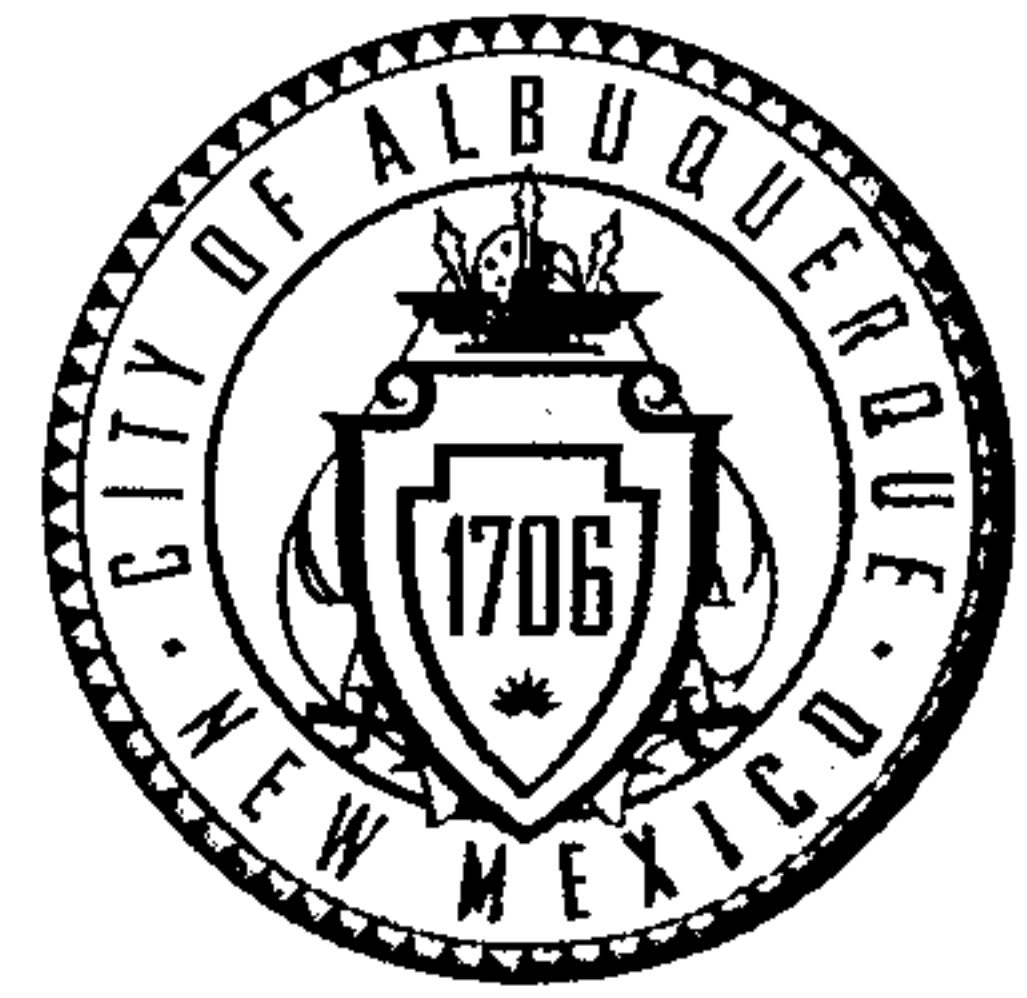


CITY OF ALBUQUERQUE



May 11, 2016

Yolanda Padilla-Moyer, PE
Bohannon Huston, Inc.
7500 Jefferson NE, Courtyard I
Albuquerque, NM 87109

**Re: Sevilla @ Andalucia
Engineer Certification For Release of SIA/Financial Guarantee
Engineer's Stamp Date 4/18/2015 (F11/D015C)**

Dear Ms. Padilla-Moyer,

PO Box 1293

Based upon the information provided in your submittal received 4-18-2016, the Engineer Certification is approved for Release of SIA/Financial Guarantee.

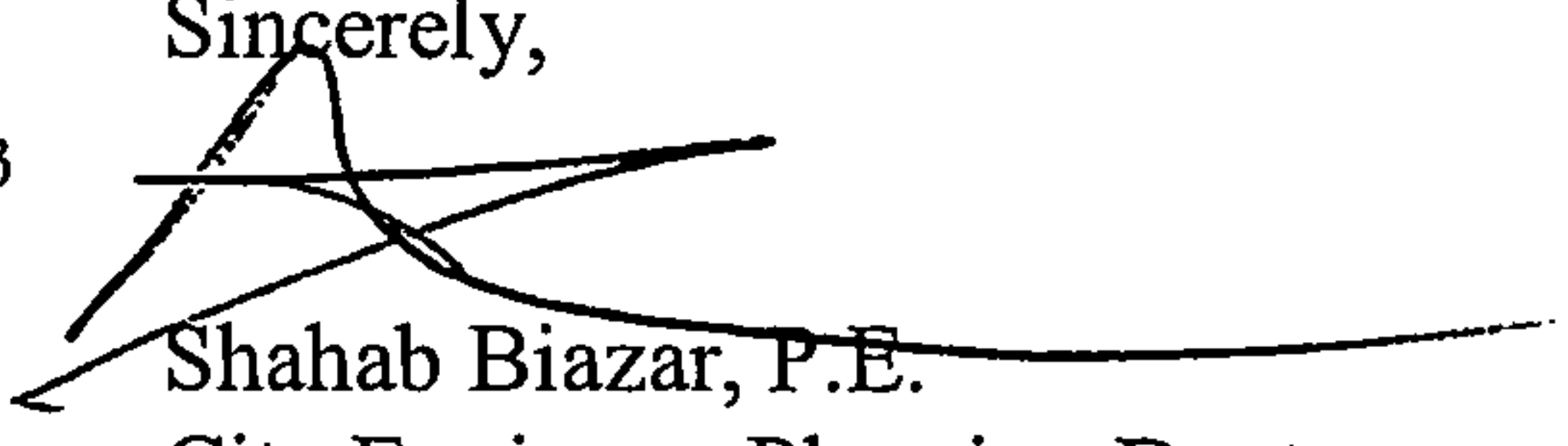
If you have any questions, you can contact me at 924-3999.

Albuquerque

New Mexico 87103

www.cabq.gov

Sincerely,


Shahab Biazar, P.E.
City Engineer, Planning Dept.
Development Review Services

C: e-mail



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 09/2015)

Project Title: SEVILLA @ ANDALUCIA Building Permit #: _____ City Drainage #: F11D015C

DRB#: 1000965 EPC#: _____ Work Order#: _____

Legal Description: TRACTS A-1-A AND B-2, ANDALUCIA AT LA LUZ

City Address: _____

Engineering Firm: BOHANNAN HUSTON INC Contact: Yolanda Moyer

Address: 7500 JEFFERSON ST NE COURTYARD 1 ALBUQUERQUE NM 87109

Phone#: 823-1000 Fax#: _____ E-mail: ypadilla@bhinc.com

Owner: PULTE Contact: KEVIN PATTON

Address: 7601 JEFFERSON STREET NE SUITE 310 ALBUQ. NM 87109

Phone#: 505-341-8591 Fax#: _____ E-mail: kevin.patton@pultegroup.com

Architect: _____ Contact: _____

Address: _____

Phone#: _____ 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: 4-18-16

By: YOLANDA PADILLA MOYER, P.E.

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

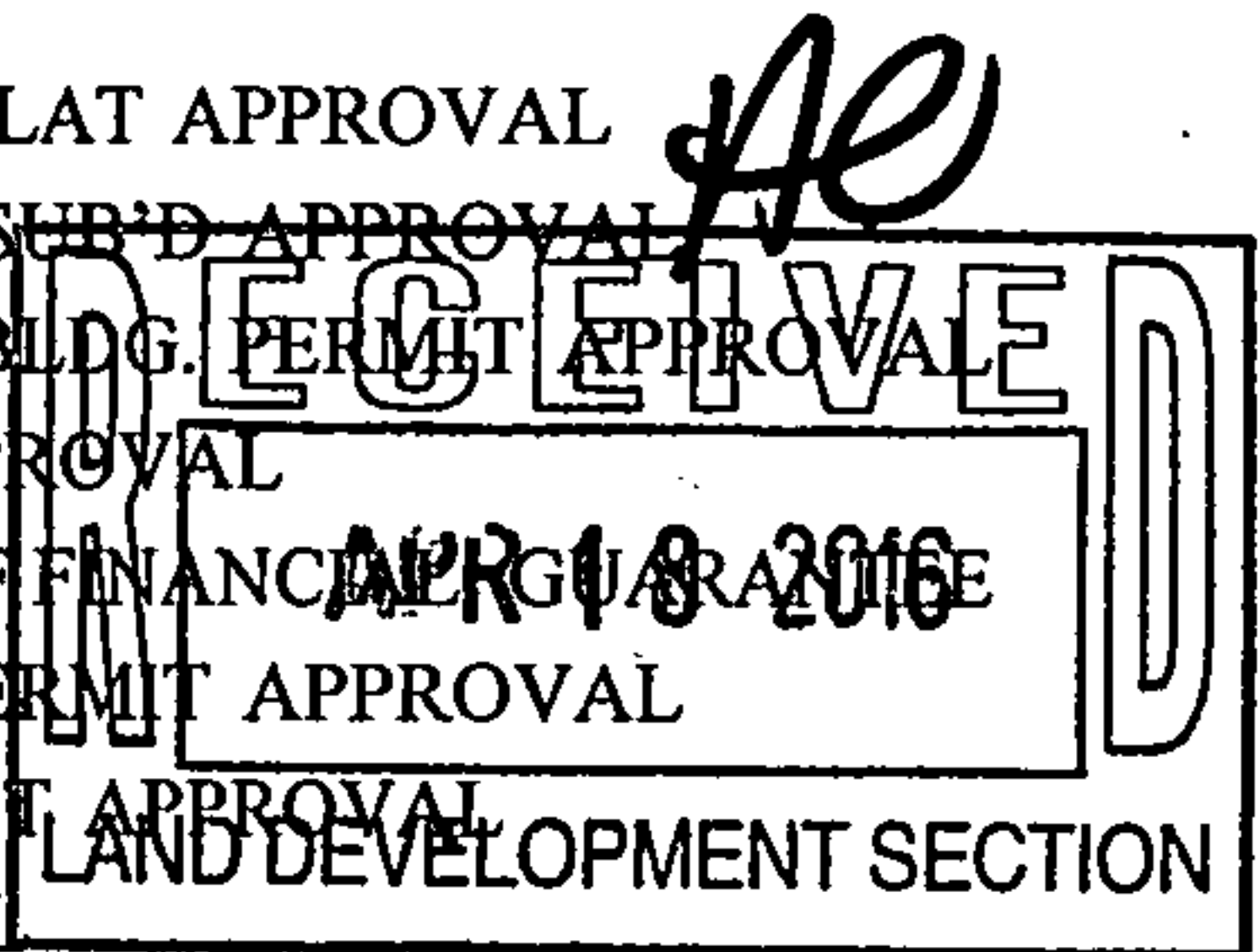
☐ GRADING/ PAD CERTIFICATION

☐ WORK ORDER APPROVAL

☐ CLOMR/LOMR

☐ PRE-DESIGN MEETING

☐ OTHER (SPECIFY) _____



COA STAFF: ELECTRONIC SUBMITTAL RECEIVED: _____

April 18, 2016

Ms. Rita Harmon
Hydrology Section
City of Albuquerque
600 2nd Street NW
Albuquerque, NM 87102

Re: Final Grading and Drainage Certification, Sevilla @ Andalucia
DRB Case No. 1000965 (File: F11D015C)

Dear Rita:

We are submitting a final grading and drainage certification for Sevilla @ Andalucia for Financial Guaranty Release. Enclosed for your review is the approved grading and drainage plan dated 2/19/15. These lots have been graded; retaining walls, curb and gutter, pavement and downstream infrastructure have been constructed.

After reviewing these as-built elevations and visiting the site on 03/25/16 it is my belief that the above lots have been graded in substantial compliance with the approved grading and drainage plan.

Lot 20 (Model Homes Parking Lot) certification is not included in this final certification. We have had discussions and concurrence with the City Engineer to exclude the parking lot for the Model Homes in the Final Certification since there is no definitive timeline for the Model Homes to be removed. Lot 20 will be required to submit a Grading and Drainage Certification prior to Building Permit Approval through the normal City of Albuquerque Grading and Drainage Certification.

Your review and approval is requested for Financial Guaranty Release for the above listed buildings. I appreciate your time and consideration. If you have questions or require additional information, please contact me at 823-1000.

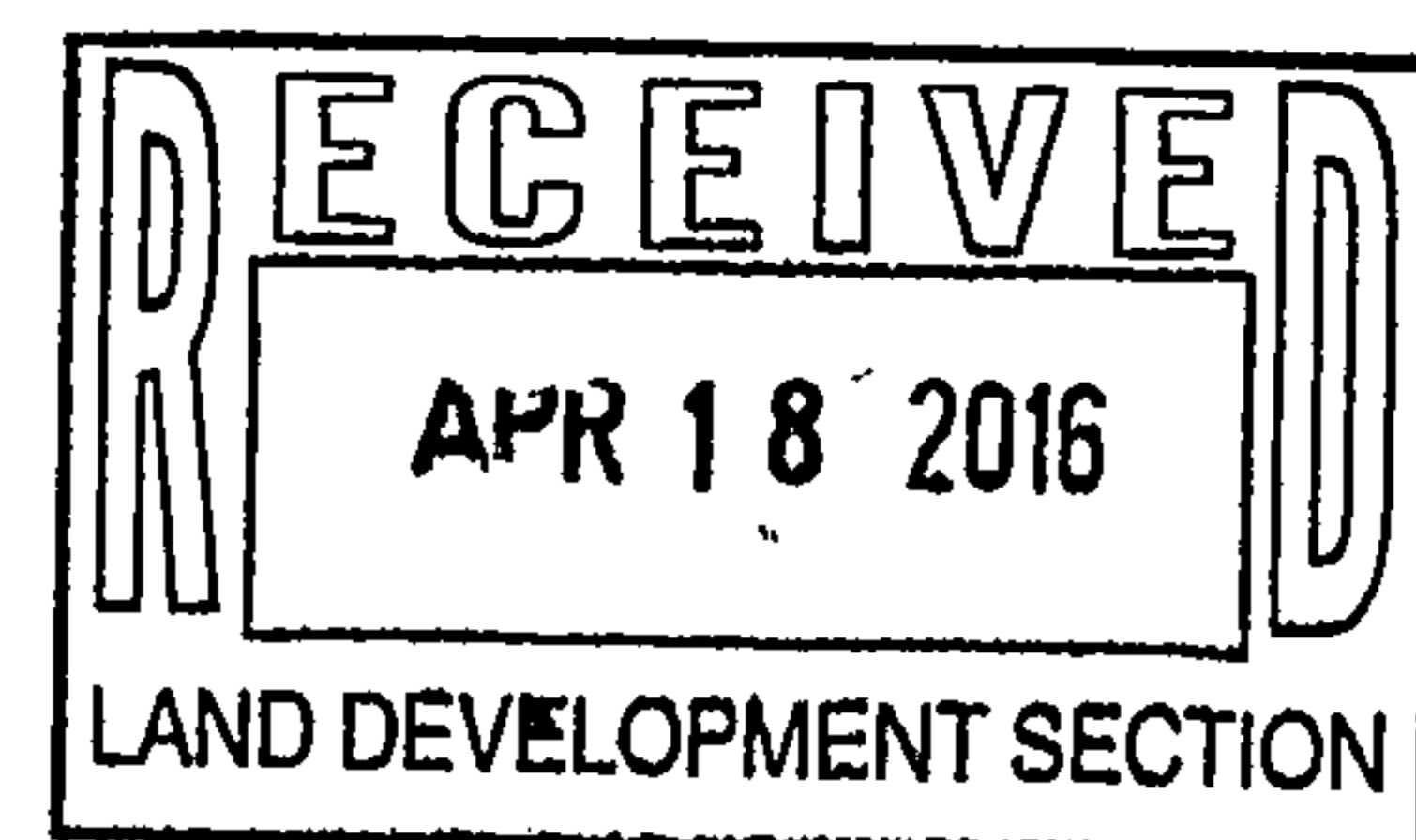
Sincerely,



Yolanda Padilla Moyer, P.E.
Senior Project Manager
Community Development & Planning

Enclosure

cc: Peter Steen, Pulte Homes
Kevin Patton, Pulte Homes



Engineering ▲

Spatial Data ▲

Advanced Technologies ▲

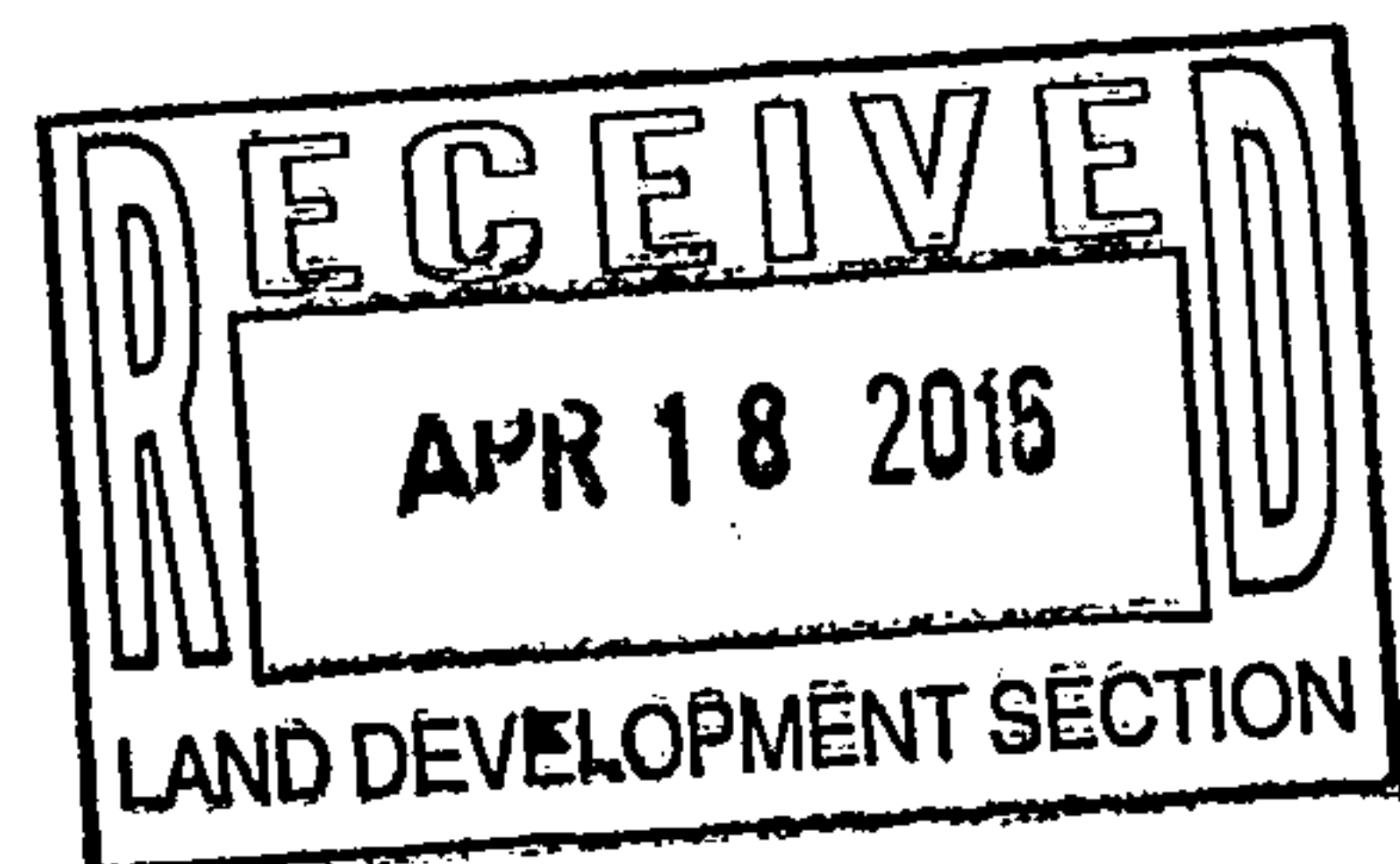
Yolanda Padilla Moyer

From: Yolanda Padilla Moyer
Sent: Monday, April 18, 2016 1:39 PM
To: 'PLNDRS@cabq.gov'
Cc: Kevin Patton (Kevin.Patton@PulteGroup.com)
Subject: Final Certification/ Financial Guaranty Release - Sevilla at Andalucia DRB#1000965
Attachments: Final Cert- digital Submittal.pdf

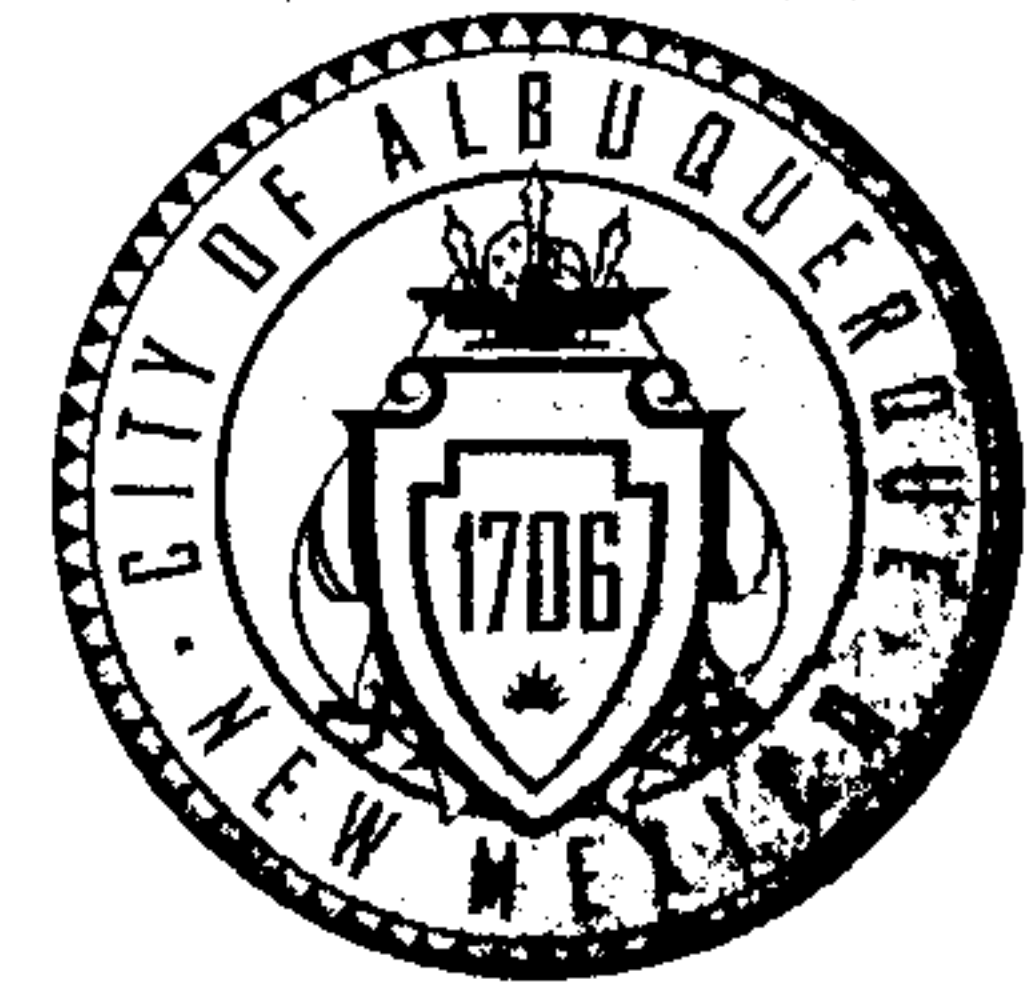
Please find enclosed to download the digital submittal for the above referenced project

Yolanda Padilla Moyer, P.E.

Bohannon Huston, Inc.



CITY OF ALBUQUERQUE



November 25, 2015

Yolanda Padilla-Moyer, PE
Bohannon-Huston
7500 Jefferson St NE Courtyard I
Albuquerque, NM 87109

**Re: Sevilla @ Andalucia
Pad Certification for lots 1-9, 11-17 and 22
Engineer's Stamp dated: 2-19-15 (F11D015C)
Certification dated: 11-23-15**

Dear Ms. Padilla-Moyer,

Based on the Certification received 11/24/2015, the above referenced Certification for Sevilla @ Andalucia is acceptable for building permit by Hydrology.

If you have any questions, you can contact me at 924-3695 or Totten Elliott at 924-3982.

PO Box 1293

Albuquerque

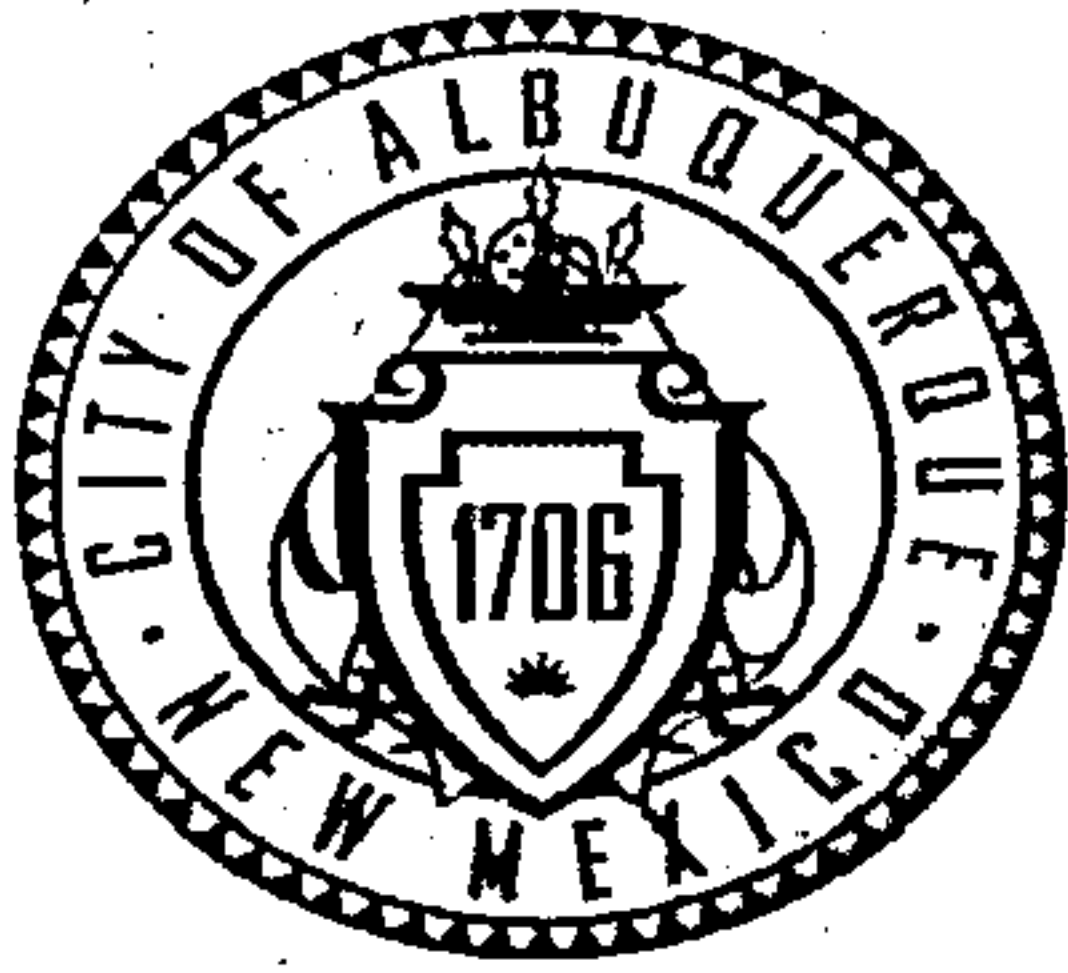
New Mexico 87103

www.cabq.gov

Sincerely,

Abiel Carrillo, P.E.
Principal Engineer, Planning Dept.
Development and Review Services

C: TE/AC
email



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV 02/2013)

Project Title: SEVILLA @ ANDALUCIA Building Permit #: _____ City Drainage #: F11D015C

DRB#: 1000965 EPC#: _____ Work Order#: _____

Legal Description: TRACTS A-1-A AND B-2, ANDALUCIA AT LA LUZ

City Address: _____

Engineering Firm: BOHANNAN HUSTON INC Contact: Yolanda Padilla Moyer

Address: 7500 JEFFERSON ST NE COURTYARD 1 ALBUQUERQUE NM 87109

Phone#: 798-7945 Fax#: _____ E-mail: ypadilla@bhinc.com

Owner: PULTE Contact: KEVIN PATTON

Address: 7601 JEFFERSON ST NE SUITE 320 ALBUQUERQUE NM 87109

Phone#: 505-341-8591 Fax#: _____ E-mail: kevin.patton@pultegroup.com

Architect: _____ Contact: _____

Address: _____

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

Surveyor: _____ Contact: _____

Address: _____

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

Contractor: _____ Contact: _____

Address: _____

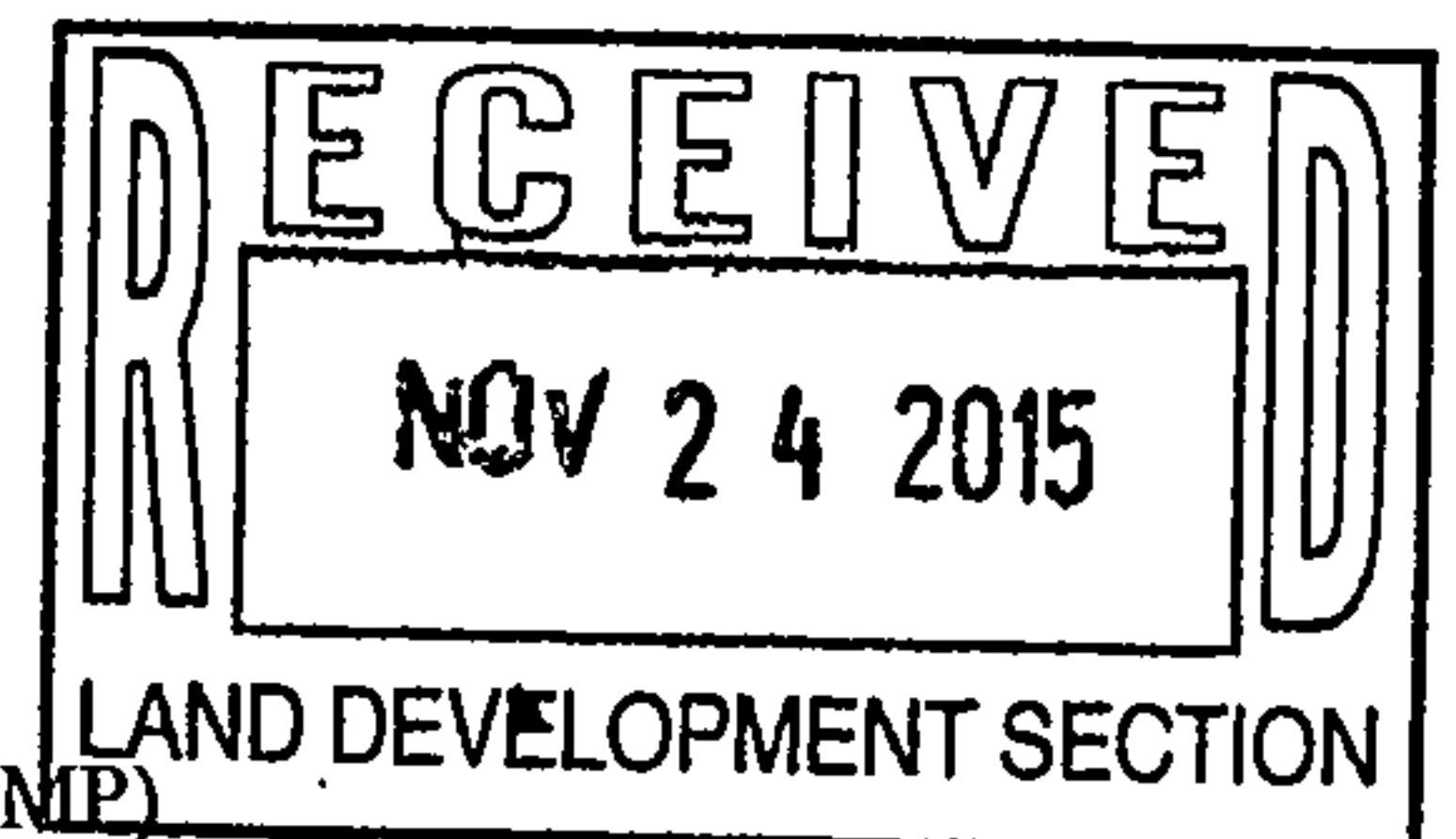
Phone#: _____ Fax#: _____ E-mail: _____

TYPE OF SUBMITTAL:

- ☐ DRAINAGE REPORT
- ☐ DRAINAGE PLAN 1st SUBMITTAL
- ☐ DRAINAGE PLAN RESUBMITTAL
- ☐ CONCEPTUAL G & D PLAN
- ☐ GRADING PLAN (resubmittal)
- ☐ 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
- ☐ ESC PERMIT APPROVAL
- ☐ ESC CERT. ACCEPTANCE
- ☒ OTHER (SPECIFY) PAD CERTIFICATION

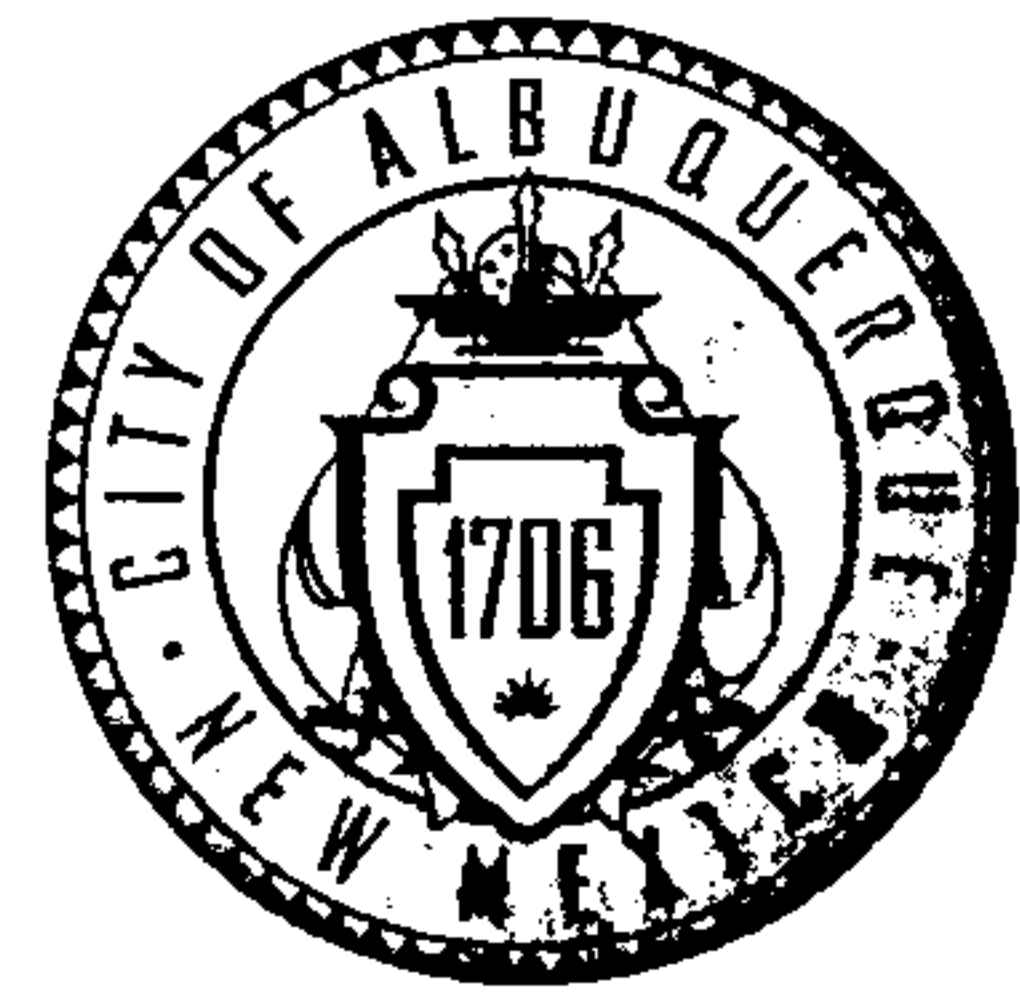
WAS A PRE-DESIGN CONFERENCE ATTENDED: _____ Yes _____ No _____ Copy Provided

DATE SUBMITTED: 11-24-15 By: Yolanda Moyer

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

CITY OF ALBUQUERQUE



December 22, 2015

Yolanda Padilla-Moyer, PE
Bohannon-Huston
7500 Jefferson St NE Courtyard I
Albuquerque, NM 87109

**Re: Sevilla @ Andalucia
Pad Certification for lot 10
Engineer's Stamp dated: 2-19-15 (F11D015C)
Certification dated: 12-21-15**

Dear Ms. Padilla-Moyer,

Based on the Certification received 12/21/2015, the above referenced Certification for Sevilla @ Andalucia is acceptable for building permit by Hydrology.

If you have any questions, you can contact me at 924-3695 or Totten Elliott at 924-3982.

Sincerely,

PO Box 1293

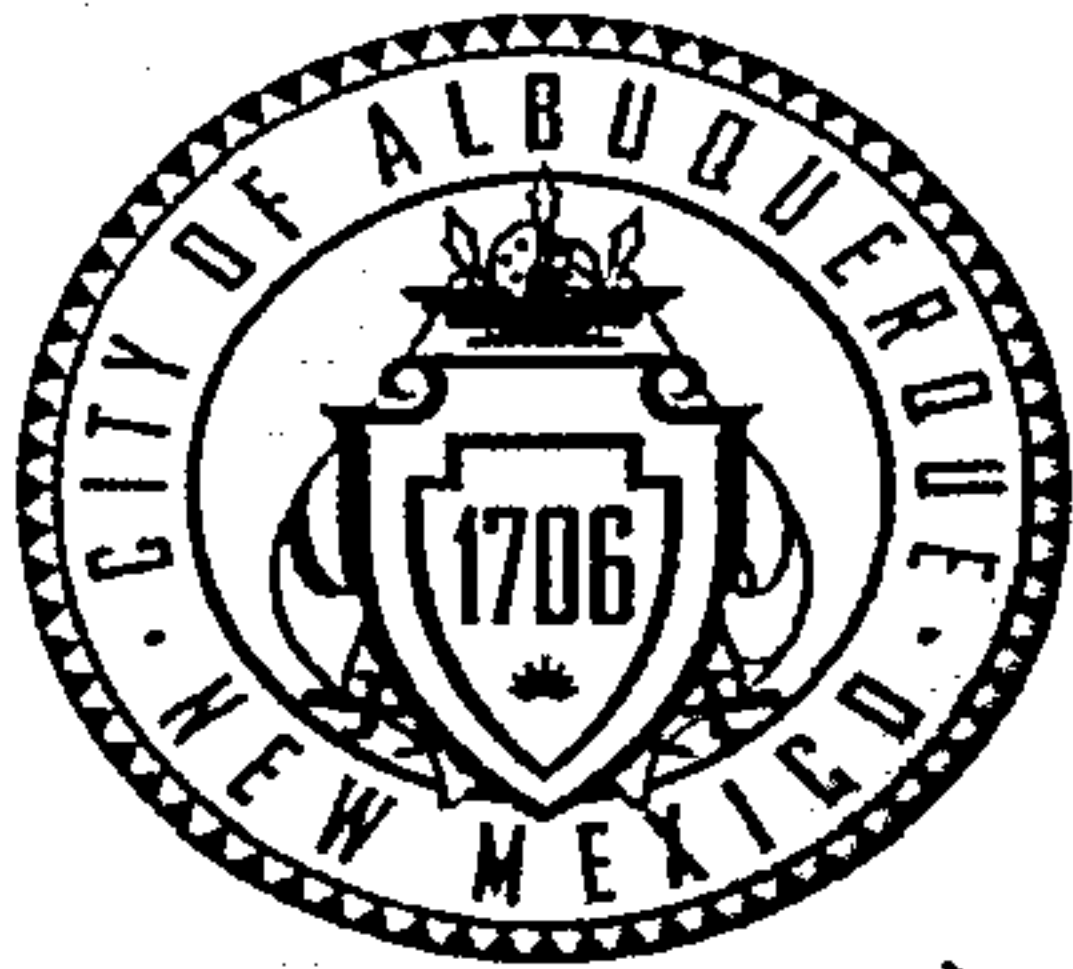
Albuquerque

Rita Harmon, PE
Senior Engineer, Hydrology
Planning Department

New Mexico 87103

TE/RH
C: email
Miranda, Rachel; Cordova, Camille C.; Connor, Francis; Sandoval, Darlene M.

www.cabq.gov



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV 02/2013)

Project Title: SEVILLA @ ANDALUCIA Building Permit #: _____ City Drainage #: F110015C

DRB#: 1000965 EPC#: _____ Work Order#: _____

Legal Description: TRACTS A-1-A AND B-2, ANDALUCIA AT LA LUZ

City Address: _____

Engineering Firm: BOHANNAN HUSTON INC Contact: Yolanda Padilla Moyer

Address: 7500 JEFFERSON ST NE COURTYARD 1 ALBUQUERQUE NM 87109

Phone#: 798-7945 Fax#: _____ E-mail: ypadilla@bhinc.com

Owner: PULTE Contact: KEVIN PATTON

Address: 7601 JEFFERSON ST NE SUITE 320 ALBUQUERQUE NM 87109

Phone#: 505-341-8591 Fax#: _____ E-mail: kevin.patton@pultegroup.com

Architect: _____ Contact: _____

Address: _____

Phone#: _____ 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 (resubmittal)
- ☐ 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:

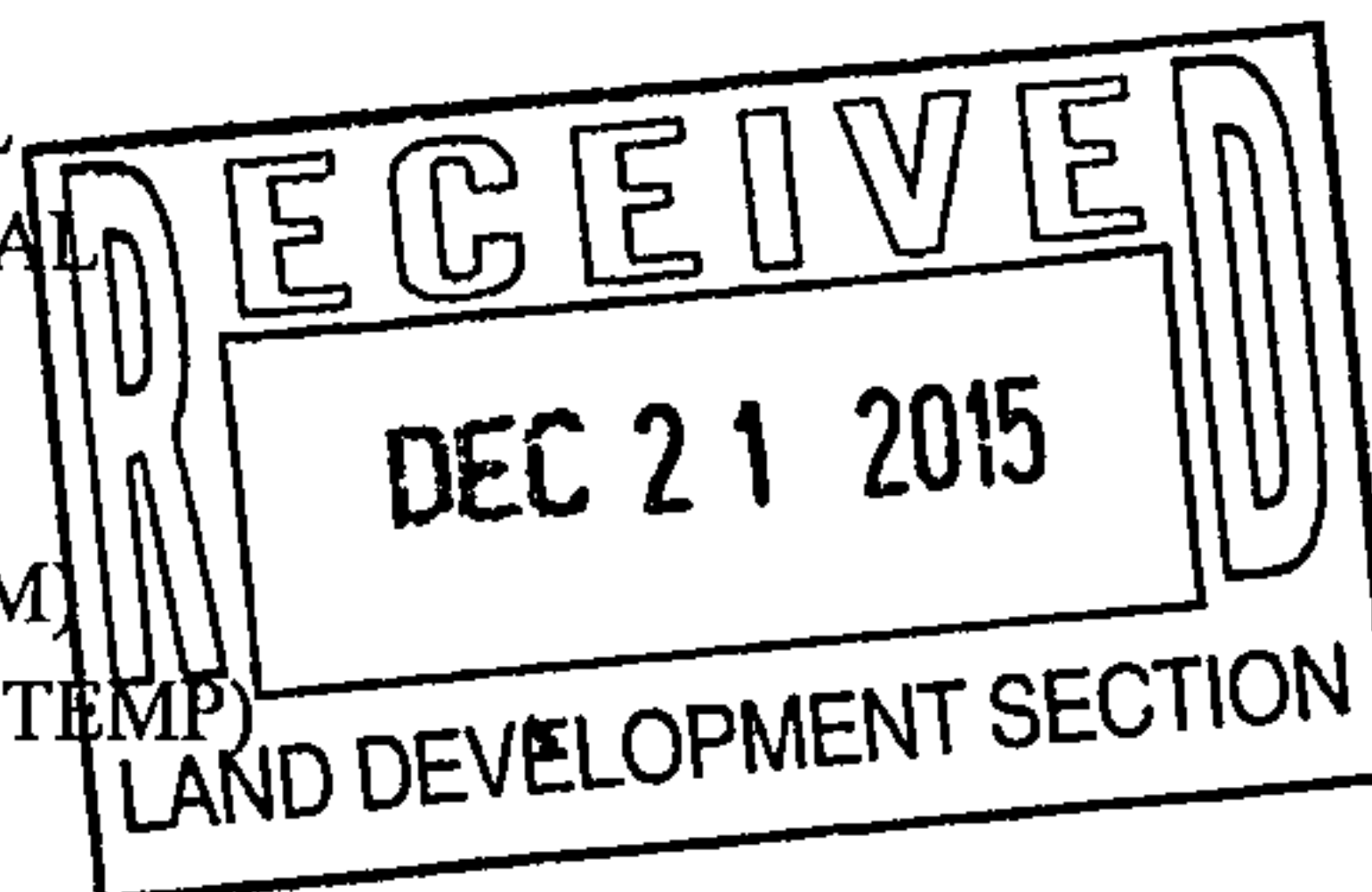
- ☐ SIA/FINANCIAL GUARANTEE RELEASE
- ☐ PRELIMINARY PLAT APPROVAL
- ☐ S. DEV. PLAN FOR SUB'D APPROVAL
- ☐ S. DEV. FOR BLDG. PERMIT APPROVAL
- ☐ SECTOR PLAN APPROVAL
- ☐ FINAL PLAT APPROVAL
- ☐ CERTIFICATE OF OCCUPANCY (PERM)
- ☐ CERTIFICATE OF OCCUPANCY (TCL TEMP)
- ☐ FOUNDATION PERMIT APPROVAL
- ☐ BUILDING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

WAS A PRE-DESIGN CONFERENCE ATTENDED: _____ Yes _____ No _____ Copy Provided

DATE SUBMITTED: 12-21-15 By: Yolanda Moyer

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



Bohannon Huston

December 21, 2015

Courtyard I
7500 Jefferson St. NE
Albuquerque, NM
87109-4335

www.bhinc.com

voice: 505.823.1000
facsimile: 505.798.7988
toll free: 800.877.5332

Ms. Rita Harmon
Hydrology Section
City of Albuquerque
600 2nd Street NW
Albuquerque, NM 87102

Re: Partial Grading and Drainage Certification, Lot 10 Sevilla @ Andalucia
DRB Case No. 1000965 (File: F11D015C)

Dear Rita:

We are submitting a partial grading and drainage certification for Sevilla @ Andalucia. The partial certification includes Lot 10. Enclosed for your review is the approved grading and drainage plan dated 2/19/15. These lots have been graded; retaining walls, curb and gutter, pavement and downstream infrastructure have been constructed. The remaining lots will be certified once construction of all improvements has been completed.

After reviewing these as-built elevations and visiting the site on 12/21/15 it is my belief that the above lots have been graded in substantial compliance with the approved grading and drainage plan and that the interim drainage improvements allow runoff to be managed in the interim condition.

Your review and approval is requested for Building Permit Approval for the above listed buildings. I appreciate your time and consideration. If you have questions or require additional information, please contact me at 823-1000.

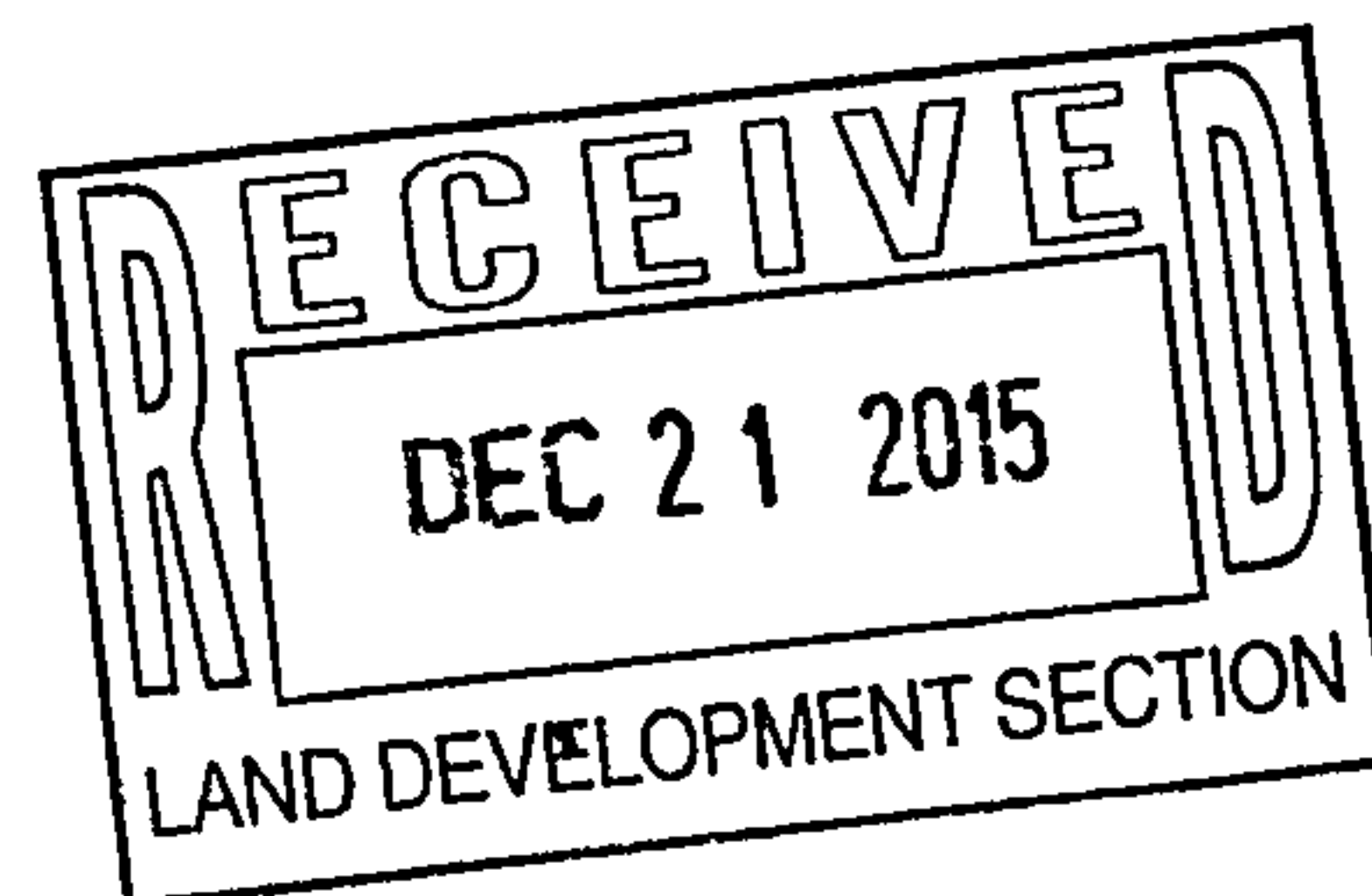
Sincerely,



Yolanda Padilla Moyer, P.E.
Senior Project Manager
Community Development & Planning

Enclosure

cc: Peter Steen, Pulte Homes
Kevin Patton, Pulte Homes



Engineering ▲

Spatial Data ▲

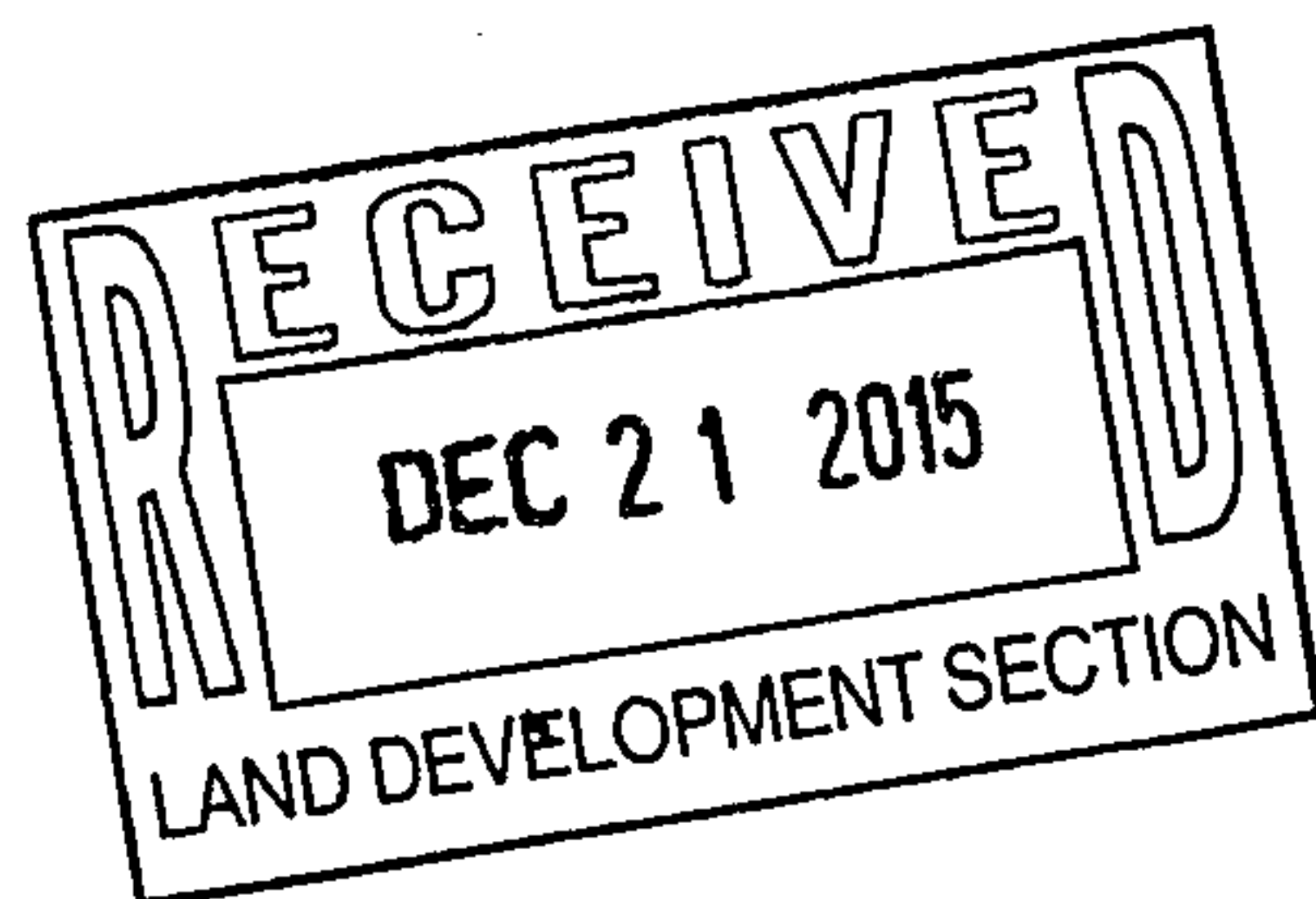
Advanced Technologies ▲

Yolanda Padilla Moyer

From: Yolanda Padilla Moyer
Sent: Monday, December 21, 2015 10:46 AM
To: 'PLNDRS@cabq.gov'
Cc: 'Harmon Rita T. (rharmon@cabq.gov)'; Elliott, Stanice (staniceelliott@cabq.gov); Kevin Patton (Kevin.Patton@PulteGroup.com); peter.steen@pultegroup.com
Subject: Sevilla @ Andalucia Partial Lot Cert Lot 10
Attachments: Sevilla @ Andalucia Lot 10 G&D Cert Digital submittal.pdf

Please find enclosed the digital submittal for the above mentioned project.

Yolanda Padilla Moyer, P.E.
Senior Project Manager
Bohannon Huston, Inc.



Bohannon Huston

November 24, 2015

Courtyard I
7500 Jefferson St. NE
Albuquerque, NM
87109-4335

www.bhinc.com

voice: 505.823.1000
facsimile: 505.798.7988
toll free: 800.877.5332

Ms. Rita Harmon
Hydrology Section
City of Albuquerque
600 2nd Street NW
Albuquerque, NM 87102

Re: Partial Grading and Drainage Certification, Lots 1-9, 11-17, 22 Sevilla @ Andalucia
DRB Case No. 1000965 (File: F11D015C)

Dear Rita:

We are submitting a partial grading and drainage certification for Sevilla @ Andalucia. The partial certification includes Lots 1-9, 11-17 and 22. Enclosed for your review is the approved grading and drainage plan dated 2/19/15. These lots have been graded; retaining walls, curb and gutter, pavement and downstream infrastructure have been constructed. The remaining lots will be certified once construction of all improvements has been completed.

After reviewing these as-built elevations and visiting the site on 11/23/15 it is my belief that the above lots have been graded in substantial compliance with the approved grading and drainage plan and that the interim drainage improvements allow runoff to be managed in the interim condition.

Your review and approval is requested for Building Permit Approval for the above listed buildings. I appreciate your time and consideration. If you have questions or require additional information, please contact me at 823-1000.

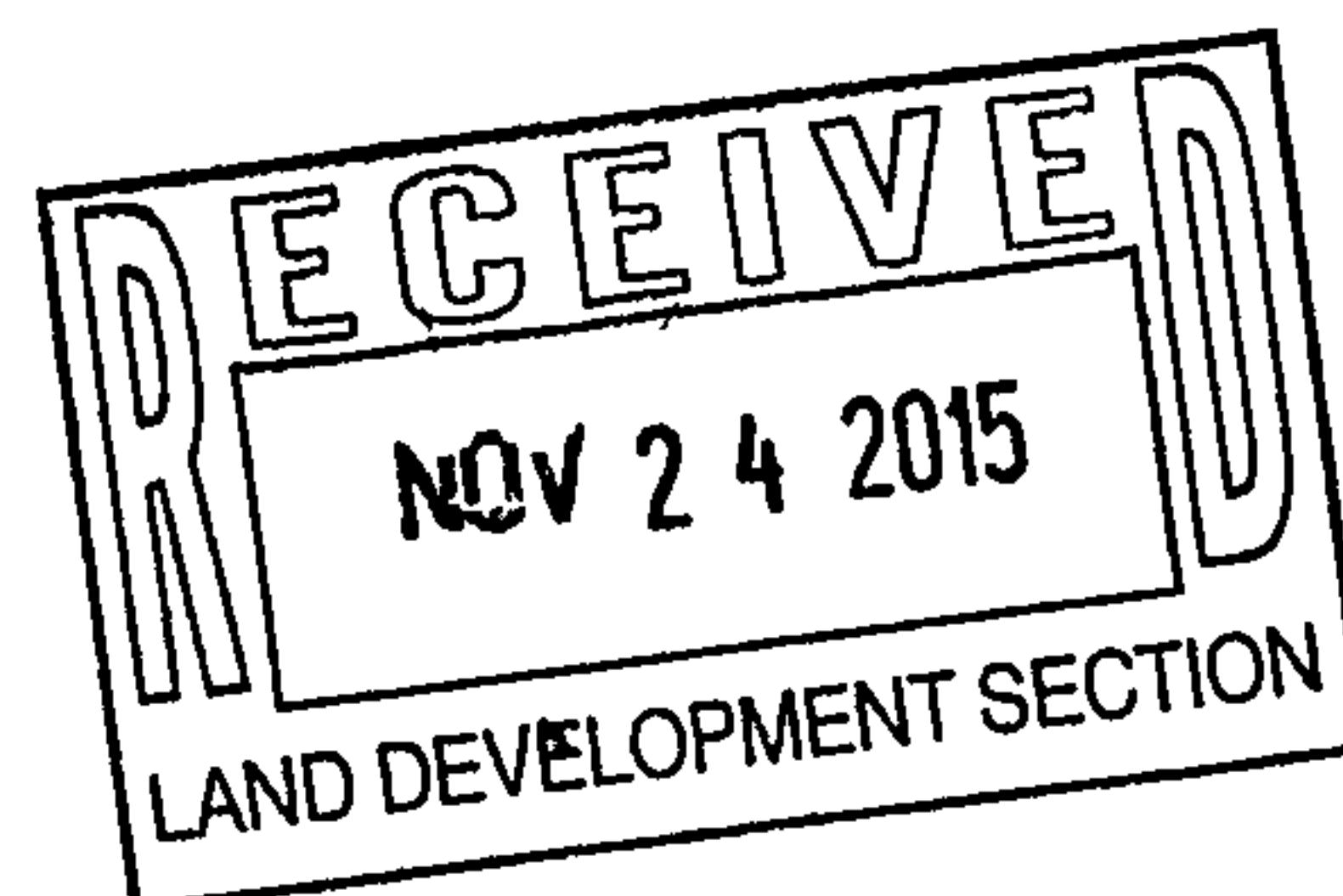
Sincerely,



Yolanda Padilla Moyer, P.E.
Senior Project Manager
Community Development & Planning

Enclosure

cc: Peter Steen, Pulte Homes
Kevin Patton, Pulte Homes



Engineering ▲

Spatial Data ▲

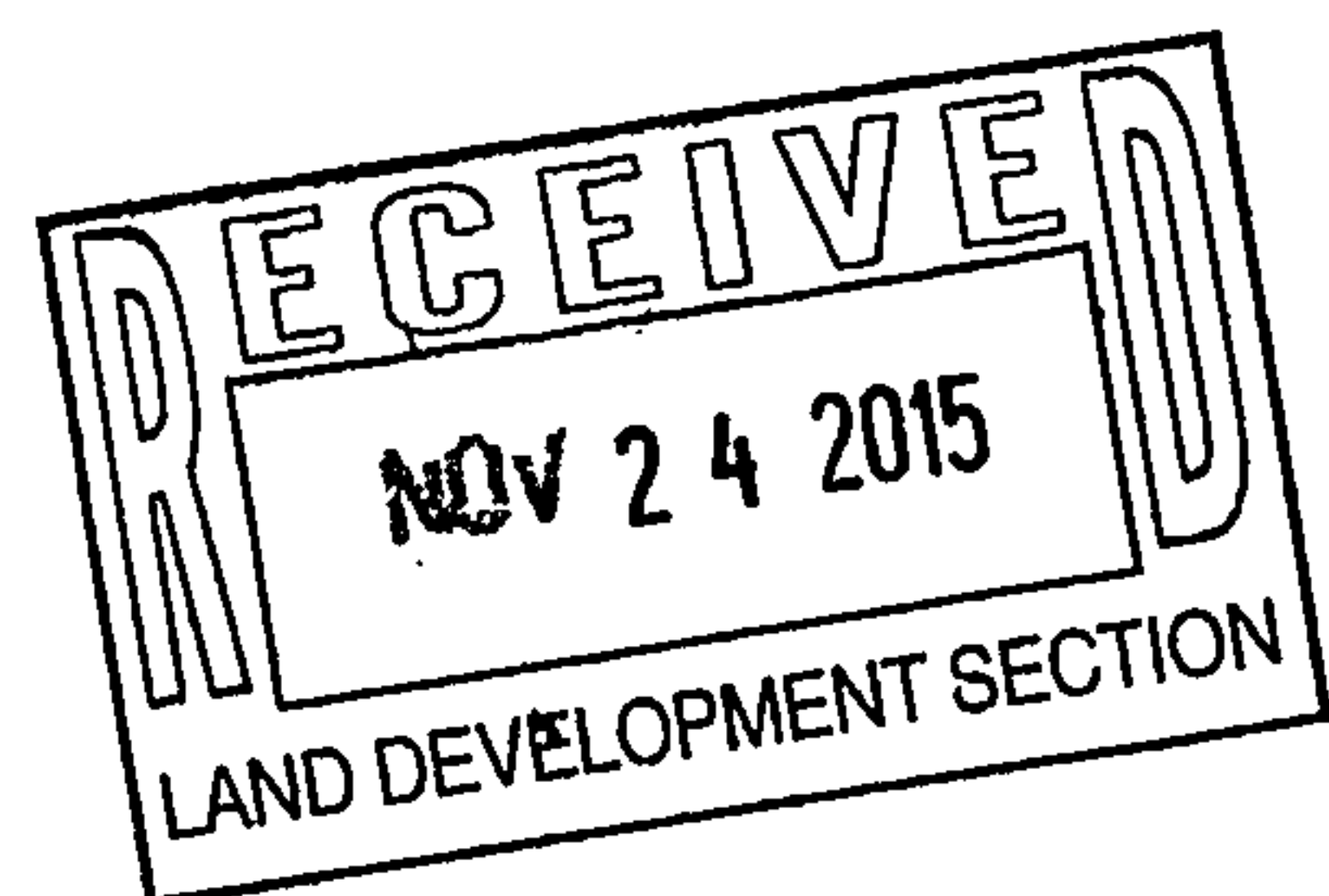
Advanced Technologies ▲

Yolanda Padilla Moyer

From: Yolanda Padilla Moyer
Sent: Tuesday, November 24, 2015 2:35 PM
To: 'PLNDRS@cabq.gov'
Cc: 'Harmon Rita T. (rharmon@cabq.gov)'; Kevin Patton (Kevin.Patton@PulteGroup.com); peter.steen@pultegroup.com
Subject: Andalucia Partial Lot Cert Lost 1-9, 11-17,22
Attachments: Sevilla at Andalucia Partial Drainage Cert (Lots 1-9,11-17,22)digital submittal.pdf

Please find enclosed the digital submittal for the above mentioned project.

Yolanda Padilla Moyer, P.E.
Senior Project Manager
Bohannon Huston, Inc.



CITY OF ALBUQUERQUE

PLANNING DEPARTMENT – Development Review Services



March 13, 2015

Brian Patterson, PE
Yolanda Padilla Moyer, PE
BOHANNAN-HUSTON, INC.
7500 Jefferson Street NE Courtyard I
Albuquerque, NM 87109

Richard J. Berry, Mayor

RE: Sevilla @ Andalucia - (File: F11D015C)
Revised Grading and Drainage Plans, Engineer's Stamp Date 2-19-2015

Dear Mr. Patterson, Ms. Moyer:

Based upon the information provided in your submittals received 2-23-15, the above referenced submittals are approved for Grading Permit.

Prior to Building Permit approval, Engineer Certification per the DPM checklist will be required.

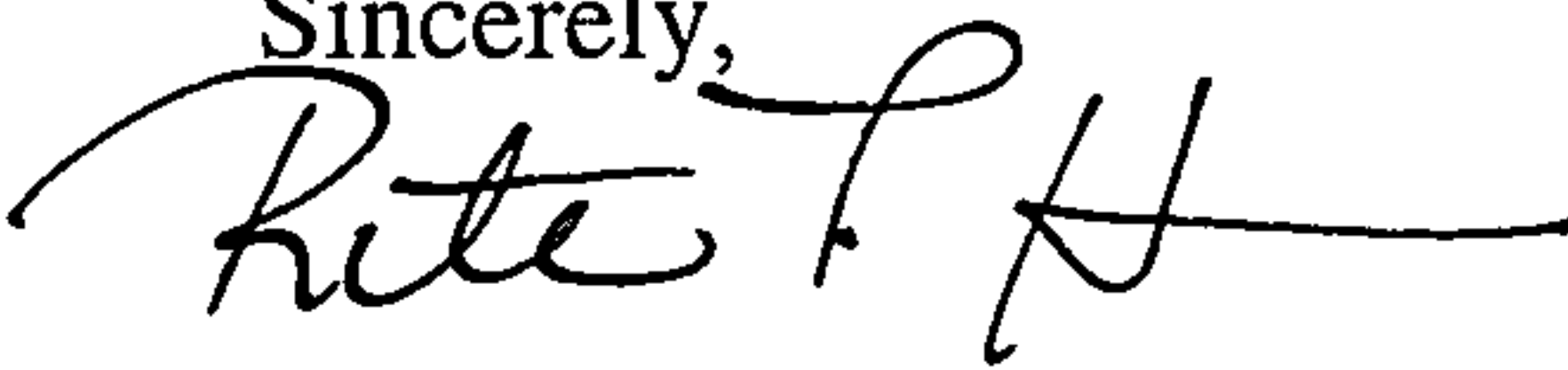
PO Box 1293

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

Albuquerque

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, Monica Ortiz

Courtyard I
7500 Jefferson St. NE
Albuquerque, NM
87109-4335

www.bhinc.com

voice: 505.823.1000

facsimile: 505.798.7988

toll free: 800.877.5332

CLIENT/COURIER TRANSMITTAL

To: Rita Harmon, P.E.
Plaza Sol
2nd Floor

Requested by: Yolanda Moyer

Date: February 20 2015

Time Due: ☐ This A.M.
☒ This P.M.
☐ Rush
☐ By Tomorrow

Phone: 505-924-3986

Job No.: 20150130

Job Name: Sevilla at Andalucia

DELIVERY VIA

☐ Courier ☐ Federal Express
☐ Mail ☐ UPS
☐ Other

PICK UP

Item: _____

<u>ITEM NO.</u>	<u>QUANTITY</u>	<u>DESCRIPTION</u>
-----------------	-----------------	--------------------

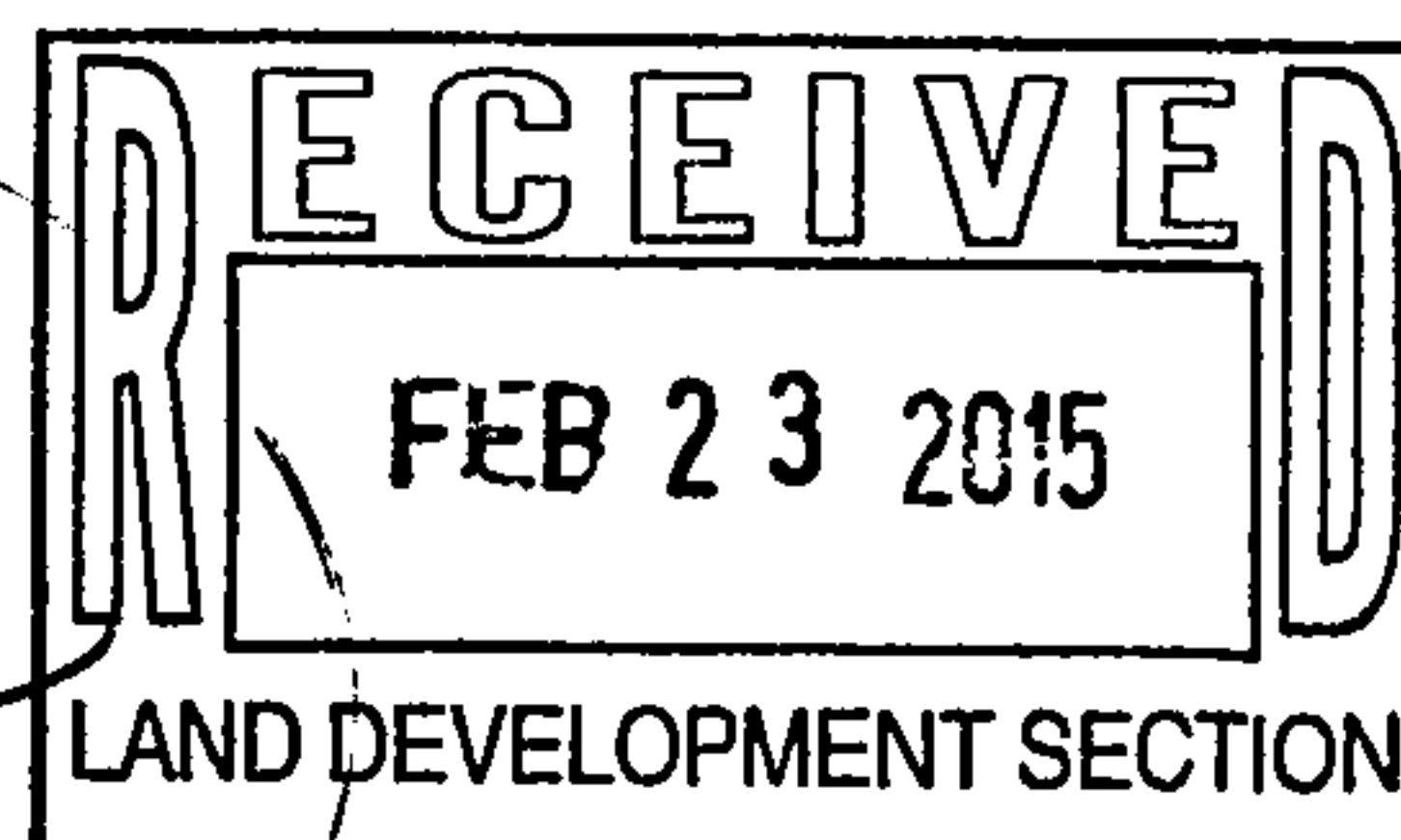
1

1

Grading Plan

COMMENTS / INSTRUCTIONS

*This needs a
new prelim. plat
& easement in
new cut-de sac
before approval*



REC'D BY: _____ DATE: _____ TIME: _____

CITY OF ALBUQUERQUE

July 2, 2015



Yolanda Padilla-Moyer, PE
Mark Goodwin & Associates, PA.
PO Box 90606
Albuquerque, NM 87199

**Re: Sevilla at Andalucia DMP lots 18 & 19
Grading and Drainage Plan
Engineer's Stamp dated: 2-19-15 (F11D015C)
Certification dated: 6-23-15**

Dear Ms. Padilla-Moyer,

Based upon the information provided in your submittal received 6/23/2015, the above referenced Certification for lots 18 & 19 are acceptable for building permit.

If you have any questions, you can contact me at 924-3695 or Rudy Rael at 924-3977.

PO Box 1293

Albuquerque

New Mexico 87103

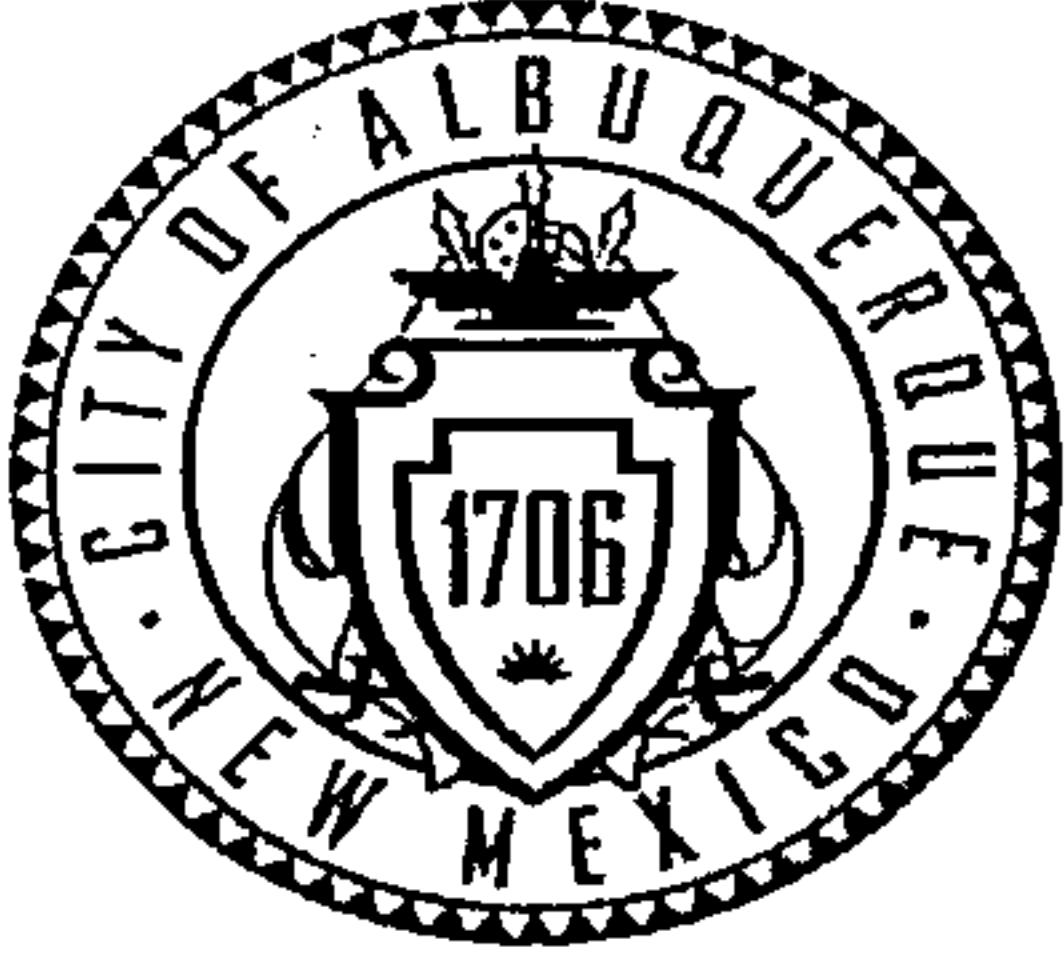
Sincerely,

Rita Harmon, P.E.
Senior Engineer, Hydrology
Planning Department.

www.cabq.gov

C: RR/RH
email

Scheduled for July 2 @ 8:30
w/ Carlos



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV 02/2013)

Project Title: SEVILLA @ ANDALUCIA DMP Building Permit #: _____ City Drainage #: FI10015C
DRB#: 1000965 EPC#: _____ Work Order#: _____
Legal Description: TRACTS A-1-A AND B-2, ANDALUCIA AT LA LUZ
City Address: _____

Engineering Firm: BOHANNAN HUSTON INC Contact: Yolanda Padilla Moyer
Address: 7500 JEFFERSON ST NE COURTYARD 1 ALBUQUERQUE NM 87109
Phone#: 798-7945 Fax#: _____ E-mail: ypadilla@bhinc.com

Owner: PULTE Contact: KEVIN PATTON
Address: 7601 JEFFERSON ST NE SUITE 320 ALBUQUERQUE NM 87109
Phone#: 505-341-8591 Fax#: _____ E-mail: kevin.patton@pultegroup.com

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

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

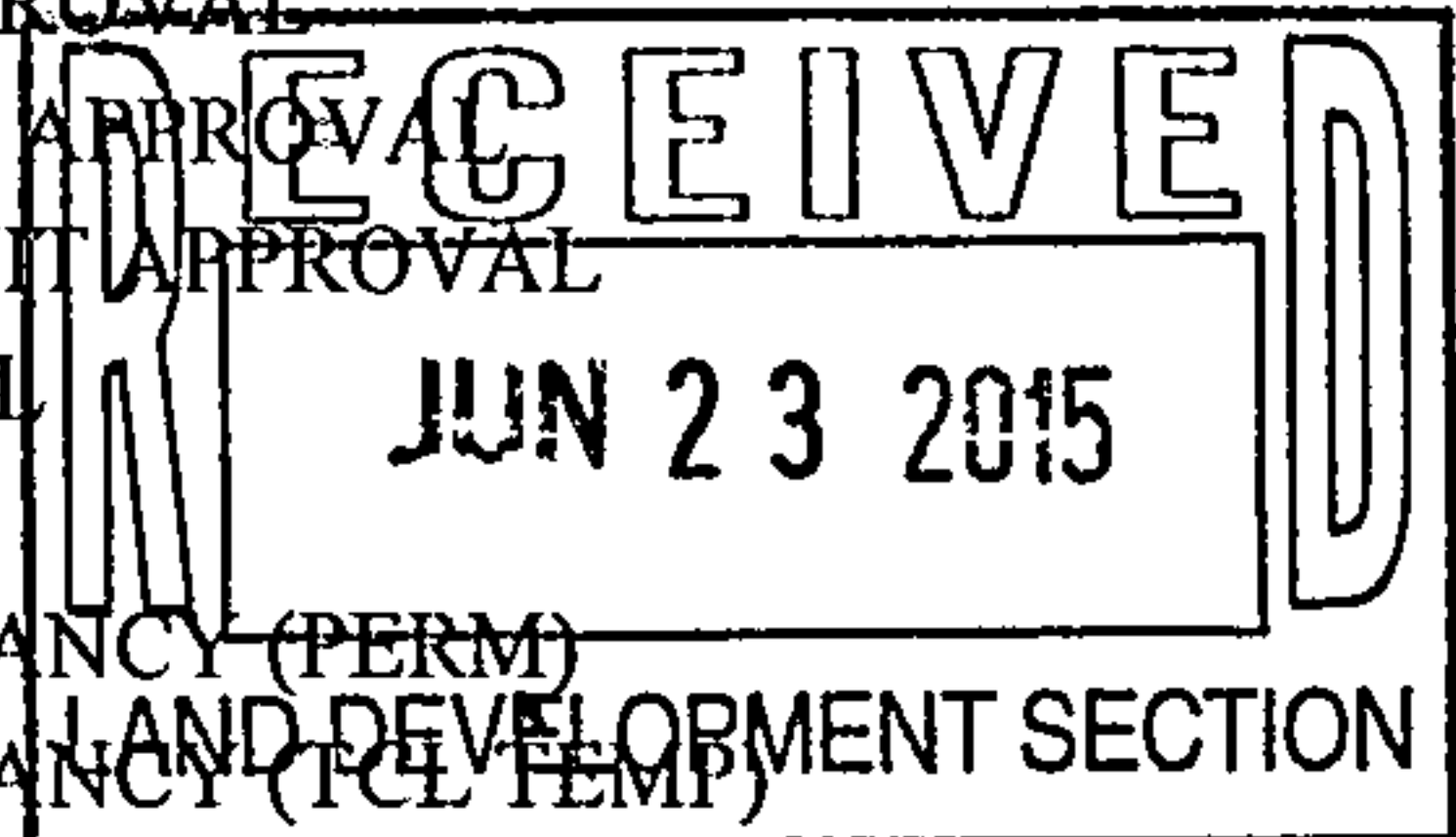
Contractor: _____ Contact: _____
Address: _____
Phone#: _____ Fax#: _____ E-mail: _____

TYPE OF SUBMITTAL:

- ☐ DRAINAGE REPORT
- ☐ DRAINAGE PLAN 1st SUBMITTAL
- ☐ DRAINAGE PLAN RESUBMITTAL
- ☐ CONCEPTUAL G & D PLAN
- ☐ GRADING PLAN (resubmittal)
- ☐ 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
- ☐ ESC PERMIT APPROVAL
- ☐ ESC CERT. ACCEPTANCE
- ☐ OTHER (SPECIFY)



WAS A PRE-DESIGN CONFERENCE ATTENDED: _____ Yes _____ No _____ Copy Provided

DATE SUBMITTED: 6-23-15 By: Yolanda Moyer

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

Bohannon Huston

June 23, 2015

Courtyard I
7500 Jefferson St. NE
Albuquerque, NM
87109-4335

www.bhinc.com

voice: 505.823.1000
facsimile: 505.798.7988
toll free: 800.877.5332

Ms. Rita Harmon
Hydrology Section
City of Albuquerque
600 2nd Street NW
Albuquerque, NM 87102

Re: Partial Grading and Drainage Certification, Lots 18 & 19 Sevilla @ Andalucia
DRB Case No. 1000965 (File: F11D015C)

Dear Rita:

We are submitting a partial grading and drainage certification for Sevilla @ Andalucia. The partial certification includes 18 & 19. Enclosed for your review is the approved grading and drainage plan dated 2/19/15. These lots have been graded; retaining walls, curb and gutter, pavement and downstream infrastructure have been constructed. The remaining lots on the north side of Sevilla Ave have been graded, but the retaining walls have not been completed. The remaining lots will be certified once construction of all improvements has been completed.

After reviewing these as-built elevations and visiting the site on 6/23/15 it is my belief that the above lots have been graded in substantial compliance with the approved grading and drainage plan and that the interim drainage improvements allow runoff to be managed in the interim condition.

Your review and approval is requested for Building Permit Approval for the above listed buildings. I appreciate your time and consideration. If you have questions or require additional information, please contact me at 823-1000.

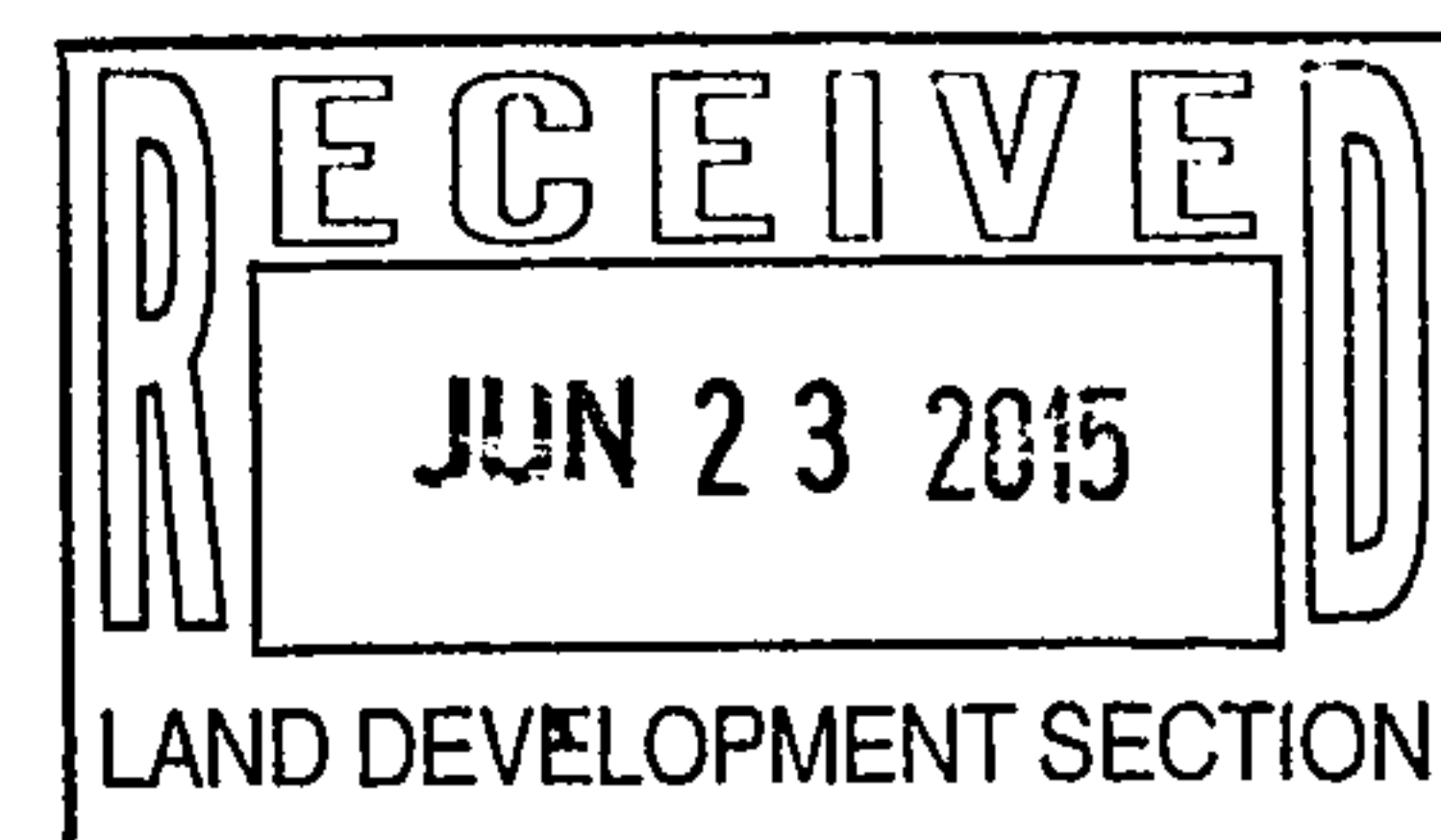
Sincerely,



Yolanda Padilla Moyer, P.E.
Senior Project Manager
Community Development & Planning

Enclosure

cc: Peter Steen, Pulte Homes
Kevin Patton, Pulte Homes



Engineering ▲

Spatial Data ▲

Advanced Technologies ▲

Yolanda Padilla Moyer

From: Yolanda Padilla Moyer
Sent: Tuesday, June 23, 2015 9:26 AM
To: PLNDRS@cabq.gov
Cc: Kevin Patton (Kevin.Patton@PulteGroup.com); peter.steen@pultegroup.com
Subject: Sevilla at Andalucia Partial G&D cert Lots 18&19 1000965

Please find below a link to download the digital submittal for the above mentioned project

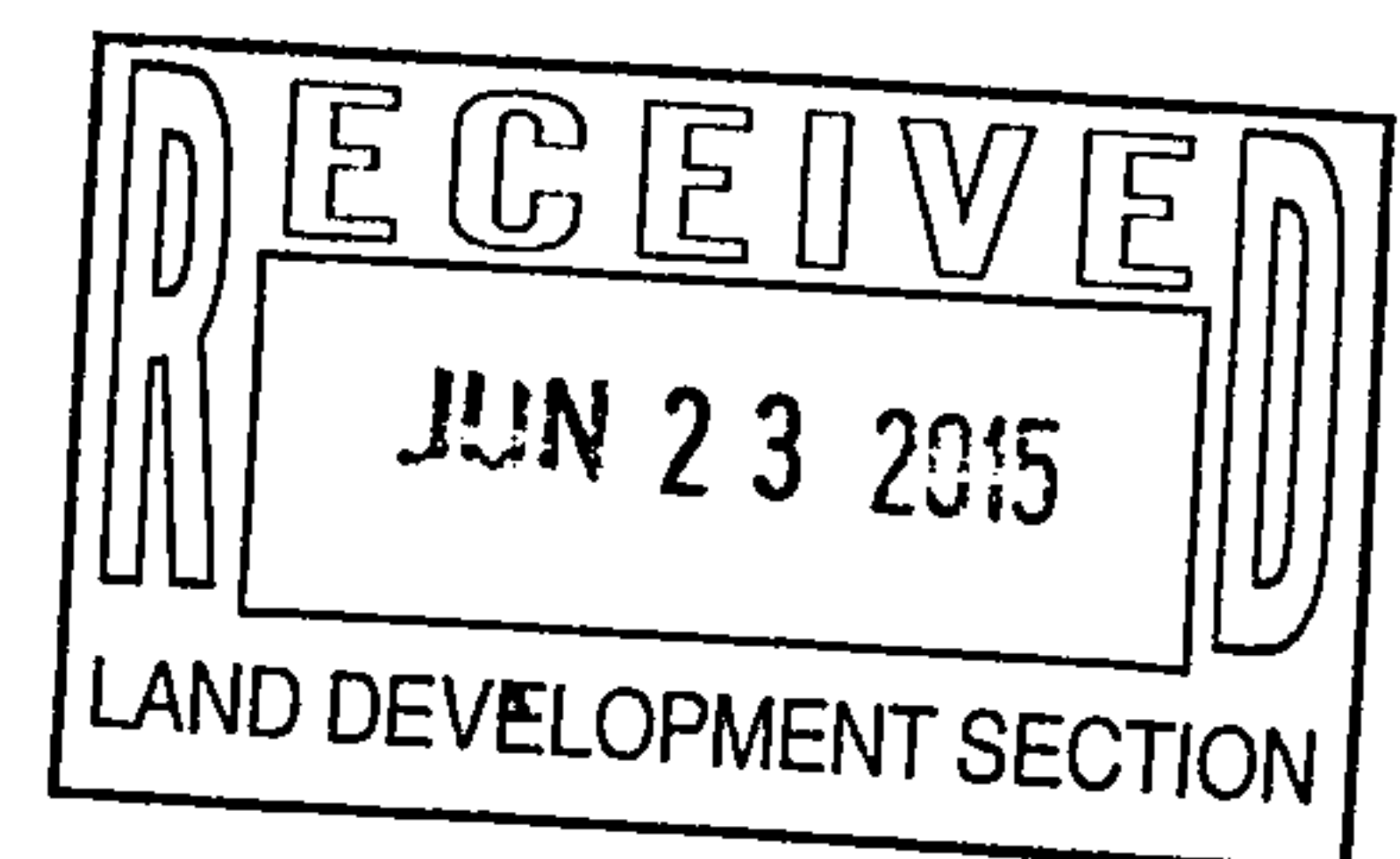
Yolanda Padilla Moyer, P.E.
Bohannon Huston, Inc.

Use the following link to download files.

<http://sfspublic.bhinc.com/EmailAccess.aspx?tk=TKypadillaD236201592150>

NOTE: These files will expire in 14 days from the time this email was generated.

Using Gmail and IE? Please right click on the link and select Open in new window.



Courtyard I
7500 Jefferson St. NE
Albuquerque, NM
87109-4335

www.bhinc.com

voice: 505.823.1000

facsimile: 505.798.7988

toll free: 800.877.5332

CLIENT/COURIER TRANSMITTAL

To: Rita Harmon, P.E.
City of Albuquerque
Plaza del Sol
600 2nd Street
Albuquerque NM 87107

Requested by: Yolanda Padilla Moyer

Date: June 23, 2015

Time Due: ☒ This A.M.
☐ This P.M.
☐ Rush _____
☐ By Tomorrow

Phone: 505-924-3695

DELIVERY VIA

☒ Courier ☐ Federal Express
☐ Mail ☐ UPS
☒ Other

PICK UP

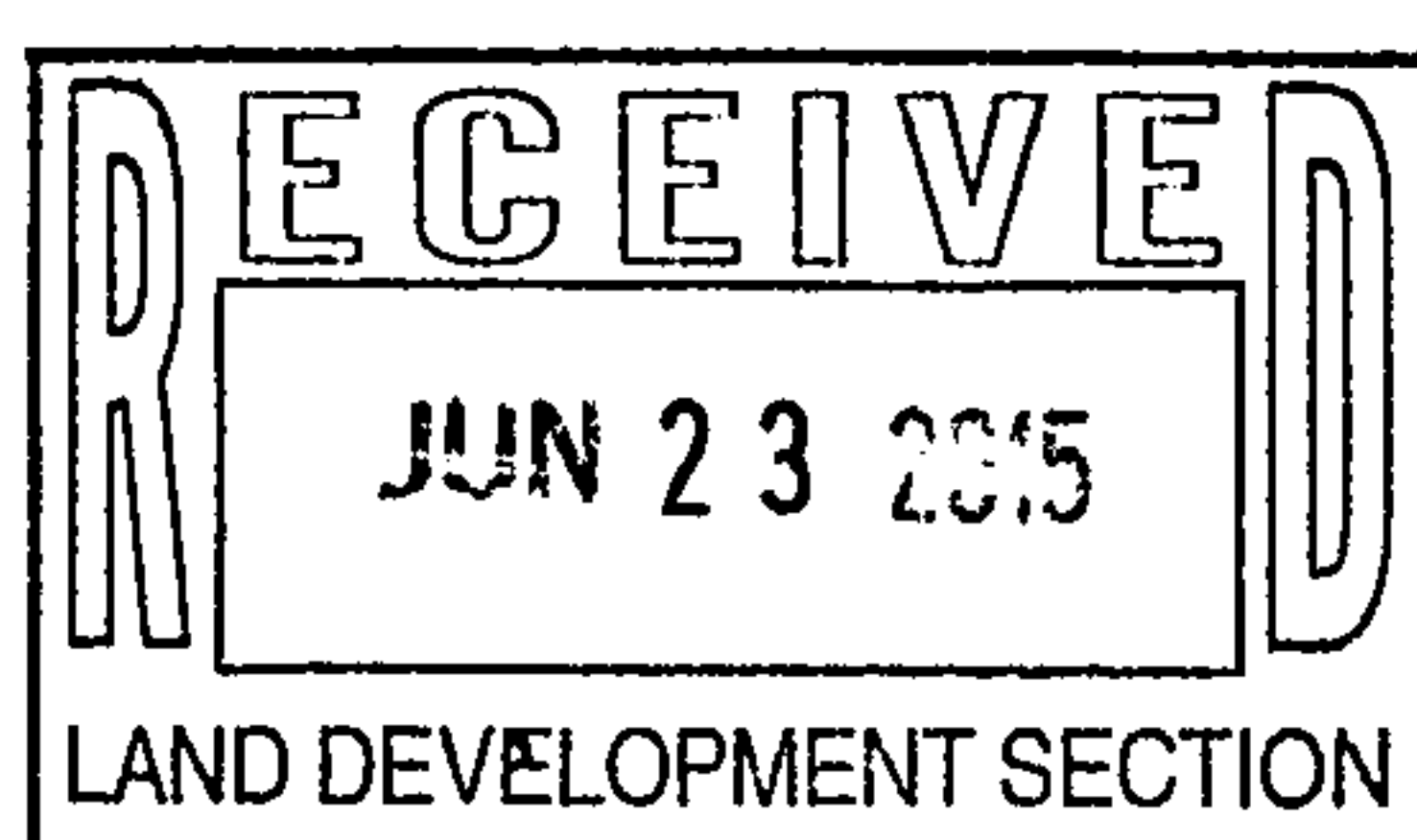
Item: _____

Job No.: 20150130

Job Name: G&D Cert Sevilla at Andalucia
Partial Lots 18 & 19

<u>ITEM NO.</u>	<u>QUANTITY</u>	<u>DESCRIPTION</u>
1	1	Cover Letter
2	1	Drainage Info Sheet
3	1	Grading and Drainage Cert Plan
4	1	Digital Copy Submittal E-mail

COMMENTS / INSTRUCTIONS



REC'D BY: _____ DATE: _____ TIME: _____

CITY OF ALBUQUERQUE



August 10, 2015

Yolanda Padilla-Moyer, P.E.
Bohannon-Huston, Inc.
Courtyard 1 7500 Jefferson St NE
Albuquerque, New Mexico 87109

**RE: Sevilla @ Andalucia DMP
Pad Certification for lots 39-45.
Engineers Stamp Date 2/19/15 (F11D015C)
Certification Date 7/27/15**

Dear Ms. Padilla-Moyer,

Based upon the information provided in your submittal received 7/28/2015, the above referenced Pad Certification for Sevilla @ Andalucia lots 39-45 is acceptable for building permit.

PO Box 1293

Albuquerque

If you have any questions, please contact me at 924-3695 or Rudy Rael at 924-3977.

New Mexico 87103

www.cabq.gov

Sincerely,

Rita Harmon, P.E.
Senior Engineer, Hydrology
Planning Department

RR/RH
C: File

Bohannon Huston

July 27, 2015

Courtyard I
7500 Jefferson St. NE
Albuquerque, NM
87109-4335

www.bhinc.com

voice: 505.823.1000
facsimile: 505.798.7988
toll free: 800.877.5332

Ms. Rita Harmon
Hydrology Section
City of Albuquerque
600 2nd Street NW
Albuquerque, NM 87102

Re: Partial Grading and Drainage Certification, Lots 39-45 Sevilla @ Andalucia
DRB Case No. 1000965 (File: F11D015C)

Dear Rita:

We are submitting a partial grading and drainage certification for Sevilla @ Andalucia. The partial certification includes Lots 39-45. Enclosed for your review is the approved grading and drainage plan dated 2/19/15. These lots have been graded; retaining walls, curb and gutter, pavement and downstream infrastructure have been constructed. The remaining lots on the north side of Sevilla Ave have been graded, but the retaining walls have not been completed. The remaining lots will be certified once construction of all improvements has been completed.

After reviewing these as-built elevations and visiting the site on 7/24/15 it is my belief that the above lots have been graded in substantial compliance with the approved grading and drainage plan and that the interim drainage improvements allow runoff to be managed in the interim condition.

Your review and approval is requested for Building Permit Approval for the above listed buildings. I appreciate your time and consideration. If you have questions or require additional information, please contact me at 823-1000.

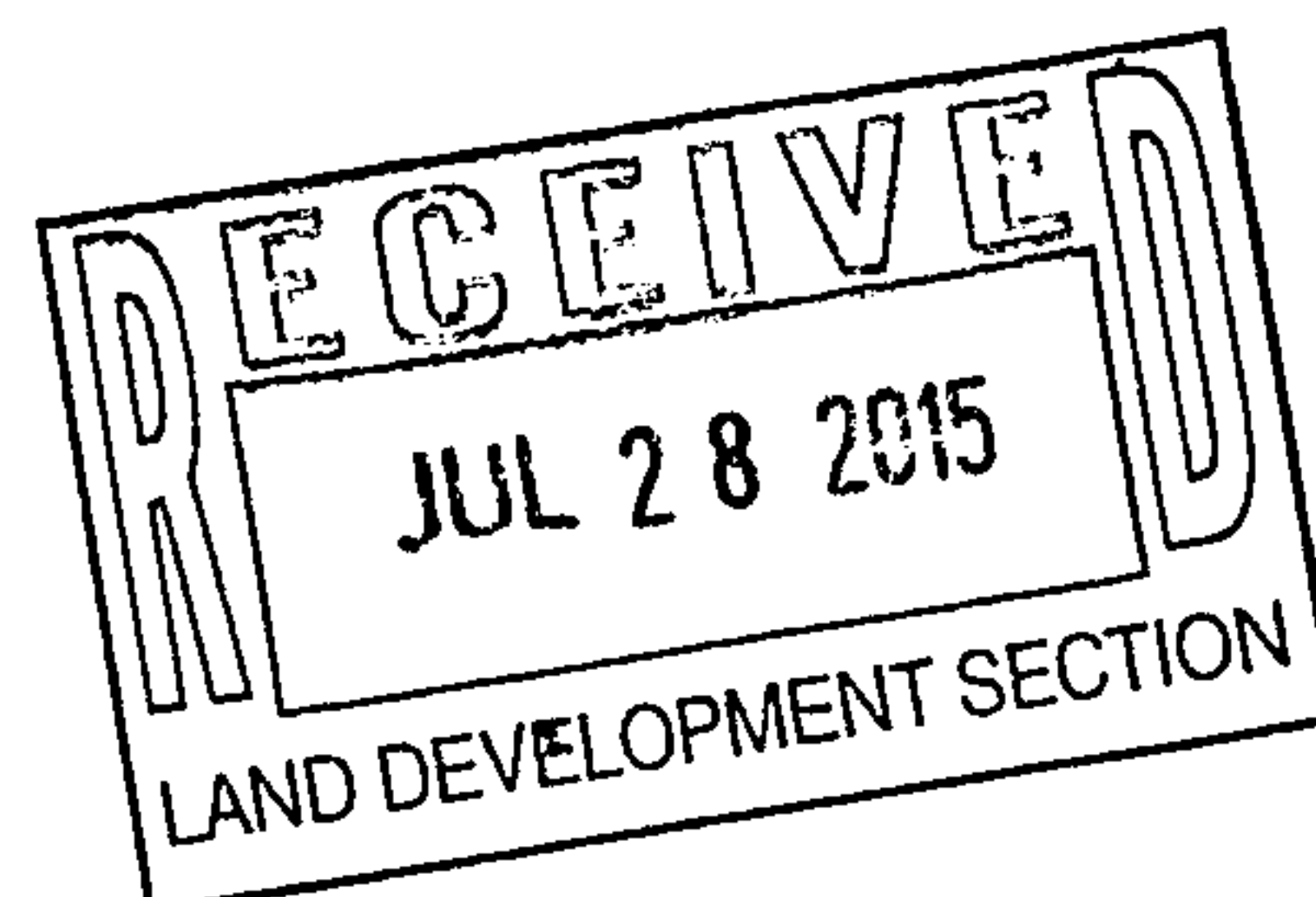
Sincerely,



Yolanda Padilla Moyer, P.E.
Senior Project Manager
Community Development & Planning

Enclosure

cc: Peter Steen, Pulte Homes
Kevin Patton, Pulte Homes



Engineering ▲

Spatial Data ▲

Advanced Technologies ▲



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV 02/2013)

Project Title: SEVILLA @ ANDALUCIA DMP Building Permit #: _____ City Drainage #: F110015C
DRB#: 1000965 EPC#: _____ Work Order#: _____
Legal Description: TRACTS A-1-A AND B-2, ANDALUCIA AT LA LUZ
City Address: _____

Engineering Firm: BOHANNAN HUSTON INC Contact: Yolanda Padilla Moyer
Address: 7500 JEFFERSON ST NE COURTYARD 1 ALBUQUERQUE NM 87109
Phone#: 798-7945 Fax#: _____ E-mail: ypadilla@bhinc.com

Owner: PULTE Contact: KEVIN PATTON
Address: 7601 JEFFERSON ST NE SUITE 320 ALBUQUERQUE NM 87109
Phone#: 505-341-8591 Fax#: _____ E-mail: kevin.patton@pultegroup.com

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

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

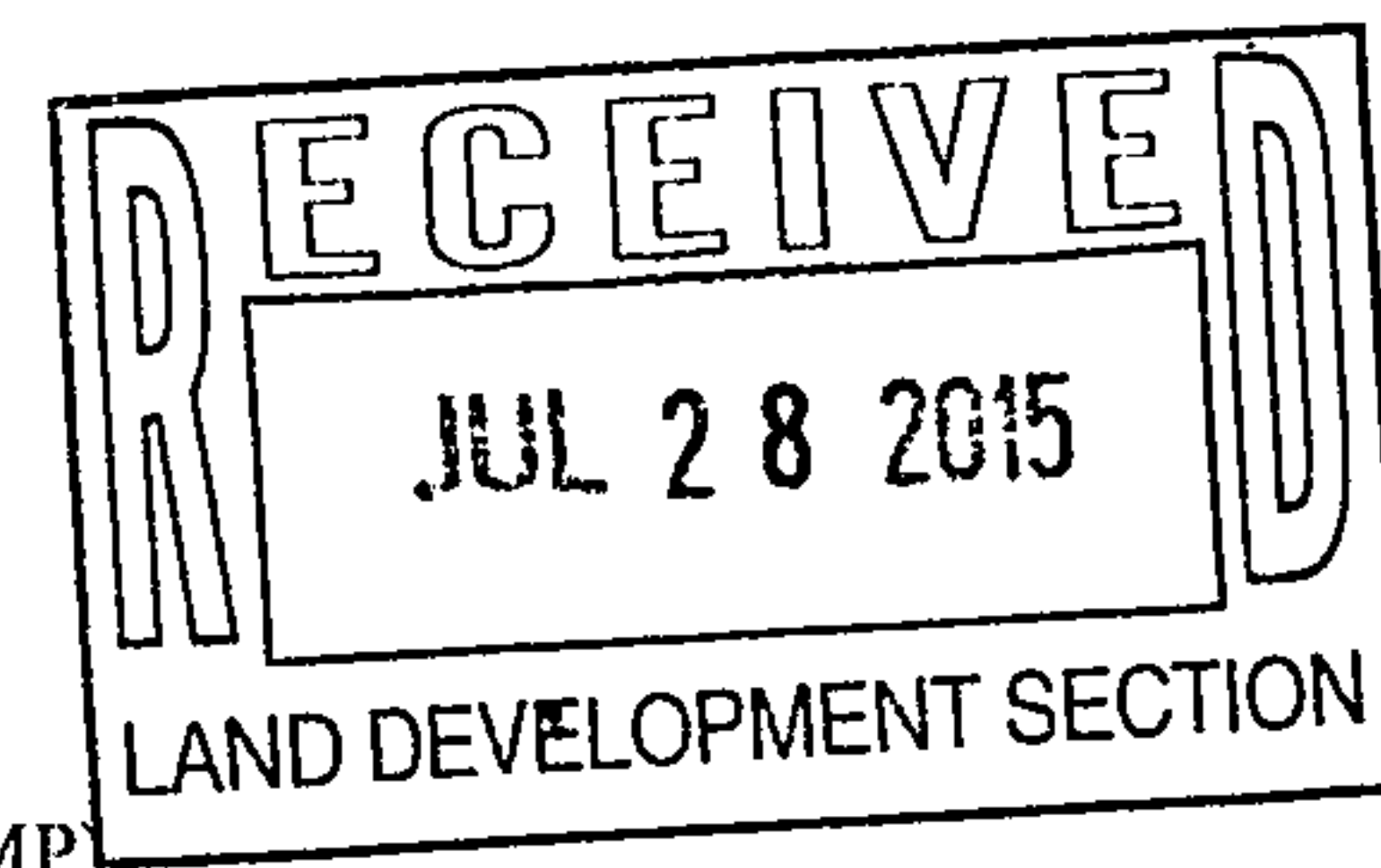
Contractor: _____ Contact: _____
Address: _____
Phone#: _____ Fax#: _____ E-mail: _____

TYPE OF SUBMITTAL:

- ☐ DRAINAGE REPORT
- ☐ DRAINAGE PLAN 1st SUBMITTAL
- ☐ DRAINAGE PLAN RESUBMITTAL
- ☐ CONCEPTUAL G & D PLAN
- ☐ GRADING PLAN (resubmttal)
- ☐ 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
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- ☐ ESC CERT. ACCEPTANCE
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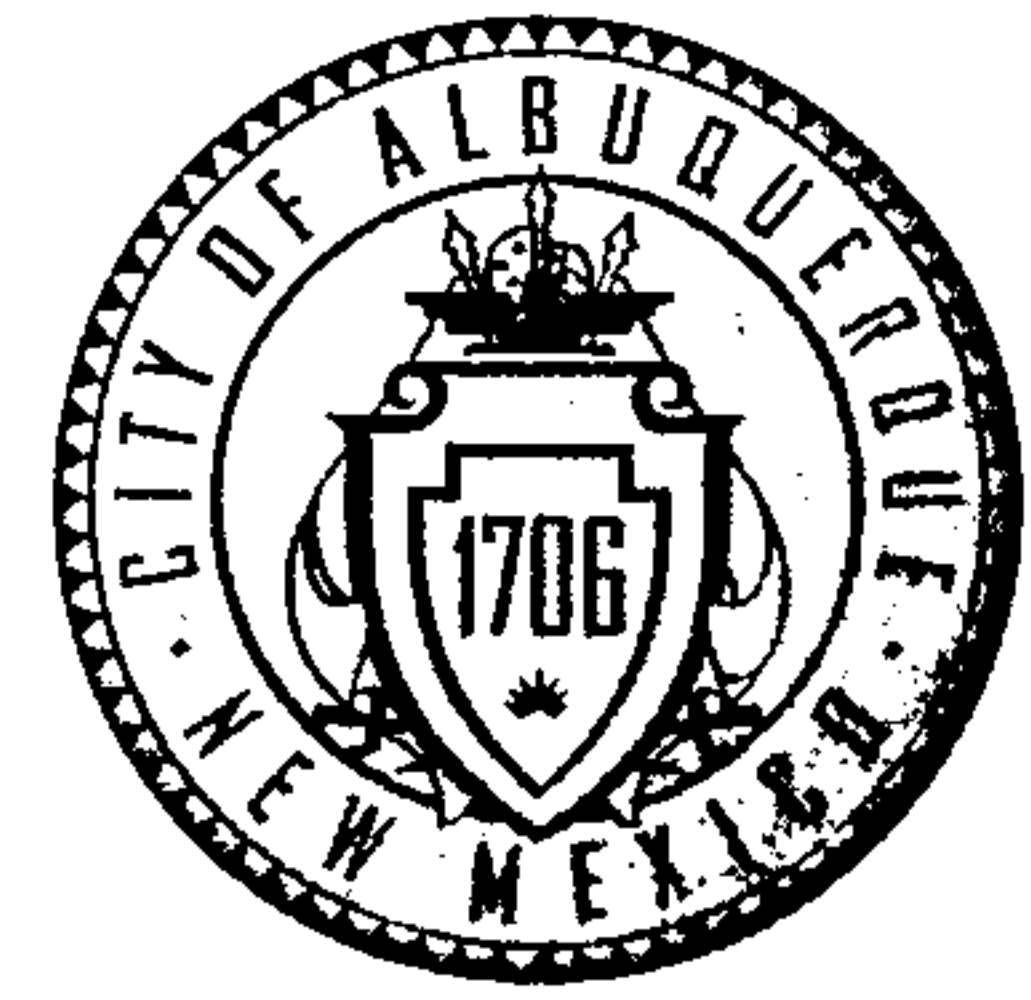
WAS A PRE-DESIGN CONFERENCE ATTENDED: _____ Yes _____ No _____ Copy Provided

DATE SUBMITTED: 7-27-15 By: Yolanda Moyer

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
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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

CITY OF ALBUQUERQUE



September 2, 2015

Yolanda Padilla-Moyer, P.E.
Bohannon-Huston, Inc.
Courtyard 1 7500 Jefferson St NE
Albuquerque, New Mexico 87109

RE: **Sevilla @ Andalucia DMP**
Pad Certification for lots 29-38.
Engineers Stamp Date 2/19/15 (F11D015C)
Certification Date 8/20/15

Dear Ms. Padilla-Moyer,

Based upon the information provided in your submittal received 8/20/2015, the above referenced Pad Certification for Sevilla @ Andalucia lots 29-38 is acceptable for building permit.

PO Box 1293

Albuquerque

If you have any questions, please contact me at 924-3695 or Totten Elliott at 924-3982.

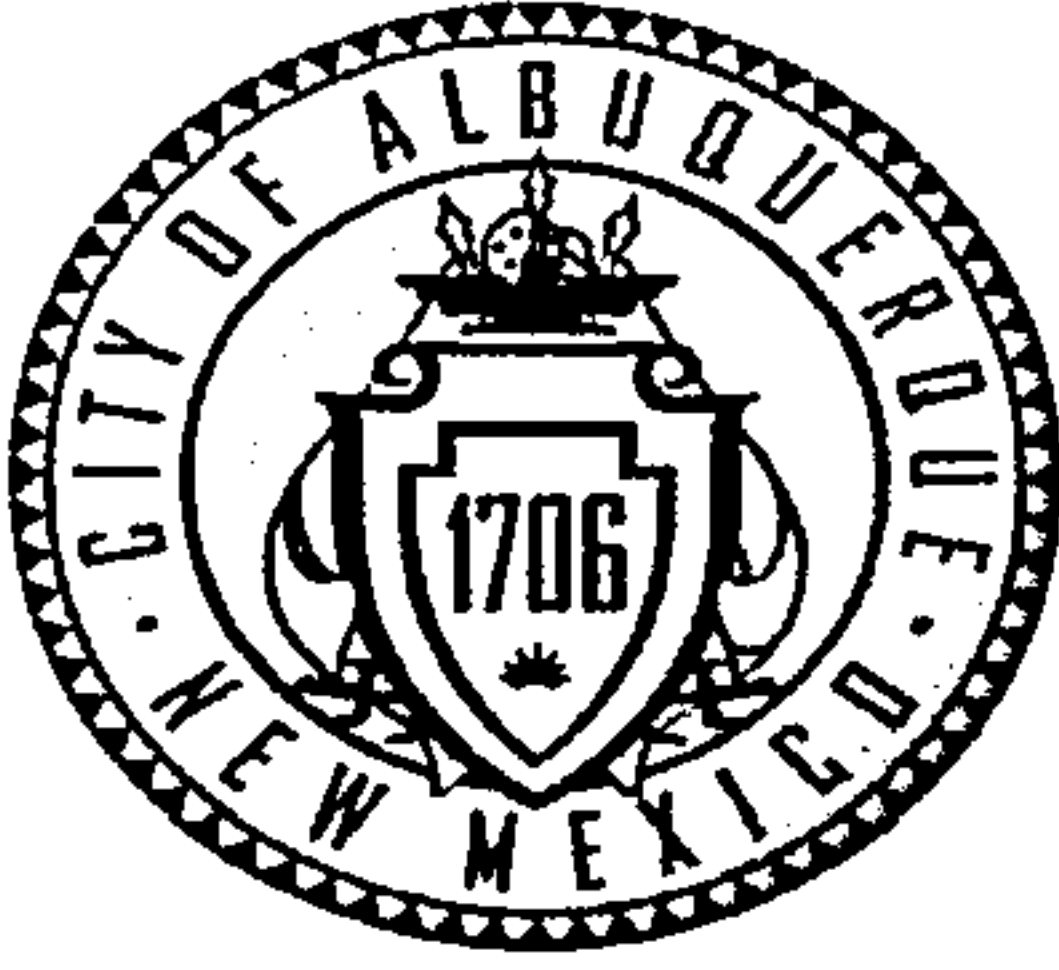
New Mexico 87103

Sincerely,

Rita Harmon, P.E.
Senior Engineer, Hydrology
Planning Department

www.cabq.gov

TE/RH
C: File



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV 02/2013)

Verbal No
on 8/20/15
But did not
resubmit
for 9/2/15 letter
used
FILED 015C

Project Title: SEVILLA @ ANDALUCIA DMP Building Permit #: _____ City Drainage #: _____
DRB#: 1000965 EPC#: _____ Work Order#: _____
Legal Description: TRACTS A-1-A AND B-2, ANDALUCIA AT LA LUZ
City Address: _____

Engineering Firm: BOHANNAN HUSTON INC Contact: Yolanda Padilla Moyer
Address: 7500 JEFFERSON ST NE COURTYARD 1 ALBUQUERQUE NM 87109
Phone#: 798-7945 Fax#: _____ E-mail: ypadilla@bhinc.com

Owner: PULTE Contact: KEVIN PATTON
Address: 7601 JEFFERSON ST NE SUITE 320 ALBUQUERQUE NM 87109
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Architect: _____ Contact: _____
Address: _____
Phone#: _____ Fax#: _____ E-mail: _____

Surveyor: _____ Contact: _____
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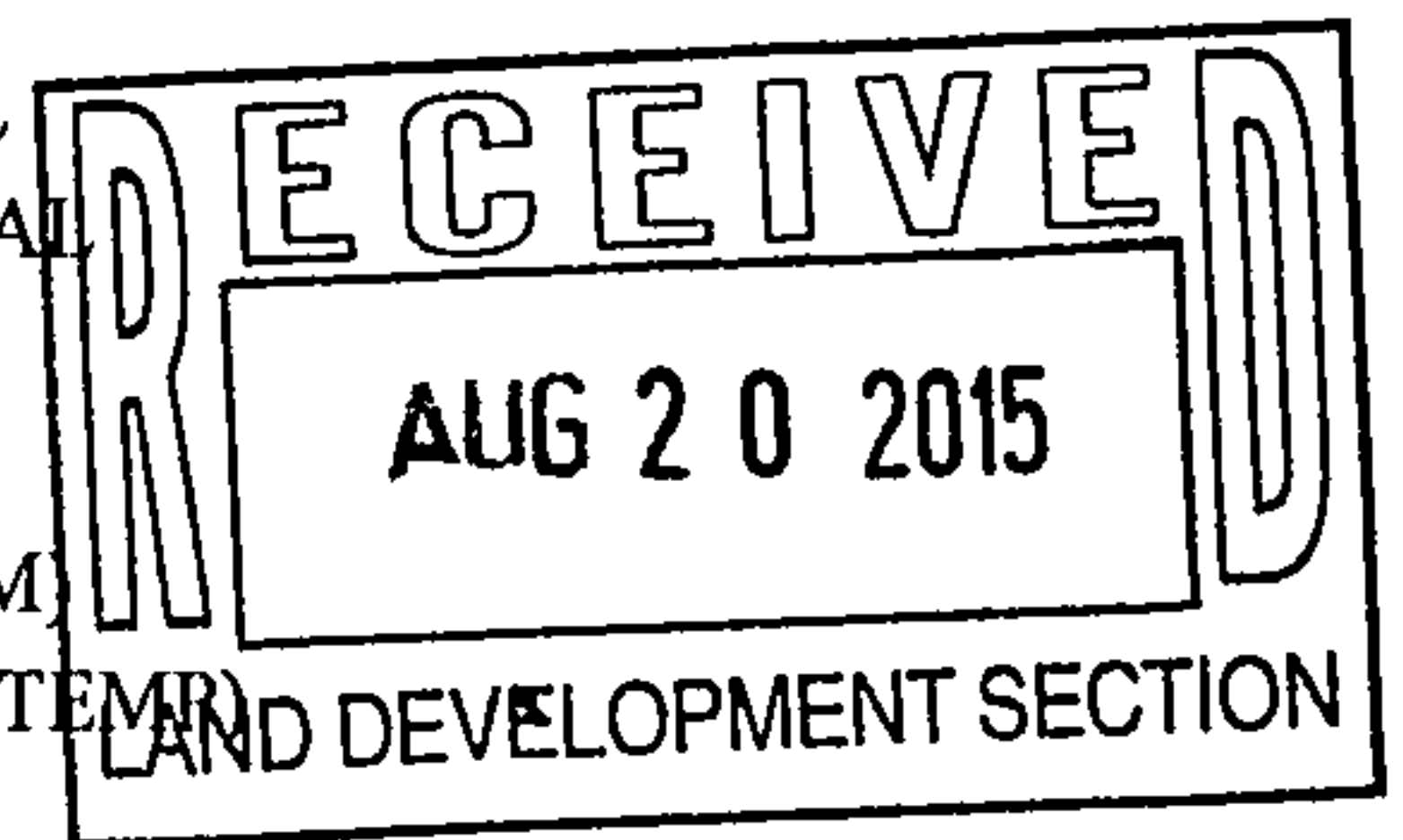
Contractor: _____ Contact: _____
Address: _____
Phone#: _____ Fax#: _____ E-mail: _____

TYPE OF SUBMITTAL:

- ☐ DRAINAGE REPORT
- ☐ DRAINAGE PLAN 1st SUBMITTAL
- ☐ DRAINAGE PLAN RESUBMITTAL
- ☐ CONCEPTUAL G & D PLAN
- ☐ GRADING PLAN (resubmittal)
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- ☐ 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
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- ☐ S. DEV. FOR BLDG. PERMIT APPROVAL
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- ☐ GRADING CERTIFICATION
- ☐ SO-19 APPROVAL
- ☐ ESC PERMIT APPROVAL
- ☐ ESC CERT. ACCEPTANCE
- ☐ OTHER (SPECIFY) _____



WAS A PRE-DESIGN CONFERENCE ATTENDED: _____ Yes _____ No _____ Copy Provided

DATE SUBMITTED: 8-20-15 By: Yolanda Moyer

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:

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Courtyard I
7500 Jefferson St. NE
Albuquerque, NM
87109-4335

www.bhinc.com

voice: 505.823.1000

facsimile: 505.798.7988

toll free: 800.877.5332

CLIENT/COURIER TRANSMITTAL

To: Rita Harmon, P.E.
City of Albuquerque
Plaza del Sol
600 2nd Street
Albuquerque NM 87107

Requested by: Yolanda Padilla Moyer

Date: August 20, 2015

Time Due: ☒ This A.M.
☐ This P.M.
☐ Rush _____
☐ By Tomorrow

Phone: 505-924-3695

DELIVERY VIA

☒ Courier ☐ Federal Express
☐ Mail ☐ UPS
☒ Other

PICK UP

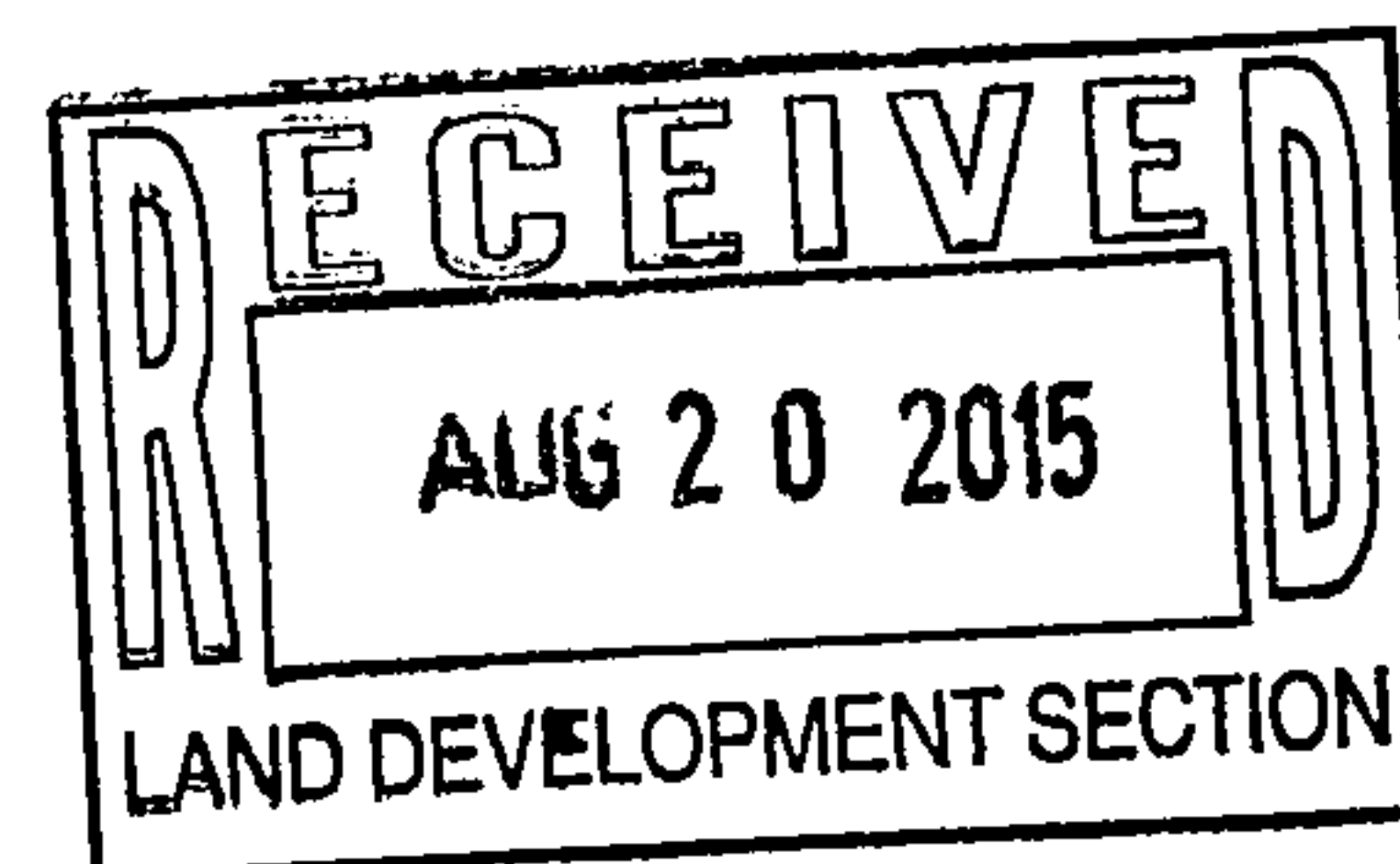
Item: _____

Job No.: 20150130

Job Name: G&D Cert Sevilla at Andalucia
Partial Lots 29-38

<u>ITEM NO.</u>	<u>QUANTITY</u>	<u>DESCRIPTION</u>
1	1	Cover Letter
2	1	Drainage Info Sheet
3	1	Grading and Drainage Cert Plan
4	1	Digital Copy Submittal E-mail

COMMENTS / INSTRUCTIONS



REC'D BY: _____ DATE: _____ TIME: _____

Bohannon Huston

August 20, 2015

Courtyard I
7500 Jefferson St. NE
Albuquerque, NM
87109-4335

www.bhinc.com

voice: 505.823.1000
facsimile: 505.798.7988
toll free: 800.877.5332

Ms. Rita Harmon
Hydrology Section
City of Albuquerque
600 2nd Street NW
Albuquerque, NM 87102

Re: Partial Grading and Drainage Certification, Lots 29-38 Sevilla @ Andalucia
DRB Case No. 1000965 (File: F11D015C)

Dear Rita:

We are submitting a partial grading and drainage certification for Sevilla @ Andalucia. The partial certification includes Lots 29-38. Enclosed for your review is the approved grading and drainage plan dated 2/19/15. These lots have been graded; retaining walls, curb and gutter, pavement and downstream infrastructure have been constructed. The remaining lots on the north side of Sevilla Ave have been graded, but the retaining walls have not been completed. The remaining lots will be certified once construction of all improvements has been completed.

After reviewing these as-built elevations and visiting the site on 8/19/15 it is my belief that the above lots have been graded in substantial compliance with the approved grading and drainage plan and that the interim drainage improvements allow runoff to be managed in the interim condition.

Your review and approval is requested for Building Permit Approval for the above listed buildings. I appreciate your time and consideration. If you have questions or require additional information, please contact me at 823-1000.

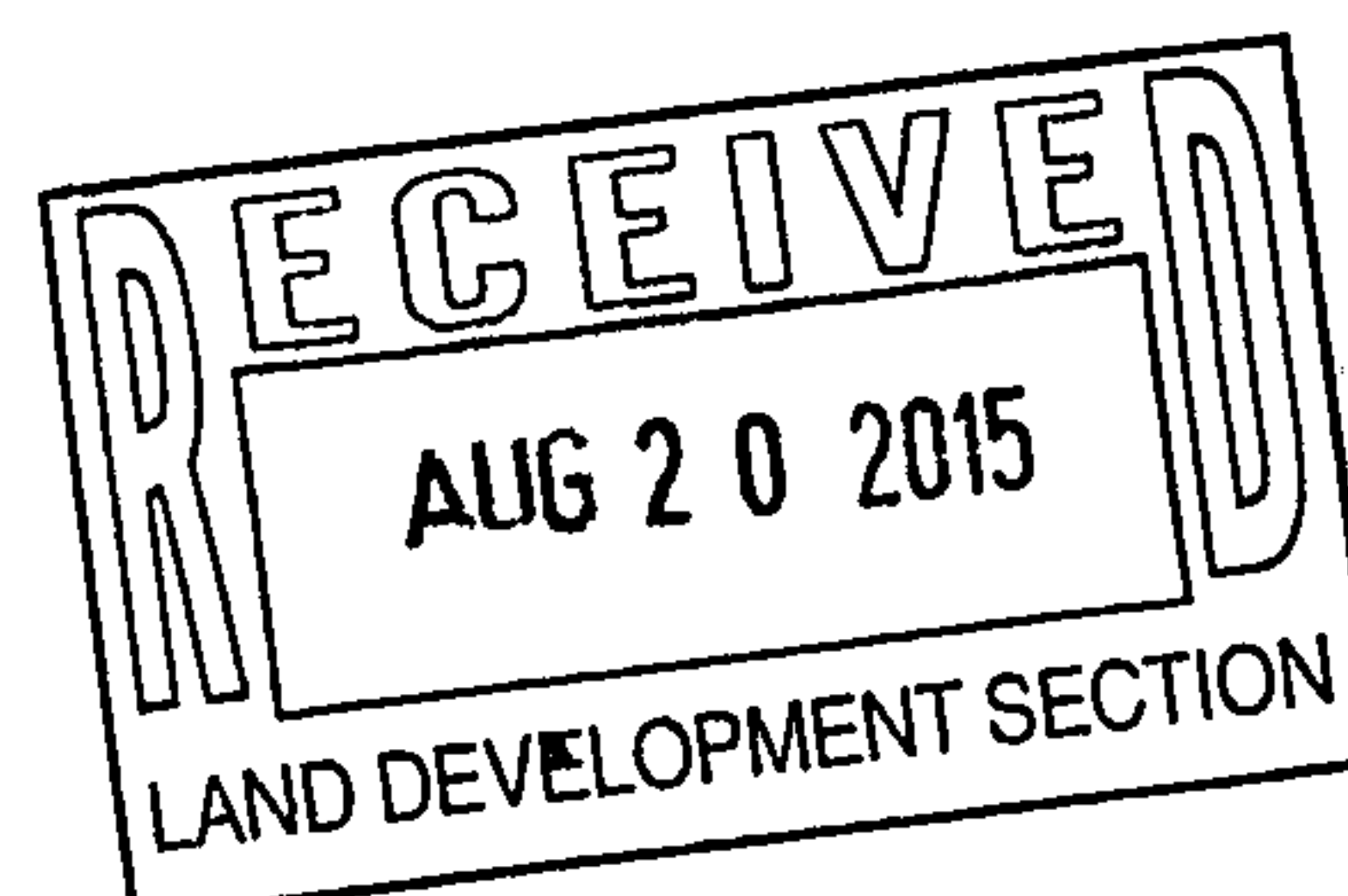
Sincerely,



Yolanda Padilla Moyer, P.E.
Senior Project Manager
Community Development & Planning

Enclosure

cc: Peter Steen, Pulte Homes
Kevin Patton, Pulte Homes



Engineering ▲

Spatial Data ▲

Advanced Technologies ▲

Yolanda Padilla Moyer

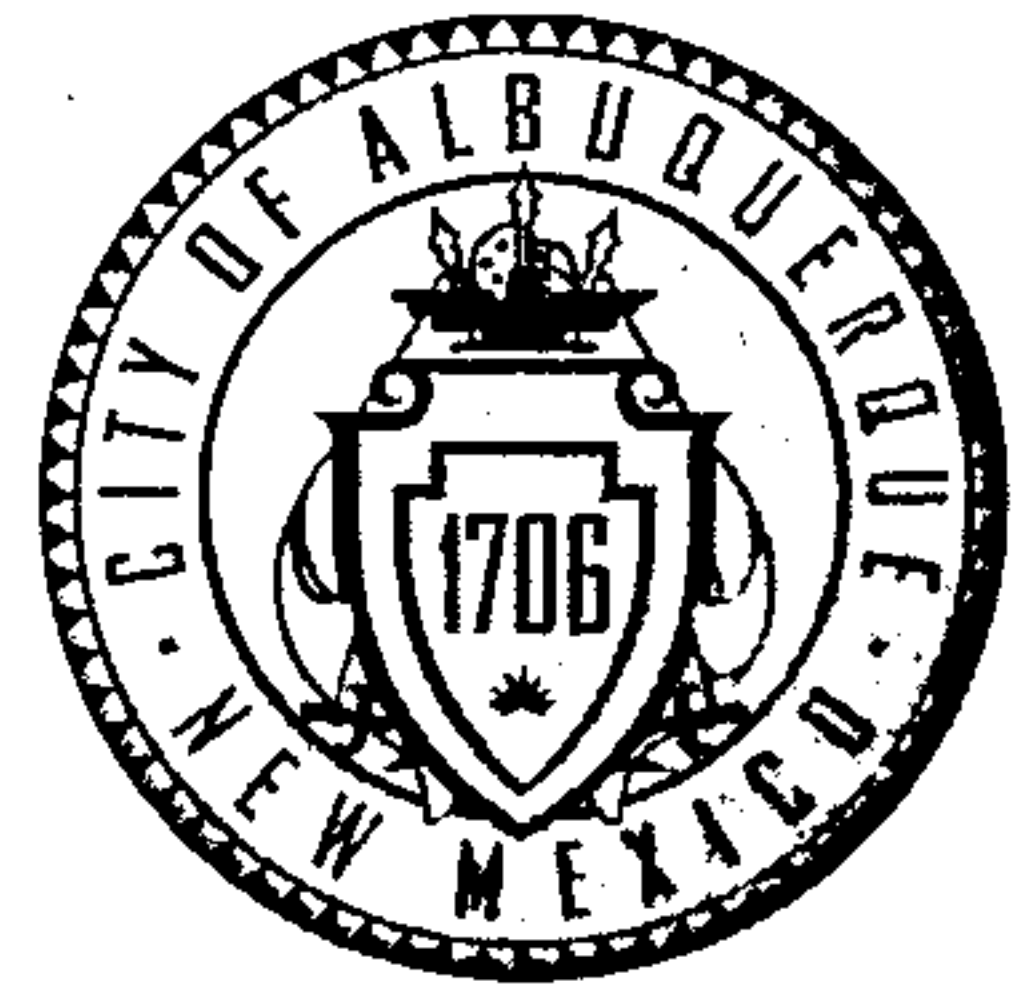
From: Yolanda Padilla Moyer
Sent: Thursday, August 20, 2015 1:14 PM
To: PLNDRS@cabq.gov
Cc: Harmon Rita T. (rharmon@cabq.gov)
Subject: Andalucia Partial Lot Cert Lost 29-38
Attachments: Andalucia Lot 29-38 Partial Cert - Submittal Package.pdf

Please find enclosed the digital submittal for the above mentioned project.

Yolanda Padilla Moyer, P.E.
Senior Project Manager
Bohannon Huston, Inc.



CITY OF ALBUQUERQUE



October 21, 2015

Yolanda Padilla Moyer, P.E.
Bohannon Huston Inc.
7500 Jefferson St NE, Ctyd 1
Albuquerque, NM 87109

Re: Sevilla @ Andalucia
Pad Certification – Lots 21, 23-28
Engineer's Stamp dated: 2-19-15, (F11D015C)
Certification dated: 10-15-15

Dear Ms. Padilla Moyer,

Based upon the information provided in the submittal received 10-15-15, the above referenced Certification is acceptable for Building Permit on the lots referenced above.

If you have any questions, you can contact me at 924-3420.

PO Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

Sincerely,

Curtis Cherne, P.E.
Principal Engineer, Stormwater Quality for Hydrology
Planning Dept.

C: File



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV 02/2013)

Project Title: SEVILLA @ ANDALUCIA Building Permit #: _____ City Drainage #: F110015C
DRB#: 1000965 EPC#: _____ Work Order#: _____
Legal Description: TRACTS A-1-A AND B-2, ANDALUCIA AT LA LUZ
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Address: 7500 JEFFERSON ST NE COURTYARD 1 ALBUQUERQUE NM 87109
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Owner: PULTE Contact: KEVIN PATTON
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Phone#: 505-341-8591 Fax#: _____ E-mail: kevin.patton@pultegroup.com

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

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

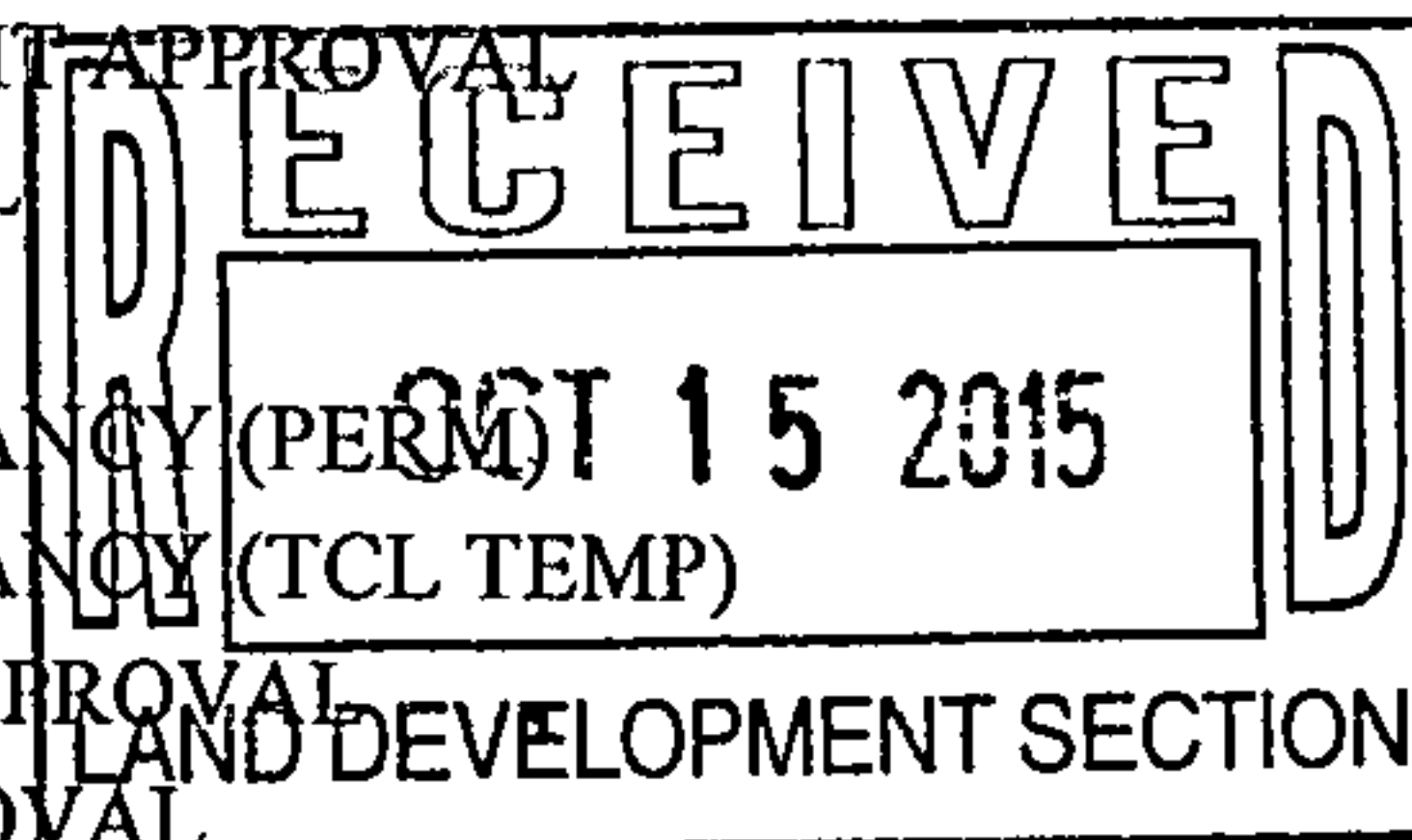
Contractor: _____ Contact: _____
Address: _____
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TYPE OF SUBMITTAL:

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- ☐ DRAINAGE PLAN 1st SUBMITTAL
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- ☐ CONCEPTUAL G & D PLAN
- ☐ GRADING PLAN (resubmittal)
- ☐ 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
- ☐ ESC PERMIT APPROVAL
- ☐ ESC CERT. ACCEPTANCE
- ☒ OTHER (SPECIFY) **PAD CERTIFICATION**



WAS A PRE-DESIGN CONFERENCE ATTENDED: _____ Yes _____ No _____ Copy Provided

DATE SUBMITTED: 10-15-15 By: Yolanda Moyer

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

Bohannon Huston

October 15, 2015

Courtyard I
7500 Jefferson St. NE
Albuquerque, NM
87109-4335

www.bhinc.com

voice: 505.823.1000
facsimile: 505.798.7988
toll free: 800.877.5332

Ms. Rita Harmon
Hydrology Section
City of Albuquerque
600 2nd Street NW
Albuquerque, NM 87102

Re: Partial Grading and Drainage Certification, Lots 21, 23-28 Sevilla @ Andalucia
DRB Case No. 1000965 (File: F11D015C)

Dear Rita:

We are submitting a partial grading and drainage certification for Sevilla @ Andalucia. The partial certification includes Lots 21, 23-28. Enclosed for your review is the approved grading and drainage plan dated 2/19/15. These lots have been graded; retaining walls, curb and gutter, pavement and downstream infrastructure have been constructed. The remaining lots on the north side of Sevilla Ave have been graded, but the retaining walls have not been completed. The remaining lots will be certified once construction of all improvements has been completed.

After reviewing these as-built elevations and visiting the site on 10/15/15 it is my belief that the above lots have been graded in substantial compliance with the approved grading and drainage plan and that the interim drainage improvements allow runoff to be managed in the interim condition.

Your review and approval is requested for Building Permit Approval for the above listed buildings. I appreciate your time and consideration. If you have questions or require additional information, please contact me at 823-1000.

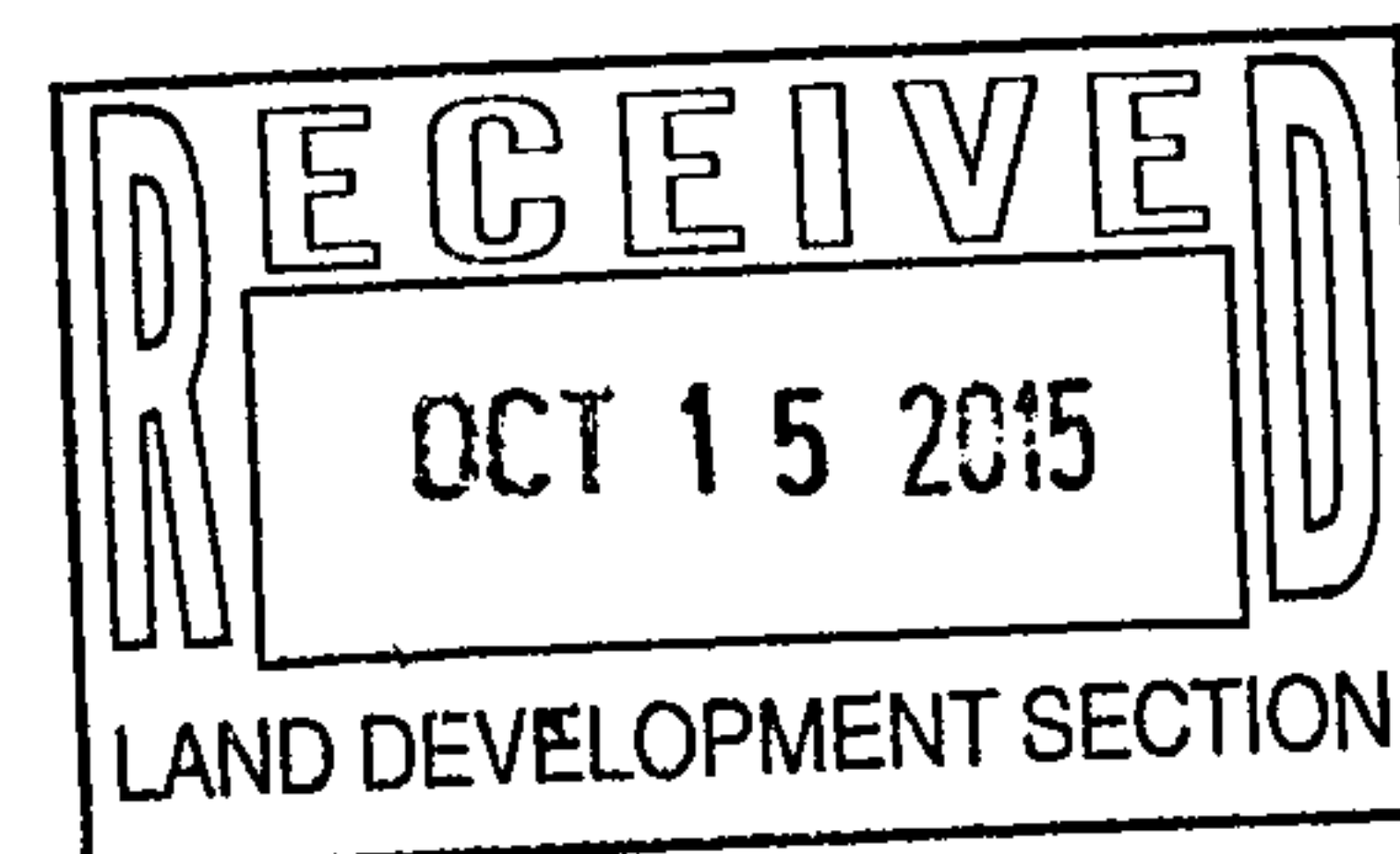
Sincerely,



Yolanda Padilla Moyer, P.E.
Senior Project Manager
Community Development & Planning

Enclosure

cc: Peter Steen, Pulte Homes
Kevin Patton, Pulte Homes



Engineering ▲

Spatial Data ▲

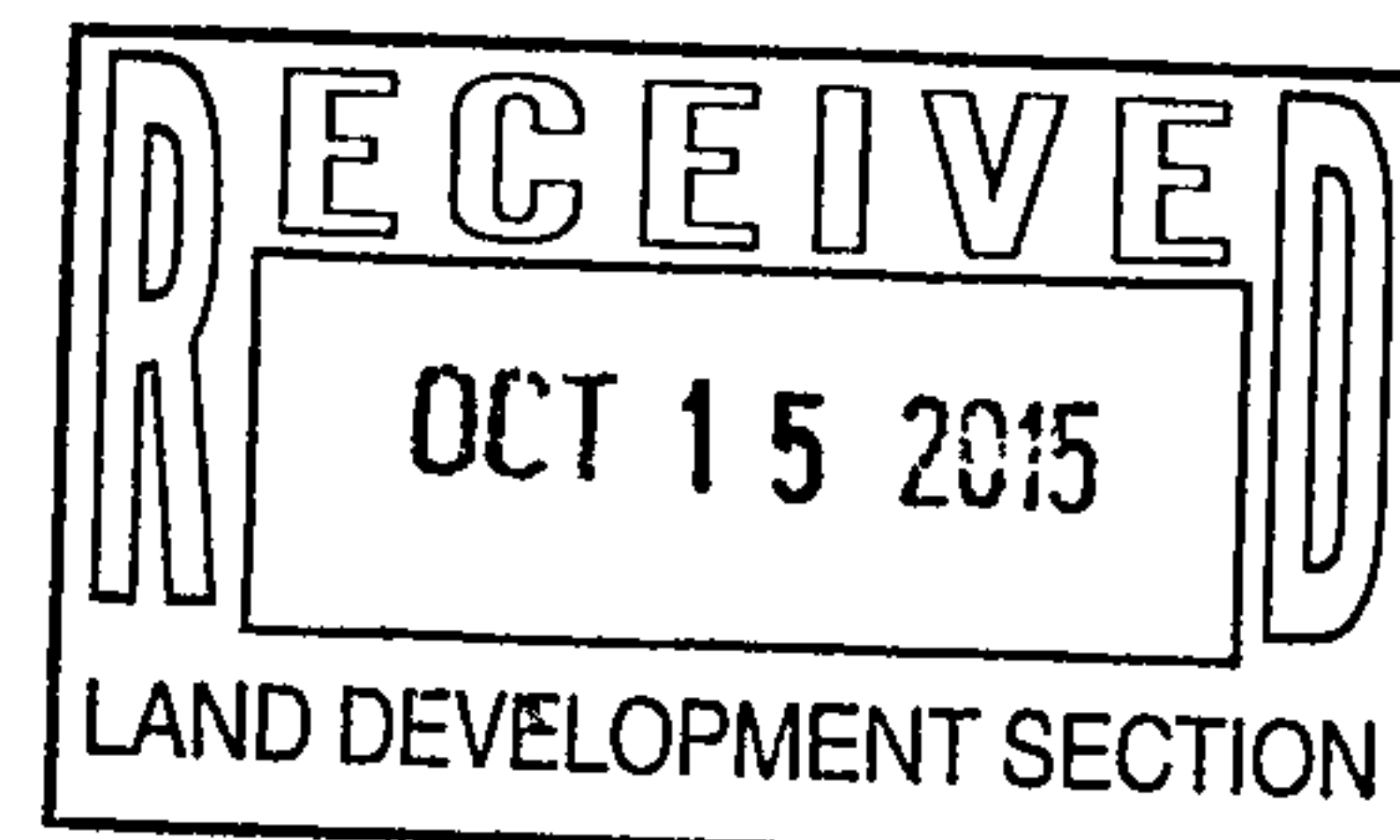
Advanced Technologies ▲

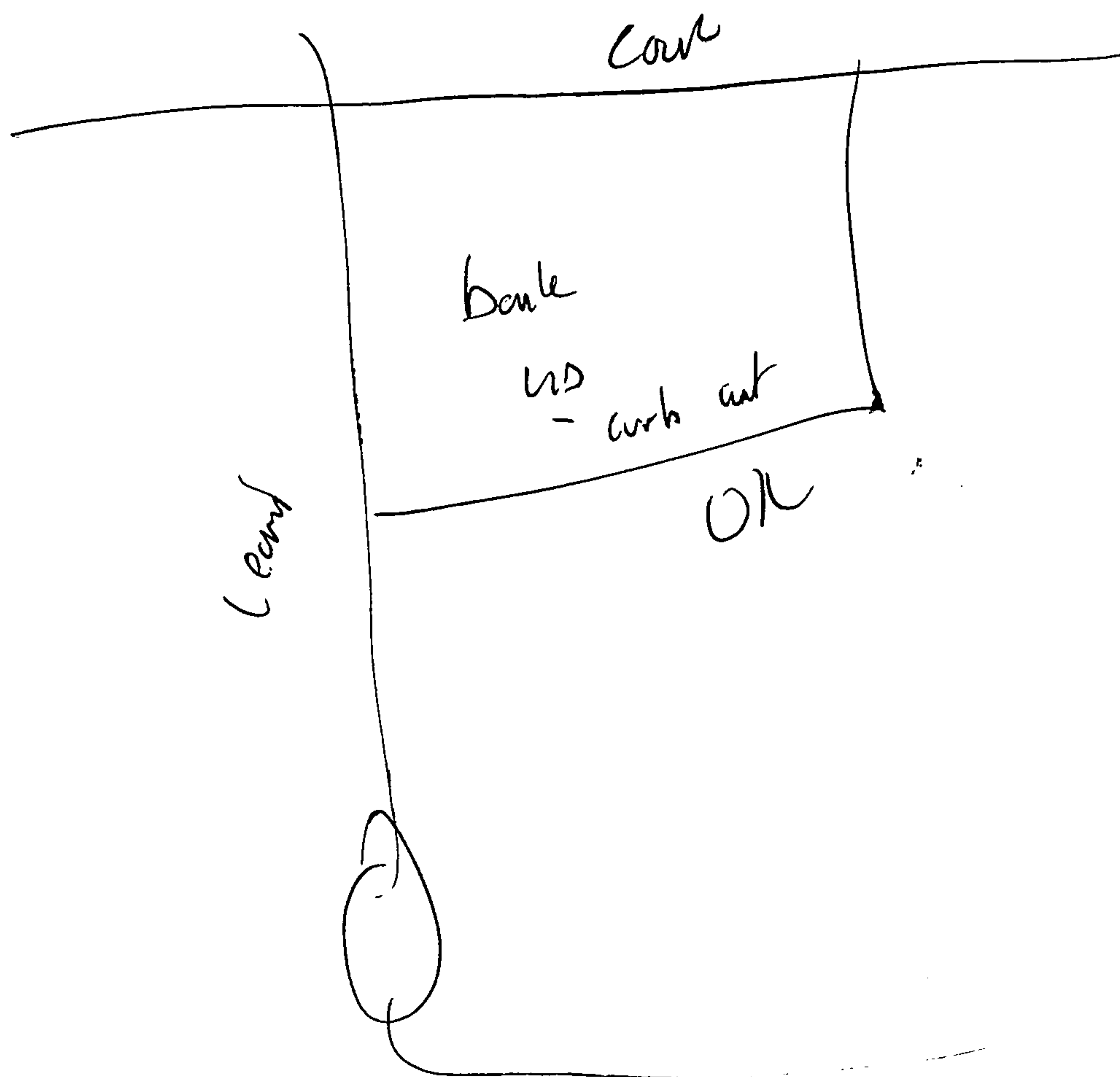
Yolanda Padilla Moyer

From: Yolanda Padilla Moyer
Sent: Wednesday, October 14, 2015 3:11 PM
To: 'PLNDRS@cabq.gov'
Cc: 'Harmon Rita T. (rharmon@cabq.gov)'; Kevin Patton (Kevin.Patton@PulteGroup.com)
Subject: RE: Del Webb at Mirehaven Partial Lot Cert (Partial Lots
1-33,42-46,106,107,160,161,178-214
Attachments: Partial Lots 1-33,42-46,106,107,160,161,178-214_digital submittal.pdf

Please find enclosed the digital submittal for the above mentioned project.

Yolanda Padilla Moyer, P.E.
Senior Project Manager
Bohannon Huston, Inc.



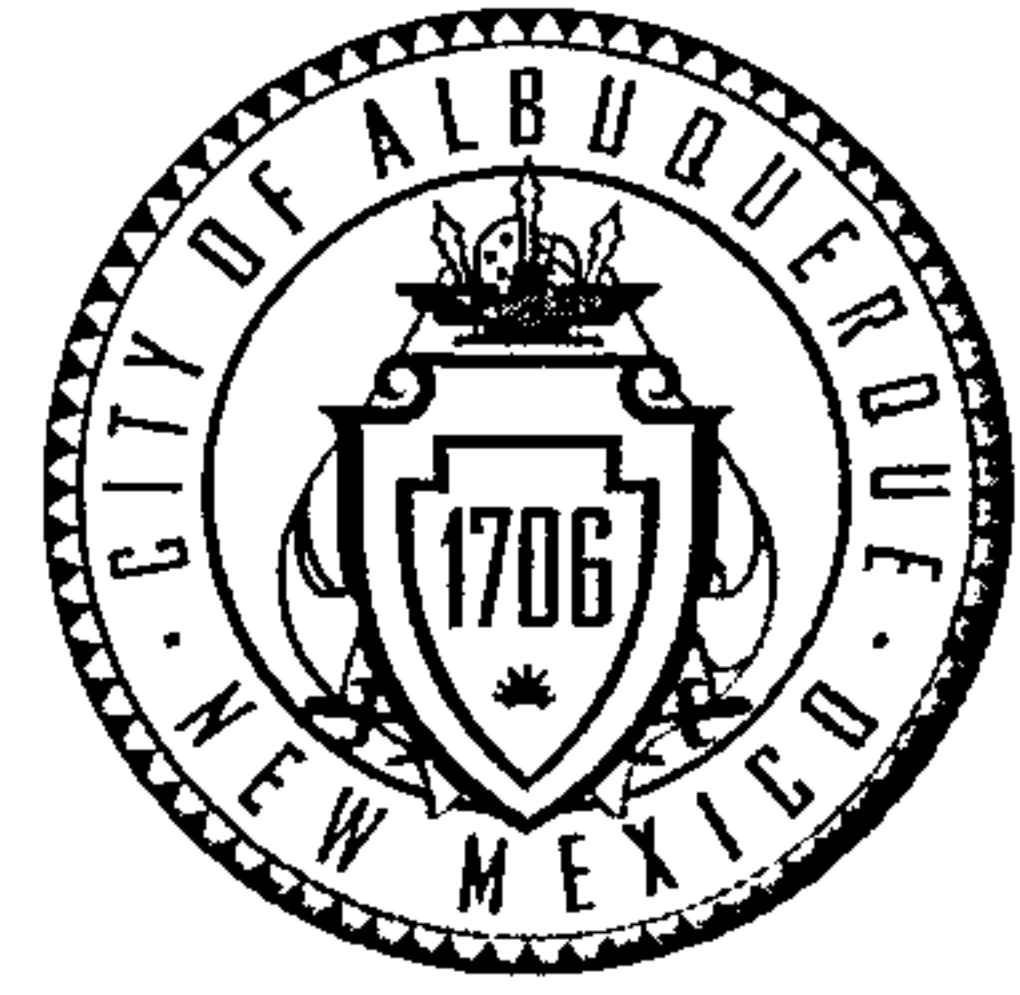


Will
inlet in landscape
area - OK

Prod A

CITY OF ALBUQUERQUE

PLANNING DEPARTMENT – Development Review Services



February 24, 2015

Brian Patterson, PE
Yolanda Padilla Moyer, PE
BOHANNAN-HUSTON, INC.
7500 Jefferson Street NE Courtyard I
Albuquerque, NM 87109

Richard J. Berry, Mayor

RE: **Sevilla @ Andalucia - (File: F11D015C)**
Drainage Management Plan, Engineer's Stamp Date 1-19-2015
Grading and Drainage Plans, Engineer's Stamp Date 1-19-2015

Dear Mr. Patterson, Ms. Moyer:

Based upon the information provided in your submittals received 1-20-14, the above referenced submittals are approved for Grading Permit. Any changes to the above dated Grading and Drainage Plan will require a resubmittal and an approval prior to Work Order and Final Plat Approval.

Prior to Building Permit approval, Engineer Certification per the DPM checklist will be required.

PO Box 1293

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

Albuquerque

This project requires a National Pollutant Discharge Elimination System (NPDES) permit for storm water discharge for disturbing one acre or more and a Topsoil Disturbance Permit for disturbing $\frac{3}{4}$ of an acre or more.

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, Monica Ortiz

CITY OF ALBUQUERQUE

PLANNING DEPARTMENT – Development Review Services



January 20, 2015

Richard J. Berry, Mayor

Brian Patterson, PE
Yolanda Padilla Moyer, PE
BOHANNAN-HUSTON, INC.
7500 Jefferson Street NE Courtyard I
Albuquerque, NM 87109

RE: **Sevilla @ Andalucia - (File: F11D015C)**
Drainage Management Plan, Engineer's Stamp Date 1-19-2015
Grading and Drainage Plans, Engineer's Stamp Date 1-19-2015

Dear Mr. Patterson, Ms. Moyer:

Based upon the information provided in your submittals received 1-20-14, the above referenced submittals are approved for Preliminary Plat, Site Plan for Subdivision, and Site Plan for Building Permit action by the DRB with the following condition:

1. Open space tract ~~at~~ Basin D-1 should drain to cul-de-sac at far south end via turned blocks or other means.

PO Box 1293

The Grading and Drainage Plans cannot be approved for Grading Permit until DRB approval. A separate letter will be written with any exception or comment after DRB approval.

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, Monica Ortiz



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV 02/2013)

Project Title: SEVILLA @ ANDALUCIA DMP Building Permit #: _____ City Drainage #: 7110015
DRB#: 1000965 EPC#: _____ Work Order#: _____
Legal Description: TRACTS A-1-A AND B-2, ANDALUCIA AT LA LUZ
City Address: _____

Engineering Firm: BOHANNAN HUSTON INC Contact: BRIAN PATTERSON
Address: 7500 JEFFERSON ST NE COURTYARD 1 ALBUQUERQUE NM 87109
Phone#: 823-1000 Fax#: _____ E-mail: BPATTERSON@BHINC.COM

Owner: PULTE Contact: KEVIN PATTON
Address: 7601 JEFFERSON ST NE SUITE 320 ALBUQUERQUE NM 87109
Phone#: 505-341-8591 Fax#: _____ E-mail: _____

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

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

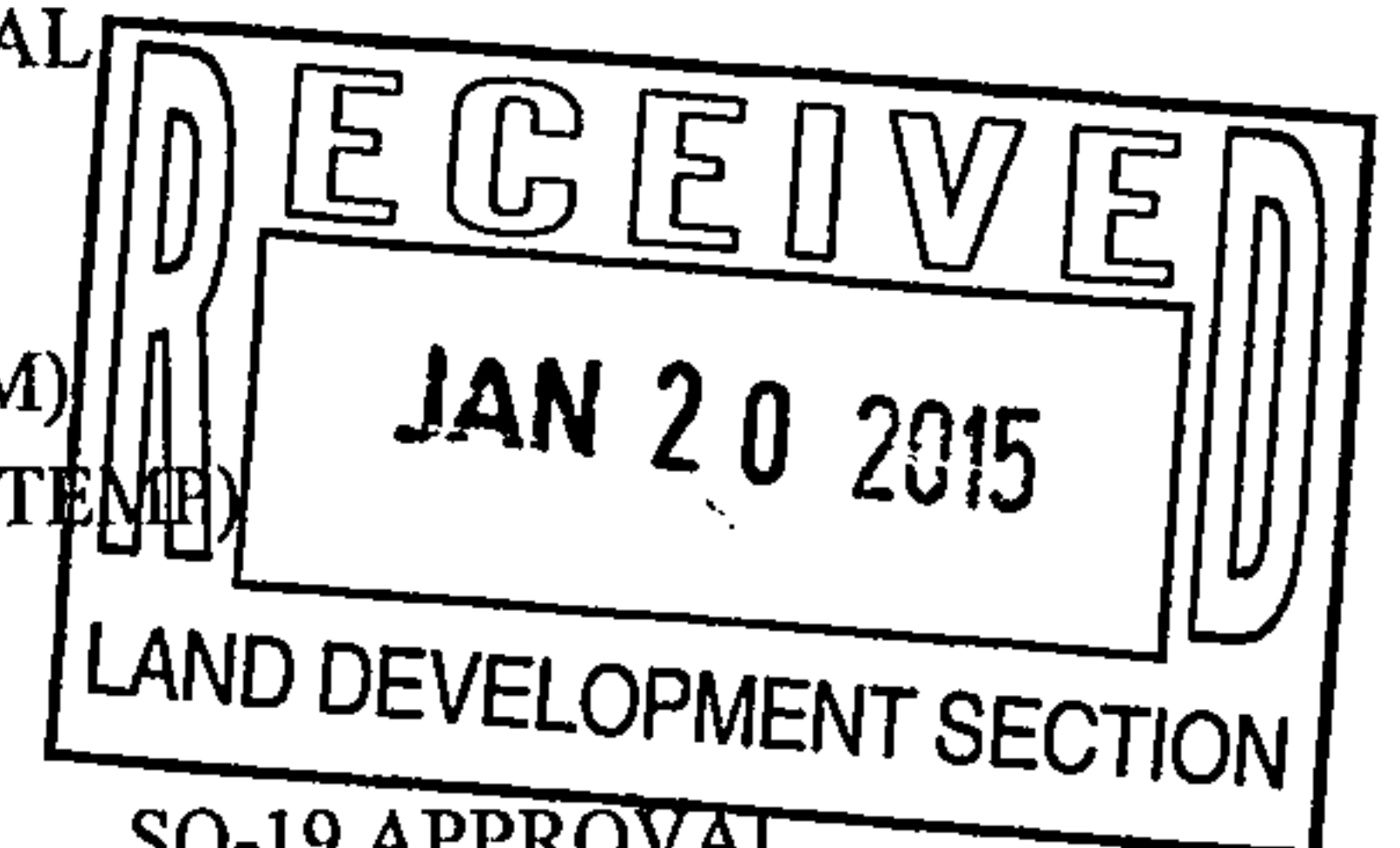
Contractor: _____ Contact: _____
Address: _____
Phone#: _____ Fax#: _____ E-mail: _____

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
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- ☐ WORK ORDER APPROVAL
- ☐ GRADING CERTIFICATION
- ☐ SO-19 APPROVAL
- ☐ ESC PERMIT APPROVAL
- ☐ ESC CERT. ACCEPTANCE
- ☐ OTHER (SPECIFY) _____



WAS A PRE-DESIGN CONFERENCE ATTENDED: _____ Yes _____ No _____ Copy Provided
DATE SUBMITTED: 1-20-15 By: BRIAN PATTERSON

Stamped 1-19-15

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:

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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

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Albuquerque, NM
87109-4335

www.bhinc.com

voice: 505.823.1000
facsimile: 505.798.7988
toll free: 800.877.5332

CLIENT/COURIER TRANSMITTAL

To: Rita Harmon, PE
COA-PDS

Requested by: Yolanda Moyer

Date: 1-20-15

Time Due: ☒ This A.M.
☐ This P.M.
☐ Rush _____
☐ By Tomorrow

Phone:

Job No.: 20150130.006

Job Name:

DELIVERY VIA

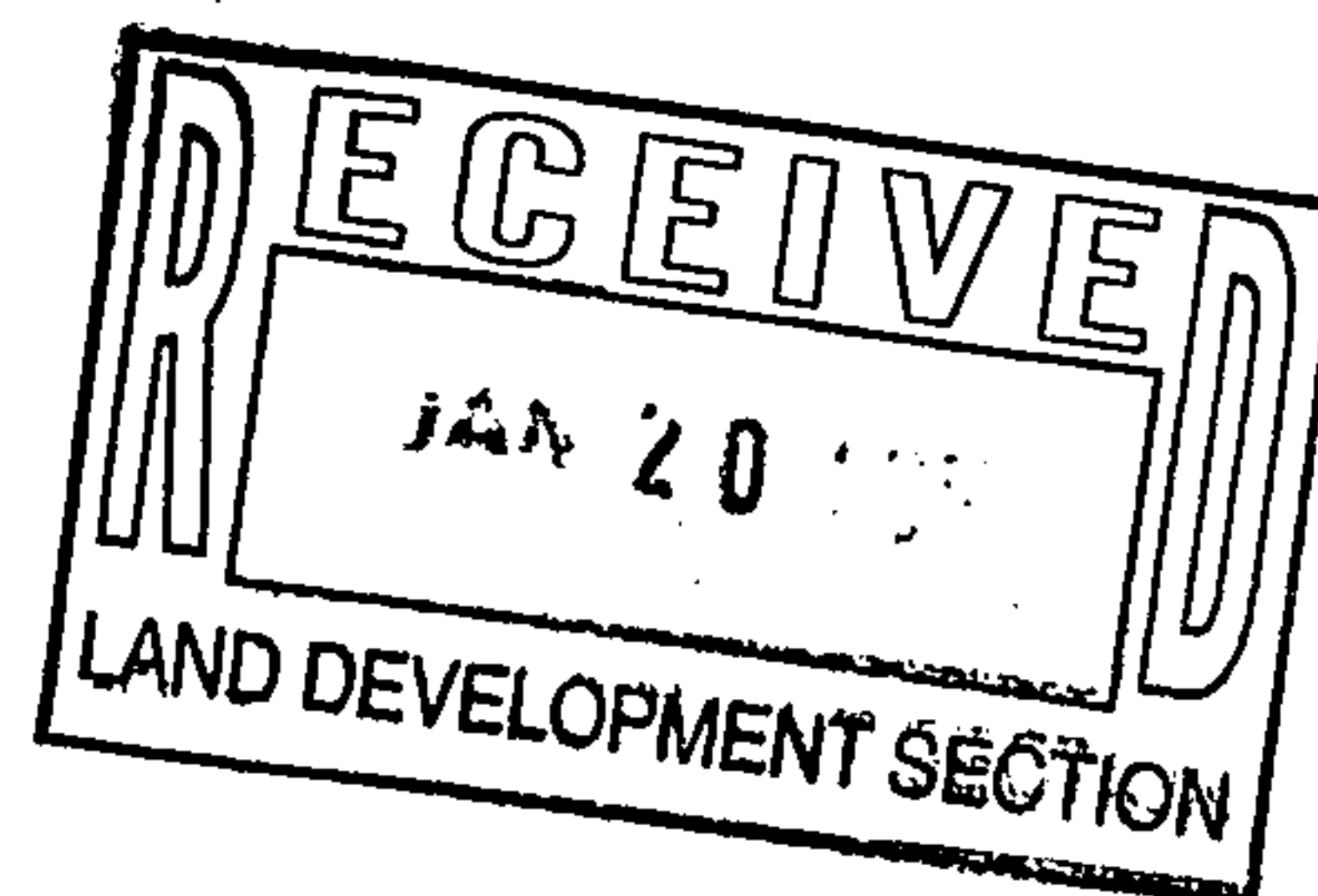
☒ Courier ☐ Federal Express
☐ Mail ☐ UPS
☐ Other

PICK UP

Item: _____

<u>ITEM NO.</u>	<u>QUANTITY</u>	<u>DESCRIPTION</u>
1	1	DMP
2	1	Letter
3	1	Digital Submittal Email
4	1	Drainage Info Sheet

COMMENTS / INSTRUCTIONS



REC'D BY: _____ DATE: _____ TIME: _____

Brian Patterson

From: Brian Patterson
Sent: Monday, January 19, 2015 4:56 PM
To: mortiz@cabq.gov
Cc: Harmon Rita T. (rharmon@cabq.gov); Yolanda Padilla Moyer
Subject: DRB #1000965 - DMP Re-Submittal

Monica,

Below is a link to the digital copy for our drainage submittal for Sevilla @ Andalucia.

Brian

Use the following link to download files.

<http://sfspublic.bhinc.com/EmailAccess.aspx?tk=TKbpattersonD1912015165520>

NOTE: These files will expire in 7 days from the time this email was generated.

Using Gmail and IE? Please right click on the link and select Open in new window.

Current DRC
Project No. _____

Date Submitted: 12/19/2014
Date Site Plan Approved: _____
Date Preliminary Plat Approved: _____
Date Preliminary Plat Expires: _____

DRB Project No. 1000965

Figure 12

INFRASTRUCTURE LIST

EXHIBIT "A"
TO SUBDIVISION IMPROVEMENTS AGREEMENT
DEVELOPMENT REVIEW BOARD (D.R.B.) REQUIRED INFRASTRUCTURE LIST

SEVILLA @ ANDALUCIA
(TRACT A-1-A & B-2 @ ANDALUCIA)

Following is a summary of PUBLIC/PRIVATE Infrastructure required to be constructed or financially guaranteed for the above development. This Listing is not necessarily a complete listing. During the SIA process and/or in the review of the construction drawings, if the DRC Chair determines that appurtenant items and/or unforeseen items have not been included in the infrastructure listing, the DRC Chair may include those items in the listing and related financial guarantee. Likewise, if the DRC Chair determines that appurtenant or non-essential items can be deleted from the listing, those items may be deleted as well as the related portions of the financial guarantees. All such revisions require approval by the DRC Chair, the User Department and agent/owner. If such approvals are obtained, these revisions to the listing will be incorporated administratively. In addition, any unforeseen items which arise during construction which which are necessary to complete the project and which normally are the Subdivider's responsibility will be required as a condition of project acceptance and close out by the City.

SIA Sequence #	COA DRC Project #	Size	Type of Improvement	Location	From	To	Private Inspector	City Inspector	City Cnst Engineer
PUBLIC WATERLINE IMPROVEMENTS									
		4" DIA (1W)	WATERLINE W/ NEC. VALVES FH'S, MJ'S & RJ'S	CALLE ESPANA	WEST BOUNDARY	FIRE HYDRANT LOCATION BETWEEN LOTS 7 & 8	/	/	/
		8" DIA (1W)	WATERLINE W/ NEC. VALVES FH'S, MJ'S & RJ'S	CALLE ESPANA	FIRE HYDRANT LOCATION BETWEEN LOTS 7 & 8	SEVILLA AVE	/	/	/
		8" DIA (1W)	WATERLINE W/ NEC. VALVES FH'S, MJ'S & RJ'S	CALLE ESPANA	SEVILLA AVE	BERM STREET	/	/	/
		4" DIA (1W)	WATERLINE W/ NEC. VALVES FH'S, MJ'S & RJ'S	CORTE ALCAZAR	WEST BOUNDARY	CALLE ESPANA	/	/	/
		4" DIA (1W)	WATERLINE W/ NEC. VALVES FH'S, MJ'S & RJ'S	CALLE GIRALDA	LOT 22	CALLE PARASOL	/	/	/
		6" DIA (1W)	WATERLINE W/ NEC. VALVES FH'S, MJ'S & RJ'S	CALLE GIRALDA	CALLE PARASOL	CALLE ESPANA	/	/	/
		6" DIA (1W)	WATERLINE W/ NEC. VALVES FH'S, MJ'S & RJ'S	CALLE PARASOL	CALLE GIRALDA	CALLE ESPANA	/	/	/
							/	/	/
							/	/	/
PUBLIC SANITARY SEWER IMPROVEMENTS									
		8" DIA	SANITARY SEWER W/ NEC. MH'S & SERVICES	CALLE ESPANA	EX. SANITARY SEWER MANHOLE LOCATED IN COORS RIGHT-OF-WAY	SEVILLA AVE	/	/	/
		8" DIA	SANITARY SEWER W/ NEC. MH'S & SERVICES	CALLE ESPANA	SEVILLA AVE	BERM STREET	/	/	/
		8" DIA	SANITARY SEWER W/ NEC. MH'S & SERVICES	CORTE ALCAZAR	WEST BOUNDARY	CALLE ESPANA	/	/	/
		8" DIA	SANITARY SEWER W/ NEC. MH'S & SERVICES	CALLE GIRALDA	LOT 22	CALLE ESPANA	/	/	/
		8" DIA	SANITARY SEWER W/ NEC. MH'S & SERVICES	CALLE PARASOL	CALLE GIRALDA	AVENIDA SEVILLA	/	/	/
			REMOVAL OF 8" SANITARY SEWER	EXISTING 25' SANITARY SEWER EASEMENT TO BE REMOVED	EX. SANITARY SEWER MANHOLE LOCATED IN COORS RIGHT-OF-WAY	SEVILLA AVE	/	/	/
							/	/	/

PUBLIC STORM DRAIN IMPROVEMENTS

18-36" DIA	RCP W/ NEC. MH'S, LATERALS & INLETS	CALLE ESPANA	LOT 12/13 (LOWPOINT)	SEVILLA AVE
18-36" DIA	RCP W/ NEC. MH'S, LATERALS & INLETS	CALLE ESPANA	TRACT 4 (LOWPOINT)	SEVILLA AVE
NOTE: A GRADING AND DRAINAGE CERTIFICATION OF THE APPROVED GRADING PLAN IS REQUIRED PRIOR TO THE RELEASE OF FINANCIAL GUARANTEES				

/	/	/
/	/	/
/	/	/
/	/	/

SIA Sequence #	COA DRC Project #

Size	Type of Improvement	Location	From	To
PUBLIC ROADWAY IMPROVEMENTS - ON-SITE				
25' F-F	RESIDENTIAL PAVING W/ PCC CURB & GUTTER & PCC 4' WIDE SIDEWALK†* ON BOTH SIDES	CALLE ESPANA (Access Local Residential)	CUL-DE-SAC TERMINUS	LOT 1/2
22' F-F (OUT) 20' F-F (IN) 5' MEDIAN	RESIDENTIAL PAVING W/ PCC CURB & GUTTER & PCC 4' WIDE SIDEWALK†* ON BOTH SIDES	CALLE ESPANA (Access Local Residential)	LOT 1/2	SEVILLA AVE
22' F-F (OUT) 20' F-F (IN) 6' MEDIAN	RESIDENTIAL PAVING W/ PCC CURB & GUTTER & PCC 4' WIDE SIDEWALK†* ON BOTH SIDES	CALLE ESPANA (Access Local Residential)	SEVILLA AVE	CALLE GIRALDA
25' F-F	RESIDENTIAL PAVING W/ PCC CURB & GUTTER & PCC 4' WIDE SIDEWALK†* ON BOTH SIDES	CALLE ESPANA (Access Local Residential)	LOT 44/45	BERM STREET
25' F-F	RESIDENTIAL PAVING W/ PCC CURB & GUTTER & PCC 4' WIDE SIDEWALK†* ON NORTHSIDE ONLY	CORTE ALCAZAR (Access Local Residential)	CUL-DE-SAC TERMINUS	CALLE ESPANA
24' F-F	RESIDENTIAL PAVING W/ PCC CURB & GUTTER & PCC 4' WIDE SIDEWALK†* ON SOUTH SIDE ONLY	CALLE GIRALDA (Access Local Residential)	LOT 22	CALLE ESPANA
8'	PCC SIDEWALK	COORS BLVD	END OF EXISTING 8' SIDEWALK NORTH OF SEVILLA	NORTH PROPERTY BOUNDARY
4'	PCC SIDEWALK	PUBLIC PEDESTRIAN EASEMENT LOCATED ON HOA TRACT ALONG NORTH BOUNDARY	CALLE ESPANA W. SIDEWALK	COORS BLVD SIDEWALK
	GUARDRAIL	TRACT 6A TO BE OWNED AND MAINTAINED BY LA LUZ HOA	ALONG BACK SIDE OF LOTS 40 AND 41 AROUND CUL-DE-SAC	

Private Inspector	City Inspector	City Cnst Engineer
/	/	/
/	/	/
/	/	/
/	/	/
/	/	/
/	/	/
/	/	/
/	/	/
/	/	/

SIA Sequence #	COA DRC Project #

Size	Type of Improvement	Location	From	To
PUBLIC ROADWAY IMPROVEMENTS - CONTINUED				
25' F-F	RESIDENTIAL PAVING W/ PCC CURB & GUTTER & PCC 4' WIDE SIDEWALK†* ON BOTH SIDES	CALLE PARASOL (Access Local Residential)	CALLE GIRALDA	CALLE ESPANA
NOTE: A STREETSCAPE AGREEMENT BTWN THE CITY & DEVELOPER IS REQUIRED FOR LANDSCAPING W/IN PUBLIC ROW. STREET LIGHTS ARE REQUIRED PER THE COA DPM				
*ALL SIDEWALKS TO BE DEFERRED ALONG FRONTAGE OF LOTS, SIDEWALKS TO BE BUILT DEFERRED IN ACCORDANCE W/APPROVED SIDEWALK EXHIBIT †SIDEWALK TO BE WAIVED ON: NORTHSIDE OF CULDESAC ON CALLE ESPANA ADJACENT TO LOT 11, SOUTHSIDE OF CALLE ALCAZAR, NORTH SIDE OF CALLE GIRALDA, EASTSIDE CALLE ESPANA NORTH OF LOT 32. **PROVIDE / INSTALL THE NECESSARY ROADWAY SIGNAGE ASSOCIATED W/ THE DEVELOPMENT AS APPROVED BY THE CITY DRC				

Private Inspector	City Inspector	City Cnst Engineer
/	/	/
/	/	/
/	/	/

AGENT/OWNER		DEVELOPMENT REVIEW BOARD MEMBER APPROVALS			
YOLANDA PADILLA MOYER, P.E.					
PREPARED BY: PRINT NAME		DRB CHAIR	DATE	PARKS & GENERAL SERVICES	DATE
BOHANNAN HUSTON INC.					
FIRM:		TRANSPORTATION DEVELOPMENT	DATE	AMAFCA	DATE
SIGNATURE		ABCWUA	DATE	CITY ENGINEER	DATE
MAXIMUM TIME ALLOW TO CONSTRUCT IMPROVEMENTS WITHOUT A DRB EXTENSION			DATE		DATE

DESIGN REVIEW COMMITTEE REVISIONS				
REVISION	DATE	DRC CHAIR	USER DEPARTMENT	AGENT/OWNER

Bohannon Huston

January 15, 2015

Courtyard I
7500 Jefferson St. NE
Albuquerque, NM
87109-4335

www.bhinc.com

Ms. Rita Harmon, P.E.
City of Albuquerque
Planning Department
600 2nd Street NW
Albuquerque, NM 87103

voice: 505.823.1000
facsimile: 505.798.7988
toll free: 800.877.5332

Re: Response to Comments
Drainage Master Plan for Sevilla @ Andalucia

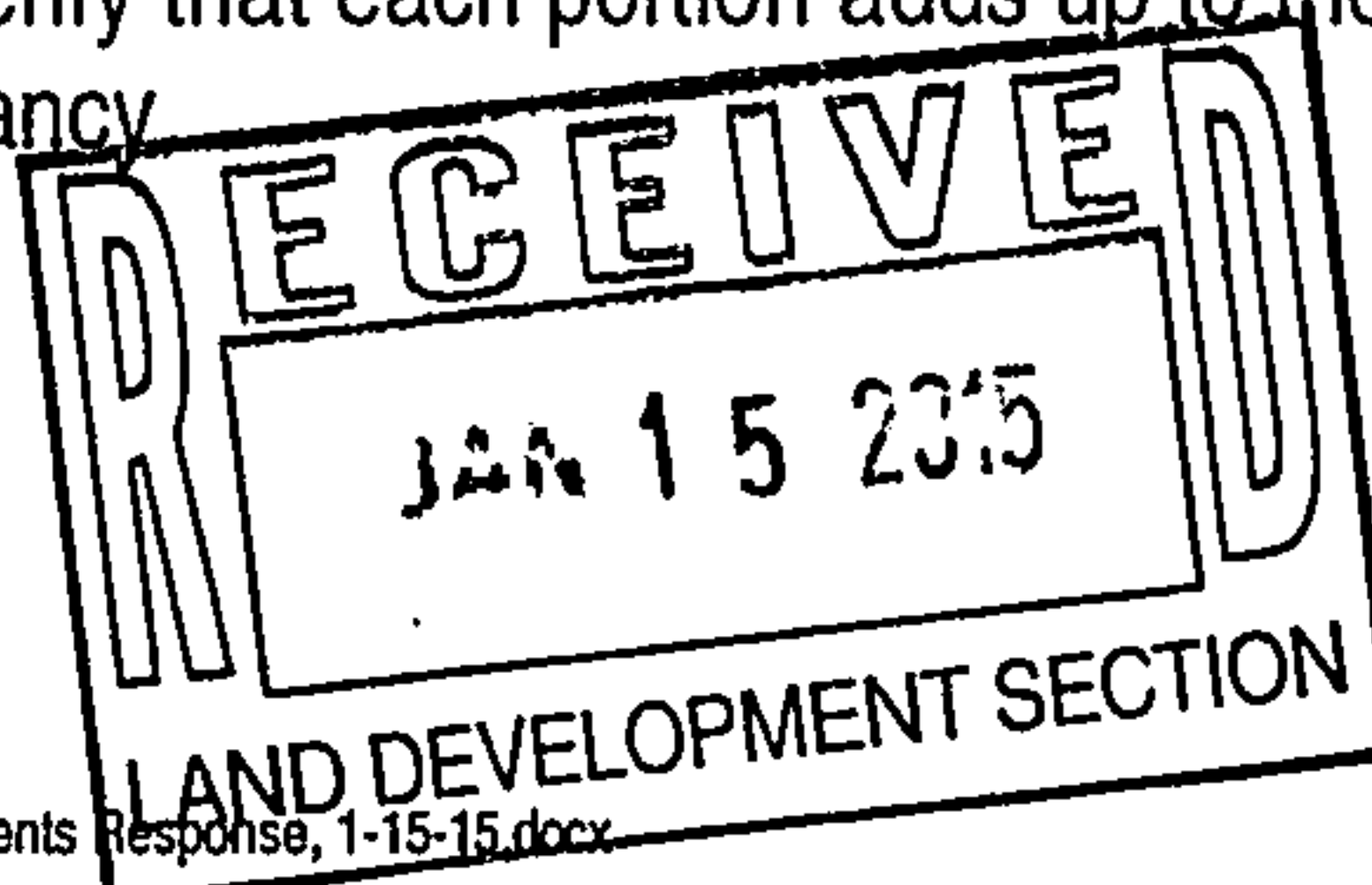
Dear Ms. Harmon:

Based on the letter we received from you dated January 13, 2015 and the email dated January 14, 2015 which provided comments for the Drainage Management Plan for Sevilla @ Andalucia, below are our responses to each of your comments and how they have been addressed.

Letter dated January 13, 2015:

- ✓ 1. Address the first flush.
 - Done. As stated in the report, the required retention of 5771 CF could not be accomplished due to the site restraints. As shown in the report, we maximized all available areas are able to retain a volume of 2311 CF. As stated on the latest EPA MS4 Permit on sheet 10, "Where both the 90th percentile storm event capture requirement and flood control requirements on site cannot be met due to site conditions, the 90th percentile storm event capture requirements may be met through a combination of onsite and offsite controls". The existing AMAFCA water harvesting facility just downstream of our site on the San Antonio Arroyo provides an additional water quality feature and thus meets the intent of the MS4 permit. *or more*
- ✓ 2. Address offsite flows in the report. Do any flows from Coors enter Sevilla Ave.? *Appdx E*
 - There are no offsite flows that enter the site. This has been addressed in the report. *Appdx. F*
- ✓ 3. Grading plan does not show the existing elevations of Sevilla Ave. It seems to show historic contours. Show existing contours and flowline of Sevilla Ave. Is there a water block from Coors into Sevilla Ave?
 - Yes, there is a water block just east of Coors on Sevilla. The grading plan has been revised to with additional spots confirming the water block.
- ✓ 4. According to report, portions of Existing Basin 1 are conveyed to separate low points. Therefore, Existing Basin 1 should be divided accordingly to reflect this.
 - Yes, as indicated in Appendix B, the flows are divided equally to each low point.
5. ~~new sheet on~~ Note in the report what portion the Q₁₀₀ flowrate of Existing Basin 1 contributes to each of the separate lowpoints. Please verify that each portion adds up to the total Q₁₀₀ for that basin as there seems to be a 0.4 cfs discrepancy.
 - Done.

*No 0.5 cfs
discrep.*



Engineering ▲

Spatial Data ▲

Advanced Technologies ▲

6. Adjust basin boundaries so that water blocks in Calle Espana coincide with basin boundaries.

- **The water blocks in Calle Espana near Sevilla Ave are not true water blocks. There are highpoints located at these locations but during the 100 year storm event, water from Sevilla (Ex. Basin 1) spills over the highpoint where it ultimately collected by the inlets in the sump conditions.**

7. Show an existing basin east of Existing Basin 1? Report and calculations should show that the 36" existing Storm drain has the capacity to convey the developed flows to its discharge location. What offsite basins contribute to flows in the existing 36" Storm Drain?

- **Previous DMP excepts have been included in the report with this information.**

8. The contours, elevations and line work showing Coors Blvd, the curb and gutter are unclear.

- **Grading Plan has been revised to more clear show Coors Blvd Line Work. Flowline elevations have also been shown for reference**

9. Do flows on East side of Coors (in meandering sidewalk area) drain to this site? Particularly north of Sevilla Ave? The developed basin map shows flow arrows pointing west, but the contours do not support this. There seems to be some ponding in this area. Where is the R.O.W.? Where is the property line? How does this area drain?

- **Area west of the wall in Coors Blvd drains towards Coors Blvd. Basin Map and Grading Plan have been updated to show this. ROW has been labeled on Grading Plan.**

10. Is the Retaining wall along Coors existing or proposed? Are both walls shown retaining walls? Site Plan for Subdivision suggests that the wall closer to wall is a decorative wall.

- **The wall along Coors Blvd south of Sevilla is existing and has a 4' retaining wall built into the wall, where the development site is lower than Coors. On the north side of Sevilla, a portion of the wall is built for approximately 150' to the north and also has a 4' retaining wall built into it similar to the south side. The wall is proposed to continue from the existing terminus of the wall to the north property boundary. Grading Plan notes have been added to reflect this.**

11. How do Open space tracts drain? Particularly the larger ones such as Basins D-1 and H?

- **They both are conveyed east to the adjacent streets by a swale located just north of the proposed retaining walls.**

Need a T.B. on South Basin D-1

12. Show proposed contours.

- **Grading Plan has been revised to reflect this.**

13. Show top and bottom of wall elevations on Retaining walls on Grading Plan.

- **Grading Plan has been revised to reflect this.**

14. Legend shows existing storm drain system with hatched pattern, but is actually faded on plan.

- **This has been updated.**

15. Please provide documentation which indicates which developed basins are allowed to free discharge into the San Antonio Arroyo.

- **AMAFCA will also be reviewing and approving this report, thus concurring the statement of free discharge into the San Antonio Arroyo which is an AMAFCA facility.**

✓ 16. Is there a Master Drainage Plan for this area? If so, please provide relevant excerpts.

- The report references the Drainage Report for Andalucia at La Luz – Phase 1 and excerpts are provided.

17. AMAFCA approval is required. The earth lined swales to discharge to San Antonio Arroyo may need an easement, as well as discharge from any "Turned blocks".

- We have been in constant contact with AMAFCA on this issue. It is our understanding that an agreement will need to take place for this drainage and maintenance.

✓ 18. Show on the Grading Plan the earth lined swales that Basins B and F and K drain to as indicated in the report.

- Grading Plan has been revised to reflect this.

✓ 19. Indicate location and opening area of "Turned blocks" on the grading plan.

- Grading Plan has been revised to reflect this.

→ 20. Clearly show AMAFCA Floodway and easements as well as the boundary of the SFHA A flood zone. *can't tell*

- Preliminary Plat is enclosed which shows the AMAFCA Easement. A FEMA Map has also been included in the appendix of the Drainage Report for information.

✓ 21. Show slopes of roadway on Grading. *But no*

- Grading Plan has been revised to reflect this.

✓ 22. Provide Road cross sections.

- Grading Plan has been revised to reflect this.

✓ 23. Indicate on the Grading plan where standard curb and mountable curb will be used.

- Note has been added to the grading plan that all curb and gutter is Standard.

24. Sump in north side (Tract B-2) shows 2 inlets on the Storm Drain Network map, but only 1 inlet on the Grading Plan. The report states that a double grate inlet will be used, but is not indicated elsewhere. Further, the Calculations state that the required capacity is 26.8 cfs, but the Allowable Capacity for one inlet is 14.5 cfs. Similar comment is for the sump inlet in the south side (Tract A-1-A).

- The grading plan has been updated to show 2 inlets. The total flow at inlets 1 and 2 is 20.9 cfs and due to there not emergency spill way present, these inlets have been sized to capture two times the 100-year storm event. See Appendix B for additional analysis.

25. At sump in north side (Tract B-2), flowline elevations indicate that the road is super elevated. Provide street capacity calculations showing the super elevated street has capacity.

- The analysis provided in Appendix B is for a super elevated roadway.

✓ 26. For the storm drain analysis, provide a graphic representation showing the storm drain, the grade, the HGL and the pipe ID's used in the InRoads program.

- Plan and profile sheets have been included in the report with the above information.

Email dated January 14, 2015:

1. Show the Table in Appendix A on the Developed Basin Map
 - Done
2. There is a typo on page 1 of report stating site is 38 Acres.
 - Sheet 1 has been revised.
3. How do lots 29, 30, 31 drain? Turned blocks on back side of lot? Are drive pads on west side of lots?
 - These lots drain back through turn blocks. These turn blocks are referenced on the grading plan. These lots front and access from Calle Parasol.
4. A short retaining wall is needed between lots 39 & 40
 - Lot 40 has been revised and no retaining wall is needed
5. Lot 40 seems to be in Basin F
 - Lot 40 has been revised and drains through the front yard and is within Basin E.
6. Are the contours between Berm St. and the retaining wall existing contours or historic? Show some spot elevations along Berm St. Is there a curb along Berm St?
 - Existing elevations are provided at the property line adjacent to Berm St. There retaining walls are proposed. There are currently now walls along the La Luz Subdivision. Elevations that we have are shown. There is no curb and gutter along Berm St only edge of pavement.
7. There is a 10' difference in elevation between the retaining wall and Sevilla Ave. on South side of Sevilla, near the Arroyo.
 - Grading Plan has been revised to correct this.
8. In regards to comment 24 in the letter: I see that the capacity for 1 inlet is 26.11 as opposed to 14.47cfs as stated. However, the calculation for the head is based on there being 2 inlets capturing the flow rather than one. The depth is 0.58' so the capacity is about 20.5 cfs, still less than the required 26.8 cfs for the North Basin. This same comment applies to the South Basin (basin South of Sevilla Ave).
 - The head for each inlet (100 year event) is approximately 0.37'. As indicated in the report as well as in Appendix B, since there is not an emergency spillway present, 2 x 100 year event is required for these inlets. With this stated, the head for the 2 x 100 year event is approximately 0.57'. — head was for st. capacity only
9. In regards to comment 25: I see that the street capacity calculation does take into account the superelevation; however, it is assuming to separate inlets in both the North and South basins.
 - The analysis provides the depths for both sides of the inlet in sump as well as the required head to for the total flow at the inlet. The head for each inlet (100 year event) is approximately 0.36'. As indicated in the report as well as in Appendix B, since there is not an emergency spillway present, 2 x 100 year event is required for these inlets. With this stated, the head for the 2 x 100 year event is approximately 0.57'.

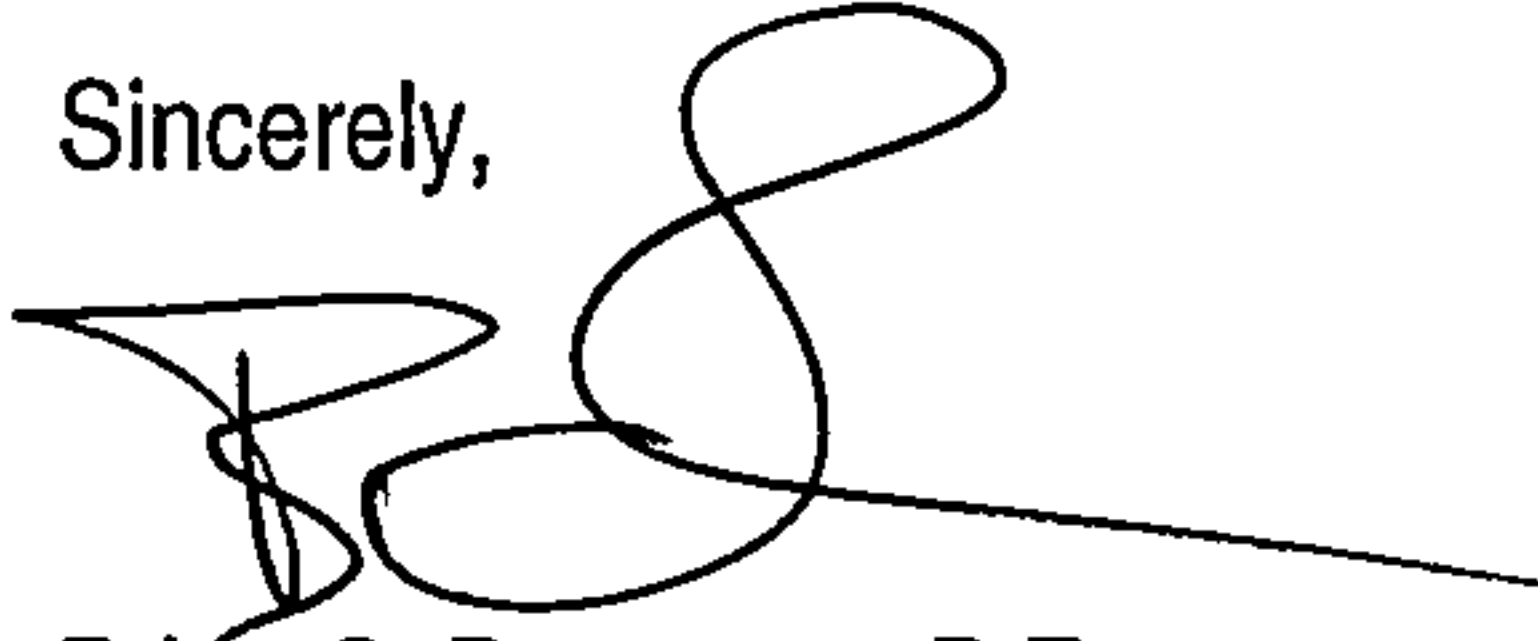
Sump
Sump Condition

10. I will wait till I get the other comments addressed before I review the SD analysis in more depth.

- **Noted.**

The Drainage Management Plan for Sevilla @ Andalucia 1 is attached. Please feel free to contact me at 823-1000 with questions or comments.

Sincerely,

A handwritten signature in black ink, appearing to be 'B. Patterson', with a long horizontal line extending to the right.

Brian C. Patterson, P.E.
Project Engineer
Community Development and Planning

BCP/
Enclosures

cc: Yolanda Moyer, BHI

Bohannon Huston

January 19, 2015

Courtyard I
7500 Jefferson St. NE
Albuquerque, NM
87109-4335

www.bhinc.com

Ms. Rita Harmon, P.E.
City of Albuquerque
Planning Department
600 2nd Street NW
Albuquerque, NM 87103

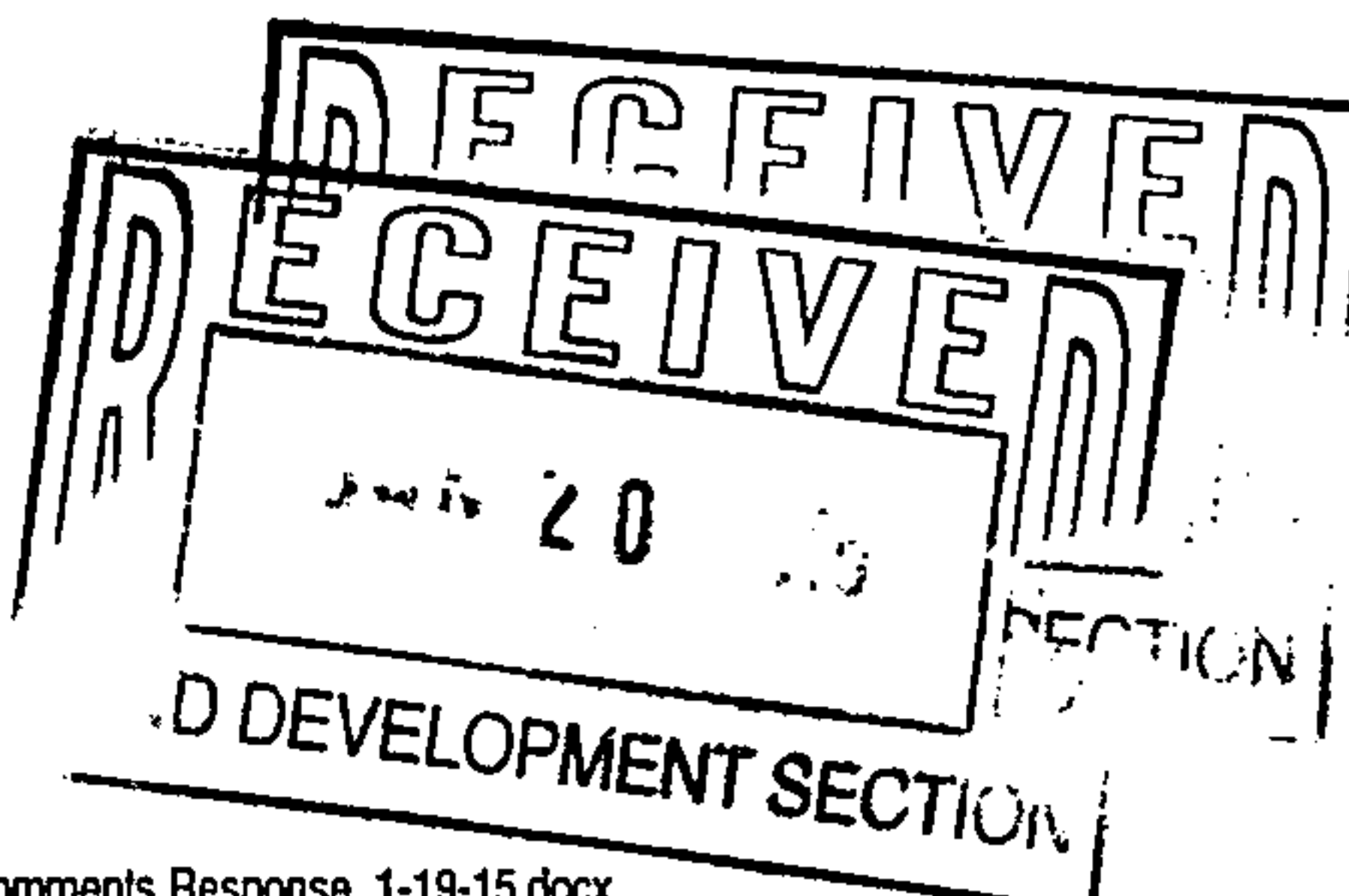
voice: 505.823.1000
facsimile: 505.798.7988
toll free: 800.877.5332

Re: Response to Comments
Drainage Master Plan for Sevilla @ Andalucia

Dear Ms. Harmon:

This letter is in response to our meeting with you on January 16, 2015 for the Drainage Management Plan for Sevilla @ Andalucia. In reviewing our responses with you, additional information or clarifications were needed to satisfy your comments, see below as well as the revised Grading and Drainage Report for this information.

1. COA Hydrology suggested that to utilize the front yards for potential water harvesting areas. It was suggested to add a 6" deep ponding area between the back of curb and sidewalk.
 - The Grading Plan and Drainage report have been revised to incorporate this. A small pond at each lot has a capacity to retain 42 CF. With the ponding areas located in the front and rear yards as indicated in Appendix E. With the front and back yard ponding areas, Pond 2 and Pond 3, a retention volume of 4396 CF is available onsite. Although this subdivision does not meet the full retention volume requirements, this site does maximize all available areas of pond and this meets the intent of the ordinance.
2. Clearly show AMAFCA Floodways and easement as well as the boundary of SFHA A flood zone.
 - The grading plan has been revised to show and label AMAFCA's easement. A FEMA Firm has been added and is located in Appendix G which shows the location of the flood zone.
3. Provide additional information to verify that offsite flows from Coors Blvd do not impact this site.
 - *Drainage Management Plan – Coors Boulevard Improvements*, prepared by Bohannon Huston, Inc., dated September 2005 was added and referenced in the report. This drainage management plan provides drainage analysis for the Coors Boulevard Improvements, which is located just west of our site. This DMP provides detailed analysis for offsite basins located in Coors Blvd and more importantly provides analysis that flows from Coors Blvd do not enter Sevilla Ave and this project.



Engineering ▲

Spatial Data ▲

Advanced Technologies ▲

4. Provide additional information for the $Q_{allowable}$ vs. Q_{design} for the existing 36" storm drain network in Sevilla Ave.

- As shown in the *Andalucia at La Luz – Unit 1* as-built for the above mentioned storm drain, the flow from the previously approved plans discharging to the existing 36" storm drain network is $Q=34.6$ cfs . As shown in this report, Sevilla @ Andalucia has a $Q=31.6$ cfs entering the storm drain network, thus there is no adverse effect to the existing storm drain network with this development. The asbuilt plan and profile sheet has been added as Exhibit 5

5. A short retaining wall is needed between lots 39 & 40.

- The grading plan has been revised to show a short retaining wall.

6. There is a 10' difference in elevation between the retaining wall and Sevilla Ave on South side of Sevilla, near the Arroyo

- The grading plan has been revised to show retaining walls, existing bridge wingwalls and contours to show more clarification in this location.

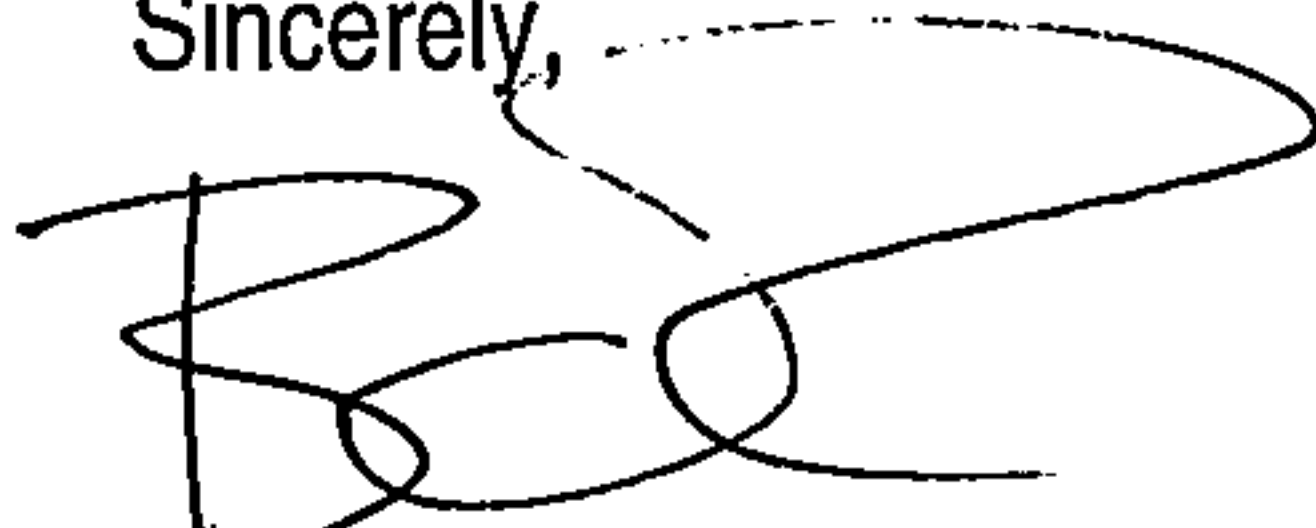
Comments received from AMAFCA on January 16, 2015:

1. Please make the swales cobble lined instead of earthlined.

- Grading Plan and Drainage Report have been revised to reflect a cobble lined swale.

The Drainage Management Plan for Sevilla @ Andalucia 1 is attached. Please feel free to contact me at 823-1000 with questions or comments.

Sincerely,



Brian C. Patterson, P.E.
Project Engineer
Community Development and Planning

BCP/
Enclosures

cc: Yolanda Moyer, BHI

Harmon Rita T.

From: Mazur, Lynn <lmazur@amafca.org>
Sent: Tuesday, January 20, 2015 1:44 PM
To: Harmon Rita T.; Cherne, Curtis
Cc: Yolanda Padilla Moyer
Subject: Andalucia Unit 4

I approve Preliminary Plat for Andalucia Unit 4. I met with Kevin Patton on Friday to discuss the swale for back lot drainage next to the San Antonio Arroyo. We allowed this for Andalucia Unit 3 on the south side of the arroyo.

AMAFCA
Lynn Mazur, P.E.
Development Review Engineer

DRAINAGE MASTER PLAN FOR SEVILLA @ ANDALUCIA

(REPLAT OF TRACT A-1-A & B-2 OF ANDALUCIA AT LA LUZ)

JANUARY 2015

Prepared for:

Pulte Homes of New Mexico
7601 Jefferson St NE – Suite 320
Albuquerque, NM 87109

Prepared by:

Bohannon  Huston

Engineering
Spatial Data
Advanced Technologies



**DRAINAGE MANAGEMENT PLAN
FOR
SEVILLA @ ANDALUCIA
(REPLAT OF TRACT A-1-A & B-2, ANDALUCIA AT LA LUZ)**

JANUARY 19, 2015

Prepared for:
**PULTE HOMES OF NEW MEXICO
7601 JEFFERSON BLVD. NE, SUITE 320
ALBUQUERQUE, NM 87109**

Prepared by:
**BOHANNAN HUSTON, INC.
COURTYARD I
7500 JEFFERSON STREET NE
ALBUQUERQUE, NM 87109**



Prepared by:

A handwritten signature in black ink, appearing to be "BCP", written over a horizontal line.

Brian C. Patterson, P.E.
Design Engineer

1-19-15

Date



TABLE OF CONTENTS

I. PURPOSE 1

II. CONCEPTS AND METHODOLOGIES 1

III. SITE LOCATION AND CHARACTERISTICS 2

IV. EXISTING HYDRAULIC AND HYDROLOGIC CONDITIONS..... 2

V. DEVELOPED HYDRAULIC AND HYDROLOGIC CONDITIONS 2

VI. CONCLUSION..... 4

APPENDICES

- APPENDIX A: BASIN CALCULATIONS
- APPENDIX B: STREET HYDRAULICS AND STORM DRAIN INLET ANALYSIS
- APPENDIX C: INROADS STORM DRAIN OUTPUT FILES
- APPENDIX D: SWALE ANALYSIS
- APPENDIX E: WATER HARVESTING CALCULATIONS
- APPENDIX F: PREVIOUS DMP'S EXCERPTS
- APPENDIX G: FEMA FIRM

EXHIBITS

- EXHIBIT 1 PRELIMINARY PLAT
- EXHIBIT 2 EXISTING BASINS MAP
- EXHIBIT 3 PROPOSED BASIN MAP
- EXHIBIT 4 STORM DRAIN NETWORK MAP
- EXHIBIT 5 STORM DRAIN PLAN AND PROFILE
- EXHIBIT 6 GRADING PLAN

I. PURPOSE

The purpose of this report is to provide a Drainage Management Plan for Sevilla @ Andalucia. Sevilla @ Andalucia encompasses Tract A-1-A and B-2 of the Andalucia at La Luz Subdivision and will consist of 45 single family residential lots on approximately 11.7 acres. This report will provide drainage analysis to support proposed site specific drainage infrastructure in order to obtain approval of the preliminary/final plat and grading plan by the City of Albuquerque.

II. CONCEPTS AND METHODOLOGIES

Drainage conditions were analyzed utilizing the 100-year, 6-hour storm event in accordance with the City of Albuquerque Drainage Ordinance and the *Development Process Manual (DPM), Volume 2 Design Criteria, Section 22.2, Hydrology, The City of Albuquerque*, January 2002. The property as described in the "Purpose" section above is approximately 11.7 acres, therefore Part A of the DPM, Section 22.2, which provides a simplified procedure for projects with sub-basins smaller than 40 acres, was used.

Per the City of Albuquerque and EPA requirements, retention of the 90th percentile storm event is required and will be utilized by onsite ponds. The infiltration time utilizing these retention ponds, will be 96 hours or less, per City requirements.

The following document was referenced in the preparation of this report:

- *Drainage Report for Andalucia at La Luz – Phase 1*, prepared by Bohannon Huston, Inc., dated September 11, 2003.

This drainage report provides drainage analysis for Phase 1, which is located just east of our site. This report provides detailed analysis for the storm drain network that will be tied to with this development. Excerpts from this report are provided in the appendix.

- *Drainage Management Plan – Coors Boulevard Improvements*, prepared by Bohannon Huston, Inc., dated September 2005.

This drainage management plan provides drainage analysis for the Coors Boulevard Improvements, which is located just west of our site. This DMP provides detailed analysis for offsite basins located in Coors Blvd and more importantly provides analysis that flows from Coors Blvd do not enter Sevilla Ave and this project. Excerpts from this report are provided in the appendix.

Free discharge from the site into the fully improved San Antonio Arroyo located south of the site will be utilized as per discussions with AMAFCA and as stated by the San Antonio Arroyo LOMR prepared by this office dated September 8, 1997 which delineates developed basins which discharge into the arroyo.

III. SITE LOCATION AND CHARACTERISTICS

Andalucia is a development located east of Coors Boulevard. The project is located near the San Antonio Arroyo. More specifically, Sevilla @ Andalucia is bordered by Coors Boulevard to the north, San Antonio Arroyo to the west and San Antonio Arroyo and Andalucia at La Luz, Phase 1 to the south. The site will be accessible from Coors Boulevard by Sevilla Ave. The site has been previously rough graded.

IV. EXISTING HYDRAULIC AND HYDROLOGIC CONDITIONS

The land comprising of Sevilla @ Andalucia is partially undeveloped. Tracts A-1-A and B-2 have been previously mass graded, while Sevilla Ave which splits these two tracts has been constructed. As demonstrated in Exhibit 2-Existing Basins Map, there are three (3) existing basins that encumber this site. **Basin Tract A-1-A (A=4.2 acres, Q=8.5 cfs)** encompasses all of Tract A-1-A and currently discharges directly into the San Antonio Arroyo by means of sheet flowing. **Ex. Basin 1 (A=0.8 acres, Q=3.2 cfs)** encompasses a portion of Sevilla Ave. and currently discharges east into the existing storm drain system. **Basin Tract B-2 (A=7.5 acres, Q=15.2 cfs)** encompasses all of Tract B-2 and currently discharges directly into the San Antonio Arroyo by means of sheet flowing. As stated in *Drainage Management Plan – Coors Boulevard Improvements* and shown in Appendix F, no offsite flows from Coors Blvd impact this site. See
TABLE
OK
APPdx A

V. DEVELOPED HYDRAULIC AND HYDROLOGIC CONDITIONS

As demonstrated in Exhibit 3-Proposed Basins Map, there are thirteen (13) developed basins that are within the site. There are no offsite flows that enter the site. Developed flows were calculated based on du/ac as shown on Table A-5 in Chapter 22, Section 2 of the City of Albuquerque's Development Process Manual. **Basin A (A=2.7 acres, Q=8.2 cfs)**, landscaped **Basin D-1 (A=0.2 acres, Q=0.7 cfs)**, landscaped **Basin D-2 (A=0.02 acres, Q=0.1 cfs)** and a portion of **Ex. Basin 1 (A=0.8 acres, Q=3.2 cfs)** are all conveyed to a low-point in Calle Espana, south of Sevilla, where a double grate, double wing Type "A" inlet (inlet #1) captures all of the flow of **Q=10.6 cfs**. **Basin E (A=5.9 acres, Q=17.8 cfs)**, landscaped **Basin H (A=0.5 acres, Q=1.3 cfs)** and a portion of **Ex. Basin 1 (A=0.8 acres, Q=3.2 cfs)** are all conveyed to a low-point in Calle Espana, south of Sevilla, where a double grate, double wing Type "A" inlet (inlet #2) captures all of the flow of **Q=19.1 cfs**. half for redundancy

$Q=3\frac{1}{2}$ cfs) are all conveyed to a low-point in Calle Espana, north of Sevilla, where two double grate, double wing Type "A" inlet (inlets #2 and #3) captures all of the flow (of $Q=20.9$ cfs). Please note that since inlets #1, #2 and #3 are in a sump condition and there is not an emergency spill way present, thus these inlets have been sized to capture two times the 100-year storm event. Landscaped Basins D-1 and H are both conveyed east to the adjacent streets. Landscaped Basin I ($A=0.01$ acres, $Q=0.1$ cfs) and Basin J ($A=0.2$ acres, $Q=0.1$ cfs) discharge north to Berm St. Landscaped Basin C ($A=0.06$ acres, $Q=0.2$ cfs) and landscaped Basin G ($A=0.1$ acres, $Q=0.3$ cfs) discharge directly into Sevilla Ave where they are collected and conveyed by the existing storm drain infrastructure system.

As shown in the *Andalucia at La Luz – Unit 1* as-builts, located in Exhibit 5, the flow from the previously approved plans impacting the existing 36" storm drain network is $Q=34.6$ cfs. As shown in this report, Sevilla @ Andalucia has a $Q=31.6$ cfs entering the storm drain network, thus there is no adverse effect to the existing storm drain network with this development.

Basin F ($A=0.9$ acres, $Q=2.7$ cfs) discharges east through the back of the lots via turn blocks where the flows combine with Basin K ($A=0.2$ acres, $Q=0.5$ cfs). The combined flow of $Q=3.2$ cfs is conveyed by a cobble-lined swale to ultimately enter the San Antonio Arroyo at a single discharge point. Basin B ($A=1.2$ acres, $Q=3.7$ cfs) discharges east through the back of the lots via turn blocks and is conveyed by an earth-lined swale to ultimately enter the San Antonio Arroyo at a single discharge point. Please see Appendix D-Swale Analysis as well as Exhibit 6-Grading Plan for additional swale analysis.

The required onsite retention of the 90th percentile storm event was calculated to be 5771 CF. Pond 2 has an available retention volume of 605 CF and pond 3 has an available retention volume of 744 CF. Due to lots 1-8 and 41-45 draining through the backyard and out via a turn block that is set 4" above finished ground per the standard detail, each lot has an available retention volume of 74 CF. Additional ponding areas can also be accomplished in the front yards of each lot. A 6" depression will be added between the back of curb and sidewalk of each lot, which in turn can create an available retention volume of 42 CF per lot. With the front and back yard ponding areas, Pond 2 and Pond 3, a retention volume of 4396 CF is available onsite. Although this subdivision does not meet the full retention volume requirements, this site does maximize all available areas of pond and this meets the intent of the ordinance. Please see Appendix E for additional information.

First
flush

VI. CONCLUSION

This report has provided hydrologic and hydraulic considerations of the proposed development of Sevilla @ Andalucia. This Design Analysis Report is in accordance with section 22.2 of the *COA Development Process Manual (DPM)*, where the flows can be safely conveyed by the improvements proposed in this drainage plan to proposed drainage facilities, which have adequate capacity to accept such runoff. Erosion and dust control, consisting of erosion control berms, silt fencing and sedimentation basins, are proposed to mitigate soil washing or blowing into paved streets, storm drains, and existing developed areas. This drainage plan maintains the overall drainage pattern of the area and allows for the safe management of storm runoff in the fully developed condition as well as interim conditions.

APPENDICES

APPENDIX A: BASIN CALCULATIONS

**APPENDIX B: STREET HYDRAULICS AND STORM
DRAIN INLET ANALYSIS**

**APPENDIX C: INROADS STORM DRAIN OUTPUT
FILES**

APPENDIX D: SWALE ANALYSIS

APPENDIX E: WATER HARVESTING CALCULATIONS

APPENDIX F: PREVIOUS DMP'S EXCERPTS

APPENDIX F: FEMA FIRM

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APPENDIX A
BASIN CALCULATIONS

used Zone 1 ✓

BASIN SUMMARY FOR THE ANDALUCIA											
HYDROLOGICAL VOLUMETRIC & DISCHARGE DATA											
BASIN I.D.	AREA (AC)	UNITS			% LAND TREATMENT				DISCHARGE (CFS)		
		#			A	B	C	D	10 YR	100YR	
HYRDOLOGICAL VOLUMETRIC & DISCHARGE DATA (EXISTING CALCULATED)											
EX Basin 1	0.76				0.0%	0.0%	10.0%	90.0%		2.09	3.21
Tract A-1-A	4.20				0.0%	100.0%	0.0%	0.0%		3.17	8.49
Tract B-2	7.50				0.0%	100.0%	0.0%	0.0%		5.65	15.16
TOTAL	12.46									10.91	26.85
HYRDOLOGICAL VOLUMETRIC & DISCHARGE DATA (DEVELOPED)											
BASINS											
Basin A	2.70	0.00422	9		0.0%	56.4%	0.0%	43.6%		4.55	8.22
Basin B	1.21	0.00189	8		0.0%	56.4%	0.0%	43.6%		2.04	3.69
Basin C	0.06	0.00009	0		0.0%	0.0%	100.0%	0.0%		0.09	0.17
Basin D-1	0.23	0.00036	0		0.0%	0.0%	100.0%	0.0%		0.34	0.66
Basin D-2	0.02	0.00003	0		0.0%	0.0%	100.0%	0.0%		0.03	0.06
Basin E	5.89	0.00920	23		0.0%	56.4%	0.0%	43.6%		9.92	17.94
Basin F	0.88	0.00138	5		0.0%	56.4%	0.0%	43.6%		1.48	2.68
Basin G	0.10	0.00016	0		0.0%	0.0%	100.0%	0.0%		0.15	0.29
Basin H	0.45	0.00070	0		0.0%	0.0%	100.0%	0.0%		0.66	1.29
Basin I	0.01	0.00002	0		0.0%	0.0%	100.0%	0.0%		0.01	0.03
Basin J	0.02	0.00003	0		0.0%	0.0%	10.0%	90.0%		0.05	0.08
Basin K	0.18	0.00028	0		0.0%	0.0%	100.0%	0.0%		0.27	0.52
TOTAL	11.75		45							19.60	35.63
NOTES:											
Impervious percentages were calculated from the DPM equation A-4, with the remaining percentages distributed to land treatment type B, due to the relatively flat terrain											
N=UNITS/ACRES = 4.2											
%D= 7*SQRT((N*N)+(5*N)) = 43.6 %											
*Table A-4											
**Table A-11											

Berm
st

Arroyo
st

Arroyo
st

$\eta_0 D = 4.67 \text{ Acres}$

APPENDIX B
STREET HYDRAULICS AND STORM DRAIN
INLET ANALYSIS

MANNING'S N = 0.017 SLOPE = 0.006

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.0	1.4	5.0	11.5	0.6	9.0	35.2	0.7
2.0	8.8	1.2	6.0	32.5	0.1	10.0	44.0	0.9
3.0	9.3	1.2	7.0	34.5	0.0			
4.0	9.5	0.6	8.0	34.7	0.7			

WSEL	DEPTH	FLOW	FLOW	WETTED	FLOW	TOPWID	TOTAL
FT.	INC	AREA	RATE	PER	VEL	PLUS	ENERGY
		SQ. FT.	(CFS)	(FT)	(FPS)	OBSTRUCTIONS	(FT)
0.050	0.050	0.020	0.011	0.822	0.560	3.782	0.055
0.100	0.100	0.078	0.069	1.645	0.889	4.564	0.112
0.150	0.150	0.183	0.185	3.159	1.013	6.038	0.166
0.200	0.200	0.398	0.456	5.711	1.146	8.551	0.220
0.250	0.250	0.738	0.998	8.263	1.353	11.063	0.278
0.300	0.300	1.204	1.886	10.815	1.567	13.576	0.338
0.350	0.350	1.796	3.189	13.368	1.776	16.089	0.399
0.400	0.400	2.513	4.969	15.920	1.978	18.601	0.461
0.450	0.450	3.356	7.288	18.472	2.172	21.114	0.523
0.500	0.500	4.324	10.202	21.024	2.359	23.627	0.587
0.550	0.550	5.418	13.765	23.576	2.540	26.140	0.650
0.600	0.600	6.676	18.413	25.679	2.758	28.165	0.718
0.650	0.650	7.935	24.491	27.782	3.086	29.190	0.798
0.700	0.700	9.232	29.957	29.826	3.245	30.215	0.864
0.750	0.750	10.653	35.904	30.331	3.370	30.240	0.927
0.800	0.800	12.196	42.671	32.836	3.499	32.611	0.990

NORTH INLET (NORTHSIDE)

67% BASIN E - 12.0 CFS

67% BASIN H - 0.9 CFS

12.9 CFSSTREET CAPACITY

$$\frac{13.8 - 10.2}{0.65 - 0.59} = \frac{13.8 - 12.9}{0.65 - x} \Rightarrow \frac{3.6}{0.06} = \frac{0.9}{0.65 - x} \Rightarrow 0.054 = 2.3 - 3.6x$$

$$x = 0.64' < 0.95' \checkmark$$

ok

WSEL

$$\frac{13.8 - 10.2}{0.55 - 0.50} = \frac{13.8 - 12.9}{0.55 - x} \Rightarrow \frac{3.6}{0.05} = \frac{0.9}{0.55 - x} \Rightarrow 0.045 = 1.98 - 3.6x$$

$$x = 0.54' \checkmark$$

ok

MANNING'S N = 0.017 SLOPE = 0.029

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.0	1.4	5.0	11.5	0.6	9.0	35.2	0.7
2.0	8.8	1.2	6.0	32.5	0.1	10.0	44.0	0.9
3.0	9.3	1.2	7.0	34.5	0.0			
4.0	9.5	0.6	8.0	34.7	0.7			

WSEL FT.	DEPTH INC	FLOW AREA SQ. FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOTAL ENERGY (FT)
0.050	0.050	0.020	0.024	0.822	1.231	3.782	0.074
0.100	0.100	0.078	0.153	1.645	1.953	4.564	0.159
0.150	0.150	0.183	0.407	3.159	2.227	6.038	0.227
0.200	0.200	0.398	1.001	5.711	2.519	8.551	0.299
0.250	0.250	0.738	2.195	8.263	2.974	11.063	0.388
0.300	0.300	1.204	4.147	10.815	3.445	13.576	0.485
0.350	0.350	1.796	7.010	13.368	3.904	16.089	0.587
0.400	0.400	2.513	10.925	15.920	4.348	18.601	0.694
0.450	0.450	3.356	16.023	18.472	4.775	21.114	0.805
0.500	0.500	4.324	22.429	21.024	5.187	23.627	0.918
0.550	0.550	5.418	30.263	23.576	5.585	26.140	1.035
0.600	0.600	6.676	40.480	25.679	6.064	28.655	1.172
0.650	0.650	7.935	53.842	25.782	6.786	26.190	1.366
0.700	0.700	9.232	65.860	27.826	7.134	27.680	1.492
0.750	0.750	10.653	78.935	30.331	7.410	30.145	1.604
0.800	0.800	12.196	93.812	32.836	7.692	32.611	1.720

NORTH INLET (SWTHSIDE)

33% BASIN E - 5.9 CFS
 ? 33% BASIN I - 0.1 CFS
 50% EX BASIN I - 1.6 CFS
 33% BASIN H - $\frac{0.4 \text{ CFS}}{8.0 \text{ CFS}}$

STREET CAPACITY

$$\frac{10.9-7}{0.69-0.59} = \frac{10.9-8}{0.69-x} \Rightarrow \frac{3.9}{0.1} = \frac{2.9}{0.69-x} \Rightarrow 0.79 = 2.69 - 3.9x$$

$$x = 0.62' < 0.95' \checkmark \text{ ok}$$

WSEL

$$\frac{10.9-7}{0.4-0.35} = \frac{10.9-8}{0.4-x} \Rightarrow \frac{3.9}{0.05} = \frac{2.9}{0.4-x} \Rightarrow 0.145 = 1.56 - 3.9x$$

$$x = 0.36'$$

NORTH INLETS

INLETS #2 & #3

$$Q_{TOTAL} = 20.9 \text{ CFS} / 2 = 10.5 \text{ CFS} / \text{INLET}$$

$$2 \times 10.5 \text{ CFS} = 20.9 \text{ CFS} / \text{INLET}$$

Double A inlet, in sump condition:

Open Area (for orifice calc in sq. ft.): 7.7977431
 Length of Weir (feet): 7.9791667
 Orifice Coefficient 0.6
 Weir Coefficient 3

Head (ft)	Head (in)	1 Wing	Grate	Control Q		
		Weir Q (cfs)	Weir Q (cfs)	Orifice Q (cfs)	Sgl Wing (cfs)	Dbl Wing (cfs)
0.05	0.6	0.13	0.27	8.40	0.40	0.54
0.1	1.2	0.38	0.76	11.87	1.14	1.52
0.15	1.8	0.70	1.39	14.54	2.09	2.78
0.2	2.4	1.07	2.14	16.79	3.21	4.29
0.25	3	1.50	2.99	18.77	4.49	5.99
0.3	3.6	1.97	3.93	20.56	5.91	7.88
0.35	4.2	2.48	4.96	22.21	7.44	9.93
0.4	4.8	3.04	6.06	23.75	9.09	12.13
0.45	5.4	3.62	7.23	25.19	10.85	14.47
0.5	6	4.24	8.46	26.55	12.71	16.95
0.55	6.6	4.89	9.76	27.84	14.66	19.55
0.6	7.2	5.58	11.13	29.08	16.70	22.28
0.65	7.8	6.29	12.54	30.27	18.83	25.12
0.667	8.0	6.54	13.04	30.66	19.58	26.11
0.7	8.4	7.03	14.02	31.41	21.05	28.08
0.75	9	7.79	15.55	32.52	23.34	31.14
0.8	9.6	8.59	17.13	33.58	25.71	34.30
0.85	10.2	9.40	18.76	34.62	28.16	37.57
0.9	10.8	10.25	20.44	35.62	30.68	40.93
0.95	11.4	11.11	22.16	36.60	33.28	44.39
1	12	12.00	23.94	37.55	35.94	47.94
1.05	12.6	12.91	25.76	38.47	38.67	51.58
1.1	13.2	13.84	27.62	39.38	41.46	55.31
1.15	13.8	14.80	29.52	40.26	44.32	59.12
0.567	6.804	5.12	10.22	28.27	15.34	20.47

Calculation of open area:

Total Grate Area	2000	13.888889
Cross Bar Area	-732	-5.083333
Supports (ends)	-115.625	-0.802951
(middle)	-100	-0.694444
Areas Counted Twice	70.5	0.4895833
	1122.875	7.7977431

Calculation of Length of Weir:

Total Perimeter of Grate	130	10.833333
Short Cross Bars	-7	-0.583333
Bearing Bars	-13	-1.083333
End Supports	-9.25	-0.770833
Middle Supports	-5	-0.416667
	110	7.9791667

80
30



~~See inlet is~~
~~Double wings~~
~~Double grate~~
~~not necessary~~
~~for water to be dbl wing~~
 Water Double grate.

See inlet
 dbl wings / double grate

MANNING'S N = 0.017 SLOPE = 0.006

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.0	1.4	5.0	11.5	0.6	9.0	35.2	0.7
2.0	8.8	1.2	6.0	32.5	0.1	10.0	44.0	0.9
3.0	9.3	1.2	7.0	34.5	0.0			
4.0	9.5	0.6	8.0	34.7	0.7			

WSEL FT.	DEPTH INC	FLOW AREA SQ. FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOTAL ENERGY (FT)
0.050	0.050	0.020	0.011	0.822	0.560	3.782	0.055
0.100	0.100	0.078	0.069	1.645	0.889	4.564	0.112
0.150	0.150	0.183	0.185	3.159	1.013	6.038	0.166
0.200	0.200	0.398	0.456	5.711	1.146	8.551	0.220
0.250	0.250	0.738	0.998	8.263	1.353	11.063	0.278
0.300	0.300	1.204	1.886	10.815	1.567	13.576	0.338
0.350	0.350	1.796	3.189	13.368	1.776	16.089	0.399
0.400	0.400	2.513	4.969	15.920	1.978	18.601	0.461
0.450	0.450	3.356	7.288	18.472	2.172	21.114	0.523
0.500	0.500	4.324	10.202	21.024	2.359	23.627	0.587
0.550	0.550	5.418	13.765	23.576	2.540	26.140	0.650
0.600	0.600	6.676	18.413	25.679	2.758	28.165	0.718
0.650	0.650	7.935	24.491	27.782	3.086	30.190	0.798
0.700	0.700	9.232	29.957	29.826	3.245	32.215	0.864
0.750	0.750	10.653	35.904	30.331	3.370	34.240	0.927
0.800	0.800	12.196	42.671	32.836	3.499	36.265	0.990

SOUTH INLET (SOUTH SIDE)

57% BASIN A - 4.7 CFS

45% BASIN D-1 - 0.3 CFS

50% EX BASIN 1 - 1.6 CFS

6.6 CFSSTREET CAPACITY

$$\frac{7.3-5.0}{0.52-0.46} = \frac{7.3-6.6}{0.52-x} \Rightarrow \frac{2.3}{0.06} = \frac{0.7}{0.52-x} \Rightarrow 0.042 = 1.196 - 2.3x$$

$$x = 0.50' < 0.85' \checkmark$$

WSEL

$$\frac{7.3-5.0}{0.45-0.4} = \frac{7.3-6.6}{0.45-x} \Rightarrow \frac{2.3}{0.05} = \frac{0.7}{0.45-x} \Rightarrow 0.035 = 1.035 - 2.3x$$

$$x = 0.43'$$

MANNING'S N = 0.017 SLOPE = 0.010

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1.0	0.0	1.4	5.0	11.5	0.6	9.0	35.2	0.7
2.0	8.8	1.2	6.0	32.5	0.1	10.0	44.0	0.9
3.0	9.3	1.2	7.0	34.5	0.0			
4.0	9.5	0.6	8.0	34.7	0.7			

WSEL FT.	DEPTH INC	FLOW AREA SQ. FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOTAL ENERGY (FT)
0.050	0.050	0.020	0.014	0.822	0.723	3.782	0.058
0.100	0.100	0.078	0.090	1.645	1.147	4.564	0.120
0.150	0.150	0.183	0.239	3.159	1.308	6.038	0.177
0.200	0.200	0.398	0.588	5.711	1.479	8.551	0.234
0.250	0.250	0.738	1.289	8.263	1.746	11.063	0.297
0.300	0.300	1.204	2.435	10.815	2.023	13.576	0.364
0.350	0.350	1.796	4.117	13.368	2.293	16.089	0.432
0.400	0.400	2.513	6.415	15.920	2.553	18.601	0.501
0.450	0.450	3.356	9.409	18.472	2.804	21.114	0.572
0.500	0.500	4.324	13.171	21.024	3.046	23.627	0.644
0.550	0.550	5.418	17.771	23.576	3.280	26.140	0.717
0.600	0.600	6.676	23.771	25.679	3.561	26.165	0.797
0.650	0.650	7.935	31.617	25.782	3.985	26.190	0.897
0.700	0.700	9.232	38.674	27.826	4.189	27.680	0.973
0.750	0.750	10.653	46.352	30.331	4.351	30.145	1.044
0.800	0.800	12.196	55.088	32.836	4.517	32.611	1.117

SOUTH INLET - SOUTH SIDE

43% BASIN A - 3.5 CFS
 55% BASIN D-1 - 0.4 CFS
 100% BASIN D-2 - 0.1 CFS

 4.0 CFS

STREET CAPACITY
 $d = 0.43' < 0.65' \checkmark \text{ ok}$
WSEL
 $X = 0.35'$

SOUTH INLET
INLET #1

$Q_{TOTAL} = 10.6 \text{ CFS}$

$2 \times 10.6 = 21.2 \text{ CFS}$

Double A inlet, in sump condition:

Open Area (for orifice calc in sq. ft.): 7.7977431
Length of Weir (feet): 7.9791667
Orifice Coefficient 0.6
Weir Coefficient 3

Head (ft)	Head (in)	1 Wing	Grate	Control Q		
		Weir Q (cfs)	Weir Q (cfs)	Orifice Q (cfs)	Sgl Wing (cfs)	Dbl Wing (cfs)
0.05	0.6	0.13	0.27	8.40	0.40	0.54
0.1	1.2	0.38	0.76	11.87	1.14	1.52
0.15	1.8	0.70	1.39	14.54	2.09	2.78
0.2	2.4	1.07	2.14	16.79	3.21	4.29
0.25	3	1.50	2.99	18.77	4.49	5.99
0.3	3.6	1.97	3.93	20.56	5.91	7.88
0.35	4.2	2.48	4.96	22.21	7.44	9.93
0.4	4.8	3.04	6.06	23.75	9.09	12.13
0.45	5.4	3.62	7.23	25.19	10.85	14.47
0.5	6	4.24	8.46	26.55	12.71	16.95
0.55	6.6	4.89	9.76	27.84	14.66	19.55
0.6	7.2	5.58	11.13	29.08	16.70	22.28
0.65	7.8	6.29	12.54	30.27	18.83	25.12
0.667	8.0	6.54	13.04	30.66	19.58	26.11
0.7	8.4	7.03	14.02	31.41	21.05	28.08
0.75	9	7.79	15.55	32.52	23.34	31.14
0.8	9.6	8.59	17.13	33.58	25.71	34.30
0.85	10.2	9.40	18.76	34.62	28.16	37.57
0.9	10.8	10.25	20.44	35.62	30.68	40.93
0.95	11.4	11.11	22.16	36.60	33.28	44.39
1	12	12.00	23.94	37.55	35.94	47.94
1.05	12.6	12.91	25.76	38.47	38.67	51.58
1.1	13.2	13.84	27.62	39.38	41.46	55.31
1.15	13.8	14.80	29.52	40.26	44.32	59.12
0.567	6.804	5.12	10.22	28.27	15.34	20.47

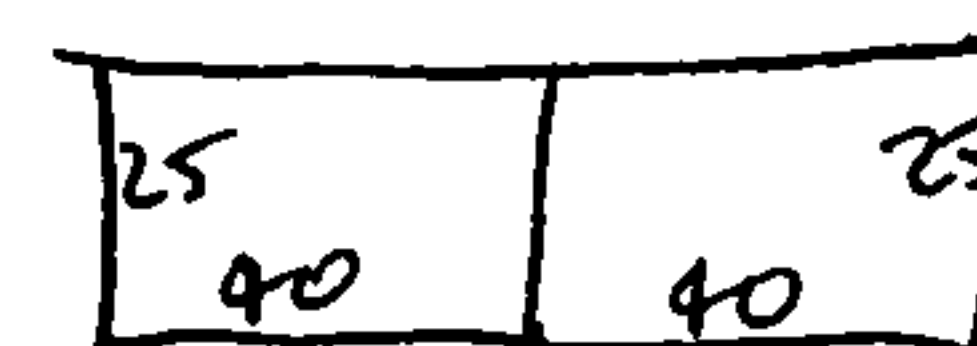
Calculation of open area:

Total Grate Area	2000	13.888889
Cross Bar Area	-732	-5.083333
Supports (ends)	-115.625	-0.802951
(middle)	-100	-0.694444
Areas Counted Twice	<u>70.5</u>	<u>0.4895833</u>
	1122.875	7.7977431

Calculation of Length of Weir:

Total Perimeter of Grate	130	10.833333
Short Cross Bars	-7	-0.583333
Bearing Bars	-13	-1.083333
End Supports	-9.25	-0.770833
Middle Supports	<u>-5</u>	<u>-0.416667</u>
	110	7.9791667

- does not include throat (incl. in table)



1) Dbl grate, dbl wing

orifice starts controlling

APPENDIX C
INROADS STORM DRAIN OUTPUT FILES

Design Log

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InRoads Storm & Sanitary Design Log

Drainage File: P:\20150130\CDP\Control\Data\20150130SD.sdb

Design File: P:\20150130\CDP\DESIGN\20150130UTILITY01.DWG

Display Log: P:\20150130\CDP\DESIGN\design.log

Date: Thursday, January 15, 2015 4:02:38 PM

=====

Designing inlet south inlet

WARNING: Inlet forced to capture all flow, ignoring capacity calculations.

Results:

Gutter Flow:	10.6000 cfs	Flow From:	Injected Storm
Status:	Fixed		
Inlet Length:	6.5000 ft	Inlet Width:	2.0000 ft
Flow Downstream:	10.6000 cfs	Bypass To:	0.0000 cfs
Percent Cap:	100.0000 %	Capacity:	0.0000 cfs
Spread:	2.4117 ft		
Depth in Gutter:	0.9647 ft	Assigned Bypass:	N/A

Designing pipe SDP9

WARNING: Full flow velocity is greater than maximum (0.0000)

Results:

Total Flow:	10.6000 cfs	Flow From:	Upstream
Status:	Fixed	Slope:	0.0025 ft/ft
Pipe Width:	18.0000 in	Pipe Height:	18.0000 in
Depth of Flow:	1.5000 ft	Flow Status:	Full
Critical Depth:	1.5000 ft	Capacity:	5.2522 cfs
Velocity:	5.9984 ft/s		
Froude Number:	0.0000	Flow Regime:	Subcritical

Designing manhole SDMH7

Results:

Total Flow:	10.6000 cfs	Flow From:	Upstream
Status:	Fixed		
Chamber Width:	4.0000 ft	Chamber Length:	4.0000 ft

Designing pipe SDP8

WARNING: Full flow velocity is greater than maximum (0.0000)

Results:

Total Flow:	10.6000 cfs	Flow From:	Upstream
Status:	Fixed	Slope:	0.0025 ft/ft
Pipe Width:	24.0000 in	Pipe Height:	24.0000 in
Depth of Flow:	1.5360 ft	Flow Status:	Partial
Critical Depth:	1.1600 ft	Capacity:	11.3112 cfs
Velocity:	4.0916 ft/s		
Froude Number:	0.5825	Flow Regime:	Subcritical

Designing manhole SDMH6

Results:

Total Flow:	10.6000 cfs	Flow From:	Upstream
Status:	Fixed		
Chamber Width:	4.0000 ft	Chamber Length:	4.0000 ft

Designing pipe SDP7

WARNING: Full flow velocity is greater than maximum (0.0000)

Results:

Total Flow:	10.6000 cfs	Flow From:	Upstream
Status:	Fixed	Slope:	0.0025 ft/ft
Pipe Width:	24.0000 in	Pipe Height:	24.0000 in
Depth of Flow:	1.5360 ft	Flow Status:	Partial
Critical Depth:	1.1600 ft	Capacity:	11.3112 cfs
Velocity:	4.0916 ft/s		
Froude Number:	0.5825	Flow Regime:	Subcritical

Designing manhole SDMH1

Results:

Total Flow:	10.6000 cfs	Flow From:	Upstream
Status:	Fixed		
Chamber Width:	4.0000 ft	Chamber Length:	4.0000 ft

Designing pipe exSDP6

WARNING: Full flow velocity is greater than maximum (0.0000)

Results:

Total Flow:	10.6000 cfs	Flow From:	Upstream
Status:	Fixed	Slope:	0.0025 ft/ft
Pipe Width:	24.0000 in	Pipe Height:	24.0000 in
Depth of Flow:	1.5360 ft	Flow Status:	Partial
Critical Depth:	1.1600 ft	Capacity:	11.3112 cfs
Velocity:	4.0916 ft/s		
Froude Number:	0.5825	Flow Regime:	Subcritical

Designing inlet north inlet 2

WARNING: Inlet forced to capture all flow, ignoring capacity calculations.

Results:		
Gutter Flow:	10.5000 cfs	Flow From: Injected Storm
Status:	Fixed	
Inlet Length:	6.5000 ft	Inlet Width: 2.0000 ft
Flow Downstream:	10.5000 cfs	Bypass To: 0.0000 cfs
Percent Cap:	100.0000 %	Capacity: 0.0000 cfs
Spread:	0.0000 ft	
Depth in Gutter:	0.0000 ft	Assigned Bypass: N/A

Designing pipe SDP3

WARNING: Full flow velocity is greater than maximum (0.0000)

Results:		
Total Flow:	10.5000 cfs	Flow From: Upstream
Status:	Fixed	Slope: 0.0060 ft/ft
Pipe Width:	18.0000 in	Pipe Height: 18.0000 in
Depth of Flow:	1.5000 ft	Flow Status: Full
Critical Depth:	1.5000 ft	Capacity: 8.1366 cfs
Velocity:	5.9418 ft/s	
Froude Number:	0.0000	Flow Regime: Subcritical

Designing inlet Northinlet 1

WARNING: Inlet forced to capture all flow, ignoring capacity calculations.
WARNING: Pipe Too large for valid connection to inlet.

Results:		
Gutter Flow:	10.5000 cfs	Flow From: Injected Storm
Status:	Fixed	
Inlet Length:	6.5000 ft	Inlet Width: 2.0000 ft
Flow Downstream:	21.0000 cfs	Bypass To: 0.0000 cfs
Percent Cap:	100.0000 %	Capacity: 0.0000 cfs
Spread:	0.0000 ft	
Depth in Gutter:	0.0000 ft	Assigned Bypass: N/A

Designing pipe SDP4

WARNING: Full flow velocity is greater than maximum (0.0000)

Results:		
Total Flow:	21.0000 cfs	Flow From: Upstream
Status:	Fixed	Slope: 0.0060 ft/ft
Pipe Width:	24.0000 in	Pipe Height: 24.0000 in
Depth of Flow:	2.0000 ft	Flow Status: Full
Critical Depth:	2.0000 ft	Capacity: 17.5189 cfs
Velocity:	6.6845 ft/s	
Froude Number:	0.0000	Flow Regime: Subcritical

WARNING: Pipe Too large for valid connection to inlet.

Designing manhole SDMH2

Results:		
Total Flow:	21.0000 cfs	Flow From: Upstream
Status:	Fixed	
Chamber Width:	4.0000 ft	Chamber Length: 4.0000 ft

Designing pipe SDP2

WARNING: Full flow velocity is greater than maximum (0.0000)

Results:		
Total Flow:	21.0000 cfs	Flow From: Upstream
Status:	Fixed	Slope: 0.0015 ft/ft
Pipe Width:	36.0000 in	Pipe Height: 36.0000 in
Depth of Flow:	2.0530 ft	Flow Status: Partial
Critical Depth:	1.4700 ft	Capacity: 25.8322 cfs
Velocity:	4.0716 ft/s	
Froude Number:	0.5280	Flow Regime: Subcritical

Designing pipe exSDP1

WARNING: Full flow velocity is greater than maximum (0.0000)

Results:		
Total Flow:	21.0000 cfs	Flow From: Upstream
Status:	Fixed	Slope: 0.0015 ft/ft
Pipe Width:	36.0000 in	Pipe Height: 36.0000 in
Depth of Flow:	2.0530 ft	Flow Status: Partial
Critical Depth:	1.4700 ft	Capacity: 25.8322 cfs
Velocity:	4.0716 ft/s	
Froude Number:	0.5280	Flow Regime: Subcritical

Designing manhole exSDMH1

Results:		
Total Flow:	31.6000 cfs	Flow From: Upstream
Status:	Fixed	
Chamber Width:	6.0000 ft	Chamber Length: 6.0000 ft

Designing pipe exSDP10

WARNING: Full flow velocity is greater than maximum (0.0000)

Results:		
Total Flow:	31.6000 cfs	Flow From: Upstream
Status:	Fixed	Slope: 0.0019 ft/ft
Pipe Width:	36.0000 in	Pipe Height: 36.0000 in

InRoads output file.txt
 Depth of Flow: 3.0000 ft
 Critical Depth: 3.0000 ft
 Velocity: 4.4705 ft/s
 Froude Number: 0.0000
 Flow Status: Full
 Capacity: 29.1175 cfs
 Flow Regime: Subcritical

Designing pipe SDP12
 WARNING: Full flow velocity is greater than maximum (0.0000)

Results:
 Total Flow: 1.7000 cfs
 Status: Fixed
 Pipe Width: 18.0000 in
 Depth of Flow: 0.0580 ft
 Critical Depth: 0.4900 ft
 Velocity: 73.5155 ft/s
 Froude Number: 65.6490
 Flow From: Injected Storm
 Slope: 32.1700 ft/ft
 Pipe Height: 18.0000 in
 Flow Status: Partial
 Capacity: 595.7914 cfs
 Flow Regime: SuperCritical

Designing pipe SDP13
 WARNING: Full flow velocity is greater than maximum (0.0000)

Results:
 Total Flow: 1.7000 cfs
 Status: Fixed
 Pipe Width: 18.0000 in
 Depth of Flow: 0.2340 ft
 Critical Depth: 0.4900 ft
 Velocity: 9.6031 ft/s
 Froude Number: 4.2112
 Flow From: Injected Storm
 Slope: 0.0938 ft/ft
 Pipe Height: 18.0000 in
 Flow Status: Partial
 Capacity: 32.1714 cfs
 Flow Regime: SuperCritical

Designing manhole SDMH9

Results:
 Total Flow: 35.0000 cfs
 Status: Fixed
 Chamber Width: 4.0000 ft
 Flow From: Upstream
 Chamber Length: 4.0000 ft

Designing pipe SDP11
 WARNING: Full flow velocity is greater than maximum (0.0000)

Results:
 Total Flow: 35.0000 cfs
 Status: Fixed
 Pipe Width: 36.0000 in
 Depth of Flow: 3.0000 ft
 Critical Depth: 3.0000 ft
 Velocity: 4.9515 ft/s
 Froude Number: 0.0000
 Flow From: Upstream
 Slope: 0.0014 ft/ft
 Pipe Height: 36.0000 in
 Flow Status: Full
 Capacity: 24.9563 cfs
 Flow Regime: Subcritical

HGL/EGL Computations:

Table A:

Struct_ID Rim_Elev. (ft)	D (in)	Q (cfs)	L (ft)	V (ft/s)	d (ft)	dc (ft)	VA2/2g (ft)	Sf (ft/ft)	Dn_Soffit (ft)	EGLdn (ft)	HGLdn (ft)	Tot_Loss (ft)	EGLup (ft)	HGLup (ft)
Outfall	-	-	-	-	-	-	-	-	-	-	-	-	-	5038.85
(Alternate HGL and EGL Used)														
SDP11	36	35.00	64.00	4.95	-	-	0.38	0.0028	5038.85	5039.23	5038.85	0.18	5039.41	5039.03
SDMH9	-	-	-	-	-	-	-	-	-	5039.41	5039.03	0.06	5039.47	5039.09
5046.21 exSDP10	36	31.60	87.95	4.47	-	-	0.31	0.0022	5039.04	5039.47	5039.09	0.20	5039.67	5039.36
exSDMH1	-	-	-	-	-	-	-	-	-	5039.67	5039.36	0.14	5039.81	5039.50
5047.11 exSDP1	36	21.00	26.07	2.97	-	-	0.14	0.0010	5039.30	5039.81	5039.50	0.03	5039.83	5039.70
Junction	-	-	-	-	-	-	-	-	-	5039.83	5039.70	0.00	5039.83	5039.70
SDP2	36	21.00	215.55	2.97	-	-	0.14	0.0010	5039.34	5039.83	5039.70	0.21	5040.05	5039.91
SDMH2	-	-	-	-	-	-	-	-	-	5040.05	5039.91	0.09	5040.14	5040.00
5042.43 SDP4	24	21.00	25.55	6.68	-	-	0.69	0.0086	5038.76	5040.14	5040.00	0.22	5040.36	5039.66
NorthInlet 1	-	-	-	-	-	-	-	-	-	5040.36	5039.66	0.47	5040.82	5040.13
5041.95 SDP3	18	10.50	20.63	5.94	-	-	0.55	0.0100	5038.48	5040.82	5040.13	0.21	5041.03	5040.48
north inlet 2	-	-	-	-	-	-	-	-	-	5041.03	5040.48	-	5041.03	5040.48
5041.78														
New Branch	-	-	-	-	-	-	-	-	-	-	-	-	5039.41	5039.03
SDMH9	-	-	-	-	-	-	-	-	-	5039.41	5039.03	0.10	5039.51	5039.13
5046.21 SDP12	18	1.70	318.90	73.52	-	-	83.99	0.0003	5037.44	5039.51	5039.13	-	5374.40	5290.41
New Branch	-	-	-	-	-	-	-	-	-	-	-	-	5039.41	5039.03
SDMH9	-	-	-	-	-	-	-	-	-	5039.41	5039.03	0.02	5039.43	5039.05
5046.21 SDP13	18	1.70	37.28	9.60	-	-	1.43	0.0003	5037.54	5039.43	5039.05	-	5041.00	5039.57

					InRoads output file.txt									
New Branch	-	-	-	-	-	-	-	-	-	-	-	-	5039.67	5039.36
exSDMH1	-	-	-	-	-	-	-	-	-	-	5039.67	5039.36	0.07	5039.74 5039.42
5047.11 exSDP6	24	10.60	80.15	3.37	-	-	0.18	0.0022	5039.19	5039.74	5039.42	0.18	5039.91	5039.73
SDMH1	-	-	-	-	-	-	-	-	-	-	5039.91	5039.73	0.02	5039.93 5039.75
5048.13 SDP7	24	10.60	101.63	3.37	-	-	0.18	0.0022	5039.39	5039.93	5039.75	0.22	5040.15	5039.98
SDMH6	-	-	-	-	-	-	-	-	-	-	5040.15	5039.98	0.05	5040.20 5040.03
5047.04 SDP8	24	10.60	127.46	3.37	-	-	0.18	0.0022	5039.68	5040.20	5040.03	0.28	5040.48	5040.31
SDMH7	-	-	-	-	-	-	-	-	-	-	5040.48	5040.31	0.11	5040.59 5040.41
5043.17 SDP9	18	10.60	19.67	6.00	-	-	0.56	0.0102	5039.54	5040.59	5040.41	0.20	5040.79	5040.23
south inlet 5042.47	-	-	-	-	-	-	-	-	-	-	5040.79	5040.23	-	5040.79 5040.23

Table B:

LOSSES		Hf	Hb	Hstr	Hc	He	Hj	Total	- LOSS_COEFFICIENTS					
Str_ID	Cb								Dstr	Ko	CD	Cd	Cq	Cp
Outfall	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDP11	0.18	-	-	-	-	-	-	0.18	-	-	-	-	-	-
SDMH9	-	-	0.06	-	-	-	-	0.06	3.09	0.281	1.000	0.509	1.135	1.000
1.000 0.162 exSDP10	0.20	-	-	-	-	-	-	0.20	-	-	-	-	-	-
exSDMH1	-	-	0.14	-	-	-	-	0.14	3.16	1.553	1.000	0.516	0.559	1.000
1.000 0.448 exSDP1	0.03	-	-	-	-	-	-	0.03	-	-	-	-	-	-
Junction	-	0.00	-	-	-	-	-	0.00	-	-	-	-	-	-
SDP2	0.21	-	-	-	-	-	-	0.21	-	-	-	-	-	-
SDMH2	-	-	0.09	-	-	-	-	0.09	3.25	1.232	1.000	0.525	1.000	1.000
1.000 0.647 SDP4	0.22	-	-	-	-	-	-	0.22	-	-	-	-	-	-
NorthInlet 1	-	-	0.47	-	-	-	-	0.47	2.78	1.100	1.000	0.609	1.000	1.000
1.000 0.670 SDP3	0.21	-	-	-	-	-	-	0.21	-	-	-	-	-	-
north inlet 2	-	-	-	-	-	-	-	-	3.41	-	-	-	-	-
New Branch	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDMH9	-	-	0.10	-	-	-	-	0.10	3.09	1.175	1.000	0.509	0.453	1.000
1.000 0.271 SDP12	0.08	-	-	-	-	-	-	0.08	-	-	-	-	-	-
New Branch	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDMH9	-	-	0.02	-	-	-	-	0.02	3.09	1.443	1.000	0.509	0.063	1.000
1.000 0.046 SDP13	0.01	-	-	-	-	-	-	0.01	-	-	-	-	-	-
New Branch	-	-	-	-	-	-	-	-	-	-	-	-	-	-
exSDMH1	-	-	0.07	-	-	-	-	0.07	3.16	1.553	1.000	0.516	0.264	1.000
1.000 0.212 exSDP6	0.18	-	-	-	-	-	-	0.18	-	-	-	-	-	-
SDMH1	-	-	0.02	-	-	-	-	0.02	2.36	0.200	1.000	0.552	1.000	1.000
1.000 0.110 SDP7	0.22	-	-	-	-	-	-	0.22	-	-	-	-	-	-
SDMH6	-	-	0.05	-	-	-	-	0.05	2.34	0.495	1.000	0.549	1.000	1.000
1.000 0.272 SDP8	0.28	-	-	-	-	-	-	0.28	-	-	-	-	-	-
SDMH7	-	-	0.11	-	-	-	-	0.11	2.31	1.125	1.000	0.546	1.000	1.000
1.000 0.614 SDP9	0.20	-	-	-	-	-	-	0.20	-	-	-	-	-	-
south inlet	-	-	-	-	-	-	-	-	2.15	-	-	-	-	-



1



APPENDIX D
SWALE ANALYSIS

MANNING'S N = 0.045 SLOPE = 0.006

POINT 1.0	DIST 0.0	ELEV 2.0	POINT 2.0	DIST 6.0	ELEV 0.0	POINT 3.0	DIST 12.0	ELEV 2.0
WSEL FT.	DEPTH INC	FLOW AREA SQ. FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOTAL ENERGY (FT)	
0.100	0.100	0.030	0.010	0.632	0.335	0.600	0.102	
0.200	0.200	0.120	0.064	1.265	0.532	1.200	0.204	
0.300	0.300	0.270	0.188	1.897	0.697	1.800	0.308	
0.400	0.400	0.480	0.405	2.530	0.845	2.400	0.411	
0.500	0.500	0.750	0.735	3.162	0.980	3.000	0.515	
0.600	0.600	1.080	1.195	3.795	1.107	3.600	0.619	
0.700	0.700	1.470	1.803	4.427	1.227	4.200	0.723	
0.800	0.800	1.920	2.574	5.060	1.341	4.800	0.828	
0.900	0.900	2.430	3.524	5.692	1.450	5.400	0.933	
1.000	1.000	3.000	4.667	6.325	1.556	6.000	1.038	
1.100	1.100	3.630	6.018	6.957	1.658	6.600	1.143	
1.200	1.200	4.320	7.590	7.589	1.757	7.200	1.248	
1.300	1.300	5.070	9.395	8.222	1.853	7.800	1.353	
1.400	1.400	5.880	11.448	8.854	1.947	8.400	1.459	
1.500	1.500	6.750	13.761	9.487	2.039	9.000	1.565	
1.600	1.600	7.680	16.345	10.119	2.128	9.600	1.670	
1.700	1.700	8.670	19.213	10.752	2.216	10.200	1.776	
1.800	1.800	9.720	22.376	11.384	2.302	10.800	1.882	
1.900	1.900	10.830	25.847	12.017	2.387	11.400	1.989	

NORTH SWALE

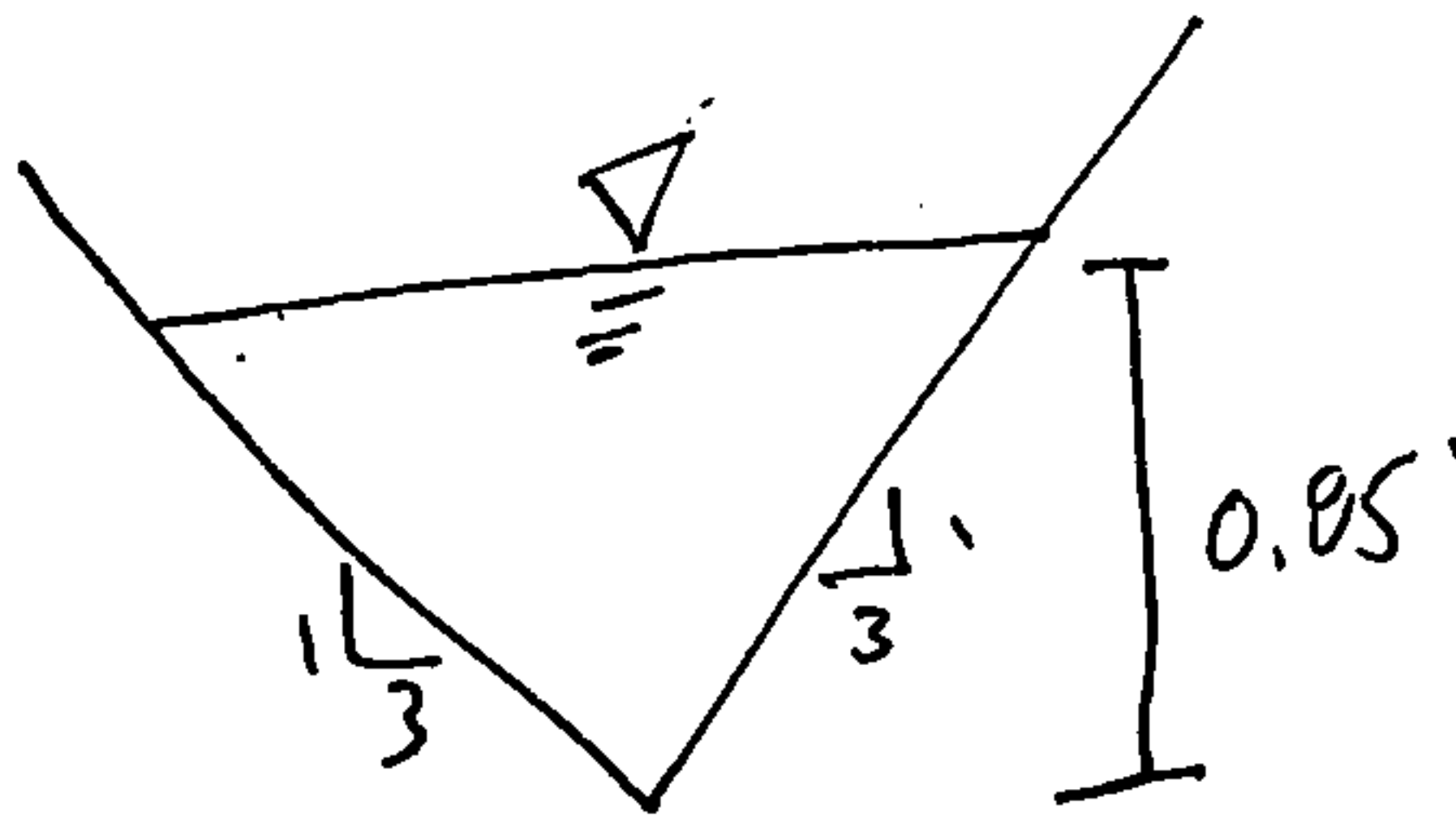
BASIN F - 2.7 CFS

BASIN K - 0.5 CFS

3.2 CFS

WSEL

A = 0.85'



MANNING'S N = 0.045 SLOPE = 0.010

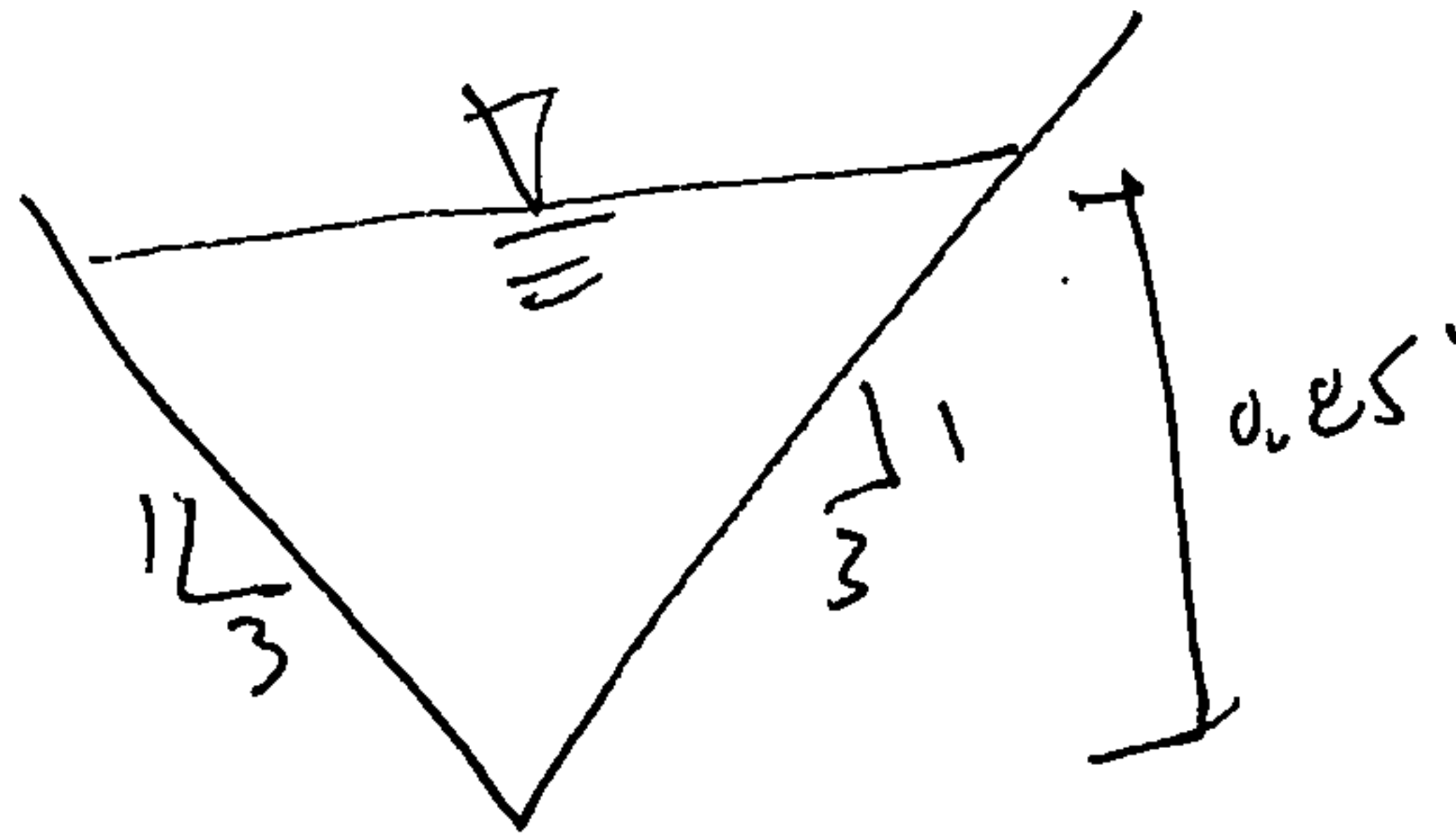
POINT 1.0	DIST 0.0	ELEV 2.0	POINT 2.0	DIST 6.0	ELEV 0.0	POINT 3.0	DIST 12.0	ELEV 2.0
WSEL FT.	DEPTH INC	FLOW AREA SQ. FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOTAL ENERGY (FT)	
0.100	0.100	0.030	0.013	0.632	0.433	0.600	0.103	
0.200	0.200	0.120	0.082	1.265	0.687	1.200	0.207	
0.300	0.300	0.270	0.243	1.897	0.900	1.800	0.313	
0.400	0.400	0.480	0.523	2.530	1.090	2.400	0.418	
0.500	0.500	0.750	0.949	3.162	1.265	3.000	0.525	
0.600	0.600	1.080	1.543	3.795	1.429	3.600	0.632	
0.700	0.700	1.470	2.328	4.427	1.583	4.200	0.739	
0.800	0.800	1.920	3.323	5.060	1.731	4.800	0.847	
0.900	0.900	2.430	4.550	5.692	1.872	5.400	0.955	
1.000	1.000	3.000	6.025	6.325	2.008	6.000	1.063	
1.100	1.100	3.630	7.769	6.957	2.140	6.600	1.171	
1.200	1.200	4.320	9.798	7.589	2.268	7.200	1.280	
1.300	1.300	5.070	12.129	8.222	2.392	7.800	1.389	
1.400	1.400	5.880	14.780	8.854	2.514	8.400	1.498	
1.500	1.500	6.750	17.765	9.487	2.632	9.000	1.608	
1.600	1.600	7.680	21.101	10.119	2.748	9.600	1.717	
1.700	1.700	8.670	24.804	10.752	2.861	10.200	1.827	
1.800	1.800	9.720	28.888	11.384	2.972	10.800	1.937	
1.900	1.900	10.830	33.368	12.017	3.081	11.400	2.048	

SOUTH SWALE

BASIN B - 3.7 CFS

WSEL

d ≈ 0.25'



APPENDIX E
WATER HARVESTING CALCULATIONS

BASIN SUMMARY FOR THE ANDALUCIA									
HYDROLOGICAL VOLUMETRIC & DISCHARGE DATA									
BASIN I.D.	AREA (AC)	UNITS #	% LAND TREATMENT				90TH PERCENTILE VOLUME (CF)		
			A	B	C	D			
HYRDOLOGICAL VOLUMETRIC & DISCHARGE DATA (DEVELOPED)									
BASINS									
Basin A	2.70	9		0.0%	56.4%	0.0%	43.6%		1453
Basin B	1.21	8		0.0%	56.4%	0.0%	43.6%		651
Basin C	0.06	0		0.0%	0.0%	100.0%	0.0%		0
Basin D-1	0.23	0		0.0%	0.0%	100.0%	0.0%		0
Basin D-2	0.02	0		0.0%	0.0%	100.0%	0.0%		0
Basin E	5.89	23		0.0%	56.4%	0.0%	43.6%		3171
Basin F	0.88	5		0.0%	56.4%	0.0%	43.6%		474
Basin G	0.10	0		0.0%	0.0%	100.0%	0.0%		0
Basin H	0.45	0		0.0%	0.0%	100.0%	0.0%		0
Basin I	0.01	0		0.0%	0.0%	100.0%	0.0%		0
Basin J	0.02	0		0.0%	0.0%	10.0%	90.0%		22
Basin K	0.18	0		0.0%	0.0%	100.0%	0.0%		0
TOTAL	11.75	45							5771

4.67 Ac (Treatment D) x .34" → 5769 CF
- 1349

~~Pond~~

4420

- 2500

Pond 2 = 605
Pond 3 = 744
1349

1919 CF

not retained

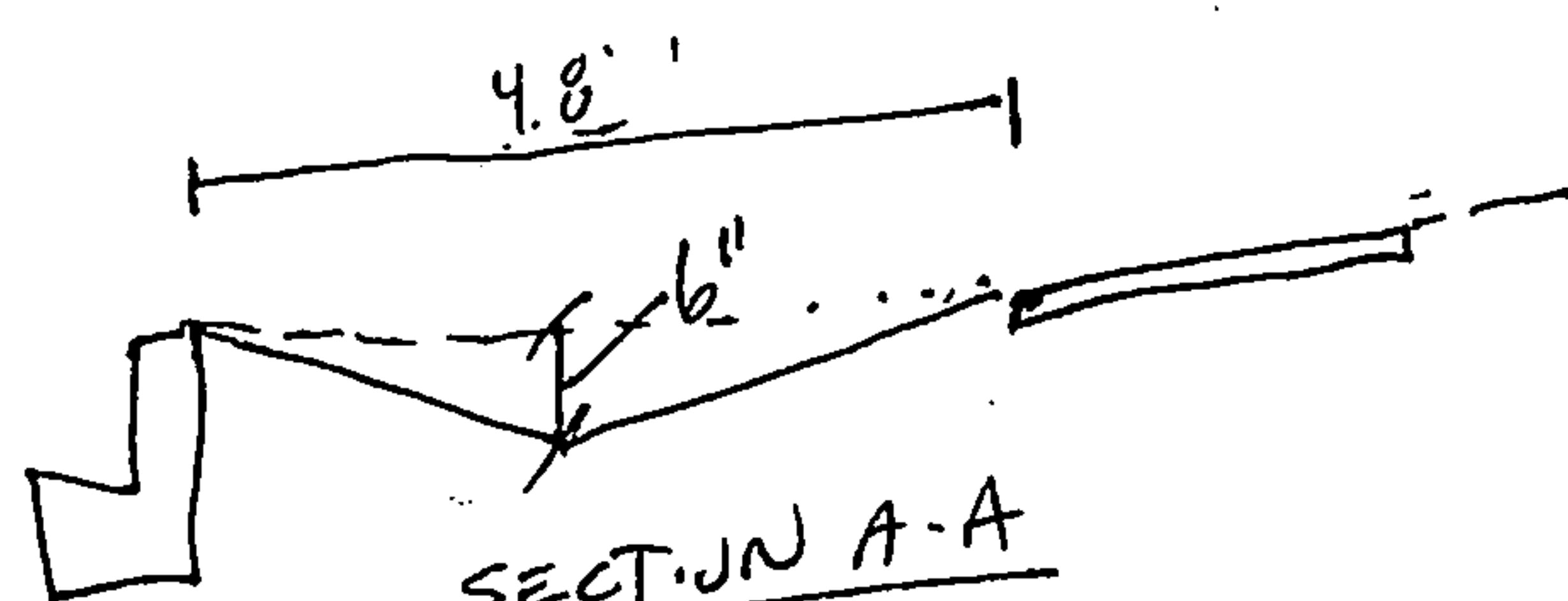
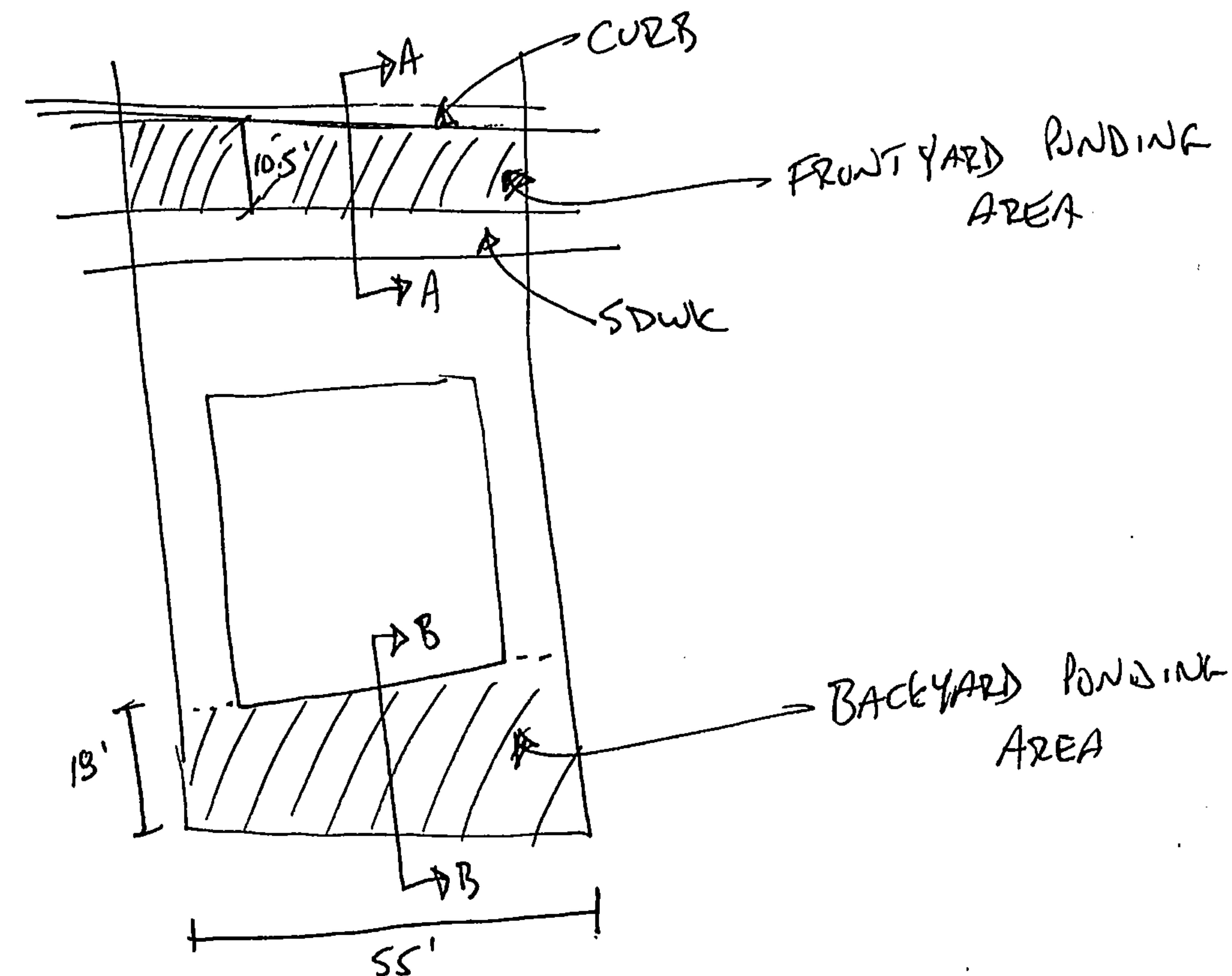
13 lots
drain back = 300
13 x 89 CF = 1157 CF
next
SHT

45 lots
- 13 lots = 32 lots drain
forward
32 x 42 CF = 1344
front yard
swale

AMAFCA HAS
downstream
facility in
San Antonio
OK

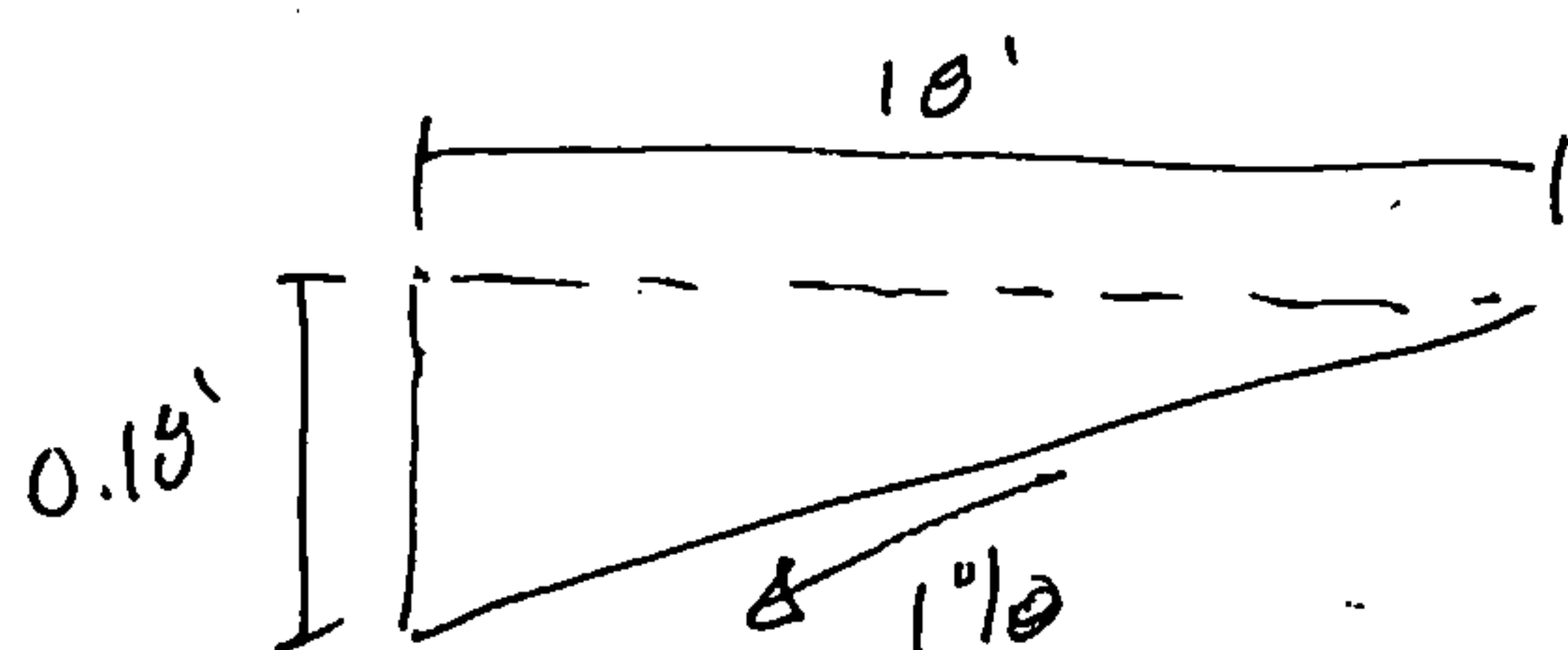
2500

TYPICAL LOT - PONDING AREAS



$$A = \frac{(4.8)(0.5)}{2} = 1.2 \text{ SF} \Rightarrow V = 1.2 \text{ SF} \times (55 \text{ FT} - 20 \text{ FT})$$

$$V_{\text{FRONT}} = 42 \text{ CF}$$



SECTION B-B

$$A = \frac{1}{2}bh = \frac{1}{2}(10)(0.10) = 1.62 \text{ SF} \Rightarrow V = 1.62 \text{ SF} \cdot 55 \text{ FT}$$

$$V_{\text{BACK}} = 89 \text{ CF}$$

Elevation	Incremental Volume	Cumulative Volume	pond2 volumes.txt Acre-Feet	Surface Area
	cu ft	cu ft		sq ft
5042.6000	605.4049	605.4049	0.0139	1125.8623

POND 2

$V_{\text{available}} = 605 \text{ CF}$

Elevation	Incremental Volume	Cumulative Volume	pond3 volumes.txt Acre-Feet	Surface Area
	cu ft	cu ft		sq ft
5030.1000	5.6658	5.6658	0.0001	63.7732
5030.2000	7.1343	12.8000	0.0003	79.1396
5030.3000	8.7393	21.5393	0.0005	95.8716
5030.4000	10.4809	32.0202	0.0007	113.9709
5030.5000	12.3589	44.3792	0.0010	133.4351
5030.6000	14.3735	58.7527	0.0013	154.2649
5030.7000	16.5247	75.2774	0.0017	176.4568
5030.8000	18.8123	94.0897	0.0022	200.0161
5030.9000	21.2365	115.3261	0.0026	224.9390
5031.0000	23.7971	139.1233	0.0032	251.2307
5031.1000	32.0477	171.1710	0.0039	349.1394
5031.2000	37.5774	208.7483	0.0048	402.5547
5031.3000	43.0625	251.8109	0.0058	459.4431
5031.4000	48.9768	300.7877	0.0069	520.8245
5031.5000	55.3342	356.1219	0.0082	586.5920
5031.6000	62.1304	418.2523	0.0096	656.7458
5031.7000	69.3652	487.6175	0.0112	731.2893
5031.8000	77.0388	564.6562	0.0130	810.2190
5031.9000	85.1510	649.8072	0.0149	893.5356
5032.0000	93.7020	743.5092	0.0171	981.2434

POND 3

$$V_{\text{available}} = 744 \text{ CF}$$

APPENDIX F
PREVIOUS DMP'S EXCERPTS

Coors at Sevilla-Output.txt

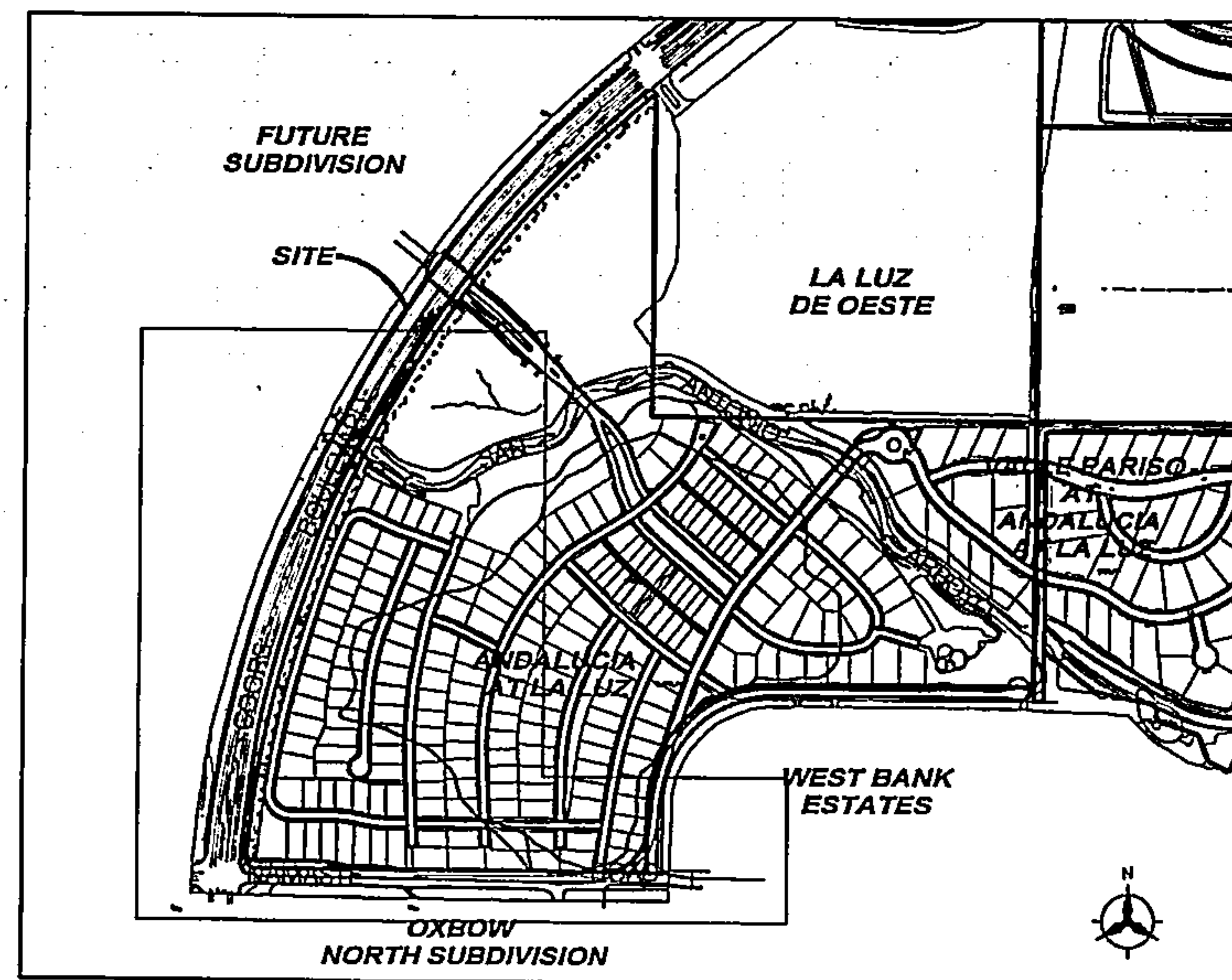
MANNING'S N = 0.017 SLOPE = 0.016

POINT 1.0	DIST 0.0	ELEV 0.5	POINT 2.0	DIST 25.0	ELEV 0.0	POINT 3.0	DIST 75.0	ELEV 0.4
WSEL FT.	DEPTH INC	FLOW AREA SQ. FT.	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOPWID PLUS OBSTRUCTIONS	TOTAL ENERGY (FT)	
0.050	0.050	0.236	0.223	9.445	0.945	9.444	0.064	
0.100	0.100	0.944	1.417	18.890	1.501	18.889	0.135	
0.150	0.150	2.125	4.178	28.335	1.966	28.333	0.210	
0.200	0.200	3.778	8.999	37.780	2.382	37.778	0.288	6.2
0.250	0.250	5.903	16.316	47.226	2.764	47.222	0.369	
0.300	0.300	8.500	26.531	56.671	3.121	56.667	0.452	
0.350	0.350	11.569	40.020	66.116	3.459	66.111	0.536	

1 side of COORS only - see Basin Map
 $Q \approx 6.2$ cfs $\rightarrow$ worst case is both sides of Coors
 or 12.4 cfs WSEL $\approx .25'$

HIGHPOINT = 0.72 > 0.25 ✓
O.K.

FR. P&P
 CPN # 730881



LOCATION MAP

ZONE ATLAS MAP NO. F-11-Z
NOT TO SCALE

PROPOSED
CURB & GUTTER

Low part.

COORS BOULEVARD

FUTURE ENTRANCE

TYPE 'A' DW INLET

CONCRETE BOX CULVERT

EX. SEVILLA AVE.

DRAINAGE MANAGEMENT PLAN

I. PURPOSE

The purpose of this submittal is to present the drainage management plan for Coors Boulevard Improvements. The project will include widening the existing eastern half of Coors Boulevard along Andalucia at La Luz to 50' face-to-face and adding turn lanes to access Andalucia at La Luz and a future subdivision to the west.

II. SITE LOCATION AND CHARACTERISTICS

The portion of Coors Boulevard to be improved is located west of Andalucia at La Luz between Namaste Road and La Luz.

III. EXISTING HYDRAULIC AND HYDROLOGIC CONDITIONS

In the existing conditions, Coors Boulevard is cross sloped to drain east to an asphalt swale and rundown into the San Antonio Arroyo.

IV. PROPOSED HYDRAULIC AND HYDROLOGIC CONDITIONS

In the proposed improvements, the asphalt swale will be removed along the east side of Coors Blvd. and standard curb and gutter will be installed. In addition a storm drain system will be added just north of the San Antonio Arroyo to collect the flows as result of the roadway improvements. The roadway will be widened to a minimum 50' face-to-face width and an 8' trail will be added along the east side. The existing concrete box culvert will be extended to accommodate the proposed roadway widening and trail. Runoff generated by the site (11.64ac, $Q_{100}=48.1$ cfs) will still flow east across the road and then to a low point north of the San Antonio Arroyo, where it will be picked up by two Type 'A' double-gate, double-wing inlets in a sump condition. The inlets will tie to a 36" storm drain which will discharge into the San Antonio Arroyo, see Table C for Storm Drain Analysis. Street capacities have been analyzed in accordance to and are in compliance with the DPM requirements that the flow depths of the 10-yr storm may not exceed 0.5 feet and one twelve foot driving lane must remain free of flowing or standing water ($d=0.85$ ft.), see Table B for more information. This design is based on the assumption that the future subdivision to the west will not drain to Coors Boulevard.

V. CONCLUSION

This plan provides hydrologic and hydraulic considerations of the improvements of Coors Boulevard. These flows can be safely conveyed by the improvements proposed in this plan to the existing San Antonio Arroyo,

Table A - Proposed Basin Data									
BASIN	AREA	UNITS	% LAND TREATMENT				DISCHARGE (CFS)		
I.D.	(AC)	#	A	B	C	D ²	10 YR	100YR	
HYDROLOGICAL VOLUMETRIC & DISCHARGE DATA (DEVELOPED)									
ONSITE									
Coors-North	11.64	0	0.0%	10.0%	0.0%	90.0%	31.1	48.14	
TOTAL	11.64	0.00					31.1	48.1	

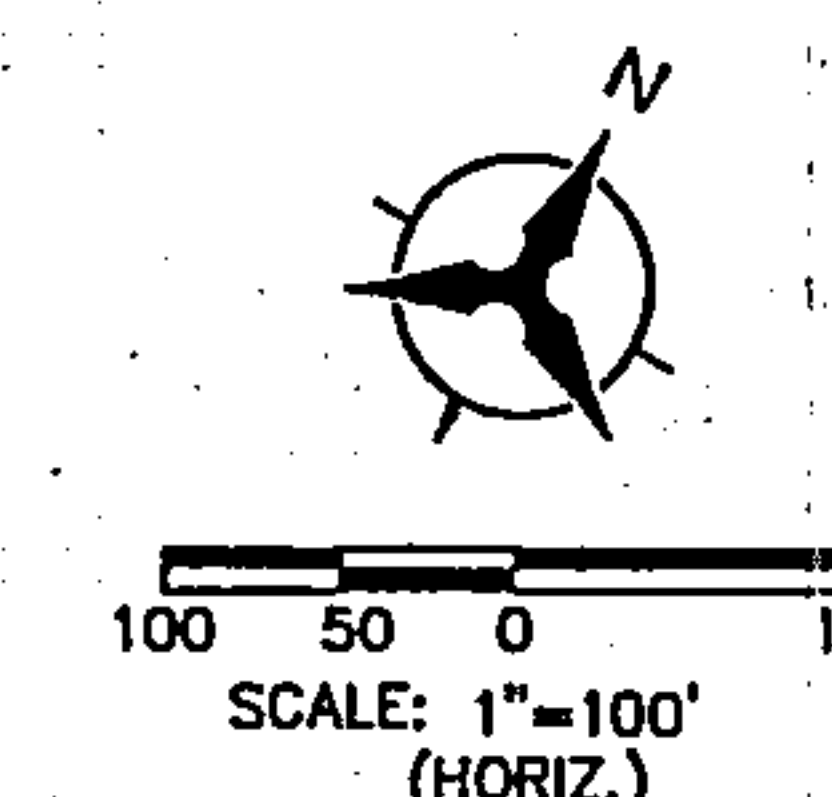
Table B - Street Capacities									
Roadway Grade (%)	Roadway Cross-slope (%)	Q (10 YR) in roadway (cfs)	Q (10 YR) in roadway (cfs)	Curb Type	Depth of water in roadway-10yr (ft.)	Velocity of storm water in roadway (ft/s)	V ² /2g	EGL	Comments ¹
4.89	2.00	16.54	10.70	STD	0.37	5.32	0.44	0.81	OK
2.03	2.00	30.40	19.66	STD	0.50	4.41	0.30	0.81	OK
-1.43	2.00	17.70	11.45	STD	0.46	3.42	0.18	0.64	OK
-1.60	2.00	6.75	4.37	STD	0.34	2.84	0.13	0.47	OK

1) Designed in accordance to DPM Chpt. 22 Sec. 3-E.

Table C - Storm Drain Analysis				
SIZE/TYPE	LENGTH (ft.)	SLOPE (%)	PROPOSED Q (100-YR, cfs)	PIPE CAPACITY (100-YR, CFS)
36" RCP	240.00	0.60	48.10	52.00

DRAINAGE MANAGMENT PLAN COORS BOULEVARD IMPROVEMENTS

ALBUQUERQUE, NEW MEXICO
SEPTEMBER, 2005

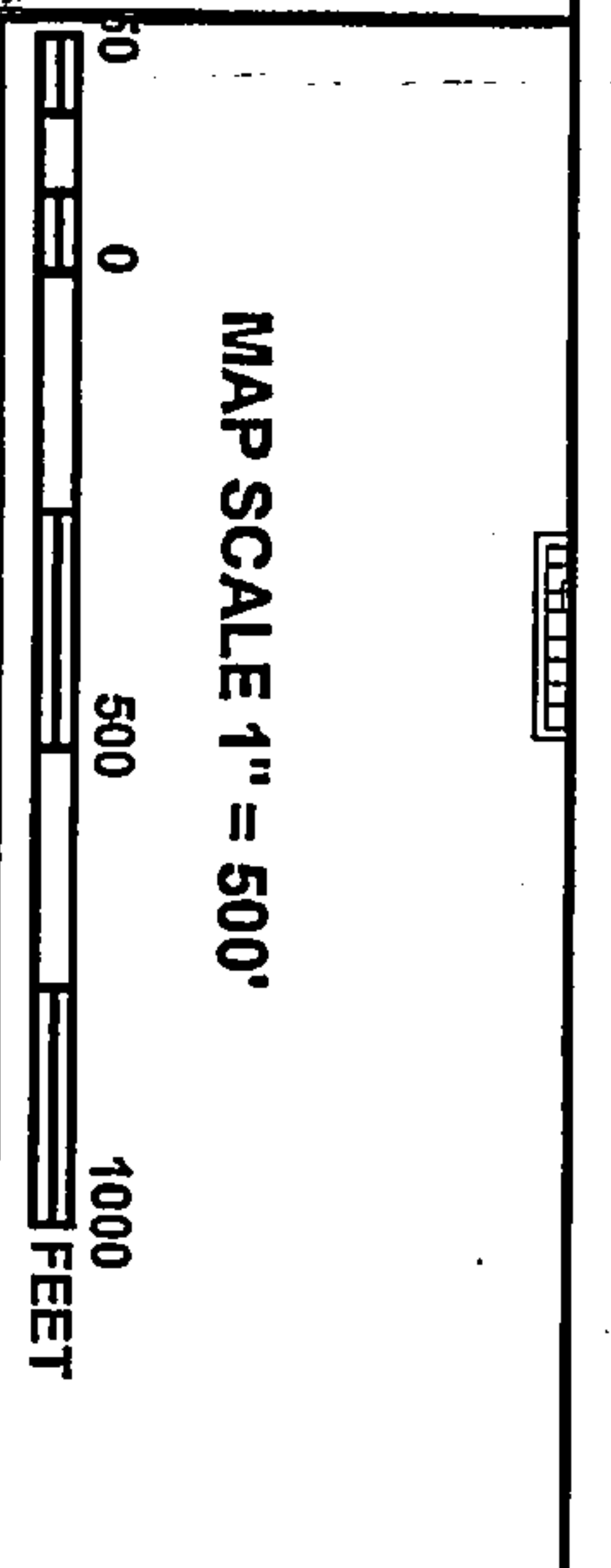
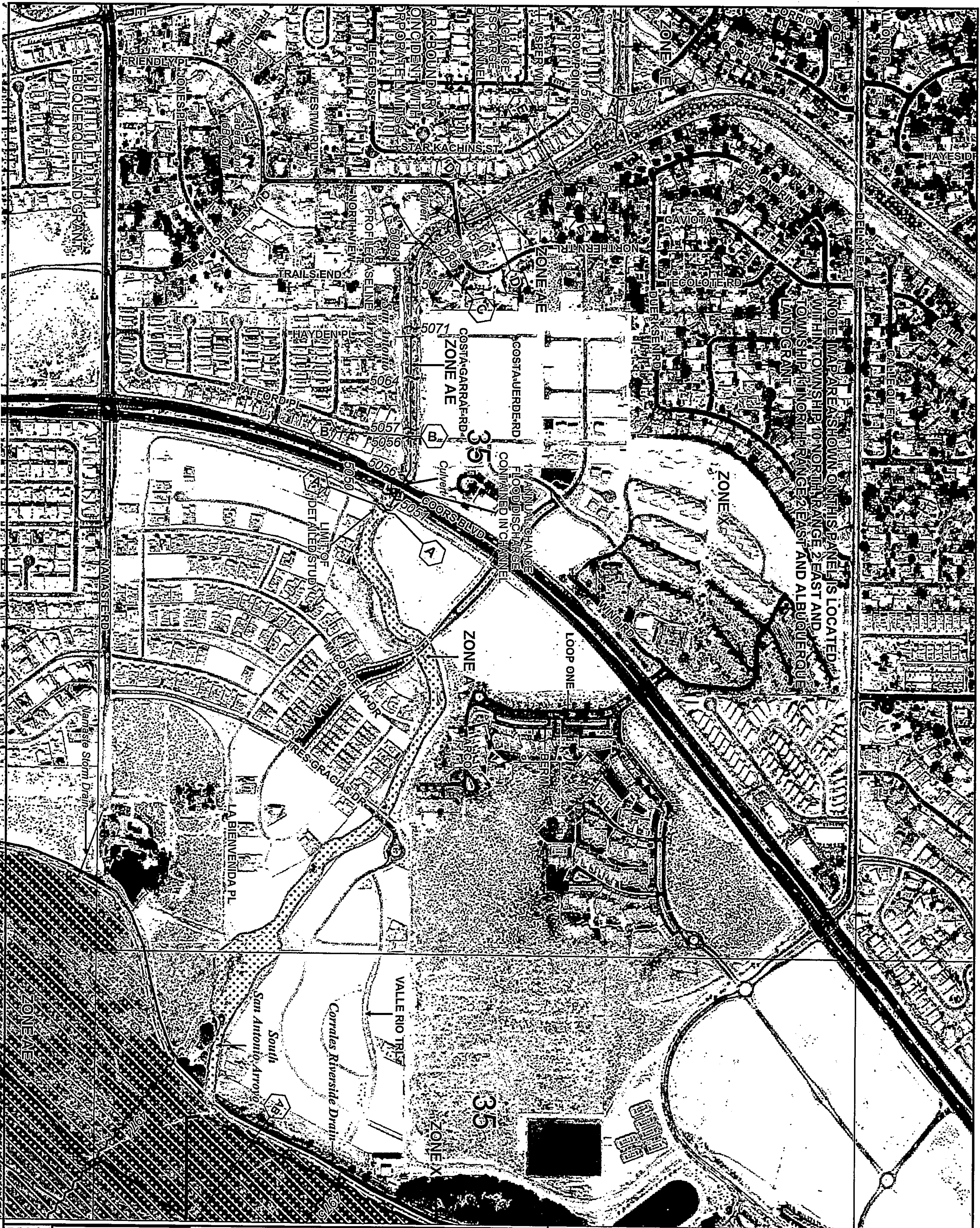


Bohannon & Huston

Courtyard I 7500 Jefferson St. NE Albuquerque, NM 87109-4335
ENGINEERING & SPATIAL DATA & ADVANCED TECHNOLOGIES

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APPENDIX G
FEMA FIRM



NFIP
PANEL 0114H

FIRM
FLOOD INSURANCE RATE MAP
BERNALILLO COUNTY,
NEW MEXICO
AND INCORPORATED AREAS

PANEL 114 OF 825
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)
CONTAINS:
COMMUNITY NUMBER PANEL SHEET
ALBUQUERQUE, CITY OF 35002 0114 H
BERNALILLO COUNTY UNINCORPORATED AREAS 35001 0114 H

MAP NUMBER
35001C0114H
MAP REVISED
AUGUST 16, 2012
Federal Emergency Management Agency

Notice to User: This map number shown below should be used when placing map orders. The Community Number shown above should be used on insurance applications for the subject community.

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps, check the FEMA Flood Map Store at www.msc.fema.gov

Courtyard I
7500 Jefferson St. NE
Albuquerque, NM
87109-4335

www.bhinc.com

voice: 505.823.1000

facsimile: 505.798.7988

toll free: 800.877.5332

CLIENT/COURIER TRANSMITTAL

To: *Rita Harman*

Requested by: *Yolanda Morger*

Date: *1-20-15*

Time Due:

☐
☐
☐
☐

This A.M.

This P.M.

Rush _____

By Tomorrow

Phone:

Job No.:

Job Name: *Andalusia*

DELIVERY VIA

- ☐ Courier ☐ Federal Express
☐ Mail ☐ UPS
☐ Other

PICK UP

Item: _____

<u>ITEM NO.</u>	<u>QUANTITY</u>	<u>DESCRIPTION</u>
-----------------	-----------------	--------------------

<i>1</i>	<i>1</i>	<i>Flood plain overlay</i>
----------	----------	----------------------------

COMMENTS / INSTRUCTIONS

REC'D BY: _____ DATE: _____ TIME: _____

1

EXHIBITS

EXHIBIT 1: PRELIMINARY PLAT

EXHIBIT 2: EXISTING BASINS MAP

EXHIBIT 3: DEVELOPED BASINS MAP

EXHIBIT 4: STORM DRAIN NETWORK MAP

EXHIBIT 5: STORM DRAIN PLAN AND PROFILE

EXHIBIT 6: GRADING PLAN

EXHIBIT 1
PRELIMINARY PLAT

EXHIBIT 2
EXISTING BASINS MAP

EXHIBIT 3
DEVELOPED BASINS MAP

EXHIBIT 4
STORM DRAIN NETWORK MAP

EXHIBIT 5

STORM DRAIN PLAN AND PROFILE

EXHIBIT 6
GRADING PLAN

Bohannon Huston

Albuquerque

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425 S. Telshor Blvd.
Suite C-103
Las Cruces, NM
88011-8237

voice: 575.532.8670
facsimile: 575.532.8680

Denver

Meridian One
9785 Maroon Circle
Suite 140
Englewood, CO
80112-5928

voice: 303.799.5103
facsimile: 303.799.5104
toll free: 877.799.5103

www.bhinc.com

January 13, 2015

Brian Patterson, PE
Yolanda Padilla Moyer, PE
BOHANNAN-HUSTON, INC.
7500 Jefferson Street NE Courtyard I
Albuquerque, NM 87109

Richard J. Berry, Mayor

RE: **Sevilla @ Andalucia - (File: F11D015C)**
Drainage Management Plan, Engineer's Stamp Date 12-19-2014
Grading and Drainage Plans, Engineer's Stamp Date 12-18-2014

Dear Mr. Patterson, Ms. Moyer:

Based upon the information provided in your submittals received 12-19-14, the above referenced submittals cannot be approved Preliminary Plat and Site Plan for Subdivision action by the DRB until the following comments are addressed.

- ✓1. Address the first flush.
- ✓2. Address offsite flows in the report. Do any flows from Coors enter Sevilla Ave.?
- ✓3. Grading plan does not show the existing elevations of Sevilla Ave. It seems to show historic contours. Show existing contours and flowline of Sevilla Ave. Is there a waterblock from Coors into Sevilla Ave?
- ④4. According to report, portions of Existing Basin 1 are conveyed to separate low points. Therefore, Existing Basin 1 should be divided accordingly to reflect this.
- ✓5. Note in the report what portion the Q_{100} flowrate of Existing Basin 1 contributes to each of the separate lowpoints. Please verify that each portion adds up to the total Q_{100} for that basin as there seems to be a 0.4 cfs discrepancy
6. Adjust basin boundaries so that water blocks in Calle Espana coincide with basin boundaries.
7. Show an existing basin east of Existing Basin 1? Report and calculations should show that the 36" existing Storm drain has the capacity to convey the developed flows to its discharge location. What offsite basins contribute to flows in the existing 36" Storm Drain?
8. The contours, elevations and line work showing Coors Blvd, the curb and gutter are unclear.
9. Do flows on East side of Coors (in meandering sidewalk area) drain to this site? Particularly north of Sevilla Ave? The developed basin map shows flow arrows pointing west, but the contours do not support this. There seems to be some ponding in this area. Where is the R.O.W.? Where is the property line? How does this area drain?
10. Is the Retaining wall along Coors existing or proposed? Are both walls shown retaining walls? Site Plan for Subdivision suggests that the wall closer to wall is a decorative wall.

CITY OF ALBUQUERQUE



11. How do Open space tracts drain? Particularly the larger ones such as Basins I and H?
12. Show proposed contours.
13. Show top and bottom of wall elevations on Retaining walls on Grading Plan.
14. Legend shows existing storm drain system with hatched pattern, but is actually faded on plan.
15. Please provide documentation which indicates which developed basins are allowed to free discharge into the San Antonio Arroyo. *✓ Depend on Lynne's approval*
16. Is there a Master Drainage Plan for this area? If so, please provide relevant excerpts.
17. AMAFCA approval is required. The earth lined swales to discharge to San Antonio Arroyo may need an easement, as well as discharge from any "Turned blocks".
18. Show on the Grading Plan the earth lined swales that Basins B and F and K drain to as indicated in the report.
19. Indicate location and opening area of "Turned blocks" on the grading plan.
20. Clearly show AMAFCA Floodway and easements as well as the boundary of the SFHA A flood zone.
21. Show slopes of roadway on Grading Plan
22. Provide Road cross sections.
23. Indicate on the Grading plan where standard curb and mountable curb will be used.
24. Sump in north side (Tract B-2) shows 2 inlets on the Storm Drain Network map, but only 1 inlet on the Grading Plan. The report states that a double grate inlet will be used, but is not indicated elsewhere. Further, the Calculations state that the required capacity is 26.8 cfs, but the Allowable Capacity is for one inlet is ~~14.5~~ cfs. Similar comment is for the sump inlet in the south side (Tract A-1-A).
25. At sump in north side (Tract B-2), flowline elevations indicate that the road is superelevated. Provide street capacity calculations showing the superelevated street has capacity.
26. For the storm drain analysis, provide a graphic representation showing the storm drain, the grade, the HGL and the pipe ID's used in the InRoads program.

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, Monica Ortiz

Harmon Rita T.

From: Harmon Rita T.
Sent: Wednesday, January 14, 2015 1:24 PM
To: 'Brian Patterson'; Yolanda Padilla Moyer
Subject: RE: Sevilla @ Anaducia Comment letter.
Attachments: F11D015C_PP_SPSPD_Cmmt.doc

Brian, Yolanda,

Attached is the Word file of my comments. I do have additional comments as follows:

1. Show the Table in Appendix A on the Developed Basin Map
2. There is a typo on page 1 of report stating site is 38 Acres.
3. How do lots 29, 30, 31 drain? Turned blocks on back side of lot? Are drive pads on west side of lots?
4. A short retaining wall is needed between lots 39 & 40 - *will add*
5. Lot 40 seems to be in Basin F
6. Are the contours between Berm St. and the retaining wall existing contours or historic? Show some spot elevations along Berm St. Is there a curb along Berm St?
7. There is a 10' difference in elevation between the retaining wall and Sevilla Ave. on South side of Sevilla, near the Arroyo. *Wing wall for bridge full.*
8. In regards to comment 24 in the letter: I see that the capacity for 1 inlet is 26.11 as opposed to 14.47 cfs as stated. However, the calculation for the head is based on there being 2 inlets capturing the flow rather than one. The depth is 0.58' so the capacity is about 20.5 cfs, still less than the required 26.8 cfs for the North Basin. This same comment applies to the South Basin (basin South of Sevilla Ave).
9. In regards to comment 25: I see that the street capacity calculation does take into account the superelevation; however, it is assuming to separate inlets in both the North and South basins.
10. I will wait till I get the other comments addressed before I review the SD analysis in more depth.

Let me know if you have any questions, comments, etc.

Rita Harmon, P.E.

Senior Engineer

Planning Department

Development & Review Services Division

600 2nd St. NW, Suite 201

Albuquerque, NM 87102

t 505-924-3695

f 505-924-3864

From: Brian Patterson [<mailto:bpatterson@bhinc.com>]

Sent: Tuesday, January 13, 2015 5:30 PM

To: Harmon Rita T.; Yolanda Padilla Moyer
Subject: RE: Sevilla @ Anaducia Comment letter.

Thanks Rita. Would it be possible for you to send us the word document? It makes it a little easier to create a letter to respond to your comments.

From: Harmon Rita T. [<mailto:rharm@cabq.gov>]

Sent: Tuesday, January 13, 2015 5:03 PM

To: Yolanda Padilla Moyer; Brian Patterson

Subject: Sevilla @ Anaducia Comment letter.

Yolanda and Brian,

Please find attached a copy of the Hydrology Letter for the above referenced project.

Rita Harmon, P.E.

Senior Engineer

Planning Department

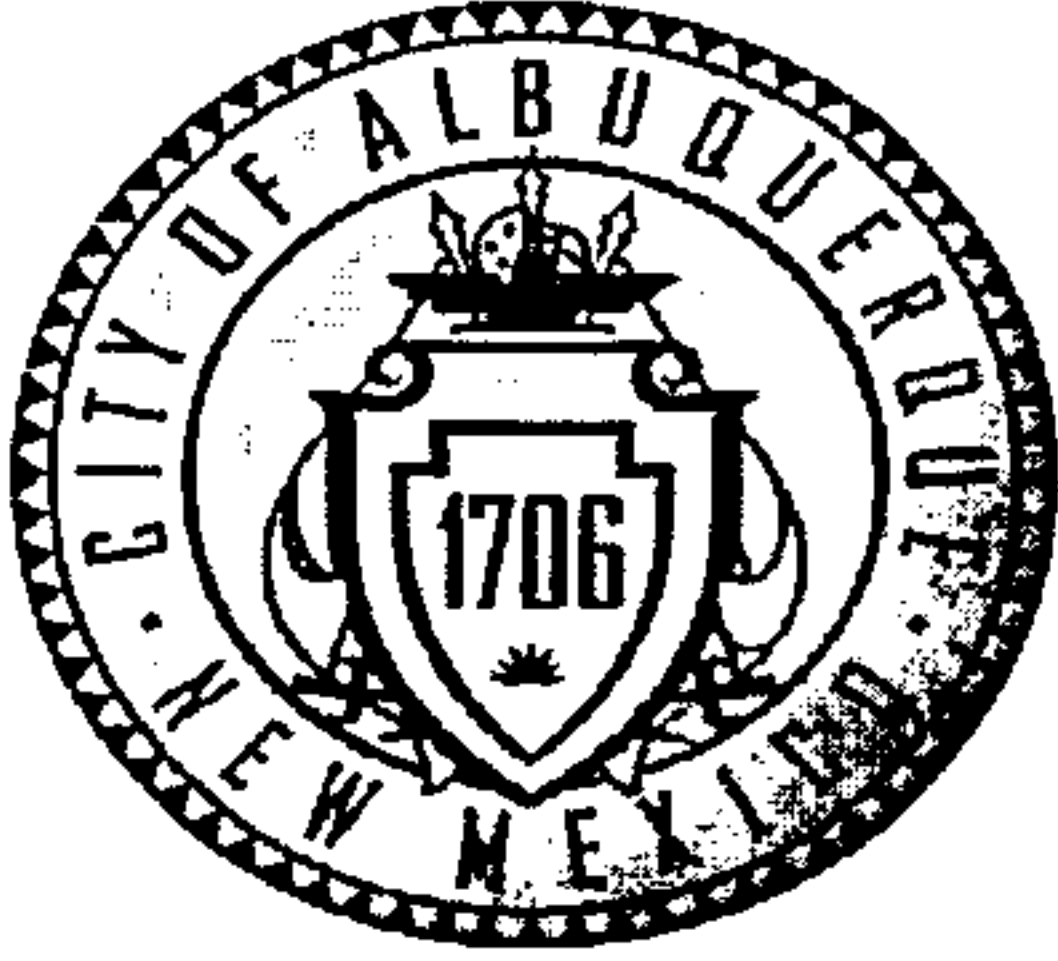
Development & Review Services Division

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City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV 02/2013)

F11 D045C

Project Title: SEVILLA @ ANDALUCIA DMP Building Permit #: _____ City Drainage #: ~~5555~~
DRB#: 1000965 EPC#: _____ Work Order#: _____
Legal Description: TRACTS A-1-A AND B-2, ANDALUCIA AT LA LUZ
City Address: _____

Engineering Firm: BOHANNAN HUSTON INC Contact: BRIAN PATTERSON
Address: 7500 JEFFERSON ST NE COURTYARD 1 ALBUQUERQUE NM 87109
Phone#: 823-1000 Fax#: _____ E-mail: BPATTERSON@BHINC.COM

Owner: PULTE Contact: KEVIN PATTON
Address: 7601 JEFFERSON ST NE SUITE 320 ALBUQUERQUE NM 87109
Phone#: 505-341-8591 Fax#: _____ E-mail: _____

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

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

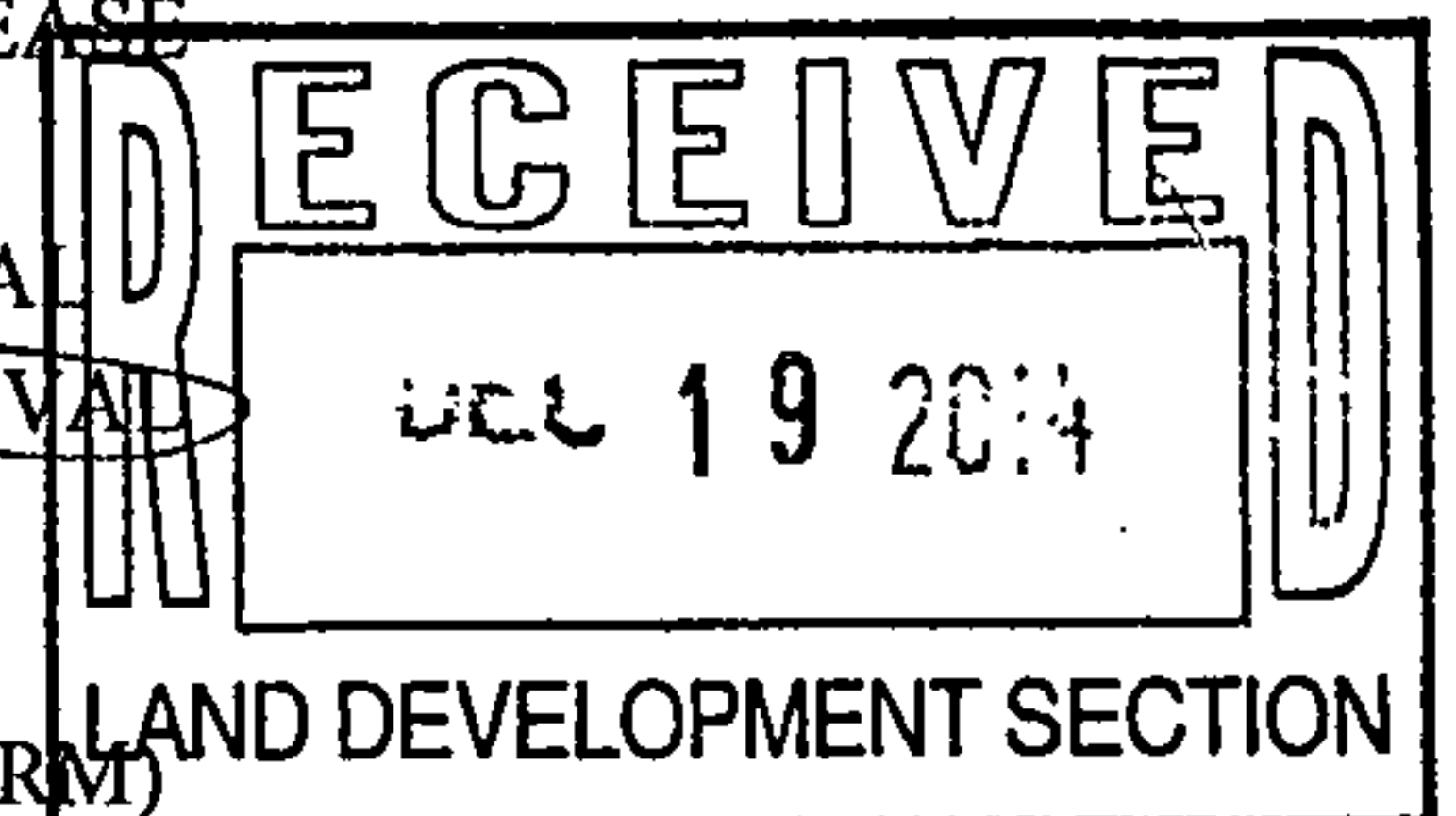
Contractor: _____ Contact: _____
Address: _____
Phone#: _____ Fax#: _____ E-mail: _____

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
☐ ESC PERMIT APPROVAL
☐ ESC CERT. ACCEPTANCE
☐ OTHER (SPECIFY) _____



WAS A PRE-DESIGN CONFERENCE ATTENDED: _____ Yes _____ No _____ Copy Provided _____

DATE SUBMITTED: 12-19-14 By: BRIAN PATTERSON

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

Yolanda

From: Yolanda Padilla Moyer
Sent: Thursday, January 22, 2015 2:27 PM
To: Biazar, Shahab (sbiazar@cabq.gov)
Cc: Kevin Patton (Kevin.Patton@PulteGroup.com)
Subject: Urgent!! Andalucia Cul-de-sac

Hi Shabab,

Can you please give me a call? The Fire Marshal's Office would not approve a variance there for we will need to submit a revised preliminary plat. You mentioned yesterday that you were going to talk to Curtis and Jack about the revised grading being tied to the work order plans since the timing of the revision would require me submit revised plan by tomorrow at noon. Can you please confirm that this happened and is the case? As Kevin mentioned, the drainage doesn't change the revisions on the grading plan would only be for the cul-de-sacs.

If you could get back to me as soon as possible I would appreciate it.

Thanks
Yolanda

CONFIDENTIALITY NOTICE: This email may contain confidential and privileged material for the sole use of the intended recipient(s). Any review, use, distribution or disclosure by others is strictly prohibited. If you have received this communication in error, please notify the sender immediately by email and delete the message and any file attachments from your computer. Thank you.

Cherne, Curtis

From: Yolanda Padilla Moyer <ypadilla@bhinc.com>
Sent: Thursday, January 22, 2015 4:46 PM
To: 'Kevin Patton'; Cherne, Curtis; Biazar, Shahab
Subject: RE: Urgent!! Andalucia Cul-de-sac

I would agree with Kevin. The drainage calculations, analysis and basin are not affected. We can send a letter if we need to.

Yolanda

From: Kevin Patton [<mailto:Kevin.Patton@PulteGroup.com>]
Sent: Thursday, January 22, 2015 4:38 PM
To: Cherne, Curtis; Yolanda Padilla Moyer; Biazar, Shahab
Subject: RE: Urgent!! Andalucia Cul-de-sac

Not sure why the drainage report would have to be revised? At most I would think you would send a supplemental letter noting the layout revisions and that the drainage calculations, analysis and basins were not affected by the revised layout of the two cul de sacs. My two cents for what it might be worth.

Kevin

From: Cherne, Curtis [<mailto:CCherne@cabq.gov>]
Sent: Thursday, January 22, 2015 4:33 PM
To: 'Yolanda Padilla Moyer'; Biazar, Shahab
Cc: Kevin Patton
Subject: RE: Urgent!! Andalucia Cul-de-sac

I'm OK if Shahab is OK. An approved revised grading plan will be required prior to Work Order and Grading Permit approval.

I am hoping the drainage report does not have to be revised. What is your opinion?

Curtis

From: Yolanda Padilla Moyer [<mailto:ypadilla@bhinc.com>]
Sent: Thursday, January 22, 2015 3:13 PM
To: Biazar, Shahab
Cc: 'Kevin Patton (Kevin.Patton@PulteGroup.com)'; Cherne, Curtis
Subject: RE: Urgent!! Andalucia Cul-de-sac

Hi Shabah,

Per our phone conversation, enclosed is a revised layout. The lot count didn't change, we are still at 45, and the southern cul-de-sac is a 96' Row and the northern cul-de-sac changed from a cul-de-sac to a K-turn roadway. Please take a look and confirm with Curtis that the changes are minor enough to tie a revised grading plan to the work order. As mentioned, we will also coordinate with Kym Dicome to send an e-mail to Jack.

Please let me know and appreciate you all work with us to try and get approval next Wednesday.

Thanks