CITY OF ALBUQUERQUE

September 19, 2005

Mr. David Soule, PE
RIO GRANDE ENGINEERING
1606 Central Avenue SE, Suite 201
Albuquerque, NM 87106

RE: TORRENTINO SUBDIVISION (L-9/D38)
Engineers Certification for Release of Financial Guaranty
Engineers Stamp dated 10/21/2005
Engineers Certification dated 09/16/2005

Dear David:

Based upon the information provided in your Engineer's Certification Submittal dated 09/19/2005, the above referenced plan cannot be approve for Grading and Drainage Certification for Release of Financial Guaranty.

1. The Approved → 11/29/04 Grading and Drainage Plan has an Engineer Stamp date of ~~12/09/2003~~ not 10/21/2005?? as indicated in your submittal. (see attached copy of G/D Report approval letter).

Also, attached for your use, are 2 samples of the preferred language for certification of a Grading & Drainage Plan.

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

Sincerely,

Arlene V. Portillo

Arlene V. Portillo
Plan Checker, Planning Dept.- Hydrology
Development and Building Services

C: File

Attachments

P.O. Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 01/28/2003rd)

PROJECT TITLE: *Torrentino Subdivision* ZONE MAP/DRG. FILE #: L-9 / D38

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

LEGAL DESCRIPTION: **Lots 1-17, Vincinti Montano and Tracts A,B,C Juantia Vigil Lopex Subdivion**

CITY ADDRESS: **97th between Tower and San Ygnacio**

ENGINEERING FIRM:	Rio Grande Engineering	CONTACT:	David Soule, PE
ADDRESS:	1606 Central SE, Suite 201	PHONE:	(505)321-9099
CITY, STATE:	ALBUQUERQUE, NM	ZIP CODE:	87106
OWNER:	*JD Home Corporation*	CONTACT:	David Soule
ADDRESS:		PHONE:	321-9099
CITY, STATE:		ZIP CODE:	87122
ARCHITECT:		CONTACT:	
ADDRESS:		PHONE:	
CITY, STATE:		ZIP CODE:	
SURVEYOR:	GSI	CONTACT:	John Gallegos
ADDRESS:		PHONE:	505-975-4567
CITY, STATE:		ZIP CODE:	
CONTRACTOR:		CONTACT:	
ADDRESS:		PHONE:	
CITY, STATE:		ZIP CODE:	

CHECK TYPE OF SUBMITTAL:

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

CHECK TYPE OF APPROVAL SOUGHT:

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

RECEIVED
SEP 19 2005
HYDROLOGY SECTION

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- x YES
- ____ NO
- ____ COPY PROVIDED

DATE SUBMITTED: 9/16/2005 BY: David Soule

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a dranage 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 sumbittal may be required based on the following:

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

CITY OF ALBUQUERQUE

ALBUQUERQUE
Making History

January 28, 2005

David Soule, PE
Rio Grande Engineering
3500 Comanche NE, Bldg E, Ste 5
Albuquerque, NM 87107

Re: Torrentino Subdivision Drainage Report
Engineer's Stamp dated 11-29-04 (L9/D38)

Dear Mr. Soule,

Based upon the information provided in your submittal dated 11-30-04, the above referenced report is approved for Preliminary Plat action by the DRB. Once that board approves the plan, please submit a mylar copy for my signature in order to obtain a Rough Grading Permit.

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

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

Sincerely,

Bradley L. Bingham

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

C: Chuck Caruso, DMD
file

P.O. Box 1293
Albuquerque
New Mexico 87103
www.cabq.gov

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 01/28/2003rd)

PROJECT TITLE: ***Torrentino Subdivision*** ZONE MAP/DRG. FILE #: L-9/D38

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

LEGAL DESCRIPTION: **Lots 1-17, Vincinti Montano and Tracts A,B,C Juantia Vigil Lopex Subdivion**

CITY ADDRESS: **97th between Tower and San Ygnacio**

ENGINEERING FIRM:	Rio Grande Engineering	CONTACT:	David Soule, PE
ADDRESS:	1606 Central SE, Suite 201	PHONE:	(505)321-9099
CITY, STATE:	ALBUQUERQUE, NM	ZIP CODE:	87106
OWNER:	***David and Jennifer Soule***	CONTACT:	David Soule
ADDRESS:	***9101 Wilshire NE***	PHONE:	321-9099
CITY, STATE:	***Albuquerque, NM***	ZIP CODE:	87122
ARCHITECT:		CONTACT:	
ADDRESS:		PHONE:	
CITY, STATE:		ZIP CODE:	
SURVEYOR:	GSI	CONTACT:	John Gallegos
ADDRESS:		PHONE:	505-975-4567
CITY, STATE:		ZIP CODE:	
CONTRACTOR:		CONTACT:	
ADDRESS:		PHONE:	
CITY, STATE:		ZIP CODE:	

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- ___ DRAINAGE PLAN 1st SUBMITTAL, ***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)
- ___ ENGINEERS CERTIFICATION (TCL)
- ___ ENGINEERS CERTIFICATION (DRB APPR. SITE PLAN)
- ___ OTHER

CHECK TYPE OF APPROVAL SOUGHT:

- ___ SIA / FINANACIAL GUARANTEE RELEASE
- X 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
- ___ BUILDING PERMIT APPROVAL
- ___ CERTIFICATE OF OCCUPANCY (PERM.)
- ___ CERTIFICATE OF OCCUPANCY (TEMP.)
- X GRADING PERMIT APPROVAL
- ___ PAVING PERMIT APPROVAL
- ___ WORK ORDER APPROVAL
- ___ OTHER (SPECIFY)

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- x YES
- ___ NO
- ___ COPY PROVIDED

DATE SUBMITTED. 11/30/2004 BY: David Soule

RECEIVED
NOV 30 2004
HYDROLOGY SECTION

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

RIO GRANDE ENGINEERING

(505) 321-9099
1606 Central SE, Suite 201 Albuquerque, NM 87106

LETTER OF TRANSMITTAL

DATE: 11/30/2004	JOB NO: 2450
ATTENTION: Brad	
RE: Torrentino Subdivision L-9/D38	

TO Brad Bingham
Section Head- Hydrology
Public Works Department
Plaza del Sol

WE ARE SENDING YOU ☐ Attached ☐ Under Separate cover via _____ the following items:

☐ Shop drawings ☐ Prints ☐ Plans ☐ Samples ☐ Specifications

☐ Copy of letter ☐ Change order ☐ _____

COPIES	DATED	NO.	DESCRIPTION
1			Revised grading Plan
1			Excerpt from Western Storage Facility
1			Copy of Torreto Oeste Grading Plan
			DRB tomorrow, 12-01-04

THESE ARE TRANSMITTED as checked below:

☒ For approval ☐ Approved as submitted ☐ **FOR SIGNATURE(S)**

☐ For your use ☐ Approved as noted ☐ _____

☐ As requested ☐ Returned for corrections

☐ For review and comments ☐ _____

☐ FOR BIDS DUE _____ 19 ____ ☐ PRINTS RETURNED AFTER LOAN TO US

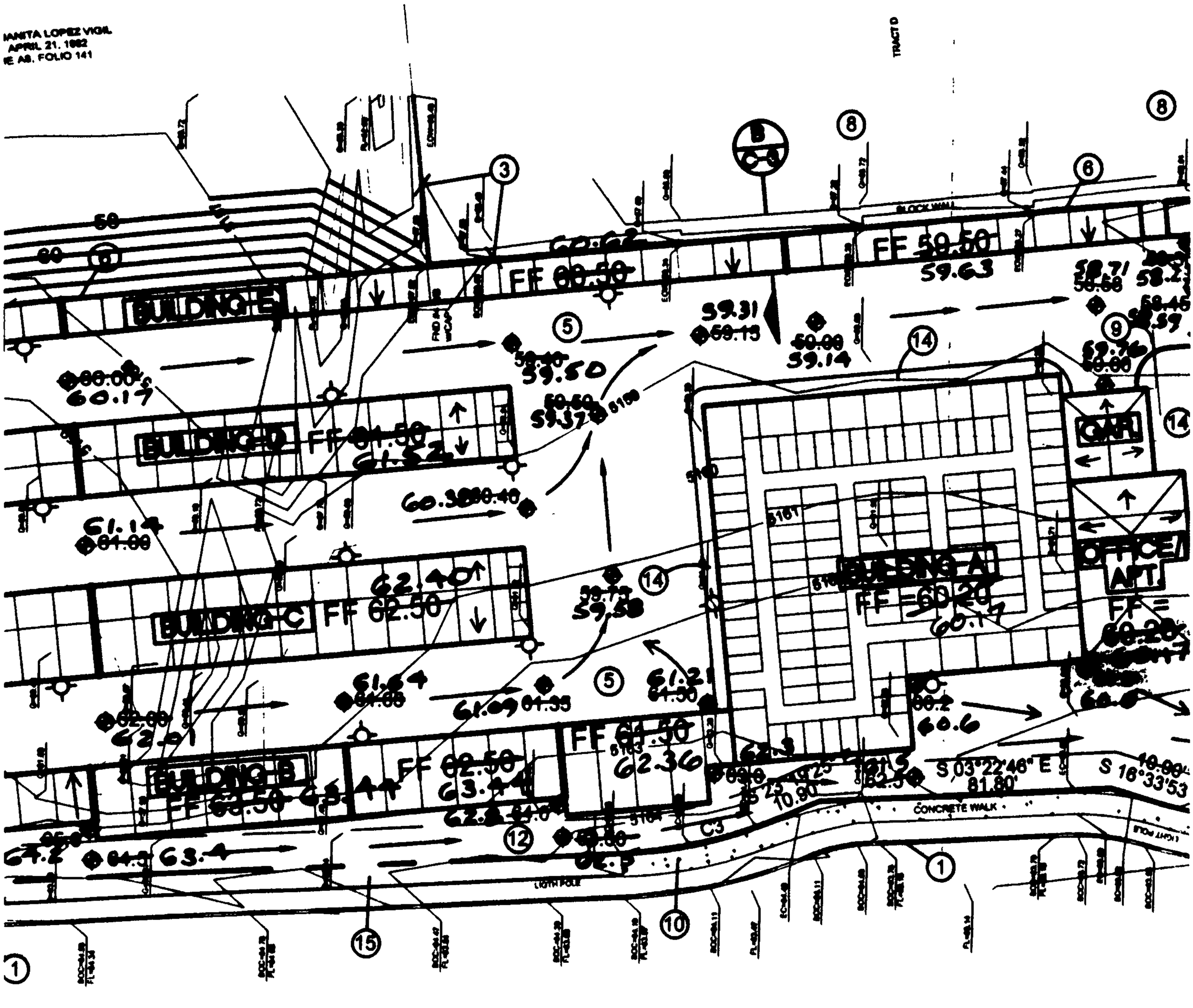
REMARKS _____

RECEIVED
NOV 30 2004
HYDROLOGY SECTION

COPY TO _____

RECEIVED BY _____ SIGNED David Soule

IANITA LOPEZ VIGIL
APRIL 21, 1982
E AB. FOLIO 141



Storm Units.

RECEIVED
NOV 30 2004
HYDROLOGY SECTION

1/C1 GRADING AND DRAINAGE PL

1"=40'

PROJECT DATA

PROPERTY ADDRESS

68th STREET SW

relation of the on-site

KEYED N

, NMPE 13679, of the firm Brasher and Lorenz, ... accordance with the design intent of the approved plan dated 6/13/03. The record information edited onto the original design document ... ne or under my direct supervision and is true and correct to the best of my knowledge and belief. This certification is submitted in support
porary Certificate of Occupancy.
must be completed before I will certify this Plan for a Permanent Certificate of Occupancy:
e completed.
inage Inspector must sign the SO-19 signature line on this plan when he has approved improvements constructed under the

tion presented hereon is not necessarily complete and intended only to verify substantial compliance of the grading and drainage aspects
relying on this record document are advised to obtain independent verification of its accuracy before using it for any other purpose.

[illegible] 12/15/03
MPE 13679

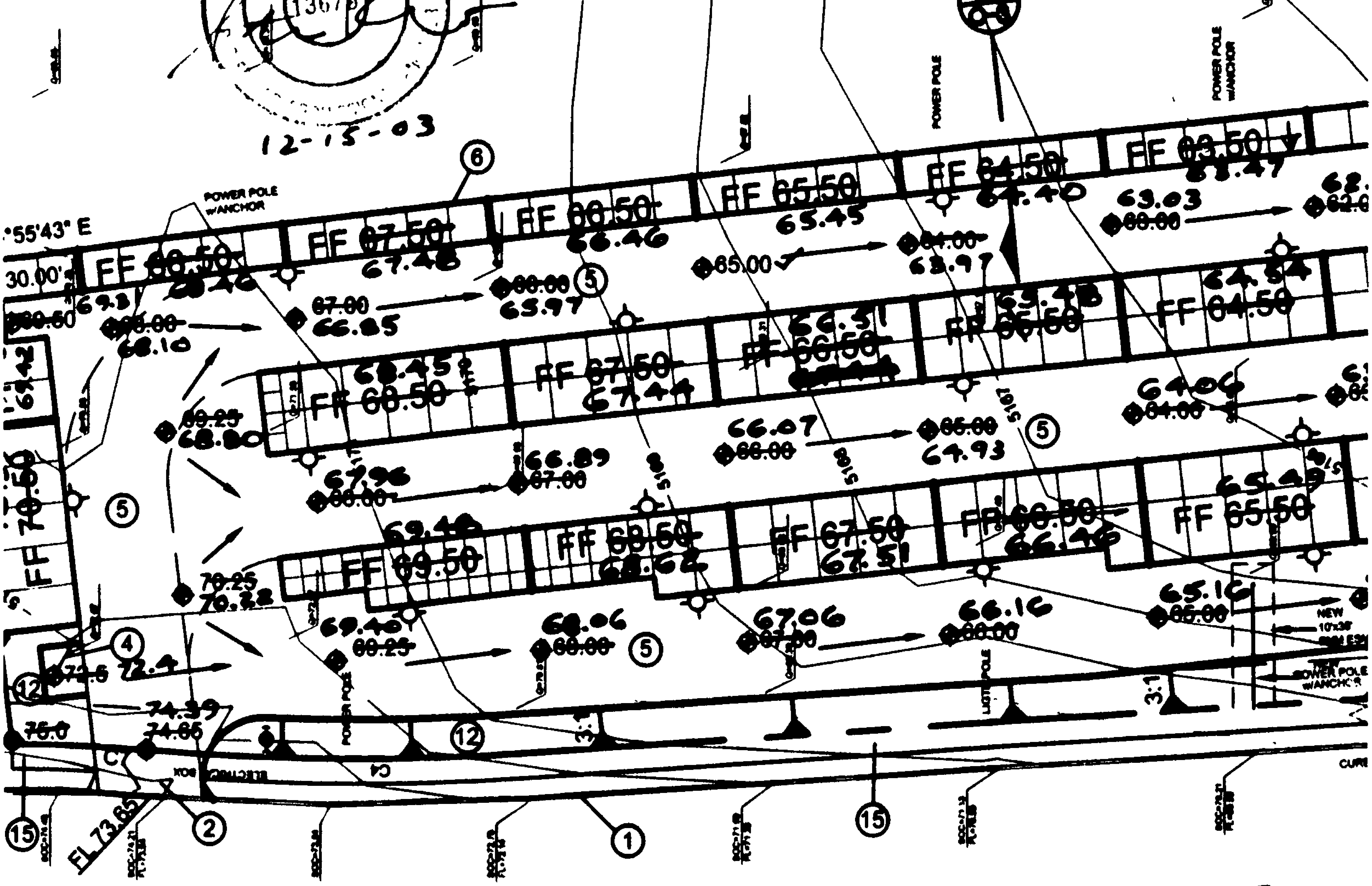
STEVEN K. MORROW
NEW MEXICO
13679

12-15-03

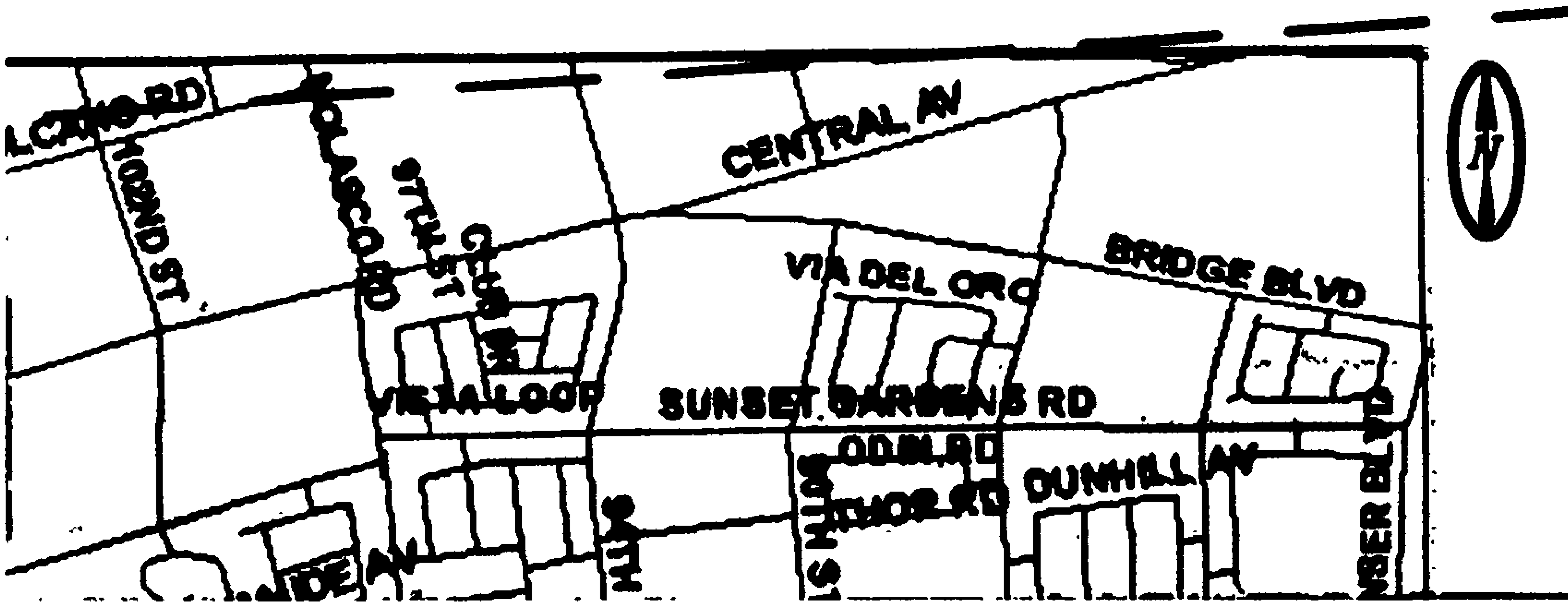
ENGINEER'S CERTIFIC
CERTIFICATE OF OCC

I, the undersigned, bein
Mexico, do hereby certi
dated 12-15-03 above I

[illegible]
Steven K. Morrow NM



RECEIVED
NOV 30 2004
HYDROLOGY SECTION



GRADING & DRAINAGE PLAN

PURPOSE AND SCOPE

PURSUANT TO THE ESTABLIS
DEVELOPMENT PROCESS MA
MANAGEMENT CRITERIA FOR
PROJECT CONSISTS OF THE D
PROPOSED SITE IMPROVEME
IMPROVEMENTS. THIS PLAN I
DETAILS TO SUPPORT BUILDI

EXISTING CONDITIONS

THE PROJECT SITE CONTAINS

aded and will drain in substantial
edited onto the original design document
f. This certification is submitted in support

iments constructed under the

iance of the grading and drainage aspects
efore using it for any other purpose.

THE NORTHERN II UNITS OF BUILDING E CONSIST OF FOUNDATION SLABS ONLY.

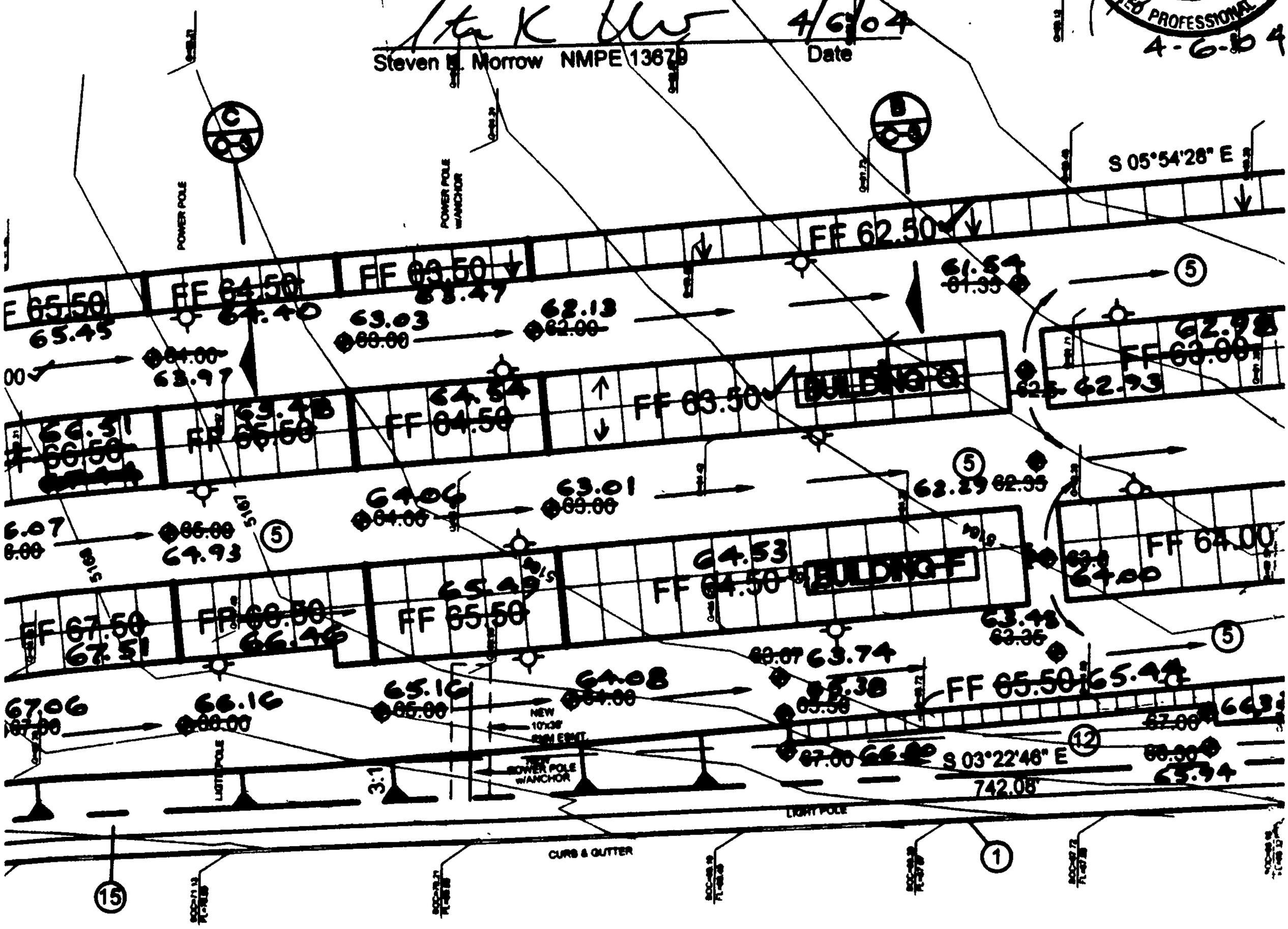
ENGINEER'S CERTIFICATION (HYDROLOGY) FOR PERMANENT CERTIFICATE OF OCCUPANCY

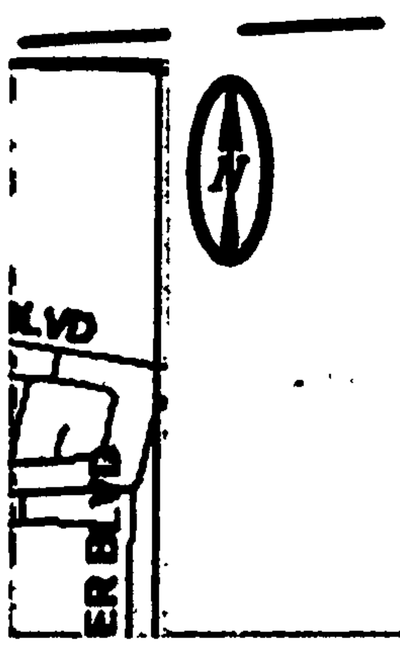
I, the undersigned, being a Professional Engineer in the State of New Mexico, do hereby certify that the exceptions listed in the certification dated 12-15-03 above have been completed.

Steven K. Morrow NMPE 13679 Date 4/6/04

STEVEN K. MORROW NEW MEXICO 13679 REGISTERED PROFESSIONAL ENGINEER

4-6-04





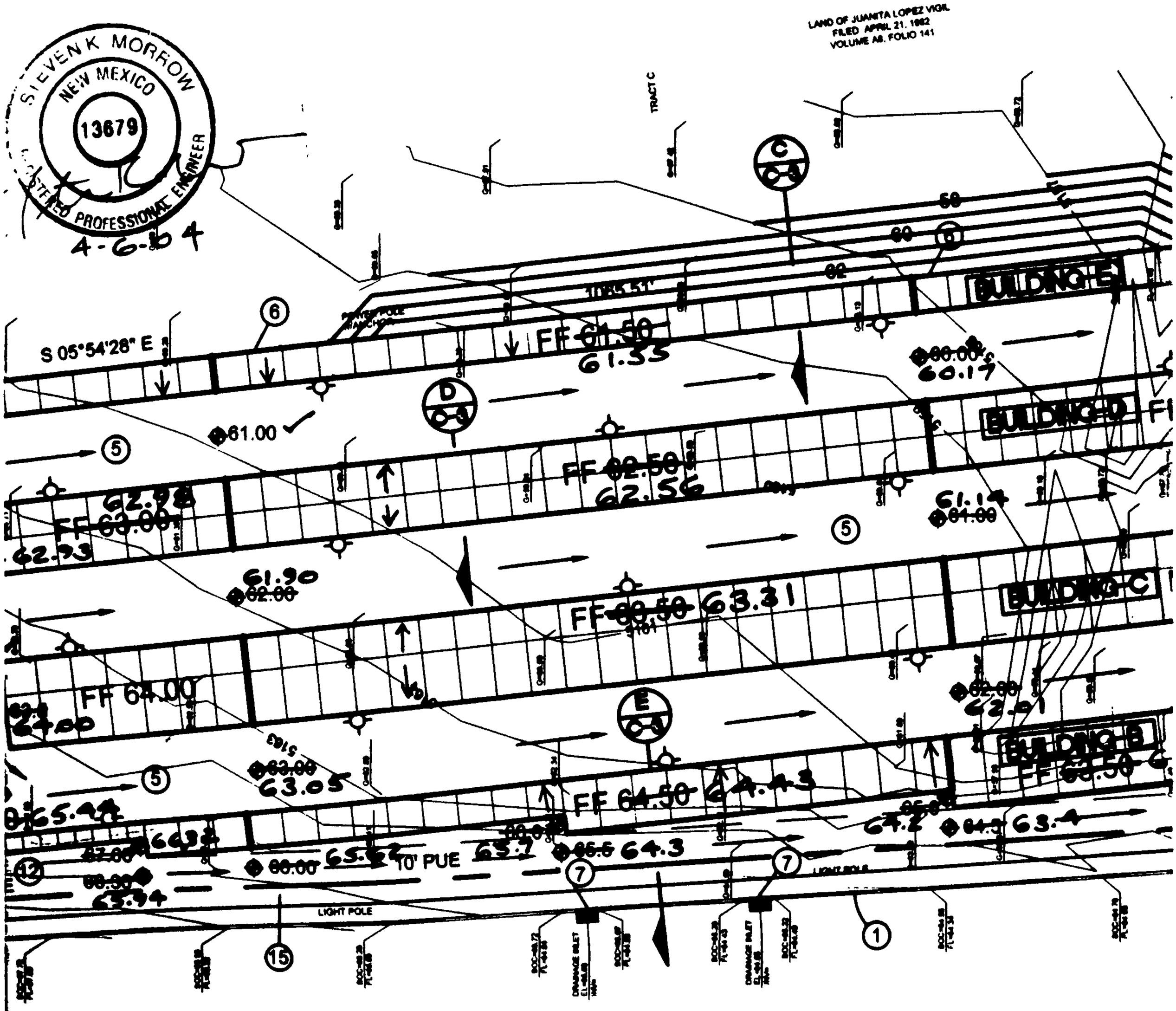
RECEIVED
NOV 30 2004
HYDROLOGY SECTION

GRADING & DRAINAGE PLAN

PURPOSE AND SCOPE

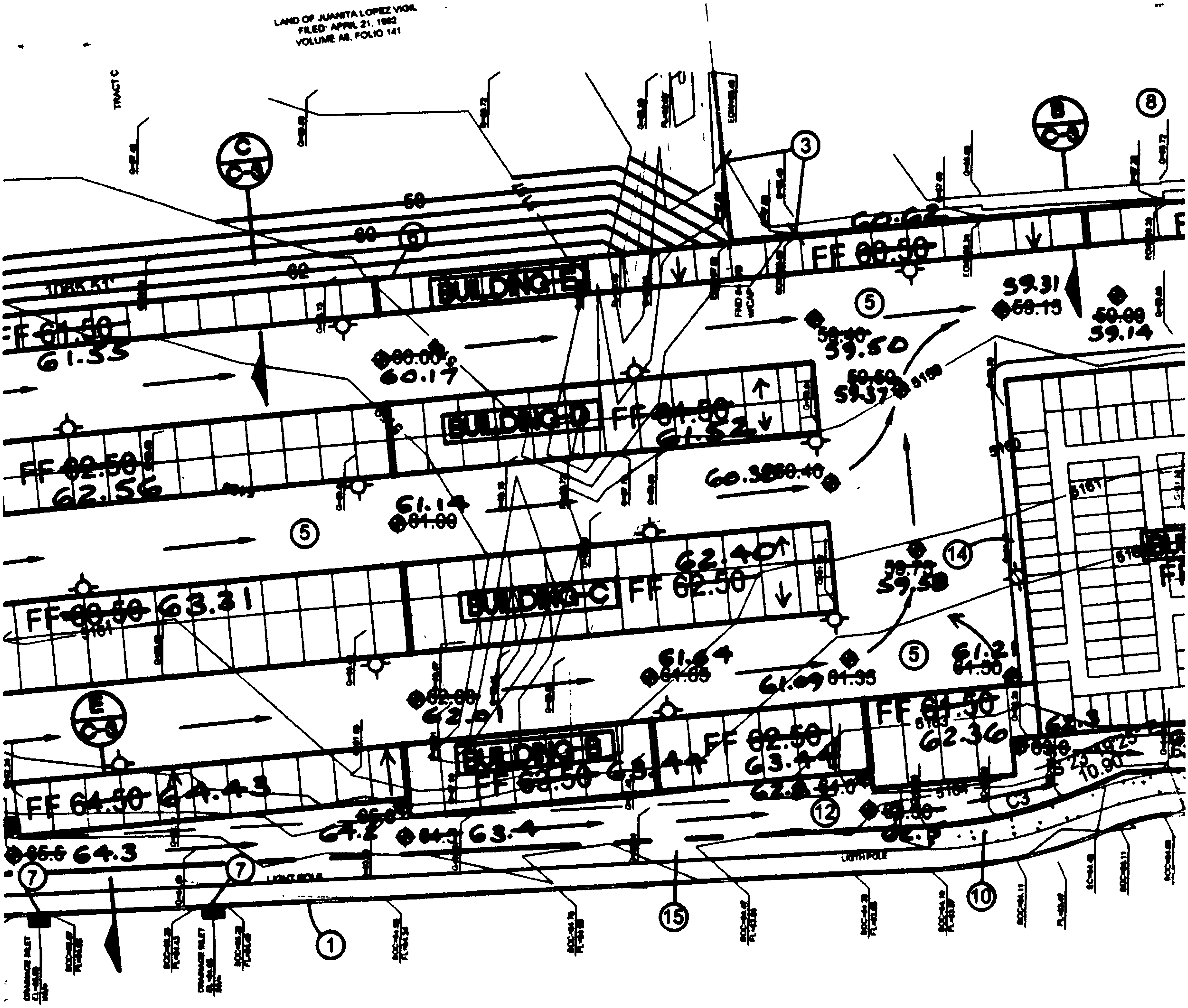
PURSUANT TO THE ESTABLISHED DRAINAGE ORIDINACE OF THE CITY OF ALBUQUERQUE AND THE DEVELOPMENT PROCESS MANUAL, THIS GRADING AND DRAINAGE PLAN OUTLINES THE DRAINAGE MANAGEMENT CRITERIA FOR CONTROLLING DEVELOPED RUNOFF FROM THE PROJECT SITE. THE PROJECT CONSISTS OF THE DEVELOPMENT OF THE PROPERTY INTO A SELF STORAGE FACILITY. PROPOSED SITE IMPROVEMENTS INCLUDE PAVING, UTILITY, LANDSCAPING, GRAING AND DRAINAGE IMPROVEMENTS. THIS PLAN IS PRESENTED TO PROVIDE GRADING AND DRAINAGE CRITERIA AND DETAILS TO SUPPORT BUILDING PERMIT APPLICATION.

EXISTING CONDITIONS



98th STREET

124' R/W & VARIES



STREET

& VARIES

GRADING AND D

1/C1 1"=40'

Owner obtain a Geotechnical Evaluation of the on-site /structural design.

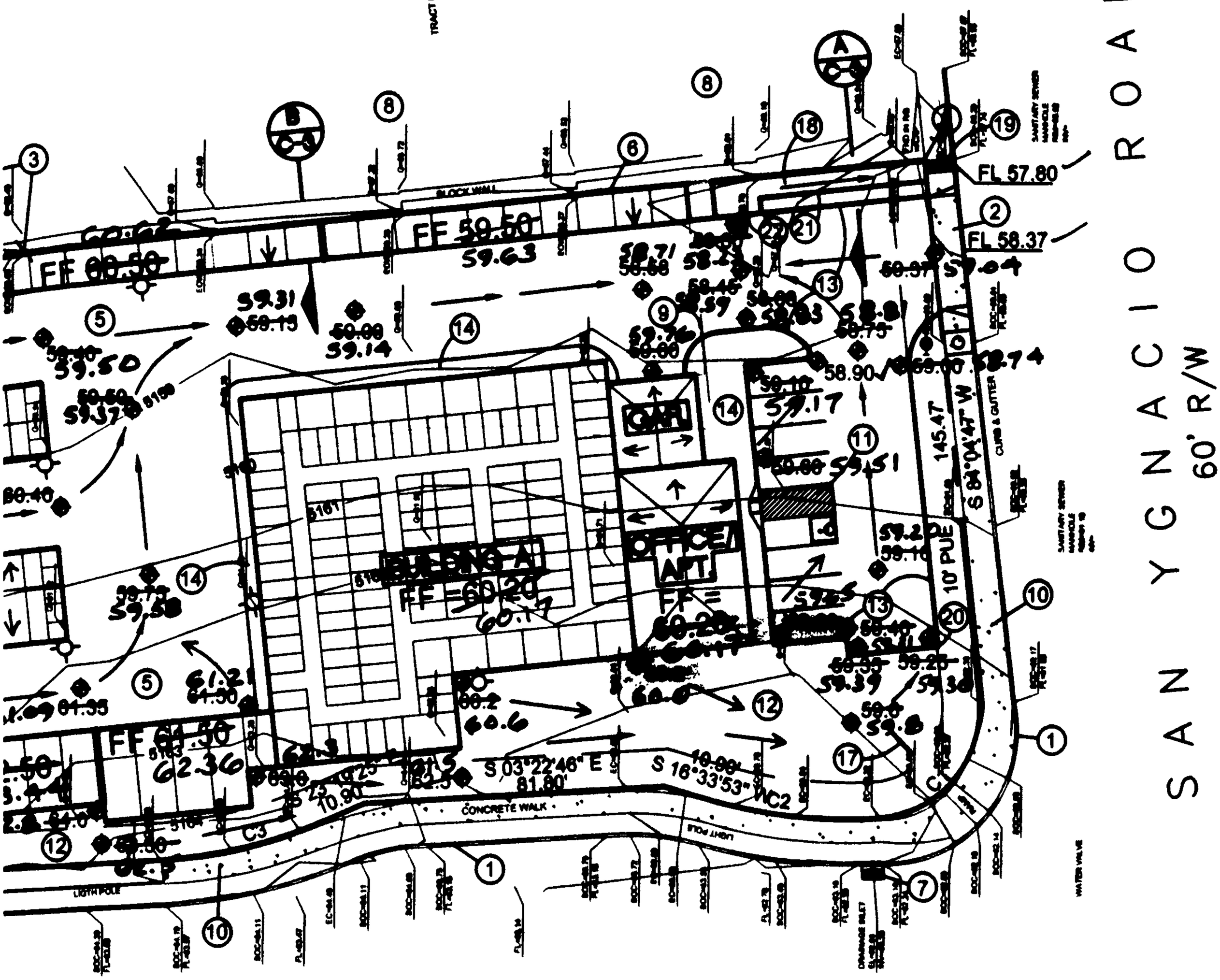
ositive drainage away from all structures to prohibit may cause structural settlement. Future

PROJECT DATA

PROPERTY ADDRESS

98th STREET SW

LEGAL DESCRIPTION



40 0 20

1 inch = 40 ft.

GRADING AND DRAINAGE PLAN

1"=40'

PROJECT DATA

PROPERTY ADDRESS

96th STREET SW

KEYED NOTES

CITY OF ALBUQUERQUE

October 11, 2005

Mr. David Soule, PE
RIO GRANDE ENGINEERING
1606 Central Ave. SE, Suite 201
Albuquerque, NM 87106

RE: TORRENTINO SUBDIVISION (L-9/D38)
Engineers Certification for Release of Financial Guaranty
Engineers Stamp dated 11/29/2004
Engineers Certification dated 10/10/2005

Dear David:

Based upon the information provided in your Engineer's Certification Submittal dated 10/11/2005, the above referenced plan is adequate to satisfy the Grading and Drainage Certification for Release of Financial Guaranty.

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

Sincerely,

Arlene V. Portillo

Arlene V. Portillo
Plan Checker, Planning Dept.- Hydrology
Development and Building Services

C: Marilyn Maldonado, COA# 753881
File

P.O. Box 1293
Albuquerque
New Mexico 87103
www.cabq.gov

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 01/28/2003rd)

PROJECT TITLE: ***Torrentino Subdivision*** ZONE MAP/DRG. FILE #: L-9/d38

DRB #: _____ EPC #: _____ WORK ORDER #: 753881

LEGAL DESCRIPTION: **Lots 1-17, Vincinti Montano and Tracts A,B,C Juantia Vigil Lopex Subdivion**

CITY ADDRESS: **97th between Tower and San Ygnacio**

ENGINEERING FIRM:	Rio Grande Engineering	CONTACT:	David Soule, PE
ADDRESS:	1606 Central SE, Suite 201	PHONE:	(505)321-9099
CITY, STATE:	ALBUQUERQUE, NM	ZIP CODE:	87106
OWNER:	***David and Jennifer Soule***	CONTACT:	David Soule
ADDRESS:	***9101 Wilshire NE***	PHONE:	321-9099
CITY, STATE:	***Albuquerque, NM***	ZIP CODE:	87122
ARCHITECT:		CONTACT:	
ADDRESS:		PHONE:	
CITY, STATE:		ZIP CODE:	
SURVEYOR:	GSI	CONTACT:	John Gallegos
ADDRESS:		PHONE:	505-975-4567
CITY, STATE:		ZIP CODE:	
CONTRACTOR:		CONTACT:	
ADDRESS:		PHONE:	
CITY, STATE:		ZIP CODE:	

CHECK TYPE OF SUBMITTAL:

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

CHECK TYPE OF APPROVAL SOUGHT:

- x SIA / FINANACIAL GUARANTEE RELEASE
- ____ PRELIMINARY PLAT APPROVAL
- ____ S. DEV. PLAN FOR SUB'D. APPROVAL
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- ____ CERTIFICATE OF OCCUPANCY (TEMP.)
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- ____ PAVING PERMIT APPROVAL
- ____ WORK ORDER APPROVAL
- ____ OTHER (SPECIFY)

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- x YES
- ____ NO
- ____ COPY PROVIDED

RECEIVED
OCT 11 2005
HYDROLOGY SECTION

DATE SUBMITTED: 10/22/2004 BY: David Soule

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a dranage submittal.

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CITY OF ALBUQUERQUE

ALBUQUERQUE
Making History

November 17, 2004

David Soule, PE
Rio Grande Engineering
3500 Comanche NE, Bldg E, Ste 5
Albuquerque, NM 87107

Re: Torrentino Subdivision Drainage Report
Engineer's Stamp dated 10-21-04 (L9/D38)

Dear Mr. Soule,

Based upon the information provided in your submittal dated 10-22-04, the above referenced report cannot be approved for Preliminary Plat until the following comments are addressed.

- Please provide the design grading plans of the subdivisions to the east and south and the self storage to the west for comparison to your subdivision boundary elevations
- Please provide the basin map of SAD 222 describing which basin your in.

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

Sincerely,

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

C: file

P.O. Box 1293
Albuquerque
New Mexico 87103
www.cabq.gov

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 01/28/2003rd)

PROJECT TITLE: *Torrentino Subdivision* ZONE MAP/DRG. FILE #: L-9 / D038

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

LEGAL DESCRIPTION: **Lots 1-17, Vincinti Montano and Tracts A,B,C Juantia Vigil Lopex Subdivion**

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ADDRESS:		PHONE:	505-975-4567
CITY, STATE:		ZIP CODE:	
CONTRACTOR:		CONTACT:	
ADDRESS:		PHONE:	
CITY, STATE:		ZIP CODE:	

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- _____ CLOMR/LOMR
- _____ TRAFFIC CIRCULATION LAYOUT (TCL)
- _____ ENGINEERS CERTIFICATION (TCL)
- _____ ENGINEERS CERTIFICATION (DRB APPR. SITE PLAN)
- _____ OTHER

CHECK TYPE OF APPROVAL SOUGHT:

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- X 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
- _____ BUILDING PERMIT APPROVAL
- _____ CERTIFICATE OF OCCUPANCY (PERM.)
- _____ CERTIFICATE OF OCCUPANCY (TEMP.)
- X GRADING PERMIT APPROVAL
- _____ PAVING PERMIT APPROVAL
- _____ WORK ORDER APPROVAL
- _____ OTHER (SPECIFY)

RECEIVED
OCT 22 2004
HYDROLOGY SECTION

Base $50 ⇒ $50
$10/lot * ~~58~~ 58 Lots 580
pd $630

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- x YES
- _____ NO
- _____ COPY PROVIDED

DATE SUBMITTED: 10/22/2004 BY: David Soule

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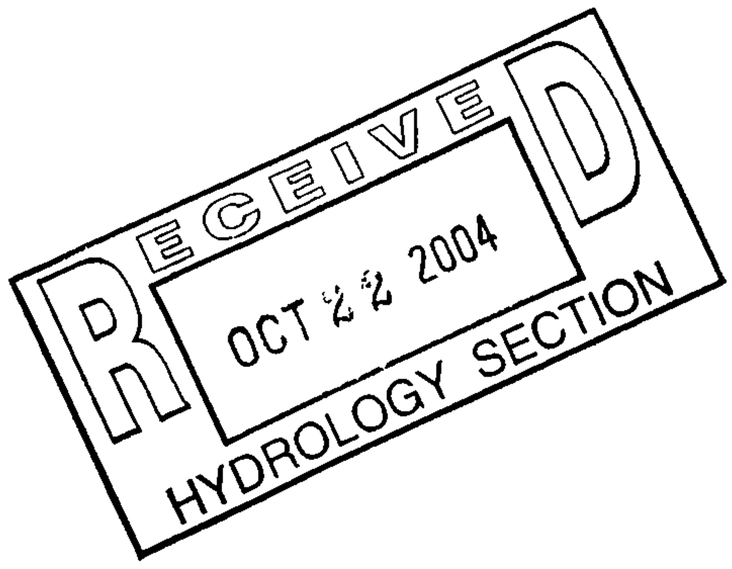
DRAINAGE REPORT

For



TORRENTINO SUBDIVISION
Albuquerque, New Mexico

Prepared by

Rio Grande Engineering
3500 Comanche Blvd. NE
Albuquerque, New Mexico 87107

October 2004

David Soule P.E. No. 14522

TABLE OF CONTENTS

Appendix

Map Pocket

Site Grading and Drainage Plan

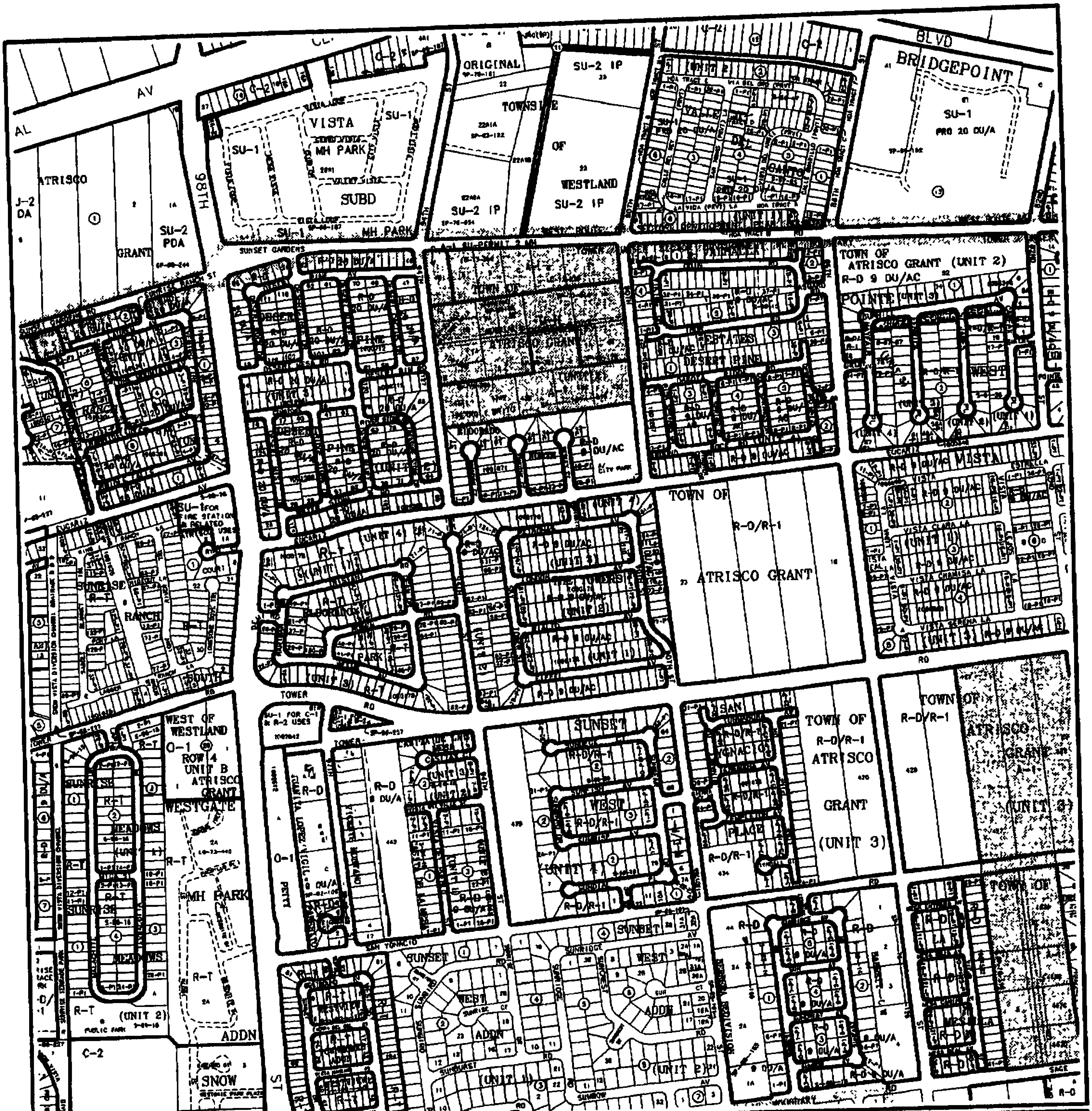
PURPOSE

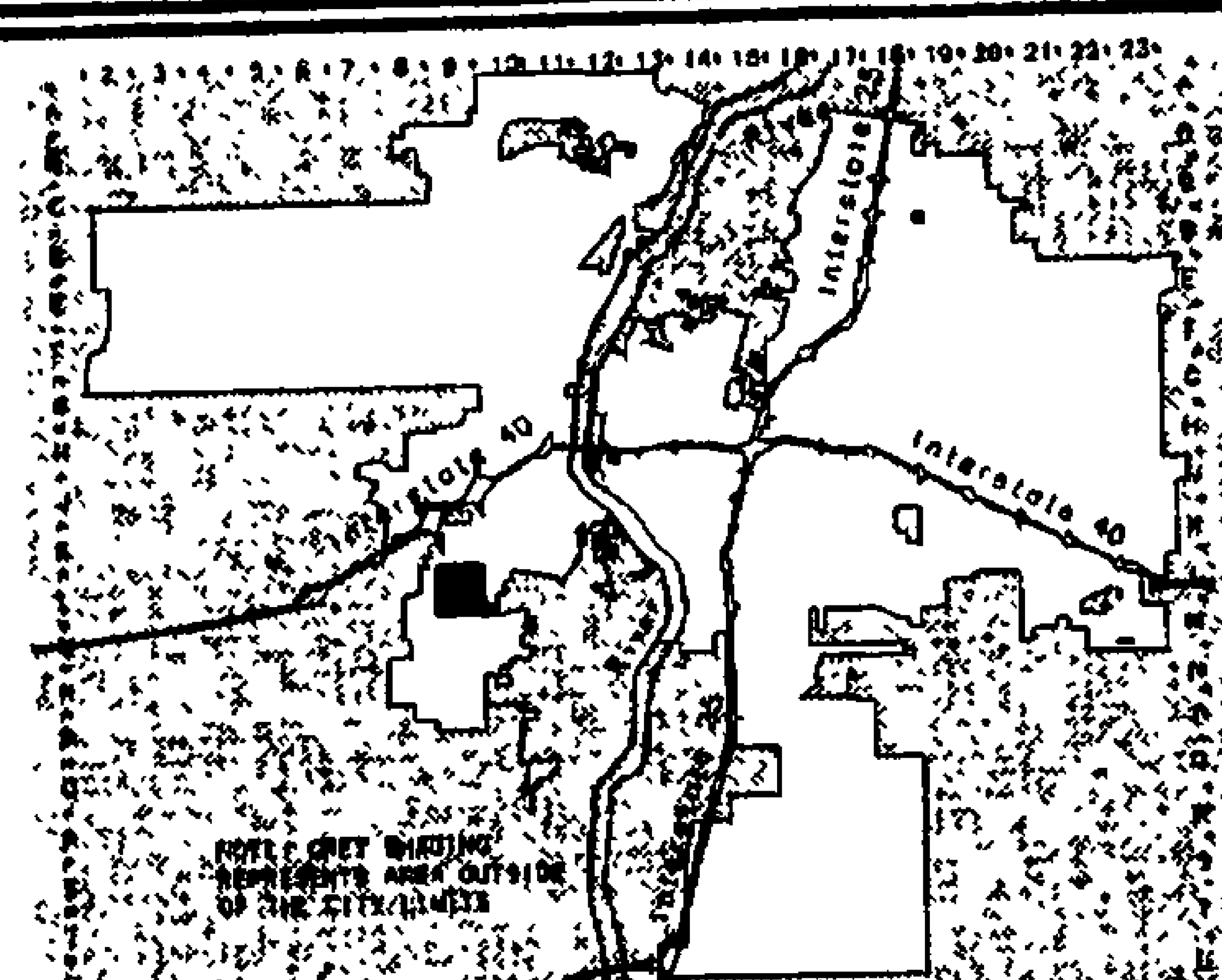
The purpose of this report is to provide the Drainage Management Plan for the development of the Torrentino Subdivision. This plan will be utilized for the development of the subject property as a 58-lot single family residential subdivision. This plan was prepared in accordance with the City of Albuquerque's Development Process Manual. This report will demonstrate that the proposed improvements do not adversely affect the surrounding properties, nor the upstream or downstream facilities.

INTRODUCTION

The subject of this report, as shown on the Exhibit A, is a 9.15-acre parcel of land (including Right-of-Way) and located on both sides of 97th street between San Ygnacio Street and Tower Road. The site is located in the Southwest Mesa area of Albuquerque. The legal description of this site is Lots 1-17 Vincinti Montano Subdivision, and Tracts A, B, C Juanita Lopez Vigil Subdivision. As shown on FIRM map 35001C0336E, the site is located entirely within Flood Zone X. The site is currently undeveloped.

The site is located within the Tower/Sage Master Drainage Plan boundaries. The site is within the boundaries of SAD 222. The development of this property will be in conformance to the Tower/Sage Master Drainage Plan. The upstream and downstream storm drainage facilities are in place and the remaining Special Assessments levied on the property will be paid with this development. Therefore this site (inclusive of Firman court) is allowed to discharge up to 39.81 cfs during a 100-year, 6-hour storm event.





Albuquerque Geographic Information System
PLANNING DEPARTMENT

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EXHIBIT A

GRAPHIC SCALE IN FEET

250 0 750 1000

Zone Atlas Page

L-9-Z

Map Amended through February 03, 2004

EXISTING CONDITIONS

The site is currently undeveloped. The site is covered with native grasses; there are no signs of previous impact from human activities. The site slopes from west to east at a typical 2% slope. Due to the recent construction of a walled self storage facility, no offsite flows enter the site. A portion of 97th street is paved. There is a 1.25-acre cul-de-sac at the south end of the project which drains to 97th, where the flow are conveyed to San Ygnacio. The existing site discharges to the adjacent tract to the east ultimately discharging to San Ygnacio Street. Once the flows enter San Ygnacio, they are conveyed within the right-of-way to a set of inlets several hundred feet to the west. The storm drainage system was constructed with SAD 222 and the system was designed to accommodate the fully developed conditions of the contributing basin of which this site is contained in.

PROPOSED CONDITIONS

The proposed improvements consist of a 58-lot single family residential lot subdivision with approximately 1600 lineal feet of 26' wide public roads. The onsite lot grading shall consist of a building pad and rear and side yard swales with typical grades of 1%. Each lot will drain directly to the adjacent roadway. Due to the depths of lots 21-27, the rear portion of the lots will pond. The proposed roadway will consist of a 2% crowned roadway section with mountable and standard curb and gutters. As shown in Appendix A the site contains 10.4 acres including the existing right-of-way and Firman Court. The developed storm water discharge rates were calculated using the simplified procedure for 40 acre and smaller basins as shown in chapter 23-part A of the Development Process Manual. As shown in Appendix A, the total developed flow leaving the site is predicted to be 38.01 cfs. The streets storm water conveyance capacity was calculated using the Manning's Equation and an Excel spreadsheet. As shown in appendix B, the 100-year peach discharge rate will stay within the roadway, and the energy grade line will be

contained within the right of way. As shown on the grading plan the mountable curb transitions to standard prior to the capacity of the mountable curb being exceeded.

As shown in the Tower/Sage Master Drainage Study, this site is located within Basin B1-D. Therefore the site is allowed to discharge 39.81 cfs to San Ygnacio. Since the site is predicted to discharge 38.01 cfs, the downstream conveyance system will not be adversely impacted.

SUMMARY AND RECOMMENDATIONS

This site is an undeveloped portion of land located within the boundaries of the Tower/Sage Master Drainage Plan. As regulated by this plan the site is allowed to discharge 24.81 cfs to the San Ygnacio right-of-way. The surrounding roadways and storm drainage facilities were completed with Special Assessment District 222. The onsite developed storm water discharge will be conveyed via surface flow by each individual lot to the adjacent Roadway. The public street has capacity to convey the predicted flow. San Ygnacio and the downstream storm drainage facilities were designed to convey the developed flow leaving this site

The proposed site development does not adversely affect the upstream or downstream facilities. The site was designed in conformance to City of Albuquerque Drainage Policy. Therefore, we request approval of the site-grading plan. Since public improvements will be constructed a work order and Subdivision Improvement Agreement will be required. Since this site encompasses more than 1 acre, a NPDES permit will be required prior to any construction activity.

APPENDIX A

SITE HYDROLOGY

Weighted E Method

Existing Basins

Basin	Area (sf)	Area (acres)	Treatment A		Treatment B		Treatment C		Treatment D		100-Year		
			%	(acres)	%	(acres)	%	(acres)	%	(acres)	Weighted E (ac-ft)	Volume (ac-ft)	Flow cfs
ONSITE	453024.00	10.400	69%	7.176	15%	1.560	6%	0.624	10%	1.040	0.661	0.572	18.76
Total	453024.00	10.400		7.176		1.560		0.624		1.040		0.572	18.76

Proposed Developed Basins

Basin	Area (sf)	Area (acres)	Treatment A		Treatment B		Treatment C		Treatment D		100-Year, 6-hr.			10-day
			%	(acres)	%	(acres)	%	(acres)	%	(acres)	Weighted E (ac-ft)	Volume (ac-ft)	Flow cfs	Volume (ac-ft)
ONSITE	453024.00	10.400	8%	0.832	13%	1.352	11%	1.144	68%	7.072	1.571	1.361	38.01	2.304
Total	453024.00	10.400		0.832		1.352		1.144		7.072		1.361	38.01	2.30

Equations:

Weighted E = Ea*Aa + Eb*Ab + Ec*Ac + Ed*Ad / (Total Area)

Volume = Weighted D * Total Area

Flow = Qa * Aa + Qb * Ab + Qc * Ac + Qd * Ad

Where for 100-year, 6-hour storm

Ea= 0.44	Qa= 1.29
Eb= 0.67	Qb= 2.03
Ec= 0.99	Qc= 2.87
Ed= 1.97	Qd= 4.37

APPENDIX B

HYDRAULIC CALCULATIONS

Street Capacity Calculations

97TH STREET

28' F-F Street Section with 8" curb

Slope= 0.0156

For water depths less than 0.125 feet

Water depth

Area = 8*Y^2

P= SQRT(257*Y^2) + Y

0.017

epth (ft)	Area (ft^2)	P (ft)	R (A/P)	Q (cfs)	2Q (cfs)	Vel (ft/s)	D*V	Fr	D2 (ft)
0.01	0.00	0.17	0.00	0.00	0.00	0.31	0.00	0.54	0.0041237
0.02	0.00	0.34	0.01	0.00	0.00	0.49	0.01	0.61	0.0098373
0.04	0.01	0.68	0.02	0.01	0.02	0.77	0.03	0.68	0.0233502
0.06	0.03	1.02	0.03	0.03	0.06	1.01	0.06	0.73	0.0386289
0.08	0.05	1.36	0.04	0.06	0.13	1.22	0.10	0.76	0.0551571
0.1	0.08	1.70	0.05	0.11	0.23	1.42	0.14	0.79	0.0726691
0.12	0.12	2.04	0.06	0.18	0.37	1.61	0.19	0.82	0.0909995
0.125	0.13	2.13	0.06	0.21	0.41	1.65	0.21	0.82	0.0956959

For water depths greater than 0.125 ft but less than 0.365 ft

Y1= Y-0.125

A2= A1 + 2*Y1 + 25*Y1^2

P= P1 + SQRT(2501*Y1^2)+Y1

Depth (ft)	Area (ft^2)	P (ft)	R (A/P)	Q (cfs)	2Q (cfs)	Vel (ft/s)	D*V	Fr	D2 (ft)
0.13	0.14	2.38	0.06	0.22	0.44	1.61	0.21	0.79	0.0940095
0.16	0.23	3.91	0.06	0.37	0.74	1.63	0.26	0.72	0.1010416
0.2	0.42	5.95	0.07	0.77	1.54	1.85	0.37	0.73	0.1292441
0.24	0.69	8.00	0.09	1.46	2.91	2.12	0.51	0.76	0.1656484
0.2846	1.08	10.27	0.11	2.63	5.26	2.43	0.69	0.80	0.2112034
0.32	1.47	12.08	0.12	3.92	7.84	2.68	0.86	0.83	0.2498321
0.3551	1.91	13.87	0.14	5.56	11.11	2.91	1.03	0.86	0.2897754
0.365	2.05	14.37	0.14	6.09	12.17	2.98	1.09	0.87	0.3012962

For water depths greater than 0.365 ft but less than 0.667 ft

Y2= Y - 0.365

A = A2 + Y2*14

P = P2 + Y2

Depth (ft)	Area (ft^2)	P (ft)	R (A/P)	Q (cfs)	2Q (cfs)	Vel (ft/s)	D*V	Fr	D2 (ft)
0.37	2.12	14.38	0.15	6.44	12.87	3.04	1.13	0.88	0.31196
0.4556	3.31	14.46	0.23	13.54	27.09	4.09	1.86	1.07	0.496614
0.4848	**3.72**	**14.49**	**0.26**	**16.42**	**32.84**	**4.41**	**2.14**	**1.12**	**0.5605971**
0.5	3.94	14.51	0.27	18.00	36.01	4.57	2.29	1.14	0.5941082
0.54	4.50	14.55	0.31	22.43	44.86	4.99	2.69	1.20	0.6829541
0.5584	4.75	14.56	0.33	24.59	49.19	5.17	2.89	1.22	0.7241364
0.63	5.76	14.64	0.39	33.72	67.45	5.86	3.69	1.30	0.8861692
0.667	6.27	14.67	0.43	38.87	77.73	6.20	4.13	1.34	0.9709454

For water depths greater than 0.667 ft but less than 0.847 ft

Y3= Y - 0.667

A = A3 + 14 * Y3 + 25 * Y3^2

P = P3 + SQRT(2501 * Y3^2)

epth (ft)	Area (ft^2)	P (ft)	R (A/P)	Q (cfs)	2Q (cfs)	Vel (ft/s)	D*V	Fr	D2 (ft)
0.7	6.76	16.32	0.41	41.03	82.05	6.07	4.25	1.28	0.9626
0.72	7.09	17.32	0.41	42.62	85.24	6.02	4.33	1.25	0.9620698
0.74	7.43	18.32	0.41	44.42	88.84	5.98	4.43	1.23	0.9643908
0.76	7.79	19.32	0.40	46.42	92.85	5.96	4.53	1.20	0.9691973
0.78	8.17	20.32	0.40	48.63	97.25	5.95	4.64	1.19	0.9761873
0.8	8.58	21.32	0.40	51.03	102.05	5.95	4.76	1.17	0.9851087
0.847	9.60	23.68	0.41	57.45	114.90	5.98	5.07	1.15	1.0125263

Street Capacity Calculations

97TH STREET

28' F-F Street Section with 8" curb

Slope= **0.0064**

r water depths less than 0.125 feet

: Water depth
..ea = 8*Y^2
P= SQRT(257*Y^2) + Y
0.017

epth (ft)	Area (ft^2)	P (ft)	R (A/P)	Q (cfs)	2Q (cfs)	Vel (ft/s)	D*V	Fr	D2 (ft)
0.01	0.00	0.17	0.00	0.00	0.00	0.20	0.00	0.35	0.0019924
0.02	0.00	0.34	0.01	0.00	0.00	0.31	0.01	0.39	0.0048465
0.04	0.01	0.68	0.02	0.01	0.01	0.49	0.02	0.44	0.0117312
0.06	0.03	1.02	0.03	0.02	0.04	0.65	0.04	0.47	0.0196291
0.08	0.05	1.36	0.04	0.04	0.08	0.78	0.06	0.49	0.0282526
0.1	0.08	1.70	0.05	0.07	0.15	0.91	0.09	0.51	0.0374516
0.12	0.12	2.04	0.06	0.12	0.24	1.03	0.12	0.52	0.047132
0.125	0.13	2.13	0.06	0.13	0.26	1.06	0.13	0.53	0.0496193

r water depths greater than 0.125 ft but less than 0.365 ft

Y1= Y-0.125
^2= A1 + 2*Y1 + 25*Y1^2
= P1 + SQRT(2501*Y1^2)+Y1

Depth (ft)	Area (ft^2)	P (ft)	R (A/P)	Q (cfs)	2Q (cfs)	Vel (ft/s)	D*V	Fr	D2 (ft)
0.13	0.14	2.38	0.06	0.14	0.28	1.03	0.13	0.51	0.0484222
0.16	0.23	3.91	0.06	0.24	0.47	1.04	0.17	0.46	0.0512286
0.2	0.42	5.95	0.07	0.49	0.99	1.19	0.24	0.47	0.0657033
0.24	0.69	8.00	0.09	0.93	1.86	1.36	0.33	0.49	0.0848589
).2846	1.08	10.27	0.11	1.69	3.37	1.56	0.44	0.51	0.1091149
0.32	1.47	12.08	0.12	2.51	5.02	1.71	0.55	0.53	0.1298363
).3551	1.91	13.87	0.14	3.56	7.12	1.86	0.66	0.55	0.1513698
0.365	2.05	14.37	0.14	3.90	7.80	1.91	0.70	0.56	0.1575974

r water depths greater than 0.365 ft but less than 0.667 ft

Y2= Y - 0.365
= A2 + Y2*14
= P2 + Y2

Depth (ft)	Area (ft^2)	P (ft)	R (A/P)	Q (cfs)	2Q (cfs)	Vel (ft/s)	D*V	Fr	D2 (ft)
0.37	2.12	14.38	0.15	4.12	8.24	1.95	0.72	0.56	0.1635752
0.4556	3.31	14.46	0.23	8.68	17.35	2.62	1.19	0.68	0.268079
0.4848	3.72	14.49	0.26	10.52	21.04	2.83	1.37	0.72	0.30458
0.5	3.94	14.51	0.27	11.53	23.06	2.93	1.47	0.73	0.3237372
0.54	4.50	14.55	0.31	14.37	28.73	3.20	1.73	0.77	0.3746356
0.5684	**4.75**	**14.56**	**0.33**	**15.75**	**31.50**	**3.31**	**1.85**	**0.78**	**0.3982737**
0.63	5.76	14.64	0.39	21.60	43.20	3.75	2.36	0.83	0.4914976
0.667	6.27	14.67	0.43	24.89	49.79	3.97	2.65	0.86	0.5403855

For water depths greater than 0.667 ft but less than 0.847 ft

Y3= Y - 0.667
= A3 + 14 * Y3 + 25 * Y3^2
= P3 + SQRT(2501 * Y3^2)

epth (ft)	Area (ft^2)	P (ft)	R (A/P)	Q (cfs)	2Q (cfs)	Vel (ft/s)	D*V	Fr	D2 (ft)
0.7	6.76	16.32	0.41	26.28	52.56	3.89	2.72	0.82	0.5326562
0.72	7.09	17.32	0.41	27.30	54.60	3.85	2.77	0.80	0.530789
0.74	7.43	18.32	0.41	28.45	56.91	3.83	2.83	0.78	0.5306875
0.76	7.79	19.32	0.40	29.74	59.47	3.82	2.90	0.77	0.5321197
0.78	8.17	20.32	0.40	31.15	62.29	3.81	2.97	0.76	0.5348948
0.8	8.58	21.32	0.40	32.68	65.37	3.81	3.05	0.75	0.5388539
0.847	9.60	23.68	0.41	36.80	73.59	3.83	3.25	0.73	0.5520978