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

PROJECT TITLE: Longacre Subdivision ZONE MAP/DRG.FILE# H-12 / D017
DRB#: 1005450 EPC#: WORK ORDER#:

LEGAL DESCRIPTION: Tracts 331-B, 336, & 337, MRGCD Map #35
CITY ADDRESS:

ENGINEERING FIRM: ISAACSON AND ARFMAN
ADDRESS: 128 MONROE N.E.
CITY, STATE: ALBUQUERQUE, NM
CONTACT: Genny Donart
PHONE: 268-8828
ZIP CODE: 87108

OWNER: Gabaldon Properties, LLC
ADDRESS: 1401 Central Ave NW
CITY, STATE: Albuquerque, NM
CONTACT: John Myers
PHONE: 247-9080
ZIP CODE: 87104

ARCHITECT:
ADDRESS:
CITY, STATE:
CONTACT:
PHONE:
ZIP CODE:

SURVEYOR: Wayjohn Surveying
ADDRESS: 330 Louisiana Blvd NE
CITY, STATE: Albuquerque, NM
CONTACT: Tom Johnston
PHONE: 255-2052
ZIP CODE: 87106-2062

CONTRACTOR:
ADDRESS:
CITY, STATE:
CONTACT:
PHONE:
ZIP CODE:

TYPE OF SUBMITTAL:

- [x] ___ DRAINAGE REPORT
- [ ] ___ DRAINAGE PLAN 1st SUBMITTAL
- [ ] ___ DRAINAGE PLAN RESUBMITTAL
- [ ] ___ CONCEPTUAL G & D PLAN
- [ ] ___ GRADING PLAN
- [ ] ___ EROSION CONTROL PLAN
- [ ] ___ ENGINEER'S CERT (HYDROLOGY)
- [ ] ___ CLOMR/LOMR
- [ ] ___ TRAFFIC CIRCULATION LAYOUT
- [ ] ___ ENGINEER/ARCHITECT CERT (TCL)
- [ ] ___ ENGINEER/ARCHITECT CERT (DRB S.P.)
- [ ] ___ ENGINEER/ARCHITECT CERT (AA)
- [ ] OTHER (SPECIFY)_____

CHECK TYPE OF APPROVAL SOUGHT:

- [ ] _____ SIA/FINANCIAL GUARANTEE RELEASE
- [x] _____ RELIMINARY PLAT APPROVAL
- [ ] _____ S. DEV. PLAN FOR SUB'D APPROVAL
- [ ] _____ S. DEV. FOR BLDG. PERMIT APPROVAL
- [ ] _____ SECTOR PLAN APPROVAL
- [ ] _____ FINAL PLAT APPROVAL
- [ ] _____ UNDATION PERMIT APPROVAL
- [ ] _____ BUILDING PERMIT APPROVAL
- [ ] _____ CRTIFICATE OF OCCUPANCY (PERM)
- [ ] _____ CRTIFICATE OF OCCUPANCY (TEMP)
- [x] _____ GRADING PERMIT APPROVAL
- [ ] _____ PAVING PERMIT APPROVAL
- [ ] _____ WORK ORDER APPROVAL
- [ ] _____ OTHER (SPECIFY)

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- [ ] YES
- [ ] NO
- [ ] COPY PROVIDED

$ 130.00

RECEIVED
NOV 12 2008
HYDROLOGY SECTION

SUBMITTED BY: Genevieve D'A DATE: 10/31/08
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

November 25, 2008

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

Re: Longacre Subdivision Grading and Drainage Plan

Engineer's Stamp dated 10-20-08 (H12/D017)

Dear Ms. Donart,

Based upon the information provided in your submittal received 11-12-08, the above referenced plan cannot be approved for Preliminary Plat action by the DRB or Grading Permit until the following comments are addressed.

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

- Hydrology is concerned about maintenance of an underground retention system in a residential setting. If the subdivision was not so dense, surface ponding would be possible. Hydrology recommends less impervious area and more surface ponding.
- Each lot that drains to a pond/infiltration basin will be responsible for the maintenance of that pond/infiltration basin. A Drainage Covenant will also be required.
- Provide an entry point/area for runoff to enter the infiltration basin. Otherwise, runoff will take too long to enter the infiltration basin and the pond will not have capacity to contain the runoff.
- Provide a 1' minimum retaining wall around the perimeter of the subdivision. This wall must maintain the 100 yr-24 hour storm volume.
- Finished pad elevation must be 1 foot above the 100 yr-10 day storm water surface elevation. Provide the WSE for each pond.
- Provide details for the 1000 cu. ft. cisterns.
- Specify the rock size to be used in the infiltration basins and basis for 30% voids used in calculations.
- How is the Rainstore product maintained?
- How deep is the water table?
- Basin 2 will not drain with a perimeter wall and the Finished Floor of the existing buildings is lower than the surrounding grades.
- There does not appear to be access ports to the buried RCP. Access to an underground retention system is required.
- Should the street be super-elevated to drain away from the houses?

CITY OF ALBUQUERQUE

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

Sincerely,

Curtis A. Cherne P.E.
Senior Engineer, Planning Dept.
Development and Building Services

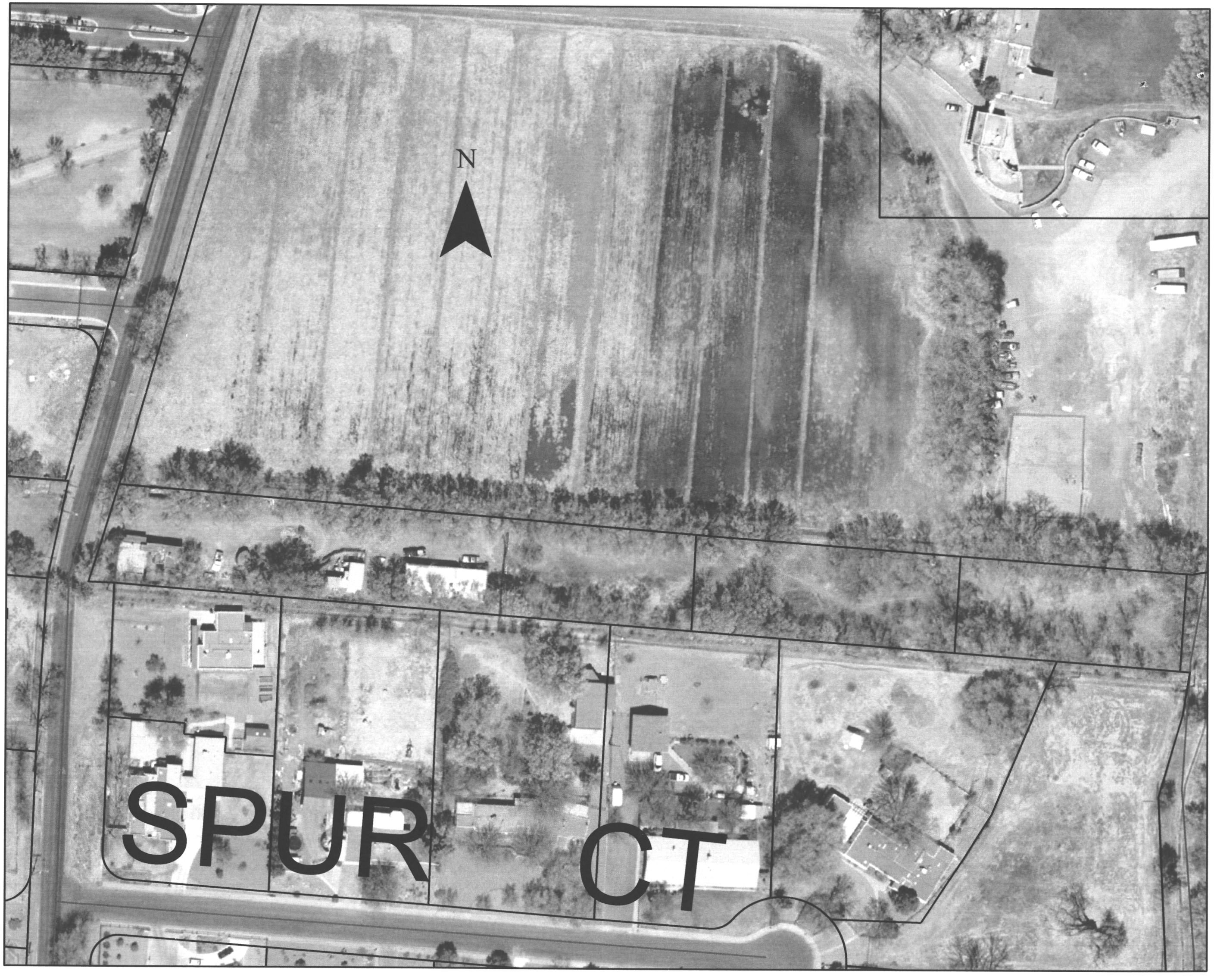
C: file

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov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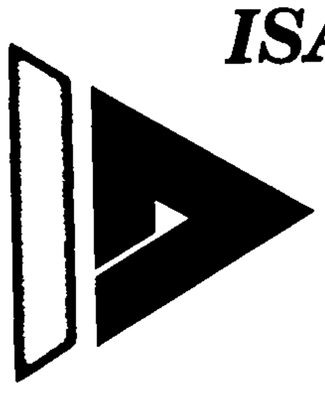


ISAACSON & ARFMAN, P.A.

Consulting Engineering Associates

Albuquerque, NM

DRAINAGE REPORT

FOR

LONGACRE SUBDIVISION

ALBUQUERQUE, NEW MEXICO
OCTOBER 2008

OCTOBER 20, 2008

DRAINAGE REPORT

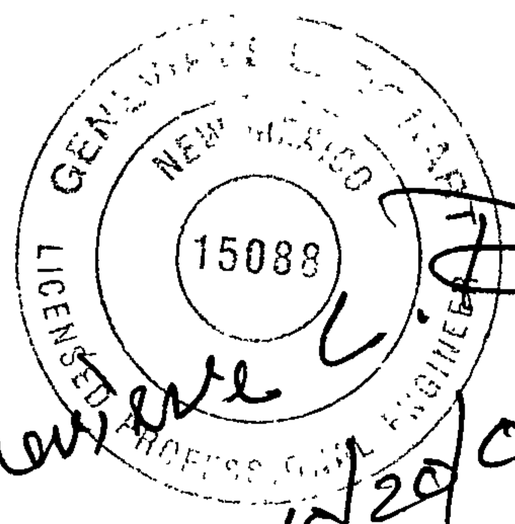
FOR

LONGACRE SUBDIVISION

BY

ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates
128 Monroe Street N.E.
Albuquerque, New Mexico 87108
Ph. 505-268-8828 Fax. 505-268-2632

Job #1575



Genevieve L. Isaacson 10/29/08

Table of Contents

Introduction

The purpose of this report is to provide supplemental information to the grading and drainage plan for Long Acres Subdivision. The subdivision is located in the north valley of Albuquerque, east of Gabaldon Road, approximately 1 mile south of Interstate 40, see attached vicinity map. Sole access in and out of the site will be from Gabaldon Road. The shape of the subdivision is a long narrow rectangle extending east-west. A proposed private road will extend through the subdivision and end at a turn-around near the east edge. Bordering along the north and south edge of the site are two small irrigation ditches, and along the east boundary is the larger Duranes ditch.

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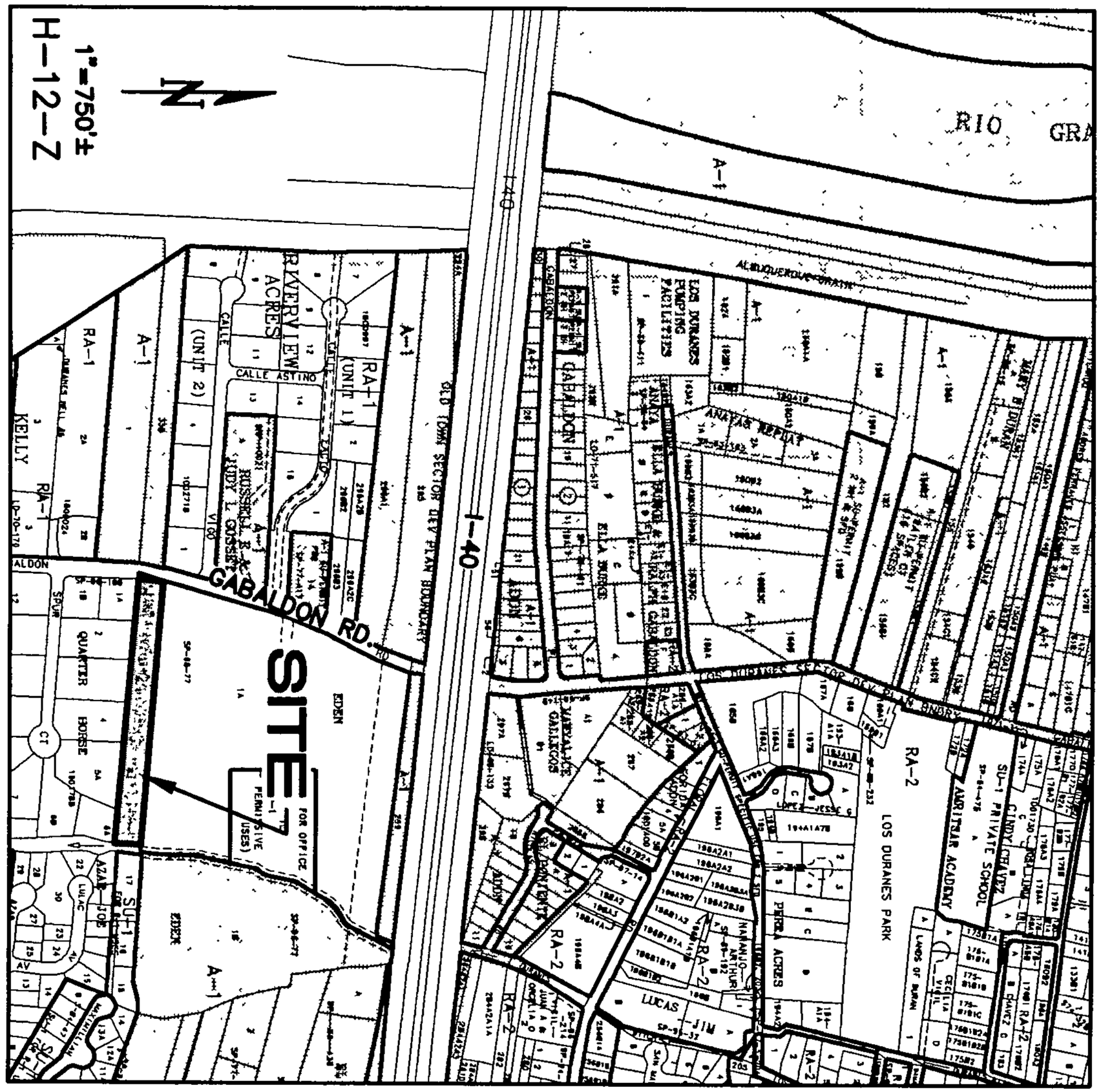

Existing Conditions

Currently there are two houses and two additional buildings at the west end; the remaining area of the site extending to the east is undeveloped. The ground is very flat, sloping slightly to the west. There is an existing depression near the west end where onsite storm runoff ponds. Small areas drain towards the irrigation ditches bordering the site.

Provide total acreage? off-site?

Proposed Conditions

The subdivision is proposed to include a private access road and eight lots for single-family residences. The proposed drainage plan is to retain storm runoff in ponds and underground storage/infiltration basins located at various places along the site. The surface volume of many of the ponds is not sufficient to hold the 100-year 10-day storm event; therefore underground storage beneath several of the ponds is necessary to retain the entire volume. Those lots that have the optional guest parking area may also use underground cisterns beneath the parking area to collect roof runoff.

The proposed site is divided into 10 basins, see attached Basin Exhibit for locations and areas. All volume calculations use the 100-year 10-day storm event. All basins drain to retention ponds onsite, except for Basin B-10 which surface drains 0.2 cfs north toward an offsite irrigation ditch.

total acres

49933
22091
19079
---
91 MB 2.1 ac

Table A.1

Basin No.	Area (sf)	% A	% B	% C	% D	Q (cfs)	Runoff Volume
B-1	10432	0	0	32	68	1.0	2509 CF
B-2	12670	0	0	30	70	1.2	3097 CF
B-3	16681	0	0	27	73	1.6	4190 CF
B-4	8543	0	0	27	73	0.8	2146 CF
B-5	11158	0	0	32	68	1.1	2684 CF
B-6	5292	0	0	23	77	0.5	1381 CF
B-7	12382	0	0	29	31	1.2	3070 CF
B-8	5521	0	0	50	50	0.5	1119 CF
B-9	7979	0	0	52	48	0.7	1575 CF
B-10	2284	0	0	0	100	0.2	707 CF

92912 / 43560 = 2.13 ac = B 1/4 ac lots 607 sf? (ok)

Four surface ponds are proposed to collect a portion of the storm runoff.

Additional underground storage is required for most basins and will be discussed in the next section.

- Pond P-1 is located between Lots 1 and 2 south of the access road, and receives runoff from Basins B-1 and B-2. The bottom area measures 27' x 37' and has 3:1 (H: V) side-slopes up to a height of 1.5 feet, with a capacity of 2088.5 cubic feet. Since the total storage volume required is 5606 cubic feet, the total underground storage volume required will be 3517.5 cubic feet.

- Pond P-2 is located within Lot 3, and receives storm runoff from Basin B-3. The pond bottom has an area of 668 square feet and 3:1 (H: V) side-slopes up to a height of 1.5 feet, with a capacity of 1486.5 cubic feet. Since the total storage volume required is 4190 cubic feet, the total underground storage volume required will be 2703.5 cubic feet.
- Pond P-6 is located within Lot 8, and receives storm runoff from Basin B-8. The bottom area measures 17.5' x 15' and has 3:1 (H: V) side-slopes up to a height 1.0 feet, with a capacity of 402 cubic feet. Since the total storage volume required is 1119 cubic feet, the total underground storage volume required will be 717 cubic feet.
- Pond P-7 is located within Lots 1 and 2 north of the access road and receives storm runoff from Basin B-9. The pond bottom has an area of 1242 square feet and has 3:1 (H: V) side-slopes up to a height 1.0 feet, with a capacity of 2023 cubic feet. The pond volume includes capacity in the existing depression onsite and that extends offsite to the north; the offsite portion will not be disturbed and therefore be included in the pond capacity. The total storage volume required is 1575 cubic feet, therefore no underground storage is required.

The table below shows the maintenance responsibility for each lot, and how much underground retention will be required. The required underground storage volume is calculated by subtracting the volume of surface pond storage from the volume of basin runoff. The surface storage volume is assumed to be divided equally between both lot owners for those ponds that have shared responsibility between two lot owners. For

example, Pond P-1 has a storage volume of 2088.5 cubic feet, therefore 1044.25 cubic feet is provided each for Lots 1 and 2. Lot 1 has a basin runoff of 2509 cubic feet; therefore the required underground storage is 2509 minus 1044.25 which equals 1465 cubic feet rounded up.

Table A.2

Lot No.	Associated Basin	Pond/Infiltration Basin Maintenance Responsibility	Required Underground Storage Volume
1	B-1	Pond P-1	1465 CF
2	B-2	Pond P-1	2053 CF
3	B-3	Pond P-2	2703.5 CF
4	B-4	Infiltration Basin P-3	1517.5 CF
5	B-5	Infiltration Basin P-4	2215 CF
6	B-6	Infiltration Basin P-4	912 CF
7	B-7	Infiltration Basin P-5	2219 CF
8	B-8	Pond P-6	717 CF

Private drainage easements will need to be provided for those ponds/ Infiltration Basins that straddle two lots. Thus, Pond P-1, Infiltration P-4, and Infiltration P-5 will require an easement for their associated lots.

Underground Storage Recommendations

This section will discuss the need for underground storage of storm water runoff since the surface ponds are not of enough capacity to retain the entire volume. Details for recommended underground storage methods are shown on the Recommended Details Sheet. These options are only recommendations on how to achieve the total capacity. Other underground structures may be used as long as they meet or exceed the required volume. Underground cisterns may be placed within each lot to hold a portion of the required underground storage, which could be used for landscape irrigation. Convenient places for the cisterns, for those lots that have them, are the optional guest parking spaces as shown on the Grading and Drainage Plan. These areas have enough space for a 20'L x 10'W x 5'H cistern which would contain a volume of 1000 cubic feet of water.

- Pond P-1 has a required underground storage volume of 3517.5 cubic feet. One thousand cubic feet could be stored in underground cisterns for Lots 1 and 2, each. Additionally, an underground infiltration basin, beneath the proposed surface pond, utilizing rock fill and measuring 27' x 37' x 5.5' would contain the remaining volume of water. Assuming 30% voids, the volume of underground storage would be 1670 cubic feet, which added to the cisterns totals 3670 cubic feet of storage.
- Pond P-2 has a shortfall in water storage of 2703.5 cubic feet which will need to be placed in underground structures. One thousand cubic feet could be stored in an underground cistern within Lot 3. Additionally, an underground infiltration basin, underneath the proposed surface pond, utilizing rock fill around 30" diameter concrete pipe with an area of 1346 square feet and 5 fee tall, will contain

the remaining volume of water. Assuming 30% voids in the rock and 100% in the concrete pipe, the underground storage volume is 2668 cubic feet, which added to the cisterns totals 3668 cubic feet of storage.

- Infiltration P-3 has no surface storage, and a shortfall in water storage of 2146 cubic feet which will need to be provided through underground storage structures. Since Lot 4 has no option for a guest parking space and little additional landscaping, it is not assumed to use underground cisterns, but instead is recommended to use solely storage at the infiltration basin. This storage would be made of an underground stormwater retention product such as RainStore3. This specific product has a void space of 94% of the volume.
- Infiltration Basin P-4 has no surface pond, and a shortfall in water storage of 4065 cubic feet, which will need to be provided through underground storage facilities. One thousand cubic feet could be stored in underground cisterns for Lots 5 and 6, each. The underground infiltration basin utilizing rock fill around 30" diameter concrete pipe measuring 63' x 10' x 7.7' would contain the remaining volume of water. Assuming 30% voids in the rock and 100% in the concrete pipe, the underground storage volume is 2074 cubic feet, which added to the cisterns totals 4074 cubic feet of storage.
- Infiltration Basin P-5 has no surface storage, therefore a shortfall in water storage of 3070 cubic feet, which will need to be provided through underground storage facilities. Two thousand cubic feet could be stored in underground cisterns within Lot 7 and Lot 8. Additionally, an underground infiltration basin utilizing rock fill around 30" diameter concrete pipe measuring 63' x 10' x 5.0' could contain the

remaining volume of water. Assuming 30% voids in the rock and 100% in the concrete pipe, the underground storage volume is 1111 cubic feet, which added to the cistern totals 3111 cubic feet of storage.

- Pond 6 has a shortfall in water storage of 717 cubic feet, which will need to be provided through underground storage facilities. The entire volume could be stored in an underground cistern within Lot 8.
- Pond 7 has no shortfall in water retention volume.

The table below is a summary of the underground storage recommendations.

Table A.3

Lot No.	Surface Pond Storage Volume	Total Underground Storage Required	Suggested Cistern Retention Volume	Suggested Underground Storage Volume
1	1044.25 CF	1464.75 CF	1000 CF	464.75 CF
2	1044.25 CF	2052.75 CF	1000 CF	1052.75 CF
3	1486.5 CF	2703.5 CF	1000 CF	1703.5 CF
4	0 CF	1517.5 CF	0 CF	517.5 CF
5	0 CF	2684 CF	1000 CF	1684 CF
6	0 CF	1381 CF	1000 CF	381 CF
7	0 CF	3070 CF	1000 CF	2070 CF
8	402 CF	717 CF	717 CF	-

APPENDICES

Job Title: Long Acres Subdivision
Job #: 1575

Equations:

$V = ((A_1+A_2)*(y_2 - y_1)) / 2$

Pond Volume			
Pond:	P-1		
Location:	Lots 1 & 2		
Pond Information		**Results**	
Contour Elevation (ft)	Area (sf)	Cumulative Volume (ft^3)	Cumulative Volume (ac-ft)
4957.5	1012	0.00	**0.00**
4958	1214	556.50	**0.01**
4958.5	1434	1218.50	**0.03**
4959	2046	2088.50	**0.05**

Volume of Runoff =	5605.5	ft^3
Below Ground Storage Required =	**3517.0**	**ft^3**
Underground Storage (Recommendation)		
Underground Cisterns		
Total	2000	ft^3
Underground Infiltration Basins		
RCP Storage	N/A	ft^3
Area of Aggregate Fill Storage =	1012	ft^2
Depth of Aggregate Fill Storage =	5.5	ft
Aggregate Fill Storage (30% Voids) =	1670	ft^3
Total	1670 ✓	
Below Ground Storage Provided =	**3670**	**ft^3**

Silting up?
how maintain

Pond Volume			
Pond:	P-2		
Location:	Lot 3		
Pond Information		**Results**	
Contour Elevation (ft)	Area (sf)	Cumulative Volume (ft^3)	Cumulative Volume (ac-ft)
4957.5	668	0.00	**0.00**
4958	870	384.50	**0.01**
4958.5	1096	876.00	**0.02**
4959	1346	1486.50	**0.03**

Volume of Runoff =	4190	ft^3
Below Ground Storage Required =	**2703**	**ft^3**
Underground Storage (Recommendation)		
Underground Cisterns		
Total	1000	ft^3
Underground Infiltration Basins		
30" RCP Storage (7 pipes)	1117	ft^3
Area of Aggregate Fill Storage =	1346	ft^2
Depth of Aggregate Fill Storage =	5.0	ft
Aggregate Fill Storage (30% Voids) =	1482	ft^3
Total	2599	ft^3
Below Ground Storage Provided =	**3599**	**ft^3**

Pond Volume			
Pond:	P-3		
Location:	Lot 4		
	Volume of Runoff =	2146	ft^3
	Below Ground Storage Required =	**2146**	**ft^3**
Underground Storage (Recommendation)			
	Underground Cisterns		
	Total	N/A	ft^3
	Underground Infiltration Basins		
	Area of Storage =	529	ft^2
	Depth of Storage =	4.4	ft
	Volume Storage (94% Voids)* =	2188	ft^3
	Below Ground Storage Provided =	**2188**	**ft^3**

*Recommended Product (RainStore^3)

Pond Volume			
Pond:	P-4		
Location:	Lot 5		
	Volume of Runoff =	4065	ft^3
	Below Ground Storage Required =	**4065**	**ft^3**
Underground Storage (Recommendation)			
	Underground Cisterns		
	Total	2000	ft^3
	Underground Infiltration Basins		
	30" RCP Storage (3 pipes) =	928	ft^3
	Area of Aggregate Fill Storage =	625	ft^2
	Depth of Aggregate Fill Storage =	7.7	ft
	Aggregate Fill Storage (30% Voids) =	1146	ft^3
	Total	2074	ft^3
	Below Ground Storage Provided =	**4074**	**ft^3**

Pond Volume

Pond:	P-5		
Location:	Lots 6 and 7		
	Volume of Runoff =	3070	ft^3
	Below Ground Storage Required =	**3070**	**ft^3**
	Underground Storage (Recommendation)		
	Underground Cisterns		
	Total	2000	ft^3
	Underground Infiltration Basins		
	30" RCP Storage (1 pipe) =	309	ft^3
	Area of Aggregate Fill Storage =	634	ft^2
	Depth of Aggregate Fill Storage =	5.0	ft
	Aggregate Fill Storage (30% Voids) =	802	ft^3
	Total	1111	ft^3
	Below Ground Storage Provided =	**3111**	**ft^3**

Pond Volume

Pond: P-6

Location: Lot 8

Pond Information		Results	
Contour Elevation (ft)	Area (sf)	Cumulative Volume (ft^3)	Cumulative Volume (ac-ft)
4961	273	0.00	**0.00**
4961.5	382	163.75	**0.00**
4962	571	402.00	**0.01**

Volume of Runoff =	1119	ft^3
Below Ground Storage Required =	**717**	**ft^3**
Underground Storage (Recommendation)		
Underground Cisterns		
Total	717	ft^3

Pond Volume

Pond: P-7

Location: Entrance to Subdivision

Pond Information		Results	
Contour Elevation (ft)	Area (sf)	Cumulative Volume (ft^3)	Cumulative Volume (ac-ft)
4958	1242	0.00	**0.00**
4958.5	2013	813.75	**0.02**
4959	2827	2023.75	**0.05**

Volume of Runoff =	1575	ft^3
Below Ground Storage Required =	**N/A**	**ft^3**

Note: For ponds which hold water for longer than 6 hours, longer duration storms are required to establish runoff volumes. Since the additional precipitation is assumed to occur over a long period, the additional volume is based on the runoff from the impervious areas only.

P_{360}	
Zone	D
1	2.20
2	2.35
3	2.60
4	2.90

P_{10day}	
Zone	D
1	3.67
2	3.95
3	4.90
4	5.95

from Table A-2
Depth (inches) at 100-yr Storm

Basin B-1		
V_{360} (from previous calculation)		1566
Area Treatment D (SF)		7073
Zone		2
For 10 Day Storms: $V_{10day} = V_{360} + A_D * (P_{10day} - P_{360})*43560$ SF/AC		
V_{360}	=	1566
A_D (SF)	=	7073
Zone	=	2
P_{10day}	=	3.95
P_{360}	=	2.35
V_{360}	=	1566
+ imp. area	=	943
Total Runoff Volume ($V_{10\ day}$)	=	2509

Basin B-2		
V_{360} (from previous calculation)		1921
Area Treatment D (SF)		8819
Zone		2
For 10 Day Storms: $V_{10day} = V_{360} + A_D * (P_{10day} - P_{360})*43560$ SF/AC		
V_{360}	=	1921
A_D (SF)	=	8819
Zone	=	2
P_{10day}	=	3.95
P_{360}	=	2.35
V_{360}	=	1921
+ imp. area	=	1176
Total Runoff Volume ($V_{10\ day}$)	=	3097

Basin B-3		
V_{360} (from previous calculation)		2572
Area Treatment D (SF)		12134
Zone		2
For 10 Day Storms: $V_{10day} = V_{360} + A_D * (P_{10day} - P_{360})*43560$ SF/AC		
V_{360}	=	2572
A_D (SF)	=	12134
Zone	=	2
P_{10day}	=	3.95
P_{360}	=	2.35
V_{360}	=	2572
+ imp. area	=	1618
Total Runoff Volume ($V_{10\ day}$)	=	4190

Basin B-4		
V_{360} (from previous calculation)		1317
Area Treatment D (SF)		6217
Zone		2
For 10 Day Storms: $V_{10day} = V_{360} + A_D * (P_{10day} - P_{360})*43560$ SF/AC		
V_{360}	=	1317
A_D (SF)	=	6217
Zone	=	2
P_{10day}	=	3.95
P_{360}	=	2.35
V_{360}	=	1317
+ imp. area	=	829
Total Runoff Volume ($V_{10\ day}$)	=	2146

Basin B-5		
V_{360} (from previous calculation)		1675
Area Treatment D (SF)		7567
Zone		2
For 10 Day Storms: $V_{10day} = V_{360} + A_D * (P_{10day} - P_{360})*43560$ SF/AC		
V_{360}	=	1675
A_D (SF)	=	7567
Zone	=	2
P_{10day}	=	3.95
P_{360}	=	2.35
V_{360}	=	1675
+ imp. area	=	1009
Total Runoff Volume ($V_{10\ day}$)	=	2684

Basin B-6		
V_{360} (from previous calculation)		836
Area Treatment D (SF)		4091
Zone		2
For 10 Day Storms: $V_{10day} = V_{360} + A_D * (P_{10day} - P_{360})*43560$ SF/AC		
V_{360}	=	836
A_D (SF)	=	4091
Zone	=	2
P_{10day}	=	3.95
P_{360}	=	2.35
V_{360}	=	836
+ imp. area	=	545
Total Runoff Volume ($V_{10\ day}$)	=	1381

Basin B-7		
V_{360} (from previous calculation)		1894
Area Treatment D (SF)		8822
Zone		2
For 10 Day Storms: $V_{10day} = V_{360} + A_D * (P_{10day} - P_{360})*43560$ SF/AC		
V_{360}	=	1894
A_D (SF)	=	8822
Zone	=	2
P_{10day}	=	3.95
P_{360}	=	2.35
V_{360}	=	1894
+ imp. area	=	1176
Total Runoff Volume ($V_{10\ day}$)	=	3070

Basin B-8		
V_{360} (from previous calculation)		749
Area Treatment D (SF)		2775
Zone		2
For 10 Day Storms: $V_{10day} = V_{360} + A_D * (P_{10day} - P_{360})*43560$ SF/AC		
V_{360}	=	749
A_D (SF)	=	2775
Zone	=	2
P_{10day}	=	3.95
P_{360}	=	2.35
V_{360}	=	749
+ imp. area	=	370
Total Runoff Volume ($V_{10\ day}$)	=	1119

Basin B-9		
V_{360} (from previous calculation)		1066
Area Treatment D (SF)		3816
Zone		2
For 10 Day Storms: $V_{10day} = V_{360} + A_D * (P_{10day} - P_{360})*43560$ SF/AC		
V_{360}	=	1066
A_D (SF)	=	3816
Zone	=	2
P_{10day}	=	3.95
P_{360}	=	2.35
V_{360}	=	1066
+ imp. area	=	509
Total Runoff Volume ($V_{10\ day}$)	=	1575

Basin B-10		
V_{360} (from previous calculation)		403
Area Treatment D (SF)		2278
Zone		2
For 10 Day Storms: $V_{10day} = V_{360} + A_D * (P_{10day} - P_{360})*43560$ SF/AC		
V_{360}	=	403
A_D (SF)	=	2278
Zone	=	2
P_{10day}	=	3.95
P_{360}	=	2.35
V_{360}	=	403
+ imp. area	=	304
Total Runoff Volume ($V_{10\ day}$)	=	707