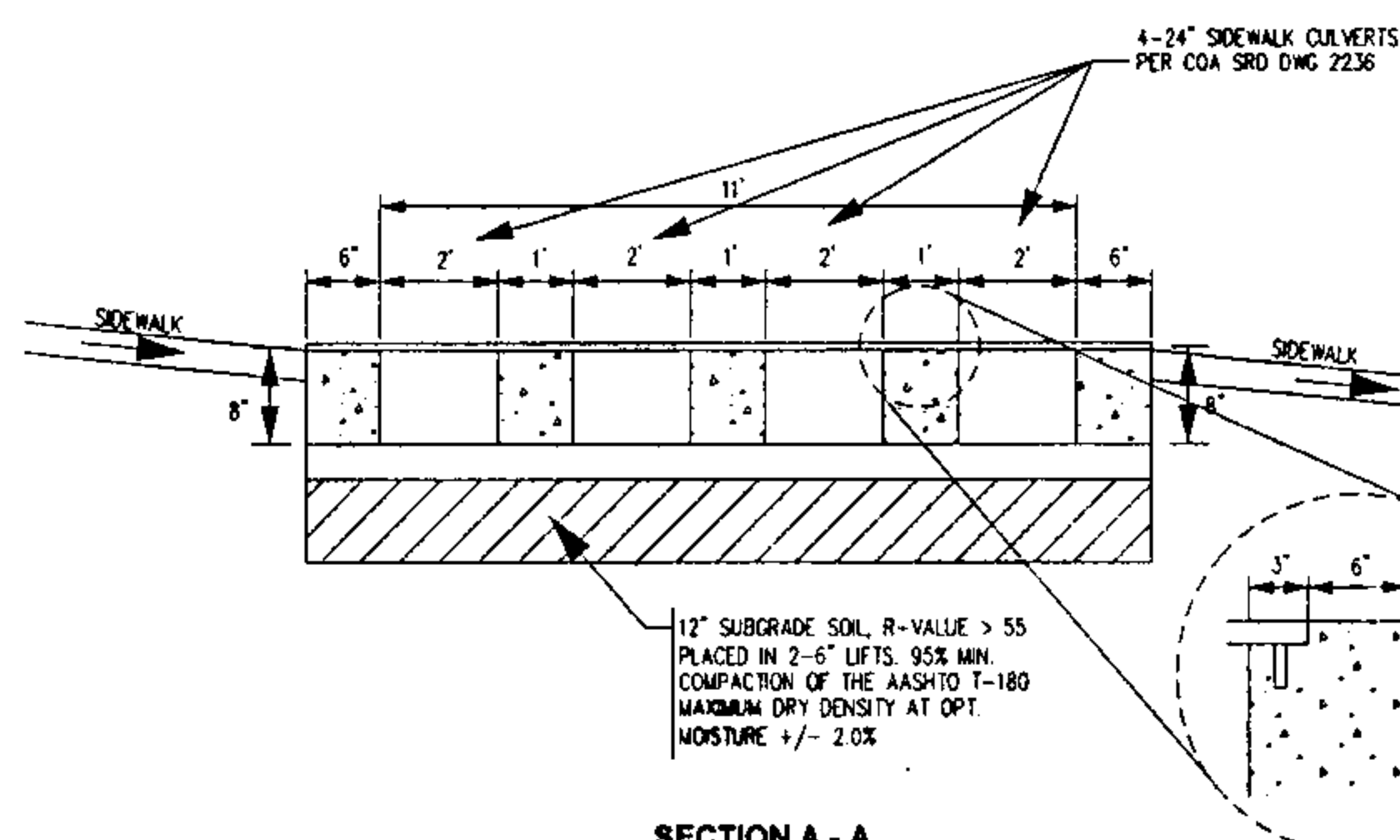
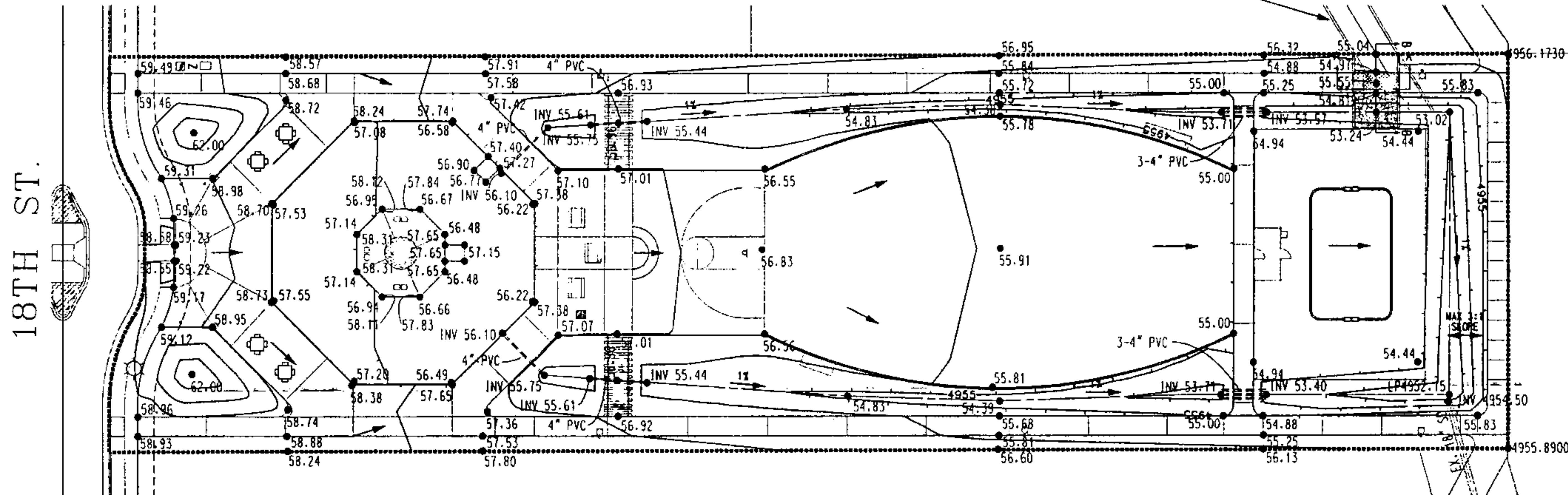
6. EARTH SLOPES SHALL NOT EXCEED 3 HORIZONTAL TO 1 VERTICAL UNLESS SHOWN OTHERWISE.

7. IT IS THE INTENT OF THESE PLANS THAT THIS CONTRACTOR SHALL NOT PERFORM ANY WORK OUTSIDE OF THE PROPERTY BOUNDARIES EXCEPT AS REQUIRED BY THIS PLAN.

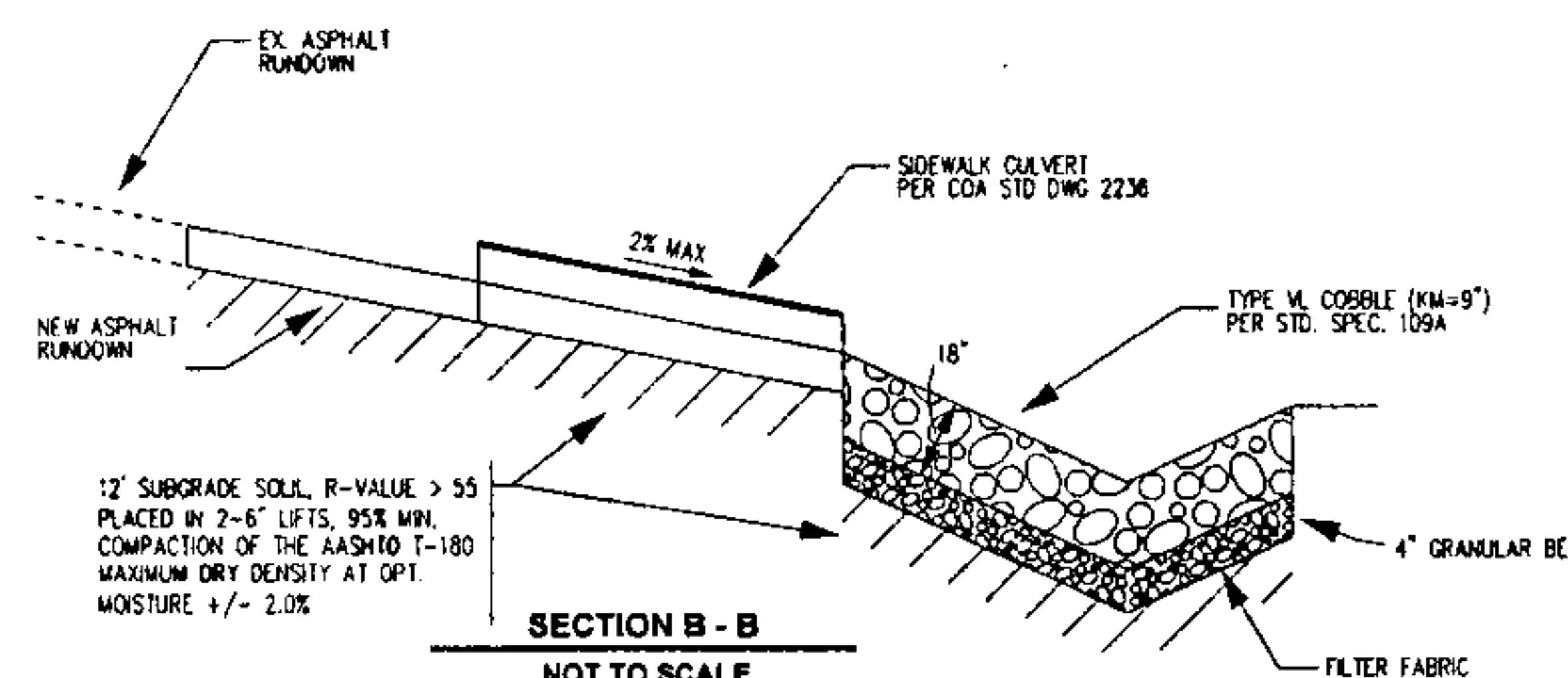
8. THE CONTRACTOR IS TO ENSURE THAT NO SOIL ERODES FROM THE SITE ONTO ADJACENT PROPERTY OR PUBLIC RIGHT-OF-WAY. THIS SHOULD BE ACHIEVED BY CONSTRUCTING TEMPORARY BERMS AT THE PROPERTY LINES NETTING THE SOIL TO PROTECT IT FROM WIND EROSION.

9. A DISPOSAL SITE FOR ALL EXCESS EXCAVATION AND UNSUITABLE MATERIAL SHALL BE OBTAINED BY THE CONTRACTOR IN COMPLIANCE WITH APPLICABLE ENVIRONMENTAL REGULATIONS AND APPROVED BY THE OBSERVER. ALL COSTS INCURRED IN OBTAINING A DISPOSAL SITE AND HAUL THERETO SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT, AND NO SEPARATE MEASUREMENT OR PAYMENT SHALL BE MADE.

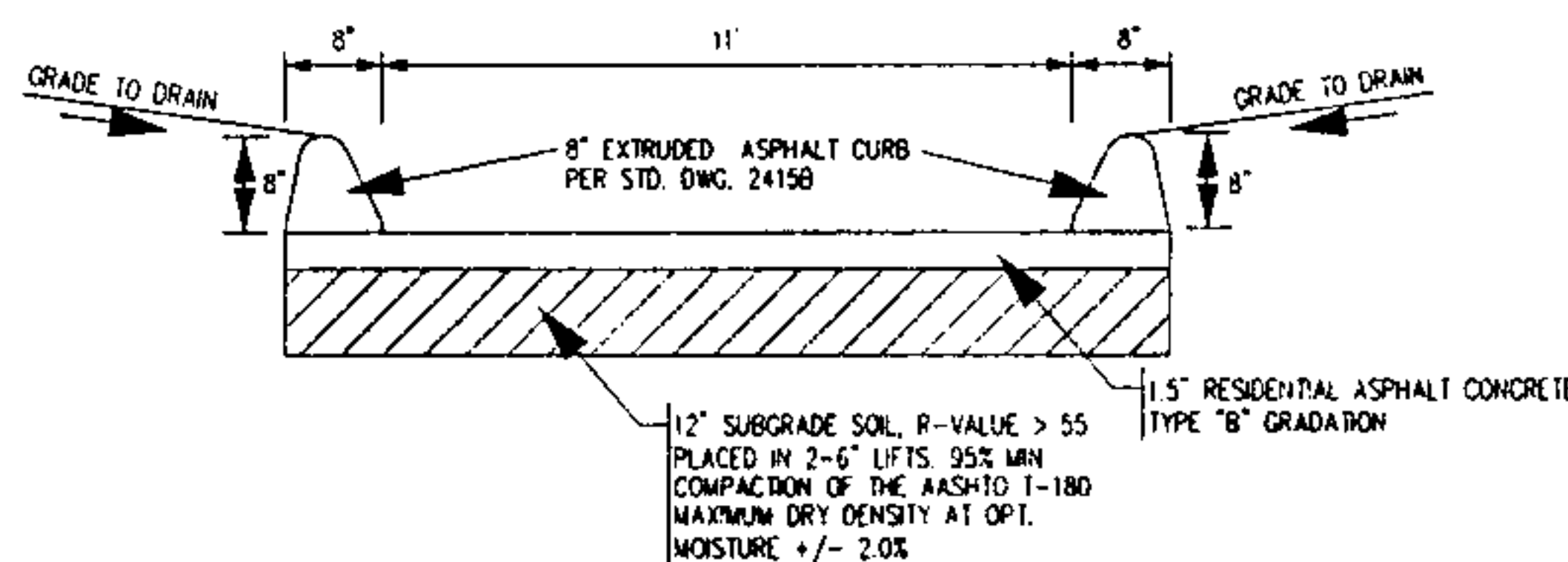
10. ALL SPOT ELEVATIONS ARE TOP OF GROUND
OR SIDEWALK UNLESS OTHERWISE NOTED



SECTION A - A
NOT TO SCALE



SECTION B - B
NOT TO SCALE



EX. ASPHALT RUNDOWN TYPICAL SECTION
NOT TO SCALE

PROPOSED CURB AND GUTTER
EXISTING CURB AND GUTTER
FUTURE CURB AND GUTTER
PROPOSED SPOT ELEVATION
EXISTING SPOT ELEVATION
PROPOSED STORM DRAIN MANHOLE
EXISTING STORM DRAIN MANHOLE
PROPOSED SANITARY SEWER MANHOLE
EXISTING SANITARY SEWER MANHOLE
PROPOSED FIRE HYDRANT
PROPOSED GATE VALVE
EXISTING GATE VALVE
PROPOSED STREET LIGHT
SWALE CL

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ENGINEERING • SPATIAL DATA • ADVANCED TECHNOLOGY



CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING DEVELOPMENT GROUP

ARBOLERA DE VIDA -- UNIT 2B
PARK GRADING PLAN

DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	NO. / DAY / YR.	NO. / DAY / YR.
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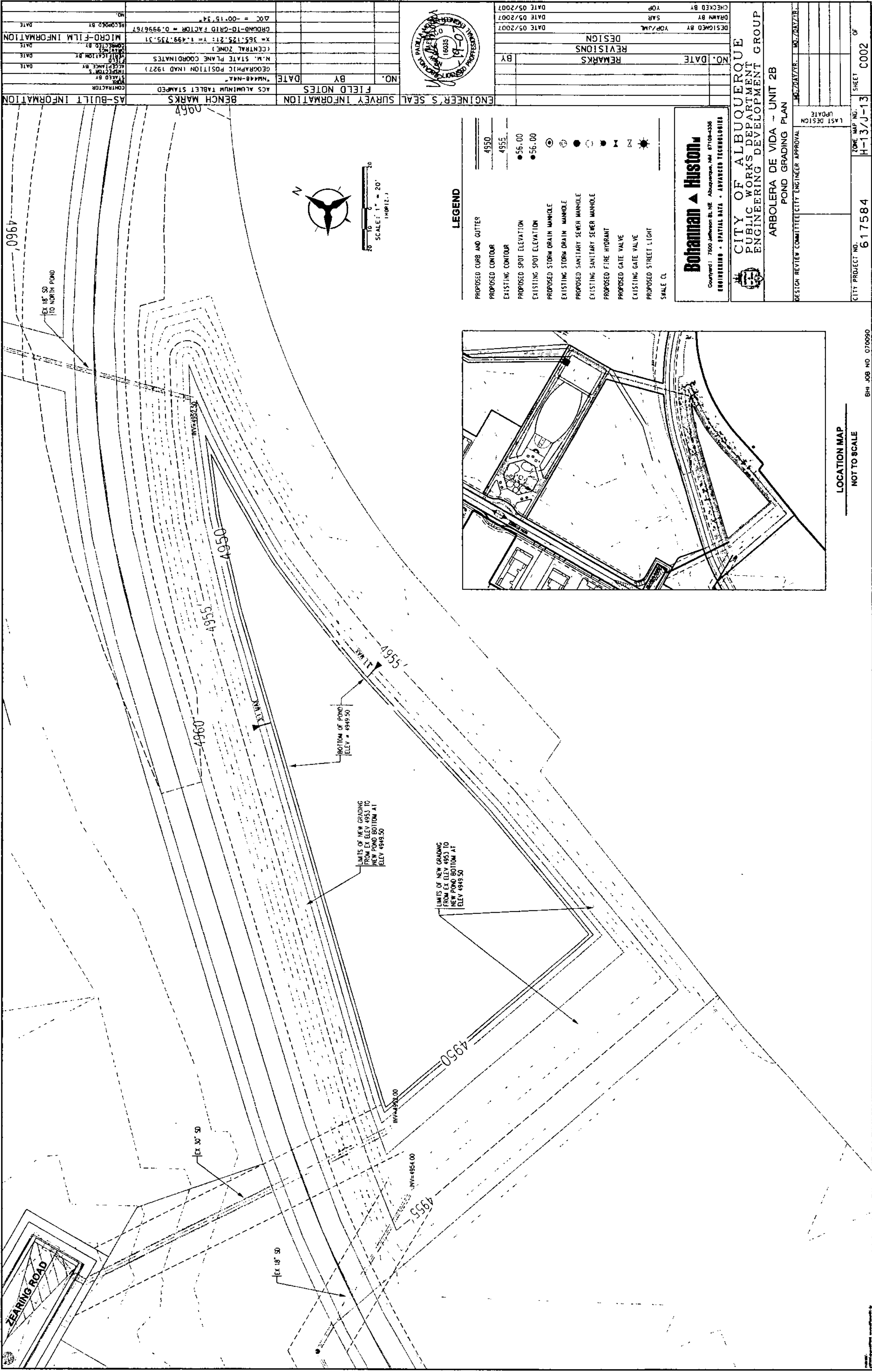
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CITY PROJECT NO.	ZONE MAP NO.	SHEET	OF
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617584	H-13/J-13	C001
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toll free: 800.877.5332

August 9, 2006

Brad Bingham, P.E.
Hydrology Development Division
City of Albuquerque Planning Department
P. O. Box 1293
Albuquerque, NM 87103

Re: Arbolera de Vida, Unit 2 – Grading and Drainage Certification
DRB Case No 1000029; COA Drainage File # H-13/D25

Dear Brad:

The purpose of this letter is to provide you with revisions to the Approved Grading Plan Stamp date 4-05-06. The overall drainage patterns remain the same as noted in the Approved Grading Plan. The revisions are as follows.

The aforementioned Approved Grading Plan called for an acequia located east of Mis Abuelitos Drive to accept both onsite and offsite runoff and convey it south to the pond. Under this revision the acequia has been removed. An 11 ft wide by 8 in thick asphalt channel located at the southern low point within Mis Abuelitos Drive has been added in place of the acequia. The new asphalt rundown will accept both onsite and offsite flows ($Q_{100} = 16.44$ cfs) which entered the former acequia, and will convey these flows south to the pond.

The invert of the 18 in storm drain pipe leading from Pond 1 (north) to Pond 2 (south) has an as-built elevation of 4954.50 ft. In order to match this elevation, Pond 1 will need to be re-graded according to the proposed Grading and Drainage plan. The two pond system was analyzed assuming no allowable discharge. In fact, 4.0 cfs is allowed to discharge from Pond 2, this is the given safety factor. In order to facilitate the 100-yr, 24 hr storm event, the required detention volume for the two ponds is 4.24 acre-ft (see Sheet 1-A). According to the calculations on Sheet 1-C, the proposed required detention volume for the two ponds is 4.34 acre-ft. Pond 2 will need to be re-graded so the bottom elevation is at 4949.50 ft in order to meet this required volume.

If you have any questions or require further information, please feel free to contact me. 823-1000.

Sincerely,


Yolanda Padilla, P.E.
Project Engineer
Community Development and Planning

YP
Enclosures

cc:
Debbra Colman, Sawmill Community Land Trust (w encl)

Basin Summary

ARBOLERA DE VIDA - UNIT 2

	BASIN	AREA	UNITS	% LAND TREATMENT				DISCHARGE (CFS)	
	I.D.	(AC)	#	A	B	C	D ¹	10 YR	100YR
HYRDOLOGICAL VOLUMETRIC & DISCHARGE DATA (EXSISTING)									
TOTAL	1	18.22	0	90.00%	10.00%	0.00%	0.00%	7.89	29.81
	2	7.01	0	60.00%	40.00%	0.00%	0.00%	4.25	12.95
		25.23	0					12.14	42.76
HYRDOLOGICAL VOLUMETRIC & DISCHARGE DATA (DEVELOPED)									
	A-1	0.22	2	0.00%	16.04%	16.04%	67.92%	0.56	0.89
	A-2	0.05	0	0.00%	5.00%	5.00%	90.00%	0.15	0.22
	A-3	0.20	0	0.00%	5.00%	5.00%	90.00%	0.59	0.90
	B-1	0.66	6	0.00%	16.04%	16.04%	67.92%	1.69	2.68
	B-2	0.15	0	0.00%	5.00%	5.00%	90.00%	0.44	0.67
	B-3	1.19	14	0.00%	16.04%	16.04%	67.92%	3.04	4.83
	B-4	0.08	0	0.00%	5.00%	5.00%	90.00%	0.24	0.36
	B-5	0.24	0	0.00%	5.00%	5.00%	90.00%	0.71	1.08
	C-1	0.28	3	0.00%	16.04%	16.04%	67.92%	0.71	1.12
	C-2	0.05	0	0.00%	5.00%	5.00%	90.00%	0.15	0.23
	C-3	0.77	7	0.00%	16.04%	16.04%	67.92%	1.98	3.14
	C-4	0.72	8	0.00%	16.04%	16.04%	67.92%	1.84	2.92
	C-5	0.91	6	0.00%	16.04%	16.04%	67.92%	2.33	3.69
	C-6	0.91	6	0.00%	16.04%	16.04%	67.92%	2.33	3.69
	D-1	0.26	2	0.00%	16.04%	16.04%	67.92%	0.66	1.05
	D-2	0.92	7	0.00%	16.04%	16.04%	67.92%	2.35	3.73
	D-3	0.28	0	0.00%	5.00%	5.00%	90.00%	0.83	1.26
	D-4	0.22	0	0.00%	5.00%	5.00%	90.00%	0.65	0.99
SUBTOTAL		8.11	61					21.25	33.47
	OFFSITE 1A	3.09	0	0.00%	10.00%	90.00%	0.00%	5.04	9.41
	OFFSITE 1B	1.28	0	0.00%	0.00%	15.00%	85.00%	3.74	5.71
	OFFSITE 2	4.14	0	0.00%	0.00%	15.00%	85.00%	12.10	18.47
	OFFSITE 3	0.92	0	0.00%	0.00%	15.00%	85.00%	2.69	4.10
	OFFSITE 4	2.54	0	0.00%	15.00%	0.00%	85.00%	7.14	11.01
	OFFSITE 5	2.17	0	0.00%	0.00%	15.00%	85.00%	6.34	9.68
	POND 1	1.13	0	0.00%	10.00%	90.00%	0.00%	1.84	3.44
	POND 2	1.93	0	0.00%	10.00%	90.00%	0.00%	3.15	5.88
SUBTOTAL		17.20	0.00					42.03	67.70
TOTAL		25.31						63.3	101.2

NOTES: 1) Impervious percentages were calculated from the DPM equation A-4, with the remaining percentages distributed to land treatment type B, due to the relatively flat terrain

$$N = \text{UNITS/ACRES} = 7.5$$

$$\%D = 7 * \text{SQRT}((N * N) + (5 * N)) = 67.9 \%$$

*Table A-4

**Table A-11

Detention Pond Volume Calculations

NOTE: Blue shaded cells require user input, all other cells should not be edited

ASSUMPTIONS:

1. Area less than 40 acres (simplified hydrograph method)
2. 100-year 6-hour storm event

Peak Flow per Acre - DPM Section 22.2 Table A-9

Zone	A	B	C	D
1	1.29	2.03	2.87	4.37
2	1.56	2.28	3.14	4.7
3	1.87	2.6	3.45	5.02
4	2.2	2.92	3.73	5.25

Basin Name :
 Choose Zone (1 - 4) :
 Basin Area = (acres) :

Exist Conditions				Proposed Conditions			
Treatment	Percentage	Area	Q (cfs)	Treatment	Percentage	Area	Q (cfs)
A	90.0%	22.78	35.54	A	0.0%	0.00	0.00
B	10.0%	2.53	5.77	B	8.5%	2.16	4.92
C	0.0%	0.00	0.00	C	31.5%	7.97	25.03
D	0.0%	0.00	0.00	D	60.0%	15.18	71.35
			Q Peak - exist =				Peak Q Developed =
			41.31				101.30

Use my calculated exist cond. flow as the peak controlled discharge (1 = yes, or N) ??
 If No, what is the maximum allowable discharge ?

Excess Precipitation - DPM Section 22.2 Table A-8

Zone	A	B	C	D
1	0.44	0.67	0.99	1.97
2	0.53	0.78	1.13	2.12
3	0.66	0.92	1.29	2.36
4	0.8	1.08	1.46	2.64

Determine Developed E (avg excess precipitation for the developed basin)

%A x E = 0.00
 %B x E = 0.07
 %C x E = 0.36
 %D x E = 1.27
 Avg E(in) = 1.69

Determine Tb (hours)

Tb = 0.742

Determine Tc (Note: Tc is assumed to be 0.2 hours, this should be checked using DPM 22.2.B.2)

Tc = 0.2

Determine Tp and Duration of Peak (hours)

Tp = 0.22335
 Peak Duration = 0.14995

Compute the required retention volume using the simple hydrograph, Figure A-3 in DPM Section 22.2

Time to Control Q (hrs) = 0.000
 Time to end of Control Q (hrs) = 0.741816
 Duration of Control Q (hrs) = 0.742

Required Detention Volume (CF) =	162607	100-yr, 6 hr Event	3.73	acre-ft
Required Detention Volume (CF)	184694	100-yr, 24 hr Event	4.24	acre-ft
Required Detention Volume (CF)	250470	100-yr, 10 day Event	5.75	acre-ft

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

PROJECT TITLE: Arbolera De Vida Unit 2

ZONE MAP/DRG. FILE # H-13/D25

DRB #: 1000029

EPC#:

WORK ORDER#:

LEGAL DESCRIPTION: Arbolera De Vida Unit 2

CITY ADDRESS: East of Arboleda de Vida and 19th St., South of Old Albuquerque Acequia. West of Mill Pond Rd. and Aspen Blvd. North of Bellamah Avenue.

ENGINEERING FIRM: Bohannon Huston, Inc.

ADDRESS: 7500 Jefferson NE - Courtyard I

CITY, STATE: Albuquerque, NM

CONTACT: Yolanda Padilla

PHONE: (505) 823-1000

ZIP CODE: 87109

OWNER: Sawmill Community Land Trust

ADDRESS: 904 19th St. NW

CITY, STATE: Albuquerque, NM

CONTACT: Debbra Colman

PHONE: (505) 764-0359

ZIP CODE: 87104

ARCHITECT:

ADDRESS:

CITY, STATE:

CONTACT:

PHONE:

ZIP CODE:

SURVEYOR:

ADDRESS:

CITY, STATE:

CONTACT:

PHONE:

ZIP CODE:

CONTRACTOR:

ADDRESS:

CITY, STATE:

CONTACT:

PHONE:

ZIP CODE:

CHECK TYPE OF SUBMITTAL:

- ☐ DRAINAGE REPORT
- ☐ DRAINAGE PLAN 1st SUBMITTAL, *REQUIRES TCL or equal*
- ☒ DRAINAGE PLAN RESUBMITTAL
- ☐ CONCEPTUAL GRADING & DRAINAGE PLAN
- ☐ GRADING PLAN
- ☐ EROSION CONTROL PLAN
- ☐ ENGINEER'S CERTIFICATION (HYDROLOGY)
- ☐ CLOMR/LOMR
- ☐ TRAFFIC CIRCULATION LAYOUT (TCL)
- ☐ ENGINEERS CERTIFICATION (TCL)
- ☐ ENGINEERS CERTIFICATION (DRB APPR. SITE PLAN)
- ☐ OTHER

CHECK TYPE OF APPROVAL SOUGHT:

- ☐ SIA / FINANCIAL GUARANTEE RELEASE
- ☐ PRELIMINARY PLAT APPROVAL
- ☐ S. DEV. PLAN FOR SUB'D. APPROVAL
- ☐ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
- ☐ SECTOR PLAN APPROVAL
- ☐ FINAL PLAT APPROVAL
- ☐ FOUNDATION PERMIT APPROVAL
- ☐ BUILDING PERMIT APPROVAL
- ☐ CERTIFICATE OF OCCUPANCY (PERM.)
- ☐ CERTIFICATE OF OCCUPANCY (TEMP.)
- ☒ GRADING PERMIT APPROVAL
- ☐ PAVING PERMIT APPROVAL
- ☐ WORK ORDER APPROVAL
- ☐ OTHER (SPECIFY)

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☐ YES
- ☐ NO
- ☐ COPY PROVIDED

DATE SUBMITTED:

8-9-06

BY:

Yolanda Padilla

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location and scope of the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

1. **Conceptual Grading and Drainage Plan:** Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.
2. **Drainage Plans:** Required for building permits, grading permits, paving permits and site plans less than five (5) acres.
3. **Drainage Report:** Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or

Elevation	Incremental Volume cu ft	Cumulative Volume cu ft	Acres Feet	Surface Area sq ft
4949.5000	0.0000	0.0000	0.0000	11095.4895
4950.0000	8714.6880	8714.6880	0.2001	12034.2840
4950.5000	9599.2540	18313.9420	0.4204	20112.8467
4951.0000	10520.4642	28834.4062	0.6619	21330.4184
4951.5000	11494.0832	40328.4894	0.9258	23980.7707
4952.0000	9364.1865	49692.6759	1.1408	26056.7959
4952.5000	16710.6767	66403.3525	1.5244	29114.5472
4953.0000	14746.4630	81149.8155	1.8629	35039.8069
4953.5000	15915.6709	97065.4864	2.2283	38598.6645
4954.0000	17106.0162	114171.5027	2.6210	44592.3008
4954.5000	18105.0207	132276.5234	3.0367	46629.6051
4955.0000	20246.7971	152523.3205	3.5015	99109.1048
4955.5000	25618.5811	178141.9016	4.0896	106765.2623
→ 4955.7000	10987.9496	~~189129.8512~~	4.3418	107802.2634

Analysis: Pond Bottom Elevation = 4949.50
 + 1 ft freeboard = 4950.5 ~ 4951

② This Elevation The 100-yr. 24 hr. Event is satisfied

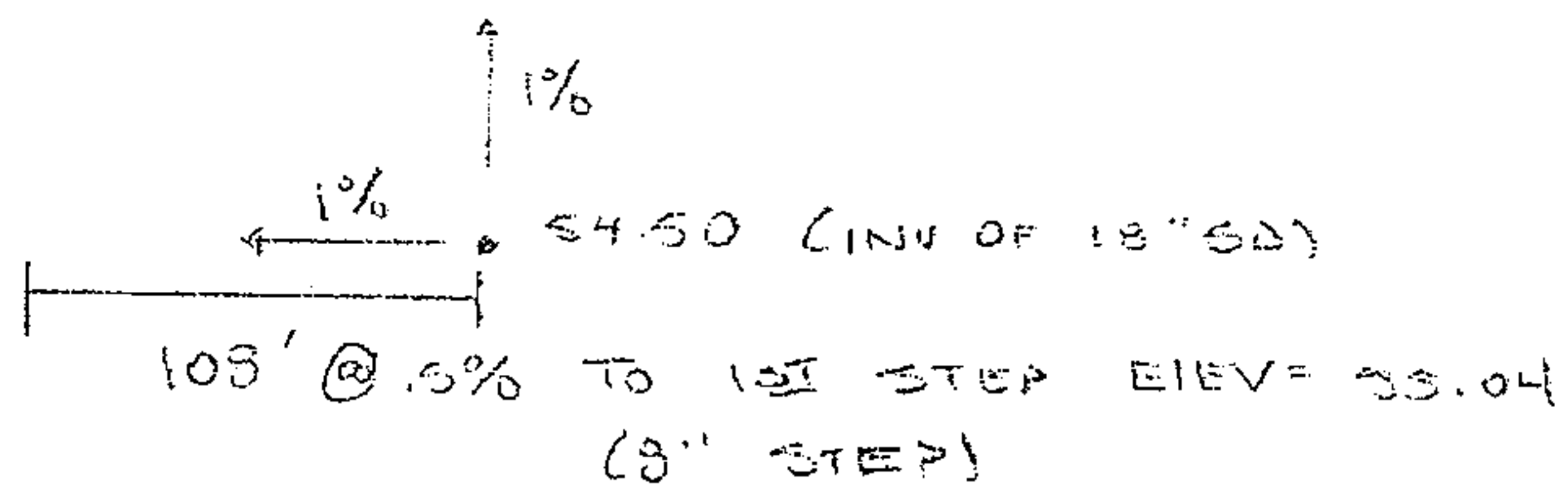
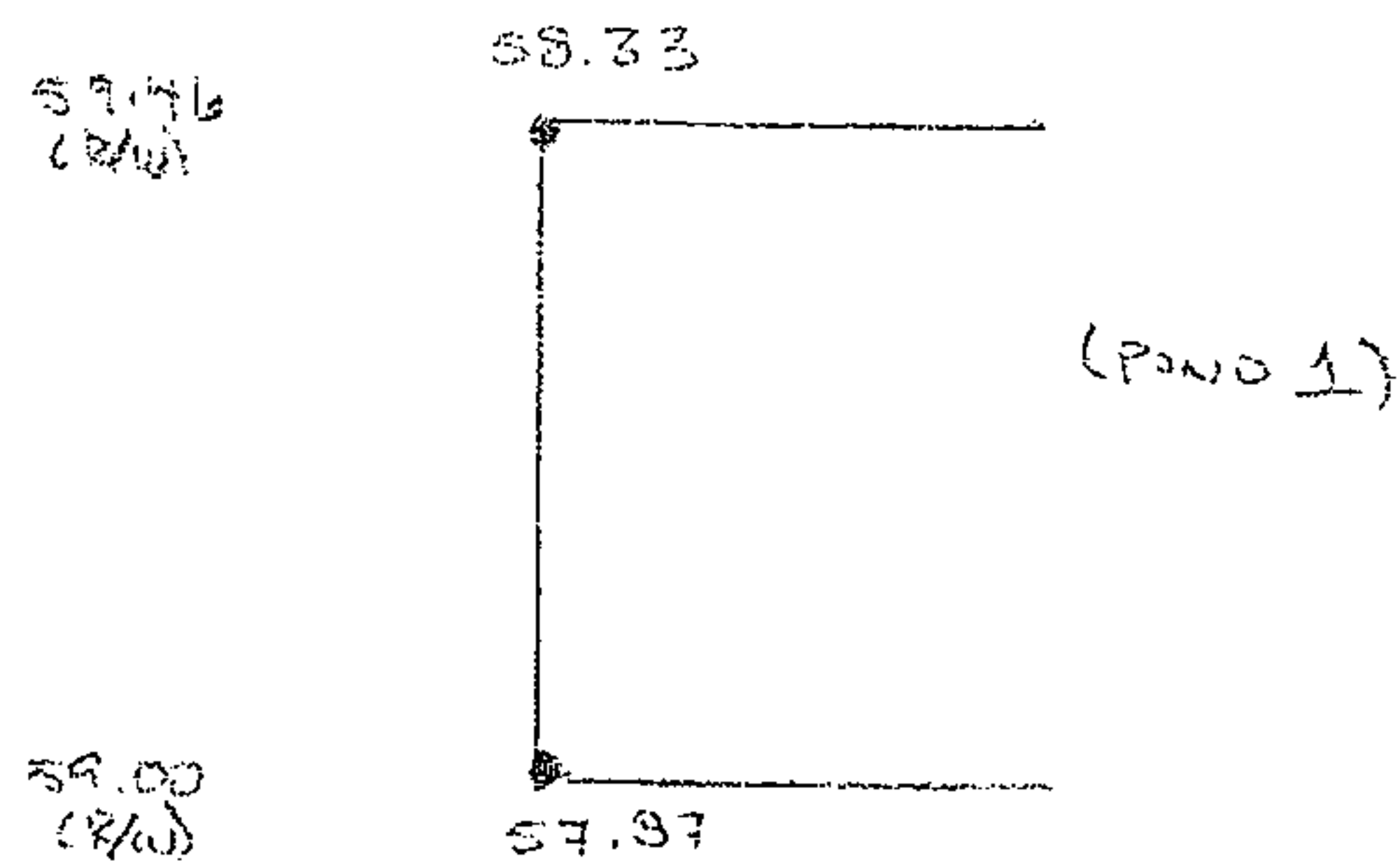
Elevation	Incremental Volume	Cumulative Volume	Acre Feet	Surface Area
	cu ft	cu ft		sq ft
4954.5000	0.0000	0.0000	0.0000	0.0000
4955.0000	152523.3205	152523.3205	3.5015	99109 1048
4955.5000	25618.5811	178141.9016	4.0896	106765.2623
4955.7000	10987.9496	189129.8512	4.3418	107802.2634

7/19/2006

$$V_{1440} = 3.73 + 15.13 (2.95 - 2.35) / 12 = 4.24$$

$$V_{today} = 3.73 + 15.13 (3.95 - 2.35) / 12 = 5.75$$

MAX WATER ELEVATION = 55.70



POND 2

Behanman & Huston

PROJECT NAME	...	SHEET 1-1	OF	...	ENGINEERING
PROJECT NO	...	BY	DATE	...	SPATIAL DATA
SUBJECT	...	CHD	DATE	...	ADVANCED TECHNOLOGIES

Asphalt Box Culvert

MANNING'S N = 0.017 SLOPE = 0.010

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.0	0.7	3	11.0	0.0			
2	0.0	0.0	4	11.0	0.7			

WSEL FT.	DEPTH INC	FLOW AREA SQ. FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOTAL ENERGY (FT)
0.020	0.020	0.220	0.140	11.040	0.636	11.000	0.026
0.040	0.040	0.440	0.443	11.080	1.007	11.000	0.056
0.060	0.060	0.660	0.869	11.120	1.317	11.000	0.087
0.080	0.080	0.880	1.400	11.160	1.591	11.000	0.119
0.100	0.100	1.100	2.026	11.200	1.842	11.000	0.153
0.120	0.120	1.320	2.739	11.240	2.075	11.000	0.187
0.140	0.140	1.540	3.533	11.280	2.294	11.000	0.222
0.160	0.160	1.760	4.404	11.320	2.502	11.000	0.257
0.180	0.180	1.980	5.346	11.360	2.700	11.000	0.293
0.200	0.200	2.200	6.357	11.400	2.890	11.000	0.330
0.220	0.220	2.420	7.435	11.440	3.072	11.000	0.367
0.240	0.240	2.640	8.575	11.480	3.248	11.000	0.404
0.260	0.260	2.860	9.776	11.520	3.418	11.000	0.442
0.280	0.280	3.080	11.036	11.560	3.583	11.000	0.480
0.300	0.300	3.300	12.352	11.600	3.743	11.000	0.518
0.320	0.320	3.520	13.723	11.640	3.899	11.000	0.556
0.340	0.340	3.740	15.147	11.680	4.050	11.000	0.595
0.360	0.360	3.960	16.624	11.720	4.198	11.000	0.634
0.380	0.380	4.180	18.150	11.760	4.342	11.000	0.673
0.400	0.400	4.400	19.725	11.800	4.483	11.000	0.713
0.420	0.420	4.620	21.348	11.840	4.621	11.000	0.752
0.440	0.440	4.840	23.017	11.880	4.756	11.000	0.792
0.460	0.460	5.060	24.731	11.920	4.888	11.000	0.832
0.480	0.480	5.280	26.490	11.960	5.017	11.000	0.872
0.500	0.500	5.500	28.292	12.000	5.144	11.000	0.912
0.520	0.520	5.720	30.136	12.040	5.269	11.000	0.952
0.540	0.540	5.940	32.022	12.080	5.391	11.000	0.992
0.560	0.560	6.160	33.948	12.120	5.511	11.000	1.032
0.580	0.580	6.380	35.914	12.160	5.629	11.000	1.073
0.600	0.600	6.600	37.918	12.200	5.745	11.000	1.113
0.620	0.620	6.820	39.961	12.240	5.859	11.000	1.154
0.640	0.640	7.040	42.041	12.280	5.972	11.000	1.195
0.660	0.660	7.260	44.157	12.320	6.082	11.000	1.235

Q_{max} = 16.44 cfs

$$d = 0.30'$$

$$V = 4.18 \text{ FPS}$$

$$E = 0.63 < 0.67 \checkmark \text{ O.K.}$$



WIEK Dam 4FE

text.txt
Mis Abuelitios

MANNING'S N = 0.017 SLOPE = 0.013

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.0	0.9	5	11.0	0.1	9	37.2	0.7
2	8.4	0.7	6	23.0	0.4	10	37.6	0.7
3	8.8	0.7	7	35.0	0.1	11	46.0	0.9
4	9.0	0.0	8	37.0	0.0			

WSEL FT.	DEPTH INC	FLOW AREA SQ. FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOTAL ENERGY (FT)
0.020	0.020	0.007	0.003	0.683	0.443	1.570	0.023
0.040	0.040	0.026	0.018	1.365	0.703	2.220	0.048
0.060	0.060	0.059	0.054	2.048	0.921	2.870	0.073
0.080	0.080	0.104	0.116	2.730	1.115	3.521	0.099
0.100	0.100	0.163	0.210	3.413	1.294	4.171	0.126
0.120	0.120	0.234	0.342	4.095	1.462	4.821	0.153
0.140	0.140	0.326	0.472	5.797	1.447	6.491	0.173
0.160	0.160	0.458	0.679	7.839	1.483	8.501	0.194
0.180	0.180	0.629	0.989	9.880	1.571	10.511	0.218
0.200	0.200	0.841	1.415	11.922	1.682	12.521	0.244
0.220	0.220	1.094	1.972	13.964	1.803	14.532	0.271
0.240	0.240	1.386	2.672	16.005	1.928	16.542	0.298
0.260	0.260	1.718	3.530	18.047	2.054	18.552	0.326
0.280	0.280	2.091	4.558	20.089	2.180	20.562	0.354
0.300	0.300	2.504	5.771	22.130	2.305	22.572	0.383
0.320	0.320	2.957	7.179	24.172	2.428	24.582	0.412
0.340	0.340	3.451	8.796	26.214	2.549	26.593	0.441
0.360	0.360	3.984	10.632	28.255	2.669	28.603	0.471
0.380	0.380	4.547	13.084	28.797	2.878	29.113	0.509
0.400	0.400	5.111	15.884	28.838	3.108	29.123	0.550
0.420	0.420	5.675	18.894	28.879	3.330	29.133	0.592
0.440	0.440	6.239	22.108	28.920	3.543	29.143	0.635
0.460	0.460	6.804	25.517	28.962	3.750	29.153	0.679
0.480	0.480	7.368	29.116	29.003	3.951	29.164	0.723
0.500	0.500	7.933	32.900	29.044	4.147	29.174	0.767
0.520	0.520	8.499	36.864	29.086	4.338	29.184	0.813
0.540	0.540	9.064	41.002	29.127	4.524	29.194	0.858
0.560	0.560	9.630	45.312	29.168	4.705	29.204	0.904
0.580	0.580	10.195	49.788	29.209	4.883	29.214	0.951
0.600	0.600	10.761	54.428	29.251	5.058	29.224	0.998
0.620	0.620	11.328	59.229	29.292	5.229	29.235	1.045
0.640	0.640	11.894	64.186	29.333	5.397	29.245	1.093
0.660	0.660	12.461	69.298	29.374	5.561	29.255	1.141
0.680	0.680	13.032	73.106	30.325	5.610	30.190	1.169
0.700	0.700	13.664	74.612	33.106	5.461	32.050	1.164
0.720	0.720	14.323	77.822	34.966	5.433	33.910	1.179
0.740	0.740	15.020	81.373	36.827	5.418	35.770	1.197
0.760	0.760	15.754	85.260	38.687	5.412	37.630	1.216
0.780	0.780	16.525	89.483	40.547	5.415	39.490	1.236
0.800	0.800	17.334	94.042	42.408	5.425	41.350	1.258
0.820	0.820	18.179	98.939	44.268	5.442	43.210	1.281
0.840	0.840	19.062	104.176	46.129	5.465	45.070	1.305

$Q_{100} = 7.04 \text{ cfs}$

$d = 0.32'$
 $V = 2.42 \text{ FPS}$
 $E = 0.41$

WEIR ANALYSIS @ LOW POINT TO ENTER
CURB CUT

$$Q = CLH^{3/2} \quad \text{WHERE } C = 2.63$$

$$7.04 = 2.63 (L) (0.67)^{3/2}$$

$$L = 5.0 \text{ FE}$$

Asphalt Culvert at Opening

MANNING'S N = 0.017 SLOPE = 0.010

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.0	0.7	3	5.0	0.0			
2	0.0	0.0	4	5.0	0.7			

WSEL FT.	DEPTH INC	FLOW AREA SQ. FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOTAL ENERGY (FT)
0.020	0.020	0.100	0.063	5.040	0.634	5.000	0.026
0.040	0.040	0.200	0.200	5.080	1.001	5.000	0.056
0.060	0.060	0.300	0.392	5.120	1.305	5.000	0.087
0.080	0.080	0.400	0.629	5.160	1.573	5.000	0.118
0.100	0.100	0.500	0.908	5.200	1.816	5.000	0.151
0.120	0.120	0.600	1.224	5.240	2.040	5.000	0.185
0.140	0.140	0.700	1.575	5.280	2.250	5.000	0.219
0.160	0.160	0.800	1.958	5.320	2.447	5.000	0.253
0.180	0.180	0.900	2.370	5.360	2.634	5.000	0.288
0.200	0.200	1.000	2.811	5.400	2.811	5.000	0.323
0.220	0.220	1.100	3.279	5.440	2.981	5.000	0.358
0.240	0.240	1.200	3.773	5.480	3.144	5.000	0.394
0.260	0.260	1.300	4.290	5.520	3.300	5.000	0.429
0.280	0.280	1.400	4.831	5.560	3.451	5.000	0.465
0.300	0.300	1.500	5.394	5.600	3.596	5.000	0.501
0.320	0.320	1.600	5.978	5.640	3.736	5.000	0.537
0.340	0.340	1.700	6.582	5.680	3.872	5.000	0.573
0.360	0.360	1.800	7.206	5.720	4.003	5.000	0.609
0.380	0.380	1.900	7.849	5.760	4.131	5.000	0.645
0.400	0.400	2.000	8.510	5.800	4.255	5.000	0.682
0.420	0.420	2.100	9.189	5.840	4.376	5.000	0.718
0.440	0.440	2.200	9.885	5.880	4.493	5.000	0.754
0.460	0.460	2.300	10.597	5.920	4.607	5.000	0.790
0.480	0.480	2.400	11.325	5.960	4.719	5.000	0.826
0.500	0.500	2.500	12.068	6.000	4.827	5.000	0.862
0.520	0.520	2.600	12.827	6.040	4.933	5.000	0.899
0.540	0.540	2.700	13.599	6.080	5.037	5.000	0.935
0.560	0.560	2.800	14.386	6.120	5.138	5.000	0.971
0.580	0.580	2.900	15.187	6.160	5.237	5.000	1.007
0.600	0.600	3.000	16.000	6.200	5.333	5.000	1.042
0.620	0.620	3.100	16.827	6.240	5.428	5.000	1.078
0.640	0.640	3.200	17.666	6.280	5.520	5.000	1.114
0.660	0.660	3.300	18.517	6.320	5.611	5.000	1.150

$Q_{100} = 7.04 \text{ cfs}$

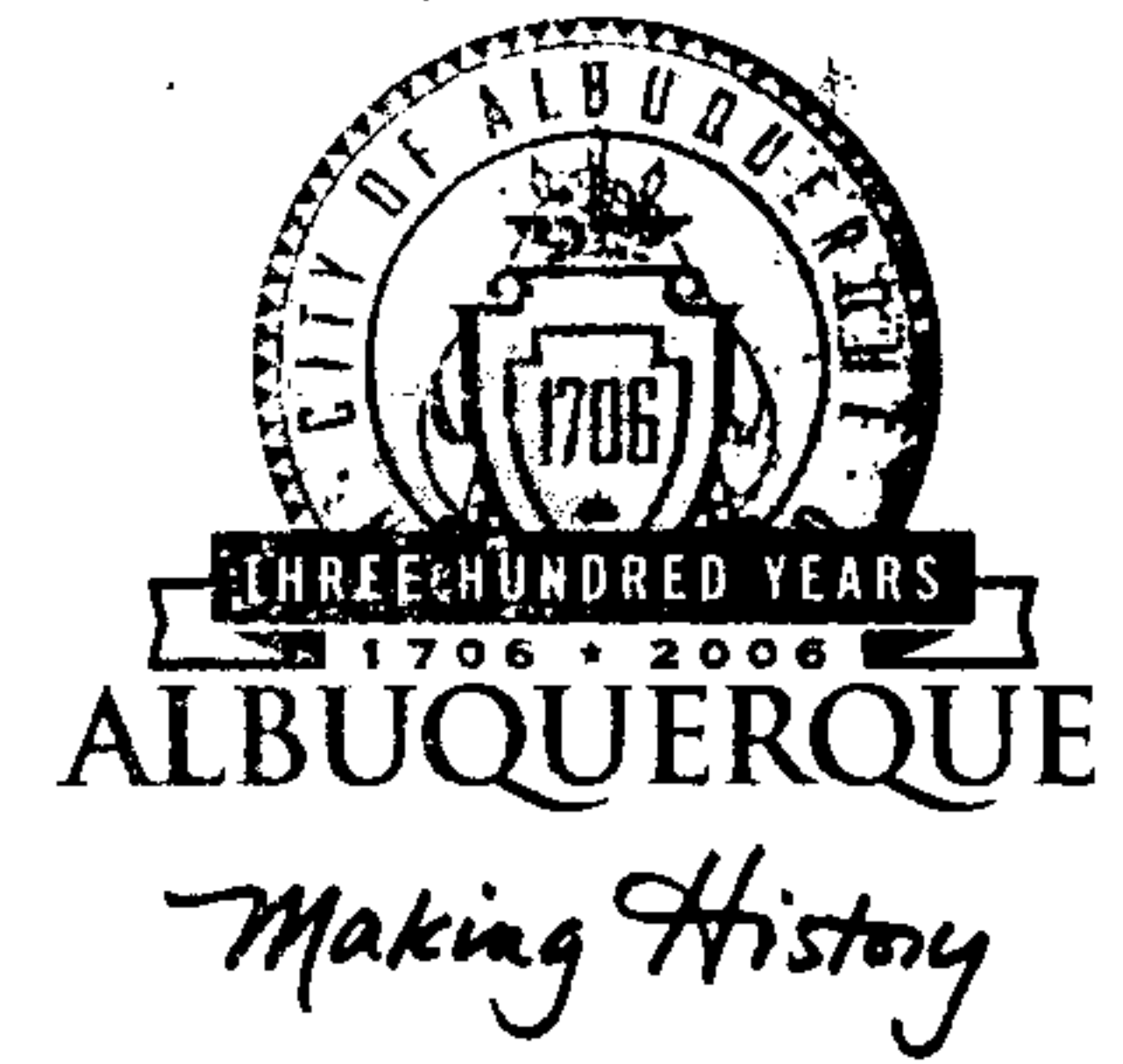
$$d = 0.35'$$

$$V = 3.97 \text{ FPS}$$

$$E = 0.60 < 0.67 \quad \checkmark \text{ O.K.}$$

Will provide
over-top

CITY OF ALBUQUERQUE



April 6, 2006

Mr. Christian J. Sholtis, PE
BOHANNAN-HUSTON, INC.
7500 Jefferson Street NE
Albuquerque, NM 87109

RE: ARBOLERA DE VIDA, UNIT 2A (H-13/D25)
Engineers Certification for Release of Financial Guaranty
Engineers Stamp dated 11/29/2003
Engineers Certification dated 04/05/2006

Dear Chris:

P.O. Box 1293

Based upon the information provided in your Engineer's Certification submittal dated 04/06/2006, the above referenced plan is adequate to satisfy the Grading and Drainage Certification for Release of Financial Guaranty.

Albuquerque

If you have any questions, you can contact me at 924-3982.

New Mexico 87103

Sincerely,

Arlene V. Portillo

Plan Checker, Planning Dept.- Hydrology
Development and Building Services

BLB

www.cabq.gov

C: Marilyn Maldonado, COA# 617582
File

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

PROJECT TITLE: Arbolera de Vida, Unit 2A

DRB #. 1000029

EPC#.

ZONE MAP/DRG. FILE #: H-13/D25

WORK ORDER #. 617582

LEGAL DESCRIPTION: Arbolera de Vida, Unit 2

CITY ADDRESS: Zearing Ave/18th Street

ENGINEERING FIRM: Bohannon Huston, Inc.

ADDRESS: 7500 Jefferson Street NE

CITY, STATE: Albuquerque, NM

CONTACT: Christian J. Sholtis, PE

PHONE: (505) 823-1000

ZIP CODE: 87109

OWNER: Sawmill Community Land Trust

ADDRESS: P.O. Box 25181

CITY, STATE: Albuquerque, NM

CONTACT: Debbra Colman

PHONE: 764-0359

ZIP CODE: 87125

ARCHITECT:

ADDRESS:

CITY, STATE:

CONTACT:

PHONE:

ZIP CODE:

SURVEYOR: Blue Sky Construction Services, Inc

ADDRESS:

CITY, STATE:

CONTACT: Rick Fencil

PHONE:

ZIP CODE:

CONTRACTOR: Salls Brothers Construction

ADDRESS: P.O. Box 66239

CITY, STATE: Albuquerque, NM

CONTACT: Fred Salls

PHONE: 873-8780

ZIP CODE: 87105

CHECK TYPE OF SUBMITTAL:

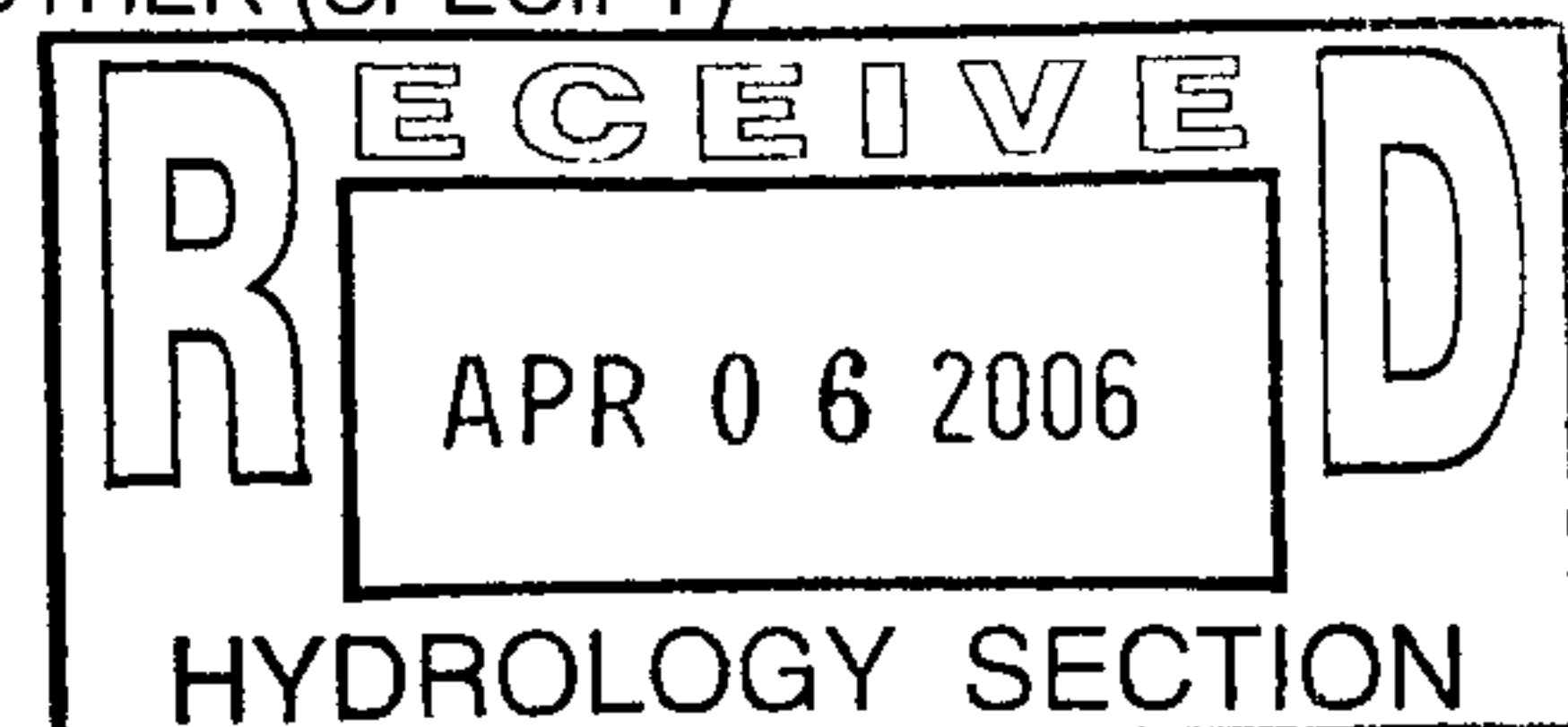
- ☐ DRAINAGE REPORT
☐ DRAINAGE PLAN 1ST SUBMITTAL, **REQUIRES TCL or equal**
☐ DRAINAGE PLAN RESUBMITTAL
☐ GRADING PLAN
☐ EROSION CONTROL PLAN
☒ ENGINEER'S CERTIFICATION (HYDROLOGY)
☐ CLOMR/LOMR
☐ TRAFFIC CIRCULATION LAYOUT (TCL)
☐ ENGINEER'S CERTIFICATION (TCL)
☐ ENGINEER'S CERTIFICATION (DRB APPR. SITE PLAN)
☐ OTHER

CHECK TYPE OF APPROVAL SOUGHT:

- ☒ SIA / FINANCIAL GUARANTEE RELEASE
☐ PRELIMINARY PLAT APPROVAL
☐ S. DEV. PLAN FOR SUB'D APPROVAL
☐ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
☐ SECTOR PLAN APPROVAL
☐ FINAL PLAT APPROVAL
☐ FOUNDATION PERMIT APPROVAL
☐ BUILDING PERMIT APPROVAL
☐ CERTIFICATE OF OCCUPANCY (PERM.)
☐ CERTIFICATE OF OCCUPANCY (TEMP.)
☐ GRADING PERMIT APPROVAL
☐ PAVING PERMIT APPROVAL
☐ WORK ORDER APPROVAL
☐ OTHER (SPECIFY)

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☐ YES
☒ NO
☐ COPY PROVIDED



DATE SUBMITTED: 4-5-06

BY: Christian J. Sholtis, PE

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location and scope of the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

- 1. Conceptual Grading and Drainage Plan:** Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.
- 2. Drainage Plans:** Required for building permits, grading permits, paving permits and site plans less than five (5) acres.
- 3. Drainage Report:** Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or more.

CLIENT/COURIER TRANSMITTAL

To: Brad Bingham
Plaza Del Sol

Requested by: Stephanie Walton

Date: 4/6/2006

Time Due: ☒ This A.M.
☐ This P.M.
☐ Rush _____
☐ By Tomorrow

Phone: 924-3986

Job No.: DRB# 1000029

Job Name: Arbolera de Vida Unit 2

DELIVERY VIA

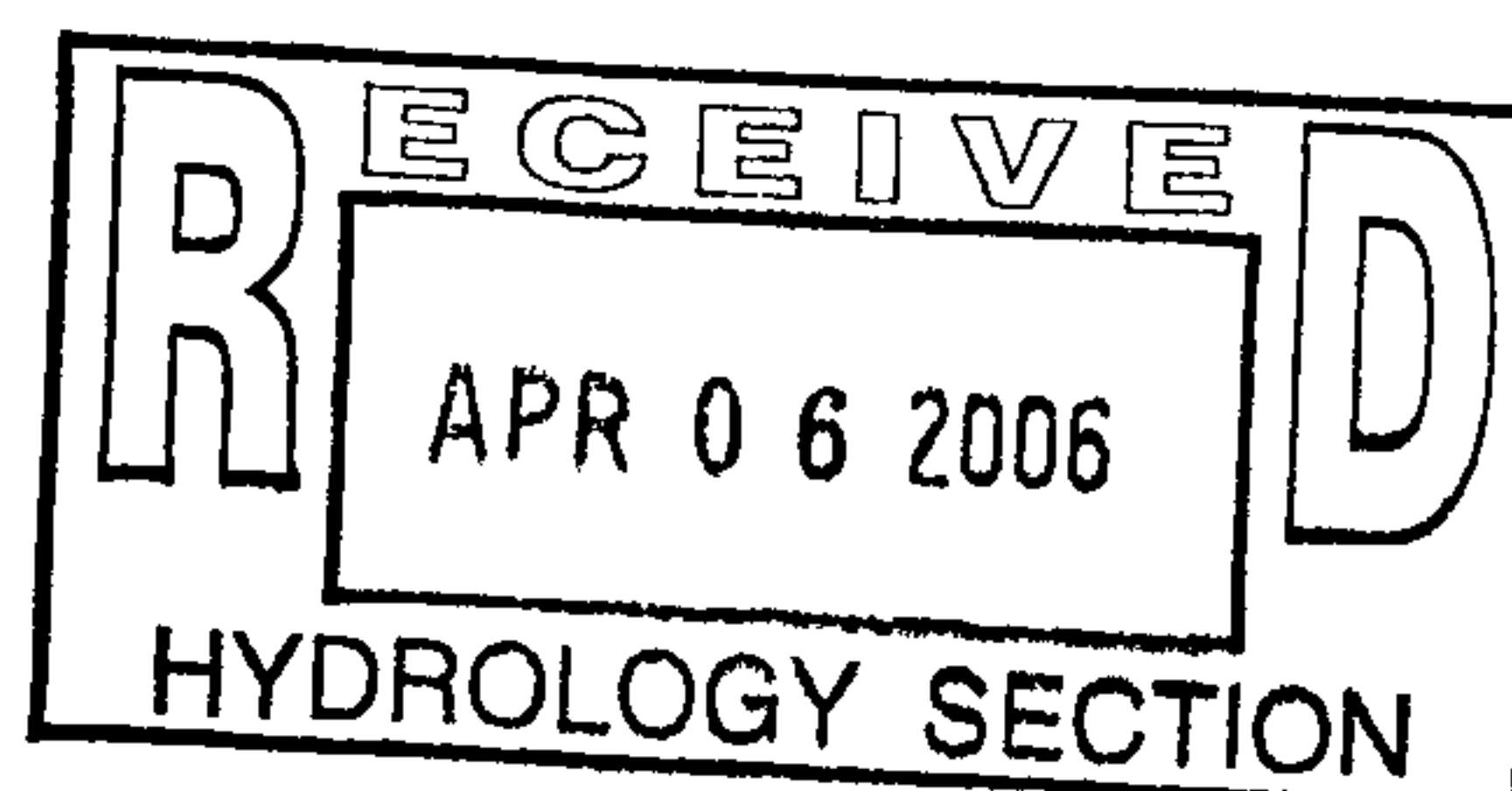
- ☐ Courier ☐ Federal Express
☐ Mail ☐ UPS
☒ Other

PICK UP

Item: _____

<u>ITEM NO.</u>	<u>QUANTITY</u>	<u>DESCRIPTION</u>
1	1	Grading Certification

COMMENTS / INSTRUCTIONS

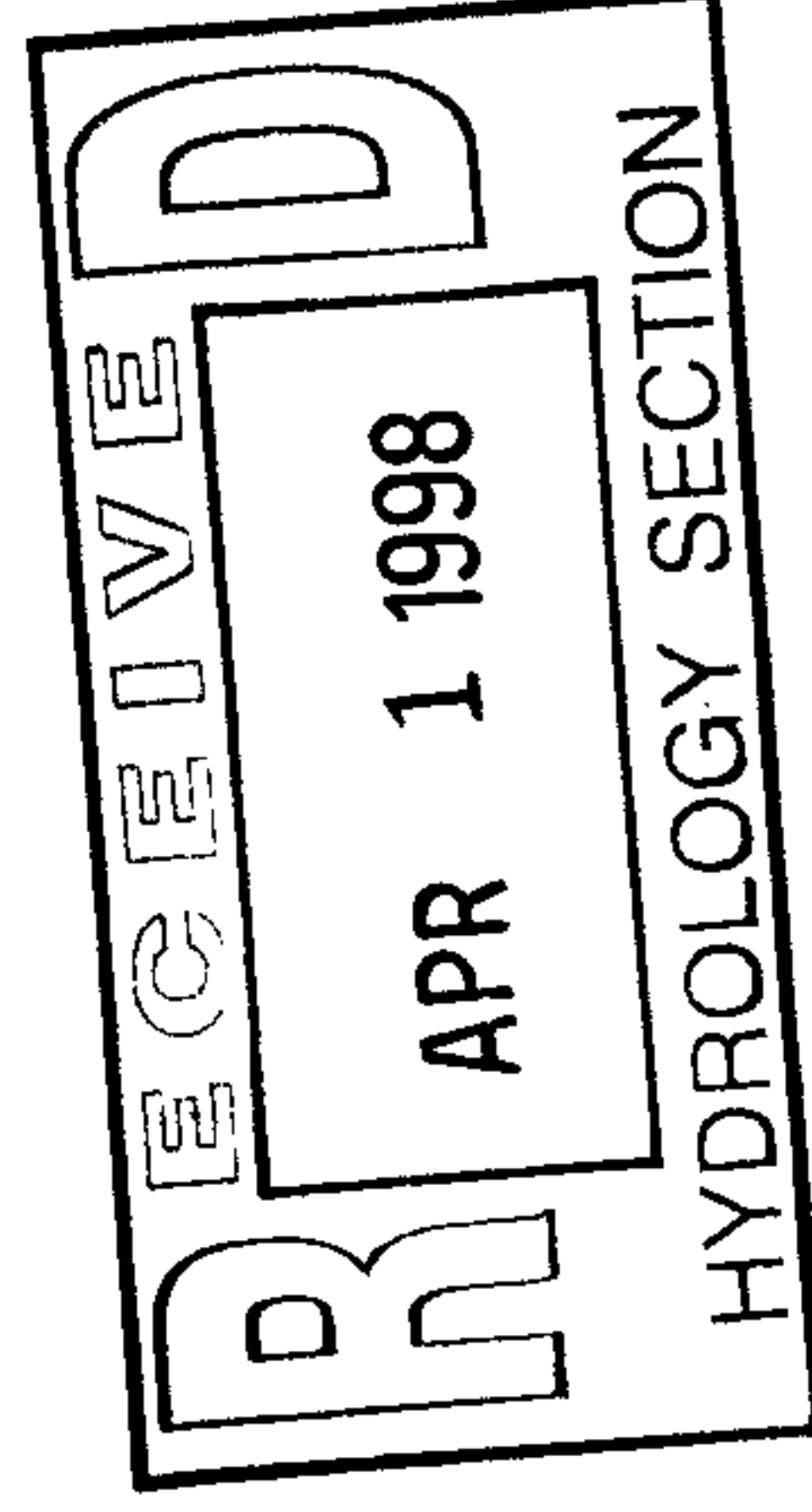


REC'D BY: _____ DATE: _____ TIME: _____

ENGINEERING ▲

SPATIAL DATA ▲

ADVANCED TECHNOLOGIES ▲



AVID ENGINEERING, INC.

CITY OF ALBUQUERQUE



July 17, 2006

Mr. Bruce Stidworthy, P.E.
BOHANNAN-HUSTON, INC.
7500 Jefferson Street NE – Courtyard I
Albuquerque, NM 87109

Re: SAWMILL LOFTS SITE
1801 19th Street NW
Approval of Permanent Certificate of Occupancy (C.O.)
Engineer's Stamp dated 04/07/2005 (H-13/D25)
Certification dated 07/17/2006

P.O. Box 1293

Dear Bruce:

Albuquerque

Based upon the information provided in your submittal received 07/17/2006, the above referenced certification is approved for release of Permanent Certificate of Occupancy by Hydrology.

New Mexico 87103

If you have any questions, you can contact me at 924-3982.

www.cabq.gov

Sincerely,

Arlene V. Portillo
Plan Reviewer, Planning Dept.-Hydrology
Development and Building Services

C: C.O.-Clerk
File



April 20, 1998

Dave Thompson, PE
Avid Engineering, Inc.
5801 Osuna Rd. NE
Suite 200
Albuquerque, New Mexico 87109

RE: REVISED DRAINAGE PLAN/REPORT FOR THE SAWMILL REDEVELOPMENT
(H13-D25) REVISION DATED 3/31/98

Dear Mr. Thompson:

Based on the information provided on your April 1, 1998 resubmittal, the above referenced site is approved for Preliminary Plat and Rough Grading for Phase I.

Please be advised that prior to Final Plat, Work Order, and Building Permit approval, the following must be addressed:

Master Plan & Phase I

1. Top of curb and flow line elevations on all streets.
2. Maintenance Agreements in place for all proposed ponds.
3. Plat must identify allowance for cross-lot-line drainage.
4. Copy of infrastructure list.

If I can be of further assistance, please feel free to contact me at 924-3986.

C: Andrew Garcia

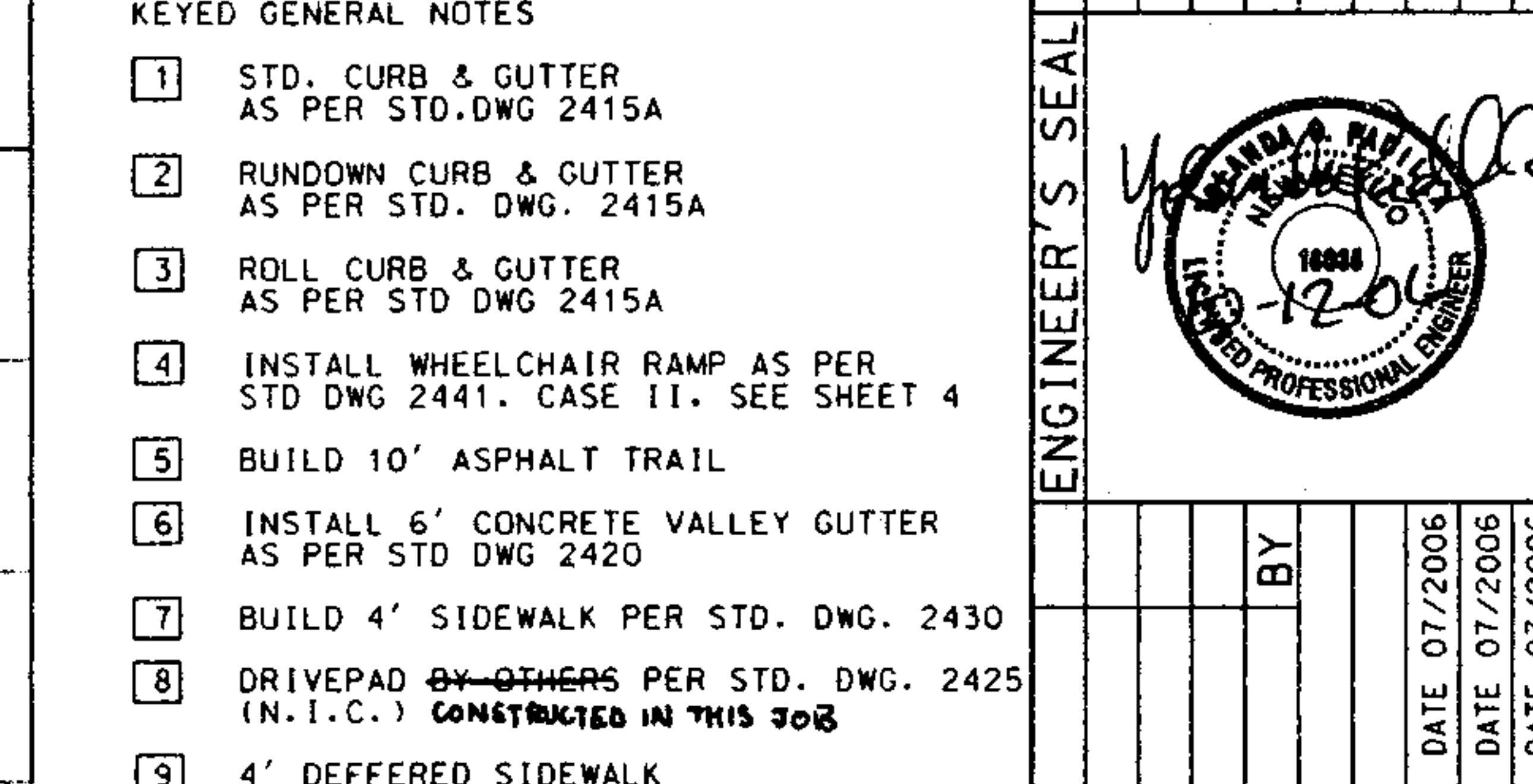
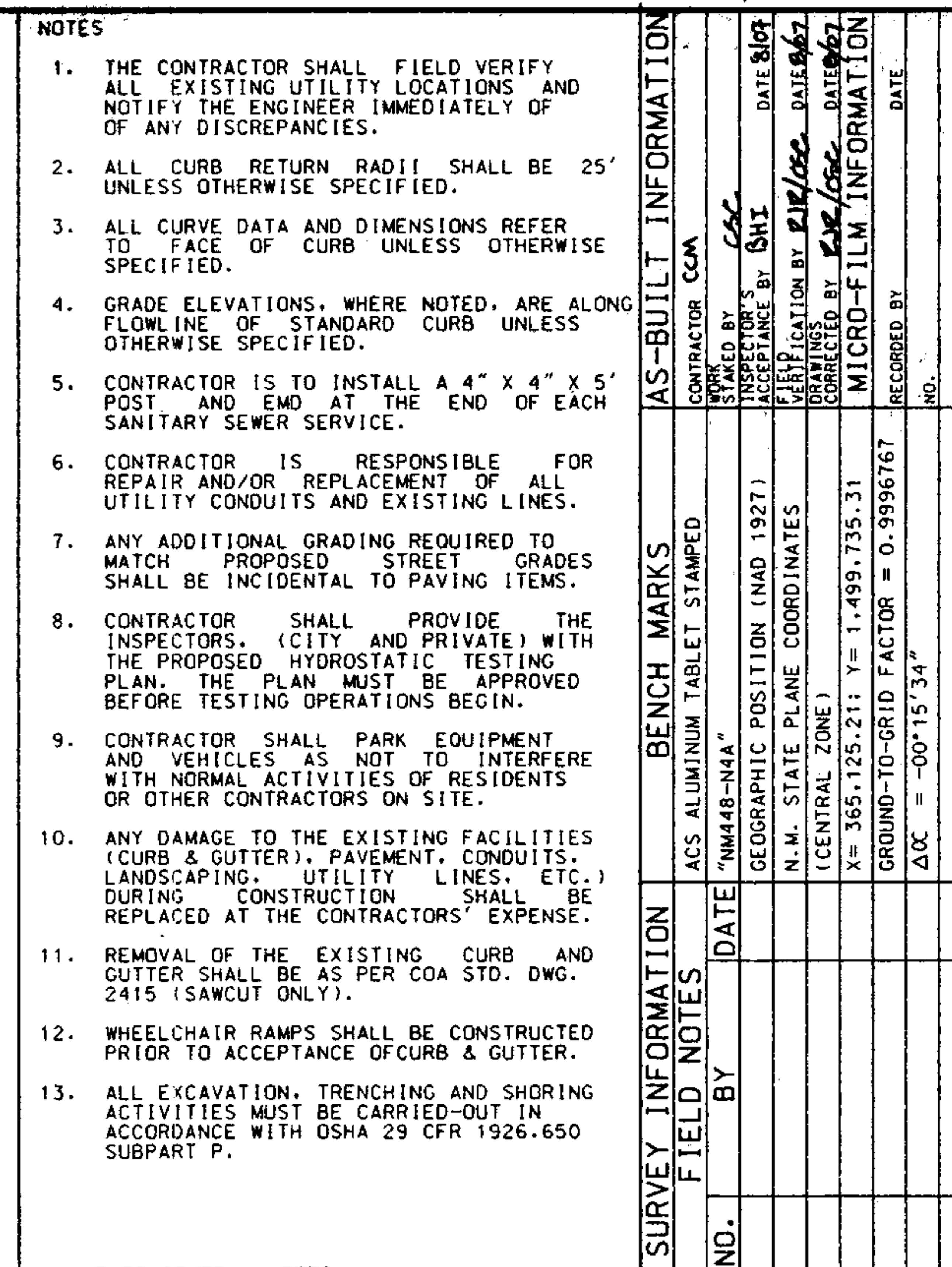
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Sincerely

Bernie J. Montoya CE
Engineering Associate

Good for You, Albuquerque!





 Bohannon & Huston Courtyard 7600 Jefferson St. NE Albuquerque, NM 87109-4335 ENGINEERING • SPATIAL DATA • ADVANCED TECHNOLOGIES		<table border="1"> <tr> <td>REMARKS</td> <td>NO. DATE</td> </tr> <tr> <td>REVISIONS</td> <td></td> </tr> <tr> <td>DESIGN</td> <td></td> </tr> <tr> <td>DESIGNED BY</td> <td>YCP/JML</td> </tr> <tr> <td>DRAWN BY</td> <td>ARR</td> </tr> <tr> <td>CHECKED BY</td> <td>WCP</td> </tr> </table>		REMARKS	NO. DATE	REVISIONS		DESIGN		DESIGNED BY	YCP/JML	DRAWN BY	ARR	CHECKED BY	WCP
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ARBOLERA DE VIDA - UNIT 2B PAVING PLAN & PROFILE MIS ABUELITOS DRIVE															
DESIGN REVIEW COMMITTEE APPROVED NOV 14 2006 DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL APPROVED MAY 22 2007 CITY ENGINEER	MO./DAY/YR.	MO./DAY/YR.												
CITY PROJECT NO.	617584 ZONE MAP NO. H-13/J-13	LAST UPDATE	SHEET												
			OF												
		7	12												

**MASTER DRAINAGE PLAN
FOR
ARBOLERA DE VIDA**

Prepared for:

Sawmill Development Group

Prepared by:

**AVID Engineering, Inc.
5801 Osuna Road NE, Suite 200
Albuquerque, NM 87109**

March 1998

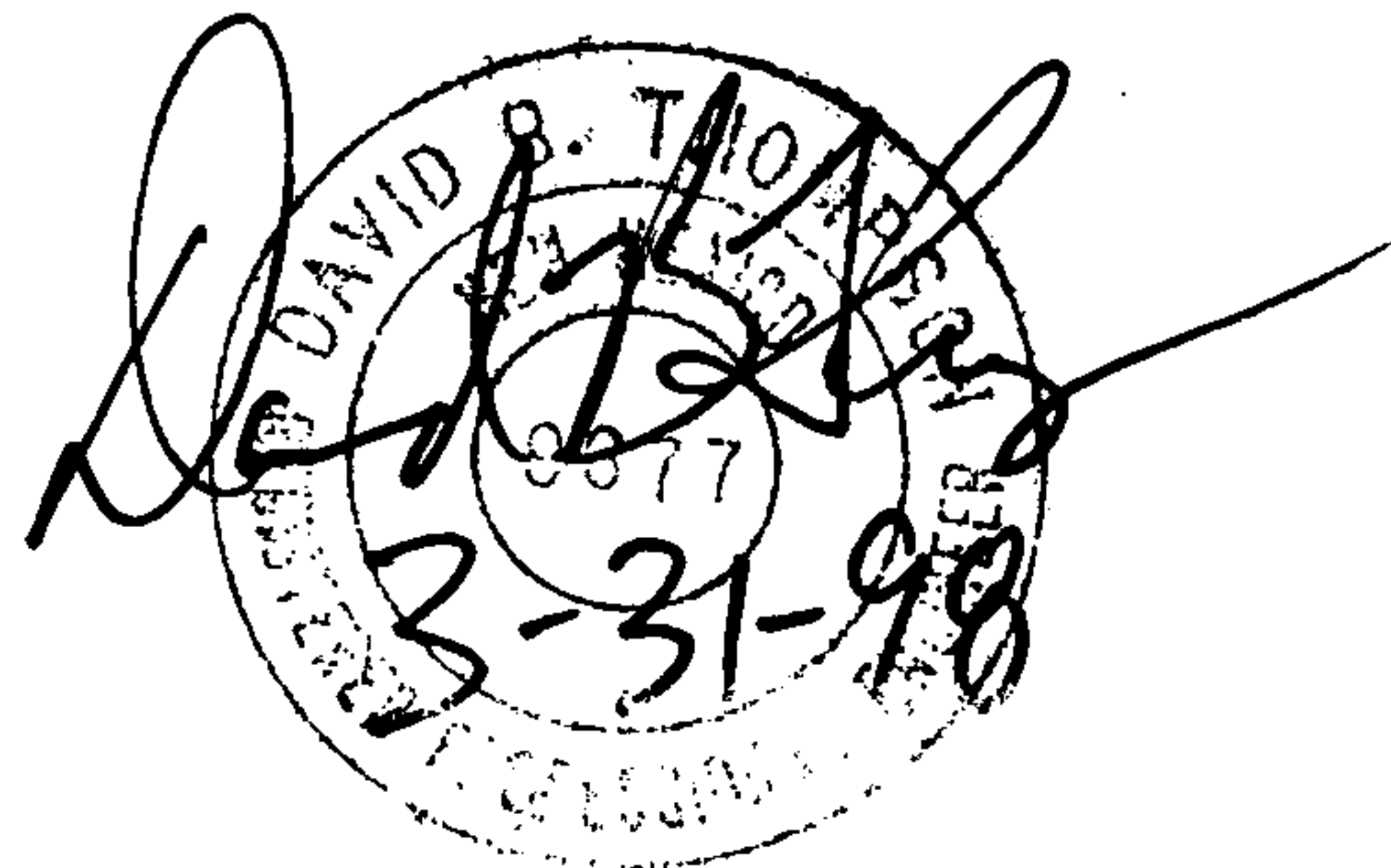


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INTRODUCTION AND PROJECT DESCRIPTION

This report is the Master Drainage Plan for Arbolera de Vida (formally called Sawmill Redevelopment). Arbolera de Vida is a planned mixed-use redevelopment project of approximately 29 acres, which will be developed in a phase manner. The project is located near the Old Town area of Albuquerque, south of Interstate 40 and east of Rio Grande Blvd., as shown in Exhibit I (Vicinity Map). More specifically, the project area is bordered by 19th Street to the west, Bellamah Avenue to the south, Interstate 40 to the north, and Mill Pond Road and the railroad easement to the east, as shown in Exhibit 2 (Project Site).

The planned redevelopment area will include single family homes, family townhouses, courtyard apartments, senior apartments, live/work units, CDC/land trust offices, meeting and office space, commercial, light manufacturing/warehouse space, neighborhood parks, and orchard areas. The following lists the land use summary for the Master Plan area.

1. Single Family Residential (33 total) - Lots 2-9, 12-14, 18-25, 29-35, and 38-44
2. Duplex (5 total) - Lots 1, 26-28, and 45
3. Townhouse (22 units total) - Lots 10-11, and 16-17
4. Apartments (32 units total) – Lots 15, 36, and 37
5. Live/Work (8 units total) – Lot 52
6. Incubator employment – Lot 51
7. Commercial – Lot 48
8. Day Care – Lot 47
9. Offices – Lot 46
10. Office/Warehouse – Lot 53
11. Light Manufacturing/Warehouse – Lots 49 and 50
12. Commercial Nursery – Lot 54
13. Private Park/Pond – Tract A
14. Public Park/Pond – Tract B

At this time it is unknown as to the ultimate number of phases in which this project will be developed; phasing will be addressed in future submittals. The purpose of this report is twofold: (1) to obtain approval of the concepts presented in this Drainage Master Plan, which will facilitate preliminary plat approval for the individual phases as they are defined, and (2) to obtain Preliminary Plat and Rough Grading Approval for Phase I.

PURPOSE AND SCOPE

The purpose of this Master Drainage Plan is to present the proposed drainage plan and to determine and define all drainage improvements necessary to support the proposed 29 acre redevelopment project. The proposed drainage improvements are to be developed in a manner which is in accordance with the regulations of the City of Albuquerque and the

Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA). The plan studies the existing and developed conditions of the project area during a 100-year, 24-hour storm event.

The scope of this report is to (1) describe the conceptual drainage plan for Arbolera de Vida, including conceptual grades and proposed drainage improvements, and (2) present the detailed grading and drainage plan for Phase I. Design criteria, including sizes, locations, and slopes, are shown for the storm drains, culverts, drainage swales, and detention ponds. Sizing and capacity analysis for the roads and other drainage facilities as well as final lot grading is only included for Phase I improvements. Capacity analysis and final lot grading for the other phases will be included in future drainage reports submitted for each phase of development as they are defined. Each phase to be platted and developed will require an approved final grading and drainage plan prior to preliminary plat approval. The final grading and drainage plan will include detailed site grading. Approval of this Master Drainage Plan will facilitate preliminary plat approval for each phase of Arbolera de Vida.

METHODOLOGY

This report is developed in accordance with City of Albuquerque regulations, ordinances, and design criteria. Detailed design criteria predominantly is derived from the City Development Process Manual (DPM). The plan studies the existing conditions for the 100-year, 6-hour storm event and developed conditions for the 100-year, 24-hour storm event, as defined by chapter 22.2 of the DPM. For the Sawmill area, the 6-hour storm event has a rainfall depth of 2.2 inches, and the 24-hour storm has a rainfall depth of 2.65 inches. Hydrologic models for both the existing conditions and for the proposed improvements were developed using the current version of AHYMO, in accordance with chapter 22.2 of the DPM. AHYMO is a unit, synthetic hydrograph model developed for the Albuquerque area. The AHYMO computer model provides capabilities to analyze street hydraulics, channel, and pipe routing and complex hydrograph development. Summary printouts of the AHYMO analysis is included in Appendix D.

EXISTING DRAINAGE CONDITIONS

The project area includes the abandoned Duke City Lumber Company. The site consists of approximately 20% concrete pads and asphalt paving, with the remaining 80% covered by native grasses and shrubs. Under existing conditions no off-site flows reach the site. FEMA floodplain maps were reviewed and currently no FEMA floodplains exist within the project site. However, there is a 500-year floodplain adjacent to the project site, extending from 22nd Street to 19th Street along Zearing Avenue. Hydrologic analysis of the existing conditions was performed for the 100-year, 24-hour storm event using the AHYMO computer model; a summary printout of the output is included in Appendix D.

There are three existing storm drains in the project vicinity, the locations of which are shown in Exhibit 3 (Existing Conditions). West of the project site is an 18"/24" line in 19th Street originating approximately 90' north of Aspen Avenue which runs south and connects to a 30" line in Zearing Avenue. The 30" storm sewer in Zearing Avenue drains to a 24" storm sewer in Rio Grande Blvd. According to the Special Assessment District (SAD) 221 Engineer's Drainage Report, prepared by Wilson & Company in 1992, the eventual outfall for the 24" storm sewer in Rio Grande Blvd. is the Alameda Drain. Runoff from the site enters the 18"/24" storm sewer at two locations. The first location is a type "D" inlet located in the center of 19th Street at the terminus of the storm drain (Analysis Point A). And the second location is a pair of type "C" inlets located 53' north of the connection to the existing 30" storm drain in Zearing Avenue (Analysis Point B). The area which drains to this storm drain is Basin A (refer to Exhibit 3). This basin includes the existing homes west of 19th Street and the project site north of the railroad tracks and south of Interstate 40.

Basin A is subdivided into Subbasins A1 and A2, with Subbasin A1 draining to Analysis Point A and Subbasin A2 draining to Analysis Point B. The peak discharge rate from Subbasin A1 is 3.8 cfs (Analysis Point A) while the peak discharge rate from Subbasin A2 is 58 cfs, based on analysis using the AHYMO hydrologic model. The 19th Street storm sewer drains to the Zearing Avenue Storm Sewer. As for the Zearing Avenue storm drain, the SAD 221 Engineer's Drainage Report states that "according to the City of Albuquerque, Design Hydrology Section, the Zearing Avenue storm sewer system is presently at its capacity for a 100-year storm." Therefore, the existing runoff from the site is greater than the capacity of the 19th Street/Zearing storm sewer system.

Table 1 Existing Conditions Hydrology

BASIN	AREA (acres)	RUNOFF (cfs)	ANALYSIS POINT
A1	1.5	3.8	A
A2	19.2	57.8	B
B	12.5	30.4	C
C	1.8	4.7	D

South of the project site is an 18" line in Bellamah Avenue originating approximately 480' east of the intersection with 19th Street and extending west to the 24" storm sewer in Rio Grande Blvd. Flows enter this storm drain through a pair of inlets approximately 50' east of the intersection with 19th Street. The area which drains to this storm drain is Basin B, as shown in Exhibit 3. This basin consists of approximately 85% vacant land and 15% impervious areas (asphalt roads and concrete pads). The peak discharge rate from Basin B under existing conditions is 30 cfs based on AHYMO analysis. According to the SAD 221 Report, the flows reaching the Bellamah storm sewer are 3.2 cfs, which based on the slope of the storm sewer (0.16%) is probably at its capacity. Again, the existing runoff from the site is greater than the capacity of the Bellamah storm sewer system.

East of the project site is an existing 10"/12" storm drain in Aspen Avenue, which connects to the existing 12" line in Twelfth Street. Runoff enters this storm drain through the existing drop inlet at the west terminus (Analysis Point D). The area which drains to this storm drain is Basin C, which consists of approximately 70% vacant land and 30% impervious areas. Hydrologic analysis found that again the peak discharge rate exceeds the capacity of the storm drain. Basin C has a peak discharge rate of 4.7 cfs at Analysis Point D, which is greater than the capacity of the storm drain .

In summary, hydraulic analysis of the existing conditions found the three existing storm drains in the project vicinity are at capacity under existing conditions for the 100-year, 6-hour storm event. Based on this finding, it was concluded that the Drainage Master Plan would need to use a system of detention ponds to provide storage for the runoff generated by the project site. The ponds could then bleed off into the existing storm drain system as capacity became available.

DESCRIPTION OF DRAINAGE MASTER PLAN

INTRODUCTION

For developed conditions runoff generated by the project area will be stored in detention ponds and released at a slow rate into existing storm sewers. For 19th Street/Zearing storm sewer system it is proposed that the runoff from Basin A1 under existing conditions that is collected by the storm sewer system be discharged to Pond A with runoff from basins 110, 120, and 130 and released at 3.8 cfs so that there will be no impact to the 19th Street/Zearing storm sewer system. Although the Bellamah storm sewer system is at or near capacity, the discharge from the Pond D outlet is at the upstream end of the storm sewer and therefore will have minimal affect on the storm sewer downstream of the pond. It should also be noted that because of the series of ponds discharging to Pond D, the peak flow out of Pond D will occur 51 minutes after the peak flow of the downstream basins discharging directly to the Bellamah storm sewer.

Detention ponds are sized to minimize the rate of discharge into the existing storm drains while meeting the City Development Process Manual requirement that ponds drain within 24 hours. Ponds A, B, and C are also sized so that a maximum depth of 1.5' would not be exceeded for the 100-year, 24-hour storm. In ponds D and E where the water depth exceeds 1.5', fencing will be required around the pond.

PHASE 1

The Drainage Master Plan includes a system of five detention ponds which are shown in Exhibit 4 in the rear pocket. Runoff from the 100-series basins (Basins 110, 120, and 130) will drain to Pond A. Runoff from Basin 110 will be carried in 19th Street to the northwest corner of the neighborhood park (Basin 120), at which point the flows will be collected by inlets and discharged to Pond A through Proposed Storm Drain A. Basin 130 will be graded so that runoff from the east side of the basin drains to the private

access road with a concrete valley gutter. Flows will then be carried by this access road with valley gutter and discharged into Pond A. Also, the access roads on the north and south sides of the pond will be sloped so that runoff flows directly into Pond A. This detention pond will then be discharged into the existing 18" storm drain in 19th Street via Proposed Storm Drain B. Currently, this storm drain (see Analysis Point A in Exhibit 3) receives a peak discharge of approximately 3.8 cfs for the 100-year, 24-hour storm under existing conditions. Pond A would serve to maintain this peak discharge rate of 3.8 cfs but would increase the area contributing flow from 1.46 acres to 5.57 acres (generating a total of 17 cfs), and while still meeting the 24 hour drainage criteria. Therefore, there will be no increase in peak flows discharging to the 19th Street storm drain after development occurs. It is anticipated that the homeowners association will maintain Pond A.

Table 2 Phase 1 Developed Conditions Hydrology

POND	BASIN	AREA (acre)	RUNOFF (cfs)	VOLUME (ac-ft)
A	110	3.66	11.7	0.47
	120	0.94	2.4	0.08
	130	0.97	3.1	0.13
	210	0.12	0.5	0.51

PHASES 2 & 3

All remaining basins will ultimately drain to detention ponds D and E located adjacent to Bellamah Avenue. Ponds D and E will be connected by an equalization pipe. Pond D will discharge into the existing 18" Bellamah Avenue storm drain at a peak rate of 4.1 cfs in order to drain in about 29.5 hours. The 300-series basins (Basins 310, 320, and 330) will drain to pond D directly and basin 610 will drain directly to pond E, while the other basins discharge into intermediate ponds before draining to Pond D. Runoff from basins 310 and 320 will be carried by Street A. From lot 36 north Street A will have mountable curb and gutter. South of lot 36 Street A will have standard curb and gutter. A hydraulic analysis found that Street A north of lot 36 has a capacity of 11.9 cfs and south of lot 36 Street A has a capacity of 46 cfs. The runoff from basin 310 is 11.2 cfs and the runoff from Basins 310 and 320 is approximately 17 cfs. Upon reaching the southern end of Street A, flows will then be conveyed to Pond D through Proposed Drainage Swale D. Basin 330 will be graded so that all runoff flows directly into Pond D.

The 400-series basins (Basins 410, 420, 430, and 440) will drain to Pond B. Basin 410 will discharge into 18th Street. The flows will be carried in the street and then discharged into Pond B through Proposed Drainage Channel A. Basin 420 will drain to the private access road on the south side, which in turn drains to 18th Street. Basins 430 and 440 will be graded so that all runoff flows directly into Pond B. Discharge from Pond B will flow to Pond C through Proposed Drainage Swale B. The total flow into Pond B is

approximately 21 cfs; the outlet weir will reduce the pond discharge to 16 cfs while meeting the 24 hour drainage criteria and not exceeding 1.5' of depth.

Table 3 Phases 2 & 3 Developed Conditions Hydrology

POND	BASIN	AREA (acre)	RUNOFF (cfs)	VOLUME (ac-ft)
B	410	1.67	5.4	0.22
	420	1.31	3.5	0.12
	430	1.02	3.5	0.15
	440	2.16	8.6	0.38
C	510	1.48	5.1	0.21
	520	2.92	6.0	0.17
	530	1.62	6.4	0.29
D	310	3.49	11.2	0.45
	320	1.73	5.9	0.25
	330	3.99	16.8	0.76
E	610	3.74	15.8	0.71

Pond C receives both the discharge from Pond B and runoff from the 500-series basins (Basins 510, 520, and 530). Basins 510 and 520 will be graded so that runoff is discharged directly into Pond C. Basin 530 will be graded so that runoff will be carried in Mill Pond Road and then in Aspen Road to a low point adjacent to Pond C, and the flows will be discharged into Pond C through Proposed Drainage Channel B. The total flow into Pond C is approximately 31 cfs and an orifice plate reduces the outflow to 20 cfs, to a 30" storm drain (Proposed Storm Drain D) in the proposed extension of Aspen Avenue.

Discharge from Pond C will be transported via Proposed Storm Drain D to Pond E. The only flows that Pond E will receive directly is the runoff from Basin 610. Basin 610 will be graded so that all runoff flows directly into Pond E. Ponds D and E receive a combined discharge of 65 cfs. This flow includes 34 cfs discharged directly into Pond D from the 300-series basins, 20 cfs discharged into Pond E through Proposed Storm Drain D, and 16 cfs of runoff from Basin 610 which drains directly to Pond E. An orifice plate at the outlet of Pond D will limit the discharge from Ponds D and E to 4.1 cfs. Under existing conditions, approximately 30 cfs drains to this storm drain for the 100-year, 24-hour storm (see Analysis Point C in Exhibit 3). This Drainage Master Plan proposes to reduce the peak discharge rate draining to this storm drain to 4.1 cfs. According to the AHYMO output, at a peak discharge of 4.1 cfs, Ponds D and E drain in about 29.5 hours.

The Drainage Master Plan presented in this report will substantially reduce the peak discharge into the existing storm drain system. Runoff from the project site would be contained within one of five detention ponds, which would be released at a controlled rate into the existing storm sewer systems. The only area which will not drain to a detention pond is Basin 210, which has an area of 0.12 acres and has 0.5 cfs of runoff for the 100-

year, 24-hour storm. Under developed conditions Pond A would maintain the peak discharge rate of 3.8 cfs under existing conditions, but would increase the area draining to the 19th Street Storm drain from 1.5 acres to 5.6 acres. Pond D would drain into the existing 18" storm drain in Bellamah Avenue at a rate of 4.1 cfs, as compared with 30 cfs under existing conditions. In addition, runoff generated in the northeast area of the project (approximately 6 cfs under existing conditions) would be carried in Mill Pond Road and Aspen Avenue and discharged into Pond E, thereby eliminating flows entering the existing 10" storm sewer in Aspen Avenue east of the site.

Table 4 Detention Pond Capacities

POND	100-YR WSEL	100-YR VOLUME (ac-ft)	DEPTH (ft)	PEAK FLOW OUT (cfs)
A	4955.5	0.32	1.5	3.8
B	4958.9	0.13	1.4	16.0
C	4956.8	0.26	1.5	20.0
D & E	4955.7	2.66	3.2	4.1

PHASE I GRADING PLAN

Exhibit 5 in the rear pocket shows the detailed grading plan for Phase I of the Sawmill Redevelopment project. Phase I includes residential lots fronting 19th Street and Pond A. The grading plan for Phase I involves lots 1 through 10 being graded to drain to 19th Street. Runoff from lots 1 through 10 will be collected in 19th Street by two type A storm inlets. Flows collected by the inlets will discharge to Pond A via a 24" storm drain. Lots 11 through 14 drain to the rear of the lot where the runoff is collected in a 25' wide access and drainage swale with concrete valley gutter. The swale drains north to Pond A. Pond A is discharged to the existing storm drain through a 24" storm drain with a discharge of 3.8 cfs. In order to achieve the discharge of 3.8 cfs, an orifice plate will be affixed to the outlet pipe. Minimum slopes of 0.5% in side yards will be maintained.

APPENDIX A
EXHIBITS

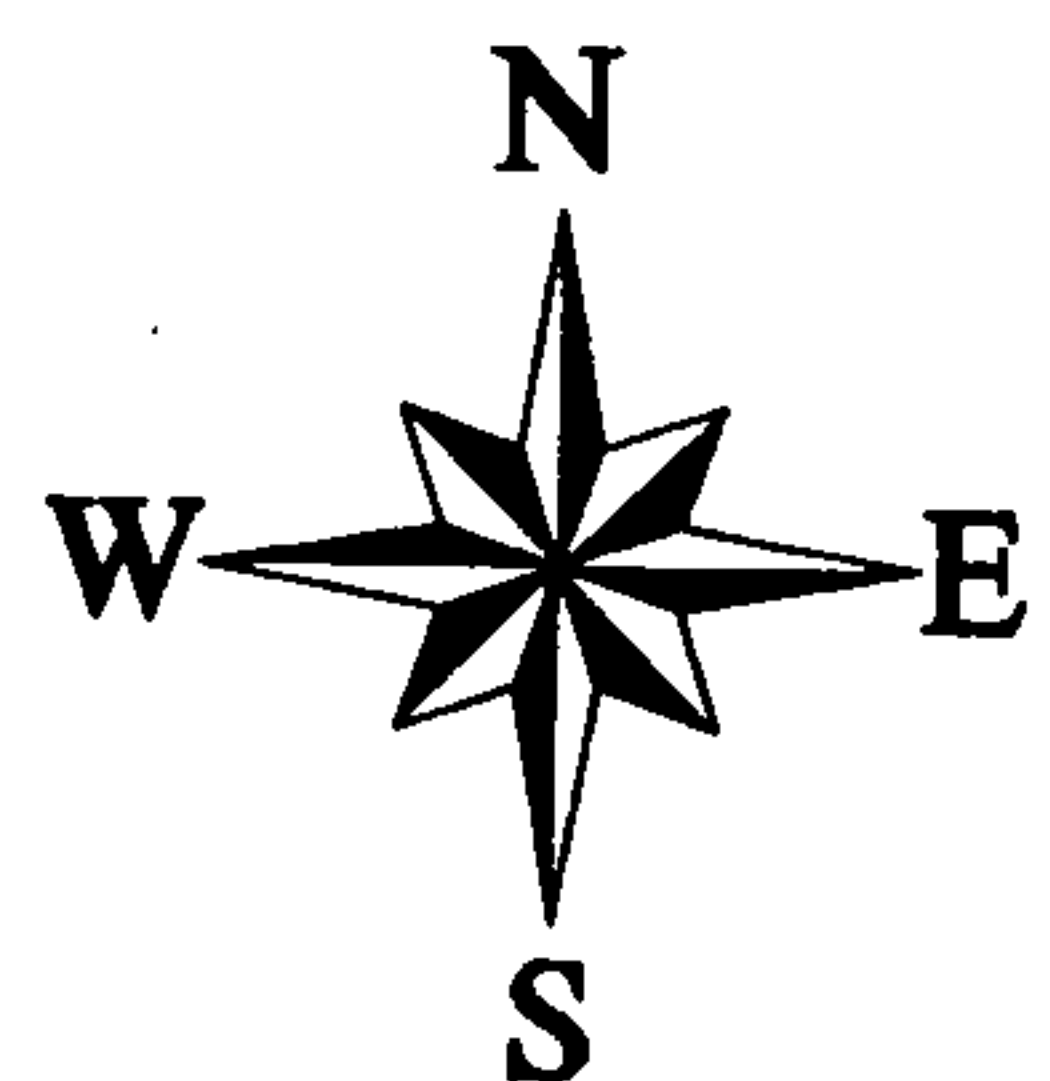
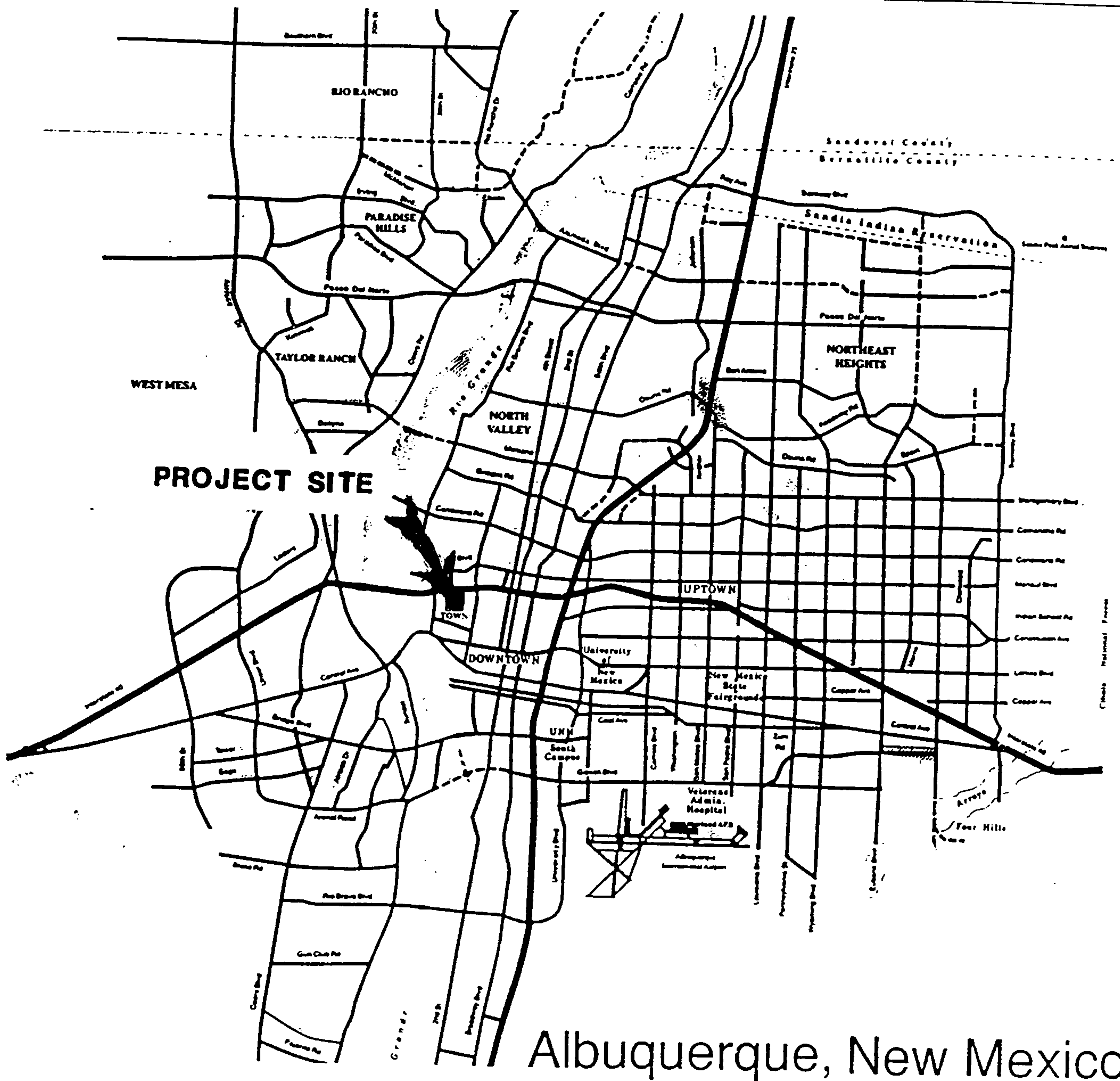


**EXHIBIT 1
SAWMILL REDEVELOPMENT
VICINITY MAP**

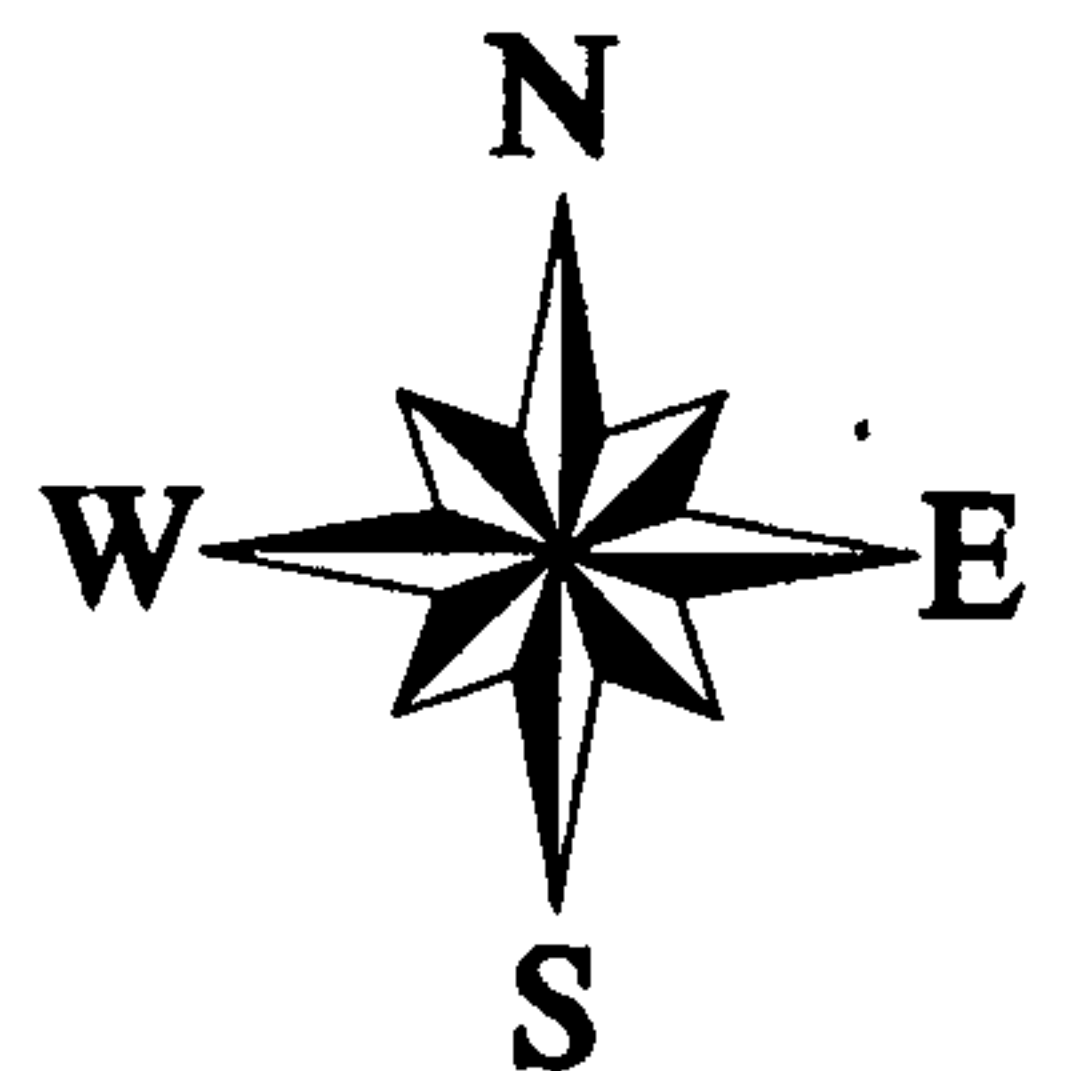
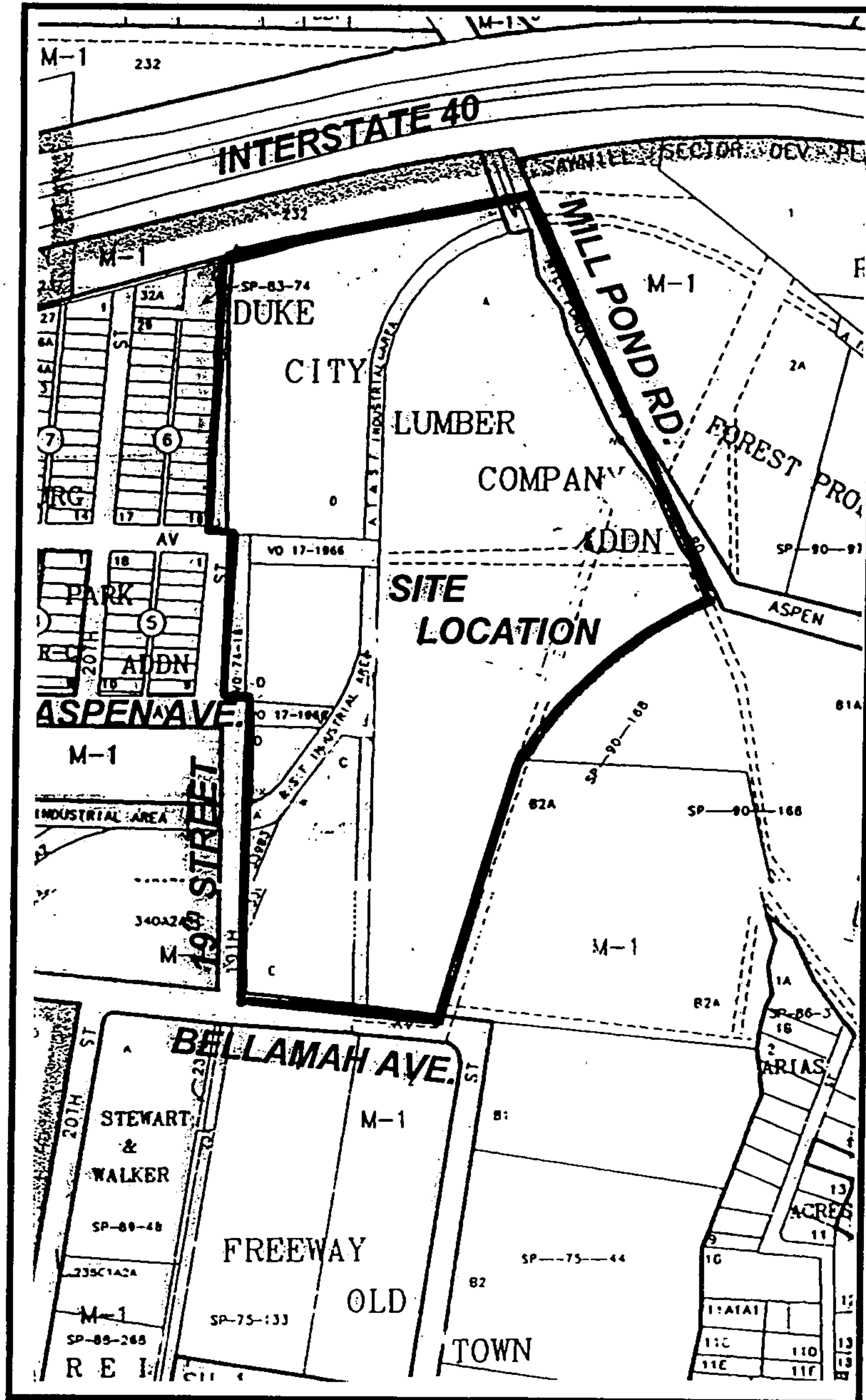
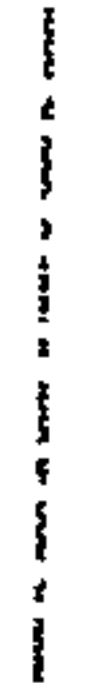
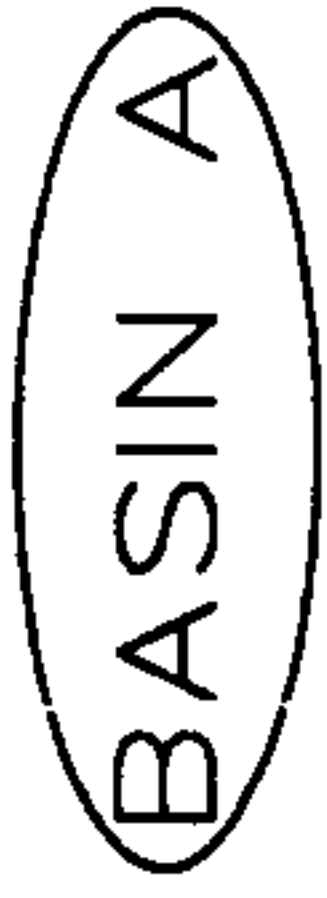


EXHIBIT 2
SAWMILL REDEVELOPMENT
PROJECT SITE

LEGEND

-  BASIN BOUNDARY
-  EXISTING STORM DRAIN
-  BASIN NAME

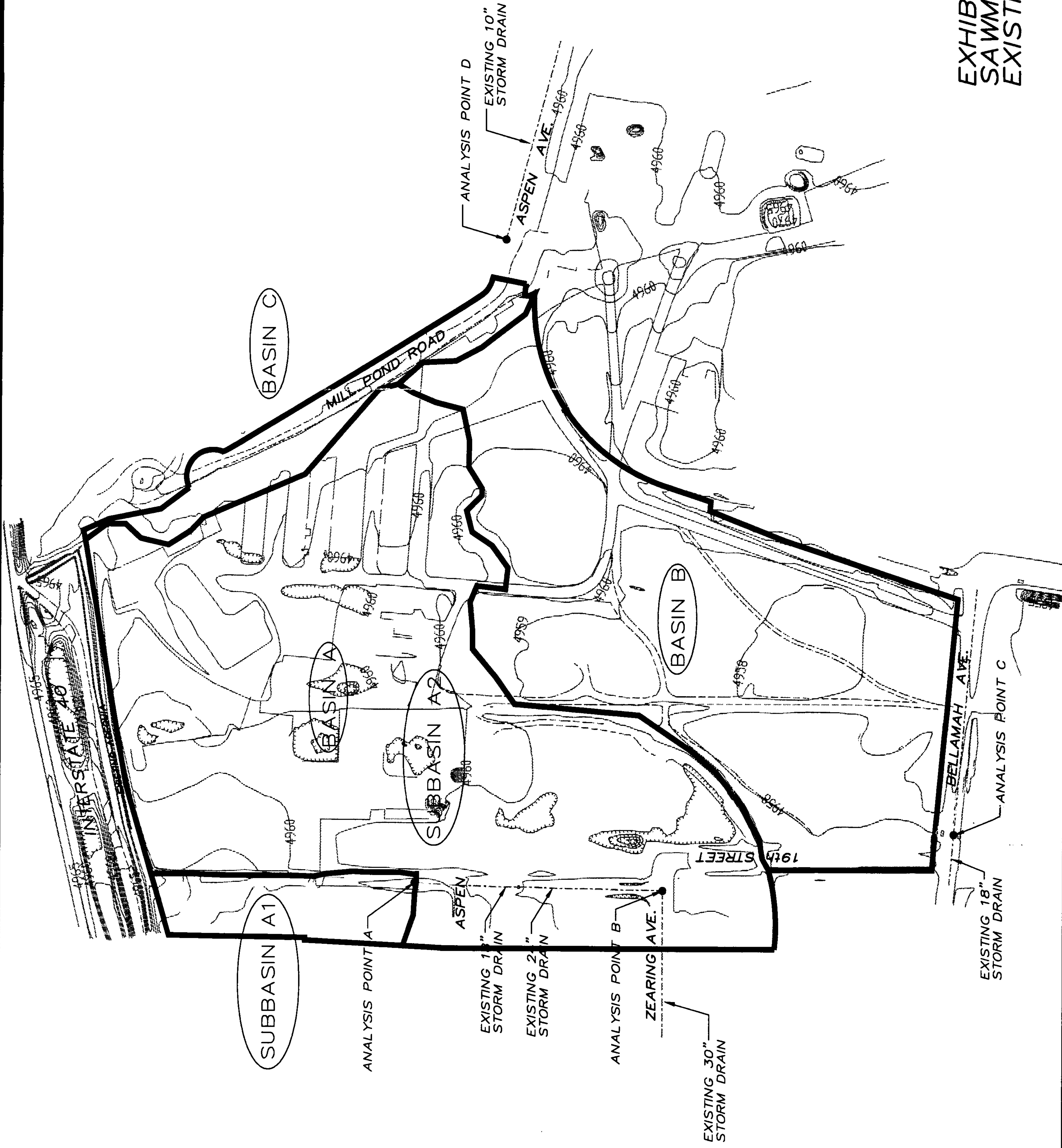
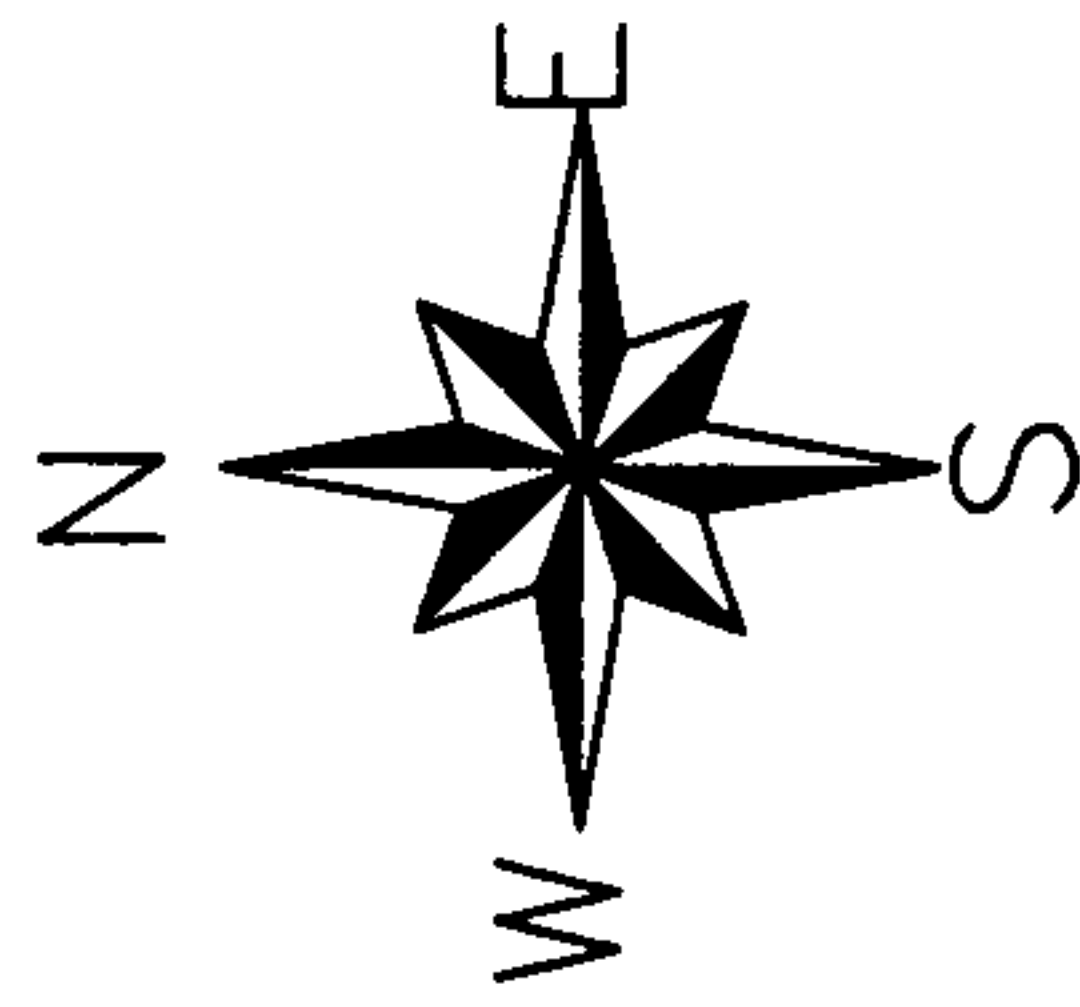


EXHIBIT 3
SAWMILL REDEVELOPMENT
EXISTING DRAINAGE CONDITIONS

APPENDIX B
REFERENCES

REFERENCES

Development Process Manual, Volume II, City of Albuquerque, Chapter 22

Albuquerque Master Drainage Study, Volume II, Bohannon-Huston, Inc.

Albuquerque Master Drainage Study - Restudy, Volume II, Bohannon-Huston, Inc.

Hydrologic Modeling and Drainage Criteria - Using the AHYMO Computer Program, Short Course Manual, UNM, 1992

Sawmill Area Improvements Preliminary Design Analysis, Bovay/McGinty, Inc., 1989

Special Assessment District 221 Engineer's Drainage Report, Wilson & Company Engineers & Architects, Volume I, 1992

APPENDIX C
HYDROLOGIC CALCULATIONS

AHYMO SUMMARY TABLE (AHYMO194) - AMAFCA Hydrologic Model - January, 1994 RUN DATE
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COMMAND	IDENTIFICATION	NO. NO.	(SQ MI)	(CFS)	(AC-FT)	(INCHES) (HOURS) ACRE

NOTATION

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COMPUTE NM HYD	A2 - 1	.02994	57.83	2.467	1.54525	1.567 3.018 PER IMP= 58.50
COMPUTE NM HYD	B - 2	.01949	30.35	1.201	1.15564	1.567 2.433 PER IMP= 15.00
COMPUTE NM HYD	C - 3	.00274	4.67	.190	1.29871	1.567 2.663 PER IMP= 30.00
FINISH						

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*
 *
 * SAWMILL REDEVELOPMENT
 * HYDROLOGIC MODEL - EXISTING CONDITIONS

* DATE OF RUN = 12/9/97
 * HYDROLOGIC MODEL FOR EXISTING CONDITIONS
 * 100-YEAR, 6-HOUR STORM & 100-YEAR, 24-HOUR STORM
 * $T_p = T_c = 0.2$ HRS MIN FOR SMALL WATERSHEDS<40 ACRES)
 * $DT = 0.0333333$ HRS = 2.0 MIN
 *

* PRECIPITATION:
 * P60 = 1.90"
 * P360 = 2.20"
 * P1440 = 2.65"
 *

* LAND TREATMENT ASSUMPTIONS:
 * UNDEVELOPED AREAS:
 * NE LAND TREATMENT TYPES FROM THE SOILS MAP FOR THE AREA, THE
 * MANAGEMENT PLAN, AND FROM THE U.S.G.S. QUAD MAP AS FOLLOWS:
 *

SOIL	SCS SOIL TYPE	D.P.M. LAND TREATMENT TYPE
RCE	D	C
SWC,MZ	C	B -

(20%>SLOPE>10%)
 *
 * A - (SLOPE<10%)
 *

* FOR DEVELOPED AREAS:
 * INE THE PERCENT OF IMPERVIOUS AREA (LAND TREATMENT TYPE "D")
 * SECTION 22.2 OF THE D.P.M. FOR ALBUQUERQUE, VOL. 2, TABLE 5

*
 * START TIME=0.0 HR PUNCH CODE=0
 *

* 6-Hour rainfall distribution based on NOAA Atlas 2 - Peak at 1.4 hr.
 * RAINFALL TYPE=1 (SIX HR STORM) RAIN QUARTER=0.0 IN
 * RAIN ONE=1.90 IN RAIN SIX=2.20 IN
 * RAIN DAY=2.65 IN DT=0.0333333 HRS

COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK
 AT 1.40 HR.

DT = .033333 HOURS	END TIME = 5.999995 HOURS
.0000	.0013
.0027	.0041
.0055	.0069
.0084	.0099
.0115	.0131
.0147	.0164
.0181	.0217
.0236	.0256
.0276	.0296
.0318	.0363
.0412	.0438
.0465	.0493
.0523	.0554
.0587	.0622
.0675	.0731
.0791	.0920
.1209	.1653
.2291	.3162
.4307	.5766
.7582	

.9800 1.1850 1.2708 1.3432 1.4077 1.4663 1.5203
 1.5705 1.6173 1.6612 1.7025 1.7415 1.7783 1.8132
 1.8462 1.8775 1.9072 1.9354 1.9622 1.9681 1.9737
 1.9789 1.9839 1.9887 1.9933 1.9977 2.0019 2.0059
 2.0098 2.0136 2.0173 2.0208 2.0242 2.0276 2.0308
 2.0340 2.0371 2.0401 2.0430 2.0458 2.0486 2.0514
 2.0541 2.0567 2.0592 2.0618 2.0642 2.0667 2.0690
 2.0714 2.0737 2.0759 2.0781 2.0803 2.0825 2.0846
 2.0867 2.0887 2.0908 2.0927 2.0947 2.0967 2.0986
 2.1004 2.1023 2.1041 2.1060 2.1077 2.1095 2.1113
 2.1130 2.1147 2.1164 2.1180 2.1197 2.1213 2.1229
 2.1245 2.1261 2.1277 2.1292 2.1308 2.1323 2.1338
 2.1353 2.1367 2.1382 2.1396 2.1411 2.1425 2.1439
 2.1453 2.1466 2.1480 2.1494 2.1507 2.1520 2.1534
 2.1547 2.1560 2.1573 2.1585 2.1598 2.1611 2.1623
 2.1636 2.1648 2.1660 2.1672 2.1684 2.1696 2.1708
 2.1720 2.1732 2.1743 2.1755 2.1766 2.1777 2.1789
 2.1800 2.1811 2.1822 2.1833 2.1844 2.1855 2.1866
 2.1876 2.1887 2.1898 2.1908 2.1919 2.1929 2.1939
 2.1950 2.1960 2.1970 2.1980 2.1990 2.2000

*
 *

*
 *
 *

FLOW CALCULATIONS FOR BASIN 1

COMPUTE NM HYD ID=1 HYD NO=A DA=0.03222 SQ MI
 %A=2 %B=5 %C=35 %D=58
 TP=0.2 HR
 MASS RAINFALL=-1

K = .109000HR TP = .200000HR K/TP RATIO = .545000 SHAPE CONSTANT, N =
 7.106420
 UNIT PEAK = 49.174 CFS UNIT VOLUME = .9996 B = 526.28 P60 = 1.9000
 AREA = .018688 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
 DT = .033333

K = .167786HR TP = .200000HR K/TP RATIO = .838931 SHAPE CONSTANT, N =
 4.248279
 UNIT PEAK = 25.129 CFS UNIT VOLUME = .9996 B = 371.40 P60 = 1.9000
 AREA = .013532 SQ MI IA = .38214 INCHES INF = .92000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
 DT = .033333

PRINT HYD ID=1 CODE=1

HYDROGRAPH FROM AREA A

RUNOFF VOLUME = 1.53124 INCHES = 2.6313 ACRE-FEET
 PEAK DISCHARGE RATE = 61.68 CFS AT 1.567 HOURS BASIN AREA = .0322 SQ. MI.

*

* FLOW CALCULATIONS FOR BASIN 2

*

COMPUTE NM HYD ID=1 HYD NO=A1 DA=0.00228 SQ MI
%A=12.5 %B=25 %C=12.5 %D=50
TP=0.2 HR
MASS RAINFALL=-1

K = .109000HR TP = .200000HR K/TP RATIO = .545000 SHAPE CONSTANT, N =
7.106420

UNIT PEAK = 2.9998 CFS UNIT VOLUME = .9959 B = 526.28 P60 = 1.9000
AREA = .001140 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
DT = .033333

K = .199045HR TP = .200000HR K/TP RATIO = .995225 SHAPE CONSTANT, N =
3.547440

UNIT PEAK = 1.8455 CFS UNIT VOLUME = .9922 B = 323.78 P60 = 1.9000
AREA = .001140 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
DT = .033333

PRINT HYD ID=1 CODE=1

HYDROGRAPH FROM AREA A1

RUNOFF VOLUME = 1.32368 INCHES = .1610 ACRE-FEET
PEAK DISCHARGE RATE = 3.78 CFS AT 1.567 HOURS BASIN AREA = .0023 SQ. MI.

*

* FLOW CALCULATIONS FOR BASIN 3

*

COMPUTE NM HYD ID=1 HYD NO=A2 DA=0.02994 SQ MI
%A=1.5 %B=3.5 %C=36.5 %D=58.5
TP=0.2 HR
MASS RAINFALL=-1

K = .109000HR TP = .200000HR K/TP RATIO = .545000 SHAPE CONSTANT, N =
7.106420

UNIT PEAK = 46.088 CFS UNIT VOLUME = .9996 B = 526.28 P60 = 1.9000
AREA = .017515 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
DT = .033333

K = .165531HR TP = .200000HR K/TP RATIO = .827654 SHAPE CONSTANT, N = 4.311985

UNIT PEAK = 23.326 CFS UNIT VOLUME = .9995 B = 375.46 P60 = 1.9000
AREA = .012425 SQ MI IA = .37349 INCHES INF = .89578 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
DT = .033333

PRINT HYD ID=1 CODE=1

HYDROGRAPH FROM AREA A2

RUNOFF VOLUME = 1.54525 INCHES = 2.4674 ACRE-FEET
PEAK DISCHARGE RATE = 57.83 CFS AT 1.567 HOURS BASIN AREA = .0299 SQ. MI.

*

* FLOW CALCULATIONS FOR BASIN 4

*

COMPUTE NM HYD ID=2 HYD NO=B DA=0.01949 SQ MI
%A=0 %B=0 %C=85 %D=15
TP=0.2 HR
MASS RAINFALL=-1

K = .109000HR TP = .200000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420

UNIT PEAK = 7.6928 CFS UNIT VOLUME = .9982 B = 526.28 P60 = 1.9000
AREA = .002924 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
DT = .033333

K = .159348HR TP = .200000HR K/TP RATIO = .796738 SHAPE CONSTANT, N = 4.498737

UNIT PEAK = 32.068 CFS UNIT VOLUME = .9997 B = 387.15 P60 = 1.9000
AREA = .016567 SQ MI IA = .35000 INCHES INF = .83000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
DT = .033333

PRINT HYD ID=2 CODE=1

HYDROGRAPH FROM AREA B

RUNOFF VOLUME = 1.15564 INCHES = 1.2012 ACRE-FEET
PEAK DISCHARGE RATE = 30.35 CFS AT 1.567 HOURS BASIN AREA = .0195 SQ. MI.

*

* FLOW CALCULATIONS FOR BASIN 5

*

COMPUTE NM HYD ID=3 HYD NO=C DA=0.00274 SQ MI

%A=0 %B=0 %C=70 %D=30

TP=0.2 HR

MASS RAINFALL=-1

K = .109000HR TP = .200000HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420

UNIT PEAK = 2.1630 CFS UNIT VOLUME = .9944 B = 526.28 P60 = 1.9000

AREA = .000822 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR

RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
DT = .033333

K = .159348HR TP = .200000HR K/TP RATIO = .796738 SHAPE CONSTANT, N = 4.498737

UNIT PEAK = 3.7127 CFS UNIT VOLUME = .9965 B = 387.15 P60 = 1.9000

AREA = .001918 SQ MI IA = .35000 INCHES INF = .83000 INCHES PER HOUR

RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
DT = .033333

PRINT HYD ID=3 CODE=1

HYDROGRAPH FROM AREA C

RUNOFF VOLUME = 1.29871 INCHES = .1898 ACRE-FEET

PEAK DISCHARGE RATE = 4.67 CFS AT 1.567 HOURS BASIN AREA = .0027 SQ. MI.

*

*

FINISH

NORMAL PROGRAM FINISH END TIME (HR:MIN:SEC) = 10:12:31

RUN DATE (MON/DAY/YR) =03/31/1998
 USER NO.= AVID NM.101

		FROM	TO			PEAK	RUNOFF			CFS	PAGE = 1
HYDROGRAPH		ID	ID	AREA	DISCHARGE	VOLUME	RUNOFF	TIME TO	PER		
COMMAND	IDENTIFICATION	NO.	NO.	(SQ MI)	(CFS)	(AC-FT)	(INCHES)	(HOURS)	ACRE	NOTATION	
START											TIME= .00
RAINFALL	TYPE= 2										RAIN24= 2.650
COMPUTE NM HYD	110.00	-	1	.00572	11.71	.473	1.54907	1.500	3.198	PER IMP= 50.00	
COMPUTE NM HYD	120.00	-	2	.00147	2.37	.081	1.02755	1.500	2.524	PER IMP= 20.00	
COMPUTE NM HYD	130.00	-	3	.00152	3.12	.126	1.54907	1.500	3.208	PER IMP= 50.00	
ADD HYD	20.00	1& 2	20	.00719	14.08	.553	1.44236	1.500	3.060		
ADD HYD	21.00	20& 3	21	.00871	17.20	.679	1.46095	1.500	3.086		
*S** POND A **											
ROUTE RESERVOIR	22.00	21	22	.00871	3.78	.679	1.46095	1.950	.679	AC-FT= .318	
COMPUTE NM HYD	210.00	-	4	.00018	.51	.023	2.41826	1.500	4.431	PER IMP= 100.00	
COMPUTE NM HYD	410.00	-	8	.00261	5.35	.216	1.54907	1.500	3.202	PER IMP= 50.00	
COMPUTE NM HYD	420.00	-	9	.00205	3.46	.122	1.11447	1.500	2.635	PER IMP= 25.00	
COMPUTE NM HYD	430.00	-	10	.00159	3.50	.146	1.72291	1.500	3.440	PER IMP= 60.00	
COMPUTE NM HYD	440.00	-	11	.00338	8.60	.383	2.12274	1.500	3.974	PER IMP= 83.00	
ADD HYD	20.00	8& 9	20	.00466	8.81	.337	1.35775	1.500	2.952		
ADD HYD	21.00	10&11	21	.00497	12.10	.529	1.99470	1.500	3.803		
ADD HYD	22.00	20&21	22	.00963	20.90	.866	1.68648	1.500	3.392		
*S** POND B **											
ROUTE RESERVOIR	23.00	22	23	.00963	15.72	.866	1.68646	1.600	2.551	AC-FT= .130	
COMPUTE NM HYD	510.00	-	12	.00231	5.08	.212	1.72291	1.500	3.437	PER IMP= 60.00	
COMPUTE NM HYD	520.00	-	13	.00456	5.97	.165	.67987	1.500	2.047	PER IMP= .00	
COMPUTE NM HYD	530.00	-	14	.00253	6.44	.286	2.12274	1.500	3.976	PER IMP= 83.00	
ADD HYD	24.00	12&13	24	.00687	11.05	.378	1.03052	1.500	2.514		
ADD HYD	25.00	24&14	25	.00940	17.49	.664	1.32446	1.500	2.908		
ADD HYD	26.00	23&25	26	.01903	31.07	1.530	1.50756	1.550	2.551		
*S** POND C **											
ROUTE RESERVOIR	27.00	26	27	.01903	19.84	1.530	1.50756	1.700	1.629	AC-FT= .257	
COMPUTE NM HYD	310.00	-	5	.00546	11.17	.451	1.54907	1.500	3.198	PER IMP= 50.00	
COMPUTE NM HYD	320.00	-	6	.00270	5.94	.248	1.72291	1.500	3.435	PER IMP= 60.00	
COMPUTE NM HYD	330.00	-	7	.00623	16.81	.757	2.27756	1.500	4.217	PER IMP= 90.00	
COMPUTE NM HYD	610.00	-	15	.00585	15.79	.711	2.27756	1.500	4.217	PER IMP= 90.00	
ADD HYD	20.00	5& 6	20	.00816	17.11	.699	1.60651	1.500	3.276		
ADD HYD	21.00	20& 7	21	.01439	33.92	1.456	1.89701	1.500	3.683		
ADD HYD	22.00	21&15	22	.02024	49.71	2.166	2.00699	1.500	3.838		

AHYMO PROGRAM (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
RUN DATE (MON/DAY/YR) = 03/31/1998
START TIME (HR:MIN:SEC) = 14:17:37 USER NO.= AVID__NM.I01
INPUT FILE = C:\PROJECTS\SAWMILL\AHYMO\FLOWS.INP

SAWMILL REDEVELOPMENT
HYDROLOGIC MODEL - DEVELOPED CONDITIONS

DATE OF RUN = 3/31/98
HYDROLOGIC MODEL FOR DEVELOPED CONDITIONS
100-YEAR, 24-HOUR STORM
Tc = 0.2 HRS FOR SMALL WATERSHEDS (<40 ACRES)
Tp = 2/3*Tc = 2/3*0.2 = 0.13333 HRS
DT = 0.05 HRS = 3.0 MIN

PRECIPITATION:

P60 = 1.90"
P360 = 2.20"
P1440 = 2.65"

LAND TREATMENT ASSUMPTIONS:

UNDEVELOPED AREAS:

DETERMINE LAND TREATMENT TYPES FROM THE SOILS MAP FOR THE AREA, THE
TERRAIN MANAGEMENT PLAN, AND FROM THE U.S.G.S. QUAD MAP AS FOLLOWS:

SOIL	SCS SOIL TYPE	D.P.M. LAND TREATMENT TYPE
RCE	D	C
SWC,MZ	C	B - (20% A - (SLO

FOR DEVELOPED AREAS:

DETERMINE THE PERCENT OF IMPERVIOUS AREA (LAND TREATMENT TYPE "D")
FROM SECTION 22.2 OF THE D.P.M. FOR ALBUQUERQUE, VOL. 2, TABLE 5

START TIME=0.0 HR PUNCH CODE=0

24-Hour rainfall distribution based on NOAA Atlas 2 - Peak at 1.4 hr.

RAINFALL TYPE=-2 RAIN QUARTER=0.0 IN
RAIN ONE=1.90 IN RAIN SIX=2.20 IN
RAIN DAY=2.65 IN DT=0.05 HRS

COMPUTED 24-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
DT = .050000 HOURS END TIME = 24.000000 HOURS

FLOW CALCULATIONS FOR DETENTION POND A
CREATE HYDROGRAPHS FOR BASINS 110,120,130
ADD HYDROGRAPHS AND ROUTE THROUGH POND A

FLOW CALCULATIONS FOR BASIN 110

COMPUTE NM HYD ID=1 HYD NO=110 DA=0.00572 SQ MI
%A=12.5 %B=25 %C=12.5 %D=50
TP=0.13333 HR
MASS RAINFALL=-1

K = .072665HR TP = .133330HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 11.289 CFS UNIT VOLUME = .9981 B = 526.28 P60 = 1.9000
AREA = .002860 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .132693HR TP = .133330HR K/TP RATIO = .995225 SHAPE CONSTANT, N = 3.547437
UNIT PEAK = 6.9452 CFS UNIT VOLUME = .9990 B = 323.78 P60 = 1.9000
AREA = .002860 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=1 CODE=1

PARTIAL HYDROGRAPH 110.00

RUNOFF VOLUME = 1.54907 INCHES = .4726 ACRE-FEET
PEAK DISCHARGE RATE = 11.71 CFS AT 1.500 HOURS BASIN AREA = .0057 SQ. MI.

*
* FLOW CALCULATIONS FOR BASIN 120
*

COMPUTE NM HYD ID=2 HYD NO=120 DA=0.00147 SQ MI
%A=0 %B=80 %C=0 %D=20
TP=0.13333 HR
MASS RAINFALL=-1

K = .072665HR TP = .133330HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 1.1605 CFS UNIT VOLUME = .9890 B = 526.28 P60 = 1.9000
AREA = .000294 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .130790HR TP = .133330HR K/TP RATIO = .980950 SHAPE CONSTANT, N = 3.599935
UNIT PEAK = 2.8891 CFS UNIT VOLUME = .9966 B = 327.55 P60 = 1.9000
AREA = .001176 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 120.00

RUNOFF VOLUME = 1.02755 INCHES = .0806 ACRE-FEET
PEAK DISCHARGE RATE = 2.37 CFS AT 1.500 HOURS BASIN AREA = .0015 SQ. MI.

*
* FLOW CALCULATIONS FOR BASIN 130
*

COMPUTE NM HYD ID=3 HYD NO=130 DA=0.00152 SQ MI
%A=12.5 %B=25 %C=12.5 %D=50
TP=0.13333 HR
MASS RAINFALL=-1

K = .072665HR TP = .133330HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 2.9998 CFS UNIT VOLUME = .9959 B = 526.28 P60 = 1.9000
AREA = .000760 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .132693HR TP = .133330HR K/TP RATIO = .995225 SHAPE CONSTANT, N = 3.547437
UNIT PEAK = 1.8456 CFS UNIT VOLUME = .9939 B = 323.78 P60 = 1.9000
AREA = .000760 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=3 CODE=1

PARTIAL HYDROGRAPH 130.00

RUNOFF VOLUME = 1.54907 INCHES = .1256 ACRE-FEET
 PEAK DISCHARGE RATE = 3.12 CFS AT 1.500 HOURS BASIN AREA = .0015 SQ. MI.

*

* ADD BASINS 110 AND 120
 ADD HYD ID=20 HYD=20 ID I=1 ID II=2
 PRINT HYD ID=20 CODE=1

OUTFLOW HYDROGRAPH REACH 20.00

RUNOFF VOLUME = 1.44236 INCHES = .5531 ACRE-FEET
 PEAK DISCHARGE RATE = 14.08 CFS AT 1.500 HOURS BASIN AREA = .0072 SQ. MI.

*

* ADD BASINS 110,120,130
 ADD HYD ID=21 HYD=21 ID I=20 ID II=3
 PRINT HYD ID=21 CODE=1

OUTFLOW HYDROGRAPH REACH 21.00

RUNOFF VOLUME = 1.46095 INCHES = .6787 ACRE-FEET
 PEAK DISCHARGE RATE = 17.20 CFS AT 1.500 HOURS BASIN AREA = .0087 SQ. MI.

*

*

* ROUTE BASINS 110,120,130 THROUGH POND A

*S** POND A **

ROUTE RESERVOIR ID=22 HYD NO=22 INFLOW ID=21 CODE=24

OUTFLOW(CFS)	STORAGE(AC-FT)	ELEVATION(FT)
0.00	0.000	4954
0.31	0.001	4954.01
3.10	0.105	4955
4.39	0.507	4956
5.37	1.026	4957
6.21	1.600	4958
6.94	2.042	4959

* * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	4954.00	.000	.00
1.20	.16	4954.00	.000	.07
2.40	.64	4955.35	.248	3.56
3.60	.06	4954.20	.021	.84
4.80	.06	4954.00	.000	.06
6.00	.07	4954.00	.000	.07
7.20	.09	4954.00	.000	.09
8.40	.08	4954.00	.000	.08
9.60	.08	4954.00	.000	.08
10.80	.07	4954.00	.000	.07

12.00	.07	4954.00	.000	.07
13.20	.06	4954.00	.000	.06
14.40	.06	4954.00	.000	.06
15.60	.06	4954.00	.000	.06
16.80	.06	4954.00	.000	.06
18.00	.05	4954.00	.000	.05
19.20	.05	4954.00	.000	.05
20.40	.05	4954.00	.000	.05
21.60	.05	4954.00	.000	.05
22.80	.05	4954.00	.000	.05
24.00	.04	4954.00	.000	.04

PEAK DISCHARGE = 3.784 CFS - PEAK OCCURS AT HOUR 1.95
 MAXIMUM WATER SURFACE ELEVATION = 4955.530
 MAXIMUM STORAGE = .3181 AC-FT INCREMENTAL TIME= .050000HRS

*
 PRINT HYD ID=22 CODE=1

OUTFLOW HYDROGRAPH REACH 22.00

RUNOFF VOLUME = 1.46095 INCHES = .6787 ACRE-FEET
 PEAK DISCHARGE RATE = 3.78 CFS AT 1.950 HOURS BASIN AREA = .0087 SQ. MI.

*
 * FLOW CALCULATIONS FOR BASIN 210
 *

COMPUTE NM HYD ID=4 HYD NO=210 DA=0.00018 SQ MI
 %A=0 %B=0 %C=0 %D=100
 TP=0.13333 HR
 MASS RAINFALL=-1

K = .072665HR TP = .133330HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = .71049 CFS UNIT VOLUME = .9832 B = 526.28 P60 = 1.9000
 AREA = .000180 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=4 CODE=1

PARTIAL HYDROGRAPH 210.00

RUNOFF VOLUME = 2.41826 INCHES = .0232 ACRE-FEET
 PEAK DISCHARGE RATE = .51 CFS AT 1.500 HOURS BASIN AREA = .0002 SQ. MI.

*
 * FLOW CALCULATIONS FOR DETENTION POND B
 * CREATE HYDROGRAPHS FOR BASINS 410,420,430,440
 * ADD HYDROGRAPHS AND ROUTE THROUGH POND B
 *

* FLOW CALCULATIONS FOR BASIN 410
 *

COMPUTE NM HYD ID=8 HYD NO=410 DA=0.00261 SQ MI
 %A=12.5 %B=25 %C=12.5 %D=50
 TP=0.13333 HR
 MASS RAINFALL=-1

K = .072665HR TP = .133330HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 5.1510 CFS UNIT VOLUME = .9971 B = 526.28 P60 = 1.9000
 AREA = .001305 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .132693HR TP = .133330HR K/TP RATIO = .995225 SHAPE CONSTANT, N = 3.547437
UNIT PEAK = 3.1690 CFS UNIT VOLUME = .9967 B = 323.78 P60 = 1.9000
AREA = .001305 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=8 CODE=1

HYDROGRAPH FROM AREA 410.00

RUNOFF VOLUME = 1.54907 INCHES = .2156 ACRE-FEET
PEAK DISCHARGE RATE = 5.35 CFS AT 1.500 HOURS BASIN AREA = .0026 SQ. MI.

*
* FLOW CALCULATIONS FOR BASIN 420
*

COMPUTE NM HYD ID=9 HYD NO=420 DA=0.00205 SQ MI
%A=0 %B=75 %C=0 %D=25
TP=0.13333 HR
MASS RAINFALL=-1

K = .072665HR TP = .133330HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 2.0229 CFS UNIT VOLUME = .9941 B = 526.28 P60 = 1.9000
AREA = .000513 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .130790HR TP = .133330HR K/TP RATIO = .980950 SHAPE CONSTANT, N = 3.599935
UNIT PEAK = 3.7772 CFS UNIT VOLUME = .9976 B = 327.55 P60 = 1.9000
AREA = .001538 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=9 CODE=1

HYDROGRAPH FROM AREA 420.00

RUNOFF VOLUME = 1.11447 INCHES = .1218 ACRE-FEET
PEAK DISCHARGE RATE = 3.46 CFS AT 1.500 HOURS BASIN AREA = .0021 SQ. MI.

*
* FLOW CALCULATIONS FOR BASIN 430
*

COMPUTE NM HYD ID=10 HYD NO=430 DA=0.00159 SQ MI
%A=10 %B=20 %C=10 %D=60
TP=0.13333 HR
MASS RAINFALL=-1

K = .072665HR TP = .133330HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 3.7656 CFS UNIT VOLUME = .9966 B = 526.28 P60 = 1.9000
AREA = .000954 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .132693HR TP = .133330HR K/TP RATIO = .995225 SHAPE CONSTANT, N = 3.547437
UNIT PEAK = 1.5444 CFS UNIT VOLUME = .9930 B = 323.78 P60 = 1.9000
AREA = .000636 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=10 CODE=1

HYDROGRAPH FROM AREA 430.00

RUNOFF VOLUME = 1.72291 INCHES = .1461 ACRE-FEET
 PEAK DISCHARGE RATE = 3.50 CFS AT 1.500 HOURS BASIN AREA = .0016 SQ. MI.

*
 * FLOW CALCULATIONS FOR BASIN 440
 *

COMPUTE NM HYD ID=11 HYD NO=440 DA=0.00338 SQ MI
 %A=0 %B=17 %C=0 %D=83
 TP=0.13333 HR
 MASS RAINFALL=-1

K = .072665HR TP = .133330HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 11.073 CFS UNIT VOLUME = .9981 B = 526.28 P60 = 1.9000
 AREA = .002805 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .130790HR TP = .133330HR K/TP RATIO = .980950 SHAPE CONSTANT, N = 3.599935
 UNIT PEAK = 1.4116 CFS UNIT VOLUME = .9914 B = 327.55 P60 = 1.9000
 AREA = .000575 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=11 CODE=1

HYDROGRAPH FROM AREA 440.00

RUNOFF VOLUME = 2.12274 INCHES = .3827 ACRE-FEET
 PEAK DISCHARGE RATE = 8.60 CFS AT 1.500 HOURS BASIN AREA = .0034 SQ. MI.

*
 * ADD BASINS 410 AND 420
 ADD HYD ID=20 HYD=20 ID I=8 ID II=9
 PRINT HYD ID=20 CODE=1

OUTFLOW HYDROGRAPH REACH 20.00

RUNOFF VOLUME = 1.35775 INCHES = .3374 ACRE-FEET
 PEAK DISCHARGE RATE = 8.81 CFS AT 1.500 HOURS BASIN AREA = .0047 SQ. MI.

*
 * ADD BASINS 430 AND 440
 ADD HYD ID=21 HYD=21 ID I=10 ID II=11
 PRINT HYD ID=21 CODE=1

OUTFLOW HYDROGRAPH REACH 21.00

RUNOFF VOLUME = 1.99470 INCHES = .5287 ACRE-FEET
 PEAK DISCHARGE RATE = 12.10 CFS AT 1.500 HOURS BASIN AREA = .0050 SQ. MI.

*
 * ADD BASINS 410,420,430,440
 ADD HYD ID=22 HYD=22 ID I=20 ID II=21

PRINT HYD ID=22 CODE=1

OUTFLOW HYDROGRAPH REACH 22.00

RUNOFF VOLUME = 1.68648 INCHES = .8662 ACRE-FEET
PEAK DISCHARGE RATE = 20.90 CFS AT 1.500 HOURS BASIN AREA = .0096 SQ. MI.

*
* ROUTE BASINS 410,420,430,440 THROUGH POND B
*S** POND B **
ROUTE RESERVOIR ID=23 HYD NO=23 INFLOW ID=22 CODE=24

OUTFLOW(CFS)	STORAGE(AC-FT)	ELEVATION(FT)
0.00	0.000	4957.5
0.01	0.001	4957.51
3.18	0.010	4958.0
16.53	0.138	4959.0
35.58	0.381	4960.0

* * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	4957.50	.000	.00
1.20	.22	4957.50	.000	.00
2.40	.80	4957.65	.003	.89
3.60	.09	4957.52	.001	.09
4.80	.08	4957.52	.001	.08
6.00	.11	4957.52	.001	.11
7.20	.13	4957.53	.001	.13
8.40	.12	4957.53	.001	.12
9.60	.11	4957.53	.001	.11
10.80	.10	4957.52	.001	.10
12.00	.10	4957.52	.001	.10
13.20	.09	4957.52	.001	.09
14.40	.09	4957.52	.001	.09
15.60	.08	4957.52	.001	.08
16.80	.08	4957.52	.001	.08
18.00	.08	4957.52	.001	.08
19.20	.07	4957.52	.001	.07
20.40	.07	4957.52	.001	.07
21.60	.07	4957.52	.001	.07
22.80	.07	4957.52	.001	.07
24.00	.06	4957.52	.001	.06
25.20	.00	4957.50	.001	.01
26.40	.00	4957.50	.000	.00

PEAK DISCHARGE = 15.720 CFS - PEAK OCCURS AT HOUR 1.60
MAXIMUM WATER SURFACE ELEVATION = 4958.939
MAXIMUM STORAGE = .1302 AC-FT INCREMENTAL TIME= .050000HRS

*
PRINT HYD ID=23 CODE=1

OUTFLOW HYDROGRAPH REACH 23.00

RUNOFF VOLUME = 1.68646 INCHES = .8662 ACRE-FEET
PEAK DISCHARGE RATE = 15.72 CFS AT 1.600 HOURS BASIN AREA = .0096 SQ. MI.

*
* FLOW CALCULATIONS FOR DETENTION POND C

* CREATE HYDROGRAPHS FOR BASINS 510,520,530
* ADD HYDROGRAPHS AND ROUTE THROUGH POND C
* THEN THROUGH STORM DRAIN TO PONDS D AND E
*

* FLOW CALCULATIONS FOR BASIN 510
*

COMPUTE NM HYD ID=12 HYD NO=510 DA=0.00231 SQ MI
%A=10 %B=20 %C=10 %D=60
TP=0.13333 HR
MASS RAINFALL=-1

K = .072665HR TP = .133330HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 5.4708 CFS UNIT VOLUME = .9971 B = 526.28 P60 = 1.9000
AREA = .001386 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .132693HR TP = .133330HR K/TP RATIO = .995225 SHAPE CONSTANT, N = 3.547437
UNIT PEAK = 2.2438 CFS UNIT VOLUME = .9948 B = 323.78 P60 = 1.9000
AREA = .000924 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=12 CODE=1

OUTFLOW HYDROGRAPH RESERVOIR 510.00

RUNOFF VOLUME = 1.72291 INCHES = .2123 ACRE-FEET
PEAK DISCHARGE RATE = 5.08 CFS AT 1.500 HOURS BASIN AREA = .0023 SQ. MI.

*
* FLOW CALCULATIONS FOR BASIN 520
*

COMPUTE NM HYD ID=13 HYD NO=520 DA=0.00456 SQ MI
%A=0 %B=100 %C=0 %D=0
TP=0.13333 HR
MASS RAINFALL=-1

K = .130790HR TP = .133330HR K/TP RATIO = .980950 SHAPE CONSTANT, N = 3.599935
UNIT PEAK = 11.203 CFS UNIT VOLUME = 1.000 B = 327.55 P60 = 1.9000
AREA = .004560 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=13 CODE=1

OUTFLOW HYDROGRAPH RESERVOIR 520.00

RUNOFF VOLUME = .67987 INCHES = .1653 ACRE-FEET
PEAK DISCHARGE RATE = 5.97 CFS AT 1.500 HOURS BASIN AREA = .0046 SQ. MI.

*
* FLOW CALCULATIONS FOR BASIN 530
*

COMPUTE NM HYD ID=14 HYD NO=530 DA=0.00253 SQ MI
%A=0 %B=17 %C=0 %D=83
TP=0.13333 HR
MASS RAINFALL=-1

K = .072665HR TP = .133330HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 8.2886 CFS UNIT VOLUME = .9978 B = 526.28 P60 = 1.9000
AREA = .002100 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR

RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .130790HR TP = .133330HR K/TP RATIO = .980950 SHAPE CONSTANT, N = 3.599935
UNIT PEAK = 1.0566 CFS UNIT VOLUME = .9885 B = 327.55 P60 = 1.9000
AREA = .000430 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=14 CODE=1

OUTFLOW HYDROGRAPH RESERVOIR 530.00

RUNOFF VOLUME = 2.12274 INCHES = .2864 ACRE-FEET
PEAK DISCHARGE RATE = 6.44 CFS AT 1.500 HOURS BASIN AREA = .0025 SQ. MI.

*
* ADD BASINS 510 AND 520
ADD HYD ID=24 HYD=24 ID I=12 ID II=13
PRINT HYD ID=24 CODE=1

OUTFLOW HYDROGRAPH REACH 24.00

RUNOFF VOLUME = 1.03052 INCHES = .3776 ACRE-FEET
PEAK DISCHARGE RATE = 11.05 CFS AT 1.500 HOURS BASIN AREA = .0069 SQ. MI.

*
* ADD BASINS 510,520,530
ADD HYD ID=25 HYD=25 ID I=24 ID II=14
PRINT HYD ID=25 CODE=1

OUTFLOW HYDROGRAPH REACH 25.00

RUNOFF VOLUME = 1.32446 INCHES = .6640 ACRE-FEET
PEAK DISCHARGE RATE = 17.49 CFS AT 1.500 HOURS BASIN AREA = .0094 SQ. MI.

*
* ADD BASINS 410,420,430,440,510,520,530
ADD HYD ID=26 HYD=26 ID I=23 ID II=25
PRINT HYD ID=26 CODE=1

OUTFLOW HYDROGRAPH REACH 26.00

RUNOFF VOLUME = 1.50756 INCHES = 1.5301 ACRE-FEET
PEAK DISCHARGE RATE = 31.07 CFS AT 1.550 HOURS BASIN AREA = .0190 SQ. MI.

*
*
* ROUTE BASINS 410,420,430,440,510,520,530 THROUGH POND C
*S** POND C **

ROUTE RESERVOIR ID=27 HYD NO=27 INFLOW ID=26 CODE=24

OUTFLOW(CFS)	STORAGE(AC-FT)	ELEVATION(FT)
0.0000	0.000	4955.3
1.6330	0.001	4955.31
13.6626	0.036	4956.0

21.2916 0.309 4957.0
26.8328 0.753 4958.0

* * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	4955.30	.000	.00
1.20	.15	4955.30	.000	.11
2.40	1.53	4955.32	.001	1.73
3.60	.16	4955.30	.000	.16
4.80	.13	4955.30	.000	.13
6.00	.17	4955.30	.000	.17
7.20	.21	4955.30	.000	.21
8.40	.19	4955.30	.000	.19
9.60	.18	4955.30	.000	.18
10.80	.17	4955.30	.000	.17
12.00	.16	4955.30	.000	.16
13.20	.15	4955.30	.000	.15
14.40	.14	4955.30	.000	.14
15.60	.14	4955.30	.000	.14
16.80	.13	4955.30	.000	.13
18.00	.12	4955.30	.000	.12
19.20	.12	4955.30	.000	.12
20.40	.11	4955.30	.000	.11
21.60	.11	4955.30	.000	.11
22.80	.11	4955.30	.000	.11
24.00	.10	4955.30	.000	.10
25.20	.01	4955.30	.000	.01
26.40	.00	4955.30	.000	.00

PEAK DISCHARGE = 19.839 CFS - PEAK OCCURS AT HOUR 1.70

MAXIMUM WATER SURFACE ELEVATION = 4956.810

MAXIMUM STORAGE = .2570 AC-FT INCREMENTAL TIME= .050000HRS

*

PRINT HYD ID=27 CODE=1

OUTFLOW HYDROGRAPH REACH 27.00

RUNOFF VOLUME = 1.50756 INCHES = 1.5301 ACRE-FeET

PEAK DISCHARGE RATE = 19.84 CFS AT 1.700 HOURS BASIN AREA = .0190 SQ. MI.

*

* CREATE HYDROGRAPHS FOR BASINS 310,320,330

* ADD HYDROGRAPHS TOGETHER

* ADD HYDROGRAPH TO HYDROGRAPH FROM POND C

* ROUTE HYDROGRAPH THROUGH PONDS D AND E

* (TREAT PONDS D AND E AS ONE)

*

* FLOW CALCULATIONS FOR BASIN 310

*

COMPUTE NM HYD ID=5 HYD NO=310 DA=0.00546 SQ MI

%A=12.5 %B=25 %C=12.5 %D=50

TP=0.13333 HR

MASS RAINFALL=-1

K = .072665HR TP = .133330HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420

UNIT PEAK = 10.776 CFS UNIT VOLUME = .9981 B = 526.28 P60 = 1.9000

AREA = .002730 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR

RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .132693HR TP = .133330HR K/TP RATIO = .995225 SHAPE CONSTANT, N = 3.547437
UNIT PEAK = 6.6295 CFS UNIT VOLUME = .9990 B = 323.78 P60 = 1.9000
AREA = .002730 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=5 CODE=1

HYDROGRAPH FROM AREA 310.00

RUNOFF VOLUME = 1.54907 INCHES = .4511 ACRE-FEET
PEAK DISCHARGE RATE = 11.17 CFS AT 1.500 HOURS BASIN AREA = .0055 SQ. MI.

*
* FLOW CALCULATIONS FOR BASIN 320
*

COMPUTE NM HYD ID=6 HYD NO=320 DA=0.00270 SQ MI
%A=10 %B=20 %C=10 %D=60
TP=0.13333 HR
MASS RAINFALL=-1

K = .072665HR TP = .133330HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 6.3944 CFS UNIT VOLUME = .9975 B = 526.28 P60 = 1.9000
AREA = .001620 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .132693HR TP = .133330HR K/TP RATIO = .995225 SHAPE CONSTANT, N = 3.547437
UNIT PEAK = 2.6226 CFS UNIT VOLUME = .9962 B = 323.78 P60 = 1.9000
AREA = .001080 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=6 CODE=1

HYDROGRAPH FROM AREA 320.00

RUNOFF VOLUME = 1.72291 INCHES = .2481 ACRE-FEET
PEAK DISCHARGE RATE = 5.94 CFS AT 1.500 HOURS BASIN AREA = .0027 SQ. MI.

*
* FLOW CALCULATIONS FOR BASIN 330
*

COMPUTE NM HYD ID=7 HYD NO=330 DA=0.00623 SQ MI
%A=0 %B=0 %C=10 %D=90
TP=0.13333 HR
MASS RAINFALL=-1

K = .072665HR TP = .133330HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 22.132 CFS UNIT VOLUME = .9986 B = 526.28 P60 = 1.9000
AREA = .005607 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .106229HR TP = .133330HR K/TP RATIO = .796738 SHAPE CONSTANT, N = 4.498737
UNIT PFAK = 1.8090 CFS UNIT VOLUME = .9951 B = 387.15 P60 = 1.9000
AREA = .000623 SQ MI IA = .35000 INCHES INF = .83000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=7 CODE=1

HYDROGRAPH FROM AREA 330.00

RUNOFF VOLUME = 2.27756 INCHES = .7568 ACRE-FEET
PEAK DISCHARGE RATE = 16.81 CFS AT 1.500 HOURS BASIN AREA = .0062 SQ. MI.

*
* FLOW CALCULATIONS FOR BASIN 610
*

COMPUTE NM HYD ID=15 HYD NO=610 DA=0.00585 SQ MI
%A=0 %B=0 %C=10 %D=90
TP=0.13333 HR
MASS RAINFALL=-1

K = .072665HR TP = .133330HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 20.782 CFS UNIT VOLUME = .9986 B = 526.28 P60 = 1.9000
AREA = .005265 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .106229HR TP = .133330HR K/TP RATIO = .796738 SHAPE CONSTANT, N = 4.498737
UNIT PEAK = 1.6987 CFS UNIT VOLUME = .9940 B = 387.15 P60 = 1.9000
AREA = .000585 SQ MI IA = .35000 INCHES INF = .83000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=15 CODE=1

HYDROGRAPH FROM AREA 610.00

RUNOFF VOLUME = 2.27756 INCHES = .7106 ACRE-FEET
PEAK DISCHARGE RATE = 15.79 CFS AT 1.500 HOURS BASIN AREA = .0059 SQ. MI.

*
* ADD BASINS 310 AND 320
ADD HYD ID=20 HYD=20 ID I=5 ID II=6
PRINT HYD ID=20 CODE=1

OUTFLOW HYDROGRAPH REACH 20.00

RUNOFF VOLUME = 1.60651 INCHES = .6991 ACRE-FEET
PEAK DISCHARGE RATE = 17.11 CFS AT 1.500 HOURS BASIN AREA = .0082 SQ. MI.

*
* ADD BASINS 310,320,330
ADD HYD ID=21 HYD=21 ID I=20 ID II=7
PRINT HYD ID=21 CODE=1

OUTFLOW HYDROGRAPH REACH 21.00

RUNOFF VOLUME = 1.89701 INCHES = 1.4559 ACRE-FEET
PEAK DISCHARGE RATE = 33.92 CFS AT 1.500 HOURS BASIN AREA = .0144 SQ. MI.

*
* ADD BASINS 310,320,330,610
ADD HYD ID=22 HYD=22 ID I=21 ID II=15
PRINT HYD ID=22 CODE=1

OUTFLOW HYDROGRAPH REACH 22.00

RUNOFF VOLUME = 2.00699 INCHES = 2.1665 ACRE-FEET
 PEAK DISCHARGE RATE = 49.71 CFS AT 1.500 HOURS BASIN AREA = .0202 SQ. MI.

*
 * ADD BASINS 310,320,330,610 TO HYDROGRAPH FROM POND C
 ADD HYD ID=28 HYD=28 ID I=22 ID II=27
 PRINT HYD ID=28 CODE=1

OUTFLOW HYDROGRAPH REACH 28.00

RUNOFF VOLUME = 1.76497 INCHES = 3.6965 ACRE-FEET
 PEAK DISCHARGE RATE = 65.33 CFS AT 1.500 HOURS BASIN AREA = .0393 SQ. MI.

*
 * ROUTE BASINS 310,320,330,410,420,430,440,510,520,530,610 THROUGH PONDS D
 * PONDS D AND E ARE MODELED AS 1 POND
 *S** POND D AND E **
 ROUTE RESERVOIR ID=29 HYD NO=29 INFLOW ID=28 CODE=10

OUTFLOW(CFS)	STORAGE(AC-FT)	ELEVATION(FT)
0.00	0.000	4952.0
0.01	0.002	4952.01
0.28	0.026	4952.5
0.67	0.213	4953.0
1.72	1.002	4954.0
3.03	1.923	4955.0
4.56	2.952	4956.0
6.28	4.096	4957.0
8.17	5.360	4958.0
10.23	6.749	4959.0

* * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	4952.00	.000	.00
.50	.00	4952.00	.000	.00
1.00	.00	4952.00	.000	.00
1.50	65.33	4953.62	.700	1.32
2.00	27.89	4955.39	2.328	3.63
2.50	2.64	4955.71	2.654	4.12
3.00	.81	4955.61	2.548	3.96
3.50	.43	4955.48	2.413	3.76
4.00	.34	4955.34	2.277	3.56
4.50	.34	4955.22	2.148	3.37
5.00	.36	4955.10	2.027	3.19
5.50	.41	4954.99	1.915	3.02
6.00	.46	4954.88	1.811	2.87
6.50	.58	4954.78	1.718	2.74
7.00	.57	4954.68	1.631	2.61
7.50	.55	4954.59	1.549	2.50
8.00	.53	4954.51	1.470	2.39
8.50	.52	4954.43	1.395	2.28
9.00	.50	4954.35	1.324	2.18
9.50	.49	4954.28	1.257	2.08
10.00	.48	4954.21	1.193	1.99
10.50	.46	4954.14	1.131	1.90

11.00	.45	4954.08	1.073	1.82
11.50	.44	4954.02	1.018	1.74
12.00	.43	4953.95	.965	1.67
12.50	.42	4953.89	.915	1.60
13.00	.41	4953.83	.867	1.54
13.50	.40	4953.77	.822	1.48
14.00	.39	4953.72	.778	1.42
14.50	.38	4953.66	.736	1.37
15.00	.37	4953.61	.697	1.31
15.50	.37	4953.56	.659	1.26
16.00	.36	4953.52	.622	1.21
16.50	.35	4953.48	.588	1.17
17.00	.35	4953.43	.555	1.13
17.50	.34	4953.39	.523	1.08
18.00	.33	4953.36	.493	1.04
18.50	.33	4953.32	.465	1.00
19.00	.32	4953.28	.437	.97
19.50	.31	4953.25	.411	.93
20.00	.31	4953.22	.386	.90
20.50	.30	4953.19	.362	.87
21.00	.30	4953.16	.340	.84
21.50	.30	4953.13	.318	.81
22.00	.29	4953.11	.297	.78
22.50	.28	4953.08	.277	.76
23.00	.28	4953.06	.258	.73
23.50	.28	4953.03	.240	.71
24.00	.27	4953.01	.223	.68
24.50	.02	4952.96	.200	.64
25.00	.01	4952.90	.174	.59
25.50	.00	4952.83	.151	.54
26.00	.00	4952.78	.130	.50
26.50	.00	4952.73	.110	.46
27.00	.00	4952.68	.092	.42
27.50	.00	4952.63	.076	.38

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

28.00	.00	4952.59	.061	.35
28.50	.00	4952.56	.047	.32
29.00	.00	4952.52	.034	.30
29.50	.00	4952.43	.022	.24

PEAK DISCHARGE = 4.130 CFS - PEAK OCCURS AT HOUR 2.35
 MAXIMUM WATER SURFACE ELEVATION = 4955.719
 MAXIMUM STORAGE = 2.6629 AC-FT INCREMENTAL TIME= .050000HRS

*
 PRINT HYD ID=29 CODE=1

OUTFLOW HYDROGRAPH REACH 29.00

RUNOFF VOLUME = 1.75789 INCHES = 3.6817 ACRE-FEET
 PEAK DISCHARGE RATE = 4.13 CFS AT 2.350 HOURS BASIN AREA = .0393 SQ. MI.

*
 *
 FINISH

NORMAL PROGRAM FINISH END TIME (HR:MIN:SEC) = 14:17:39

17-Dec-97

Project: SAWMILL

Remarks: Computations for POND B

Remarks: Volume Computations only calculated to elevation 59

Remarks: Volume Computations for PROPOSED contours

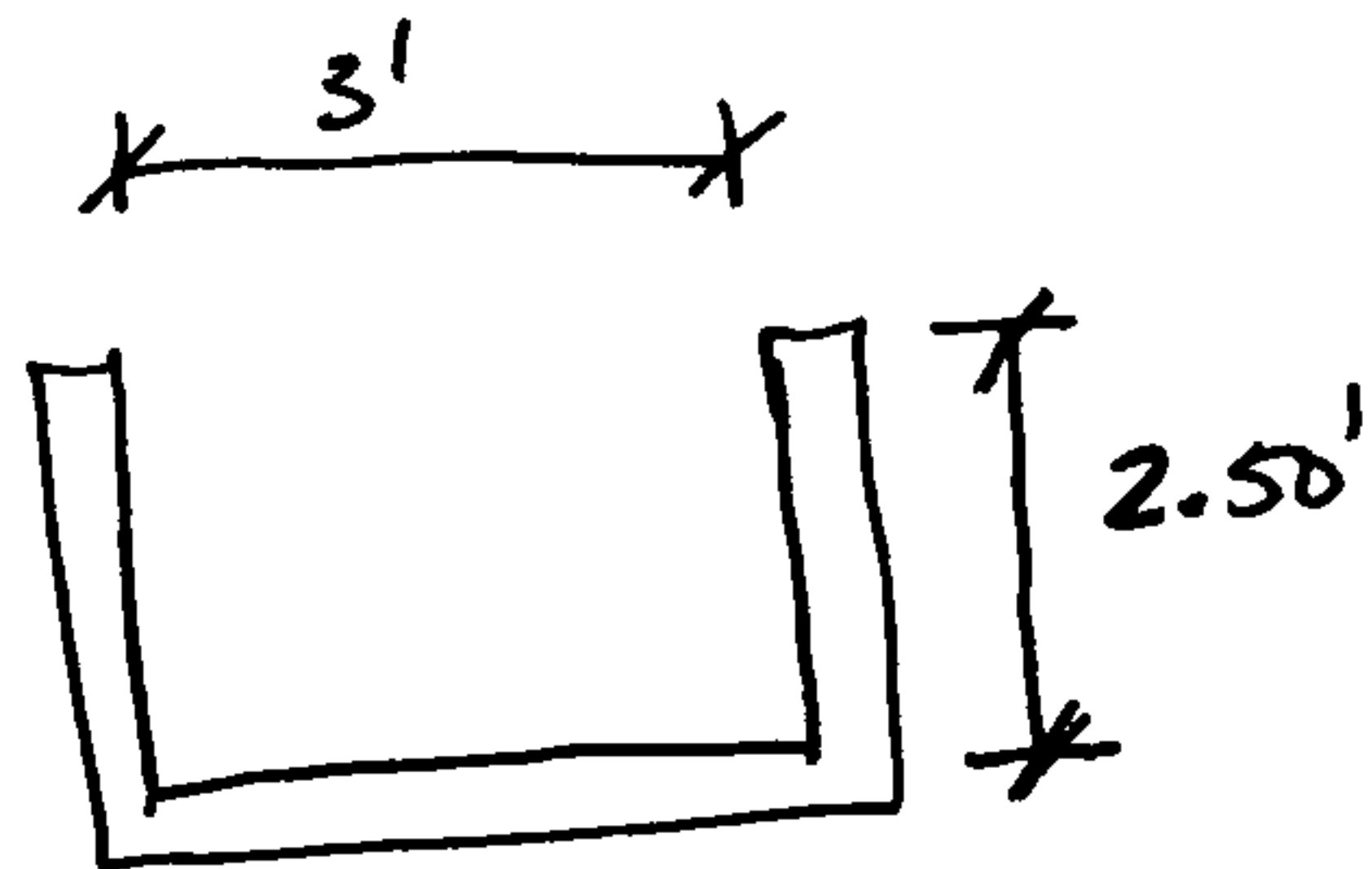
ONE FOOT CONTOUR INTERVAL

AREA (in sq.ft.)	ELEVATION (M.S.L.)	DELTA ELEV. (M.S.L.)	VOLUME (cu. ft.)	CUMM. VOLUME (cu. ft.)	CUMM. VOLUME (Ac-Ft)
0.00	57.5				
		0.5	424.500	424.500	0.010
2547.00	58	1	5598.639	6023.139	0.138
9365.00	59	1	10576.900	16600.039	0.381
11837.00	60				

Rating curve for channel:

elev	depth	Q _{out}
	0	0 ✓
57.5	0.01	0.01 ✓
57.51	0.5	6.30 3.18
58	1.5	30.02 16.53
59	2.5	58.07 35.58 max.
60		

Weir eqn
 $Q = CLH^{3/2}$



15.72
 $Q_{out} = 15.72 \text{ cfs}$

100-yr W.S. elev. = ~~4958.499~~ 4958.939

max storage = ~~0.0730~~ ac-ft. 0.1302.

freeboard = ~~4960 - 4958.499~~ 4958.939

= ~~1.50~~ 1.06' above 100-yr W.S. depth.

depth of water = ~~4957.5 - 4958.499~~ 4958.939

= ~~1.00~~ 1.44 ft.

Weir length = 3'

Triangular Channel Analysis & Design
Open Channel - Uniform flow

Worksheet Name: tri

Comment:

Solve For Depth

Given Input Data:

Left Side Slope..	4.00:1 (H:V)
Right Side Slope.	4.00:1 (H:V)
Manning's n.....	0.035
Channel Slope....	0.0050 ft/ft
Discharge.....	18.10 cfs

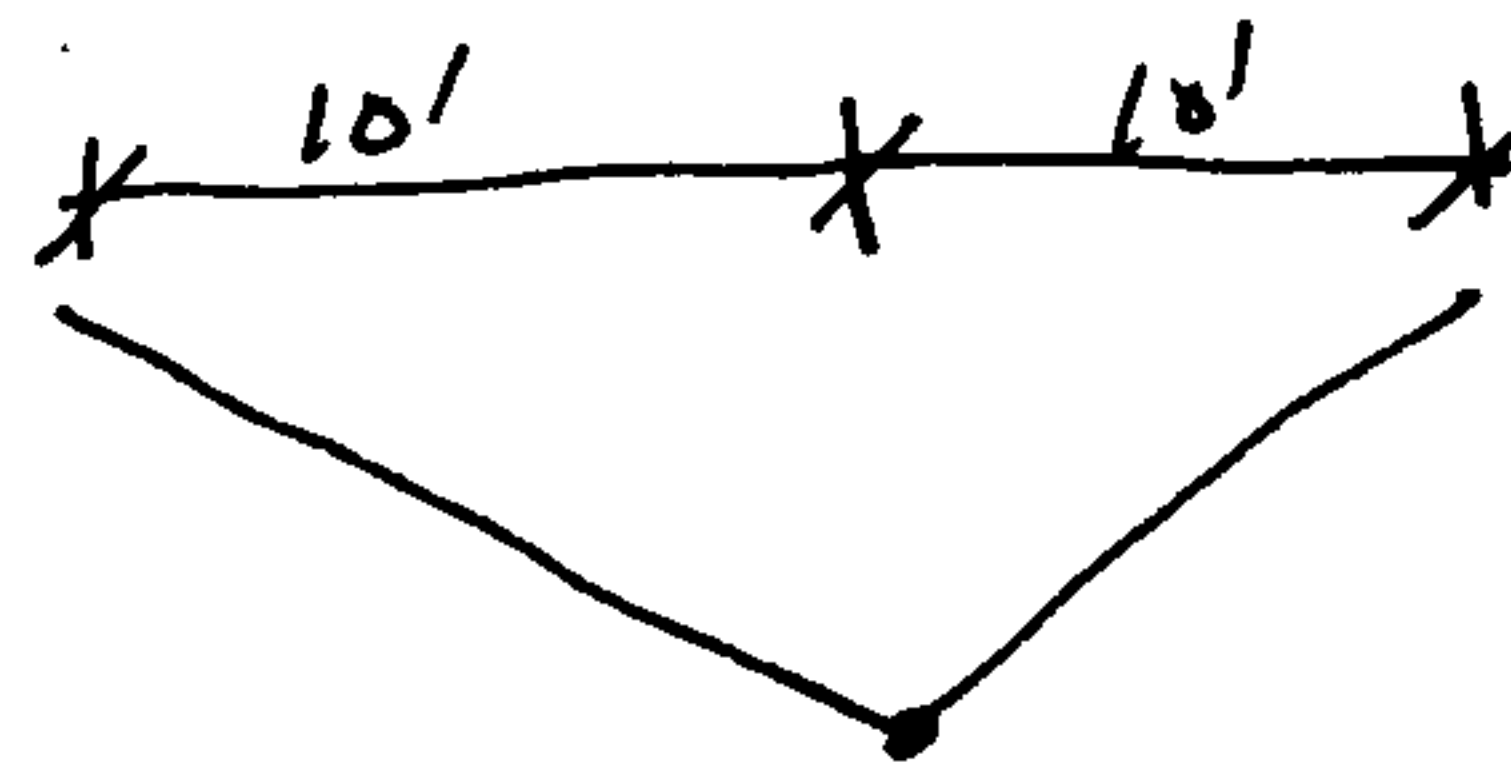
Computed Results:

Depth.....	1.40 ft
Velocity.....	2.32 fps
Flow Area.....	7.81 sf
Flow Top Width...	11.18 ft
Wetted Perimeter.	11.52 ft
Critical Depth...	1.05 ft
Critical Slope...	0.0231 ft/ft
Froude Number....	0.49 (flow is Subcritical)

"V" DITCH

from POND B TO POND C.

Slope = 0.50%



22-Dec-97

Project: SAWMILL

Remarks: Computations for POND C

Remarks: Volume Computations only calculated to elevation 58

Remarks: Volume Computations for PROPOSED contours

ONE FOOT CONTOUR INTERVAL

AREA (in sq.ft.)	ELEVATION (M.S.L.)	DELTA ELEV. (M.S.L.)	VOLUME (cu. ft.)	CUMM. VOLUME (cu. ft.)	CUMM. VOLUME (Ac-Ft)
0.00	55.3				
		0.7	1566.133	1566.133	0.036
6712.00	56	1	11874.229	13440.362	0.309
17938.00	57	1	19364.533	32804.895	0.753
20827.00	58				

100yr w.s. elev. = 4956.81

$Q_{out} = 20 \text{ cfs}$

Sawmill Redevelopment
Master Drainage Plan
Pond A Discharge Rating Curve

POND C

elev.	height (ft)	Q (cfs)
4955.3	0.00	0.0000
4955.31	0.01	1.6330
4956	0.70	13.6626
4957	1.70	21.2916
4958	2.70	26.8328

3.0371527

18-Dec-97

Project: SAWMILL

Remarks: Computations for POND D

Remarks: Volmue Computations only calculated to elevation 59

Remarks: Volume Computations for PROPOSED contours

ONE FOOT CONTOUR INTERVAL

AREA (in sq.ft.)	ELEVATION (M.S.L.)	DELTA ELEV. (M.S.L.)	VOLUME (cu. ft.)	CUMM. VOLUME (cu. ft.)	CUMM. VOLUME (Ac-Ft)
0.00	52.5				
		0.5	2275.000	2275.000	0.052
13650.00	53	1	15895.865	18170.865	0.417
18253.00	54	1	19376.916	37547.782	0.862
20523.00	55	1	21710.961	59258.743	1.360
22921.00	56	1	24173.982	83432.725	1.915
25449.00	57	1	26766.508	110199.233	2.530
28106.00	58	1	29488.031	139687.264	3.207
30892.00	59				

100-yr w.s. elev. = 4954.424

Sawmill Redevelopment
Master Drainage Plan
Pond A Discharge Rating Curve

~~POND A~~ POND D

elev.	height (ft)	area (sq ft)	area (ac)	volume (ac-ft)	Q (cfs)
4952.50	0.00	0	0.0000	0.000	0.0000
4953.00	0.50	43.56	0.0010	0.001	3.1754
4953.55	1.05	43.56	0.0010	0.004	4.6016
4954	1.50	12,913	0.2964	0.099	5.5000
4955	2.50	16,163	0.3711	0.432	7.1005
4956	3.50	18,552	0.4259	0.830	8.4014
4957	4.50	21,065	0.4836	1.284	9.5263
4958	5.50	23,703	0.5441	1.798	10.5317
4959	6.50	23,703	0.5441	1.798	11.4492

18-Dec-97

Project: SAWMILL

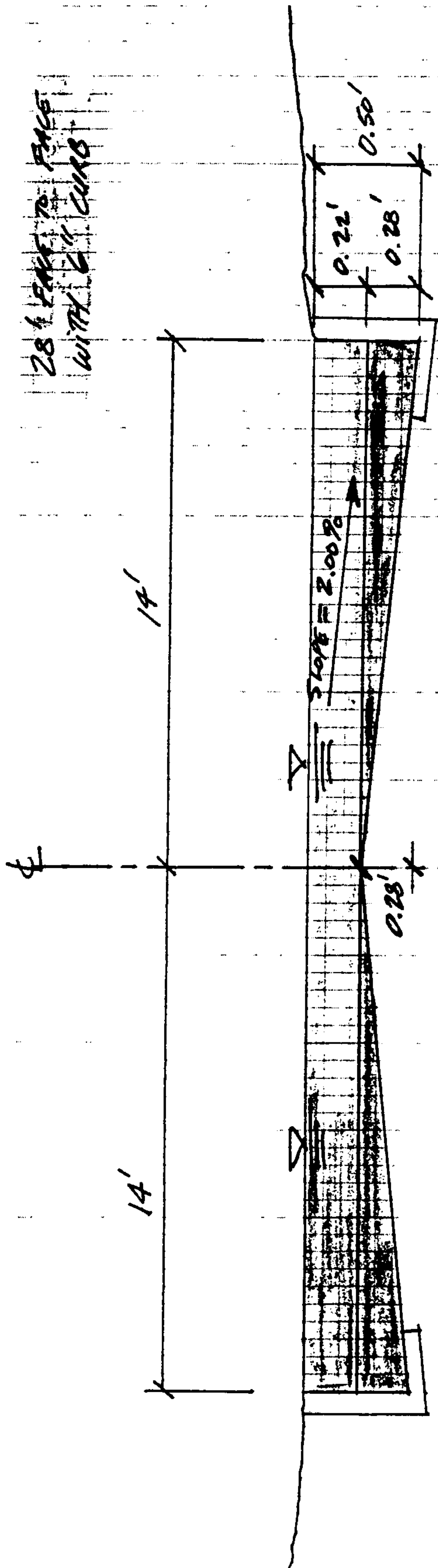
Remarks: Computations for POND E

Remarks: Volmue Computations only calculated to elevation 59

Remarks: Volume Computations for PROPOSED contours

ONE FOOT CONTOUR INTERVAL

AREA (in sq.ft.)	ELEVATION (M.S.L.)	DELTA ELEV. (M.S.L.)	VOLUME (cu. ft.)	CUMM. VOLUME (cu. ft.)	CUMM. VOLUME (Ac-Ft)
0.00	52				
		0.5	1139.000	1139.000	0.026
6834.00	52.5				
		0.5	5854.035	6993.035	0.161
17389.00	53				
		1	18482.006	25475.041	0.585
19597.00	54				
		1	20750.115	46225.156	1.061
21925.00	55				
		1	23137.715	69362.870	1.592
24372.00	56				
		1	25644.791	95007.662	2.181
26939.00	57				
		1	28271.365	123279.027	2.830
29625.00	58				
		1	31017.421	154296.448	3.542
32431.00	59				



(CALCULATIONS FOR 1/2 OF STREET)

$$Y = 0.28'$$

$$P = 14.0028' + 0.28' = 14.28' \text{ ft}$$

$$\text{Area} = \frac{1}{2} (0.28') (14.0') = 1.96 \text{ ft}^2$$

$$R = \frac{\text{Area}}{\text{Wetted Perimeter}} = \frac{1.96 \text{ ft}^2}{14.28 \text{ ft}} = 0.137 \text{ ft}$$

$$\text{SLOPE} = 0.5\% \Rightarrow 0.0050 \text{ ft/ft}$$

$$N = 0.017 \text{ (ASPHALT PAVING)}$$

(CALCULATIONS FOR BLUE REGION)

$$Y = 0.22'$$

$$P = 14.22'$$

$$A = 3.08 \text{ ft}^2$$

$$R = \frac{3.08}{14.22} = 0.2166$$

$$S = 0.0050 \text{ ft/ft}$$

$$N = 0.017$$

$$Q_{(1/2 \text{ OF ROAD})} = \left(\frac{1.99}{0.017} \right) * 1.96 \text{ ft}^2 * (0.137 \text{ ft})^{2/3} * (0.005)^{1/2}$$

$$Q_{(1/2 \text{ OF ROAD})} = 3.23 \text{ ft}^3/\text{sec}$$

$$Q_{(ROAD)} = (2) 3.23 \text{ ft}^3/\text{sec} = 6.46 \text{ ft}^3/\text{sec}$$

$$Q_{(BLUE REGION)} = \left(\frac{1.99}{0.017} \right) + 3.08 \text{ ft}^2 * (0.2166)^{2/3} * (0.005)^{1/2}$$

$$= 6.88 \text{ ft}^3/\text{sec}$$

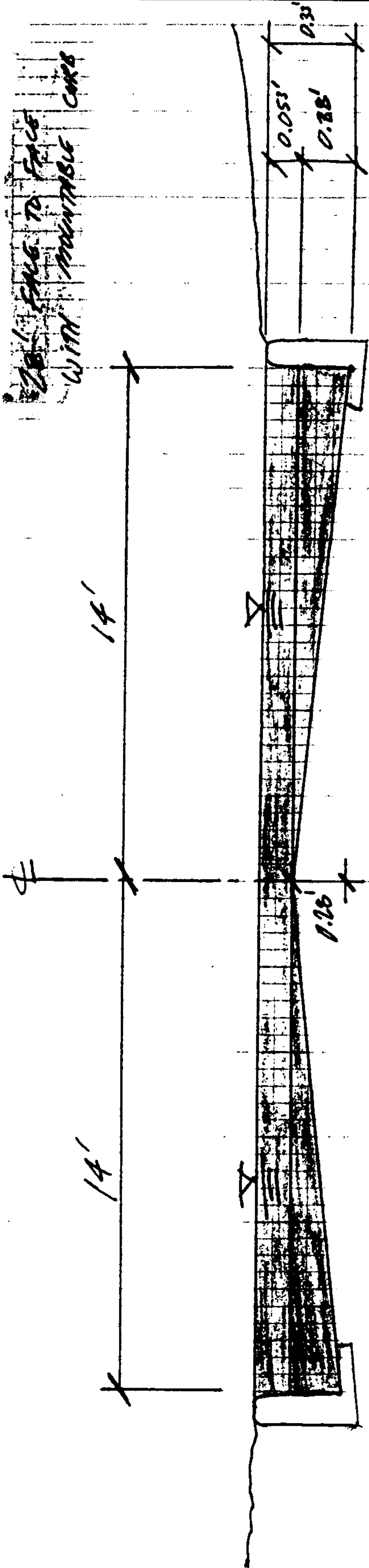
$$= 2 (6.88 \text{ ft}^3/\text{sec}) = 13.77 \text{ ft}^3/\text{sec}$$

$$Q_{\text{TOTAL}} = 6.46 \text{ ft}^3/\text{sec} + 13.77 \text{ ft}^3/\text{sec}$$

$$Q_{\text{TOTAL}} = 20.23 \text{ ft}^3/\text{sec}$$

PROJECT NAME SANMILL PROJECT
PROJECT NO. _____
SUBJECT STREET CAPACITY USING MANNING'S EQUATION

SHEET _____ OF _____
BY _____ DATE _____
CH'D _____ DATE _____



(Calculations for Red Region)

$$Y = 0.28'$$

$$P = 14.00207 + 0.28A = 14.28A$$

$$A = \frac{1}{2} (0.28A)(14A) = 1.96A^2$$

$$K = \frac{\text{Area}}{\text{width} \times \text{height}} = \frac{1.96A^2}{14.28A} = 0.137A$$

$$S = 0.0050 \text{ ft/ft}$$

$$N = 0.017 \text{ (Asphalt paving)}$$

(Calculations for Blue Region)

$$Y = 0.053A$$

$$P = (14A)(0.053A) = 14.053A$$

$$A = (14A)(0.053A) = 0.747A^2$$

$$K = \frac{0.747A^2}{14.053A} = 0.0531A$$

$$S = 0.0050 \text{ ft/ft}$$

$$N = 0.017$$

$$Q_{\frac{1}{2} \text{ of Red Region}} = \left(\frac{1.49}{0.017} \right) (1.96A^2)(0.137)^{\frac{2}{3}} (0.005)^{\frac{1}{2}}$$

$$= 3.23 A^{\frac{3}{2}}/\text{sec}$$

$$Q_{\text{Red Region}} = (2)(3.23 A^{\frac{3}{2}}/\text{sec})$$

$$= 6.46 A^{\frac{3}{2}}/\text{sec}$$

$$Q_{\frac{1}{2} \text{ of Blue Region}} = \left(\frac{1.49}{0.017} \right) (0.747A^2)(0.0531)^{\frac{2}{3}} (0.0050)^{\frac{1}{2}}$$

$$= 0.65 A^{\frac{3}{2}}/\text{sec}$$

$$Q_{\text{Blue Region}} = 2(0.65 A^{\frac{3}{2}}/\text{sec})$$

$$= 1.31 A^{\frac{3}{2}}/\text{sec}$$

$$Q_{\text{TOTAL}} = 6.46 A^{\frac{3}{2}}/\text{sec} + 1.31 A^{\frac{3}{2}}/\text{sec}$$

$$Q_{\text{TOTAL}} = 7.77 A^{\frac{3}{2}}/\text{sec}$$

Within Roadway Section.

PROJECT NAME

PROJECT NO.

SUBJECT

SHEET

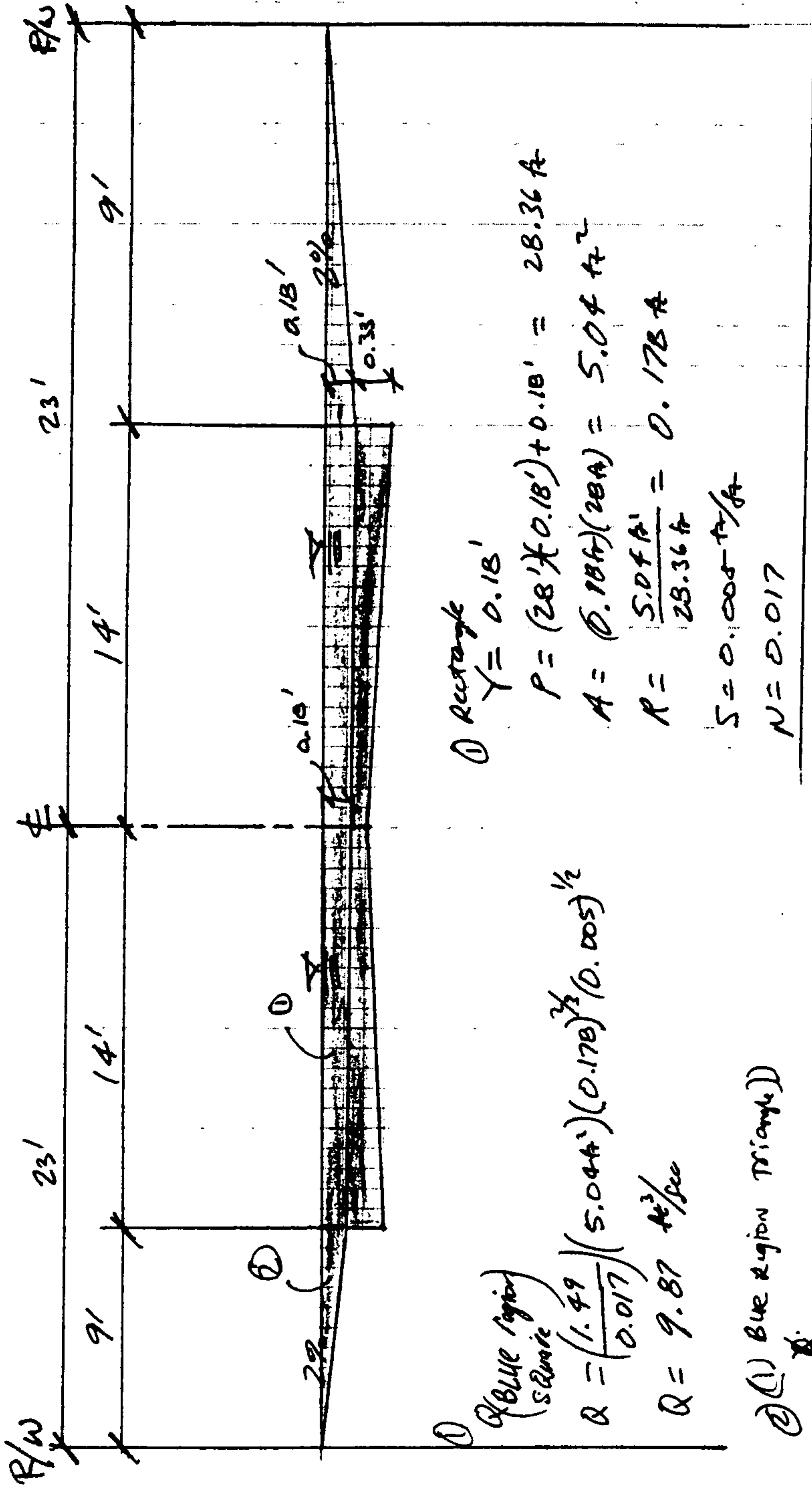
BY

CH'D

OF

DATE

DATE



FLOODING THE LOT FROM R/W TO R/W TOTAL = $11.86 \text{ ft}^3/\text{sec} + 7.77 \text{ ft}^3/\text{sec}$
 $= 19.63 \text{ ft}^3/\text{sec}$

SPECIAL ASSESSMENT DISTRICT 221

ENGINEER'S DRAINAGE REPORT

prepared by

**WILSON & COMPANY
ENGINEERS & ARCHITECTS**

JUL 28 1992

July 1992
(89-520B)

**WILSON
& COMPANY**

VOLUME 1 OF 3

Nineteenth St NW

<u>Zone Atlas Page:</u>	H/J-13	
<u>Soil Group:</u>	B	
<u>Flood Zone:</u>	B	
<u>Watershed Area:</u>	.63	ac.
<u>Watershed Zone:</u>	2	
<u>Percent Treatment "B":</u>	0	
<u>Percent Treatment "D":</u>	100	
<u>6 Hour-100 Year Rainfall:</u>	2.20	In.
<u>Street Slope:</u>	0.4	%
<u>Volume of Run-off:</u>	871	cf.
<u>Flow Rate (Qp):</u>	3.0	cfs
<u>Street Flow Depth:</u>	2.02	In.
<u>Street Flow Velocity:</u>	0.78	ft/s
<u>Froude Number:</u>	0.33	

Treatment:

Nineteenth Street will have flows split into 3 subareas between Bellamah Ave and Zearling Ave. The northern 230 feet will flow toward Zearling while the remainder will flow to Bellamah Ave. Railroad tracks will delineate the sub-areas, and only the street area will be included in the watershed. No outside flows currently drain to this street. The street will contribute 3.0 cfs to the existing storm sewer systems, an increase of 1.1 cfs. The following table shows the flows to the existing storm sewers.

<u>System</u>	<u>Existing</u>	<u>Proposed</u>
Zearling	1.8 cfs	2.2 cfs
Bellamah	2.5 cfs	3.2 cfs

According to the City of Albuquerque, Design Hydrology Section, the Zearling Ave. storm sewer system is presently at its capacity for a 100 yr storm; however, the existing condition will not be significantly changed by the development. The increase from the paving of Nineteenth St. will cause additional ponding in Zearling Ave., however, the additional depth should be less than 1/2 inch. It is recommended that Nineteenth St. drain to the existing storm sewer systems. The Bellamah Ave. system is not at capacity and the 0.7 cfs increase will be negligible. The existing systems in Zearling and Bellamah both discharge to the Alameda Drain.

SAD 221
FLOWRATE SUMMARY

STREET NAME	ZAP	VOLUM ac-ft	TOTAL AREA	PAVED AREA	SOIL GROUP	DRO in	SLOPE %	VEL ft/s	D ft	Tc min	Qp cfs
Carmel	C-18	0.56	3.30	1.70	B	1.48	1.65	3.30	1500	12.00	14.8
Ute	C-18	0.80	4.70	0.29	B	1.06	*0.40	2.00	400	12.00	21.1
Tesuque	C-18	0.04	0.26	0.26	B	1.77	1.85	2.90	350	12.00	1.2
Anaheim	C-18	0.32	1.88	0.68	B	1.25	2.95	3.50	630	12.00	8.4
San Pedro	D-18	0.34	2.16	0.19	B	1.21	*0.40	1.70	480	12.00	9.1
Coronado	D-18	5.09	32.49	8.17	B	1.40	2.65	3.10	2100	12.00	137.5
Sweetwater	E-11	0.32	2.80	0.56	B	1.06	0.63	2.00	600	12.00	9.3
Kachina	E-11	0.59	5.23	2.05	B	1.19	0.81	2.10	1510	12.00	17.3
Eagle Eye	E-11	0.23	2.00	0.40	B	1.06	1.10	1.90	600	12.00	6.6
Cochiti	E-11	0.32	2.80	0.56	B	1.06	0.64	1.90	600	12.00	9.3
Chimayo	E-11	0.29	2.60	0.52	B	1.06	0.55	1.90	600	12.00	8.6
Bear Claw	E-11	0.25	2.20	0.44	B	1.06	0.50	1.90	480	12.00	7.3
Grande	F-14	0.33	3.44	0.47	B	1.32	0.43	1.70	400	12.00	10.1
Nineteenth	H/J-13	0.02	0.63	0.63	B	1.67	0.40	1.70	350	12.00	3.0
Little Park	J-11	0.02	0.21	0.21	B	1.67	1.90	1.70	300	12.00	0.9
Alley - NE	J-18	0.26	2.00	0.28	B	1.77	0.50	1.70	650	12.00	7.4
Hopi	K-22	0.05	0.33	0.33	B	1.96	2.99	2.80	250	12.00	1.7
Paisano	K-22	0.84	5.36	1.90	B	1.28	0.58	1.70	1030	12.00	18.9
Garcia	L-11	0.14	1.49	0.26	B	0.62	0.59	2.50	150	12.00	4.4
Luna	L-11	0.16	1.60	0.51	B	0.75	0.50	2.10	700	12.00	4.7
Salvador	L-11	0.95	9.82	1.53	B	0.80	0.60	2.00	2500	20.83	28.9
Martinez	L-11	0.18	1.84	0.43	B	0.67	0.65	1.70	450	12.00	5.4
Off-site	L-11	0.90	11.31	0.00	B	0.60		2.10	1500	12.00	28.8
Eucariz	L-11	0.13	1.20	1.29	A	1.67	*0.40	2.30	900	12.00	3.8
Carlos Rey	L-11	0.94	9.72	1.70	A	0.69	0.40	1.70	1400	13.73	28.6
Battan	L-11	6.27	64.60	10.83	A	0.69	*0.40	3.00	3500	19.44	190.1
Wilmoore	L-15	1.47	11.78	1.24	A	1.53	1.40	1.80	1070	12.00	43.9
Kentucky	M-18	0.85	0.50	0.16	B	0.86	1.34	3.00	170	12.00	2.2
Tucson	G-11	0.01	0.10	0.10	B	1.67	0.62	1.70	150	12.00	0.4

SAD 221

VOLUME SUMMARY

STREET NAME	ZAP	ZONE NO.	UNITS/ ACRE	TOTAL AREA	DEV AREA	SOIL GROU	TREATMEN "D"	TREATMEN "B"	P in	DRO	VOLUM ac-ft
Carmel	C-18	3	--	3.30	1.60	B	0.800	0.200	2.30	1.48	0.56
Ute	C-18	3	--	4.70	4.41	B	0.800	0.200	2.30	1.06	0.80
Tesuque	C-18	3	--	0.26	0.00	B	0.800	0.200	2.30	1.77	0.04
Anaheim	C-18	3	--	1.88	1.20	B	0.800	0.200	2.30	1.25	0.32
San Pedro	D-18	3	--	2.16	1.97	B	0.700	0.300	2.25	1.21	0.34
Coronado	D-18	3	--	32.49	24.32	B	0.700	0.300	2.25	1.40	5.09
Sweetwater	E-11	1	6	2.80	2.24	B	0.569	0.431	2.20	1.06	0.32
Kachina	E-11	1	6	5.23	3.18	B	0.569	0.431	2.20	1.19	0.59
Eagle Eye	E-11	1	6	2.00	1.60	B	0.569	0.431	2.20	1.06	0.23
Cochiti	E-11	1	6	2.80	2.24	B	0.569	0.431	2.20	1.06	0.32
Chimayo	E-11	1	6	2.60	2.08	B	0.569	0.431	2.20	1.06	0.29
Bear Claw	E-11	1	6	2.20	1.76	B	0.569	0.431	2.20	1.06	0.25
Grande	F-14	1	4	3.44	2.97	B	0.420	0.580	2.20	1.32	0.33
Nineteenth	H/J-13	2	--	0.63	0.00	B	1.000	0.000	2.20	2.20	0.11
Little Park	J-11	1	3	0.21	0.00	B	1.000	0.000	2.20	2.20	0.04
Alley - NE	J-18	3	5	2.00	0.00	B	0.495	0.505	2.30	1.77	0.26
Hopi	K-22	3	6	0.33	0.00	B	1.000	0.000	2.50	2.50	0.07
Paisano	K-22	3	6	5.36	4.90	B	0.700	0.300	2.50	1.28	0.84
Garcia	L-11	1	4	1.49	1.23	B	0.420	0.580	2.20	0.62	0.14
Luna	L-11	1	4	1.60	1.09	B	0.420	0.580	2.20	0.75	0.16
Salvador	L-11	1	4	9.82	8.29	B	0.420	0.580	2.20	0.80	0.95
Martinez	L-11	1	4	1.84	1.41	B	0.420	0.580	2.20	0.67	0.18
Off-site	L-11	1	--	11.31	6.94	B	0.420	0.580	2.20	0.80	0.90
Eucariz	L-11	1	4	1.29	0.00	A	0.420	0.580	2.20	1.67	0.13
Carlos Rey	L-11	1	4	9.72	8.02	A	0.420	0.580	2.20	0.69	0.94
Battan	L-11	1	4	64.60	53.77	A	0.420	0.580	2.20	0.69	6.27
Wilmoore	L-15	2	6	11.78	10.54	A	0.569	0.431	2.30	1.53	1.47
Kentucky	M-18	3	--	0.50	0.34	B	0.800	0.200	2.35	0.86	0.08
Tucson	G-11	1	--	0.10	0.00	B	0.850	0.150	2.20	1.67	0.01

SAD 221 ROADWAY FLOW CALCULATIONS

SAD 221 ROADWAY FLOW CALCULATIONS

SAD 221 - ROADWAY FLOW SAD 221 - ROADWAY FLOWS

Street	ZAP	Street	ZAP	PAVING WIDTH ft	CROWN TYPE	CURB HGHT in	GUTTER WIDTH ft	CROWN SLOPE ft/ft	STREET SLOPE ft/ft	MAXIMUM			STREET FLOWS			FI DI
										STREET VEL ft/s	STREET Qp cfs	Qp cfs	FLOW DEPTH ft	FLOW DEPTH in	FLOW VEL ft/s	
Carmel	C-18	Carmel	C-18	36	N	8	2	0.02	0.017	5.82	89.9	14.8	0.383	4.60	3.20	
Ute	C-18	Ute	C-18	22	S	8	2	0.02	0.004	2.34	21.1	21.1	0.670	8.00	2.34	
Tesuque	C-18	Tesuque	C-18	22	I	4	1.5	0.02	0.019	5.52	71.6	1.2	0.116	1.39	1.78	
Anaheim	C-18	Anaheim	C-18	28	N	8	2	0.02	0.030	8.28	113.2	8.4	0.298	3.58	3.44	
San Pedro	D-18	San Pedro	D-18	36	N	8	2	0.02	0.004	2.87	44.3	9.1	0.410	4.92	1.67	
Coronado	D-18	Coronado	D-18	36	N	8	2	0.02	0.027	1.08	16.6	16.6	0.370	4.43	3.94	
Sweetwater	E-11	Sweetwater	E-11	28	N	8	2	0.02	0.006	3.83	52.3	9.3	0.385	4.62	1.99	
Kachina	E-11	Kachina	E-11	28	S	8	2	0.02	0.008	3.75	42.1	17.3	0.480	5.76	1.50	
Eagle Eye	E-11	Eagle Eye	E-11	28	N	8	2	0.02	0.011	5.06	69.1	6.6	0.321	3.85	2.24	
Cochiti	E-11	Cochiti	E-11	28	N	8	2	0.02	0.006	3.86	52.7	9.3	0.384	4.61	2.00	
Chimayo	E-11	Chimayo	E-11	28	N	8	2	0.02	0.006	3.58	48.9	8.6	0.384	4.61	1.85	
Bear Claw	E-11	Bear Claw	E-11	28	N	8	2	0.02	0.005	3.41	46.6	7.3	0.371	4.45	1.72	
Grande	F-14	Grande	F-14	28	I	0	2	0.02	0.004	0.72	5.5	10.1	0.333	4.00	5.79	
Nineteenth	H/J-13	Nineteenth	H/J-13	36	N	8	2	0.02	0.004	2.87	44.3	3.0	0.301	3.62	1.20	
Little Park	J-11	Little Park	J-11	24	N	8	2	0.02	0.019	6.84	85.7	0.6	0.148	1.77	1.64	
Alley - NE	J-18	Alley - NE	J-18	20	I	2	0	0.02	0.005	2.53	13.5	7.4	0.285	3.42	4.29	
Hopi	K-22	Hopi	K-22	36	N	8	2	0.02	0.030	7.84	121.0	10.2	0.315	3.78	3.64	
Paisano	K-22	Paisano	K-22	36	N	8	2	0.02	0.006	3.45	53.3	10.5	0.405	4.86	1.99	
Garcia	L-11	Garcia	L-11	28	N	8	2	0.02	0.006	3.70	50.6	4.4	0.312	3.74	1.60	
Luna	L-11	Luna	L-11	28	N	8	2	0.02	0.005	3.41	46.6	4.7	0.326	3.91	1.53	
Martinez	L-11	Martinez	L-11	28	N	8	2	0.02	0.007	3.89	53.1	5.4	0.326	3.92	1.75	
Salvador	L-11	Salvador	L-11	32	N	8	2	0.02	0.006	3.63	53.0	28.9	0.543	6.52	2.83	
Eucariz	L-11	Eucariz	L-11	36	N	8	2	0.02	0.004	2.87	44.3	3.8	0.316	3.80	1.34	
Carlos Rey	L-11	Carlos Rey	L-11	32	N	8	2	0.02	0.004	2.96	43.3	28.6	0.578	6.93	2.50	
Bataan	L-11	Bataan	L-11	36	N	8	2	0.02	0.004	2.87	44.3	190.1	1.210	14.52	5.11	
Wilmoore	L-15	Wilmoore	L-15	28	N	8	2	0.02	0.014	5.71	78.0	42.5	0.537	6.45	4.47	
Kentucky	M-18	Kentucky	M-18	28	N	8	2	0.02	0.013	5.58	76.3	2.2	0.229	2.75	1.82	
Tucson	G-11	Tucson	G-11	24	S	8	2	0.02	0.006	3.28	36.9	0.4	0.120	1.44	0.10	

CROWN DESIGNATIONS CROWN DESIGNATIONS

N - Normal Crown
I - Inverted Crown
S - RT (LT) curb is higher than S - RT (LT) curb is higher than LT (RT) curb

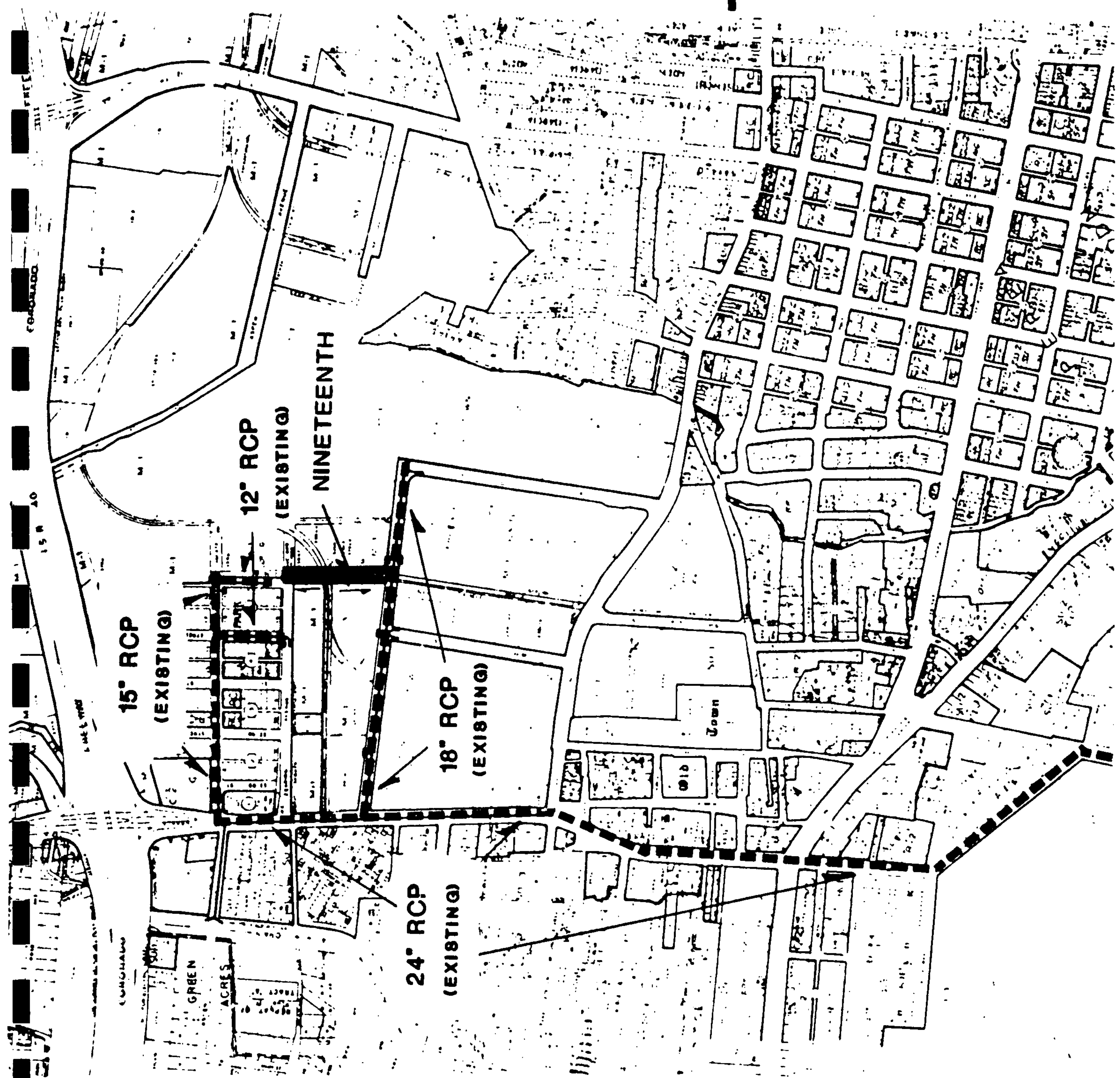
SAD 221 ROADWAY FLOW CALCULATIONS

SAD 221 - ROADWAY FLOW

Street	ZAP	FROUDE	
		#	
Carmel	C-18	0.91	
Ute	C-18	0.50	
Tesuque	C-18	0.92	
Anaheim	C-18	1.11	
San Pedro	D-18	0.46	
Coronado	D-18	1.14	
Sweetwater	E-11	0.56	
Kachina	E-11	0.38	
Eagle Eye	E-11	0.70	
Cochiti	E-11	0.57	
Chimayo	E-11	0.53	
Bear Claw	E-11	0.50	
Grande	F-14	1.77	
Nineteenth	H/J-13	0.38	
Little Park	J-11	0.75	
Alley - NE	J-18	1.42	
Hopi	K-22	1.14	
Paisano	K-22	0.55	
Garcia	L-11	0.51	
Luna	L-11	0.47	
Martinez	L-11	0.54	
Salvador	L-11	0.68	
Eucariz	L-11	0.42	
Carlos Rey	L-11	0.58	
Bataan	L-11	0.82	
Wilmoore	L-15	1.07	
Kentucky	M-18	0.67	
Tucson	G-11	0.05	

CROWN DESIGNATIONS

N - Normal Crown
 I - Inverted Crown
 S - RT (LT) curb is higher than



H-13-Z

STORM SEWER

WATERSHED

J-13-Z



J-14-2

To Zearing S.D.

To Bellamah S.D.

To Bellamah S.D.

58.6

X59.0

X58.8

57.2

X58.9

X57.3

X57.3

X57.6

X57.2

4960

X50.6

X57.0

X56.2

X56.3

X57.2

X57.2

X56.9

X56.8

X56.5

56.2x

X57.7

X57.3

X56.7

X56.7

X57.5

TRACT 339-B-1-A-1-B

60" RCP

STA. 10+00 E NINETEENTH ST.
- E BELLAMAH AVE.

STA. 10+00.3 19' LT. CONNECT
NEW 18" RCP EXISTING SS MH
INSTALL 165.67' 18" RCP NORTH

BELLAMAH AVE.

Sta 10+16.03 RT
TC=57.82, E=57.22 Match End
Sta 10+39.26 Return RT
TC=58.21, E=57.54

TRACT 340-A-2-A-1-C
MAP 35
2640 Ac

Sta 10+19.71 LT
TC=58.66, E=58.00
(Match Exist)
Sta 10+47.09 Return LT
TC=58.22, E=57.55

5' Temp Const. East

5' Temp Const. East

TR=58.24

LOT C
TRACT 339-B-4
MAP 35
2.138 Ac

Sta 12+40 RT
Connect 18" RCP Pipe
From Sta 12+04.61 LT
Install 18" x 20' Slotted
Drain, 81 LF 18" RCP
Pipe North
TOG=58.05
Inv=54.73 (out)

STA. 12+93.20 E EXISTING TRACK

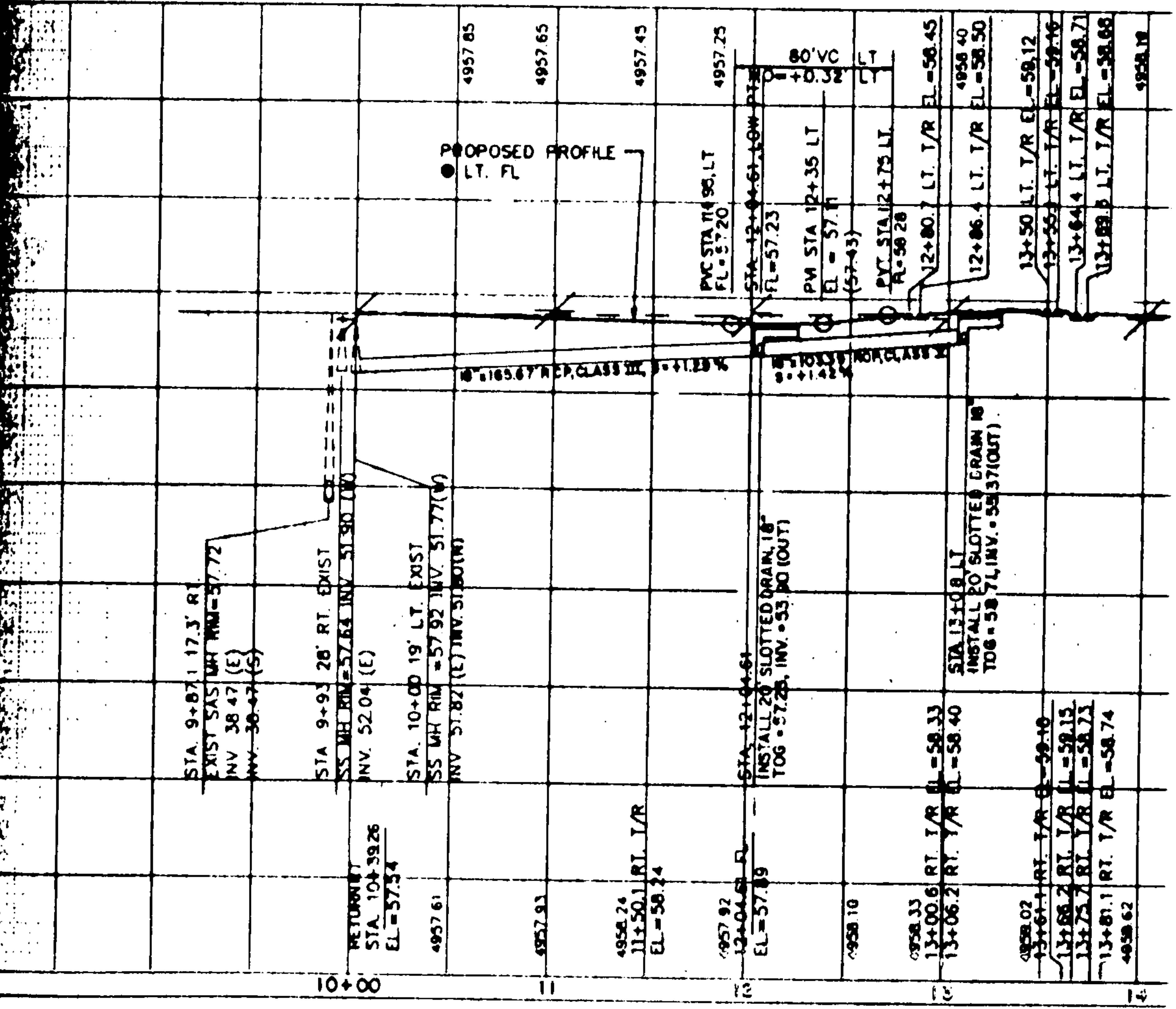
Sta 13+21 RT
Install 18" x 20' Slotted
Drain, Connect 18" RCP
From Sta 12+40 RT
TOG=58.61 Inv=55.28
(out)

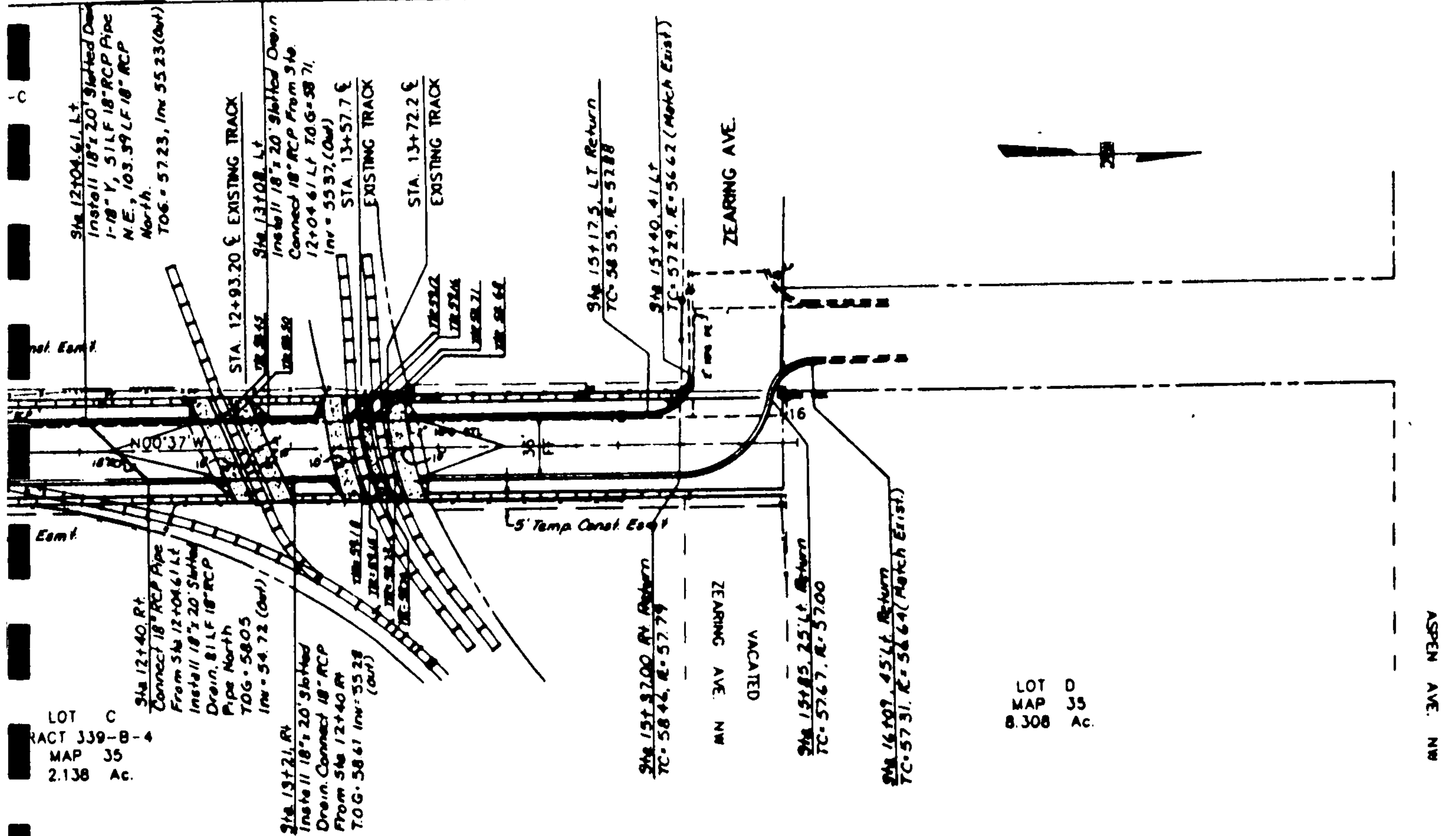
Sta 13+08 LT
Install 18" x 20' Slotted Drain
Connect 18" RCP From Sta
12+04.61 LT TOG=58.71
Inv=55.37 (out)

STA. 13+57.7 E
EXISTING TRACK

STA. 13+72.2 E
EXISTING TRACK

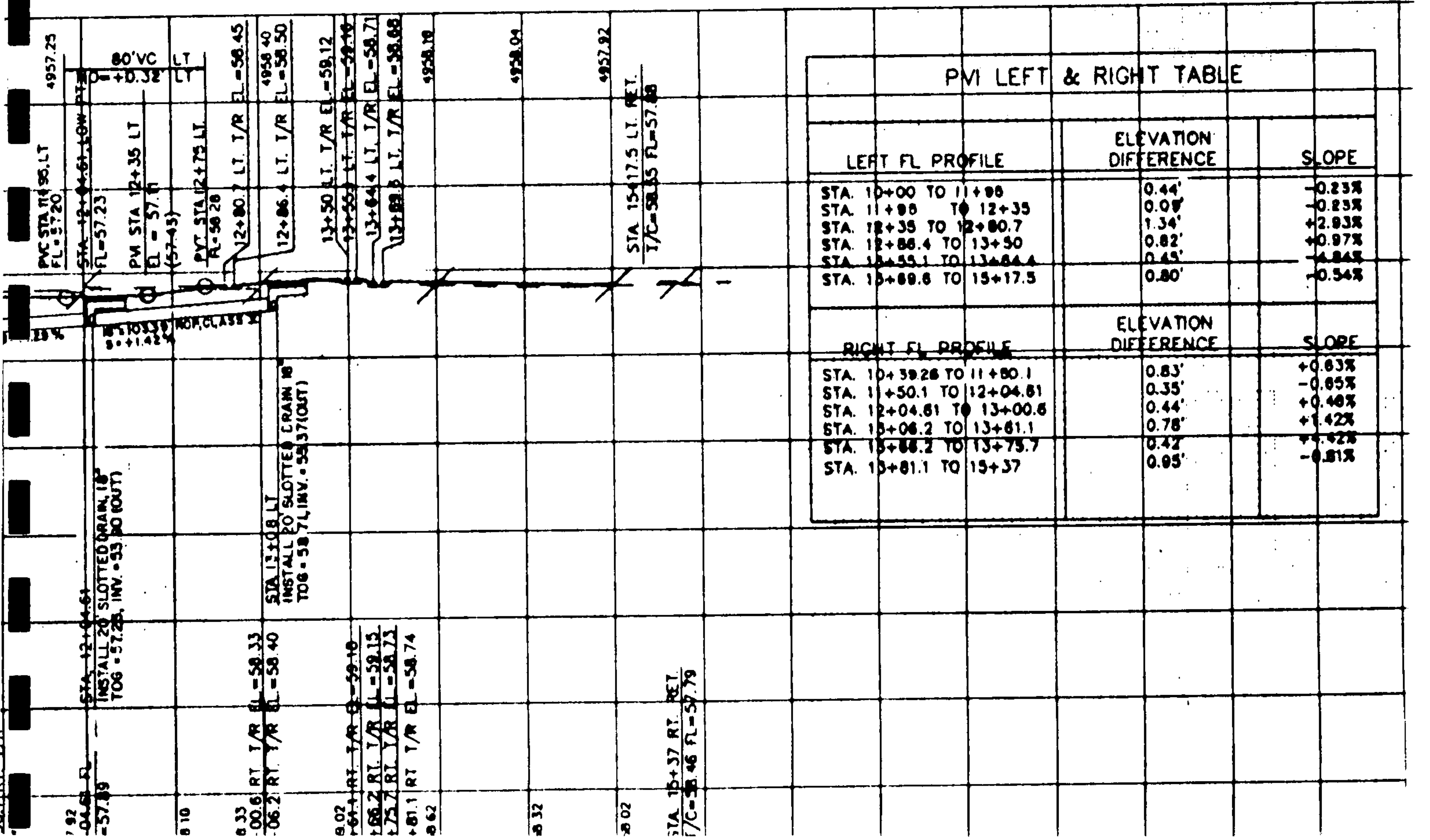
NINETEENTH





NINETEENTH STREET NW

NOTE: SEE SHT. 38A FOR RAILROAD CROSSING DETAILS.



ARBOLERA DE VIDA (ADV)
(Sawmill Redevelopment Project)

July 15, 1998

3:00 -4:00 p.m.

Plaza del Sol, 3rd Floor

Dedicated Park Area and On-site Drainage

1. **Introductions**
2. **ADV Background:** **Summary of Project**
 Project relationship to City of Albuquerque
 Preliminary Plat approval and next steps
3. **"Park MOU":** **Dedication requirements**
 Credit transfer
4. **Maintenance:** **Responsibility for different areas**
 City Council Resolution (R-63)
5. **Dedicated Park:** **CIP acceptance of park with drainage**
 Presentation of design alternatives
6. **General Discussion**
7. **Resolution and Next Steps**

Resolution - R-63 - Requiring Hydr
to park & for the
to maintain - drainage pond/park

3:30 - 7/29/98

7/29/98 3:30 Larrin Blain

Design Workshop, Inc.
Landscape Architecture
Land Planning
Urban Design
Tourism Planning

Project **ARBOLERA
de VIDA**
Job Number
Subject
Present at Site

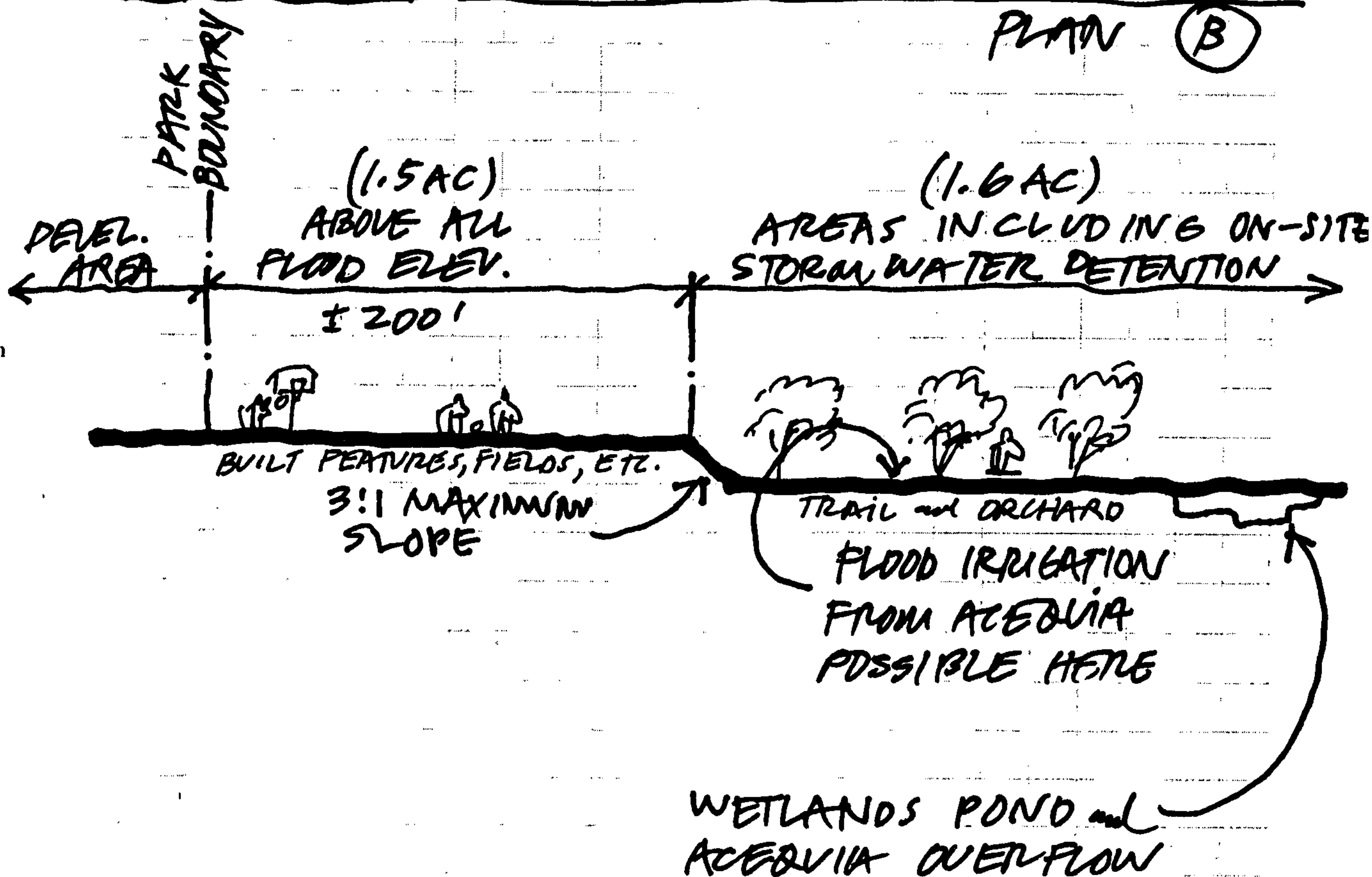
Date **7/15/98**
Time
Temperature Range
Weather

9621 4th Street NW
Albuquerque, New Mexico
87114
Telephone
505 890-1815
Facsimile
505 890-1817

CONCEPTUAL PARK GRADE RELATIONSHIPS

PLAN (B)

- ☐ Memorandum
- ☐ Meeting Notes
- ☐ Field Inspection
- ☐ Conversation Record



Report Number

By

DESIGNWORKSHOP

Design Workshop, Inc.
Landscape Architecture
Land Planning
Urban Design
Tourism Planning

Project **ARBOLERA
de VIDA**
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9621 4th Street NW
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PARK REQUIREMENT CALCULATIONS BASED UPON NEW UNITS PROPOSED ONLY

$$32 \text{ SF UNITS} \times 170 \text{ SF/UNIT} = 5,440 \text{ SF}$$

$$72 \text{ MF UNITS} \times 85 \text{ SF/UNIT} = 6,120 \text{ SF}$$

$$11,560 \text{ SF}$$

$$(.265 \text{ ACRES})$$

$$* \text{TOTAL PARK PROVIDED} = 3.1 \text{ ACRES}$$

$$\text{USEABLE PARK PROVIDED} = 1.5 \text{ ACRES}$$

$$= \text{LESS PARK REQUIRED} = (.265 \text{ ACRES})$$

= EXTRA PARK CREDIT
AVAIL. FOR TRANSFER

$$1.235 \text{ ACRES}$$

* DOES NOT INCLUDE .75 ACRE PLAZA
and MINI PARK BUILT and MAINTAINED BY SCDC

Report Number

By

DESIGNWORKSHOP

- ☐ Memorandum
- ☐ Meeting Notes
- ☐ Field Inspection
- ☐ Conversation
Record

Design Workshop, Inc.
Landscape Architecture
Land Planning
Urban Design
Tourism Planning

Project **ARBOLERA
de UIDA**
Job Number
Subject
Present at Site

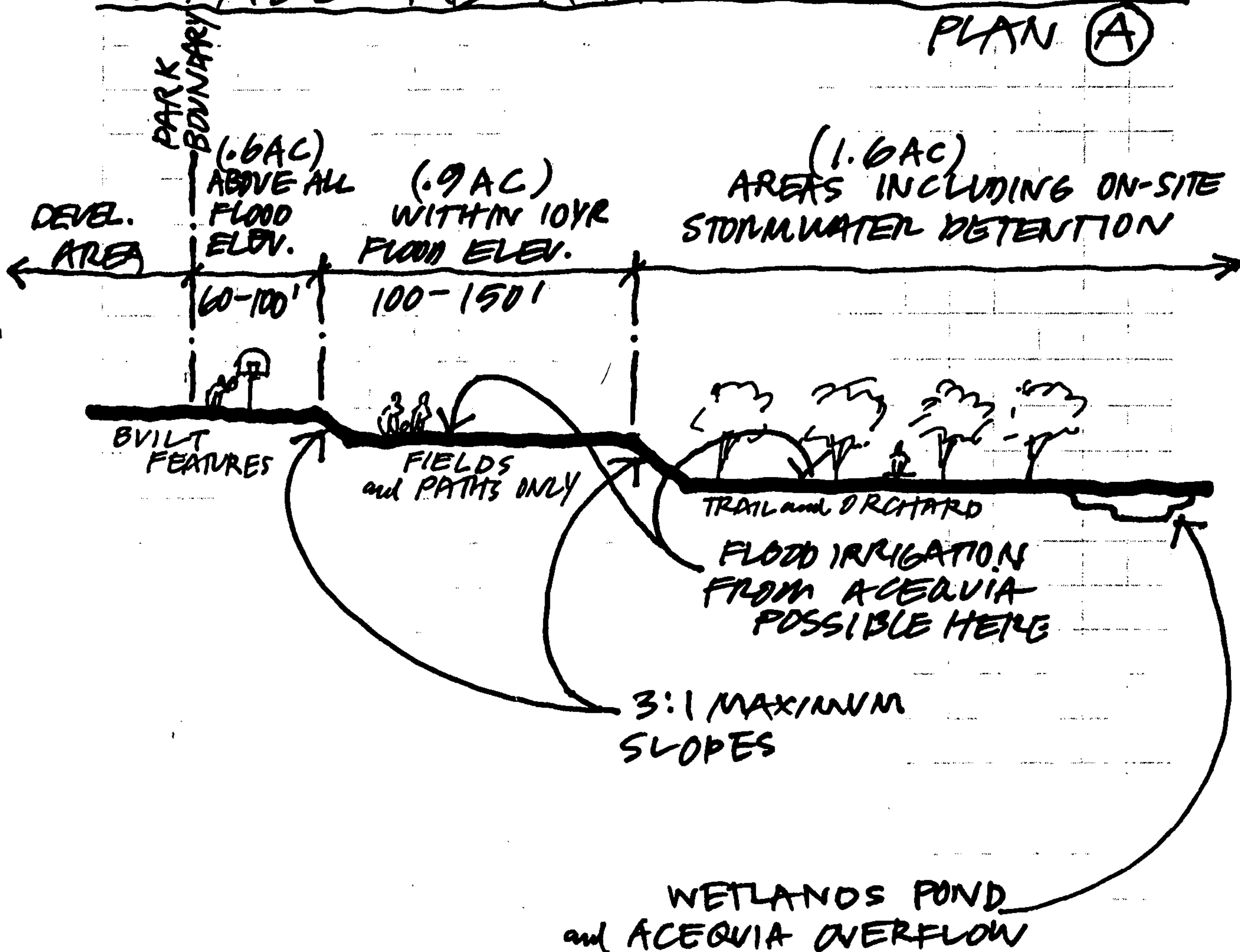
Date **7/15/98**
Time
Temperature Range
Weather

9621 4th Street NW
Albuquerque, New Mexico
87114
Telephone
505 890-1815
Facsimile
505 890-1817

- ☐ Memorandum
- ☐ Meeting Notes
- ☐ Field Inspection
- ☐ Conversation Record

CONCEPTUAL PARK GRADE RELATIONSHIPS

PLAN (A)



Report Number

By

DESIGNWORKSHOP

MAYOR'S OFFICE

CITY OF ALBUQUERQUE 98 JUN -8 PM 4:06
City Council

INTEROFFICE MEMORANDUM

6/8/98

REF

59-1998

TO: Jim Baca, Mayor
FROM:  Mark S. Sanchez, Director of Council Services
SUBJECT: Transmittal of Legislation

Transmitted herewith is the Floor Substitute for Bill No. R-63, City Budget - FY99 (Griego, by request), which was passed at the Council meeting of June 1, 1998, by a vote of 9 FOR AND 0 AGAINST.

In accordance with the provisions of the City Charter, your action is respectfully requested.

MSS:kmb
Attachment
6/3/98
rpt\o\transmit.kmb

**CITY of ALBUQUERQUE
THIRTEENTH COUNCIL**

COUNCIL BILL NO. F/S R-63

ENACTMENT NO. 59-1998

SPONSORED BY: Vincent E. Griego, by request

RESOLUTION

1
2 **APPROPRIATING FUNDS FOR OPERATING THE GOVERNMENT OF THE CITY OF**
3 **ALBUQUERQUE FOR THE FISCAL YEAR BEGINNING JULY 1, 1998 AND ENDING**
4 **JUNE 30, 1999.**

5 **WHEREAS, the Charter of the City of Albuquerque requires the Mayor to**
6 **formulate the annual operating budget for the City of Albuquerque; and**

7 **WHEREAS, the Charter of the City of Albuquerque requires the Council to**
8 **approve or amend and approve the Mayor's budget; and**

9 **WHEREAS, the Council has received the budget formulated by the Mayor, and**
10 **has deliberated on it; and**

11 **WHEREAS, appropriations for the operation of the City government must be**
12 **approved by the Council.**

13 **BE IT RESOLVED BY THE COUNCIL, THE GOVERNING BODY OF THE CITY OF**
14 **ALBUQUERQUE:**

15 **Section 1. That the amount of \$14,686,000 is hereby reserved as the**
16 **Operating Reserve Fund for the City of Albuquerque.**

17 **Section 2. That any FY/98 General Fund net revenue obtained by the close of**
18 **the current fiscal year in excess of the estimated revenue and expenditure amounts**
19 **contained in the Mayor's proposed FY/99 budget document shall be used, if**
20 **necessary, to fund Council budget amendments and any excess retained in Fund**
21 **Balance.**

22 **Section 3. That renegotiation of the natural gas franchise has been in progress**
23 **and it appears will be completed for FY/99. The estimated impact of this situation is**
24 **an additional \$1 million dollars in General Fund revenue. The appropriations**

Underscored Material - New
[Bracketed Material] - Deletion

1 contained in this amendment related to the Albuquerque Police Department and in an
2 amendment to Bill No. R-65 increasing capital spending at the Bernalillo County
3 Detention Center are conditional upon the receipt of these additional revenues, or as
4 provided in Section 2, or additional General Fund revenues received in FY/99 above
5 the current budget forecast. Additional revenues received per above shall be
6 allocated in the following order: moving the APD cadet class up in time from May to
7 January, 1999; funding retired APD officers; and BCDC capital.

8 Section 4. That renegotiation of the telephone franchise has been in progress
9 and it appears will be completed for FY/99. The estimated impact of this situation is
10 an additional \$1 million dollars in General Fund revenue. The appropriations
11 contained in this amendment related to the Cultural and Recreational Services
12 Department, Family and Community Services Department, the Planning Department,
13 and the Transit Department are conditional upon the receipt of these additional
14 revenues, or as provided in Section 2, or additional General Fund revenues received
15 in FY/99 above the current budget forecast.

16 Section 5. That as a result of an unreserved fund balance in the amount of
17 \$1,432,000 in the Risk Management Fund (Fund 705), the Administration shall
18 reduce the FY/99 transfers to the Risk Management Fund by 10.11%. The
19 Administration shall prepare these amendments for the final adoptions of Bill Nos. R-
20 63 and R-65 and other current and previously adopted legislation as needed. Based
21 on an estimated 67% of revenues to the Risk Management fund from General Fund
22 department or departments directly dependent on the General Fund, the reduction in
23 General Fund appropriations is assumed to be \$960,000. The appropriations
24 contained in this amendment shall be funded by net reductions contained in other
25 amendments, FY/98 General Fund net revenue obtained by the close of the current
26 fiscal year in excess of the estimated revenue and expenditure amounts contained in
27 the Mayor's proposed FY/99 budget document, and additional General Fund revenues
28 received in FY/99 above the current budget forecast. Reduce the appropriations in
29 the risk management workers' compensation and tort and other claims accounts as
30 appropriate in each of the programs identified and by the amounts indicated in
31 Attachment C. Also reduce the transfer appropriations in each of the programs
32 identified for funds subsidized by the General Fund by the amounts indicated in

1 Attachment C.

2 Section 6. That the following amounts are hereby decreased in the transfer
3 to risk management workers' compensation and tort and other claims accounts as
4 appropriate in each of the following programs for Fiscal Year 1999.

5 AIR QUALITY FUND - 242

6 Environmental Health Department

7 Vehicle Pollution Management decreased by \$1,000.

8 AVIATION OPERATING FUND - 611

9 Aviation Department

10 Aviation Operations decreased by \$34,000.

11 JOINT WATER & SEWER OPERATING FUND - 621

12 Public Works Department

13 Finance decreased by \$139,000.

14 Customer Services decreased by \$5,000.

15 Utility Development decreased by \$7,000.

16 Construction decreased by \$7,000.

17 Water Utility decreased by \$12,000.

18 Wastewater decreased by \$13,000.

19 PARKING FACILITIES OPERATING FUND - 641

20 Parks and General Services Department

21 Parking Operations decreased by \$6,000.

22 REFUSE DISPOSAL OPERATING FUND - 651

23 Solid Waste Management Department

24 Refuse Collection and Disposal decreased by \$94,000.

25 Clean Cities decreased by \$8,000.

26 GOLF COURSE OPERATING FUND - 681

27 Parks and General Services Department

28 Golf Operations decreased by \$6,000.

29 Section 7. That all natural gas and electric suppliers, including the incumbent
30 and alternative suppliers, should be assessed a use and rental fee in the form of a
31 franchise fee on a competitively neutral basis as determined by policy adopted by the
32 City Council.

1 Section 8. That the following amounts are hereby appropriated to the following
2 programs for operating City government during Fiscal Year 1999:

3 **GENERAL FUND - 110**

4 **City Support Functions**

5	Albuquerque Economic Development	30,000
6	Americans Disabilities Act	50,000
7	Compensation in Lieu of Sick Leave	368,000
8	Cultural Plan of Albuquerque	100,000
9	Dues and Memberships	165,000
10	Early Retirement	2,185,000
11	Education Channel	150,000
12	Funding in the amount of \$25,000 is provided for the Education Channel. The	
13	Administration is directed to achieve this level of savings through vacant positions.	
14	Fiscal Agent Fees	20,000
15	Foreign Trade and Economic Development	25,000
16	Joint Committee on Intergovernmental Legislative Relations	230,000
17	Middle Rio Grande Council of Governments	218,000
18	Property Tax Administration Fees	450,000
19	Public Access Channel	210,000
20	Salary Accrual	932,000
21	Transfers to Other Funds:	
22	Operating Grants (265)	3,560,000
23	Plaza del Sol Building (292)	799,000
24	Sales Tax Refunding Debt Service (405)	255,000
25	City/County Building Debt Service (435)	95,000
26	Vehicle/Computer Projects (730)	1,671,000

27 **Convention Center Department**

28 The Administration is directed to utilize the Governmental Efficiency Task
29 Force established in R-54, Enactment 48-1998 to evaluate the need for an advisory
30 board for the Convention Center and report back to Council on or before January 15,
31 1999.

32 The Administration is directed to operate the Convention Center more like an

enterprise center. During FY/99 the Convention Center shall enhance revenues by a minimum of \$400,000.

Convention Center	3,556,000
Convention Center - Goals & Objectives Reserved Appropriation	91,000

Council Services Department

Council Services	1,412,000
Council Services - Goals & Objectives Reserved Appropriation	38,000

The Metropolitan Criminal Justice Coordinating Council has been established to review issues related to the different agencies involved with the apprehension, trial, incarceration, and treatment of those arrested and convicted. The Council Services Department has been working with citizens groups who especially are concerned about the system outcomes of individuals arrested for drug offenses. In general, these citizens believe that few of those arrested are detained for long periods, insufficient over-sight occurs of those awaiting trial, and those convicted do not receive adequate punishment and treatment. These citizens have developed a prioritized list of suggested system improvements. The Council Services Department shall pursue bringing these issues to the attention of the MCJCC and seek changes to the procedures of different agencies in order to address these legitimate concerns.

There are several budgetary and policy issues related to the Bernalillo County Detention Center about which it is appropriate to obtain independent evaluation and recommendations. These include: whether BCDC's staffing request of 45 officers for the West Side facility was justified; and how the booking process can be modified so that police officers are returned to patrol more quickly. The Council Services Department shall bring these issues to the Metropolitan Criminal Justice Coordinating Council for review. It is appropriate for this review to be completed by February 1999 so that the recommendation may be considered for the FY/2000 BCDC budget.

The increase in the Risk Management Charge for Tort and Other Claims shall be reduced by \$114,000. The Council rejects the approach that litigation based on the proper legislative actions of the Council shall be charged to the City Council's budget.

Cultural and Recreational Services Department

Cultural & Recreational Services - Goals & Objectives Reserved Approp.	620,000
--	---------

1 increase in fees for services so that a greater percentage of the City's costs are
2 recovered.

3 The program budget is reduced by \$40,000 and the vacant Associated Planner
4 or an equivalent position shall be deleted.

5 Additional funding in the amount of \$20,000 is provided to the Tennis Activity
6 to support crack repair and sealing of City tennis courts.

7 Security 1,507,000

8 Transfer to Capital Acquisition Fund (305) 80,000

9 The additional amount of \$80,000 is provided for the tennis court rehabilitation
10 contract. (The rfb being issued should reflect this increase.) Tennis courts identified
11 on the resurfacing priority list should be completed with these funds. Council notes
12 that there are unexpended CIP funds for tennis court rehabilitation. The Cultural and
13 Recreational Services Department shall provide a report to the Council by the close
14 of first quarter FY/99 on progress made in expending available funds for this purpose.

15 Environmental Health Department

16 Environmental Health - Goals & Objectives Reserved Approp. 155,000

17 Animal Services 3,020,000

18 The program budget is reduced by \$22,000. The vacant Volunteer/Public
19 Information Coordinator or an equivalent position shall be deleted and contractual
20 funding in the amount of \$15,000 shall be reinstated.

21 Based on a program review, the Animal Services Licenses revenue for FY/99
22 is adjusted to \$240,000, or \$75,000 higher than has been assumed in the proposed
23 budget.

24 Consumer Protection 831,000

25 Environmental Services 1,394,000

26 Program Support 341,000

27 Family and Community Services Department

28 Family & Comm Svs - Goals & Objectives Reserved Approp. 522,000

29 Administration 471,000

30 Council policy is that a stronger emphasis shall be placed in DWI grant
31 programs on drug-related DWI offense prosecution and treatment. Council supports
32 insuring that DWI Enforcement and prosecution activities funded through this grant

1 place as strong an importance on DWI violations based on drug use as on alcohol use.
2 Council supports reallocating grant program funding so that an additional \$300,000
3 from the grant is made available for DWI Treatment Vouchers based on drug abuse
4 and addiction. In addition, Council supports reallocating grant program funding so
5 that an additional \$57,000 is made available for Metro Court pre-trial services for DWI
6 offenders. Funds for these two activities shall not be reprogrammed from grants to
7 criminal justice system agencies. The Family and Community Services Department
8 shall take the appropriate steps to carry out this policy.

9 The program budget is reduced by \$47,000 and the Associate Director position
10 or an equivalent shall be deleted when it becomes vacant.

11 Albuquerque Development Services - 267,000

12 The Administration is directed to establish an independent task force to
13 investigate methods of producing affordable rental and owner-occupied multifamily
14 housing through a financially self-supporting public-private financing effort. This
15 effort might involve private underwriters, City bond guarantees, mixed income
16 housing projects, and other approaches as needed. Council Services shall have
17 representation on the task force.

18 Children's Services 3,443,000

19 Funding in the amount of \$480,000 is provided to expand the number of Child
20 Development Centers by two which shall serve the children of poverty-level families.
21 These sites shall be chosen on the basis of the percentage of children at the
22 elementary school eligible for the free lunch program. This appropriation is based
23 upon increased revenues as described in Section 4.

24 The adopted policy of the City is that, over time, every poverty-level child in
25 Albuquerque shall have access to quality before and after pre-school programs. "

26 Funding in the amount of \$60,000 is provided in order to operate the Child
27 Development Center located in the Snow Park area for one quarter of FY/99. Capital
28 funds already have been made available for this Center."

29 Community and Youth Recreation 6,474,000

30 Aside from the minimum needed and the needs of other clients, staffing for
31 Community Centers activities shall be highest during the hours during when young
32 people are not attending school, such as in the late afternoon and evening and on the

1 weekend. The Administration shall revise the activity schedules and hours of the
2 Community Centers to reflect this policy. This shall be completed by the end of the
3 first quarter FY/99.

4 Funding in the amount of \$325,000 (net cost of \$275,000) is provided to
5 funds to expand the latchkey/playground program to the equivalent of an additional
6 5 sites. Selection of these sites shall be based on the percentage of children at the
7 school eligible for the free lunch program and shall be from the list of schools
8 identified in the department's response to Council budget questions. In addition, part
9 of these funds shall be used to purchase vouchers for children from low income
10 families whose schools are served by non-City latchkey service providers. This
11 appropriation is based upon increased revenues as described in Section 4.

12 Contract Services 6,100,000

13 An additional \$49,000 in funding is provided for the Bridges for Women
14 Program.

15 The following contracts shall be eliminated based on the circumstances of the
16 programs: Above Expectations, APS (\$6,000), Art in Schools, Celebrate Youth,
17 National Institute for Professional Development, Say No to Gangs, Excel Education,
18 YMCA Youth Mapping, United Nations Model Caucus, UNM Institute/Environmental
19 Health, Catholic Social Services (\$29,000), Project Phoenix, and Pounders. The
20 General Fund funding for the Indian Center is reduced to \$75,000 and is conditional
21 on matching funds from other sources, which would result in keeping total funding
22 in tact. The contract with the Albuquerque Indian Center shall be reviewed mid-year.
23 The funding level of all remaining contracts shall be increased by 6.501% thereby
24 restoring the amount of the proposed cut-back to these needed programs.

25 Any contract service funding generated by Council amendments or surplus shall
26 be directed to expand the School Initiatives Program to provide the West Mesa,
27 Sandia and Valley High School Job Mentor Program with sufficient funding to support
28 an additional 30 students at each site; fund the Youth Link Youth Policy and
29 Advocacy Summer Institute; and continue the existing School Based Collaboratives
30 at Albuquerque High School and Rio Grande High School.

31 Human Rights 318,000

32 Multi-Service Centers 1,039,000

1	Purchasing	1,040,000
2	The copy/print functions of the Office Services Activity shall not be	
3	outsourced. It is assumed that there is no net increase in cost as a result of this	
4	action.	
5	Fire Department	
6	Fire - Goals & Objectives Reserved Appropriation	862,000
7	Administration	948,000
8	CIP Funded Employees	73,000
9	Fire Prevention	2,249,000
10	Fire Station 1	2,302,000
11	Fire Station 2	1,064,000
12	Fire Station 3	1,617,000
13	Fire Station 4	2,681,000
14	Fire Station 5	1,151,000
15	Fire Station 6	1,198,000
16	Fire Station 7	1,187,000
17	Fire Station 8	1,003,000
18	Fire Station 9	1,184,000
19	Fire Station 10	795,000
20	Fire Station 11	756,000
21	Fire Station 12	1,184,000
22	Fire Station 13	2,433,000
23	Fire Station 14	1,243,000
24	Fire Station 15	1,714,000
25	Fire Station 16	1,211,000
26	Fire Station 17	1,161,000
27	Fire Station 18	1,217,000
28	Fire Station 19	1,195,000
29	Support Services	901,000
30	Technical Services	1,524,000
31	The additional amount of \$30,000 is provided to the Emergency Preparedness	
32	Section to provide emergency food and shelter for travelers stranded in Albuquerque	

as a result of the closure of Interstate 40 through Tijeras Canyon. The Emergency Preparedness Section shall develop program guidelines for this activity.

Training and Safety 1,753,000

Human Resources Department

Human Resources - Goals & Objectives Reserved Appropriation 56,000

Employee Equity 147,000

Funding in the amount of \$39,000 is provided to restore an MP04 EEO Specialist position. This position will work toward reducing employee-related conflicts and conduct investigations. In the past, this position has helped reduce the cost of personnel claims against the City.

Insurance and Benefits 444,000

Funding in the amount of \$32,000 is provided to reinstate a Personnel Spec/Insurance MP-02 position in the Insurance and Benefits Division.

Personnel Services 1,001,000

The program budget is reduced by \$34,000 and the Assistant to the Mayor or an equivalent position shall be deleted.

The program budget is reduced by \$42,000 and the vacant Personnel Analyst or an equivalent position shall be deleted.

Training 598,000

An additional \$50,000 is provided to restore employee tuition assistance and training to the FY/98 level. This appropriation is based upon increased revenues as described in Section 4.

Legal Department

Legal - Goals & Objectives Reserved Appropriation 137,000

Administration 613,000

City Clerk/Records 708,000

The program budget is reduced by \$20,000 and the vacant Office Clerk or an equivalent position shall be deleted.

Legal Services 3,433,000

Real Property 565,000

Mayor/Chief Administrative Officer Department

Mayor/CAO Goals & Objectives Reserved Appropriation 177,000

1	Mayor's Office	468,000
2	Capital Implementation	3,490,000
3	Chief Administrative Officer	711,000
4	Hearing Officers	167,000
5	Office of Economic Development	590,000
6	Office of Management and Budget	802,000
7	Office of Management and Operations Improvement	223,000
8	Office of Employee Relations	427,000
9	Office of Internal Audit	
10	Office of Internal Audit - Goals & Objectives Reserved Approp.	15,000
11	Internal Audit	583,000
12	A Committee consisting of a member of the Lodgers Tax Board, the Council	
13	Services Department, Mayor's Office and Office of Management and Operations	
14	Improvement, ACVB, Hispano Chamber and Convention Center shall review the report	
15	by the Lodgers Advisory Board and, if necessary, develop a revised method of	
16	reporting on expenditures and outcomes for Lodgers Tax. This revised process shall	
17	occur by the second quarter of FY99 and shall be submitted to the City Council for	
18	review. The Office of Internal Audit shall include an audit of the Lodgers Tax	
19	Promotion contracts in its FY/99 audit plan.	
20	Parks and General Services Department	
21	Parks & General Svs. - Goals & Objectives Reserved Approp.	353,000
22	Due to the special nature of the public-private partnership between the City of	
23	Albuquerque and the Sawmill Community Land Trust, the City shall accept and	
24	maintain as park land the 3.5 acres identified on the Land Trust's site plan as	
25	satisfying the Trust's park dedication requirements. Parks and General Services and	
26	Hydrology shall pursue joint maintenance responsibility for this new facility.	
27	Opportunities for other uses such as wetlands, habitat and irrigation are encouraged.	
28	This new park land shall be designed to meet reasonable safety and maintenance	
29	standards.	
30	Administration	742,000
31	Cable Regulation	71,000
32	The program budget is reduced by \$24,000 to account for the reclassification	

1 of the vacant Program Spec 5/Cable Regulator position to an MP-03.

2 Facilities Alterations 185,000

3 Facilities Management 2,602,000

4 The program budget is reduced by \$45,000 and the Supervisor I or an
5 equivalent position shall be deleted.

6 Facilities Security 863,000

7 Land Management 8,462,000

8 The Stadium Maintenance Activity (No. 2647) shall be transferred back from
9 the Parks and General Services Department to the Cultural and Recreational Services
10 Department. This Activity shall be managed by the Cultural and Recreational Services
11 Department.

12 The program budget is reduced by \$49,000 and the vacant Supervisor II or an
13 equivalent position shall be deleted.

14 Additional funding in the amount of \$486,000 is provided to restore park
15 maintenance to the FY/98 level which includes the following: seasonal employees
16 (\$302,000), repair and maintenance (\$184,000). This will allow temporary
17 employees to pick up trash and to maintain parks especially during the summer
18 months.

19 Media Resources 275,000

20 Parking Support/Special Events 19,000

21 Regional Parks 266,000

22 Additional funding in the amount of \$16,000 is provided to restore park
23 maintenance/seasonal employees to the FY/98 level.

24 Resources Management 235,000

25 Transfers to Other Funds:

26 Capital Acquisition Fund 305 200,000

27 Parking Facilities Operating (641) 1,469,000

28 Open Space Expendable Trust Fund (851) 96,000

29 Planning Department

30 Planning - Goals & Objectives Reserved Appropriation 219,000

31 Planning - Community Based Reserved Appropriation 265,000

32 Albuquerque Geographic Information System 294,000

1	Code Administration	4,346,000
2	Environmental Planning Studies	49,000
3	Office of Community Planning	257,000

4 The Council finds that substantial improvements in the performance of the
5 Community Planning Program are needed in the remainder of FY/98 and in FY/99 to
6 warrant the continuance of the program.

7 By the end of August 1998, the Planning Department shall complete "service
8 agreements" between the department and the City councillor(s) in each Planning
9 Area. These agreements shall cover goals and short-term objectives, definition of
10 roles, program actions and outcomes, program management, and analysis and
11 evaluation. The Planning Department also shall develop a revised program structure
12 in this time frame. An element of the management system shall include activity
13 budgets for each Community Planner, including those in other departments, and a
14 system to track all activities. City Council staff shall be integrated into the activities
15 of the Community Planners.

16 The Council reaffirms the need for City planning activities within each Planning
17 Area to be broad in scope. Bill No. R-234, which approved the Community Planning
18 Program, called for the "promotion of neighborhood vitality, public safety, affordable
19 housing, customer service, balanced infrastructure spending, sustainability and infill,
20 economic vitality and cultural development." As such, the Community Blueprints for
21 Action shall be the lead agency responsible for the development of these Blueprints.
22 However, as mentioned in R-234, "[a]ll City agencies which are part of, or affected
23 by, planning and the delivery of municipal services will need to provide resources and
24 actively participate..." In addition to their plan development function, Community
25 Planners shall be directly responsible for "physical community" planning and
26 implementation. The staff of other Departments shall be responsible for planning
27 assistance and the implementation of improvements in other service areas such as
28 public safety and human services. Toward this end, the Council created Community
29 Planners in the Public Works Department, Family and Community Services
30 Department, and Parks and General Services Department. These planners shall
31 devote 100% of their time working with the Community Planning Program in
32 furtherance of the goals and objectives contained in the Blueprints.

1 To assist in this effort, strategic budget-related planning dealing with goals,
2 programs, objectives and resource allocations shall focus on the Community Planning
3 Areas in FY/99.

4 To insure implementation of this amendment, the Community Based Planning
5 Activity appropriation for the second half of FY/99 shall be reserved and expended
6 only with Council authorization based on a mid-year program review."

7 Planning 2,781,000

8 The additional amount of \$15,000 is provided to restore the travel and training
9 budget in the Planning Program to the FY/98 appropriation level. Council requests
10 that the Planning Department and the Environmental Planning Commission focus
11 especially on strategic planning for urban growth management in their training
12 activities for the balance of FY/98 and FY/99.

13 Police Department

14 Police - Goals & Objectives Reserved Appropriation 1,834,000

15 The permanent location of the Foothills Area Command substation shall be
16 within Council District 9.

17 The City Council reaffirms its commitment to developing one permanent APD
18 mini-substation in each City Council district. The permanent locations of the
19 following mini-substations hereby are established: District 1 - Town Center in the
20 Seven Bar Sector Plan Area; District 2 - Central and Rio Grande; District 3 - former
21 La Paloma Bar; District 4 - Fire Station 20; District 5 - Triangle Park in Nob Hill;
22 District 7 - Candelaria and Juan Tabo; District 8 - Park and Ride Facility at
23 Montgomery and Landau; District 9 - Foothills Substation located in District 9.

24 A mini-substation will be located in District 6. The location of the station will
25 be determined within the next six months.

26 The Police Department shall fund 14 retired Police officers working as
27 Community Service Assistants at the Substations and Mini-substations from the Local
28 Law Enforcement Block Grant for the 1998 Federal Fiscal Year. The total cost of
29 these salaries (October 1998 through June 1999) is \$131,000. The Administration
30 shall present this plan to the grantors of the LLEBG with the understanding that
31 having mini-substations in each of the Community Planning Areas of the City and
32 staffing these stations is a new initiative for the City. In the event that the \$131,000

1 in funding is not approved through the grant, the Administration is directed to achieve
2 this savings through the deletion of four vacant non-public safety positions. In
3 addition, the Department shall purchase one Mobile Community Substation from the
4 1998 LLEBG grant at a cost of \$240,000.

5 It appears that the incidence of crime varies substantially by shift (grave, day,
6 swing) and by area command. The Operations Review Division shall conduct an
7 evaluation of sworn officer staffing patterns in relation to the incidence of crime by
8 shift and area command and make recommendations as appropriate. In addition, the
9 Operations Review Division shall evaluate the benefit and practicality of making crime
10 incidence information available to watch commanders on the day after crimes take
11 place. The reports based on these evaluations shall be provided to the City Council
12 by February 1999.

13 The Police Department shall submit a report to the City Council in January
14 1999 on the status of overtime spending during the first half of FY/99. This report
15 shall include, among other topics, total overtime spending funded by all sources,
16 overtime spending by each revenue source, overtime spending by APD activities (e.g.,
17 court, Tac Plan), the FY/99 overtime budget, and estimated end of year overtime
18 spending. The report also shall discuss actions taken to reduce unnecessary overtime
19 spending, the success of these actions, and barriers to controlling overtime spending.

20 **Administrative Services** **3,517,000**

21 Funding is provided to continue to employ 4 Community Service Assistants
22 assigned to Administrative Services Division. This appropriation is based upon
23 increased revenues as described in Section 3.

24 **Cadet Classes** **890,000**

25 The APD attrition cadet class shall be moved up in time from May 1999 to
26 January 1999. This appropriation is based upon increased revenues as described in
27 Section 3.

28 **Criminal Investigations** **12,783,000**

29 **Northeast Area Command** **8,842,000**

30 Funding is provided to continue to employ 5 Community Service Assistants
31 assigned to the Northeast Area Command Division. This appropriation is based upon
32 increased revenues as described in Section 3.

1	Construction Management	3,395,000
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2 The additional amount of \$240,000 is provided to reestablish two survey crews
3 in the Surveying Section, consisting of two B05 Surveyor's Helpers, two B09
4 Surveyor's Aides, and two MS03 Survey Crew Supervisors. The individuals formerly
5 holding these positions shall be given first option to return to their previous jobs.
6 These positions are entirely self support from charges to the CIP and engineering fees
7 paid by developers. The Administration should review the positions these individuals
8 currently hold, after the positions have been vacated pursuant to this amendment.

9	Gasoline Tax	537,000
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10 Additional funding in the amount of \$68,000 is provided to restore funding for
11 street rehabilitation and slurry seal application to FY/98 levels.

12	General Administration	499,000
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13	Hydrology	306,000
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14 An additional amount of \$70,000 is provided to restore one ME02 Engineer
15 position. This position shall work on Valley drainage and other rehabilitation and
16 deficiency projects.

17	One Stop Shop	1,011,000
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18	Storm Drainage Maintenance	1,648,000
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19 Funding is increased by \$50,000 in contractual services and by \$35,000 in
20 operating to restore the storm channel maintenance appropriation to FY/98 levels.

21	Storm Drainage - Quality of Life	223,000
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22	Street Cleaning	1,639,000
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23	Street Maintenance	4,960,000
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24 An additional \$680,000 is provided to increase street maintenance and
25 rehabilitation. The activities to which these funds shall be applied include the
26 following: \$91,000 - street rubberized sealant application; \$9,000 - contractual
27 services for street resurfacing; \$96,000 - restore two B05 Street Maintenance Worker
28 I and one B09 Street Maintenance Worker III; and \$500,000 for additional preventive
29 street maintenance/ contract services to reduce the deterioration of Albuquerque's
30 streets. The first parts of this appropriation restore funding to FY/98 levels. The last
31 part increases the appropriation for preventive street maintenance. This is about half
32 the amount identified by the Public Works Department as needed.

1 Traffic Engineering 3,729,000
2 The Department is directed to install a traffic light at the intersection of
3 Montgomery and Marla.

4 The additional amount of \$139,000 is provided to replace funds for the
5 Neighborhood Traffic Management Program cut in FY/98 (\$101,000) and to restore
6 funding for this Program in FY/99 to the FY/98 level (\$38,000).

7 Traffic Engineering - Electricity 3,594,000
8 Transportation Engineering 276,000
9 Transfer to Capital Acquisition Fund (305) 5,649,000

10 An additional \$115,000 is provided to meet the Basic Services Tax policy
11 adopted as Bill No. R-33, Enactment 37-1994. The activities to which these funds
12 shall be transferred include the following: \$50,000 - preventive street maintenance
13 and rehabilitation; \$58,000 - storm drainage improvements; and \$7,000 traffic
14 engineering signs and markings.

15 Senior Affairs Department

16 Senior Affairs - Goals & Objectives Reserved Appropriation 79,000
17 Senior Affairs 2,853,000

18 A one-year objective for Senior Affairs was "Increase the number of
19 unduplicated clients served by Case Management by 10% to 4,300 with stable
20 budget allocations". The department has reported that they will not be able to reach
21 this objective without an additional \$66,000 in funding. Previously, the Senior Affairs
22 Department stated that service to the frail elderly was one of their top priorities. The
23 department, the Office of Management and Operations Improvement, and the Council
24 Services Department shall work together to attempt to reprioritize program spending
25 so that this objective can be met without additional funding. A report on this effort
26 shall be made to the City Council Department by the close of the first quarter FY/99.

27 Nutrition/Transportation 225,000

28 Transit Department

29 Transfers to Transit Operating Fund (661) 16,117,000

30 The Transfer to the Transit Operating Fund is increased based on Council
31 amendments to this legislation. Some of these appropriations are conditional on
32 increased revenues as covered in Section 4. As a result, the final transfer figures

1 may need to be adjusted.

2 **FIRE FUND - 210**

3 Fire Department

4 State Fire Fund

464,000

5 **RECREATION FUND - 215**

6 City Support Functions

7 Transfer to General Fund (110)

313,000

8 **LODGERS TAX FUND - 220**

9 Mayor/Chief Administrative Officer Department

10 Lodgers Promotion

3,663,000

11 Special Lodgers Promotion

442,000

12 A special Activity shall be established and funded in the amount of \$158,000

13 in order to compensate the Albuquerque Police Department for overtime costs related

14 to the Balloon Fiesta, the State Fair, and the Luminaria Tour. This activity is

15 contingent upon the CAO and Director of Council Services making a determination

16 that the Albuquerque Convention and Visitors Bureau has the financial capability to

17 absorb this expense and that the use of Lodgers Tax for this purpose is allowed under

18 State Law. A report will be submitted to the Council on their determination.

19 All Indian Pueblo Council

30,000

20 Transfer to Sales Tax Refunding D/S Fund (405)

4,135,000

21 The above appropriations are contingent upon the collection of actual Lodgers Tax
22 revenues.

23 **METROPOLITAN REDEVELOPMENT FUND - 275**

24 Family and Community Services Department

25 Albuquerque Development Services

50,000

26 Additional funding in the amount of \$50,000 is provided to conduct a

27 Metropolitan Redevelopment Implementation Plan focusing on the neighborhoods and

28 commercial corridors in the area of San Mateo to Eubank on the east and west and

29 Lomas to Gibson on the north and south. This amount creates, together with an

30 existing MR appropriation, sufficient resources to complete an area designation and

31 the Plan.

32 **PLAZA DEL SOL BUILDING FUND - 292**

1	Parks and General Services Department	
2	Plaza del Sol Building	661,000
3	Relocation and Remodeling	50,000
4	Transfer to Sales Tax Refunding D/S Fund (405)	360,000
5	<u>SALES TAX REFUNDING DEBT SERVICE FUND - 405</u>	
6	City Support Functions	
7	Debt Service	11,219,000
8	<u>GENERAL OBLIGATION BOND DEBT SERVICE FUND - 415</u>	
9	City Support Functions	
10	Debt Service	52,579,000
11	<u>CITY/COUNTY BUILDING DEBT SERVICE FUND - 435</u>	-
12	City Support Functions	
13	Debt Service	1,334,000
14	<u>TRANSIT OPERATING FUND - 661</u>	
15	Transit Department	
16	Transit- Goals & Objectives Reserved Appropriation	446,000
17	Special Events	336,000
18	Sun Van	3,295,000
19	Transit Operations	14,331,000
20	The additional amount of \$334,000 (net cost of \$141,000) is provided to	
21	restore transit service after 5:30 pm; restore the last run on Route 17 Rio Grande;	
22	return to prior levels of service (increase service to 20 minutes) on Route 3 Louisiana,	
23	Route 4 San Mateo, Route 8 Menaul, Route 5 Montgomery; return to prior levels of	
24	service on Route 1 Juan Tabo, Route 2 Eubank, Route 31 Wyoming.	
25	The additional amount of \$200,000 is provided to restore funding for Sun Tran	
26	maintenance to the FY/98 appropriation level.	
27	The additional amount of \$71,000 is provided to restore funding for advertising	
28	to the FY/98 appropriation level. Sun Tran is a very large fixed investment which is	
29	under utilized. As a result, advertising for Sun Tran and for travel by other non-SOV	
30	methods is very important. This appropriation is based upon increased revenues as	
31	described in Section 4.	
32	The additional amount of \$157,000 (net cost of \$141,000) is provided to	

1 establish a neighborhood service route on the Copper/Chico area as identified in the
2 *Service Route for People Dependent on Transit* study performed for the department
3 in April 1997. The cost elements for this project include: \$141,000 for operations,
4 \$10,000 for marketing, and \$6,000 for special phone service. Small vans formerly
5 used for the Uptown Shuttle will be used. The Copper/Chico service route activity
6 will be a pilot project to implement neighborhood feeder systems in communities with
7 a high proportion of transit dependent individuals. This appropriation is based upon
8 increased revenues as described in Section 4.

9 The additional amount of \$43,000 is provided to create a temporary MP05 SOV
10 Alternatives Coordinator position. This position would be responsible for developing
11 and funding innovative programs between the City and existing private and public
12 organizations providing transit and van services (such as the University of New
13 Mexico and T-VI), alternative transportation services for welfare to work program
14 clients and other very low income individuals, attempting to coordinate transit
15 services provided through the Mid-School Initiatives, implementing Transportation
16 Management Associations, and other similar projects. Funding for this position shall
17 be moved to the FHA grant for Rideshare should the grant level be increased for
18 FY/2000. This FY/99 appropriation is based upon increased revenues as described
19 in Section 4.

20	Trolley Operations	467,000
21	Transfer to General Fund (110)	1,221,000

22 **RISK MANAGEMENT FUND - 705**

23	Risk Management - Goals & Objectives Reserved Appropriation	33,000
24	Finance and Administrative Services Department	
25	Risk Management Administration	1,277,000
26	Critical Safety Responses	100,000
27	Employment Physicals	400,000
28	Loss Prevention	1,228,000
29	Other Claims	1,385,000
30	Tort Liability Claims	10,225,000
31	Workers' Compensation Claims	2,960,000
32	Transfer to General Fund (110)	573,000

1	Human Resources Department	
2	Unemployment Compensation	253,000
3	<u>SUPPLIES INVENTORY MANAGEMENT FUND - 715</u>	
4	Finance and Administrative Services Department	
5	Supplies Inventory Management	469,000
6	Transfer to General Fund (110)	142,000
7	<u>FLEET MANAGEMENT FUND - 725</u>	
8	Fleet Management - Goals & Objectives Reserved Appropriation	141,000
9	Parks and General Services Department	
10	Fleet Management	5,424,000
11	The program budget is reduced by \$39,000 and the vacant Training	
12	Administrator or an equivalent position shall be deleted.	
13	The program budget is reduced by \$35,000 and the vacant Supervisor Shop	
14	3 or an equivalent position shall be deleted.	
15	Transfer to General Fund (110)	961,000
16	<u>COMMUNICATIONS MANAGEMENT FUND - 745</u>	
17	Communication Mgmt. - Goals & Objectives Reserved Approp.	18,000
18	Finance and Administrative Services Department	
19	City Telephone	229,000
20	Radio Maintenance	472,000
21	Transfer to General Fund (110)	92,000
22	<u>OPEN SPACE EXPENDABLE TRUST FUND - 851</u>	
23	Open Space - Goals & Objectives Reserved Appropriation	41,000
24	Parks and General Services Department	
25	Open Space Management	1,577,000
26	Section 8. That the following projects are hereby appropriated in the following	
27	funds:	
28	<u>CULTURE AND RECREATION PROJECTS FUND - 225</u>	
29	Library	47,000
30	Museum	15,000
31	Recreational Services	86,000
32	Special Events	208,000

1	<u>ALBUQUERQUE BIOLOGICAL PARK PROJECTS FUND - 235</u>	
2	Animal and Plant Care	90,000
3	Continuing Education	25,000
4	Educational Events	51,000
5	Emergency Purchases	35,000
6	Exhibit Renovations/Improvements	100,000
7	Seasonal/Contractual Labor	100,000

8	<u>CITY/COUNTY PROJECTS FUND - 285</u>	
9	City County Projects	288,000

10	<u>CAPITAL ACQUISITION FUND - 305</u>	
11	City Building Improvements/Rehabilitation	200,000

12	<u>VEHICLE/COMPUTER PROJECT FUND - 730</u>	
13	Computer Projects	5,000,000
14	Vehicle Projects	1,200,000

15 Section 9. That the following projects and programs are hereby appropriated
16 in the following fund in FY/98:

17 **TRANSIT OPERATING FUND - 661**

18 Transit Department
19 Transit Operations Program is increased by \$40,000 in FY/98.

20 **VEHICLE/COMPUTER PROJECT FUND - 730**

21 Transfer to General Fund (110) 3,250,000

22 Section 10. That City computer hardware and software must be made
23 functional in fiscal year 2000. That phase one will cover the mission critical systems
24 at an estimated cost of \$7 million. That the appropriations are hereby made or
25 changed for specific projects as indicated.

26 Section 11. The Administration is directed to pay any increased costs
27 associated with FY/99 rate increases for City employees health and dental insurance
28 plans with the excess funds accumulated in the Trust and Agency Fund account
29 entitled "Group Insurance". The Administration is directed to adjust the
30 employee/employer ratios uniformly in order to achieve this objective. Additionally,
31 funds accumulated in this account may not be used for any purpose other than to pay
32 the monthly payments to the insurance carriers and the FY/99 approved budget for

1 the Insurance and Benefits Program without City Council approval.

2 Section 12. The Administration is directed to establish a new fund to account
3 for the resources and expenditures associated with Group Insurance. The
4 Administration is directed to submit the appropriating resolution needed to implement
5 this amendment by the Council meeting of June 15, 1998.

6 Section 13. That any contracts mentioned by name in this appropriations bill
7 are hereby approved for award without further review by the City Council.

8 Section 14. The City Council has adopted Five Year Goals and One Year
9 Objectives in addition to the adoption of many budgetary and policy amendments.
10 The City Council feels very strongly in the Administration's actively engaging in
11 implementing and meeting these Goals, Objectives, and Amendments. Therefore, the
12 City Council is hereby establishing a reserved appropriation program in each
13 Department which has been funded through a deappropriation of approximately 2.5%
14 from programs within each Department. The intent of the Council is to reduce
15 Department's budget and perform a mid-year review. At that time, depending on the
16 progress which has been made, the Council will reinstate the reserved appropriation
17 or a portion thereof in each of the programs. The review will also include prior year
18 budget amendments. The Mayor shall prepare a mid-year report indicating the
19 status of the goals and objectives and budget amendments, and recommendations for
20 reappropriation of funds. This amendment shall reduce the appropriations in each
21 of the programs identified and by the amounts indicated in Attachment A and
22 increase the appropriations in each of programs identified with the amounts indicated
23 in each of the Departments as indicated on Attachment B. The Administration is
24 directed to submit a resolution to deappropriate and reserve 2.5% of the programs
25 in the Joint Water and Sewer Operating Fund, Refuse Disposal Operating Fund,
26 Aviation Operating Fund, Parking Facilities Fund, and Golf Courses Operating Fund.

27 Section 15. The Council finds that substantial improvements in the
28 performance of the Community Planning Program are needed in the remainder of
29 FY/98 and in FY/99 to warrant the continuance of the program. That the following
30 appropriations are hereby changed in order to reserve 50% of the FY/99 appropriation
31 for the Community Based Planning Activity and which shall not be spent without City
32 Council approval:

1 Office of Community Planning and Neighborhood Services (265,000)
2 Community Planning - Reserved Appropriation \$265,000

3 Section 16. That the following amounts are hereby increased (decreased) as
4 appropriate in each of the following programs for Fiscal Year 1999.

5 PARKING FACILITIES OPERATING FUND - 641

6 Parks and General Services Department

7 Parking Control increased by \$2,000.

8 Parking Operations decreased by \$73,000.

9 Transfer to General Fund (110) decreased by \$18,000.

10 Section 17. The City Council has adopted Five Year Goals and One Year
11 Objectives in addition to the adoption of many budgetary and policy amendments.
12 The City Council feels very strongly in the Administration's actively engaging in
13 implementing and meeting these Goals, Objectives, and Amendments. Therefore,
14 the City Council is hereby establishing a reserved appropriation program in each
15 Department which has been funded through a deappropriation of approximately
16 2.5% from program within each Department. The intent of the Council is to reduce
17 Department's budget and perform a mid-year review. At that time, depending on the
18 progress which has been made, the Council will reinstate the reserved appropriation
19 or a portion thereof in each of the programs. The review will also include prior year
20 budget amendments. The Mayor shall prepare a mid-year report indicating the
21 status of the goals and objectives and budget amendments, and recommendation
22 for reappropriation of funds. This amendment shall adjust the already adopted
23 FY/99 appropriations in each of the following programs indicated below.

24 JOINT WATER AND SEWER OPERATING FUND - 621

25 Public Works Department

26 Administration decreased by 22,000

27 Computer Services decreased by 12,000

28 Construction decreased by 76,000

29 Finance decreased by 87,000

30 Utility Development decreased by 11,000

31 Wastewater decreased by 388,000

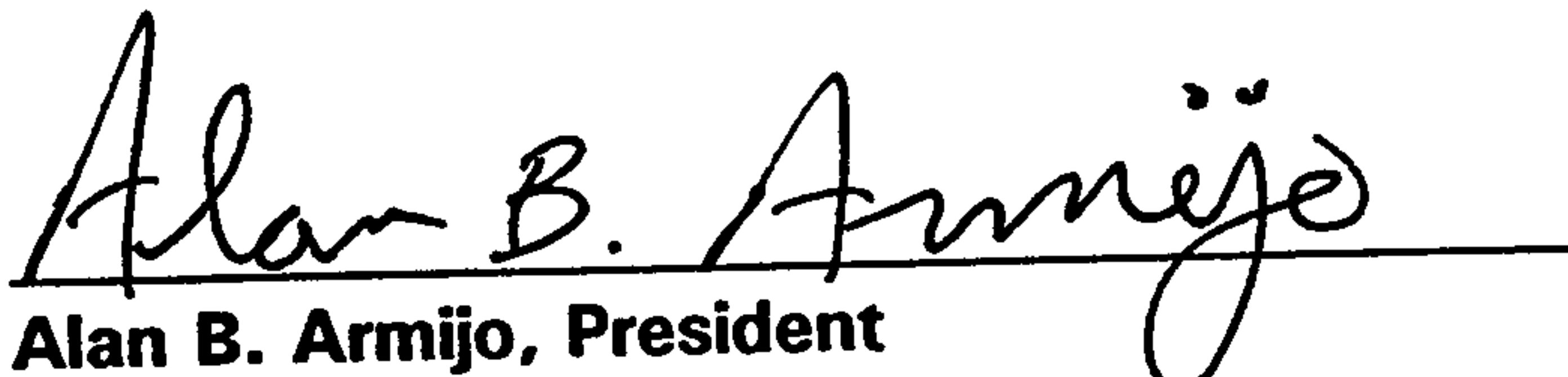
32 Water Resources Management decreased by 148,000

1	Water Utility decreased by 540,000	
2	Goals and Objectives Reserved Appropriation	1,284,000
3	<u>AVIATION OPERATING FUND - 611</u>	
4	Aviation Department	
5	Aviation Operations decreased by 382,000	
6	Goals and Objectives Reserved Appropriation	382,000
7	<u>PARKING FACILITIES OPERATING FUND - 641</u>	
8	Parks and General Services Department	
9	Parking Control decreased by 4,000	
10	Parking Operations decreased by 46,000	
11	Goals and Objectives Reserved Appropriation	- 50,000
12	<u>REFUSE DISPOSAL OPERATION FUND - 651</u>	
13	Solid Waste Management Department	
14	Clean Cities decreased by 50,000	
15	Refuse Collection and Disposal decreased by 562,000	
16	Goals and Objectives Reserved Appropriation	612,000
17	<u>GOLF COURSES OPERATING FUND - 681</u>	
18	Parks and General Services Department	
19	Golf Operations decreased by 71,000	
20	Goals and Objectives Reserved Appropriation	71,000
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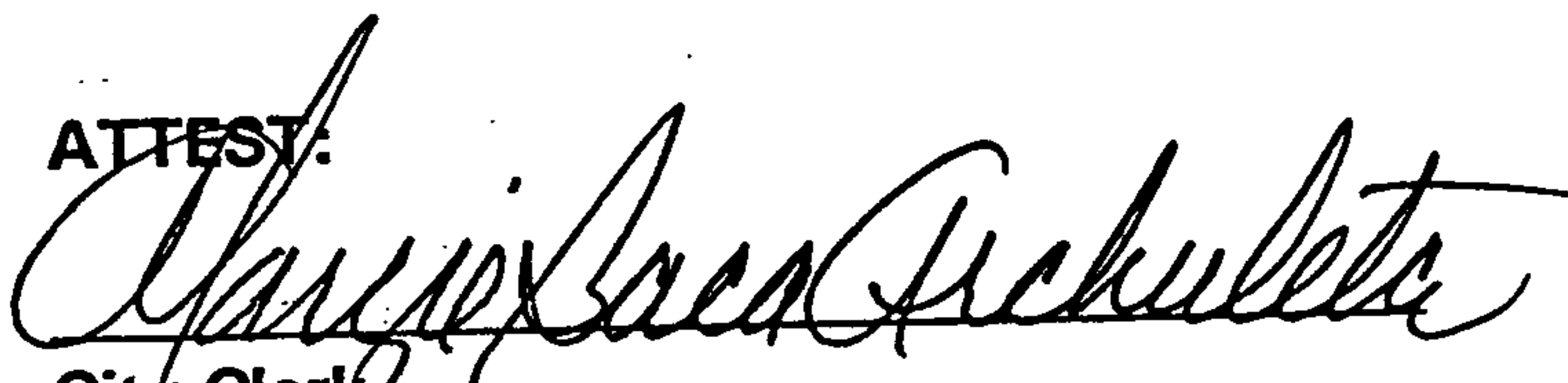
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PASSED AND ADOPTED THIS 1st DAY OF June, 1998
BY A VOTE OF 9 FOR AND 0 AGAINST.


Alan B. Armijo, President
City Council

APPROVED THIS 17th DAY OF June, 1998


Jim Baca, Mayor
City of Albuquerque

ATTEST:

City Clerk

Program Name	2.5% Reserve Reduction
Council Svcs	\$38,000
Convention Center	\$91,000
C/R- Administration	\$14,000
C/R-Community Cult	\$44,000
C/R - Museum	\$48,000
C/R - Promotion	\$6,000
C/R - Library	\$176,000
C/R - Rec Services	\$104,000
C/R - Security	\$39,000
C/R-Zoo	\$113,000
C/R-Bio Park	\$76,000
F/M-Director's Office	\$8,000
F/M-Accounting	\$63,000
F/M-ISD	\$169,000
F/M-Purchasing	\$27,000
F/M-Cash Mgmt	\$33,000
PGS-Administration	\$19,000
PGS - Cable Regulation	\$2,000
PGS-Facilities Mgmt	\$68,000
PGS-Security	\$22,000
PGS-Resource Mgmt	\$6,000
PGS-Media Res	\$7,000
PGS-Fac Alterations	\$5,000
PGS-Regional Pks	\$7,000
PGS-Land Mgmt	\$217,000
Fire-Admin	\$24,000
Fire-Support Svcs	\$23,000
Fire Station 1	\$60,000
Fire Station 2	\$27,000
Fire Station 3	\$41,000
Fire Station 4	\$69,000
Fire Station 5	\$30,000
Fire Station 6	\$31,000
Fire Station 7	\$30,000
Fire Station 8	\$26,000
Fire Station 9	\$30,000
Fire Station 10	\$20,000
Fire Station 11	\$19,000
Fire Station 12	\$30,000
Fire Station 13	\$62,000
Fire Station 14	\$32,000
Fire Station 15	\$44,000

Fire Station 16	\$31,000
Fire Station 17	\$30,000
Fire Station 18	\$31,000
Fire Station 19	\$31,000
Fire-Prevention	\$58,000
Fire-Technical Svcs	\$38,000
Fire - Training & Safety	\$45,000
FCS-Human Rights	\$8,000
FCS-Childrens Svcs	\$75,000
FCS-Administration	\$13,000
FCS -Alb Dev Svc	\$7,000
FCS-Multiservice	\$27,000
FCS-Com Youth Rec	\$158,000
FCS-Research, Planning	\$7,000
FCS - Contract Services	\$155,000
FCS-School Initiatives	\$72,000
OSA-Senior Affairs	\$73,000
OSA-Transportation	\$6,000
Legal-Legal Services	\$88,000
Legal-Administration	\$16,000
Legal-City Clerk/Record	\$19,000
Legal-Real Property	\$14,000
Mayor's Office	\$12,000
Mayor-CAO	\$18,000
Mayor-OMB	\$21,000
Mayor - CIP	\$90,000
Mayor - OED	\$15,000
Mayor - Hearing Officer	\$4,000
Mayor-OMOI	\$6,000
Mayor- Employee Relations	\$11,000
Office of Internal Audit	\$15,000
Personnel Services	\$28,000
Employee Equity	\$3,000
Insurance and Benefits	\$11,000
Training	\$14,000
Planning	\$84,000
Planning-Code Adm	\$102,000
Planning-AGIS	\$9,000
Planning - Environmental Planning Studies	\$1,000
Planning-OCP&NS	\$23,000
Police- Cadet Classe	\$25,000
Police - Criminal Inv	\$288,000
Police-Northeast Area	\$256,000
Police - North Valley	\$250,000
Police - West Side	\$195,000
Police - Southeast	\$226,000
Police - Foothills	\$136,000

Police-Administrative	\$78,000
Police-Support Svcs	\$322,000
Police-Gang Control	\$28,000
Police-Operations	\$5,000
Police-Chief	\$25,000
EH-Consumer Prot	\$24,000
EH-Env. Services	\$37,000
EH-Animal Control	\$85,000
EH-Program Support	\$9,000
PW-Construction Cor	\$9,000
PW-One Stop Shop	\$25,000
PW-Hydrology	\$8,000
PW-Construction Mgmt	\$89,000
PW-Street Mainten	\$132,000
PW-Storm Drainage	\$41,000
PW-Traffic Engineer	\$108,000
PW-Traffic Engineering.Elec	\$86,000
PW -Trans Eng	\$13,000
PW-Basic Services	\$6,000
PW-Street Cleaning	\$43,000
PW- Gasoline Tax	\$14,000
PW-General Adm	\$12,000
General Fund	\$6,044,000
Transit-Transit Oper	\$341,000
Transit-Spec Events	\$9,000
Transit - Sunvan	\$84,000
Transit -Trolley	\$12,000
Transit Fund	\$446,000
Risk Management Admin	\$33,000
Risk Management	\$33,000
City Telephone	\$6,000
Radio Maintenance	\$12,000
Communication Mgmt Fund	\$18,000
Fleet Management	\$141,000
Open Space	\$41,000

PROGRAM	APPROPRIATION
Convention Center - Goals & Objectives Reserved Appropriation	91,000
Council Services - Goals & Objectives Reserved Appropriation	38,000
Cultural & Recreational Services - Goals & Objectives Reserved Appropriation	620,000
Environmental Health - Goals & Objectives Reserved Appropriation	155,000
Family & Community Services - Goals & Objectives Reserved Appropriation	522,000
Finance & Administrative Services - Goals & Objectives Reserved Appropriation	300,000
Fire - Goals & Objectives Reserved Appropriation	862,000
Human Resources - Goals & Objectives Reserved Appropriation	56,000
Legal - Goals & Objectives Reserved Appropriation	137,000
Mayor/CAO - Goals & Objectives Reserved Appropriation	177,000
Office of Internal Audit - Goals & Objectives Reserved Appropriation	15,000
Parks & General Services - Goals & Objectives Reserved Appropriation	353,000
Planning - Goals & Objectives Reserved Appropriation	219,000
Police - Goals & Objectives Reserved Appropriation	1,834,000
Public Works - Goals & Objectives Reserved Appropriation	586,000
Senior Affairs -Goals & Objectives Reserved Appropriation	79,000
Transit - Goals & Objectives Reserved Appropriation	446,000
Fleet Management - Goals & Objectives Reserved Appropriation	141,000
Open Space - Goals & Objectives Reserved Appropriation	41,000
Risk Management - Goals & Objectives Reserved Appropriation	33,000
Communications Management - Goals & Objectives Reserved Appropriation	18,000
TOTAL	6,723,000

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ATTACHMENT C

F/S R-63FUNDPROGRAM NAMERISK
MANAGEMENT
REDUCTIONTRANSFER
REDUCTION

GF-110

Council Services	\$2,000	
E/H - Animal Control	9,000	
E/H - Environmental Services	3,000	
F/A - Accounting	2,000	
F/A - Information Services	3,000	
F/A - Purchasing	4,000	
FIRE - Fire Station 1	51,000	
PGS - Administration	1,000	
PGS - Facilities Management	5,000	
PGS - Land Management	16,000	
PGS - Regional Parks	4,000	
PGS - Facilities Security	2,000	
FCS - Administration	2,000	
FCS - Multi Service Centers	2,000	
FCS - Children's Services	5,000	
FCS - Community & Youth Rec	12,000	
OSA - Senior Affairs	6,000	
OSA - Nutrition/Transportation	4,000	
MAYOR - Office of Employee Rel	4,000	
MAYOR - CIP	8,000	
CR - Recreational Services	12,000	
CR - Public Library	13,000	
CR - Museum	9,000	
CR - Biological Park - Zoo	19,000	
CR - Bio Park - Aquarium/Botanical	6,000	
HR - Personnel Services	7,000	
PLANNING - Planning	5,000	
PLANNING - Code Administration	11,000	
POL - Office of the Chief of Police	9,000	
POL - Administrative Services	23,000	
POL - Criminal Investigations	130,000	
POL - Northeast Area Command	68,000	
POL - North Valley Area Command	79,000	
POL - West Side Area Command	53,000	

<u>FUND</u>	<u>PROGRAM NAME</u>	<u>RISK MANAGEMENT REDUCTION</u>	<u>TRANSFER REDUCTION</u>
GF-110	POL - Southeast Area Command	\$70,000	
	POL - Foothills Area Command	45,000	
	POL - Support Services	12,000	
	P/W - Traffic Engineering	50,000	
	P/W - Street Maintenance	53,000	
	P/W - Construction Management	5,000	
	P/W - Storm Drainage Maintenance	8,000	
	LEGAL - Legal Services	6,000	
	CONVENTION CENTER	11,000	
	CSF - XFER to Plaza del Sol Bldg FUND 292		\$1,000
	TRANSIT - XFER to Transit Oper FUND 661		77,000
	PGS - XFER to Parking Facilities FUND 641		6,000
	PGS - XFER to Open Space Expendable FD 851		4,000
TRANSIT-661	TRANSIT - Transit Operations	77,000	
OPEN SPACE-851	PGS - Open Space Management	4,000	
RISK MGT-705	F/A - Risk Management Admin	2,000	
SUPP INV MGT-715	F/A - Supplies Inventory Mgmt	1,000	
FLEET MGT-725	PGS - Fleet Management	9,000	
PLAZA-292	PGS - Plaza del Sol Building	<u>1,000</u>	
	TOTAL	\$943,000	



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

OFFICE OF THE MAYOR

INTER-OFFICE MEMORANDUM

June 17, 1998

TO: Alan B. Armijo, President, City Council
FROM: Jim Baca, Mayor *Jim Baca*
SUBJECT: Mayor's Message, RE: Floor Substitute for Bill No. R- 63 City Budget - FY99 (Griego by request)

RECEIVED
ALBUQUERQUE CITY CLERK

98 JUN 17 PM 3:28

Mr. President and City Council Members, on behalf of my Administration, I thank you for a smooth and cooperative budget process.

I have signed the Floor Substitute for Bill No. R-63 the City Budget FY 99.

Although, I considered a line item veto of the provision that kept the Office of Neighborhood Coordination in the Department of Family and Community Services, I opted not to (line item) veto this provision, since doing so, would have eliminated the Office and it's budget altogether, as it is written in the document and this is not my intent.

However, pursuant to the powers granted to the Mayor in the City Charter, (Article V, Sec. 4 [a] and [b]) I have directed the C.A.O. to proceed with the relocation of the Division of the Office of Neighborhood Coordination within the Planning Department. Please, be assured that the original spirit and intent of the Ordinance that created the Office of Neighborhood Coordination will be fully honored and in no way compromised.

I have taken this action for the following reason.

The "Community Planning Program" is based in the Planning Department. According to F/S R-63 (page 15 line 16) the Council reaffirms the need for City Planning activities within each planning area to be broad in scope. Bill No. R-234 which approved the Community Planning Program called for the "promotion of neighborhood vitality, public safety, affordable housing, customer service, balanced infrastructure spending, sustainability and infill, economic vitality, and cultural development." The Community Planning Program and the Office of Neighborhood Coordination have the same mission and that is to strengthen and

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1	Mayor's Office	468,000
2	Capital Implementation	3,490,000
3	Chief Administrative Officer	711,000
4	Hearing Officers	167,000
5	Office of Economic Development	590,000
6	Office of Management and Budget	802,000
7	Office of Management and Operations Improvement	223,000
8	Office of Employee Relations	427,000
9	Office of Internal Audit	
10	Office of Internal Audit - Goals & Objectives Reserved Approp.	15,000
11	Internal Audit	583,000
12	A Committee consisting of a member of the Lodgers Tax Board, the Council	
13	Services Department, Mayor's Office and Office of Management and Operations	
14	Improvement, ACVB, Hispano Chamber and Convention Center shall review the report	
15	by the Lodgers Advisory Board and, if necessary, develop a revised method of	
16	reporting on expenditures and outcomes for Lodgers Tax. This revised process shall	
17	occur by the second quarter of FY99 and shall be submitted to the City Council for	
18	review. The Office of Internal Audit shall include an audit of the Lodgers Tax	
19	Promotion contracts in its FY/99 audit plan.	
20	Parks and General Services Department	
21	Parks & General Svs. - Goals & Objectives Reserved Approp.	353,000
22	Due to the special nature of the public-private partnership between the City of	
23	Albuquerque and the Sawmill Community Land Trust, the City shall accept and	
24	maintain as park land the 3.5 acres identified on the Land Trust's site plan as	
25	satisfying the Trust's park dedication requirements. Parks and General Services and	
26	Hydrology shall pursue joint maintenance responsibility for this new facility.	
27	Opportunities for other uses such as wetlands, habitat and irrigation are encouraged.	
28	This new park land shall be designed to meet reasonable safety and maintenance	
29	standards.	
30	Administration	742,000
31	Cable Regulation	71,000
32	The program budget is reduced by \$24,000 to account for the reclassification	