

KINDOWIA KINDOWIA

Traffic Engineer
City of Albuquerque
Transportation Development Coordination
600 2nd Street NW
Albuquerque, New Mexico 87102

RE: Casitas de Colores 215 Lead Avenue S.W.

Zone: R-3

Submittal: TCL for Final C.O.

To Whom It May Concern:

I, Ron Witherspoon, NMRA no.2502 of the firm Dekker/Perich/Sabatini, hereby certify that the referenced portion of this project is in substantial compliance and in accordance with the design intent of the approved Site Development Plan for Building Permit dated June 15, 2012 and administratively amended December 20, 2013.

Dekker/Perich/Sabatini visited the project site on January 24, 2014 to verify construction was in accordance with the attached Site Development plan. There are no items that differ from the original plan.

This certification is submitted in support of a request for Final Certificate of Occupancy for the entire project.

The record information presented herein is not complete and intended only to verify substantial compliance of the traffic aspects of this project as they relate to the above mentioned building. Those relying on the record document are advised to obtain independent verification of its accuracy before using it for any other purpose.

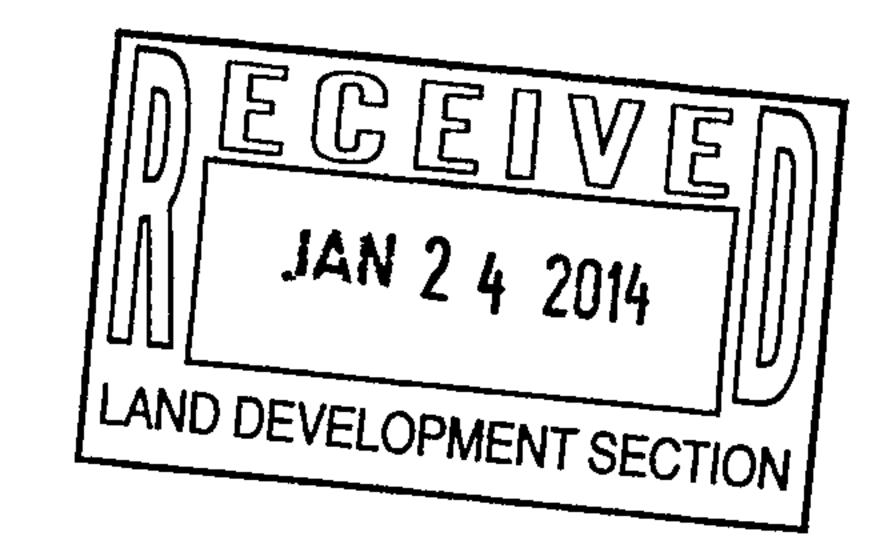
If you have any questions, please feel free to contact myself or Miriam Hicks at 761-9700.

Very truly yours,

Dekker/Perich/Sabatini Ltd.

Ron Witherspoon, AIA

Principal



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- Dekker/Perich/Sabatini

Traffic Engineer
City of Albuquerque
Transportation Development Coordination
600 2nd Street NW
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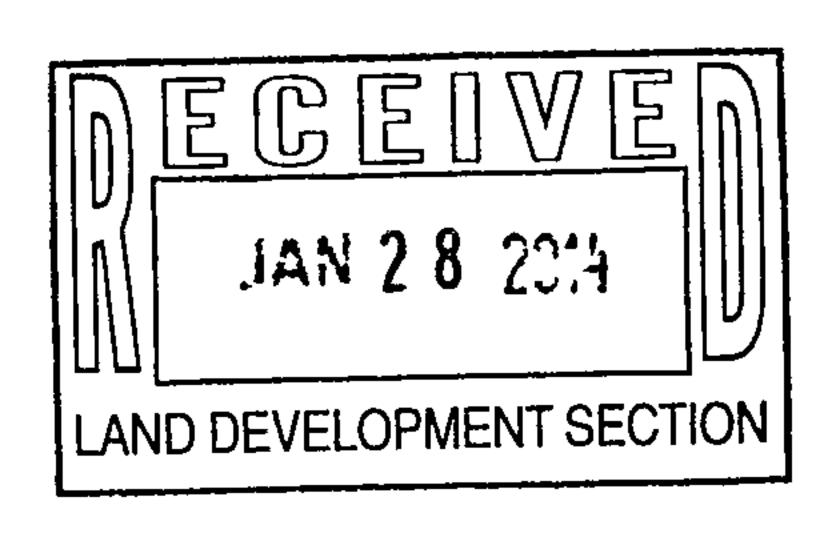
Very truly yours,

Dekker/Perich/Sabatin

Ron Witherspoon, Alexandria Principal

SED ARCHI

ROMALD A.



architecture

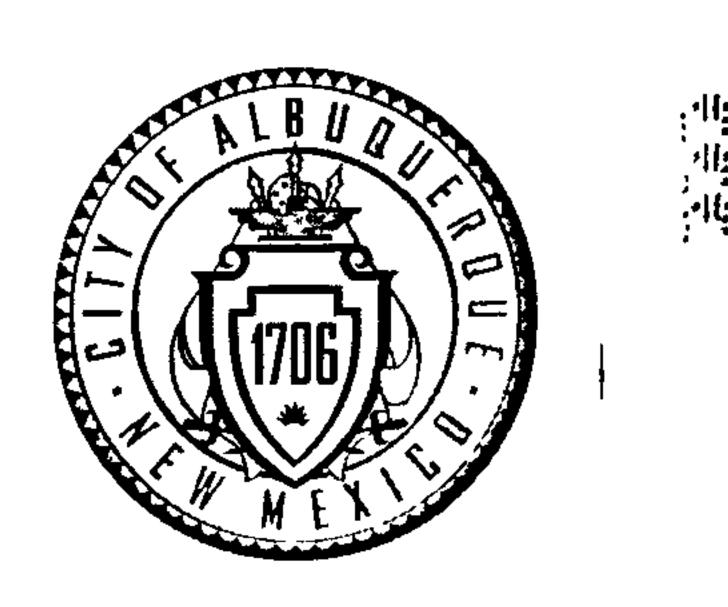
interiors

landscape

planning

engineering

CITY OF ALBUQUERQUE



Planning Department Transportation Development Services Section

January 30, 2014

Ronald A. Witherspoon / R.A. Dekker/Perich/Sabitini 7601 Jefferson NE Ste 100 Albuquerque, NM 87109

Certification for Permanent Certificate of Occupancy (C.O.) Re: K-14 1505071

Casitas de Colores 215 Lead Ave SW

Administrative Amendment approval date 12-20-2013 (File # PA-11-138)

Dear Mr. Witherspoon,

Based upon the information provided in your submittal received 01-28-14, Transportation Development has no objection to the issuance of a Permanent Certificate of Occupancy. This letter serves as a "green tag" from Transportation Development for a Permanent Certificate of Occupancy to be issued by the Building and Safety Division.

PO Box 1293

If you have any questions, please contact me at (505)924-3991.

Albuquerque

Sincerely,

New Mexico 87103

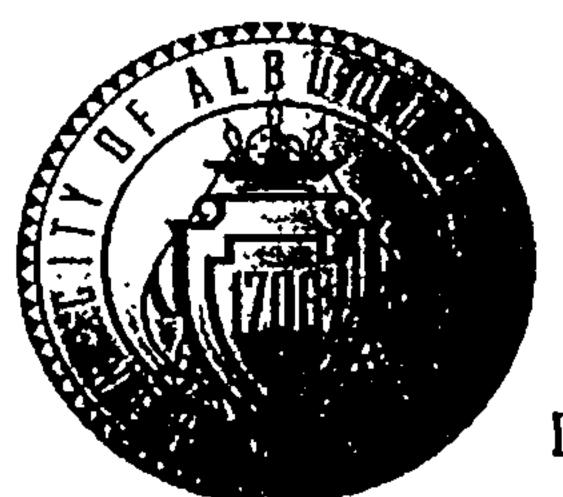
Kristal D. Metro, P.E.

Traffic Engineer, Planning Dept. Development Review Services

www.cabq.gov

Engineer C:

> Hydrology file CO Clerk



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(DEV 02/2013)

2 (**)		VIIITATA
Project Title: Casitas de Colores - 310	Building Permit	# <u>T201292078</u> City Drainage #: <u>K4D67A</u>
	EFC#:	WOLK OIDCIA:
Legal Description: Track A-1, Block B-1, C		er Townhomes Dcument #2012010263
City Address: 215 Lead Ave SW, Albug	uerque, NM BIOGS	3,4
Engineering Firm: Isaacson & Arfman,	P.A.	Contact: Genny Donart
Address: 128 Monroe St. NE		
Phone#: 505.268.8828	Fax#: 505.268.2632	E-mail: gennyd@iacivil.com
Owner: Romero Rose LLC		Contact: Rob Straka
Address: 5201 Indian School Rd NE '		
Phone#: 505.764.3094	Fax#: 505.764.6604	E-mail: rob.straka@continuumllc.com
Architect: Dekker/Perich/Sabatini		Contact: Ron Witherspoon
Address: 7601 Jefferson NE Suite 100		
Phone#: 505.761.9700	Fax#: 505.761-4222	E-mail: ronw@dpsdesign.org
Surveyor: Rio Grande Surveying Co		Contact: Rex Vogler
Address: PO Box 7155, Albuquerque, NM		
Phone#: 505.764.8891	Fax#: 505.875.3705	E-mail:
Contractor: Bradbury Stamm		Contact: Tiffani Lucero
Address: 128 Monroe St. NE		
Phone#: 505.379.6466 ··	Fax#: 505.842.5419	E-mail: tlucero@bradburystamm.com
TYPE OF SUBMITTAL:	CHECK TYPE OF APPR	ROVAL/ACCEPTANCE SOUGHT:
DRAINAGE REPORT	SIA/FINANCIAL GUAR	
DRAINAGE PLAN 1st SUBMITTAL	PRELIMINARY PLAT	
DRAINAGE PLAN RESUBMITTAL	S. DEV. PLAN FOR SUI	
CONCEPTUAL G & D PLAN	S. DEV. FOR BLDG. PE	
GRADING PLAN	SECTOR PLAN APPRO	
EROSION & SEDIMENT CONTROL PLA		
ENGINEER'S CERT (HYDROLOGY)	X CERTIFICATE OF OCC	
CLOMR/LOMR		CUPANCY (PERMENTED AND CONTRACT OF THE CONTRAC
TRAFFIC CIRCULATION LAYOUT (TCI		
X ENGINEER'S CERT (TCL) 4	BUILDING PERMIT AP	
ENGINEER'S CERT (DRB SITE PLAN)		
ENGINEER'S CERT (ESC)	PAVING PERMIT APPE	
SO-19	WORK ORDER APPRO	
OTHER (SPECIFY)	GRADING CERTIFICA	
WAS A PRE-DESIGN CONFERENCE ATTEND	ED: Yes No	Copy Provided
DATE SUBMITTED:	By:	
1. Conceptual Grading and Drainage Plan Reco 2 Drainage Plans Required for building permits, 3 Drainage Report Required for subdivision co 4. Erosion and Sediment Control Plans Required project less than 1-acre than are pant of allarge	of drainage detail. One or more of the following lequired for approval of Site Development Plans greating permits, paving permits and site plans less intaining more than ten (10) lots or constituting five lifter my new development and redevelopment site common plan di development	evels of submittal may be required based on the followin ater than five (5) acres and Sector Plans ss than five (5) acres

LAND DEVELOPMENT SECTION



- Dekker/Perich/Sabatini

Traffic Engineer
City of Albuquerque
Transportation Development Coordination
600 2nd Street NW
Albuquerque, New Mexico 87102

RE: Casitas de Colores 215 Lead Avenue S.W.

Zone: R-3

Submittal: TCL for Final C.O. on Buildings 1, 3 and 4

To Whom It May Concern:

I, Ron Witherspoon, NMRA no.2502 of the firm Dekker/Perich/Sabatini, hereby certify that the referenced portion of this project is in substantial compliance and in accordance with the design intent of the approved Site Development Plan for Building Permit dated June 15, 2012.

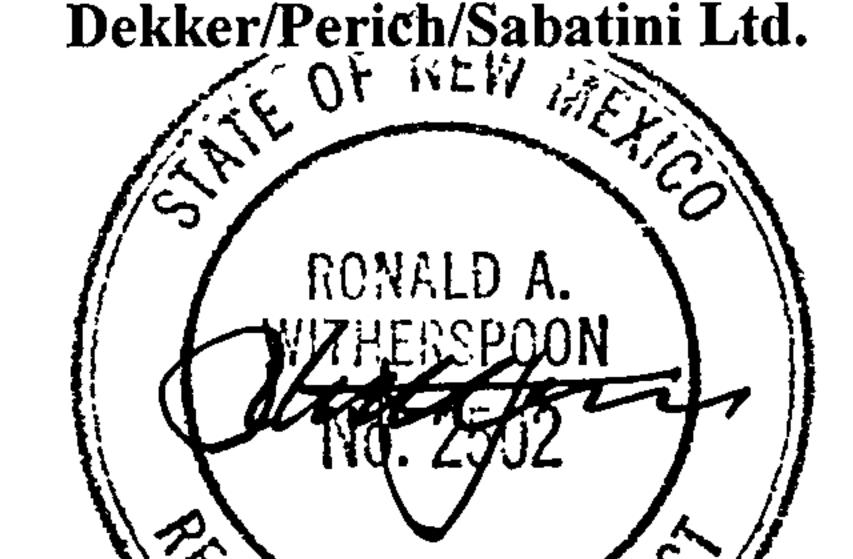
Dekker/Perich/Sabatini visited the project site on December 18, 2013 to verify construction was in accordance with the attached Site Development plan. There are no items that differ from the original plan.

This certification is submitted in support of a request for Final Certificate of Occupancy for Buildings 1, 3 and 4. Buildings 2 and 5 are excluded from this certification.

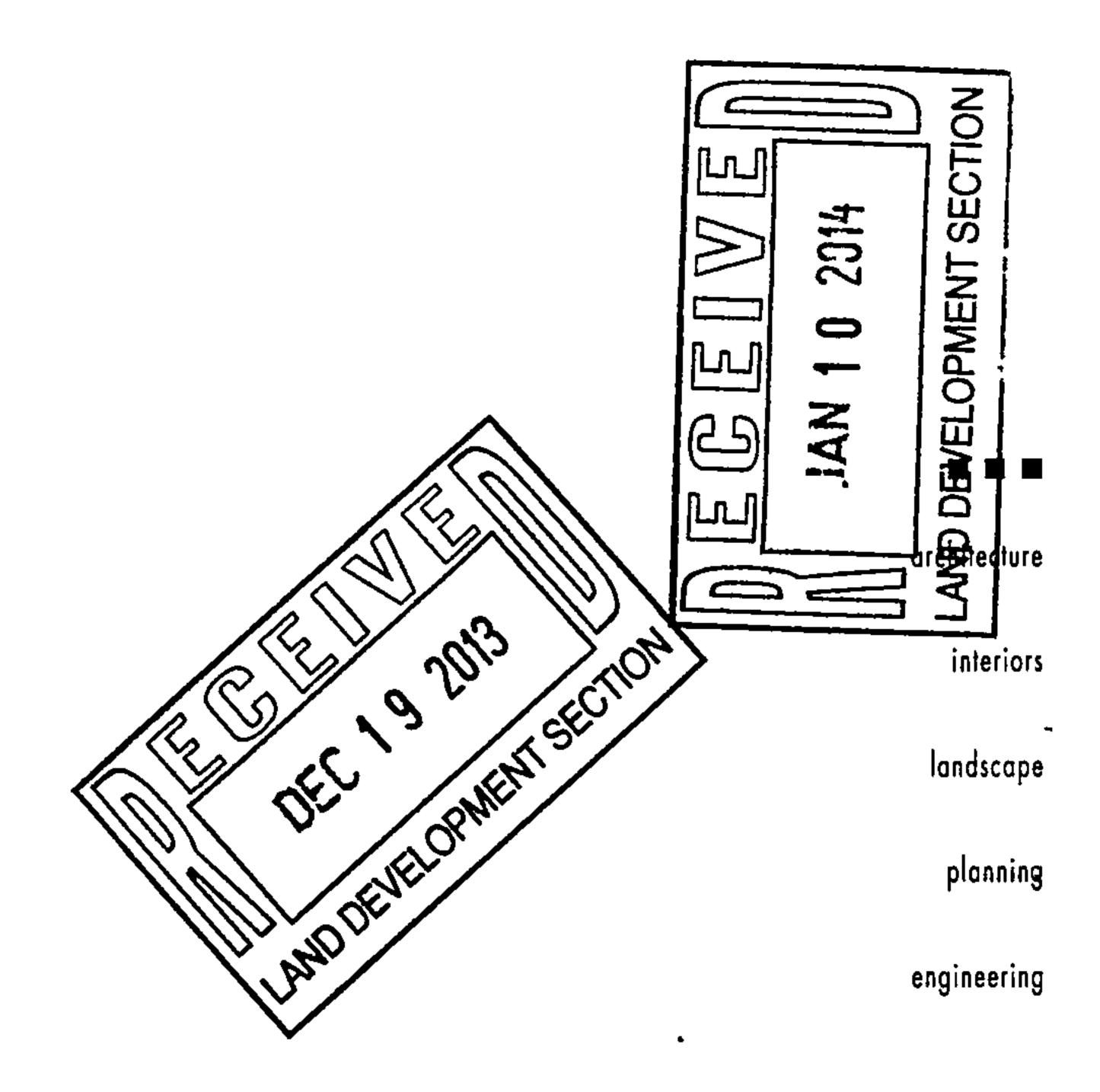
The record information presented herein is not complete and intended only to verify substantial compliance of the traffic aspects of this project as they relate to the above mentioned building. Those relying on the record document are advised to obtain independent verification of its accuracy before using it for any other purpose.

If you have any questions, please feel free to contact myself or Miriam Hicks at 761-9700.

Very truly yours,



Ron Witherspoon, AlA Principal



CITY OF ALBUQUERQUE



Planning Department Transportation Development Services Section

January 10, 2014

Ronald A. Witherspoon / R.A. Dekker/Perich/Sabitini 7601 Jefferson NE Ste 100 Albuquerque, NM 87109

Re:

Certification for Permanent Certificate of Occupancy (C.O.)

Casitas de Colores – Building #1, #3, #4

215 Lead Ave SW

Architect's Stamp dated 06-15-12

Dear Mr. Witherspoon,

Based upon the information provided in your submittal received 01-10-14, Transportation Development has no objection to the issuance of a Permanent Certificate of Occupancy. This letter serves as a "green tag" from Transportation Development for a Permanent Certificate of Occupancy to be issued by the Building and Safety Division.

PO Box 1293

If you have any questions, please contact me at (505)924-3991.

Albuquerque

Sincerely,

Kristal D. Metro, P.E.

Traffic Engineer, Planning Dept.

New Mexico 87103

Development Review Services

www.cabq.gov

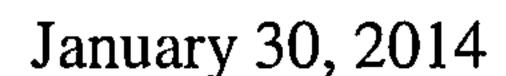
Engineer Hydrology file

CO Clerk

· IDENTIFY (cloud Blogs),
Being Certified.)

CITY OF ALBUQUERQUE

PLANNING DEPARTMENT - Development & Building Services





Richard J. Berry, Mayor

Genevieve Donart, P.E. Isaacson & Arfman, P.A. 128 Monroe St. NE Albuquerque, New Mexico 87108

RE: Casitas de Colores – Certified Grading and Drainage Plan (Phase 3) K14-D087A

215 Lead Ave. S.W.

Request for Permanent C.O. - Phase 3, Buildings 2 & 5 – Accepted

P.E. Stamp: 10/23/12

Certification dated: 01-22-2014

Dear Ms. Donart,

Based upon the information provided in your Certification received 01-23-2014, the above referenced Certification is acceptable for release of a Permanent Certificate of Occupancy by Hydrology, for Buildings 2 and 5. We understand that this completes your certification of the entire site approved under the subject Grading and Drainage Plan.

PO Box 1293

Hydrology is asking for an electronic copy of this certified plan, in .pdf format, for our project records. This certification can be e-mailed to me at the address below.

Albuquerque

If you have any questions, you may contact me by email at grolson@cabq.gov, or telephone 505-924-3695.

New Mexico 87103

Sincerely,

www.cabq.gov

Gregory R. Olson, P.E.

Senior Engineer

Orig: Drainage file K14/D087A

c.pdf Addressee via Email gennyd@iacivil.com

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (Rev. 12/05)

PROJECT TITLE: Casita	s de Colores		E #_K14/D087A
DRB#:	EPC#:	_ WORK ORDER#:	
	Blocks B-1, E-1, & F-1, Silver Townhomes		
CITY ADDRESS:	215 Lead Ave		
ENGINEERING FIRM.	ISAACSON & ARFMAN, PA	CONTACT:	Genny Donart
ADDRESS.	128 MONROE NE	_	268-8828
	ALBUQUERQUE, NM	ZIP CODE:	87108
—————			
OWNER:	Casitas de Colores, LLC	_ CONTACT: _	Rochelle Capone
ADDRESS:	5021 Indian School Rd NE, Ste 300	PHONE:	764-3094
CITY, STATE:	Albuquerque, NM	ZIP CODE:	87108
	Dal-kan/Daniah/Cahatini	CONTACT	Ron Witherspoon
ARCHITECT:	Dekker/Perich/Sabatini 7601 Jefferson NE, Ste 100	PHONE:	761-9700
	Albuquerque, NM	ZIP CODE:	
CHI, SIAID.	Albuquel que, 14141		
SURVEYOR:	Rio Grande Surveying		Rex Vogler
	PO Box 7155	PHONE:	379-4579
	Albuquerque, NM		87194
			Dala Candonas
CONTRACTOR:			Bob Cardenas
			
CITY, STATE:		ZIP CODE	
TYPE OF SUBMITTAL	· CHEC	K TYPE OF APPROVAL	L SOUGHT:
DRAINAGE R		SIA/FINANCIAL GU	ARANTEE RELEASE
	LAN 1 st SUBMITTAL	PRELIMINARY PLA	
DRAINAGE P		S. DEV. PLAN FOR S	
CONCEPTUA		S. DEV. FOR BLDG.	
GRADING PL		SECTOR PLAN APPE	
· · · · · · · · · · · · · · · · · · ·	NTROL PLAN	FINAL PLAT APPRO	
	CERT (HYDROLOGY)	FOUNDATION PERM	
CLOMR/LOM		BUILDING PERMIT	
			CCUPANCY (PERM) Phase 3
	RCHITECT CERT (TCL)	CERTIFICATE OF O	
ENGINEER/A	RCHITECT CERT (DRB S.P.)	GRADING PERMIT	
	RCHITECT CERT (AA)	PAVING PERMIT AF	
OTHER (SPE	CIFY)	WORK ORDER APPI OTHER (SPECIFY)	TOVAL COMPTONIES
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MAC A DDE DECIGNA	CONFERENCE ATTENDED:		1101
WAS A PRE-DESIGN ON Y		-	JAN 2 3 2014
NO			
COPY PROV	DED		LAND DEVELOPMENT SECTION
SUBMITTED BY:	Genevieve Donart	DATE: <u>1/22</u>	/2014

Isaacson & Arfman, P.A.

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 define 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.

CITY OF ALBUQUERQUE



January 7, 2014

Genny Donart, P.E. Isaacson & Arfman 128 Monroe NE Albuquerque, NM 87108

Re: Casitas De Colores, 215 Lead Ave SE Bldg. 3

Request for Permanent C.O. - Accepted

Engineer's Stamp dated: 10-28-12 (K14/D087A)

Certification dated: 1-03-14

Dear Ms. Donart,

Based on the Certification received 1/3/2014, the site is acceptable for release of Certificate of Occupancy by the Hydrology Department.

PO Box 1293

Hydrology is asking for an electronic copy, in .pdf format, of this certification for our records. This certification can be e-mailed to: rrael@cabq.gov.

Albuquerque

If you have any questions, you can contact me at 924-3986 or Rudy Rael at 924-3977.

New Mexico 87103

www.cabq.gov

Sincerely,

Curtis Cherne, P.E.

Principal Engineer, Planning Dept. Development and Review Services

RR/CC

C: CO Clerk—Katrina Sigala

email

CITY OF ALBUQUERQUE



December 19, 2013

Genevieve L. Donart, P.E. Isaacson & Arfman, PA 128 Monroe NE Albuquerque, NM 87108

Re: Casitas De Colores Phase I, 2105-Lead Ave. SW

Request for Permanent C.O. - Accepted

Engineer's Stamp dated: 10-28-12 (K14/D087A)

Certification dated: 12-3-13

Dear Ms. Donart,

Based on the Certification received 12/18/2013, the site for Phase I is acceptable for release of Certificate of Occupancy by Hydrology. Permanent CO for Phase II and Phase III will be accepted when completed.

Hydrology is asking for an electronic copy, in .pdf format, of this certification for our records. This certification can be e-mailed to: rrael@cabq.gov.

Albuquerque

NM 87103

PO Box 1293

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

www.cabq.gov

Shahab Biazar, P.E.

Sincerely,

Principal Engineer, Planning Dept.

Development and Review Services

RR/SB

C: CO Clerk—Katrina Sigala

email

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (Rev. 12/05)

PROJECT TITLE: Casitas de Colores	ZONE MAP/DRG. FILE #K14/D087A
DRB#: EPC#:	
LEGAL DESCRIPTION: Blocks B-1, E-1, & F-1, Silver Townhomes	<u> </u>
CITY ADDRESS: 215 Lead Ave	
	•
ENGINEERING FIRM: ISAACSON & ARFMAN, PA	CONTACT: Genny Donart
ADDRESS: <u>128 MONROE NE</u>	PHONE:268-8828
CITY, STATE: <u>ALBUQUERQUE, NM</u>	ZIP CODE: <u>87108</u>
OWNER: Casitas de Colores, LLC	CONTACT: <u>Rochelle Capone</u>
ADDRESS: 5021 Indian School Rd NE, Ste 300	PHONE: <u>764-3094</u>
CITY, STATE: <u>Albuquerque, NM</u>	ZIP CODE: <u>87108</u>
ARCHITECT: Dekker/Perich/Sabatini	CONTACT: <u>Ron Witherspoon</u>
ADDRESS: 7601 Jefferson NE, Ste 100	PHONE:761-9700
CITY, STATE: <u>Albuquerque, NM</u>	ZIP CODE: <u>87109</u>
SURVEYOR: Rio Grande Surveying	CONTACT: <u>Rex Vogler</u>
ADDRESS: PO Box 7155	PHONE:379-4579
CITY, STATE: <u>Albuquerque, NM</u>	ZIP CODE: <u>87194</u>
CONTRACTOR: Gerald Martin	CONTACT: <u>Bob Cardenas</u>
ADDRESS:	_ PHONE:
CITY, STATE:	ZIP CODE:
TVDE OF CLIDAITTAL.	Z TYDE OE A DDDOYZA I. COLICITE
	TYPE OF APPROVAL SOUGHT:
DRAINAGE REPORT	_ SIA/FINANCIAL GUARANTEE RELEASE
DRAINAGE PLAN 1 st SUBMITTAL	PRELIMINARY PLAT APPROVAL
	_ S. DEV. PLAN FOR SUB'D APPROVAL
CONCEPTUAL G & D PLAN	_ S. DEV. FOR BLDG. PERMIT APPROVAL
	_ SECTOR PLAN APPROVAL
EROSION CONTROL PLAN	_ FINAL PLAT APPROVAL
•	_ FOUNDATION PERMIT APPROVAL
CLOMR/LOMR	_ BUILDING PERMIT APPROVAL
	_ CERTIFICATE OF OCCUPANCY (PERM) Phases 1
ENGINEER/ARCHITECT CERT (TCL)	_ CERTIFICATE OF OCCUPANCY (TEMP)
ENGINEER/ARCHITECT CERT (DRB S.P.)	_ GRADING PERMIT APPROVAL
ENGINEER/ARCHITECT CERT (AA)	_ PAVING PERMIT APPROVAL
OTHER (SPECIFY)	WORK ORDER APPROVAL
	_OTHERASPECIFY [5] V E M
WAS A PRE-DESIGN CONFERENCE ATTENDED:	n DEC 1 8 2013
XYES	
NO	
COPY PROVIDED	LAND DEVELOPMENT SECTION
SUBMITTED BY: Genevieve Donart January & Aufman, D. A.	DATE: <u>12/18/2013</u>
Isaacson & Arfman, P.A.	

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- 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.

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (Rev. 12/05)

ADDRESS: 128 MONROE NE CITY, STATE: ALBUQUERQUE, NM OWNER: Casitas de Colores, LLC ADDRESS: 5021 Indian School Rd NE, Ste 300 CITY, STATE: Albuquerque, NM ARCHITECT: Dekker/Perich/Sabatini ADDRESS: 7601 Jefferson NE, Ste 100 CITY, STATE: Albuquerque, NM SURVEYOR: Rio Grande Surveying ADDRESS: PO Box 7155	CONTACT: PHONE:	Genny Donart 268-8828 87108 Rochelle Capone 764-3094 87108 Ron Witherspoon
LEGAL DESCRIPTION: Blocks B-1, E-1, & F-1, Silver Townhomes CITY ADDRESS: 215 Lead Ave ENGINEERING FIRM: ISAACSON & ARFMAN, PA ADDRESS: 128 MONROE NE CITY, STATE: ALBUQUERQUE, NM OWNER: Casitas de Colores, LLC ADDRESS: 5021 Indian School Rd NE, Ste 300 CITY, STATE: Albuquerque, NM ARCHITECT: Dekker/Perich/Sabatini ADDRESS: 7601 Jefferson NE, Ste 100 CITY, STATE: Albuquerque, NM SURVEYOR: Rio Grande Surveying ADDRESS: PO Box 7155 CITY, STATE: Albuquerque, NM	CONTACT: PHONE: CONTACT: PHONE: ZIP CODE: ZIP CODE: ZIP CODE: ZIP CODE:	Genny Donart 268-8828 87108 Rochelle Capone 764-3094 87108 Ron Witherspoon
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ADDRESS: 7601 Jefferson NE, Ste 100 CITY, STATE: Albuquerque, NM SURVEYOR: Rio Grande Surveying ADDRESS: PO Box 7155 CITY, STATE: Albuquerque, NM	PHONE:	
ADDRESS: 7601 Jefferson NE, Ste 100 CITY, STATE: Albuquerque, NM SURVEYOR: Rio Grande Surveying ADDRESS: PO Box 7155 CITY, STATE: Albuquerque, NM	PHONE:	761 0700
CITY, STATE: Albuquerque, NM SURVEYOR: Rio Grande Surveying ADDRESS: PO Box 7155 CITY, STATE: Albuquerque, NM	ZIP CODE:	<u>761-9700</u>
SURVEYOR: Rio Grande Surveying ADDRESS: PO Box 7155 CITY, STATE: Albuquerque, NM		87109
ADDRESS: PO Box 7155 CITY, STATE: Albuquerque, NM		
ADDRESS: PO Box 7155 CITY, STATE: Albuquerque, NM	CONTACT:	Rex Vogler
CITY, STATE: <u>Albuquerque</u> , NM	PHONE:	
CONTRACTOR: Gerald Martin	ZIP CODE:	87194
CONTRACTOR · Gerald Martin		
<u></u>		Bob Cardenas
ADDRESS:		
CITY, STATE:	ZIP CODE:	<u> </u>
		SATIATIA.
TYPE OF SUBMITTAL:		
Did in 102 id 011		RANTEE RELEASE
	MINARY PLAT	
		B'D APPROVAL
		ERMIT APPROVAL
	R PLAN APPRO	
	PLAT APPROV	
<u> </u>	DATION PERMI	
	ING PERMIT A	
		CUPANCY (PERM) Phase 2
D1101112D101111011112D1		CUPANCY (TEMP)
	ING PERMIT AI	
	IG PERMIT APP	
OTHER (SPECIFY) WORK	ORDER APPRO	OVAL
OTHE	R (SPECIFY)	一面似鱼川
		信信后里里
WAS A PRE-DESIGN CONFERENCE ATTENDED:	1//	11 1111 2 2 11111
X YES	M	JAN 0 3 2514
• • • • • • • • • • • • • • • • • • • 	<i>\\</i>	MILLON
COPY PROVIDED		UUL OPMENT SEUTIO
		LAND DEVELOPMENT SECTION
SUBMITTED BY: Genevieve Donart	DATE: 1/3/20	M
Isaacson & Arfman, P.A. Requests for approvals of Site Development Plans and/or Subdivision Plats sha		 -

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 define the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

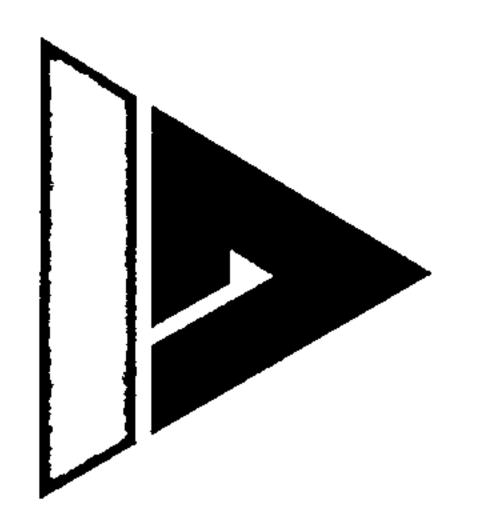
- 1. Conceptual Grading and Drainage Plan: Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.
- 2. Drainage Plans: Required for building permits, grading permits, paving permits and site plans less than five (5) acres.
- 3. Drainage Report: Required for subdivision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

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (Rev. 12/05)

PROJECT TITLE: Casita	s de Colores	ZONE MAP/DRG. FILE # <u>K14/D087A</u>				
DRB#:	_ EPC#:					
LEGAL DESCRIPTION:	Blocks B-1, E-1, & F-1, Silver Townhomes	<u></u>	•			
CITY ADDRESS:	215 Lead Ave					
ENGINEERING FIRM:	ISAACSON & ARFMAN, PA	CONTACT:	Genny Donart			
	128 MONROE NE					
CITY, STATE: _	ALBUQUERQUE, NM	ZIP CODE:	87108			
OWNER:	Casitas de Colores, LLC	CONTACT:	Rochelle Capone			
ADDRESS:	5021 Indian School Rd NE, Ste 300	PHONE:	764-3094			
CITY, STATE:	Albuquerque, NM	ZIP CODE:	87108			
ARCHITECT:	Dekker/Perich/Sabatini	CONTACT:	Ron Witherspoon			
	7601 Jefferson NE, Ste 100	PHONE:	761-9700			
	Albuquerque, NM		87109			
SURVEYOR:	Rio Grande Surveying	CONTACT:	Rex Vogler			
ADDRESS:	 	PHONE:	379-4579			
CITY, STATE:	Albuquerque, NM	ZIP CODE:	87194			
CONTRACTOR:	Gerald Martin	CONTACT:	Bob Cardenas			
ADDRESS:						
CITY, STATE: _		ZIP CODE:				
TYPE OF SUBMITTAL:	CHECK	TYPE OF APPROVAL	SOUGHT:			
DRAINAGE RE		SIA/FINANCIAL GUA				
DRAINAGE PL	AN 1 st SUBMITTAL	PRELIMINARY PLAT				
X DRAINAGE PL	AN RESUBMITTAL	S. DEV. PLAN FOR SU	JB'D APPROVAL			
CONCEPTUAL	G & D PLAN	S. DEV. FOR BLDG. P	PERMIT APPROVAL			
X GRADING PLA	.N	SECTOR PLAN APPR	OVAL			
EROSION CON	TROL PLAN	FINAL PLAT APPROV	VAL	00		
ENGINEER'S C	CERT (HYDROLOGY)	FOUNDATION PERM	IT APPROVAL			
CLOMR/LOMR		BUILDING PERMIT A	APPROVAL	Ä		
TRAFFIC CIRC		_ CERTIFICATE OF OC	CUPANCY (PERM)	N		
ENGINEER/AR	CHITECT CERT (TCL)	_ CERTIFICATE OF OC	CUPANCY (TEMP)	0		
	CHITECT CERT (DRB S.P.)	_GRADING PERMIT A	PPROVAL	2		
	CHITECT CERT (AA)	_ PAVING PERMIT API	PROVAL	~~		
OTHER (SPECI	FY)	WORK ORDER APPROVIDED OTHER (SPECIFY)	10月10月11111111111111111111111111111111	N		
TY A TYPY TY TYPY TYPY TYPY		_				
	ONFERENCE ATTENDED:		N US 2 4 20:2			
X YES						
NO COPY PROVID	ED	į	AND DE SECTION			
SUBMITTED BY:	Genevieve Donart	DATE: 10/23/	2012			

Isaacson & Arfman, P.A. 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 define the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

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



Isaacson & Arfman, P.A.

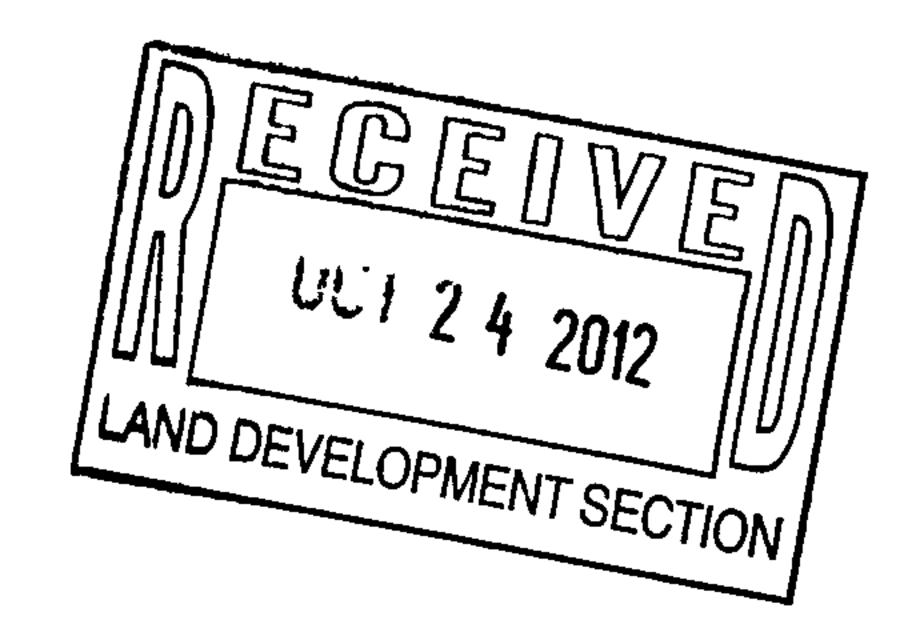
Consulting Engineering Associates

Thomas O. Isaacson, PE (Ret.) & LS (Ret.) * Fred C. Arfman, PE * Åsa Nilsson-Weber, PE

October 23, 2012

Mr. Gregory R. Olson, PE City of Albquerque PO Box 1293 Albuquerque, NM 87103

RE: Casitas de Colores (K14-D087A)
Response to Hydrology Comments



Dear Mr. Olson;

Attached is a resubmittal of the Casitas de Colores Grading & Drainage Plan. I've responded to your comments in the following manner:

- 1. A Basin Map was added to sheet CG-502 that also labels the roof drain points.
- 2. See note 1.
- 3. The roof drain on the NE corner of Bldg 2 has been changed to drain directly to the overflow pipe. (I like this suggestion. Thank you!)
- 4. Details have been added to CG-504 showing how the force mains discharge to the sidewalk culverts. A detail has been added to sheet CG-501 showing the curb behind the sidewalk at the sidewalk culverts.
- 5. See note 4.
- 6. The rock swales are 9" thick. This was added to the details.
- 7. The detail has been changed.
- 8. These details were actually covered by the Architectural Site Details in the bldg. permit. I've changed those notes to reflect that.
- 9. Flow arrows were added.
- 10. I modified the elevations so that the overflow pipes drain back to the storm water quality manholes.
- 11. North arrows, scales, and street labels were added.
- 12. I've added some language to give the Owner some direction for maintenance, but a schedule for how often cleaning will be required will depend on the amount of accumulation of solids from the site, and should be determined based on observation with time.

To address Mr. Cherne's email of 10/22, I've attached revised AHYMO calculations for the ½" storm that include the 2 future parcels A-1 and C-1. The total ½" storm volume, including those future parcels, fits within the volume designated as stormwater detention in the cisterns.

Present & Future Required Volume = 1,833 cf, Available volume = 1,864 cf.

Sincerely,

ISAACSON & ARFMAN P.A.

Genny Donart, PE

GD/gld

Attachments



FROM TO PEAK RUNOFF TIME TO CFS PAGE = 1 HYDROGRAPH ID ID AREA DISCHARGE VOLUME RUNOFF PEAK PER COMMAND IDENTIFICATION NO. NO. (SQ MI) (CFS) (AC-FT) (INCHES) (HOURS) ACRE NOTATION	1
* C * * * * * * * * * * * * * * * * * *	
*S CASITAS DE COLORES *S DEVELOPED CONDITIONS :	
*S ½" STORM	
*S 1925P0.5.DAT	
*S SEPTEMBER 2012	
*S BY GENNY DONART *S ISAACSON & ARFMAN, P.A. LAND DEVELOPMENT SECTION	
*S	
	00
START RAINFALL TYPE= 1 NOAA 14 RAIN6= 0.5	.00
*S TOTAL SITE	500
COMPUTE NM HYD SITE - 1 0.00192 1.21 0.033 0.32591 1.533 0.984 PER IMP= 87.0	nn
*S TOTAL SITE & FUTURE PARCELS A-1 AND C-1	.00
COMPUTE NM HYD FUT - 40 0.00237 1.52 0.042 0.33324 1.533 1.006 PER IMP= 89.0	. 00
*S BUILDING 1 (SOUTH) - OVERALL	
COMPUTE NM HYD B - 10 0.00085 0.53 0.014 0.31858 1.533 0.964 PER IMP= 85.0	.00
*S BUILDING 1 (SOUTH) - ROOF TO CISTERNS	
COMPUTE NM HYD B.R1 - 11 0.00036 0.26 0.007 0.37354 1.533 1.136 PER IMP= 100.0	.00
*S BUILDING 1 (SOUTH) - ROOF TO ROAD	
COMPUTE NM HYD B.R2 - 12 0.00013 0.10 0.003 0.37354 1.533 1.151 PER IMP= 100.0	.00
*S BUILDING 1 (SOUTH) - COURTYARD	
COMPUTE NM HYD B.CY - 13 0.00009 0.001 0.14273 1.533 0.466 PER IMP= 37.0	.00
*S BUILDING 1 (SOUTH) - EXTERIOR	
COMPUTE NM HYD B.EXT - 14 0.00026 0.15 0.004 0.28195 1.533 0.863 PER IMP= 75.0	.00
*S ADD ROOF TO CISTERNS AND COURTYARD FLOWS	
ADD HYD B.CIST 11&13 15 0.00045 0.29 0.008 0.32616 1.533 1.001	
*S BUILDING 1 CISTERN	
ROUTE RESERVOIR B.CIST 15 16 0.00045 0.008 0.32616 1.967 0.149 AC-FT= 0.00	005
*S ADD ROOF TO ROAD AND EXTERIOR	
ADD HYD B.SURFACE 12&14 17 0.00040 0.25 0.007 0.31209 1.533 0.960	
*S ADD SURFACE FLOWS TO ROAD AND CISTERNS DISCHARGE	
*S TOTAL DISCHARGE TO LEAD AVE	
ADD HYD B.TOTAL 16&17 18 0.00085 0.29 0.015 0.31954 1.533 0.529	
*S BUILDING 2 (NORTH) - OVERALL COMPUTE NM HVD	00
COMPUTE NM HYD E - 20 0.00085 0.54 0.015 0.32591 1.533 0.987 PER IMP= 87.0 *S BUILDING 2 (NORTH) - ROOF TO CISTERNS	.00
COMPUTE NM HYD E.R1 - 21 0.00043 0.31 0.009 0.37354 1.533 1.135 PER IMP= 100.00	ΔΔ
*S BUILDING 2 (NORTH) - ROOF TO ROAD	. 00

COMPUTE NM HYD

*S BUILDING 2 (NORTH) - COURTYARD

*S BUILDING 2 (NORTH) - EXTERIOR

COMPUTE NM HYD

E.R2 - 22

23

E.CY -

0.03

0.05

0.001

0.001

0.37354

0.17936

1.533

1.533

0.00004

0.00013

1.213 PER IMP= 100.00

0.564 PER IMP= 47.00

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 =	
COMPUTE NM H	YD E.EXT	_	24	0.00025	0.15	0.004	0.30393	1.533	0.931	PER IMP=	81.00
*S ADD ROOF	TO CISTERNS AND	COURTY	ARD E	FLOWS							
ADD HYD	E.CIST	21&23	25	0.00056	0.36	0.010	0.32826	1.533	1.003		
*S BUILD	ING 2 CISTERN										
ROUTE RESERV	OIR E.CIST	21	26	0.00043	0.04	0.009	0.37316	2.000	0.156 7	AC-FT=	0.006
*S ADD ROOF	TO ROAD AND EXTE	CRIOR									
ADD HYD	E.SURFACE	22&24	27	0.00029	0.18	0.005	0.31236	1.533	0.968		
*S ADD SURF	ACE FLOWS TO ROAL	AND C	CISTER	RNS DISCHARGE							
*S TOTAL DIS	CHARGE TO SILVER	AVE									
ADD HYD	E.TOTAL	26&27	28	0.00072	0.22	0.013	0.34875	1.533	0.481		
*S BLDG 3 -	OVERALL										
*S TOTAL DIS	CHARGE TO 2ND ST										
COMPUTE NM H	YD F	_	30	0.00022	0.16	0.004	0.36255	1.533	1.108	PER IMP=	97.00
FINISH											



- Version: \$4.01a - Rel: 01a AHYMO PROGRAM (AHYMO-S4) RUN DATE (MON/DAY/YR) = 10/23/2012START TIME (HR:MIN:SEC) = 11:37:15 USER NO.= AHYMO_Temp_User:20122010 INPUT FILE = $M:\PROJECT DOCUMENTS\1900-1999\1925\CALCS\1925p0.5.DAT$ __ CASITAS DE COLORES DEVELOPED CONDITIONS ું મ્ટ્ર″ STORM *S 1925P0.5.DAT *S SEPTEMBER 2012 *S *S BY GENNY DONART *S ISAACSON & ARFMAN, P.A. RAINFALL BEGINS AT 0.0 HRS START TYPE=1 RAIN QUARTER=0.5 RAIN ONE=0.5 RAINFALL RAIN SIX=0.5 RAIN DAY=0.5 DT=0.03333333HR 6-HOUR RAINFALL DIST. - BASED ON NOAA ATLAS 14 FOR CONVECTIVE AREAS (NM & AZ) - D1 0.033333 HOURS DT =END TIME = 5.999994 HOURS 0.0000 0.0024 0.0072 0.0120 0.0185 0.0250 0.0327 0.0418 0.0508 0.0644 0.0779 0.0964 0.1199 0.1433 0.2057 0.2681 0.3166 0.3512 0.3858 0.4206 0.4347 0.4032 0.4457 0.4566 0.4642 0.4718 0.4784 0.4839 0.4895 0.4979 0.5000 0.5000 0.5000 0.4937 0.5000 UC1 2 4 2012 0.5000

*S TOTAL SITE

COMPUTE NM HYD ID=1 HYD NO=SITE AREA=0.0019246 SQ MI
PER A=0 PER B=0 PER C=13 PER D=87
TP=-0.1333 HR MASS RAIN=-1

0.5000

0.5000

0.5000

0.5000

0.5000 0.5000

0.5000 0.5000

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428 UNIT PEAK = 6.6106 CFS UNIT VOLUME = 0.9976 B = 526.28 P60 = .50000 AREA = 0.001674 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

0.5000

0.5000

0.5000

0.5000

0.5000

K = 0.115502HR TP = 0.133300HR K/TP RATIO = 0.866480 SHAPE CONSTANT, N = 4.101391 UNIT PEAK = 0.67922 CFS UNIT VOLUME = 0.9810 B = 361.87 P60 = .50000 AREA = 0.000250 SQ MI IA = 0.35000 INCHES INF = 0.83000 INCHES PER HOUR RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

PRINT HYD ID=1 CODE=1

HYDROGRAPH FROM AREA SITE

RUNOFF VOLUME = 0.32591 INCHES = 0.0335 ACRE-FEET PEAK DISCHARGE RATE = 1.21 CFS AT 1.533 HOURS BASIN AREA = 0.0019 SQ. MI.

*S TOTAL SITE & FUTURE PARCELS A-1 AND C-1

LAND DEVELOPMENT SECTION!

COMPUTE NM HYD

ID=40 HYD NO=FUT SITE AREA=0.0023665 SQ MI

PER A=0 PER B=0 PER C=11 PER D=89

TP=-0.1333 HR MASS RAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428 UNIT PEAK = 8.3153 CFS UNIT VOLUME = 0.9981 B = 526.28 P60 = .50000 AREA = 0.002106 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

K = 0.115502HR TP = 0.133300HR K/TP RATIO = 0.866480 SHAPE CONSTANT, N = 4.101391 UNIT PEAK = 0.70669 CFS UNIT VOLUME = 0.9810 B = 361.87 P60 = .50000 AREA = 0.000260 SQ MI IA = 0.35000 INCHES INF = 0.83000 INCHES PER HOUR RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

PRINT HYD ID=40 CODE=1

HYDROGRAPH FROM AREA FUT

RUNOFF VOLUME = 0.33324 INCHES = 0.0421 ACRE-FEET 1.533 HOURS . BASIN AREA = 0.0024 SQ. MI.

*S BUILDING 1 (SOUTH) - OVERALL

COMPUTE NM HYD

ID=10 HYD NO=B AREA=0.0008519 SQ MI

PER A=0 PER B=0 PER C=15 PER D=85

TP=-0.1333 HR MASS RAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428 UNIT PEAK = 2.8588 CFS UNIT VOLUME = 0.9955 B = 526.28 P60 = .50000 AREA = 0.000724 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

K = 0.115502HR TP = 0.133300HR K/TP RATIO = 0.866480 SHAPE CONSTANT, N = 4.101391 UNIT PEAK = 0.34690 CFS UNIT VOLUME = 0.9623 B = 361.87 P60 = .50000 AREA = 0.000128 SQ MI IA = 0.35000 INCHES INF = 0.83000 INCHES PER PE

PRINT HYD ID=10 CODE=1

HYDROGRAPH FROM AREA B

RUNOFF VOLUME = 0.31858 INCHES = 0.0145 ACRE-FEET A

PEAK DISCHARGE RATE = 0.53 CFS AT 1.533 HOURS BASIN AREA = 0.0009 SQ. MI.

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428 UNIT PEAK = 1.4252 CFS UNIT VOLUME = 0.9911 B = 526.28 P60 = .50000 AREA = 0.000361 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

PRINT HYD ID=11 CODE=1

HYDROGRAPH FROM AREA B.R1

RUNOFF VOLUME = 0.37354 INCHES = 0.0072 ACRE-FEET ?

PEAK DISCHARGE RATE = 0.26 CFS AT 1.533 HOURS BASIN AREA = 0.0004 SQ. MI.

*S BUILDING 1 (SOUTH) - ROOF TO ROAD

COMPUTE NM HYD

ID=12 HYD NO=B.R2 AREA=0.0001348 SQ MI

PER A=0 PER B=0 PER C=0 PER D=100

TP=-0.1333 HR MASS RAIN=-1



K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428 UNIT PEAK = 0.53220 CFS UNIT VOLUME = 0.9786 B = 526.28 P60 = .50000 AREA = 0.000135 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

PRINT HYD ID=12 CODE=1

HYDROGRAPH FROM AREA B.R2

RUNOFF VOLUME = 0.37354 INCHES = 0.0027 ACRE-FEET PEAK DISCHARGE RATE = 0.10 CFS AT 1.533 HOURS BASIN AREA = 0.0001 SQ. MI.

*S BUILDING 1 (SOUTH) - COURTYARD

COMPUTE NM HYD ID=13 HYD NO=B.CY AREA=0.0000917 SQ MI

PER A=0 PER B=0 PER C=63 PER D=37

TP=-0.1333 HR MASS RAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428 UNIT PEAK = 0.13395 CFS UNIT VOLUME = 0.9169 B = 526.28 P60 = .50000 AREA = 0.000034 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

K = 0.115502HR TP = 0.133300HR K/TP RATIO = 0.866480 SHAPE CONSTANT, N = 4.101391 UNIT PEAK = 0.15683 CFS UNIT VOLUME = 0.9182 B = 361.87 P60 = .50000 AREA = 0.000058 SQ MI IA = 0.35000 INCHES INF = 0.83000 INCHES PER HOUR RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

PRINT HYD ID=13 CODE=1

HYDROGRAPH FROM AREA B.CY

RUNOFF VOLUME = 0.14273 INCHES = (0.0007 ACRE-FEET)
PEAK DISCHARGE RATE = 0.03 CFS AT 1.533 HOURS BASIN AREA = 0.0001 SQ. MI.

*S BUILDING 1 (SOUTH) - EXTERIOR

COMPUTE NM HYD ID=14 HYD NO=B.EXT AREA=0.0002644 SQ MI

PER A=0 PER B=0 PER C=25 PER D=75

TP=-0.1333 HR MASS RAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428 UNIT PEAK = 0.78290 CFS UNIT VOLUME = 0.9840 B = 526.28 P60 = .50000 AREA = 0.000198 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

K = 0.115502HR TP = 0.133300HR K/TP RATIO = 0.866480 SHAPE CONSTANT, N = 4.101391 UNIT PEAK = 0.17944 CFS UNIT VOLUME = 0.9258 B = 361.87 P60 = .50000 AREA = 0.000066 SQ MI IA = 0.35000 INCHES INF = 0.83000 INCHES PER HOUR RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

PRINT HYD ID=14 CODE=1

HYDROGRAPH FROM AREA B.EXT

RUNOFF VOLUME = 0.28195 INCHES = 0.0040 ACRE-FEET PEAK DISCHARGE RATE = 0.15 CFS AT 1.533 HOURS BASIN AREA = 0.0003 SQ. MI.

*S ADD ROOF TO CISTERNS AND COURTYARD FLOWS
ADD HYD ID=15 HYD NO=B.CIST ID I=11 ID II=13
PRINT HYD ID=15 CODE=1

HYDROGRAPH FROM AREA B.CIST

RUNOFF VOLUME = 0.32616 INCHES = 0.0079 ACRE-FEET 0.0079 ACRE-FEET PEAK DISCHARGE RATE = 0.29 CFS AT 1.533 HOURS BASIN AREA = 0.0005 SQ. MI.

```
ROUTE THROUGH CISTERN
```

DISCHARGE BY 20 GPM PUMP

BUILDING 1 CISTERN ---*S

ROUTE RESERVOIR ID=16 HYD NO=B.CIST INFLOW ID=15 CODE=10 OUTFLOW (CFS) STORAGE (AF) ELEV(FT) 0 45.28 0.043 0.0001 45.30 0.044 0.02158 50.50

0.045 0.02202 53.39 2.2 0.02203 53.40

TIME	INFLOW	ELEV	VOLUME	OUTFLOW	
(HRS)	(CFS)	(FEET)	(AC-FT)	(CFS)	
0.00	0.00	45.28	0.000	0.00	
0.33	0.00	45.28	0.000	0.00	
0.67	0.00	45.28	0.000	0.00	
1.00	0.00	45.28	0.000	0.00	
1.33	0.01	45.28	0.000	0.00	
1.67	0.16	46.29	0.004	0.04	
2.00	0.03	46.54	0.005	0.04	
2.33	0.00	46.34	0.004	0.04	
2.67	0.00	46.06	0.003	0.04	
3.00	0.00	45.77	0.002	0.04	
3.33	0.00	45.48	0.001	0.04	
EAK DISCHARG	GE =			OCCURS AT HOUR	1.97

MAXIMUM WATER SURFACE ELEVATION = 46.545

MAXIMUM STORAGE = 0.0052 AC-FT INCREMENTAL TIME= 0.033333HRS

PRINT HYD

ID=16 CODE=1

HYDROGRAPH FROM AREA B.CIST

RUNOFF VOLUME = 0.32616 INCHES = 0.0079 ACRE-FEET 0.04 CFS AT 1.967 HOURS BASIN AREA = 0.0005 SQ. MI. PEAK DISCHARGE RATE =

*S ADD ROOF TO ROAD AND EXTERIOR

ADD HYD

ID=17 HYD NO=B.SURFACE ID I=12 ID II=14

PRINT HYD

ID=17 CODE=1

HYDROGRAPH FROM AREA B.SURFACE

RUNOFF VOLUME = 0.31209 INCHES = 0.0066 ACRE-FEET

PEAK DISCHARGE RATE = 0.25 CFS AT 1.533 HOURS BASIN AREA = 0.0004 SQ. MI.

*S ADD SURFACE FLOWS TO ROAD AND CISTERNS DISCHARGE

*S TOTAL DISCHARGE TO LEAD AVE

ADD HYD

ID=18 HYD NO=B.TOTAL ID I=16 ID II=17

PRINT HYD ID=18 CODE=1

HYDROGRAPH FROM AREA B.TOTAL

RUNOFF VOLUME = 0.31954 INCHES = 0.0145 ACRE-FEET

PEAK DISCHARGE RATE = 0.29 CFS AT 1.533 HOURS BASIN AREA = 0.0009 SQ. MI.

BUILDING 2 (NORTH) - OVERALL

COMPUTE NM HYD

ID=20 HYD NO=E AREA=0.0008534 SQ MI PER A=0 PER B=0 PER C=13 PER D=87 TP=-0.1333 HR MASS RAIN=-1

LAND DEVELOPMENT SECTION K = 0.072649HRTP = 0.133300HRK/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.1064282.9313 UNIT PEAK = CFS UNIT VOLUME = 0.9955 526.28 P60 = .50000B =

UU1 2 4 2012

AREA = 0.000742 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

K = 0.115502HR TP = 0.133300HR K/TP RATIO = 0.866480 SHAPE CONSTANT, N = 4.101391 UNIT PEAK = 0.30118 CFS UNIT VOLUME = 0.9543 B = 361.87 P60 = .50000 AREA = 0.000111 SQ MI IA = 0.35000 INCHES INF = 0.83000 INCHES PER HOUR RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

PRINT HYD ID=20 CODE=1

HYDROGRAPH FROM AREA E

RUNOFF VOLUME = 0.32591 INCHES = 0.0148 ACRE-FEET PEAK DISCHARGE RATE = 0.54 CFS AT 1.533 HOURS BASIN AREA = 0.0009 SQ. MI.

*S BUILDING 2 (NORTH) - ROOF TO CISTERNS

COMPUTE NM HYD

ID=21 HYD NO=E.R1 AREA=0.0004336 SQ MI

PER A=0 PER B=0 PER C=0 PER D=100

TP=-0.1333 HR MASS RAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428 UNIT PEAK = 1.7119 CFS UNIT VOLUME = 0.9922 B = 526.28 P60 = .50000 AREA = 0.000434 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

PRINT HYD ID=21 CODE=1

HYDROGRAPH FROM AREA E.R1

RUNOFF VOLUME = 0.37354 INCHES = 0.0086 ACRE-FEET

PEAK DISCHARGE RATE = 0.31 CFS AT 1.533 HOURS BASIN AREA = 0.0004 SQ. MI.

*S BUILDING 2 (NORTH) - ROOF TO ROAD

COMPUTE NM HYD

ID=22 HYD NO=E.R2 AREA=0.0000389 SQ MI

PER A=0 PER B=0 PER C=0 PER D=100

TP=-0.1333 HR MASS RAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428 UNIT PEAK = 0.15358 CFS UNIT VOLUME = 0.9286 B = 526.28 P60 = .50000 AREA = 0.000039 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.0333333

PRINT HYD ID=22 CODE=1

HYDROGRAPH FROM AREA E.R2

RUNOFF VOLUME = 0.37354 INCHES = 0.0008 ACRE-FEET

PEAK DISCHARGE RATE = 0.03 CFS AT 1.533 HOURS BASIN AREA = 0.0000 SQ. MI.

*S BUILDING 2 (NORTH) - COURTYARD

COMPUTE NM HYD ID=23 HYD NO=E.CY AREA=0.0001300 SQ MI

PER A=0 PER B=0 PER C=53 PER D=47

TP=-0.1333 HR MASS RAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428 UNIT PEAK = 0.24123 CFS UNIT VOLUME = 0.9547 B = 526.28 P60 = .50000 AREA = 0.000061 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

K = 0.115502HR TP = 0.133300HR K/TP RATIO = 0.866480 SHAPE CONSTANT, N = 4.101391 UNIT PEAK = 0.18705 CFS UNIT VOLUME = 0.9326 B = 361.87 P60 = .50000 AREA = 0.000069 SQ MI IA = 0.35000 INCHES INF = 0.83000 INCHES PER HOUR RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

PRINT HYD ID=23 CODE=1

OCT 2 4 2012

LAND DEVELOPMENT SECTION

HYDROGRAPH FROM AREA E.CY

RUNOFF VOLUME = 0.17936 INCHES = 0.0012 ACRE-FEET PEAK DISCHARGE RATE = 0.05 CFS AT 1.533 HOURS BASIN AREA = 0.0001 SQ. MI.

*S BUILDING 2 (NORTH) - EXTERIOR

COMPUTE NM HYD ID=24 HYD NO=E.EXT AREA=0.0002509 SQ MI

PER A=0 PER B=0 PER C=19 PER D=81

TP=-0.1333 HR MASS RAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428 UNIT PEAK = 0.80236 CFS UNIT VOLUME = 0.9840 B = 526.28 P60 = .50000 AREA = 0.000203 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

K = 0.115502HR TP = 0.133300HR K/TP RATIO = 0.866480 SHAPE CONSTANT, N = 4.101391 UNIT PEAK = 0.12941 CFS UNIT VOLUME = 0.9008 B = 361.87 P60 = .50000 AREA = 0.000048 SQ MI IA = 0.35000 INCHES INF = 0.83000 INCHES PER HOUR RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

PRINT HYD ID=24 CODE=1

HYDROGRAPH FROM AREA E.EXT

RUNOFF VOLUME = 0.30393 INCHES = 0.0041 ACRE-FEET PEAK DISCHARGE RATE = 0.15 CFS AT 1.533 HOURS BASIN AREA = 0.0003 SQ. MI.

*S ADD ROOF TO CISTERNS AND COURTYARD FLOWS

ADD HYD ID=25 HYD NO=E.CIST ID I=21 ID II=23

PRINT HYD ID=25 CODE=1

HYDROGRAPH FROM AREA E.CIST

RUNOFF VOLUME = 0.32826 INCHES = 0.0099 ACRE-FEET

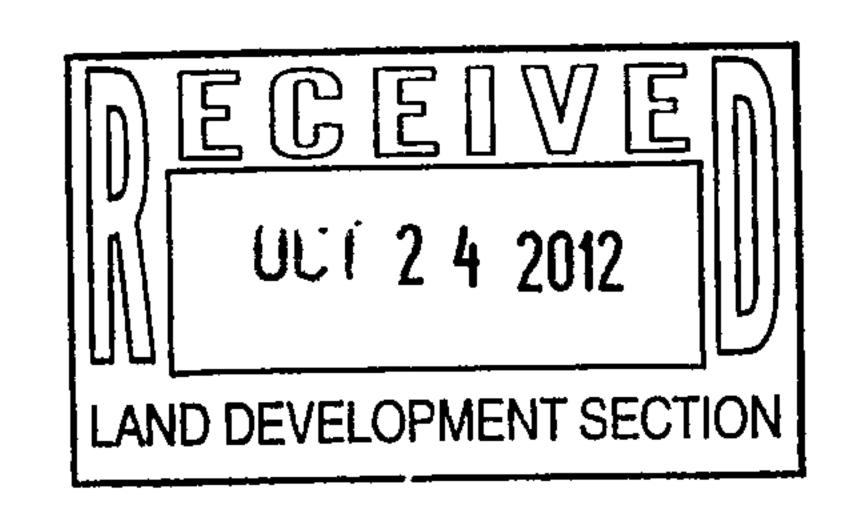
PEAK DISCHARGE RATE = 0.36 CFS AT 1.533 HOURS BASIN AREA = 0.0006 SQ. MI.

- * ROUTE THROUGH CISTERN
- DISCHARGE BY 20 GPM PUMPS
- *S BUILDING 2 CISTERN

ID=26 HYD NO=E.CIST INFLOW ID=21 CODE=10 ROUTE RESERVOIR OUTFLOW(CFS) STORAGE(AF) ELEV(FT) 45.28 0.043 0.0001 45.30 0.044 0.02158 50.50 0.045 0.02202 53.89 2.2 0.02203 53.90

* * * * * * * * * * * * * *

TIME	INFLOW	ELEV	VOLUME	OUTFLOW		
(HRS)	(CFS)	(FEET)	(AC-FT)	(CFS)		
0.00	0.00	45.28	0.000	0.00		
0.33	0.00	45.28	0.000	0.00		
0.67	0.00	45.28	0.000	0.00		
1.00	0.00	45.28	0.000	0.00		
1.33	0.01	45.28	0.000	0.00		
1.67	0.18	46.39	0.005	0.04		
-2.00	0.04	- 46.70	0.006	0.04	1	
2.33	0.00	46.52	0.005	0.04		
2.67	0.00	46.24	0.004	0.04		
3.00	0.00	45.95	0.003	0.04		
3.33	0.00	45.66	0.002	0.04		
3.67	0.00	45.38	0.000	0.04		
EAK DIS	CHARGE =	0.043	CFS - PEAK	OCCURS AT	HOUR	2.00
AXIMUM	WATER SURFACE	ELEVATION	v = 4	6.704		



MAXIMUM STORAGE = 0.0059 AC-FT INCREMENTAL TIME= 0.033333HRS

PRINT HYD ID=26 CODE=1

HYDROGRAPH FROM AREA E.CIST

RUNOFF VOLUME = 0.37316 INCHES = 0.0086 ACRE-FEET PEAK DISCHARGE RATE = 0.04 CFS AT 2.000 HOURS BASIN AREA = 0.0004 SQ. MI.

*S ADD ROOF TO ROAD AND EXTERIOR

ADD HYD ID=27 HYD NO=E.SURFACE ID I=22 ID II=24

PRINT HYD ID=27 CODE=1

HYDROGRAPH FROM AREA E.SURFACE

RUNOFF VOLUME = 0.31236 INCHES = 0.0048 ACRE-FEET

PEAK DISCHARGE RATE = 0.18 CFS AT 1.533 HOURS BASIN AREA = 0.0003 SQ. MI.

*S ADD SURFACE FLOWS TO ROAD AND CISTERNS DISCHARGE

*S TOTAL DISCHARGE TO SILVER AVE

ADD HYD ID=28 HYD NO=E.TOTAL ID I=26 ID II=27

PRINT HYD ID=28 CODE=1

HYDROGRAPH FROM AREA E.TOTAL

RUNOFF VOLUME = 0.34875 INCHES = 0.0135 ACRE-FEET

PEAK DISCHARGE RATE = 0.22 CFS AT 1.533 HOURS BASIN AREA = 0.0007 SQ. MI.

*S BLDG 3 - OVERALL

*S TOTAL DISCHARGE TO 2ND ST

COMPUTE NM HYD ID=30 HYD NO=F AREA=0.0002193 SQ MI

PER A=0 PER B=0 PER C=3 PER D=97

TP=-0.1333 HR MASS RAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428

UNIT PEAK = 0.83983 CFS UNIT VOLUME = 0.9862 B = 526.28 P60 = .50000

AREA = 0.000213 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR

RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

K = 0.115502HR TP = 0.133300HR K/TP RATIO = 0.866480 SHAPE CONSTANT, N = 4.101391

UNIT PEAK = 0.17860E-01CFS UNIT VOLUME = 0.8797 B = 361.87 P60 = .50000

AREA = 0.000007 SQ MI IA = 0.35000 INCHES INF = 0.83000 INCHES PER HOUR RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

PRINT HYD ID=30 CODE=1

HYDROGRAPH FROM AREA F

RUNOFF VOLUME = 0.36255 INCHES = 0.0042 ACRE-FEET

PEAK DISCHARGE RATE = 0.16 CFS AT 1.533 HOURS BASIN AREA = 0.0002 SQ. MI.

FINISH

NORMAL PROGRAM FINISH END TIME (HR:MIN:SEC) = 11:37:15



Cherne, Curtis

From: Genny Donart [gennyd@iacivil.com]

Sent: Monday, October 22, 2012 9:43 AM

To: Cherne, Curtis; Olson, Greg R.

Subject: RE: first 1/2" at casitas de colores

Hi Curtis,

Based on my AHYMO calcs the ½" storm for the entire site generates 1,459 CF. We have a total 1,864 CF of storm detention capacity designed.

We should be good.

Genny Donart, P.E. Registered Engineer



Isaacson & Arfman, P.A.

Consulting Engineering Associates 128 Monroe St. N.E. Albuquerque, NM 87108

Phone: (505)268-8828 Fax: (505)268-2632 gennyd@iacivil.com

From: Cherne, Curtis [mailto:CCherne@cabq.gov]

Sent: Monday, October 22, 2012 8:28 AM

To: Olson, Greg R.; Genny Donart **Subject:** first 1/2" at casitas de colores

Greg/Genny,

I didn't go through all the calcs, but saw the roof drains in Black E-1. The first ½" applies to the whole site. If you wish to drain the "out-blocks" directly to the street then Blocks B-1 and E-1 will capture more than the first ½" to make up for the "out-blocks" discharging directly to the street.

Genny, I mention this now due to the platting action on Wednesday, wherein we would apply the applicable easements to correspond to the drainage plan.

Curtis

CITY OF ALBUQUERQUE

PLANNING DEPARTMENT - Development & Building Services



September 28, 2012

Genevieve Donart, P.E. Isaacson & Arfman, P.A. 128 Monroe St. NE Albuquerque, New Mexico 87108

RE: Casitas de Colores – Grading & Drainage Plan for Work Order & Building Permit 215 Lead Ave. S.W.

P.E. Stamp: 09/04/12 (K14-D087A)

Dear Ms. Donart,

Based upon the information provided in your submittal received 9-6-2012, the above referenced plan cannot be approved for Work Order or Building Permit until the following comments are addressed:

- 1. Provide a drainage basin map corresponding to calculations provided. Label surface treatments there, or on the plan sheets to verify runoff rates. The Basin Table and calculations provided appear to meet the agreed criteria, however, I do need the basin map and roof drain, discharge points to verify acceptability.
- 2. **CG-101 & 102**: Show on the G&D plans where roof drainage from each building discharges and flows. (Alternatively, this may be adequately shown on the basin map.)
- 3. **CG-101**: Could the roof drain pipe (Key note 11) be tied to the Cistern overflow line, instead of surface discharging to the alley gutter? (possible icing problem on SW)
- 4. **CG-101**: Provide more detail of how the 2" PVC Force Main will connect to the existing SW Culvert on Silver Ave. Provide a safe, edge of sidewalk condition, by extending the SW culvert back of sidewalk, or other means to avoid drop-off at back edge of SW.
- 5. **CG-102**: Provide detail of how the Rock Swales enter the existing SW culverts. Provide a safe, edge of sidewalk condition, by extending the SW culvert back of sidewalk, or other means to avoid drop-off at back edge of SW. Also address how the 2" PVC Force Main will enter the western SW Culvert on Lead Ave.
- 6. CG-501: On Details 1 & 2, what is the depth of material in the swales?
- 7. CG-501: The "Pipe Through Walk" Detail does not address 2-4" pipes shown on plans.
- 8. CG-501: Provide missing details referred to on plans.

 a. "Turn-Down Sidewalk Edge" detail referred to on CG-102 (and co
 - a. "Turn-Down Sidewalk Edge" detail referred to on CG-102. (and correct the reference page to CG-501, in Note 4 on CG-102).

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

- b. "Header Curb" detail referred to on CG-101 & 102.
- 9. CG-502 & 503: Provide flow direction arrows by main pipes in the drainage system.
- 10. CG-502 & 503: Water standing in the overflow pipes from the water treatment manholes may become maintenance and insect-breeding problems. These lines should be designed to drain back to the cisterns.
- 11. CG-502 & 503: Sheets lack North Arrows and Scales associate with the plans. Also, label Lead Ave & Silver Ave. for clarity.
- 12. **CG-502**: Storm Drain General Not 8 recommends monthly maintenance of the system. This or sheet CG-504 should at least outline the level of maintenance to expect, so that owner and later operator understands the importance of this maintenance.

If you have any questions, you can contact me at 924-3994.

Sincerely,

Gregory R. Olson, P.E.

Senior Engineer

Orig: Drainage file K14/D087A

c.pdf Addressee via Email gennyd@iacivil.com

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (Rev. 12/05)

PROJECT TITLE: Casi	tas de Colores		ZONE MAP/DRG. FIL	LE # K14/D087A
DRB#:	EPC#:		WORK ORDER#:	
	N: Blocks B-1, E-1, & F-1, Silver T	ownhomes		· · · · · · · · · · · · · · · · · ·
CITY ADDRESS:	215 Lead Ave			
· · · · · · · · · · · · · · · · · · ·	: ISAACSON & ARFMAN, PA	 -	CONTACT: _	Genny Donart
	128 MONROE NE		PHONE:	<u>268-8828</u>
CITY, STATE	: <u>ALBUQUERQUE, NM</u>		ZIP CODE:	<u>87108</u>
OWAIED.	Conitos do Colomos, I I C		CONTO A COTA	Dachalla Camana
OWNER:	Casitas de Colores, LLC	200	CONTACT:	Rochelle Capone
ADDRESS:	5021 Indian School Rd NE, Ste 3	300	PHONE:	764-3094
CITY, STATE	: <u>Albuquerque, NM</u>		ZIP CODE:	<u>87108</u>
ARCHITECT:	Dekker/Perich/Sabatini		CONTACT:	Ron Witherspoon
ADDRESS:	7601 Jefferson NE, Ste 100	· -	PHONE:	761-9700
	: Albuquerque, NM		ZIP CODE:	87109
	· Tilbaqacique, Ivivi			<u> </u>
SURVEYOR:	Rio Grande Surveying		CONTACT:	Rex Vogler
ADDRESS:	PO Box 7155		PHONE:	379-4579
CITY, STATE	: Albuquerque, NM		ZIP CODE:	87194
CONTRACTOR:	Gerald Martin		CONTACT:	Bob Cardenas
			PHONE:	
CITY, STATE	• •		ZIP CODE:	
TAIDE OF OUR ATTORAT	-	OT TO OT		
TYPE OF SUBMITTAL		CHECK	TYPE OF APPROVAL	
DRAINAGE F			SIA/FINANCIAL GUA	
······································	PLAN 1 st SUBMITTAL	- · · · · · · · · · · · · · · · · · · ·	PRELIMINARY PLAT	
· · · · · · · · · · · · · · · · · · ·	PLAN RESUBMITTAL	-	S. DEV. PLAN FOR SU	
	LG&DPLAN		S. DEV. FOR BLDG. P	
X GRADING PL			SECTOR PLAN APPRO	
	NTROL PLAN		FINAL PLAT APPROV	
•	CERT (HYDROLOGY)		FOUNDATION PERM	_ <u>_ , </u>
CLOMR/LOM		X	BUILDING PERMIT A	
······································	RCULATION LAYOUT		CERTIFICATE OF OC	CUPANCY (PERM)
•	RCHITECT CERT (TCL)		CERTIFICATE OF OC	` / ^ / / / / / / / / / / / / / - / / - / / - / / - / / - / / - / / - / / - / / - / / - / / - /
ENGINEER/A	RCHITECT CERT (DRB S.P.)		GRADING PERMIT A	PPROVAL (150)
ENGINEER/A	RCHITECT CERT (AA)		PAVING PERMIT APP	PROVAL
OTHER (SPE	CIFY)	<u>X</u>	WORK ORDER APPRO	OVAL
		_	OTHER (SPECIFY)	WECENNIE III
WAA A DDD DDGGAA				ווי
	CONFERENCE ATTENDED:			AUG 6 - 2012
X YES				252 ~ ^9
NO	TED			<u> </u>
COPY PROV	UEU			
SUBMITTED BY:	Genevieve Donart		DATE: 9/6/20	12
	Isaacson & Arfman, P.A.		DATELL. <u>FIUIZU</u>	

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 define the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

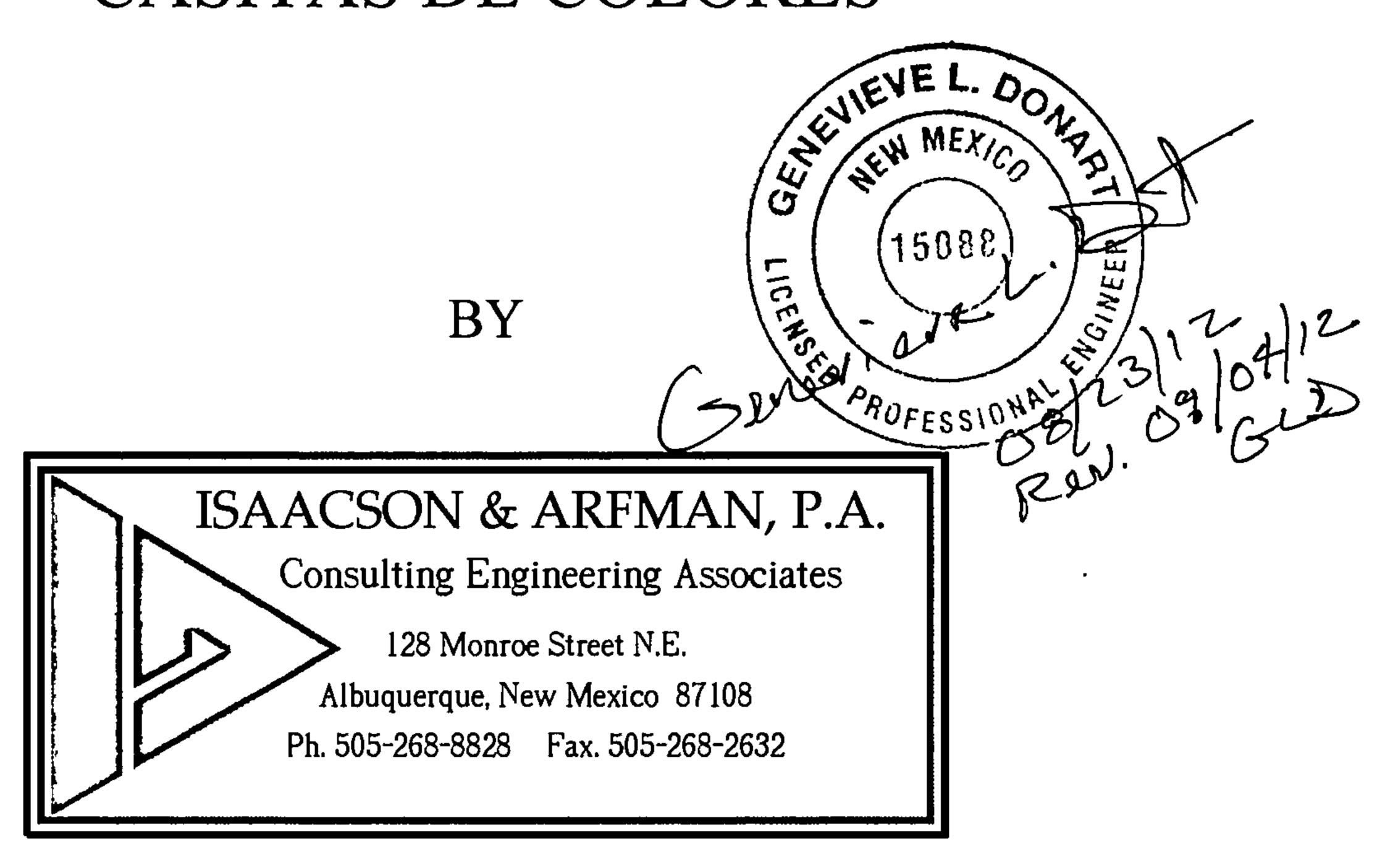
- 1. Conceptual Grading and Drainage Plan: Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.
- 2. Drainage Plans: Required for building permits, grading permits, paving permits and site plans less than five (5) acres.
- 3. Drainage Report: Required for subdivision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

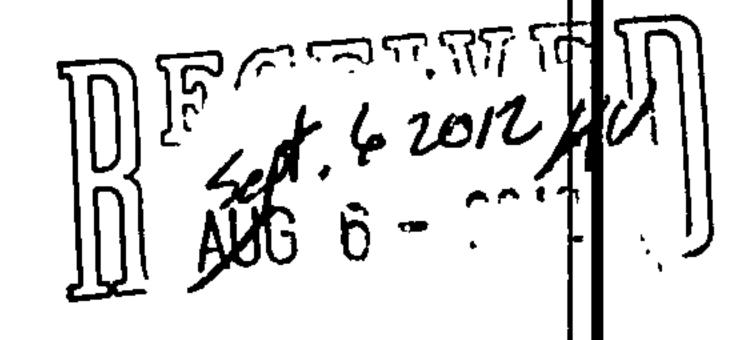
SEPTEMBER 4, 2012

SUPPLEMENTAL INFORMATION

FOR

CASITAS DE COLORES





BASIN AREAS				
PROJECT NAME	Casitas de Co	lores		
PROJECT #	1925			
BASIN ID	AREA (sf)	AREA (Ac)	AREA (sq. mi.)	TYPE D (%)
Proposed		· · · · · · · · · · · · · · · · · ·		
TOTAL SITE	53,655.16	1.2318	0.00192461	87%
BLDG 1	23,750.79	0.5452	0.00085194	85%
B1 ROOF TO CISTERN	10,065.09	0.2311	0.00036104	
B1 ROOF TO RD	3,757.65	0.0863	0.00013479	
B1 COURTYARD	2,556.29	0.0587	0.00009169	37%
B1 COURTYARD LANDSCAPE	1,603.72	0.0368	0.00005753	
B1 EXTERIOR	7,371.76	0.1692	0.00026443	75%
B1 EXTERIOR LANDSCAPE	1,873.95	0.0430	0.00006722	
BLDG 2	23,791.88	0.5462	0.00085342	86%
B2 ROOF TO CISTERN	12,089.18	0.2775	0.00043364	
B2 ROOF TO RD	1,084.75	0.0249	0.00003891	
B2 COURTYARD	3,623.10	0.0832	0.00012996	47%
B2 COURTYARD LANDSCAPE	1,917.69	0.0440	0.00006879	
B2 EXTERIOR	6,994.85	0.1606	0.00025091	81%
B2 EXTERIOR LANDSCAPE	1,327.04	0.0305	0.00004760	·····
BLDG 3	6,112.48	0.1403	0.00021926	97%
BLDG 3 LANDSCAPE	155.74	0.0036	0.0000559	
TOTAL AREA =	161,731.13	3.7128	0.00580131	

*S**************************

	DEVELOPED CONDITIONS	•									
)					•				
	2" STORM				•				6		
	1925P0.5.DAT							.0421	A-F	+	
	SEPTEMBER 2012										
	BY GENNY DONART) 7\					(5 0	مرحوب	read	toef	
	[SAACSON & ARFMAN, F					. 4 4 4 4 4	Cal		/-	00	•
											0 00
START RAINFALL	ФУDБ— 1 NONN 11									TIME	0.00
KAINLALL	TYPE= 1 NOAA 14	EDOM	TP()		סבאע	DIMORE		m TAKE MA	O TO	RAIN6=	0.500
	UVDDACD X DU	FROM		AREA	PEAK	RUNOFF	DUMORE	TIME TO	CFS	PAGE =	= 1
COMMAND	HYDROGRAPH IDENTIFICATION	ID NO.	ID NO.		DISCHARGE	VOLUME	RUNOFF	PEAK	PER	ות על מות אונג	TON
COMMIND	IDENTICATION	NO.	NO.	(SQ MI)	(CFS)	(AC-FT)	(INCHES)	(HOURS)	ACRE	NOTAT	ION
*S TOTAL	S T T T T					./	REQURE 570RM	DYZ	T)0x1		
COMPUTE NN			1	0.00192	1.21	0.033	0.32591	1.533		PER IMP=	87.00
*S BUILDI			-	0.00152	1 • 2 1	0.055	0.32391	1.000	0.904	PER IMP-	07.00
COMPUTE NN	· · · · · · · · · · · · · · · · · · ·	_ ~	10	0.00085	0.53	0.014	0.31858	1.533	0 964	PER IMP=	85.00
*S BUILDI		TO CIS		0.0000	0.55	0.014	0.51050	1.555	0.904	FER IMF-	03.00
COMPUTE NN		-	11	0.00036	0.26	0.007	0.37354	1.533	1 136	PER IMP=	100 00
*S BUILDI		TO RO		0.0000	0.20	0.007	0.37334	1.000	1.130	LEK THE	100.00
COMPUTE NN	·	_	12	0.00013	0.10	0.003	0.37354	1.533	1 151	PER IMP=	100 00
	NG 1 (SOUTH) - COUR			0.00010	00	0.000	0.57554	1.000	1.101	I BIX IIII —	100.00
COMPUTE NM			13	0.00009	0.03	0.001	0.14273	1.533	0.466	PER IMP=	37.00
	NG 1 (SOUTH) - EXTE		~ •			0.001	0.1.12.0	1.000	0.100	I DIV IIII	37.00
COMPUTE NM	·		14	0.00026	0.15	0.004	0.28195	1.533	0.863	PER IMP=	75.00
	OF TO CISTERNS AND						0.20100	4.000	0.000	1131	, 5.00
ADD HYD	B.CIST			0.00045	0.29	0.008	0.32616	1.533	1.001		
	LDING 1 CISTERN										
ROUTE RESE		15	16	0.00045	0.04	0.008	0.32616	1.967	0.149	AC-FT=	0.005
*S ADD RO	OF TO ROAD AND EXTE	RIOR							-		
ADD HYD	B.SURFACE	12&14	17	0.00040	0.25	0.007	0.31209	1.533	0.960		
*S ADD SU	JRFACE FLOWS TO ROAD	AND C	STERNS	DISCHARGE							
*S TOTAL I	DISCHARGE TO LEAD AV	E									
ADD HYD	B.TOTAL	16&17	18	0.00085	0.29	0.015	0.31954	1.533	0.529		
*S BUILDI	NG 2 (NORTH) - OVER	ALL									
COMPUTE NM	1 HYD E	_	20	0.00085	0.54	0.015	0.32591	1.533	0.987	PER IMP=	87.00
*S BUILDI	NG 2 (NORTH) - ROOF	TO CIS	STERNS								
COMPUTE NM	M HYD E.R1	_	21	0.00043	0.31	0.009	0.37354	1.533	1.135	PER IMP=	100.00
*S BUILDI	NG 2 (NORTH) - ROOF	TO ROP	AD								
COMPUTE NM	1 HYD E.R2	-	22	0.00004	0.03	0.001	0.37354	1.533	1.213	PER IMP=	100.00
*S BUILDI	NG 2 (NORTH) - COUR	TYARD									
COMPUTE NM	1 HYD E.CY	- .	23	0.00013	0.05	0.001	0.17936	1.533	0.564	PER IMP=	47.00
*S BUILDI	NG 2 (NORTH) - EXTE	RIOR									
COMPUTE NM	1 HYD E.EXT	_	24	0.00025	0.15	0.004	0.30393	1.533	0.931	PER IMP=	81.00
*S ADD RO	OF TO CISTERNS AND	COURTY	ARD FLO	OWS							
SD AHVMO ca	le for 0 5in storm - SLIM d	locy			Page 1 of 2						O/G

*S

CASITAS DE COLORES

		FROM	TO		PEAK	RUNOFF		TIME TO	CFS PAGE	= 2
	HYDROGRAPH	ID	ID	AREA	DISCHARGE	VOLUME	RUNOFF	PEAK	PER	
COMMAND	IDENTIFICATION	NO.	NO.	(SQ MI)	(CFS)	(AC-FT)	(INCHES)	(HOURS)	ACRE NOTAT	ION
ADD HYD	E.CIST	21&23	25	0.00056	0.36	0.010	0.32826	1.533	1.003	
*S BUILD	ING 2 CISTERN									
ROUTE RESERVO	OIR E.CIST	21	26	0.00043	0.04	0.009	0.37316	2.000	0.156 AC-FT=	0.006
*S ADD ROOF	TO ROAD AND EXTE	ERIOR								
ADD HYD	E.SURFACE	22&24	27	0.00029	0.18	0.005	0.31236	1.533	0.968	
*S ADD SURFACE FLOWS TO ROAD AND CISTERNS DISCHARGE										
*S TOTAL DISC	CHARGE TO SILVER	AVE								
ADD HYD	E.TOTAI	26&27	28	0.00072	0.22	0.013	0.34875	1.533	0.481	
*S BLDG 3 -	OVERALL									
*S TOTAL DISC	CHARGE TO 2ND ST									
COMPUTE NM HY	YD F	_	30	0.00022	0.16	0.004	0.36255	1.533	1.108 PER IMP=	97.00
FINISH										

```
AHYMO PROGRAM (AHYMO-S4)
                                             - Version: S4.01a - Rel: 01a
        RUN DATE (MON/DAY/YR) = 09/06/2012
        START TIME (HR:MIN:SEC) = 13:54:17 USER NO.= AHYMO_Temp_User:20122010
        INPUT FILE = M:\PROJECT DOCUMENTS\1900-1999\1925\CALCS\1925P0.5.DAT
*S
        CASITAS DE COLORES
*S
        DEVELOPED CONDITIONS
*S
       ₹" STORM
*$
       1925P0.5.DAT
*S
       SEPTEMBER 2012
*S
   BY GENNY DONART
        ISAACSON & ARFMAN, P.A.
START
                  RAINFALL BEGINS AT 0.0 HRS
                  TYPE=1 RAIN QUARTER=0.5 RAIN ONE=0.5
RAINFALL
                   RAIN SIX=0.5 RAIN DAY=0.5 DT=0.0333333HR
              6-HOUR RAINFALL DIST. - BASED ON NOAA ATLAS 14 FOR CONVECTIVE AREAS (NM & AZ) - D1
                    0.033333 HOURS
                                         END TIME =
                                                       5.999994 HOURS
              DT =
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*S TOTAL SITE
COMPUTE NM HYD
                   ID=1 HYD NO=SITE AREA=0.0019246 SQ MI
                    PER A=0 PER B=0 PER C=13 PER D=87
                   TP = -0.1333 HR
                                  MASS RAIN=-1
    K = 0.072649HR
                           0.133300HR
                                                     0.545000
                                         K/TP RATIO =
                                                                   SHAPE CONSTANT, N = 7.106428
                 6.6106
                                                                              P60 = .50000
    UNIT PEAK =
                           CFS
                                 UNIT VOLUME =
                                                0.9976
                                                                  526.28
                                                            B =
                                      0.10000 INCHES
    AREA =
               0.001674 SQ MI
                                IA =
                                                        INF =
                                                               0.04000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333
                                                                   SHAPE CONSTANT, N =
    K = 0.115502HR
                      TP = 0.133300HR
                                         K/TP RATIO = 0.866480
    UNIT PEAK = 0.67922
                           CFS
                                 UNIT VOLUME =
                                                0.9810
                                                                  361.87
                                                                              P60 = .50000
                                                            B =
    AREA =
               0.000250 SQ MI
                                      0.35000 INCHES
                                                               0.83000 INCHES PER HOUR
                                IA =
                                                        INF =
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333
                   ID=1
                          CODE=1
PRINT HYD
```

HYDROGRAPH FROM AREA SITE

RUNOFF VOLUME = 0.32591 INCHES = 0.0335 ACRE-FEET → 1,459 CF required ½" storm detention

PEAK DISCHARGE RATE = 1.21 CFS AT 1.533 HOURS BASIN AREA = 0.0019 SQ. MI.

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428 UNIT PEAK = 2.8588 CFS UNIT VOLUME = 0.9955 B = 526.28 P60 = .50000 AREA = 0.000724 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

K = 0.115502HR TP = 0.133300HR K/TP RATIO = 0.866480 SHAPE CONSTANT, N = 4.101391 UNIT PEAK = 0.34690 CFS UNIT VOLUME = 0.9623 B = 361.87 P60 = .50000 AREA = 0.000128 SQ MI IA = 0.35000 INCHES INF = 0.83000 INCHES PER HOUR RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

PRINT HYD ID=10 CODE=1

HYDROGRAPH FROM AREA B

RUNOFF VOLUME = 0.31858 INCHES = 0.0145 ACRE-FEET

PEAK DISCHARGE RATE = 0.53 CFS AT 1.533 HOURS BASIN AREA = 0.0009 SQ. MI.

*S BUILDING 1 (SOUTH) - ROOF TO CISTERNS

COMPUTE NM HYD ID=11 HYD NO=B.R1 AREA=0.0003610 SQ MI

PER A=0 PER B=0 PER C=0 PER D=100

TP=-0.1333 HR MASS RAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428 UNIT PEAK = 1.4252 CFS UNIT VOLUME = 0.9911 B = 526.28 P60 = .50000 AREA = 0.000361 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

PRINT HYD ID=11 CODE=1

HYDROGRAPH FROM AREA B.R1

RUNOFF VOLUME = 0.37354 INCHES = 0.0072 ACRE-FEET
PEAK DISCHARGE RATE = 0.26 CFS AT 1.533 HOURS BASIN AREA = 0.0004 SQ. MI.

*S BUILDING 1 (SOUTH) - ROOF TO ROAD

COMPUTE NM HYD

ID=12 HYD NO=B.R2 AREA=0.0001348 SQ MI

PER A=0 PER B=0 PER C=0 PER D=100

TP=-0.1333 HR MASS RAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428 UNIT PEAK = 0.53220 CFS UNIT VOLUME = 0.9786 B = 526.28 P60 = .50000 AREA = 0.000135 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

PRINT HYD ID=12 CODE=1

HYDROGRAPH FROM AREA B.R2

RUNOFF VOLUME = 0.37354 INCHES = 0.0027 ACRE-FEET PEAK DISCHARGE RATE = 0.10 CFS AT 1.533 HOURS BASIN AREA = 0.0001 SQ. MI.

*S BUILDING 1 (SOUTH) - COURTYARD

COMPUTE NM HYD ID=13 HYD NO=B.CY AREA=0.0000917 SQ MI

PER A=0 PER B=0 PER C=63 PER D=37

TP=-0.1333 HR MASS RAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428 UNIT PEAK = 0.13395 CFS UNIT VOLUME = 0.9169 B = 526.28 P60 = .50000 AREA = 0.000034 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

K = 0.115502HR TP = 0.133300HR K/TP RATIO = 0.866480 SHAPE CONSTANT, N = 4.101391 UNIT PEAK = 0.15683 CFS UNIT VOLUME = 0.9182 B = 361.87 P60 = .50000 AREA = 0.000058 SQ MI IA = 0.35000 INCHES INF = 0.83000 INCHES PER HOUR RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

PRINT HYD ID=13 CODE=1

HYDROGRAPH FROM AREA B.CY

RUNOFF VOLUME = 0.14273 INCHES = 0.0007 ACRE-FEET

PEAK DISCHARGE RATE = 0.03 CFS AT 1.533 HOURS BASIN AREA = 0.0001 SQ. MI.

*S BUILDING 1 (SOUTH) - EXTERIOR

COMPUTE NM HYD ID=14 HYD NO=B.EXT AREA=0.0002644 SQ MI PER A=0 PER B=0 PER C=25 PER D=75

TP=-0.1333 HR MASS RAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428 UNIT PEAK = 0.78290 CFS UNIT VOLUME = 0.9840 B = 526.28 P60 = .50000 AREA = 0.000198 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

K = 0.115502HR TP = 0.133300HR K/TP RATIO = 0.866480 SHAPE CONSTANT, N = 4.101391 UNIT PEAK = 0.17944 CFS UNIT VOLUME = 0.9258 B = 361.87 P60 = .50000 AREA = 0.000066 SQ MI IA = 0.35000 INCHES INF = 0.83000 INCHES PER HOUR RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

PRINT HYD ID=14 CODE=1

HYDROGRAPH FROM AREA B.EXT

RUNOFF VOLUME = 0.28195 INCHES = 0.0040 ACRE-FEET
PEAK DISCHARGE RATE = 0.15 CFS AT 1.533 HOURS BASIN AREA = 0.0003 SQ. MI.

*S ADD ROOF TO CISTERNS AND COURTYARD FLOWS

ADD HYD ID=15 HYD NO=B.CIST ID I=11 ID II=13

PRINT HYD ID=15 CODE=1

HYDROGRAPH FROM AREA B.CIST

RUNOFF VOLUME = 0.32616 INCHES = 0.0079 ACRE-FEET PEAK DISCHARGE RATE = 0.29 CFS AT 1.533 HOURS BASIN AREA = 0.0005 SQ. MI.

- * ROUTE THROUGH CISTERN
- DISCHARGE BY 20 GPM PUMP
- *S BUILDING 1 CISTERN

ROUTE RESERVOIR ID=16 HYD NO=B.CIST INFLOW ID=15 CODE=10 OUTFLOW(CFS) STORAGE(AF) ELEV(FT)

0 0 45.28
0.043 0.0001 45.30
0.044 0.02158 50.50
0.045 0.02202 53.39
2.2 0.02203 53.40

* * * * * * * * * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
0.00	0.00	45.28	0.000	0.00
0.33	0.00	45.28	0.000	0.00
0.67	0.00	45.28	0.000	0.00
1.00	0.00	45.28	0.000	0.00
1.33	0.01	45.28	0.000	0.00

1.67 46.29 0.004 0.04 0.16 2.00 46.54 0.005 0.03 0.04 2.33 0.00 46.34 0.004 0.04 2.67 0.04 46.06 0.003 0.00 3.00 0.00 45.77 0.002 0.043.33 45.48 0.001 0.040.00

PEAK DISCHARGE = 0.043 CFS - PEAK OCCURS AT HOUR 1.97

MAXIMUM WATER SURFACE ELEVATION = 46.545

MAXIMUM STORAGE = 0.0052 AC-FT INCREMENTAL TIME= 0.033333 HRS

PRINT HYD

ID=16 CODE=1

HYDROGRAPH FROM AREA B.CIST

RUNOFF VOLUME = 0.32616 INCHES = 0.0079 ACRE-FEET PEAK DISCHARGE RATE = 0.04 CFS AT 1.967 HOURS BASIN AREA = 0.0005 SQ. MI.

*S ADD ROOF TO ROAD AND EXTERIOR

ADD HYD ID=17 HYD NO=B.SURFACE ID I=12 ID II=14

PRINT HYD ID=17 CODE=1

HYDROGRAPH FROM AREA B.SURFACE

RUNOFF VOLUME = 0.31209 INCHES = 0.0066 ACRE-FEET PEAK DISCHARGE RATE = 0.25 CFS AT 1.533 HOURS BASIN AREA = 0.0004 SQ. MI.

*S ADD SURFACE FLOWS TO ROAD AND CISTERNS DISCHARGE

*S TOTAL DISCHARGE TO LEAD AVE

ADD HYD ID=18 HYD NO=B.TOTAL ID I=16 ID II=17

PRINT HYD ID=18 CODE=1

HYDROGRAPH FROM AREA B.TOTAL

RUNOFF VOLUME = 0.31954 INCHES = 0.0145 ACRE-FEET PEAK DISCHARGE RATE = 0.29 CFS AT 1.533 HOURS BASIN AREA = 0.0009 SQ. MI.

*S BUILDING 2 (NORTH) - OVERALL

COMPUTE NM HYD ID=20 HYD NO=E AREA=0.0008534 SQ MI

PER A=0 PER B=0 PER C=13 PER D=87

TP=-0.1333 HR MASS RAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428 UNIT PEAK = 2.9313 CFS UNIT VOLUME = 0.9955 B = 526.28 P60 = .50000 AREA = 0.000742 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

K = 0.115502HR TP = 0.133300HR K/TP RATIO = 0.866480 SHAPE CONSTANT, N = 4.101391 UNIT PEAK = 0.30118 CFS UNIT VOLUME = 0.9543 B = 361.87 P60 = .50000 AREA = 0.000111 SQ MI IA = 0.35000 INCHES INF = 0.83000 INCHES PER HOUR RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

PRINT HYD ID=20 CODE=1

HYDROGRAPH FROM AREA E

RUNOFF VOLUME = 0.32591 INCHES = 0.0148 ACRE-FEET

PEAK DISCHARGE RATE = 0.54 CFS AT 1.533 HOURS BASIN AREA = 0.0009 SQ. MI.

*S BUILDING 2 (NORTH) - ROOF TO CISTERNS

COMPUTE NM HYD ID=21 HYD NO=E.R1 AREA=0.0004336 SQ MI

PER A=0 PER B=0 PER C=0 PER D=100

TP=-0.1333 HR MASS RAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428 UNIT PEAK = 1.7119 CFS UNIT VOLUME = 0.9922 B = P60 = .50000526.28 0.000434 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR AREA =RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

PRINT HYD

ID=21 CODE=1

HYDROGRAPH FROM AREA E.R1

RUNOFF VOLUME = 0.37354 INCHES = 0.0086 ACRE-FEET PEAK DISCHARGE RATE = 0.31 CFS AT 1.533 HOURS BASIN AREA = 0.0004 SQ. MI.

*S BUILDING 2 (NORTH) - ROOF TO ROAD

COMPUTE NM HYD

ID=22 HYD NO=E.R2 AREA=0.0000389 SQ MI PER A=0 PER B=0 PER C=0 PER D=100 TP=-0.1333 HR MASS RAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428 UNIT PEAK = 0.15358 CFS UNIT VOLUME = 0.9286 B = 526.28P60 = .50000AREA =0.000039 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOURRUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

PRINT HYD

ID=22 CODE=1

HYDROGRAPH FROM AREA E.R2

RUNOFF VOLUME = 0.37354 INCHES = 0.0008 ACRE-FEET PEAK DISCHARGE RATE = 0.03 CFS AT 1.533 HOURS BASIN AREA = 0.0000 SQ. MI.

*S BUILDING 2 (NORTH) - COURTYARD

COMPUTE NM HYD ID=23 HYD NO=E.CY AREA=0.0001300 SQ MI PER A=0 PER B=0 PER C=53 PER D=47 TP=-0.1333 HR MASS RAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428 UNIT PEAK = 0.24123 CFS UNIT VOLUME = 0.9547 B = 526.28 P60 = .50000AREA = 0.000061 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOURRUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

K = 0.115502HR TP = 0.133300HR K/TP RATIO = 0.866480 SHAPE CONSTANT, N = 4.101391 UNIT PEAK = 0.18705 CFS UNIT VOLUME = 0.9326 B = 361.87P60 = .500000.000069 SQ MI IA = 0.35000 INCHES INF = 0.83000 INCHES PER HOURAREA =RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

PRINT HYD ID=23 CODE=1

HYDROGRAPH FROM AREA E.CY

RUNOFF VOLUME = 0.17936 INCHES = 0.0012 ACRE-FEET PEAK DISCHARGE RATE = 0.05 CFS AT 1.533 HOURS BASIN AREA = 0.0001 SQ. MI.

*S BUILDING 2 (NORTH) - EXTERIOR

COMPUTE NM HYD ID=24 HYD NO=E.EXT AREA=0.0002509 SQ MI PER A=0 PER B=0 PER C=19 PER D=81 TP=-0.1333 HR MASS RAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428 UNIT PEAK = 0.80236 CFS UNIT VOLUME = 0.9840 B = 526.28 P60 = .50000AREA = 0.000203 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOURRUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

K = 0.115502HR TP = 0.133300HR K/TP RATIO = 0.866480 SHAPE CONSTANT, N = 4.101391 UNIT PEAK = 0.12941 CFS UNIT VOLUME = 0.9008 B = 361.87 P60 = .50000AREA = 0.000048 SQ MI IA = 0.35000 INCHES INF = 0.83000 INCHES PER HOUR

PRINT HYD ID=24 CODE=1

HYDROGRAPH FROM AREA E.EXT

RUNOFF VOLUME = 0.30393 INCHES = 0.0041 ACRE-FEET PEAK DISCHARGE RATE = 0.15 CFS AT 1.533 HOURS BASIN AREA = 0.0003 SQ. MI.

*S ADD ROOF TO CISTERNS AND COURTYARD FLOWS

ADD HYD ID=25 HYD NO=E.CIST ID I=21 ID II=23

PRINT HYD ID=25 CODE=1

HYDROGRAPH FROM AREA E.CIST

RUNOFF VOLUME = 0.32826 INCHES = 0.0099 ACRE-FEET

PEAK DISCHARGE RATE = 0.36 CFS AT 1.533 HOURS BASIN AREA = 0.0006 SQ. MI.

- ROUTE THROUGH CISTERN
- * DISCHARGE BY 20 GPM PUMPS
- *S BUILDING 2 CISTERN

ID=26 HYD NO=E.CIST INFLOW ID=21 CODE=10 ROUTE RESERVOIR OUTFLOW(CFS) STORAGE(AF) ELEV(FT) 45.28 45.30 0.0001 0.043 50.50 0.044 0.02158 0.02202 53.89 0.045 2.2 0.02203 53.90

* * * * * * * * * * * * *

TIME	INFLOW		VOLUME	OUTFLOW	
(HRS)	(CFS)	(FEET)	(AC-FT)	(CFS)	
0.00	0.00	45.28	0.000	0.00	
0.33	0.00	45.28	0.000	0.00	
0.67	0.00	45.28	0.000	0.00	
1.00	0.00	45.28	0.000	0.00	
1.33	0.01	45.28	0.000	0.00	
1.67	0.18	46.39	0.005	0.04	
2.00	0.04	46.70	0.006	0.04	
2.33	0.00	46.52	0.005	0.04	
2.67	0.00	46.24	0.004	0.04	
3.00	0.00	45.95	0.003	0.04	
3.33	0.00	45.66	0.002	0.04	
3.67	0.00	45.38	0.000	0.04	
DD377 DT4471		0 040 000		OCCUDE AM HOU	, n

PEAK DISCHARGE = 0.043 CFS - PEAK OCCURS AT HOUR 2.00

MAXIMUM WATER SURFACE ELEVATION = 46.704

MAXIMUM STORAGE = 0.0059 AC-FT INCREMENTAL TIME= 0.033333HRS

PRINT HYD ID=26 CODE=1

HYDROGRAPH FROM AREA E.CIST

RUNOFF VOLUME = 0.37316 INCHES = 0.0086 ACRE-FEET PEAK DISCHARGE RATE = 0.04 CFS AT 2.000 HOURS BASIN AREA = 0.0004 SQ. MI.

*S ADD ROOF TO ROAD AND EXTERIOR

ADD HYD ID=27 HYD NO=E.SURFACE ID I=22 ID II=24

PRINT HYD ID=27 CODE=1

HYDROGRAPH FROM AREA E.SURFACE

RUNOFF VOLUME = 0.31236 INCHES = 0.0048 ACRE-FEET

PEAK DISCHARGE RATE = 0.18 CFS AT 1.533 HOURS BASIN AREA = 0.0003 SQ. MI.

*S ADD SURFACE FLOWS TO ROAD AND CISTERNS DISCHARGE

*S TOTAL DISCHARGE TO SILVER AVE

ID=28 HYD NO=E.TOTAL ID I=26 ID II=27 ADD HYD

ID=28 CODE=1 PRINT HYD

HYDROGRAPH FROM AREA E.TOTAL

RUNOFF VOLUME = 0.34875 INCHES = 0.0135 ACRE-FEET PEAK DISCHARGE RATE = 0.22 CFS AT 1.533 HOURS BASIN AREA = 0.0007 SQ. MI.

*S BLDG 3 - OVERALL

*S TOTAL DISCHARGE TO 2ND ST

COMPUTE NM HYD ID=30 HYD NO=F AREA=0.0002193 SQ MI PER A=0 PER B=0 PER C=3 PER D=97TP=-0.1333 HR MASS RAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428 UNIT PEAK = 0.83983 CFS UNIT VOLUME = 0.9862 B = 526.28 P60 = .50000AREA = 0.000213 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOURRUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

K = 0.115502HR TP = 0.133300HR K/TP RATIO = 0.866480 SHAPE CONSTANT, N = 4.101391 UNIT PEAK = 0.17860E-01CFS UNIT VOLUME = 0.8797 B = 361.87 P60 = .50000AREA = 0.000007 SQ MI IA = 0.35000 INCHES INF = 0.83000 INCHES PER HOURRUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

PRINT HYD ID=30 CODE=1

HYDROGRAPH FROM AREA F

RUNOFF VOLUME = 0.36255 INCHES = 0.0042 ACRE-FEET PEAK DISCHARGE RATE = 0.16 CFS AT 1.533 HOURS BASIN AREA = 0.0002 SQ. MI.

FINISH

END TIME (HR:MIN:SEC) = 13:54:18NORMAL PROGRAM FINISH

AHYMO PROGRAM SUMMARY TABLE (AHYMO-S4)	- Ver.	S4.01a,	Rel: 01a
INPUT FILE = $M:\PROJECT DOCUMENTS\1900-1999\1925\CALCS\1925P.$	DAT		

RUN DATE (MON/DAY/YR) =09/06/2012 USER NO.= AHYMO_Temp_User:20122010

*S CASIT	AS DE COLORES								
*S DEVEL	OPED CONDITIONS								
*S 100 Y	EAR, 6 HOUR STORM								
*S 1925P	•								
*S SEPTE	MBER 2012								
	NNY DONART								
	SON & ARFMAN, P.A.								
	****	*****	*****	******	* * * *				
START								ר יוני	ME = 0.00
	= 1 NOAA 14								2.240
	FROM	то		PEAK	RUNOFF		TIME TO	CFS	PAGE = 1
	HYDROGRAPH ID	ID	AREA	DISCHARGE	VOLUME	RUNOFF	PEAK	PER	11100
COMMAND	IDENTIFICATION NO.	NO.	(SQ MI)	(CFS)	(AC-FT)	(INCHES)	(HOURS)	ACRE	NOTATION
			. —	•		•	• • •		
*S TOTAL SITE		1	0 00100	F 00	0 101	1 0 6 0 1 0	1 500	4 106 55	D 7145 05 00
COMPUTE NM HYD *S BUILDING 1		Т.	0.00192	5.09	0.191	1.86318	1.500	4.136 PE	R IMP= 87.00
COMPUTE NM HYD		10	0.00085	2.25	0.084	1.84401	1.500	4.126 PF	R IMP= 85.00
*S BUILDING 1						1.01.01.	1.000	1.120 11	
COMPUTE NM HYD	B.R1 -	11	0.00036	1.00	0.038	1.98781	1.500	4.330 PE	R IMP= 100.00
*S BUILDING 1	(SOUTH) - ROOF TO RO	DAD							
COMPUTE NM HYD	B.R2 -	12	0.00013	0.38	0.014	1.98781	1.500	4.383 PE	R IMP= 100.00
*S BUILDING 1	(SOUTH) - COURTYARD								
COMPUTE NM HYD		13	0.00009	0.22	0.007	1.38385	1.533	3.784 PE	R IMP = 37.00
*S BUILDING 1	(SOUTH) - EXTERIOR								
COMPUTE NM HYD		14	0.00026	0.69	0.025	1.74814	1.533	4.072 PE	R IMP = 75.00
	O CISTERNS AND COURTY	_		1 00					
ADD HYD	B.CIST 11&13	15	0.00045	1.22	0.045	1.85749	1.500	4.212	
	G 1 CISTERN	1 C	0 0004	4 -	0 0 4 5	1 05740	4 600		
ROUTE RESERVOI		16	0.00045	1.51	0.045	1.85749	1.633	5.206 AC	-FT = 0.022
	O ROAD AND EXTERIOR	17	0 00040	1 07	0 020	1 00011	1 500	4 175	
ADD HYD	B.SURFACE 12&14		0.00040	1.07	0.039	1.82811	1.500	4.175	
	E FLOWS TO ROAD AND (TISIEKNS	DISCHARGE						
	ARGE TO LEAD AVE	1.0	0 00005	2 22	0 004	1 04260	1 (1)	4 001	
ADD HYD *C BUTTDING 2	B.TOTAL 16&17	10	0.00085	2.23	0.084	1.84368	1.633	4.091	
	(NORTH) - OVERALL	20	0 00005	2 27	0 005	1 06210	1 500	4 1 C 4 DE	T T T O O O O O O
COMPUTE NM HYD		20 remensie	0.00085	2.27	0.085	1.86318	1.500	4.154 PE	R IMP = 87.00
	(NORTH) - ROOF TO C	_	0 00042	1 20	0 046	1 00701	1 500	4 205 55	D TMD 100 00
COMPUTE NM HYD			0.00043	1.20	0.046	1.98781	1.500	4.325 PE	R IMP = 100.00
	(NORTH) - ROOF TO RO		0 00004	Λ 11	0 004	1 00701	1 500	4 FAA	D TMD 100 00
*S BUILDING 2			0.00004	0.11	0.004	1.98781	1.500	4.593 PE	R IMP = 100.00
	(NORTH) - COURTYARD		0 00013	0 20	0 010	1 47070	1	2 01 5	T) 773.470 4 77 7 7
COMPUTE NM HYD	E.CY - (NORTH) - EXTERIOR	23	0.00013	0.32	0.010	1.47972	1.533	3.817 PE	R IMP = 47.00
COMPUTE NM HYD		24	0.00025	0.67	0.024	1.80566	1.500	4.157 PE	D TMD- 01 00
COLLEGIO 1411 TITD	n. hai	4 7	0.00023	0.07	0.024	T.00200	1.500	4.101 25	R IMP = 81.00

	*S ADD	ROOF TO CISTERNS AND	COURT	YARD FLOW	I S							
			FROM	TO		PEAK	RUNOFF		TIME TO	CFS	PAGE =	2
		HYDROGRAPH	ID	ID	AREA	DISCHARGE	VOLUME	RUNOFF	PEAK	PER		
	COMMAND	IDENTIFICATION	NO.	NO.	(SQ MI)	(CFS)	(AC-FT)	(INCHES)	(HOURS)	ACRE	NOTATI	ON
	ADD HYD	E.CIST	21&23	25	0.00056	1.52	0.056	1.86986	1.500	4.201		
	*S E	BUILDING 2 CISTERN										
	ROUTE RE	ESERVOIR E.CIST	21	26	0.00043	1.40	0.046	1.98711	1.633	5.050 P	C-FT=	0.022
	*S ADD	ROOF TO ROAD AND EXT	ERIOR									
	ADD HYD	E.SURFACE	22&24	27	0.00029	0.78	0.028	1.81697	1.500	4.215		
	*S ADD	SURFACE FLOWS TO ROAD	D AND	CISTERNS	DISCHARGE							
	*S TOTAL	DISCHARGE TO SILVER	AVE									
2	ADD HYD	E.TOTAL	26&27	28	0.00072	1.93	0.074	1.91890	1.633	4.169		
	*S BLDO	3 - OVERALL										
	*S TOTAL	DISCHARGE TO 2ND ST										
	COMPUTE	NM HYD F	_	30	0.00022	0.61	0.023	1.95905	1.500	4.322 F	PER IMP=	97.00
	FINISH											

```
AHYMO PROGRAM (AHYMO-S4)
                                           - Version: S4.01a - Rel: 01a
        RUN DATE (MON/DAY/YR) = 09/06/2012
        INPUT FILE = M:\PROJECT DOCUMENTS\1900-1999\1925\CALCS\1925P.DAT
               ************
*S
        CASITAS DE COLORES
*S
        DEVELOPED CONDITIONS
*S
        100 YEAR, 6 HOUR STORM
*S
       1925P.DAT
*S
        SEPTEMBER 2012
*S
        BY GENNY DONART
*S
        ISAACSON & ARFMAN, P.A.
START
                  RAINFALL BEGINS AT 0.0 HRS
                  TYPE=1 RAIN QUARTER=1.07 RAIN ONE=1.78
RAINFALL
                  RAIN SIX=2.24 RAIN DAY=2.58 DT=0.03333333HR
              6-HOUR RAINFALL DIST. - BASED ON NOAA ATLAS 14 FOR CONVECTIVE AREAS (NM & AZ) - D1
                    0.033333 HOURS
             DT =
                                       END TIME =
                                                     5.999994 HOURS
                      0.0020 \quad 0.0041
               0.0000
                                     0.0062
                                            0.0085
                                                    0.0107
                                                           0.0133
                      0.0185
               0.0158
                              0.0214
                                     0.0242
                                            0.0305
                                                    0.0369
                                                           0.0435
                      0.0577
               0.0506
                              0.0653
                                     0.0730
                                            0.0809
                                                    0.0889
                                                           0.0970
               0.1054
                      0.1138
                              0.1227
                                     0.1321
                                            0.1415
                                                    0.1520
                                                           0.1626
                                            0.2568
               0.1765
                      0.1936
                             0.2108
                                     0.2338
                                                    0.2844
                                                          0.3165
                      0.3970 0.4453
                                     0.5112
               0.3487
                                            0.5946
                                                    0.6780
                                                           0.9001
               1.1223
                      1.2950
                             1.4181
                                     1.5413
                                            1.6032
                                                    1.6651
                                                           1.7155
               1.7545
                      1.7934 1.8205
                                            1.8709
                                     1.8475
                                                    1.8907
                                                          1.9104
               1.9254
                      1.9404
                             1.9529
                                     1.9628
                                            1.9727
                                                    1.9816
                                                           1.9905
               1.9986
                      2.0059
                             2.0133
                                     2.0201
                                            2.0269
                                                    2.0335
                                                          2.0401
               2.0466
                      2.0497 2.0528
                                     2.0558
                                            2.0588
                                                    2.0617
                                                           2.0645
               2.0673
                      2.0700
                              2.0727
                                     2.0754
                                            2.0780
                                                    2.0806
                                                           2.0831
               2.0856
                      2.0880
                              2.0904
                                     2.0928
                                            2.0951
                                                   2.0974
                                                          2.0998
                      2.1042
                             2.1063
                                     2.1085
                                            2.1106
               2.1020
                                                    2.1127
                                                           2.1148
               2.1168
                      2.1188
                             2.1208
                                     2.1228
                                            2.1247
                                                   2.1267
                                                           2.1286
                      2.1323 2.1342
               2.1305
                                     2.1361
                                            2.1379
                                                    2.1397
                                                           2.1415
                      2.1451
                              2.1468
                                     2.1486
                                            2.1503
               2.1433
                                                    2.1520
                                                           2.1537
                      2.1571
               2.1554
                             2.1588
                                     2.1604
                                            2.1621
                                                   2.1637
                                                           2.1653
                             2.1701
                      2.1685
                                     2.1716
               2.1669
                                            2.1732
                                                   2.1748
                                                           2.1763
               2.1778
                      2.1793
                             2.1809
                                     2.1823
                                            2.1838
                                                   2.1853
                                                           2.1868
                      2.1897 2.1911
               2.1882
                                     2.1926
                                            2.1940
                                                   2.1954
                                                           2.1968
               2.1982
                      2.1996 2.2010 2.2023 2.2037 2.2050
                                                          2.2064
               2.2077 2.2091 2.2104 2.2117 2.2130 2.2143 2.2156
               2.2169 2.2182 2.2194 2.2207 2.2219 2.2232 2.2244
               2.2257 2.2269 2.2281 2.2293 2.2305 2.2317 2.2329
               2.2341 2.2353 2.2365 2.2377 2.2388 2.2400
*S TOTAL SITE
COMPUTE NM HYD ID=1 HYD NO=SITE AREA=0.0019246 SQ MI
                   PER A=0 PER B=0 PER C=13 PER D=87
                   TP=-0.1333 HR MASS RAIN=-1
    K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428
    UNIT PEAK = 6.6106 CFS UNIT VOLUME = 0.9976 B = 526.28 P60 = 1.7800
    AREA = 0.001674 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333
    K = 0.104852HR TP = 0.133300HR K/TP RATIO = 0.786584 SHAPE CONSTANT, N = 4.563784
    UNIT PEAK = 0.73418 CFS UNIT VOLUME = 0.9828 B = 391.16 P60 = 1.7800
    AREA = 0.000250 SQ MI IA = 0.35000 INCHES INF = 0.83000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333
                  ID=1 CODE=1
PRINT HYD
                                     HYDROGRAPH FROM AREA SITE
```

RUNOFF VOLUME = 1.86318 INCHES = 0.1912 ACRE-FEET PEAK DISCHARGE RATE = 5.09 CFS AT 1.500 HOURS BASIN AREA = 0.0019 SQ. MI. COMPUTE NM HYD ID=10 HYD NO=B AREA=0.0008519 SQ MI
PER A=0 PER B=0 PER C=15 PER D=85
TP=-0.1333 HR MASS RAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428 UNIT PEAK = 2.8588 CFS UNIT VOLUME = 0.9955 B = 526.28 P60 = 1.7800 AREA = 0.000724 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

K = 0.104852HR TP = 0.133300HR K/TP RATIO = 0.786584 SHAPE CONSTANT, N = 4.563784 UNIT PEAK = 0.37497 CFS UNIT VOLUME = 0.9671 B = 391.16 P60 = 1.7800 AREA = 0.000128 SQ MI IA = 0.35000 INCHES INF = 0.83000 INCHES PER HOUR RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

PRINT HYD ID=10 CODE=1

HYDROGRAPH FROM AREA B

RUNOFF VOLUME = 1.84401 INCHES = 0.0838 ACRE-FEET

PEAK DISCHARGE RATE = 2.25 CFS AT 1.500 HOURS BASIN AREA = 0.0009 SQ. MI.

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428 UNIT PEAK = 1.4252 CFS UNIT VOLUME = 0.9911 B = 526.28 P60 = 1.7800 AREA = 0.000361 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

PRINT HYD ID=11 CODE=1

HYDROGRAPH FROM AREA B.R1

RUNOFF VOLUME = 1.98781 INCHES = 0.0383 ACRE-FEET

PEAK DISCHARGE RATE = 1.00 CFS AT 1.500 HOURS BASIN AREA = 0.0004 SQ. MI.

*S BUILDING 1 (SOUTH) - ROOF TO ROAD

COMPUTE NM HYD

ID=12 HYD NO=B.R2 AREA=0.0001348 SQ MI

PER A=0 PER B=0 PER C=0 PER D=100

TP=-0.1333 HR MASS RAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428 UNIT PEAK = 0.53220 CFS UNIT VOLUME = 0.9786 B = 526.28 P60 = 1.7800 AREA = 0.000135 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

PRINT HYD ID=12 CODE=1

HYDROGRAPH FROM AREA B.R2

RUNOFF VOLUME = 1.98781 INCHES = 0.0143 ACRE-FEET
PEAK DISCHARGE RATE = 0.38 CFS AT 1.500 HOURS BASIN AREA = 0.0001 SQ. MI.

*S BUILDING 1 (SOUTH) - COURTYARD

COMPUTE NM HYD ID=13 HYD NO=B.CY AREA=0.0000917 SQ MI

PER A=0 PER B=0 PER C=63 PER D=37

TP=-0.1333 HR MASS RAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428 UNIT PEAK = 0.13395 CFS UNIT VOLUME = 0.9169 B = 526.28 P60 = 1.7800 AREA = 0.000034 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

K = 0.104852HR TP = 0.133300HR K/TP RATIO = 0.786584 SHAPE CONSTANT, N = 4.563784 UNIT PEAK = 0.16952 CFS UNIT VOLUME = 0.9227 B = 391.16 P60 = 1.78000.000058 SQ MI IA = 0.35000 INCHES INF = 0.83000 INCHES PER HOURAREA =RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

ID=13 CODE=1 PRINT HYD

HYDROGRAPH FROM AREA B.CY

RUNOFF VOLUME = 1.38385 INCHES = 0.0068 ACRE-FEET PEAK DISCHARGE RATE = 0.22 CFS AT 1.533 HOURS BASIN AREA = 0.0001 SQ. MI.

*S BUILDING 1 (SOUTH) - EXTERIOR

COMPUTE NM HYD ID=14 HYD NO=B.EXT AREA=0.0002644 SQ MI

PER A=0 PER B=0 PER C=25 PER D=75

TP = -0.1333 HRMASS RAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428 UNIT PEAK = 0.78290 CFS UNIT VOLUME = 0.9840 B = 526.28 P60 = 1.7800AREA = 0.000198 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOURRUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

K = 0.104852HR TP = 0.133300HR K/TP RATIO = 0.786584 SHAPE CONSTANT, N = 4.563784 UNIT PEAK = 0.19396 CFS UNIT VOLUME = 0.9305 B = 391.16 P60 = 1.7800AREA = 0.000066 SQ MI IA = 0.35000 INCHES INF = 0.83000 INCHES PER HOURRUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

PRINT HYD ID=14 CODE=1

HYDROGRAPH FROM AREA B.EXT

RUNOFF VOLUME = 1.74814 INCHES = 0.0247 ACRE-FEET PEAK DISCHARGE RATE = 0.69 CFS AT 1.533 HOURS BASIN AREA = 0.0003 SQ. MI.

*S ADD ROOF TO CISTERNS AND COURTYARD FLOWS

ADD HYD ID=15 HYD NO=B.CIST ID I=11 ID II=13

ID=15 CODE=1PRINT HYD

HYDROGRAPH FROM AREA B.CIST

RUNOFF VOLUME = 1.85749 INCHES = 0.0448 ACRE-FEET PEAK DISCHARGE RATE = 1.22 CFS AT 1.500 HOURS BASIN AREA = 0.0005 SQ. MI.

- * ROUTE THROUGH CISTERN
- DISCHARGE BY 20 GPM PUMP
- BUILDING 1 CISTERN *S

3	POLICITOR	4.	CIDIDIM			
ROUTE	RESERVOIR		ID=16 HYD NO=B.C	IST INFLOW	ID=15	CODE=10
			OUTFLOW (CFS) STO	ORAGE (AF)	ELEV (F	Τ)
			0	0		45.28
			0.043	0.000	1	45.30
			0.044	0.021	.58	50.50
			0.045	0.022	202	53.39
			2.2	0.022	203	53.40

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
0.00	0.00	45.28	0.000	0.00
0.33	0.00	45.28	0.000	0.00
0.67	0.00	45.28	0.000	0.00
1.00	0.07	45.33	0.000	0.04
1.33	0.35	46.14	0.004	0.04
1.67	0.69	53.04	0.022	0.04

```
0.04
                                  0.022
    2.00
               0.17
                       52.98
    2.33
                       53.39
                                  0.022
                                            0.05
               0.06
                                            0.04
    2.67
               0.02
                       50.69
                                  0.022
                                            0.04
                       50.29
                                  0.021
    3.00
               0.01
                                  0.020
                                            0.04
    3.33
                       50.04
               0.01
                                  0.019
                                            0.04
    3.67
               0.01
                       49.78
                                            0.04
                       49.53
                                  0.018
    4.00
               0.01
                                            0.04
               0.01
                       49.27
                                  0.017
    4.33
                       49.02
                                  0.015
                                            0.04
    4.67
               0.01
                                  0.014
                                            0.04
    5.00
                       48.77
               0.01
    5.33
                                  0.013
                                            0.04
                       48.52
               0.01
                                            0.04
    5.67
                       48.28
                                  0.012
               0.01
    6.00
               0.01
                       48.04
                                  0.011
                                            0.04
                                  0.010
                                            0.04
    6.33
               0.00
                       47.77
    6.67
                                  0.009
                                            0.04
               0.00
                       47.48
    7.00
                       47.19
                                  0.008
                                            0.04
               0.00
    7.33
                       46.90
                                  0.007
                                            0.04
               0.00
    7.67
               0.00
                       46.62
                                  0.006
                                            0.04
               0.00
                       46.33
                                  0.004
                                            0.04
    8.00
               0.00
                       46.04
                                  0.003
                                            0.04
    8.33
    8.67
              0.00
                       45.75
                                 0.002
                                            0.04
    9.00
                     45.46
                                 0.001
                                            0.04
              0.00
                       1.508 CFS - PEAK OCCURS AT HOUR 1.63
PEAK DISCHARGE =
                                 53.397
MAXIMUM WATER SURFACE ELEVATION =
                        0.0220 AC-FT INCREMENTAL TIME= 0.033333HRS
MAXIMUM STORAGE =
                  ID=16 CODE=1
PRINT HYD
                                      HYDROGRAPH FROM AREA B.CIST
                                        = 0.0448 ACRE-FEET
   RUNOFF VOLUME = 1.85749 INCHES
                                           1.633 HOURS BASIN AREA = 0.0005 SQ. MI.
   PEAK DISCHARGE RATE = 1.51 CFS AT
*S ADD ROOF TO ROAD AND EXTERIOR
                   ID=17 HYD NO=B.SURFACE ID I=12 ID II=14
ADD HYD
                ID=17 CODE=1
PRINT HYD
                                      HYDROGRAPH FROM AREA B.SURFACE
   RUNOFF VOLUME = 1.82811 INCHES = 0.0389 ACRE-FEET
   PEAK DISCHARGE RATE = 1.07 CFS AT 1.500 HOURS BASIN AREA = 0.0004 SQ. MI.
*S ADD SURFACE FLOWS TO ROAD AND CISTERNS DISCHARGE
*S TOTAL DISCHARGE TO LEAD AVE
                ID=18 HYD NO=B.TOTAL ID I=16 ID II=17
ADD HYD
PRINT HYD ID=18 CODE=1
                                       HYDROGRAPH FROM AREA B.TOTAL
   RUNOFF VOLUME = 1.84368 INCHES = 0.0838 ACRE-FEET
   PEAK DISCHARGE RATE = 2.23 CFS AT 1.633 HOURS BASIN AREA = 0.0009 SQ. MI.
*S BUILDING 2 (NORTH) - OVERALL
COMPUTE NM HYD
              ID=20 HYD NO=E AREA=0.0008534 SQ MI
                    PER A=0 PER B=0 PER C=13 PER D=87
                   TP = -0.1333 HR
                                 MASS RAIN=-1
    K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428
    UNIT PEAK = 2.9313 CFS UNIT VOLUME = 0.9955 B = 526.28 P60 = 1.7800
              0.000742 \text{ SQ MI} IA = 0.10000 \text{ INCHES} INF = 0.04000 \text{ INCHES PER HOUR}
    AREA =
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333
```

Page 4 of 8

PRINT HYD ID=20 CODE=1

HYDROGRAPH FROM AREA E

RUNOFF VOLUME = 1.86318 INCHES = 0.0848 ACRE-FEET

PEAK DISCHARGE RATE = 2.27 CFS AT 1.500 HOURS BASIN AREA = 0.0009 SQ. MI.

TP=-0.1333 HR MASS RAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428 UNIT PEAK = 1.7119 CFS UNIT VOLUME = 0.9922 B = 526.28 P60 = 1.7800 AREA = 0.000434 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

PRINT HYD ID=21 CODE=1

HYDROGRAPH FROM AREA E.R1

RUNOFF VOLUME = 1.98781 INCHES = 0.0460 ACRE-FEET
PEAK DISCHARGE RATE = 1.20 CFS AT 1.500 HOURS BASIN AREA = 0.0004 SQ. MI.

*S BUILDING 2 (NORTH) - ROOF TO ROAD

COMPUTE NM HYD

ID=22 HYD NO=E.R2 AREA=0.0000389 SQ MI

PER A=0 PER B=0 PER C=0 PER D=100

TP=-0.1333 HR MASS RAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428 UNIT PEAK = 0.15358 CFS UNIT VOLUME = 0.9286 B = 526.28 P60 = 1.7800 AREA = 0.000039 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR

PRINT HYD ID=22 CODE=1

HYDROGRAPH FROM AREA E.R2

RUNOFF VOLUME = 1.98781 INCHES = 0.0041 ACRE-FEET PEAK DISCHARGE RATE = 0.11 CFS AT 1.500 HOURS BASIN AREA = 0.0000 SQ. MI.

RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

*S BUILDING 2 (NORTH) - COURTYARD

COMPUTE NM HYD

ID=23 HYD NO=E.CY AREA=0.0001300 SQ MI

PER A=0 PER B=0 PER C=53 PER D=47

TP=-0.1333 HR MASS RAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428 UNIT PEAK = 0.24123 CFS UNIT VOLUME = 0.9547 B = 526.28 P60 = 1.7800 AREA = 0.000061 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

K = 0.104852HR TP = 0.133300HR K/TP RATIO = 0.786584 SHAPE CONSTANT, N = 4.563784 UNIT PEAK = 0.20218 CFS UNIT VOLUME = 0.9376 B = 391.16 P60 = 1.7800 AREA = 0.000069 SQ MI IA = 0.35000 INCHES INF = 0.83000 INCHES PER HOUR RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

PRINT HYD ID=23 CODE=1

HYDROGRAPH FROM AREA E.CY

RUNOFF VOLUME = 1.47972 INCHES = 0.0103 ACRE-FEET PEAK DISCHARGE RATE = 0.32 CFS AT 1.533 HOURS BASIN AREA = 0.0001 SQ. MI. *S BUILDING 2 (NORTH) - EXTERIOR

COMPUTE NM HYD ID=24 HYD NO=E.EXT AREA=0.0002509 SQ MI

PER A=0 PER B=0 PER C=19 PER D=81

TP=-0.1333 HR MASS RAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428 UNIT PEAK = 0.80236 CFS UNIT VOLUME = 0.9840 B = 526.28 P60 = 1.7800AREA = 0.000203 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOURRUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

K = 0.104852HR TP = 0.133300HR K/TP RATIO = 0.786584 SHAPE CONSTANT, N = 4.563784 UNIT PEAK = 0.13989 CFS UNIT VOLUME = 0.9044 B = 391.16 P60 = 1.78000.000048 SQ MI IA = 0.35000 INCHES INF = 0.83000 INCHES PER HOURAREA = RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

ID=24 CODE=1 PRINT HYD

HYDROGRAPH FROM AREA E.EXT

RUNOFF VOLUME = 1.80566 INCHES = 0.0242 ACRE-FEET PEAK DISCHARGE RATE = 0.67 CFS AT 1.500 HOURS BASIN AREA = 0.0003 SQ. MI.

*S ADD ROOF TO CISTERNS AND COURTYARD FLOWS

ID=25 HYD NO=E.CIST ID I=21 ID II=23 ADD HYD

PRINT HYD ID=25 CODE=1

HYDROGRAPH FROM AREA E.CIST

RUNOFF VOLUME = 1.86986 INCHES = 0.0562 ACRE-FEET PEAK DISCHARGE RATE = 1.52 CFS AT 1.500 HOURS BASIN AREA = 0.0006 SQ. MI.

- ROUTE THROUGH CISTERN
- DISCHARGE BY 20 GPM PUMPS
- BUILDING 2 CISTERN

ROUTE	RESERVOIR	ID=26 HYD NO=E.C	CIST INFLOW I	D=21 CODE=10
		OUTFLOW (CFS) ST	CORAGE (AF) E	LEV (FT)
		0	0	45.28
		0.043	0.0001	45.30
		0.044	0.0215	8 50.50
		0.045	0.0220	2 53.89
		2.2	0.0220	3 53.90

m	TAIRT OF		TACT TIME	OHBET ON
TIME	INFLOW	ELEV	VOLUME	OUTFLOW
(HRS)	(CFS)	(FEET)	(AC-FT)	(CFS)
0.00	0.00	45.28	0.000	0.00
0.33	0.00	45.28	0.000	0.00
0.67	0.00	45.28	0.000	0.00
1.00	0.07	45.34	0.000	0.04
1.33	0.36	46.23	0.004	0.04
1.67	0.67	53.89	0.022	0.08
2.00	0.18	53.45	0.022	0.04
2.33	0.06	53.86	0.022	0.04
2.67	0.02	51.25	0.022	0.04
3.00	0.01	50.32	0.021	0.04
3.33	0.01	50.08	0.020	0.04
3.67	0.01	49.83	0.019	0.04
4.00	0.01	49.58	0.018	0.04
4.33	0.01	49.34	0.017	0.04
4.67	0.01	49.09	0.016	0.04
5.00	0.01	48.85	0.015	0.04
5.33	0.01	48.61	0.014	0.04
5.67	0.01	48.37	0.013	0.04
6.00	0.01	48.14	0.012	0.04

```
6.33
               0.00
                        47.88
                                    0.011
                                               0.04
    6.67
               0.00
                        47.59
                                    0.010
                                               0.04
    7.00
                        47.30
               0.00
                                    0.008
                                               0.04
    7.33
               0.00
                        47.02
                                    0.007
                                               0.04
    7.67
               0.00
                        46.73
                                    0.006
                                               0.04
    8.00
               0.00
                        46.44
                                    0.005
                                               0.04
    8.33
               0.00
                        46.15
                                    0.004
                                               0.04
    8.67
                        45.86
               0.00
                                    0.002
                                               0.04
    9.00
               0.00
                        45.58
                                    0.001
                                               0.04
    9.33
               0.00
                        45.29
                                    0.000
                                               0.03
PEAK DISCHARGE =
                        1.401 CFS - PEAK OCCURS AT HOUR
                                                          1.63
MAXIMUM WATER SURFACE ELEVATION =
                                         53.896
```

ID=26 CODE=1 PRINT HYD

MAXIMUM STORAGE =

HYDROGRAPH FROM AREA E.CIST

INCREMENTAL TIME=

0.033333HRS

1.98711 INCHES = RUNOFF VOLUME = 0.0460 ACRE-FEET PEAK DISCHARGE RATE = 1.40 CFS AT 1.633 HOURS BASIN AREA = 0.0004 SQ. MI.

*S ADD ROOF TO ROAD AND EXTERIOR

ADD HYD ID=27 HYD NO=E.SURFACE ID I=22 ID II=24

0.0220 AC-FT

PRINT HYD ID=27 CODE=1

HYDROGRAPH FROM AREA E.SURFACE

RUNOFF VOLUME = 1.81697 INCHES 0.0281 ACRE-FEET PEAK DISCHARGE RATE = 0.78 CFS AT 1.500 HOURS BASIN AREA = 0.0003 SQ. MI.

*S ADD SURFACE FLOWS TO ROAD AND CISTERNS DISCHARGE

*S TOTAL DISCHARGE TO SILVER AVE

ID=28 HYD NO=E.TOTAL ID I=26 ID II=27 ADD HYD

PRINT HYD ID=28 CODE=1

HYDROGRAPH FROM AREA E. TOTAL

RUNOFF VOLUME = 1.91890 INCHES = 0.0740 ACRE-FEET PEAK DISCHARGE RATE = 1.93 CFS AT 1.633 HOURS BASIN AREA = 0.0007 SQ. MI.

*S BLDG 3 - OVERALL

*S TOTAL DISCHARGE TO 2ND ST

COMPUTE NM HYD ID=30 HYD NO=F AREA=0.0002193 SQ MI PER A=0 PER B=0 PER C=3 PER D=97 TP=-0.1333 HR MASS RAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428 UNIT PEAK = 0.83983 CFS UNIT VOLUME = 0.9862 B = 526.28 P60 = 1.7800AREA = 0.000213 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOURRUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

K = 0.104852HR TP = 0.133300HR K/TP RATIO = 0.786584 SHAPE CONSTANT, N = 4.563783 UNIT PEAK = 0.19306E-01CFS UNIT VOLUME = 0.8817 B = 391.16 P60 = 1.7800AREA = 0.000007 SQ MI IA = 0.35000 INCHES INF = 0.83000 INCHES PER HOURRUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033333

ID=30 PRINT HYD CODE=1

HYDROGRAPH FROM AREA F

1.95905 INCHES = RUNOFF VOLUME = 0.0229 ACRE-FEET 0.61 CFS AT 1.500 HOURS BASIN AREA = PEAK DISCHARGE RATE = 0.0002 SQ. MI. FINISH

NORMAL PROGRAM FINISH

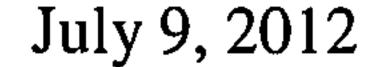
END TIME (HR:MIN:SEC) = 13:58:57

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privile inhitration galleries et each 2500 galon cistern at each 3. determine por rate to assist in the determination of the infiltration area Cute 6. Chu &-8-12 Eureviews 200 Agreel to 5 of storn who a fink the

CITY OF ALBUQUERQUE

PLANNING DEPARTMENT - Development & Building Services





Genevieve Donart, P.E. Isaacson & Arfman, P.A. 128 Monroe St. NE Albuquerque, New Mexico 87108

RE: Casitas de Colores – Conceptual Grading & Drainage Plan for Site Development 215 Lead Ave. S.W.

P.E. Stamp: N/A (K14-D087A)

Dear Ms. Donart,

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

Based upon the information provided in your submittal dated 6-14-2012, the above referenced plan cannot be approved for Site Development Plan action by the DRB until the following comments are addressed:

- 1. To ensure capacity in the valley drainage system, Department policy requires the site discharge rate from valley developments to be limited to 2.75 cfs/ac, unless greater capacity to the river can be demonstrated.
- 2. Provide calculations to demonstrate compliance, and details of onsite detention facilities to meet the required discharge rate.
- 3. Provide labeling of roof lines and other impervious improvements, along with proposed permeable areas and conveyances.

Albuquerque's MS4 Permit became effective March 1st, 2012. Grading and Drainage Plans and Drainage Reports must comply with the requirements of the new permit. (MS4 Ref: http://www.cabq.gov/planning/landcoord/documents/EPA-NMS000101-FinalPermit.pdf)

If you have any questions, you can contact me at 924-3994.

Sincerely,

Gregory R. Olson, P.E.

Senior Engineer

Orig: Drainage file K14/D087A

c.pdf Addressee via Email gennyd@iacivil.com

1 of 1

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (Rev. 12/05)

PROJECT TITLE: Casita	as de Colores	ZONE MAP/DRG. FII	LE #_/C-/4/D087 PT
DRB#:	EPC#:	WORK ORDER#:	• • • • • • • • • • • • • • • • • • •
LEGAL DESCRIPTION	: Blocks B-1, E-1, & F-1, Silver Town	homes	
CITY ADDRESS:			
			·
ENGINEERING FIRM:	ISAACSON & ARFMAN, PA	CONTACT: _	Genny Donart
ADDRESS:	128 MONROE NE	PHONE:	268-8828
CITY, STATE:	ALBUQUERQUE, NM	ZIP CODE:	87108
OWNER:	Casitas de Colores, LLC	CONTACT:	Rochelle Capone
	5021 Indian School Rd NE, Ste 300	PHONE:	764-3094
CITY, STATE:	Albuquerque, NM	ZIP CODE:	87108
ARCHITECT:	Dekker/Perich/Sabatini	CONTACT	Ron Witherspoon
ADDRESS:	7601 Jefferson NE, Ste 100	PHONE:	761-9700
	Albuquerque, NM	······································	87109
SURVEYOR:	Rio Grande Surveying	CONTACT:	Rex Vogler
	PO Box 7155	PHONE:	_
	Albuquerque, NM		- .
		~~~	
CONTRACTOR:	Gerald Martin		
ADDRESS:		<del></del>	
CITY, STATE:		ZIP CODE:	<u>.</u>
TYPE OF SUBMITTAL	: C	CHECK TYPE OF APPROVAL	SOUGHT:
DRAINAGE R	·	SIA/FINANCIAL GUA	
DRAINAGE P	LAN 1 st SUBMITTAL	PRELIMINARY PLAT	APPROVAL
DRAINAGE P	LAN RESUBMITTAL	X S. DEV. PLAN FOR SU	UB'D APPROVAL
X CONCEPTUAL	LG&DPLAN_	X S. DEV. FOR BLDG. F	PERMIT APPROVAL
GRADING PL	AN _	SECTOR PLAN APPR	OVAL
EROSION CO	NTROL PLAN _	FINAL PLAT APPROV	VAL
ENGINEER'S	CERT (HYDROLOGY)	FOUNDATION PERM	IT APPROVAL
CLOMR/LOM		BUILDING PERMIT A	
TRAFFIC CIRC		CERTIFICATE OF OC	
· · · · · · · · · · · · · · · · · · ·	RCHITECT CERT (TCL)	CERTIFICATE OF OC	
12 12 12 12 12 12 12 12 12 12 12 12 12 1	RCHITECT CERT (DRB S.P.)	GRADING PERMITA	PPROVAL
	RCHITECT CERT (AA)	PAVING PERMEDAP	PROYAL
OTHER (SPEC	CIFY)	WORK ORDER OPER	OVAL A 2016
		OTHER (SPECI <b>T</b> Y)	JUN
WAS A DDE DESIGN O	ONFERENCE ATTENDED:		WDROLOGY
YES	CHIERCHALICINDED.		HYDRON
X NO			SELLI
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COLITIONII	J1.1.J		
SUBMITTED BY:	Genevieve Donart	DATE: 6/12/2	.012
	Isaacson & Arfman P.A		

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 define 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.