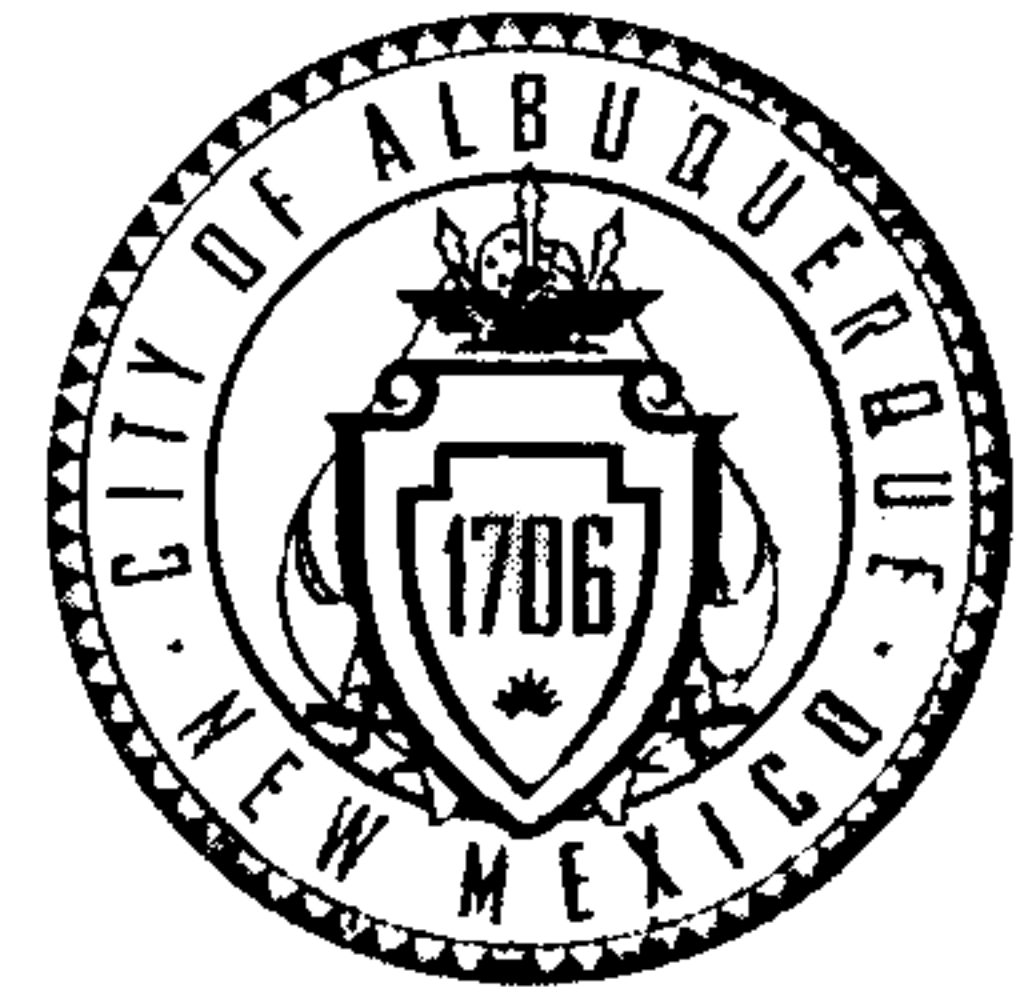


CITY OF ALBUQUERQUE

PLANNING DEPARTMENT – Development Review Services



November 19, 2015

Bernie J. Montoya
BJM CONSULTANT
8624 Casa Verde Ave. NW
Albuquerque, NM 87120

Richard J. Berry, Mayor

RE: **Gutierrez Trucking Maintenance Facility**
3006 Todos Santos St. NW
Grading & Drainage Plan
Engineer's Stamp Date ~~8-26-2015~~ (File: G10D036)

10-14-2015
RTH

Dear Mr. Montoya:

Based upon the information provided in your submittal received 11-9-15, the above referenced plan is approved for Building Permit. Please attach a copy of this approved plan in the construction sets when submitting for a building permit.

Prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required.

PO Box 1293

Albuquerque

If you have any questions, you can contact me at 924-3695.

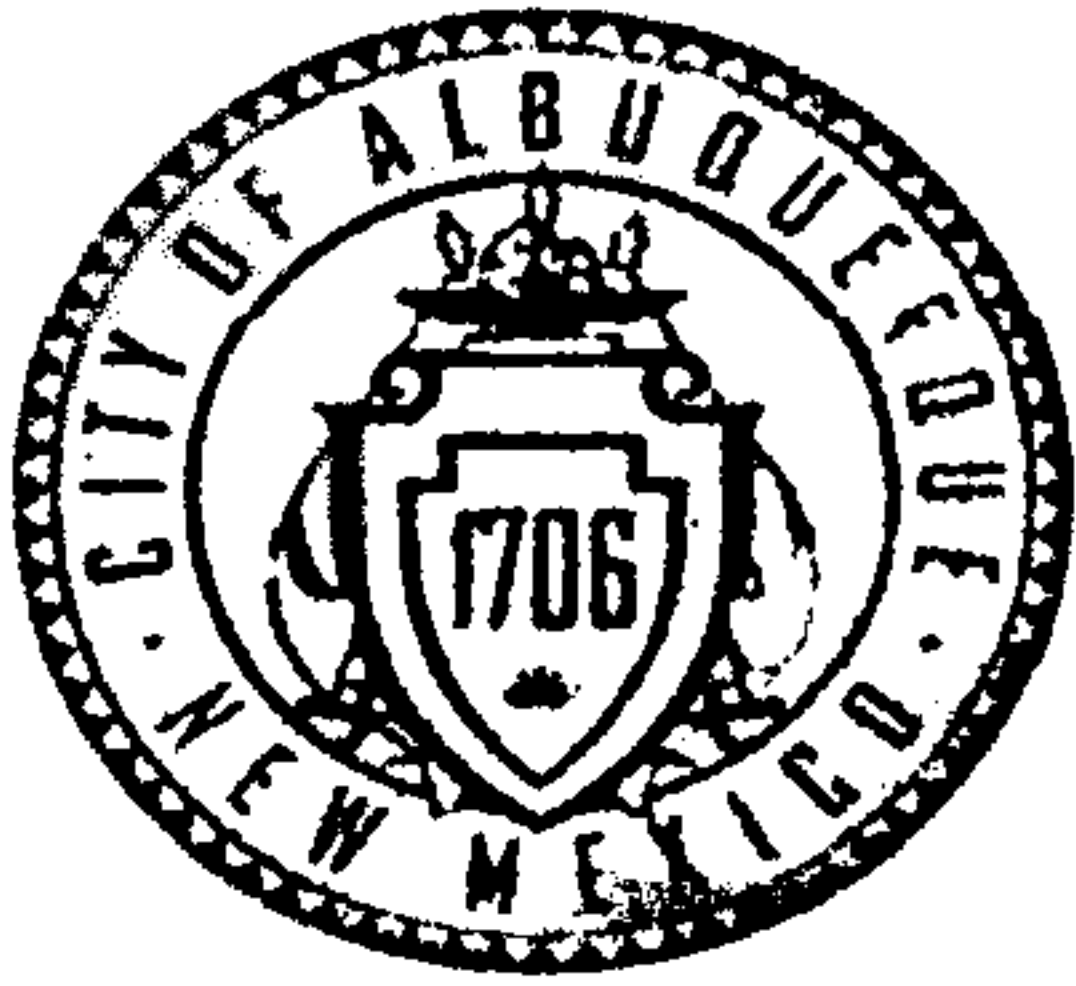
New Mexico 87103

www.cabq.gov

Sincerely,

Rita Harmon, P.E.
Senior Engineer, Planning Dept.
Development Review Services

Orig: Drainage file
c.pdf Addressee via Email



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 09/2015)

Project Title: GUTIERREZ TRUCKING MAINTENANCE FACILITY Building Permit #: _____ City Drainage #: G10-D036
DRB#: 15DRB-70319 EPC#: _____ Work Order#: _____
Legal Description: LOT 6 VOLCANO BUSINESS PARK PHASE 1
City Address: 3006 TODOS SANTOS N.W.

Engineering Firm: BJM CONSULTING Contact: BERNIE J. MONTOYA
Address: 8624 CASA VERDE AVE. N.W. ALBUQUERQUE NM 87120
Phone#: 505-250-7719 Fax#: 839-0451 E-mail: BJMCONSULTING@COMCAST.NET

Owner: RUDY AND BERNADETTE GUTIERREZ Contact: _____
Address: _____
Phone#: _____ Fax#: _____ E-mail: _____

Architect: JIM MILLER AND ASSOCIATES Contact: JIM MILLER
Address: _____
Phone#: 505-977-4657 Fax#: _____ E-mail: _____

Other Contact: _____ Contact: _____
Address: _____
Phone#: _____ Fax#: _____ E-mail: _____

Check all that Apply:

DEPARTMENT:

- ☒ HYDROLOGY/ DRAINAGE
☐ TRAFFIC/ TRANSPORTATION
☐ MS4/ EROSION & SEDIMENT CONTROL

TYPE OF SUBMITTAL:

- ☐ ENGINEER/ ARCHITECT CERTIFICATION

☐ CONCEPTUAL G & D PLAN
☐ GRADING PLAN
☐ DRAINAGE MASTER PLAN
☐ DRAINAGE REPORT
☐ CLOMR/LOMR

☐ TRAFFIC CIRCULATION LAYOUT (TCL)
☐ TRAFFIC IMPACT STUDY (TIS)
☐ EROSION & SEDIMENT CONTROL PLAN (ESC)

☐ OTHER (SPECIFY) _____

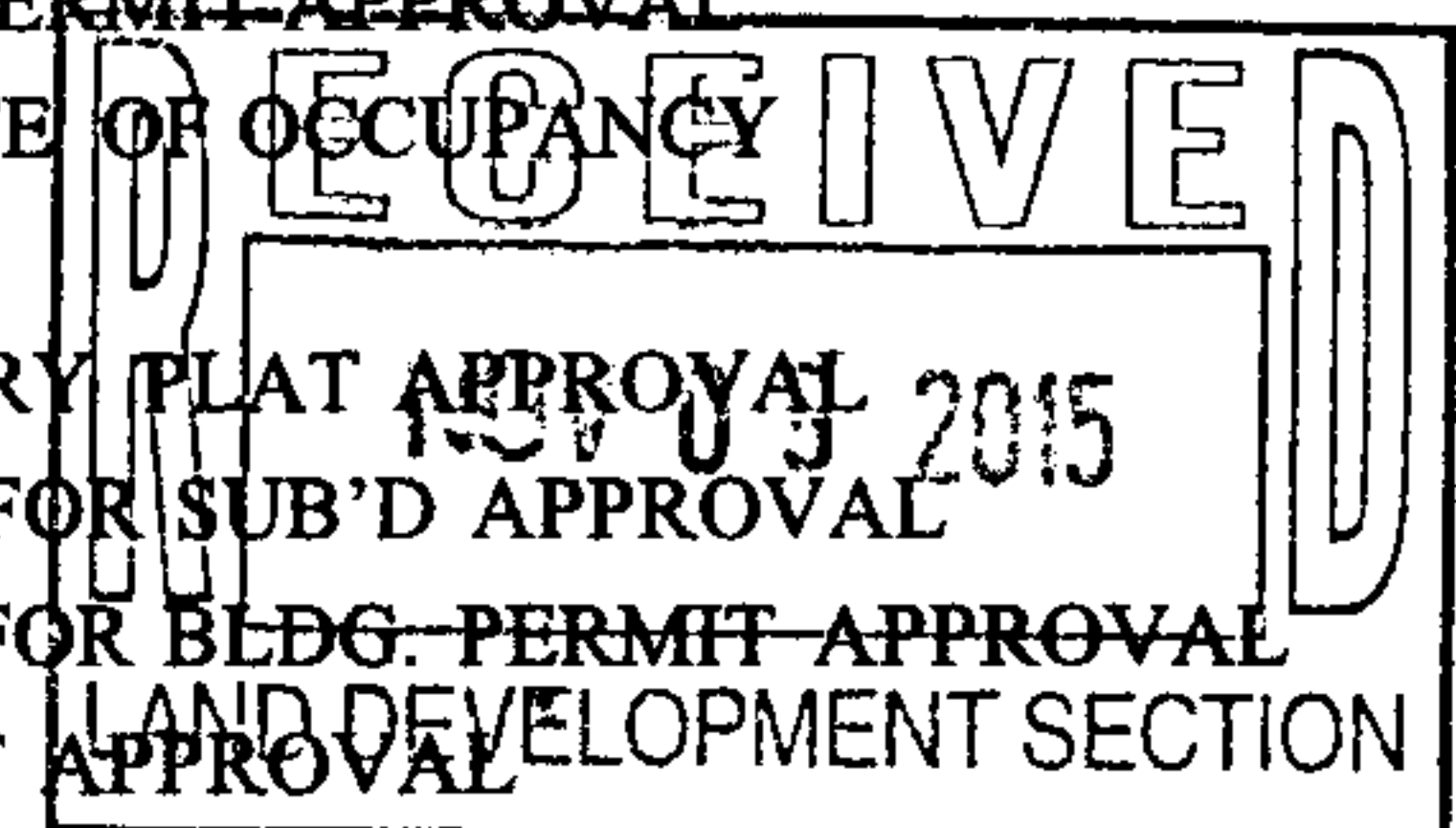
IS THIS A RESUBMITTAL?: ☒ Yes ☐ No

DATE SUBMITTED: 10/01/2015 11/9/2015 By: BERNIE J. MONTOYA C.E. Bernie J. Montoya

CHECK TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

- ☐ BUILDING PERMIT APPROVAL
☐ CERTIFICATE OF OCCUPANCY
☐ PRELIMINARY PLAT APPROVAL
☐ SITE PLAN FOR SUB'D APPROVAL
☒ SITE PLAN FOR BLDG. PERMIT APPROVAL
☐ FINAL PLAT APPROVAL
☐ SIA/ RELEASE OF FINANCIAL GUARANTEE
☐ FOUNDATION PERMIT APPROVAL
☒ GRADING PERMIT APPROVAL
☐ SO-19 APPROVAL
☐ PAVING PERMIT APPROVAL
☐ GRADING/ PAD CERTIFICATION
☐ WORK ORDER APPROVAL
☐ CLOMR/LOMR

☐ PRE-DESIGN MEETING
☐ OTHER (SPECIFY) _____



COA STAFF: _____ ELECTRONIC SUBMITTAL RECEIVED: _____

Bernie Montoya

From: Cherne, Curtis <CCherne@cabq.gov>
Sent: Monday, November 02, 2015 9:51 AM
To: 'Bernie Montoya'
Cc: Harmon Rita T.; Elliott, Stanice
Subject: RE: DRAINAGE PLAN- Todos Santos NW Lot 6

Bernie,

It appears from your plan that less than 1 acre will be disturbed, since most of the eastern area is shown with existing and no proposed contours. Therefore an ESC plan is not required. !

If your client changes his/her mind and wishes to grade in excess of one acre, than obtaining NPDES CGP coverage through the EPA and an approved ESC plan through the City are required. It would also be good to let the dirt contractor know.

Curtis

From: Bernie Montoya [<mailto:bjmconsulting@comcast.net>]
Sent: Monday, November 02, 2015 9:31 AM
To: Cherne, Curtis
Subject: FW: DRAINAGE PLAN

From: Bernie Montoya [<mailto:bjmconsulting@comcast.net>]
Sent: Tuesday, October 13, 2015 1:52 PM
To: ccherne@cabq.gov
Subject: DRAINAGE PLAN

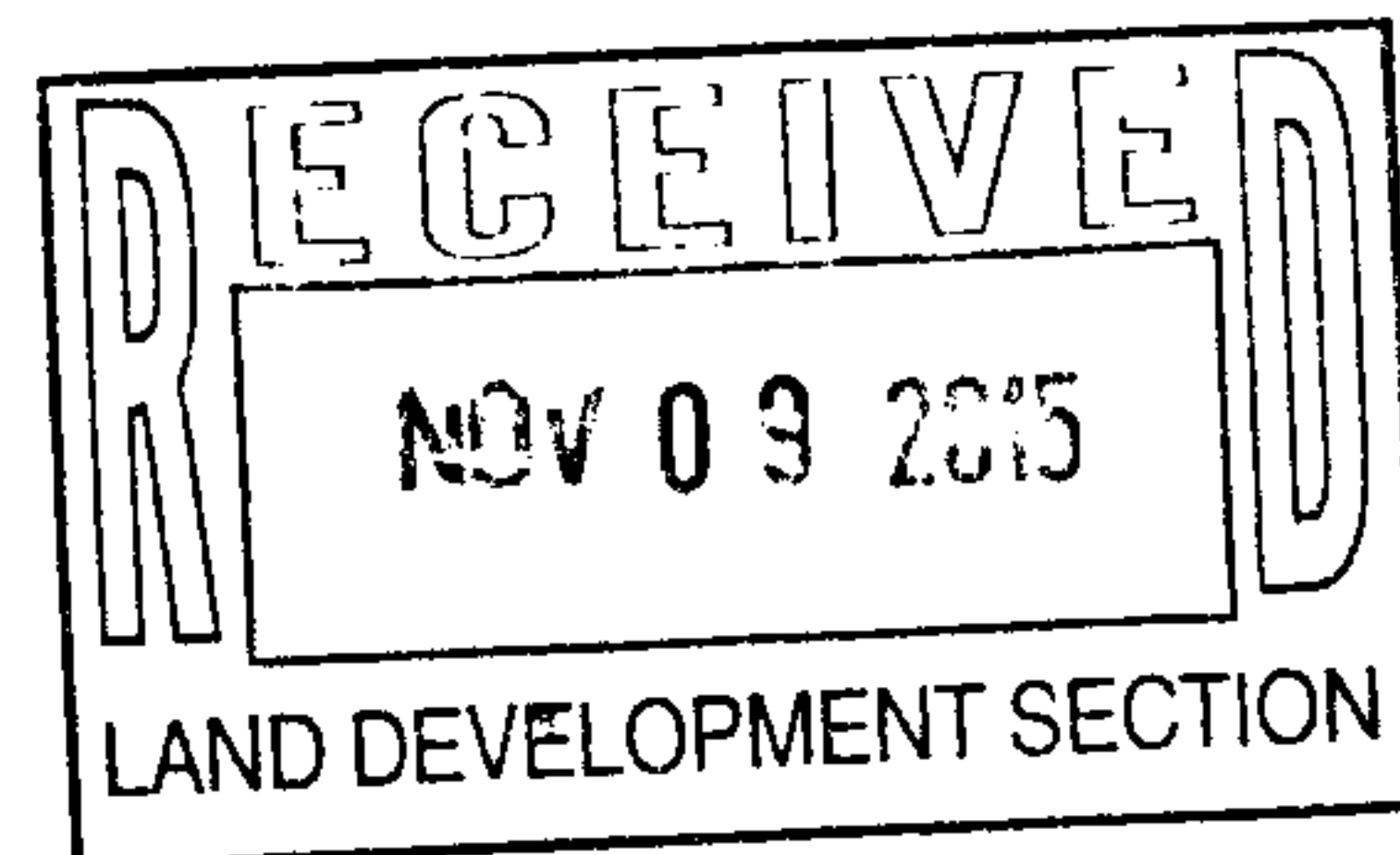
ATTACHED IS THE DRAINAGE PLAN PLEASE ADVISE



This email has been checked for viruses by Avast antivirus software.
www.avast.com

RESPONSE TO COMMENTS PROVIDED OCTOBER 2, 2015

- ✓ 1. Since this project will not go thru the DRC process, the entrances must be adequately detailed per COA Std. Detail 2420. Show existing flowline elevations, quarter point elevations, intersection of flowline elevations, etc. There is overlapping text and line work making the plan difficult to understand in this area. It may be necessary to provide a separate detail. Sheet 2 has been generated to provide separate details for better clarity.
- ✓ 2. Water blocks are not evident. Please use zigzag line to note water blocks. The new details indicate the water blocks with elevations.
3. Provide a section of the swale to the pond and show erosion protection. *A detail has been provided on the second sheet indicating the erosion protection.*
4. Provide erosion protection at the first flush pond, for both discharging and inflowing run-off. *Second sheet shows detail for the erosion protection.*
5. Asphalt swale on south side of building discharges to gravel. Provide some means of erosion protection at discharge point. *Erosion protection has been added on the first sheet.*



CITY OF ALBUQUERQUE

PLANNING DEPARTMENT – Development Review Services



October 2, 2015

Bernie J. Montoya
BJM CONSULTANT
8624 Casa Verde Ave. NW
Albuquerque, NM 87120

Richard J. Berry, Mayor

**RE: Gutierrez Trucking Maintenance Facility
3006 Todos Santos St. NW
Grading & Drainage Plan
Engineer's Stamp Date 8-20-2015 (File: G10D036)**

Dear Mr. Montoya:

Based upon the information provided in your submittal received 10-1-15, the above referenced plan is approved for action by the DRB on the Site Plan for Building Permit. Prior to Building Permit approval the following comments must be addressed:

- ✓ 1) Since this project will not go thru the DRC process, the entrances must be adequately detailed per COA Std Detail 2420. Show existing flow line elevations, quarter point elevations, intersection of flowline elevations, etc. There is overlapping text and line work making the plan difficult to understand in this area. It may be necessary to provide a separate detail.
- ✓ 2) Water blocks are not evident. Please use a zigzag line to note waterblocks.
- 3) Provide a section of the swale to the pond and show erosion protection.
- 4) Provide erosion protection at the first flush pond, for both discharging and inflowing runoff.
- 5) Asphalt swale on south side of building discharges to gravel. Provide some means of erosion protection at discharge point.

PO Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

If you have any questions, you can contact me at 924-3695.

Sincerely,

Rita Harmon, P.E.
Senior Engineer, Planning Dept.
Development Review Services

Orig: Drainage file
c.pdf Addressee via Email

*90D = 0.46 Ac.
free*

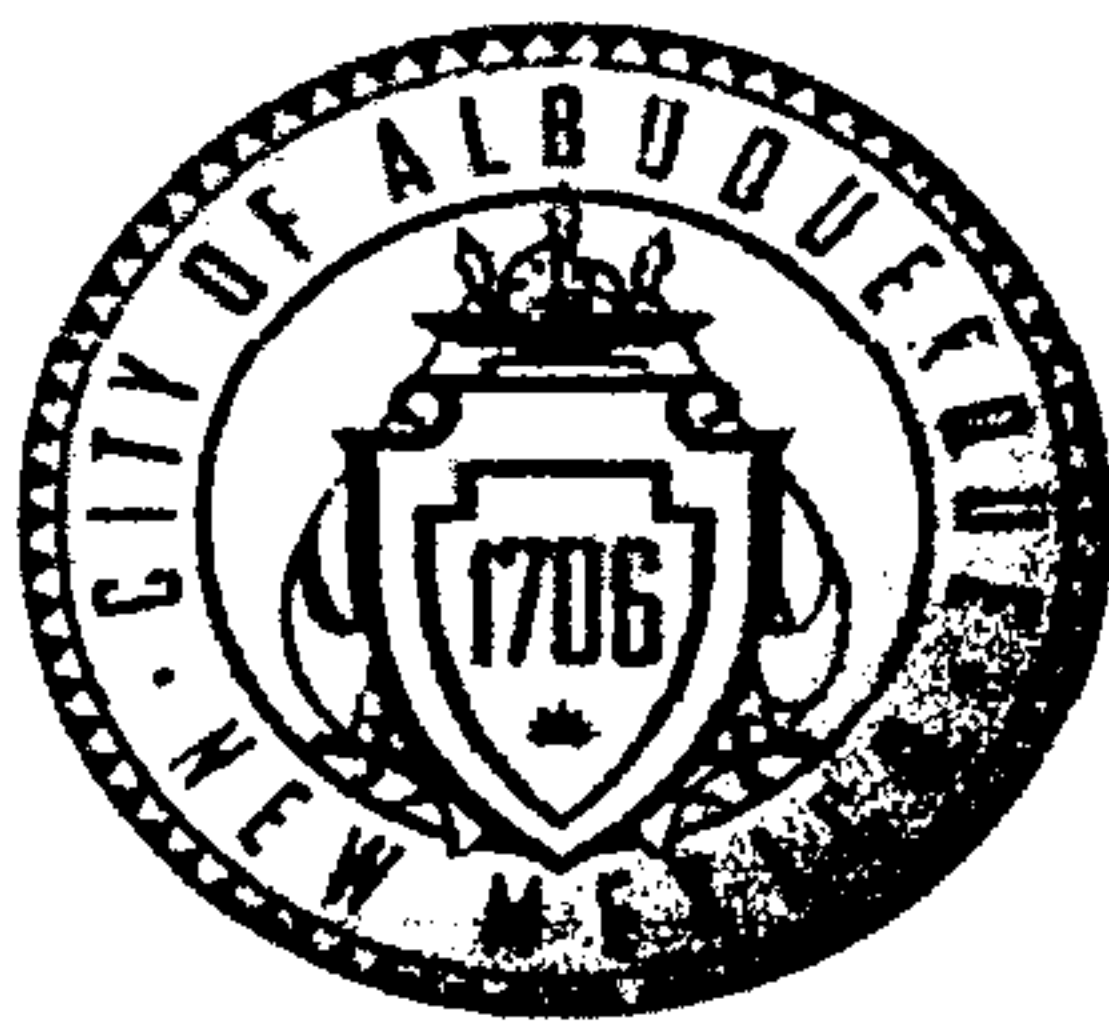
G10D036_SPBP_Appr.doc

1 of 1

RESPONSE TO COMMENTS PROVIDED SEPTEMBER 25, 2015

- ✓ 1. Narrative indicates this is a two phased project. Clearly show what is to be built in phase 1 and what is to be built in phase 2. *Narrative has been revised to indicate what each phase will comprise of. Phase one will include everything except the 3000 sq. ft. metal building.*
- ✓ 2. Regarding the 1st comment, show or state how drainage will be managed in Phase 1, before full build out and also for Phase 2 or full build out. *The plan drawing has been revised to indicate how the two Phases will handle the drainage. Both buildings will have a gutter system which will drain the developed run-off towards the proposed swale.*
- ✓ 3. Show with flow arrows the intended direction of the roof drainage. *Plan drawing has been revised to indicate direction of roof drainage flow along with location of roof gutters.*
- ✓ 4. Revise narrative regarding offsite flows. Drainage files G10-D29D and G10-D29F show that 5.7 cfs flow thru this site. Excerpts provided appears to have an error. *Narrative has been revised to indicate the offsite flows entering the 40' drainage easement from lot 7A1.*
- ✓ 5. Per the City MS4 Permit with EPA all sites must manage the "First Flush" onsite. *Plan drawing has been revised to show the first flush calculations. A first flush pond has been included at the far end of the proposed swale just as enters onto the drainage easement.*
- ✓ 6. First flush can be calculated using $0.44'' - 0.10''$ (initial abstraction) $- 0.34''$. *Calculation has been included on the plan drawing.*
- ✓ 7. Show Key notes 6 & 7 for the driveway on the plan. *Key notes have been inserted next to the drive cuts on the plan drawing.*
- 8. Flow line elevations in Todos Santos, and all curb return data. *Flow line elevations and top of curb have been added to the plan drawing. Return data is part of the key notes.*
- 9. Show water blocks and provide elevations. *Plan drawing indicates the flowline elevation along with the water block elevation.*
- ✓ 10. Show that all landscaping is depressed. *Key not has been added.*
- ✓ 11. Since the disturbed area on this site exceeds 1.0 acres, an Erosion and Sediment Control (ESC) Plan prepared by a NMPE and approved by the City's Stormwater Engineer, will be required for this site. *Plan will be provided prior to grading and building permit approval.*





City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 09/2015)

Project Title: GUTIERREZ TRUCKING MAINTENANCE FACILITY Building Permit #: _____ City Drainage #: G10-D036
DRB#: 15DRB-70319 EPC#: _____ Work Order#: _____
Legal Description: LOT 6 VOLCANO BUSINESS PARK PHASE 1
City Address: 3006 TODOS SANTOS N.W.

Engineering Firm: BJM CONSULTING Contact: BERNIE J. MONTOYA
Address: 8624 CASA VERDE AVE. N.W. ALBUQUERQUE NM 87120
Phone#: 505-250-7719 Fax#: 839-0451 E-mail: BJMCONSULTING@COMCAST.NET

Owner: RUDY AND BERNADETTE GUTIERREZ Contact: _____
Address: _____
Phone#: _____ Fax#: _____ E-mail: _____

Architect: JIM MILLER AND ASSOCIATES Contact: JIM MILLER
Address: _____
Phone#: 505-977-4657 Fax#: _____ E-mail: _____

Other Contact: _____ Contact: _____
Address: _____
Phone#: _____ Fax#: _____ E-mail: _____

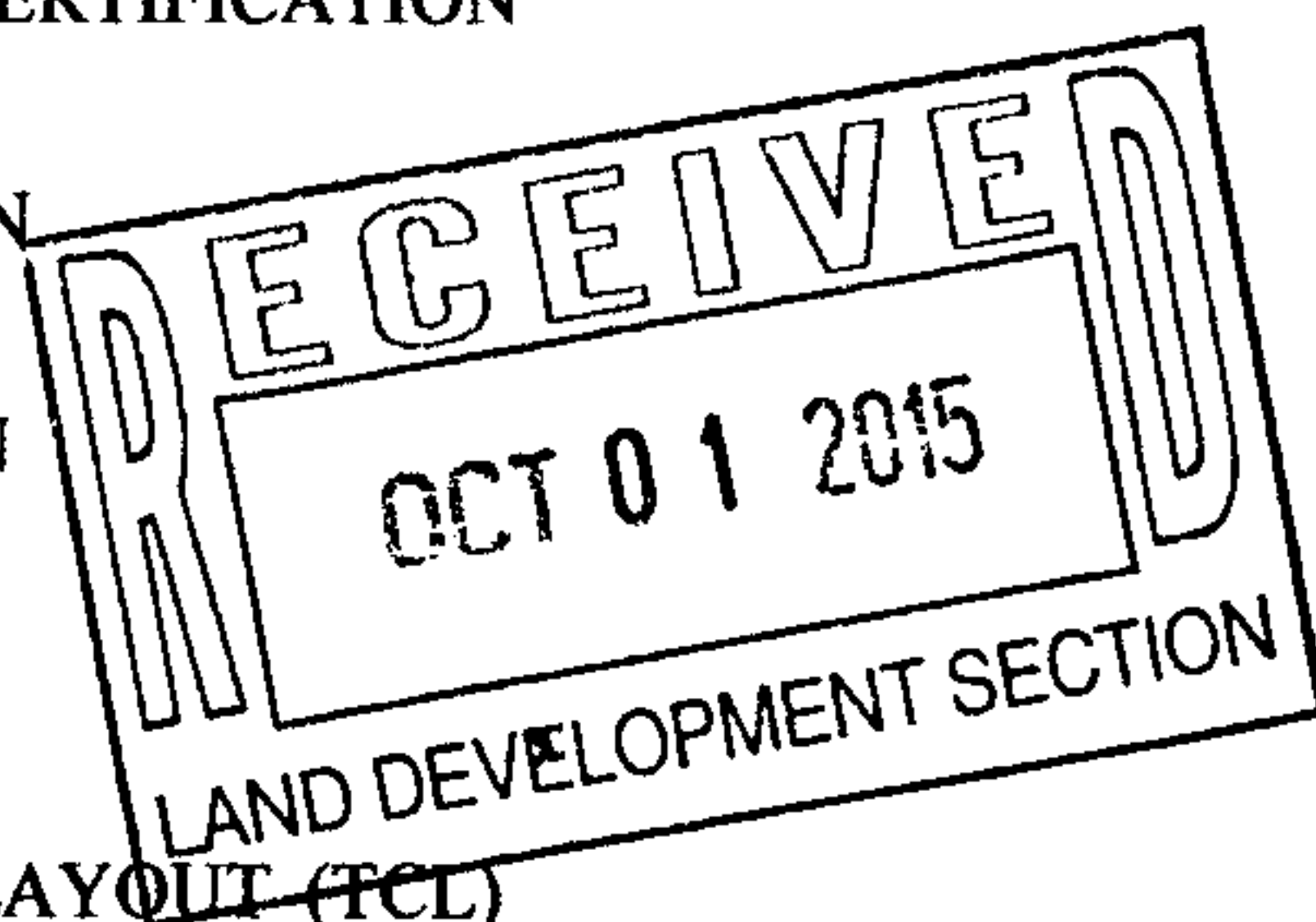
Check all that Apply:

DEPARTMENT:

- ☒ HYDROLOGY/ DRAINAGE
☐ TRAFFIC/ TRANSPORTATION
☐ MS4/ EROSION & SEDIMENT CONTROL

TYPE OF SUBMITTAL:

- ☐ ENGINEER/ ARCHITECT CERTIFICATION
☐ CONCEPTUAL G & D PLAN
☐ GRADING PLAN
☐ DRAINAGE MASTER PLAN
☐ DRAINAGE REPORT
☐ CLOMR/LOMR
☐ TRAFFIC CIRCULATION LAYOUT (TCL)
☐ TRAFFIC IMPACT STUDY (TIS)
☐ EROSION & SEDIMENT CONTROL PLAN (ESC)
☐ OTHER (SPECIFY) _____



CHECK TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

- ☐ BUILDING PERMIT APPROVAL
☐ CERTIFICATE OF OCCUPANCY
☐ PRELIMINARY PLAT APPROVAL
☐ SITE PLAN FOR SUB'D APPROVAL
☒ SITE PLAN FOR BLDG. PERMIT APPROVAL
☐ FINAL PLAT APPROVAL
☐ SIA/ RELEASE OF FINANCIAL GUARANTEE
☐ FOUNDATION PERMIT APPROVAL
☒ GRADING PERMIT APPROVAL
☐ SO-19 APPROVAL
☐ PAVING PERMIT APPROVAL
☐ GRADING/ PAD CERTIFICATION
☐ WORK ORDER APPROVAL
☐ CLOMR/LOMR
☐ PRE-DESIGN MEETING
☐ OTHER (SPECIFY) _____

IS THIS A RESUBMITTAL?: ☒ Yes ☐ No

DATE SUBMITTED: 10/01/2015 By: BERNIE J. MONTOYA C.E.

COA STAFF: _____ ELECTRONIC SUBMITTAL RECEIVED: _____

CITY OF ALBUQUERQUE

PLANNING DEPARTMENT – Development Review Services



September 25, 2015

Bernie J. Montoya
BJM CONSULTANT
8624 Casa Verde Ave. NW
Albuquerque, NM 87120

Richard J. Berry, Mayor

**RE: Gutierrez Trucking Maintenance Facility
3006 Todos Santos St. NW
Grading & Drainage Plan
Engineer's Stamp Date 8-20-2015 (File: G10D036)**

Dear Mr. Montoya:

Based upon the information provided in your submittal received 8-24-15, the above referenced plan cannot be approved for action by the DRB on the Site Plan for Building Permit or Building Permit until the following comments are addressed:

- 1) Narrative indicates this is a 2-phased project. Clearly show what is to be built in Phase I and what is to be built in Phase 2.
- 2) Regarding the 1st comment, show or state how drainage will be managed in Phase 1, before full build out and also for Phase 2 or full build-out.
- 3) Show with flow arrows the intended direction of the roof discharge.
- 4) Revise narrative regarding offsite flows. Drainage files G10D29D and G10D29F show that 5.7 cfs flow thru this site. Excerpt provided appears to have an error.
- 5) Per the City's MS4 Permit with EPA all sites must manage the "First Flush" onsite. Provide a first flush pond.
- 6) First flush can be calculated using $0.44'' - 0.10''$ (initial abstraction) = $0.34''$
- 7) Show Key notes 6 & 7 for the driveways on the plan

For Building Permit approval show:

- 8) Flow line elevations in Todos Santos, and all curb return data.
- 9) Show water blocks and provide elevations
- 10) Show that all landscaping is depressed.
- 11) Since the disturbed area on this site exceeds 1.0 acre, an Erosion and Sediment Control (ESC) Plan, prepared by a NM PE and approved by the City's Stormwater Engineer, will be required for this site

PO Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

If you have any questions, you can contact me at 924-3695.

Sincerely,

A handwritten signature in black ink, appearing to read 'Rita Harmon', with a long horizontal flourish extending to the right.

Rita Harmon, P.E.
Senior Engineer, Planning Dept.
Development Review Services

Orig: Drainage file
c.pdf Addressee via Email



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV 02/2013)

Project Title: Gutierrez Trucking Maintenance Facility Building Permit #: _____ City Drainage #: G100036

DRB#: _____ EPC#: _____ Work Order#: _____

Legal Description: Lot 6, Volcano Business Park Phase 1

City Address: 3006 Todo Santos Street N.W.

Engineering Firm: BJM CONSULTING Contact: Bernie d. montoya

Address: 8624 Casa Verde Ave. N.W. Albuquerque NM 87120

Phone#: 505-250-7719 Fax#: 505-839-0451 E-mail: BJMCONSULTING@COMCAST.NET

Owner: Rudy Gutierrez Contact: Rudy G.

Address: 8626 Casa Verde Ave NW.

Phone#: _____ Fax#: _____ E-mail: _____

Architect: Jim Miller and Associates Contact: Jim Miller

Address: _____

Phone#: 505-972-4657 Fax#: _____ E-mail: _____

Surveyor: _____ Contact: _____

Address: _____

Phone#: _____ Fax#: _____ E-mail: _____

Contractor: _____ Contact: _____

Address: _____

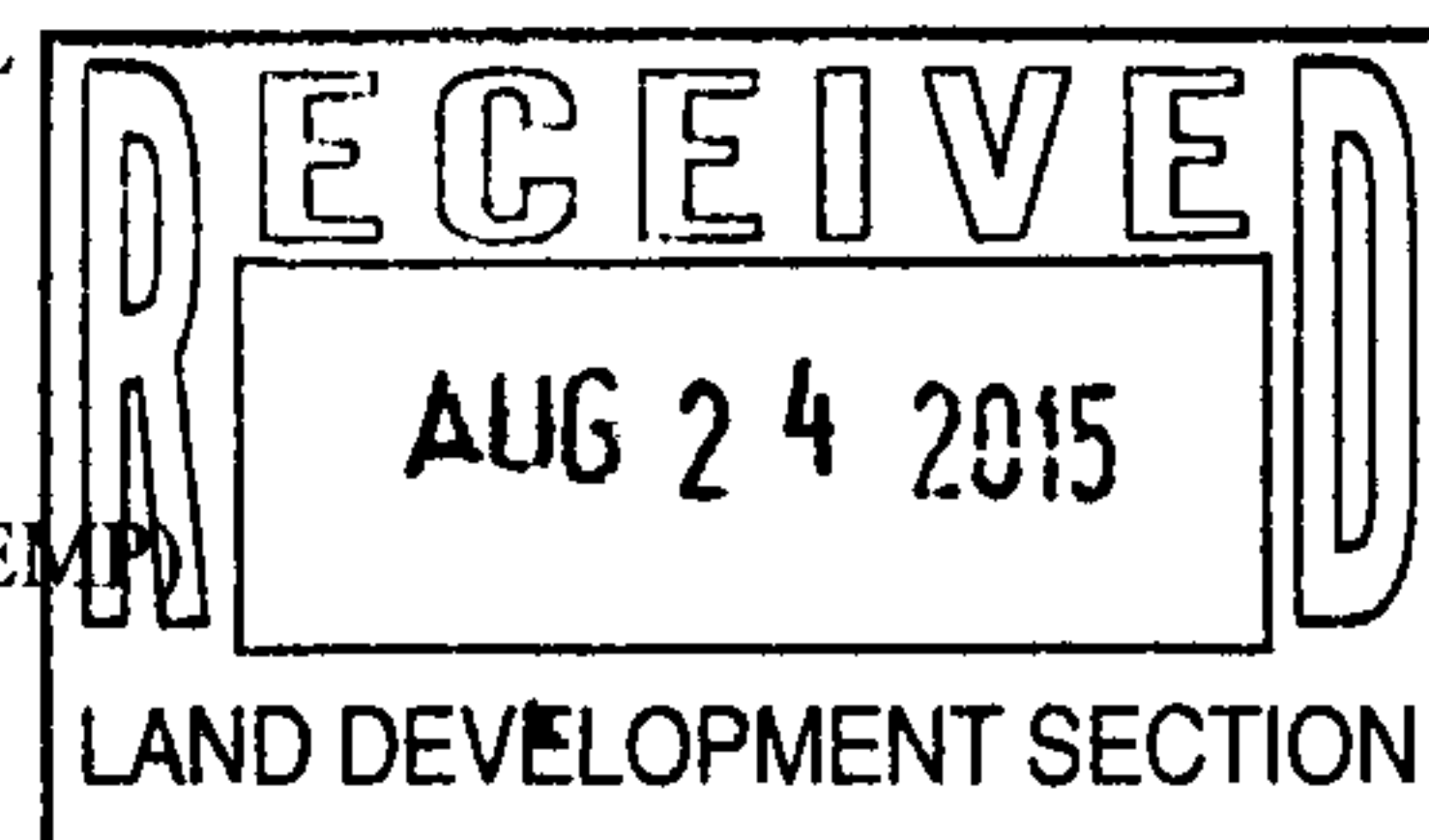
Phone#: _____ Fax#: _____ E-mail: _____

TYPE OF SUBMITTAL:

- ☒ DRAINAGE REPORT
- ☒ DRAINAGE PLAN 1st SUBMITTAL
- ☐ DRAINAGE PLAN RESUBMITTAL
- ☐ CONCEPTUAL G & D PLAN
- ☐ GRADING PLAN
- ☐ EROSION & SEDIMENT CONTROL PLAN (ESC)
- ☐ ENGINEER'S CERT (HYDROLOGY)
- ☐ CLOMR/LOMR
- ☐ TRAFFIC CIRCULATION LAYOUT (TCL)
- ☐ ENGINEER'S CERT (TCL)
- ☐ ENGINEER'S CERT (DRB SITE PLAN)
- ☐ ENGINEER'S CERT (ESC)
- ☐ SO-19
- ☐ OTHER (SPECIFY) _____

CHECK TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

- ☐ SIA/FINANCIAL GUARANTEE RELEASE
- ☐ PRELIMINARY PLAT APPROVAL
- ☐ S. DEV. PLAN FOR SUB'D APPROVAL
- ☒ S. DEV. FOR BLDG. PERMIT APPROVAL
- ☐ SECTOR PLAN APPROVAL
- ☐ FINAL PLAT APPROVAL
- ☐ CERTIFICATE OF OCCUPANCY (PERM)
- ☐ CERTIFICATE OF OCCUPANCY (TCL TEMP)
- ☒ FOUNDATION PERMIT APPROVAL
- ☒ BUILDING PERMIT APPROVAL
- ☐ GRADING PERMIT APPROVAL
- ☐ PAVING PERMIT APPROVAL
- ☐ WORK ORDER APPROVAL
- ☐ GRADING CERTIFICATION
- ☐ SO-19 APPROVAL \$50.00
- ☐ ESC PERMIT APPROVAL
- ☐ ESC CERT. ACCEPTANCE
- ☐ OTHER (SPECIFY) _____



WAS A PRE-DESIGN CONFERENCE ATTENDED: _____

Yes _____ No X Copy Provided

DATE SUBMITTED: 8-25-2015 By: Bernie J. Montoya

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

1. **Conceptual Grading and Drainage Plan:** Required for approval of Site Development Plans greater than five (5) acres and Sector Plans
2. **Drainage Plans:** Required for building permits, grading permits, paving permits and site plans less than five (5) acres
3. **Drainage Report:** Required for subdivision containing more than ten (10) lots or constituting five (5) acres or more
4. **Erosion and Sediment Control Plan:** Required for any new development and redevelopment site with 1-acre or more of land disturbing area, including project less than 1-acre than are part of a larger common plan of development

~~07/19/2015~~
G10D29E
EXCERPT

REVISED MASTER DRAINAGE STUDY

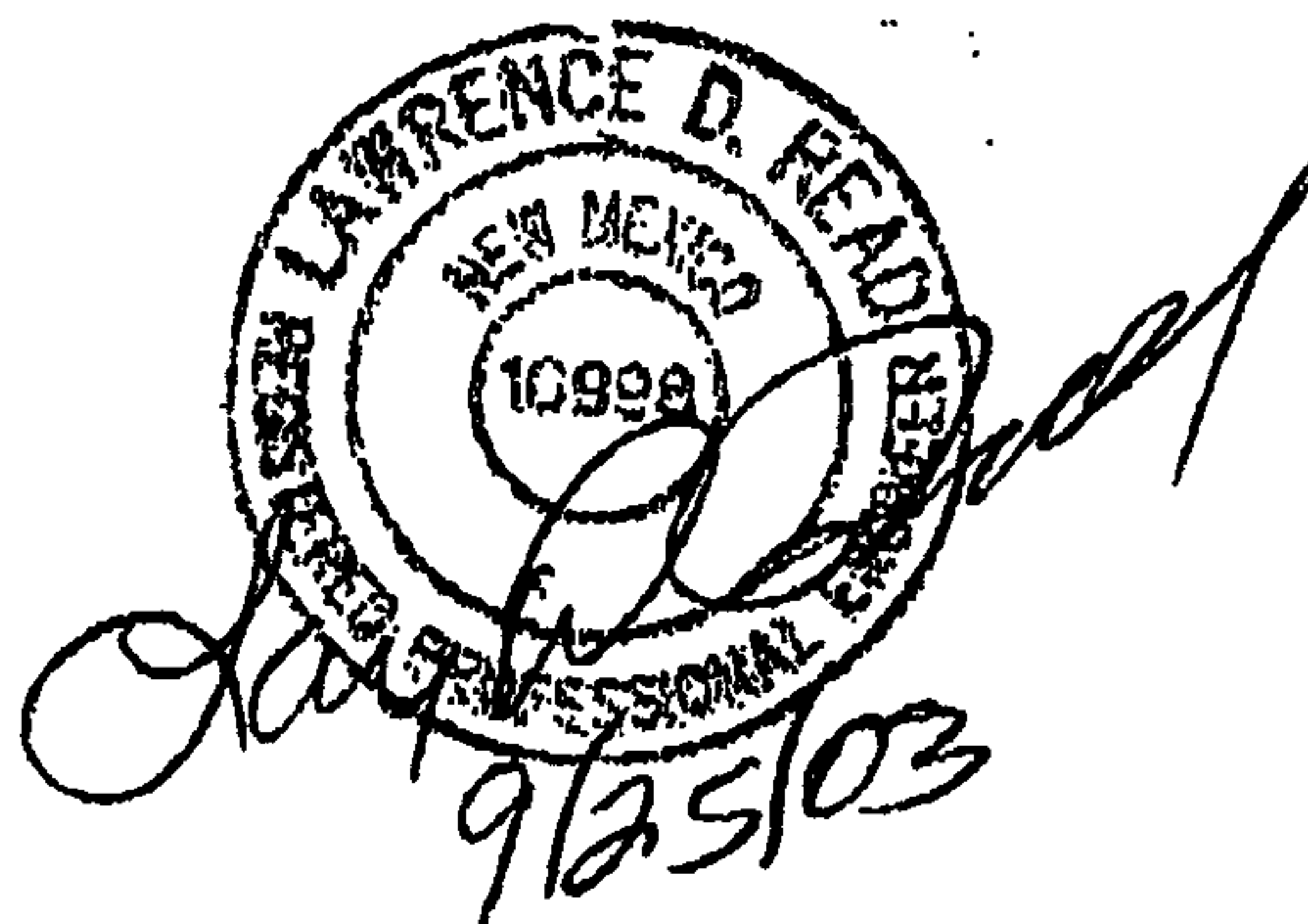
for

**VOLCANO BUSINESS PARK PHASES I AND II —
ALBUQUERQUE, NEW MEXICO**

and

SITE SPECIFIC DRAINAGE FOR TRACT 5A2-A1-3

September 25, 2003



Prepared by
Larry D. Read, P.E.
4800-C Juan Tabo Blvd., N.E.
Albuquerque, New Mexico 87113
(505) 237-8421

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| • | Floodplain Status | 1 |
| • | Methodology | 1 |
| • | Precipitation | 1 |
| • | Existing Drainage Conditions | 3 |
| • | Fully Developed Conditions | 4 |

TABLES

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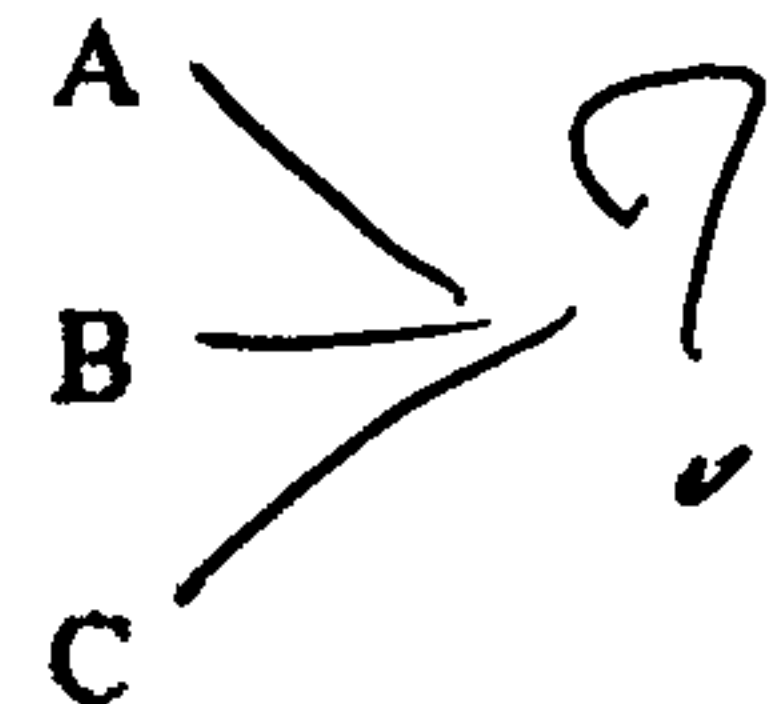
EXHIBITS

| | | |
|---|-----------------------------|--------|
| 1 | Vicinity Map and FIRM Panel | 2 |
| 2 | Grading and Drainage Plan | Pocket |

APPENDICES

| | | |
|---|--|--|
| • | Excerpts from West Ridge Subdivision Drainage Report | |
| • | Brasher and Lorenz, Inc. Letter dated July 10, 2003 | |
| • | Street and Channel Capacity Calculations | |

A
B
C



REVISED MASTER DRAINAGE STUDY

for

VOLCANO BUSINESS PARK PHASES I AND II ALBUQUERQUE, NEW MEXICO

and

SITE SPECIFIC DRAINAGE FOR TRACT 5A2-A1-3

September 25, 2003

LOCATION & DESCRIPTION

The Volcano Business Park Phases I and II are located on the south side of Ouray Road just east of Unser Boulevard as shown on **Exhibit 1**. The area was master planned by Easterling and Associates in 1985. Then, the plan was updated by Brasher and Lorenz, Inc. as part of the GE Capital Modular development. Since then, the offsite drainage area to the west has been developed as the West Ridge Subdivision and drained away from the site. Therefore, the existing studies are outdated and need to be revised. This study goes back through the previous developments and establishes new criteria for the business park based on current conditions. It also addresses Tract 5A2-A1-3, which is being developed at this time. "Existing Drainage Conditions" below describe the development in more detail.

FLOODPLAIN STATUS

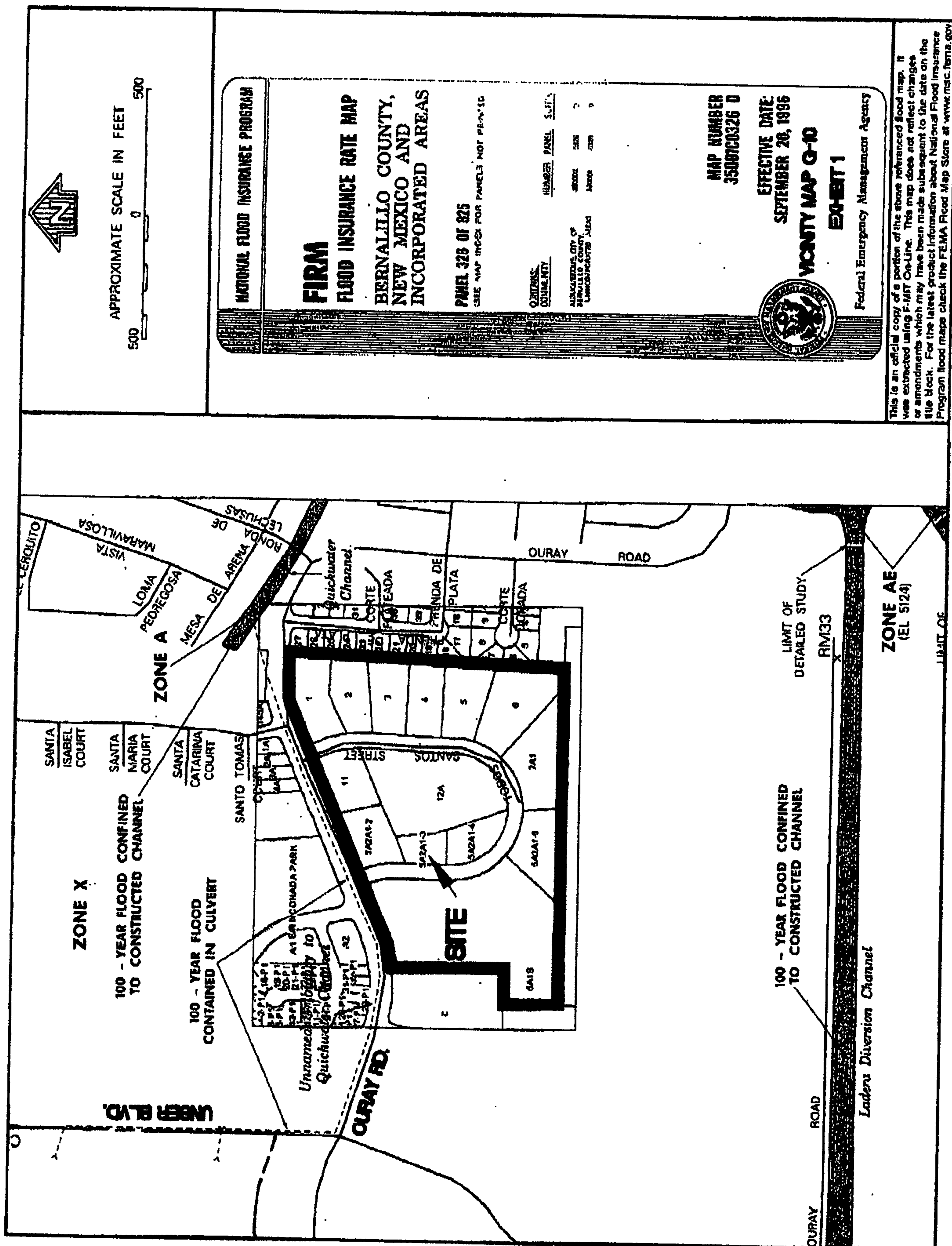
This property, as shown on FIRM Map Panel 35001C0326-D, effective September 20, 1996, is not within a designated floodplain. **Exhibit 1** shows a portion of this FIRM Panel with the Volcano Business Park superimposed on it.

METHODOLOGY

The hydrology for this project was analyzed using the Quick Calculation Method as documented in the June 1997 release of the City of Albuquerque Development Process Manual, Section 22.2.

PRECIPITATION

The 100-yr, 6-hour duration storm was used as the design storm for this analysis. This site is within Zone 1 as identified in the City of Albuquerque Development Process Manual, Section 22.2. Tables within this section were used to establish the 1-hour, 6-hour precipitation, and 24-hour precipitation.



EXISTING DRAINAGE CONDITIONS

Volcano Business Park has been partially developed under two different Master Drainage Plans. The first one was prepared by Easterling and Associates in 1985. This study identified 112.7-acres west of Unser Boulevard which would be diverted to the north by Unser Boulevard and therefore, not allowed to enter the site. This area has since been developed and diverted to the Ouray Road Storm Drain according to this Master Plan. This study also identified 68.7 acres east of Unser Boulevard that would drain to a 42" rcp storm drain starting near the northeast corner of Volcano Business Park. This 68.7-acres was divided up into areas that had different allowable discharge rates depending on the type of development anticipated. A significant portion of the Volcano Business park even required onsite retention of the 100-year storm event. The overall criterion was an allowable discharge of 120-cfs to the 42" storm drain. This included 40 acres of offsite area west of the Volcano Business Park with an allowable discharge through the business park of 87.90-cfs. This runoff was split between two rundowns across Tract 5A2-A1-1. *where*

Then, in 1997, Brasher and Lorenz, Inc. revised the Easterling and Associates Master Plan along with the development of the GE Modular site (Tract 5A2-A1-1 also identified as Tract 5A1B). At this time, the same offsite discharge of 87.90-cfs was anticipated to enter the business park but the allowable discharge of 0.43-cfs per acre was established for the park itself. This eliminated the retention pond requirements in order to meet current drainage standards but continued to meet the 42" storm drain capacity of 120-cfs. Tract 5A2-A1-1 was divided and drained into two detention ponds according to Drainage File G10/29F. In accordance with this discharge rate of 0.43-cfs per acre, Tract 5A2-A1-5 (Drainage File G10/29), Lot 2 (Drainage File G10/29E), Lot 7-A1 (Drainage File G10/29D), Lot 11 (Drainage file G10/29C), and Lot 12-A (Drainage File G10/29B) have been developed with detention ponds.

The West Ridge Subdivision, prepared by Mark Goodwin and Associates, PA (Drainage File H9/D16) was approved in January 2003 as a development within the 40-acre offsite basin. This subdivision proposed diverting all the offsite area to the Ouray Road Storm Drain. This frees up the 87.9-cfs discharge to the 42" storm drain. Appendix A contains the West Ridge Subdivision Drainage Basin Map and AHYMO 100-Year Summary Output.

Due to discrepancies in the lot areas from the multiple reports and replats, the sum of the individual lot areas and the West Ridge Development do not match the original Easterling and Associates Master Plan. Therefore, we used lot areas as listed on the Bernalillo County arcIMS system, individual lot surveys, and the basin areas defined by the West Ridge Subdivision Report to establish the areas listed in the **100-YEAR HYDROLOGIC CALCULATIONS TABLE**. We have included an "Unidentified Basin" of 2.5860-acres in the Hydrologic Calculations table to account for the discrepancies in area. This basin was analyzed as 90% impervious to reflect either commercial development or roads in order to account for the maximum discharge to the 42" storm drain.

The sum of the discharge from the Volcano Business Park with individual lot detention ponds would be 43.90-cfs plus the offsite allowable discharge of 87.90-cfs for a total of 131.80-cfs. This would exceed the 42" storm drain capacity of 120-cfs. However, when the 13.34-cfs generated by the "Duplicate Area" (see next paragraph) is redirected to the Ouray Road Storm Drain is removed, the discharge is reduced to 118.45-cfs, which is within the allowable discharge.

In July 2003, Brasher and Lorenz, Inc. submitted a new study (Drainage File G10/D29F) for the GE Modular Site. This included a 4.29-acre addition to the GE Modular Site. This additional area is "Basin 34" (3.1616-acres) of the West Ridge Subdivision. The West Ridge Subdivision report anticipated that this area will drain to the Ouray road Storm Drain. However, the 2003 Brasher and Lorenz, Inc. Report continues to drain this area through the Volcano Business Park property. Therefore, we have created a "Duplicate Area" basin to account for this runoff going to either system when the property is actually developed. The 2003 revised submittal takes into account the diversion of offsite runoff due to the West Ridge Subdivision improvements. The letter in Appendix B states that previously required ponds and storm drains are no longer needed, but, also states that a portion of the site drains to the existing ponds. Therefore, we have split Tract 5A2-A1-1 into three (basins): The north one (4.50-acres) drains to an existing detention pond at the north end of the site according to the 1997 report. Similarly, a 2.50-acre portion drains to the south detention pond and drains according to the 1997 study. The remaining 4.34-acres was analyzed for ponding under "Existing Allowable Conditions" and free discharge for "Proposed Conditions." This letter states that the net result due to the offsite diversion and development of the additional 4.29-acres decreases the demands on the 42" storm drain by approximately 37.2-cfs. Since we have a limited understanding of how the GE Modular site has changed between the 1997 study and the 2003 study, we are considering this 37.2-cfs decrease as one option for this master plan amendment and our calculations as the other criteria.

FULLY DEVELOPED CONDITIONS

Due to the West Ridge Subdivision diversion, the demand on the 42" storm drain has been decreased by 87.90-cfs. The 100-YEAR HYDROLOGIC CALCULATIONS TABLE takes into account the lots within Volcano Business Park that have already been developed with detention ponds and the undeveloped lots. The undeveloped lots (Tracts 5A2-A1-2 through 5A2-A1-4, Lot 1, and Lots 3 through 6) will be allowed to have free discharge at 90% impervious. When these parcels are developed and added to the existing discharge from the other lots and the free discharge from the 4.34-acre portion of Tract 5A2-A1-1, the total discharge to the 42" storm drain is only 96.60-cfs. This is below the allowable discharge of 120-cfs.

As a second check, the allowable discharge from the eight (8) undeveloped lots is 3.68-cfs according to the "Existing Allowable Conditions." The free discharge from these same eight lots, developed with 90% impervious area is 36.12-cfs. This is a net increase of 32.44-cfs, which is less than the Brasher and Lorenz, Inc. statement that the demand has been decreased by 37.2-cfs. Therefore, it is evident that the remaining lots can be developed with free discharge without exceeding the 120-cfs storm drain capacity.

TRACT 5A2-A1-3 DEVELOPED CONDITIONS

Tract 5A2-A1-3 will be developed at this time according to this revised master plan. There is an existing 7' private drainage easement along the east edge of the property that will be maintained to accept the 3.22-cfs runoff from Tract 5A2-A1-4. The site will be graded to drain to the northeast corner of the site where it will drain into the existing 10' concrete channel which ties to the 42" storm drain.

Painted Rock Drive intercepts all the runoff from the west. Runoff from Tract 5A2-A1-2 will be directed to the 10' rundown at the northeast corner of this site. Therefore, the only offsite runoff will be

from Tracts 5A2-A1-2 and 5A2-A1-4 which will drain along the north and east edges of this property. Street capacity calculations and channel calculations for the combined runoff from these three (3) lots is included in Appendix C.

[illegible][illegible]

ZONE = 1
 P_{6-HR} (in.) = 2.20
 P_{24-HR} (in.) = 2.66
 P_{10-DAY} (in.) = 3.67