

620/D2F ~~2AF~~

PROJECT TITLE: SIERRA VISTA MONOPOLE SITE ZONE ATLAS/DRNG. FILE #: G-20-Z

DRB #: 332 EPC #: 2-93-83 WORK ORDER #: \_\_\_\_\_

LEGAL DESCRIPTION: A PORTION OF NE 1/4, SECTION 5, T10N, R4E

CITY ADDRESS: 4201 EUBANK BLVD NE

ENGINEERING FIRM: LEEDSHILL HERKENHOFF CONTACT: MS. SUSAN ALVAREZ, PE

ADDRESS: 500 COPPER AVENUE, ALB. NM PHONE: (505) 247-0294

OWNER: BELL ATLANTIC MOBILE SERVICES CONTACT: MR. MICHAEL T. RAPHAEL

ADDRESS: 7975 N. HAYDEN RD, SCOTTSDALE, AZ PHONE: (602) 948-8543

ARCHITECT: KDC CONTACT: MR. KEN CAMP, AIA

ADDRESS: 3091 S. JAMAICA CT, SUITE 200 PHONE: 303-750-6999  
AURORA, CO 80014

SURVEYOR: COMMUNITY SCIENCES CORPORATION CONTACT: MR. DAVE THOMPSON, RLS

ADDRESS: P.O. Box 1328, CORRALES, NM 87048 PHONE: 505-897-0000

CONTRACTOR: TO BE DETERMINED CONTACT: \_\_\_\_\_

ADDRESS: \_\_\_\_\_ PHONE: \_\_\_\_\_

## 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 APPROV
- ☐ 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
- ☐ OTHER \_\_\_\_\_ (SPECIFY)

DATE SUBMITTED: SEPTEMBER 28, 1993BY: SUSAN ALVAREZ



**LEEDSHILL-HERKENHOFF, INC.**

500 Copper Avenue N.W.

P. O. Box 1217

Albuquerque, New Mexico 87103

(505) 247-0294

1485-92012.18-93

September 28, 1993

Mr. Fred Aguirre, P.E.  
PWD/Utility Development/Hydrology Section  
City of Albuquerque  
P.O. Box 1293  
Albuquerque, NM 87103

**RE: BELL ATLANTIC MOBILE SERVICES  
SIERRA VISTA TOWER SITE, ZONE ATLAS NO. G-20-Z**

Leedshill-Herkenhoff, Inc. (LH) has prepared this letter drainage report for the above referenced project site. In accordance with our telephone conversation on September 24, 1993, we are providing the items which need to be submitted to the City for approval of the site building permit.

Included with this letter, you will find the Drainage Information Sheet, the site plan for the proposed Bell Atlantic Facilities, the update to the Master Drainage Plan for the Sierra Vista Shopping Center, and the drainage calculations performed in accordance with Section 22.2 of the Development Process Manual for the City of Albuquerque.

As we discussed, the Drainage Master Plan update for the Sierra Vista Shopping Center was coordinated through Mark Goodwin Engineers. We obtained the Master Drainage Plan for this shopping center as previously provided to the City by Mr. Goodwin and revised it to reflect our proposed facilities. As indicated on this plan, the Bell Atlantic Mobile Services (BAMS) project consists of removing approximately 675 square feet of existing asphalt paving and replacing it with a 336 square foot building, a radio monopole tower and replacement of the remaining asphaltic paving. All paving replacement will be constructed to maintain existing grading and drainage patterns. This project will not alter the existing site drainage with respect to peak runoff amounts, drainage patterns or flow direction.

Runoff calculations were performed for the drainage sub-area encompassing the BAMS project location for both existing site and the site with the proposed improvements. The results are summarized below:

SEP 29 1993



# City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

October 1, 1993

Susan Alvarez  
Leedshill-Herkenhoff  
500 Copper Avenue NW  
Albuquerque, NM 87102

RE: DRAINAGE PLAN FOR SIERRA VISTA MONOPOLE SITE FOR BELL ATLANTIC  
MOBILE SERVICES (G20-D2F) ENGINEER'S STAMP DATED 9/27/93.

Dear Ms. Alvarez:

Based on the information provided on your September 27, 1993 submittal, the above referenced site is approved for Building Permit.

Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology.

If I can be of further assistance, please feel free to call me at 768-2667.

Sincerely,

  
Bernie J. Montoya, CE  
Engineer Associate

BJM/d1/WPHYD/8023

xc: Alan Martinez  
File

PUBLIC WORKS DEPARTMENT



LEEDSHILL - HERKENHOFF, INC.

Albuquerque • San Diego • Santa Fe

ENGINEERING COMPUTATIONS

NAME OF PROJECT

SIERRA VISTA MONOPOLE SITE

COMPUTED BY:

JMA

CHECKED BY:

JOB NUMBER

92012.18

SHEET NUMBER

1 OF 2

DATE:

9/27/93

DRAINAGE CALCULATIONS

DRAINAGE CALCULATIONS PERFORMED IN ACCORDANCE  
WITH SECTION 22.2 HYDROLOGY, DEVELOPMENT  
PROCESS MANUAL FOR THE CITY OF ALBUQUERQUE  
JANUARY, 1993.

PART A - PROCEDURE FOR 40 ACRE & SMALLER BASINSI. PRECIPITATION ZONE: FROM TABLE 1, SITE LOCATED IN ZONE 3

II. LAND TREATMENT: FROM TABLE 4, LAND TREATMENT  
FOR EXISTING AND PROPOSED CONDITIONS IS  
100% TREATMENT 'D'

III. PEAK DISCHARGE:

$$\text{DRAINAGE AREA} = \frac{[(410 \times 115) + (122 \times 485)] - [(\frac{1}{2} \times 80 \times 30) + (\frac{1}{2} \times 45 \times 65)]}{43560}$$
$$= \underline{2.380 \text{ Ac}}$$

$$\text{SITE WITHIN DRAINAGE AREA, } (15 \times 45) / A = \underline{0.015 \text{ Ac}}$$

| <u>LAND TREATMENT</u> | <u>AREA (Ac)</u> | <u>PEAK Q/AC</u><br><u>(100 YR)</u> | <u>PEAK Q (cfs)</u> |
|-----------------------|------------------|-------------------------------------|---------------------|
| D                     | .015             | 5.02                                | 0.075 cfs           |
| D                     | 2.380            | 5.02                                | 11.95 cfs           |

ASSUME MIN  $T_c$ , NO INITIAL ABSTRACTION

SEP 29 1993

**PART A - PROCEDURE FOR 40 ACRE AND SMALLER BASINS**

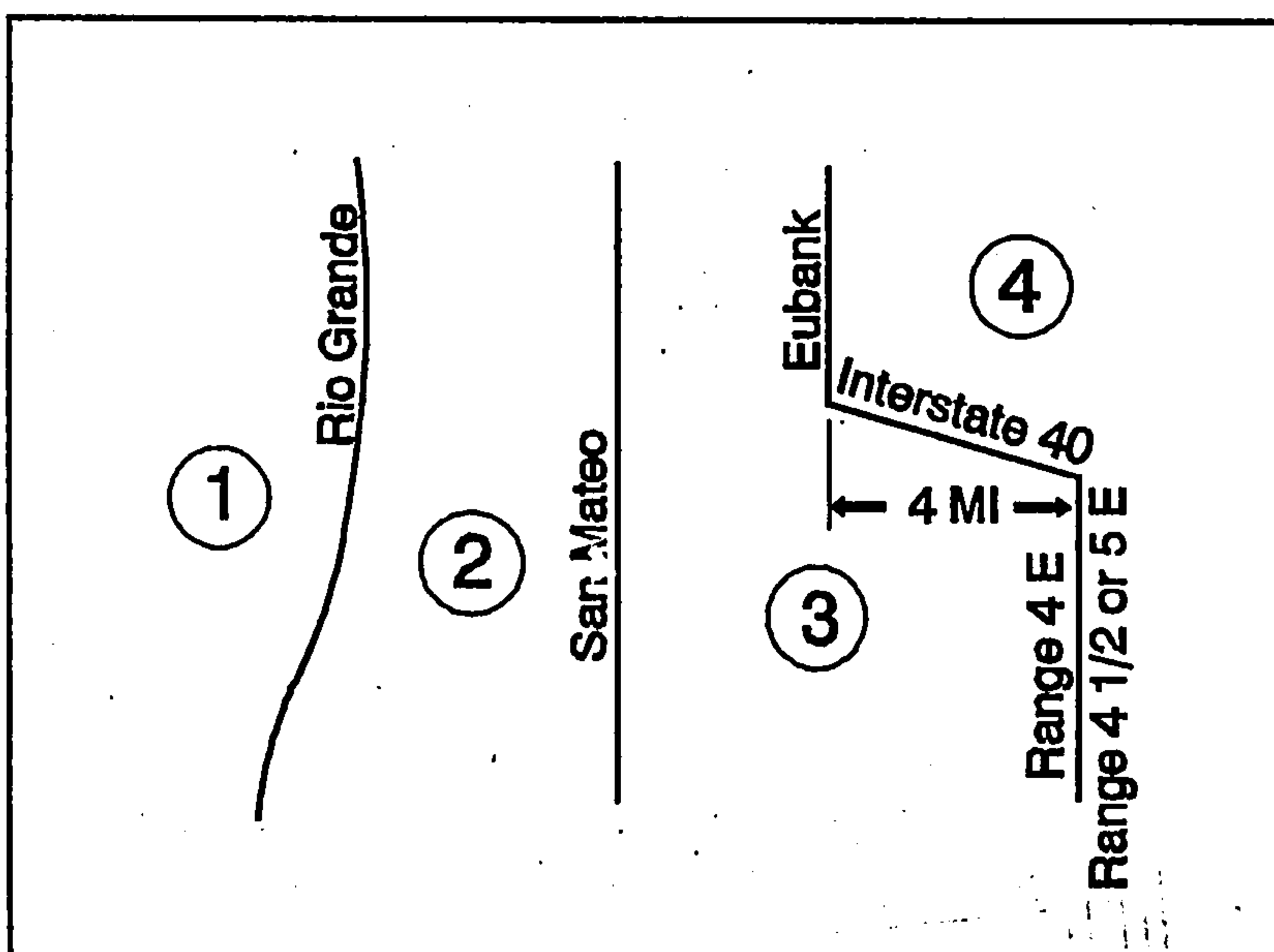
A simplified procedure for projects with sub-basins smaller than 40 acres has been developed based on initial abstraction/uniform infiltration precipitation losses and Rational Method procedures. For this procedure, Bernalillo County has been divided into four (4) Precipitation Zones.

**A.1 PRECIPITATION ZONES**

Bernalillo County's four precipitation zones are indicated in TABLE A-1 and on FIGURE A-1.

| TABLE A-1. PRECIPITATION ZONES |                                                                                                                                           |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Zone                           | Location                                                                                                                                  |
| 1                              | West of the Rio Grande                                                                                                                    |
| 2                              | Between the Rio Grande and San Mateo                                                                                                      |
| 3                              | Between San Mateo and Eubank, North of Interstate 40; and between San Mateo and the East boundary of Range 4 East, South of Interstate 40 |
| 4                              | East of Eubank, North of Interstate 40; and East of the East boundary of Range 4 East, South of Interstate 40                             |

**FIGURE A-1**



Where a watershed extends across a zone boundary, use the zone which contains the largest portion of the watershed.

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HYDROLOGY DIVISION

**Example A-4**

Find the 100-year 24-hour and 4-day runoff volume,  $V_{1440}$  and  $V_{4days}$ , for the area in Example A-3.

$$V_{360} = 2.41 \text{ acre-feet}$$

$$V_{1440} = 2.41 + 7 \text{ ac} * (2.66 - 2.20) / 12 = 2.68 \text{ acre-feet}$$

$$V_{4days} = 2.41 + 7 \text{ ac} * (3.12 - 2.20) / 12 = 2.95 \text{ acre-feet}$$

**A.6 PEAK DISCHARGE RATE FOR SMALL WATERSHEDS**

Small watersheds are less than or equal to 40 acres.

**Peak Discharge**

Using a 0.2-hour (12-minute) time of concentration, peak discharge,  $Q_p$ , per acre is the volume of excess precipitation in the heaviest 12-minute portion of the storm, divided by the time increment, 12 minutes, and multiplied by an attenuation factor. The attenuation factor (0.59 for treatment A, 0.67 for treatment B, 0.75 for treatment C and 0.93 for treatment D) describes the effect of routing. Determine the peak discharge using the values in TABLE A-9, which have been adjusted to consider the effects of initial abstraction.

| TABLE A-9. PEAK DISCHARGE (cfs/acre) |                        |                        |                        |                           |
|--------------------------------------|------------------------|------------------------|------------------------|---------------------------|
| Zone                                 | Treatment              |                        |                        |                           |
|                                      | A                      | B                      | C                      | 100-YR<br>[ 2-YR, 10-YR ] |
| 1                                    | 1.29<br>[ 0.00, 0.24 ] | 2.03<br>[ 0.03, 0.76 ] | 2.87<br>[ 0.47, 1.49 ] | 4.37<br>[ 1.69, 2.89 ]    |
| 2                                    | 1.56<br>[ 0.00, 0.38 ] | 2.28<br>[ 0.08, 0.95 ] | 3.14<br>[ 0.60, 1.71 ] | 4.70<br>[ 1.86, 3.14 ]    |
| 3                                    | 1.87<br>[ 0.00, 0.58 ] | 2.60<br>[ 0.21, 1.19 ] | 3.45<br>[ 0.78, 2.00 ] | 5.02<br>[ 2.04, 3.39 ]    |
| 4                                    | 2.20<br>[ 0.05, 0.87 ] | 2.92<br>[ 0.38, 1.45 ] | 3.73<br>[ 1.00, 2.26 ] | 5.25<br>[ 2.17, 3.57 ]    |

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| TABLE A-4. LAND TREATMENTS                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Treatment                                                                                                                                                                                                                 | Land Condition                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| A                                                                                                                                                                                                                         | Soil uncompacted by human activity with 0 to 10 percent slopes. Native grasses, weeds and shrubs in typical densities with minimal disturbance to grading, groundcover and infiltration capacity. Croplands. Unlined arroyos.                                                                                                                                                                                                                                                                |
| B                                                                                                                                                                                                                         | Irrigated lawns, parks and golf courses with 0 to 10 percent slopes. Native grasses, weeds and shrubs, and soil uncompacted by human activity with slopes greater than 10 percent and less than 20 percent.                                                                                                                                                                                                                                                                                  |
| C                                                                                                                                                                                                                         | Soil compacted by human activity. Minimal vegetation. Unpaved parking, roads, trails. Most vacant lots. Gravel or rock on plastic (desert landscaping). Irrigated lawns and parks with slopes greater than 10 percent. Native grasses, weeds and shrubs, and soil uncompacted by human activity with slopes at 20 percent or greater. Native grass, weed and shrub areas with clay or clay loam soils and other soils of very low permeability as classified by SCS Hydrologic Soil Group D. |
| → D                                                                                                                                                                                                                       | Impervious areas, pavement and roofs.                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Most watersheds contain a mix of land treatments. To determine proportional treatments, measure respective subareas. In lieu of specific measurement for treatment D, the areal percentages in TABLE A-5 may be employed. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

SEP 29 1993

HYDROLOGY DIVISION

SEP 29 1993



100 0 100 400  
SCALE

LEGAL DESCRIPTION  
T 10 N  
R 4 E  
SEC. 5

UNIFORM PROPERTY CODE  
1-020-050

MAP AMENDED THROUGH  
AUGUST 1991

**G-20-Z**

CITY OF PASADENA  
PLANNING DEPARTMENT



Mr. Fred Aguirre, P.E.  
September 28, 1993  
Page 2

|                                | <u>EXISTING CONDITIONS</u> | <u>PROPOSED IMPROVEMENTS</u> |
|--------------------------------|----------------------------|------------------------------|
| Drainage area:                 | 2.380 Ac.                  | 2.380 Ac.                    |
| Contributing Area:             | 0.015 Ac.                  | 0.015 Ac.                    |
| Peak Runoff:                   | 11.95 cfs.                 | 11.95 cfs.                   |
| Contributing Area Peak Runoff: | 0.075 cfs                  | 0.075 cfs.                   |

According to the existing drainage patterns as shown on the update to Master Drainage Plan, this runoff will be conveyed away from the site along the 10' drainage easement located along the southern boundary of the site.

In addition, this site is not located within the 100-year floodplain as indicated on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMS), Community Panels 350002 0018c and 0025c, as dated October 14, 1983.

LH requests your approval for a building permit for the above referenced site, and trust that the information provided meets your needs. If you have any questions, please call me at 247-0294.

SUSAN M. ALVAREZ, P.E.  
Project Manager

sma/cg

Enclosure

cc: Mr. Michael T. Raphael, BAMS

SEP 29 1993

HYDROLOGY DIVISION



LEEDSHILL - HERKENHOFF, INC.

Albuquerque • San Diego • Santa Fe

ENGINEERING COMPUTATIONS

NAME OF PROJECT

SIERRA VISTA MONOPOLE SITE

COMPUTED BY:

ama

CHECKED BY:

JOB NUMBER

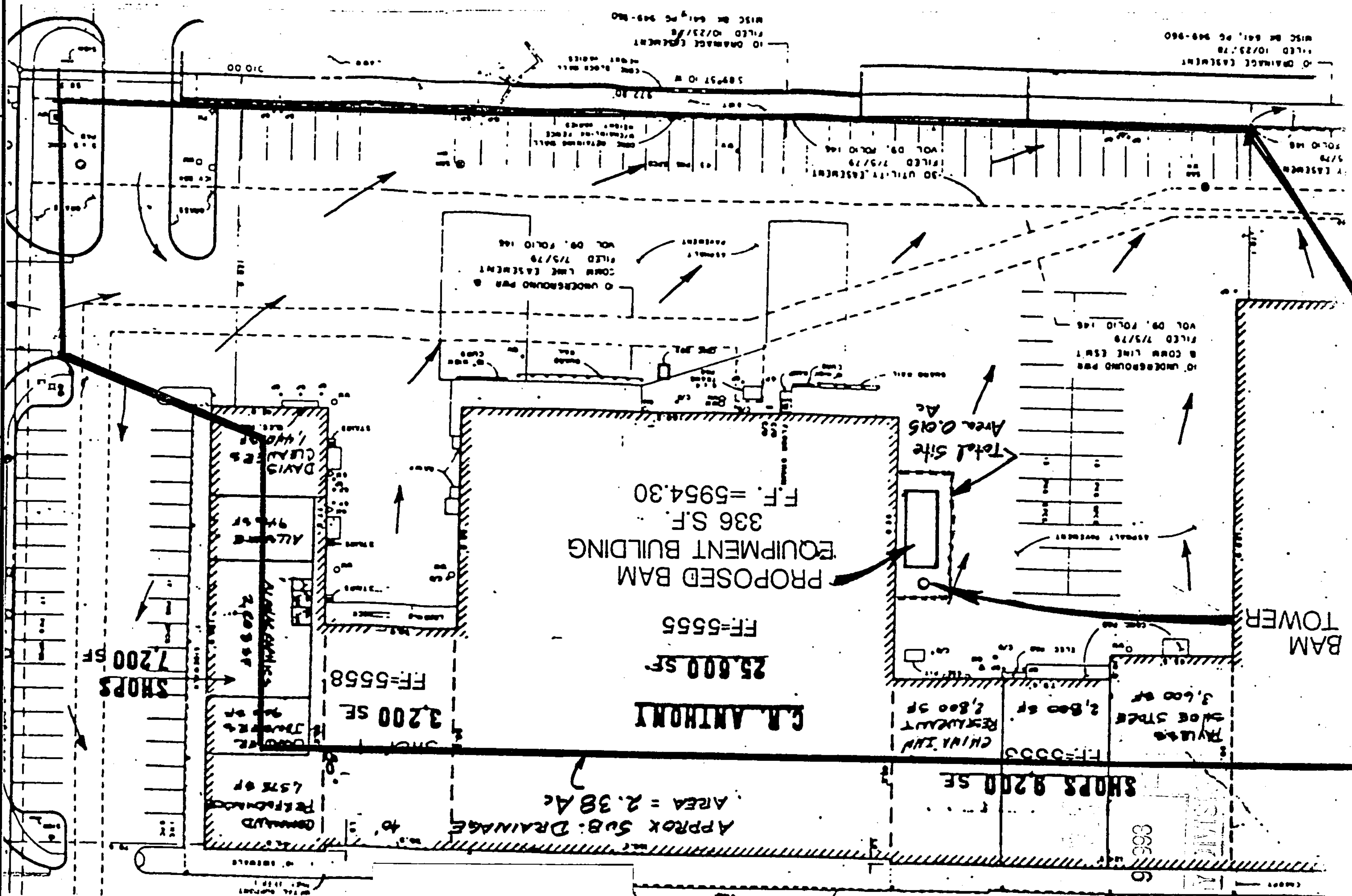
92012.18

DATE:

9/27/93

SHEET NUMBER

2 OF 2



G-20/2H

SEP 29 1993



# ***City of Albuquerque***

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

December 21, 2000

Mike Walla, P.E.  
Walla Engineering  
6100 Indian School Road NE  
Suite 210  
Albuquerque, NM 87110

**RE: SIERRA VISTA SHOPPING CENTER Remodel(G20-D2H). GRADING AND DRAINAGE PLAN FOR FOUNDATION PERMIT AND BUILDING PERMIT APPROVALS. ENGINEER'S STAMP DATED NOVEMBER 27, 2000.**

Dear Mr. Walla:

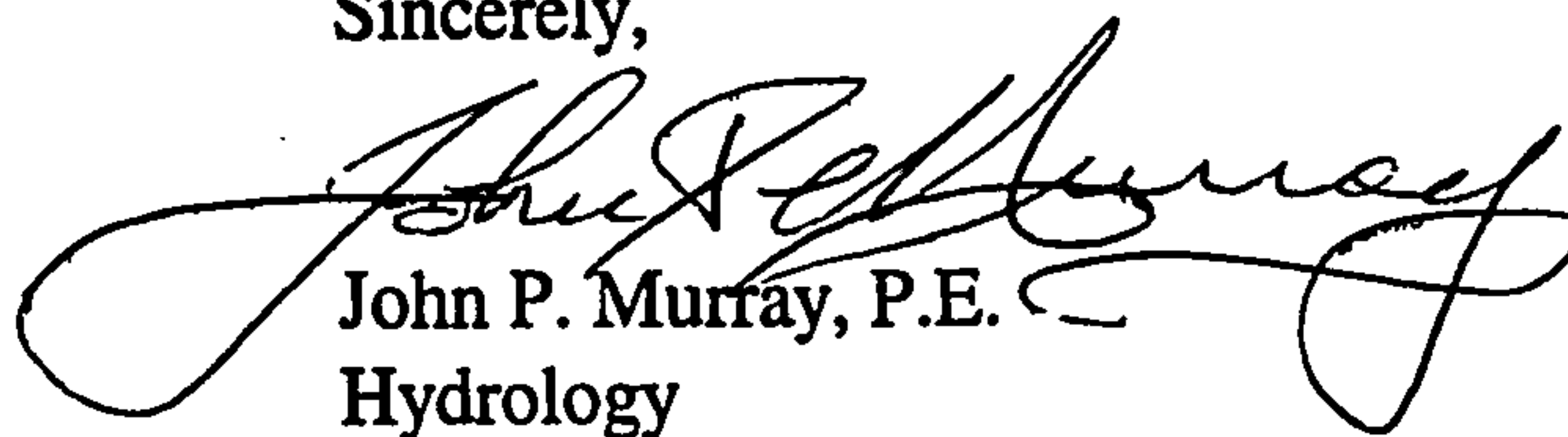
Based on the information provided on your November 27, 2000 submittal, the above referenced project is approved for Foundation Permit and for Building Permit. Please note that Building Permit covers Grading and Foundation.

Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology.

Prior to Certificate of Occupancy approval, an Engineer's Certification per the DPM will be required.

If I can be of further assistance, please feel free to contact me at 924-3984.

Sincerely,

  
John P. Murray, P.E.  
Hydrology

c: Whitney Reiersen

File

also City Eng'r

12/29  
1 Set

**DRAINAGE INFORMATION**

PROJECT TITLE SIERRA VISTA SHOPPING CENTER ZONE ATLAS/DRNG. FILE #: G-20

DRB#: \_\_\_\_\_ EPC #: \_\_\_\_\_ WORK ORDER #: \_\_\_\_\_

LEGAL DESCRIPTION: TRACTS A-3, B-2 & E SIERRA VISTA SHOPPING CENTER, BERNALILLO CTY, NM

CITY ADDRESS: EUBANK + MONTGOMERY BLVD. NE

ENGINEERING FIRM: WALLA ENGINEERING, LTD. CONTACT: MIKE WALLA

ADDRESS: 6100 INDIAN SCHOOL RD. NE PHONE: 881-3008

OWNER: \_\_\_\_\_ CONTACT: \_\_\_\_\_

ADDRESS: \_\_\_\_\_ PHONE: \_\_\_\_\_

ARCHITECT: DCSW CONTACT: RON BURSTEIN

ADDRESS: \_\_\_\_\_ PHONE: 843-9639

SURVEYOR: SW SURVEYING CO. INC. CONTACT: DAN GRANEY

ADDRESS: 333 LOMAS BLVD. NE PHONE: 998-0303

CONTRACTOR: \_\_\_\_\_ CONTACT: \_\_\_\_\_

ADDRESS: \_\_\_\_\_ PHONE: \_\_\_\_\_

**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

DATE SUBMITTED: 11/27/00

BY: [Signature]

**CHECK TYPE OF APPROVAL SOUGHT:**

☐ SKETCH PLAT APPROVAL

☐ PRELIMINARY PLAT APPROVAL

☐ S. DEV. PLAN FOR SUB'D. APPROVAL

☐ S. DEV. PLAN FOR BLDG. PRMT. APPROVAL

☐ SECTOR PLAN APPROVAL

☐ FINAL PLAT APPROVAL

☒ FOUNDATION PERMIT APPROVAL

☒ BUILDING PERMIT APPROVAL

☐ CERTIFICATE OF OCCUPANCY APPROVAL

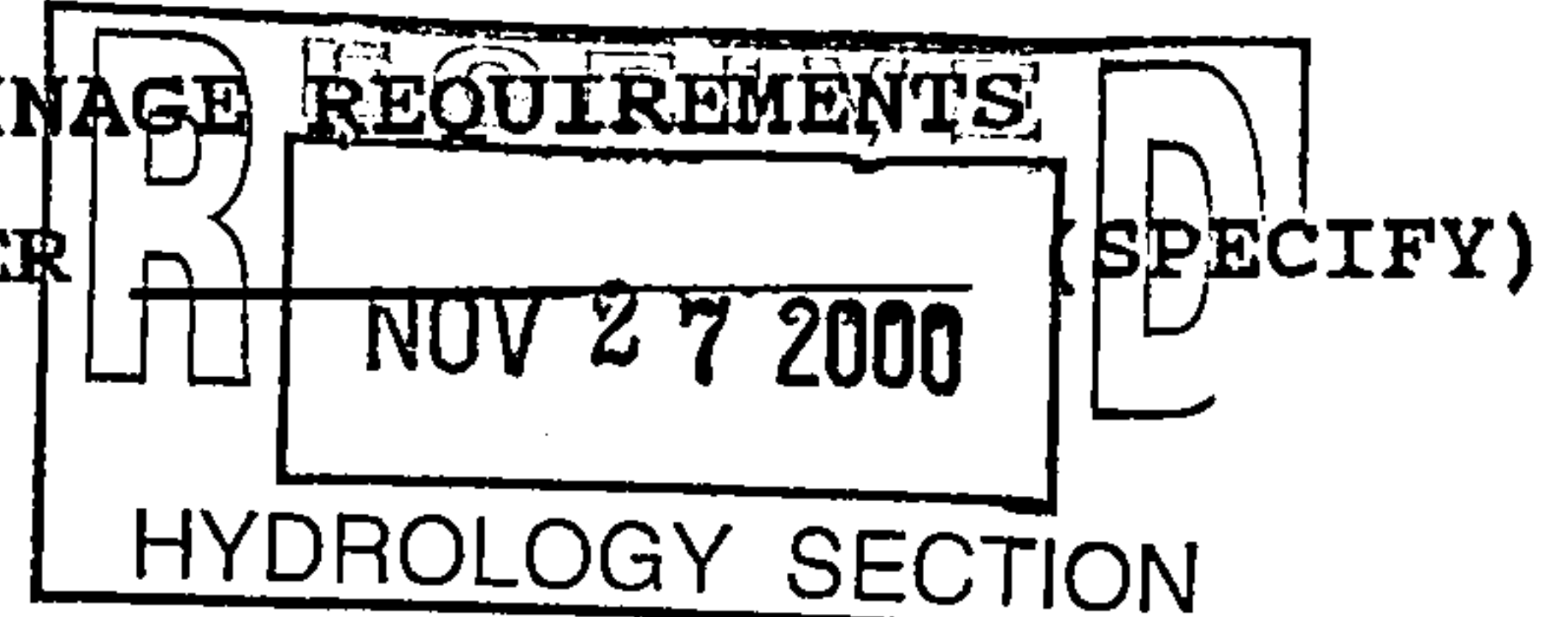
☐ GRADING PERMIT APPROVAL

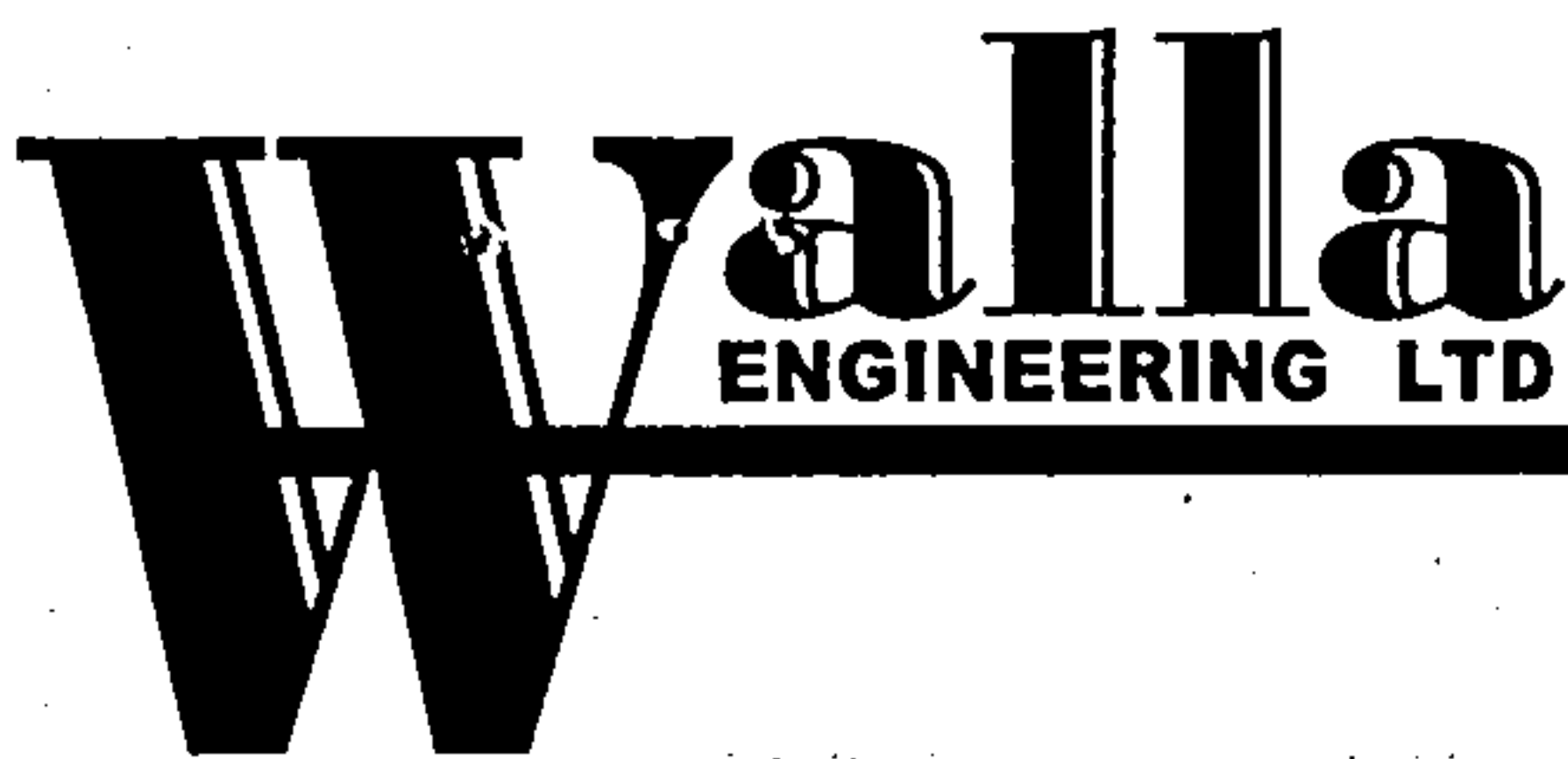
☐ PAVING PERMIT APPROVAL

☐ S.A.D. DRAINAGE REPORT

☐ DRAINAGE REQUIREMENTS

☐ OTHER \_\_\_\_\_ (SPECIFY)





Structural Engineering • Civil Engineering

## LETTER OF TRANSMITTAL

TO CITY OF ALBUQUERQUE DATE 11/24/00 JOB NO. \_\_\_\_\_  
ATTENTION HYDROLOGY  
RE: SIERRA VISTA SHOPPING CENTER

WE ARE SENDING YOU ☒ Attached ☐ Under Separate Cover Via \_\_\_\_\_ the following items:

- ☐ Plans ☐ Prints ☐ Diskette ☐ Specifications ☐ Calculations  
☐ Report ☐ Change Order ☐ Copy of Letter ☐ Shop drawings ☐ Proposal Information  
☐ Samples ☐ \_\_\_\_\_

| COPIES | DATE | NO. | DESCRIPTION              |
|--------|------|-----|--------------------------|
| 2 EA   |      |     | GRADING & DRAINAGE PLANS |
| 1 EA   |      |     | INFORMATION SHEET        |

THESE ARE TRANSMITTED as checked below:

- ☒ For Your Use ☒ For Review and Comment ☐ Returned After Loan To Us  
☒ As Requested ☐ Correct and Resubmit ☐ Resubmittal Not Required, Revise Per Corrections Noted, If Any

REMARKS \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

COPIES TO: FICE SIGNED: Mike J. Walla

If enclosures are not as noted, kindly notify us at once.

6100 Indian School Road NE • Suite 210  
Albuquerque • New Mexico • 87110  
(505) 881-3008 • Facsimile (505) 884-5390

Mike J. Walla P.E. • Larry E. Kennedy