CITY OF
Albuquerque

July 28, 1997

Martin J. Chávez, Mayor

Bruce Stidworthy
Bohannan-Huston, Inc
7500 Jefferson NE
Albuquerque, NM 87109

RE: HOMESTEAD VILLAGE (H16-D117). ENGINEER'S CERTIFICATION FOR CERTIFICATE OF OCCUPANCY APPROVAL. ENGINEER'S CERTIFICATION DATED JULY, 22, 1997.

Dear Mr. Stidworthy:

Based on the information provided on your July 22 , 1997 submittal, the above referenced project is approved for Certificate of Occupancy.

If I can be of further assistance, please feel free to contact me at 768-3622.

Sincerely,

Lisa Ann Manwill, P.E.
Engineering Assoc./Hyd.

c: Andrew Garcia
File

DRAINAGE INFORMATION SHEET

PROJECT TITLE: HOMESTEAD VILLAGE ZONE ATLAS/DRNG. FILE # H-16/D117

DRB #: _____ EPC #: _____ WORK ORDER #: _____

LEGAL DESCRIPTION: TRACTS A-1, A-2, 12-A WAHDELICH ESTATES

CITY ADDRESS: 2401 WELLESLEY DR NE 87109

ENGINEERING FIRM: BOHANNAN HUSTON, INC. CONTACT: BRUCE STIDWORTHY

ADDRESS: 7500 JEFFERSON NE, ALB. NM 87109 PHONE: 823-1000

OWNER: HOMESTEAD VILLAGE CONTACT: DREW SMITH

ADDRESS: 1140 EMPIRE CENTRAL, DALLAS TX 75247 PHONE: 212 698 1832

ARCHITECT: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

SURVEYOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

CONTRACTOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

TYPE OF SUBMITTAL:

____ DRAINAGE REPORT

____ DRAINAGE PLAN

____ CONCEPTUAL GRADING & DRAINAGE PLAN

____ GRADING PLAN

____ EROSION CONTROL PLAN

X ENGINEER'S CERTIFICATION

____ OTHER

PRE-DESIGN MEETING:

____ YES

____ NO

____ COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

____ SKETCH PLAT APPROVAL

____ 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

X CERTIFICATE OF OCCUPANCY APPROVAL

____ GRADING PERMIT APPROVAL

____ PAVING PERMIT APPROVAL

____ S.A.D. DRAINAGE REPORT

____ DRAINAGE REQUIREMENTS

____ OTHER _____ (SPECIFY)

RECEIVED
JUL 22 1997
HYDROLOGY SECTION

15 day Temp CO. issued on 7-23-97

DATE SUBMITTED: _____

BY: BRUCE STIDWORTHY, BOHANNAN HUSTON

BOHANNAN - HUSTON INC.

DRAINAGE REPORT FOR
HOMESTEAD VILLAGE
MENAUL BOULEVARD

MARCH 1996

DRAINAGE REPORT FOR HOMESTEAD VILLAGE - MENAUL BOULEVARD

Prepared for:

SECURITY CAPITAL (SOUTHWEST) INC.
125 LINCOLN AVENUE
SANTA FE, NEW MEXICO 87501

Job. No. 95347A2412

BOHANNAN-HUSTON INC.
ENGINEERS ▪ PLANNERS ▪ PHOTOGRAMMETRISTS ▪ SURVEYORS ▪ LANDSCAPE ARCHITECTS
COURTYARD I, 7500 JEFFERSON NE, ALBUQUERQUE, NM 87109 TEL (505) 823-1000 FAX (505) 821-0892
ALBUQUERQUE — LAS CRUCES — SANTA FE

DRAINAGE REPORT
FOR
HOMESTEAD VILLAGE - MENAUL BOULEVARD

MARCH 1996

Prepared by:

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

Prepared for:

SECURITY CAPITAL (SOUTHWEST) INC.
125 LINCOLN AVENUE
SANTA FE, NEW MEXICO 87501

PREPARED BY:

Bruce Stidworthy, E.I. — Date 3/18/96

UNDER THE SUPERVISION OF:

James Topmiller, P.E. — Date 3.18.96

JAMES TOPMILLER
NEW MEXICO
9354
REGISTERED PROFESSIONAL ENGINEER

E:\CDP\95347\A2412\DRAINAGE.RPT-3/13/96

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APPENDIX B - PROPOSED SITE CONDITIONS HYDROLOGY & POND CALCULATIONS
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EXISTING CONDITIONS PLAN

DEVELOPED CONDITIONS BASIN MAP

CURRENT AND PROPOSED PLATS

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ALBUQUERQUE LAS CRUCES SANTA FE

I. PURPOSE

The purpose of this report is to present historic and proposed drainage conditions for the proposed hotel development, to be called Homestead Village. This plan is prepared and submitted to support a building permit and property replat request (replat to be submitted in the near future).

II. METHODOLOGIES

Site conditions are 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.

Part A of the DPM, Section 22.2, Hydrology, January 1993, provides a simplified procedure for projects with sub-basins smaller than 40 acres. The Site as described in the 'Site Location and Characteristics' section below is significantly less than 40 acres. No upland drainage basins enter the site.

III. SITE LOCATION AND CHARACTERISTICS

Please refer to the existing drainage conditions map enclosed with this report.

The site is located near the southwest corner of Carlisle Boulevard and Menaul Boulevard. The site is bounded on the north by Menaul Blvd., on the east by Wellesley Avenue, on the west by Bryn Mawr Avenue, and on the south by the Marriott Residence Inn. The site is comprised of separately platted pieces of ground as follows: Tract A, Waidelich Estates; lots 9 through 14 and a portion of lot 8, block 16, Miracerros Addition; and Tracts B, C, & D, Matthew Addition. The City of Albuquerque Zone Atlas page is H-16. The site is located within Rainfall Zone 2 as defined in the DPM Section 22.2. The combined acreage of the site

described above is approximately 6.5 acres. Currently, development is proposed only for Tracts A-2 and 11-A of Waidelich Estates (3.4 acres) as shown on the proposed replat submitted with this report.

The property is currently undeveloped, and slopes from east to west, with a significant amount of debris and rubble on the site. Slopes tend to increase, along with rubble deposition, toward the western side of the property.

According to the latest FEMA floodplain maps, there are no existing floodplains within the site boundaries. The closest FEMA floodplain is the AMAFCA North Diversion Channel south of the Marriott Residence Inn.

West of Bryn Mawr is a City park with three or four Little League ballfields. To the west of these ballfields is a FEMA floodplain area comprised of a single, large retention pond created when the AMAFCA North Diversion Channel was constructed.

IV. EXISTING DRAINAGE CONDITIONS AND FACILITIES

Please refer to the existing drainage conditions map enclosed with this report.

An existing 54" RCP storm drain is located within Bryn Mawr Avenue and Menaul Boulevard. This storm drain was constructed in 1959 and its design report is no longer available. The slope of the storm drain in Bryn Mawr Avenue is minimal, only 0.8%. The line is also very shallow disallowing a significant development of hydraulic grade line above the top of pipe. The pipe's capacity under gravity flow is approximately 175 cubic feet per second (cfs). The upstream drainage basin contributing flow to this storm drain is approximately 100 acres of highly developed, highly impervious development. This upstream basin is anticipated to discharge approximately 450 cfs to the storm drain system. With a

capacity of only 175 cfs, it is evident that the storm drain can not carry the flows that could potentially be discharged to it. This storm drain discharges to the AMAFCA North Diversion Channel.

The entire existing site drains via surface flow to Bryn Mawr Ave. The existing peak discharge from the site is approximately 16.9 cfs in the 100-year, 6-hour storm event. A drop inlet located in Bryn Mawr Ave., near the southwest corner of the site collects these flows. That inlet is connected to the 54" storm drain system described above. No flow is contributed by any offsite basins.

From the above discussion, it is apparent that free discharge from the developed site would be feasible only if the flow from the site got to the 54" storm drain before the flow in the line reached capacity (~175cfs). Please see the Appendix section labeled 'Historic Offsite Drainage Conditions'. These calculations show that, even under existing conditions and due to the severe under capacity of the storm drain, the 54" storm drain's capacity is reached very quickly in the 100-year storm event - more quickly than the peak flow from the site.

V. PROPOSED ONSITE HYDROLOGIC AND HYDRAULIC CONDITIONS

Please refer to the Grading and Drainage Plan enclosed with this report.

As discussed in the section above, free discharge from the site is not feasible, therefore, the next best option is to utilize detention ponds with 'trickle flow' outlets. This report proposes to construct two such ponds. These ponds are sized based upon full retention of the 100-year, 24-hour storm, and will drain within 24 hours. The combined flowrate of the 'trickle flow' outlets to the 54" storm drain is 3.0 cfs. Calculations verifying the volume of the ponds as well as the capacity of the pond outlets are provided in the Appendix of this report.

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The site is broken into nine onsite basins (please refer to the Developed Conditions Basin Map). No offsite flows enter the site. The Hydrologic and Hydraulic conditions for each basin as well as general drainage concepts are explained in the following paragraphs. Exact sizes, flows, velocities, etc., are shown on the grading and drainage plan, and detailed calculations verifying the capacity of each element of the onsite drainage system are included in the Appendix of this report.

Basins 1 through 5 contain the proposed hotel and required parking areas. These basins drain directly to Pond #1. Basins 1 through 4 enter Pond #1 through an underground private storm drain system. This system is comprised of 18" - 30" reinforced concrete pipe, manholes, bends, and type 'D' inlets. A complete hydraulic grade line analysis for this system is included in the Appendix. However, should a blockage occur, flows simply overflow within the parking areas, and eventually reach Pond #1, as desired. Basin 5 drains via surface flow to Pond #1.

Basin 6 consists of Pond #1. A small portion of the site along the west boundary, from the top of the pond berms to the boundary will drain freely to Bryn Mawr Avenue. This flow is negligible (~0.4cfs).

Basin 7 drains to a type 'D' inlet located in the southwest corner of the basin. Because Basin 7 is undeveloped, the grate elevation of inlet #5 has been set 0.5' above the surrounding ground, and the slopes approaching the inlet are very mild. These measures should prevent significant amounts of silt from washing into the storm drain system. Inlet #5 then drains via underground RCP to Pond #1. Immediate development is not proposed for this area. However, the storm drain system and pond have been sized to accept free discharge of developed flows from Basin 7.

It would be better to use a standard type inlet in this area.

Basin 8 drains via surface flow to Pond #2. Like Basin 7, Basin 8 is not slated for immediate development, but Pond #2 has been sized for developed flows.

VI. CONCLUSION

This report has presented a comprehensive drainage management plan for the proposed hotel site. The plan provides safe and adequate drainage protection for the proposed development, and reduces the impact of the site to the already over-taxed storm drain system. It is recommended that this plan be approved as presented.

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Appendix

APPENDICES

APPENDIX A
HISTORIC DRAINAGE CONDITIONS

APPENDIX B
PROPOSED SITE CONDITIONS HYDROLOGY

APPENDIX C
SURFACE FLOW, INLET AND STORM DRAIN CAPACITY

APPENDIX A

HISTORIC DRAINAGE CONDITIONS

CALCULATIONS

A. calculate exist. flows in 54" SD in Bryn Mawr (assume fully developed basin)
basin area = 100 ac.

- use Land Treatment D (impervious) - 90% of basin
- " " " B = 10% of basin
- use Rational Method for approximation of flows and hydrograph

Land "D" = 0.9 (100 ac.) = 90 acres
" "B" = 0.1 (100 ac.) = 10 acres — zone 2

From Table A-9, DPM :

$Q_{100} = 90 \text{ acre} (4.70 \text{ cfs/ac.}) + 10 \text{ ac.} (2.28) =$

$Q_{100} = 445.8 \text{ cfs} \approx 450 \text{ cfs}$

$Q_{10} =$

B. calculate capacity of 54" SD in Bryn Mawr

Slope = 0.008

top of pipe cap. = 175 cfs <<<< 450 cfs

BOHANNAN-HUSTON INC.

PROJECT NAME _____ SHEET A-1 OF _____

PROJECT NO. _____ BY _____ DATE _____

SUBJECT _____ CH'D _____ DATE _____

C. Calculate hydrograph for entire 100 ac. basin (pg A-14, DPM Chap. 22)

SCS Upland Travel method

$t_c = \frac{L}{V}$, $V = K(\sqrt{S})\,10$

$V = 3(10)\sqrt{0.014} = 3.55$ fps

$L = 5800'$

$\Delta H = 82'$

$S = 0.014$

$t_c = \frac{5800}{3.55} = 1634$ sec. = 27 min. $= t_c$ = 0.45 hours

$t_p = 0.7(.45) + (1.6 - (90/100))/12 = 0.373$ hours

$E = \frac{2.12''(90) + 0.78(10)}{100} = 1.98''$

$A_T = 100$ ac.

$Q_p = 450$ cfs

$A_D = 90$ ac.

$t_B = \left(\frac{2.107(1.98)100}{450}\right) - \left(\frac{0.25(90)}{100}\right)$

$t_B = 0.70$ hours

BOHANNAN-HUSTON INC.

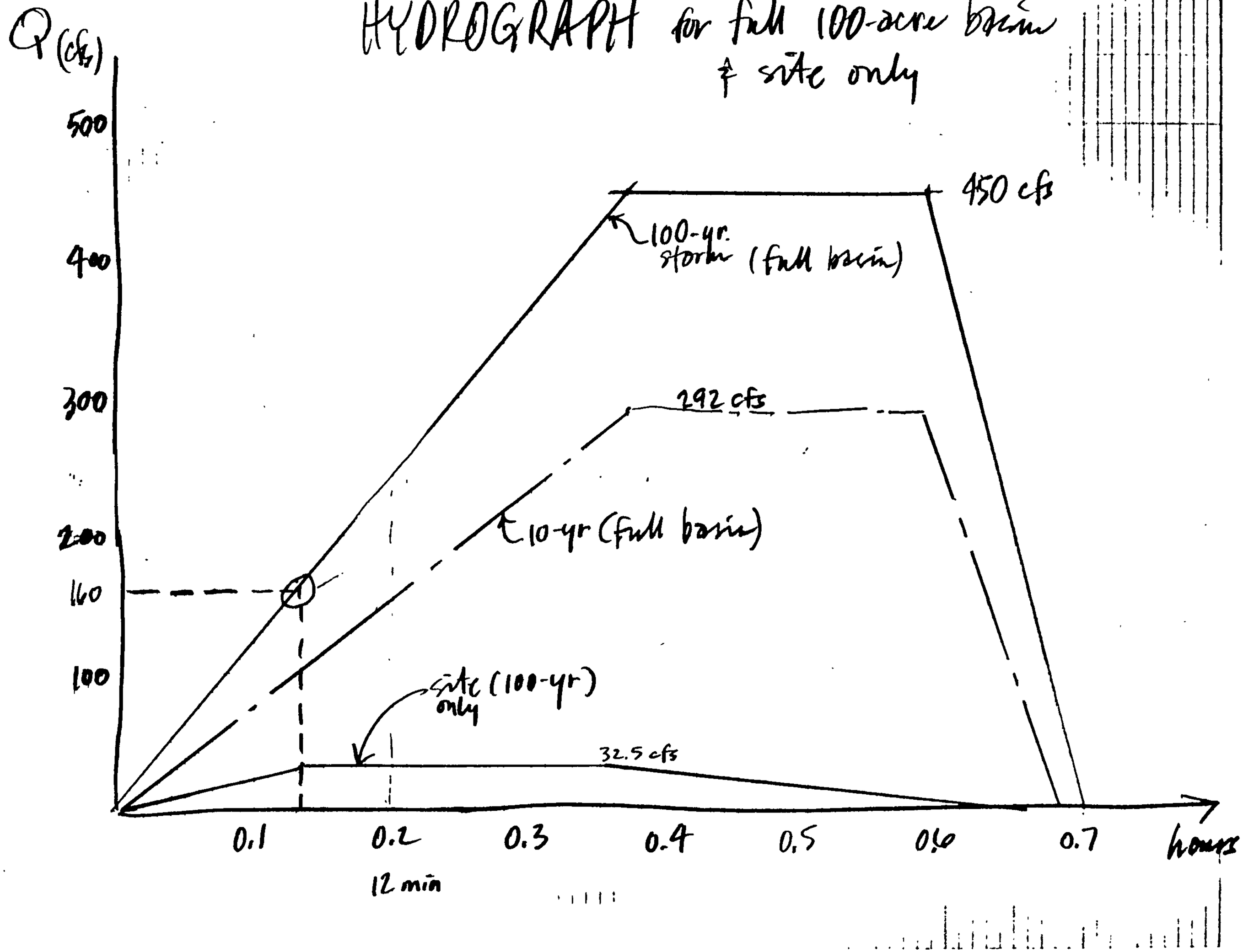
A-2

PROJECT NAME _____ SHEET _____ OF _____

PROJECT NO. _____ BY _____ DATE _____

SUBJECT _____ CH'D _____ DATE _____

HYDROGRAPH for full 100-acre basin & site only



PROJECT NAME _____

PROJECT NO. _____

SUBJECT _____

BOHANNAN-HUSTON INC.

SHEET 4.3 OF _____

BY _____ DATE _____

CH'D _____ DATE _____

D. Hydrograph for site

Q_p = 32.5 cfs (from Marriott report

A_T = 6.87 acres

A_b = 6.2 acres

A_b = 0.7 acres

T_p = 8 min. = 0.1333 hrs

$$T_B = \frac{2.107(1.98)6.9}{32.5} - \frac{0.25(6.2)}{6.9} = 0.66 \text{ hrs}$$

.22

(see hydrograph sketch on Sht. 3)

BOHANNAN-HUSTON INC.

PROJECT NAME _____ SHEET A-4 OF _____

PROJECT NO. _____ BY _____ DATE _____

SUBJECT _____ CH'D _____ DATE _____

100 YEAR FLOOD CONFINED TO CONSTRUCTED CHANNEL

CALCELARIA ROAD

CARLISLE

NORTH

EXIST. RETENTION POND

SITE

DRAINAGE BASIN 09.6 ACRES

MENAUL

BALLFIELDS

NORTH DIVERSION CHANNEL

DRAINAGE BASIN MAP

100 YEAR FLOOD CONFINED TO CONSTRUCTED CHANNEL

APPENDIX B

PROPOSED SITE CONDITIONS HYDROLOGY & POND CALCULATIONS

*DEVELOPED BASIN DATA TABLE

Manaul Boulevard Homestead Village

BASIN	Area (SQ. FT)	Area (AC.)	Land Treatment Percentages A	B	C	D	Q(100) (cfs/ac.)	Q(100) (CFS)	E(100) (IN)	Vol.** (6HR)	Vol.** (24HR)
1	12763	0.29	0.0%	10.0%	0.0%	90.0%	4.458	*1.31*	1.99	*2112*	*2495*
2	19079	0.44	0.0%	10.0%	0.0%	90.0%	4.458	*1.95*	1.99	*3158*	*3730*
3	30623	0.70	0.0%	10.0%	0.0%	90.0%	4.458	*3.13*	1.99	*5068*	*5987*
4	27094	0.62	0.0%	10.0%	0.0%	90.0%	4.458	*2.77*	1.99	*4484*	*5297*
5	27225	0.63	0.0%	10.0%	0.0%	90.0%	4.458	*2.79*	1.99	*4506*	*5322*
6	14941	0.34	0.0%	20.0%	0.0%	80.0%	4.216	*1.45*	1.85	*2306*	*2704*
7	95004	2.18	0.0%	10.0%	0.0%	90.0%	4.458	*9.72*	1.99	*15723*	*18573*
TOT/AVG	**226730**	**5.21**				**89.3%**	**4.44**	**23.12**	**1.977**	**37357**	**44109**
8	48569	1.12	0.0%	10.0%	0.0%	90.0%	4.458	*4.97*	1.99	*8038*	*9495*

*table is based on zone 2 rainfall as shown in DPM Section 22.2.

**these columns show required volumes based upon full retention of the 100yr storm event

NOTE: BASINS 1 THRU 7 DISCHARGE TO POND #1, WITH BASINS 1 - 4 AND BASIN 7 DISCHARGING VIA UNDERGROUND RCP, AND BASINS 5 AND 6 DISCHARGING VIA SURFACE FLOW. BASIN 8 DISCHARGES VIA SURFACE FLOW TO POND #2.

ACTUAL POND VOL. CALCS.

(SEE DEVELOPED BASIN DATA TABLE FOR REQ'D VOLS.)

POND #1:

AREA INSIDE CONTOUR 5106 = 10,414 ft²

" " " 5101 = 6710 ft²

AVG AREA = 8562 ft²

DEPTH = 5.0'

VOL = 42810 ft³

ADDITIONAL VOL. FOR SLOPING BOTTOM (BELOW 5101):

$V = \frac{1}{3}bh = \frac{1}{3}(6710)0.6' = 1342 ft^3$

← 5101 = POND OUTLET ELEV. (5100.40)

TOTAL VOL = 44150 ft³ > REQ'D VOL OF 44109 ft³

POND #2:

AREA INSIDE CONTOUR 5098.00 = 3341.5

" " " 5094.00 = 16575

AVG AREA = 2500 ft³

DEPTH = 4.0'

*VOLUME = 10,000 ft³ > REQ'D VOL. OF 9495 ft³

*ADDITIONAL VOL. FOR SLOPING BOTTOM NEED NOT BE COUNTED FOR POND #2.

BOHANNAN-HUSTON INC.

PROJECT NAME _____ SHEET 1 OF _____

PROJECT NO. _____ BY BS DATE _____

SUBJECT _____ CH'D _____ DATE 8-2

TIME REQ'D FOR PONDS TO DRAIN

POND *1:

$$t_2 - t_1 = \frac{2(A_t/A_j)}{\sqrt{2g}}\left(h_1^{1/2} - h_2^{1/2}\right)^{*} \qquad (*\text{EQN } 6.25)$$

$$\Delta t = \frac{2(8562/(.62*.18))}{\sqrt{64.4}}\,5^{1/2}$$

$$= 45{,}754.6 \text{ SEC.}$$

$$= 12 \text{ hr}, 45 \text{ min} < 24 \text{ hrs}$$

POND #2:

$$\Delta t = \frac{2(2500/(0.62*.10))}{\sqrt{64.4}}\,4^{1/2}$$

$$= 10{,}049.3 \text{ sec}$$

$$= 2 \text{ hr}, 45 \text{ min} < 6 \text{ hrs}$$

*APPLIED FLUID MECHANICS 3RD ED. ROBERT L. MOTT

BOHANNAN-HUSTON INC.

PROJECT NAME _____ SHEET 2 OF _____

PROJECT NO. _____ BY _____ DATE _____

SUBJECT _____ CH'D _____ DATE B-3

ORIFICE CALCS

POND #1:

MAX HEAD = 5.0'

MAX Q = 2.0 cfs

ORIFICE EQN: $Q = 0.62 A\sqrt{2gh}$

$A = Q/0.62\sqrt{2gh}$

$= \frac{2.0}{0.62\sqrt{64.4(5)}}$

$= 0.18 ft^2$

$= 25.9 in^2$

POND #2:

MAX. HEAD = 4.0'

MAX. Q = 1.0 cfs

$A = \frac{1.0}{.62\sqrt{64.4(4)}}$

$= 0.10 ft^2$

$= 14.5 in^2$

$D = \sqrt{\frac{4A}{\pi}}$

$= 4\ 5/16"$

BOHANNAN-HUSTON INC.

PROJECT NAME _____ SHEET 3 OF _____

PROJECT NO. _____ BY BS DATE _____

SUBJECT _____ CH'D _____ DATE 6-4

APPENDIX C

SURFACE FLOW, INLET AND STORM DRAIN CAPACITY

Single D inlet, in sump condition with all four edges capable of accepting flows:
Open Area (for orifice calc in sq. ft.): 3.931424
Length of Weir (feet): 8.395833

Head (ft)	Head (in)	Weir Q (cfs)	Orifice Q (cfs)	Control Q (cfs)
0.05	0.6	0.25	4.23	0.25
0.1	1.2	0.71	5.99	0.71
0.15	1.8	1.31	7.33	1.31
0.2	2.4	2.01	8.47	2.01
0.25	3	2.81	9.46	2.81
0.3	3.6	3.70	10.37	3.70
0.35	4.2	4.66	11.20	4.66
0.4	4.8	5.69	11.97	5.69
0.45	5.4	6.79	12.70	6.79
0.5	6	7.96	13.39	7.96
0.55	6.6	9.18	14.04	9.18
0.6	7.2	10.46	14.66	10.46
0.65	7.8	11.79	15.26	11.79
0.7	8.4	13.18	15.84	13.18
0.75	9	14.61	16.39	14.61
0.8	9.6	16.10	16.93	16.10
0.85	10.2	17.63	17.45	17.45
0.9	10.8	19.21	17.96	17.96
0.95	11.4	20.83	18.45	18.45
1	12	22.50	18.93	18.93
1.05	12.6	24.21	19.40	19.40
1.1	13.2	25.96	19.85	19.85
1.15	13.8	27.75	20.30	20.30
1.2	14.4	29.58	20.74	20.74
4	48	180.01	37.86	37.86
5	60	251.57	42.33	42.33

Calculation of open area:

	(in^2)	(ft^2)
Total Grate Area	1000	6.944444
Cross Bar Area	-366	-2.54167
Supports (ends)	-115.625	-0.80295
Areas Counted Twice	47.75	0.331597
	566.125	3.931424

Calculation of Length of Weir:

	(in)	(ft)
Total Perimeter of Grate	130	10.83333
Short Cross Bars	-7	-0.58333
End Supports	-9.25	-0.77083
Bearing Bars	-13	-1.08333
	100.75	8.395833

NOTE: FOR BASIN 7 (9.72 cfs), the Sngle 'D' inlet provided has a clogging factor of ~1.5. Since Basin 7 has the greatest flows, the clogging factors for the other inlets are even greater.

MENAUL - HOMESTEAD VILLAGE

HYDRAULIC GRADE LINE CALCULATIONS

Point	Structure	Diam.	Q	Area	Vel.	K	Sf	Length	Di	Angle	Hf	Hb	Hj	Hmh	Ht	Total Losses	HGL (dn)	HGL (up)	Pipe Soffit	Low Point	HV	EGL (dn)	EGL (up)	Dia. 3	Dia. 3 area	Angle	Hj	Ht(inc.)	Ht(dec.)
	OUTLET											0.00	0.00	0.00	0.00	0.00		6.00		6.00	0.17	6.00	6.17	0.00	0.00	0.00	0	0.0000	0.0000
		30	16.1	4.91	3.28	410	0.0015	10.00			0.02																		
	45 Bend								0	45		0.02	0.00	0.00	0.00	0.02	6.02	6.04		7.50	0.17	6.18	6.21	0.00	0.00	0.00	0	0.0000	0.0000
		30	16.1	4.91	3.28	410	0.0015	80.00			0.12																		
	45 Bend								0	45		0.02	0.00	0.00	0.00	0.02	6.16	6.19		7.50	0.17	6.33	6.35	0.00	0.00	0.00	0	0.0000	0.0000
		30	16.1	4.91	3.28	410	0.0015	8.00			0.01																		
	45 Bend								0	45		0.02	0.00	0.00	0.00	0.02	6.20	6.22		7.50	0.17	6.37	6.39	0.00	0.00	0.00	0	0.0000	0.0000
		30	16.1	4.91	3.28	410	0.0015	60.00			0.09																		
mh #1	MH								4	90		0.04	0.10	0.01	0.02	0.17	6.31	6.39		7.30	0.27	6.48	6.65	1.50	1.77	45.00	-0.0373	0.0000	0.0198
		18	3.1	1.77	1.77	105	0.0009	50.00			0.04																		
	45 Bend								0	45		0.01	0.00	0.00	0.00	0.01	6.43	6.66		8.00	0.05	6.70	6.70	0.00	0.00	0.00	0	0.0000	0.0000
		18	3.1	1.77	1.77	105	0.0009	165.00			0.15																		
INLET #1	INLET								0	0		0.00	0.00	0.00	0.00	0.00	6.80	6.85		7.60	0	6.85	6.85	0.00	0.00	0.00	0	0.0000	-0.0097
		24	13.0	3.14	4.14	226	0.0033	80.00			0.26																		
mh #2	MH								4	90		0.03	0.01	0.01	0.00	0.04	6.65	6.91		8.00	0.05	6.92	6.96	2.00	3.14	0.00	0.22248	0.0000	-0.0426
		18	9.7	1.77	5.50	105	0.0086	40.00			0.34																		
	45 Bend								0	45		0.05	0.00	0.00	0.00	0.05	7.25	6.89		7.50	0.47	7.30	7.36						
		18	9.7	1.77	5.50	105	0.0086	8.00			0.07																		
	45 Bend								0	45		0.02	0.00	0.00	0.00	0.02	6.95	6.97		7.50	0.47	7.42	7.44						
		18	9.7	1.77	5.50	105	0.0086	12.00			0.10																		
INLET #4	INLET								0	0		0.00	0.00	0.00	0.00	0.00	7.07	7.54		7.70	0	7.54	7.54	0.00	0.00	0.00	0	0.0000	0.0000
		18	3.3	1.77	1.84	105	0.0010	20.00			0.02																		
INLET #2	INLET								4	0		0.00	0.00	0.00	0.00	0.00	6.93	6.96		7.50	0.02	6.98	6.98	0.00	0.00	0.00	0	0.0000	0.0000
		18	2.0	1.77	1.10	105	0.0003	210.00			0.07																		
INLET #3	INLET								0	0		0.00	0.00	0.00	0.00	0.00	7.04	7.06		7.80	0	7.06	7.06	0.00	0.00	90.00	0	0.0000	-0.0038

MENAUL - HOMESTEAD VILLAGE SURFACE FLOWS

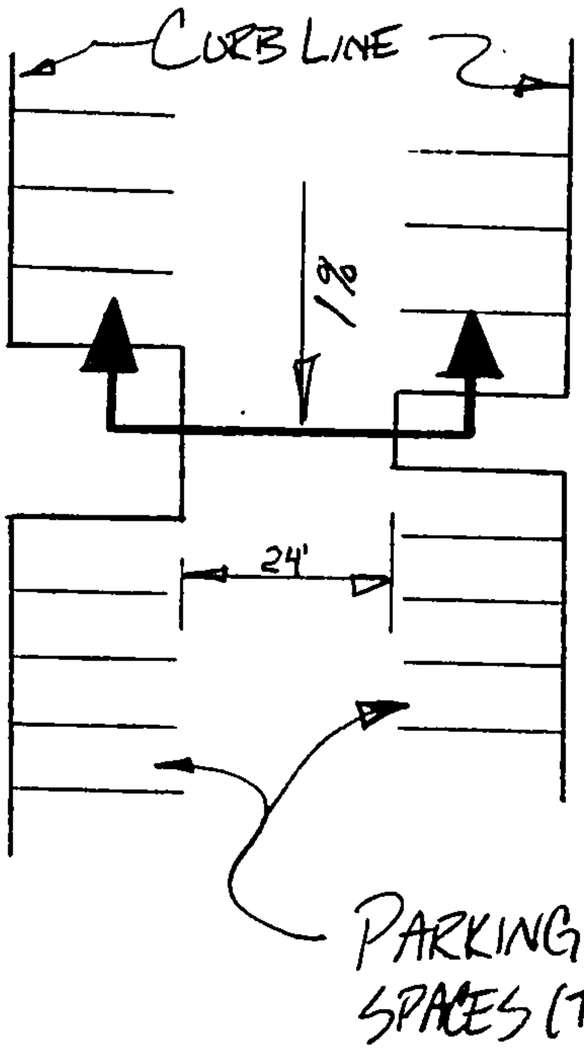
MANNING'S N = .0170 SLOPE = .0100

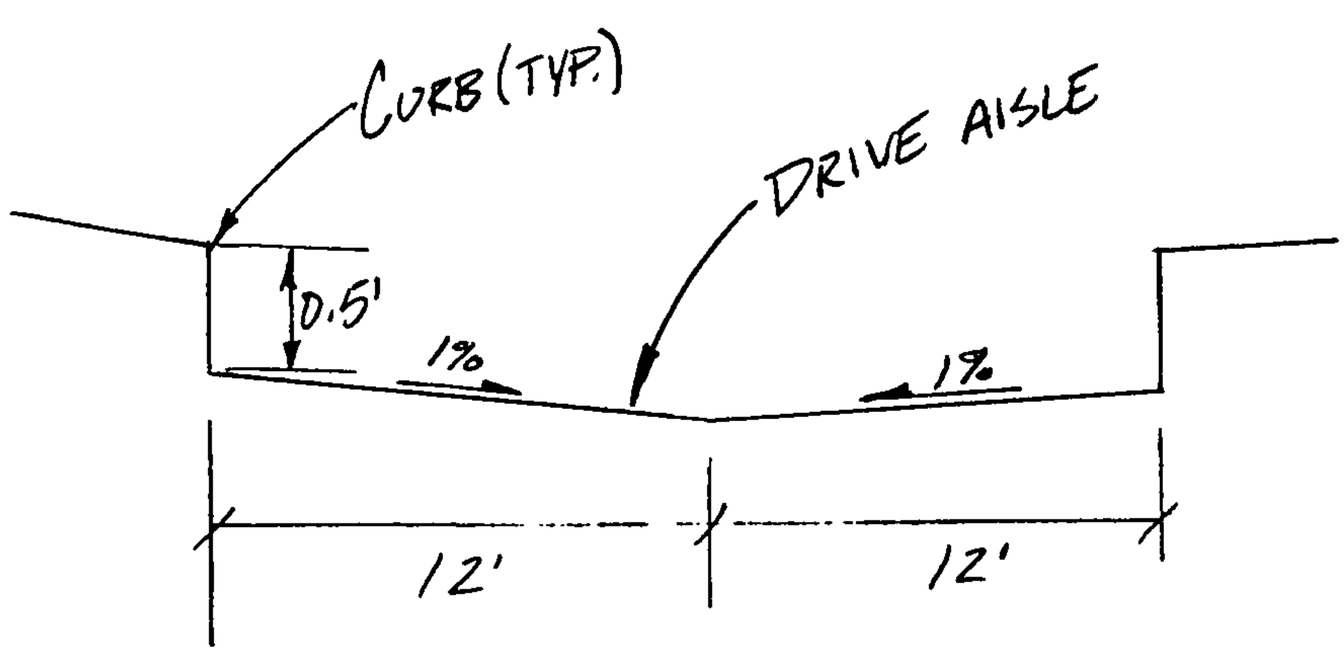
POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	0.00	0.62	3	12.00	0.00	5	24.00	0.62
2	0.00	0.12	4	24.00	0.12			

WSEL (FT)	DEPTH INC	FLOW AREA (SQ FT)	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOP WID
0.01	0.01	0.0	0.0	2.0	0.3	2.00
0.02	0.02	0.0	0.0	4.0	0.4	4.00
0.03	0.03	0.1	0.0	6.0	0.5	6.00
0.04	0.04	0.2	0.1	8.0	0.6	8.00
0.05	0.05	0.3	0.2	10.0	0.7	10.00
0.06	0.06	0.4	0.3	12.0	0.8	12.00
0.07	0.07	0.5	0.5	14.0	0.9	14.00
0.08	0.08	0.6	0.7	16.0	1.0	16.00
0.09	0.09	0.8	0.9	18.0	1.1	18.00
0.10	0.10	1.0	1.2	20.0	1.2	20.00
0.11	0.11	1.2	1.5	22.0	1.3	22.00
0.12	0.12	1.4	1.9	24.0	1.3	24.00
0.13	0.13	1.7	2.5	24.0	1.5	24.00
0.14	0.14	1.9	3.1	24.0	1.6	24.00
0.15	0.15	2.2	3.8	24.1	1.8	24.00
0.16	0.16	2.4	4.5	24.1	1.9	24.00
0.17	0.17	2.6	5.3	24.1	2.0	24.00
0.18	0.18	2.9	6.1	24.1	2.1	24.00
0.19	0.19	3.1	7.0	24.1	2.2	24.00

3.1 cfs is the greatest flow at any point (surface flow on developed portion)

SECTION RESTRICTED BY ISLANDS ON BOTH SIDES





NOTE: THIS IS THE MOST RESTRICTIVE SECTION.

PLATES

GRADING AND DRAINAGE PLAN

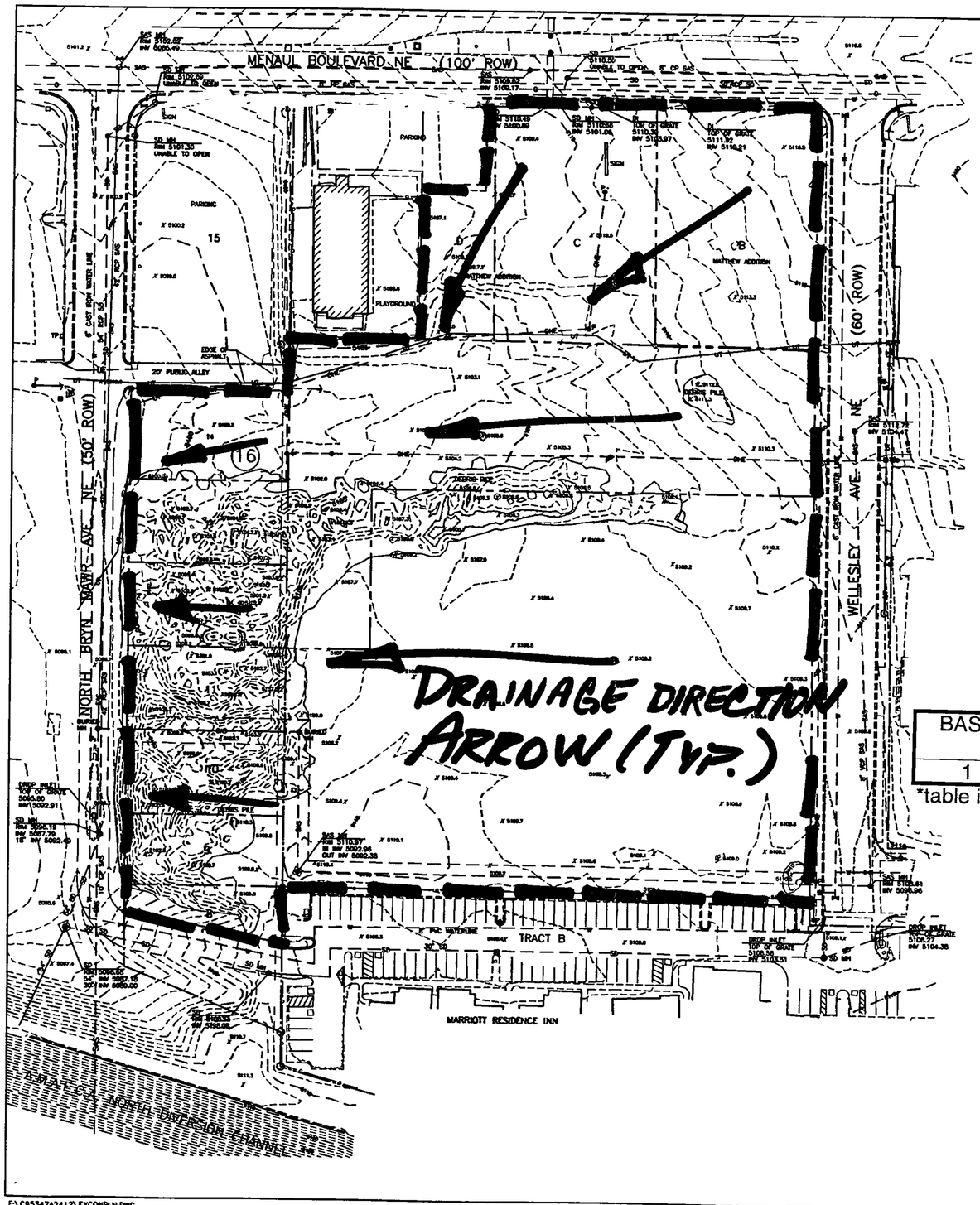
EXISTING CONDITIONS PLAN

DEVELOPED CONDITIONS BASIN MAP

CURRENT AND PROPOSED PLATS

GRADING AND DRAINAGE PLAN

EXISTING CONDITIONS PLAN



SCALE: 1" = 40'
SCALE 1 : 480
CONTOUR INTERVAL : 1'

LOCATION MAP
ZONE ATLAS INDEX MAP H-16
NOT TO SCALE

ENTIRE EXISTING SITE DRAINS TO BRYN MAWR. (16.9 cfs IN 100yr-6hr Storm)

***EXISTING BASIN DATA TABLE**

Manaul Boulevard Homestead Village

BASIN	Area (SQ. FT)	Area (AC.)	Land Treatment Percentages A	B	C	D	Q(100) (CFS/AC.)	Q(100) (CFS)	E(100) (IN)	Volume (6HR)	Volume (24HR)
1	275735	6.33	30.0%	0.0%	70.0%	0.0%	2.666	*16.88*	0.95	*21829*	*21829*

*table is based on zone 2 rainfall as shown in DPM Section 22.2.

REV	DATE	DESCRIPTION	USER DEPARTMENT	DATE	USER DEPARTMENT	DATE

APPROVAL OF REVISIONS

BOHANNAN-HUSTON INC.
ENGINEERS • PLANNERS • PHOTOGRAMMETRY • SURVEYORS • LANDSCAPE ARCHITECTS
ALBUQUERQUE LAS CRUCES SANTA FE

APPROVED FOR ROUGH GRADING ±0.5'

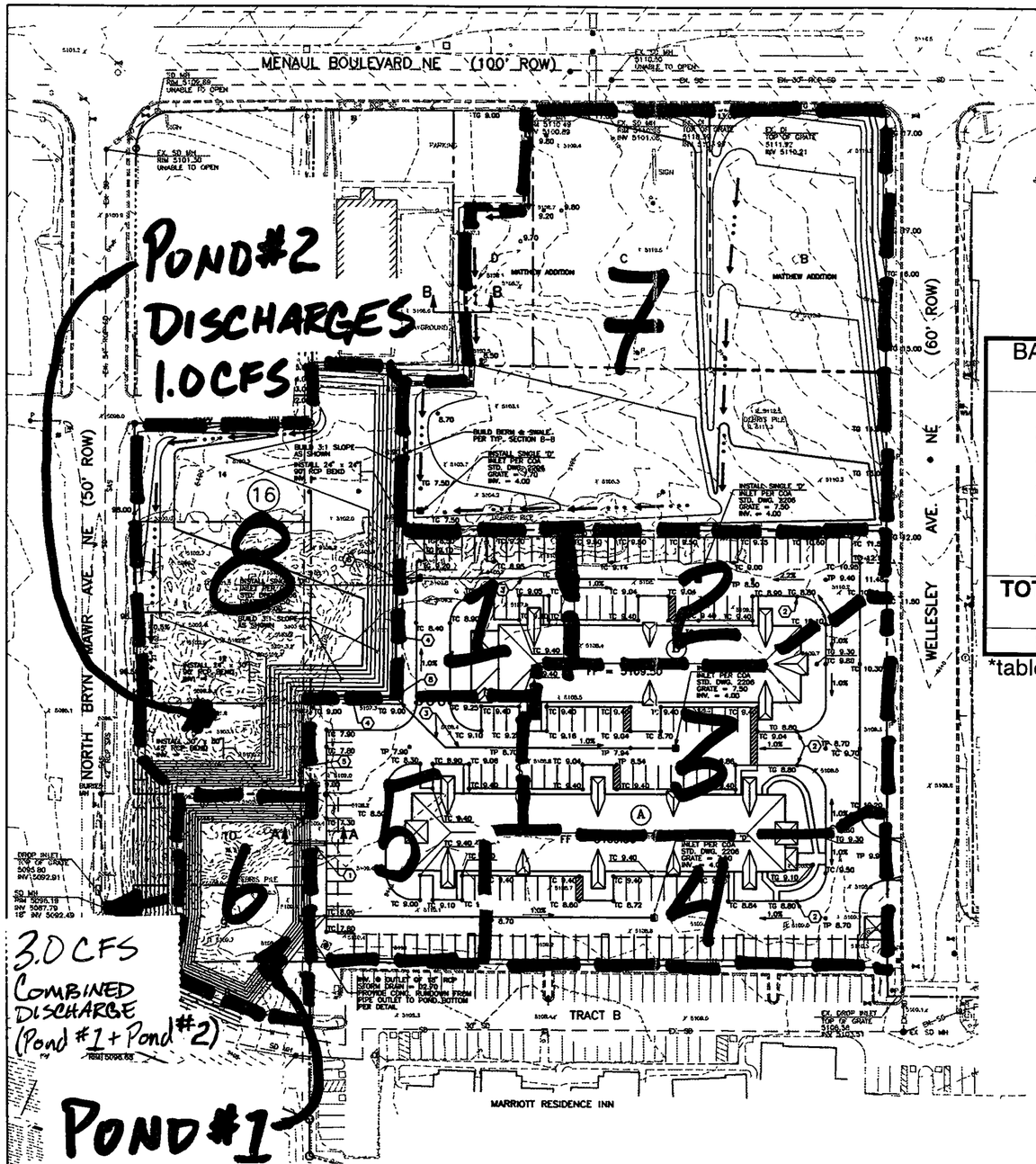
MENAUL HOMESTEAD VILLAGE
EXISTING CONDITIONS PLAN

HYDROLOGY ENGINEER

SHEET OF

E:\C95347A2412\EXCONPLN.DWG
JOB NO. 95-347A-2412

DEVELOPED CONDITIONS BASIN MAP



NO SCALE

***DEVELOPED BASIN DATA TABLE**

Manaul Boulevard Homestead Village

BASIN	Area (SQ. FT)	Area (AC.)	Land Treatment Percentages A	B	C	D	Q(100) (CFS/AC.)	Q(100) (CFS)	E(100) (IN)	Volume (6HR)	Volume (24HR)
1	12763	0.29	0.0%	10.0%	0.0%	90.0%	4.458	*1.31*	1.99	*2112*	*2495*
2	19079	0.44	0.0%	10.0%	0.0%	90.0%	4.458	*1.95*	1.99	*3158*	*3730*
3	30623	0.70	0.0%	10.0%	0.0%	90.0%	4.458	*3.13*	1.99	*5068*	*5987*
4	27094	0.62	0.0%	10.0%	0.0%	90.0%	4.458	*2.77*	1.99	*4484*	*5297*
5	27225	0.63	0.0%	10.0%	0.0%	90.0%	4.458	*2.79*	1.99	*4506*	*5322*
6	14941	0.34	0.0%	20.0%	0.0%	80.0%	4.216	*1.45*	1.85	*2306*	*2704*
7	95004	2.18	0.0%	10.0%	0.0%	90.0%	4.458	*9.72*	1.99	*15723*	*18573*
TOT/AVG	**226730**	**5.21**				**89.3%**	**4.44**	**23.1**	**1.98**	**37357**	**44109**
8	48569	1.12	0.0%	10.0%	0.0%	90.0%	4.458	*4.97*	1.99	*8038*	*9495*

*table is based on zone 2 rainfall as shown in DPM Section 22.2.

NOTE: BASINS 1 THRU 7 DISCHARGE TO POND #1, WITH BASINS 1 - 4 AND BASIN 7 DISCHARGING VIA UNDERGROUND RCP, AND BASINS 5 AND 6 DISCHARGING VIA SURFACE FLOW. BASIN 8 DISCHARGES VIA SURFACE FLOW TO POND #2.

REV	DATE	DESCRIPTION	USER DEPARTMENT	DATE	USER DEPARTMENT	DATE
APPROVAL OF REVISIONS						

BOHANNAN-HUSTON INC.
ENGINEERS • PLANNERS • PHOTOGRAMMETRISTS • SURVEYORS • LANDSCAPE ARCHITECTS
ALBUQUERQUE LAS CRUCES SANTA FE

APPROVED FOR ROUGH GRADING ±0.5'

MENAUL HOMESTEAD VILLAGE

HYDROLOGY ENGINEER

SHEET OF

E:\C95347A2412\GRDPLN.DWG
JOB NO 95-347A-2412

DATE: FEBRUARY 22, 1996

DEVELOPED CONDITIONS
BASIN MAP

CURRENT AND PROPOSED PLATS

CITY OF
Albuquerque
P.O. Box 1293 Albuquerque, NM 87103

Martin J. Chávez, Mayor

June 16, 1997

James Topmiller, PE
Bohannan Huston, Inc.
7500 Jefferson NE
Albuquerque, NM 87109

RE: ENGINEER'S CERTIFICATION FOR HOMESTEAD VILLAGE (H-16/D117)
RECEIVED MAY 27,1997 FOR CERTIFICATE OF OCCUPANCY
ENGINEER'S STAMP DATED 5/27/97

Dear Mr. Topmiller:

Based on the information included in the submittal referenced above, City Hydrology accepts The Engineer's Certification for a 30 day temporary Certificate of Occupancy for Building "B". No as-built FF was indicated for Building "A". Code Enforcement was notified on 5/27/97.

These comments must be addressed before a permanent Certificate of Occupancy will be released: Indicate as-built elevations for FF Building and inverts of private storm drain. Verify that the as-built pond volumes are adequate.

If I can be of further assistance, You may contact me at 768-2727.

Sincerely,

John P. Curtin, P.E.
Civil Engineer, Hydrology

c: Andrew Garcia

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Homestead Village ZONE ATLAS/DRNG. FILE # H-16/D117

DRB #: _____ EPC #: _____ WORK ORDER #: _____

LEGAL DESCRIPTION: Tracts A-1, A-2, 12-A Waldelich Estates

CITY ADDRESS: 2401 Wellesley Dr. NE 87109

ENGINEERING FIRM: BOHANNAN HUSTON, INC. CONTACT: Bruce Stidworthy

ADDRESS: 7500 JEFFERSON NE, ALB. NM 87109 PHONE: 823-1000

OWNER: Homestead Village CONTACT: Drew Smith

ADDRESS: 1140 Empire Central, Dallas Tx. 75247 PHONE: 212 698 1832

ARCHITECT: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

SURVEYOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

CONTRACTOR: ADA Construction CONTACT: Dean Brown

ADDRESS: 2401 Wellesley Dr NE PHONE: 878-9359

TYPE OF SUBMITTAL:

____ DRAINAGE REPORT
____ DRAINAGE PLAN
____ CONCEPTUAL GRADING & DRAINAGE PLAN
____ GRADING PLAN
____ EROSION CONTROL PLAN
X ENGINEER'S CERTIFICATION
____ OTHER

PRE-DESIGN MEETING:

____ YES
____ NO
____ COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

____ SKETCH PLAT APPROVAL
____ 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
X CERTIFICATE OF OCCUPANCY APPROVAL (TEMP.)
____ GRADING PERMIT APPROVAL
____ PAVING PERMIT APPROVAL
____ S.A.D. DRAINAGE REPORT
____ DRAINAGE REQUIREMENTS
____ OTHER _____ (SPECIFY)

30 day Temp CO issued on 5-27-97

DATE SUBMITTED: _____

BY: _____

Received
5-27-97

May 27, 1997

Mr. Bernie Montoya
City of Albuquerque
Hydrology Division/PWD
P.O. Box 1293
Albuquerque, NM 87103

BOHANNAN HUSTON

Courtyard One

7500 JEFFERSON NE

Albuquerque

NEW MEXICO 87109

voice 505.823.1000

fax 505.821.0892

Re: Drainage Certification for I-40 Homestead Village, 2401 Wellesley Drive NE

Dear Mr. Montoya:

With this letter, we are requesting approval of the drainage certification for temporary certificate of occupancy. Please find the following documents enclosed;

- Drainage Information Sheet
- Grading Plan w/ drainage certification
- Pond volume calculations

We have identified the following of items which must be addressed prior to issuance of a permanent certificate of occupancy. When the items below have been addressed to our satisfaction, we will inform you, and permanent certificate of occupancy will be requested.

- The berm along the west and north sides of Pond #1 should be raised to an elevation of 5107.00, for the entire length of the berm.
- Additional earthwork should be done for Pond #2. This earthwork is required in order to increase the volume of the pond to the volume required by the grading plan.

Temporary certificate of occupancy is urgently needed for the subject facility. Please make the appropriate city staff aware of this submittal. If you have any questions or comments, please call me at 823-1000.

Sincerely,
Bohannan Huston

Bruce Stidworthy, E.I.
Community Development and Planning Group

BS/hjh

Enclosures

cc: Andrew Smith, Homestead Village Inc.
Dean Brown, ADA Construction Co., Inc.
James Topmiller, Bohannan Huston
Paul Wymer, Bohannan Huston

H:\96240\cdp\c2492-drng cert\corres\montoya2.ltr.doc - 05/27/97

POND #1

BOTTOM AREA:

DIVIDE INTO RECTANGLES & TRIANGLES FROM FIELD MEASUREMENTS.

$66 \times 71 = 4686$

$+ 36 \times 35 = 1260$

$+ 45 \times 34 \times \frac{1}{2} = 765$

6711

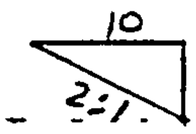
DEPTH:

MAX WATER SURFACE 5106.00

POND BOTTOM 5101.00

DEPTH = 5.00

CROSS SECTIONAL AREA OF SLOPED SIDES:



$\Rightarrow$ AREA $= 25 FT^2$

Area @ 5101

Area @ 5106

PERIMETER OF POND = 365'

VOLUME ABOVE ELEV 5101.00:

$6711 FT^2 \times 5 FT = 33555 FT^3$

$+ 25 FT^2 * 365 FT = 9125 FT^3$

$42680 FT^3$

VOLUME BELOW 5101.00:

(BOTTOM SLOPES TO OUTLET)

$1/3 * 6711 * 0.6' = 1342 FT^3$

TOTAL VOL = 44022

REQ'D VOL = 44109 (FROM DRNG REPORT)

PERCENT DIFFERENCE $\frac{44109 - 44022}{44109} = 2\%$ OK

BOHANNAN-HUSTON INC.
ENGINEERS • PLANNERS • PHOTOGRAMMETRISTS • SURVEYORS • LANDSCAPE ARCHITECTS
ALBUQUERQUE _____ LAS CRUCES _____ SANTA FE

PROJECT NAME HOMESTEAD VILLAGE SHEET 1 OF 2

PROJECT NO. 96240C 2452 BY BS DATE 5/27/19

SUBJECT POND VOL. (AS-BUILT) CH'D _____ DATE _____

POND #2

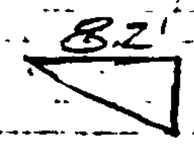
BOTTOM AREA: 28' x 39' = 1092 FT²

DEPTH: MAX WATER SURFACE = 5098.00

BOTTOM = 5093.9

DEPTH = 4.1'

X-SECT. AREA OF SLOPED SIDES:



⇒ AREA = 16.8 FT²

PERIMETER = 150'

TOTAL VOL:

1092 * 4.1 = 4477

16.8 * 150 = 2520

6997 FT³

REQ'D VOL: 2500 cf Grading Plan
9495 FT³? (FROM DRNG REPORT)

6997 << 9495 ⇒ POND TO BE REGRADED TO MATCH GRADING PLAN & SATISFY VOL REQ. PRIOR TO PERMANENT C.O.

THIS IS ACCEPTABLE BECAUSE POND # 2 WAS SIZED FOR DEVELOPED FLOWS, & THE BASIN DRAINING TO POND #2 IS NOT YET DEVELOPED. ALSO, IT IS NOT THE FLOOD SEASON.

BOHANNAN-HUSTON INC.
ENGINEERS • PLANNERS • PHOTOGRAMMETRISTS • SURVEYORS • LANDSCAPE ARCHITECTS
ALBUQUERQUE LAS CRUCES SANTA FE

PROJECT NAME HOMESTEAD VILLAGE SHEET 2 OF 2

PROJECT NO. 96240.1 2452 BY BS DATE 5/27/97

SUBJECT POND #2 CH'D DATE

SPILLWAY CAPACITY CALC.

NOTE: AS-BUILT SPILLWAY WIDTH FOR POND #1 IS 13'. DESIGN WIDTH = 14'.

Q_{100} = 23.1 cfs (INTO POND #1)

SPILLWAY CAPACITY =

$$Q = C L H^{1.5}$$

SOLVE FOR H,

H = 0.705'

SPILLWAY CREST ELEV = 5106.00

POND BERM ELEV = 5107.00

WATER SURFACE ELEV. THROUGH SPILLWAY = 5106 + 0.705 = 5106.7

(ALLOWS 0.3' OF FREE BOARD.

THESE CALCS. ARE CONSERVATIVE BECAUSE:

① PONDS ARE SIZED BASED ON FULL RETENTION OF 100yr 24hr STORM i.e. PEAK FLOW WILL OCCUR LONG BEFORE POND IS FULL.

② FULL RETENTION IS CONSERVATIVE BECAUSE OUTLETS ALLOW SMALL FLOWS TO DRAIN DURING THE STORM EVENT.

BOHANNAN-HUSTON INC.
ENGINEERS • PLANNERS • PHOTOGRAMMETRISTS • SURVEYORS • LANDSCAPE ARCHITECTS
ALBUQUERQUE LAS CRUCES SANTA FE

PROJECT NAME HOMESTEAD VILLAGE SHEET 1 OF 1

PROJECT NO. 96240C 2492 BY BS DATE 5/22/97

SUBJECT SPILLWAY CAPACITY CH'D DATE

CITY OF
Albuquerque
Public Works Department

Martin J. Chávez, Mayor

Robert E. Gurulé, Director

February 14, 1997

John Willow
Bohannan-Huston, Inc
7500 Jefferson NE
Albuquerque, NM 87109

RE: NORTH BRYN MAWR AVENUE EXTENSION (H16-D117). GRADING PLAN FOR GRADING AND PAVING PERMIT APPROVALS. ENGINEER'S STAMP DATED FEBRUARY 3, 1997.

Dear Mr. Willow:

Based on the information provided on your February 7 , 1997 submittal, City Hydrology has the following comments:

1. I can't locate the existing double "D" inlet you refer to in your letter on the plan sheet.

2. The existing 54-inch storm drain on your profile should be shown using two parallel lines.

3. Please provide me with a short narrative explaining why you are putting in a cul-de-sac. Isn't there required access beyond the proposed cul-de-sac?

If I can be of further assistance, please feel free to contact me at 768-3622.

Sincerely,

Lisa Ann Manwill, P.E.
Engineering Assoc./Hyd.

c: Andrew Garcia
File

DRAINAGE INFORMATION SHEET

PROJECT TITLE: North Bryn Mawr Ave. Extension (Constructed with I-40 Homestead Village) ZONE ATLAS/DRNG. FILE # H-16/-D117

DRB #: 95-483 EPC #: _____ WORK ORDER #: 545081

LEGAL DESCRIPTION: Tract "A", Waidelich Estates & lots 9 thru 14 and a portion of lot 8, block 16 Miraceros Addn

CITY ADDRESS: ~~BRYN MAWR AVE SOUTH OF HENAUL~~

ENGINEERING FIRM: BOHANNAN-HUSTON INC. CONTACT: John Willow

ADDRESS: 7500 JEFFERSON NE, ALB. NM 87109 PHONE: (505) 823-1000

OWNER: Security Capital (Southwest) Inc. CONTACT: Dan Brown

ADDRESS: 125 Lincoln Ave, S.F., NM 87501 PHONE: _____

ARCHITECT: CONTACT:

ADDRESS: _____ PHONE: _____

SURVEYOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

CONTRACTOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

TYPE OF SUBMITTAL:

_____ DRAINAGE REPORT
_____ DRAINAGE PLAN
_____ FINAL GRADING & DRAINAGE PLAN
_____ GRADING PLAN
_____ EROSION CONTROL PLAN
_____ ENGINEER'S CERTIFICATION
_____ OTHER

PRE-DESIGN MEETING:

_____ YES
_____ NO
_____ COPY PROVIDED

DATE SUBMITTED: 2/6/97

BY: John Willow, El.

CHECK TYPE OF APPROVAL SOUGHT:

_____ SKETCH PLAT APPROVAL
_____ 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
X BUILDING PERMIT APPROVAL
_____ CERTIFICATE OF OCCUPANCY APPROVAL
X GRADING PERMIT APPROVAL
X PAVING PERMIT APPROVAL
_____ S.A.D. DRAINAGE REPORT
X DRAINAGE REQUIREMENTS
_____ OTHER _____ (SPECIFY)

HYDROLOGY SECTION FEB 07 1997 APPROVED

RECEIVED FEB 07 1997 HYDROLOGY SECTION

K:\FORMS\DRAINAGE INFO SHT.DOC - 02/06/97

ENGINEERS PLANNERS SURVEYORS
PHOTOGRAMMETRISTS LANDSCAPE ARCHITECTS

BOHANNAN-HUSTON INC.
COURTYARD I, 7500 JEFFERSON STREET, NE ALBUQUERQUE, NM 87109-4355
TEL (505) 823-1000 FAX (505) 821-0892

February 6, 1997

Read Drainage Info sheet

Ms. Lisa Ann Manwil
City of Albuquerque
Hydrology Division/PWD
P.O. Box 1293
Albuquerque, NM 87102

Re: North Bryn Mawr Avenue Extension, City Project No. 545081

Dear Lisa:

Please find the accompanying plans for the above referenced project. This set will be submitted to DRC with an amended Infrastructure List transferring sidewalk construction to the private improvements work order. A hearing is scheduled for Tuesday, February 11, 1997, to address this matter.

The proposed improvements to Bryn Mawr include a cul-de-sac which allows traffic to turn around without occupying the emergency access easement beyond.

Storm drain improvements are not necessary as existing conditions on Bryn Mawr are not changed. The rundown curb at the back of the cul-de-sac will match the width of the street, permitting the existing double "D" inlet to pick up the approximately 8 cfs produced in the basin area during the 100-year storm event.

I had intended to send this plan set to you two weeks in advance of the DRC review, however, that will be scheduled after Tuesday's hearing and should proceed from there as soon as possible. Please review this plan set at your convenience and call me with your comments. I can be reached at 823-1000, ext. 327.

Sincerely,

John Willow, E.I.
Community Development and Planning

JW/hjh
Enclosures

RECEIVED
FEB 06 1997
HYDROLOGY SECTION

cc: Paul Wymer, BHI
James Topmiller, BHI

RECEIVED
FEB 07 1997
HYDROLOGY SECTION

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CITY OF
Albuquerque

October 7, 1996

Martin J. Chávez, Mayor

Paul Wymer
Bohannan-Huston, Inc
7500 Jefferson NE
Albuquerque, NM 87109

RE: HOMESTEAD VILLAGE (H16-D117). UPDATED GRADING PLAN FOR BUILDING PERMIT APPROVAL. ENGINEER'S STAMP DATED SEPTEMBER 5, 1996.

Dear Mr. Wymer:

Based on the updated information provided on your September 11 , 1996 submittal, the above referenced project is approved for Building Permit.

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

If I can be of further assistance, please feel free to contact me at 768-3622.

Sincerely,

Lisa Ann Manwill
Engineering Assoc./Hyd.

c: Andrew Garcia
File

DRAINAGE INFORMATION SHEET

PROJECT TITLE: I-40 HOMESTEAD VILLAGE ZONE ATLAS/DRNG. FILE #: H-16 / D117

DRB #: 95-483 EPC #: _____ WORK ORDER #: _____

LEGAL DESCRIPTION: TRS A-1 & A-2, 12-A, Wardelieh Estates

CITY ADDRESS: 2401 WELLESLEY, ALB., NM

ENGINEERING FIRM: BOHANNAN-HUSTON INC. CONTACT: PAUL WYMER

ADDRESS: 7500 JEFFERSON ST. PHONE: 823-1000

OWNER: HOMESTEAD VILLAGE INC. CONTACT: MARK MARSHAL

ADDRESS: 1140 EMPIRE CENTRAL DR. PHONE: (214) 951-9284

ARCHITECT: ARCHON CONTACT: RICK KITTLESON

ADDRESS: 2710 OAK LAWN - SUITE 101 PHONE: (214) 526-0731
DALLAS, TX. 75219

SURVEYOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

CONTRACTOR: A.D.A. CONSTRUCTION CONTACT: LARRY EVANS

ADDRESS: 2401 WELLESLEY (JOB SITE) PHONE: (505) 264-7113

TYPE OF SUBMITTAL:

____ DRAINAGE REPORT

____ DRAINAGE PLAN

____ CONCEPTUAL GRADING & DRAINAGE PLAN

✓ GRADING PLAN

____ EROSION CONTROL PLAN

____ ENGINEER'S CERTIFICATION

____ OTHER _____

PRE-DESIGN MEETING:

____ YES

____ NO

____ COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

____ SKETCH PLAT APPROVAL

____ 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 APPROVAL

____ GRADING PERMIT APPROVAL

____ PAVING PERMIT APPROVAL

____ S.A.D. DRAINAGE REPORT

____ DRAINAGE REQUIREMENTS

____ SUBDIVISION CERTIFICATION

____ OTHER _____ (SPECIFY)

DATE SUBMITTED: 9/11/96

BY: PAUL WYMER

BOHANNAN-HUSTON INC.
COURTYARD I, 7500 JEFFERSON STREET, N.E. ALBUQUERQUE, NM 87109
TEL (505) 823-1000 FAX (505) 821-0892

LARRY W HUSTON, C.P. — PRINCIPALS — WILLIAM L. VREEKE, P.E.
MICHIAL M. EMERY, P.E.
BRIAN G BURNETT, P.E.
KERRY L. DAVIS, P.E.
LARRY A. LARRAÑAGA, P.E.
HOWARD C. STONE, P.E.
GORDON A. WALHOOD, JR., P.E.
MARY E. CARTER
GEORGE RADNOVICH, R.L.A.
SILAS V SUAZO
JAMES R. TOPMILLER, P.E.

September 9, 1996

Ms. Lisa Ann Manwill
City of Albuquerque
Hydrology/Public Works Division
P.O. Box 1293
Albuquerque, NM 87103

Re: Modifications to Improve Grading and Drainage Plan: I-40 Homestead Village (Wellesley and Menaul)

Dear Lisa:

Enclosed for your review and approval is a revised Grading and Drainage Plan for the I-40 Homestead Village located near the intersection of Wellesley and Menaul. This project was previously approved by you. Modifications to the Plan were necessary due to requirements of other review agencies during the building permit acquisition process. These modifications are indicated on the revised plan by "Bubbles" and include the following:

1. Curb return and sidewalk configurations along Wellesley have been modified.

2. Pond number 2 has been reconfigured due to the proposed cul-de-sac adjacent to this facility. Capacities have not changed.

3. Additional existing curb cut data was added to the Plan, designating access locations on the east side of Wellesley as required by Transportation Development staff.

4. Minor modifications were made to sidewalk and parking space locations. These modifications will not affect the drainage concept.

5. Minor modifications were made to applicable General Notes.

6. The revised plan has been stamped and redated by James Topmiller, the engineer of record for the project.

Please review these modifications and issue a new approval letter for this revised plan which will enable us to incorporate it into the building permit plan set. Do not hesitate to call with any comments or questions on this issue.

Sincerely,

Paul M. Wymer, AIA
Project Manager
Community Development
and Planning Group

PMW/rac
Enclosure
cc: Mark Marshall,
James Topmiller, BHI

\\Mickey\sec_cdp\96240\B2436\MODS.DOC - 09/09/96

RECEIVED
SEP 11 1996
HYDROLOGY DIVISION

CITY OF
Albuquerque

May 31, 1996

Martin J. Chávez, Mayor

Bruce Stidworthy
Bohannan-Huston, Inc
7500 Jefferson NE
Albuquerque, NM 87109

RE: HOMESTEAD VILLAGE (H16-D117) DRAINAGE REPORT FOR FINAL PLAT, BUILDING PERMIT, ROUGH GRADING PERMIT, AND WORK ORDER PERMIT APPROVALS. ENGINEER'S STAMP DATED MAY 24, 1996.

Dear Mr. Stidworthy:

Based on the information provided on your March 19, 1996 submittal, the above referenced project is approved for Final Plat, Building Permit, and Work Order Permit.

In the future, please request Work Order permit when tieing into the back of an existing manhole. This project will need DRC approval.

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

If I can be of further assistance, please feel free to contact me at 768-3622.

Sincerely,

Lisa Ann Manwill
Engineering Assoc./Hyd.

c: Andrew Garcia
File

DRAINAGE INFORMATION SHEET

PROJECT TITLE: HOMESTEAD VILLAGE MENAUL BLVD ZONE ATLAS/DRNG. FILE # H-16/D117

DRB #: 95-483 EPC #: _____ WORK ORDER #: _____

LEGAL DESCRIPTION: PORTION OF TR. A WAIDELICH ESTATES & N. PORTION LOT 8 & LOTS 9, 10, 11 & 12 OF MIRRACERROS.

CITY ADDRESS: SOUTH OF MENAUL BETWN WELLESLEY & BRYN MAWR

ENGINEERING FIRM: BOHANNAN HUSTON, INC. CONTACT: BRUCE SCHOMBURGH

ADDRESS: 7500 JEFFERSON NE, ALB. NM 87109 PHONE: 823-1000

OWNER: SECURITY CAPITAL SW INC. CONTACT: DAN BROWN

ADDRESS: 125 LUCERO AVE SF NM 87501 PHONE: _____

ARCHITECT: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

SURVEYOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

CONTRACTOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

TYPE OF SUBMITTAL:

____ DRAINAGE REPORT
____ DRAINAGE PLAN
____ CONCEPTUAL GRADING & DRAINAGE PLAN
____ GRADING PLAN
____ EROSION CONTROL PLAN
____ ENGINEER'S CERTIFICATION
__X__ OTHER UPDATED GRADING PLAN

PRE-DESIGN MEETING:

____ YES
____ NO
____ COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

____ SKETCH PLAT APPROVAL
____ 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
__X__ BUILDING PERMIT APPROVAL
____ CERTIFICATE OF OCCUPANCY APPROVAL
____ GRADING PERMIT APPROVAL
____ PAVING PERMIT APPROVAL
____ S.A.D. DRAINAGE REPORT
____ DRAINAGE REQUIREMENTS
__X__ OTHER ROUGH GRADING (SPECIFY)

Signed mylar - yes on May 28, 1996

RECEIVED
MAY 28 1996
HYDROLOGY

DATE SUBMITTED: _____

BY: _____

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

April 9, 1996

Bruce Stidworthy
Bohannan-Huston, Inc
7500 Jefferson NE
Albuquerque, NM 87109

RE: HOMESTEAD VILLAGE (H16-D117) DRAINAGE REPORT FOR FINAL PLAT, BUILDING PERMIT, AND ROUGH GRADING PERMIT APPROVAL. ENGINEER'S STAMP DATED MARCH 15, 1996.

Dear Mr. Stidworthy:

Based on the information provided on your March 19, 1996 submittal, the above referenced project is approved for Final Plat only. Prior to Building Permit approval, please address the following comments:

1. Please show more spot elevations (existing and proposed) at entrance. I can not tell the height of the required entrance water block.

2. Provide required bench mark information. You'll need data on the Albuquerque control survey vertical datum and a temporary bench mark on site.

A Building Permit will allow you to proceed with rough grading. Therefore, with your next submittal, a request for Rough Grading Permit will not be necessary if the above comments are addressed.

If I can be of further assistance, please feel free to contact me at 768-3622.

Sincerely,

Lisa Ann Manwill
Engineering Assoc./Hyd.

c: Andrew Garcia
File

DRAINAGE INFORMATION SHEET

PROJECT TITLE: HOMESTEAD VILLAGE MANUAL Blvd. ZONE ATLAS/DRNG. FILE # H-16/D117

DRB #: 95 483 EPC #: _____ WORK ORDER #: _____

LEGAL DESCRIPTION: PORTION OF TR. A WHEELOCK EST. & N. PORTION LOT 8 & LOTS 9, 10, 11, 12, MIRANCE RIOS

CITY ADDRESS: SOUTH OF MANUAL BLVD - BETWIN WELLESLEY & BRYN MARW

ENGINEERING FIRM: BOHANNAN HUSTON, INC. CONTACT: BRUCE STIDWORTHY

ADDRESS: 7500 JEFFERSON NE, ALB. NM 87109 PHONE: 823-1000

OWNER: SECURITY CAPITAL (SOUTHWEST) INC. CONTACT: DAN BROWN

ADDRESS: 125 LINCOLN AVE S.F. NM 87501 PHONE: _____

ARCHITECT: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

SURVEYOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

CONTRACTOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

TYPE OF SUBMITTAL:

X DRAINAGE REPORT
___ DRAINAGE PLAN
___ CONCEPTUAL GRADING & DRAINAGE PLAN
___ GRADING PLAN
___ EROSION CONTROL PLAN
___ ENGINEER'S CERTIFICATION
___ OTHER

PRE-DESIGN MEETING: 3-15-96

___ YES
___ NO
___ COPY PROVIDED

CHECK TYPE OF APPROVAL SOUGHT:

___ SKETCH PLAT APPROVAL
___ PRELIMINARY PLAT APPROVAL
___ S. DEV. PLAN FOR SUB'D. APPROVAL
___ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
___ SECTOR PLAN APPROVAL
X FINAL PLAT APPROVAL
___ FOUNDATION PERMIT APPROVAL
X BUILDING PERMIT APPROVAL
___ CERTIFICATE OF OCCUPANCY APPROVAL
___ GRADING PERMIT APPROVAL
___ PAVING PERMIT APPROVAL
___ S.A.D. DRAINAGE REPORT
___ DRAINAGE REQUIREMENTS
___ OTHER (ROUGH GRADING) + Work Order (SPECIFY)

RECEIVED
MAR 19 1996
HYDROLOGY DIVISION

DATE SUBMITTED: _____

BY: _____

LARRY W HUSTON, C.P.
MICHIAL M. EMERY, P.E.
BRIAN G. BURNETT, P.E.
KERRY L. DAVIS, P.E.
LARRY A. LARRAÑAGA, P.E.
HOWARD C. STONE, P.E.

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SILAS V SUAZO
JAMES R. TOPMILLER, P.E.

BOHANNAN-HUSTON INC.
COURTYARD I, 7500 JEFFERSON STREET, N.E. ALBUQUERQUE, NM 87109
TEL (505) 823-1000 FAX (505) 821-0892

March 18, 1996

Mr. Fred Aguirre
Hydrology Division
Public Works Department
City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103

Re: Drainage Report for Homestead Village - Menaul Boulevard. (DRB# 95-483).

Dear Fred:

The purpose of this letter is to transmit to you the Drainage Report for Homestead Village - Menaul Boulevard, located on the southwest corner of Menaul and Wellesley NE. This drainage report is submitted to support Final Plat, Building Permit, and Rough Grading approvals. A proposed replat has been submitted to the D.R.B. in association with this development. The hearing date for this replat is Tuesday, March 19, 1996.

The Homestead Village is a 138 unit hotel development consisting of 2 buildings and associated parking areas. The proposed buildings and parking areas utilize approximately 2.7 acres. Private drainage and grading improvements are also proposed for the tracts (approx. 3.6 acres) to the north and west of the hotel buildings. The enclosed Drainage Report proposes to drain the entire site, through two detention ponds, to an existing storm drain facility in Bryn Mawr Avenue. If I can provide any additional information, please feel free to contact me at any time.

Sincerely,

Bruce Stidworthy, E.I.
Community Development and Planning Group

BJS/kc
Enclosures

cc: Dan Brown, Security Capital (Southwest) Inc.
Paul Wymer, Bohannan-Huston Inc.

E:\CDP\95347\A2412\AGUIRRE.LTR-3/18/96