City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

December 1, 2003

Christopher Weiss, P.E.
C.L. Weiss Engineering
P.O. Box 97
Sandia Park, NM 87047

Re: Howe Electric, Grading and Drainage Plan
Engineer's Stamp dated 10-24-03 (G16/D112)

Dear Mr. Weiss,

Based upon the information provided in your submittal received 10-29-03, the above referenced plan cannot be approved for Building Permit until the following comments are addressed:

1. Due to the completion of SAD 216, the previously submitted plans are now invalid. Please resubmit one set of plans showing the entire lot, including all proposed improvements.
2. Show an arrow indicating north.
3. Per City policy, retention ponds are not allowed in lieu of required infrastructure.

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

C.L. Weiss Engineering, Inc
Post Office Box 97
Sandia Park, N.M. 87047

Phone / Fax (505) 281-1800
Alvarado Office (505) 266-3444

October 24, 2003

City of Albuquerque Hydrology Department

RE: HOWE ELECTRIC DG PLAN

To whom it may concern,

Included with this submittal are two copies of the proposed Drainage / Grading Plan for the east portion of the Howe Electric site.

Concurrent to this request, we are submitting copies of the approved DG Plans for the west portion of the site (approved December, 1996 G16-D112). No revisions have been made to those plans since their approval. After the original review, no building permit was pulled for the construction. The client is now ready to construct and needs an updated letter of approval from Hydrology.

Not Included
Need to be resubmitted

This submittal is a DG Plan for the construction of a 2400 sf building and adjacent concrete slab located on the east side of the property. This area is being submitted separate from the original design and stands alone with separate calculations.

Please don't hesitate to call me at 266-3444 if you have any questions, comments or concerns.

Sincerely,

Bryan J. Bobrick
C.L. Weiss Engineering, Inc.

G16/D112

DRAINAGE INFORMATION SHEET

(REV. 11/01/2001)

PROJECT TITLE: Howe Electric (G16-D112)
ZONE MAP / DRG. FILE #: G-16
DRB #: _____ EPC #: _____
WORK ORDER #: _____

LEGAL DESCRIPTION: West Portion of Tract A, Lands of Bruce D. Johnson, Albuquerque, New Mexico

CITY ADDRESS: _____

ENGINEERING FIRM: C.L. Weiss Engineering
CONTACT: Chris Weiss
ADDRESS: P.O. Box 97
PHONE: 281-1800
CITY, STATE: Sandia Park, New Mexico
ZIP CODE: 87047

OWNER: _____
CONTACT: _____
ADDRESS: _____
PHONE: _____
CITY, STATE: _____
ZIP CODE: _____

ARCHITECT: Van Gilbert Architects
CONTACT: Joe Mulberger
ADDRESS: 319 Central NW – Suite 102
PHONE: 247-9955
CITY, STATE: Albuquerque, New Mexico
ZIP CODE: 87102

SURVEYOR: _____
CONTACT: _____
ADDRESS: _____
PHONE: _____
CITY, STATE: _____
ZIP CODE: _____

CONTRACTOR: _____
CONTACT: _____
ADDRESS: _____
PHONE: _____
CITY, STATE: _____
ZIP CODE: _____

CHECK TYPE OF SUBMITTAL:

_____ DRAINAGE REPORT
__X__ DRAINAGE PLAN
_____ CONCEPTUAL GRADING & DRAINAGE PLAN
__X__ 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 APPR.
_____ SECTOR PLAN APPROVAL
_____ FINAL PLAT APPROVAL
_____ FOUNDATION PERMIT APPROVAL
__X__ BUILDING PERMIT APPROVAL
_____ CERTIFICATE OF OCCUPANCY (PERM)
_____ CERTIFICATE OF OCCUPANCY (TEMP)
_____ GRADING PERMIT APPROVAL
_____ PAVING PERMIT APPROVAL
_____ WORK ORDER APPROVAL
_____ OTHER

WAS A PRE-DESIGN CONFERENCE ATTENDED:

_____ YES
__X__ NO
_____ COPY PROVIDED

RECEIVED
OCT 29 2003
HYDROLOGY SECTION

DATE SUBMITTED: Thursday, October 23, 2003
BY: C.L. Weiss Engineering, Inc.

TO: DICK DAWSON

CITY OF
Albuquerque

December 5, 1996

Martin J. Chávez, Mayor

Christopher L. Weiss
C.L. Weiss Engineering, Inc
P.O. Box 97
Sandia Park, NM 87047

RE: HOWE ELECTRIC (G16-D112). GRADING AND DRAINAGE PLAN FOR BUILDING AND SO #19 PERMIT APPROVALS. ENGINEER'S STAMP DATED NOVEMBER 26, 1996.

Dear Mr. Weiss:

Based on the information provided on your November 27, 1996 submittal, the above referenced project is approved for Building Permit and SO #19 Permit.

A copy of this letter must accompany the request for excavation permit.

A Engineer's Certification will be required for Certificate of Occupancy. Please be certain to have the sidewalk inspector sign off on the plans prior to Engineer's Certification, or provide this office with a copy of the inspector's "green tag."

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

Sincerely,

Lisa Ann Manwill
Engineering Assoc./Hyd.

c: Arlene Portillo
Andrew Garcia
File

RECEIVED
OCT 29 2003
HYDROLOGY SECTION

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

June 16, 2004

Scott McGee, P.E.
Isaacson & Arfman, P.A.
128 Monroe St. NE
Albuquerque, NM 87108

Re: HEI Electric, Grading and Drainage Plan
Engineer's Stamp dated 5-14-04 (G16-D112)

Dear Mr. McGee,

Based upon the information provided in your submittal received 5-14-04, 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. Prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required.

If you have any questions, you can contact me at 924-3981.

Sincerely,

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

C: File

DRAINAGE AND TRANSPORTATION INFORMATION SHEET
(REV. 1/28/2003rd)

PROJECT TITLE: HEI Electric
ZONE MAP / DRG. FILE #: G16-D112
DRB #: _____ EPC #: _____
WORK ORDER #: _____

LEGAL DESCRIPTION: Tract A, Lands of Bruce D. Johnson, Albuquerque, NM
CITY ADDRESS: _____

ENGINEERING FIRM: Isaacson & Arfman, P.A.
CONTACT: Bryan Bobrick
ADDRESS: 128 Monroe St. NE
PHONE: 268-8828
CITY, STATE: Albuquerque, NM
ZIP CODE: 87108

OWNER: _____
CONTACT: _____
ADDRESS: _____
PHONE: _____
CITY, STATE: _____
ZIP CODE: _____

ARCHITECT: _____
CONTACT: _____
ADDRESS: _____
PHONE: _____
CITY, STATE: Albuquerque, New Mexico
ZIP CODE: _____

SURVEYOR: _____
CONTACT: _____
ADDRESS: _____
PHONE: _____
CITY, STATE: Albuquerque, New Mexico
ZIP CODE: _____

CONTRACTOR: _____
CONTACT: _____
ADDRESS: _____
PHONE: _____
CITY, STATE: _____
ZIP CODE: _____

CHECK TYPE OF SUBMITTAL:
__X__ DRAINAGE REPORT
_____ DRAINAGE PLAN 1ST *REQUIRES TCL or equal*
_____ DRAINAGE PLAN RESUBMITTAL
_____ CONCEPTUAL GRADING & DRAINAGE PLAN
__X__ 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 APPR.
_____ SECTOR PLAN APPROVAL
_____ FINAL PLAT APPROVAL
_____ FOUNDATION PERMIT APPROVAL
__X__ BUILDING PERMIT APPROVAL
_____ CERTIFICATE OF OCCUPANCY (PERM)
_____ CERTIFICATE OF OCCUPANCY (TEMP)
_____ GRADING PERMIT APPROVAL
_____ PAVING PERMIT APPROVAL
_____ WORK ORDER APPROVAL
_____ OTHER

WAS A PRE-DESIGN CONFERENCE ATTENDED:
_____ YES
_____ NO
_____ COPY PROVIDED

RECEIVED
MAY 14 2004
HYDROLOGY SECTION

DATE SUBMITTED: Friday, May 14, 2004
BY: Isaacson & Arfman, P.A

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 acres and Sector Plans
2. Drainage Plans: Required for building permits, grading permits, paving permits and site plans less than five acres
3. Drainage Report: Required for subdivisions containing more than ten (10) lots or constituting five acres or more.

COUNTY OF
BERNALILLO

CITY OF
ALBUQUERQUE

SPECIAL ASSESSMENT DISTRICT BC-83-1

SPECIAL ASSESSMENT DISTRICT 216

FINAL

DRAINAGE ANALYSIS

DECEMBER 1992

ANDREWS, ASBURY & ROBERT, INC.
CONSULTING ENGINEERS
ALBUQUERQUE, NEW MEXICO

SPECIAL ASSESSMENT DISTRICT BC-83-1
SPECIAL ASSESSMENT DISTRICT 216

SUMMARY OF HYDROLOGY
100 YEAR - 6 HOUR STORM

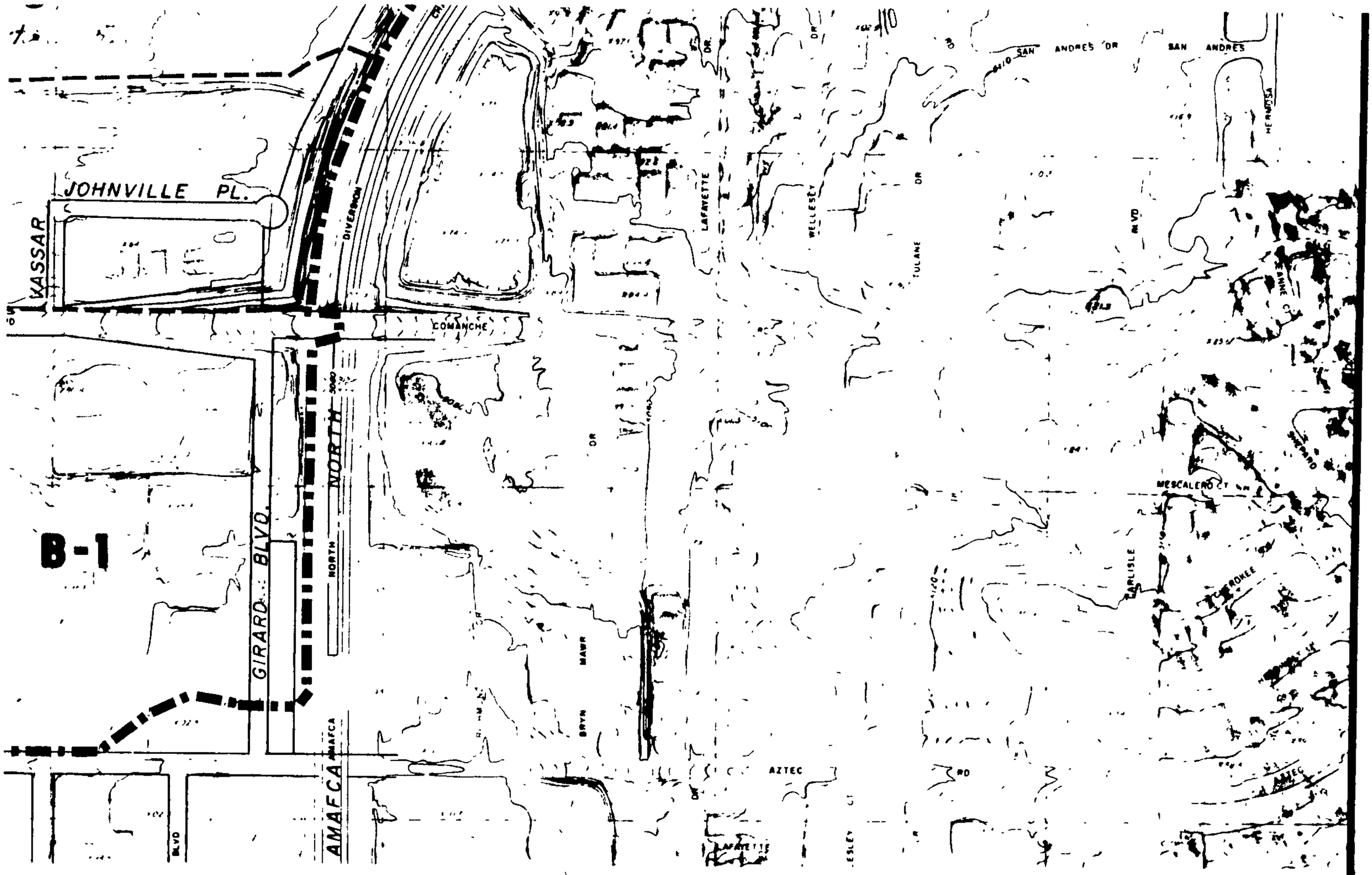
AHYMO SUMMARY TABLE (AHYMO392) - AMAFCA VERSION OF HYMO - MARCH, 1992
INPUT FILE = SADBCDTN.IN

RUN DATE (MON/DAY/YR) =12/01/1992
USER NO.= D_ANDREW.S92

COMMAND	DRAINAGE AREA	ANALYSIS POINT	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	NOTATION
RAINFALL TYPE= 1									
COMPUTE NM HYD	A-1		.00840	2.64	.346	.77252	2.300	.490	RAIN6= 2.250
COMPUTE NM HYD	A-2		.01950	29.66	1.653	1.58978	1.667	2.376	PER IMP= 19.00
ADD HYD		1	.02790	30.30	1.999	1.34370	1.667	1.697	PER IMP= 70.00
ROUTE			.02790	23.75	1.999	1.34374	1.800	1.330	
COMPUTE NM HYD	A-3		.01940	24.97	1.645	1.58978	1.767	2.011	
ADD HYD		2	.04730	48.66	3.644	1.44462	1.800	1.607	PER IMP= 70.00
ROUTE			.04730	48.56	3.644	1.44463	1.800	1.604	
COMPUTE NM HYD	A-5		.03920	70.04	3.324	1.58978	1.600	2.792	
ADD HYD		3	.08650	101.16	6.968	1.51040	1.667	1.827	PER IMP= 70.00
ROUTE			.08650	100.87	6.968	1.51040	1.667	1.822	
COMPUTE NM HYD	A-6		.01270	7.57	.732	1.07998	2.067	.931	
ADD HYD		4	.09920	104.34	7.699	1.45529	1.700	1.643	PER IMP= 39.00
COMPUTE NM HYD	A-4		.00770	5.47	.425	1.03386	1.867	1.110	
ADD HYD		5	.10690	108.61	8.124	1.42494	1.700	1.588	PER IMP= 36.00
ROUTE			.10690	108.42	8.124	1.42494	1.700	1.585	
COMPUTE NM HYD	B-1	6	.07130	151.33	7.027	1.84783	1.600	3.316	PER IMP= 85.00
COMPUTE NM HYD	B-2A		.02130	51.99	2.110	1.85761	1.533	3.814	PER IMP= 86.00
COMPUTE NM HYD	B-3A		.02530	58.40	2.507	1.85761	1.567	3.606	PER IMP= 86.00
ADD HYD		6A	.04660	109.01	4.617	1.85759	1.567	3.655	
ROUTE			.04660	108.81	4.617	1.85760	1.567	3.648	
COMPUTE NM HYD	B-2B		.01590	42.32	1.575	1.85760	1.500	4.158	PER IMP= 86.00
ADD HYD			.06250	145.98	6.192	1.85759	1.533	3.650	
COMPUTE NM HYD	B-3B		.00780	21.60	.773	1.85761	1.500	4.327	PER IMP= 86.00
ADD HYD			.07030	166.30	6.965	1.85759	1.533	3.696	
ROUTE			.07130	150.44	7.027	1.84783	1.600	3.297	
ADD HYD		6B	.14160	308.12	13.991	1.85267	1.567	3.400	
ROUTE			.14160	298.54	13.991	1.85267	1.567	3.294	
COMPUTE NM HYD	B-2C		.01890	50.30	1.872	1.85761	1.500	4.158	PER IMP= 86.00
ADD HYD			.16050	342.16	15.864	1.85325	1.567	3.331	
COMPUTE NM HYD	B-3C		.01500	35.28	1.486	1.85760	1.567	3.674	PER IMP= 86.00

ADD HYD		7	.17550	377.44	17.350	1.85362	1.567	3.360	
ROUTE			.17550	378.11	17.350	1.85362	1.567	3.366	
COMPUTE NM HYD	B-4		.01660	15.71	.766	.86476	1.633	1.479	PER IMP= 25.00
ADD HYD		8	.19210	392.95	18.115	1.76817	1.567	3.196	
COMPUTE NM HYD	C-1	9	.03980	109.74	3.922	1.84783	1.500	4.308	PER IMP= 85.00
ROUTE			.03980	106.48	3.922	1.84783	1.533	4.180	
COMPUTE NM HYD	C-2		.00810	22.35	.798	1.84783	1.500	4.311	PER IMP= 85.00
COMPUTE NM HYD	C-3		.01020	10.01	.529	.97237	1.633	1.534	PER IMP= 32.00
ADD HYD			.05000	113.95	4.451	1.66922	1.533	3.561	
COMPUTE NM HYD	C-4		.00200	2.82	.110	1.03386	1.533	2.202	PER IMP= 36.00
ADD HYD			.05200	116.77	4.562	1.64478	1.533	3.509	
ROUTE			.00810	22.14	.798	1.84785	1.500	4.270	
ADD HYD		10	.06010	138.46	5.360	1.67214	1.533	3.600	
DIVIDE HYD			.04814	65.00	4.293	1.67214	1.433	2.110	
			.01196	73.46	1.067	1.67214	1.533	9.594	
ROUTE		11	.04814	64.73	4.293	1.67215	1.733	2.101	
ADD HYD		12	.24024	456.35	22.408	1.74893	1.567	2.968	
ROUTE			.24024	455.72	22.408	1.7489	1.567	2.964	
COMPUTE NM HYD	D-1		.01110	30.62	1.094	1.84783	1.500	4.310	PER IMP= 85.00
ADD HYD			.11800	121.94	9.218	1.46472	1.700	1.615	
ADD HYD		13	.35824	565.17	31.626	1.65531	1.600	2.465	
COMPUTE NM HYD	O-1	14	.02840	72.79	2.799	1.84783	1.533	4.005	PER IMP= 85.00
ADD HYD		15	.38664	627.66	34.425	1.66945	1.567	2.537	
ROUTE			.38664	625.16	34.425	1.66945	1.600	2.526	
COMPUTE NM HYD	D-2		.02340	45.89	2.233	1.78898	1.600	3.065	PER IMP= 80.00
ADD HYD			.41004	671.06	36.658	1.67627	1.600	2.557	
COMPUTE NM HYD	D-3		.00910	24.68	.878	1.80855	1.500	4.238	PER IMP= 82.00
ADD HYD		16	.41914	687.72	37.535	1.67914	1.600	2.564	
ROUTE			.41914	688.20	37.535	1.67914	1.600	2.566	
COMPUTE NM HYD	D-4		.04750	103.45	4.532	1.78898	1.567	3.403	PER IMP= 80.00
ADD HYD		17	.46664	789.13	42.067	1.69032	1.600	2.642	
ROUTE			.46664	788.98	42.067	1.69032	1.600	2.642	
COMPUTE NM HYD	D-5		.05880	97.54	5.610	1.78898	1.700	2.592	PER IMP= 80.00
ADD HYD		18	.52544	870.50	47.678	1.70136	1.600	2.589	
COMPUTE NM HYD	E-1	19	.05060	111.18	4.881	1.80855	1.567	3.433	PER IMP= 82.00
ADD HYD		20	.57604	978.94	52.558	1.71078	1.600	2.655	
ROUTE		21	.57604	971.43	52.558	1.71078	1.600	2.635	
COMPUTE NM HYD	K-1	22	.03880	104.41	3.702	1.78898	1.500	4.205	PER IMP= 80.00
COMPUTE NM HYD	K-2		.03530	54.31	3.368	1.78899	1.733	2.404	PER IMP= 80.00
ROUTE			.01196	54.00	1.067	1.67257	1.567	7.052	
ADD HYD		23	.04726	92.70	4.435	1.75949	1.600	3.065	
ADD HYD		24	.08606	170.83	8.137	1.77278	1.567	3.101	
ROUTE			.08606	169.43	8.137	1.77279	1.567	3.076	
COMPUTE NM HYD	K-3		.01950	52.48	1.861	1.78898	1.500	4.205	PER IMP= 80.00
ADD HYD		25	.10556	211.94	9.998	1.77577	1.567	3.137	
ROUTE			.10556	210.35	9.998	1.77578	1.567	3.113	
COMPUTE NM HYD	K-4		.05560	97.94	5.305	1.78898	1.667	2.752	PER IMP= 80.00
ADD HYD		26	.16116	296.60	15.303	1.78033	1.600	2.876	
ROUTE			.16116	296.16	15.303	1.78033	1.600	2.871	
COMPUTE NM HYD	K-5		.00250	6.74	.239	1.78898	1.500	4.214	PER IMP= 80.00
ADD HYD		27	.16366	300.72	15.541	1.78046	1.600	2.871	

COMPUTE NM HYD	Q-1	28	.03660	81.44	2.825	1.44713	1.500	3.477	PER IMP= 60.00
COMPUTE NM HYD	P-1	29	.04030	63.23	3.845	1.78899	1.733	2.452	PER IMP= 80.00
ADD HYD			.73970	1272.15	68.100	1.72619	1.600	2.687	
ADD HYD			.07690	108.25	6.670	1.62627	1.533	2.200	
ADD HYD		30	.81660	1376.03	74.769	1.71678	1.600	2.633	
ROUTE RESERVOIR			.81660	21.02	29.795	.68413	3.700	.040	AC-FT= 68.268
FINISH									



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NOTE

See TABLE No. 1 in Report for Peak Flows at Analysis Points

N

SCALE: 1" = 500'

Revised 7-18-89
Added Drainage Area C-4 on Map.
Added Existing 48" Storm Drain to A.P. (11)

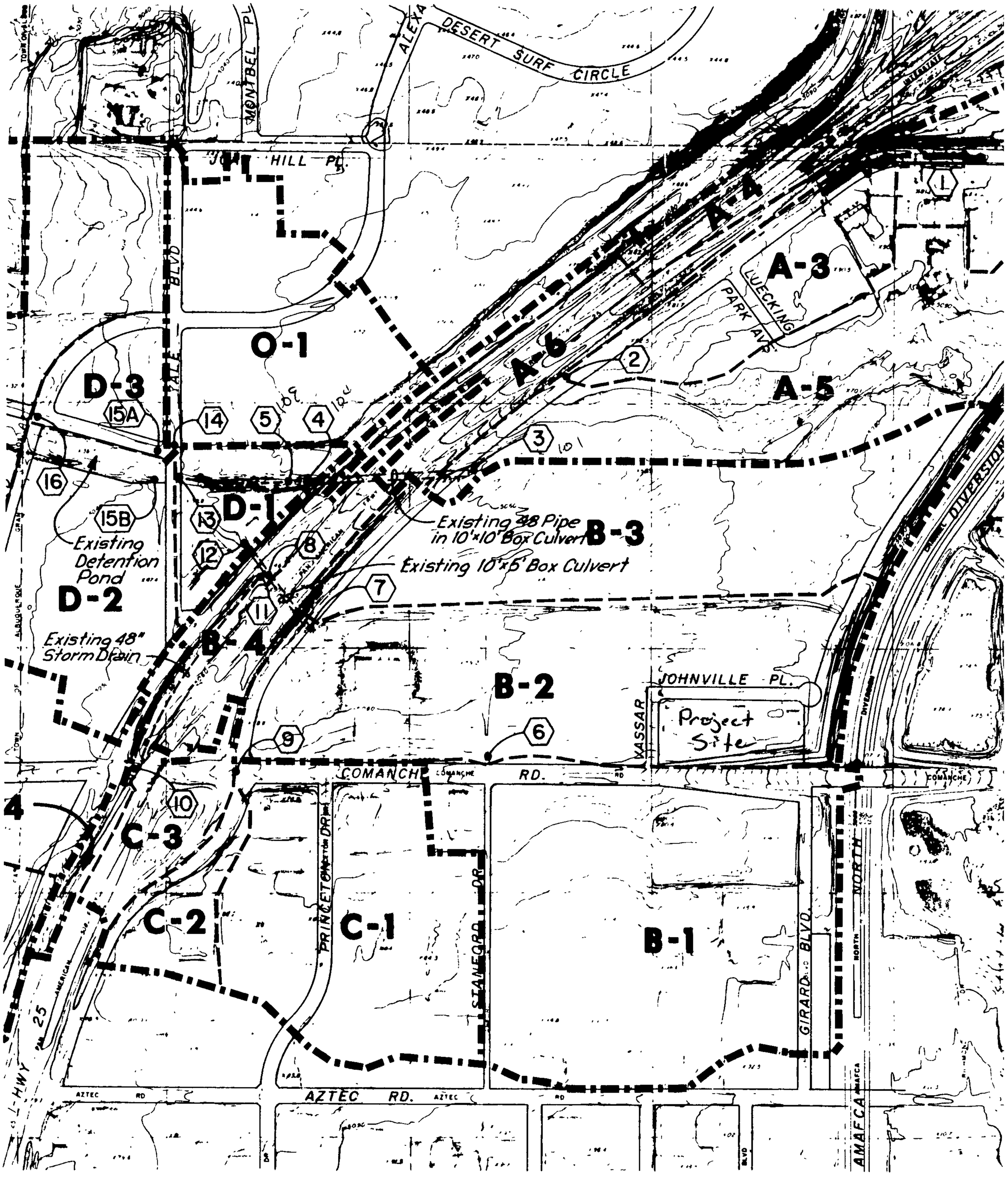
COUNTY OF BERNALILLO	CITY OF ALBUQUERQUE
SPECIAL ASSESSMENT DISTRICT BC-83-1	SPECIAL ASSESSMENT DISTRICT 216

DRAINAGE ANALYSIS

DRAINAGE AREA MAP

ANDREWS, ASBURY & ROBERT, INC.
CONSULTING ENGINEERS
ALBUQUERQUE NEW MEXICO

FILE No	DRAWN	CHECKED	DATE	
83-347	JCS, TL	DA	May 1989	MAP No. 3



L E G E N D

Drainage Area Boundary

NOTE
See T

CITY OF
Albuquerque

December 5, 1996

Martin J. Chávez, Mayor

Christopher L. Weiss
C.L. Weiss Engineering, Inc
P.O. Box 97
Sandia Park, NM 87047

RE: HOWE ELECTRIC (G16-D112). GRADING AND DRAINAGE PLAN FOR BUILDING AND SO #19 PERMIT APPROVALS. ENGINEER'S STAMP DATED NOVEMBER 26, 1996.

Dear Mr. Weiss:

Based on the information provided on your November 27, 1996 submittal, the above referenced project is approved for Building Permit and SO #19 Permit.

A copy of this letter must accompany the request for excavation permit.

A Engineer's Certification will be required for Certificate of Occupancy. Please be certain to have the sidewalk inspector sign off on the plans prior to Engineer's Certification, or provide this office with a copy of the inspector's "green tag."

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

Sincerely,

Lisa Ann Manwill
Engineering Assoc./Hyd.

c: Arlene Portillo
Andrew Garcia
File

DRAINAGE INFORMATION SHEET

PROJECT TITLE: *Howe Electric* ZONE ATLAS / DRNG. FILE #: G-16 / D112

LEGAL DESCRIPTION: *Tract A, Lands of Bruce D. Johnson, Albuquerque, New Mexico*

CITY ADDRESS: *NA*

ENGINEERING FIRM: *C. L. Weiss Engineering, Inc.* CONTACT: *Christopher L. Weiss*

ADDRESS: *P.O. Box 97, Sandia Park, NM 87047* PHONE: *281-1800*

OWNER: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

ARCHITECT: *Van Gilbert Architects* CONTACT: *Dick Dawson*

ADDRESS: *319 Central AV. NW - Suite 102 - 87102* PHONE: *247-9955*

SURVEYOR: *Forstbauer Surveying Co.* CONTACT: *Ron Forstbauer*

ADDRESS: *1100 Albarado Dr. NE - 87110* PHONE: *268-2112*

CONTRACTOR FIRM: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

PRE-DESIGN MEETING:

_____ YES

__x__ NO

_____ COPY OF CONFERENCE RECAP SHEET PROVIDED

DRB NO._____

EPC NO._____

PROJ. NO._____

TYPE OF SUBMITTAL:

_____ DRAINAGE REPORT

__X__ DRAINAGE PLAN

_____ CONCEPTUAL GRADING & DRAINAGE PLAN

__X__ GRADING PLAN

_____ EROSION CONTROL PLAN

_____ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

_____SKETCH PLAT

_____PRELIMINARY PLAT

_____SITE DEVELOPMENT PLAN

_____FINAL PLAT

__X__ BUILDING PERMIT

_____FOUNDATION PERMIT

_____CERT. OF OCCUPANCY

_____ROUGH GRADING PERMIT

_____GRADING / PAVING PERMIT

_____OTHER SO # 94

11-26-

DATE SUBMITTED: *November 26, 1996 - **RESUBMITTAL***

BY: *C.L. Weiss Engineering, Inc.*

CITY OF
Albuquerque

November 25, 1996

Martin J. Chávez, Mayor

Christopher L. Weiss
C.L. Weiss Engineering, Inc
P.O. Box 97
Sandia Park, NM 87047

RE: HOWE ELECTRIC (G16-D112). GRADING AND DRAINAGE PLAN FOR BUILDING PERMIT APPROVAL. ENGINEER'S STAMP DATED NOVEMBER 18, 1996.

Dear Mr. Weiss:

Based on the information provided on your November 18, 1996 submittal, City Hydrology has the following comments:

1. Please update keyed note number 14 to reflect the desired width of the sidewalk culvert.

2. An SO #19 Permit will be required for the sidewalk culverts. Please submit two (2) copies of the plan sheet with the required notes and sign-off block.

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

G-16 11/12

PROJECT TITLE: *Howe Electric* ZONE ATLAS / DRNG. FILE #:

LEGAL DESCRIPTION: *Tract A, Lands of Bruce D. Johnson, Albuquerque, New Mexico*

CITY ADDRESS: *NA*

ENGINEERING FIRM: *C. L. Weiss Engineering, Inc.* CONTACT: *Christopher L. Weiss*

ADDRESS: *P.O. Box 97, Sandia Park, NM 87047* PHONE: *281-1800*

OWNER: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

ARCHITECT: *Van Gilbert Architects* CONTACT: *Dick Dawson*

ADDRESS: *319 Central AV. NW - Suite 102 - 87102* PHONE: *247-9955*

SURVEYOR: *Forstbauer Surveying Co.* CONTACT: *Ron Forstbauer*

ADDRESS: *1100 Albarado Dr. NE - 87110* PHONE: *268-2112*

CONTRACTOR FIRM: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

PRE-DESIGN MEETING:

_____ YES

__x__ NO

_____ COPY OF CONFERENCE RECAP SHEET PROVIDED

DRB NO._____

EPC NO._____

PROJ. NO._____

TYPE OF SUBMITTAL:

_____ DRAINAGE REPORT

__X__ DRAINAGE PLAN

_____ CONCEPTUAL GRADING & DRAINAGE PLAN

__X__ GRADING PLAN

_____ EROSION CONTROL PLAN

_____ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

_____SKETCH PLAT

_____PRELIMINARY PLAT

_____SITE DEVELOPMENT PLAN

_____FINAL PLAT

__X__ BUILDING PERMIT

_____FOUNDATION PERMIT

_____CERT. OF OCCUPANCY

_____ROUGH GRADING PERMIT

_____GRADING / PAVING PERMIT

__x__ OTHER SO#19

RECEIVED
NOV 19
HYDROLOGY DIV.

DATE SUBMITTED: *November 18, 1996 - **RESUBMITTAL***

BY: *C.L. Weiss Engineering, Inc.*

Need 2 copies of plan sheet

CALCULATIONS:

Calculations are based on the Drainage Design Criteriafor Bernalillo County, Section 22.2, DPM, Vol 2, dated Jan., 1993

ON-SITE

AREA OF SITE: 133263 SF = 3.06 Ac.

HISTORIC FLOWS:

On-Site Historic Land Condition

Area a	=	0	SF
Area b	=	0	SF
Area c	=	120342	SF
Area d	=	12921	SF
Total Area	=	133263	SF

DEVELOPED FLOWS:

On-Site Developed Land Condition

Area a	=	0	SF
Area b	=	0	SF
Area c	=	108401	SF
Area d	=	24862	SF
Total Area	=	133263	SF

EXCESS PRECIPITATION:

Precip. Zone 2

Ea = 0.53
Eb = 0.78
Ec = 1.13
Ed = 2.12

On-Site Weighted Excess Precipitation (100-Year, 6-Hour Storm)

$$\text{Weighted E} = \frac{EaAa + EbAb + EcAc + EdAd}{Aa + Ab + Ac + Ad}$$

Historic E	=	1.23	in.	Developed E =	1.31 in.

On-Site Volume of Runoff: V360 = E*A / 12

Historic V360	=	13615	CF	Developed V360 =	14600 CF

On-Site Peak Discharge Rate: Qp = QpaAa+QpbAb+QpcAc+QpdAd / 43,560

For Precipitation Zone 2

Qpa	=	1.56		Qpc =	3.14
Qbb	=	2.28		Qpd =	4.70
Historic Qp	=	10.1	CFS	Developed Qp =	10.5 CFS

Note: Existing flows to continue along historic paths. The increase in developed run-off which is created with the recent construction and the proposed asphalt paving (using the 100 year - 10 day storm) will be retained within two proposed ponding areas as shown.

TOTAL BASIN AFFECTING SITE

Based on C.O.A. topographic maps and site visits, the total basin which will pass through this site is as follows.

Area of off-site flows = 280000 SF = 6.4 Ac. Precip. Zone 2

The following calculations are based on Treatment areas as shown in table to the right

Off-Site Weighted Excess Precipitation (see formula above)

Weighted E	=	1.18	in.

Off-Site Volume of Runoff (see formula above)

V360	=	27522	CF

Off-Site Peak Discharge Rate: (see formula above)

Qp	=	20.7	cfs

TREATMENT	
A =	0%
B =	0%
C =	95%
D =	5%

SPILLWAY CALCULATIONS

Q = C * L * (H^1.5)

where C for crest inclined slightly down, when slope varies from 0% to 5%, average = 0.0250'/'

C	=	3.07	
H	=	0.5	
L	=	20.0	ft
Q provided	=	21.7	cfs
Q required	=	21	cfs

FUTURE CONSTRUCTION (AFTER COMPLETION OF SAD 216)

Based on the Hydrology Study for this area prepared by Andrews, Asbury and Rovert, Inc. for City Special Assessment District No. 216 (City Project No. 3960 / County Special Assessment District BC-83-1), the allowable peak rate of discharge for this site is 3.1 cfs per acre for a total allowable discharge of 9.5 cfs. The developed site creates a flowrate of 10.5 cfs. Thus, 1 cfs must continue to be detained on site after the completion of SAD 216.

Equivalent area of site flows to be detained = 13000 SF = 0.0 Ac. Precip. Zone 2

The following calculations are based on Treatment areas as shown in table to the right

Off-Site Weighted Excess Precipitation (see formula above)

Weighted E = 1.32 in.

Off-Site Volume of Runoff (see formula above)

V360 = 1428 CF

Off-Site Peak Discharge Rate: (see formula above)

Qp = 1.0 cfs

TREATMENT	
A =	0%
B =	0%
C =	81%
D =	19%

SIDEWALK CULVERT

Based on the Hydrology Study for this area prepared by Andrews, Asbury and Rovert, Inc. (see above)

AREA OF SITE	133263	SF	= 3.06	Ac.
ALLOWABLE DISCHARGE (3.06 ac * 3.1 cfs/ac)			= 9.5	CFS

Oriface Equation: Solve for A

Q = C*A * (2*g*h) ^ 0.5

Q	=	9.5	cfs
C	=	0.6	
A	=	2.0	sq.ft.
g	=	32.2	ft/sec^2
h	=	1	ft

Based on the Oriface Equation, the required opening must be 2.0 sq.ft. or 4' wide x 6" high. Thus, (2) 2' wide sidewalk culverts will be constructed to carry the allowable discharge to the street. NOTE: These sidewalk culverts will be constructed as part of this project. They will be sealed shut and will not operate until the Vassar storm sewer system (SAD 216) is complete. At that time, the culverts will be opened and will discharge the 9.5 cfs with the remainder of the flows filling the pond and spilling over the spillway (until off-site flows are rerouted).

100-YEAR 10-DAY STORM CALCULATIONS TO DETERMINE POND VOLUME REQUIRED

Note: For ponds which hold water for longer than 6 hours, longer duration storms are required to establish runoff volumes. Since the additional precipitation is assumed to occur over a long period, the additional volume is based on the runoff from the impervious areas only.

For 10 Day Storms:

V10day = V360 + Ad * (P10day - P360)*43560 SF/A

V360	=	985
Ad (SF)	=	11941
Zone	=	2
P10day	=	3.95
P360	=	2.35

← Difference of historic and developed
New paving and recently constructed bldg.

V360	=	985
+ imp. area	=	1592

Total Pond Volume (V10 day)	=	2577

EXISTING POND — POND VOLUME CALCS

Area of contour	5064.5	=	9000
Avg. depth of pond (ft)		=	0.2

Existing Volume Provided:
1800

PROPOSED POND 1

			AREA	VOL
Area of contour	5064.0	=	1998	
	5063.5	=	1500	874.5
Located at the NW corner	5063.0	=	1100	650
of the site.	5062.5	=	720	455

Volume Provided:
1980

PROPOSED POND 2

			AREA	VOL
Area of contour	5064.0	=	880	
	5063.5	=	595	368.75
Located NE of the most	6063.0	=	360	238.75
recent building addition.				

Volume Provided:
608

Note: The Proposed Pond 2 volume shown is that volume in excess of the existing pond volume of 1800 cf.

Total additional volume provide	=	2587	**OK**
Total additional volume require	=	2577	

Based on future pond requirements (after the completion of SAD 216), the Pond 2 area will be filled in and the Pond 1 volume will be reduced to the minimum required volume 1428 cf. (see calculations - FUTURE CONSTRUCTION). To accomplish this, the Pond 1 will be filled to elevation 5063.0 which is the flowline elevation of the sidewalk culverts. Thus, the entire pond will empty at a maximum rate of 9.5 cfs.

PROPOSED POND 1 - FUTURE

			AREA	VOL
Area of contour	5064.0	=	1998	
	5063.5	=	1500	874.5
	5063.0	=	1100	650

Volume Provided:
1525

> 1428 CF **OK**

C.L. Weiss Engineering, Inc
Post Office Box 97
Sandia Park, N.M. 87047

Phone / Fax (505) 281-1800
Alvarado Office (505) 266-3444

October 29, 1996

Ms. Lisa Ann Manwill
Engineering Assoc. / Hydrology
City of Albuquerque
Fax No. - 768-3629

RE: HOWE ELECTRIC (G16-D112). GRADING AND DRAINAGE PLAN: RESPONSE TO COMMENTS

Dear Ms. Manwill,

Based on the review comments in your letter dated October 22, 1996, no changes to the Drainage / Grading Plan are necessary. Therefore, we are faxing you this letter and will deliver an original in the mail to expedite the review process. Our response to comments are as follows:

1. The proposed storm sewer system referred to in this plan is part of SAD 216 by Andrews, Asbury and Robert. The storm drain inlets have already been installed as part of the Vassar Drive Extension Project (COA Project No. 5007). Our proposed site will have no pipe / connection to the proposed storm sewer system. Once the system is in place, Pond 2 will be filled in and Pond 1 will be resized to release all flows into Vassar Drive as surface flows at the maximum discharge rate of 3.1 cfs per acre (per the Andrews, Asbuury & Robert study for SAD 216).

2. The pond bottom elevation of Pond 1 is shown as 5062.5. The top of weir elevation is 5064.0. The total pond depth as shown is 18". Therefore, no safety barrier is required.

3. Once the future storm drain system is in place, Pond 2 will be eliminated and Pond 1 will be used to detain all flows in excess of 3.1 cfs per acre. Pond 2 is necessary in order to maintain Pond 1 at an 18" depth.

4. Please see response to comment 1. No storm drain pipe is proposed in this plan. All flows are to be surface flows.

Please don't hesitate to call me at 281-1800 if you have any questions, comments or concerns.

Sincerely,

For: Christopher L. Weiss, P.E.
C.L. Weiss Engineering, Inc.

CITY OF
Albuquerque

October 22, 1996

Martin J. Chávez, Mayor

Christopher L. Weiss
C.L. Weiss Engineering, Inc
P.O. Box 97
Sandia Park, NM 87047

RE: HOWE ELECTRIC (G16-D112). GRADING AND DRAINAGE PLAN FOR BUILDING PERMIT APPROVAL. ENGINEER'S STAMP DATED OCTOBER 11, 1996.

Dear Mr. Weiss:

Based on the information provided on your October 15, 1996 submittal, City Hydrology has the following comments:

1. Is the proposed pipe in Vassar Drive? Show the proposed future connection/outlet from pond 1 to the pipe in street. You will be required to either bond for or build the pond outlet system.

2. Because pond 1 is greater than 18-inches in depth, a safety barrier will be required.

3. How will pond 2 drain once the future storm drain system is in place? Is there any way to increase the size of pond 1 and eliminate pond 2?

4. Please be certain that the proposed storm drain pipe in this area is tied into SAD 216. Jeff Mortensen & Associates (JMA) did not design SAD 216. JMA did design a system in Vassar that would go in after SAD 216. I believe Andrews, Asbury, & Roberts were the consultants for SAD 216.

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: *Howe Electric* ZONE ATLAS / DRNG. FILE #: G-16 / D11/2

LEGAL DESCRIPTION: *Tract A, Lands of Bruce D. Johnson, Albuquerque, New Mexico*

CITY ADDRESS: *NA*

ENGINEERING FIRM: *C. L. Weiss Engineering, Inc.* CONTACT: *Christopher L. Weiss*

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__X__ BUILDING PERMIT

_____FOUNDATION PERMIT

_____CERT. OF OCCUPANCY

_____ROUGH GRADING PERMIT

_____GRADING / PAVING PERMIT

_____OTHER_____

DATE SUBMITTED: *October 10, 1996*

BY: *C.L. Weiss Engineering, Inc.*

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TOTAL BASIN AFFECTING SITE

Based on C.O.A. topographic maps and site visits, the total basin which will pass through this site is as follows.

Area of off-site flows = 280000 SF = 6.4 Ac. Precip. Zone 2

The following calculations are based on Treatment areas as shown in table to the right taken from the approved Drainage / Grading Plan (PWD-91-39)

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Weighted E	=	1.18	in.

Off-Site Volume of Runoff (see formula above)

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Off-Site Peak Discharge Rate: (see formula above)

Qp	=	20.7	cfs

TREATMENT	
A =	0%
B =	0%
C =	95%
D =	5%

This Qp includes the on-site developed flows. The spillway to Vassar Drive was designed based on this total basin flow.

SPILLWAY CALCULATIONS

$$Q = C * L * (H^{1.5})$$

where C for crest inclined slightly down, when slope varies from 0% to 5%, average = 0.0250'/'

C	=	3.07	
H	=	0.5	
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