

CITY OF ALBUQUERQUE

PLANNING DEPARTMENT – Development Review Services



December 11, 2013

Richard J. Berry, Mayor

Reza Afaghpour, P.E.
c/o Shawn Biazar
10209 Snowflake Ct. NW
Albuquerque, NM 87114

RE: **4500 Canyon Court NE** (Single Family Residential)
Lot 36, Block 15, Glenwood Hills Unit 3
Grading & Drainage Plan for Building Permit

G23-D012

PE Stamp: 12/09/2013

Dear Mr. Afaghpour:

Based upon the information provided in your resubmittal received 12-11-2013, the above referenced Grading and Drainage Plan is approved for Building Permit.

PO Box 1293

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

Albuquerque

Prior to Certificate of Occupancy release, an Engineer's Certification of Grading on this site, in accordance with this plan, will be required per the DPM checklist.

NM 87103

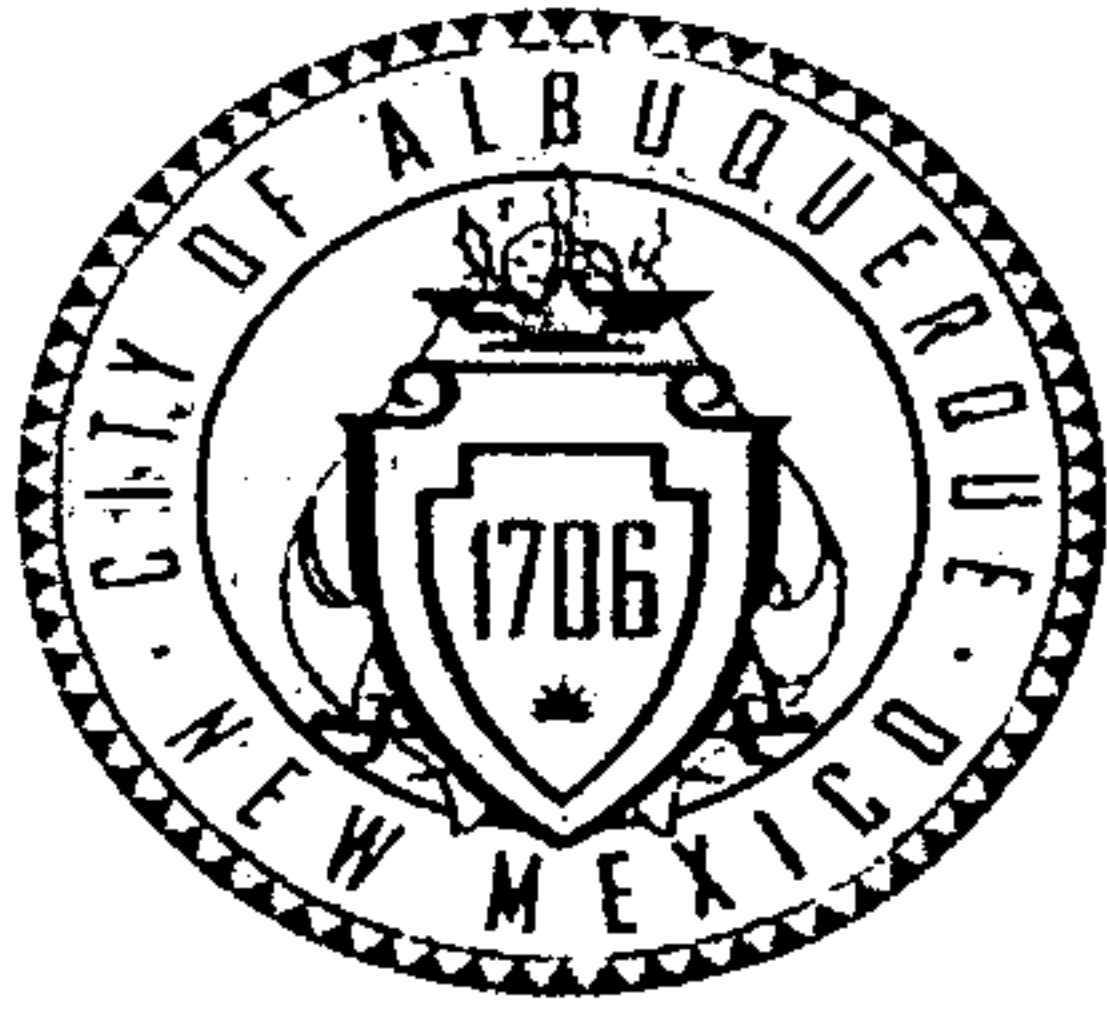
If you have questions, please email me at grolson@cabq.gov or phone 505-924-3994.

www.cabq.gov

Sincerely,

Gregory R. Olson, P.E.
Senior Engineer

Orig: Drainage file **G23/D012**
c.pdf Addressee via Email AECLLC@aol.com



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV 02/2013)

Project Title: 4500 CANYON CT., NE Building Permit #: _____ City Drainage #: G23D062
DRB#: _____ EPC#: _____ Work Order#: _____
Legal Description: LOT 36, BLOCK 15, UNIT 3, GLENWOOD HILLS
City Address: 4500 CANYON CT., NE

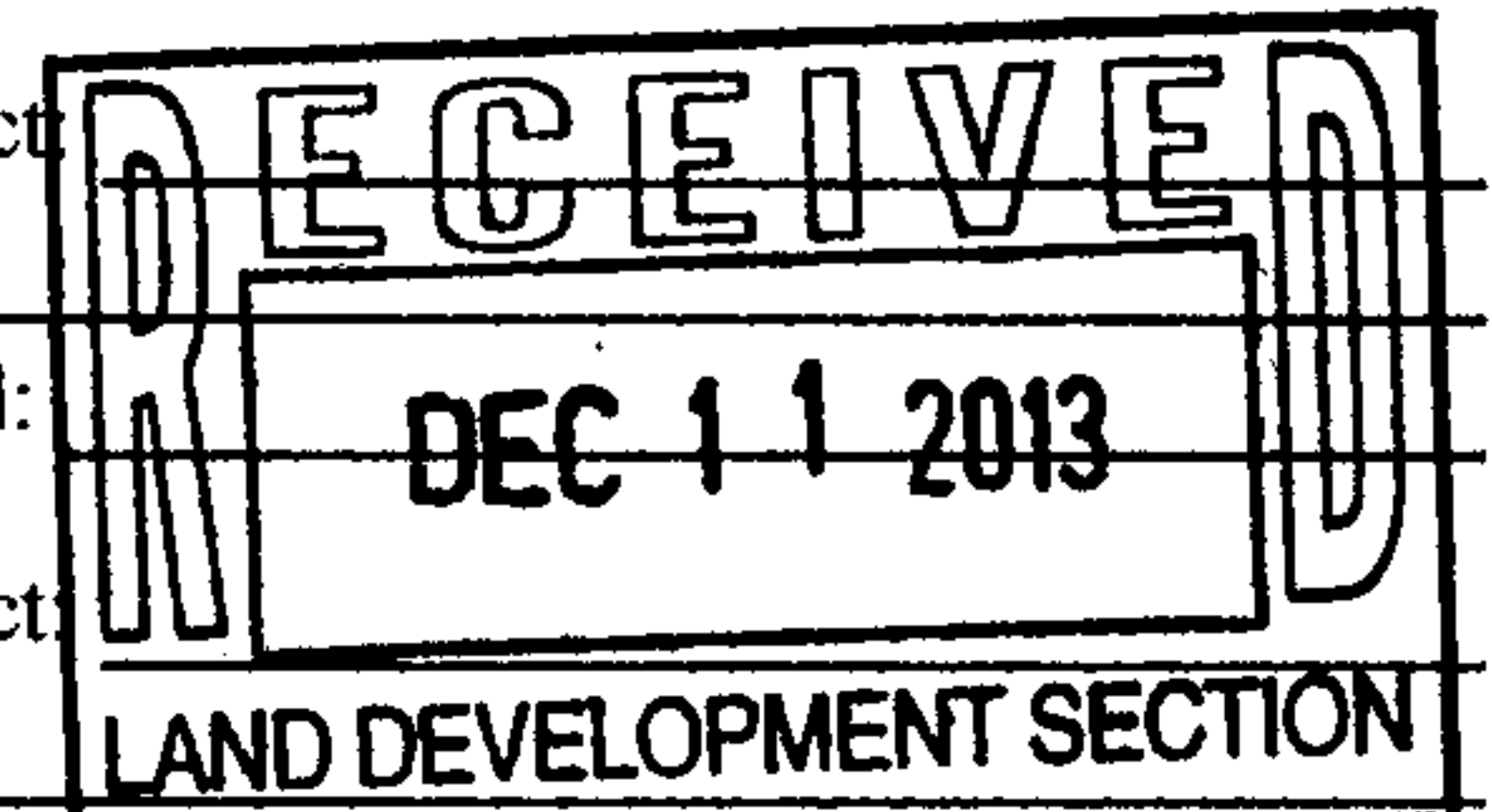
Engineering Firm: SBS CONSTRUCTION AND ENGINEERING, LLC Contact: SHAWN BIAZAR
Address: 10209 SNOWFLAKE CT., NW, ALBUQUERQUE, NM 87114
Phone#: (505) 804-5013 Fax#: (505) 897-4996 E-mail: AECCLLC@AOL.COM

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

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

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

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

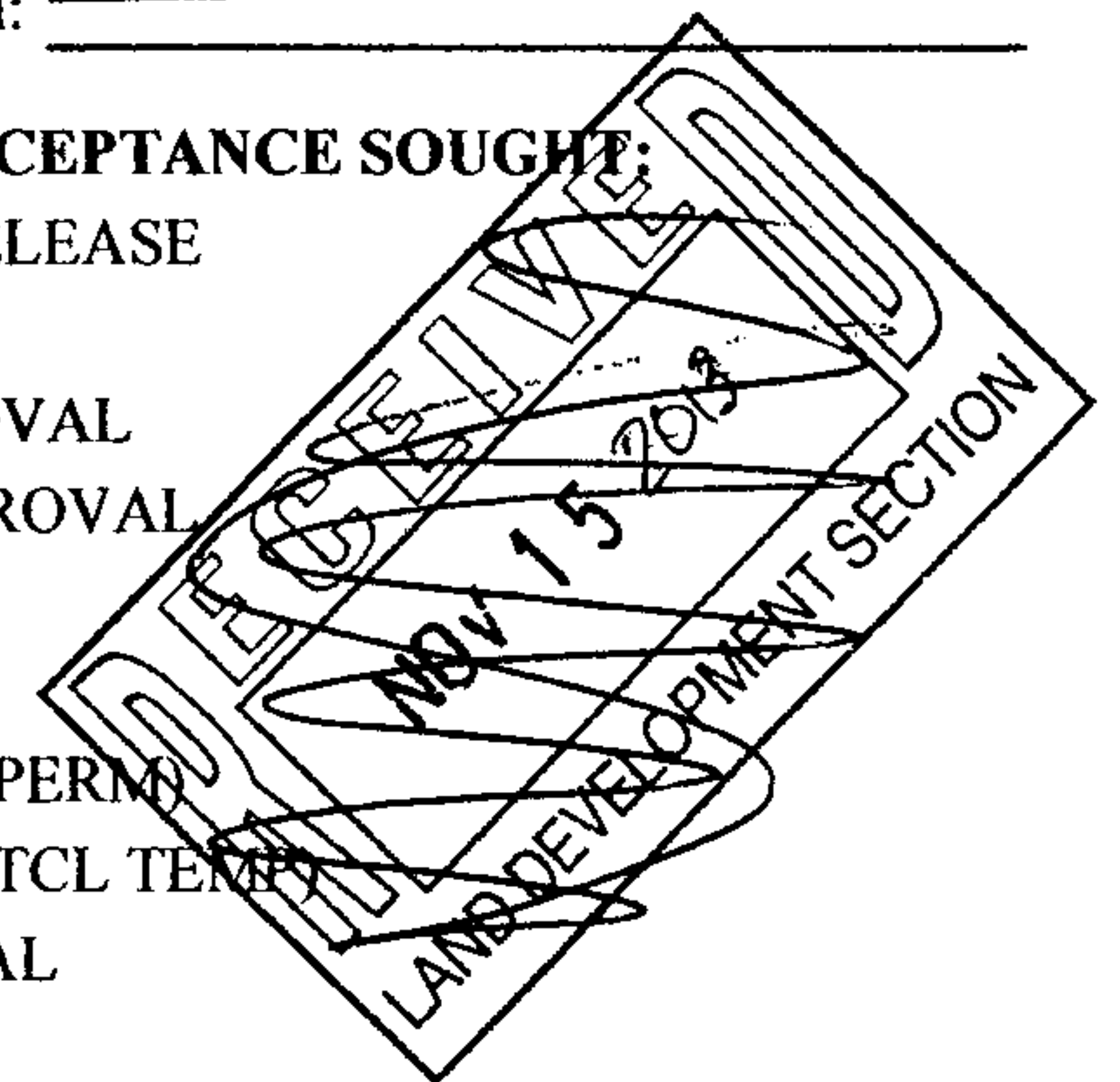


TYPE OF SUBMITTAL:

- ☒ 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: 11/15/2013 By: SHAWN BIAZAR

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:

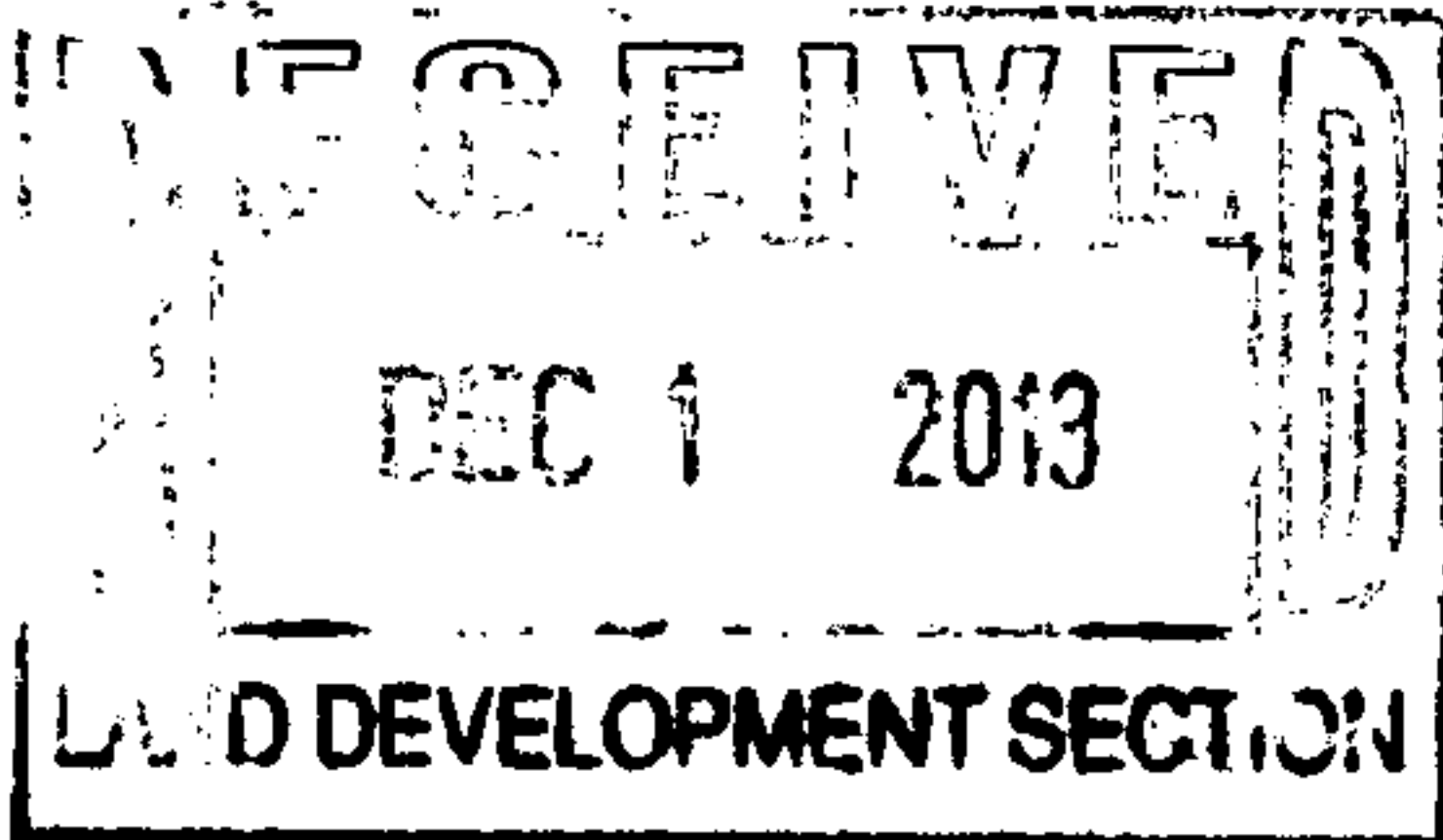
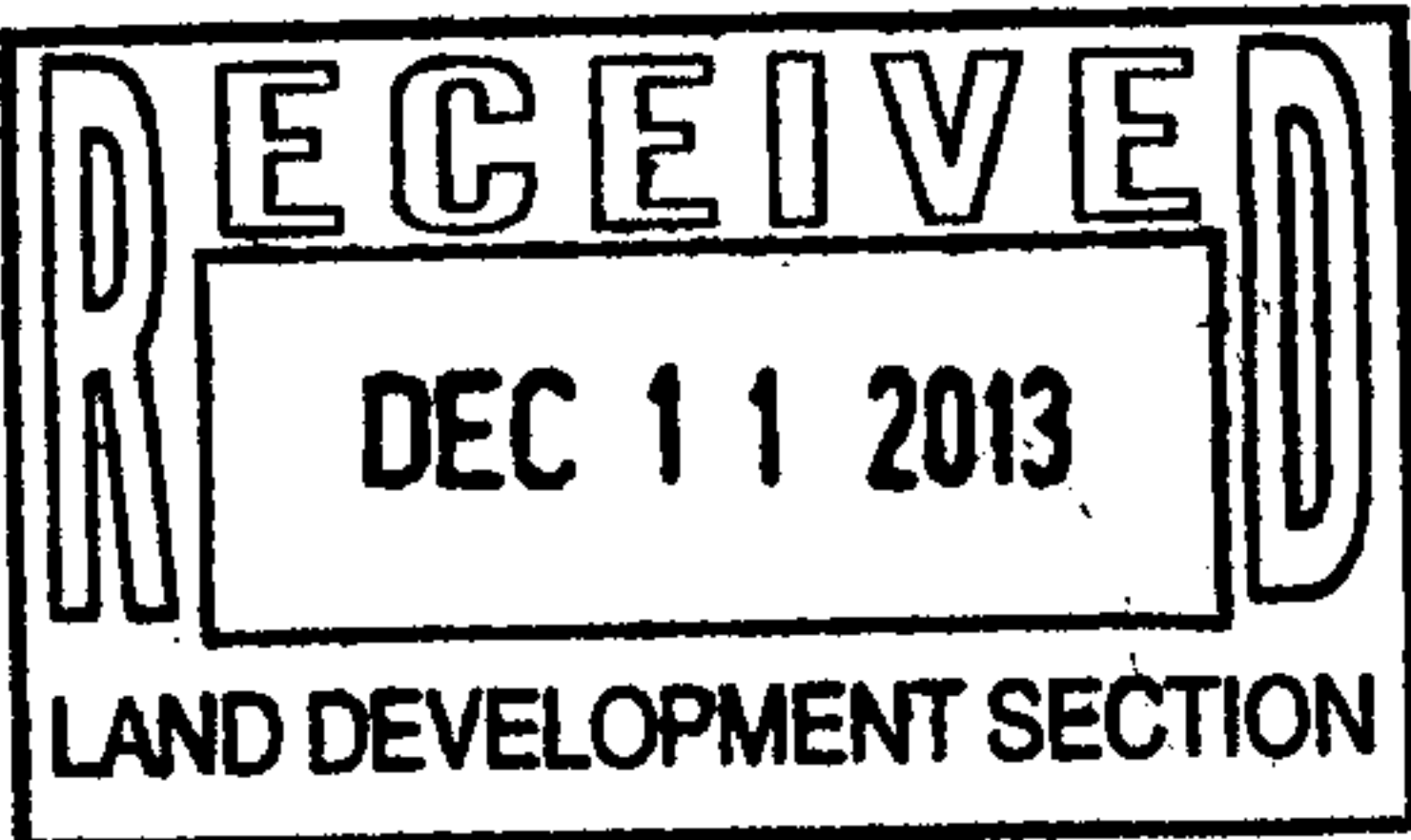
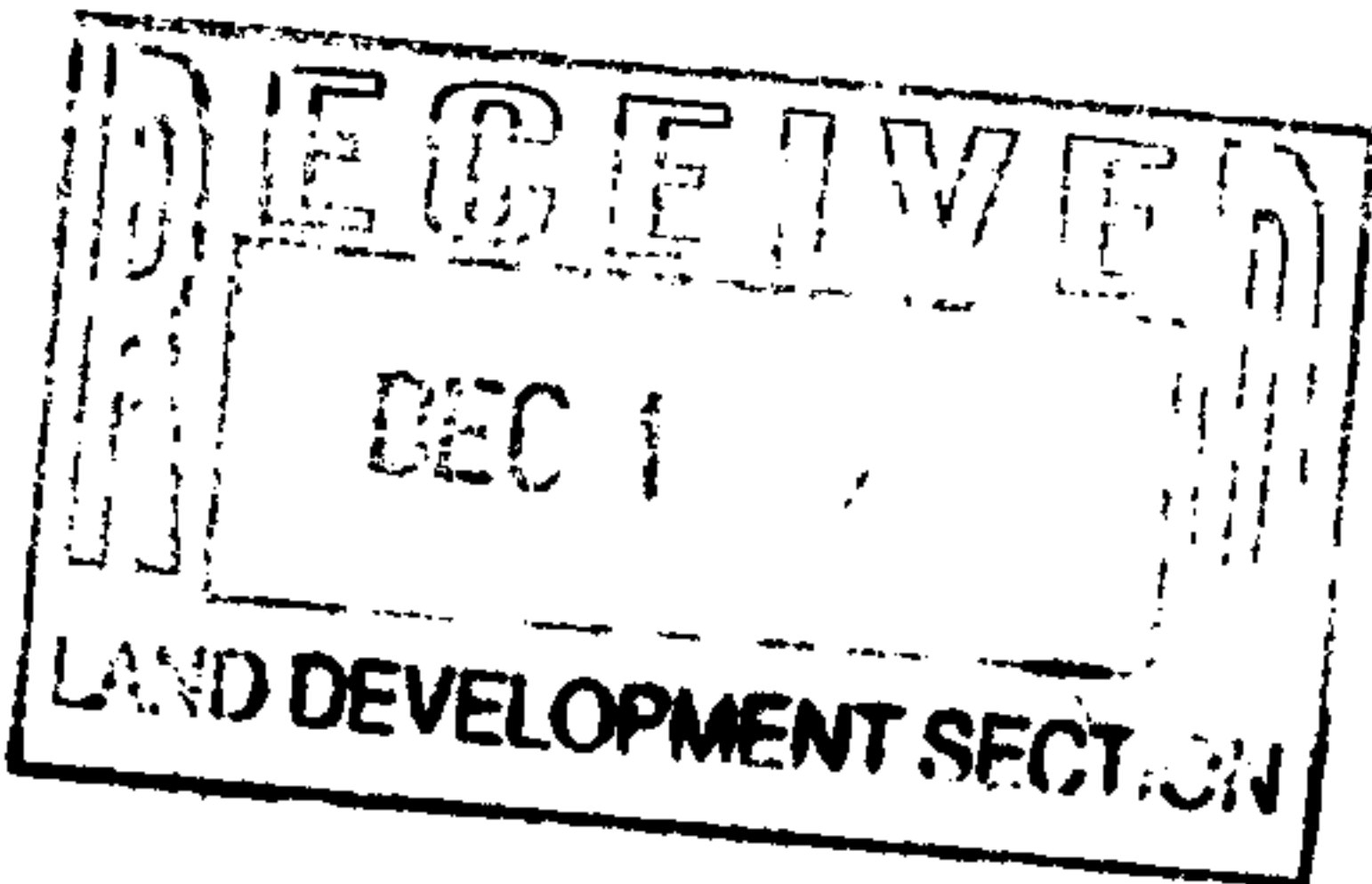
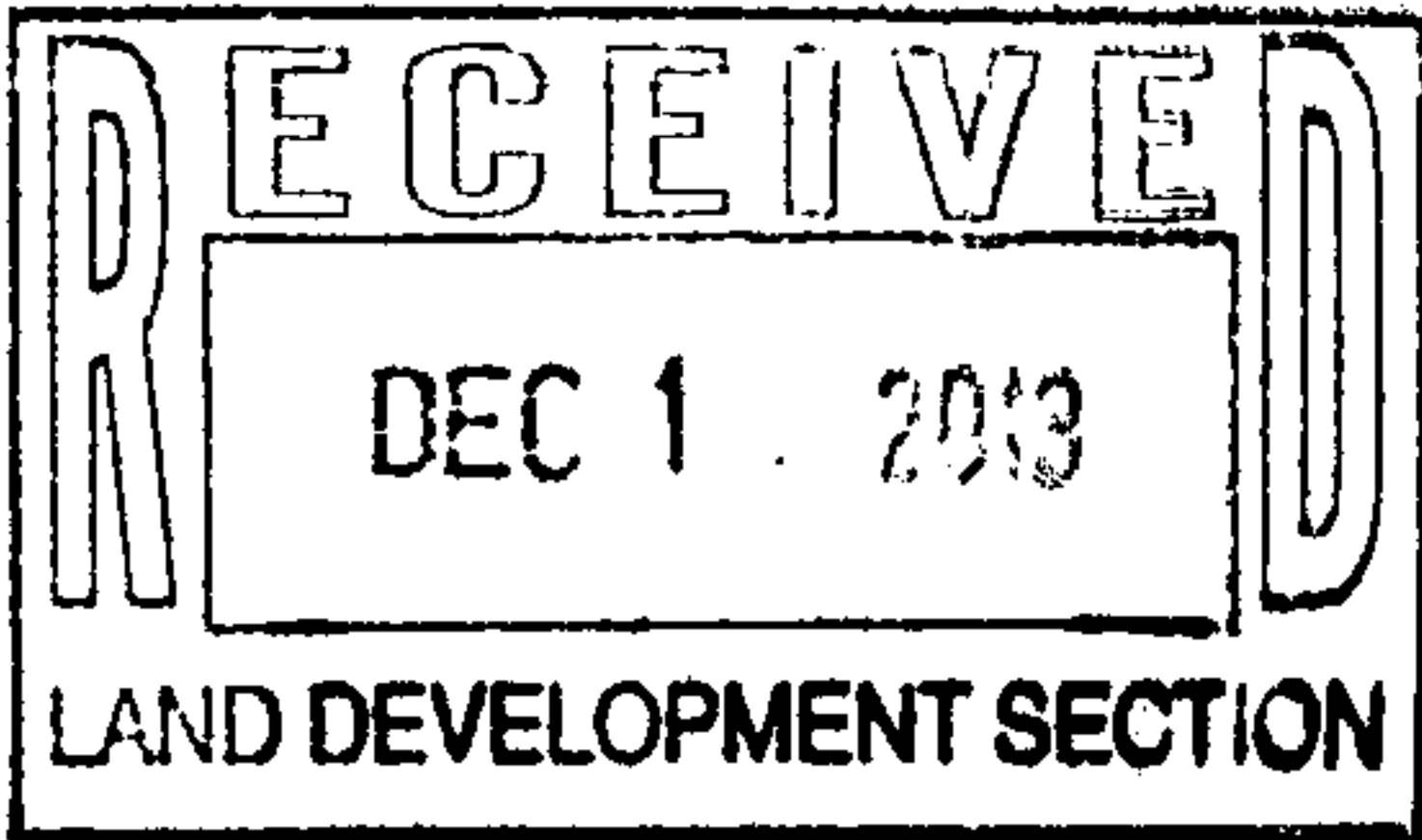
1. **Conceptual Grading and Drainage Plan:** Required for approval of Site Development Plans greater than five (5) acres and Sector Plans
2. **Drainage Plans:** Required for building permits, grading permits, paving permits and site plans less than five (5) acres
3. **Drainage Report:** Required for 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

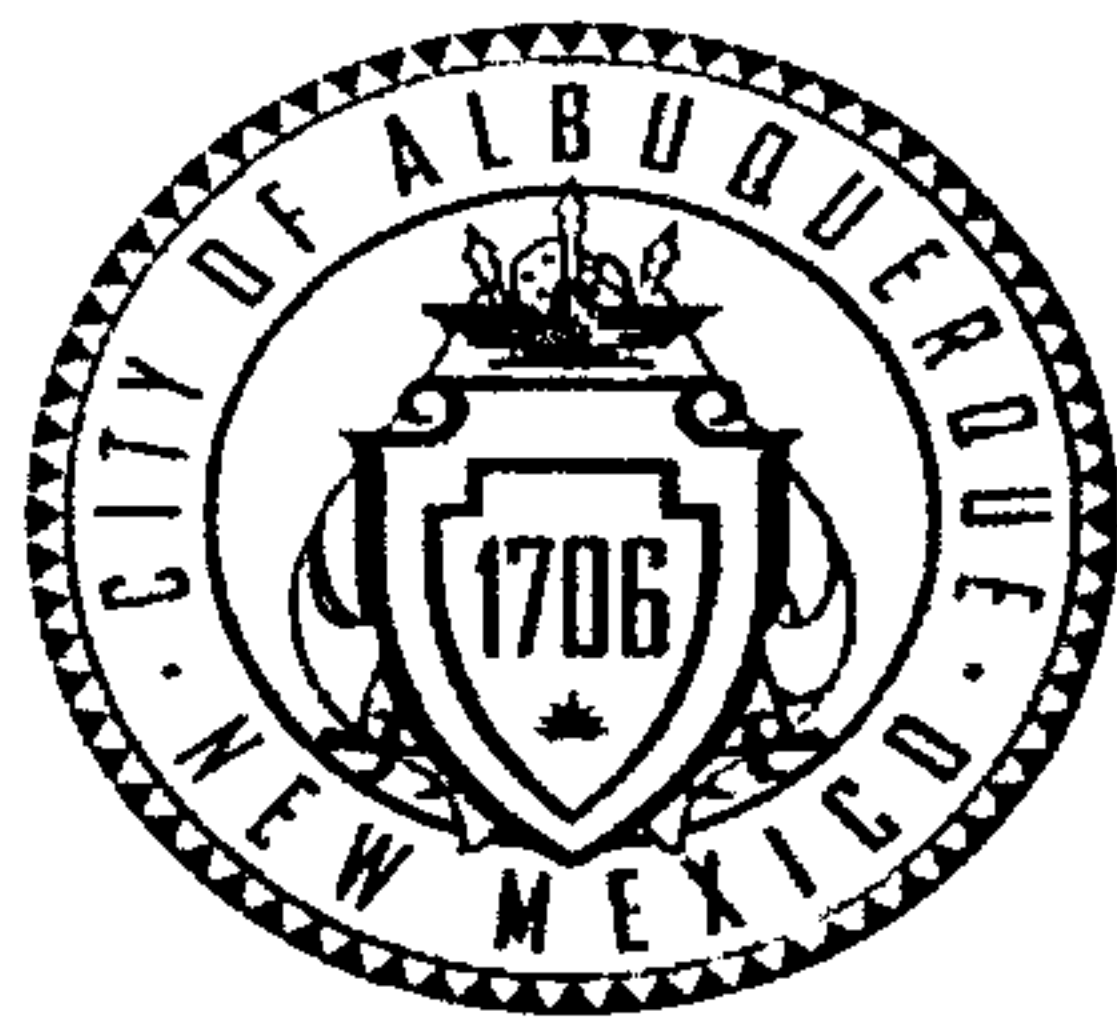
Triangular Ditch

COMMENT: DRAINAGE SWALE CALCULATION

SOLVE FOR Depth

Lt Side Slope	2.00 :1 (H:V)	Velocity	5.79 fps
Rt Side Slope	2.00 :1 (H:V)	Flow Area	2.61 sf
Manning's n	0.022	Flow Top Width	4.57 ft
Channel Slope	0.0180 ft/ft	Wetted Perimeter . . .	5.11 ft
Depth	1.14 ft	Critical Depth	1.29 ft
Discharge	15.12 cfs	Critical Slope	0.0095 ft/ft
		Froude Number	1.35





City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV 02/2013)

Project Title: 4500 CANYON CT., NE Building Permit #: _____ City Drainage #: G23D062
DRB#: _____ EPC#: _____ Work Order#: _____
Legal Description: LOT 36, BLOCK 15, UNIT 3, GLENWOOD HILLS
City Address: 4500 CANYON CT., NE

Engineering Firm: SBS CONSTRUCTION AND ENGINEERING, LLC Contact: SHAWN BIAZAR
Address: 10209 SNOWFLAKE CT., NW, ALBUQUERQUE, NM 87114
Phone#: (505) 804-5013 Fax#: (505) 897-4996 E-mail: AECLLC@AOL.COM
Owner: _____ Contact: _____
Address: _____
Phone#: _____ 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:

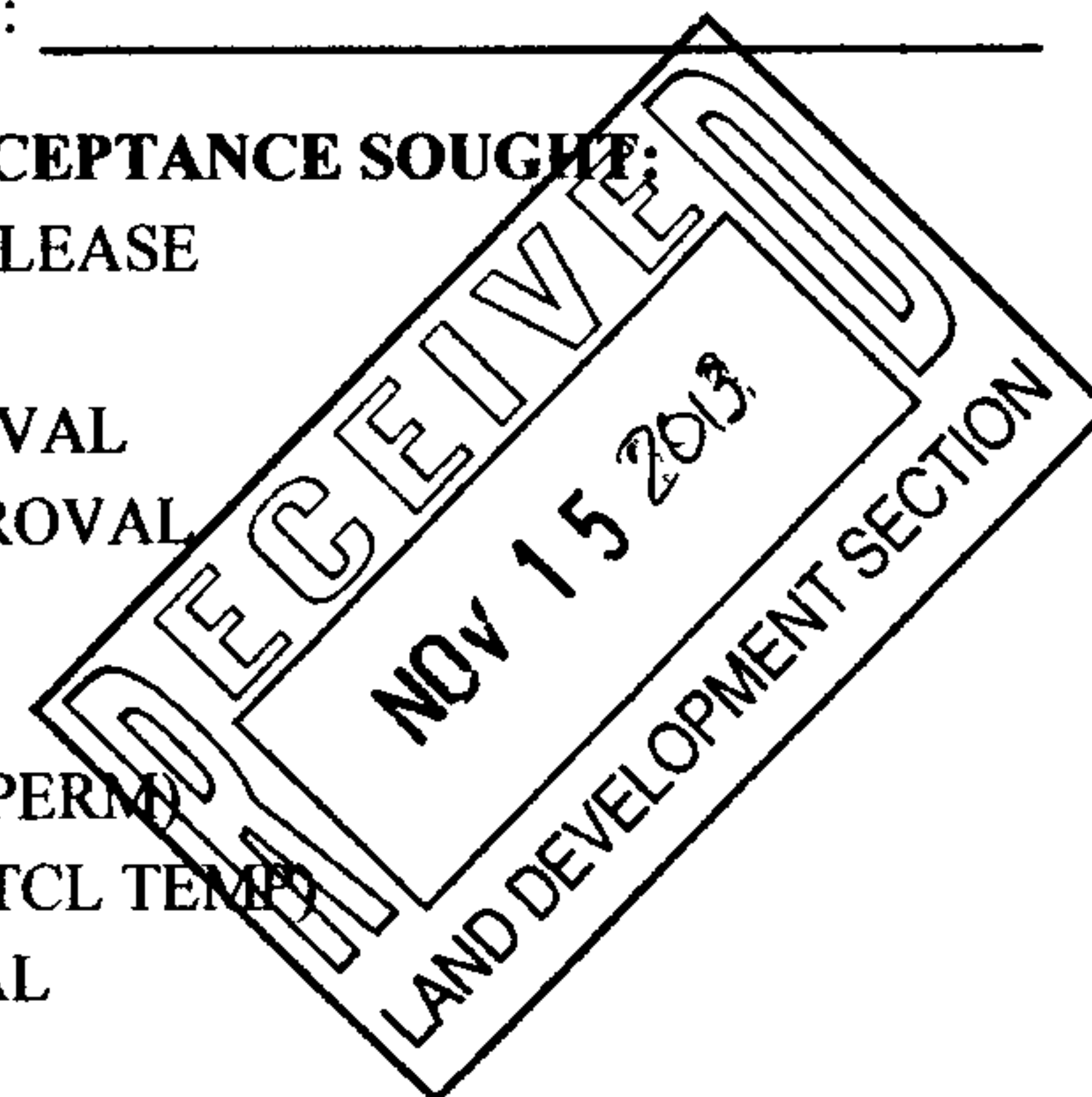
- ☐ SIA/FINANCIAL GUARANTEE RELEASE
☐ PRELIMINARY PLAT APPROVAL
☐ S. DEV. PLAN FOR SUB'D APPROVAL
☐ S. DEV. FOR BLDG. PERMIT APPROVAL
☐ SECTOR PLAN APPROVAL
☐ FINAL PLAT APPROVAL
☐ CERTIFICATE OF OCCUPANCY (PERM)
☐ CERTIFICATE OF OCCUPANCY (TCL TEMP)
☐ FOUNDATION PERMIT APPROVAL
☒ BUILDING PERMIT APPROVAL
☒ 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: 11/15/2013 By: SHAWN BIAZAR

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



Pa 50.00

Olson, Greg

From: Olson, Greg
Sent: Friday, December 06, 2013 4:47 PM
To: Olson, Greg; 'aecllc@aol.com'
Subject: RE: G23D012 - 4500 Canyon Court NE (with attachment)
Attachments: G23D012-Ditch-calcs that need correction.pdf

"HAPPY HOLIDAYS !!"

&

Thanks,

Greg Olson, PE
Senior Engineer
Planning - Hydrology
505-924-3994

From: Olson, Greg
Sent: Friday, December 06, 2013 4:46 PM
To: 'aecllc@aol.com'
Cc: Olson, Greg
Subject: G23D012 - 4500 Canyon Court NE

Shawn,

Please review my notes on the attached copy of your Ditch Calculation Sheet.
Submit revised calcs to verify ditch capacity, and then I am ready to approve the plan

"HAPPY HOLIDAYS !!"

&

Thanks,

Greg Olson, PE
Senior Engineer
Planning - Hydrology
505-924-3994

12/11/2013

File: G23/0012

4500 Canyon Court NE

11/14/13 PB
Storm.

Triangular Ditch

COMMENT: DRAINAGE SWALE CALCULATION

SOLVE FOR Depth

Lt Side Slope 2.00 :1 (H:V)
Rt Side Slope 2.00 :1 (H:V)
Manning's n 0.022
Channel Slope 0.0090 ft/ft
Depth 1.30 ft
Discharge 15.00 cfs

Velocity 4.46 fps
Flow Area 3.37 sf
Flow Top Width 5.19 ft
Wetted Perimeter . . . 5.80 ft
Critical Depth 1.28 ft
Critical Slope 0.0095 ft/ft
Froude Number 0.98

15.12 cfs off site
passing through

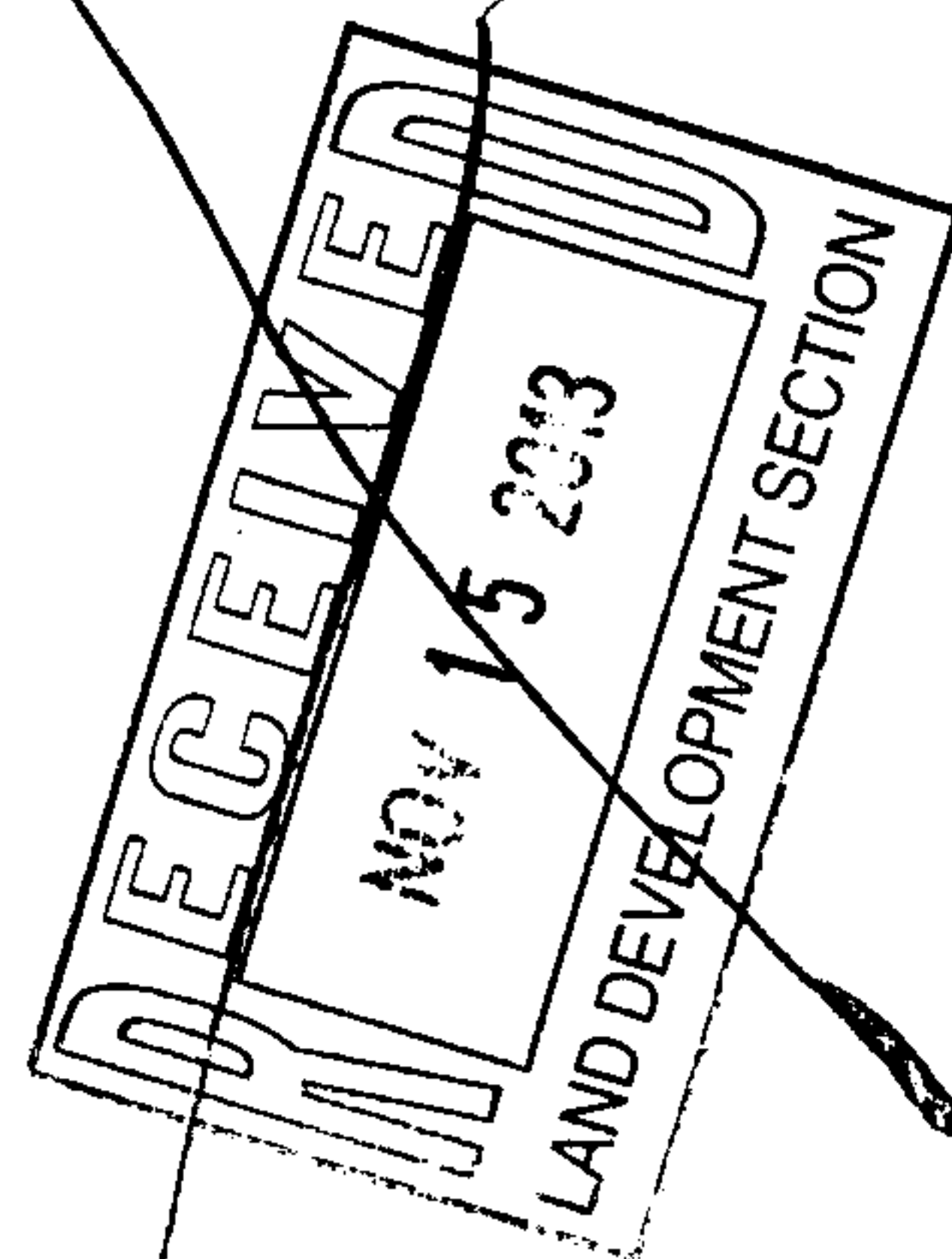
0.018% min slope
shown on plan

1' Depth shown on plan

Shawn,
Please recalculate with
correct channel slope to
confirm that it will
contain the 15.12 cfs.

Email revised ditch calcs
& I can approve G&D.

Thanks, *[Signature]*
12/6/13



Location

Lot 36, Block 15, Unit 3, Glenwood Hills is located at 4500 Canyon Ct., NE. See attached portion of Zone Atlas page number G-22 on the grading plan for exact location.

Purpose

The purpose of this drainage report is to present a grading and drainage solution for the proposed residential house. We are requesting rough grading and building permit approval.

Existing Drainage Conditions

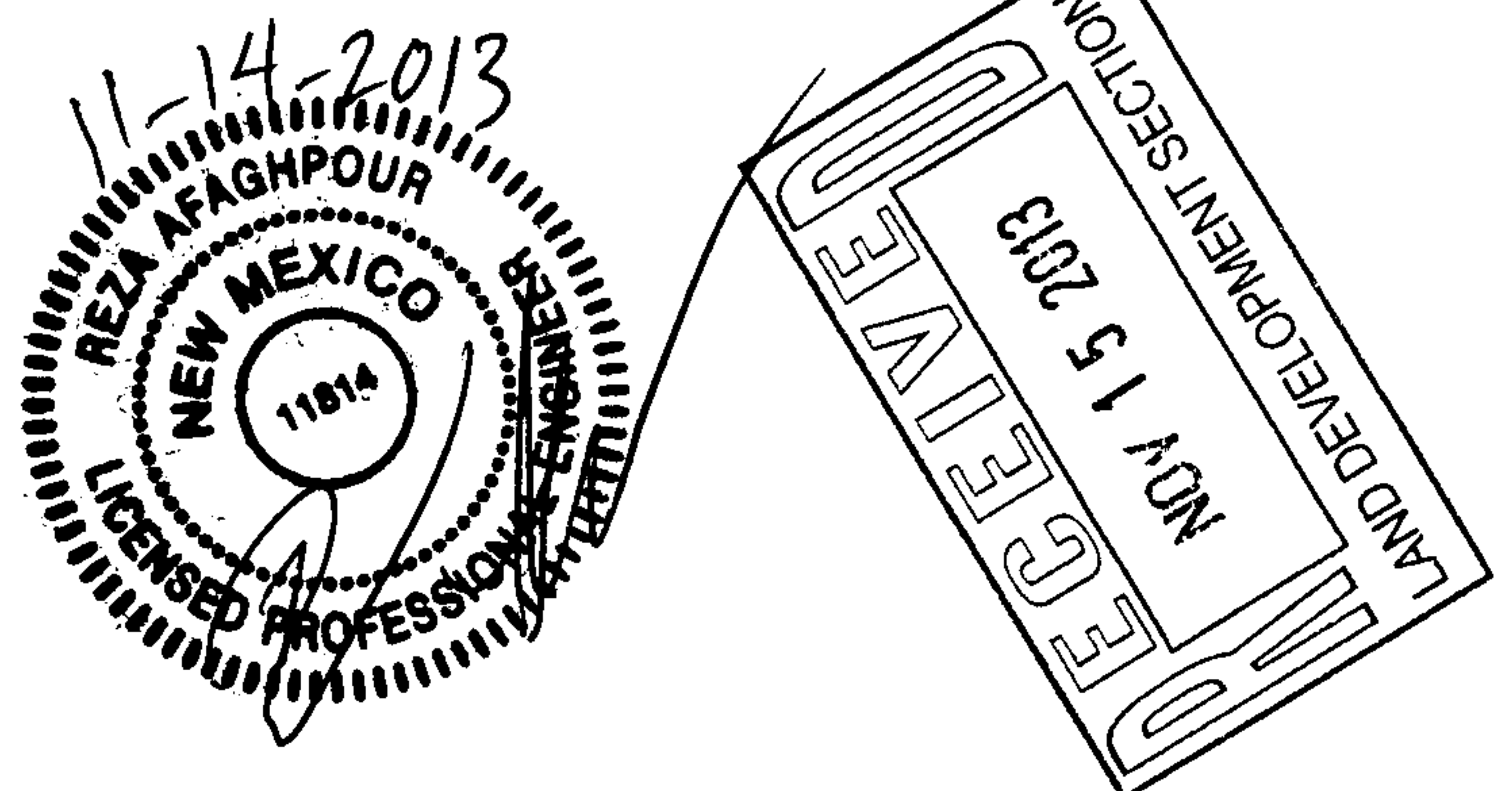
The lot is within a fully built subdivision. The lot drains from east to west and then north to the adjacent property. From there the runoff drains to Canyon Ct. There is an offsite basin that drains to this site at a flow rate of 15.12 cfs. See attached map for the offsite basin layout. The site does not fall within a designated floodplain. See attached portion of the FIRM map number 35001C0163H.

Proposed Conditions and On-Site Drainage Management Plan

The offsite and on-site drainage pattern will remain the same as existing conditions except that under developed conditions the runoff will not drain to the adjacent property and will be routed directly to Canyon Ct. The difference between 100-yr/6-hour storm volume under the developed conditions and historical conditions will be retained on-site.

Calculations

City of Albuquerque, Development Process Manuel, Section 22.2, Hydrology Section, was used for runoff calculations. See this report for Summary Table for runoff results. See also this report for the AHYMO input and output files for runoff calculations.





SCALE 1"=100'

OFFSITE BASIN MAP



MAP SCALE 1" = 500'



NEIP

PANEL 0163H

FIRM

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

PANEL 163 OF 825

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS	COMMUNITY	NUMBER	PANEL	SUFFIX
	BERNALILLO COUNTY UNINCORPORATED AREAS	350002	0163	H

Not to Scale: The Map Number shown above should be used when ordering this product. The Community Number shown above should be used when ordering a product for the subject community.



MAP NUMBER
35001C0163H

MAP REVISED
AUGUST 16, 2012

Federal Emergency Management Agency

NATIONAL FLOOD INSURANCE PROGRAM

This is an official copy of a portion of the above referenced flood map. It was extracted using FIRM 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.

SUMMARY TABLES

BASIN	AREA (SF)	AREA (MI^2)	AREA (AC-FT)
OFFSITE			
OFFSITE	161,052.30	0.005777	3.6972
ON-SITE			
ON-SITE	24,111.57	0.000865	0.5535

LAND TREATMENT / EXISTING CONDITIONS

A	B	C	D
OFFSITE			
0.00%	30.00%	30.00%	40.00%
ON-SITE			
100.00%	0.00%	0.00%	0.00%

LAND TREATMENT / DEVELOPED CONDITIONS

A	B	C	D
ON-SITE			
0.00%	30.00%	30.00%	40.00%

UNDER EXISTING CONDITIONS

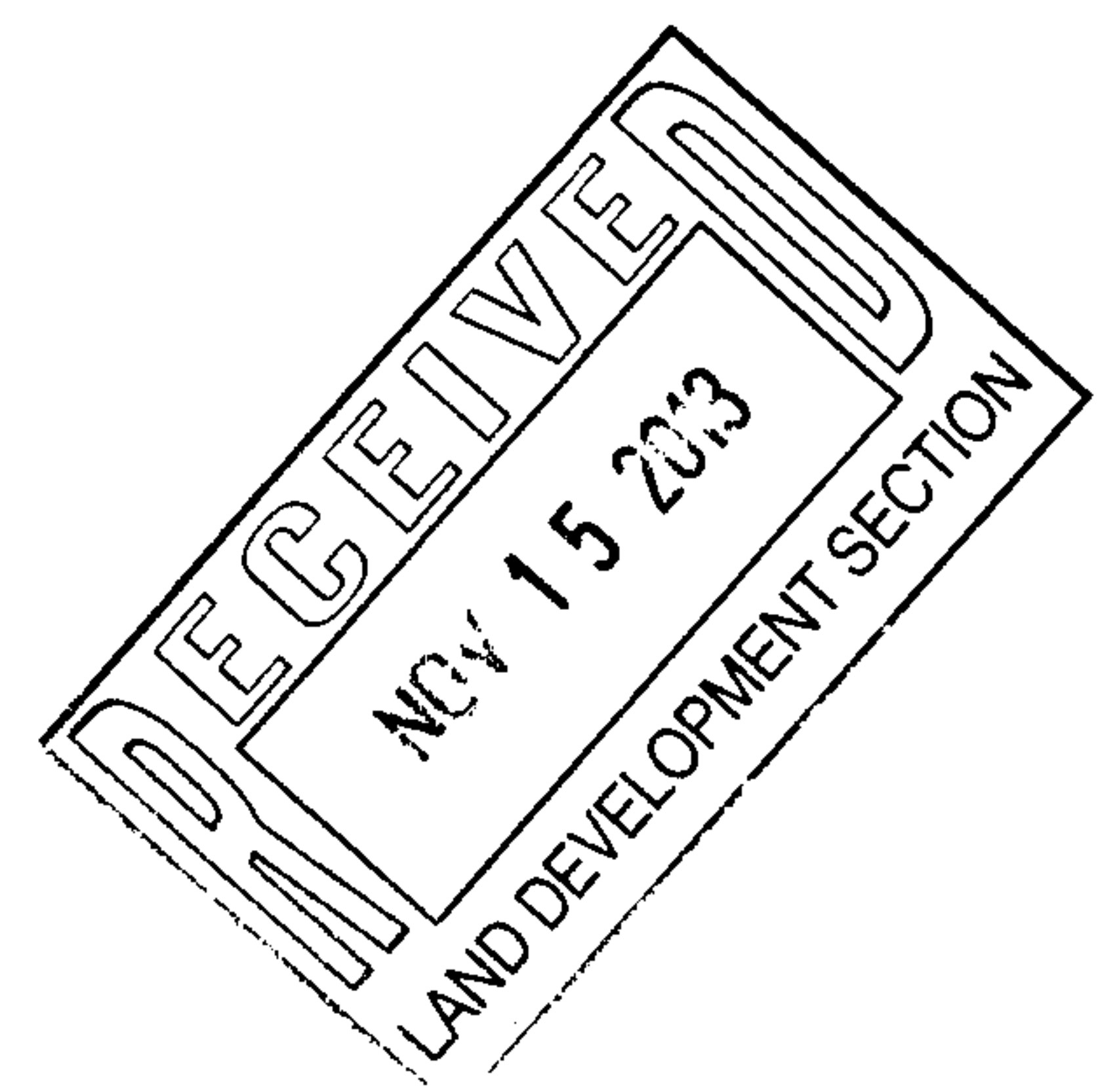
BASIN	100-YR/6 HOUR RUNOFF (CFS)	100-YR/6 HOUR VOLUME (AC-FT)	10-YR/6 HOUR RUNOFF (CFS)	10-YR/6 HOUR VOLUME (AC-FT)
OFFSITE	15.12	0.557	9.17	0.311
ON-SITE	1.23	0.037	0.44	0.012

UNDER PROPOSED CONDITIONS

BASIN	100-YR/6 HOUR RUNOFF (CFS)	100-YR/6 HOUR VOLUME (AC-FT)	10-YR/6 HOUR RUNOFF (CFS)	10-YR/6 HOUR VOLUME (AC-FT)
ON-SITE	2.28	0.083	1.38	0.047

PONDING VOLUME REQUIRED

BASIN	100YR/6 HOUR STORM (VOL PROPOSED-VOL EXISTING) AC-FT	100YR/6 HOUR STORM (VOL PROPOSED-VOL EXISTING) CF
ON-SITE	0.046	2,003.76



INPUT FILE

```
* ZONE 4
*****
*      100-YEAR,  6-HR STORM (UNDER EXISTING CONDITIONS)      *
*****
START
RAINFALL              TYPE=1 RAIN QUARTER=0.0 IN
                      RAIN ONE=2.23 IN RAIN SIX=2.90 IN
                      RAIN DELAY=3.65 IN DT=0.03333 HR

* ON-SITE
COMPUTE NM HYD        ID=1 HYD NO=101.0 AREA=0.000865 SQ MI
                      PER A=100.00 PER B=0.00 PER C=0.00 PER D=0.00
                      TP=0.1333 HR MASS RAINFALL=-1

* OFFSITE
COMPUTE NM HYD        ID=1 HYD NO=102.0 AREA=0.005777 SQ MI
                      PER A=0.00 PER B=30.00 PER C=30.00 PER D=40.00
                      TP=0.1333 HR MASS RAINFALL=-1
*****
*      10-YEAR,  6-HR STORM (UNDER EXISTING CONDITIONS)      *
*****
START
RAINFALL              TYPE=1 RAIN QUARTER=0.0 IN
                      RAIN ONE=1.49 IN RAIN SIX=1.93 IN
                      RAIN DELAY=2.43 IN DT=0.03333 HR

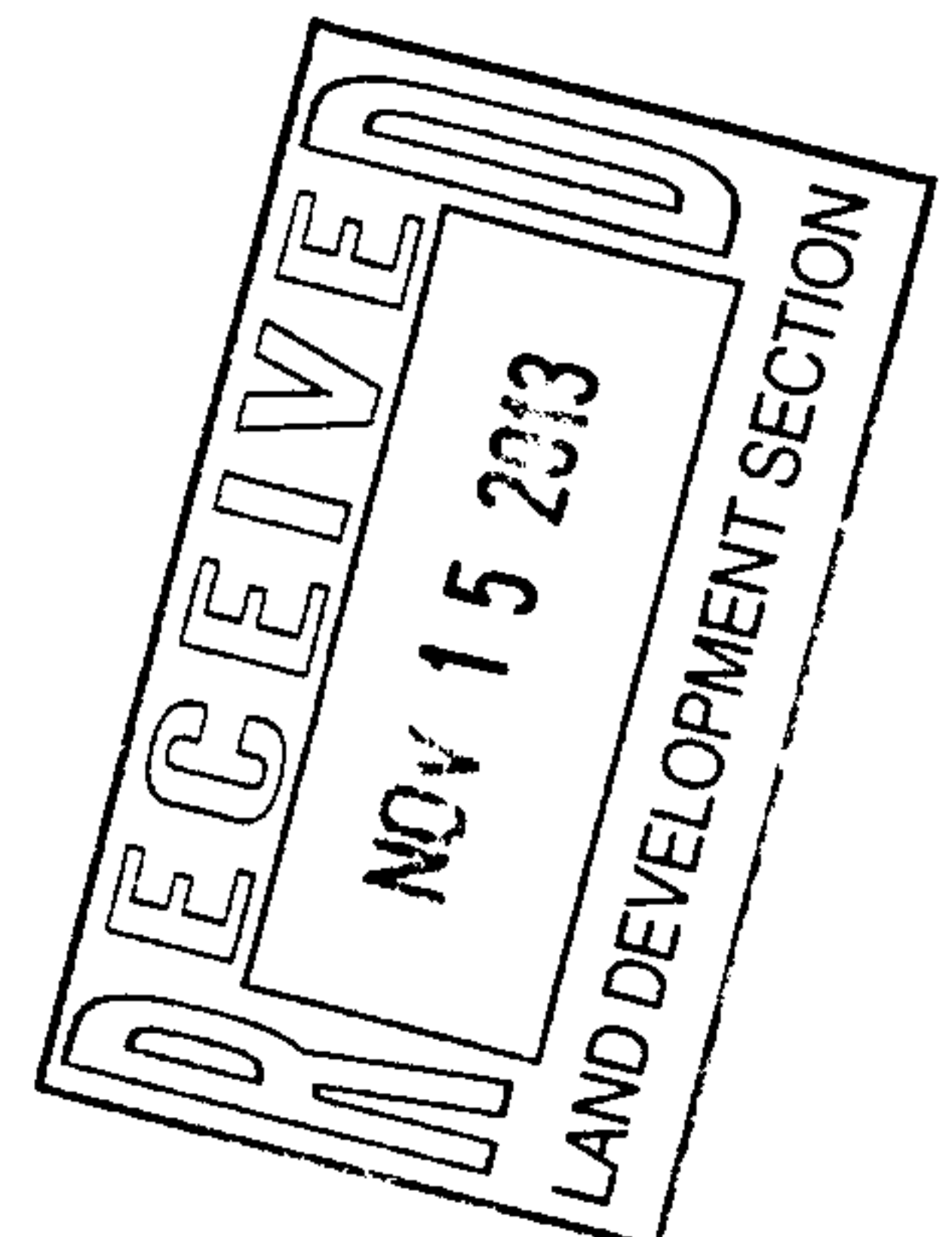
* ON-SITE
COMPUTE NM HYD        ID=1 HYD NO=111.0 AREA=0.000865 SQ MI
                      PER A=100.00 PER B=0.00 PER C=0.00 PER D=0.00
                      TP=0.1333 HR MASS RAINFALL=-1

* OFFSITE
COMPUTE NM HYD        ID=1 HYD NO=112.0 AREA=0.005777 SQ MI
                      PER A=0.00 PER B=30.00 PER C=30.00 PER D=40.00
                      TP=0.1333 HR MASS RAINFALL=-1
*****
*      100-YEAR,  6-HR STORM (UNDER PROPOSED CONDITIONS)    *
*****
START
RAINFALL              TYPE=1 RAIN QUARTER=0.0 IN
                      RAIN ONE=2.23 IN RAIN SIX=2.90 IN
                      RAIN DELAY=3.65 IN DT=0.03333 HR

* ON-SITE
COMPUTE NM HYD        ID=1 HYD NO=101.1 AREA=0.000865 SQ MI
                      PER A=0.00 PER B=30.00 PER C=30.00 PER D=40.00
                      TP=0.1333 HR MASS RAINFALL=-1
*****
*      10-YEAR,  6-HR STORM (UNDER PROPOSED CONDITIONS)    *
*****
START
RAINFALL              TYPE=1 RAIN QUARTER=0.0 IN
                      RAIN ONE=1.49 IN RAIN SIX=1.93 IN
                      RAIN DELAY=2.43 IN DT=0.03333 HR

* ON-SITE
COMPUTE NM HYD        ID=1 HYD NO=111.1 AREA=0.000865 SQ MI
                      PER A=0.00 PER B=30.00 PER C=30.00 PER D=40.00
                      TP=0.1333 HR MASS RAINFALL=-1
*****
FINISH
```

Exist



SUMMARY OUTPUT FILE

AHYMO PROGRAM SUMMARY TABLE (AHYMO_97) -
INPUT FILE = 4500CAN.TXT

- VERSION: 1997.02d

RUN DATE (MON/DAY/YR) =11/02/2013
USER NO.= AHYMO-I-9702c01000R31-AH

COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 1 NOTATION
START										TIME= .00
RAINFALL TYPE= 1										RAIN6= 2.900
1004 COMPUTE NM HYD 02 101.00		-	1	.00087	1.23	.037	.79828	1.500	2.220	PER IMP= .00
COMPUTE NM HYD 02 102.00		-	1	.00578	15.12	.557	1.80726	1.500	4.089	PER IMP= 40.00
START										TIME= .00
RAINFALL TYPE= 1										RAIN6= 1.930
COMPUTE NM HYD 104 111.00		-	1	.00087	.44	.012	.26998	1.533	.799	PER IMP= .00
COMPUTE NM HYD 104 112.00		-	1	.00578	9.17	.311	1.01023	1.500	2.480	PER IMP= 40.00
START										TIME= .00
RAINFALL TYPE= 1										RAIN6= 2.900
COMPUTE NM HYD 1004 101.10		-	1	.00087	2.28	.083	1.80726	1.500	4.121	PER IMP= 40.00
START										TIME= .00
RAINFALL TYPE= 1										RAIN6= 1.930
COMPUTE NM HYD 104 111.10		-	1	.00087	1.38	.047	1.01023	1.500	2.499	PER IMP= 40.00
FINISH										

