Miscellaneous

ABBREVIATED WATER & SEWER NEED REPORT

Non-Residential Water & Wastewater Development Fees

When applying for a Development Review Board Hearing, the Developer submits one report for each Non-Residential Development to the assigned City Project Coordinator. Project Coordinator submits this report to Water Resources.

1. PROJECT INFORMATION:

Project Name: **Optima Sonoran Village**			Date: **February 1, 2010**
Project Address: **6801 E Camelback Road**			City Pre-Application #: **2-PA-2010**
Target Date to Submit Final Plans (Construction Documents):		GPD/SF Bldg: **0.050**	Building Size: **66,600** Square Feet
Type of Project: **Mixed Use**			Landscape Plants & Trees Area: **264,000** Square Feet
Number & Sizes of Domestic Water Meters: **One 6-inch meter**	No. & Sizes Landscape Meters: **One 2-inch**		Landscape Turf Area: Square Feet

2. NON-RESIDENTIAL DEVELOPMENT FEES:

Effective January 5, 2009	WATER Dev. Fee	RESOURCE Dev. Fee	WASTEWATER Dev. Fee	TOTAL Dev. Fees
COST PER GALLON	$9.36	$2.41	$18.26	$30.03

3. FEE CALCULATION TABLE: (Multiply Cost per Gallon above x Gallons per Day below)

TYPE OF WATER DEMAND	**Gallons/Day** (GPY / 365)	WATER Dev. Fee	RESOURCE Dev. Fee	WASTEWATER Dev. Fee	TOTAL Dev. Fees
Domestic - TO SEWER	3,330	$31,168.80	$8,025.30	$60,805.80	$99,999.90
Domestic - NOT to Sewer	6,374	$59,660.64	$15,361.34	- None -	$75,021.98
Landscape - PLANTS & TREES	15,840	$148,262.40	$38,174.40	- None -	$186,436.80
Landscape - TURF				- None -	
Credit for pre-existing water meter					
SUB-TOTALS	**25,544**	**$239,091.84**	**$61,561.04**	**$60,805.80**	**$361,458.68**
ADMINISTRATION FEE	**2.04%**	**$4,877.47**	**$1,255.85**	**$1,240.44**	**$7,373.76**
TOTAL DEVELOPMENT FEES		$243,969.31	$62,816.89	$62,046.24	$368,832.44
WATER METER FEE (5/8"=$70, 3/4"=$95, 1"=$140, 1.5"=$270, 2"=$350, 3"=$1,905, 4"= $3,135)					
TOTAL FEES					**$368,832.44**

4. CONTACT INFORMATION & CITY APPROVAL:

Printed Name of Owner:	E-mail Address:	Phone #:	Cell Phone #:
David Hovey, Jr	hoveydjr@optimaweb.com	**480-874-9900**	**480-285-7320**
Printed Name of Preparer:	E-mail Address:	Phone #:	Cell Phone #:
Heather Hirschberg, PE	heather.hirschberg@kimley-horn.com	**602-906-1181**	**480-748-7076**

Signature of Owner: *	Date:	**CITY USE ONLY**: Water Resources Approval:	Date:

* By signing above, I acknowledge that I am aware that a Financial Obligation Agreement and complete Exhibit "C" Water & Sewer Need Report(s) must be submitted upon the first submittal of Construction Documents for Building Plan Review & Permits. I am aware that development fees and a 2.04% administration fee must be paid prior to obtaining a Building Permit. I am aware of the fees and penalties that will be enforced after three (3) years if the average annual water and/or wastewater demand exceeds the estimated demand by twenty percent (20%) or more. Water Resources does not attest to or validate the accuracy of the Owner's estimates or computations.

Water & Sewer Use Limit - Gallons per Month:	**776,963**	**Gallons per Year:**	**9,323,560**
gpd/sf - Domestic: 0.146	gpd/sf Plants: 0.060	gpd/sf Turf:	#DIV/0!

1-ZN-2010
1st: 2/02/10

TRAFFIC IMPACT ANALYSIS SUMMARY
Optima Sonoran Village (1-ZN-2010)

Summary Prepared by Jennifer Bohac, COS Traffic Engineering
Traffic Impact Study Prepared by Keith Winney, United Civil Group Corp.

Existing Conditions:
The project is a redevelopment of the existing Orchidtree Apartments site. The existing site is located on the on the southeast corner of the intersection of Camelback Road and 68th Street. The streets in the vicinity of the site are 69th Street, Goldwater Boulevard, and Roma Avenue.

Camelback Road is classified as a Minor Arterial – Suburban roadway in the city's 2008 Transportation Master Plan. Camelback Road runs east-west with three lanes in each direction along the northern boundary of the site. The posted speed limit adjacent to the site is 40 mph. At the 68th Street intersection, Camelback Road has a left-turn lane, two through lanes, and a through-right lane in the eastbound and westbound directions. The intersection of Camelback Road with 68th Street is currently signalized. At the Goldwater Boulevard intersection, eastbound Camelback Road has a left-turn lane, three through lanes, and a right-turn lane. Westbound Camelback has a left-turn lane, two through lanes, and a through-right turn lane. The intersection of Camelback Road with Goldwater Boulevard is also currently signalized. The 2010 ADT on Camelback Road east of 68th Street is 27,310 vehicles/day.

68th Street is classified as a Minor Collector – Suburban roadway in the city's 2008 Transportation Master Plan. 68th Street runs north-south along the western side of the site with one lane in each direction and a center two-way left-turn lane. 68th Street widens out to two lanes in each direction at the intersection with Camelback Road. The posted speed limit on 68th Street is 35 mph. The intersection of 68th Street and Roma Avenue is two-way stop controlled, with Roma Avenue being stop controlled. The 2010 ADT on 68th Street south of Camelback Road is 6,094 vehicles/day.

69th Street serves as a major driveway for the existing developments within the area. There is a median break at 69th Street on Camelback Road. 69th Street has one lanes in each direction and runs along the eastern boundary of the site. To the north, 69th Street terminates into Scottsdale Fashion Square Mall.

Goldwater Boulevard is classified as a Major Arterial – Urban roadway in the city's Transportation Master Plan. Goldwater Boulevard runs north-south with two lanes northbound and three lanes southbound. The posted speed limit in the vicinity of the site is 35 mph. At the Camelback Road intersection, Goldwater Boulevard has dedicated dual left-turn lanes and single right-turn lanes in the northbound and southbound directions. The 2010 ADT on Goldwater Boulevard south of Camelback Road is 14,380 vehicles/day.

Collision history from January 2007 to December 2009 shows that there were 29 total collisions at the intersection of Camelback Road/Goldwater Boulevard. The collisions were predominately left-turn or angle type collisions. In the same period, there were 27 total collisions at the intersection of Camelback Road/68th Street. The collisions were also predominately left-turn or angle type collisions. These collisions were typically caused by drivers failing to properly yield right-of-way, or disregarding the traffic signals.

The segment collision rate for the section of Camelback Road from 68th Street to 69th Street was 2.41 collisions per million vehicles miles for the period from 2007-2009. The citywide average collision rate in 2006 was 1.87. The intersection collision rate for the intersection of Camelback Road and Goldwater Boulevard was 0.54 collisions per million entering vehicles for the period from 2007-2009. The intersection collision rate for the intersection of Camelback Road and 68th Street was 0.66 collisions per million entering vehicles for the period from 2007-2009. The 2006 citywide average intersection collision rate was 0.64.

Proposed Development:
The site currently has a zoning designation of Service Residential (S-R). The proposed rezoning to Downtown Regional Commerical Office – Type 2 District, Planned Block Development with Downtown Overlay (D/RCO-2 PBD DO), would allow the development of 493 condominium units in five buildings with 40,000 square feet of retail support services and a 14,000 square feet fitness center (for residents only) on 8.52 acres.

The trip generation calculation for the current zoning is based on the trip generation for the Orchidtree Apartments that formerly occupied the site. The trip generation for the proposed zoning is based on the development plan submitted with the requested change to Downtown Regional Commerical Office – Type 2 District, Planned Block Development with Downtown Overlay (D/RCO-2 PBD DO). The trip generation for the allowable development is based on the office usage allowed under the current S-R zoning. The trip generation is based on data contained in the Institute of Transportation Engineer's *Trip Generation*. The trip generation numbers for the development are presented below.

Trip Generation Comparison Table

Land Use	*Quantity*	*Daily Total*	*AM Peak Hour*			*PM Peak Hour*		
			In	*Out*	*Total*	*In*	*Out*	*Total*
Existing								
Apartments	278	1,832	27	101	128	105	56	161
Proposed Development								
Residential Condominium/ Townhouse	493,000 SF	2,894	37	180	217	172	84	256
Shopping Center*	40,000 SF	859	12	8	20	37	38	75
Total		3,723	49	188	237	208	122	330
Difference		1,891	22	87	109	106	66	169
Proposed vs. Allowable Development								
Proposed		3,723	49	188	237	208	122	330
Office	215,400 SF	2,372	267	67	334	55	266	321
Difference		1,351	-218	121	-97	153	-144	9

*assumes 50% reduction for internal patronage

The Trip Generation Comparison Table demonstrates that the redeveloped site will generate approximately 3,723 trips per day with 237 trips occurring during the AM peak hour and 330 trips occurring during the PM peak hour. This represents an approximately 103% increase in daily trips from the existing apartment use.

The trip generation table also includes a comparison of the proposed development plan to the allowable development plan based upon the existing S-R zoning with potential office use. This represents an approximately 57% increase in daily trips from the allowable office use under the current zoning.

A traffic impact study was prepared by United Civil Group under the City's Traffic Impact and Mitigation Analysis (TIMA) Program, which examines the impacts from the proposed redevelopment in detail. A copy of this report is included for reference.

Capacity calculations were performed for the signalized intersections of Camelback Road/68th Street and Camelback Road/Goldwater Boulevard to evaluate the Level of Service (LOS) at the intersections. Access to the site will be through two unsignalized driveways, one on 68th Street (Access B) and on at 69th St/Camelback Rd (Access A). Capacity calculations were performed for the unsignalized site access driveways on 68th Street and Camelback Road, and for the existing intersection of 68th Street/Roma Avenue.

Capacity calculations for the signalized intersections were evaluated for the intersection overall. The results of the capacity calculations are presented below.

Signalized Intersection Level of Service

	2010 Existing		2015 Base		2015 Total	
Intersection/ Approach	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
Camelback Rd/68th Street						
EB	C	B	C	C	C	C
WB	B	B	C	B	C	B
NB	C	D	C	D	C	D
SB	D	D	D	D	D	D
Intersection	C	C	C	C	C	C
Camelback Rd/Goldwater Blvd						
EB	B	C	B	C	C	C
WB	D	D	D	D	D	D
NB	C	C	C	C	C	C
SB	D	D	D	D	D	D
Intersection	C	D	C	D	C	D

The above table demonstrates that the level of service for the signalized intersection of Camelback Road/68th Street will be at LOS C or better with the project. The signalized

intersection of Camelback Road/Goldwater Boulevard is projected to operate at LOS C in the AM peak, however the intersection will be at LOS D in the PM peak. This poor level of service in the PM peak is expected to occur due to the westbound and southbound delay.

At the unsignalized intersections, the level of service was evaluated for each movement; the LOS shown is the LOS for the worse movement. The worse movement is often the exiting left-turn movement onto a roadway with relatively high through volume.

The table below demonstrates that 68th Street/Roma Avenue will operate well. The level of service for the stop controlled side streets at the two site access points will be at poor levels of service (LOS E or F) with the project, which is typical for unsignalized intersections on arterial streets during the peak hours. The addition of the future traffic and site-generated traffic will only increase this delay.

Unsignalized Intersection Level of Service

	2010 Existing		**2015 Base**		**2015 Total**	
Intersection/ Approach	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
Camelback Rd/69th Street - Access A						
EB	A	B	A	B	A	B
WB	A	B	A	B	B	B
NB	E	F	E	F	E	F
SB	D	D	D	D	E	F
68th/Roma Ave						
EB	B	B	B	B	B	C
WB	-	-	-	-	-	-
NB	A	A	A	A	A	A
SB	A	A	A	A	A	A
Access B/ 68th St						
EB	-	-	-	-	-	-
WB	-	-	-	-	C	E
NB	-	-	-	-	A	A
SB	-	-	-	-	A	A

Right Turn and Left Turn Queuing Analysis:
A right turn deceleration lane is warranted for eastbound at Camelback Road/69th Street-Access A.

The existing two way left turn striping should remain on 68th Street to provide left turn access for Access B.

Internal Site Circulation:
No circulation is provided at the roadway level surface to accommodate emergency vehicles, deliveries, or trash pick up. The area at grade between the buildings is dedicated to pedestrian movements only.

Additional Improvements to Accommodate Site Traffic:
Based on the above analysis, the following improvements are recommended in the study:

- Construct an eastbound right turn deceleration lane at Camelback Road/69th St - Access A (190' total)
- Construct Access A as full access. Separate right and left turn egress lanes should be provided. Combine Access A with the adjacent driveway to the east and align it with the existing north leg of 69th Street as close a possible. This will limit the number of turning movement conflicts at this driveway.
- Construct Access B as a full access. Separate right and left turn egress lanes should be provided.

Summary:
Analysis of the trip generation demonstrates that the proposed development of the Optima Sonoran Village would generate 3,723 trips per day with 237 trips occurring during the AM peak hour and 330 trips occurring during the PM peak hour. This represents an approximately 103% increase in daily trips from the existing apartment use.

The trip generation table also includes a comparison of the proposed development plan to the allowable development plan based upon the existing S-R zoning with potential office use. This represents an approximately 57% increase in daily trips from the allowable office use under the current zoning.

Capacity calculations were performed for the signalized intersections of Camelback Road/68th Street and Camelback Road/Goldwater Boulevard to evaluate the Level of Service (LOS) at the intersections. Access to the site will be through two unsignalized driveways, one on 68th Street (Access B) and on at 69th St/Camelback Rd (Access A). Capacity calculations were performed for the unsignalized site access driveways on 68th Street and Camelback Road, and for the existing intersection of 68th Street/Roma Avenue. The signalized intersection of Camelback Road/68th Street will be at LOS C or better with the project. The signalized intersection of Camelback Road/Goldwater Boulevard is projected to operate at LOS C or better in the AM peak, however the intersection will be at LOS D in the PM peak. This poor level of service in the PM peak is expected to occur due to the westbound and southbound delay.

The unsignalized intersection of 68th Street/Roma Avenue will operate well. The level of service for the stop controlled side streets at the two site access points will be at poor levels of service (LOS E or F) with the project, which is typical for unsignalized intersections on arterial streets during the peak hours. The addition of the future traffic and site-generated traffic will only increase this delay.

Staff Comments/Concerns:

- Construct at eastbound right turn deceleration lane at Camelback Road/Access A (190' total)
- Construct Access A as full access. Separate right and left turn egress lanes should be provided. Combine Access A with adjacent driveway to the east and align with existing north leg of 69th Street as close a possible. This will limit the number of turning movement conflicts at this driveway.
- Construct Access B as a full access. Separate right and left turn egress lanes should be provided.
- Sight triangles should be provided at site access points to give drivers exiting the site a clear view of oncoming traffic on 68th Street and Camelback Road.
- Need to provide for an area for deliveries loading/unloading and emergency response vehicles, such as ambulances, on site.

Sonoran Village, 6801 E. Camelback Road

Existing Plant Inventory

Prepared For:

Optima

7147 E. Rancho Vista Drive
Suite 104
Scottsdale, Arizona 85051
480-876-9900

Prepared By:

BLACK EAGLE
Nurseries and Maintenance, Inc.
P.O. Box 48677
Phoenix, Arizona 85075
602-323-1558

March 11, 2010

Optima Sonoran Village
Plant Inventory / Survey
Prepared By: Black Eagle Nurseries and Maintenance, Inc.
For: Optima
Date: 3/11/2010

BLACK EAGLE
Nurseries and Maintenance, Inc.

See pages 8 & 9 for Plant Legend and Salvage Summary

Job # 101132

Tag #	Specie	Condition	Disposition	Salvageability Comments	Caliper Inches	Tree Height	Tree Width
1	EUC	Poor	Unsalvageable	Non Protected Specie	30	50	20
2	EUC	Poor	Unsalvageable	Non Protected Specie	30	45	15
3	EUC	Poor	Unsalvageable	Non Protected Specie	24	30	20
4	EUC	Fair	Unsalvageable	Non Protected Specie	30	50	20
5	EUC	Fair	Unsalvageable	Non Protected Specie	33	45	22
6	EUC	Fair	Unsalvageable	Non Protected Specie	24	50	22
7	EUC	Poor	Unsalvageable	Non Protected Specie	15	25	18
8	EUC	Fair	Unsalvageable	Non Protected Specie	36	55	25
9	EUC	Poor	Unsalvageable	Non Protected Specie - Dying	24	45	20
10	EUC	Poor	Unsalvageable	Non Protected Specie	30	35	25
11	EUC	Fair	Unsalvageable	Non Protected Specie	42	55	35
12	EUC	Good	Unsalvageable	Non Protected Specie	45	55	35
13	EUC	Good	Unsalvageable	Non Protected Specie	18	30	20
14	EUC	Poor	Unsalvageable	Non Protected Specie	24	35	20
15	BOT	Fair	Unsalvageable	Non Protected Specie	12	20	15
16	EUC	Fair	Unsalvageable	Non Protected Specie	30	35	22
17	BOT	Good	Unsalvageable	Non Protected Specie	25	30	22
18	PINE	Poor	Unsalvageable	Non Protected Specie - Branch Structure	36	40	35
19	OLIVE	Fair	Unsalvageable	Non Protected Specie	14	30	30
20	CBY	Poor	Unsalvageable	Non Protected Specie - Dying	26	25	20
21	ORP	Poor	Unsalvageable	Non Protected Specie	6	15	10
22	OLIVE	Poor	Unsalvageable	Non Protected Specie - Branch Structure	30	28	18
23	MUL	Poor	Unsalvageable	Non Protected Specie - Dying	28	30	20
24	PINE	Poor	Unsalvageable	Non Protected Specie - Trunk Structure	38	45	35
25	OLIVE	Poor	Unsalvageable	Non Protected Specie - Dying	24	20	15
26	OLIVE	Poor	Unsalvageable	Non Protected Specie - Dying	11	20	15
27	OLIVE	Poor	Unsalvageable	Non Protected Specie - Dying	36	22	20
28	OLIVE	Poor	Unsalvageable	Non Protected Specie - Dying	12	25	20
29	OLIVE	Poor	Unsalvageable	Non Protected Specie	11	25	25
30	BOT	Poor	Unsalvageable	Non Protected Specie	8	15	10
31	BBR	Poor	Unsalvageable	Non Protected Specie - Dying	24	30	15

Optima Sonoran Village
Plant Inventory / Survey
Prepared By: Black Eagle Nurseries and Maintenance, Inc.
For: Optima
Date: 3/11/2010

See pages 8 & 9 for Plant Legend and Salvage Summary

Job # 101132

Tag #	Specie	Condition	Disposition	Salvageability Comments	Caliper Inches	Tree Height	Tree Width
32	BOT	Poor	Unsalvageable	Non Protected Specie	26	30	20
33	BOT	Poor	Unsalvageable	Non Protected Specie	20	30	15
34	OLIVE	Poor	Unsalvageable	Non Protected Specie - Branch Structure	10	30	25
35	OLIVE	Poor	Unsalvageable	Non Protected Specie - Branch Structure	12	30	25
36	BOT	Poor	Unsalvageable	Non Protected Specie - Dying	24	35	15
37	PUR	Poor	Unsalvageable	Non Protected Specie - Dying	24	35	20
38	FICUS	Poor	Unsalvageable	Non Protected Specie - Dying	10	20	10
39	MFP	Good	Unsalvageable	Non Protected Specie - Multi Trunk 40'+40'+40'	30	40	10
40	BOT	Poor	Unsalvageable	Non Protected Specie - Branch Structure	24	30	20
41	PINE	Poor	Unsalvageable	Non Protected Specie	60	55	45
42	OLIVE	Poor	Unsalvageable	Non Protected Specie	24	25	20
43	PINE	Poor	Unsalvageable	Non Protected Specie	36	50	35
44	JAC	Poor	Unsalvageable	Non Protected Specie - Trunk Structure	30	35	25
45	JAC	Poor	Unsalvageable	Non Protected Specie - Trunk Structure	32	35	25
46	ELM	Poor	Unsalvageable	Non Protected Specie - Branch Structure	33	35	25
47	BOT	Poor	Unsalvageable	Non Protected Specie	20	30	18
48	BOT	Poor	Unsalvageable	Non Protected Specie	18	23	15
49	ELM	Poor	Unsalvageable	Non Protected Specie	36	35	30
50	MFP	Good	Unsalvageable	Non Protected Specie	40	30	10
51	MFP	Good	Unsalvageable	Non Protected Specie	24	35	10
52	MFP	Good	Unsalvageable	Non Protected Specie	30	35	10
53	OLIVE	Poor	Unsalvageable	Non Protected Specie - Branch Structure	12	20	12
54	OLIVE	Poor	Unsalvageable	Non Protected Specie - Branch Structure	10	20	15
55	MFP	Good	Unsalvageable	Non Protected Specie	30	40	10
56	MFP	Good	Unsalvageable	Non Protected Specie	30	40	10
57	ELM	Fair	Unsalvageable	Non Protected Specie - Branch Structure	14	25	18
58	OLIVE	Poor	Unsalvageable	Non Protected Specie - Branch Structure	18	25	15
59	FICUS	Good	Unsalvageable	Non Protected Specie	19	50	50
60	MFP	Good	Salvage		30	20	8
61	MFP	Good	Salvage		30	20	8
62	MFP	Good	Salvage		24	12	8

Optima Sonoran Village
Plant Inventory / Survey
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For: Optima
Date: 3/11/2010

BLACK EAGLE Nurseries and Maintenance, Inc.

See pages 8 & 9 for Plant Legend and Salvage Summary

Job # 101132

Tag #	Specie	Condition	Disposition	Salvageability Comments	Caliper Inches	Tree Height	Tree Width
63	MFP	Good	Unsalvageable	Non Protected Specie	26	40	10
64	MFP	Good	Unsalvageable	Non Protected Specie	26	40	10
65	MFP	Good	Unsalvageable	Non Protected Specie	36	40	10
66	MFP	Good	Unsalvageable	Non Protected Specie	26	40	10
67	FICUS	Poor	Unsalvageable	Non Protected Specie - Branch Structure	36	35	20
68	MFP	Good	Unsalvageable	Non Protected Specie	26	40	10
69	MFP	Good	Unsalvageable	Non Protected Specie	26	40	10
70	ELM	Fair	Unsalvageable	Non Protected Specie - Branch Structure	30	40	30
71	FICUS	Poor	Unsalvageable	Non Protected Specie - Dying	36	40	20
72	FICUS	Poor	Unsalvageable	Non Protected Specie - Dying	48	45	30
73	FICUS	Poor	Unsalvageable	Non Protected Specie - Dying	28	35	20
74	FICUS	Poor	Unsalvageable	Non Protected Specie - Trunk Structure	45	45	35
75	FICUS	Poor	Unsalvageable	Non Protected Specie - Trunk Structure	40	45	35
76	FICUS	Poor	Unsalvageable	Non Protected Specie	16	20	17
77	ELM	Fair	Unsalvageable	Non Protected Specie - Trunk Structure	30	40	28
78	BOT	Poor	Unsalvageable	Non Protected Specie - Branch Structure	20	20	15
79	BOT	Fair	Unsalvageable	Non Protected Specie - Branch Structure	30	30	20
80	C.PALM	Good	Salvage		40	10	15
81	BOT	Poor	Unsalvageable	Non Protected Specie - Trunk Structure	11	25	15
82	BOT	Poor	Unsalvageable	Non Protected Specie - Dying	20	20	10
83	FICUS	Poor	Unsalvageable	Non Protected Specie - Dying	38	35	20
84	ELM	Fair	Unsalvageable	Non Protected Specie - Branch Structure	26	30	20
85	MFP	Good	Unsalvageable	Non Protected Specie	30	40	10
86	MFP	Good	Unsalvageable	Non Protected Specie	30	40	10
87	MFP	Good	Unsalvageable	Non Protected Specie	26	40	10
88	PINE	Poor	Unsalvageable	Non Protected Specie - Dying	36	50	30
89	BOT	Poor	Unsalvageable	Non Protected Specie - Trunk Structure	12	20	10
90	BOT	Poor	Unsalvageable	Non Protected Specie - Branch Structure	18	30	18
91	EUC	Poor	Unsalvageable	Non Protected Specie - Branch Structure	36	40	25
92	OLIVE	Poor	Unsalvageable	Non Protected Specie - Trunk Structure	14	20	10
93	BOT	Poor	Unsalvageable	Non Protected Specie - Branch Structure	30	40	18

Optima Sonoran Village
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For: Optima
Date: 3/11/2010

BLACK EAGLE Nurseries and Maintenance, Inc.

See pages 8 & 9 for Plant Legend and Salvage Summary

Job # 101132

Tag #	Specie	Condition	Disposition	Salvageability Comments	Caliper Inches	Tree Height	Tree Width
94	ELM	Fair	Unsalvageable	Non Protected Specie - Branch Structure	20	35	25
95	BOT	Poor	Unsalvageable	Non Protected Specie - Branch Structure	18	30	18
96	FICUS	Poor	Unsalvageable	Non Protected Specie - Branch Structure	20	35	20
97	ELM	Poor	Unsalvageable	Non Protected Specie - Branch Structure	30	35	20
98	ELM	Poor	Unsalvageable	Non Protected Specie - Branch Structure	26	35	25
99	FICUS	Poor	Unsalvageable	Non Protected Specie - Branch Structure	12	25	12
100	ELM	Poor	Unsalvageable	Non Protected Specie - Branch Structure	26	35	20
101	ELM	Good	Unsalvageable	Non Protected Specie	28	40	30
102	BOT	Fair	Unsalvageable	Non Protected Specie - Branch Structure	22	40	15
103	CAR	Poor	Unsalvageable	Non Protected Specie - Branch Structure	28	35	20
104	PINE	Poor	Unsalvageable	Non Protected Specie - Dying	48	50	30
105	BOT	Poor	Unsalvageable	Non Protected Specie - Broken Trunk	28	20	10
106	FICUS	Fair	Unsalvageable	Non Protected Specie - Next to Building	30	40	30
107	FICUS	Fair	Unsalvageable	Non Protected Specie - Next to Building	24	40	20
108	FICUS	Fair	Unsalvageable	Non Protected Specie - Next to Building	40	40	30
109	PUR	Poor	Unsalvageable	Non Protected Specie - Dying	12	20	10
110	MFP	Good	Salvage		26	25	10
111	MED	Good	Salvage		6	10	5
112	FICUS	Fair	Unsalvageable	Non Protected Specie - Next to Building	33	40	30
113	FICUS	Poor	Unsalvageable	Non Protected Specie - Trunk Structure	16	30	25
114	BOT	Poor	Unsalvageable	Non Protected Specie - Trunk Structure	24	40	25
115	MFP	Poor	Unsalvageable	Non Protected Specie - Trunk Structure	26	50	10
116	MFP	Poor	Unsalvageable	Non Protected Specie - Trunk Structure	24	45	10
117	MFP	Good	Salvage		28	25	10
118	MFP	Good	Salvage		26	25	10
119	MFP	Poor	Unsalvageable	Non Protected Specie - Trunk Structure	24	40	10
120	MFP	Poor	Unsalvageable	Non Protected Specie - Dying	30	35	10
121	MFP	Poor	Unsalvageable	Non Protected Specie - Multi Trunk 35'+45'	40	45	10
122	MFP	Poor	Unsalvageable	Non Protected Specie - Trunk Structure	30	50	10
123	BOT	Poor	Unsalvageable	Non Protected Specie - Trunk Structure	18	25	15
124	FICUS	Poor	Unsalvageable	Non Protected Specie - Dying	12	30	20

Optima Sonoran Village
Plant Inventory / Survey
Prepared By: Black Eagle Nurseries and Maintenance, Inc.
For: Optima
Date: 3/11/2010

See pages 8 & 9 for Plant Legend and Salvage Summary

Job # 101132

Tag #	Specie	Condition	Disposition	Salvageability Comments	Caliper Inches	Tree Height	Tree Width
125	BOT	Good	Unsalvageable	Non Protected Specie - Next to Building	36	45	35
126	BOT	Good	Unsalvageable	Non Protected Specie - Next to Building	24	40	25
127	BOT	Poor	Unsalvageable	Non Protected Specie - Trunk Structure	10	20	8
128	FICUS	Fair	Unsalvageable	Non Protected Specie - Next to Building	44	45	35
129	BOT	Fair	Unsalvageable	Non Protected Specie - Branch Structure	20	35	25
130	BOT	Fair	Unsalvageable	Non Protected Specie - Branch Structure	20	35	20
131	BOT	Fair	Unsalvageable	Non Protected Specie - Branch Structure	18	30	15
132	BOT	Fair	Unsalvageable	Non Protected Specie - Next to Building	14	35	15
133	SOK	Poor	Unsalvageable	Non Protected Specie - Branch Structure	20	35	15
134	OLIVE	Poor	Unsalvageable	Non Protected Specie - Branch Structure	18	20	15
135	EUC	Poor	Unsalvageable	Non Protected Specie - Dying	36	45	30
136	OLIVE	Poor	Unsalvageable	Non Protected Specie - Trunk Structure	14	20	20
137	OLIVE	Poor	Unsalvageable	Non Protected Specie - Trunk Structure	18	25	20
138	BOT	Poor	Unsalvageable	Non Protected Specie - Branch Structure	16	30	20
139	FICUS	Poor	Unsalvageable	Non Protected Specie - Dying	36	50	30
140	FICUS	Poor	Unsalvageable	Non Protected Specie - Dying	30	40	25
141	OLIVE	Poor	Unsalvageable	Non Protected Specie - Trunk Structure	16	30	20
142	ELM	Poor	Unsalvageable	Non Protected Specie - Trunk Structure	16	15	20
143	FICUS	Poor	Unsalvageable	Non Protected Specie - Next to Building	36	45	30
144	BOT	Poor	Unsalvageable	Non Protected Specie - Next to Building	12	20	8
145	BOT	Poor	Unsalvageable	Non Protected Specie - Next to Building	18	20	12
146	ELM	Poor	Unsalvageable	Non Protected Specie - Branch Structure	22	35	28
147	ELM	Poor	Unsalvageable	Non Protected Specie - Trunk Structure	14	20	15
148	EUC	Poor	Unsalvageable	Non Protected Specie - Dying	32	40	30
149	OLIVE	Poor	Unsalvageable	Non Protected Specie - Branch Structure	18	20	15
150	OLIVE	Poor	Unsalvageable	Non Protected Specie - Branch Structure	18	25	20
151	ELM	Poor	Unsalvageable	Non Protected Specie - Trunk Structure	18	25	20
152	OLIVE	Poor	Unsalvageable	Non Protected Specie - Branch Structure	20	25	15
153	PINE	Poor	Unsalvageable	Non Protected Specie - Dying	14	30	15
154	BOT	Poor	Unsalvageable	Non Protected Specie	15	35	15
155	PINE	Poor	Unsalvageable	Non Protected Specie - Dying	30	40	25

Optima Sonoran Village

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Tag #	Specie	Condition	Disposition	Salvageability Comments	Caliper Inches	Tree Height	Tree Width
156	FICUS	Poor	Unsalvageable	Non Protected Specie - Trunk Structure	16	40	30
157	ELM	Poor	Unsalvageable	Non Protected Specie - Dying	28	40	25
158	OLIVE	Poor	Unsalvageable	Non Protected Specie - Dying	26	25	20
159	BOT	Poor	Unsalvageable	Non Protected Specie - Dying	14	20	15
160	FICUS	Poor	Unsalvageable	Non Protected Specie - Next to Building	12	40	20
161	FICUS	Poor	Unsalvageable	Non Protected Specie - Next to Building	12	35	20
162	FICUS	Fair	Unsalvageable	Non Protected Specie - Next to Building	20	40	30
163	ELM	Poor	Unsalvageable	Non Protected Specie - Next to Building	14	35	20
164	FICUS	Poor	Unsalvageable	Non Protected Specie - Next to Building	28	45	35
165	PINE	Poor	Unsalvageable	Non Protected Specie - Dying	32	50	25
166	FICUS	Poor	Unsalvageable	Non Protected Specie - Next to Building	14	35	20
167	FICUS	Poor	Unsalvageable	Non Protected Specie - Next to Building	12	30	20
168	BOT	Poor	Unsalvageable	Non Protected Specie - Trunk Structure	12	30	15
169	BOT	Poor	Unsalvageable	Non Protected Specie - Trunk Structure	12	30	15
170	BOT	Poor	Unsalvageable	Non Protected Specie - Trunk Structure	12	30	15
171	MED	Good	Salvage		6	9	5
172	MED	Good	Salvage		6	12	5
173	BOT	Poor	Unsalvageable	Non Protected Specie - Trunk Structure	12	30	20
174	FICUS	Fair	Unsalvageable	Non Protected Specie - Next to Building	30	40	25
175	FICUS	Poor	Unsalvageable	Non Protected Specie - Dying	16	40	20
176	BOT	Poor	Unsalvageable	Non Protected Specie - Dying	16	15	20
177	BOT	Poor	Unsalvageable	Non Protected Specie - Branch Structure	30	25	20
178	FICUS	Fair	Unsalvageable	Non Protected Specie - Next to Building	55	50	40
179	MFP	Poor	Unsalvageable	Non Protected Specie - Trunk Structure	28	50	10
180	BOT	Poor	Unsalvageable	Non Protected Specie - Trunk Structure	18	25	15
181	FICUS	Poor	Unsalvageable	Non Protected Specie - Next to Building	20	35	25
182	ELM	Poor	Unsalvageable	Non Protected Specie - Next to Building	16	35	25
183	FICUS	Poor	Unsalvageable	Non Protected Specie - Next to Building	26	40	35
184	ELM	Poor	Unsalvageable	Non Protected Specie - Trunk Structure	20	30	20
185	EUC	Poor	Unsalvageable	Non Protected Specie - Dying	32	40	30
186	OLIVE	Poor	Unsalvageable	Non Protected Specie - Trunk Structure	11	30	20

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Tag #	Specie	Condition	Disposition	Salvageability Comments	Caliper Inches	Tree Height	Tree Width
187	BOT	Poor	Unsalvageable	Non Protected Specie - Branch Structure	18	25	15
188	BBR	Poor	Unsalvageable	Non Protected Specie - Dying	20	30	25
189	BOT	Poor	Unsalvageable	Non Protected Specie - Next to Building	30	40	25
190	FICUS	Poor	Unsalvageable	Non Protected Specie - Next to Building	18	40	20
191	OLIVE	Poor	Unsalvageable	Non Protected Specie - Next to Building	16	20	20
192	ELM	Poor	Unsalvageable	Non Protected Specie - Trunk Structure	18	25	25
193	SUM	Poor	Unsalvageable	Non Protected Specie - Trunk Structure	15	25	20
194	ELM	Poor	Unsalvageable	Non Protected Specie - Branch Structure	16	25	20
195	ELM	Poor	Unsalvageable	Non Protected Specie - Branch Structure	28	40	30
196	BOT	Poor	Unsalvageable	Non Protected Specie - Trunk Structure	15	30	15
197	ELM	Poor	Unsalvageable	Non Protected Specie - Dying	22	40	20
198	ELM	Poor	Unsalvageable	Non Protected Specie - Branch Structure	18	40	20
199	MAG	Poor	Unsalvageable	Non Protected Specie - Dying	20	20	25
200	BOT	Poor	Unsalvageable	Non Protected Specie - Next to Building	10	15	8
201	BOT	Poor	Unsalvageable	Non Protected Specie - Next to Building	30	35	20
202	OLIVE	Poor	Unsalvageable	Non Protected Specie - Trunk Structure	10	30	25
203	OLIVE	Poor	Unsalvageable	Non Protected Specie - Trunk Structure	30	30	25
204	OLIVE	Poor	Unsalvageable	Non Protected Specie - Trunk Structure	24	25	25
205	ELM	Poor	Unsalvageable	Non Protected Specie - Trunk Structure	16	20	20
206	OLIVE	Poor	Unsalvageable	Non Protected Specie - Trunk Structure	10	25	20
207	OLIVE	Poor	Unsalvageable	Non Protected Specie - Next to Building	20	35	25
208	BOT	Poor	Unsalvageable	Non Protected Specie - Branch Structure	24	30	25
209	BOT	Poor	Unsalvageable	Non Protected Specie - Trunk Structure	24	30	20
210	BOT	Poor	Unsalvageable	Non Protected Specie - Trunk Structure	6	15	10
211	OLIVE	Poor	Unsalvageable	Non Protected Specie - Trunk Structure	11	25	20
212	OLIVE	Poor	Unsalvageable	Non Protected Specie - Trunk Structure	24	25	20
213	ASH	Fair	Unsalvageable	Non Protected Specie - Next to Building	15	25	20
214	MFP	Good	Salvage		16	8	6
215	MFP	Good	Salvage		12	4	6

Optima Sonoran Village

Plant Inventory / Survey

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See pages 8 & 9 for Plant Legend and Salvage Summary

Job # 101132

Tag #	Specie	Condition	Disposition	Salvageability Comments	Caliper Inches	Tree Height	Tree Width

Pant Legend

Abbreviation	Common Name	Scientific Name
ASH	Arizona Ash	Fraxinus velutina
BBR	Bottlebrush	Callistemon viminalis
BOT	Bottle Tree	Brachychiton populneus
C.PALM	Canary Island Date Palm	Phoenix cararíensis
CAR	Carob	Ceratonia siliqua
CBY	Chinaberry	Melia azedarach
ELM	Evergreen Elm	Ulmus parvifolia
EUC	Eucalyptus	Eucalyptus spp.
FICUS	Ficus	Ficus nitida
JAC	Jacaranda	Jacaranda mimosifolia
MAG	Magnolia	Magnolia spp.
MED	Mediterranean Fan Palm	Chamaerops humilis
MFP	Mexican Fan Palm	Washingtonia robusta
MUL	Mulberry	Morus alba
OLIVE	Olive	Olea europaea
ORP	Ornamental Pear	Pyrus calleryana
PINE	Pine	Pinus spp.
PUR	Purple Orchid Tree	Bauhinia variegata
SOK	Silk Oak	Grevillea robusta
SUM	Sumac	Rhus lancea

Salvage Summary

Salvage Plants

1 Canary Island Palm tree to salvage totaling 10.0 linear feet
3 Mediterranean Fan Palm trees to salvage totaling 31.0 linear feet
8 Mexican Fan Palm trees to salvage totaling 139.0 linear feet

12 Total Plants to Salvage

Optima Sonoran Village
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Tag #	Specie	Condition	Disposition	Salvageability Comments	Caliper Inches	Tree Height	Tree Width

Unsalvageable Plants

203 Trees that are not salvageable totaling 4,788.0 caliper inches

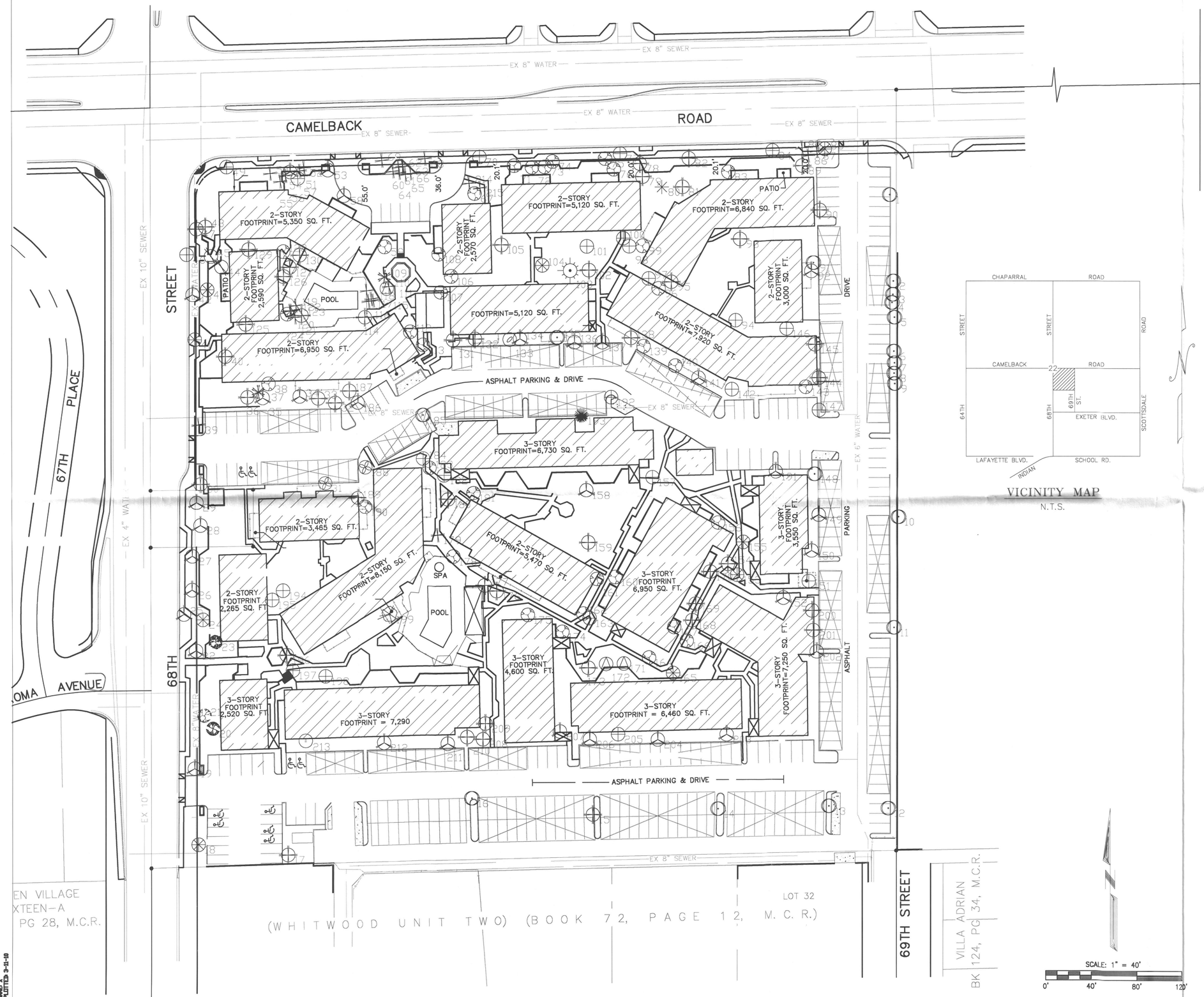
Notes:

1. The majority of the trees on this site have been without supplemental irrigation for several years. The trees are in a general state decline due to lack of water and many others are completelty dead.

2. Many are planted next to the buildings or in small planters that the tree has outgrown.

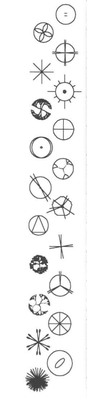
3. The trees that are in an open area that could be accessed with equipment are too large and economically unfeasible to salvage.

4. Many of the trees have been poorly maintained and pruned throught the years and have undesirable crown shape.



VICINITY MAP
N.T.S.

Existing Plant Legend



Abbreviation	Common Name	Scientific Name
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MUL	Mulberry	Morus alba
OLIVE	Olive	Olea europaea
ORP	Ornamental Pear	Pyrus calleryana
PINE	Pine	Pinus spp.
PUR	Purple Orchid Tree	Bauhinia variegata
SOK	Silk Oak	Grevillea robusta
SUM	Sumac	Rhus lancea

General Salvage Notes:

1. All salvageable material to be clearly flagged with reflective tape visible from all directions. Color Code as follows:

Red = Salvage and relocate
Blue = Destroy, not salvageable, can not remain in place
White = Remain in place

2. Metal tag or reflective tape shall be numbered to correspond with the Native Plant inventory and site plan.

3. All requirements of the State of Arizona, including the "Notice of Intent to Clear Land" shall be met notwithstanding any approvals by the City of Scottsdale.

4. Contractor is responsible for verifying all project property lines prior to salvage. Any plant material that is labeled salvageable or non-salvageable outside of final staking boundaries are to remain in place unless otherwise directed by owner.

5. Contractor is to verify with owner all plant material labeled salvageable or non-salvageable adjacent to N.A.O.S. boundaries and/or drainage ways.

6. Contractor to salvage and store in nursery all Barrel Cactus, Prickly Pear, Hedgehog Cactus, and secondary Cacti material that are located within limits of clearing.

PLANT INVENTORY APPROVAL, City of Scottsdale
Plan approval good for one 90 day period

DATE: _____

Project Consultants:

Inventory Provider
BLACK EAGLE Nurseries and Maintenance, Inc.
P.O.Box 48677
Phoenix, AZ 85075
Contact: Clay Zorns
602-323-1558

Developer:
Optima
7147 E. Rancho Vista Drive
Suite 104
Scottsdale, AZ. 85051

1-ZN-2010
2nd: 3/12/10

BLACK EAGLE Nurseries and Maintenance, Inc.
P.O. Box 48677
Phoenix, AZ 85075
602 / 323-1558

EXISTING PLANT INVENTORY PLAN

SONORAN VILLAGE
6801 E. CAMELBACK ROAD
SCOTTSDALE, AZ. 85251

CALL TWO WORKING DAYS BEFORE YOU DIG
602-263-1100
BLUE STAKE CENTER

Date MARCH 11, 2010 | Job No. 101132 | Sheet 1 of 1

FILE NAME: V:
DATE PLOTTED: 3-11-10

UCG
United Civil Group

Traffic Impact & Mitigation Analysis
for

Optima Sonoran Village

SEC 68th Street and Camelback Road
Scottsdale, Arizona

UCGC Project Number: TR10006

City of Scottsdale Project Number:
2-PA-2010

Prepared for:

City of Scottsdale
Transportation Systems Department
7447 East Indian School Road, Suite 205
Scottsdale, Arizona 85251

February 25, 2010
Revised March 26, 2010
Revised May 10, 2010

Prepared by:

United Civil Group Corporation

Conducted by: **Expires 12/31/2012**
Keith A. Winney, P.E.
Project Engineer

TABLE OF CONTENTS

I. INTRODUCTION AND SUMMARY

A. PURPOSE OF THE REPORT

The City of Scottsdale initiated this traffic impact study which has been performed under the City of Scottsdale guidelines for *Transportation Impact and Mitigation Analysis (TIMA) for Proposed Developments*. United Civil Group performed this traffic impact analysis in general accordance with these requirements, locally accepted standards, and industry practice to determine the extent of the traffic impacts of the proposed development.

The City of Scottsdale received an application to rezone a 9.89-acre parcel from the existing Service Residential (S-R) designation to Downtown Regional Commercial Office – Type 2 District, Planned Block Development with Downtown Overlay (D/RCO-2 PBD DO). There is also an associated request for a non-major General Plan amendment from Urban Neighborhoods to Downtown Regional Type 2 land use. The requested change in zoning allows the proposed development of approximately 493 condominium dwelling units in five buildings with 40,000 square feet of retail support services and a 14,000 square foot fitness center that will be available for residents only. The parcel is located on the southeast corner of 68th Street and Camelback Road, which was previously occupied by a 278-unit apartment complex. Currently, the apartment complex is vacant.

B. STUDY OBJECTIVES

The objective of this report is to analyze the traffic impacts of the Optima Sonoran Village development and determine whether the existing street system in the vicinity of the site is adequate to accommodate the increased traffic that results from the proposed development plan associated with the change in zoning.

II. PROPOSED DEVELOPMENT

A. Site Location

The proposed development is located on the southeast corner of 68th Street and Camelback Road in Scottsdale, Arizona, as shown in *Figure 1: Vicinity Map*.

B. Land Use and Intensity

The intent of rezoning application and associated non-major General Plan amendment is to allow the redevelopment of the 9.89-acre parcel to include 493 condominiums in five buildings with 40,000 square feet of retail support services and a 14,000 square foot fitness center available to residents only.

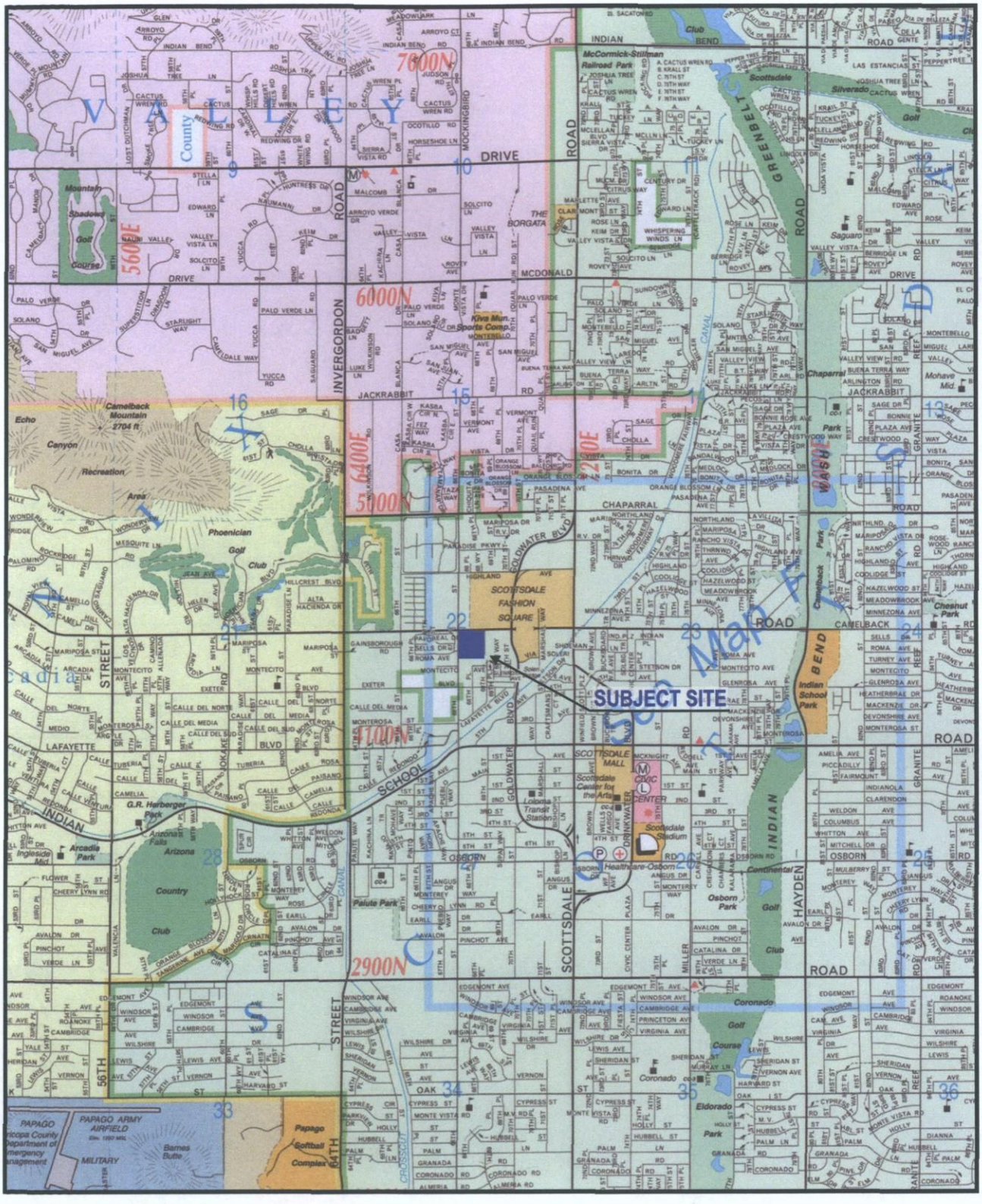
C. Site Accessibility

Two site access driveways are proposed to serve the development, Access A and Access B. Access A is located approximately 600 feet east of 68th Street on Camelback Road. Access B is located on 68th Street approximately 550 feet south of Camelback Road. *Figure 2: Aerial View* graphically depicts the subject site in relation to the surrounding street network. *Figure 3: Conceptual Site Plan* illustrates the proposed development's site access points.

The site accessibility for the proposed development was reviewed, with additional discussion and recommendations located in section VII of this report.

D. Phasing and Timing

The proposed development is anticipated to be constructed in one phase and is expected to be open and operating by the horizon year 2015. All recommendations remain valid and apply regardless if the development's opening year is prior to the horizon year 2015.



not to scale

Figure 1: Vicinity Map

United Civil Group

Permission for commercial use granted by Google Earth 2006

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not to scale

Figure 2: Aerial View

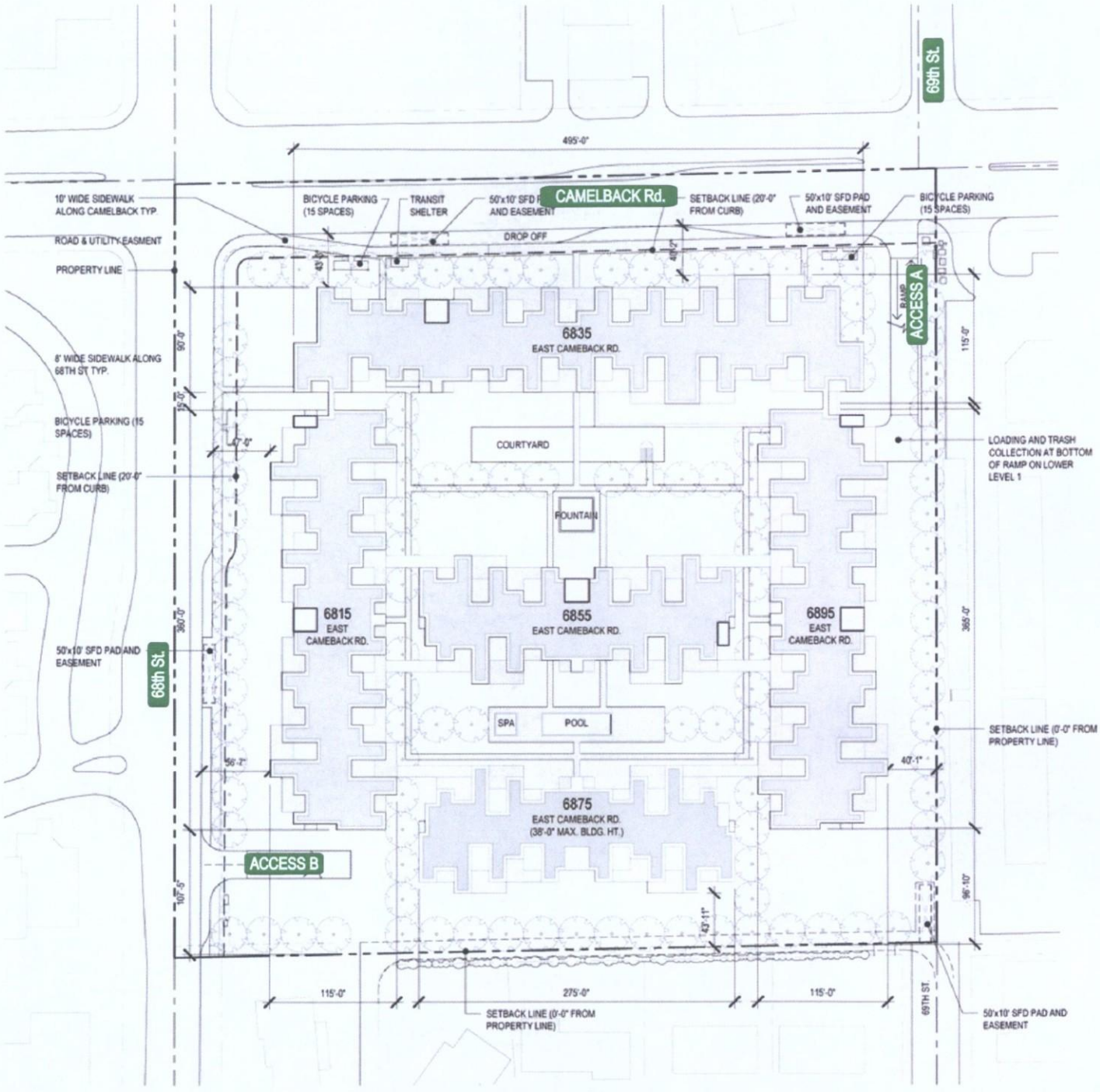

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Figure 3: Conceptual Site Plan

United Civil Group

III. STUDY AREA CONDITIONS

Descriptions of existing land uses in the study area are presented in this section along with the existing and future transportation systems available to serve the study area.

A. Study Area Land Use

The property on which the proposed development will be located is the site of the vacated Orchidtree Apartments. To the north of the subject site is Camelback Road followed by a vacant parcel of land, offices and a hotel. To the west of the subject site is 68th Street followed by an existing residential condominium complex. To the south of the subject site are single family residential homes. To the east of the subject site is an office building complex.

B. Anticipated Future Development

There is one planned development within the study area. The vacant parcel on the northeast corner of 68th Street and Camelback road is planned to be developed with a small neighborhood retail center. At this time, the timing of this development is unknown.

C. Observed Off-site Issues

During the site visit of the existing study area intersections: 68th Street/Camelback Road, 69th Street/Camelback Road, Camelback Road/Goldwater Boulevard, and 68th Street/Roma Avenue, no off-site issues were noted.

IV. METHODOLOGIES AND STANDARDS

This chapter defines the methodologies and standards utilized in the analysis of intersection performance, deceleration lane criteria, and street classification systems.

A. LEVEL OF SERVICE (LOS)

Levels of service provide a common and consistent means of evaluating the need for roadway improvements. The LOS concept is widely used and offers a uniform analysis methodology.

Beginning in 1965, the level of service (LOS) concept has been used in traffic engineering to describe the quality of traffic flow and the degree of congestion a driver can expect. The concept defines the near-capacity condition as Level of Service "E" while a free flow condition under which a driver would experience very little or no delay is defined as Level of Service "A". Capacity analysis is the procedure used to compare the forecast traffic volumes with the theoretical carrying capacity of an intersection. The roadway system's ability to accommodate traffic demand is typically controlled and limited by the capacity of the intersections. Therefore, intersection capacity analysis is a principal tool used in traffic engineering to determine the adequacy of a system to meet traffic demands.

Based on peak hour turning movement counts, the level of service at each signalized intersection is calculated using methodologies as presented in Chapter 16 of the *Highway Capacity Manual 2000* published by the Transportation Research Board. The capacity analysis methodologies for un-signalized intersections are outlined in Chapter 17 of the same document.

For signalized intersections, LOS is based on control delay per vehicle, measured in seconds. Table 1 shows the seconds of control delay per vehicle that defines each level of service for signalized intersections.

TABLE 1: LEVEL OF SERVICE FOR SIGNALIZED INTERSECTIONS

Level of Service	Control Delay per Vehicle (Sec/Veh)
A	≤ 10.0
B	> 10.0 and ≤ 20.0
C	> 20.0 and ≤ 35.0
D	> 35.0 and ≤ 55.0
E	> 55.0 and ≤ 80.0
F	> 80.0

Exhibit 16-2 Highway Capacity Manual 2000

For un-signalized intersections, level of service is determined by the computed or measured average total delay and is defined for each minor movement. The LOS is not defined for the intersection as a whole. Typically, LOS D or better is desirable. Table 2 shows the level of service criteria for two-way stop controlled (TWSC) intersections.

TABLE 2: LEVEL OF SERVICE FOR TWSC INTERSECTIONS

Level of Service	Average Total Delay (Sec/Veh)
A	≤ 10
B	> 10 and ≤ 15
C	> 15 and ≤ 25
D	> 25 and ≤ 35
E	> 35 and ≤ 50
F	> 50

Exhibit 17-2 Highway Capacity Manual 2000

The level of service criteria for two-way stop controlled intersections is somewhat different from the criteria used for signalized intersections primarily because different transportation facilities create different driver perceptions. The expectation is that a signalized intersection is designed to carry higher traffic volumes and experience greater delay than an un-signalized intersection.

V. EXISTING CONDITIONS

The analysis of existing conditions includes the following items: physical characteristics; traffic volumes; and existing condition capacity analyses for intersections. The analysis of existing conditions provides a base against which the incremental traffic impacts on Camelback Road, 68th Street, Goldwater Boulevard, and Roma Avenue, and the associated intersections, can be measured due to the change in traffic from the proposed development.

A. PHYSICAL CHARACTERISTICS

Camelback Road is a six-lane roadway with a raised median through the study area with a posted speed limit of 40 miles per hour. Camelback Road is classified as Minor Arterial – Suburban west of 68th Street and as Minor Arterial – Urban east of 68th Street according to the City of Scottsdale's 2008 Transportation Master Plan.

68th Street is a four-lane roadway at the approaches to Camelback Road and becomes a two-lane roadway approximately 200 feet south of the the Camelback Road/68th Street intersection. The posted speed limit adjacent to the development is 35 miles per hour. 68th Street is classified as Minor Collector – Suburban through the study area in the City of Scottsdale's 2008 Transportation Master Plan.

Goldwater Boulevard is a five-lane roadway (three lanes in the southbound direction) with a raised median in the vicinity of Camelback Road. The posted speed limit is 35 miles per hour. Goldwater Boulevard is classified as Major Arterial – Urban in the City of Scottsdale's 2008 Transportation Master Plan.

69th Street serves as a major driveway for the existing developments within the study area. A median break on Camelback Road exists at 69th Street.

Roma Avenue is a residential street serving the existing condominium development to the west of 68th Street, west of the proposed development. Roma Avenue is a gated-access residential street.

The existing geometry for the 68th Street/Camelback Road intersection is as follows:

Northbound – 1 left-turn lane/1 through lane/1 shared through-right-turn lane
Southbound – 1 left-turn lane/1 through lane/1 shared through-right-turn lane
Eastbound – 1 left-turn lane/2 through lanes/1 shared through-right-turn lane
Westbound – 1 left-turn lane/2 through lanes/1 shared through-right-turn lane

The 68th Street/Camelback Road intersection is a signalized intersection.

The existing geometry for the 69th Street/Camelback Road intersection is as follows:

Northbound – 1 left-turn lane/1 right-turn lane
Southbound – 1 shared left-through-right-turn lane
Eastbound – 1 left-turn lane/2 through lanes/1 shared through-right-turn lane
Westbound – 1 left-turn lane/2 through lanes/1 shared through-right-turn lane

The 69th Street/Camelback Road intersection is an unsignalized intersection. The northbound leg consists of two separate existing driveways approximately 40 feet apart that share the median break and existing westbound left-turn lane on Camelback Road. Currently the western northbound driveway, previously the vacant Orchidtree Apartments' driveway, is closed.

The existing geometry for the Camelback Road/Goldwater Boulevard intersection is as follows:

Northbound – 2 left-turn lanes/2 through lanes/1 right-turn lane
Southbound – 2 left-turn lanes/3 through lanes/1 right-turn lane
Eastbound – 1 left-turn lane/3 through lanes/1 right-turn lane
Westbound – 1 left-turn lane/2 through lanes/1 shared through-right-turn lane

The Camelback Road/Goldwater Boulevard intersection is a signalized intersection.

The existing geometry for the 68th Street/Roma Avenue intersection is as follows:

Northbound – 1 two-way left-turn lane/1 through lane
Southbound – 1 two-way left-turn lane/1 through lane/1 right-turn lane
Eastbound – 1 shared left-right-turn lane
Westbound – N/A

The 68th Street/Roma Avenue intersection is a unsignalized intersection, with Roma Avenue a gated-access residential street. Roma Avenue is offset from the existing southern access driveway for the vacant Orchidtree Apartments by approximately 80 feet.

Figure 4: Existing Geometrics – Year 2010 graphically depicts the existing geometrics for all of the study area intersections.

B. Traffic Volumes

B.1 Existing Average Daily Traffic

United Civil Group collected 24-hour traffic volume counts on Wednesday, January 27, 2010, on 68th Street, Camelback Road, and southbound Goldwater Boulevard. Existing 24-hour traffic volume counts on northbound Goldwater Boulevard were collected on Tuesday, February 2, 2010. The resulting directional ADT volumes are presented on *Figure 5: Existing Traffic – Year 2010.*

B.2 TURNING MOVEMENT COUNTS

United Civil Group collected turning movement counts at the intersections of 68th Street/Camelback Road, 69th Street/Camelback Road, Camelback Road/Goldwater Boulevard, and 68th Street/Roma Avenue on Tuesday, January 26, 2010. The turning movement counts were collected in 15-minute intervals during the AM peak period (7:00 a.m. to 9:00 a.m.) and PM peak period (4:00 p.m. to 6:00 p.m.) with the following results:

- 68th Street/Camelback Road – The AM peak hour was found to be from 7:30 a.m to 8:30 a.m. with 2,300 vehicles entering the intersection. The PM peak hour was found to be between 5:00 p.m. and 6:00 p.m. with 3,711 vehicles entering the intersection.

- 69th Street/Camelback Road – The AM peak hour was found to be from 7:45 a.m to 8:45 a.m. with 1,937 vehicles entering the intersection. The PM peak hour was found to be between 5:00 p.m. and 6:00 p.m. with 2,710 vehicles entering the intersection.

- Camelback Road/Goldwater Boulevard – The AM peak hour was found to be from 7:45 a.m to 8:45 a.m. with 3,523 vehicles entering the intersection. The PM peak hour was found to be between 5:00 p.m. and 6:00 p.m. with 4,873 vehicles entering the intersection.

- 68th Street/Roma Avenue – The AM peak hour was found to be from 7:45 a.m to 8:45 a.m. with 794 vehicles entering the intersection. The PM peak hour was found to be between 5:00 p.m. and 6:00 p.m. with 1,023 vehicles entering the intersection.

All collected traffic volume data can be found in *Appendix A: Traffic Counts*.

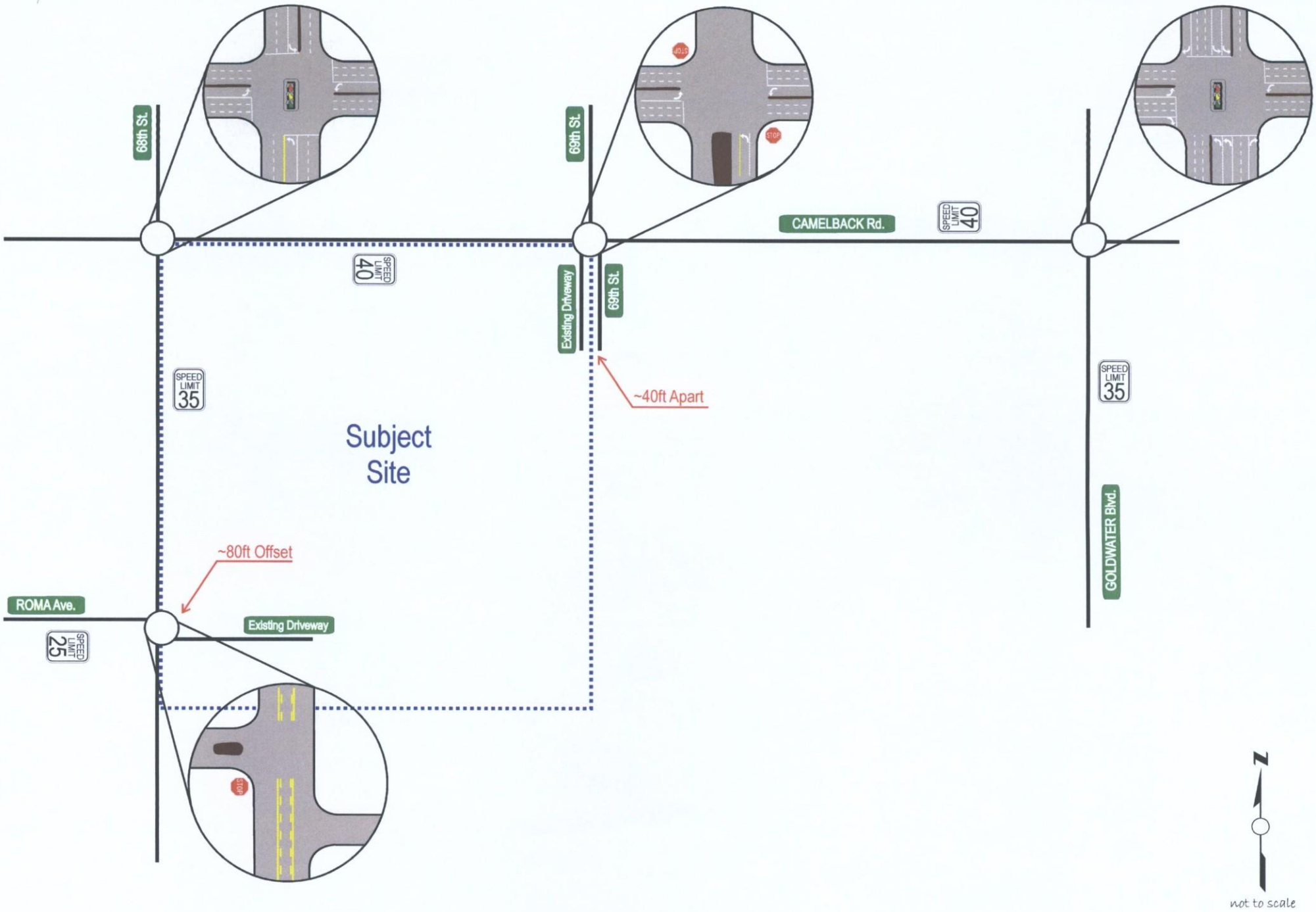

Figure 4: Existing Geometrics - Year 2010

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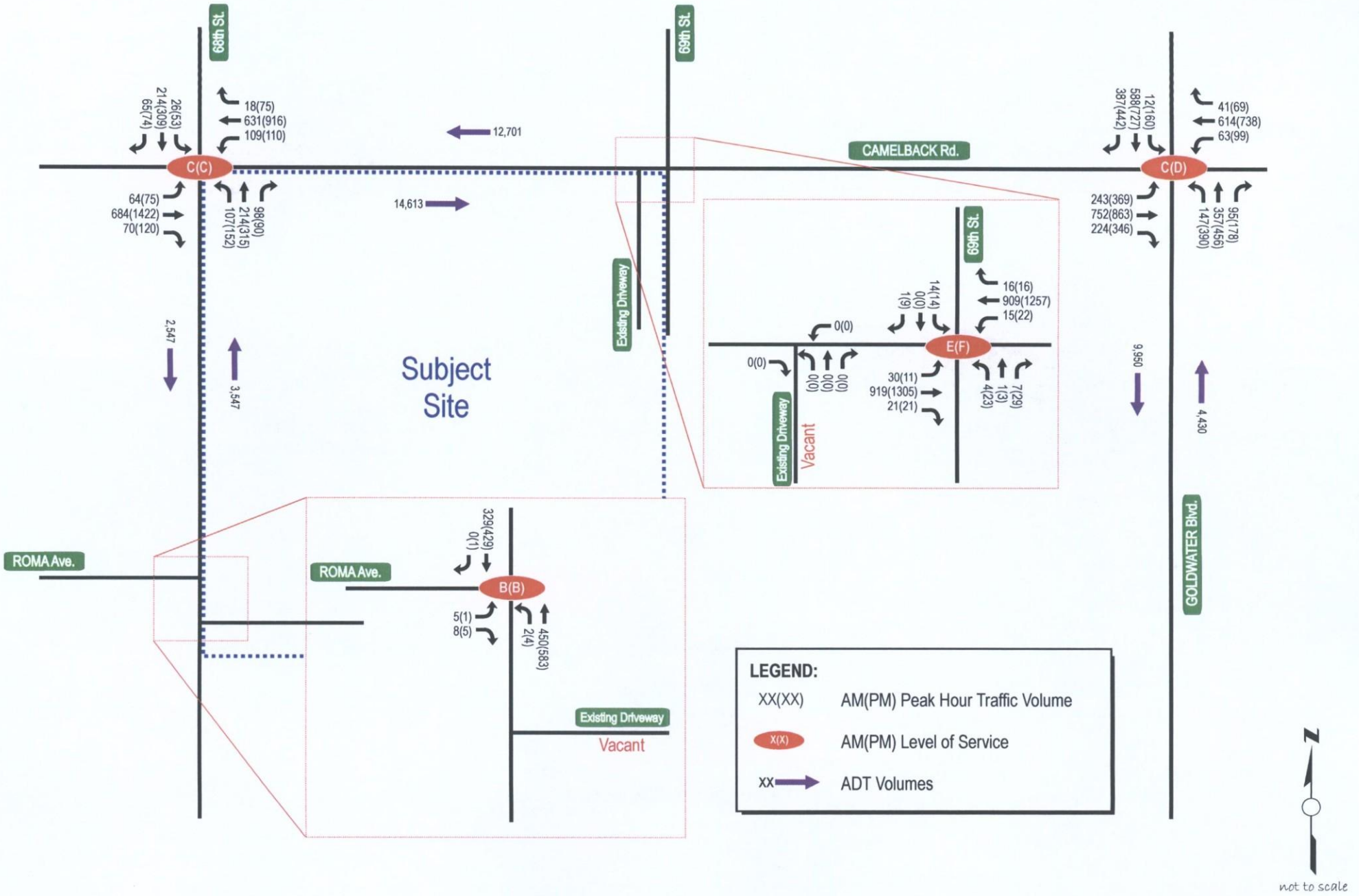

Figure 5: Existing Traffic - Year 2010

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D. Collision Analysis

The City of Scottsdale Traffic Engineering Division supplied United Civil Group Corporation with a summary of the collision history information for the intersections of 68th Street/Camelback Road and Camelback Road/Goldwater Boulevard, as well as the Camelback Road segment from 68th Street to 69th Street, from January 2007 to December 2009. The results of the review of the collision history are presented below in *Table 3: Collision History Review*.

Table 3: Collision History Review

Intersection	Year	Total Reported Accidents	Volume Entering Intersection	RMEV	Predominate Type	Predominate Type Percentage of Total
68th Street / Camelback Road	2007	9	37,100	0.66	Turning/ Angle	89%
68th Street / Camelback Road	2008	10	37,100	0.74	Turning/ Angle	90%
68th Street / Camelback Road	2009	8	37,100	0.59	Turning/ Angle	50%
Camelback Road / Goldwater Blvd	2007	12	48,700	0.68	Turning/ Angle	50%
Camelback Road / Goldwater Blvd	2008	6	48,700	0.34	Turning/ Angle	67%
Camelback Road / Goldwater Blvd	2009	11	48,700	0.63	Turning/ Angle	55%
Segment	**Year**	**Total Reported Accidents**	**Volume Entering Segment**	**RMVM**	**Predominate Type**	**Predominate Type Percentage of Total**
Camelback Road - 68th St to 69th St	2007	1	27,300	0.67	Angle	100%
Camelback Road - 68th St to 69th St	2008	5	27,300	3.33	Turning/ Angle	60%
Camelback Road - 68th St to 69th St	2009	3	27,300	2.00	Rear End	100%

The 68th Street/Camelback Road and Camelback Road/Goldwater intersections exhibited low to typical collision rates per million entering vehicles (RMEV), based on the collision statistics provided by the City of Scottsdale for the years of 2007, 2008, and 2009. Turning/Angle collisions were the most predominate manner of collision at the intersections. These collisions were typically caused by drivers failing to properly yield right-of-way, or disregard of the traffic signals. No fatal collisions occurred and a total of three incapacitating injuries were reported at the intersections during this study time period.

Turning/angled collisions occurred at the 68th Street/Camelback Road intersection. The crashes may have taken place as the driver attempted a left-turn from eastbound or westbound Camelback Road and were inattentive or had insufficient sight distance due to the minimal left-turn lane offset on Camelback Road. To improve sight distance and left-turn lane offset conditions, the left-turn medians on Camelback Road could be modified. Additionally, permissive-protected left turn phasing currently exists at the intersection of 68th Street/Camelback Road. Based on MCDOT left turn arrow warrants, the left turn phasing could be considered to be modified to protected only. Overall, the rates of collisions at the 68th Street/Camelback Road intersection are not considered high.

The roadway segment of Camelback Road from 68th Street to 69th Street, a distance of approximately 0.15 miles, exhibited accident rates per million vehicle miles travelled (RMVM) that were near typical, with 2007 being lower and 2008 being higher than the average. These rates are based on collision statistics provided by the City of Scottsdale for the years of 2007, 2008, and 2009. The most predominate type of collisions were of the turning/angle type for 2007 and 2008, and rear end type during 2009. According to the collision statistics, a mixture of failing to properly yield right-of-way and improper turns attributed to the turning/angle collisions. Speeds too fast for the conditions attributed to the rear end collisions. No fatal collisions and zero incapacitating injuries were reported during this study time period.

Based on the collision data and the reported traveling directions of the vehicles involved in the collisions, it appears that only one collision in 2008 involved vehicles using either the eastern access of the old Orchidtree apartments or the adjacent property's site access. According to information gathered from the client, the old Orchidtree apartments likely became vacant sometime in the year 2007, so the collision data in this vicinity for the years 2007, 2008, and 2009 does not fully depict any turning conflicts or a collision problem that will be present if both site accesses are fully operational.

The collision data from the years 2004, 2005, and 2006 were provided by the City of Scottsdale. During this time period the Orchidtree apartments were open, however, exact occupancy percentage for the apartment complex is unknown. In 2004 a total of three accidents were reported; one of which appears to have occurred at the 69th Street/eastern Orchidtree apartments' access with Camelback Road. In 2005 a total of six accidents were reported; two of which appear to have occurred at the 69th Street/eastern Orchidtree apartments' access with Camelback Road. In 2006 a total of five accidents were reported; one of which appears to have occurred at the 69th Street/eastern Orchidtree apartments' access with Camelback Road. No fatal collisions and zero incapacitating injuries were reported during this study time period.

Appendix C: Collision Data presents the collision summaries of the previous six years, years 2004 to year 2009, as provided by the City of Scottsdale.

E. Existing Intersection Level of Service

The levels of service at the intersections within the study area were evaluated using the turning movement counts collected by United Civil Group in January, 2010. TRAFFIX version 7.9 was utilized to analyze the study area intersections using the methodologies as presented in the Highway Capacity Manual, HCM 2000. The levels of service descriptions for intersections are presented in Section IV of this report. The existing intersection geometry and the type of traffic control, as presented in Figure 4, along with the collected existing traffic presented in Figure 5, were used to perform the capacity analysis and obtain the existing conditions level of service results.

The results of the existing levels of service are presented in *Table 4: Existing Conditions Level of Service* and are shown on Figure 5.

Table 4: Existing Conditions Level of Service

Intersection Location	EB	WB	NB	SB	Intersection
68th Street/Camelback Road – signalized					
AM Peak Hour	C	B	C	D	C
PM Peak Hour	B	B	D	D	C
69th Street/Camelback Road – unsignalized					
AM Peak Hour	A	A	E	D	E
PM Peak Hour	B	B	F	D	F
Camelback Road/Goldwater Boulevard – signalized					
AM Peak Hour	B	D	C	D	C
PM Peak Hour	C	D	C	D	D
68th Street/Roma Avenue – unsignalized					
AM Peak Hour	B	-	A	A	B
PM Peak Hour	B	-	A	A	B

As seen in Table 4, the existing intersection of 69th Street/Camelback Road currently operates at unacceptable level of service, LOS E and LOS F, during the AM and PM peak hours. Typically, stop-controlled minor roads and driveways that intersect with arterial streets experience unacceptable levels of service for short periods of time in the peak hours due to minimal gaps available on the major street creating a greater average total delay for the minor movements, while the free-flowing major streets experience minimal delay.

As can be seen in Table 4, the existing intersections of 68th Street/Camelback Road, Camelback Road/Goldwater Boulevard, and 68th Street/Roma Avenue currently operate at acceptable levels of service, LOS D or better, during the AM and PM peak hours. Summaries of the TRAFFIX version 7.9 output calculations are included in *Appendix B: Capacity Analyses*.

VI. PROJECTED TRAFFIC

A. TRAFFIC GENERATION

Estimates of the traffic volumes for the various allowed land uses of the subject site were determined from transportation planning data taken from the Institute of Transportation Engineers (ITE) publication titled Trip Generation, 8th Edition, 2008. The ITE rates are based on studies that measure the trip generation characteristics for various types of land uses. The rates are expressed in terms of trips per unit of land use type. This publication is considered the standard for the transportation engineering profession.

A.1. TRIP GENERATION FOR THE EXISTING ZONING (S-R)

Based on the City of Scottsdale's zoning ordinance definitions, the uses allowed in the S-R district are generally, but not limited to, residential, churches, retail, and offices. Offices have been assumed as the most likely land use that would be developed at the existing subject site under its existing zoning. Based on this information, General Office Building (ITE land use code 710) has been assumed for trip generation and comparison purposes. In addition, a trip generation comparison to the existing development on the subject site, the vacant 278-unit Orchidtree apartment complex, has been performed assuming a land use of Low-Rise Apartment (ITE land use code 221). However, the existing Orchidtree apartment complex may not be allowed in its current state under the existing S-R zoning. Descriptions of the assumed land uses of the site follow.

General Office Building – A general office building houses multiple tenants; it is a location where affairs of businesses, commercial or industrial organizations, or professional persons or firms are conducted. An office building or buildings may contain a mixture of tenants including professional services, insurance companies, investment brokers and tenant services, such as bank savings and loan institution, a restaurant or cafeteria and service retail facilities. A floor area ratio (FAR) of 0.5 has been assumed for this land use. Using this FAR, the 9.89-acre parcel could support a 215,404 square foot office building development under the current S-R zoning.

Low-Rise Apartment – Low-rise apartments are units located in rental buildings that have one or two levels (floors), such as garden apartments. The vacant 278-unit Orchidtree apartment complex will be used in the trip generation comparison formulation.

The trip generation figures are presented on the following page in *Table 5: Trip Generation – Existing Zoning.*

TABLE 5: TRIP GENERATION – EXISTING ZONING AND EXISTING DEVELOPMENT

Land Use	ITE Code	Units	Size	Daily	AM Peak			PM Peak		
					In	Out	Total	In	Out	Total
General Office Building	710	1000s sf	215.4	2,372	267	67	334	55	266	321
Low-Rise Apartment	221	D.U.	278	1,832	27	101	128	105	56	161

General Office Building (710)		
Weekday Total	T = 11.01 (X)	50% entering, 50% exiting
AM Peak Hour	T = 1.55 (X)	88% entering, 12% exiting
PM Peak Hour	T = 1.49 (X)	17% entering, 83% exiting
Low-Rise Apartment (221)		
Weekday Total	T = 6.59 (X)	50% entering, 50% exiting
AM Peak Hour	T = 0.46 (X)	21% entering, 79% exiting
PM Peak Hour	T = 0.58 (X)	65% entering, 35% exiting

Source: ITE Trip Generation Manual 8th Edition

A.2. TRIP GENERATION FOR THE PROPOSED DEVELOPMENT

Under the proposed new zoning of Downtown Regional Commercial Office – Type 2 District, Planned Block Development with Downtown Overlay (D/RCO-2 PBD DO), the development is planned to include a 493-unit condominium complex with 40,000 of retail support services and a 14,000 square foot fitness center for residents only. Residential Condominium/Townhouse (ITE land use code 230) and Shopping Center (ITE land use code 820) have been assumed to best represent the proposed development's future land uses and have been used for trip generation and comparison purposes. A description of the assumed land uses of the proposed development, as according to ITE's *Trip Generation,* follows.

Residential Condominium/Townhouse – Residential condominiums/townhouses are defined as ownership units that have at least one other owned unit within the same building structure.

Shopping center – A shopping center is an integrated group of commercial establishments that is planned, developed, owned and managed as a unit. A shopping center's composition is related to its market area in terms of size, location and type of store. A shopping center also provides on-site parking facilities sufficient to serve its own parking demands.

The trip generation estimate for the proposed development for a weekday is presented in *Table 6: Trip Generation – Proposed Development (Weekday).* Based on discussions with members of the City of Scottsdale engineering staff, it has been assumed that 50% of the patronage to the retail portion of the Optima Sonoran Village will be internal. Therefore, a 50% reduction in the trip generation for the retail (Shopping Center) portion of the development has been applied.

TABLE 6: TRIP GENERATION – PROPOSED DEVELOPMENT (WEEKDAY)

Land Use	ITE Code	Units	Size	Daily	AM Peak			PM Peak		
					In	Out	Total	In	Out	Total
Residential Condominium/Townhouse	230	1000s S.F.	493	2,864	37	180	217	172	84	256
Shopping Center	820	1000s S.F.	40	1,718	24	16	40	73	76	149
50% Internal Patronage*				-859	-12	-8	-20	-36	-38	-74
Totals (Weekday)				**3,723**	**49**	**188**	**237**	**208**	**122**	**330**

*** City of Scottsdale approved 50% reduction only to the retail support services (shopping center) portion of the development due to patronage internal to the development.**

Residential Condominium/Townhouse (230)		
Weekday Total	T = 5.81 (X)	50% entering, 50% exiting
AM Peak Hour	T = 0.44 (X)	17% entering, 83% exiting
PM Peak Hour	T = 0.52 (X)	67% entering, 33% exiting
Shopping Center (820)		
Weekday Total	T = 42.94 (X)	50% entering, 50% exiting
AM Peak Hour	T = 1.00 (X)	61% entering, 39% exiting
PM Peak Hour	T = 3.73 (X)	49% entering, 51% exiting

Source: ITE Trip Generation Manual 8th Edition

The proposed development is forecasted to generate 237 trips during the AM peak hour and 330 trips during the PM peak hour. *Figure 6: Site Generated Traffic and Trip Distribution* presents the site generated traffic graphically.

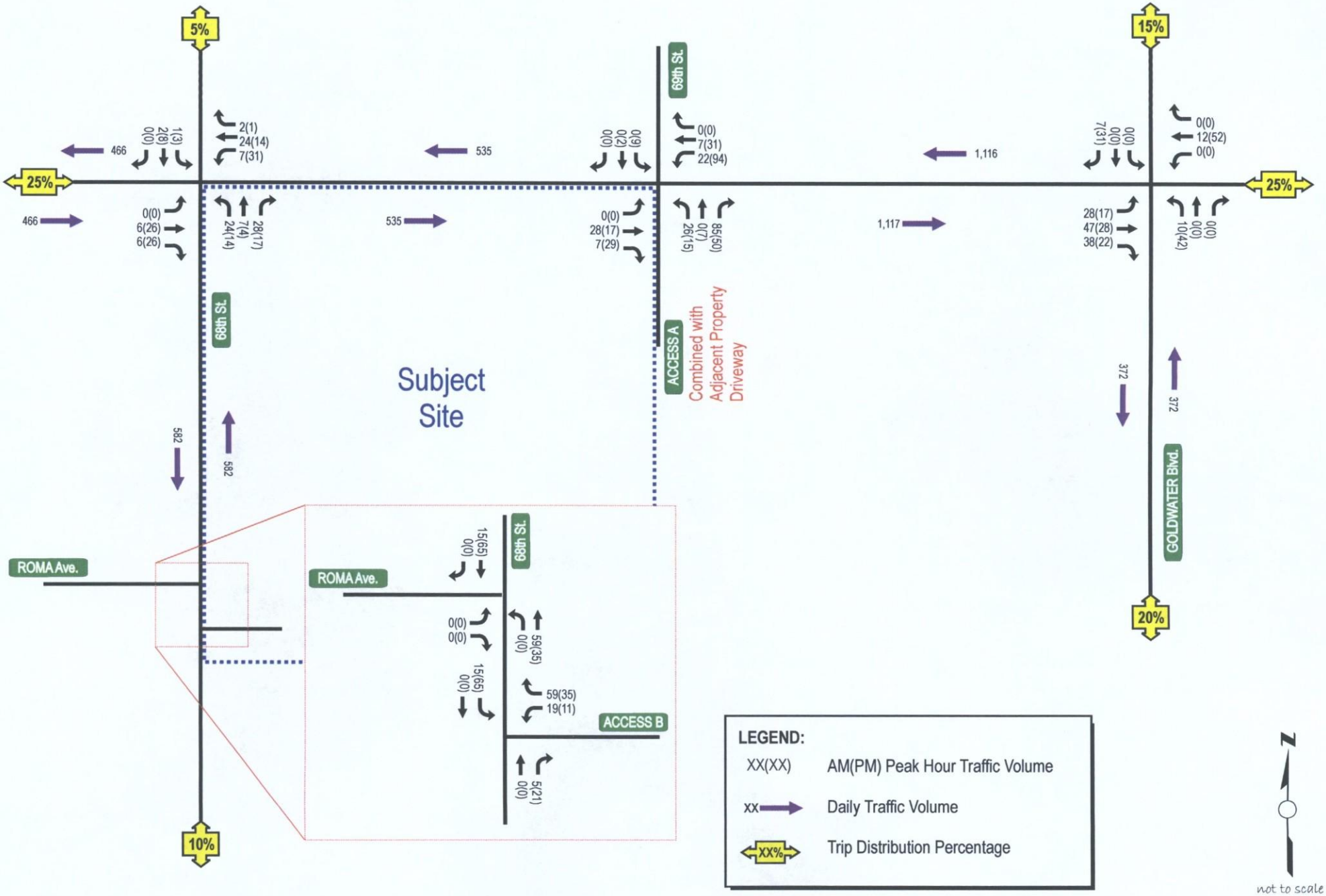

Figure 6: Site Generated Traffic and Trip Distribution

A.3. TRIP GENERATION COMPARISON

Estimated trip generation totals for the existing or potential land uses on the existing parcel were compared to the estimated trip generation totals for the proposed development. These comparisons, as depicted in *Table 7: Trip Generation Comparisons* shows the difference in projected traffic volumes between the proposed development and land uses that could potentially be developed on the subject site.

TABLE 7: TRIP GENERATION COMPARISONS

TOTALS	Daily	AM Peak			PM Peak		
		In	Out	Total	In	Out	Total
Existing Apartment Complex	1,832	27	101	128	105	56	161
Proposed Development	3,723	49	188	237	208	122	330
Difference	+1,891	+22	+87	+109	+103	+66	+169
% Difference	+103%	+81%	+86%	+85%	+98%	+118%	+105%
Existing Zoning (S-R) with Potential Offices	2,372	267	67	334	55	266	321
Proposed Development	3,723	49	188	237	208	122	330
Difference	+1,351	-218	+121	-97	+153	-144	+9
% Difference	+57%	-82%	+181%	-29%	+278%	-54%	+3%

B. TRIP DISTRIBUTION

The trip distribution procedure determines the general pattern of travel for vehicles entering and leaving the development in the study area. The assumed trip distribution percentages for the proposed development are shown in *Table 8: Trip Distribution Percentages*. These percentages are based on the street patterns outside of the development, and the land uses surrounding the proposed Optima Sonoran Village site within a ten-mile radius. The downtown area of the City of Scottsdale, with the residential, employment and entertainment districts, is located to the east on Camelback Road and Goldwater Boulevard. It is assumed a higher percentage of the residents of the Optima Sonoran Village will be destined here and a higher percentage of the outside patronage of the retail support services will originate from there. Residential areas, entertainment, and employment centers of the City of Phoenix are located to the west of the development on Camelback Road. It is assumed this area will be a moderate origination and destination for the proposed development's trips. A lower percentage of trips are projected to travel 68th Street to the north and to the south of the development.

TABLE 8: TRIP DISTRIBUTION PERCENTAGES

Direction	Trip Distribution Percentage
Camelback Road east of Goldwater Boulevard	25%
Camelback Road west of 68th Street	25%
Goldwater Boulevard south of Camelback Road	20%
Goldwater Boulevard north of Camelback Road	15%
68th Street south of Roma Avenue	10%
68th Street north of Camelback Road	5%

C. PROJECTED NON-SITE GENERATED TRAFFIC

Non-site or background traffic volumes representing the amount of traffic estimated to be on the area roadway network without the proposed development within the study area were projected for the horizon year being analyzed, year 2015. The yearly growth trends coupled with any known proposed development in the study area are used to forecast the background traffic.

As a whole, the City of Scottsdale population values, according to estimates from the United States Census, show a downward trend in the positive growth rate the City was once experiencing. Based on the current and forecasted economic climate and the nearly full build-out of the downtown Scottsdale area, high growth rates are not expected to occur as they once were. Given this information, a positive, yet modest, growth rate of 1.5% has been assumed. Based on discussions with City of Scottsdale engineering staff, the City of Scottsdale's Transcad model data support this growth rate value as a conservative approach. Therefore, the base for the horizon year was determined by increasing the existing year 2010 AM and PM peak hour traffic volumes by 1.5% per year.

The forecasted year 2015 background traffic volumes are illustrated on *Figure 7: Background Traffic – Year 2015.*

D. TOTAL TRAFFIC

Total traffic projections for the horizon year of 2015 were determined by adding the proposed development's site generated traffic in Figure 6 to the estimated overall year 2015 background traffic in Figure 7. *Figure 8: Total Traffic – Year 2015* presents the total traffic volumes anticipated during the AM and PM peak hours on the roadway system during the horizon year 2015.

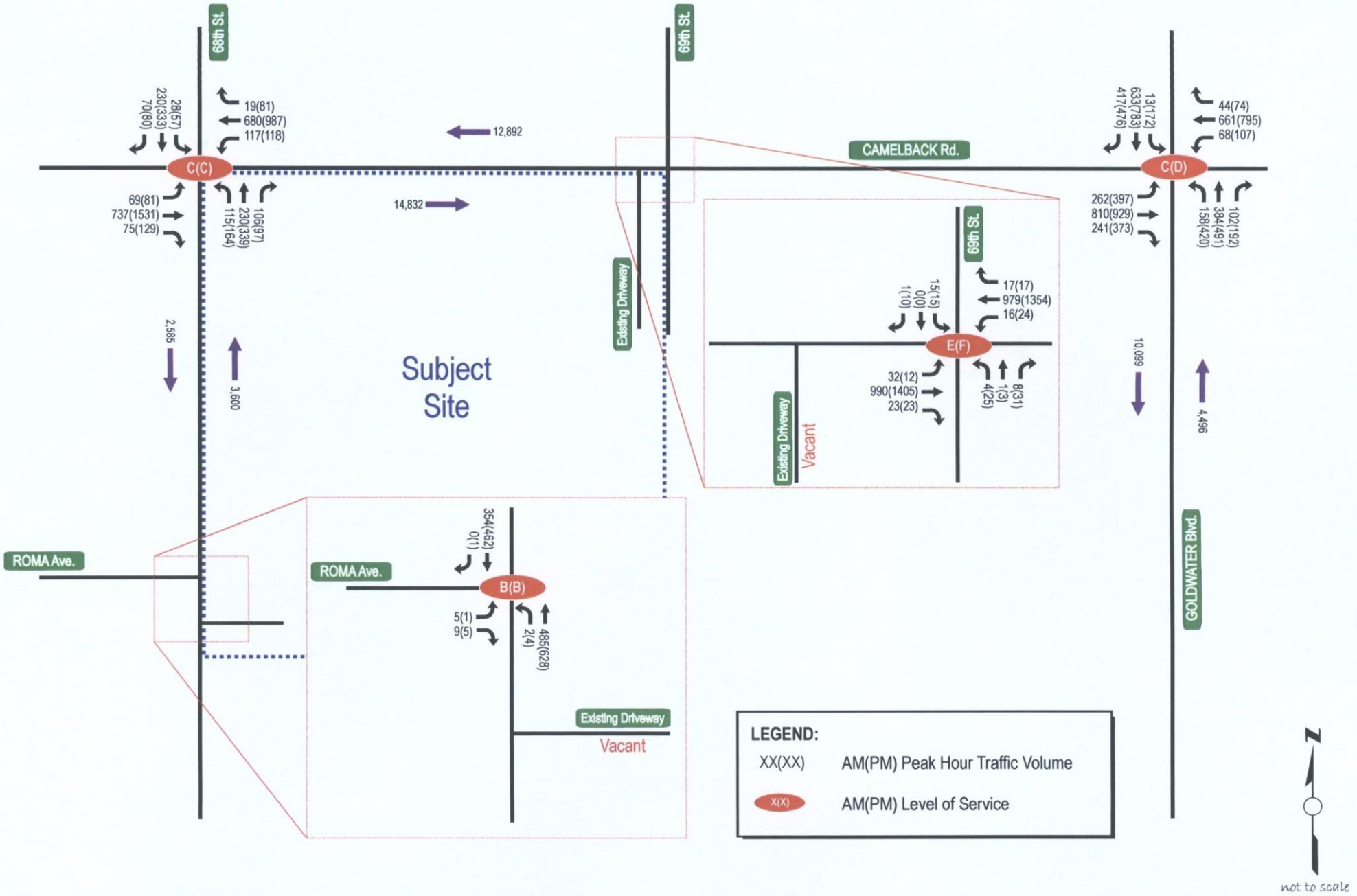

Figure 7: Background Traffic - Year 2015

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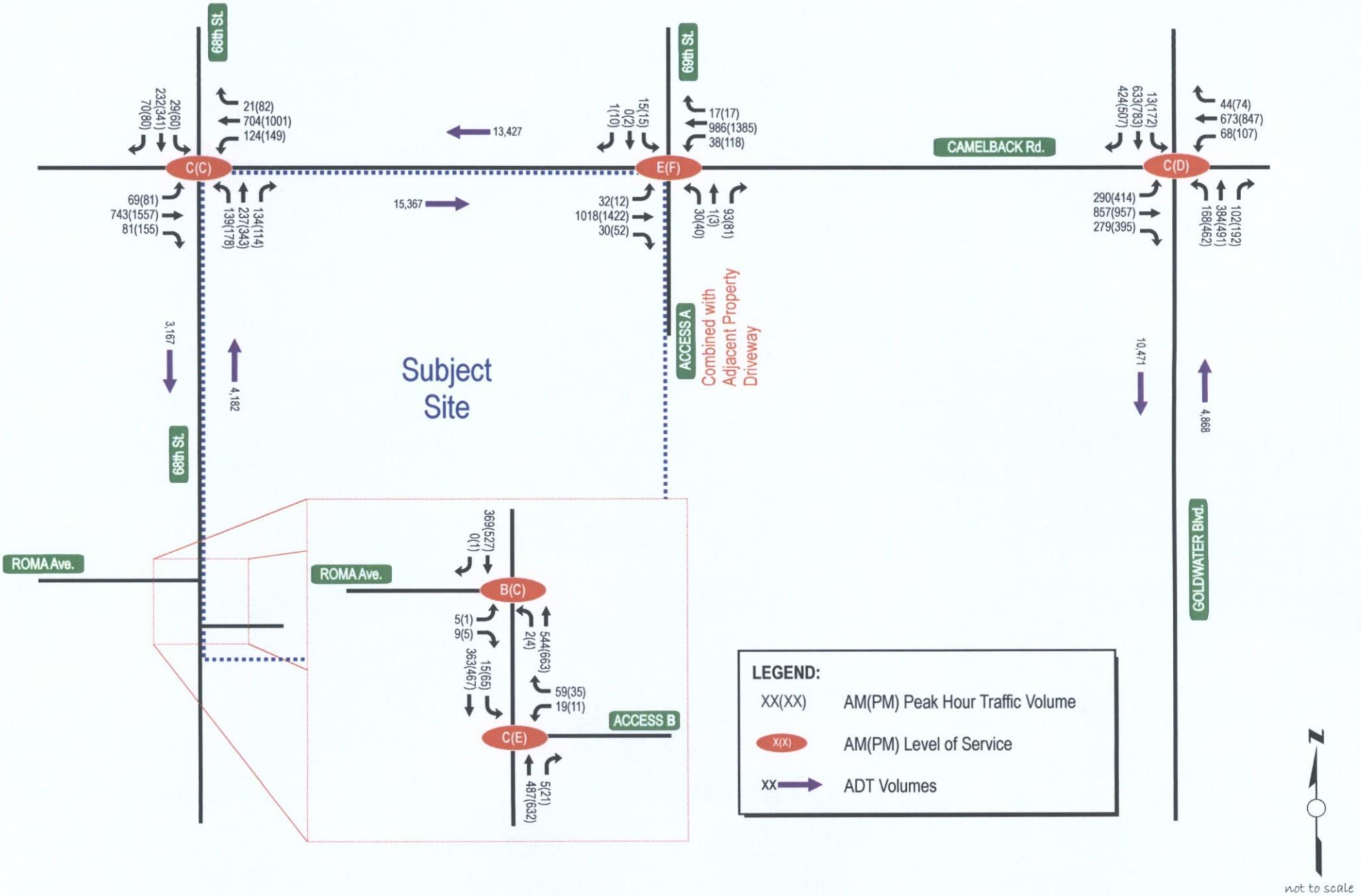

Figure 8: Total Traffic - Year 2015

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VII. TRAFFIC AND IMPROVEMENT ANALYSIS

The purpose of this section is to show the relations between traffic operations and roadway geometrics; identify needs pertaining to progressive traffic flow and safety; and identify alternatives for further consideration.

A. SITE ACCESSIBILITY

The site accessibility for the proposed development was reviewed based on the provided illustrative/conceptual site plan and information from City of Scottsdale engineering staff. The site accessibility was reviewed considering Camelback Road has a minor arterial functional classification within the study area and 68th Street has a minor collector functional classification. The following discussions and recommendations have been provided based on this review.

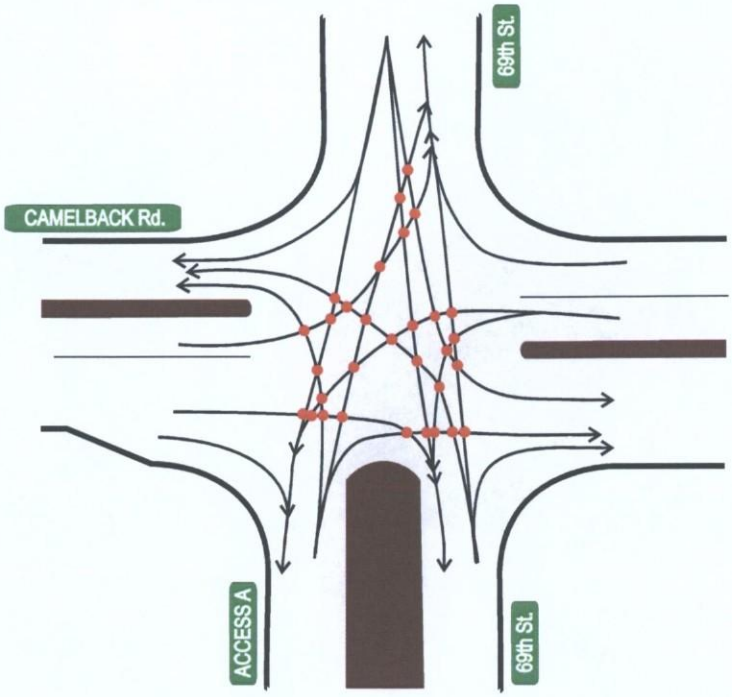
- According to City of Scottsdale engineering staff, site Access A is planned to be combined with the adjacent property's driveway (immediately to the east) to form a full access at the 69th Street-Access A/Camelback Road intersection. The existing conditions include two full accesses 40 feet apart, one for the vacant Orchidtree apartments and one for the adjacent property's access, which utilize the same median opening on Camelback Road. This creates a high number of turning movement crossing conflicts at this location. *Figure 9: Camelback Road and 69th Street/Access A Conflict Diagrams* depicts a comparison of the total number of crossing conflicts for the existing conditions and the total number of crossing conflicts for the planned combined full access intersection. Combining accesses with the adjacent property is the recommended site access configuration for Access A. This combined Access A should be aligned as closely as possible with the existing 69th Street access driveway to the north across Camelback Road. Access A should be constructed with one left-turn lane and one through-right turn lane to accommodate traffic volumes and through movements across Camelback Road.

- Access B is planned to be located approximately in the same location of the now-vacant Orchidtree apartments' site access onto 68th street, which is offset from Roma Avenue by approximately 80 feet. Although offset accesses and driveways are not desirable, due to the low-volume and gated-access nature of Roma Avenue, low volumes of turning conflicts are anticipated and Access B is recommended as a full access. No collisions were noted in the last three years at this location.

- According to section 5-3.200, 5-3.204, and 5-3.205 of the DS&PM, full access driveway Access A should be driveway type CH-2 at a minimum. Full access driveway Access B should be driveway type CH-1 at a minimum.

- Adequate driveway throat or stacking lengths of driveways should be provided at all site accesses. According to section 5-3.204 and 5.3-205 of the DS&PM, the driveway length for Access A and Access B shall be a minimum of 50 feet.

Existing Conditions Conflict gram:



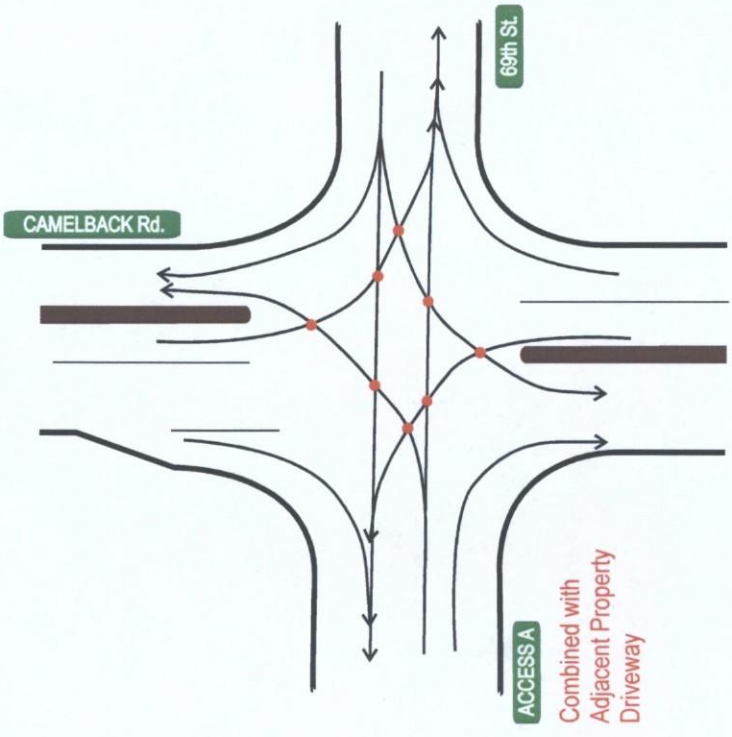
Total crossing conflicts = 30

*Disregarding EB and WB through movements on Camelback Rd.

LEGEND:
Crossing Conflicts

*Note: The actual conflict points are substantially higher when including all conflicts: through movements, merging, and diverging ponits.

Recommended Conditions Conflict Diagram:



Total crossing conflicts = 8

*Disregarding EB and WB through movements on Camelback Rd.

LEGEND:
Crossing Conflicts

N

not to scale

Figure 9: Camelback Road and 69th Street/Access A Conflict Diagrams

B. Deceleration Lane Analyses

B.1. Right-turn Deceleration Lane Analysis

According to Section 5-3 of the City of Scottsdale's *Design Standards and Policies Manual (DS&PM)*, right-turn deceleration lanes are required in conjunction with driveways located on parkways, expressways, and major arterials. Deceleration lanes for driveways may be required on minor arterials and collector streets, and may require additional right of way. The standard storage length for a deceleration lane is 150 feet, with a 100-foot minimum length. If these dimensions are not possible based on existing conditions, modifications must be approved by the Scottsdale Transportation Department. To determine the need for a deceleration lane on streets classified as minor arterial or collector, the following criteria are used:

- At least 5,000 vehicles per day are expected to be using the street.
- The 85th percentile traffic speed on the street is at least 35 mph; or 45 mph for a two lane (one lane in each direction) roadway.
- At least 30 vehicles will be making turns into the driveway during a one-hour period.

Table 9: Warrants for Right-Turn Deceleration Lanes presents the deceleration lane criteria as according to the DS&PM and the associated values for the proposed development's site accesses.

Table 9: Warrants for Right-Turn Deceleration Lanes

Location	ADT Threshold Volume: 5,000 vehicles/day	Speed Threshold Speed: 35mph/45 mph	Turning Vehicle Threshold Volume: 30 vehicles/hour	Warrant Satisfied?
EB Camelback Road at Access A	14,600	40 mph	29	**Yes**
NB 68th Street at Access B	3,600	35 mph	21	**No**

Based on the above criteria, a right-turn deceleration lane is required on eastbound Camelback Road at Access A.

Based on the fact that right-turning vehicles need not stop and queue as they turn into the development, storage length for the right-turn deceleration lane on Camelback Road at Access A may be the minimum length according to the DS&PM, 100 feet. For the posted speed limit of 40 mph on Camelback Road, the taper length shall be 90 feet, which is in accordance with section 430 of the ADOT *Traffic Engineering Policies, Guidelines, and Procedures Manual,* January 2000.

B.2. LEFT-TURN DECELERATION LANE ANALYSIS

The recommended site accessibility allows left-in turning movements into the development at Access A and at Access B. At Access A there is an existing left turn deceleration lane, at Access B there is an existing two-way left-turn lane (TWLTL). *Table 10: Left-turn Lane Storage Lengths* presents the existing left-turn deceleration lane storage lengths as measured in-field at Access A and at the existing intersection of 68th Street and Camelback Road. Table 10 includes the calculated left-turn deceleration lane 95th percentile queue lengths for the existing traffic volumes and for the total year 2015 traffic volumes, for the proposed development's site accesses as well as the existing left-turn lanes at the intersection of 68th Street and Camelback Road. The calculated left-turn deceleration lane 95th percentile queue lengths are based on the TRAFFIX models, calculated according to the *HCM 2000* calculations.

TABLE 10: LEFT-TURN LANE STORAGE LENGTHS

Location	Existing Left-turn Storage Lengths	Calculated Left-turn Queue Lengths Based on Existing 2010 Traffic	Calculated Left-turn Queue Lengths Based on Total 2015 Traffic
WB Camelback Road at Combined Access A	80 feet	< 25 feet	< 25 feet
SB 68th Street at Access B	TWLTL (80 feet)*	N/A	< 25 feet
EB Camelback Road at 68th Street	190 feet	71 feet	82 feet
WB Camelback Road at 68th Street	230 feet	143 feet	206 feet
NB 68th Street at Camelback Road	140 feet	258 feet	319 feet
SB 68th Street at Camelback Road	160 feet	99 feet	119 feet

*** Roma Avenue is offset approximately 80 feet to the north from Access B.**

Based on the above tables, considering the existing conditions and left-turn storage lengths, the existing storage lengths are sufficient for the forecasted 95th percentile queue lengths, as calculated by TRAFFIX. Minimal queuing is forecasted for the left turn deceleration lane on westbound Camelback Road at the combined Access A, this is due to the presence of a traffic signal at the intersection of 68th Street/Camelback Road which provides sufficient gaps for the left-turning vehicles. The northbound 68th Street leg left-turn lane extends into the existing TWLTL on 68th Street, giving additional northbound left-turn storage than the striped 140 feet. Roma Avenue is located approximately 400 feet to the south of Camelback Road and is not impacted.

Figure 10: Recommendations presents the recommended site accessibility and off-site improvements for the Optima Sonoran Village development.

C. SIGHT TRIANGLES

It is recommended that sight triangles be provided at site access points to give drivers exiting the site a clear view of oncoming traffic on 68th Street and Camelback Road. The landscape and hardscape within the site triangles must not obstruct the driver's view of the adjacent travel lanes. After a vehicle has stopped at an intersection, the driver must have sufficient sight distance to make a safe departure through the intersection area. Sight triangles and their appropriate equations are presented in the City of Scottsdale Transportation Design Standards and Policies Manual Figure 5.3-26 and Appendix 5-3C.

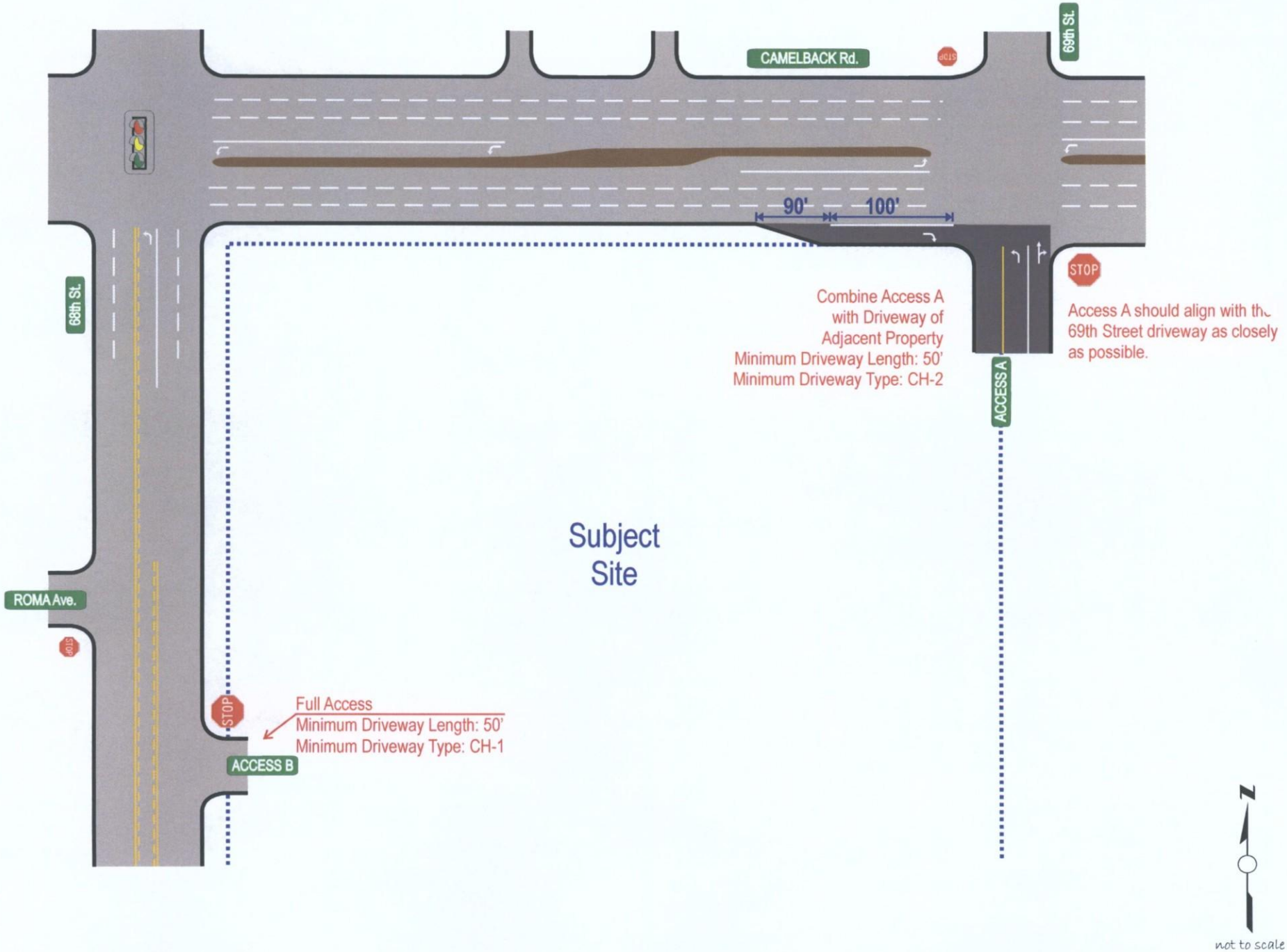


Figure 10: Recommendations

United Civil Group

D. Intersection Level of Service Analyses

Because a roadway system's ability to accommodate traffic demand is typically controlled and limited by the capacity of the intersections, intersection level of service analyses were performed for the horizon year at the major intersection and site driveways throughout the study area. TRAFFIX version 7.9 was utilized to analyze the unsignalized and signalized intersections using the methodologies as presented in the Highway Capacity Manual, *HCM 2000.*

D.1 Background traffic – Year 2015

Capacity analyses at the existing study area intersections were performed using TRAFFIX software for the year 2015 background traffic, as presented in Figure 7. This analysis assumes that the subject site and existing roadways remain in their current condition without the implementation of the proposed development. *Table 11: Levels of Service – 2015 Background Traffic* presents the 2015 background traffic levels of service at the study area intersections within the local area roadway network using the geometrics as shown on Figure 4.

Table 11: Levels of Service – 2015 Background Traffic

Intersection Location	EB	WB	NB	SB	Intersection
68th Street/Camelback Road – signalized					
AM Peak Hour	C	C	C	D	C
PM Peak Hour	C	B	D	D	C
69th Street/Camelback Road – unsignalized					
AM Peak Hour	A	A	E	D	E
PM Peak Hour	B	B	F	D	F
Camelback Road/Goldwater Boulevard – signalized					
AM Peak Hour	B	D	C	D	C
PM Peak Hour	C	D	C	D	D
68th Street/Roma Avenue – unsignalized					
AM Peak Hour	B	-	A	A	B
PM Peak Hour	B	-	A	A	B

As seen in Table 11, the existing intersection of 69th Street/Camelback Road is forecasted to operate at an unacceptable level of service, LOS E and LOS F, during the AM and PM peak hours in the background year 2015. Typically, the stop-controlled minor roads and driveways that intersect with arterial streets experience unacceptable levels of service for short periods of time in the peak hours due to minimal gaps available on the major street creating a greater average total delay for the minor movements, while the free-flowing arterial streets experience minimal delay.

As can be seen in Table 11, the intersections of 68th Street/Camelback Road, Camelback Road/Goldwater Boulevard, and 68th Street/Roma Avenue will continue to operate at acceptable levels of service, LOS D or better, during the AM and PM peak hours in the background year 2015.

D.2 TOTAL TRAFFIC – YEAR 2015

Capacity analyses at the study area intersections and site access intersections were performed using TRAFFIX software for the year 2015 total traffic, as presented on Figure 8. The total traffic incorporates growth-related traffic increases, all existing and recommended lane geometrics, and the site generated traffic. *Table 12: Levels of Service – 2015 Total Traffic* presents the AM and PM levels of service for the year 2015 total traffic conditions.

TABLE 12: LEVELS OF SERVICE – 2015 TOTAL TRAFFIC

Intersection Location	EB	WB	NB	SB	Intersection
68th Street/Camelback Road – signalized					
AM Peak Hour	C	C	C	D	C
PM Peak Hour	C	B	D	D	C
Camelback Road/Goldwater Boulevard – signalized					
AM Peak Hour	C	D	C	D	C
PM Peak Hour	C	D	C	D	D
68th Street/Roma Avenue – unsignalized					
AM Peak Hour	B	-	A	A	B
PM Peak Hour	C	-	A	A	C
69th Street-Access A/Camelback Road – unsignalized					
AM Peak Hour	A	B	E	E	E
PM Peak Hour	B	B	F	F	F
68th Street/Access B – unsignalized					
AM Peak Hour	-	C	A	A	C
PM Peak Hour	-	E	A	A	E

As seen in Table 12, the combined site access intersection of 69th Street-Access A/Camelback Road is forecasted to operate at unacceptable levels of service, LOS E and LOS F, during the AM and PM peak hours, respectively, for the forecasted year 2015 total traffic. Additionally, the site access intersection of 68th Street/Access B is forecasted to operate at an unacceptable level of service, LOS E, during the PM peak hours for the forecasted year 2015 total traffic. Typically, the stop-controlled minor roads and driveways that intersect with arterial streets experience unacceptable levels of service for short periods of time in the peak hours due to minimal gaps available on the major street creating a greater average total delay for the minor movements, while the free-flowing major streets experience minimal delay.

As can be seen in Table 12, the existing intersections of 68th Street/Camelback Road, Camelback Road/Goldwater Boulevard, 68th Street/Roma Avenue are forecasted to continue to operate at acceptable levels of service, LOS D or better, during the AM and PM peak hours in the year 2015. Summaries of the TRAFFIX version 7.9 output calculations are included in Appendix B.

VIII. CONCLUSIONS AND RECOMMENDATIONS

The City of Scottsdale received an application to rezone a 9.89-acre parcel from the existing Service Residential (S-R) designation to Downtown Regional Commercial Office – Type 2 District, Planned Block Development with Downtown Overlay (D/RCO-2 PBD DO). There is also an associated request for a non-major General Plan amendment from Urban Neighborhoods to Downtown Regional Type 2 land use. The requested change in zoning would allow the development of approximately 493 condominium dwelling units in five buildings with 40,000 square feet of retail support services and a 14,000 square foot fitness center that will be available for residents only. The parcel is located on the southeast corner of 68th Street and Camelback Road and was previously occupied by a 278-unit apartment complex.

Existing 24-hour traffic volume counts were collected on Wednesday, January 27, 2010 on 68th Street, Camelback Road, and southbound Goldwater Boulevard. Existing 24-hour traffic volume counts on northbound Goldwater Boulevard were collected on Tuesday, February 2, 2010. 68th Street south of Camelback Road currently carries approximately 6,100 vehicles per day on an average weekday. Camelback Road east of 68th Street currently carries approximately 27,400 vehicles per day on an average weekday. Goldwater Boulevard south of Camelback Road currently carries approximately 14,400 vehicles per day on an average weekday.

United Civil Group collected turning movement counts at the intersections of 68th Street/Camelback Road, 69th Street/Camelback Road, Camelback Road/Goldwater Boulevard, and 68th Street/Roma Avenue on Tuesday, January 26, 2010. The turning movement counts were collected in 15-minute intervals during the AM peak period (7:00 a.m. to 9:00 a.m.) and PM peak period (4:00 p.m. to 6:00 p.m.) with the following results:

- 68th Street/Camelback Road – The AM peak hour was found to be from 7:30 a.m to 8:30 a.m. with 2,300 vehicles entering the intersection. The PM peak hour was found to be between 5:00 p.m. and 6:00 p.m. with 3,711 vehicles entering the intersection.

- 69th Street/Camelback Road – The AM peak hour was found to be from 7:45 a.m to 8:45 a.m. with 1,937 vehicles entering the intersection. The PM peak hour was found to be between 5:00 p.m. and 6:00 p.m. with 2,710 vehicles entering the intersection.

- Camelback Road/Goldwater Boulevard – The AM peak hour was found to be from 7:45 a.m to 8:45 a.m. with 3,523 vehicles entering the intersection. The PM peak hour was found to be between 5:00 p.m. and 6:00 p.m. with 4,873 vehicles entering the intersection.

- 68th Street/Roma Avenue – The AM peak hour was found to be from 7:45 a.m to 8:45 a.m. with 794 vehicles entering the intersection. The PM peak hour was found to be between 5:00 p.m. and 6:00 p.m. with 1,023 vehicles entering the intersection.

The existing levels of service at the study area intersection of 68th Street and Camelback Road are LOS C and LOS C, during the AM and PM peak hours, respectively.

The existing levels of service at the study area intersection of 69th Street and Camelback Road are LOS E and LOS F, during the AM and PM peak hours, respectively.

The existing levels of service at the study area intersection of Goldwater Boulevard and Camelback Road are LOS C and LOS D, during the AM and PM peak hours, respectively.

The existing levels of service at the study area intersection of 68th Street and Roma Avenue are LOS B and LOS B, during the AM and PM peak hours, respectively.

Taking into account the retail portion of the Optima Sonoran Village development is assumed to have 50% internal patronage, the development is forecasted to generate a total of 237 trips in the AM peak hour and 330 trips in the PM peak hour.

Based on an analysis of the site plans of the proposed development, several recommendations should be considered in relation to the site accessibility of the proposed development. Combining access driveways with the adjacent property is the recommended site access configuration for Access A on Camelback Road. This combined Access A should be aligned as closely as possible with the existing 69th Street access driveway to the north across Camelback Road. Access A should be constructed with one left-turn lane and one through-right turn lane to accommodate traffic volumes and through movements across Camelback Road.

Based on City of Scottsdale criteria, a right-turn deceleration lane is warranted for implementation at eastbound Camelback Road at Access A. Storage length for the right-turn deceleration lane shall be a minimum of 100 feet, with a minimum taper length of 90 feet.

The study area intersections of 68th Street/Camelback Road, Camelback Road/Goldwater Boulevard, 68th Street/Roma Avenue are forecasted to continue to operate at acceptable levels of service, LOS D or better, during the AM and PM peak hours for the forecasted year 2015 total traffic.

The combined access intersection of 69th Street-Access A/Camelback Road is forecasted to operate at unacceptable levels of service, LOS E and LOS F, during the AM and PM peak

hours, respectively, for the forecasted year 2015 total traffic. The site access intersection of 68th Street/Access B is forecasted to operate at an unacceptable level of service, LOS E, during the PM peak hours for the forecasted year 2015 total traffic. Typically, the stop-controlled minor roads and driveways that intersect with arterial streets experience unacceptable levels of service for short periods of time in the peak hours due to minimal gaps available on the major street creating a greater average total delay for the minor movements, while the free-flowing major streets experience minimal delay.

It is recommended that sight triangles be provided at site access points to give drivers exiting the site a clear view of oncoming traffic on 68th Street and Camelback Road. Sight triangles and their appropriate equations are presented in the City of Scottsdale Transportation Design Standards and Policies Manual Figure 5.3-26 and Appendix 5-3C.

IX. LIMITATIONS

Our professional services have been performed using the degree of skill ordinarily exercised, under similar circumstances, by reputable transportation engineering firms practicing in this locality. No other warranty, expressed or implied, is made.

The contents of this report are intended for the sole use of the addressee and his/her designees. In completing this report, data was obtained from a variety of sources (i.e. City, County, State and Federal sources); United Civil Group has assumed these sources to be reliable and accurate. Should deviations from this report be noted, this firm shall be contacted for review of the area of concern.

Every reasonable attempt was made to acquire recent traffic impact studies, traffic projections and/or data that may be helpful in more accurately projecting traffic volumes. United Civil Group is not responsible for incorporating data made available after this document has been finalized.

This report is issued with the understanding that it is the responsibility of the owner to see that its provisions are carried out or brought to the attention of those concerned. In the event that any changes of the proposed project are planned, the conclusions and recommendations contained in this report shall be reviewed and the report shall be modified or supplemented as necessary.

X. SOURCES

A Policy on Geometric Design of Highways and Streets, American Association of State Highway and Transportation Officials, 2000.

Arizona Department of Transportation Traffic Engineering Policies, Guidelines and Procedures, January 2000.

Design Standards & Policy Manual, City of Scottsdale, 2008.

Highway Capacity Manual, HCM 2000, Transportation Research Board, 2000.

Manual on Uniform Traffic Control Devices, Federal Highway Administration, MUTCD 2003.

Traffic Engineering Handbook, Institute of Transportation Engineers, 2004.

Transportation Master Plan, City of Scottsdale, 2008.

Trip Generation, 8th Edition. Institute of Transportation Engineers, 2008.

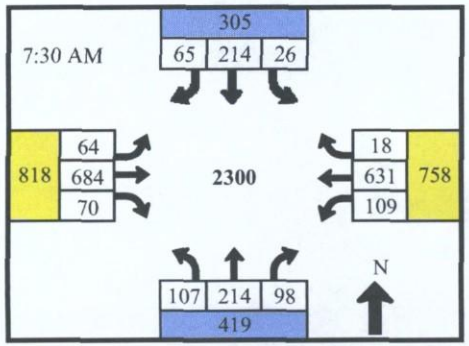
APPENDIX A

Traffic Counts

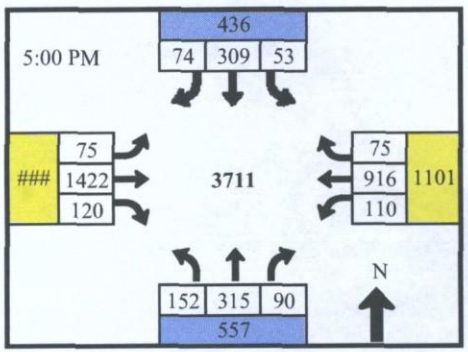
Turning Movement Count

Project No: TR10006
Location: 68th Street and Camelback Road
Intersection Configuration: signalized

26-Jan-10 (Tuesday)



	68th Street Southbound				Camelback Road Westbound				68th Street Northbound				Camelback Road Eastbound				Total	Peak Hour
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds		
7:00 AM	9	25	3	2	1	129	22	6	15	36	17	0	16	125	12	4	410	
7:15 AM	7	21	4	2	2	199	20	3	15	27	19	0	6	126	16	0	462	
7:30 AM	14	50	6	0	4	175	31	0	17	39	33	0	18	148	15	0	550	
7:45 AM	17	50	2	1	3	168	23	1	32	84	27	0	14	194	29	0	643	2065
8:00 AM	24	42	9	0	4	151	27	0	32	45	15	0	21	159	9	0	538	2193
8:15 AM	10	72	9	0	7	137	28	1	17	46	32	0	17	183	11	0	569	2300
8:30 AM	13	34	18	0	5	143	27	1	14	46	16	1	10	144	11	0	481	2231
8:45 AM	12	43	9	0	11	145	11	0	31	45	28	0	12	180	19	0	546	2134
Peak Hour Total	**65**	**214**	**26**	**1**	**18**	**631**	**109**	**2**	**98**	**214**	**107**	**0**	**70**	**684**	**64**	**0**	**2300**	

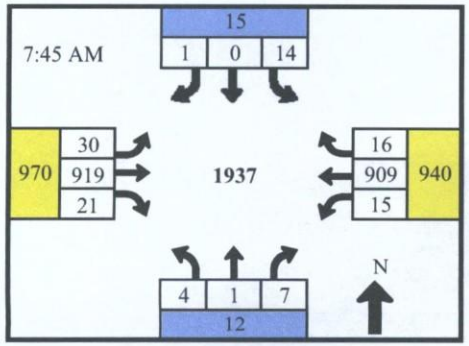


	68th Street Southbound				Camelback Road Westbound				68th Street Northbound				Camelback Road Eastbound				Total	Peak Hour
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds		
4:00 PM	17	64	17	4	23	197	34	1	27	37	29	0	34	220	28	2	727	
4:15 PM	18	58	15	2	14	191	21	3	22	84	37	0	27	238	17	2	742	
4:30 PM	17	74	19	1	21	242	31	1	20	48	25	0	22	239	27	3	785	
4:45 PM	19	54	14	2	21	204	22	2	28	60	20	0	33	235	15	2	725	2979
5:00 PM	17	91	17	0	24	252	27	5	26	87	52	0	26	326	18	0	963	3215
5:15 PM	12	71	10	2	25	242	36	1	18	80	30	0	38	340	22	1	924	3397
5:30 PM	21	84	13	2	7	201	28	2	22	75	39	0	27	379	19	0	915	3527
5:45 PM	24	63	13	0	19	221	19	0	24	73	31	3	29	377	16	3	909	3711
Peak Hour Total	**74**	**309**	**53**	**4**	**75**	**916**	**110**	**8**	**90**	**315**	**152**	**3**	**120**	**1422**	**75**	**4**	**3711**	

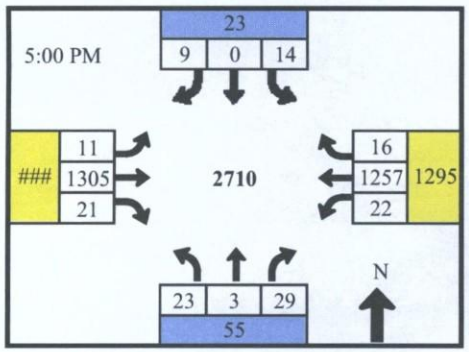
Turning Movement Count

Project No: TR10006
Location: 69th Street and Camelback Road
Intersection Configuration: signalized

26-Jan-10 (Tuesday)



	69th Street Southbound				Camelback Road Westbound				69th Street Northbound				Camelback Road Eastbound				Total	Peak Hour
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds		
7:00 AM	0	0	0	0	2	166	1	0	0	0	0	0	4	124	1	0	298	
7:15 AM	0	0	2	0	1	216	4	1	2	0	1	0	1	133	5	0	365	
7:30 AM	0	0	2	0	2	241	3	0	0	0	1	0	5	164	3	0	421	
7:45 AM	0	0	1	0	1	248	0	1	3	0	1	0	4	266	9	0	533	1617
8:00 AM	0	0	3	0	5	214	4	0	3	1	2	0	7	227	11	0	477	1796
8:15 AM	0	0	4	0	5	238	4	0	0	0	0	0	4	205	7	1	467	1898
8:30 AM	1	0	6	0	5	209	7	1	1	0	1	0	6	221	3	0	460	1937
8:45 AM	3	0	3	0	1	201	5	2	0	0	2	1	6	260	9	0	490	1894
Peak Hour Total	**1**	**0**	**14**	**0**	**16**	**909**	**15**	**2**	**7**	**1**	**4**	**0**	**21**	**919**	**30**	**1**	**1937**	

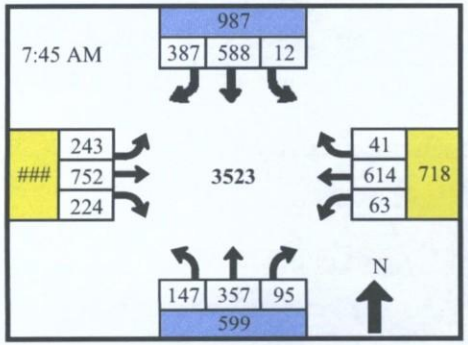


	69th Street Southbound				Camelback Road Westbound				69th Street Northbound				Camelback Road Eastbound				Total	Peak Hour
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds		
4:00 PM	4	0	1	0	5	315	4	2	6	0	0	1	0	258	3	0	596	
4:15 PM	0	0	2	0	3	259	0	2	4	0	2	0	2	284	1	0	557	
4:30 PM	4	0	2	0	1	345	4	2	8	0	3	3	4	264	2	0	637	
4:45 PM	3	0	2	0	2	295	3	2	3	0	2	0	3	296	2	0	611	2401
5:00 PM	0	0	2	0	1	378	6	0	15	1	10	0	3	312	5	0	733	2538
5:15 PM	4	0	4	0	0	307	7	0	3	0	4	0	3	319	4	0	655	2636
5:30 PM	2	0	3	0	12	299	3	1	3	2	7	0	6	333	1	0	671	2670
5:45 PM	3	0	5	0	3	273	6	0	8	0	2	0	9	341	1	0	651	2710
Peak Hour Total	**9**	**0**	**14**	**0**	**16**	**1257**	**22**	**1**	**29**	**3**	**23**	**0**	**21**	**1305**	**11**	**0**	**2710**	

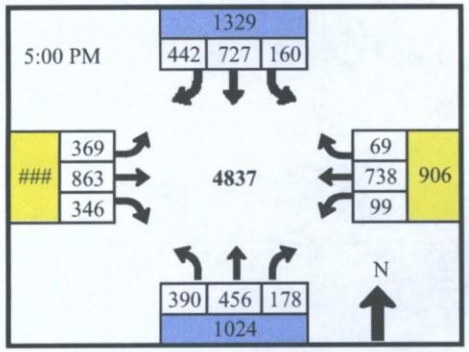
Turning Movement Count

Project No: TR10006
Location: Goldwater Boulevard and Camelback Road
Intersection Configuration: signalized

26-Jan-10 (Tuesday)



	Goldwater Boulevard Southbound				Camelback Road Westbound				Goldwater Boulevard Northbound				Camelback Road Eastbound				Total	Peak Hour
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds		
7:00 AM	72	59	0	0	7	114	4	2	5	34	17	2	20	97	30	0	459	
7:15 AM	127	104	2	2	6	121	4	0	7	50	29	0	24	142	29	1	645	
7:30 AM	130	123	5	0	9	159	16	1	13	74	23	0	48	146	42	0	788	
7:45 AM	95	140	1	0	7	152	18	1	32	88	33	0	64	171	56	0	857	2749
8:00 AM	78	135	6	0	9	130	17	0	18	97	46	0	48	183	78	0	845	3135
8:15 AM	121	173	2	1	10	154	13	0	15	81	33	0	48	179	46	0	875	3365
8:30 AM	93	140	3	2	15	178	15	1	30	91	35	1	64	219	63	2	946	3523
8:45 AM	62	105	9	0	11	97	15	1	16	84	28	1	60	116	67	0	670	3336
Peak Hour Total	**387**	**588**	**12**	**3**	**41**	**614**	**63**	**2**	**95**	**357**	**147**	**1**	**224**	**752**	**243**	**2**	**3523**	

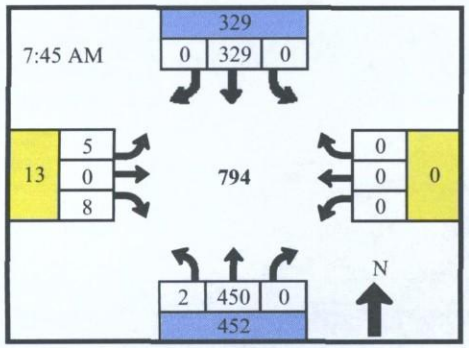


	Goldwater Boulevard Southbound				Camelback Road Westbound				Goldwater Boulevard Northbound				Camelback Road Eastbound				Total	Peak Hour
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds		
4:00 PM	68	116	26	2	33	178	30	1	43	113	72	1	59	181	57	2	976	
4:15 PM	88	103	21	3	21	150	20	0	39	88	71	0	78	170	71	0	920	
4:30 PM	112	146	22	2	16	176	20	1	44	122	81	0	67	167	102	0	1075	
4:45 PM	84	139	21	1	18	206	30	0	25	126	71	2	80	213	73	2	1086	4057
5:00 PM	105	161	14	0	15	187	27	0	42	115	97	2	91	212	99	1	1165	4246
5:15 PM	110	198	39	0	21	185	21	0	39	125	118	1	89	208	90	0	1243	4569
5:30 PM	136	174	65	1	17	174	25	0	52	128	90	0	77	201	78	0	1217	4711
5:45 PM	91	194	42	0	16	192	26	0	45	88	85	2	89	242	102	0	1212	4837
Peak Hour Total	**442**	**727**	**160**	**1**	**69**	**738**	**99**	**0**	**178**	**456**	**390**	**5**	**346**	**863**	**369**	**1**	**4837**	

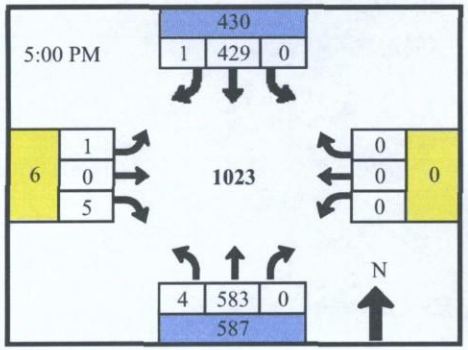
Turning Movement Count

Project No: TR10006
Location: 68th Street and Roma Avenue
Intersection Configuration: signalized

26-Jan-10 (Tuesday)



	68th Street Southbound				Roma Avenue Westbound				68th Street Northbound				Roma Avenue Eastbound				Total	Peak Hour
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds		
7:00 AM	0	50	0	2	0	0	0	0	0	55	0	1	2	0	0	0	107	
7:15 AM	0	46	0	0	0	0	0	0	0	79	1	1	4	0	0	0	130	
7:30 AM	0	73	0	0	0	0	0	0	0	87	0	0	2	0	1	0	163	
7:45 AM	0	89	0	0	0	0	0	0	0	160	0	1	2	0	1	0	252	652
8:00 AM	0	85	0	0	0	0	0	0	0	98	1	0	2	0	0	0	186	731
8:15 AM	0	81	0	0	0	0	0	0	0	101	0	2	3	0	1	0	186	787
8:30 AM	0	74	0	0	0	0	0	0	0	91	1	1	1	0	3	0	170	794
8:45 AM	0	73	0	0	0	0	0	0	0	109	0	0	3	0	2	0	187	729
Peak Hour Total	**0**	**329**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**450**	**2**	**4**	**8**	**0**	**5**	**0**	**794**	



	68th Street Southbound				Roma Avenue Westbound				68th Street Northbound				Roma Avenue Eastbound				Total	Peak Hour
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds		
4:00 PM	2	116	0	2	0	0	0	0	0	119	1	1	0	0	1	0	239	
4:15 PM	1	83	0	3	0	0	0	0	0	151	2	2	1	0	3	0	241	
4:30 PM	0	126	0	3	0	0	0	0	0	84	1	1	1	0	1	0	213	
4:45 PM	0	96	0	0	0	0	0	0	0	138	1	1	1	0	0	0	236	929
5:00 PM	0	106	0	1	0	0	0	0	0	142	1	3	0	0	1	0	250	940
5:15 PM	1	125	0	1	0	0	0	0	0	172	1	1	0	0	0	0	299	998
5:30 PM	0	107	0	1	0	0	0	0	0	124	2	1	4	0	0	0	237	1022
5:45 PM	0	91	0	1	0	0	0	0	0	145	0	0	1	0	0	0	237	1023
Peak Hour Total	**1**	**429**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**583**	**4**	**5**	**5**	**0**	**1**	**0**	**1023**	

United Civil Group

2803 N 7th Avenue, # 16
602-265-6155

Street: 68th Street
Location: S. of Camelback Road

Site: TR10006
Date: 01/27/2010
Wednesday

24 Hour Volume

Begin	NB		SB		Combined		Begin	NB		SB		Combined	
00:00	5	19	6	12	11	31	12:00	52	234	46	185	98	419
00:15	2		2		4		12:15	67		50		117	
00:30	7		3		10		12:30	53		39		92	
00:45	5		1		6		12:45	62		50		112	
01:00	2	7	1	4	3	11	13:00	56	235	56	186	112	421
01:15	2		1		3		13:15	53		50		103	
01:30	3		1		4		13:30	54		35		89	
01:45	0		1		1		13:45	72		45		117	
02:00	4	9	1	9	5	18	14:00	60	227	47	184	107	411
02:15	2		2		4		14:15	54		44		98	
02:30	1		3		4		14:30	52		38		90	
02:45	2		3		5		14:45	61		55		116	
03:00	2	6	0	2	2	8	15:00	52	242	56	202	108	444
03:15	2		0		2		15:15	57		40		97	
03:30	1		2		3		15:30	69		54		123	
03:45	1		0		1		15:45	64		52		116	
04:00	4	13	0	2	4	15	16:00	78	288	51	226	129	514
04:15	0		0		0		16:15	75		46		121	
04:30	5		1		6		16:30	71		68		139	
04:45	4		1		5		16:45	64		61		125	
05:00	7	48	2	12	9	60	17:00	90	340	56	249	146	589
05:15	11		4		15		17:15	82		67		149	
05:30	11		6		17		17:30	89		62		151	
05:45	19		0		19		17:45	79		64		143	
06:00	26	137	12	50	38	187	18:00	77	231	48	186	125	417
06:15	23		11		34		18:15	51		49		100	
06:30	41		15		56		18:30	60		47		107	
06:45	47		12		59		18:45	43		42		85	
07:00	50	264	24	122	74	386	19:00	32	118	35	121	67	239
07:15	55		31		86		19:15	28		35		63	
07:30	80		29		109		19:30	27		26		53	
07:45	79		38		117		19:45	31		25		56	
08:00	81	293	47	155	128	448	20:00	28	91	28	101	56	192
08:15	57		44		101		20:15	23		25		48	
08:30	77		28		105		20:30	18		27		45	
08:45	78		36		114		20:45	22		21		43	
09:00	56	220	36	128	92	348	21:00	22	79	25	93	47	172
09:15	54		35		89		21:15	23		28		51	
09:30	52		23		75		21:30	18		17		35	
09:45	58		34		92		21:45	16		23		39	
10:00	40	167	28	93	68	260	22:00	15	45	23	70	38	115
10:15	45		13		58		22:15	12		23		35	
10:30	39		30		69		22:30	11		11		22	
10:45	43		22		65		22:45	7		13		20	
11:00	48	215	31	119	79	334	23:00	6	19	10	36	16	55
11:15	65		26		91		23:15	4		13		17	
11:30	45		29		74		23:30	5		7		12	
11:45	57		33		90		23:45	4		6		10	

	NB	SB	Combined
24 Hour Volume	3547 (58.2%)	2547 (41.8%)	6094

	00:00 - 12:00			12:00 - 00:00		
	NB	SB	Combined	NB	SB	Combined
Count	1398	708	2106	2149	1839	3988
	66.4 %	33.6 %		53.9 %	46.1 %	
Peak Hour	07:30	07:30	07:30	17:00	16:30	17:00
Volume	297	158	455	340	252	589
Factor	0.92	0.84	0.89	0.94	0.93	0.98

United Civil Group

2803 N 7th Avenue, # 16
602-265-6155

Street: Camelback Road
Location: E. of 68th Street

Site: TR10006
Date: 01/27/2010
Wednesday

24 Hour Volume

Begin	WB		EB		Combined		Begin	WB		EB		Combined	
00:00	31	77	20	77	51	154	12:00	213	799	288	1048	501	1847
00:15	14		26		40		12:15	205		245		450	
00:30	18		19		37		12:30	162		247		409	
00:45	14		12		26		12:45	219		268		487	
01:00	19	53	16	44	35	97	13:00	241	890	246	1067	487	1957
01:15	11		16		27		13:15	211		259		470	
01:30	10		6		16		13:30	219		273		492	
01:45	13		6		19		13:45	219		289		508	
02:00	14	58	7	23	21	81	14:00	196	804	250	973	446	1777
02:15	16		7		23		14:15	191		239		430	
02:30	18		5		23		14:30	190		231		421	
02:45	10		4		14		14:45	227		253		480	
03:00	2	19	5	20	7	39	15:00	250	882	225	1033	475	1915
03:15	3		2		5		15:15	205		258		463	
03:30	8		6		14		15:30	224		269		493	
03:45	6		7		13		15:45	203		281		484	
04:00	8	50	9	45	17	95	16:00	231	932	255	1136	486	2068
04:15	11		10		21		16:15	238		296		534	
04:30	10		6		16		16:30	214		274		488	
04:45	21		20		41		16:45	249		311		560	
05:00	15	120	18	138	33	258	17:00	308	1019	295	1346	603	2365
05:15	23		25		48		17:15	280		351		631	
05:30	41		31		72		17:30	230		346		576	
05:45	41		64		105		17:45	201		354		555	
06:00	51	357	58	378	109	735	18:00	225	847	332	1057	557	1904
06:15	75		72		147		18:15	239		278		517	
06:30	101		91		192		18:30	204		254		458	
06:45	130		157		287		18:45	179		193		372	
07:00	156	784	118	707	274	1491	19:00	191	648	182	589	373	1237
07:15	179		152		331		19:15	174		162		336	
07:30	212		175		387		19:30	139		120		259	
07:45	237		262		499		19:45	144		125		269	
08:00	203	731	216	929	419	1660	20:00	154	616	128	485	282	1101
08:15	175		206		381		20:15	144		110		254	
08:30	181		232		413		20:30	164		136		300	
08:45	172		275		447		20:45	154		111		265	
09:00	152	621	197	833	349	1454	21:00	153	552	112	377	265	929
09:15	158		202		360		21:15	157		112		269	
09:30	158		218		376		21:30	142		85		227	
09:45	153		216		369		21:45	100		68		168	
10:00	138	616	231	894	369	1510	22:00	118	319	64	277	182	596
10:15	153		213		366		22:15	71		90		161	
10:30	144		213		357		22:30	63		66		129	
10:45	181		237		418		22:45	67		57		124	
11:00	183	739	243	981	426	1720	23:00	50	168	45	156	95	324
11:15	178		232		410		23:15	41		35		76	
11:30	189		245		434		23:30	43		38		81	
11:45	189		261		450		23:45	34		38		72	

	WB	EB	Combined
24 Hour Volume	12701 (46.5%)	14613 (53.5%)	27314

	00:00 - 12:00			12:00 - 00:00		
	WB	EB	Combined	WB	EB	Combined
Count	4225	5069	9294	8476	9544	18020
	45.5 %	54.5 %		47.0 %	53.0 %	
Peak Hour	07:15	11:00	11:00	16:45	17:15	16:45
Volume	831	981	1720	1067	1383	2370
Factor	0.88	0.94	0.96	0.87	0.98	0.94

United Civil Group

2803 N 7th Avenue, # 16
602-265-6155

Street: Goldwater Boulevard
Location: S. of Camelback Road

Site: TR10006
Date: 02/02/2010
Tuesday

24 Hour Volume, per Channel
Channel: NB

Interval Begin			Interval Begin		
00:00	2	5	12:00	67	285
00:15	1		12:15	87	
00:30	0		12:30	46	
00:45	2		12:45	85	
01:00	3	9	13:00	84	311
01:15	0		13:15	61	
01:30	1		13:30	74	
01:45	5		13:45	92	
02:00	3	28	14:00	62	253
02:15	7		14:15	51	
02:30	5		14:30	58	
02:45	13		14:45	82	
03:00	7	84	15:00	61	311
03:15	17		15:15	82	
03:30	24		15:30	88	
03:45	36		15:45	80	
04:00	25	184	16:00	69	262
04:15	47		16:15	72	
04:30	42		16:30	37	
04:45	70		16:45	84	
05:00	80	387	17:00	45	198
05:15	103		17:15	60	
05:30	118		17:30	50	
05:45	86		17:45	43	
06:00	103	424	18:00	33	118
06:15	103		18:15	30	
06:30	128		18:30	19	
06:45	90		18:45	36	
07:00	82	295	19:00	24	83
07:15	63		19:15	21	
07:30	71		19:30	28	
07:45	79		19:45	10	
08:00	61	264	20:00	12	69
08:15	80		20:15	20	
08:30	62		20:30	17	
08:45	61		20:45	20	
09:00	80	290	21:00	11	35
09:15	72		21:15	11	
09:30	66		21:30	7	
09:45	72		21:45	6	
10:00	57	244	22:00	7	17
10:15	58		22:15	5	
10:30	51		22:30	3	
10:45	78		22:45	2	
11:00	72	268	23:00	3	6
11:15	72		23:15	3	
11:30	67		23:30	0	
11:45	57		23:45	0	

	NB
24 Hour Volume	4430

	00:00 - 12:00	12:00 - 00:00
	NB	NB
Count	2482	1948
Peak Hour	06:00	15:15
Volume	424	319
Factor	0.83	0.91

United Civil Group

2803 N 7th Avenue, # 16
602-265-6155

Street: Goldwater Boulevard
Location: S. of Camelback Road

Site: TR10006
Date: 01/27/2010
Wednesday

24 Hour Volume, per Channel
Channel: SB

Interval Begin			Interval Begin		
00:00	22	53	12:00	176	727
00:15	12		12:15	167	
00:30	14		12:30	170	
00:45	5		12:45	214	
01:00	6	25	13:00	196	783
01:15	7		13:15	208	
01:30	4		13:30	186	
01:45	8		13:45	193	
02:00	4	15	14:00	164	679
02:15	8		14:15	177	
02:30	1		14:30	171	
02:45	2		14:45	167	
03:00	4	11	15:00	196	731
03:15	2		15:15	174	
03:30	2		15:30	182	
03:45	3		15:45	179	
04:00	1	22	16:00	199	772
04:15	5		16:15	215	
04:30	9		16:30	166	
04:45	7		16:45	192	
05:00	11	60	17:00	234	909
05:15	16		17:15	252	
05:30	14		17:30	214	
05:45	19		17:45	209	
06:00	26	181	18:00	178	613
06:15	35		18:15	169	
06:30	43		18:30	142	
06:45	77		18:45	124	
07:00	75	507	19:00	105	375
07:15	98		19:15	89	
07:30	150		19:30	90	
07:45	184		19:45	91	
08:00	166	638	20:00	81	314
08:15	169		20:15	88	
08:30	152		20:30	83	
08:45	151		20:45	62	
09:00	148	593	21:00	96	305
09:15	133		21:15	88	
09:30	161		21:30	64	
09:45	151		21:45	57	
10:00	177	627	22:00	66	196
10:15	158		22:15	50	
10:30	142		22:30	55	
10:45	150		22:45	25	
11:00	151	677	23:00	38	137
11:15	168		23:15	32	
11:30	157		23:30	32	
11:45	201		23:45	35	

	SB
24 Hour Volume	9950

	00:00 - 12:00	12:00 - 00:00
	SB	SB
Count	3409	6541
Peak Hour	11:00	17:00
Volume	677	909
Factor	0.84	0.90

APPENDIX B

Capacity Analyses

Scenario Report

Scenario:	Existing AM
Command:	Default Command
Volume:	Existing AM
Geometry:	Existing
Impact Fee:	Default Impact Fee
Trip Generation:	None
Trip Distribution:	None
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Turning Movement Report
None

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#1 68th Street & Camelback Road													
Base	107	214	98	26	214	65	64	684	70	109	631	18	2300
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	107	214	98	26	214	65	64	684	70	109	631	18	2300
#2 Camelback Road & 69th Street Access A Combined													
Base	4	1	7	14	0	1	30	919	21	15	909	16	1937
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	4	1	7	14	0	1	30	919	21	15	909	16	1937
#3 Camelback Road & Goldwater Boulevard													
Base	147	357	95	12	588	387	243	752	224	63	614	41	3523
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	147	357	95	12	588	387	243	752	224	63	614	41	3523
#4 68th Street & Roma Avenue													
Base	2	450	0	0	329	0	5	0	8	0	0	0	794
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	450	0	0	329	0	5	0	8	0	0	0	794
#5 68th Street & Access B													
Base	0	452	0	0	337	0	0	0	0	0	0	0	789
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	452	0	0	337	0	0	0	0	0	0	0	789

Traffix 7.9.0415 (c) 2007 Dowling Assoc. Licensed to UNITED CIVIL GP, PHOENIX

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 68th Street & Camelback Road

Cycle (sec):	120	Critical Vol./Cap.(X):	0.403
Loss Time (sec):	0 (Y+R=7.0 sec)	Average Delay (sec/veh):	26.0
Optimal Cycle:	37	Level Of Service:	C

Street Name:	68th Street						Camelback Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permit+Prot			Permit+Prot			Permit+Prot			Permit+Prot		
Rights:	Include			Include			Include			Include		
Min. Green:	4	8	8	4	8	8	4	10	10	4	10	10
Lanes:	1	0	2	1	0	1	0	1	0	2	1	0	1	0	2	1	0
Volume Module:												
Base Vol:	107	214	98	26	214	65	64	684	70	109	631	18
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	107	214	98	26	214	65	64	684	70	109	631	18
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	107	214	98	26	214	65	64	684	70	109	631	18
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	119	238	109	29	238	72	71	760	78	121	701	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	119	238	109	29	238	72	71	760	78	121	701	20
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	119	238	109	29	238	72	71	760	78	121	701	20
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.53	0.91	0.91	0.36	0.92	0.92	0.32	0.90	0.90	0.58	0.91	0.91
Lanes:	1.00	1.37	0.63	1.00	1.53	0.47	1.00	2.72	0.28	1.00	2.92	0.08
Final Sat.:	1014	2360	1081	677	2672	812	602	4640	475	714	5023	143
Capacity Analysis Module:												
Vol./Sat:	0.12	0.10	0.10	0.04	0.09	0.09	0.12	0.16	0.16	0.17	0.14	0.14
Crit Moves:	****				****			****			****	
Green/Cycle:	0.40	0.30	0.30	0.33	0.23	0.23	0.56	0.42	0.42	0.60	0.47	0.47
Volume/Cap:	0.29	0.33	0.33	0.09	0.39	0.39	0.15	0.39	0.39	0.24	0.30	0.30
Uniform Del:	30.8	32.5	32.5	34.6	39.0	39.0	19.2	23.8	23.8	20.2	19.8	19.8
IncrmntDel:	0.3	0.2	0.2	0.1	0.3	0.3	0.2	0.1	0.1	0.3	0.1	0.1
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	31.1	32.7	32.7	34.7	39.3	39.3	19.3	23.9	23.9	20.4	19.9	19.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.1	32.7	32.7	34.7	39.3	39.3	19.3	23.9	23.9	20.4	19.9	19.9
LOS by Move:	C	C	C	C	D	D	B	C	C	C	B	B
HCM2k95thQ:	149	254	254	39	254	254	68	362	362	112	284	284

Note: Queue reported is the distance per lane in feet.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 Camelback Road & 69th Street_Access A Combined

Average Delay (sec/veh): 0.6 Worst Case Level Of Service: D[28.3]

Street Name:	69th Street_Access A Combined						Camelback Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 1	0	0 1	0	0 1!	0 0	1	0 2	1 0	1	0 2	1 0
Volume Module:												
Base Vol:	4	1	7	14	0	1	30	919	21	15	909	16
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	4	1	7	14	0	1	30	919	21	15	909	16
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	4	1	7	14	0	1	30	919	21	15	909	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	4	1	8	16	0	1	33	1021	23	17	1010	18
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	4	1	8	16	0	1	33	1021	23	17	1010	18
Critical Gap Module:												
Critical Gp:	7.5	6.5	6.9	7.5	6.5	6.9	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1013	1808	0	1002	1811	0	689	xxxx	xxxxx	728	xxxx	xxxxx
Potent Cap.:	170	69	825	173	69	820	834	xxxx	xxxxx	810	xxxx	xxxxx
Move Cap.:	162	65	825	162	65	820	834	xxxx	xxxxx	810	xxxx	xxxxx
Volume/Cap:	0.03	0.02	0.01	0.10	0.00	0.00	0.04	xxxx	xxxx	0.02	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	0.7	xxxx	xxxx	xxxxx	3.1	xxxx	xxxxx	1.6	xxxx	xxxxx
Control Del:	xxxxx	xxxx	9.4	xxxxx	xxxx	xxxxx	9.5	xxxx	xxxxx	9.5	xxxx	xxxxx
LOS by Move:	*	*	A	*	*	*	A	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	125	xxxx	xxxxx	xxxx	171	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	0.1	xxxx	xxxxx	xxxxx	0.3	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	35.1	xxxx	xxxxx	xxxxx	28.3	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	E	*	*	*	D	*	*	*	*	*	*	*
ApproachDel:	20.1			28.3			xxxxxx			xxxxxx		
ApproachLOS:	C			D			*			*		

Note: Queue reported is the distance per lane in feet.

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Camelback Road & Goldwater Boulevard

Cycle (sec): 120 Critical Vol./Cap.(X): 0.440
Loss Time (sec): 0 (Y+R=7.0 sec) Average Delay (sec/veh): 30.3
Optimal Cycle: 42 Level Of Service: C

Street Name:	Goldwater Boulevard						Camelback Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permit+Prot			Permit+Prot		
Rights:	Ignore			Ignore			Ignore			Ignore		
Min. Green:	4	10	10	4	10	10	4	10	10	4	10	10
Lanes:	2 0	2	0 1	2	0 3	0 1	1	0 3	0 1	1	0 2	1 0
Volume Module:												
Base Vol:	147	357	95	12	588	387	243	752	224	63	614	41
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	147	357	95	12	588	387	243	752	224	63	614	41
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	147	357	95	12	588	387	243	752	224	63	614	41
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	0.90	0.90	0.00	0.90	0.90	0.00	0.90	0.90	0.00	0.90	0.90	0.00
PHF Volume:	163	397	0	13	653	0	270	836	0	70	682	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	163	397	0	13	653	0	270	836	0	70	682	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	163	397	0	13	653	0	270	836	0	70	682	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	1.00	0.92	0.91	1.00	0.56	0.91	1.00	0.23	0.91	0.91
Lanes:	2.00	2.00	1.00	2.00	3.00	1.00	1.00	3.00	1.00	1.00	3.00	0.00
Final Sat.:	3502	3610	1900	3502	5187	1900	1056	5187	1900	446	5187	0
Capacity Analysis Module:												
Vol/Sat:	0.05	0.11	0.00	0.00	0.13	0.00	0.26	0.16	0.00	0.16	0.13	0.00
Crit Moves:	****				****		****			****		
Green/Cycle:	0.10	0.29	0.00	0.09	0.28	0.00	0.62	0.50	0.00	0.41	0.29	0.00
Volume/Cap:	0.45	0.38	0.00	0.04	0.45	0.00	0.38	0.32	0.00	0.21	0.45	0.00
Uniform Del:	50.7	33.8	0.0	50.0	35.8	0.0	22.6	17.9	0.0	32.5	34.8	0.0
IncremntDel:	0.9	0.2	0.0	0.1	0.2	0.0	0.3	0.1	0.0	0.3	0.2	0.0
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Delay/Veh:	51.6	34.0	0.0	50.1	36.1	0.0	22.9	18.0	0.0	32.8	35.1	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	51.6	34.0	0.0	50.1	36.1	0.0	22.9	18.0	0.0	32.8	35.1	0.0
LOS by Move:	D	C	A	D	D	A	C	B	A	C	D	A
HCM2k95thQ:	171	295	0	13	351	0	247	314	0	91	361	0

Note: Queue reported is the distance per lane in feet.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #4 68th Street & Roma Avenue

Average Delay (sec/veh): 0.2 Worst Case Level Of Service: B[12.8]

Street Name:	68th Street						Roma Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 1	0	0	0 0 1	0	0	0 0 1!	0	0	0 0 0	0	0
Volume Module:												
Base Vol:	2 450	0		0 329	0		5	0	8	0	0	0
Growth Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2 450	0		0 329	0		5	0	8	0	0	0
Added Vol:	0 0	0		0 0	0		0	0	0	0	0	0
PasserByVol:	0 0	0		0 0	0		0	0	0	0	0	0
Initial Fut:	2 450	0		0 329	0		5	0	8	0	0	0
User Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90 0.90	0.90		0.90 0.90	0.90		0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	2 500	0		0 366	0		6	0	9	0	0	0
Reduct Vol:	0 0	0		0 0	0		0	0	0	0	0	0
FinalVolume:	2 500	0		0 366	0		6	0	9	0	0	0
Critical Gap Module:												
Critical Gp:	4.1 xxxx xxxxx			xxxxx xxxx xxxxx			6.4	6.5	6.2	xxxxx xxxx xxxxx		
FollowUpTim:	2.2 xxxx xxxxx			xxxxx xxxx xxxxx			3.5	4.0	3.3	xxxxx xxxx xxxxx		
Capacity Module:												
Cnflict Vol:	366 xxxx xxxxx			xxxx xxxx xxxxx			812	812	366	xxxx xxxx xxxxx		
Potent Cap.:	1204 xxxx xxxxx			xxxx xxxx xxxxx			322	289	684	xxxx xxxx xxxxx		
Move Cap.:	1204 xxxx xxxxx			xxxx xxxx xxxxx			321	288	684	xxxx xxxx xxxxx		
Volume/Cap:	0.00 xxxx xxxx			xxxx xxxx xxxx			0.02	0.00	0.01	xxxx xxxx xxxx		
Level Of Service Module:												
2Way95thQ:	0.1 xxxx xxxxx			xxxx xxxx xxxxx			xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	8.0 xxxx xxxxx			xxxxx xxxx xxxxx			xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A *	*		* *	*		*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx xxxx xxxxx			xxxx xxxx xxxxx			xxxx	477	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx xxxx xxxxx			xxxxx xxxx xxxxx			xxxxx	0.1	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx xxxx xxxxx			xxxxx xxxx xxxxx			xxxxx	12.8	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	* *	*		* *	*		*	B	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			12.8			xxxxxx		
ApproachLOS:	*			*			B			*		

Note: Queue reported is the distance per lane in feet.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #5 68th Street & Access B

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: A[0.0]

Street Name:	68th Street						Access B					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1	0	0	0 0 1	0	0	0 0 0	0	0	0 0 0	0	0
Volume Module:												
Base Vol:	0	452	0	0	337	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	452	0	0	337	0	0	0	0	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	452	0	0	337	0	0	0	0	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	0	502	0	0	374	0	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	502	0	0	374	0	0	0	0	0	0	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	*			*			*			*		

Note: Queue reported is the distance per lane in feet.

Scenario Report

Scenario:	Existing PM
Command:	Default Command
Volume:	Existing PM
Geometry:	Existing
Impact Fee:	Default Impact Fee
Trip Generation:	None
Trip Distribution:	None
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Turning Movement Report
None

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#1 68th Street & Camelback Road													
Base	152	315	90	53	309	74	75	1422	120	110	916	75	3721
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	152	315	90	53	309	74	75	1422	120	110	916	75	3721
#2 Camelback Road & 69th Street_Access A Combined													
Base	23	3	29	14	0	9	11	1305	21	22	1257	16	2710
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	23	3	29	14	0	9	11	1305	21	22	1257	16	2710
#3 Camelback Road & Goldwater Boulevard													
Base	390	436	178	160	727	442	369	863	346	99	738	69	4837
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	390	436	178	160	727	442	369	863	346	99	738	69	4837
#4 68th Street & Roma Avenue													
Base	4	583	0	0	429	1	1	0	5	0	0	0	1023
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	4	583	0	0	429	1	1	0	5	0	0	0	1023
#5 68th Street & Access B													
Base	0	587	0	0	434	0	0	0	0	0	0	0	1021
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	587	0	0	434	0	0	0	0	0	0	0	1021

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 68th Street & Camelback Road

Cycle (sec):	120	Critical Vol./Cap.(X):	0.751
Loss Time (sec):	0 (Y=R=7.0 sec)	Average Delay (sec/veh):	25.1
Optimal Cycle:	60	Level Of Service:	C

Street Name:	68th Street						Camelback Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permit+Prot			Permit+Prot			Permit+Prot			Permit+Prot		
Rights:	Include			Include			Include			Include		
Min. Green:	4	8	8	4	8	8	4	10	10	4	10	10
Lanes:	1	0 1	1 0	1	0 1	1 0	1	0 2	1 0	1	0 2	1 0
Volume Module:												
Base Vol:	152	315	90	53	309	74	75	1422	120	110	916	75
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	152	315	90	53	309	74	75	1422	120	110	916	75
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	152	315	90	53	309	74	75	1422	120	110	916	75
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	169	350	100	59	343	82	83	1580	133	122	1018	83
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	169	350	100	59	343	82	83	1580	133	122	1018	83
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	169	350	100	59	343	82	83	1580	133	122	1018	83
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.42	0.92	0.92	0.22	0.92	0.92	0.24	0.90	0.99	0.13	0.90	0.90
Lanes:	1.00	2.56	0.44	1.00	1.61	0.39	1.00	2.77	0.23	1.00	2.77	0.23
Final Sat.:	802	2715	776	411	2828	677	454	4726	399	252	4742	388
Capacity Analysis Module:												
Vol/Sat:	0.21	0.13	0.13	0.14	0.12	0.12	0.18	0.33	0.33	0.48	0.21	0.21
Crit Moves:	****									****		
Green/Cycle:	0.35	0.28	0.28	0.27	0.20	0.20	0.65	0.54	0.54	0.65	0.54	0.54
Volume/Cap:	0.48	0.47	0.47	0.28	0.62	0.62	0.21	0.62	0.62	0.45	0.40	0.40
Uniform Del:	41.8	36.0	36.0	45.3	44.1	44.1	17.0	18.9	18.9	37.8	16.4	16.4
IncremntDel:	1.0	0.4	0.4	0.7	1.7	1.7	0.3	0.4	0.4	1.2	0.1	0.1
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	42.8	36.4	36.4	46.1	45.8	45.8	17.2	19.3	19.3	39.0	16.5	16.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.8	36.4	36.4	46.1	45.8	45.8	17.2	19.3	19.3	39.0	16.5	16.5
LOS by Move:	D	D	D	D	D	D	B	B	B	D	B	B
HCM2x95thQ:	258	351	351	99	390	390	71	697	697	143	403	403

Note: Queue reported is the distance per lane in feet.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 Camelback Road & 69th Street_Access A Combined

Average Delay (sec/veh): 1.1 Worst Case Level Of Service: E[36.6]

Street Name:	69th Street Access A Combined									Camelback Road								
Approach:	North Bound					South Bound				East Bound					West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign					Stop Sign					Uncontrolled					Uncontrolled				
Rights:	Include					Include					Include					Include				
Lanes:	0	1	0	0	1	0	0	1!	0	0	1	0	2	1	0	1	0	2	1	0
Volume Module:																				
Base Vol:	23		3		29	14		0		9	11	1305		21		22	1257		16	
Growth Adj:	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00
Initial Bse:	23		3		29	14		0		9	11	1305		21		22	1257		16	
Added Vol:	0		0		0	0		0		0	0	0		0		0	0		0	
PasserByVol:	0		0		0	0		0		0	0	0		0		0	0		0	
Initial Fut:	23		3		29	14		0		9	11	1305		21		22	1257		16	
User Adj:	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00
PHF Adj:	0.90	0.90		0.90	0.90	0.90	0.90		0.90	0.90	0.90	0.90		0.90	0.90	0.90	0.90		0.90	0.90
PHF Volume:	26		3		32	16		0		10	12	1450		23		24	1397		18	
Reduct Vol:	0		0		0	0		0		0	0	0		0		0	0		0	
FinalVolume:	26		3		32	16		0		10	12	1450		23		24	1397		18	
Critical Gap Module:																				
Critical Gp:	7.5	6.5		6.9		7.5	6.5		6.9		4.1	xxxx	xxxxx			4.1	xxxx	xxxxx		
FollowUpTim:	3.5	4.0		3.3		3.5	4.0		3.3		2.2	xxxx	xxxxx			2.2	xxxx	xxxxx		
Capacity Module:																				
Cnflict Vol:	1040	2354		0		990	2358		0		754	xxxx	xxxxx			766	xxxx	xxxxx		
Potent Cap.:	135		26		730	147		26		741	713	xxxx	xxxxx			694	xxxx	xxxxx		
Move Cap.:	128		25		730	121		25		741	713	xxxx	xxxxx			694	xxxx	xxxxx		
Volume/Cap:	0.20	0.13		0.04		0.13	0.00		0.01		0.02	xxxx	xxxx			0.04	xxxx	xxxx		
Level Of Service Module:																				
2Way95thQ:	xxxx	xxxx		3.5		xxxx	xxxx		xxxxx		1.3	xxxx	xxxxx			2.7	xxxx	xxxxx		
Control Del:	xxxxx	xxxx		10.2		xxxxx	xxxx		xxxxx		10.1	xxxx	xxxxx			10.4	xxxx	xxxxx		
LOS by Move:	*	*		B		*	*		*		B	*	*			B	*	*		
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT
Shared Cap.:	87	xxxx	xxxxx		xxxx	180	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx					
SharedQueue:	1.3	xxxx	xxxxx		xxxxx	0.5	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx					
Shrd ConDel:	66.1	xxxx	xxxxx		xxxxx	28.2	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx					
Shared LOS:	F	*		*		D	*		*		*		*	*						
ApproachDel:	36.6					28.2					xxxxxx					xxxxxx				
ApproachLOS:	E					D					*					*				

Note: Queue reported is the distance per lane in feet.

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Camelback Road & Goldwater Boulevard

Cycle (sec):	120	Critical Vol./Cap.(X):	0.699
Loss Time (sec):	0 (Y+R=7.0 sec)	Average Delay (sec/veh):	37.1
Optimal Cycle:	68	Level Of Service:	D

Street Name:	Goldwater Boulevard						Camelback Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permit+Prot			Permit+Prot		
Rights:	Ignore			Ignore			Ignore			Ignore		
Min. Green:	4	10	10	4	10	10	4	10	10	4	10	10
Lanes:	2	0 2	0 1	2	0 3	0 1	1	0 3	0 1	1	0 2	1 0
Volume Module:												
Base Vol:	390	456	178	168	727	442	369	863	346	99	738	69
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	390	456	178	168	727	442	369	863	346	99	738	69
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	390	456	178	168	727	442	369	863	346	99	738	69
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	0.90	0.90	0.90	0.90	0.96	0.00	0.90	0.90	0.00	0.90	0.90	0.00
PHF Volume:	433	507	0	178	808	0	410	959	0	110	820	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	433	507	0	178	808	0	410	959	0	110	820	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	433	507	0	178	808	0	410	959	0	110	820	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	1.00	0.92	0.91	1.00	0.51	0.91	1.00	0.23	0.91	0.91
Lanes:	2.00	2.00	1.00	2.00	3.00	1.00	1.00	3.00	1.00	1.00	3.00	0.00
Final Sat.:	3502	3610	1900	3502	5187	1900	978	5187	1900	435	5187	0
Capacity Analysis Module:												
Vol/Sat:	0.12	0.14	0.00	0.05	0.16	0.00	0.42	0.18	0.00	0.25	0.16	0.00
Crit Moves:	****				****		****			****		
Green/Cycle:	0.19	0.31	0.00	0.11	0.23	0.00	0.58	0.44	0.00	0.38	0.24	0.00
Volume/Cap:	0.66	0.45	0.00	0.45	0.66	0.00	0.60	0.42	0.00	0.34	0.66	0.00
Uniform Del:	45.4	33.3	0.0	49.9	41.7	0.0	29.7	23.4	0.0	40.8	41.4	0.0
IncremntDel:	2.6	0.3	0.0	0.8	1.4	0.0	1.5	0.1	0.0	0.6	1.4	0.0
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Delay/Veh:	48.0	33.6	0.0	50.7	43.1	0.0	31.2	23.6	0.0	41.4	42.8	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	48.0	33.6	0.0	50.7	43.1	0.0	31.2	23.6	0.0	41.4	42.8	0.0
LOS by Move:	D	C	A	D	D	A	C	C	A	D	D	A
HCM2k95thQ:	406	375	0	181	492	0	473	412	0	156	497	0

Note: Queue reported is the distance per lane in feet.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #4 68th Street & Roma Avenue

Average Delay (sec/veh): 0.1 Worst Case Level Of Service: B[13.0]

Street Name:	68th Street						Roma Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1 0	1 0	0	0 0	0 1	0	0 0	1! 0	0	0 0	0 0	0
Volume Module:												
Base Vol:	4	583	0	0	429	1	1	0	5	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	4	583	0	0	429	1	1	0	5	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	4	583	0	0	429	1	1	0	5	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	4	648	0	0	477	1	1	0	6	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	4	648	0	0	477	1	1	0	6	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	478	xxxx	xxxxx	xxxx	xxxx	xxxxx	1079	1079	477	xxxx	xxxx	xxxxx
Potent Cap.:	1095	xxxx	xxxxx	xxxx	xxxx	xxxxx	212	191	592	xxxx	xxxx	xxxxx
Move Cap.:	1095	xxxx	xxxxx	xxxx	xxxx	xxxxx	211	191	592	xxxx	xxxx	xxxxx
Volume/Cap:	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	0.01	0.00	0.01	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.3	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	8.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	455	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.0	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	13.0	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	B	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			13.0			xxxxxx		
ApproachLOS:	*			*			B			*		

Note: Queue reported is the distance per lane in feet.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #5 68th Street & Access B

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: A[0.0]

Street Name:	68th Street						Access B					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	1 0	0	0 0	1 0	0	0 0	0 0	0	0 0	0 0	0
Volume Module:												
Base Vol:	0	587	0	0	434	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	587	0	0	434	0	0	0	0	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	587	0	0	434	0	0	0	0	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	0	652	0	0	482	0	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	652	0	0	482	0	0	0	0	0	0	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	*			*			*			*		

Note: Queue reported is the distance per lane in feet.

Scenario Report

Scenario:	Background Year 2015 AM
Command:	Default Command
Volume:	Year 2015 AM
Geometry:	Existing
Impact Fee:	Default Impact Fee
Trip Generation:	None
Trip Distribution:	None
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Turning Movement Report
None

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#1 68th Street & Camelback Road													
Base	115	230	106	28	230	70	69	737	75	117	680	19	2477
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	115	230	106	28	230	70	69	737	75	117	680	19	2477
#2 Camelback Road & 69th Street Access A Combined													
Base	4	1	8	15	0	1	32	990	23	16	979	17	2086
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	4	1	8	15	0	1	32	990	23	16	979	17	2086
#3 Camelback Road & Goldwater Boulevard													
Base	158	384	102	13	633	417	262	810	241	68	661	44	3794
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	158	384	102	13	633	417	262	810	241	68	661	44	3794
#4 68th Street & Roma Avenue													
Base	2	485	0	0	354	0	5	0	9	0	0	0	855
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	485	0	0	354	0	5	0	9	0	0	0	855
#5 68th Street & Access B													
Base	0	487	0	0	363	0	0	0	0	0	0	0	850
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	487	0	0	363	0	0	0	0	0	0	0	850

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 68th Street & Camelback Road

Cycle (sec):	120	Critical Vol./Cap.(X):	0.422
Loss Time (sec):	0 (Y+R=7.0 sec)	Average Delay (sec/veh):	26.4
Optimal Cycle:	39	Level Of Service:	C

Street Name:	68th Street						Camelback Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permit+Prot			Permit+Prot			Permit+Prot			Permit+Prot		
Rights:	Include			Include			Include			Include		
Min. Green:	4	8	8	4	8	8	4	10	10	4	10	10
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	107	214	98	26	214	65	64	684	70	109	631	18
Growth Adj:	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08
Initial Bse:	115	230	106	28	230	70	69	737	75	117	680	19
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	115	230	106	28	230	70	69	737	75	117	680	19
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	128	256	117	31	256	78	77	819	84	130	755	22
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	128	256	117	31	256	78	77	819	84	130	755	22
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	128	256	117	31	256	78	77	819	84	130	755	22
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.53	0.91	0.91	0.33	0.92	0.92	0.31	0.90	0.90	0.37	0.91	0.91
Lanes:	1.00	1.37	0.63	1.00	1.53	0.47	1.00	2.72	0.28	1.00	2.92	0.08
Final Sat.:	1000	2360	1081	636	2672	812	587	4640	475	694	5023	143
Capacity Analysis Module:												
Vol/Sat:	0.13	0.11	0.11	0.05	0.10	0.10	0.13	0.18	0.18	0.19	0.15	0.15
Crit Moves:	****				****			****			****	
Green/Cycle:	0.40	0.31	0.31	0.33	0.23	0.23	0.56	0.42	0.42	0.60	0.47	0.47
Volume/Cap:	0.28	0.35	0.35	0.10	0.42	0.42	0.17	0.42	0.42	0.27	0.32	0.32
Uniform Del:	31.8	32.3	32.3	35.7	39.3	39.3	20.1	24.1	24.1	21.8	20.1	20.1
IncremntDel:	0.3	0.2	0.2	0.1	0.3	0.3	0.2	0.1	0.1	0.3	0.1	0.1
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	32.1	32.5	32.5	35.9	39.6	39.6	20.3	24.2	24.2	22.1	20.2	20.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.1	32.5	32.5	35.9	39.6	39.6	20.3	24.2	24.2	22.1	20.2	20.2
LOS by Move:	C	C	C	D	D	D	C	C	C	C	C	C
HCM2k95thQ:	163	273	273	43	275	275	75	394	394	124	308	308

Note: Queue reported is the distance per lane in feet.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 Camelback Road & 69th Street_Access A Combined

Average Delay (sec/veh): 0.6 Worst Case Level Of Service: D[32.9]

Street Name:	69th Street_Access A Combined						Camelback Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 1 0	0 1		0 0 1	0 0		1 0 2	1 0		1 0 2	1 0	
Volume Module:												
Base Vol:	4	1	7	14	0	1	30	919	21	15	909	16
Growth Adj:	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08
Initial Bse:	4	1	8	15	0	1	32	993	23	16	979	17
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	4	1	8	15	0	1	32	993	23	16	979	17
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	5	1	8	17	0	1	36	1103	25	18	1088	19
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	5	1	8	17	0	1	36	1103	25	18	1088	19
Critical Gap Module:												
Critical Gp:	7.5	6.5	6.9	7.5	6.5	6.9	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1089	1960	0	1077	1963	0	739	xxxx	xxxxx	777	xxxx	xxxxx
Potent Cap.:	247	55	816	250	55	812	791	xxxx	xxxxx	769	xxxx	xxxxx
Move Cap.:	240	51	816	239	51	812	791	xxxx	xxxxx	769	xxxx	xxxxx
Volume/Cap:	0.03	0.02	0.01	0.12	0.00	0.00	0.05	xxxx	xxxx	0.02	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	0.8	xxxx	xxxx	xxxxx	3.6	xxxx	xxxxx	1.8	xxxx	xxxxx
Control Del:	xxxxx	xxxx	9.5	xxxxx	xxxx	xxxxx	9.8	xxxx	xxxxx	9.8	xxxx	xxxxx
LOS by Move:	*	*	A	*	*	*	A	*	*	A	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	104	xxxx	xxxxx	xxxx	147	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	0.2	xxxx	xxxxx	xxxxx	0.4	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	41.8	xxxx	xxxxx	xxxxx	32.9	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	E	*	*	*	D	*	*	*	*	*	*	*
ApproachDel:	22.9			32.9			xxxxxx			xxxxxx		
ApproachLOS:	C			D			*			*		

Note: Queue reported is the distance per lane in feet.

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Camelback Road & Goldwater Boulevard

Cycle (sec):	120	Critical Vol./Cap.(X):	0.482
Loss Time (sec):	0 (Y+R 7.0 sec)	Average Delay (sec/veh):	30.8
Optimal Cycle:	45	Level Of Service:	C

Street Name:	Goldwater Boulevard						Camelback Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Permit+Prot			Permit+Prot		
Rights:	Ignore			Ignore			Ignore			Ignore		
Min. Green:	4	10	10	4	10	10	4	10	10	4	10	10
Lanes:	2 0	2 0	1	2 0	3 0	1	1 0	2 0	1	1 0	2 1	0
Volume Module:												
Base Vol:	147	357	95	12	588	387	243	752	224	63	614	41
Growth Adj:	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08
Initial Bse:	158	384	102	13	635	417	262	810	241	68	661	44
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	158	384	102	13	635	417	262	810	241	68	661	44
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	0.90	0.90	0.00	0.90	0.90	0.00	0.90	0.90	0.00	0.90	0.90	0.00
PHF Volume:	176	427	0	14	706	0	291	900	0	75	735	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	176	427	0	14	706	0	291	900	0	75	735	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	176	427	0	14	706	0	291	900	0	75	735	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	1.00	0.92	0.91	1.00	0.54	0.91	1.00	0.22	0.91	0.91
Lanes:	2.00	2.00	1.00	2.00	3.00	1.00	1.00	3.00	1.00	1.00	3.00	0.00
Final Sat.:	3502	3610	1900	3502	5187	1900	1023	5187	1900	426	5187	0
Capacity Analysis Module:												
Vol/Sat:	0.05	0.12	0.00	0.00	0.14	0.00	0.28	0.17	0.00	0.18	0.14	0.00
Crit Moves:	****				****		****			****		
Green/Cycle:	0.10	0.30	0.00	0.08	0.28	0.00	0.62	0.50	0.00	0.41	0.29	0.00
Volume/Cap:	0.49	0.40	0.00	0.05	0.49	0.00	0.41	0.35	0.00	0.24	0.49	0.00
Uniform Del:	50.9	33.7	0.0	50.6	36.2	0.0	24.1	18.2	0.0	34.0	35.2	0.0
IncrementDel:	1.0	0.2	0.0	0.1	0.3	0.0	0.4	0.1	0.0	0.4	0.3	0.0
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Delay/Veh:	51.9	33.9	0.0	50.7	36.5	0.0	24.5	18.3	0.0	34.4	35.5	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	51.9	33.9	0.0	50.7	36.5	0.0	24.5	18.3	0.0	34.4	35.5	0.0
LOS by Move:	D	C	A	D	D	A	C	B	A	C	D	A
HCM2k95thQ:	186	317	0	15	392	0	273	342	0	99	392	0

Note: Queue reported is the distance per lane in feet.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #4 68th Street & Roma Avenue

Average Delay (sec/veh): 0.2 Worst Case Level Of Service: B[13.4]

Street Name:	68th Street									Roma Avenue								
Approach:	North Bound				South Bound					East Bound				West Bound				
Movement:	L	-	T	- R	L	-	T	- R		L	-	T	- R	L	-	T	- R	
Control:	Uncontrolled				Uncontrolled					Stop Sign				Stop Sign				
Rights:	Include				Include					Include				Include				
Lanes:	1	0	1	0 0	0	0	1	0 0		0	0	1!	0 0	0	0	0	0 0	
Volume Module:																		
Base Vol:	2	450		0	0	329		0		5		0	8	0		0	0	
Growth Adj:	1.08	1.08		1.08	1.08	1.08		1.08		1.08		1.08	1.08	1.08		1.08	1.08	
Initial Bse:	2	485		0	0	354		0		5		0	9	0		0	0	
Added Vol:	0	0		0	0	0		0		0		0	0	0		0	0	
PasserByVol:	0	0		0	0	0		0		0		0	0	0		0	0	
Initial Fut:	2	485		0	0	354		0		5		0	9	0		0	0	
User Adj:	1.00	1.00		1.00	1.00	1.00		1.00		1.00		1.00	1.00	1.00		1.00	1.00	
PHF Adj:	0.90	0.90		0.90	0.90	0.90		0.90		0.90		0.90	0.90	0.90		0.90	0.90	
PHF Volume:	2	539		0	0	394		0		6		0	10	0		0	0	
Reduct Vol:	0	0		0	0	0		0		0		0	0	0		0	0	
FinalVolume:	2	539		0	0	394		0		6		0	10	0		0	0	
Critical Gap Module:																		
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx				6.4		6.5	6.2	xxxxx	xxxx	xxxxx		
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx				3.5		4.0	3.3	xxxxx	xxxx	xxxxx		
Capacity Module:																		
Cnflict Vol:	394	xxxx	xxxxx	xxxx	xxxx	xxxxx				875		875	394	xxxx	xxxx	xxxxx		
Potent Cap.:	1176	xxxx	xxxxx	xxxx	xxxx	xxxxx				290		261	660	xxxx	xxxx	xxxxx		
Move Cap.:	1176	xxxx	xxxxx	xxxx	xxxx	xxxxx				290		261	660	xxxx	xxxx	xxxxx		
Volume/Cap:	0.00	xxxx	xxxx	xxxx	xxxx	xxxx				0.02		0.00	0.01	xxxx	xxxx	xxxx		
Level Of Service Module:																		
2Way95thQ:	0.2	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx						
Control Del:	8.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx						
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*						
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT						
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	443	xxxxx	xxxx	xxxx	xxxxx						
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx	xxxxx	xxxx	xxxxx						
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	13.4	xxxxx	xxxxx	xxxx	xxxxx						
Shared LOS:	*	*	*	*	*	*	*	B	*	*	*	*						
ApproachDel:	xxxxxx			xxxxxx				13.4		xxxxxx								
ApproachLOS:	*			*				B		*								

Note: Queue reported is the distance per lane in feet.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #5 68th Street & Access B

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: A[0.0]

Street Name: 68th Street Access B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0	0 1	0	0	0 1	0	0	0 0	0	0	0 0	0
Volume Module:												
Base Vol:	0	452	0	0	337	0	0	0	0	0	0	0
Growth Adj:	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08
Initial Bse:	0	487	0	0	363	0	0	0	0	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	487	0	0	363	0	0	0	0	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	0	541	0	0	403	0	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	541	0	0	403	0	0	0	0	0	0	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	*			*			*			*		

Note: Queue reported is the distance per lane in feet.

Scenario Report

Scenario:	Background Year 2015 PM
Command:	Default Command
Volume:	Year 2015 PM
Geometry:	Existing
Impact Fee:	Default Impact Fee
Trip Generation:	None
Trip Distribution:	None
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Turning Movement Report
None

Volume Type	Northbound Left	Thru	Right	Southbound Left	Thru	Right	Eastbound Left	Thru	Right	Westbound Left	Thru	Right	Total Volume
#1 68th Street & Camelback Road													
Base	164	339	97	57	333	80	81	1531	129	118	987	81	3997
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	164	339	97	57	333	80	81	1531	129	118	987	81	3997
#2 Camelback Road & 69th Street_Access A Combined													
Base	25	3	31	15	0	10	12	1405	23	24	1354	17	2919
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	25	3	31	15	0	10	12	1405	23	24	1354	17	2919
#3 Camelback Road & Goldwater Boulevard													
Base	420	491	192	172	783	476	397	929	373	107	795	74	5209
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	420	491	192	172	783	476	397	929	373	107	795	74	5209
#4 68th Street & Roma Avenue													
Base	4	628	0	0	462	1	1	0	5	0	0	0	1102
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	4	628	0	0	462	1	1	0	5	0	0	0	1102
#5 68th Street & Access B													
Base	0	632	0	0	467	0	0	0	0	0	0	0	1100
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	632	0	0	467	0	0	0	0	0	0	0	1100

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 68th Street & Camelback Road

Cycle (sec): 120 Critical Vol./Cap.(X): 0.836
Loss Time (sec): 0 (Y+R=7.0 sec) Average Delay (sec/veh): 26.0
Optimal Cycle: 68 Level Of Service: C

Street Name:	68th Street						Camelback Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permit+Prot			Permit+Prot			Permit+Prot			Permit+Prot		
Rights:	Include			Include			Include			Include		
Min. Green:	4	8	8	4	8	8	4	10	10	4	10	10
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	152	315	90	53	309	74	75	1422	120	110	916	75
Growth Adj:	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08
Initial Bse:	164	339	97	57	333	80	81	1531	129	118	987	81
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	164	339	97	57	333	80	81	1531	129	118	987	81
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	182	377	108	63	370	89	90	1702	144	132	1096	90
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	182	377	108	63	370	89	90	1702	144	132	1096	90
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	182	377	108	63	370	89	90	1702	144	132	1096	90
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.39	0.92	0.92	0.19	0.92	0.92	0.23	0.90	0.90	0.13	0.90	0.90
Lanes:	1.00	1.56	0.44	1.00	1.61	0.39	1.00	2.77	0.23	1.00	2.77	0.23
Final Sat.:	745	2715	776	368	2828	677	429	4726	399	240	4742	388
Capacity Analysis Module:												
Vol/Sat:	0.24	0.14	0.14	0.17	0.13	0.13	0.21	0.36	0.36	0.55	0.23	0.23
Crit Moves:	****									****		
Green/Cycle:	0.35	0.28	0.28	0.27	0.20	0.20	0.65	0.54	0.54	0.65	0.54	0.54
Volume/Cap:	0.53	0.50	0.50	0.32	0.66	0.66	0.24	0.66	0.66	0.50	0.43	0.43
Uniform Del:	43.1	36.3	36.3	46.9	44.5	44.5	18.7	19.7	19.7	40.8	16.8	16.8
IncremntDel:	1.7	0.4	0.4	1.0	2.5	2.5	0.3	0.6	0.6	1.6	0.1	0.1
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	44.8	36.7	36.7	47.9	47.0	47.0	19.0	20.3	20.3	42.4	16.9	16.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	44.8	36.7	36.7	47.9	47.0	47.0	19.0	20.3	20.3	42.4	16.9	16.9
LOS by Move:	D	D	D	D	D	D	B	C	C	D	B	B
HCM2k95thQ:	287	381	381	110	428	428	79	775	775	163	440	440

Note: Queue reported is the distance per lane in feet.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 Camelback Road & 69th Street_Access A Combined

Average Delay (sec/veh): 1.5 Worst Case Level Of Service: F[51.6]

Street Name:	69th Street_Access A Combined									Camelback Road					
Approach:	North Bound			South Bound			East Bound			West Bound					
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R			
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled					
Rights:	Include			Include			Include			Include					
Lanes:	0	1	0	0	1	0	0	0	1!	0	0	1	0	2	1	0	1	0	2	1	0
Volume Module:																					
Base Vol:	23	3	29	14	0	9	11	1305	21	22	1257	16									
Growth Adj:	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08									
Initial Bse:	25	3	31	15	0	10	12	1405	23	24	1354	17									
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0									
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0									
Initial Fut:	25	3	31	15	0	10	12	1405	23	24	1354	17									
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00									
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90									
PHF Volume:	28	4	35	17	0	11	13	1562	25	26	1504	19									
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0									
FinalVolume:	28	4	35	17	0	11	13	1562	25	26	1504	19									
Critical Gap Module:																					
Critical Gp:	7.5	6.5	6.9	7.5	6.5	6.9	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx									
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx									
Capacity Module:																					
Cnflict Vol:	1093	2577	0	1035	2582	0	791	xxxx	xxxxx	788	xxxx	xxxxx									
Potent Cap.:	128	16	708	230	16	722	673	xxxx	xxxxx	656	xxxx	xxxxx									
Move Cap.:	111	17	708	99	17	722	673	xxxx	xxxxx	656	xxxx	xxxxx									
Volume/Cap:	0.25	0.21	0.05	0.17	0.00	0.01	0.02	xxxx	xxxx	0.04	xxxx	xxxx									
Level Of Service Module:																					
2Way95thQ:	xxxx	xxxx	7.9	xxxx	xxxx	xxxxx	1.5	xxxx	xxxxx	3.1	xxxx	xxxxx									
Control Del:	xxxxx	xxxx	10.3	xxxxx	xxxx	xxxxx	10.6	xxxx	xxxxx	10.7	xxxx	xxxxx									
LOS by Move:	*	*	B	*	*	*	B	*	*	B	*	*									
Movement:	LT	- LTR	- RT	LT	- LTR	- RT	LT	- LTR	- RT	LT	- LTR	- RT									
Shared Cap.:	68	xxxx	xxxxx	xxxx	149	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx									
SharedQueue:	1.8	xxxx	xxxxx	xxxxx	0.7	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx									
Shrd ConDel:	97.5	xxxx	xxxxx	xxxxx	34.5	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx									
Shared LOS:	F	*	*	*	D	*	*	*	*	*	*	*									
ApproachDel:	51.6			34.5			xxxxxx			xxxxxx											
ApproachLOS:	F			D			*			*											

Note: Queue reported is the distance per lane in feet.

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Camelback Road & Goldwater Boulevard

Cycle (sec):	120	Critical Vol./Cap.(X):	0.738
Loss Time (sec):	0 (Y+R=7.0 sec)	Average Delay (sec/veh):	38.1
Optimal Cycle:	80	Level Of Service:	D

Street Name:	Goldwater Boulevard						Camelback Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permit+Prot			Permit+Prot		
Rights:	Ignore			Ignore			Ignore			Ignore		
Min. Green:	4	10	10	4	10	10	4	10	10	4	10	10
Lanes:	2 0	2	0 1	2	0 3	0 1	1 0	3	0 1	1 0	2	1 0
Volume Module:												
Base Vol:	390	456	178	160	727	442	369	863	346	99	738	69
Growth Adj:	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08
Initial Bse:	420	491	192	172	783	476	397	929	373	107	795	74
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	420	491	192	172	783	476	397	929	373	107	795	74
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	0.90	0.90	0.00	0.90	0.90	0.00	0.90	0.90	0.00	0.90	0.90	0.00
PHF Volume:	467	546	0	191	870	0	442	1033	0	118	883	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	467	546	0	191	870	0	442	1033	0	118	883	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	467	546	0	191	870	0	442	1033	0	118	883	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	1.00	0.92	0.91	1.00	0.53	0.91	1.00	0.24	0.91	0.91
Lanes:	2.00	2.00	1.00	2.00	3.00	1.00	1.00	3.00	1.00	1.00	3.00	0.00
Final Sat.:	3502	3610	1900	3502	5187	1900	1011	5187	1900	460	5187	0
Capacity Analysis Module:												
Vol/Sat:	0.13	0.15	0.00	0.05	0.17	0.00	0.44	0.20	0.00	0.26	0.17	0.00
Crit Moves:	****				****		****			****		
Green/Cycle:	0.19	0.31	0.00	0.11	0.23	0.00	0.58	0.44	0.00	0.38	0.24	0.00
Volume/Cap:	0.72	0.49	0.00	0.49	0.72	0.00	0.65	0.46	0.00	0.37	0.72	0.00
Uniform Del:	45.9	33.8	0.0	50.1	42.3	0.0	30.5	23.8	0.0	41.6	42.0	0.0
IncremntDel:	3.8	0.3	0.0	1.0	2.1	0.0	2.2	0.1	0.0	0.7	2.0	0.0
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Delay/Veh:	49.6	34.1	0.0	51.1	44.3	0.0	32.8	24.0	0.0	42.3	44.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	49.6	34.1	0.0	51.1	44.3	0.0	32.8	24.0	0.0	42.3	44.0	0.0
LOS by Move:	D	C	A	D	D	A	C	C	A	D	D	A
HCM2k95thQ:	447	408	0	197	542	0	529	449	0	170	547	0

Note: Queue reported is the distance per lane in feet.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #4 68th Street & Roma Avenue

Average Delay (sec/veh): 0.1 Worst Case Level Of Service: B[13.8]

Street Name:	68th Street						Roma Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1	0 1	0	0	0 1	0	0	0 1!	0	0	0 0	0
Volume Module:												
Base Vol:	4	583	0	0	429	1	1	0	5	0	0	0
Growth Adj:	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08
Initial Bse:	4	628	0	0	462	1	1	0	5	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	4	628	0	0	462	1	1	0	5	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	5	698	0	0	513	1	1	0	6	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	5	698	0	0	513	1	1	0	6	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	515	xxxx	xxxxx	xxxx	xxxx	xxxxx	1172	1172	514	xxxx	xxxx	xxxxx
Potent Cap.:	1061	xxxx	xxxxx	xxxx	xxxx	xxxxx	182	165	564	xxxx	xxxx	xxxxx
Move Cap.:	1061	xxxx	xxxxx	xxxx	xxxx	xxxxx	182	164	564	xxxx	xxxx	xxxxx
Volume/Cap:	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	0.01	0.00	0.01	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.3	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	8.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	418	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	13.8	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	B	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			13.8			xxxxxx		
ApproachLOS:	*			*			B			*		

Note: Queue reported is the distance per lane in feet.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #5 68th Street & Access B

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: A[0.0]

Street Name:	68th Street						Access B					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0	0 1	0	0	0 1	0	0	0 0	0	0	0 0	0
Volume Module:												
Base Vol:	0	587	0	0	434	0	0	0	0	0	0	0
Growth Adj:	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08
Initial Bse:	0	632	0	0	467	0	0	0	0	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	632	0	0	467	0	0	0	0	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	0	702	0	0	519	0	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	702	0	0	519	0	0	0	0	0	0	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	*			*			*			*		

Note: Queue reported is the distance per lane in feet.

Scenario Report

Scenario:	Total Year 2015 AM
Command:	Default Command
Volume:	Year 2015 AM
Geometry:	Year 2015
Impact Fee:	Default Impact Fee
Trip Generation:	AM
Trip Distribution:	Total
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Trip Generation Report

Forecast for AM

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1	Optima Sonor	1.00	Optima Sonoran	49.00	188.00	49	188	237	100.0
	Zone 1 Subtotal					49	188	237	100.0
TOTAL						49	188	237	100.0

Turning Movement Report
AM

Volume Type	Northbound Left	Thru	Right	Southbound Left	Thru	Right	Eastbound Left	Thru	Right	Westbound Left	Thru	Right	Total Volume
#1 68th Street & Camelback Road													
Base	115	230	106	28	230	70	69	737	75	117	680	19	2477
Added	24	7	28	1	2	0	0	6	6	7	24	2	107
Total	139	237	134	29	232	70	69	743	81	124	704	21	2584
#2 Camelback Road & 69th Street_Access A Combined													
Base	4	1	8	15	0	1	32	990	23	16	979	17	2086
Added	26	0	85	0	0	0	0	28	7	22	7	0	175
Total	30	1	93	15	0	1	32	1018	30	38	986	17	2261
#3 Camelback Road & Goldwater Boulevard													
Base	158	384	102	13	633	417	262	810	241	68	661	44	3794
Added	10	0	0	0	0	7	28	47	38	0	12	0	142
Total	168	384	102	13	633	424	290	857	279	68	673	44	3936
#4 68th Street & Roma Avenue													
Base	2	485	0	0	354	0	5	0	9	0	0	0	855
Added	0	59	0	0	15	0	0	0	0	0	0	0	74
Total	2	544	0	0	369	0	5	0	9	0	0	0	929
#5 68th Street & Access B													
Base	0	487	0	0	363	0	0	0	0	0	0	0	850
Added	0	0	5	15	0	0	0	0	0	19	0	59	98
Total	0	487	5	15	363	0	0	0	0	19	0	59	948

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 68th Street & Camelback Road

Cycle (sec):	120	Critical Vol./Cap.(X):	0.426
Loss Time (sec):	0 (Y+R=7.0 sec)	Average Delay (sec/veh):	27.2
Optimal Cycle:	41	Level Of Service:	C

Street Name:	68th Street						Camelback Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Permit+Prot			Permit+Prot			Permit+Prot			Permit+Prot		
Rights:	Include			Include			Include			Include		
Min. Green:	4	8	8	4	8	8	4	10	10	4	10	10
Lanes:	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	107	214	98	26	214	65	64	684	70	109	631	18
Growth Adj:	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08
Initial Bse:	115	230	106	28	230	70	69	737	75	117	680	19
Added Vol:	24	7	28	1	2	0	0	6	6	7	24	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	139	237	134	29	232	70	69	743	81	124	704	21
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	155	264	148	32	258	78	77	825	90	138	782	24
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	155	264	148	32	258	78	77	825	90	138	782	24
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	155	264	148	32	258	78	77	825	90	138	782	24
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.56	0.90	0.90	0.30	0.92	0.92	0.29	0.93	0.90	0.36	0.91	0.91
Lanes:	1.00	1.28	0.72	1.00	1.54	0.46	1.00	2.70	0.30	1.00	2.91	0.09
Final Sat.:	1056	2186	1229	561	2677	806	556	4605	505	690	5014	152
Capacity Analysis Module:												
Vol/Sat:	0.15	0.12	0.12	0.06	0.10	0.10	0.14	0.18	0.18	0.20	0.16	0.16
Crit Moves:	****				****			****			****	
Green/Cycle:	0.42	0.36	0.37	0.31	0.22	0.22	0.53	0.41	0.41	0.58	0.46	0.46
Volume/Cap:	0.31	0.37	0.37	0.11	0.44	0.44	0.18	0.44	0.44	0.29	0.34	0.34
Uniform Del:	31.6	31.0	31.0	38.0	40.4	40.4	22.4	25.5	25.5	24.1	20.8	20.8
IncremntDel:	0.4	0.2	0.2	0.2	0.4	0.4	0.2	0.1	0.1	0.3	0.1	0.1
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	31.9	31.2	31.2	38.1	40.8	40.8	22.6	25.7	25.7	24.4	20.9	20.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.9	31.2	31.2	38.1	40.8	40.8	22.6	25.7	25.7	24.4	20.9	20.9
LOS by Move:	C	C	C	D	D	D	C	C	C	C	C	C
HCM2k95thQ:	194	295	295	46	283	283	79	412	412	137	326	326

Note: Queue reported is the distance per lane in feet.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 Camelback Road & 69th Street Access A Combined

Average Delay (sec/veh): 1.7 Worst Case Level Of Service: E[42.3]

Street Name:	69th Street Access A Combined						Camelback Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	1 0	0 1	0	0	0 1!	0 0	1 0	3 0	1	1 0	2 1	0
Volume Module:												
Base Vol:	4	1	7	14	0	1	30	919	21	15	909	16
Growth Adj:	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08
Initial Bse:	4	1	8	15	0	1	32	990	23	16	979	17
Added Vol:	26	0	85	0	0	0	0	28	7	22	7	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	30	1	93	15	0	1	32	1018	30	38	986	17
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	34	1	103	17	0	1	36	1131	33	42	1096	19
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	34	1	103	17	0	1	36	1131	33	42	1096	19
Critical Gap Module:												
Critical Gp:	7.5	6.5	6.9	7.5	6.5	6.9	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1149	2031	0	1133	2058	0	733	xxxx	xxxxx	801	xxxx	xxxxx
Potent Cap.:	133	49	812	136	47	809	792	xxxx	xxxxx	750	xxxx	xxxxx
Move Cap.:	122	44	812	108	43	809	792	xxxx	xxxxx	750	xxxx	xxxxx
Volume/Cap:	0.28	0.03	0.13	0.16	0.00	0.00	0.05	xxxx	xxxx	0.06	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	26.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	3.6	xxxx	xxxxx	4.5	xxxx	xxxxx
Control Del:	45.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	9.8	xxxx	xxxxx	10.1	xxxx	xxxxx
LOS by Move:	E	*	*	*	*	*	A	*	*	B	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	677	xxxx	114	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	0.5	xxxxx	0.5	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	11.3	xxxxx	42.3	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	B	*	E	*	*	*	*	*	*	*
ApproachDel:	19.6			42.3			xxxxxx			xxxxxx		
ApproachLOS:	C			E			*			*		

Note: Queue reported is the distance per lane in feet.

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Camelback Road & Goldwater Boulevard

Cycle (sec):	120	Critical Vol./Cap.(X):	0.521
Loss Time (sec):	0 (Y+R=7.0 sec)	Average Delay (sec/veh):	31.0
Optimal Cycle:	47	Level Of Service:	C

Street Name:	Goldwater Boulevard									Camelback Road					
Approach:	North Bound			South Bound			East Bound			West Bound					
Movement:	L	T	R	L	T	R	L	T	R	L	T	R			
Control:	Protected			Protected			Permit+Prot			Permit+Prot					
Rights:	Ignore			Ignore			Ignore			Ignore					
Min. Green:	4	10	10	4	10	10	4	10	10	4	10	10			
Lanes:	2	0 2	0 1	2	0 3	0 1	1	0 3	0 1	1	0 2	1 0			
Volume Module:															
Base Vol:	147	357	95	12	588	387	243	752	224	63	614	41			
Growth Adj:	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08			
Initial Bse:	159	384	102	13	633	417	262	810	241	68	661	44			
Added Vol:	10	0	0	0	0	7	28	47	38	0	12	0			
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0			
Initial Fut:	169	384	102	13	633	424	290	857	279	68	673	44			
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00			
PHF Adj:	0.90	0.90	0.00	0.90	0.90	0.00	0.90	0.90	0.00	0.90	0.90	0.00			
PHF Volume:	187	427	0	14	704	0	322	952	0	75	748	0			
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0			
Reduced Vol:	187	427	0	14	704	0	322	952	0	75	748	0			
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00			
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00			
FinalVolume:	187	427	0	14	704	0	322	952	0	75	748	0			
Saturation Flow Module:															
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900			
Adjustment:	0.92	0.95	1.00	0.92	0.91	1.00	0.54	0.91	1.00	0.20	0.91	0.91			
Lanes:	2.00	2.00	1.00	2.00	3.00	1.00	1.00	3.00	1.00	1.00	3.00	0.00			
Final Sat.:	3502	3610	1900	3502	5187	1900	1034	5187	1900	386	5187	0			
Capacity Analysis Module:															
Vol/Sat:	0.05	0.12	0.00	0.00	0.14	0.00	0.31	0.18	0.00	0.20	0.14	0.00			
Crit Moves:	****				****		****			****					
Green/Cycle:	0.10	0.29	0.00	0.08	0.27	0.00	0.63	0.51	0.00	0.40	0.28	0.00			
Volume/Cap:	0.51	0.41	0.00	0.05	0.51	0.00	0.44	0.36	0.00	0.25	0.51	0.00			
Uniform Del:	50.8	34.5	0.0	50.9	37.5	0.0	24.0	17.4	0.0	35.9	36.2	0.0			
IncremntDel:	1.2	0.3	0.0	0.1	0.3	0.0	0.4	0.1	0.0	0.4	0.3	0.0			
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Delay Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00			
Delay/Veh:	52.1	34.7	0.0	50.9	37.8	0.0	24.4	17.5	0.0	36.3	36.5	0.0			
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
AdjDel/Veh:	52.1	34.7	0.0	50.9	37.8	0.0	24.4	17.5	0.0	36.3	36.5	0.0			
LOS by Move:	D	C	A	D	D	A	C	B	A	D	D	A			
HCM2k95thQ:	198	322	0	15	391	0	301	354	0	102	406	0			

Note: Queue reported is the distance per lane in feet.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #4 68th Street & Roma Avenue

Average Delay (sec/veh): 0.2 Worst Case Level Of Service: B[14.2]

Street Name:	68th Street						Roma Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1 0	1	0 0	0	0 1	0 0	0	0 1!	0 0	0	0 0	0 0
Volume Module:												
Base Vol:	2	450	0	0	329	0	5	0	8	0	0	0
Growth Adj:	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08
Initial Bse:	2	485	0	0	354	0	5	0	9	0	0	0
Added Vol:	0	59	0	0	15	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	2	544	0	0	369	0	5	0	9	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	2	604	0	0	410	0	6	0	10	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	2	604	0	0	410	0	6	0	10	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	410	xxxx	xxxxx	xxxx	xxxx	xxxxx	961	961	410	xxxx	xxxx	xxxxx
Potent Cap.:	1159	xxxx	xxxxx	xxxx	xxxx	xxxxx	256	230	646	xxxx	xxxx	xxxxx
Move Cap.:	1159	xxxx	xxxxx	xxxx	xxxx	xxxxx	255	230	646	xxxx	xxxx	xxxxx
Volume/Cap:	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	0.02	0.00	0.01	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.2	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	8.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	407	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	14.2	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	B	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			14.2			xxxxxx		
ApproachLOS:	*			*			B			*		

Note: Queue reported is the distance per lane in feet.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #5 68th Street & Access B

Average Delay (sec/veh): 1.3 Worst Case Level Of Service: B[14.0]

Street Name:	68th Street						Access B					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	0	1 0	1	0 1	0 0	0	0 0	0 0	1	0 0	0 1
Volume Module:												
Base Vol:	0	452	0	0	337	0	0	0	0	0	0	0
Growth Adj:	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08
Initial Bse:	0	487	0	0	363	0	0	0	0	0	0	0
Added Vol:	0	0	5	15	0	0	0	0	0	19	0	59
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	487	5	15	363	0	0	0	0	19	0	59
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	0	541	6	17	403	0	0	0	0	21	0	66
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	541	6	17	403	0	0	0	0	21	0	66
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	440	xxxx	xxxxx	xxxx	xxxx	xxxxx	922	xxxx	437
Potent Cap.:	xxxx	xxxx	xxxxx	1017	xxxx	xxxxx	xxxx	xxxx	xxxxx	272	xxxx	561
Move Cap.:	xxxx	xxxx	xxxxx	1017	xxxx	xxxxx	xxxx	xxxx	xxxxx	269	xxxx	561
Volume/Cap:	xxxx	xxxx	xxxx	0.02	xxxx	xxxx	xxxx	xxxx	xxxx	0.08	xxxx	0.12
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	1.2	xxxx	xxxxx	xxxx	xxxx	xxxxx	6.3	xxxx	9.9
Control Del:	xxxxx	xxxx	xxxxx	8.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	19.5	xxxx	12.3
LOS by Move:	*	*	*	A	*	*	*	*	*	C	*	B
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			14.0		
ApproachLOS:	*			*			*			B		

Note: Queue reported is the distance per lane in feet.

Scenario Report

Scenario:	Total Year 2015 PM
Command:	Default Command
Volume:	Year 2015 PM
Geometry:	Year 2015
Impact Fee:	Default Impact Fee
Trip Generation:	PM
Trip Distribution:	Total
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Trip Generation Report

Forecast for PM

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1	Optima Sonor	1.00	Optima Sonoran	208.00	112.00	208	112	320	100.0
	Zone 1 Subtotal					208	112	320	100.0
TOTAL						208	112	320	100.0

Turning Movement Report
PM

Volume Type	Northbound Left	Thru	Right	Southbound Left	Thru	Right	Eastbound Left	Thru	Right	Westbound Left	Thru	Right	Total Volume
#1 68th Street & Camelback Road													
Base	164	339	97	57	333	80	81	1531	129	118	987	81	3997
Added	14	4	17	3	8	0	0	26	26	31	14	1	144
Total	178	343	114	60	341	80	81	1557	155	149	1001	82	4141
#2 Camelback Road & 69th Street_Access A Combined													
Base	25	3	31	15	0	10	12	1405	23	24	1354	17	2919
Added	15	0	50	0	0	0	0	17	29	94	31	0	236
Total	40	3	81	15	0	10	12	1422	52	118	1385	17	3155
#3 Camelback Road & Goldwater Boulevard													
Base	420	491	192	172	783	476	397	929	373	107	795	74	5209
Added	42	0	0	0	0	31	17	28	22	0	52	0	192
Total	462	491	192	172	783	507	414	957	395	107	847	74	5401
#4 68th Street & Roma Avenue													
Base	4	628	0	0	462	1	1	0	5	0	0	0	1102
Added	0	35	0	0	65	0	0	0	0	0	0	0	100
Total	4	663	0	0	527	1	1	0	5	0	0	0	1202
#5 68th Street & Access B													
Base	0	632	0	0	467	0	0	0	0	0	0	0	1100
Added	0	0	21	65	0	0	0	0	0	11	0	35	132
Total	0	632	21	65	467	0	0	0	0	11	0	35	1232

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 68th Street & Camelback Road

Cycle (sec): 120 Critical Vol./Cap.(X): 0.837
Loss Time (sec): 0 (Y+R=7.0 sec) Average Delay (sec/veh): 27.4
Optimal Cycle: 78 Level Of Service: C

Street Name:	68th Street						Camelback Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permit+Prot			Permit+Prot			Permit+Prot			Permit+Prot		
Rights:	Include			Include			Include			Include		
Min. Green:	4	8	8	4	8	8	4	10	10	4	10	10
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	152	315	90	53	309	74	75	1422	120	110	916	75
Growth Adj:	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08
Initial Bse:	164	339	97	57	333	80	81	1531	129	118	987	81
Added Vol:	14	4	17	3	8	0	0	26	26	31	14	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	178	343	114	60	341	80	81	1557	155	149	1001	82
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	197	381	127	67	379	89	90	1731	172	166	1112	91
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	197	381	127	67	379	89	90	1731	172	166	1112	91
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	197	381	127	67	379	89	90	1731	172	166	1112	91
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.41	0.91	0.91	0.19	0.92	0.92	0.22	0.90	0.90	0.16	0.90	0.90
Lanes:	1.00	1.50	0.50	1.00	1.62	0.38	1.00	2.73	0.27	1.00	2.77	0.23
Final Sat.:	775	2610	866	366	2844	665	418	4651	464	298	4742	388
Capacity Analysis Module:												
Vol/Sat:	0.25	0.15	0.15	0.18	0.13	0.13	0.21	0.37	0.37	0.56	0.23	0.23
Crit Moves:	****			****						****		
Green/Cycle:	0.34	0.27	0.27	0.26	0.19	0.19	0.64	0.53	0.53	0.66	0.54	0.54
Volume/Cap:	0.58	0.53	0.53	0.35	0.71	0.71	0.24	0.71	0.71	0.56	0.43	0.43
Uniform Del:	43.7	37.0	37.0	48.5	45.6	45.6	19.6	21.4	21.4	41.6	16.5	16.5
IncremntDel:	2.4	0.6	0.6	1.1	3.5	3.5	0.3	0.9	0.9	2.3	0.1	0.1
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Delay/Veh:	46.1	37.6	37.6	49.6	49.1	49.1	19.9	22.3	22.3	44.0	16.6	16.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.1	37.6	37.6	49.6	49.1	49.1	19.9	22.3	22.3	44.0	16.6	16.6
LOS by Move:	D	D	D	D	D	D	B	C	C	D	B	B
HCM2k95thQ:	319	406	406	119	451	451	82	841	841	206	442	442

Note: Queue reported is the distance per lane in feet.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 Camelback Road & 69th Street Access A Combined

Average Delay (sec/veh): 4.2 Worst Case Level Of Service: F[92.6]

Street Name:	69th Street Access A Combined						Camelback Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 0	1	0	0	0	1! 0	0	1	0	3	0	1	1	0	2	1	0
Volume Module:																	
Base Vol:	23	3	29	14	0	9	11	1305	21	22	1257	16					
Growth Adj:	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08					
Initial Bse:	25	3	31	15	0	10	12	1405	23	24	1354	17					
Added Vol:	15	0	50	0	0	0	0	17	29	94	31	0					
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0					
Initial Fut:	40	3	81	15	0	10	12	1422	52	118	1385	17					
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00					
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90					
PHF Volume:	44	4	90	17	0	11	13	1581	57	131	1539	19					
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0					
FinalVolume:	44	4	90	17	0	11	13	1581	57	131	1539	19					
Critical Gap Module:																	
Critical Gp:	7.5	6.5	6.9	7.5	6.5	6.9	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx					
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx					
Capacity Module:																	
Cnflict Vol:	1289	2873	0	1264	2945	0	731	xxxx	xxxxx	781	xxxx	xxxxx					
Potent Cap.:	81	11	693	85	10	703	689	xxxx	xxxxx	651	xxxx	xxxxx					
Move Cap.:	67	9	693	42	8	703	689	xxxx	xxxxx	651	xxxx	xxxxx					
Volume/Cap:	0.66	0.41	0.13	0.40	0.00	0.02	0.02	xxxx	xxxx	0.20	xxxx	xxxx					
Level Of Service Module:																	
2Way95thQ:	72.6	xxxx	xxxxx	xxxx	xxxx	xxxxx	1.6	xxxx	xxxxx	18.6	xxxx	xxxxx					
Control Del:	131.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	19.3	xxxx	xxxxx	11.9	xxxx	xxxxx					
LOS by Move:	F	*	*	*	*	*	B	*	*	B	*	*					
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT							
Shared Cap.:	xxxx	xxxx	172	xxxx	67	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx					
SharedQueue:	xxxxx	xxxx	2.8	xxxxx	1.6	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx					
Shrd ConDel:	xxxxx	xxxx	48.4	xxxxx	92.6	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx					
Shared LOS:	*	*	E	*	F	*	*	*	*	*	*	*					
ApproachDel:	74.9			92.6			xxxxxx			xxxxxx							
ApproachLOS:	F			F			*			*							

Note: Queue reported is the distance per lane in feet.

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Camelback Road & Goldwater Boulevard

Cycle (sec):	120	Critical Vol./Cap.(X):	0.765
Loss Time (sec):	0 (Y+R=7.0 sec)	Average Delay (sec/veh):	38.8
Optimal Cycle:	92	Level Of Service:	D

Street Name:	Goldwater Boulevard						Camelback Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permit+Prot			Permit+Prot		
Rights:	Ignore			Ignore			Ignore			Ignore		
Min. Green:	4	10	10	4	10	10	4	10	10	4	10	10
Lanes:	2 0	2	0 1	2 0	3	0 1	1 0	3	0 1	1 0	2	1 0
Volume Module:												
Base Vol:	390	456	178	160	727	442	369	863	346	99	738	69
Growth Adj:	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08
Initial Bse:	420	491	192	172	783	476	397	929	373	107	795	74
Added Vol:	42	0	0	0	0	31	17	28	22	0	52	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	462	491	192	172	783	507	414	957	395	107	847	74
User Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	0.90	0.90	0.00	0.90	0.90	0.00	0.90	0.90	0.00	0.90	0.90	0.00
PHF Volume:	513	546	0	191	870	0	460	1064	0	118	941	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	513	546	0	191	870	0	460	1064	0	118	941	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	513	546	0	191	870	0	460	1064	0	118	941	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	1.00	0.92	0.91	1.00	0.54	0.91	1.00	0.24	0.91	0.91
Lanes:	2.00	2.00	1.00	2.00	3.00	1.00	1.00	3.00	1.00	1.00	3.00	0.00
Final Sat.:	3502	3610	1900	3502	5187	1900	1022	5187	1900	453	5187	0
Capacity Analysis Module:												
Vol/Sat:	0.15	0.15	0.00	0.05	0.17	0.00	0.45	0.21	0.00	0.26	0.18	0.00
Crit Moves:	****				****		****			****		
Green/Cycle:	0.20	0.31	0.00	0.11	0.22	0.00	0.58	0.44	0.00	0.38	0.24	0.00
Volume/Cap:	0.75	0.49	0.00	0.49	0.75	0.00	0.68	0.47	0.00	0.37	0.75	0.00
Uniform Del:	45.5	33.9	0.0	50.1	43.5	0.0	31.3	23.6	0.0	41.9	42.2	0.0
IncremntDel:	4.7	0.3	0.0	1.0	2.8	0.0	2.8	0.2	0.0	0.7	2.6	0.0
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay Adj:	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Delay/Veh:	50.2	34.2	0.0	51.1	46.3	0.0	34.1	23.8	0.0	42.7	44.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.2	34.2	0.0	51.1	46.3	0.0	34.1	23.8	0.0	42.7	44.7	0.0
LOS by Move:	D	C	A	D	D	A	C	C	A	D	D	A
HCM2k95thQ:	493	409	0	198	560	0	567	461	0	171	590	0

Note: Queue reported is the distance per lane in feet.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #4 68th Street & Roma Avenue

Average Delay (sec/veh): 0.1 Worst Case Level Of Service: C[15.1]

Street Name:	68th Street						Roma Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1	0 1	0 0	0	0 0	1 0	0	0 1!	0 0	0	0 0	0 0
Volume Module:												
Base Vol:	4	583	0	0	429	1	1	0	6	0	0	0
Growth Adj:	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08
Initial Bse:	4	628	0	0	462	1	1	0	6	0	0	0
Added Vol:	0	35	0	0	65	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	4	663	0	0	527	1	1	0	6	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	5	737	0	0	586	1	1	0	6	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	5	737	0	0	586	1	1	0	6	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	587	xxxx	xxxxx	xxxx	xxxx	xxxxx	1296	1296	586	xxxx	xxxx	xxxxx
Potent Cap.:	998	xxxx	xxxxx	xxxx	xxxx	xxxxx	148	134	514	xxxx	xxxx	xxxxx
Move Cap.:	998	xxxx	xxxxx	xxxx	xxxx	xxxxx	148	134	514	xxxx	xxxx	xxxxx
Volume/Cap:	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	0.01	0.00	0.01	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.4	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	8.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	364	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	15.1	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	C	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			15.1			xxxxxx		
ApproachLOS:	*			*			C			*		

Note: Queue reported is the distance per lane in feet.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #5 68th Street & Access B

Average Delay (sec/veh): 1.2 Worst Case Level Of Service: C[19.1]

Street Name:	68th Street						Access B					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0	0 0	1 0	1	0 0	1 0	0	0 0	0 0	1	0 0	0 1
Volume Module:												
Base Vol:	0	587	0	0	434	0	0	0	0	0	0	0
Growth Adj:	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08
Initial Bse:	0	632	0	0	467	0	0	0	0	0	0	0
Added Vol:	0	0	21	65	0	0	0	0	0	12	0	35
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	632	21	65	467	0	0	0	0	12	0	35
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	0	702	23	72	519	0	0	0	0	12	0	39
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	702	23	72	519	0	0	0	0	12	0	39
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	559	xxxx	xxxxx	xxxx	xxxx	xxxxx	1352	xxxx	545
Potent Cap.:	xxxx	xxxx	xxxxx	841	xxxx	xxxxx	xxxx	xxxx	xxxxx	138	xxxx	446
Move Cap.:	xxxx	xxxx	xxxxx	841	xxxx	xxxxx	xxxx	xxxx	xxxxx	128	xxxx	446
Volume/Cap:	xxxx	xxxx	xxxx	0.09	xxxx	xxxx	xxxx	xxxx	xxxx	0.10	xxxx	0.09
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	7.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	7.7	xxxx	7.1
Control Del:	xxxxx	xxxx	xxxxx	9.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx	35.9	xxxx	13.8
LOS by Move:	*	*	*	A	*	*	*	*	*	E	*	B
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			19.1		
ApproachLOS:	*			*			*			C		

Note: Queue reported is the distance per lane in feet.

APPENDIX C

Collision Data

-07 - -09 Intersection

CITY OF SCOTTSDALE

ACCIDENT SUMMARY

REPORT #	DATE YYMMDD	TIME HHMM	NORTH / SOUTH ST.	TYPE	EAST WEST ST.	TYPE	DIR FROM	DIST FROM	INJ. SEV #1	INJ. SEV #2	PHYS. COND. #1	PHYS. COND. #2	VIOLATION #1	VIOLATION #2	ACTION #1	ACTION #2	TRAV. DIR. #1	TRAV. DIR. #2	MANNER OF COLLISION	COMMENTS
07-02310	070121	1815	68	ST	CAMELBACK		AT		4	2	1	1	4	1	4	1	SW	EB	3	
07-04926	070215	0808	68	ST	CAMELBACK		AT		1	1	1	1	1	1	1	4	SB	SB	1	
07-08836	070323	0759	68	ST	CAMELBACK		AT		1	1	9	1	4	1	4	1	SB	EB	4	
07-12134	070422	1718	68	ST	CAMELBACK		N	14	1	1	9	1	4	1	4	1	NB	WB	4	
07-15040	070518	1528	68	ST	CAMELBACK		AT		3	2	1	1	4	1	4	1	SW	EB	4	3 VEH
07-25108	070822	1536	68	ST	CAMELBACK		AT		1	1	1	1	19	19	1	1	NB	WB	3	
07-27909	070918	0755	68	ST	CAMELBACK		AT		1	1	1	1	7	1	1	5	EB	SE	3	
07-33298	071108	1830	68	ST	CAMELBACK		AT		1	1	1	1	4	1	4	1	NB	WB	4	
07-36983	071213	0941	68	ST	CAMELBACK		AT		1	1	1	1	4	15	4	1	SE	NB	3	3 VEH
08-01190	080111	1757	68	ST	CAMELBACK		AT		3	2	1	1	4	1	4	1	NB	WB	4	
08-01261	080112	0802	68	ST	CAMELBACK		AT		4	3	1	1	4	1	4	1	SB	EB	4	
08-07996	080314	2155	68	ST	CAMELBACK		AT		1	6	1-9	1	4	1	4	1	SB	EB	4	
08-12237	080425	1640	68	ST	CAMELBACK		AT		1	2	1	1	4	1	4	1	WB	SB	4	
08-13350	080506	1557	68	ST	CAMELBACK		AT		2	1	1	1	7	1	4	1	SB	NB	4	
08-18766	080629	0950	68	ST	CAMELBACK		AT		1	1	1	1	7	1	1	1	NB	EB	3	
08-25672	080911	0722	68	ST	CAMELBACK		AT		1	1	1		7		1		WB		3	
08-30001	081025	1410	68	ST	CAMELBACK		AT		1	1	1	1	4	1	4	1	SB	EB	4	
08-31718	081112	0852	68	ST	CAMELBACK		AT		2	1	1	1	4	7	4	1	NE	WB	4	
08-35142	081218	1648	68	ST	CAMELBACK			200	1	1	1	1	2	1	1	2	EB	EB	5	3 VEH

REPORT #	DATE YYMMDD	TIME HHMM	NORTH / SOUTH ST.	TYPE	EAST WEST ST.	TYPE	DIR FROM	DIST FROM	INJ. SEV #1	INJ. SEV #2	PHYS. COND. #1	PHYS. COND. #2	VIOLATION #1	VIOLATION #2	ACTION #1	ACTION #2	TRAV. DIR. #1	TRAV. DIR. #2	MANNER OF COLLISION	COMMENTS

KEY

TOTAL **19**

INJury SEVerity: 1=No Injury, 2=Minor, 3=Non-Incapacitating, 4=Incapacitating, 5=Fatal, 6=Unknown

PHYSical CONDition: 1=No Apparent Defects, 2=Had been Drinking, 3=Illicit Drugs, 4=ILL - Ability Influenced, 5=Sleepy-Fatigued, 6=Bodily Defects/infirmities, 7=Prescription Drugs, 8=Other, 9=Unknown

VIOLATION: 1=No improper driving, 2=Speed too fast for conditions, 3=Exceeded lawful speed, 4=Failed to yield R.O.W. 5=Followed too closely, 6=Ran Stop Sign, 7=Disregard Traffic Signal 8=Made improper turn, 9=Drove in opposing lane, 10=Operated with faulty or missing equip. 11=Required motorcycle equipment not used, 12=Passed in No Passing Zone, 13=Unsafe Lane Change, 14=Other unsafe passing, 15=Inattention, 16=Did not use Crosswalk, 17 Walked on Wrong side of road, 18=Other, 19=Unknown

ACTION: 1=Going straight ahead, 2=Slowing in traffic, 3=Stopped in Traffic, 4=Making Left Turn, 5=Making Right Turn, 6=Making U-turn, 7=Entering alley or D/W, 8=Leaving alley or D/W 9=Overtaking / Passing, 10=Changing Lanes, 11=Backing, 12=Avoiding vehicle-object-pedestrian, 13=Entering Parking Position, 14=Leaving Parking Position, 15=Properly Parked, 16=Improperly Parked, 17=Driverless moving vehicle, 18=Crossing Road, 19=Walking w/ Traffic, 20=Walking against Traffic, 21=Standing, 22=Lying, 23=Getting on or off Vehicle, 24=Working on or Pushing Vehicle, 25=Working on Road, 26=Other, 27=Unknown

MANNER OF COLLISION: 0=Single Vehicle, 1=Sideswipe-same direction, 2=Sideswipe-opposing direction, 3=Angle, 4=Left Turn, 5=Rear-End, 6=Head-On, 7=Backing, 8=Other, 9=Right Turn, A=Driveway, B=Non-contact Motorcycle, C=Non-contact Non-Motorcycle, D=U-Turn, @=Pedestrian, #=Pedalcycle

'07 - '08 Intersection

CITY OF SCOTTSDALE

ACCIDENT SUMMARY

REPORT #	DATE YYMMDD	TIME HHMM	NORTH / SOUTH ST.	TYPE	EAST WEST ST.	TYPE	DIR FROM	DIST FROM	INJ. SEV #1	INJ. SEV #2	PHYS. COND. #1	PHYS. COND. #2	VIOLATION #1	VIOLATION #2	ACTION #1	ACTION #2	TRAV. DIR. #1	TRAV. DIR. #2	MANNER OF COLLISION	COMMENTS
07-00751	070107	1919	GOLDWATER		CAMELBACK				4		3		7		1		EB		0	
07-04639	070212	0903	GOLDWATER		CAMELBACK		AT		1	1	1	1	5	1	1	1	SB	SB	5	
07-06087	070226	1133	GOLDWATER		CAMELBACK		AT		2	1	1	1	4	1	4	1	EB	WB	4	
07-08881	070323	1507	GOLDWATER		CAMELBACK		AT		1	3	1	1	19	19	1	1	NB	WB	3	
07-08883	070323	1539	GOLDWATER		CAMELBACK		AT		1	3	1	1	2	1	1	2	WB	WB	5	
07-14528	070514	0953	GOLDWATER		CAMELBACK		AT		1	1	1	1	4	1	4	1	EB	WB	4	
07-15264	070520	1518	GOLDWATER		CAMELBACK		AT		1	1	1	1	19	19	1	4	WB	SE	4	
07-22615	070728	2230	GOLDWATER		CAMELBACK		AT		1	1	9	1	7	1	4	1	NE	EB	4	DUI
07-24848	070820	0805	GOLDWATER		CAMELBACK		AT			2	9	1	2	1	1	3	WB	WB	5	HIT & RUN
07-26683	070906	2223	GOLDWATER		CAMELBACK		AT		1	2	2	1	7	1	1	1	NB	EB	3	DUI
07-29916	071006	1924	GOLDWATER		CAMELBACK		AT		1	1	1	1	7	1	1	4	WB	NB	6	5 VEH
08-01902	080118	1135	GOLDWATER		CAMELBACK		AT		1	1	1	1	8	1	4	1	SW	EB	4	
08-20276	080715	1746	GOLDWATER		CAMELBACK		AT		1	1	9	1	13	1	10	1	EB	EB	1	
08-27009	080923	1904	GOLDWATER		CAMELBACK		AT		2	2	1	1	15	15	1	1	EB	NB	3	
08-27668	080930	1602	GOLDWATER		CAMELBACK		AT		6	1	9	1	15	1	1	1	SB	SB	1	HIT & RUN
08-32947	081125	1102	GOLDWATER		CAMELBACK		AT		1	1	1	1	4	1	4	1	SB	SB	3	
08-35962	081228	1021	GOLDWATER		CAMELBACK		AT		1	1	1	1	4	1	5	1	NB	NB	3	
07-21736	070719	1329	GOLDWATER		CAMELBACK				1	1	1	1	15	1	1	3	EB	EB	5	

REPORT #	DATE YYMMDD	TIME HHMM	NORTH / SOUTH ST.	TYPE	EAST WEST ST.	TYPE	DIR FROM	DIST FROM	INJ. SEV #1	INJ. SEV #2	PHYS. COND. #1	PHYS. COND. #2	VIOLATION #1	VIOLATION #2	ACTION #1	ACTION #2	TRAV. DIR. #1	TRAV. DIR. #2	MANNER OF COLLISION	COMMENTS

KEY

TOTAL **18**

INJury SEVerity: 1=No Injury, 2=Minor, 3=Non-Incapacitating, 4=Incapacitating, 5=Fatal, 6=Unknown

PHYSical CONDition: 1=No Apparent Defects, 2=Had been Drinking, 3=Illicit Drugs, 4=ILL - Ability Influenced, 5=Sleepy-Fatigued, 6=Bodily Defects/infirmities, 7=Prescription Drugs, 8=Other, 9=Unknown

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MANNER OF COLLISION: 0=Single Vehicle, 1=Sideswipe-same direction, 2=Sideswipe-opposing direction, 3=Angle, 4=Left Turn, 5=Rear-End, 6=Head-On, 7=Backing, 8=Other, 9=Right Turn, A=Driveway, B=Non-contact Motorcycle, C=Non-contact Non-Motorcycle, D=U-Turn, @=Pedestrian, #=Pedalcycle

'07-'08 Segment

CITY OF SCOTTSDALE

ACCIDENT SUMMARY

REPORT #	DATE YYMMDD	TIME HHMM	NORTH / SOUTH ST.	TYPE	EAST WEST ST.	TYPE	DIR FROM	DIST FROM	INJ. SEV #1	INJ. SEV #2	PHYS. COND. #1	PHYS. COND. #2	VIOLATION #1	VIOLATION #2	ACTION #1	ACTION #2	TRAV. DIR. #1	TRAV. DIR. #2	MANNER OF COLLISION	COMMENTS
07-08917	070323	2100	GOLDWATER		CAMELBACK		W	150	1		1		2		5		SW		0	
07-15501	070522	1953	69	ST	CAMELBACK		AT		2	1	1	1	4	1	1	1	SB	WB	3	
07-35692	071201	1257	GOLDWATER		CAMELBACK		W	200	1	1	1	1	2	2	1	1	EB	EB	5	3 VEH
08-06299	080227	0939	69	ST	CAMELBACK		AT		1	1	1	1	4	1	4	1	SB	EB	4	
08-08533	080320	0927	69	ST	CAMELBACK		AT		1	1	1	1	8	1	4	1	SB	WB	4	
08-19887	080711	1720	69	ST	CAMELBACK		W	77	1	2	9	1	2	1	1	3	EB	EB	5	
08-21950	080802	1918	GOLDWATER		CAMELBACK		W	700	1	2	1	1	8	1	5	1	NW	WB	9	
08-22466	080808	1723	69		CAMELBACK		E	100	1	1	1	1	14	1	10	1	WB	WB	1	
08-25841	080912	1640	GOLDWATER		CAMELBACK		W	116	1	4	1	1	15	1	1	3	EB	EB	5	

KEY **TOTAL** **9**

INJury SEVerity: 1=No Injury, 2=Minor, 3=Non-Incapacitating, 4=Incapacitating, 5=Fatal, 6=Unknown

PHYSical CONDition: 1=No Apparent Defects, 2=Had been Drinking, 3=Illicit Drugs, 4=ILL - Ability Influenced, 5=Sleepy-Fatigued, 6=Bodily Defects/infirmities, 7=Prescription Drugs, 8=Other, 9=Unknown

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MANNER OF COLLISION: 0=Single Vehicle, 1=Sideswipe-same direction, 2=Sideswipe-opposing direction, 3=Angle, 4=Left Turn, 5=Rear-End, 6=Head-On, 7=Backing, 8=Other, 9=Right Turn, A=Driveway, B=Non-contact Motorcycle, C=Non-contact Non-Motorcycle, D=U-Turn, @=Pedestrian, #=Pedalcycle

'07-08 Segment

CITY OF SCOTTSDALE ACCIDENT SUMMARY

REPORT #	DATE YYMMDD	TIME HHMM	NORTH / SOUTH ST.	TYPE	EAST WEST ST.	TYPE	DIR FROM	DIST FROM	INJ. SEV #1	INJ. SEV #2	PHYS. COND. #1	PHYS. COND. #2	VIOLATION #1	VIOLATION #2	ACTION #1	ACTION #2	TRAV. DIR. #1	TRAV. DIR. #2	MANNER OF COLLISION	COMMENTS
08-22368	080807	1652	68	ST	MONTECITO		S	100	1	2	1	1	2	1	2	3	NB	NB	5	

TOTAL **1**

KEY

INJury SEVerity: 1=No Injury, 2=Minor, 3=Non-Incapacitating, 4=Incapacitating, 5=Fatal, 6=Unknown

PHYSical CONDition: 1=No Apparent Defects, 2=Had been Drinking, 3=Illicit Drugs, 4=ILL - Ability Influenced, 5=Sleepy-Fatigued, 6=Bodily Defects/infirmities, 7=Prescription Drugs, 8=Other, 9=Unknown

VIOLATION: 1=No improper driving, 2=Speed too fast for conditions, 3=Exceeded lawful speed, 4=Failed to yield R.O.W. 5=Followed too closely, 6=Ran Stop Sign, 7=Disregard Traffic Signal 8=Made improper turn, 9=Drove in opposing lane, 10=Operated with faulty or missing equip. 11=Required motorcycle equipment not used, 12=Passed in No Passing Zone, 13=Unsafe Lane Change, 14=Other unsafe passing, 15=Inattention, 16=Did not use Crosswalk, 17 Walked on Wrong side of road, 18=Other, 19=Unknown

ACTION: 1=Going straight ahead, 2=Slowing in traffic, 3=Stopped in Traffic, 4=Making Left Turn, 5=Making Right Turn, 6=Making U-turn, 7=Entering alley or D/W, 8=Leaving alley or D/W 9=Overtaking / Passing, 10=Changing Lanes, 11=Backing, 12=Avoiding vehicle-object-pedestrian, 13=Entering Parking Position, 14=Leaving Parking Position, 15=Properly Parked, 16=Improperly Parked, 17=Driverless moving vehicle, 18=Crossing Road, 19=Walking w/ Traffic, 20=Walking against Traffic, 21=Standing, 22=Lying, 23=Getting on or off Vehicle, 24=Working on or Pushing Vehicle, 25=Working on Road, 26=Other, 27=Unknown

MANNER OF COLLISION: 0=Single Vehicle, 1=Sideswipe-same direction, 2=Sideswipe-opposing direction, 3=Angle, 4=Left Turn, 5=Rear-End, 6=Head-On, 7=Backing, 8=Other, 9=Right Turn, A=Driveway, B=Non-contact Motorcycle, C=Non-contact Non-Motorcycle, D=U-Turn, @=Pedestrian, #=Pedalcycle

'09 Intersection

CITY OF SCOTTSDALE '09 -'10 COLLISION SUMMARY

REPORT #	DATE YYMMDD	TIME HHMM	NORTH / SOUTH ST.	TYPE	EAST WEST ST.	TYPE	DIR FROM	DIST FROM	INJ. SEV #1	INJ. SEV #2	PHYS. COND. #1	PHYS. COND. #2	VIOLATION #1	VIOLATION #2	ACTION #1	ACTION #2	TRAV. DIR. #1	TRAV. DIR. #2	MANNER OF COLLISION	COMMENTS
09-02722	090129	1925	68	ST	CAMELBACK		E		1	1	0	0	4	0	1	3	W	W	6	
09-06224	090304	1703	68	ST	CAMELBACK		AT		3	3	4	0	3	0	4	1	NE	W	3	DUI
09-13785	090520	1813	68	ST	CAMELBACK		AT		3	3	0	0	3	0	4	1	N	W	3	
09-29293	091111	1416	68	ST	CAMELBACK		AT		1	3	0	0	3	0	4	1	NW	S	7	
09-23503	090904	2209	68	ST	CAMELBACK		AT		1	1	4	0	17	0	4	1	NE	W	3	
09-25314	090925	1250	68	ST	CAMELBACK		W	5	1		0	0	3	0	4	1	E	W	9	
09-26047	091003	1155	68	ST	CAMELBACK		AT		1	1	0	0	3	0	4	1	NE	W	3	3 VEH
09-33163	091223	2023	68	ST	CAMELBACK		AT		1	1	0	0	3	0	4	1	W	E	7	
10-01440	100115	1958	68	ST	CAMELBACK		AT		1	1	99	0	6	0	1	3	E	E	6	DUI-M

KEY

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PHYSical CONDition: 0=NO APPARENT INFLUENCE, 1=ILLNESS, 2=PHYSICAL IMPAIRMENT, 3=FELL ASLEEP / FATIGUED 4=ALCOHOL, 5=DRUGS, 6=MEDICATIONS, A=NO TEST GIVEN, B=TEST GIVEN, C=TEST REFUSED, D=TESTING UNKNOWN, 97=OTHER, 99=UNKNOWN

VIOLATION: 0=NO IMPROPER ACTION, 1=SPEED TOO FAST FOR CONDITIONS, 2=EXCEEDED LAWFUL SPEED 3=FAILED TO YIELD RIGHT-OF-WAY, 4=FOLLOWED TOO CLOSELY. 5=FAILED TO OBEY STOP SIGN, 6=FAILED TO STOP FOR RED SIGNAL, 7=DISREGAREDED TRAFFIC SIGNAL 8=MADE IMPROPER TURN, 9=DROVE/RODE IN OPPOSING TRAFFIC LANE, 10=KNOWINGLY OPERATED WITH FAULTY / MISSING EQUIPMENT, 11=REQUIRED MOTORCYCLE SAFETY EQUIPMENT NOT USED, 12=PASSED IN NO PASSING ZONE, 13=UNSAFE LANE CHANGE, 14=FAILED TO KEEP IN PROPER LANE, 15=DISREGARDED PAVEMENT MARKINGS, 16=OTHER UNSAFE PASSING, 17=INATTENTION/DISTRACTION, 18=DID NOT USE CROSSWALK, 19=WALKED ON WRONG SIDE OF ROAD, 20 ELECTRONIC COMMUNICATIONS DEVICE, 97=OTHER, 99 UNKNOWN

ACTION: 1=GOING STRAIGHT AHEAD, 2=SLOWING IN TRAFFICWAY, 3=STOPPED IN TRAFFICWAY, 4=MAKING LEFT TURN, 5=MAKING RIGHT TURN, 6=MAKING U-TURN, 7=OVERTAKING/PASSING, 8=CHANGING LANES, 9=NEGOTIATING A CURVE, 10=BACKING, 11=AVOIDING VEH/OBJ/PED/CYCLIST/ANIMAL, 12=ENTERING PARKING POSITION, 13=LEAVING PARKING POSITION, 14=PROPERLY PARKED, 15=IMPROPERLY PARKED, 16=DRIVERLESS MOVING VEHICLE, 17=CROSING ROAD, 18=WALKING WITH TRAFFIC, 19=WALKING AGAINST TRAFFIC, 20=STANDING, 21=LYING, 22=GETTING ON OR OFF VEHICLE, 23=WORKING ON/PUSHING VEHICLE, 24=WORKING ON ROAD, 97=OTHER, 99=UKNOWN

MANNER OF COLLISION: 1=SINGLE VEHICLE, 2=ANGLE (front to side) SAME DIRECTION, 3=ANGLE (front to side) OPPOSITE DIRECTION, 4=ANGLE (front to side) RIGHT ANGLE, 5=ANGLE - DIRECTION NOT SPECIFIED, 6=REAR END, 7=HEAD-ON, 8=SIDESWIPE, SAME DIRECTION, 9=SIDESWIPE, OPPOSITE DIRECTION, 10=REAR-TO-SIDE 11=REAR-TO-REAR 97=OTHER 99=UNKNOWN D=U-Turn, @=Pedestrian, #=Pedalcycle

TOTAL 9

09 Intersection

CITY OF SCOTTSDALE '09 -'10 COLLISION SUMMARY

REPORT #	DATE YYMMDD	TIME HHMM	NORTH / SOUTH ST.	TYPE	EAST WEST ST.	TYPE	DIR FROM	DIST FROM	INJ. SEV #1	INJ. SEV #2	PHYS. COND. #1	PHYS. COND. #2	VIOLATION #1	VIOLATION #2	ACTION #1	ACTION #2	TRAV. DIR. #1	TRAV. DIR. #2	MANNER OF COLLISION	COMMENTS
09-05229	090223	1151	GOLDWATER		CAMELBACK		W	29	3	2	6	0	2	0	1	4	E	E	2	
09-02102	090123	1249	GOLDWATER		CAMELBACK		E	20	1	1	0	0	1	0	1	3	W	W	5	
09-02189	090124	0956	GOLDWATER		CAMELBACK		AT		3	3	97	0	3	0	4	1	S	E	3	
09-04929	090220	1145	GOLDWATER		CAMELBACK		E	66	1	1	0	0	97	0	10	3	E	W	97	
09-03938	090210	1901	GOLDWATER		CAMELBACK		AT		1	1	0	0	6	0	1	1	W	S	4	
09-08195	Q90325	0823	GOLDWATER		CAMELBACK		AT		1	1	0	0	17	0	5	5	SW	SW	6	
09-09017	090402	1005	GOLDWATER		CAMELBACK		E	84	1	1	0	0	17	0	1	1	W	W	6	
09-27357	091019	0655	GOLDWATER		CAMELBACK		AT		99	3	99	0	3	0	5	17	W	N	5	H & R-CAR PED
09-30537	091125	1011	GOLDWATER		CAMELBACK		W	36	99	1	99	0	2	0	1	3	E	E	6	HIT & RUN
10-02143	100123	2030	GOLDWATER		CAMELBACK		AT		1	1	99	0	6	0	1	3	E	E	2	DUI-F 4 VEH
09-22369	090823	1410	GOLDWATER		CAMELBACK		N	1	99	99	0	0	1	0	1	3	S	S	6	
09-23103	090831	1741	GOLDWATER		CAMELBACK		AT		1	1	0	0	1-6	0	1	1	W	S	4	3 VEH

REPORT #	DATE YYMMDD	TIME HHMM	NORTH / SOUTH ST.	TYPE	EAST WEST ST.	TYPE	DIR FROM	DIST FROM	INJ. SEV #1	INJ. SEV #2	PHYS. COND. #1	PHYS. COND. #2	VIOLATION #1	VIOLATION #2	ACTION #1	ACTION #2	TRAV. DIR. #1	TRAV. DIR. #2	MANNER OF COLLISION	COMMENTS

KEY

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TOTAL 12

09 Segment

CITY OF SCOTTSDALE '09 -'10 COLLISION SUMMARY

REPORT #	DATE YYMMDD	TIME HHMM	NORTH / SOUTH ST.	TYPE	EAST WEST ST.	TYPE	DIR FROM	DIST FROM	INJ. SEV #1	INJ. SEV #2	PHYS. COND. #1	PHYS. COND. #2	VIOLATION #1	VIOLATION #2	ACTION #1	ACTION #2	TRAV. DIR. #1	TRAV. DIR. #2	MANNER OF COLLISION	COMMENTS
09-31439	091205	0934	68	ST	MONTECITO		AT		3	1	0	0	1	0	1	14	N	N	6	

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TOTAL 1

09 Segment

CITY OF SCOTTSDALE '09 -'10 COLLISION SUMMARY

REPORT #	DATE YYMMDD	TIME HHMM	NORTH / SOUTH ST.	TYPE	EAST WEST ST.	TYPE	DIR FROM	DIST FROM	INJ. SEV #1	INJ. SEV #2	PHYS. COND. #1	PHYS. COND. #2	VIOLATION #1	VIOLATION #2	ACTION #1	ACTION #2	TRAV. DIR. #1	TRAV. DIR. #2	MANNER OF COLLISION	COMMENTS
09-10458	090417	1605	69	ST	CAMELBACK		W	42	3	2	0	0	1	0	1	3	E	E	6	
09-25436	090926	1914	GOLDWATER		CAMELBACK		W	500	99	3	0	0	1	0	1	2	E	E	6	
09-28109	091028	1726	GOLDWATER		CAMELBACK		W	427	1	1	0	0	3	0	1	3	E	E	6	4 VEH
09-33066	091222	1815	68	ST	CAMELBACK		E	1320	1	1	0	0	1	0	1	3	E	E	6	

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TOTAL 4

CITY OF SCOTTSDALE ACCIDENT SUMMARY

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02-02602	020127	1416	GOLDWATER		CAMELBACK		W	448	1	1	1	1	4	1	5	1	NB	NB	9	
02-21174	020808	1250	69	ST	CAMELBACK		AT		1	1	1	1	4	1	4	1	SB	EB	3	
02-29135	021102	1706	69	ST	CAMELBACK		AT		2	4	1	1	4	1	4	1	SB	EB	3	
02-30379	021114	1125	GOLDWATER		CAMELBACK		W	528	1	1	9	1	4	1	5	3	SW	WB	5	HIT& RUN
02-31263	021122	1830	69	ST	CAMELBACK		AT			1		1	5		1	1	EB	EB	5	
02-31701	021127	1158	68	ST	CAMELBACK		E	629	1	1	1	1	4	1	4	1	SE	WB	4	
02-32746	021207	1551	GOLDWATER		CAMELBACK		W	565	2	1	1	1	4	1	4	1	SB	EB	4	
03-04304	030214	1310	68	ST	CAMELBACK		E	137	1	1	1	1	2	1	1	3	EB	EB	5	4 VEH
03-12031	030505	1148	GOLDWATER		CAMELBACK		W	155	1	1	9	1	13	1	10	2	EB	EB	1	
03-16986	030625	2047	GOLDWATER		CAMELBACK		W	109	1	1	1	1	15	1	1	3	EB	EB	5	
03-23990	030905	2052	GOLDWATER		CAMELBACK		W	102	1	2	7	1	2	1	2	3	EB	EB	5	3 VEH
03-34900	031222	1758	68	ST	CAMELBACK		E	613	1	2	1	1	4	1	4	1	WB	EB	4	
03-34990	031223	1421	68	ST	CAMELBACK		E	426	1	1	1	1	2	1	1	3	EB	EB	5	
04-00519	040106	1446	GOLDWATER		CAMELBACK		W	342	1	1	1	1	2	1	1	3	EB	EB	5	3 VEH
04-29188	041019	1357	GOLDWATER		CAMELBACK		W	167	1	1	1	1	13	1	2	3	EB	EB	1	
04-31427	041111	1406	GOLDWATER		CAMELBACK		W	568	1	1	1	1	4	1	4	1	SB	EB	4	

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KEY

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05-09453	050409	1028	GOLDWATER		CAMELBACK		W	203	1	2	1	1	15	1	1	3	EB	EB	5	
05-09436	050409	0315	68	ST	CAMELBACK		E	581	1		2		8		4		WB		0	
05-26072	051006	1723	68	ST	CAMELBACK		E	397	1	3	1	1	5	1	2	3	EB	EB	5	3 VEH
05-27271	051021	0840	GOLDWATER		CAMELBACK		W	524	1	1	1	1	4	1	4	3	SB	NB	4	
05-32403	051215	1812	68	ST	CAMELBACK		E	330	1	1	1	1	5	1	1	2	WB	WB	5	
05-32861	051220	1437	68	ST	CAMELBACK		E	150	1	1	1	1	2	1	1	3	EB	EB	5	
06-11330	060501	0806	68	ST	CAMELBACK		E	98	1	1	1	1	2	1	1	3	EB	EB	5	
06-18515	060718	0646	68	ST	CAMELBACK		E	130	1	1	1	1	4-8	1	5	4	EB	EB	3	
06-22430	060830	1714	69	ST	CAMELBACK		E		1	2	1	1	2	1	2	3	EB	EB	5	
06-24944	060924	1342	68	ST	CAMELBACK		E	350	1	1	1	1	5	1	1	5	WB	NW	5	
06-35345	061231	1559	GOLDWATER		CAMELBACK		W	545	6	3	1	1	4	1	4	1	SB	WB	4	

KEY

INJury SEVerity: 1=No Injury, 2=Minor, 3=Non-Incapacitating, 4=Incapacitating, 5=Fatal, 6=Unknown

PHYSical CONDition: 1=No Apparent Defects, 2=Had been Drinking, 3=Illicit Drugs, 4=ILL - Ability Influenced, 5=Sleepy-Fatigued, 6=Bodily Defects/infirmities, 7=Prescription Drugs, 8=Other, 9=Unknown

VIOLATION: 1=No improper driving, 2=Speed too fast for conditions, 3=Exceeded lawful speed, 4=Failed to yield R.O.W. 5=Followed too closely, 6=Ran Stop Sign, 7=Disregard Traffic Signal 8=Made improper turn, 9=Drove in opposing lane, 10=Operated with faulty or missing equip. 11=Required motorcycle equipment not used, 12=Passed in No Passing Zone, 13=Unsafe Lane Change, 14=Other unsafe passing, 15=Inattention, 16=Did not use Crosswalk, 17 Walked on Wrong side of road, 18=Other, 19=Unknown

ACTION: 1=Going straight ahead, 2=Slowing in traffic, 3=Stopped in Traffic, 4=Making Left Turn, 5=Making Right Turn, 6=Making U-turn, 7=Entering alley or D/W, 8=Leaving alley or D/W 9=Overtaking / Passing, 10=Changing Lanes, 11=Backing, 12=Avoiding vehicle-object-pedestrian, 13=Entering Parking Position, 14=Leaving Parking Position, 15=Properly Parked, 16=Improperly Parked, 17=Driverless moving vehicle, 18=Crossing Road, 19=Walking w/ Traffic, 20=Walking against Traffic, 21=Standing, 22=Lying, 23=Getting on or off Vehicle, 24=Working on or Pushing Vehicle, 25=Working on Road, 26=Other, 27=Unknown

MANNER OF COLLISION: 0=Single Vehicle, 1=Sideswipe-same direction, 2=Sideswipe-opposing direction, 3=Angle, 4=Left Turn, 5=Rear-End, 6=Head-On, 7=Backing, 8=Other, 9=Right Turn, A=Driveway, B=Non-contact Motorcycle, C=Non-contact Non-Motorcycle, D=U-Turn, @=Pedestrian, #=Pedalcycle

Plan #
Case # 1-ZN-2010
Q-S #
[X] Accepted
Corrections
3.22.10
Reviewed By Date

2nd

3/12

Preliminary Drainage Report

March 2010

Drainage

4/8/10

Optima Sonoran Village

6801 E. Camelback Road
Scottsdale, Arizona

Stormwater Review By:
Joe Rumann
Phone 480-312-7072
FAX 480-312-7971
E-mail jrumann@ScottsdaleAZ.gov
Review Cycle 2 Date 3.22.10

Plan Check # 478-10

Prepared for:

Optima
7147 E. Rancho Vista Drive, Suite 104
Scottsdale, AZ 85051

Prepared by:

Kimley-Horn and Associates, Inc.
7878 N. 16th Street, Suite 300
Phoenix, Arizona 85020

191007002

March 2010

Kimley-Horn
and Associates, Inc.

Preliminary Drainage Report
March 2010

Optima Sonoran Village

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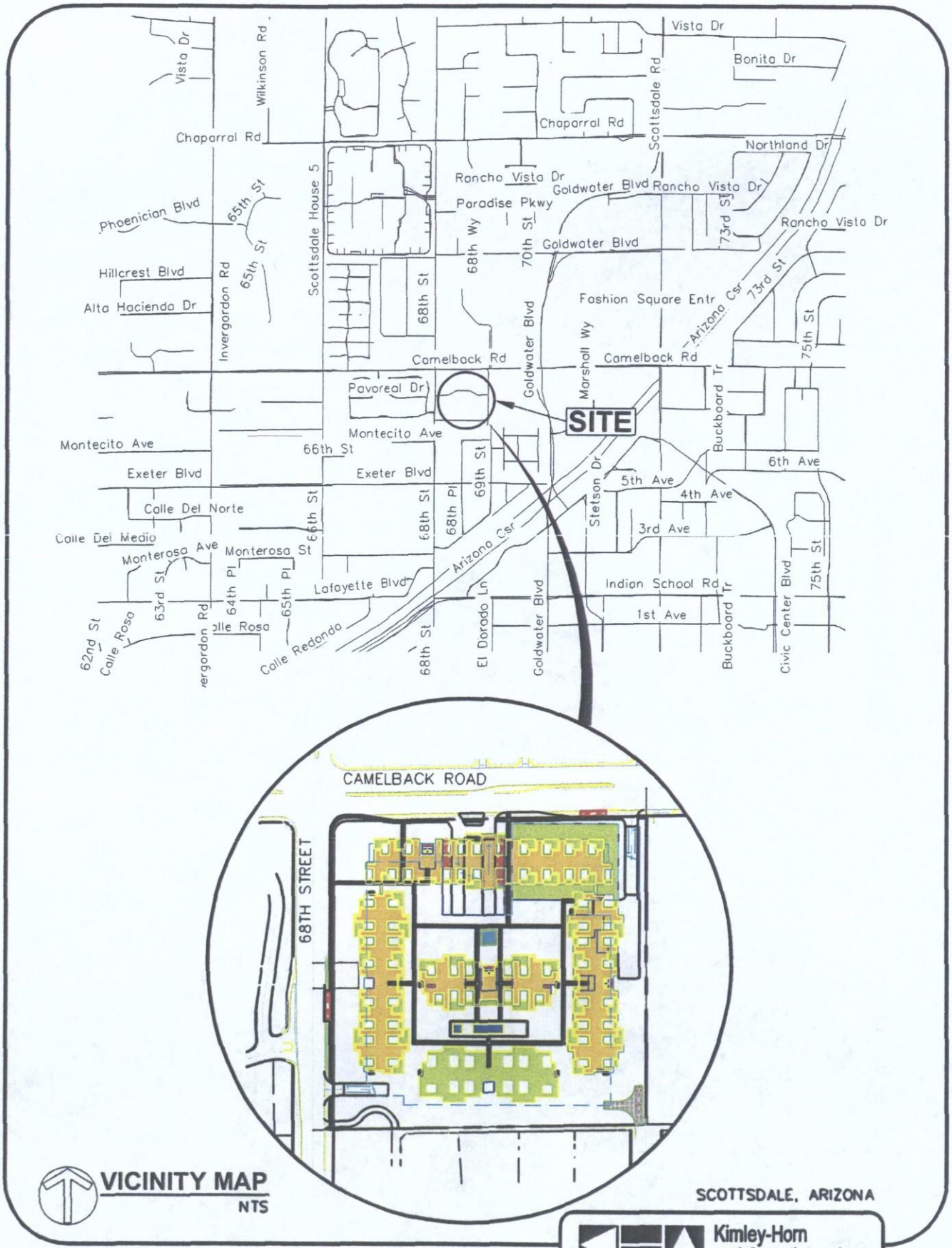
191007002

March 2010



VICINITY MAP
NTS

SCOTTSDALE, ARIZONA

Kimley-Horn and Associates, Inc.

2. DESCRIPTION OF EXISTING DRAINAGE CONDITIONS AND CHARACTERISTICS

2.1 ON-SITE DRAINAGE

The existing apartment complex is situated on a site that is approximately 10.0 acres in size. The general topography of the site is relatively flat with slopes falling from the northwest corner of the site (elev. 1290) to the southeast corner (elev. 1282) at approx. 1%. The existing units adjacent to Camelback Road are located at or slightly below the Camelback Road improvements and are protected from offsite flows conveyed along Camelback by the existing curb and gutter. Existing landscaped areas between the roadway and buildings are gently sloped to meet the building grade. Existing driveways at the northeast and southwest corners of the site provide access from Camelback and 68th Street to the paved parking areas along the eastern and southern boundaries of the site.

There is an existing 84" RGRCP storm drain within Camelback Road and an existing curb inlet (approximately 8 foot opening) is located just west of the aforementioned driveway entrance. There are no dedicated or maintained retention/detention areas onsite and all drainage that is not captured in landscaped areas is eventually conveyed to the southeast corner of the site where it is discharged to 69th Street as surface drainage. This surface runoff is eventually collected in the City of Scottsdale storm drain system at 69th Street and Lafayette. Roadway drainage in 68th Street is conveyed to the south via curb and gutter. Refer to Exhibit 4.

2.2 EXISTING DRAINAGE NETWORK, PATTERNS, WATERSHED AND OFF-SITE WATERSHED

A review of existing topographic information and a site visit performed by KHA indicates that no offsite drainage enters the site.

2.3 EXISTING CONDITIONS AND THE DRAINAGE NETWORK ENTERING AND LEAVING THE SITE

All existing runoff, generated onsite, that is not captured in landscaped areas is eventually conveyed to the southeast corner of the site where it is discharged to 69th Street as surface drainage.

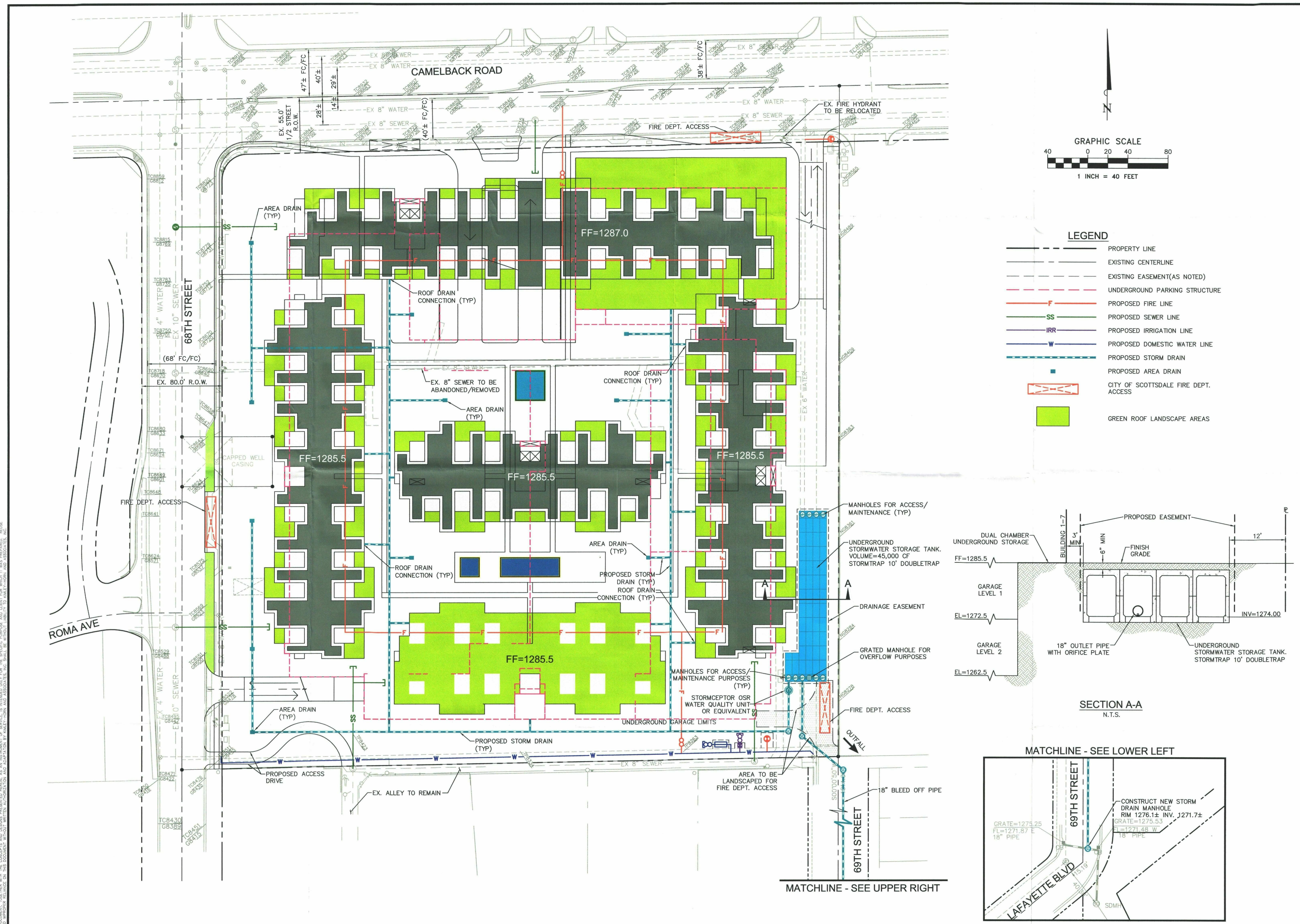
2.4 CONTEXT RELATIVE TO ADJACENT PROPERTIES AND IMPROVEMENTS

Homes within the Whitwood 2 subdivision located immediately south of the proposed project back to a 10 foot alley which runs along the southern property line of the subject property. Flows generated within Whitwood 2 discharge southerly to the existing street system and do not impact the subject property.

The property located immediately east of the subject property conveys flows to the south and east and runoff eventually discharges via surface drainage to 70th Street.

The City has indicated that the existing 84" storm drain in Camelback Road is at or near capacity and that direct discharge to this system is not an available option for the redevelopment project. The invert of this line is approximately 11.5 feet deep and may be an option to utilize for bleed pipe purposes. There is also a storm drain inlet located approximately 1000 feet south of the project at the intersection of 69th Street and Lafayette.

Exhibit 2 – Flood Insurance Rate Map



REVISION | NO. | BY | DATE | APPR.

Kimley-Horn and Associates, Inc.

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7878 North 16th Street, Suite 300
Phoenix, Arizona 85020 (602) 944-5500

SCALE (H): 1"=40'
SCALE (V): NONE
DESIGNED BY: HH
DRAWN BY: HV
CHECKED BY: MD
DATE: MAR 2010

OPTIMA SONORAN VILLAGE

PROPOSED GRADING EXHIBIT

SCOTTSDALE, ARIZONA

PROJECT NO. 191007002

DRAWING NAME 007002ex-Grading

1 OF 1

MAP SCALE 1" = 1000'

0 1000 2000 FEET

0 300 600 METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 1695H

FIRM

FLOOD INSURANCE RATE MAP

MARICOPA COUNTY, ARIZONA

AND INCORPORATED AREAS

PANEL 1695 OF 4350

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
MARICOPA COUNTY	040037	1695	H
PARADISE VALLEY, TOWN OF	040049	1695	H
SCOTTSDALE, CITY OF	045012	1695	H

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

MAP NUMBER

04013C1695H

MAP REVISED

SEPTEMBER 30, 2005

Federal Emergency Management Agency

3. PROPOSED DRAINAGE PLAN

3.1 FUTURE CONDITIONS

The proposed development of this site will ultimately consist of approximately 500 condominium units and 40,000 sf of commercial space associated with the residential uses. The project will also utilize underground parking garages accommodating 950 cars. The project is anticipated to contain sustainable design elements utilizing amongst other things rainwater harvesting and rooftop gardens

The 4 residential towers located on the southern half of the site vary in height from 5 to 7 stories and will be constructed above the underground parking. The lowest finished floor of these structures are set at elevation 1285.5. The western half of the structure along Camelback will be constructed on pedestals with landscaped gardens under the structure. The lowest finished floor of this portion of the building is set at 1306.8. The eastern half of the structure along Camelback is where the commercial/retail portion of the site is located. The lowest finished floor of this commercial space will be set at 1287.0

Two driveways (one off of Camelback Road and the other off 68th Street) will provide access to the underground parking structure. A second driveway off Camelback will also provide access to the garage as well as commercial service and waste collection areas. Refer to Exhibit 3. The existing apartment complex will be entirely demolished prior to new construction.

3.2 GENERAL DESCRIPTION OF PROPOSED DRAINAGE SYSTEM

This drainage report has been prepared to support the design of the proposed development with regard to drainage and flood control. Generally, the runoff originating on the site will be collected in roof or area drains and will be piped to an underground storage tank located on the southeastern side of the project sized for the 100 year 2 hour storm. The methodologies, calculations and results discussed in this report show all drainage, street conveyance, and detention design requirements for the development are in accordance to the drainage standards and guidelines of the City of Scottsdale, Arizona.

3.3 STORMWATER STORAGE REQUIREMENTS

3.3.1 Volume Required

Generally, the City of Scottsdale stipulates that sufficient storage volume be provided on site for the entire runoff generated by the 100-year, 2-hour rainfall event contributed from the disturbed areas. Even though this project involves redevelopment of an existing project with a similar level of imperviousness, the City requires that the full storage requirement be provided onsite.

In order to mitigate and reduce the project's stormwater storage requirement and provide for sustainable elements associated with this project, the developer will implement extensive rooftop gardens and landscape areas throughout. Approximately 57,994 sf of above grade (roof top) landscaping and 161,712 sf of grade level landscaping will be utilized. The remaining 154,034 sf of roofs, drives, sidewalks and other hard improvements are considered impervious.
Weighted C Value calculations and documentation addressing the C value utilized for rooftop landscaping is included in Exhibit 5.

100-yr 2-hour Volume

The amount of storage volume required was determined by City of Scottsdale and Flood Control District of Maricopa County design.

$V_R = \frac{P}{12} AC$, where:

V_R = Required storage volume in acre-feet
P = Precipitation amount = 2.17 inches. The average depth of the 100-year 2-hour duration rainfall, applies citywide.
A = Area in acres; the developed portion of the entire site in acres, on which any man made change is planned, including, but not limited to: construction, excavation, filling, grading, paving, or mining.
C = Runoff coefficient; weighted coefficient calculation C = 0.66

$$V_R = \frac{2.17"}{12}(373{,}740) * (0.66) = 44{,}605 \ \ cubic - feet$$

3.3.2 Volume Provided

Flows generated within the site will be conveyed via roof drains, area drains and onsite storm drain system to an underground storage tank system located in the southeastern portion of the property. The project will be designed to meet all criteria required by the City of Scottsdale for Underground Stormwater Storage Policy 4-1.403 and will designed to meet all City design requirements. A copy of this policy is provided for reference below:

4-1.403 UNDERGROUND STORMWATER STORAGE POLICY

A. Policy

This policy supplements Scottsdale Code requirements for all stormwater storage. Underground stormwater storage involves constructing underground tanks, pipes, or vaults that accept stormwater runoff by means of inlets and storm drain pipes. The city approves underground storage only after rigorous analysis of storage system location, specifications, access, operation and maintenance, liability, and signage.

B. Projects Qualifying for Underground Stormwater Storage

Project must meet the following criteria:

1. *Project must be located within an industrial, commercial, non-residential or multi-family development; no underground stormwater storage will be approved for single family residential developments.*
2. *Project must have a viable property maintenance organizer or other maintenance mechanism to assume continued maintenance of the underground stormwater storage system and protect the public interest.*

C. General Criteria for Underground Stormwater Storage System Design

1. *Underground stormwater storage systems must demonstrate protection of public health, safety, and welfare as established by city codes and policies.*
2. *All underground stormwater storage elements must meet industry standards or stricter standards.*
3. *Storage system must not be located under building or parking garages.*

4. *The owner must dedicate a drainage easement to the city which incorporates the storage system and any additional area needed to allow for maintenance. A 5-foot setback from the property line must be provided to enable access for inspection and maintenance.*
5. *Design access must address:*
   a. Water quality, and incorporate water quality protection measures to protect underground and surface water resources to meet applicable water quality standards.
   b. Consequences of a complete storage system failure (i.e., no storage), with particular attention to the possibility of structure or street flooding.
   c. Vector control within storage system.
   d. Redundancy in case of failure, sediment accumulation, or stormwater events that are greater than 1% event.
   e. Initial suspended sediment load removal ("first flush").
   f. At least a 75 year life of entire system, including the lining and coating of the underground storage tank.
   g. Drainage by gravity. Pumped systems will only be considered if no other reasonable alternative exists.

D. Specific Criteria for Underground Stormwater Storage Design

1. *Outfall—underground storage systems must have some sort of outfall, such as gravity drains or pumps.*
2. *Pipes—underground storage system pipes must have a smooth interior floor.*
3. *Installation—excavation, bedding, and backfill procedures and materials must be in accordance with MAG standards.*
4. *Access—a minimum of two access points must be provided for each underground storage system to enable inspections and removal of accumulated sediment and debris. Access must be in accordance with MAG standards.*

E. Criteria for Operations, Maintenance and Liability

1. *Operations and maintenance generally—owner must provide:*
   a. Maintenance staff with expertise in operation, inspecting, and maintaining an underground stormwater storage system;
   b. An Operations and Maintenance Manual on site for the system that includes:
   (i) a schedule for inspections and maintenance, and (ii) provisions for emergency operations due to power failure, pump failure, and clogged outlet structures;
   c. A log of the inspections and required maintenance services.
2. *Inspections and maintenance required—In addition to maintenance required by the Scottsdale Code and other applicable requirements, owner shall:*
   a. Inspect system after each storm event of 0.6 inch or more, and semiannually, preferably prior to summer and winter rains.
   b. Remove accumulated trash and debris from inlet and outlet structures as needed to ensure free flow of stormwater.
   c. Check accumulated trash and debris from inlet and outlet structures as needed to ensure free flow of stormwater.
   d. Inspect all other elements of the drainage system (pipes, geotextiles, and stone) and repair/replace elements as needed for the storage system to operate at peak efficiency.
3. *Signage—Before receiving a certificate of occupancy, owner must install signs at each end of the underground storage tank that read "Notice—Underground Stormwater Storage Tank." The size, color, and locations of signs are subject to city staff approval.*
4. *Liability—Owner assumes all liability for the design, construction, maintenance and failure of the underground stormwater storage system in perpetuity and hold the city*

harmless from any such liability. A signed and notarized document to this effect must be recorded by Maricopa County.

A Storm Trap Precast Concrete Modular stormwater management system is proposed to be utilized for this development. The vault is L-shaped approximately 169' long by 28' wide and made up of a series of 10' deep precast concrete chambers. The chambers are designed to be open on the bottom and they will sit on a gravel bed allowing for ground infiltration in addition to the proposed bleed off pipe system.

Access manholes will be situated on the north and south ends of the system allowing for inspection and maintenance. A grated manhole will be provided near the southeastern corner of the site to provide for emergency overflow in the event that stormwater runoff exceeds the design storm event. If the basin overtops, runoff will flow southerly as sheet flow to 69th Street where it will travel south within the public right of way per historic conditions.

Stormwater runoff entering the underground system is anticipated to be treated by a Stormceptor Oil and Sand Removal System or its equivalent. An Operations and Maintenance Manual will be prepared with final engineering plans that will be kept on site and will address inspection and system maintenance requirements.

A preliminary layout is shown on the grading and drainage exhibit in Exhibit 3. Details of the system are also included with Exhibit 5. Notification signs as required by the City will be installed at each end of the system.

The bottom of the vault and the invert of the bleed off pipe will be set at approximately elevation 1274.0. A new manhole connection is proposed on the existing 18" storm drain pipe connecting the catch basin inlets at 69th Street and Lafayette. The invert of the storm drain is at approximately 1271.7 allowing the basin to drain via gravity at approx. 0.2%. Note: The storm drain extension in 69th Street will cross under two 6" water lines that currently feed the Villa Adrian and Villa D'este subdivisions(one at Montecito Avenue and the second at Exeter Boulevard). If a conflict is determined to exist, the water lines will be vertically realigned to allow gravity drainage of the underground detention system.

	Drainage Provided [AC-FT]	CF
Underground Detention Vault	1.053	45,864.5

3.4 PRE AND POST RUNOFF CHARACTERISTICS AT CONCENTRATION POINTS EXITING THE SITE

Flows generated by the design storm event will be collected in the proposed underground detention basin. Drainage generated along Camelback Road and 68th Street will continue to follow existing drainage patterns and will not enter the site. The underground detention basin will be bled off to the storm drain system in 69th Street at Lafayette at a rate of approximately 1 cfs.

3.5 PROPOSED DRAINAGE STRUCTURES OR SPECIAL DRAINAGE FACILITIES

As mentioned, roof top landscaping is utilized throughout the project and the runoff coefficient for the areas has been taken into account for the sizing of stormwater storage requirements. Roofs and gardens area will be equipped with area drains to convey runoff in excess of soil absorption/infiltration capacity to the underground detention basin.

3.6 PROJECT PHASING

The project will be phased from east to west with the underground stormwater storage basin constructed with the first phase improvements. Unimproved portions of the site will continue to discharge runoff per historic conditions until complete development of the site occurs.

4. SPECIAL CONDITIONS

There are no jurisdictional washes present on the site and the project is not subject to a US Army Corps Section 404 permit.

5. DATA ANALYSIS METHODS

5.1 HYDROLOGIC PROCEDURES, PARAMETER SELECTION, AND ASSUMPTIONS

Per City of Scottsdale and Maricopa County storm drainage policy, the hydrologic analysis of this development site was performed using the Rational Method. The design parameters used are as follows:

A rainfall depth of 2.17 inches for the 100-year 2-hour storm and a C-value was calculated using Figure 4-5 from the City of Scottsdale Design Standards and Policies Manual.

100% of the rainfall runoff is collected in green roofs and area drains and conveyed to the underground stormwater storage tank.

5.2 HYDRAULIC METHODS, PARAMETER SELECTION, AND ASSUMPTIONS

The methodology used was that which is outlined in Chapter 4 of the City of Scottsdale Design Standards and Policies Manual 2007.

5.3 STORMWATER STORAGE CALCULATION METHODS AND ASSUMPTIONS

Stormwater storage requirements were calculated per City of Scottsdale and Flood Control District of Maricopa County design standards.

The weighted runoff coefficient for the site was based on *Figure 4.5: Runoff Coefficients for Use with Rational Method* from Design Standards & Policies Manual – City of Scottsdale 2007 as well as recommendations from the green values.cnt.org with regards to green roof systems.

6. CONCLUSIONS

6.1 OVERALL PROJECT

Based on the results of this Drainage Report, it can be concluded that:

- Onsite flows will be conveyed via roof drains and area drains to the proposed underground detention basin designed to capture the 100 yr- 2 hour storm event. The basin is designed to drain within 36 hours via bleed off pipe to the existing City Storm Drain system and percolation into the ground.
- Onsite flows will be treated prior to entering the underground detention basin in order to meet first flush requirements for initial suspended sediment load removal.
- A drainage easement will be provided over the underground detention basin.
- Runoff in excess of the design storm will bubble up through a grated manhole in the roof of the underground detention basin situated near the southeastern corner of the site and flow southerly in 69th Street per historic drainage patterns.
- Green roof landscape will be utilized on portions of all structures which has been taken into account during the sizing of the underground detention basin.
- No offsite flows impact the site. Flow within Camelback Road and 68th Street will follow historic drainage paths and will not enter the subject property.

7. WARNING AND DISCLAIMER OF LIABILITY

Appendix 4-1C

WARNING & DISCLAIMER OF LIABILITY

The Drainage and Floodplain Regulations and Ordinances of the City of Scottsdale are intended to "minimize the occurrence of losses, hazards and conditions adversely affecting the public health, safety and general welfare which might result from flooding caused by the surface runoff of rainfall" (Scottsdale Revised Code §37-16).

As defined in S.R.C. §37-17, a flood plain or "*Special flood hazard* area means an area having flood and/or flood related erosion hazards as shown on a FHBM or FIRM as zone A, AO, A1-30, AE, A99, AH, or E, and those areas identified as such by the floodplain administrator, delineated in accordance with subsection 37-18(b) and adopted by the floodplain board." It is possible that a property could be inundated by greater frequency flood events or by a flood greater in magnitude than a 100-year flood. Additionally, much of the Scottsdale area is a dynamic flood area; that is, the floodplains may shift from one location to another, over time, due to natural processes.

WARNING AND DISCLAIMER OF LIABILITY PURSUANT TO S.R.C §37-22
"The degree of flood protection provided by the requirements in this article is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Floods larger than the base flood can and will occur on rare occasions. Floodwater heights may be increased by man-made or natural causes. This article (Chapter 37, Article II) shall not create liability on the part of the city, any officer or employee thereof, or the federal government for any flood damages that result from reliance on this article or any administrative decision lawfully made thereunder."

Compliance with Drainage and Floodplain Regulations and Ordinances does not insure complete protection from flooding. The Floodplain Regulations and Ordinances meet established local and federal standards for floodplain management, but neither this review nor the Regulations and Ordinances take into account such flood related problems as natural erosion, streambed meander or man-made obstructions and diversions, all of which may have an adverse affect in the event of a flood. You are advised to consult your own engineer or other expert regarding these considerations.

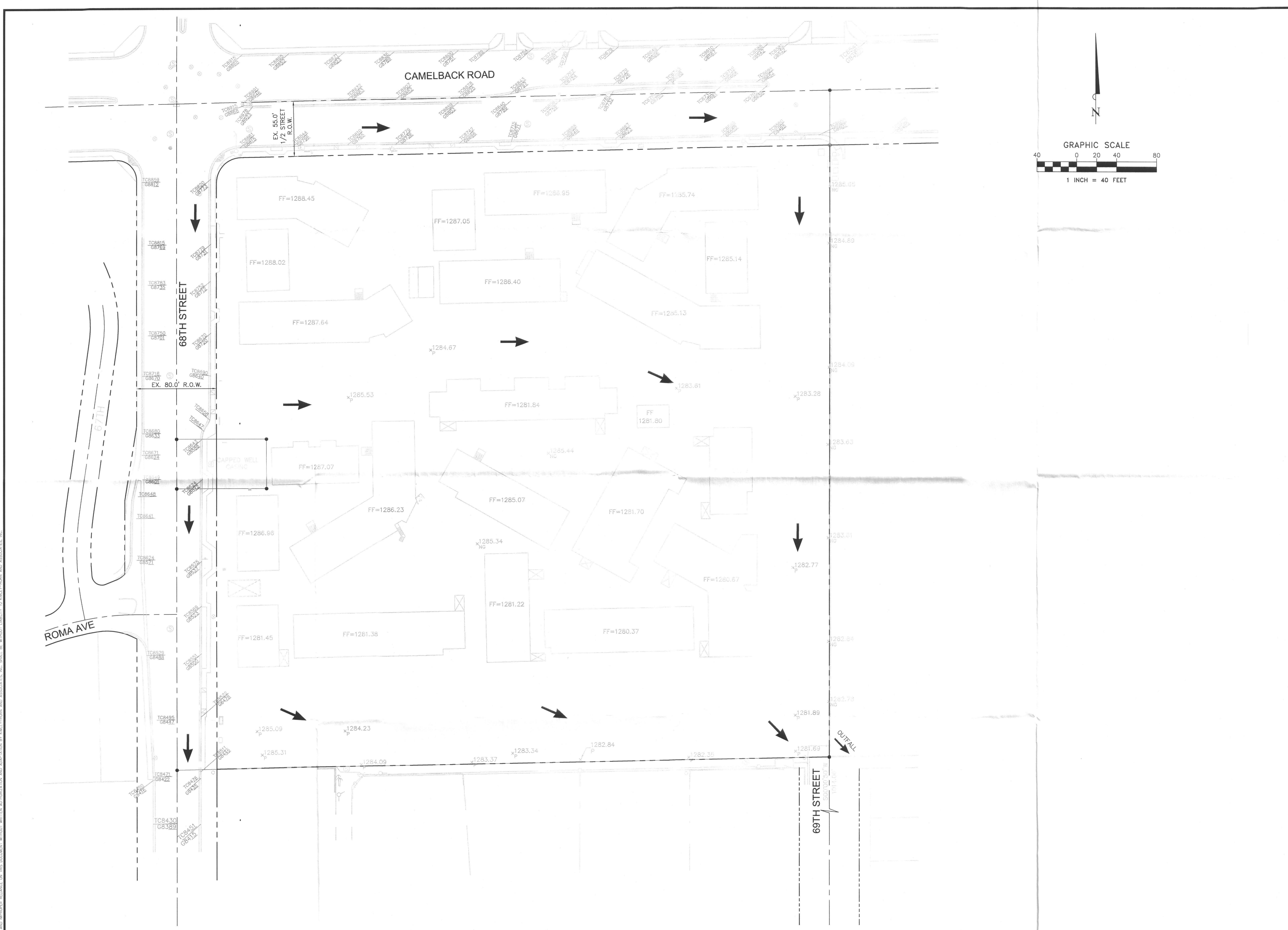
I have read and understand the above. If I am an agent for an owner I have made the owner aware of and explained this disclaimer.

Plan Check No.	Owner or Agent	Date
		1/27/10

8. REFERENCES

1. City of Scottsdale, Arizona. Design Standards and Policies Manual, 2007.
2. Flood Control District of Maricopa County. Drainage Design Manual for Maricopa County, Arizona, November 2003.
3. Arizona Department of Transportation. Construction Standard Drawings, October 2004.
4. U.S. Department of Transportation, Federal Highway Administration, Hydraulic Engineering Circular No. 5, December 1965.
5. Federal Emergency Management Agency, Flood Insurance Rate Map of Maricopa County, Arizona and Incorporated Areas. Panel 0820 G of 4350, Map Number 04013C0820G. September 30, 2005.
6. U.S. Department of Transportation Federal Highway Administration *Hydraulic Design of Highway Culverts Hydraulic Design Series No. 5*. September, 1985.
7. FlowMaster v6.0 Haestad Methods, Inc. 2004.
8. 1999. Rational for Windows Version 1.0. M.F. Frank Gu, P.E.

Exhibit 3 – Grading & Drainage Plan



NO.	REVISION	BY	DATE	APPR.

Kimley-Horn and Associates, Inc.

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7878 North 16th Street, Suite 300
Phoenix, Arizona 85020 (602) 944-5500

SCALE (H): 1"=40'
SCALE (V): NONE
DESIGNED BY: HH
DRAWN BY: HV
CHECKED BY: MD
DATE: JAN 2010

OPTIMA SONORAN VILLAGE
EXISTING CONDITIONS TOPOGRAPHY
SCOTTSDALE, ARIZONA

PROJECT NO. 191007002

DRAWING NAME 007002ex-exCond

1 OF 1

Exhibit 4 –Existing Conditions Exhibit

Exhibit 5 – Calculations

Runoff Coefficient Calculations

Building	Building Area	Green Roof System	Impervious Area
Center	24,875	3,900	20,975
East	33,225	5,700	27,525
West	33,225	5,700	27,525
North	43,687	7,650	36,037
South	24,875	21,500	3,375
Amenity	13,544	13,544	-
Total	173,431	57,994	115,437

Other Hard Improvements	
Main Ramp North of North Bldg	2,883
Main Ramp South of Norht Bldg	6,654
Loading Ramp	6,181
68th St Entry	2,763
Pool Spa Deck	4,500
Fountain	900
Fire Turnaround (grass crete)	2,623
Alley Connection (grass crete)	2,106
Interior Sidewalks	9,987
	38,597

Net Area of Subject Property	373,740
Landscape Area	161,712

Composite C Calculation		C Valus
Impervious (Roof, Drive, Walks, etc)	154,034	0.95
Green Roof System	57,994	0.75
Landscape Area	161,712	0.35
	373,740	

Weighted C Value	0.66

Green Values Stormwater Calculator Methodology

The CNT Green Values Stormwater Calculator (greenvalues.cnt.org) is designed to arrive at a first approximation of the hydrologic and financial conditions for a site that is defined by the user. In order to calculate the conditions, a variety of assumptions are made. The following paragraphs describe the process of calculation and underlying assumptions. The calculations are based on procedures contained in the report "Urban Hydrology for Small Watersheds," Technical Release 55, which are commonly used in the Chicago region. (The TR-55 Report)

Site Template

The series of steps that occur in the calculator when the Site Statistics are entered is:
The total size of the site is converted to a square – the length and width of the neighborhood/site is shown in the scenario detail
The area of each lot is calculated by dividing the total site size by the number of lots
The ratio of width to length of each lot is assumed to be 1:3 – the dimensions of each lot are shown in the scenario detail
The total length of frontage streets is assumed to be equal to the lot width times number of lots
The lot street area is calculated by multiplying the lot width by one half of the street width and the lot sidewalk area is the lot width times the sidewalk width – each is shown in the scenario detail

Curve Numbers

Each of the land use types is assigned a Curve Number (CN). The CNs are traditionally used as a factor to estimate the characteristic runoff from a land surface area as a function of the rainfall amount and pattern. The CNs, as adapted from comparable land uses in Table 2-2 of TR-55, are shown below for each soil type. (The CNs were developed decades ago. CNT and others are conducting research to improve the accuracy of the CNs for use with green infrastructure projects.)

Soil Type	"A"	"B"	"C"	"D"
Lawn	39	61	74	80
Impervious Surfaces	98	98	98	98
Woods/Trees	32	58	72	79
Porous Pavement	40	40	40	40
Swale/Garden	35	51	63	70
Green Roof	75	75	75	75

A weighted average curve number is calculated for each scenario. The average CNs are shown in the scenario detail.

Lot Discharge

The lot discharge is calculated for an assumed 2-year, 24-hour storm (a storm having a chance of occurring of 50% each year), with total precipitation of 2.95 inches. The procedure contained in Chapter 2 of TR-55 is used, with the time of concentration assumed to be the time for overland flow to travel the length of the lot with a lawn cover. The result is the runoff discharged, in cubic feet, from each lot due to the 2.95-inch rainfall.

Lot Peak Discharge

The lot peak discharge is calculated for the same 2.95-inch storm. The procedure contained in Chapter 4 of TR-55 is used. A typical rainfall pattern is used to calculate the peak rate of runoff, in cubic feet per second (cfs) from each lot.

Runoff Coefficients

Each of the land use types is also assigned a runoff coefficient, or C Value. The C Values are used in the "Rational formula"

$$Q = C*I*A$$

where Q = peak runoff rate (cfs)
C = dimensionless runoff coefficient used to adjust for abstractions from rainfall
I = rainfall intensity for a duration that equals the time of concentration (in/hr)
A = the area of the tributary basin (acres)

While there are a number of limitations to the use of the Rational formula, as discussed by Mays, it is very common for regulators and engineers to utilize it for local infrastructure design. Thus, the Green Values Calculator uses this formula. The C-Values for land uses in the calculator are shown below, as shown in Mays. They are not affected by soil types.

Lawn	0.30
Impervious Surfaces	0.90
Woods/Trees	0.10
Porous Pavement	0.50
Swale/Garden	0.15
Green Roof	0.75

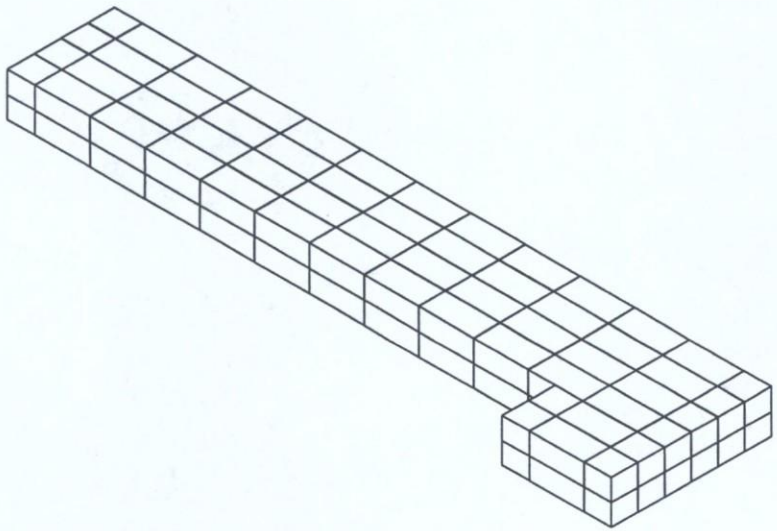
A weighted average C Value is calculated for each scenario. The average C Values are shown in the scenario detail.

Pipe Routing

In order to estimate the costs of stormwater conveyance (either by pipes or swales), the street pattern is assumed to be parallel streets containing the individual lots. As an illustration, imagine that the streets are oriented from east to west. Each street would contain a number of lots equal to twice the width of the site divided by the width of a lot. (The streets are assumed to have lots on both sides.) This would probably result in streets having fractions of some lots and of fractions of streets, but that is assumed not to be of consequence.

STORMTRAP® PATENTED

PRECAST CONCRETE MODULAR STORM WATER MANAGEMENT SYSTEMS



SONORAN VILLAGE

SCOTTSDALE, AZ

SHEET INDEX

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JOB SITE INFORMATION

DESCRIPTION	
JOB NAME:	SONORAN VILLAGE
JOB ADDRESS:	SCOTTSDALE, AZ
ENGINEERING CO:	KIMLEY-HORN AND ASSOCIATES
CONTACT NAME:	MICHAEL DELMARTER
CONTACT PHONE:	602-906-1374
CONTACT FAX:	602-944-7423
STORM TRAP SUPPLIER:	STORMTRAP
CONTACT NAME:	TYLER KEEGAN
CONTACT PHONE:	815-941-4663
CONTACT FAX:	815-416-1100
WATER STORAGE REQ'D:	45,000.00 CUBIC FEET
WATER STORAGE PROV:	45,864.50 CUBIC FEET
UNIT HEADROOM:	10'-0" DOUBLETRAP
UNIT QUANTITY:	58 UNITS - 116 TOTAL PIECES

STORMTRAP
2495 WEST BUNGALOW ROAD
MORRIS, IL 60450
P: 815-941-4663
F: 815-416-1100

ENGINEER INFORMATION:

KIMLEY-HORN AND ASSOCIATES
7878 NORTH 16TH STREET
PHOENIX, AZ 85020
Phone: 602-906-1374
Fax: 602-944-7423

PROJECT INFORMATION:

SONORAN VILLAGE
SCOTTSDALE,
TK-5100-AZ-10

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SHEET TITLE:

COVER SHEET

SHEET NUMBER:

01

STORMTRAP INSTALLATION SPECIFICATION

1. STORMTRAP MODULES SHALL BE MANUFACTURED ACCORDING TO SHOP DRAWINGS APPROVED BY THE INSTALLING CONTRACTOR AND ENGINEER. THE SHOP DRAWINGS SHALL INDICATE SIZE AND LOCATION OF ROOF OPENINGS AND INLET/ OUTLET PIPE OPENINGS.

2. STORMTRAP SHALL BE INSTALLED IN ACCORDANCE WITH ASTM C891-90, STANDARD PRACTICE FOR INSTALLATION OF UNDERGROUND PRECAST CONCRETE UTILITY STRUCTURES. THE FOLLOWING ADDITIONS AND/OR EXCEPTIONS SHALL APPLY:

   A. SPECIFICATIONS ON THE ENGINEER'S DRAWINGS SHALL TAKE PRECEDENCE.

   B. STORMTRAP MODULES SHALL BE PLACED ON A LEVEL, 6" PAD OF 3/4" COARSE AGGREGATE, THAT EXTENDS 2'-0" PAST THE OUTSIDE OF THE SYSTEM, PER ASTM C891-90, STANDARD PRACTICE FOR INSTALLATION OF UNDERGROUND PRECAST CONCRETE UTILITY STRUCTURES.

   C. THE STORMTRAP MODULES SHALL BE PLACED SUCH THAT THE MAXIMUM SPACE BETWEEN ADJACENT MODULES DOES NOT EXCEED 3/4". IF THE SPACE EXCEEDS 3/4", THE MODULES SHALL BE RESET WITH APPROPRIATE ADJUSTMENT MADE TO LINE AND GRADE TO BRING THE SPACE INTO SPECIFICATION.

   D. THE PERIMETER HORIZONTAL JOINT OF THE STORMTRAP MODULES SHALL BE SEALED WITH PREFORMED MASTIC JOINT SEALER ACCORDING TO ASTM C891-90, 8.8 AND 8.12.

   E. ALL EXTERIOR JOINTS BETWEEN ADJACENT STORMTRAP MODULES SHALL BE SEALED WITH 0'-8" PRE-FORMED, COLD-APPLIED, SELF-ADHERING ELASTOMERIC RESIN BONDED TO A WOVEN HIGHLY PUNCTURE RESISTANT POLYMER WRAP CONFORMING TO ASTM C891-90 AND SHALL BE 0'-8" INTEGRATED PRIMER SEALANT AS APPROVED BY STORMTRAP. THE ADHESIVE EXTERIOR JOINT WRAP SHALL BE INSTALLED ACCORDING TO THE FOLLOWING INSTALLATION INSTRUCTIONS:

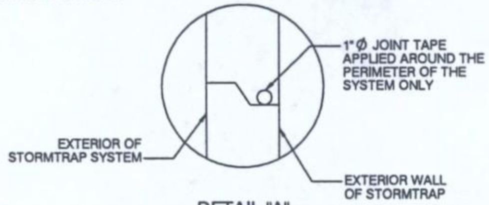
      1. USE A BRUSH OR WET CLOTH TO THOROUGHLY CLEAN THE OUTSIDE SURFACE AT THE POINT WHERE THE JOINT WRAP IS TO BE APPLIED.

      2. A RELEASE PAPER PROTECTS THE ADHESIVE SEALANT SIDE OF THE JOINT WRAP. PLACE THE ADHESIVE TAPE (ADHESIVE SIDE DOWN) AROUND THE STRUCTURE, REMOVING THE RELEASE PAPER AS YOU GO. PRESS THE JOINT WRAP FIRMLY AGAINST THE STORMTRAP MODULE SURFACE WHEN APPLYING.

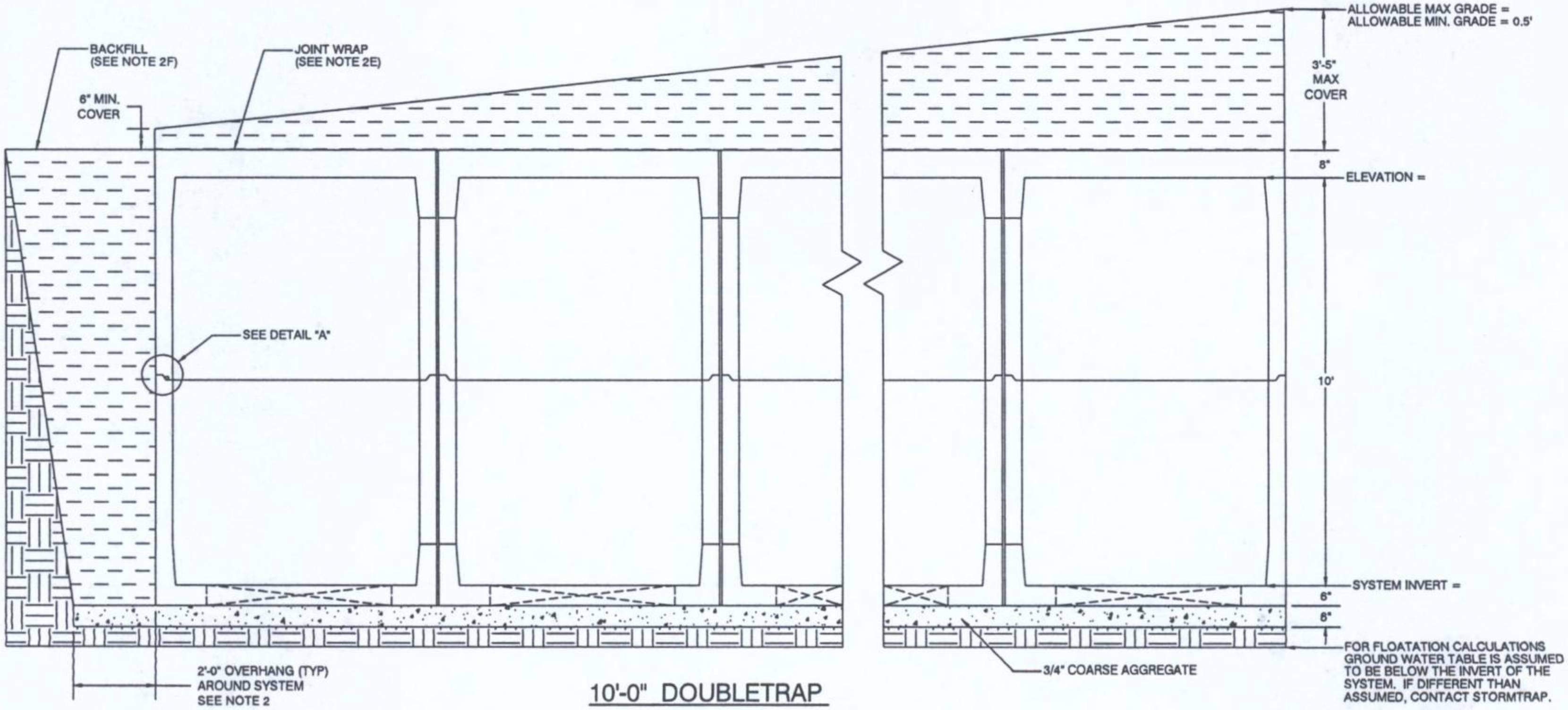
   F. THE FILL PLACED AROUND THE STORMTRAP UNITS MUST BE DEPOSITED ON BOTH SIDES AT THE SAME TIME AND TO APPROXIMATELY THE SAME ELEVATION. AT NO TIME SHALL THE FILL BEHIND ONE SIDE WALL BE MORE THAN 2'-0" HIGHER THAN THE FILL ON THE OPPOSITE SIDE. BACKFILL SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY OR OTHERWISE SPECIFIED BY ENGINEER. CARE SHALL BE TAKEN TO PREVENT ANY WEDGING ACTION AGAINST THE STRUCTURE, AND ALL SLOPES BOUNDING OR WITHIN THE AREA TO BE BACKFILLED MUST BE STEPPED OR SERRATED TO PREVENT WEDGE ACTION. (REFERENCE ARTICLE 502.10 I.D.O.T. S.S.R.B.C.) CARE SHALL ALSO BE TAKEN AS NOT TO DISRUPT THE JOINT WRAP FROM THE JOINT DURING THE BACK FILL PROCESS. BACKFILL MATERIAL NOT TO EXCEED 120 PCF SOIL DENSITY OR 80 LBS PER FOOT OF LATERAL SATURATED PRESSURE. RECOMMENDED BACKFILL TO CONSIST OF 3/4" COARSE AGGREGATE STONE OR APPROVED EQUAL AND SHALL CONFORM TO THE ABOVE DENSITY/LATERAL SATURATED PRESSURE REQUIREMENTS.

STORMTRAP SPECIFICATION

1. TOTAL COVER: MIN. 6" MAX. 3'-5" CONSULT STORMTRAP FOR ADDITIONAL COVER OPTIONS.
2. CONCRETE CHAMBER DESIGNED FOR AASHTO HS-20 WHEEL LOAD & APPLICABLE IMPACT. MIN. SOIL PRESSURE 2,000 PSF.
3. ALL DIMENSIONS AND SOIL CONDITIONS, INCLUDING BUT NOT LIMITED TO GROUNDWATER AND SOIL BEARING CAPACITY ARE TO BE VERIFIED IN THE FIELD BY OTHERS PRIOR TO STORMTRAP INSTALLATION.
4. FOR STRUCTURAL CALCULATIONS THE SOIL DENSITY IS ASSUMED TO BE 120 PCF.
5. STORMTRAP IS NOT WATER TIGHT - PLEASE ADVISE STORMTRAP IF A WATER TIGHT OPTION IS REQUIRED.
6. FOR STRUCTURAL CALCULATIONS THE WATER TABLE IS ASSUMED TO BE 3'-0" BELOW GRADE. IF WATER TABLE IS LESS THAN 3'-0" BELOW GRADE, CONTACT STORMTRAP.



DETAIL "A"



10'-0" DOUBLETRAP

STORMTRAP
PRECAST CONCRETE MODULAR STORM WATER MANAGEMENT SYSTEMS
2495 WEST BUNGALOW ROAD
MORRIS, IL 60450
P: 815-941-4663
F: 815-416-1100

ENGINEER INFORMATION:

KIMLEY-HORN AND ASSOCIATES
7878 NORTH 16TH STREET
PHOENIX, AZ 85020
Phone: 602-906-1374
Fax: 602-944-7423

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DOUBLETRAP INSTALLATION SPECIFICATIONS

SHEET NUMBER:

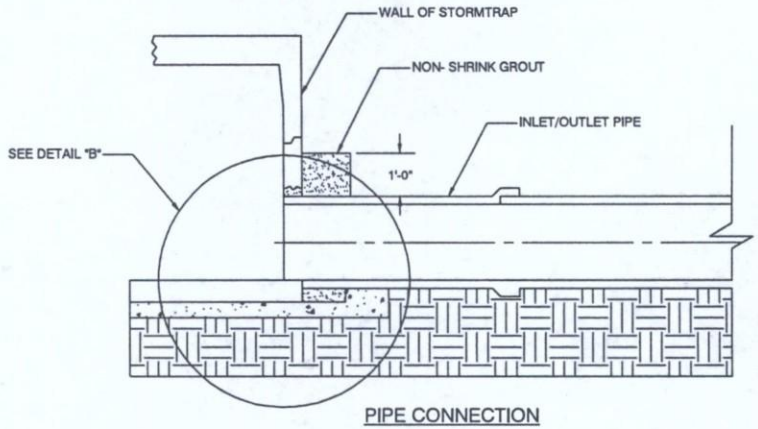
02

RECOMMENDED PIPE/RISER SPECIFICATION

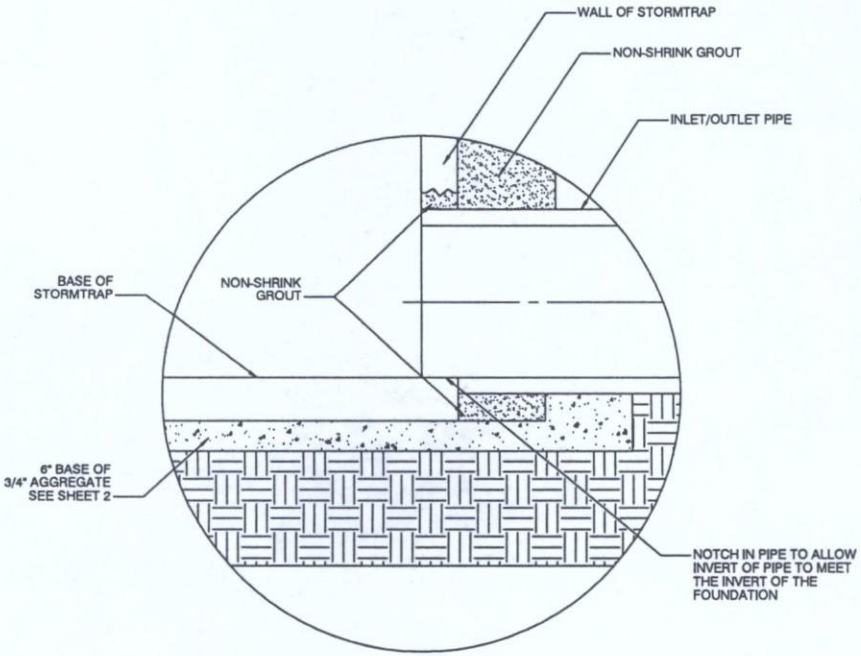
1. CONNECTING PIPES SHALL BE INSTALLED BY PLACING CONNECTING PIPE SO AS TO BREAK THE PLANE OF THE STORMTRAP WALL. A QUICK SETTING STRUCTURAL GRADE CONCRETE OR GROUT TO BE USED IN THE ANNULAR SPACE BETWEEN THE PIPE AND THE STORMTRAP. QUICK SETTING STRUCTURAL GRADE CONCRETE OR GROUT TO BE A MINIMUM OF 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI. (ENGINEERS TYPICAL PIPE CONNECTION DETAIL SHALL TAKE PRECEDENCE)
2. ALL OPENINGS ARE PROVIDED BY STORMTRAP.

RECOMMENDED INSTALLATION INSTRUCTIONS

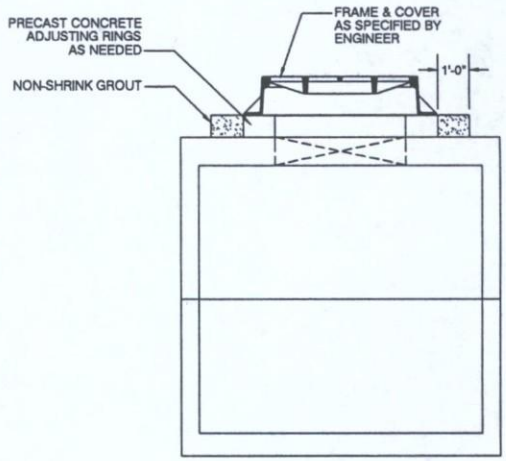
1. IF PIPE IS CUT, CARE SHOULD BE TAKEN TO PREVENT SHARP EDGES. BEVEL, CLEAN AND LIGHTLY LUBRICATE LEAD END OF PIPE TO BE INSERTED INTO STORMTRAP.
2. ALIGN CENTER OF PIPE TO CORRECT ELEVATION AND INSERT INTO OPENING. GROUT MAY BE REQUIRED TO BRING PIPE TO CORRECT ELEVATION.



PIPE CONNECTION



DETAIL "B"
CONNECTION DETAIL
(NOT TO SCALE)



RISER DETAIL

STORMTRAP
PRECAST CONCRETE MODULAR STORM WATER MANAGEMENT SYSTEMS
PATENT NO. 6,991,402 B2, 7,128,098 B2, & 7,344,339 B2
2495 WEST BUNGALOW ROAD
MORRIS, IL 60450
P: 815-941-4663
F: 815-416-1100

ENGINEER INFORMATION:
KIMLEY-HORN AND ASSOCIATES
7878 NORTH 16TH STREET
PHOENIX, AZ 85020
Phone: 602-906-1374
Fax: 602-944-7423

PROJECT INFORMATION:
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RECOMMENDED DOUBLETRAP INSTALLATION SPECIFICATIONS

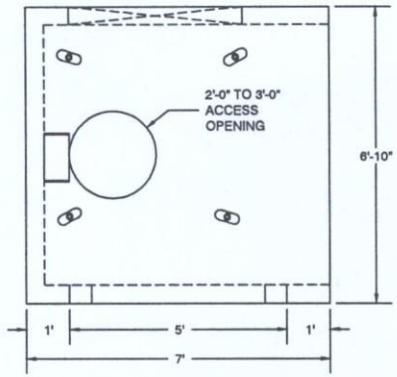
SHEET NUMBER:
2.1

RECOMMENDED
ACCESS OPENING SPECIFICATION

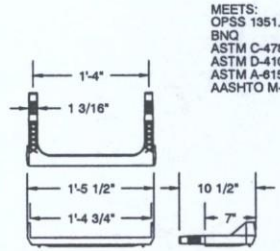
1. A TYPICAL ACCESS OPENING FOR THE STORMTRAP SYSTEM RANGES FROM 2'-0" TO 3'-0" IN DIAMETER. ACCESS OPENINGS LARGER THAN 3'-0" IN DIAMETER NEED TO BE APPROVED BY STORMTRAP.
2. PLASTIC COATED STEEL STEPS PROVIDED BY STORMTRAP, ARE PRODUCED BY M.A. INDUSTRIES PART #PS3-PFC (SEE DETAIL TO THE RIGHT) ARE TO BE PLACED INSIDE ANY UNIT WHERE DEEMED NECESSARY. THE HIGHEST STEP IN THE UNIT IS TO BE PLACED A DISTANCE OF 1'-0" FROM THE INSIDE EDGE OF THE STORMTRAP UNITS. ALL ENSUING STEPS SHALL BE PLACED WITH A MINIMUM DISTANCE OF 1'-4" BETWEEN THEM. STEPS MAY BE MOVED OR ALTERED TO AVOID OPENINGS OR OTHER IRREGULARITIES IN THE UNIT.
3. STORMTRAP LIFTING INSERTS, PROVIDED WITHIN UNITS, MAY BE RELOCATED TO COINCIDE WITH THE ACCESS OPENING OR THE CENTER OF GRAVITY OF THE UNIT AS NEEDED.
4. STORMTRAP ACCESS OPENINGS MAY NOT INTERFERE WITH INLET AND/OR OUTLET OPENINGS
5. STORMTRAP ACCESS OPENINGS SHOULD BE LOCATED IN ORDER TO SATISFY THE APPROPRIATE MUNICIPAL REQUIREMENTS. STORMTRAP RECOMMENDS AT LEAST 1 ACCESS OPENING IN THE SYSTEM FOR MAINTENANCE.

RECOMMENDED
PIPE OPENING SPECIFICATION

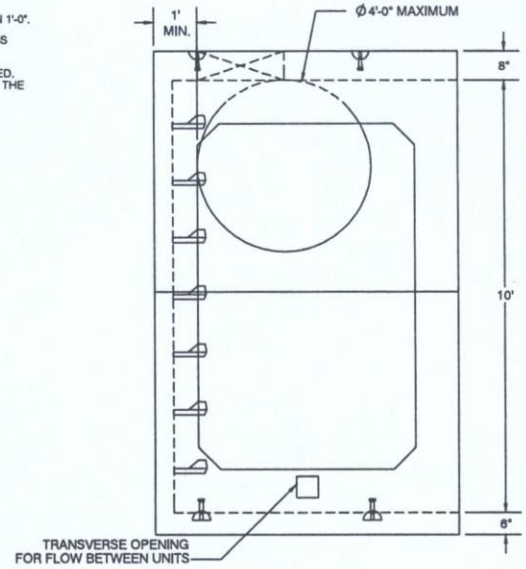
1. ALL OPENINGS MUST RETAIN AT LEAST 1'-0" OF CLEARANCE IN ALL DIRECTIONS FROM THE EDGE OF THE STORMTRAP UNITS.
2. MINIMUM DISTANCE FROM THE BASE OF THE ROOF SLAB SHALL BE NO LESS THAN 1'-0".
3. PIPE OPENING SIZE SHALL NOT EXCEED 4'-0" IN DIAMETER. LARGER PIPE OPENINGS MUST BE APPROVED BY STORMTRAP.
4. OPENINGS ARE NOT LIMITED TO THE ABOVE PARAMETERS BUT ARE RECOMMENDED. ANY OPENING NEEDED THAT DOES NOT FIT THE CRITERIA SHALL BE BROUGHT TO THE ATTENTION OF STORMTRAP FOR REVIEW.



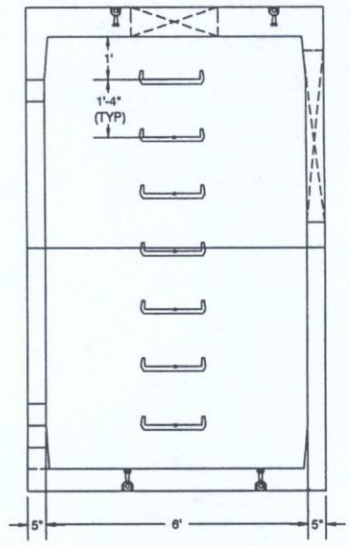
PLAN VIEW



STAIR DETAIL



ELEVATION VIEW



END VIEW

STORMTRAP
PRECAST CONCRETE MODULAR STORM WATER MANAGEMENT SYSTEMS
2495 WEST BUNGALOW ROAD
MORRIS, IL 60450
P: 815-941-4663
F: 815-416-1100

ENGINEER INFORMATION:

KIMLEY-HORN AND ASSOCIATES
7878 NORTH 16TH STREET
PHOENIX, AZ 85020
Phone: 602-906-1374
Fax: 602-944-7423

PROJECT INFORMATION:

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SHEET TITLE:

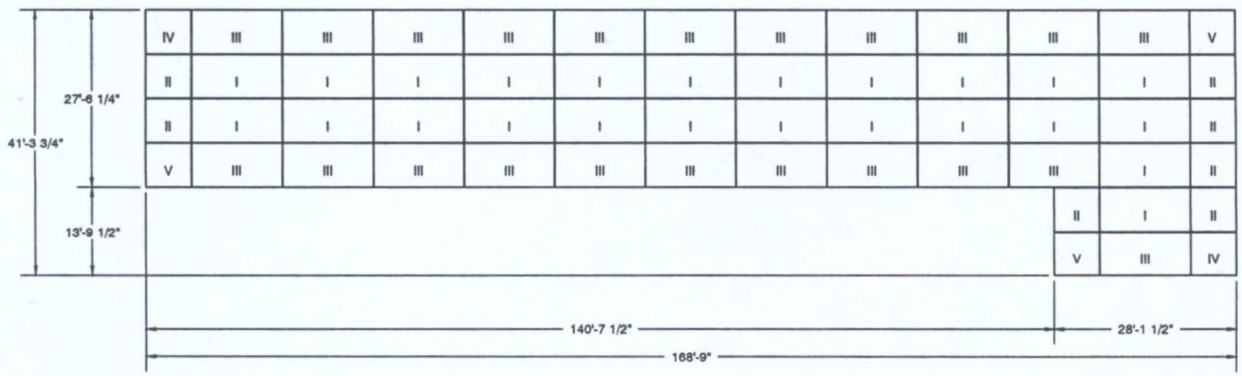
RECOMMENDED DOUBLETRAP INSTALLATION SPECIFICATIONS

SHEET NUMBER:

2.2

BILL OF MATERIALS		
QTY.	PART NO.	DESCRIPTION
24	TYPE I	10'-0" DOUBLETRAP TYPE I
7	TYPE II	10'-0" DOUBLETRAP TYPE II
22	TYPE III	10'-0" DOUBLETRAP TYPE III
3	TYPE IV	10'-0" DOUBLETRAP TYPE IV
2	TYPE V	10'-0" DOUBLETRAP TYPE V
32	JOINT TAPE	JOINT TAPE - 14.5' PER ROLL
13	JOINT WRAP	JOINT WRAP - 150' PER ROLL

N



NOTES:

1. DIMENSION OF STORMTRAP SYSTEM ALLOW FOR A 3/4" GAP BETWEEN EACH UNIT.
2. ALL DIMENSIONS TO BE VERIFIED IN THE FIELD BY OTHERS.
3. SEE SHEET 2 FOR INSTALLATION SPECIFICATIONS.

LAYOUT DETAIL

DESIGN CRITERIA

ELEVATION =

ALLOWABLE MIN GRADE = 0.5'

ALLOWABLE MAX GRADE =

SYSTEM INVERT =

STORMTRAP VOLUME = 45,864.50 C.F. / 1.05 A.F.

STORMTRAP

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7878 NORTH 16TH STREET
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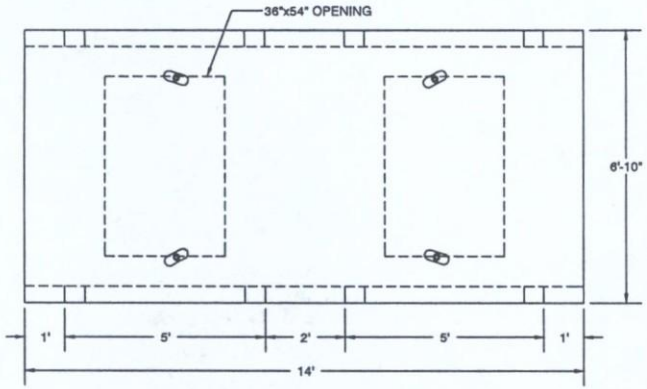
LAYOUT DETAIL

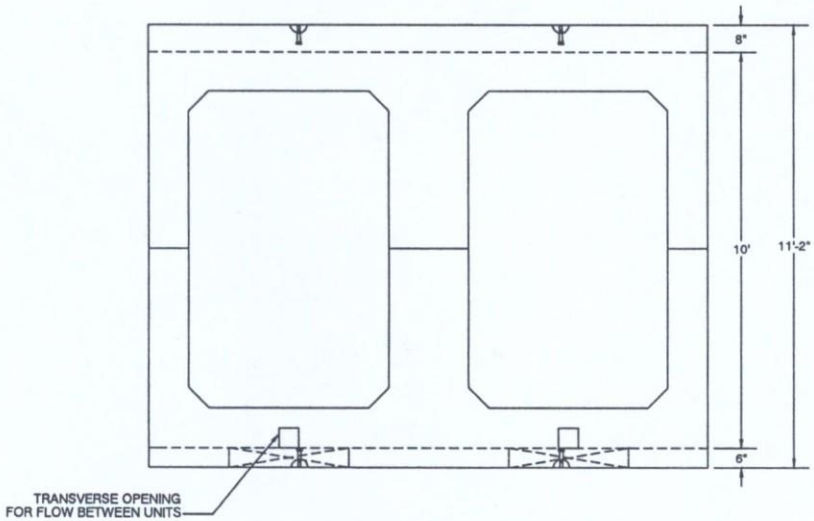
SHEET NUMBER:

03

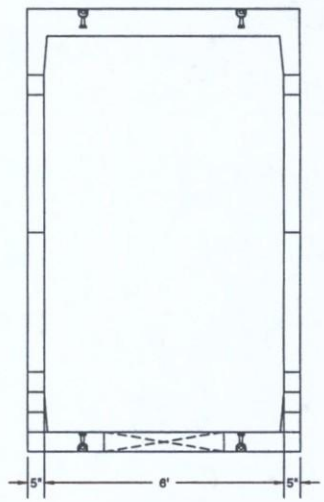


PLAN VIEW

TYPE I UNITS			
UNIT HEIGHT (in.)	CUBIC STORAGE (C.F.)	WEIGHT TOP (lbs.)	WEIGHT BASE (lbs.)
120	903.5	13555	11165



ELEVATION VIEW



SIDE VIEW

STORMTRAP
PRECAST CONCRETE MODULAR STORM WATER MANAGEMENT SYSTEMS
PATENT NO. 6,991,402 B2 & 7,144,508 B2 & 7,344,335 B2
2495 WEST BUNGALOW ROAD
MORRIS, IL 60450
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KIMLEY-HORN AND ASSOCIATES
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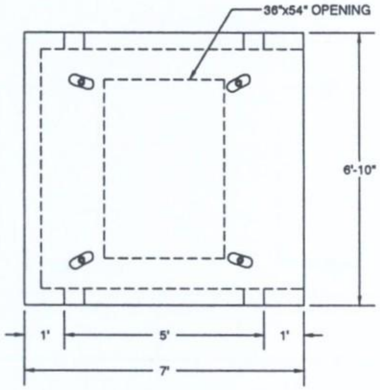
SHEET TITLE:

STANDARD
10'-0" DOUBLETRAP
TYPE I

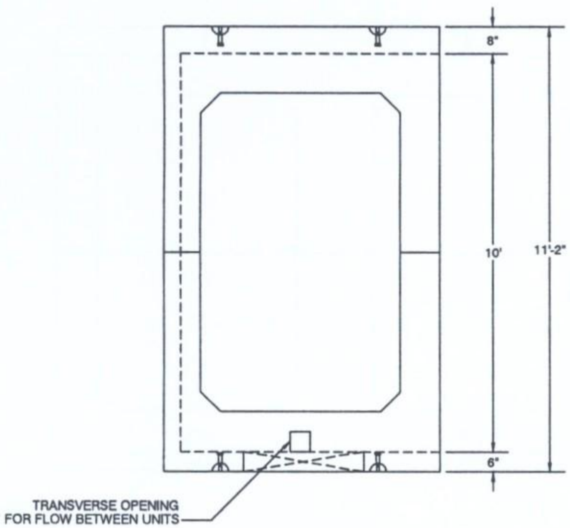
SHEET NUMBER:

04

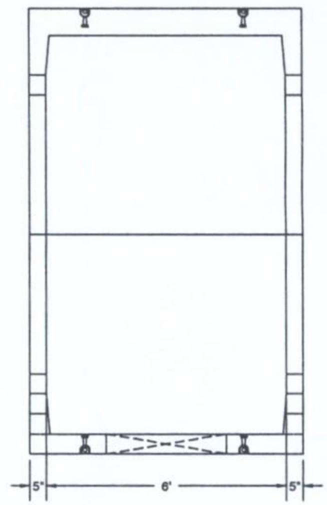


PLAN VIEW

TYPE II UNITS			
UNIT HEIGHT (in.)	CUBIC STORAGE (C.F.)	WEIGHT TOP (lbs.)	WEIGHT BASE (lbs.)
120	426	8685	7490



ELEVATION VIEW



SIDE VIEW

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KIMLEY-HORN AND ASSOCIATES
7878 NORTH 16TH STREET
PHOENIX, AZ 85020
Phone: 602-906-1374
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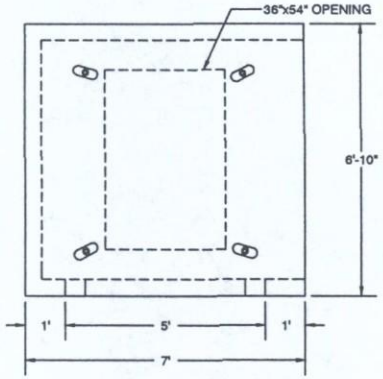
STANDARD
10'-0" DOUBLETRAP
TYPE II

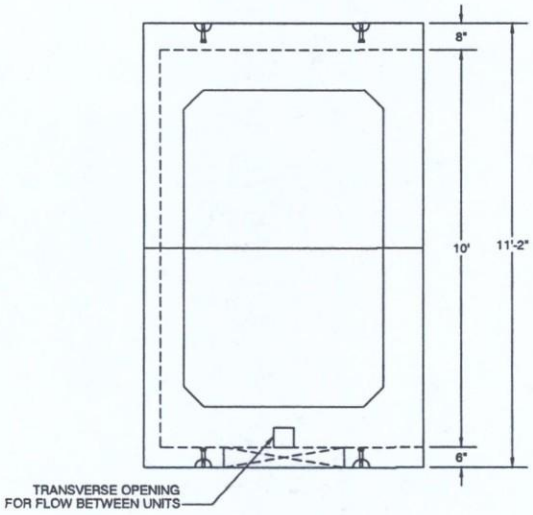
SHEET NUMBER:

05

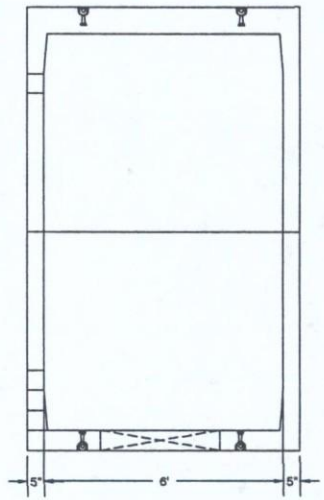


PLAN VIEW

TYPE IV UNITS			
UNIT HEIGHT (in.)	CUBIC STORAGE (C.F.)	WEIGHT TOP (lbs.)	WEIGHT BASE (lbs.)
120	409.5	9920	8725



ELEVATION VIEW



SIDE VIEW

STORMTRAP
PRECAST CONCRETE MODULAR STORM WATER MANAGEMENT SYSTEMS
2495 WEST BUNGALOW ROAD
MORRIS, IL 60450
P: 815-941-4663
F: 815-416-1100

ENGINEER INFORMATION:

KIMLEY-HORN AND ASSOCIATES
7878 NORTH 16TH STREET
PHOENIX, AZ 85020
Phone: 602-906-1374
Fax: 602-944-7423

PROJECT INFORMATION:

SONORAN VILLAGE
SCOTTSDALE,
TK-5100-AZ-10

CURRENT ISSUE DATE:

23-FEB-2010

APPROVED BY:

ISSUED FOR:

PRELIMINARY

REV.:	DATE:	DESC.	BY:
1	23-FEB-2010	ISSUE/ PRELI	TK

SCALE:

NTS

SHEET TITLE:

STANDARD
10'-0" DOUBLETRAP
TYPE IV

SHEET NUMBER:

07

NOTE:
CONTRACTOR TO RESTORE ANY DISTURBED AREA AS A RESULT OF THE CONSTRUCTION OPERATION TO MATCH EXISTING LANDSCAPE.

RIM EL = 1274.93
W INV = 1263.44
E INV = 1263.48

PROPERTY LINE (℄)

CONTROL PT. NO. 1
SET PK NAIL N 5821.1251
E 5037.2966 EL=1274.64

NEW M.H. #2
N 4962.4960
E 5007.2893

NEW 15' DRAINAGE EASEMENT

NEW M.H. #1
N 4851.2235
E 5070.0997

N 4868.9332
E 5122.0641

WARNING
BE AWARE OF OVERHEAD ELECTRIC POWER LINES.

SEE CONNECTION DETAIL ON SHEET 3.

EXTERIOR WALL (6901)

PROTECT EXISTING IRRIGATION LINE IN PLACE

CONTROL PT. NO. 2
SET PK NAIL N 5000.2254
E 5002.2650 EL=1275.84

RIM EL = 1274.93
N INV = 1270.09
S INV = 1270.19

BOTH SIDES OF CATCH BASIN

Q_{10} =9.5 cfs
Q_{100} =18 cfs

℄ NEW C.B.(at F/C)
N 5020.7784, E 4974.0116

69TH STREET

℄ NEW C.B.(at F/C)
N 5015.8640
E 5010.6225

PROTECT EXISTING STREET LIGHT IN PLACE

RELOCATE EXISTING CABLE TV LINE BY OTHERS

℄ NEW C.B.(at F/C)
N 4982.3651
E 5031.2343

Q_{10} =15 cfs
Q_{100} =28 cfs

EAST LAFAYETTE BOULEVARD

Scale 1" = 20'

CONSTRUCT NEW BERM TO REPLACE EXISTING BERM (TOP OF BERM=275.50)

EXISTING BERM

RELOCATE IRRIGATION PIPE AND VALVE IF NECESSARY.

TC=1274.98
G=1274.48

TC=1275.01
G=1274.51

TC=1274.83
G=1274.33

TC=1274.90
G=1274.40

(TC=1274.90)
(G=1274.66)

G=1274.23
P=1274.48
5.5%±

(P=1274.90±)

EXISTING ROLL CURB

EXISTING WATER SERVICE LINE

EXISTING ROLL CURB

(TC=1275.05)
(G=1274.73)

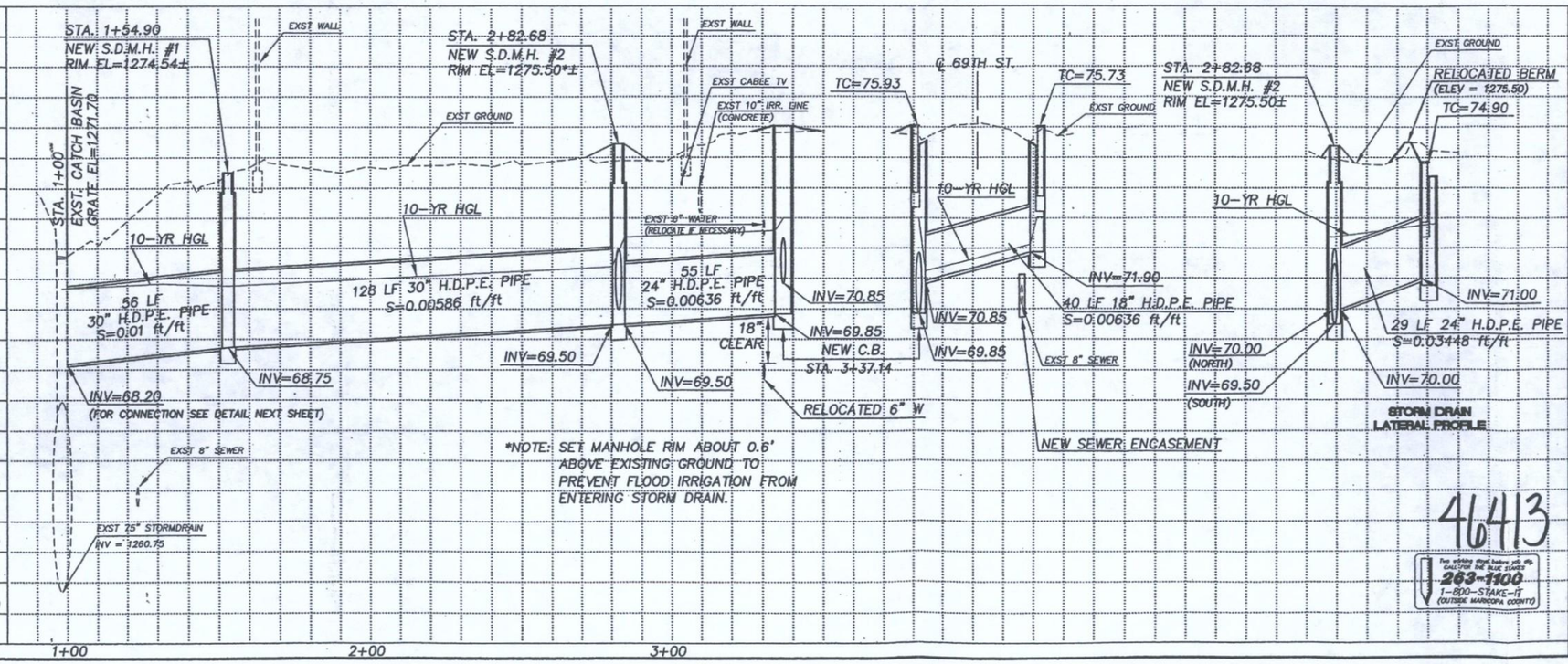
EXISTING EDGE OF DRIVEWAY

RELOCATE EXISTING CABLE TV LINE BY OTHERS

NOTE: REVERSE GUTTER PAN TO DRAIN TOWARDS NEW INLET (TYP. BOTH SIDES)

CONTRACTOR TO VERIFY ADEQUATE COVER OVER WATER SERVICE LINE (20" minimum). REPLACE SERVICE TO MAIN IF COVER INADEQUATE.

Scale 1" = 4'



LEGEND

- [S] SAWCUT AND MATCH EXISTING
- [M] MATCH EXISTING
- [P] PROTECT EXISTING BLOCK WALL IN PLACE

REMOVAL NOTES

NO.	DESCRIPTION	UNIT	QUANTITY
① 350041	SAWCUT AND REMOVE CONCRETE CURB AND GUTTER	L.F.	101
② 350001	SAWCUT AND REMOVE ASPHALT PAVEMENT.	S.Y.	72
⑤ 350081	REMOVE EXISTING PIPE	LF	14

CONSTRUCTION NOTES

NO.	DESCRIPTION	UNIT	QUANTITY
[1] 340001	INSTALL NEW CURB AND GUTTER. PER M.A.G. STD DET. 220 TYPE A	L.F.	42
[2] 336301	ASPHALT CONCRETE PAVEMENT REPLACEMENT, PER COS DET. 2200 & 2201	S.Y.	69
[3] 625021	INSTALL NEW MANHOLE PER M.A.G. STD. DET. 520 & 522	EA	2
[4] 505104	INSTALL NEW CATCH BASIN PER M.A.G. STD. DET. 533 (1-4), LENGTH WING=10'	EA	2
[5] 505104	INSTALL NEW CATCH BASIN PER M.A.G. STD. DET. 533 (1-4) LENGTH WING=6'. MODIFY C&G TRANSITIONS PER DETAIL THIS SHEET.	EA	1
[6] 603130	INSTALL NEW 30" HDPE STORM DRAIN PIPE	L.F.	185
[7] 603124	INSTALL NEW 24" HDPE STORM DRAIN PIPE	L.F.	84
[8] 603118	INSTALL NEW 18" HDPE STORM DRAIN PIPE	L.F.	40
[9] 610705	A.C.P. WATERLINE REPLACEMENT WITH D.I.P. PER M.A.G. STD DET. 403-3	L.F.	14
[10]	TRANSITION FROM ROLL CURB TO VERTICAL CURB PER M.A.G.. STD. DET. 221	–	–
[11] 603126	INSTALL PREFABRICATED 19° BEND 24" HDPE	EA	1
[12] 350903	RELOCATE TRAFFIC SIGN SOUTH OF NEW CATCH BASIN. INSTALL NEW POST PER C.O.S. DET. 2131	EA	1
[13] 350905	IRRIGATION CONTROL VALVE TO BE RELOCATED	EA	1
[15] 430003	REPLACE EXISTING TURF WITH NEW SOD	SY	95
[17] 610712	SANITARY SEWER LINE ENCASEMENT PER M.A.G. STD. DET. 404-2	LF	22
[18] 610812	REPLACE WATER SERVICE CONNECITON FROM MAIN TO METER PER C.O.S. STD. DET. 2330 (IF NECESSARY)	LF	35
[19] 350904	RELOCATE IRRIGATION VALVE AND PIPE (IF NECESSARY)	LS	1
[20] 610720	VERTICAL REALIGNMENT OF WATERLINE (IF NECESSARY) PER C.O.S. DET. 2370	EA	1

46413

Two working days before you dig CALL FOR THE BLUE STAKES 263-1100 1-800-STAKE-IT (OUTSIDE MARICOPA COUNTY)

Storm Drain Plans

DATE	REVISION	BY

ENGINEER
37880 LLOYD A. VICK
9-30-03
REGISTERED PROFESSIONAL ENGINEER
CERTIFICATE
ARIZONA, U.S.A.

CITY OF SCOTTSDALE ARIZONA

MUNICIPAL SERVICES DEPARTMENT
CAPITAL PROJECT MANAGEMENT
3939 CIVIC CENTER BLVD.
SCOTTSDALE, ARIZONA 85251

PROJECT TITLE
ADW NEIGHBORHOOD DRAINAGE IMPROVEMENTS
69TH STREET AND LAFAYETTE BLVD

SCALE	DESIGNED BY	DATE	BID NO.	SHT.
HORIZ. 1"=20' VERT. 1"=2'	LAV	4-11-03		2
	DRAWN BY KLH	AS-BUILT	PROJECT NO. SWI # 3	2 of 3

Exhibit 6 – Warning and Disclaimer of Liability

Appendix 4-1C

WARNING & DISCLAIMER OF LIABILITY

The Drainage and Floodplain Regulations and Ordinances of the City of Scottsdale are intended to "minimize the occurrence of losses, hazards and conditions adversely affecting the public health, safety and general welfare which might result from flooding caused by the surface runoff of rainfall" (Scottsdale Revised Code §37-16).

As defined in S.R.C. §37-17, a flood plain or "*Special flood hazard* area means an area having flood and/or flood related erosion hazards as shown on a FHBM or FIRM as zone A, AO, A1-30, AE, A99, AH, or E, and those areas identified as such by the floodplain administrator, delineated in accordance with subsection 37-18(b) and adopted by the floodplain board." It is possible that a property could be inundated by greater frequency flood events or by a flood greater in magnitude than a 100-year flood. Additionally, much of the Scottsdale area is a dynamic flood area; that is, the floodplains may shift from one location to another, over time, due to natural processes.

WARNING AND DISCLAIMER OF LIABILITY PURSUANT TO S.R.C §37-22
"The degree of flood protection provided by the requirements in this article is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Floods larger than the base flood can and will occur on rare occasions. Floodwater heights may be increased by man-made or natural causes. This article (Chapter 37, Article II) shall not create liability on the part of the city, any officer or employee thereof, or the federal government for any flood damages that result from reliance on this article or any administrative decision lawfully made thereunder."

Compliance with Drainage and Floodplain Regulations and Ordinances does not insure complete protection from flooding. The Floodplain Regulations and Ordinances meet established local and federal standards for floodplain management, but neither this review nor the Regulations and Ordinances take into account such flood related problems as natural erosion, streambed meander or man-made obstructions and diversions, all of which may have an adverse affect in the event of a flood. You are advised to consult your own engineer or other expert regarding these considerations.

I have read and understand the above. If I am an agent for an owner I have made the owner aware of and explained this disclaimer.

Plan Check No.	Owner or Agent	Date
		1/27/10