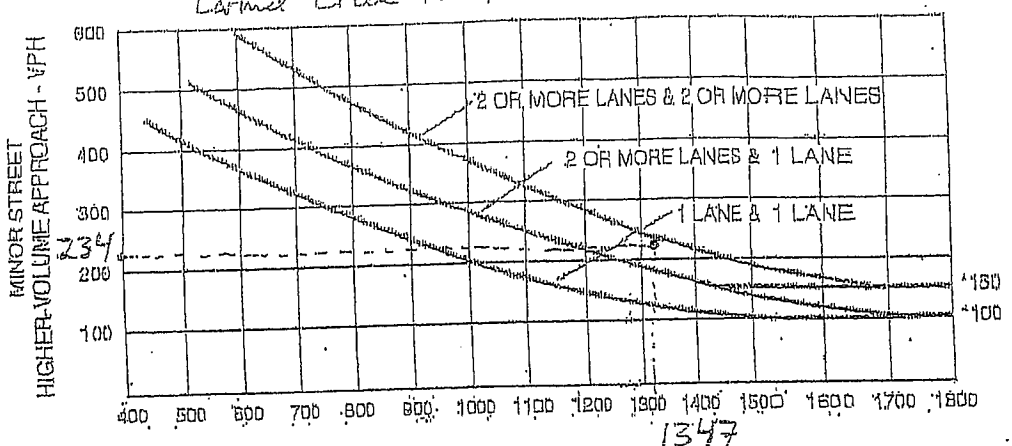
APPENDIX N

SIGNAL WARRANTS / MITIGATION COST ESTIMATES / CONCEPTUAL STRIPING LAYOUTS / INTERNAL STREET WORKSHEETS / MITIGATION SYNCHRO WORKSHEETS / QUEUING ANALYSIS WORKSHEETS / DEL MAR HEIGHTS WIDENING MEMO

Figure 4C-3. Warrant 3, Peak Hour (AM)
NT+P (Project Phase 1)

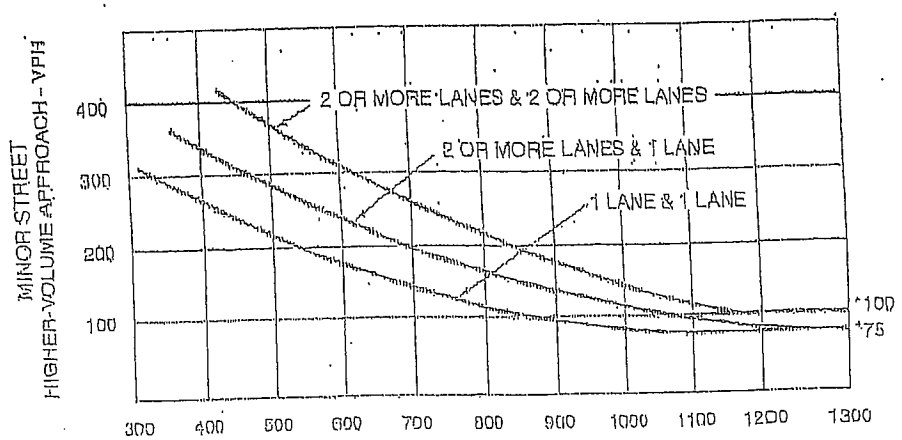
Carmel Creek Rd. / Del Mar Trail



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

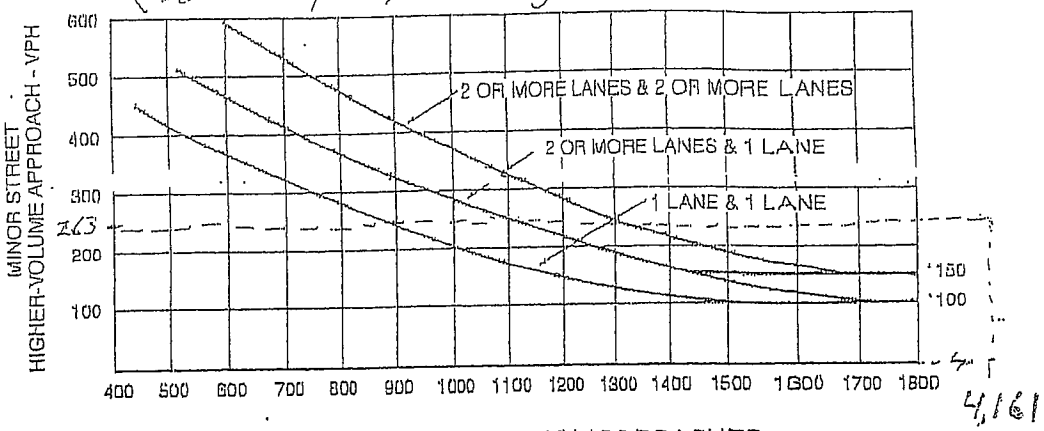
Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower

Figure 4C-3. Warrant 3, Peak Hour (PM)
NT + P (Project Phase 1)
(Del Mar Heights Rd./First Ave.)

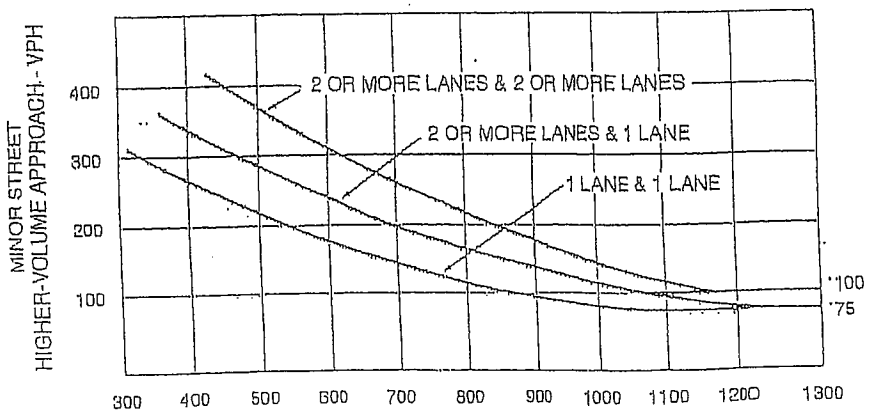


MAJOR STREET—TOTAL OF BOTH APPROACHES—
VEHICLES PER HOUR (VPH)

*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE ~~70~~ 64 km/h OR ABOVE 40 mph ON MAJOR STREET)



MAJOR STREET—TOTAL OF BOTH APPROACHES—
VEHICLES PER HOUR (VPH)

*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Summary of Fair Share Improvement Costs
August 18, 2009
J-15701

Opinions of Probable Costs

Intersections:

Del Mar Heights Road at High Bluff Drive:

Add dedicated right turn lane from northbound High Bluff Drive to eastbound Del Mar Heights Road and reconfigure striping for a triple left turn northbound High Bluff Dive to westbound Del Mar Heights Road.

Estimated Construction Costs:	$ 108,153
10% Design Fees	10,815
10% Construction Management and Staking	10,815
Subtotal	129,783
20% Contingency	25,957
Total	$ 155,740

Del Mar Heights Road at El Camino Real:

Add a dedicated right turn lane from eastbound Del Mar Heights Road to southbound El Camino Real.

Estimated Construction Costs:	$ 321,824
10% Design Fee	32,182
10% Construction Management and Staking	32,182
Subtotal	386,189
20% Contingency	77,238
Total	$ 463,426

El Camino Real at Via De La Valle:

Reconfigure intersection to allow temporary dual left turn lane for northbound El Camino Real to westbound Via De La Valle, and provided a dedicated right turn lane for northbound El Camino Real to eastbound Via De La Valle.

Estimated Construction Costs:	$ 558,539
10% Design Fee	55,854
10% Construction Management and Staking	55,854
Subtotal	670,246
25% Contingency	167,562
Total	$ 837,808

Del Mar Heights Road at Northbound I-5 On-Ramp:

Construct loop ramp in southeast quadrant on interchange for eastbound Del Mar Heights Road to northbound I-5.

Estimated Construction Costs:	$ 1,201,760
12% Design Fee	144,211
12% Construction Management and Staking	144,211
Subtotal	1,490,182
25% Contingency	372,546
Total	$ 1,862,728

El Camino Real at SR-56 Eastbound On-Ramp:

Re-stripe Carmel Valley Road eastbound at El Camino Real / SR-56 Eastbound On-Ramp to provide two left turn lanes, two thru lanes and one dedicated right turn lane.

Estimated Construction Costs:	$ 100,000
10% Design Fee	10,000
10% Construction Management and Staking	10,000
Subtotal	120,000
20% Contingency	24,000
Total	$ 144,000

Street Segments:

Del Mar Heights Road from Mango Drive to I-5 Northbound On-Ramp:

Provide one additional westbound and eastbound lane on Del Mar Heights Road from Mango Drive to Northbound I-5 On-Ramp by reconfiguring medians and widening where necessary.

Estimated Construction Costs:	$ 239,724
10% Design Fee	23,972
10% Construction Management and Staking	23,972
Subtotal	287,668
20% Contingency	57,534
Total	$ 345,202

Del Mar Heights Road from I-5 Northbound On-Ramp to High Bluff Drive:

Provide one additional westbound and eastbound lane on Del Mar Heights Road from Northbound I-5 On-Ramp to High Bluff Drive by reconfiguring the median and widening where necessary.

Estimated Construction Costs:	$ 67,473
10% Design Fee	6,747
10% Construction Management and Staking	6,747
Subtotal	80,967
20% Contingency	16,193
Total	$ 97,161

El Camino Real from Via De La Valle to San Dieguito Road:

Widen to a 4-lane major street and construct a new bridge over the San Dieguito River. This is a current City of San Diego Capital Improvement Project.

Estimated Construction Costs (includes contingencies):	$ 22,442,000
10% Design Fee	2,244,200
10% Construction Management and Staking	2,244,200
Subtotal	26,930,400
FHWA Grant (80% of Participating cost estimate $19,600,000)	<-15,680,000>
Total	$ 11,250,400

El Camino Real from San Dieguito Road to Sea Country Lane:

Widen to a 4-lane major street. This is a current project under review by City staff. Final plans have been submitted for City review.

Estimated Construction Costs:	$ 2, 770,600
10% Design Fee	277.060
10% Construction Management and Staking	277,060
Subtotal	3,224,720
10% Contingency	322,472
Total	$ 3,547,192

Via De La Valle from San Andres Drive to El Camino Real:

Widen to a 4-lane major street. This is a current City Capital Improvement Project that has been put on hold for several years.

Estimated Construction Costs (includes 25% contingencies)	$ 15,800,000
(includes 15% soft costs)	
Total	$ 15,800,000

One Paseo

I - 5 / Del Mar Heights Road Improvement Cost Estimate

Extend EB dual left turn lanes / Widen NB off ramp to include dual left & right turn lanes / Lengthen WB right turn Modify EB approach for additional through lane just east of bridge / Modify NB on ramp to include HOV lane

#	Description	Quantity	Units	Unit Cost	Amount
1	Remove existing curb & gutter	2,562	LF	$13.20	$33,818.40
2	Remove existing sidewalk	4,610	SF	$2.01	$9,266.10
3	Remove / Replace existing utility boxes (3)	1	LS	$30,000.00	$30,000.00
4	Relocate existing underground utilities	1	LS	$40,000.00	$40,000.00
5	Remove existing median	5,369	SF	$2.01	$10,791.69
6	Tree Removal & Disposal	1	LS	$500.00	$500.00
7	Grading (Clear & Grub)	19,800	SF	$0.72	$14,256.00
8	Excavate & export	750	CY	$44.28	$33,210.00
9	Relocate existing guardrail for NB on-ramp	1	LS	$5,000.00	$5,000.00
10	Construct new 6" curb & gutter	1962	LF	$22.00	$43,164.00
11	Construct new sidewalk	4,610	SF	$8.00	$36,880.00
12	Construct new ped ramp	3	Each	$1,900.00	$5,700.00
13	Construct new median	1,240	SF	$8.25	$10,230.00
14	Construct new 6" AC berm	570	LF	$13.53	$7,712.10
15	New 4" AC pavement	23,311	SF	$2.94	$68,534.34
16	New 12" CTB paving	23,311	SF	$2.69	$62,706.59
17	New Striping / Signing / Pavement Markings	1	LS	$120,000.00	$120,000.00
18	New Overhead Sign Structure - Double Post	1	LS	$100,000.00	$100,000.00
19	New Overhead Sign Structure - Single Post	1	LS	$50,000.00	$50,000.00
20	New Overhead Sign Lighting	1	LS	$40,000.00	$40,000.00
21	Ramp Meter Modification	1	LS	$30,000.00	$30,000.00
22	Traffic Signal Modification	1	LS	$100,000.00	$100,000.00
23	Stage Construction (10% of total cost)	1	LS	$83,783.00	$83,783.00
				TOTAL	$935,552.22

DESIGN FEE

#	Description	Amount
1	Improvement Plans	$65,000
2	Traffic Signal Modification Plans	$7,500
3	Pavement & Delineation Plans	$3,000
4	Sign Plans	$3,000
5	Quantity Sheets	$2,000
6	Overhead Sign Plans	$1,500
7	Sign Calculations	$1,500
8	Sign Quantity	$1,000
9	Ramp Meter Modification	$5,000
10	Overhead Lighting Plan	$4,000
11	Stage Construction Plans	$16,000
	TOTAL	$109,500

Total Cost	
Construction Cost	$935,552
Design Fee	$109,500
TOTAL	$1,045,052

NOTE: Preliminary opinion of cost based on conceptual plans which are subject to significant change based on agency review and approval.

One Paseo

Del Mar Heights Road / High Bluff Drive Improvement Cost Estimate

Modify Eastbound and Westbound Left Turn Lanes to Dual Left Turn lanes

#	Description	Quantity	Units	Unit Cost	Amount
1	Remove existing curb & gutter in the medians	950	LF	$3.30	$3,135.00
2	Remove existing median	3,087	SF	$2.01	$6,204.87
3	New 4" AC pavement	3,087	SF	$2.94	$9,075.78
4	New 12" CTB paving	3,087	SF	$2.69	$8,304.03
5	New Striping / Signing / Pavement Markings	1	LS	$30,000.00	$30,000.00
6	Traffic Signal Modification	1	LS	$120,000.00	$120,000.00
7	Stage Construction (10% of total cost)	1	LS	$17,672.00	$17,672.00
				TOTAL	$194,392

DESIGN FEE

#	Description	Amount
1	Improvement Plans	$20,000
2	Traffic Signal Modification Plans	$5,500
3	Signing and Striping Plans	$3,000
4	Stage Construction Plans	$4,000
	TOTAL	$32,500

EB & WB Dual Left Turns Only

Total Estimated Cost	
Construction Cost	$194,392
Design Fee	$32,500
TOTAL	$226,892

NOTE: Preliminary opinion of cost based on conceptual plans which are subject to significant change based on agency review and approval.

Opinion of Probable Cost - Provided by Rick Engineering - August 2009

Add dedicated right turn lane from northbound High Bluff Drive to eastbound Del Mar Heights Road and reconfigure striping for a triple left turn northbound High Bluff Drive to westbound Del Mar Heights Road.

Estimated Cost of NB Right Turn and Triple Left Striping - $155,740

TOTAL ESTIMATED COST - $155,740 + $226,892 = $382,632

One Paseo

El Camino Real / SR-56 EB On-Ramp Improvement Cost Estimate

Widen EB approach to provide 2 left, 2 thru with a shared right, and 1 dedicated right turn lane

#	Description	Quantity	Units	Unit Cost	Amount
1	Remove existing curb & gutter	100	LF	$3.30	$330.00
2	Remove existing sidewalk	800	SF	$2.01	$1,608.00
3	Grading (Clear & Grub)	3,200	SF	$0.72	$2,304.00
4	Construct new 6" curb and gutter	100	LF	$22.00	$2,200.00
5	Construct new sidewalk	800	SF	$8.00	$6,400.00
6	New 4" AC pavement	3,200	SF	$2.94	$9,408.00
7	New 12" CTB paving	3,200	SF	$2.69	$8,608.00
8	Construct new ped ramps	2	Each	$1,900.00	$3,800.00
9	Construct new 6" AC berm	200	LF	$13.53	$2,706.00
10	New Striping / Signing / Pavement Markings	1	LS	$25,000.00	$25,000.00
11	Traffic Signal Modification	1	LS	$120,000.00	$120,000.00
12	New Overhead Sign	1	LS	$60,000.00	$60,000.00
13	Stage Construction (10% of total cost)	1	LS	$24,236.00	$24,236.00
				TOTAL	$266,600

DESIGN FEE

#	Description	Amount
1	Improvement Plans	$20,000
2	Traffic Signal Modification Plans	$5,500
3	Pavement and Delineation Plans	$2,000
4	Signing Plans	$2,000
5	Stage Construction Plans	$4,000
6	Overhead Sign Plans	$2,000
7	Quantity for Sign	$1,000
8	Quantity for Striping	$1,000
9	Overhead Sign Calculations	$1,000
	TOTAL	$38,500

Total Estimated Cost	
Construction Cost	$266,600
Design Fee	$38,500
TOTAL	$305,100

NOTE: Preliminary opinion of cost based on conceptual plans which are subject to significant change based on agency review and approval.

ONE PASEO

Fair Share Contribution Calculations

16-May-11

El Camino Real / SR-56 Eastbound on-ramp:

$$\frac{\text{Project Only}}{\text{Year 2030+P - Existing}} \Rightarrow \frac{134}{10{,}331 - 6{,}568} \Rightarrow \frac{134}{3{,}763} \Rightarrow \boxed{0.035 = 3.5\%}$$

Via de la Valle (San Andres Drive to El Camino Real-West):

$$\frac{\text{Project Only}}{\text{Year 2030+P - Existing}} \Rightarrow \frac{539}{33639 - 24{,}400} \Rightarrow \frac{539}{9{,}239} \Rightarrow 0.058 = 5.8\%$$

Fair Share Cost: $15,800,000 x 5.8% = $916,400

Note: The City of San Diego calculated the fair share as: 539 ADT x $5,692.61 per ADT = $3,068,317

Therefore, the fair share percentage shows 19.4%

$$\frac{\$3{,}068{,}317}{15{,}800{,}000} \Rightarrow \boxed{= 19.4\%}$$

I-5 Southbound (Loop) on-ramp / Del Mar Heights Road:

AM (Demand-veh/hr): $\frac{\text{Project Only}}{\text{Year 2030+P - Existing}} \Rightarrow \frac{45}{660 - 406} \Rightarrow \frac{45}{254} \Rightarrow 0.177 = 17.7\%$

PM (Demand-veh/hr): $\frac{\text{Project Only}}{\text{Year 2030+P - Existing}} \Rightarrow \frac{151}{551 - 242} \Rightarrow \frac{151}{309} \Rightarrow 0.488 = 48.8\%$

$$\text{Weighted Average (AM \& PM)} \Rightarrow \frac{45 + 151}{254 - 309} \Rightarrow \frac{196}{563} \Rightarrow \boxed{0.348 = 34.8\%}$$

One Passes

Fair Share Percentages

Del Mar Heights Rd. / High Bluff Dr.

PM peak hour: $\frac{PO}{2030 - Existing} = \frac{1,319}{6,719 - 4,613} = \frac{1,319}{2,106} = \boxed{62.6\%}$

Del Mar Heights Rd. / El Camino Real

PM Peak Hour: $\frac{PO}{2030 - Existing} = \frac{1,398}{7,263 - 4,526} = \frac{1,398}{2,737} = \boxed{51.1\%}$

Del Mar Heights Rd. / I-5 NB Ramps

PM Peak Hour: $\frac{PO}{2030 - Existing} = \frac{674}{6,823 - 4885} = \frac{674}{1,938} = \boxed{34.7\%}$

I-5 NB Ramp Meter / Del Mar Heights Rd.

PM Demand: $\frac{PO}{2030 - Existing} = \frac{77}{752 - 516} = \frac{77}{236} = \boxed{32.6\%}$

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

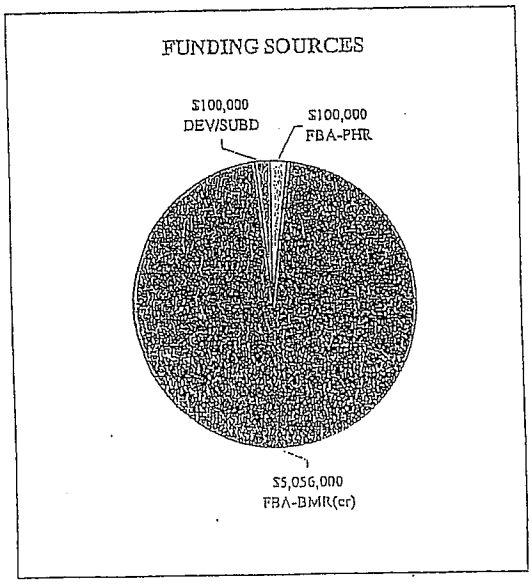
TITLE: EL CAMINO REAL WIDENING (Half Mile Drive to San Dieguito Road)

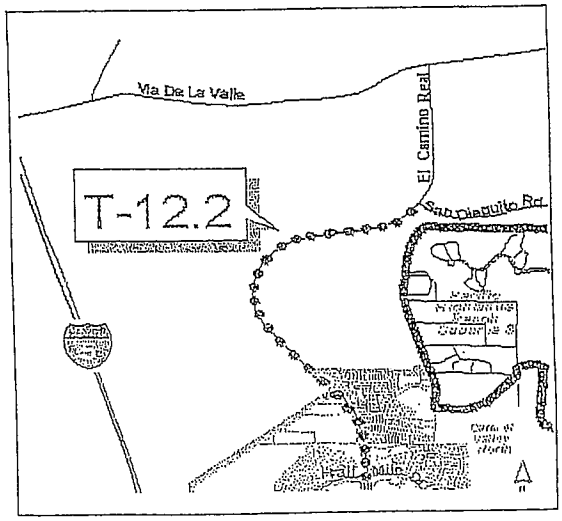
PROJECT: T-12.2
COUNCIL DISTRICT: 1
COMMUNITY PLAN: PHR

DEPARTMENT: ENGINEERING & CAPITAL PROJECTS
CIP or JO #: 52-767.0

SOURCE	FUNDING:	EXPENDED	CONT APPROP	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
FBA-PHR	$100,000		$100,000					
FBA-BMR(cr)	$5,056,000	$4,256,000						
FBA-TH								
FBA-DMM								
FBA-RP								
DEV. ADV								
DEV/SUBD	$100,000		$100,000					
COUNTY								
STATE								
OTHER								
UNIDEN								
TOTAL	$5,256,000	$4,256,000	$200,000	$0	$0	$0	$0	$0

SOURCE	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
FBA-PHR								
FBA-BMR(cr)		$800,000						
FBA-TH								
FBA-DMM								
FBA-RP								
DEV. ADV								
DEV/SUBD								
COUNTY								
STATE								
OTHER								
UNIDEN								
TOTAL	$0	$800,000	$0	$0	$0	$0	$0	$0





CONTACT: Larry VanWey TELEPHONE: (619) 533-3005 EMAIL: lvanwey@sandiego.gov

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: EL CAMINO REAL WIDENING (Half Mile Drive to San Dieguito Road)

PROJECT: T-12.2
COUNCIL DISTRICT: 1
COMMUNITY PLAN: PHR

DEPARTMENT: ENGINEERING & CAPITAL PROJECTS
CIP or JO #: 52-767.0

DESCRIPTION:

COMPLETE CONSTRUCTION OF EXISTING EL CAMINO REAL BETWEEN HALF MILE DRIVE AND SAN DIEGUITO ROAD AS A 4-LANE MAJOR STREET WITHIN THE EXISTING, GRADED RIGHT OF WAY. THE ESTIMATED COST INCLUDES ENVIRONMENTAL ANALYSIS AND ALIGNMENT STUDIES FOR THE ENTIRE LENGTH OF EL CAMINO REAL (HALF MILE DRIVE TO VIA DE LA VALLE).

JUSTIFICATION:

THIS PROJECT IS REQUIRED IN ORDER TO ACCOMMODATE THE ADDITIONAL TRAFFIC GENERATED AS A RESULT OF DEVELOPMENT IN THE SURROUNDING COMMUNITIES, INCLUDING PACIFIC HIGHLANDS RANCH, AS WELL AS THE EXISTING SUB-REGIONAL TRAFFIC NEEDS.

FUNDING ISSUES:

ALL PRORATA FUNDING DISTRIBUTION SHALL BE BASED ON THE SHARE OF TRAFFIC CONTRIBUTED BY EACH COMMUNITY OR PROJECT, EXCEPT PACIFIC HIGHLANDS RANCH (FBA) WILL BE LIMITED TO $100,000 TOWARD FUNDING THE PRELIMINARY ENGINEERING FOR THE WILDLIFE UNDERCROSSING.

COSTS IN FY 2014 ARE FOR CONSTRUCTION OF CURB, GUTTER AND SIDEWALK ON THE WEST SIDE OF THE ROADWAY. THESE IMPROVEMENTS WOULD NORMALLY BE INSTALLED BY THE FRONTING PROPERTY OWNER. THE FBA WILL FUND THESE IMPROVEMENTS SHOULD THE FRONTING PROPERTY REMAIN UNDEVELOPED AT THAT TIME.

FRONTAGE PROPERTY INCLUDES APNs:
304-161-42; 304-010-42-43; 304-010-35; 299-043-13-15; 299-043-10; 299-040-46&48
299-040-36-37; 304-020-13; 299-040-33&35; 304-020-15-16; AND 304-020-18-19

NOTES:

PARDEE HAS CONTRIBUTED $100,000 TOWARDS THE COST OF A WILDLIFE UNDERCROSSING AS PART OF THE TERMS OF ITS DEVELOPMENT AGREEMENT.

REFERENCE: BLACK MOUNTAIN RANCH PUBLIC FACILITIES FINANCING PLAN PROJECT T-29.1.

SCHEDULE:

COMPLETION IN FY 2014.

CONTACT: Larry VanWey TELEPHONE: (619) 533-3005 EMAIL: lvanwey@sandiego.gov

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: EL CAMINO REAL WIDENING (San Dieguito Road to Via de la Valle)

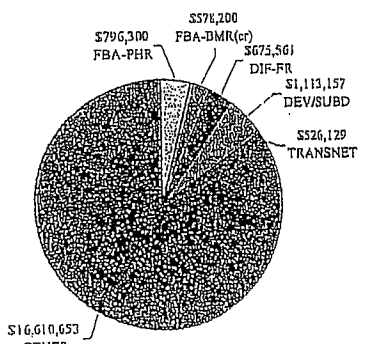
PROJECT: T-12.3
COUNCIL DISTRICT: 1
COMMUNITY PLAN: PHR

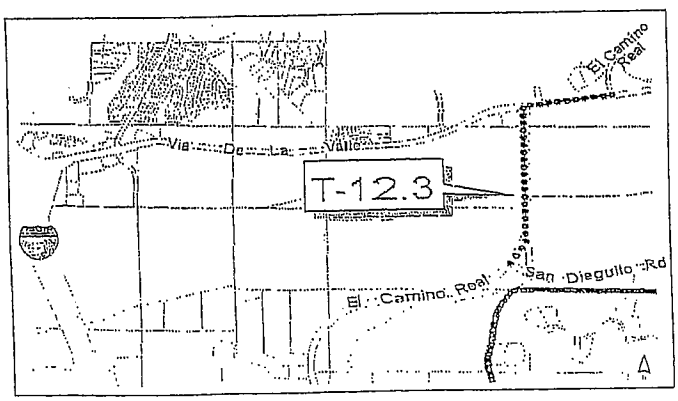
DEPARTMENT: ENGINEERING & CAPITAL PROJECTS
CIP or JO #: 52-479.0

SOURCE	FUNDING:	EXPENDED	CONT APPROP	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
FBA-PHR	$796,300			$796,300				
FBA-BMR(cr)	$578,200			$578,200				
FBA-TH								
FBA-DMM								
DIF-FR	$675,561	$675,561						
DEV. ADV								
DEV/SUBD	$1,113,157			$1,113,157				
COUNTY								
TRANSNET	$526,129	$226,129		$300,000				
OTHER	$16,610,653			$10,000,000	$6,610,653			
UNIDEN								
TOTAL	$20,300,000	$901,690	$0	$12,787,657	$6,610,653	$0	$0	$0

SOURCE	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
FBA-PHR								
FBA-BMR(cr)								
FBA-TH								
FBA-DMM								
DIF-FR								
DEV. ADV								
DEV/SUBD								
COUNTY								
TRANSNET								
OTHER								
UNIDEN								
TOTAL	$0	$0	$0	$0	$0	$0	$0	$0

FUNDING SOURCES





CONTACT: ABI PALASEYED TELEPHONE: (619) 533-3756 EMAIL: Apalaseyed@sandiego.gov

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: EL CAMINO REAL WIDENING (San Dieguito Road to Via de la Valle)

PROJECT: T-12.3
COUNCIL DISTRICT: 1
COMMUNITY PLAN: PHR

DEPARTMENT: ENGINEERING & CAPITAL PROJECTS
CIP or JO #: 52-479.0

DESCRIPTION:

IMPROVE EL CAMINO REAL BETWEEN SAN DIEGUITO ROAD AND VIA DE LA VALLE AS A 4-LANE MAJOR STREET. REPLACE THE EXISTING EL CAMINO REAL BRIDGE OVER THE SAN DIEGUITO RIVER WITH A NEW 4-LANE BRIDGE. WIDENING OF VIA DE LA VALLE TO FOUR LANES BETWEEN WEST EL CAMINO REAL AND EAST EL CAMINO REAL.
SEE COMPANION PROJECT T-12.2.

JUSTIFICATION:

THIS PROJECT IS REQUIRED IN ORDER TO ACCOMMODATE TRAFFIC THAT IS GENERATED BY NEW DEVELOPMENT IN THE SURROUNDING COMMUNITIES INCLUDING PACIFIC HIGHLANDS RANCH. THE EXISTING SUB-REGIONAL TRAFFIC ALSO CREATES THE NEED FOR THE PROJECT.

FUNDING ISSUES:

DMHE (PARDEE): $1,113,157

OTHERS:
HIGHWAY BRIDGE REPLACEMENT AND REPAIR FUND: $10,000,000
RSTP (SURFACE TRANSPORTATION PROGRAM: $6,610,653

FRONTAGE PROPERTY INCLUDES APNs:
302-090-31; 302-261-01-02; 304-020-19; 304-020-16;
302-090-11; 302-210-60; 302-090-28; AND 302-210-29&30

NOTES:

ALL PRORATA FUNDING DISTRIBUTION SHALL BE BASED ON THE SHARE OF TRAFFIC CONTRIBUTED BY EACH COMMUNITY OR PROJECT. THIS PROJECT, CURRENTLY IN THE ENVIRONMENTAL REVIEW PROCESS, MAY HAVE MODIFICATIONS TO SCOPE AND/OR FUNDING.

REFERENCE:
FY 2006 BLACK MOUNTAIN RANCH PUBLIC FACILITIES FINANCING PLAN T-29.2

SCHEDULE:

PROJECT COMPLETION IN FY 2011

CONTACT: ABI PALASEYED TELEPHONE: (619) 533-3756 EMAIL: Apalaseyed@sandiego.gov

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

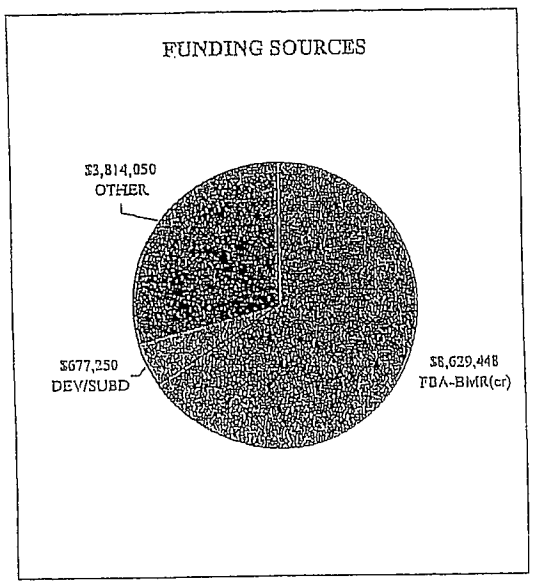
TITLE: VIA DE LA VALLE (FOUR LANES)

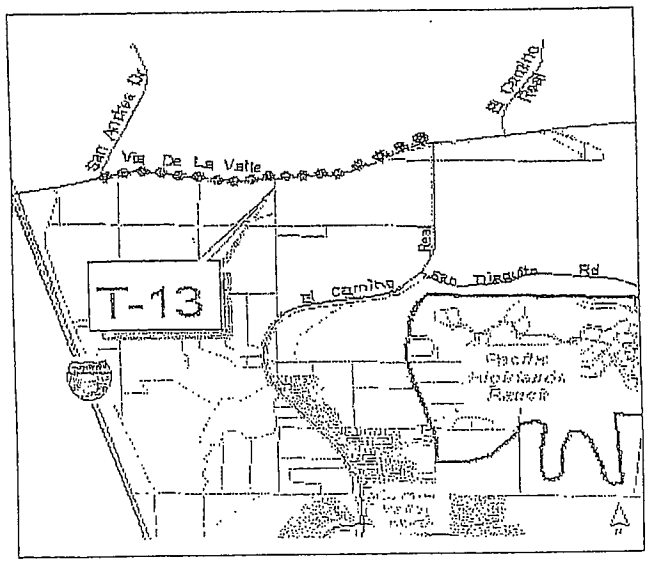
PROJECT: T-13
COUNCIL DISTRICT: 1
COMMUNITY PLAN: PHR

DEPARTMENT: ENGINEERING & CAPITAL PROJECTS
CIP or JO #: N/A

SOURCE	FUNDING:	EXPENDED	CONT APPROP	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
FBA-PHR								
FBA-BMR(cr)	$8,629,448				$8,629,448			
FBA-TH								
FBA-DMM								
FBA-RP								
DEV. ADV			$1,808,700	$10,634,798	-$12,443,498			
DEV/SUBD	$677,250			$677,250				
COUNTY								
STATE								
OTHER	$3,814,050				$3,814,050			
UNIDEN								
TOTAL	$13,120,748	$0	$1,808,700	$11,312,048	$0	$0	$0	$0

SOURCE	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
FBA-PHR								
FBA-BMR(cr)								
FBA-TH								
FBA-DMM								
FBA-RP								
DEV. ADV								
DEV/SUBD								
COUNTY								
STATE								
OTHER								
UNIDEN								
TOTAL	$0	$0	$0	$0	$0	$0	$0	$0





CONTACT: Larry VanWey TELEPHONE: (619) 533-3005 EMAIL: lvanwey@sandiego.gov

CITY OF SAN DIEGO
FACILITIES FINANCING PROGRAM

TITLE: VIA DE LA VALLE (FOUR LANES)

PROJECT: T-13
COUNCIL DISTRICT: 1
COMMUNITY PLAN: PHR

DEPARTMENT: ENGINEERING & CAPITAL PROJECTS
CIP or JO #: N/A

DESCRIPTION:

RECONSTRUCT EXISTING VIA DE LA VALLE BETWEEN SAN ANDREAS DRIVE AND EL CAMINO REAL WEST TO A 4-LANE MAJOR STREET TO ACCOMMODATE EXISTING AND PROJECTED SUB-REGIONAL TRAFFIC. INCLUDES MODIFICATION OF TRAFFIC SIGNALS AT SAN ANDREAS DRIVE ANS EL CAMINO REAL WEST AS REQUIRED AND RELOCATION OF EXISTING OVERHEAD UTILITIES TO UNDERGROUND LOCATIONS. INCLUDES RESTRIPING VIA DE LA VALLE BETWEEN SAN ANDREAS DRIVE AND I-5 TO 6 LANES.

REFERENCE:
FY 2006 BLACK MOUNTAIN RANCH PUBLIC FACILITIES FINANCING PLAN T-32.1

JUSTIFICATION:

THIS PROJECT IS REQUIRED TO ACCOMMODATE THE ADDITIONAL TRAFFIC GENERATED AS A RESULT OF DEVELOPMENT IN THE SURROUNDING COMMUNITIES.

FUNDING ISSUES:

DEVELOPER ADVANCE IS FROM BLACK MOUNTAIN RANCH LLC. DEL MAR HIGHLANDS ESTATES, A NON-PHASE SHIFT DEVELOPMENT WITHIN PACIFIC HIGHLANDS RANCH, HAS A SUBDIVISION OBLIGATION TO CONTRIBUTE $677,250 TOWARD THE COST OF THIS FACILITY.

NOTES:

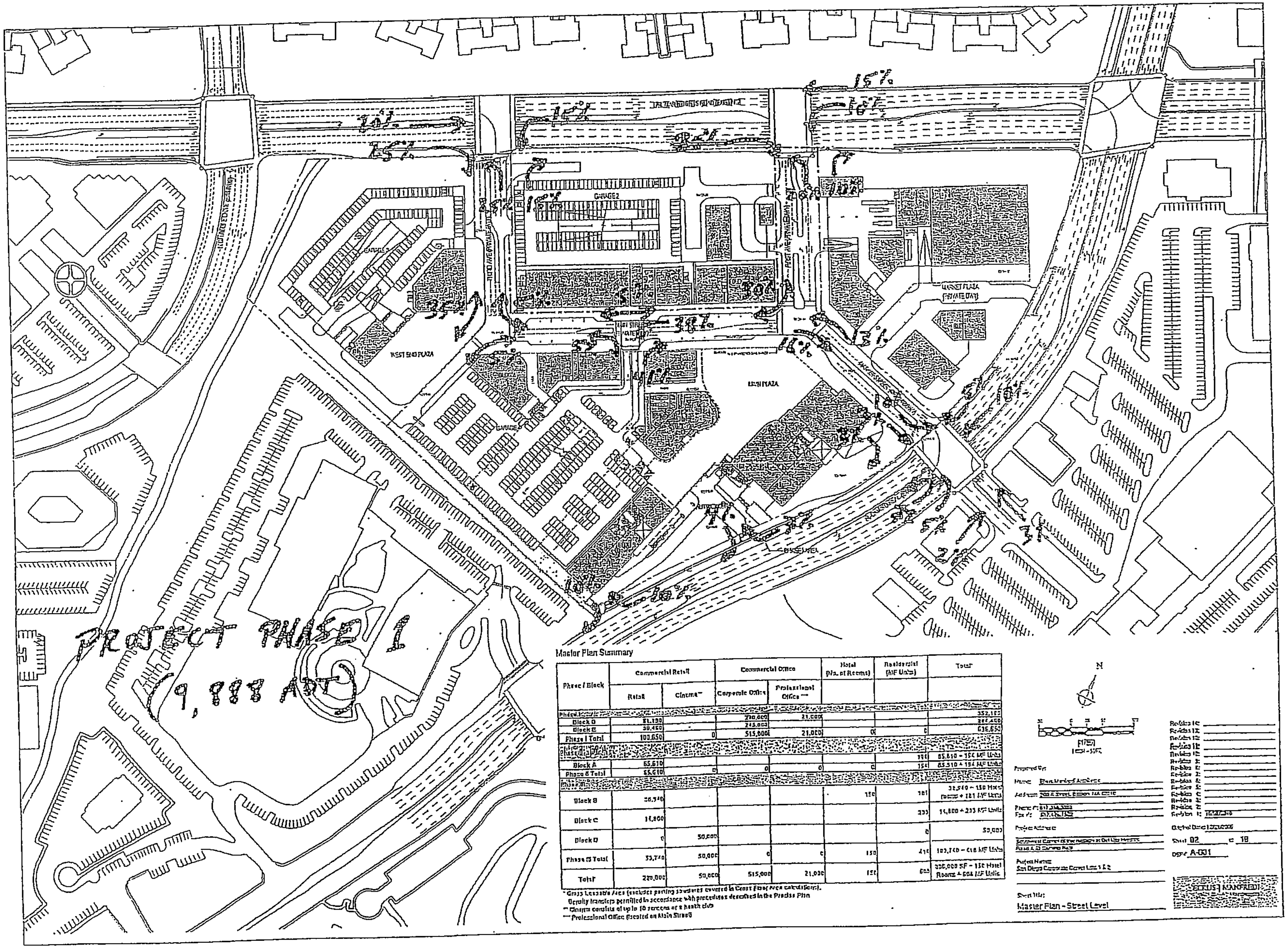
ABSENT DEVELOPMENT ALONG THE FRONTAGE OF THIS ROADWAY, BLACK MOUNTAIN RANCH IS CURRENTLY SHOWN AS BEING THE PRIMARY FUNDING SOURCE FOR THIS PROJECT. SHOULD DEVELOPMENT OCCUR ALONG THE FRONTAGE OF THIS ROADWAY, THOSE PROPERTY OWNERS WILL EITHER DIRECTLY FUND THOSE IMPROVEMENTS OR REIMBURSE BLACK MOUNTAIN RANCH FOR THEIR PRORATA SHARE OF THE COST OF THOSE IMPROVEMENTS.

FRONTAGE PROPERTY INCLUDES APNs:
298-590-11&12; 298-300-46&51; 302-090-11; 302-210-52&60; 302-090-07; 302-210-58&59; AND 302-210-25,26&29

SCHEDULE:

COMPLETION IN FY 2008.

CONTACT: Larry VanWey TELEPHONE: (619) 533-3005 EMAIL: lvanwey@sandiego.gov



Master Plan Summary

Phase / Block	Commercial Retail		Commercial Office		Hotel (No. of Rooms)	Residential (MF Units)	Total*
	Retail	Cinema**	Corporate Office	Professional Office ***			
Phase I [illegible]							
Block D	81,190		230,000	21,000			352,190
Block E	39,460		225,000				366,400
Phase I Total	100,650	0	515,000	21,000	0	0	636,650
Phase II [illegible]						194	65,610 + 194 MF Units
Block A	65,610					194	65,610 + 194 MF Units
Phase II Total	65,610	0	0	0	0	194	65,610 + 194 MF Units
Phase III [illegible]							
Block B	36,940				150	181	36,940 + 150 Hotel Rooms + 181 MF Units
Block C	14,800					233	14,800 + 233 MF Units
Block D	0	50,000				0	50,000
Phase III Total	53,740	50,000	0	0	150	414	103,740 + 414 MF Units
Total*	220,000	50,000	515,000	21,000	150	608	806,000 SF + 150 Hotel Rooms + 608 MF Units

* Gross Leasable Area (excludes parking structures covered in Gross Floor Area calculations). Density transfers permitted in accordance with procedures described in the Precise Plan
** Cinema consists of up to 10 screens or a health club
*** Professional Office located on Main Street

Prepared for:

Project Name: San Diego Corporate Center Lots 1 & 2

Sheet Title: Master Plan - Street Level

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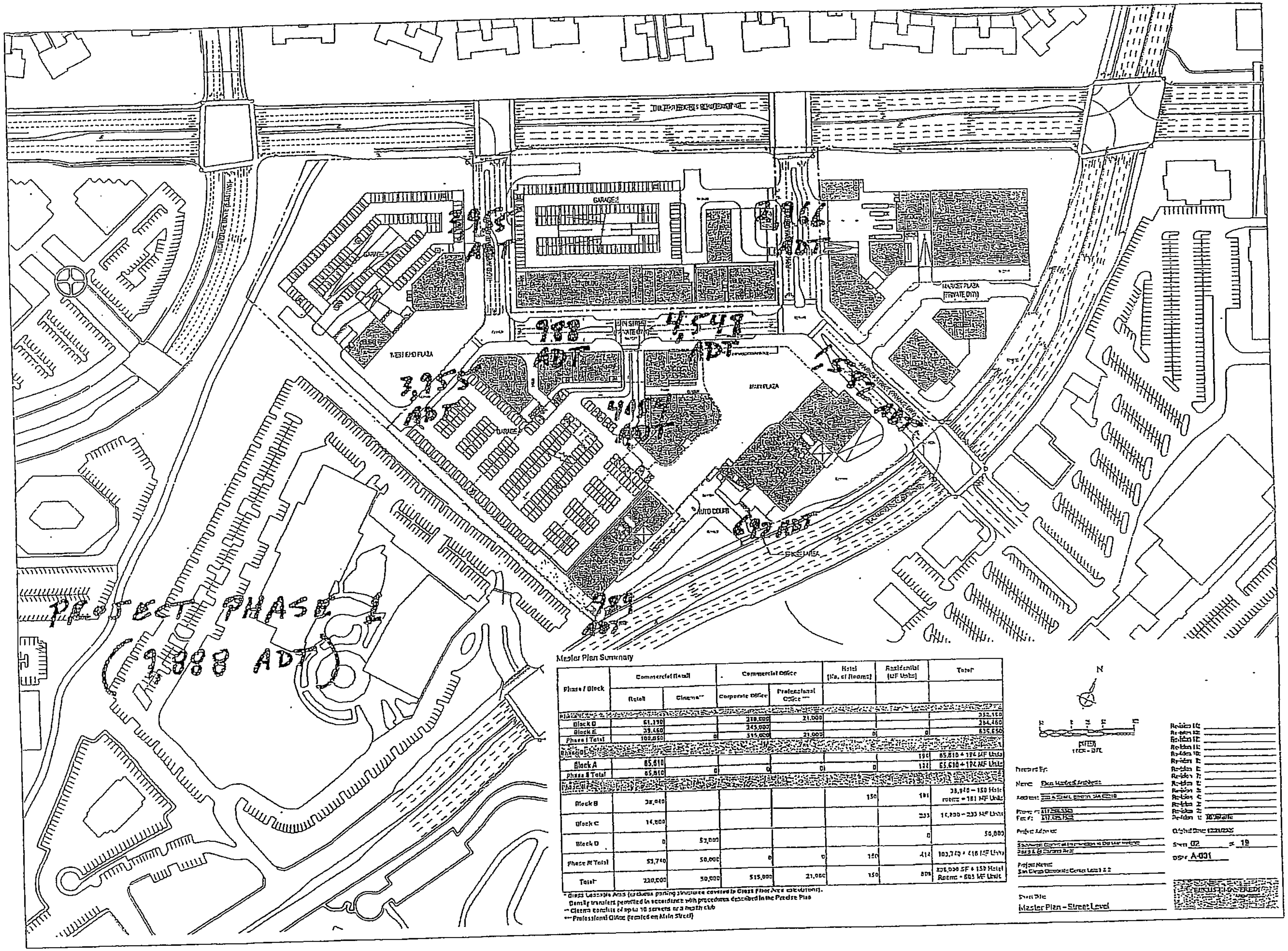
Dwg # A-001



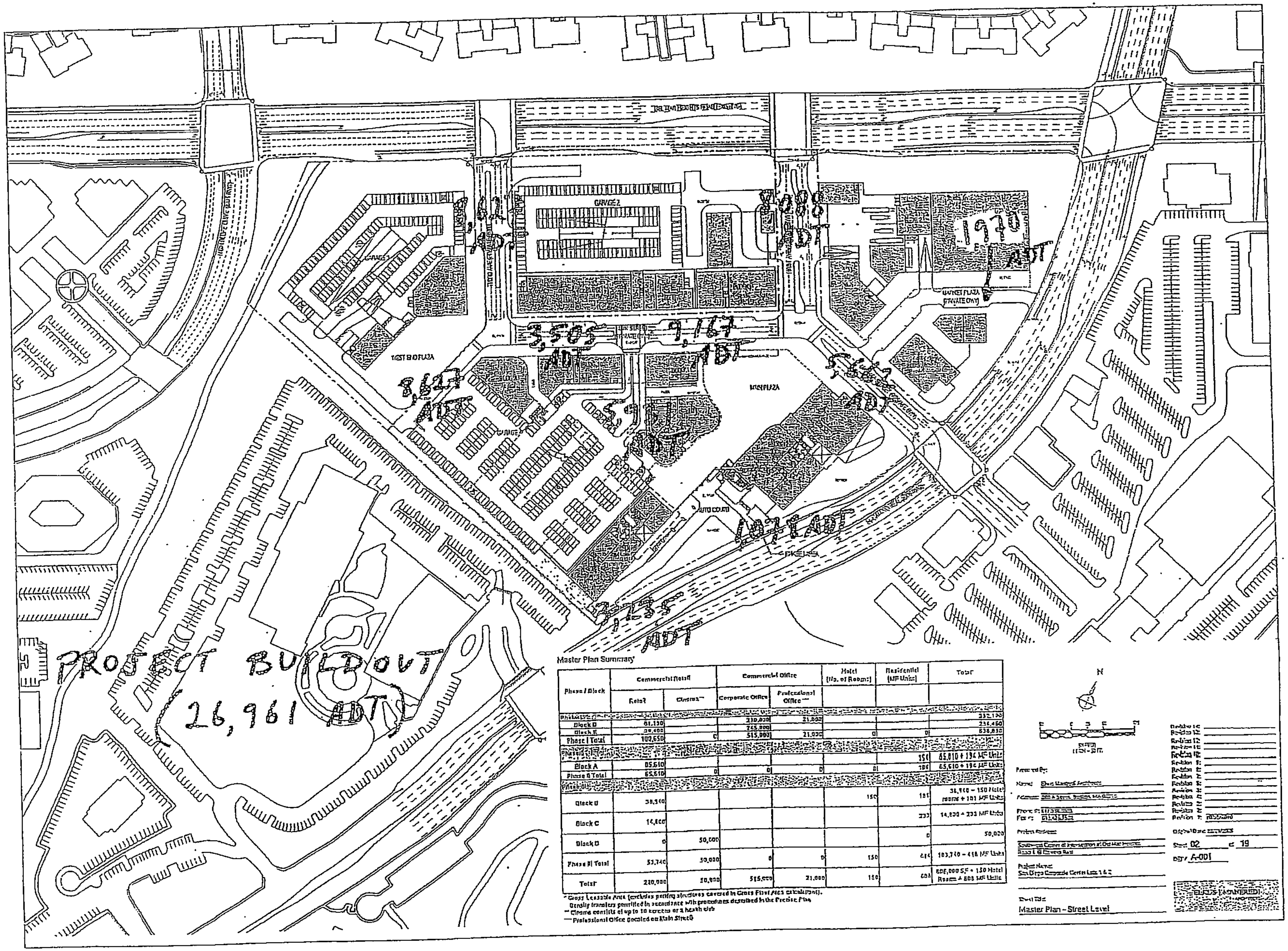
Master Plan Summary

Phase / Block	Commercial Retail		Commercial Office		Hotel (No. of Rooms)	Residential (MF Units)	Total
	Retail	Cinema**	Corporate Office	Professional Office***			
Phase I							
Block D	61,190		270,000	21,000			352,150
Block E	39,460		245,000				284,460
Phase I Total	100,650	0	515,000	21,000	0	0	635,650
Phase II							
Block A	65,610					194	65,610 + 194 MF Units
Phase II Total	65,610	0	0	0	0	194	65,610 + 194 MF Units
Phase III							
Block B	38,940				150	181	38,940 + 150 Hotel rooms + 181 MF Units
Block C	14,800					233	14,800 + 233 MF Units
Block D	0	50,000				0	50,000
Phase III Total	53,740	50,000	0	0	150	414	103,740 + 414 MF Units
Total*	220,000	50,000	515,000	21,000	150	608	806,000 SF + 150 Hotel Rooms + 608 MF Units

* Gross Leasable Area (excludes parking structures covered in Gross Floor Area calculations). Density transfers permitted in accordance with procedures described in the Precise Plan

** Cinema consists of up to 10 screens or a health club

*** Professional Office (located on Main Street)



Master Plan Summary*

Phase / Block	Commercial Retail		Commercial Office		Hotel (No. of Rooms)	Residential (MF Units)	Total
	Retail	Cinema**	Corporate Office	Professional Office***			
[illegible]							
Block D	61,130		210,000	21,000			232,130
Block E	39,400		245,000				284,460
Phase I Total	100,650	0	515,000	21,000	0	0	636,650
[illegible]						196	65,610 + 196 MF Units
Block A	65,610					196	65,610 + 196 MF Units
Phase II Total	65,610	0	0	0	0	196	65,610 + 196 MF Units
[illegible]							
Block B	38,940				150	181	38,940 + 150 Hotel rooms + 181 MF Units
Block C	14,800					233	14,800 + 233 MF Units
Block D	0	50,000				0	50,000
Phase III Total	53,740	50,000	0	0	150	414	103,740 + 414 MF Units
Total	220,000	50,000	515,000	21,000	150	608	806,000 SF + 150 Hotel Rooms + 608 MF Units

* Gross Leasable Area (excludes parking structures covered in Gross Floor Area calculations).
Density transfers permitted in accordance with procedures described in the Precise Plan
** Cinema consists of up to 10 screens or a health club
*** Professional Office located on Main Street

Sheet Title: Master Plan - Street Level

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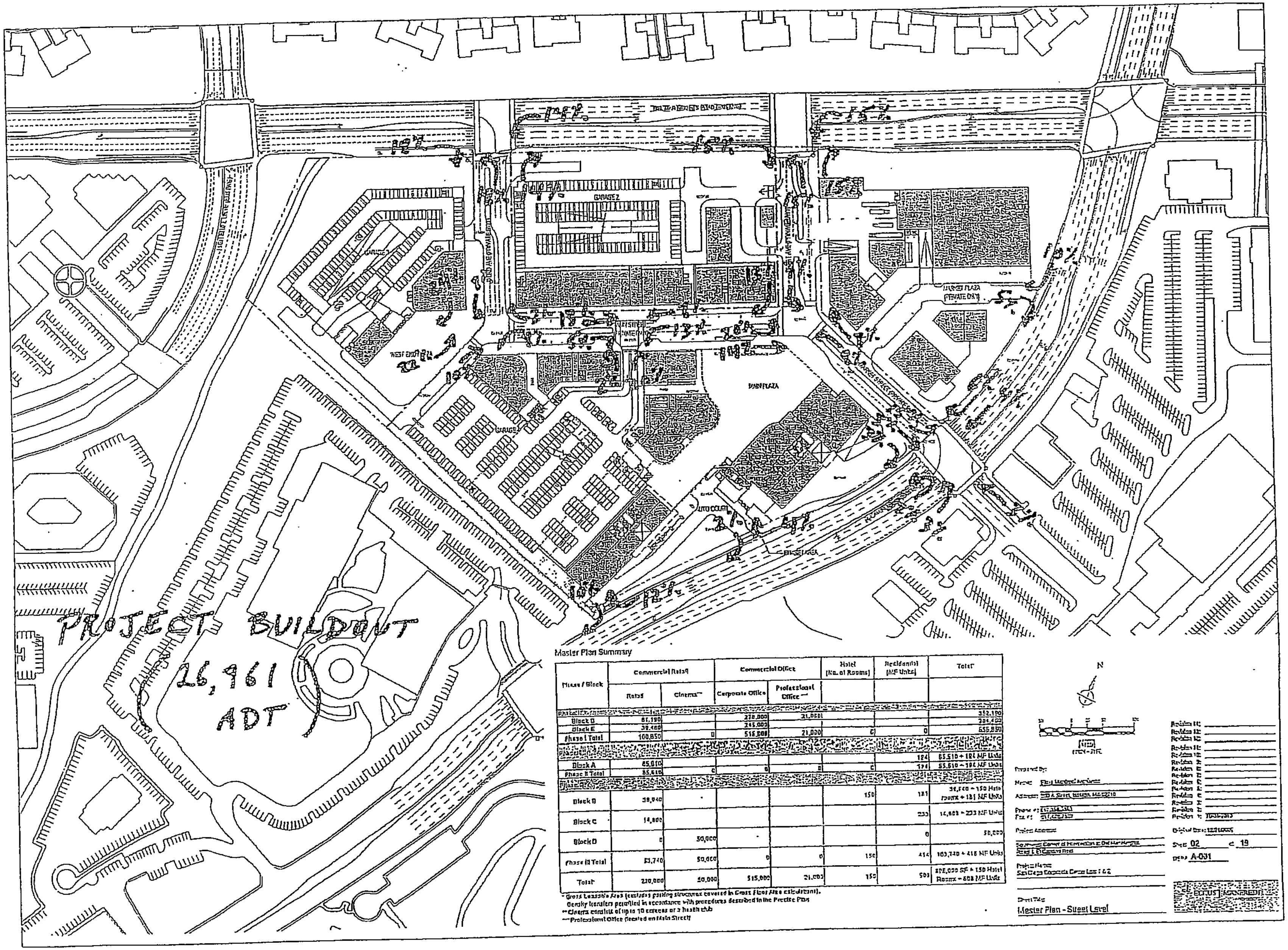
A-001



Master Plan Summary

Phase / Block	Commercial Retail*		Commercial Office		Hotel (No. of Rooms)	Residential (MF Units)	Total*
	Retail	Cinema**	Corporate Office	Professional Office***			
Phase I							
Block B	81,190		270,000	21,000			352,190
Block E	39,460		245,000				284,460
Phase I Total	100,850	0	515,000	21,000	0	0	656,850
Phase II							
Block A	65,610					184	65,610 + 184 MF Units
Phase II Total	65,610	0	0	0	0	184	65,610 + 184 MF Units
Phase III							
Block B	38,940				150	181	38,940 + 150 Hotel Rooms + 181 MF Units
Block C	14,800					233	14,800 + 233 MF Units
Block D	0	50,000				0	50,000
Phase III Total	53,740	50,000	0	0	150	414	103,740 + 414 MF Units
Total	220,000	50,000	515,000	21,000	150	598	806,000 SF + 150 Hotel Rooms + 598 MF Units

* Gross Leasable Area (excludes parking structures covered in Gross Floor Area calculations).
Density transfers permitted in accordance with procedures described in the Precise Plan
** Cinema consists of up to 10 screens or a health club
*** Professional Office (located on Main Street)

Prepared By:
Name: [illegible]
Address: [illegible]
Phone #: [illegible]
Fax #: [illegible]

Project Address:
[illegible]

Project Name:
San Diego Corporate Center Lots 1 & 2

Sheet Title:
Master Plan - Street Level

Revision: [illegible]

Original Date: [illegible]

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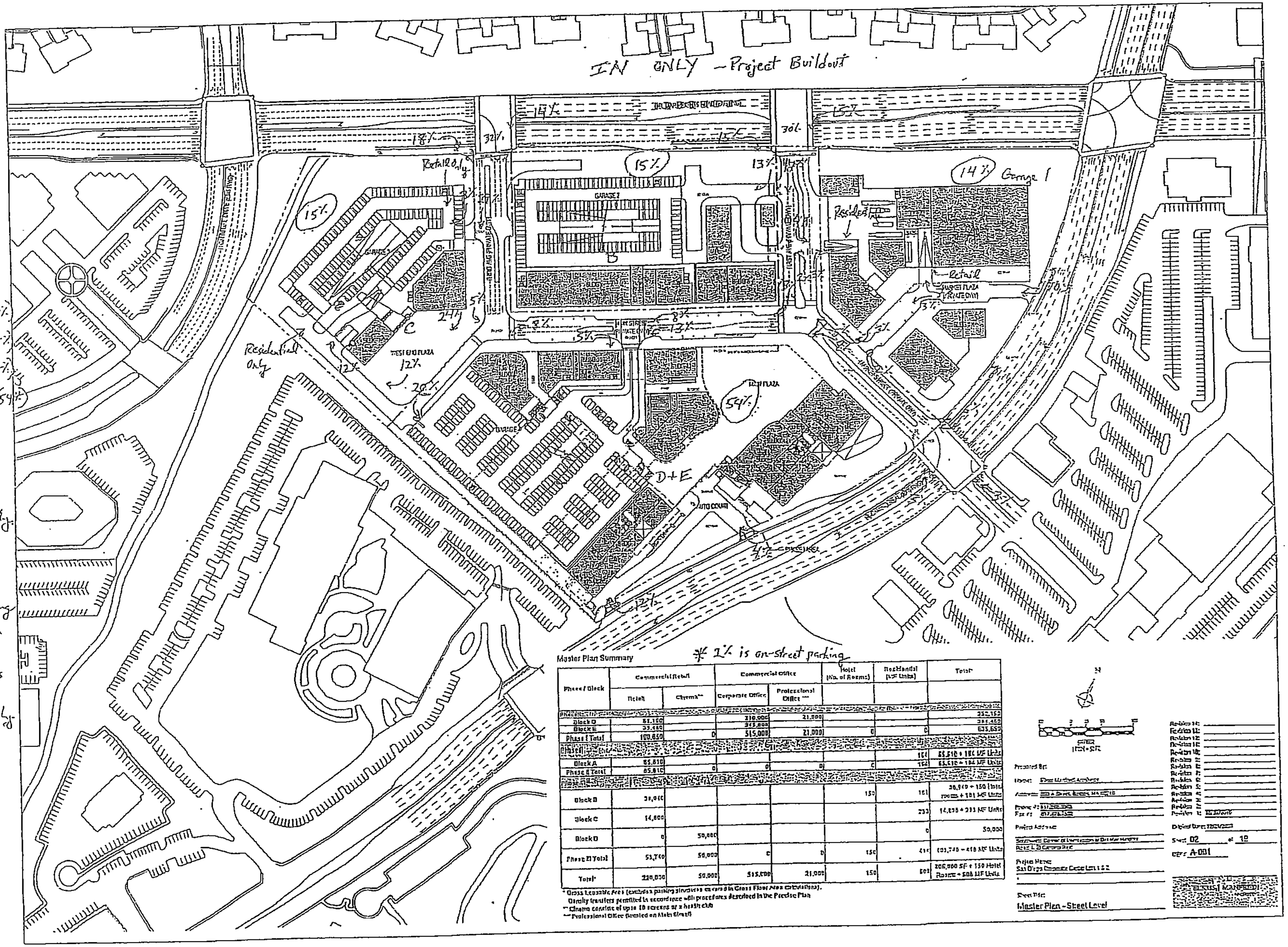
Dwg # A-031



Master Plan Summary

* 1% is on-street parking

Phase / Block	Commercial Retail		Commercial Office		Hotel (No. of Rooms)	Residential (MF Units)	Total*
	Retail	Cinema**	Corporate Office	Professional Office ***			
Phase I							
Block D	61,150		310,000	21,000			392,150
Block E	39,480		205,000				244,480
Phase I Total	100,850	0	515,000	21,000	0	0	635,650
Phase II						186	65,810 + 186 MF Units
Block A	65,810					186	65,810 + 186 MF Units
Phase II Total	65,810	0	0	0	0		
Phase III							
Block B	38,940				150	181	38,940 + 150 Hotel rooms + 181 MF Units
Block C	14,800					233	14,800 + 233 MF Units
Block D	0	50,000				0	50,000
Phase III Total	53,740	50,000	0	0	150	414	103,740 + 414 MF Units
Total*	220,030	50,000	515,000	21,000	150	601	806,000 SF + 150 Hotel Rooms + 606 MF Units

* Gross Leasable Area (excludes parking structures covered in Gross Floor Area calculations).
Density transfers permitted in accordance with procedures described in the Precise Plan
** Cinema consists of up to 10 screens or a health club
*** Professional Office (located on Main Street)

Master Plan - Street Level

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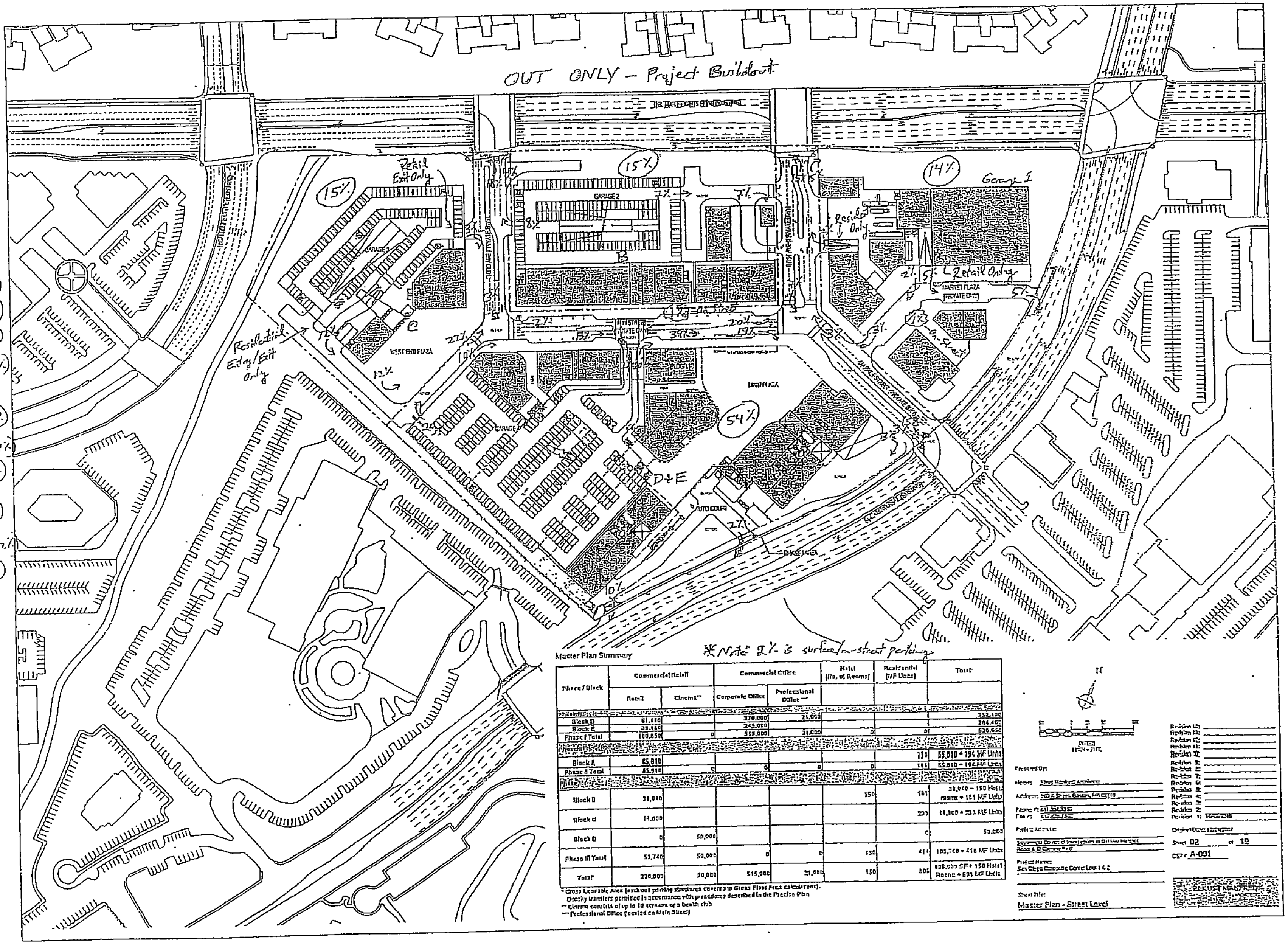
Parking Spaces
Garage 1 = 587 (14%)
Garage 2 = 578 (15%)
Garage 3 = 622 (15%)
Garage 4 = 2,302 (54%)

Block C:
Residential Parking is on South End Only. Retail uses Third Ave only.

Block A:
Residential Parking is accessable from First Ave only.
Retail Parking is accessible from Market Plaza only.



*Note: 2% is surface/on-street parking

Master Plan Summary

Phase / Block	Commercial Retail		Commercial Office		Hotel (No. of Rooms)	Residential (MF Units)	Total*
	Retail	Cinema**	Corporate Office	Professional Office***			
[illegible]							
Block D	61,180		270,000	21,000			352,180
Block E	39,460		245,000				284,460
Phase I Total	100,650	0	515,000	21,000	0	0	620,650
[illegible]						194	85,810 + 194 MF Units
Block A	85,810					194	85,810 + 194 MF Units
Phase II Total	85,810	0	0	0	0	194	85,810 + 194 MF Units
[illegible]							
Block B	38,040				150	181	38,040 + 150 Hotel rooms + 181 MF Units
Block C	14,000					233	14,000 + 233 MF Units
Block D	0	50,000				0	50,000
Phase III Total	53,740	50,000	0	0	150	414	103,740 + 414 MF Units
Total*	220,000	50,000	515,000	21,000	150	608	806,000 SF + 150 Hotel Rooms + 608 MF Units

* Gross Leasable Area (without parking structures covered in Gross Floor Area calculations). Density transfers permitted in accordance with procedures described in the Precise Plan
** Cinema consists of up to 10 screens or a health club
*** Professional Office (located on Main Street)

Prepared By:

Sheet Title: Master Plan - Street Level

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Parking Spaces

Garage 1 = 587 (14%)
Garage 2 = 578 (15%)
Garage 3 = 622 (15%)
Garage 4 = 2,302 (54%)

Block A (14%)
Residential = 313 (7%)
Retail = 273 (7%)

Block C (15%)
Residential = 489 (12%)
Retail = 133 (3%)

TABLE 1-30

Intersection Levels of Service With & Without Mitigation

Near Term + Project (Phase 1 & 2)

Number	Intersection	Control	Without Mitigation				With Mitigation			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
9	Del Mar Heights Road / I-5 NB Ramps*	Signalized	49.8	D	50.5	D	43.4	D	46.4	D
10	Del Mar Heights Road / High Bluff Drive*	Signalized	31.3	D	56.2	E	20.5	C	27.8	C
11	Del Mar Heights Road / Third Avenue*	Signalized	6.5	A	13.5	B	5.5	A	12.5	B
12	Del Mar Heights Road / First Avenue*	Signalized	6.0	A	15.6	B	5.0	A	10.0	B
13	Del Mar Heights Road / El Camino Real*	Signalized	34.5	C	59.1	E	34.2	C	45.6	D
29	El Camino Real / SR-56 EB On-Ramp	Signalized	18.6	B	35.1	D	18.3	B	28.0	C
36	Carmel Creek Road / Del Mar Trail**	Signalized	52.0	F	23.8	C	16.9	B	9.9	A

Near Term + Project (Build-out)

Number	Intersection	Control	Without Mitigation				With Mitigation			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
9	Del Mar Heights Road / I-5 NB Ramps*	Signalized	49.2	D	56.1	E	49.0	D	55.4	E
10	Del Mar Heights Road / High Bluff Drive*	Signalized	34.2	D	57	E	21.6	C	31.7	C
11	Del Mar Heights Road / Third Avenue*	Signalized	8.5	A	21.4	C	6.9	A	14.8	B
12	Del Mar Heights Road / First Avenue*	Signalized	7.9	A	25.3	C	7.0	A	12.7	B
13	Del Mar Heights Road / El Camino Real*	Signalized	37.4	D	62.9	E	34.5	C	49.7	D
29	El Camino Real / SR-56 EB On-Ramp	Signalized	18.8	B	35.8	D	18.5	B	28.8	C
36	Carmel Creek Road / Del Mar Trail**	Signalized	53.5	F	25.1	D	16.9	B	9.9	A

Year 2030 + Project (Build-out)

Number	Intersection	Control	Without Mitigation				With Mitigation			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
9	Del Mar Heights Road / I-5 NB Ramps*	Signalized	107.1	F	94.0	F	96.1	F	78.2	E
10	Del Mar Heights Road / High Bluff Drive*	Signalized	55.3	E	80.2	F	32.6	C	43.4	D
11	Del Mar Heights Road / Third Avenue*	Signalized	8.3	A	20.7	C	7.4	A	19.7	B
12	Del Mar Heights Road / First Avenue*	Signalized	7.7	A	20.9	C	8.6	A	17.5	B
13	Del Mar Heights Road / El Camino Real*	Signalized	50.8	D	84.1	F	44.9	D	50.2	D
29	El Camino Real / SR-56 EB On-Ramp	Signalized	23.6	C	97.6	F	23.5	C	53.4	D
36	Carmel Creek Road / Del Mar Trail**	Signalized	48.3	E	23.6	C	18.8	B	10.0	A

Notes:

LOS = Level of Service

* = Signals are coordinated.

Orange indicates unacceptable level of service.

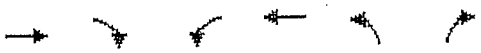
**Intersection #36 is two-way stop controlled without mitigation.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	231	1493	0	0	1525	843	384	59	1078	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	6.3			6.3	6.3	5.6	5.6	5.6			
Lane Util. Factor	0.97	0.95			0.91	1.00	0.95	0.95	0.88			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.96	1.00			
Satd. Flow (prot)	3433	3539			5085	1583	1681	1707	2787			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.96	1.00			
Satd. Flow (perm)	3433	3539			5085	1583	1681	1707	2787			
Peak-hour factor, PHF	0.95	0.95	0.95	0.90	0.95	0.95	0.95	0.95	0.95	0.90	0.90	0.90
Adj. Flow (vph)	243	1572	0	0	1605	887	404	62	1135	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	478	0	0	14	0	0	0
Lane Group Flow (vph)	243	1572	0	0	1605	409	230	236	1121	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Actuated Green, G (s)	11.5	58.7			42.0	42.0	49.4	49.4	49.4			
Effective Green, g (s)	11.5	58.7			42.0	42.0	49.4	49.4	49.4			
Actuated g/C Ratio	0.10	0.49			0.35	0.35	0.41	0.41	0.41			
Clearance Time (s)	5.2	6.3			6.3	6.3	5.6	5.6	5.6			
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)	329	1731			1780	554	692	703	1147			
v/s Ratio Prot	0.07	c0.44			0.32		0.14	0.14				
v/s Ratio Perm						0.26			c0.40			
v/c Ratio	0.74	0.91			0.90	0.74	0.33	0.34	0.98			
Uniform Delay, d1	52.8	28.2			37.0	34.2	24.1	24.1	34.7			
Progression Factor	0.82	1.37			0.60	1.71	1.00	1.00	1.00			
Incremental Delay, d2	5.4	5.7			4.9	5.1	0.3	0.3	21.0			
Delay (s)	48.8	44.4			27.1	63.5	24.3	24.4	55.8			
Level of Service	D	D			C	E	C	C	E			
Approach Delay (s)		45.0			40.1			46.6			0.0	
Approach LOS		D			D			D			A	

Intersection Summary			
HCM Average Control Delay	43.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	11.9
Intersection Capacity Utilization	88.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	111	1756	694	103	1970	69	201	10	40	108	59	312
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91		0.94	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5059		4990	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5059		4990	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	117	1848	731	108	2074	73	212	11	42	114	62	328
RTOR Reduction (vph)	0	0	157	0	2	0	0	0	40	0	0	253
Lane Group Flow (vph)	117	1848	574	108	2145	0	212	11	2	114	62	75
Turn Type	Prot		pm+ov	Prot			Prot		Perm	Prot		Over
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases			4						2			
Actuated Green, G (s)	12.1	74.9	86.6	9.2	72.0		11.7	7.0	7.0	12.9	8.2	12.1
Effective Green, g (s)	12.1	74.9	86.6	9.2	72.0		11.7	7.0	7.0	12.9	8.2	12.1
Actuated g/C Ratio	0.10	0.62	0.72	0.08	0.60		0.10	0.06	0.06	0.11	0.07	0.10
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	346	3174	1195	263	3035		487	109	92	190	127	160
v/s Ratio Prot	0.03	c0.36	0.05	0.03	c0.42		0.04	0.01		c0.06	c0.03	c0.05
v/s Ratio Perm			0.32						0.00			
v/c Ratio	0.34	0.58	0.48	0.41	0.71		0.44	0.10	0.03	0.60	0.49	0.47
Uniform Delay, d1	50.2	13.3	7.1	52.8	16.7		51.0	53.5	53.3	51.1	53.9	50.9
Progression Factor	0.90	1.30	1.96	1.36	0.48		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.3	0.1	0.9	1.3		0.6	0.4	0.1	5.2	2.9	2.2
Delay (s)	45.5	17.6	14.1	72.8	9.3		51.7	53.9	53.4	56.3	56.8	53.1
Level of Service	D	B	B	E	A		D	D	D	E	E	D
Approach Delay (s)		17.9			12.3			52.0			54.3	
Approach LOS		B			B			D			D	

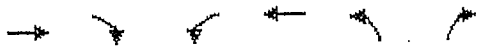
Intersection Summary			
HCM Average Control Delay	20.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	72.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1936	165	128	2127	50	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	14
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	5085	1583	1770	5085	3433	1689
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	5085	1583	1770	5085	3433	1689
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	2038	174	135	2239	53	41
RTOR Reduction (vph)	0	28	0	0	0	39
Lane Group Flow (vph)	2038	146	135	2239	53	2
Turn Type		Perm	Prot			Perm
Protected Phases	4		3	8	2	
Permitted Phases		4				2
Actuated Green, G (s)	87.3	87.3	14.5	105.8	6.2	6.2
Effective Green, g (s)	87.3	87.3	14.5	105.8	6.2	6.2
Actuated g/C Ratio	0.73	0.73	0.12	0.88	0.05	0.05
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	3699	1152	214	4483	177	87
v/s Ratio Prot	c0.40		c0.08	0.44	c0.02	
v/s Ratio Perm		0.09				0.00
v/c Ratio	0.55	0.13	0.63	0.50	0.30	0.02
Uniform Delay, d1	7.4	4.9	50.2	1.5	54.8	54.0
Progression Factor	0.41	0.20	0.95	1.49	1.00	1.00
Incremental Delay, d2	0.5	0.2	5.1	0.3	1.0	0.1
Delay (s)	3.6	1.2	53.0	2.6	55.8	54.1
Level of Service	A	A	D	A	E	D
Approach Delay (s)	3.4			5.4	55.1	
Approach LOS	A			A	E	

Intersection Summary			
HCM Average Control Delay	5.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	57.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



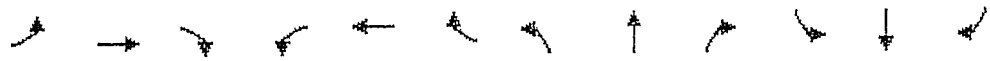
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑	↱	↰↰	↑↑↑	↰	↱
Volume (vph)	1837	137	137	2213	41	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	1.00	0.97	0.91	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	5085	1583	3433	5085	1770	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	5085	1583	3433	5085	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1997	149	149	2405	45	45
RTOR Reduction (vph)	0	34	0	0	0	42
Lane Group Flow (vph)	1997	115	149	2405	45	3
Turn Type		Perm	Prot			Perm
Protected Phases	4		3	8	2	
Permitted Phases		4				2
Actuated Green, G (s)	90.1	90.1	10.5	104.6	7.4	7.4
Effective Green, g (s)	90.1	90.1	10.5	104.6	7.4	7.4
Actuated g/C Ratio	0.75	0.75	0.09	0.87	0.06	0.06
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	3818	1189	300	4432	109	98
v/s Ratio Prot	0.39		0.04	c0.47	c0.03	
v/s Ratio Perm		0.07				0.00
v/c Ratio	0.52	0.10	0.50	0.54	0.41	0.03
Uniform Delay, d1	6.1	4.0	52.2	1.9	54.2	52.9
Progression Factor	0.40	0.56	0.87	1.11	1.00	1.00
Incremental Delay, d2	0.4	0.1	0.9	0.3	2.5	0.1
Delay (s)	2.9	2.4	46.6	2.4	56.7	53.0
Level of Service	A	A	D	A	E	D
Approach Delay (s)	2.9			5.0	54.9	
Approach LOS	A			A	D	

Intersection Summary			
HCM Average Control Delay	5.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	52.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	231	962	498	261	1590	95	284	109	90	164	348	435
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	14	12	12	12	12	12	14	12	12	12
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91		0.97	0.91	1.00	0.97	0.91	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	5085	1689	3433	5042		3433	5085	1689	3433	4661	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	5085	1689	3433	5042		3433	5085	1689	3433	4661	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.94	0.94	0.94	0.92	0.92	0.92
Adj. Flow (vph)	243	1013	524	275	1674	100	302	116	96	178	378	473
RTOR Reduction (vph)	0	0	176	0	5	0	0	0	76	0	164	0
Lane Group Flow (vph)	243	1013	348	275	1769	0	302	116	20	178	687	0
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	12.2	53.8	53.8	14.1	55.7		14.1	25.6	25.6	10.5	22.0	
Effective Green, g (s)	12.2	53.8	53.8	14.1	55.7		14.1	25.6	25.6	10.5	22.0	
Actuated g/C Ratio	0.10	0.45	0.45	0.12	0.46		0.12	0.21	0.21	0.09	0.18	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	349	2280	757	403	2340		403	1085	360	300	855	
v/s Ratio Prot	0.07	0.20		c0.08	c0.35		c0.09	c0.02		0.05	c0.15	
v/s Ratio Perm			0.21						0.01			
v/c Ratio	0.70	0.44	0.46	0.68	0.76		0.75	0.11	0.06	0.59	1.04dr	
Uniform Delay, d1	52.1	22.8	23.0	50.8	26.5		51.2	38.0	37.6	52.7	46.9	
Progression Factor	1.31	0.44	0.60	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	5.2	0.5	1.8	4.7	2.3		7.5	0.0	0.1	3.1	5.5	
Delay (s)	73.4	10.7	15.6	55.5	28.9		58.7	38.0	37.7	55.8	52.4	
Level of Service	E	B	B	E	C		E	D	D	E	D	
Approach Delay (s)		20.7			32.4			50.1			53.0	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM Average Control Delay	34.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	77.4%	ICU Level of Service	D
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	651	943	317	0	0	0	0	409	227	149	750	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Lane Util. Factor	0.91	0.91	0.88					0.86		1.00	0.91	
Frt	1.00	1.00	0.85					0.95		1.00	1.00	
Flt Protected	0.95	0.99	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1610	3369	2787					6065		1770	5085	
Flt Permitted	0.95	0.99	1.00					1.00		0.95	1.00	
Satd. Flow (perm)	1610	3369	2787					6065		1770	5085	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	723	1048	352	0	0	0	0	454	252	166	833	0
RTOR Reduction (vph)	0	0	113	0	0	0	0	135	0	0	0	0
Lane Group Flow (vph)	571	1200	239	0	0	0	0	571	0	166	833	0
Turn Type	Prot		Perm							Prot		
Protected Phases	7	4						2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	30.2	30.2	30.2					12.9		11.5	28.4	
Effective Green, g (s)	30.2	30.2	30.2					12.9		11.5	28.4	
Actuated g/C Ratio	0.45	0.45	0.45					0.19		0.17	0.43	
Clearance Time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	730	1528	1264					1175		306	2168	
v/s Ratio Prot	0.35	c0.36						c0.09		c0.09	0.16	
v/s Ratio Perm			0.09									
v/c Ratio	0.78	0.79	0.19					0.49		0.54	0.38	
Uniform Delay, d1	15.4	15.4	10.9					23.9		25.1	13.1	
Progression Factor	1.00	1.00	1.00					1.00		1.00	1.00	
Incremental Delay, d2	5.5	2.7	0.1					0.3		2.0	0.1	
Delay (s)	20.9	18.2	11.0					24.2		27.1	13.2	
Level of Service	C	B	B					C		C	B	
Approach Delay (s)		17.7			0.0			24.2			15.5	
Approach LOS		B			A			C			B	

Intersection Summary				
HCM Average Control Delay	18.3	HCM Level of Service	B	
HCM Volume to Capacity ratio	0.66			
Actuated Cycle Length (s)	66.6	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	97.2%	ICU Level of Service	F	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	10	10	10	206	2	26	3	271	103	15	960	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.96			0.98		1.00	0.96		1.00	1.00	
Flt Protected		0.98			0.96		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1750			1757		1770	3393		1770	3538	
Flt Permitted		0.98			0.96		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1750			1757		1770	3393		1770	3538	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	11	11	11	229	2	29	3	301	114	17	1067	3
RTOR Reduction (vph)	0	10	0	0	4	0	0	31	0	0	0	0
Lane Group Flow (vph)	0	23	0	0	256	0	3	384	0	17	1070	0
Turn Type	Split			Split			Prot			Prot		
Protected Phases	6	6		2	2		7	4		3	8	
Permitted Phases												
Actuated Green, G (s)		3.7			17.5		0.5	29.7		1.5	30.7	
Effective Green, g (s)		3.7			17.5		0.5	29.7		1.5	30.7	
Actuated g/C Ratio		0.05			0.26		0.01	0.43		0.02	0.45	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		95			450		13	1473		39	1588	
v/s Ratio Prot		c0.01			c0.15		0.00	0.11		c0.01	c0.30	
v/s Ratio Perm												
v/c Ratio		0.24			0.57		0.23	0.26		0.44	0.67	
Uniform Delay, d1		31.0			22.2		33.8	12.3		33.0	14.9	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.3			1.7		8.9	0.1		7.6	1.1	
Delay (s)		32.3			23.8		42.7	12.4		40.6	16.0	
Level of Service		C			C		D	B		D	B	
Approach Delay (s)		32.3			23.8			12.7			16.4	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM Average Control Delay	16.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	68.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	53.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	242	1671	0	0	1455	1005	649	24	937	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	14	12	12	14	12	12	12
Total Lost time (s)	5.2	6.3			6.3	6.3	5.6	5.6	5.6			
Lane Util. Factor	0.97	0.95			*0.95	1.00	0.95	0.95	0.88			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.96	1.00			
Satd. Flow (prot)	3433	3539			5309	1689	1681	1691	2972			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.96	1.00			
Satd. Flow (perm)	3433	3539			5309	1689	1681	1691	2972			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	255	1759	0	0	1532	1058	683	25	986	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	436	0	0	16	0	0	0
Lane Group Flow (vph)	255	1759	0	0	1532	622	355	353	970	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Actuated Green, G (s)	14.2	66.8			47.4	47.4	41.3	41.3	41.3			
Effective Green, g (s)	14.2	66.8			47.4	47.4	41.3	41.3	41.3			
Actuated g/C Ratio	0.12	0.56			0.39	0.39	0.34	0.34	0.34			
Clearance Time (s)	5.2	6.3			6.3	6.3	5.6	5.6	5.6			
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)	406	1970			2097	667	579	582	1023			
v/s Ratio Prot	0.07	c0.50			0.29		0.21	0.21				
v/s Ratio Perm						0.37			c0.33			
v/c Ratio	0.63	0.89			0.73	0.93	0.61	0.61	0.95			
Uniform Delay, d1	50.4	23.4			30.9	34.8	32.7	32.6	38.3			
Progression Factor	0.94	0.93			0.98	2.39	1.00	1.00	1.00			
Incremental Delay, d2	2.4	5.4			1.5	15.7	1.9	1.8	16.8			
Delay (s)	49.7	27.2			31.6	98.9	34.6	34.4	55.1			
Level of Service	D	C			C	F	C	C	E			
Approach Delay (s)		30.0			59.1			46.5			0.0	
Approach LOS		C			E			D			A	

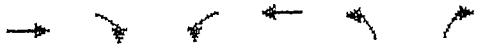
Intersection Summary			
HCM Average Control Delay	46.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	11.9
Intersection Capacity Utilization	102.0%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	249	2381	259	53	1850	67	637	67	160	50	30	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	14	12	12	12	12	12	14	12	12	14
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91		*0.96	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1689	3433	5058		5096	1863	1689	1770	1863	1689
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1689	3433	5058		5096	1863	1689	1770	1863	1689
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	262	2506	273	56	1947	71	671	71	168	53	32	86
RTOR Reduction (vph)	0	0	54	0	2	0	0	0	144	0	0	81
Lane Group Flow (vph)	262	2506	219	56	2016	0	671	71	24	53	32	5
Turn Type	Prot		pm+ov	Prot			Prot		Perm	Prot		Perm
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	17.7	72.5	91.1	6.3	61.1		18.6	17.3	17.3	7.9	6.6	6.6
Effective Green, g (s)	17.7	72.5	91.1	6.3	61.1		18.6	17.3	17.3	7.9	6.6	6.6
Actuated g/C Ratio	0.15	0.60	0.76	0.05	0.51		0.16	0.14	0.14	0.07	0.06	0.06
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	506	3072	1339	180	2575		790	269	243	117	102	93
v/s Ratio Prot	c0.08	c0.49	0.03	0.02	0.40		c0.13	c0.04		0.03	0.02	
v/s Ratio Perm			0.10						0.01			0.00
v/c Ratio	0.52	0.82	0.16	0.31	0.78		0.85	0.26	0.10	0.45	0.31	0.05
Uniform Delay, d1	47.2	18.5	4.0	54.8	24.0		49.3	45.7	44.6	54.0	54.5	53.7
Progression Factor	1.02	1.04	0.95	1.19	0.82		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	1.4	0.0	0.9	2.2		8.5	0.5	0.2	2.8	1.8	0.2
Delay (s)	48.4	20.6	3.8	65.9	21.9		57.8	46.2	44.8	56.7	56.3	54.0
Level of Service	D	C	A	E	C		E	D	D	E	E	D
Approach Delay (s)		21.5			23.1			54.5			55.3	
Approach LOS		C			C			D			E	

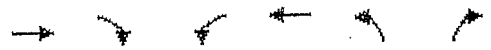
Intersection Summary			
HCM Average Control Delay	27.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	78.1%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	2506	137	107	1935	231	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	4.0	5.0	4.0	4.0
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	5085	1583	1770	5085	3433	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	5085	1583	1770	5085	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2724	149	116	2103	251	196
RTOR Reduction (vph)	0	34	0	0	0	173
Lane Group Flow (vph)	2724	115	116	2103	251	23
Turn Type		Prot	Prot			Perm
Protected Phases	4	4	3	8	2	
Permitted Phases						2
Actuated Green, G (s)	80.1	80.1	12.9	97.0	14.0	14.0
Effective Green, g (s)	80.1	80.1	12.9	97.0	14.0	14.0
Actuated g/C Ratio	0.67	0.67	0.11	0.81	0.12	0.12
Clearance Time (s)	5.0	5.0	4.0	5.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	3394	1057	190	4110	401	185
v/s Ratio Prot	c0.54	0.07	c0.07	0.41	c0.07	
v/s Ratio Perm						0.01
v/c Ratio	0.80	0.11	0.61	0.51	0.63	0.12
Uniform Delay, d1	14.3	7.2	51.2	3.8	50.5	47.5
Progression Factor	0.59	0.93	1.05	1.35	1.00	1.00
Incremental Delay, d2	1.4	0.1	5.1	0.4	3.0	0.3
Delay (s)	9.9	6.8	58.8	5.5	53.5	47.8
Level of Service	A	A	E	A	D	D
Approach Delay (s)	9.7		8.3		51.0	
Approach LOS	A		A		D	

Intersection Summary			
HCM Average Control Delay	12.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	71.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	2572	114	114	1848	193	193
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	4.0	5.0	4.0	4.0
Lane Util. Factor	0.91	1.00	0.97	0.91	0.97	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	5085	1583	3433	5085	3433	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	5085	1583	3433	5085	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2796	124	124	2009	210	210
RTOR Reduction (vph)	0	25	0	0	0	137
Lane Group Flow (vph)	2796	99	124	2009	210	73
Turn Type		Prot	Prot			Perm
Protected Phases	4	4	3	8	2	
Permitted Phases						2
Actuated Green, G (s)	84.2	84.2	9.7	97.9	13.1	13.1
Effective Green, g (s)	84.2	84.2	9.7	97.9	13.1	13.1
Actuated g/C Ratio	0.70	0.70	0.08	0.82	0.11	0.11
Clearance Time (s)	5.0	5.0	4.0	5.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	3568	1111	278	4149	375	173
v/s Ratio Prot	c0.55	0.06	0.04	c0.40	c0.06	
v/s Ratio Perm						0.05
v/c Ratio	0.78	0.09	0.45	0.48	0.56	0.42
Uniform Delay, d1	11.9	5.7	52.6	3.4	50.7	49.9
Progression Factor	0.48	0.91	0.99	0.92	1.00	1.00
Incremental Delay, d2	1.1	0.1	0.9	0.3	1.9	1.7
Delay (s)	6.8	5.3	52.9	3.4	52.6	51.6
Level of Service	A	A	D	A	D	D
Approach Delay (s)	6.7			6.3	52.1	
Approach LOS	A			A	D	

Intersection Summary			
HCM Average Control Delay	10.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	69.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

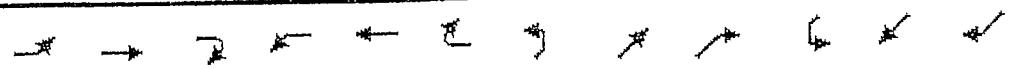
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	503	1713	490	153	938	181	613	446	308	151	169	227
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0	5.0	4.0	5.0		4.0	5.0	5.0	4.0	5.0	
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91		0.97	0.91	1.00	0.97	0.91	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	5085	1583	3433	4962		3433	5085	1583	3433	4648	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	5085	1583	3433	4962		3433	5085	1583	3433	4648	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	529	1803	516	161	987	191	645	469	324	159	178	239
RTOR Reduction (vph)	0	0	273	0	22	0	0	0	102	0	215	0
Lane Group Flow (vph)	529	1803	243	161	1156	0	645	469	222	159	202	0
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	22.4	56.4	56.4	9.5	43.5		25.2	26.7	26.7	9.4	10.9	
Effective Green, g (s)	22.4	56.4	56.4	9.5	43.5		25.2	26.7	26.7	9.4	10.9	
Actuated g/C Ratio	0.19	0.47	0.47	0.08	0.36		0.21	0.22	0.22	0.08	0.09	
Clearance Time (s)	4.0	5.0	5.0	4.0	5.0		4.0	5.0	5.0	4.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	641	2390	744	272	1799		721	1131	352	269	422	
v/s Ratio Prot	c0.15	c0.35		0.05	0.23		c0.19	0.09		0.05	0.04	
v/s Ratio Perm			0.15						c0.14			
v/c Ratio	0.83	0.75	0.33	0.59	0.64		0.89	0.41	0.63	0.59	0.48	
Uniform Delay, d1	46.9	26.1	19.9	53.4	31.8		46.1	40.0	42.2	53.4	51.9	
Progression Factor	1.09	1.13	4.40	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	5.5	1.4	0.7	3.4	1.8		13.6	0.2	3.7	3.5	0.9	
Delay (s)	56.8	30.8	88.3	56.8	33.6		59.7	40.2	45.9	56.9	52.7	
Level of Service	E	C	F	E	C		E	D	D	E	D	
Approach Delay (s)		46.0			36.4			50.2			53.9	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	45.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	78.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	537	1031	133	0	0	0	0	914	442	385	645	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Lane Util. Factor	0.91	0.91	0.88					0.86		1.00	0.91	
Frt	1.00	1.00	0.85					0.95		1.00	1.00	
Flt Protected	0.95	1.00	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1610	3382	2787					6095		1770	5085	
Flt Permitted	0.95	1.00	1.00					1.00		0.17	1.00	
Satd. Flow (perm)	1610	3382	2787					6095		324	5085	
Peak-hour factor, PHF	0.95	0.95	0.95	0.90	0.90	0.90	0.90	0.95	0.95	0.95	0.95	0.90
Adj. Flow (vph)	565	1085	140	0	0	0	0	962	465	405	679	0
RTOR Reduction (vph)	0	0	90	0	0	0	0	44	0	0	0	0
Lane Group Flow (vph)	508	1142	50	0	0	0	0	1383	0	405	679	0
Turn Type	pm+pt		Perm							pm+pt		
Protected Phases	7	4						2		1	6	
Permitted Phases	4		4							6		
Actuated Green, G (s)	25.0	25.0	25.0					19.0		36.7	36.7	
Effective Green, g (s)	25.0	25.0	25.0					19.0		36.7	36.7	
Actuated g/C Ratio	0.36	0.36	0.36					0.27		0.53	0.53	
Clearance Time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	577	1213	1000					1661		455	2677	
v/s Ratio Prot	0.32	c0.34						0.23		c0.18	0.13	
v/s Ratio Perm			0.02							c0.29		
v/c Ratio	0.88	0.94	0.05					0.96dr		0.89	0.25	
Uniform Delay, d1	20.9	21.6	14.6					23.9		15.8	9.0	
Progression Factor	1.00	1.00	1.00					1.00		1.00	1.00	
Incremental Delay, d2	14.6	14.1	0.0					3.7		19.1	0.1	
Delay (s)	35.5	35.7	14.6					27.6		34.8	9.1	
Level of Service	D	D	B					C		C	A	
Approach Delay (s)		34.0			0.0			27.6			18.7	
Approach LOS		C			A			C			B	

Intersection Summary			
HCM Average Control Delay	28.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	69.7	Sum of lost time (s)	8.0
Intersection Capacity Utilization	100.0%	ICU Level of Service	G
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	5	5	4	57	12	10	12	777	103	15	439	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.97			0.98		1.00	0.98		1.00	1.00	
Flt Protected		0.98			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1767			1767		1770	3477		1770	3528	
Flt Permitted		0.98			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1767			1767		1770	3477		1770	3528	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	6	6	4	63	13	11	13	863	114	17	488	11
RTOR Reduction (vph)	0	4	0	0	3	0	0	7	0	0	1	0
Lane Group Flow (vph)	0	12	0	0	84	0	13	970	0	17	498	0
Turn Type	Split			Split			Prot			Prot		
Protected Phases	6	6		2	2		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)		0.8			7.0		0.8	25.1		0.8	25.1	
Effective Green, g (s)		0.8			7.0		0.8	25.1		0.8	25.1	
Actuated g/C Ratio		0.02			0.14		0.02	0.51		0.02	0.51	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		28			249		28	1756		28	1782	
v/s Ratio Prot		c0.01			c0.05		0.01	c0.28		c0.01	0.14	
v/s Ratio Perm												
v/c Ratio		0.43			0.34		0.46	0.55		0.61	0.28	
Uniform Delay, d1		24.2			19.3		24.2	8.4		24.3	7.1	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		10.3			0.8		11.7	0.4		32.0	0.1	
Delay (s)		34.5			20.1		35.9	8.8		56.3	7.2	
Level of Service		C			C		D	A		E	A	
Approach Delay (s)		34.5			20.1			9.2			8.8	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM Average Control Delay	9.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	49.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	39.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	231	1524	0	0	1569	962	384	59	1104	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	6.3			6.3	6.3	5.6	5.6	5.6			
Lane Util. Factor	0.97	0.95			0.91	1.00	0.95	0.95	0.88			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.96	1.00			
Satd. Flow (prot)	3433	3539			5085	1583	1681	1707	2787			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.96	1.00			
Satd. Flow (perm)	3433	3539			5085	1583	1681	1707	2787			
Peak-hour factor, PHF	0.95	0.95	0.95	0.90	0.95	0.95	0.95	0.95	0.95	0.90	0.90	0.90
Adj. Flow (vph)	243	1604	0	0	1652	1013	404	62	1162	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	478	0	0	12	0	0	0
Lane Group Flow (vph)	243	1604	0	0	1652	535	230	236	1150	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Actuated Green, G (s)	11.5	58.7			42.0	42.0	49.4	49.4	49.4			
Effective Green, g (s)	11.5	58.7			42.0	42.0	49.4	49.4	49.4			
Actuated g/C Ratio	0.10	0.49			0.35	0.35	0.41	0.41	0.41			
Clearance Time (s)	5.2	6.3			6.3	6.3	5.6	5.6	5.6			
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)	329	1731			1780	554	692	703	1147			
v/s Ratio Prot	0.07	c0.45			0.32		0.14	0.14				
v/s Ratio Perm						0.34			c0.41			
v/c Ratio	0.74	0.93			0.93	0.97	0.33	0.34	1.00			
Uniform Delay, d1	52.8	28.6			37.5	38.3	24.1	24.1	35.3			
Progression Factor	0.82	1.37			0.62	1.59	1.00	1.00	1.00			
Incremental Delay, d2	5.4	6.9			5.9	21.0	0.3	0.3	27.1			
Delay (s)	48.8	46.1			29.1	82.0	24.3	24.4	62.4			
Level of Service	D	D			C	F	C	C	E			
Approach Delay (s)		46.5			49.2			51.5			0.0	
Approach LOS		D			D			D			A	

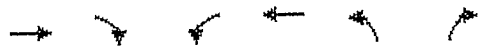
Intersection Summary			
HCM Average Control Delay	49.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	11.9
Intersection Capacity Utilization	92.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	111	1813	694	109	2052	75	201	10	45	113	59	312
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91		0.94	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5058		4990	1863	1583	1770	1863	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5058		4990	1863	1583	1770	1863	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	117	1908	731	115	2160	79	212	11	47	119	62	328
RTOR Reduction (vph)	0	0	158	0	2	0	0	0	44	0	0	253
Lane Group Flow (vph)	117	1908	573	115	2237	0	212	11	3	119	62	75
Turn Type	Prot		pm+ov	Prot			Prot		Perm	Prot		Over
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases			4						2			
Actuated Green, G (s)	12.1	74.5	86.3	9.5	71.9		11.8	6.6	6.6	13.4	8.2	12.1
Effective Green, g (s)	12.1	74.5	86.3	9.5	71.9		11.8	6.6	6.6	13.4	8.2	12.1
Actuated g/C Ratio	0.10	0.62	0.72	0.08	0.60		0.10	0.06	0.06	0.11	0.07	0.10
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	346	3157	1191	272	3031		491	102	87	198	127	160
v/s Ratio Prot	0.03	c0.38	0.05	0.03	c0.44		0.04	0.01		c0.07	c0.03	c0.05
v/s Ratio Perm			0.31						0.00			
v/c Ratio	0.34	0.60	0.48	0.42	0.74		0.43	0.11	0.03	0.60	0.49	0.47
Uniform Delay, d1	50.2	13.8	7.2	52.6	17.3		50.9	53.9	53.7	50.8	53.9	50.9
Progression Factor	0.91	1.27	2.06	1.07	0.66		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.3	0.1	0.9	1.4		0.6	0.5	0.1	5.1	2.9	2.2
Delay (s)	45.8	17.8	15.0	57.0	12.9		51.6	54.4	53.8	55.8	56.8	53.1
Level of Service	D	B	B	E	B		D	D	D	E	E	D
Approach Delay (s)		18.2			15.0			52.1			54.2	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM Average Control Delay	21.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	74.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1974	190	147	2182	86	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	5085	1583	1770	5085	3433	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	5085	1583	1770	5085	3433	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	2078	200	155	2297	91	71
RTOR Reduction (vph)	0	51	0	0	0	66
Lane Group Flow (vph)	2078	149	155	2297	91	5
Turn Type		Perm	Prot			Perm
Protected Phases	4		3	8	2	
Permitted Phases		4				2
Actuated Green, G (s)	83.7	83.7	15.7	103.4	8.6	8.6
Effective Green, g (s)	83.7	83.7	15.7	103.4	8.6	8.6
Actuated g/C Ratio	0.70	0.70	0.13	0.86	0.07	0.07
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	3547	1104	232	4382	246	113
v/s Ratio Prot	c0.41		c0.09	0.45	c0.03	
v/s Ratio Perm		0.09				0.00
v/c Ratio	0.59	0.13	0.67	0.52	0.37	0.05
Uniform Delay, d1	9.3	6.1	49.7	2.1	53.1	51.9
Progression Factor	0.40	0.13	1.16	1.08	1.00	1.00
Incremental Delay, d2	0.6	0.2	6.0	0.4	0.9	0.2
Delay (s)	4.3	1.0	63.8	2.6	54.1	52.0
Level of Service	A	A	E	A	D	D
Approach Delay (s)	4.0			6.5	53.2	
Approach LOS	A			A	D	

Intersection Summary			
HCM Average Control Delay	6.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	59.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1883	158	158	2257	72	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	1.00	0.97	0.91	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	5085	1583	3433	5085	1770	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	5085	1583	3433	5085	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2047	172	172	2453	78	78
RTOR Reduction (vph)	0	44	0	0	0	71
Lane Group Flow (vph)	2047	128	172	2453	78	7
Turn Type		Perm	Prot			Perm
Protected Phases	4		3	8	2	
Permitted Phases		4				2
Actuated Green, G (s)	86.1	86.1	11.3	101.4	10.6	10.6
Effective Green, g (s)	86.1	86.1	11.3	101.4	10.6	10.6
Actuated g/C Ratio	0.72	0.72	0.09	0.85	0.09	0.09
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	3648	1136	323	4297	156	140
v/s Ratio Prot	0.40		0.05	c0.48	c0.04	
v/s Ratio Perm		0.08				0.00
v/c Ratio	0.56	0.11	0.53	0.57	0.50	0.05
Uniform Delay, d1	8.0	5.2	51.8	2.8	52.2	50.1
Progression Factor	0.23	0.00	0.85	1.97	1.00	1.00
Incremental Delay, d2	0.5	0.2	1.1	0.3	2.5	0.1
Delay (s)	2.4	0.2	45.0	5.8	54.7	50.2
Level of Service	A	A	D	A	D	D
Approach Delay (s)	2.2			6.4	52.5	
Approach LOS	A			A	D	

Intersection Summary			
HCM Average Control Delay	7.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	54.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	239	1013	514	269	1623	95	312	113	98	164	333	459
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91		0.97	0.91	1.00	0.97	0.91	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	5085	1583	3433	5043		3433	5085	1583	3433	4643	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	5085	1583	3433	5043		3433	5085	1583	3433	4643	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.94	0.94	0.94	0.92	0.92	0.92
Adj. Flow (vph)	252	1066	541	283	1708	100	332	120	104	178	362	499
RTOR Reduction (vph)	0	0	181	0	5	0	0	0	81	0	161	0
Lane Group Flow (vph)	252	1066	360	283	1803	0	332	120	23	178	700	0
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	12.4	52.9	52.9	14.3	54.8		14.5	26.3	26.3	10.5	22.3	
Effective Green, g (s)	12.4	52.9	52.9	14.3	54.8		14.5	26.3	26.3	10.5	22.3	
Actuated g/C Ratio	0.10	0.44	0.44	0.12	0.46		0.12	0.22	0.22	0.09	0.19	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	355	2242	698	409	2303		415	1114	347	300	863	
v/s Ratio Prot	0.07	0.21		c0.08	c0.36		c0.10	c0.02		0.05	c0.15	
v/s Ratio Perm			0.23						0.01			
v/c Ratio	0.71	0.48	0.52	0.69	0.78		0.80	0.11	0.07	0.59	1.10dr	
Uniform Delay, d1	52.1	23.7	24.3	50.7	27.6		51.3	37.5	37.1	52.7	46.8	
Progression Factor	1.31	0.36	0.53	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	5.4	0.6	2.3	5.0	2.7		10.6	0.0	0.1	3.1	5.8	
Delay (s)	73.9	9.1	15.1	55.7	30.3		61.9	37.5	37.2	55.8	52.7	
Level of Service	E	A	B	E	C		E	D	D	E	D	
Approach Delay (s)		19.6			33.7			52.0			53.2	
Approach LOS		B			C			D			D	

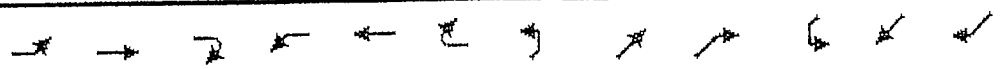
Intersection Summary			
HCM Average Control Delay	34.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	79.3%	ICU Level of Service	D
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

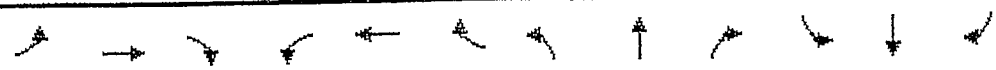
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	651	943	317	0	0	0	0	412	227	154	755	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Lane Util. Factor	0.91	0.91	0.88					0.86		1.00	0.91	
Frt	1.00	1.00	0.85					0.95		1.00	1.00	
Flt Protected	0.95	0.99	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1610	3369	2787					6067		1770	5085	
Flt Permitted	0.95	0.99	1.00					1.00		0.95	1.00	
Satd. Flow (perm)	1610	3369	2787					6067		1770	5085	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	723	1048	352	0	0	0	0	458	252	171	839	0
RTOR Reduction (vph)	0	0	111	0	0	0	0	130	0	0	0	0
Lane Group Flow (vph)	571	1200	241	0	0	0	0	580	0	171	839	0
Turn Type	Prot		Perm							Prot		
Protected Phases	7	4						2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	30.2	30.2	30.2					13.0		11.6	28.6	
Effective Green, g (s)	30.2	30.2	30.2					13.0		11.6	28.6	
Actuated g/C Ratio	0.45	0.45	0.45					0.19		0.17	0.43	
Clearance Time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	728	1523	1260					1181		307	2177	
v/s Ratio Prot	0.35	c0.36						c0.10		c0.10	0.16	
v/s Ratio Perm			0.09									
v/c Ratio	0.78	0.79	0.19					0.49		0.56	0.39	
Uniform Delay, d1	15.5	15.6	11.0					24.0		25.2	13.1	
Progression Factor	1.00	1.00	1.00					1.00		1.00	1.00	
Incremental Delay, d2	5.5	2.8	0.1					0.3		2.2	0.1	
Delay (s)	21.1	18.4	11.0					24.3		27.4	13.2	
Level of Service	C	B	B					C		C	B	
Approach Delay (s)		17.9			0.0			24.3			15.6	
Approach LOS		B			A			C			B	

Intersection Summary					
HCM Average Control Delay	18.5	HCM Level of Service	B		
HCM Volume to Capacity ratio	0.67				
Actuated Cycle Length (s)	66.8	Sum of lost time (s)	12.0		
Intersection Capacity Utilization	97.2%	ICU Level of Service	F		
Analysis Period (min)	15				
c Critical Lane Group					



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↔			↔		↰	↑↑↱		↰	↑↑↱	
Volume (vph)	10	10	10	206	2	26	3	276	103	15	966	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.96			0.98		1.00	0.96		1.00	1.00	
Flt Protected		0.98			0.96		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1750			1757		1770	3395		1770	3538	
Flt Permitted		0.98			0.96		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1750			1757		1770	3395		1770	3538	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	11	11	11	229	2	29	3	307	114	17	1073	3
RTOR Reduction (vph)	0	10	0	0	4	0	0	29	0	0	0	0
Lane Group Flow (vph)	0	23	0	0	256	0	3	392	0	17	1076	0
Turn Type	Split			Split			Prot			Prot		
Protected Phases	6	6		2	2		7	4		3	8	
Permitted Phases												
Actuated Green, G (s)		3.7			17.5		0.5	29.9		1.5	30.9	
Effective Green, g (s)		3.7			17.5		0.5	29.9		1.5	30.9	
Actuated g/C Ratio		0.05			0.26		0.01	0.44		0.02	0.45	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		94			448		13	1480		39	1594	
v/s Ratio Prot		c0.01			c0.15		0.00	0.12		c0.01	c0.30	
v/s Ratio Perm												
v/c Ratio		0.24			0.57		0.23	0.26		0.44	0.68	
Uniform Delay, d1		31.1			22.3		33.9	12.3		33.1	14.9	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.3			1.8		8.9	0.1		7.6	1.1	
Delay (s)		32.4			24.1		42.8	12.4		40.7	16.0	
Level of Service		C			C		D	B		D	B	
Approach Delay (s)		32.4			24.1			12.7			16.4	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM Average Control Delay	16.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	68.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	53.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	242	1772	0	0	1545	1043	649	24	1024	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	14	12	12	13	12	12	12
Total Lost time (s)	5.2	6.3			6.3	6.3	5.6	5.6	5.6			
Lane Util. Factor	0.97	0.95			*0.98	1.00	0.95	0.95	*0.95			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.96	1.00			
Satd. Flow (prot)	3433	3539			5476	1689	1681	1691	3109			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.96	1.00			
Satd. Flow (perm)	3433	3539			5476	1689	1681	1691	3109			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	255	1865	0	0	1626	1098	683	25	1078	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	434	0	0	14	0	0	0
Lane Group Flow (vph)	255	1865	0	0	1626	664	355	353	1064	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Actuated Green, G (s)	14.2	66.7			47.3	47.3	41.4	41.4	41.4			
Effective Green, g (s)	14.2	66.7			47.3	47.3	41.4	41.4	41.4			
Actuated g/C Ratio	0.12	0.56			0.39	0.39	0.34	0.34	0.34			
Clearance Time (s)	5.2	6.3			6.3	6.3	5.6	5.6	5.6			
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)	406	1967			2158	666	580	583	1073			
v/s Ratio Prot	0.07	c0.53			0.30		0.21	0.21				
v/s Ratio Perm						0.39			c0.34			
v/c Ratio	0.63	0.95			0.75	1.00	0.61	0.61	0.99			
Uniform Delay, d1	50.4	25.0			31.3	36.3	32.6	32.5	39.1			
Progression Factor	0.92	0.93			1.41	2.41	1.00	1.00	1.00			
Incremental Delay, d2	2.5	9.6			1.5	26.6	1.9	1.8	25.4			
Delay (s)	49.1	32.8			45.8	114.0	34.6	34.3	64.5			
Level of Service	D	C			D	F	C	C	E			
Approach Delay (s)		34.8			73.3			52.6			0.0	
Approach LOS		C			E			D			A	

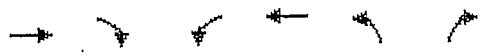
Intersection Summary			
HCM Average Control Delay	55.4	HCM Level of Service	E
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	11.9
Intersection Capacity Utilization	104.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	249	2569	259	66	2016	80	637	67	175	65	30	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	12	14
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91		*0.96	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1583	3433	5056		5096	1863	1583	1770	1863	1689
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1583	3433	5056		5096	1863	1583	1770	1863	1689
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	262	2704	273	69	2122	84	671	71	184	68	32	86
RTOR Reduction (vph)	0	0	59	0	3	0	0	0	154	0	0	81
Lane Group Flow (vph)	262	2704	214	69	2203	0	671	71	30	68	32	5
Turn Type	Prot		pm+ov	Prot			Prot		Perm	Prot		Prot
Protected Phases	7	4	5	3	8		5	2		1	6	6
Permitted Phases			4						2			
Actuated Green, G (s)	14.8	68.8	90.8	6.6	60.6		22.0	19.8	19.8	8.8	6.6	6.6
Effective Green, g (s)	14.8	68.8	90.8	6.6	60.6		22.0	19.8	19.8	8.8	6.6	6.6
Actuated g/C Ratio	0.12	0.57	0.76	0.06	0.50		0.18	0.16	0.16	0.07	0.06	0.06
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	423	2915	1251	189	2553		934	307	261	130	102	93
v/s Ratio Prot	c0.08	c0.53	0.03	0.02	0.44		c0.13	c0.04		0.04	0.02	0.00
v/s Ratio Perm			0.10						0.02			
v/c Ratio	0.62	0.93	0.17	0.37	0.86		0.72	0.23	0.12	0.52	0.31	0.05
Uniform Delay, d1	49.9	23.3	4.1	54.7	26.1		46.1	43.5	42.7	53.6	54.5	53.7
Progression Factor	1.06	0.84	0.93	1.06	1.17		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.2	3.3	0.0	1.0	3.5		2.7	0.4	0.2	3.8	1.8	0.2
Delay (s)	54.1	22.9	3.8	58.7	34.0		48.8	43.9	42.9	57.3	56.3	54.0
Level of Service	D	C	A	E	C		D	D	D	E	E	D
Approach Delay (s)		23.9			34.7			47.2			55.6	
Approach LOS		C			C			D			E	

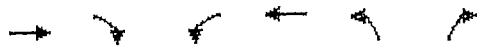
Intersection Summary			
HCM Average Control Delay	31.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	81.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



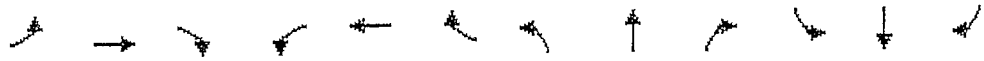
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	2633	221	172	2047	306	238
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	4.0	5.0	4.0	4.0
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	5085	1583	1770	5085	3433	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	5085	1583	1770	5085	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2862	240	187	2225	333	259
RTOR Reduction (vph)	0	58	0	0	0	181
Lane Group Flow (vph)	2862	182	187	2225	333	78
Turn Type		Prot	Prot			Perm
Protected Phases	4	4	3	8	2	
Permitted Phases						2
Actuated Green, G (s)	74.9	74.9	16.0	94.9	16.1	16.1
Effective Green, g (s)	74.9	74.9	16.0	94.9	16.1	16.1
Actuated g/C Ratio	0.62	0.62	0.13	0.79	0.13	0.13
Clearance Time (s)	5.0	5.0	4.0	5.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	3174	988	236	4021	461	212
v/s Ratio Prot	c0.56	0.11	c0.11	0.44	c0.10	
v/s Ratio Perm						0.05
v/c Ratio	0.90	0.18	0.79	0.55	0.72	0.37
Uniform Delay, d1	19.4	9.6	50.4	4.7	49.8	47.3
Progression Factor	0.54	0.10	1.12	0.69	1.00	1.00
Incremental Delay, d2	2.7	0.2	14.5	0.5	5.5	1.1
Delay (s)	13.2	1.2	70.8	3.7	55.3	48.4
Level of Service	B	A	E	A	E	D
Approach Delay (s)	12.2		8.9		52.3	
Approach LOS	B		A		D	

Intersection Summary			
HCM Average Control Delay	14.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	80.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	2687	184	184	1964	255	255
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	4.0	5.0	4.0	4.0
Lane Util. Factor	0.91	1.00	0.97	0.91	0.97	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	5085	1583	3433	5085	3433	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	5085	1583	3433	5085	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2921	200	200	2135	277	277
RTOR Reduction (vph)	0	45	0	0	0	132
Lane Group Flow (vph)	2921	155	200	2135	277	145
Turn Type		Prot	Prot			Perm
Protected Phases	4	4	3	8	2	
Permitted Phases						2
Actuated Green, G (s)	79.4	79.4	11.5	94.9	16.1	16.1
Effective Green, g (s)	79.4	79.4	11.5	94.9	16.1	16.1
Actuated g/C Ratio	0.66	0.66	0.10	0.79	0.13	0.13
Clearance Time (s)	5.0	5.0	4.0	5.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	3365	1047	329	4021	461	212
v/s Ratio Prot	c0.57	0.10	c0.06	0.42	0.08	
v/s Ratio Perm						c0.09
v/c Ratio	0.87	0.15	0.61	0.53	0.60	0.68
Uniform Delay, d1	16.1	7.6	52.1	4.5	48.9	49.5
Progression Factor	0.36	0.63	0.94	1.30	1.00	1.00
Incremental Delay, d2	1.5	0.1	2.3	0.4	2.2	8.7
Delay (s)	7.3	4.9	51.0	6.2	51.1	58.2
Level of Service	A	A	D	A	D	E
Approach Delay (s)	7.1			10.1	54.7	
Approach LOS	A			B	D	

Intersection Summary			
HCM Average Control Delay	12.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	75.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	520	1817	546	182	1046	181	672	455	325	151	178	244
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	14	12	12	12	12	12	12	12	12	12
Total Lost time (s)	4.0	5.0	5.0	4.0	5.0		4.0	5.0	5.0	4.0	5.0	
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91		0.97	0.91	1.00	0.97	0.91	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	5085	1689	3433	4973		3433	5085	1583	3433	4644	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	5085	1689	3433	4973		3433	5085	1583	3433	4644	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	547	1913	575	192	1101	191	707	479	342	159	187	257
RTOR Reduction (vph)	0	0	316	0	20	0	0	0	87	0	217	0
Lane Group Flow (vph)	547	1913	259	192	1273	0	707	479	255	159	227	0
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	22.4	54.0	54.0	10.4	42.0		26.0	28.2	28.2	9.4	11.6	
Effective Green, g (s)	22.4	54.0	54.0	10.4	42.0		26.0	28.2	28.2	9.4	11.6	
Actuated g/C Ratio	0.19	0.45	0.45	0.09	0.35		0.22	0.24	0.24	0.08	0.10	
Clearance Time (s)	4.0	5.0	5.0	4.0	5.0		4.0	5.0	5.0	4.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	641	2288	760	298	1741		744	1195	372	269	449	
v/s Ratio Prot	c0.16	c0.38		0.06	0.26		c0.21	0.09		0.05	0.05	
v/s Ratio Perm			0.15						c0.16			
v/c Ratio	0.85	0.84	0.34	0.64	0.73		0.95	0.40	0.68	0.59	0.51	
Uniform Delay, d1	47.2	29.1	21.4	53.0	34.1		46.4	38.8	41.8	53.4	51.5	
Progression Factor	1.18	1.16	4.47	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	5.6	1.9	0.6	4.7	2.7		21.6	0.2	5.2	3.5	0.9	
Delay (s)	61.1	35.6	96.3	57.7	36.8		68.0	39.0	47.0	56.9	52.4	
Level of Service	E	D	F	E	D		E	D	D	E	D	
Approach Delay (s)		51.7			39.5			54.2			53.6	
Approach LOS		D			D			D			D	

Intersection Summary				
HCM Average Control Delay	49.7	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.81			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	83.4%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	537	1031	133	0	0	0	0	924	442	385	654	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Lane Util. Factor	0.91	0.91	0.88					0.86		1.00	0.91	
Frt	1.00	1.00	0.85					0.95		1.00	1.00	
Flt Protected	0.95	1.00	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1610	3382	2787					6097		1770	5085	
Flt Permitted	0.95	1.00	1.00					1.00		0.16	1.00	
Satd. Flow (perm)	1610	3382	2787					6097		298	5085	
Peak-hour factor, PHF	0.95	0.95	0.95	0.90	0.90	0.90	0.90	0.95	0.95	0.95	0.95	0.90
Adj. Flow (vph)	565	1085	140	0	0	0	0	973	465	405	688	0
RTOR Reduction (vph)	0	0	89	0	0	0	0	43	0	0	0	0
Lane Group Flow (vph)	508	1142	51	0	0	0	0	1395	0	405	688	0
Turn Type	pm+pt		Perm							pm+pt		
Protected Phases	7	4						2		1	6	
Permitted Phases	4		4							6		
Actuated Green, G (s)	26.9	26.9	26.9					21.0		39.6	39.6	
Effective Green, g (s)	26.9	26.9	26.9					21.0		39.6	39.6	
Actuated g/C Ratio	0.36	0.36	0.36					0.28		0.53	0.53	
Clearance Time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	581	1221	1006					1719		447	2703	
v/s Ratio Prot	0.32	c0.34						0.23		c0.18	0.14	
v/s Ratio Perm			0.02							c0.30		
v/c Ratio	0.87	0.94	0.05					0.94dr		0.91	0.25	
Uniform Delay, d1	22.2	23.0	15.5					24.9		17.8	9.5	
Progression Factor	1.00	1.00	1.00					1.00		1.00	1.00	
Incremental Delay, d2	13.7	13.1	0.0					3.0		21.6	0.1	
Delay (s)	36.0	36.0	15.5					27.9		39.4	9.5	
Level of Service	D	D	B					C		D	A	
Approach Delay (s)		34.4			0.0			27.9			20.6	
Approach LOS		C			A			C			C	

Intersection Summary			
HCM Average Control Delay	28.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	74.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	100.2%	ICU Level of Service	G
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	5	5	4	57	12	10	12	792	103	15	452	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.97			0.98		1.00	0.98		1.00	1.00	
Flt Protected		0.98			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1767			1767		1770	3478		1770	3528	
Flt Permitted		0.98			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1767			1767		1770	3478		1770	3528	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	6	6	4	63	13	11	13	880	114	17	502	11
RTOR Reduction (vph)	0	4	0	0	3	0	0	7	0	0	1	0
Lane Group Flow (vph)	0	12	0	0	84	0	13	987	0	17	512	0
Turn Type	Split			Split			Prot			Prot		
Protected Phases	6	6		2	2		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)		0.8			7.0		0.8	25.5		0.8	25.5	
Effective Green, g (s)		0.8			7.0		0.8	25.5		0.8	25.5	
Actuated g/C Ratio		0.02			0.14		0.02	0.51		0.02	0.51	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		28			247		28	1770		28	1796	
v/s Ratio Prot		c0.01			c0.05		0.01	c0.28		c0.01	0.15	
v/s Ratio Perm												
v/c Ratio		0.43			0.34		0.46	0.56		0.61	0.29	
Uniform Delay, d1		24.4			19.5		24.4	8.4		24.5	7.1	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		10.3			0.8		11.7	0.4		32.0	0.1	
Delay (s)		34.7			20.3		36.1	8.8		56.5	7.2	
Level of Service		C			C		D	A		E	A	
Approach Delay (s)		34.7			20.3			9.2			8.7	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM Average Control Delay	9.9	HCM Level of Service	A
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	50.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	40.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

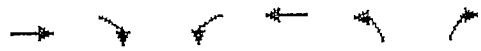
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	370	1802	0	0	1951	843	400	60	1300	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	6.3			6.3	6.3	5.6	5.6	5.6			
Lane Util. Factor	0.97	0.95			0.91	1.00	0.95	0.95	0.88			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.96	1.00			
Satd. Flow (prot)	3433	3539			5085	1583	1681	1706	2787			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.96	1.00			
Satd. Flow (perm)	3433	3539			5085	1583	1681	1706	2787			
Peak-hour factor, PHF	0.95	0.95	0.95	0.90	0.95	0.95	0.95	0.95	0.95	0.90	0.90	0.90
Adj. Flow (vph)	389	1897	0	0	2054	887	421	63	1368	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	444	0	0	7	0	0	0
Lane Group Flow (vph)	389	1897	0	0	2054	443	240	244	1361	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Actuated Green, G (s)	11.8	61.7			44.7	44.7	46.4	46.4	46.4			
Effective Green, g (s)	11.8	61.7			44.7	44.7	46.4	46.4	46.4			
Actuated g/C Ratio	0.10	0.51			0.37	0.37	0.39	0.39	0.39			
Clearance Time (s)	5.2	6.3			6.3	6.3	5.6	5.6	5.6			
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)	338	1820			1894	590	650	660	1078			
v/s Ratio Prot	0.11	c0.54			0.40		0.14	0.14				
v/s Ratio Perm						0.28			c0.49			
v/c Ratio	1.15	1.04			1.08	0.75	0.37	0.37	1.26			
Uniform Delay, d1	54.1	29.2			37.6	32.8	26.3	26.3	36.8			
Progression Factor	0.98	0.92			1.22	2.94	1.00	1.00	1.00			
Incremental Delay, d2	95.3	32.5			44.3	5.3	0.4	0.4	125.5			
Delay (s)	148.3	59.2			90.2	101.5	26.7	26.7	162.3			
Level of Service	F	E			F	F	C	C	F			
Approach Delay (s)		74.4			93.6			126.9			0.0	
Approach LOS		E			F			F			A	

Intersection Summary			
HCM Average Control Delay	96.1	HCM Level of Service	F
HCM Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	11.9
Intersection Capacity Utilization	105.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	1901	840	224	1951	124	290	30	62	152	70	400
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	14	12	12	12	12	12	14	12	12	14
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91		0.94	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1689	3433	5040		4990	1863	1689	1770	1863	1689
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1689	3433	5040		4990	1863	1689	1770	1863	1689
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	126	2001	884	236	2054	131	305	32	65	160	74	421
RTOR Reduction (vph)	0	0	108	0	5	0	0	0	60	0	0	184
Lane Group Flow (vph)	126	2001	776	236	2180	0	305	32	5	160	74	237
Turn Type	Prot		pm+ov	Prot			Prot		Perm	Prot		Over
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases			4						2			
Actuated Green, G (s)	22.0	67.6	82.2	13.0	58.6		14.6	8.6	8.6	14.8	8.8	22.0
Effective Green, g (s)	22.0	67.6	82.2	13.0	58.6		14.6	8.6	8.6	14.8	8.8	22.0
Actuated g/C Ratio	0.18	0.56	0.68	0.11	0.49		0.12	0.07	0.07	0.12	0.07	0.18
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	629	2865	1213	372	2461		607	134	121	218	137	310
v/s Ratio Prot	0.04	0.39	c0.08	0.07	c0.43		0.06	0.02		0.09	c0.04	c0.14
v/s Ratio Perm			0.38						0.00			
v/c Ratio	0.20	0.70	0.64	0.63	0.89		0.50	0.24	0.04	0.73	0.54	0.77
Uniform Delay, d1	41.5	18.9	10.6	51.2	27.7		49.3	52.6	51.9	50.7	53.6	46.5
Progression Factor	1.03	1.03	0.93	0.97	1.28		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.0	0.1	0.1	3.1	4.5		0.7	0.9	0.1	12.0	4.3	10.7
Delay (s)	42.7	19.6	10.0	52.5	39.9		50.0	53.5	52.0	62.7	57.9	57.3
Level of Service	D	B	A	D	D		D	D	D	E	E	E
Approach Delay (s)		17.7			41.1			50.6			58.7	
Approach LOS		B			D			D			E	

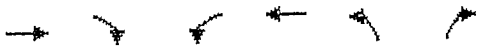
Intersection Summary			
HCM Average Control Delay	32.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	80.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1954	206	160	2128	90	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	5085	1583	1770	5085	3433	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	5085	1583	1770	5085	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2124	224	174	2313	98	76
RTOR Reduction (vph)	0	51	0	0	0	70
Lane Group Flow (vph)	2124	173	174	2313	98	6
Turn Type		Perm	Prot			Perm
Protected Phases	4		3	8	2	
Permitted Phases		4				2
Actuated Green, G (s)	82.1	82.1	17.1	103.2	8.8	8.8
Effective Green, g (s)	82.1	82.1	17.1	103.2	8.8	8.8
Actuated g/C Ratio	0.68	0.68	0.14	0.86	0.07	0.07
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	3479	1083	252	4373	252	116
v/s Ratio Prot	c0.42		c0.10	0.45	c0.03	
v/s Ratio Perm		0.11				0.00
v/c Ratio	0.61	0.16	0.69	0.53	0.39	0.05
Uniform Delay, d1	10.3	6.7	48.9	2.2	53.0	51.7
Progression Factor	0.43	0.16	1.05	1.18	1.00	1.00
Incremental Delay, d2	0.6	0.2	6.7	0.4	1.0	0.2
Delay (s)	5.0	1.3	58.3	2.9	54.0	51.9
Level of Service	A	A	E	A	D	D
Approach Delay (s)	4.7			6.8	53.1	
Approach LOS	A			A	D	

Intersection Summary			
HCM Average Control Delay	7.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	60.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



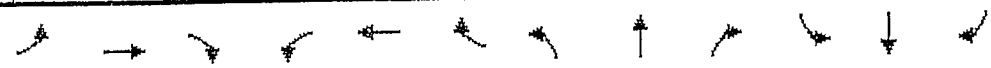
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1852	172	172	2213	75	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.91	1.00	0.97	0.91	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	5085	1583	3433	5085	1770	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	5085	1583	3433	5085	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2013	187	187	2405	82	82
RTOR Reduction (vph)	0	49	0	0	0	75
Lane Group Flow (vph)	2013	138	187	2405	82	7
Turn Type		Perm	Prot			Perm
Protected Phases	4		3	8	2	
Permitted Phases		4				2
Actuated Green, G (s)	85.3	85.3	11.8	101.1	10.9	10.9
Effective Green, g (s)	85.3	85.3	11.8	101.1	10.9	10.9
Actuated g/C Ratio	0.71	0.71	0.10	0.84	0.09	0.09
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	3615	1125	338	4284	161	144
v/s Ratio Prot	0.40		0.05	c0.47	c0.05	
v/s Ratio Perm		0.09				0.00
v/c Ratio	0.56	0.12	0.55	0.56	0.51	0.05
Uniform Delay, d1	8.3	5.5	51.6	2.8	52.0	49.8
Progression Factor	0.87	2.27	0.85	1.09	1.00	1.00
Incremental Delay, d2	0.5	0.2	0.8	0.2	2.5	0.1
Delay (s)	7.7	12.7	44.8	3.3	54.5	50.0
Level of Service	A	B	D	A	D	D
Approach Delay (s)	8.1			6.3	52.3	
Approach LOS	A			A	D	

Intersection Summary			
HCM Average Control Delay	8.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	54.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	260	1096	584	306	1783	150	299	159	102	170	531	482
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91		0.97	0.91	1.00	0.97	0.91	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	5085	1583	3433	5026		3433	5085	1583	3433	4722	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	5085	1583	3433	5026		3433	5085	1583	3433	4722	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.94	0.94	0.94	0.92	0.92	0.92
Adj. Flow (vph)	274	1154	615	322	1877	158	318	169	109	185	577	524
RTOR Reduction (vph)	0	0	168	0	8	0	0	0	80	0	112	0
Lane Group Flow (vph)	274	1154	447	322	2027	0	318	169	29	185	989	0
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	9.7	47.4	47.4	14.2	51.9		13.0	31.7	31.7	10.7	29.4	
Effective Green, g (s)	9.7	47.4	47.4	14.2	51.9		13.0	31.7	31.7	10.7	29.4	
Actuated g/C Ratio	0.08	0.39	0.39	0.12	0.43		0.11	0.26	0.26	0.09	0.24	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	278	2009	625	406	2174		372	1343	418	306	1157	
v/s Ratio Prot	c0.08	0.23		c0.09	c0.40		c0.09	0.03		0.05	c0.21	
v/s Ratio Perm			0.28						0.02			
v/c Ratio	0.99	0.57	0.72	0.79	0.93		0.85	0.13	0.07	0.60	1.05dr	
Uniform Delay, d1	55.1	28.4	30.6	51.5	32.4		52.6	33.6	33.1	52.6	43.3	
Progression Factor	1.14	0.93	0.92	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	45.4	1.0	5.9	10.2	8.8		17.2	0.0	0.1	3.4	6.4	
Delay (s)	108.0	27.4	33.9	61.7	41.2		69.7	33.6	33.2	56.0	49.6	
Level of Service	F	C	C	E	D		E	C	C	E	D	
Approach Delay (s)		40.2			44.0			52.8			50.5	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	44.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	88.1%	ICU Level of Service	E
Analysis Period (min)	15		

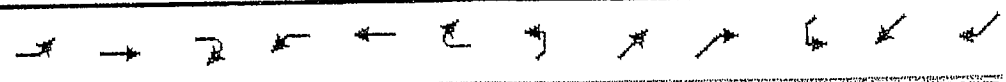
dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	800	930	310	0	0	0	0	531	320	160	1490	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	14	12	12	12	12	12	12	12	12	12
Total Lost time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Lane Util. Factor	0.91	0.91	0.88					0.86		1.00	0.91	
Frt	1.00	1.00	0.85					0.94		1.00	1.00	
Flt Protected	0.95	0.99	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1610	3356	2972					6046		1770	5085	
Flt Permitted	0.95	0.99	1.00					1.00		0.95	1.00	
Satd. Flow (perm)	1610	3356	2972					6046		1770	5085	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	889	1033	344	0	0	0	0	590	356	178	1656	0
RTOR Reduction (vph)	0	0	8	0	0	0	0	111	0	0	0	0
Lane Group Flow (vph)	622	1300	336	0	0	0	0	835	0	178	1656	0
Turn Type	Prot		Perm							Prot		
Protected Phases	7	4						2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	35.1	35.1	35.1					18.6		12.7	35.3	
Effective Green, g (s)	35.1	35.1	35.1					18.6		12.7	35.3	
Actuated g/C Ratio	0.45	0.45	0.45					0.24		0.16	0.45	
Clearance Time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	721	1502	1331					1434		287	2290	
v/s Ratio Prot	0.39	c0.39						0.14		0.10	c0.33	
v/s Ratio Perm			0.11									
v/c Ratio	0.86	0.87	0.25					0.58		0.62	0.72	
Uniform Delay, d1	19.5	19.5	13.5					26.5		30.6	17.6	
Progression Factor	1.00	1.00	1.00					1.00		1.00	1.00	
Incremental Delay, d2	10.4	5.5	0.1					0.6		4.1	1.2	
Delay (s)	29.9	25.0	13.6					27.1		34.7	18.7	
Level of Service	C	C	B					C		C	B	
Approach Delay (s)		24.6			0.0			27.1			20.3	
Approach LOS		C			A			C			C	

Intersection Summary			
HCM Average Control Delay	23.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	78.4	Sum of lost time (s)	8.0
Intersection Capacity Utilization	103.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	10	10	10	202	2	25	3	271	101	15	947	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.96			0.99		1.00	0.96		1.00	1.00	
Flt Protected		0.98			0.96		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1750			1758		1770	3395		1770	3538	
Flt Permitted		0.98			0.96		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1750			1758		1770	3395		1770	3538	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	11	11	11	224	2	28	3	301	112	17	1052	3
RTOR Reduction (vph)	0	10	0	0	4	0	0	29	0	0	0	0
Lane Group Flow (vph)	0	23	0	0	250	0	3	384	0	17	1055	0
Turn Type	Split			Split			Prot			Prot		
Protected Phases	6	6		2	2		7	4		3	8	
Permitted Phases												
Actuated Green, G (s)		3.7			17.0		0.5	30.0		0.6	30.1	
Effective Green, g (s)		3.7			17.0		0.5	30.0		0.6	30.1	
Actuated g/C Ratio		0.05			0.25		0.01	0.45		0.01	0.45	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		96			444		13	1513		16	1582	
v/s Ratio Prot		c0.01			c0.14		0.00	0.11		c0.01	c0.30	
v/s Ratio Perm												
v/c Ratio		0.24			0.56		0.23	0.25		1.06	0.67	
Uniform Delay, d1		30.4			21.9		33.2	11.7		33.4	14.7	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.3			1.6		8.9	0.1		246.4	1.1	
Delay (s)		31.7			23.6		42.1	11.7		279.8	15.7	
Level of Service		C			C		D	B		F	B	
Approach Delay (s)		31.7			23.6			12.0			19.9	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM Average Control Delay	18.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	67.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	52.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

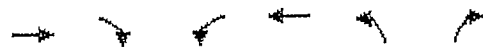
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	750	1891	0	0	1697	753	630	30	1072	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	6.3			6.3	6.3	5.6	5.6	5.6			
Lane Util. Factor	0.97	0.95			0.91	1.00	0.95	0.95	0.88			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	0.96	1.00			
Satd. Flow (prot)	3433	3539			5085	1583	1681	1693	2787			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	0.96	1.00			
Satd. Flow (perm)	3433	3539			5085	1583	1681	1693	2787			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	789	1991	0	0	1786	793	663	32	1128	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	396	0	0	12	0	0	0
Lane Group Flow (vph)	789	1991	0	0	1786	397	345	350	1116	0	0	0
Turn Type	Prot					Perm	Split		Perm			
Protected Phases	5	2			6		8	8				
Permitted Phases						6			8			
Actuated Green, G (s)	21.8	69.7			42.7	42.7	38.4	38.4	38.4			
Effective Green, g (s)	21.8	69.7			42.7	42.7	38.4	38.4	38.4			
Actuated g/C Ratio	0.18	0.58			0.36	0.36	0.32	0.32	0.32			
Clearance Time (s)	5.2	6.3			6.3	6.3	5.6	5.6	5.6			
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)	624	2056			1809	563	538	542	892			
v/s Ratio Prot	c0.23	c0.56			0.35		0.21	0.21				
v/s Ratio Perm						0.25			c0.40			
v/c Ratio	1.26	0.97			0.99	0.71	0.64	0.65	1.25			
Uniform Delay, d1	49.1	24.1			38.4	33.3	34.9	35.0	40.8			
Progression Factor	0.96	0.97			0.89	2.09	1.00	1.00	1.00			
Incremental Delay, d2	130.4	12.8			11.2	3.2	2.6	2.6	122.5			
Delay (s)	177.8	36.1			45.4	72.8	37.5	37.6	163.3			
Level of Service	F	D			D	E	D	D	F			
Approach Delay (s)		76.3			53.8			115.4			0.0	
Approach LOS		E			D			F			A	

Intersection Summary			
HCM Average Control Delay	78.2	HCM Level of Service	E
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	10.8
Intersection Capacity Utilization	100.5%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	250	2700	300	71	1943	201	680	70	187	77	40	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	14	12	12	12	12	12	14	12	12	14
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91		*0.96	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	5085	1689	3433	5014		5096	1863	1689	1770	1863	1689
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	5085	1689	3433	5014		5096	1863	1689	1770	1863	1689
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	263	2842	316	75	2045	212	716	74	197	81	42	211
RTOR Reduction (vph)	0	0	93	0	10	0	0	0	152	0	0	73
Lane Group Flow (vph)	263	2842	223	75	2247	0	716	74	45	81	42	138
Turn Type	Prot		pm+ov	Prot			Prot		Perm	Prot		Perm
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	11.7	64.4	84.2	5.4	58.1		19.8	24.7	24.7	9.5	14.4	14.4
Effective Green, g (s)	11.7	64.4	84.2	5.4	58.1		19.8	24.7	24.7	9.5	14.4	14.4
Actuated g/C Ratio	0.10	0.54	0.70	0.05	0.48		0.16	0.21	0.21	0.08	0.12	0.12
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	335	2729	1241	154	2428		841	383	348	140	224	203
v/s Ratio Prot	c0.08	c0.56	0.03	0.02	0.45		c0.14	0.04		0.05	0.02	
v/s Ratio Perm			0.10						0.03			c0.08
v/c Ratio	0.79	1.04	0.18	0.49	0.93		0.85	0.19	0.13	0.58	0.19	0.68
Uniform Delay, d1	52.9	27.8	6.1	55.9	28.9		48.7	39.4	38.9	53.3	47.5	50.6
Progression Factor	0.99	1.05	1.58	0.96	0.82		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.4	22.4	0.0	2.0	6.5		8.3	0.2	0.2	5.7	0.4	8.7
Delay (s)	55.6	51.5	9.7	55.5	30.3		57.0	39.7	39.1	59.0	47.9	59.3
Level of Service	E	D	A	E	C		E	D	D	E	D	E
Approach Delay (s)		47.9			31.1			52.1			57.8	
Approach LOS		D			C			D			E	

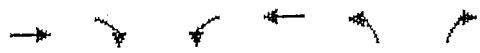
Intersection Summary				
HCM Average Control Delay	43.4	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.95			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0	
Intersection Capacity Utilization	85.1%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	2556	214	166	2000	302	235
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	4.0	5.0	4.0	4.0
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	5085	1583	1770	5085	3433	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	5085	1583	1770	5085	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2778	233	180	2174	328	255
RTOR Reduction (vph)	0	57	0	0	0	182
Lane Group Flow (vph)	2778	176	180	2174	328	73
Turn Type		Prot	Prot			Perm
Protected Phases	4	4	3	8	2	
Permitted Phases						2
Actuated Green, G (s)	75.3	75.3	15.7	95.0	16.0	16.0
Effective Green, g (s)	75.3	75.3	15.7	95.0	16.0	16.0
Actuated g/C Ratio	0.63	0.63	0.13	0.79	0.13	0.13
Clearance Time (s)	5.0	5.0	4.0	5.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	3191	993	232	4026	458	211
v/s Ratio Prot	c0.55	0.11	c0.10	0.43	c0.10	
v/s Ratio Perm						0.05
v/c Ratio	0.87	0.18	0.78	0.54	0.72	0.35
Uniform Delay, d1	18.3	9.4	50.4	4.5	49.8	47.2
Progression Factor	1.10	2.34	1.18	0.80	1.00	1.00
Incremental Delay, d2	1.3	0.1	12.6	0.4	5.3	1.0
Delay (s)	21.5	22.0	72.0	4.1	55.1	48.2
Level of Service	C	C	E	A	E	D
Approach Delay (s)	21.5			9.3	52.1	
Approach LOS	C			A	D	

Intersection Summary			
HCM Average Control Delay	19.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	78.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



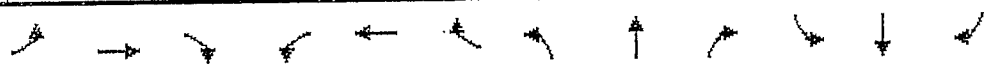
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	2613	178	178	1914	252	252
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	4.0	5.0	4.0	4.0
Lane Util. Factor	0.91	1.00	0.97	0.91	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	5085	1583	3433	5085	1770	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	5085	1583	3433	5085	1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2840	193	193	2080	274	274
RTOR Reduction (vph)	0	44	0	0	0	174
Lane Group Flow (vph)	2840	149	193	2080	274	100
Turn Type		Prot	Prot			Perm
Protected Phases	4	4	3	8	2	
Permitted Phases						2
Actuated Green, G (s)	72.8	72.8	12.0	88.8	22.2	22.2
Effective Green, g (s)	72.8	72.8	12.0	88.8	22.2	22.2
Actuated g/C Ratio	0.61	0.61	0.10	0.74	0.18	0.18
Clearance Time (s)	5.0	5.0	4.0	5.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	3085	960	343	3763	327	293
v/s Ratio Prot	c0.56	0.09	0.06	c0.41	c0.15	
v/s Ratio Perm						0.06
v/c Ratio	0.92	0.16	0.56	0.55	0.84	0.34
Uniform Delay, d1	21.0	10.3	51.5	6.9	47.2	42.6
Progression Factor	0.63	0.96	1.07	0.92	1.00	1.00
Incremental Delay, d2	3.1	0.2	1.0	0.3	16.8	0.7
Delay (s)	16.5	10.1	55.9	6.6	64.0	43.3
Level of Service	B	B	E	A	E	D
Approach Delay (s)	16.1			10.7	53.6	
Approach LOS	B			B	D	

Intersection Summary			
HCM Average Control Delay	17.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	80.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	563	1947	618	201	1213	190	648	784	338	190	244	327
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	14	12	12	12	12	12	14	12	12	12
Total Lost time (s)	4.0	5.0	5.0	4.0	5.0		4.0	5.0	5.0	4.0	5.0	
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91		0.97	0.91	1.00	*0.98	*0.95	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3433	5085	1689	3433	4982		3433	5085	1689	3468	4853	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3433	5085	1689	3433	4982		3433	5085	1689	3468	4853	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	593	2049	651	212	1277	200	682	825	356	200	257	344
RTOR Reduction (vph)	0	0	315	0	17	0	0	0	92	0	205	0
Lane Group Flow (vph)	593	2049	336	212	1460	0	682	825	264	200	396	0
Turn Type	Prot		Perm	Prot			Prot		Perm	Prot		
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	22.7	53.0	53.0	9.0	39.3		25.6	30.4	30.4	9.6	14.4	
Effective Green, g (s)	22.7	53.0	53.0	9.0	39.3		25.6	30.4	30.4	9.6	14.4	
Actuated g/C Ratio	0.19	0.44	0.44	0.08	0.33		0.21	0.25	0.25	0.08	0.12	
Clearance Time (s)	4.0	5.0	5.0	4.0	5.0		4.0	5.0	5.0	4.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	649	2246	746	257	1632		732	1288	428	277	582	
v/s Ratio Prot	c0.17	c0.40		0.06	0.29		c0.20	c0.16		0.06	0.08	
v/s Ratio Perm			0.20						0.16			
v/c Ratio	0.91	0.91	0.45	0.82	0.89		0.93	0.64	0.62	0.72	0.89dr	
Uniform Delay, d1	47.7	31.3	23.4	54.7	38.4		46.3	39.9	39.7	53.9	50.6	
Progression Factor	1.18	1.10	2.82	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	10.2	3.9	1.0	18.9	8.0		18.6	1.1	2.6	8.9	3.3	
Delay (s)	66.5	38.4	66.8	73.7	46.4		64.9	41.0	42.3	62.8	53.9	
Level of Service	E	D	E	E	D		E	D	D	E	D	
Approach Delay (s)		49.1			49.8			50.0			56.1	
Approach LOS		D			D			D			E	

Intersection Summary				
HCM Average Control Delay	50.2	HCM Level of Service	D	
HCM Volume to Capacity ratio	0.84			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	89.3%	ICU Level of Service	E	
Analysis Period (min)	15			

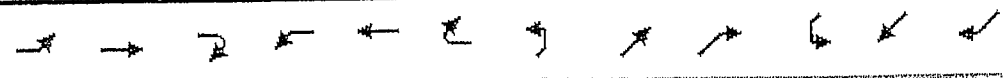
dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	740	1207	200	0	0	0	0	945	1000	384	1314	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Lane Util. Factor	0.91	*0.98	0.88					0.86		1.00	*0.97	
Frt	1.00	1.00	0.85					0.92		1.00	1.00	
Flt Protected	0.95	1.00	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1610	3636	2787					5914		1770	5421	
Flt Permitted	0.95	1.00	1.00					1.00		0.12	1.00	
Satd. Flow (perm)	1610	3636	2787					5914		219	5421	
Peak-hour factor, PHF	0.95	0.95	0.95	0.90	0.90	0.90	0.90	0.95	0.95	0.95	0.95	0.90
Adj. Flow (vph)	779	1271	211	0	0	0	0	995	1053	404	1383	0
RTOR Reduction (vph)	0	0	38	0	0	0	0	20	0	0	0	0
Lane Group Flow (vph)	662	1388	173	0	0	0	0	2028	0	404	1383	0
Turn Type	pm+pt		Perm							pm+pt		
Protected Phases	7	4						2		1	6	
Permitted Phases	4		4							6		
Actuated Green, G (s)	33.0	33.0	33.0					30.0		48.0	48.0	
Effective Green, g (s)	33.0	33.0	33.0					30.0		48.0	48.0	
Actuated g/C Ratio	0.37	0.37	0.37					0.34		0.54	0.54	
Clearance Time (s)	4.0	4.0	4.0					4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	597	1348	1033					1993		362	2924	
v/s Ratio Prot	c0.41	0.38						0.34		c0.18	0.26	
v/s Ratio Perm			0.06							c0.43		
v/c Ratio	1.11	1.03	0.17					1.87dr		1.12	0.47	
Uniform Delay, d1	28.0	28.0	18.8					29.5		25.8	12.7	
Progression Factor	1.00	1.00	1.00					1.00		1.00	1.00	
Incremental Delay, d2	70.4	32.4	0.1					24.7		82.5	0.1	
Delay (s)	98.4	60.4	18.9					54.2		108.3	12.8	
Level of Service	F	E	B					D		F	B	
Approach Delay (s)		67.7			0.0			54.2			34.4	
Approach LOS		E			A			D			C	

Intersection Summary			
HCM Average Control Delay	53.4	HCM Level of Service	D
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	89.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	117.1%	ICU Level of Service	H
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group



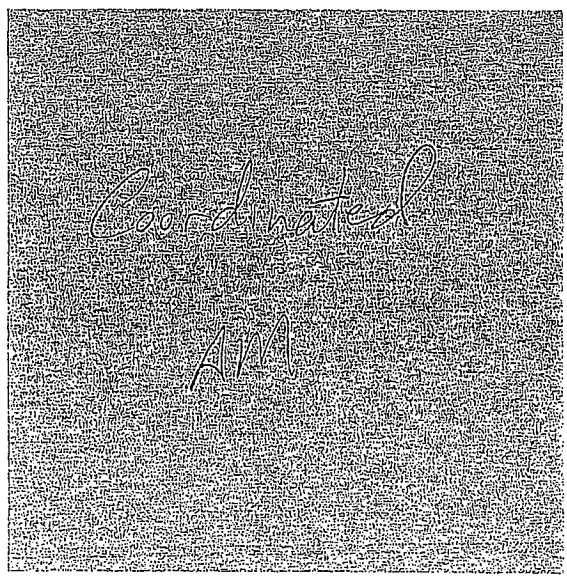
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	5	5	4	56	12	10	12	777	101	15	444	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	0.95		1.00	0.95	
Frt		0.97			0.98		1.00	0.98		1.00	1.00	
Flt Protected		0.98			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1767			1767		1770	3478		1770	3528	
Flt Permitted		0.98			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1767			1767		1770	3478		1770	3528	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	6	6	4	62	13	11	13	863	112	17	493	11
RTOR Reduction (vph)	0	4	0	0	3	0	0	6	0	0	1	0
Lane Group Flow (vph)	0	12	0	0	83	0	13	969	0	17	503	0
Turn Type	Split			Split			Prot			Prot		
Protected Phases	6	6		2	2		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)		0.8			7.2		0.8	25.0		0.8	25.0	
Effective Green, g (s)		0.8			7.2		0.8	25.0		0.8	25.0	
Actuated g/C Ratio		0.02			0.14		0.02	0.50		0.02	0.50	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		28			255		28	1746		28	1771	
v/s Ratio Prot		c0.01			c0.05		0.01	c0.28		c0.01	0.14	
v/s Ratio Perm												
v/c Ratio		0.43			0.32		0.46	0.55		0.61	0.28	
Uniform Delay, d1		24.3			19.1		24.3	8.6		24.3	7.2	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		10.3			0.7		11.7	0.4		32.0	0.1	
Delay (s)		34.6			19.9		36.0	8.9		56.3	7.3	
Level of Service		C			B		D	A		E	A	
Approach Delay (s)		34.6			19.9			9.3			8.9	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM Average Control Delay	10.0	HCM Level of Service	A
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	49.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	39.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	389	1897	2054	887	240	244	1368
v/c Ratio	1.15	1.04	1.08	0.86	0.37	0.37	1.26
Control Delay	142.3	59.7	89.7	27.5	28.4	28.4	157.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	142.3	59.7	89.7	27.5	28.4	28.4	157.6
Queue Length 50th (ft)	~185	~845	~663	402	137	141	~756
Queue Length 95th (ft)	m#285	#975	#762	m480	212	214	#908
Internal Link Dist (ft)		584	1026			911	
Turn Bay Length (ft)	300			850			
Base Capacity (vph)	338	1820	1894	1034	650	660	1085
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.15	1.04	1.08	0.86	0.37	0.37	1.26

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	126	2001	884	236	2185	305	32	65	160	74	421
v/c Ratio	0.20	0.71	0.71	0.57	0.88	0.50	0.21	0.34	0.72	0.47	0.89
Control Delay	45.6	21.7	5.6	54.9	36.6	51.4	52.8	16.7	69.1	61.5	46.0
Queue Delay	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.6	21.7	5.6	54.9	37.1	51.4	52.8	16.7	69.1	61.5	46.0
Queue Length 50th (ft)	42	450	212	89	495	79	24	0	120	56	166
Queue Length 95th (ft)	m41	m402	m148	#149	547	106	53	42	193	103	#431
Internal Link Dist (ft)		1026			489		3060			1111	
Turn Bay Length (ft)	200		225	225		300			150		
Base Capacity (vph)	639	2826	1281	413	2476	790	295	305	254	267	473
Starvation Cap Reductn	0	0	0	0	66	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.71	0.69	0.57	0.91	0.39	0.11	0.21	0.63	0.28	0.89

Intersection Summary

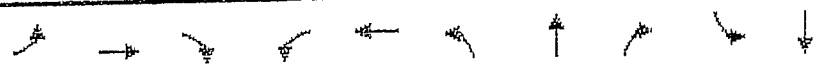
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	2124	224	174	2313	98	76
v/c Ratio	0.61	0.20	0.69	0.53	0.39	0.41
Control Delay	3.8	0.3	63.0	2.7	57.1	18.1
Queue Delay	0.1	0.0	0.0	0.4	0.0	0.0
Total Delay	3.9	0.3	63.0	3.2	57.1	18.1
Queue Length 50th (ft)	59	1	130	116	38	0
Queue Length 95th (ft)	74	0	196	161	64	48
Internal Link Dist (ft)	489			505	388	
Turn Bay Length (ft)		200	250			
Base Capacity (vph)	3484	1141	339	4373	486	289
Starvation Cap Reductn	247	0	0	1328	0	0
Spillback Cap Reductn	0	0	0	426	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.66	0.20	0.51	0.76	0.20	0.26

Intersection Summary

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	2013	187	187	2405	82	82
v/c Ratio	0.56	0.16	0.55	0.56	0.51	0.38
Control Delay	4.0	0.6	57.5	3.6	62.3	15.4
Queue Delay	0.0	0.0	0.0	0.4	0.0	0.0
Total Delay	4.0	0.6	57.5	4.0	62.3	15.4
Queue Length 50th (ft)	60	0	72	150	62	0
Queue Length 95th (ft)	95	12	107	226	111	47
Internal Link Dist (ft)	505			583	209	
Turn Bay Length (ft)		200	150			
Base Capacity (vph)	3613	1174	430	4284	310	345
Starvation Cap Reductn	127	0	0	1090	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.16	0.43	0.75	0.26	0.24

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	274	1154	615	322	2035	318	169	109	185	1101
v/c Ratio	0.99	0.57	0.77	0.80	0.93	0.86	0.13	0.22	0.60	1.05dr
Control Delay	112.1	28.0	22.6	66.5	41.1	74.8	34.1	7.5	61.0	45.8
Queue Delay	0.0	0.0	1.2	0.0	4.4	0.0	0.0	0.0	0.0	0.0
Total Delay	112.1	28.0	23.8	66.5	45.5	74.8	34.1	7.5	61.0	45.8
Queue Length 50th (ft)	~124	171	132	126	535	126	36	0	71	~262
Queue Length 95th (ft)	#216	264	261	#188	#618	#203	56	45	110	320
Internal Link Dist (ft)		583			574		823			805
Turn Bay Length (ft)	300		365	275		300		250	300	
Base Capacity (vph)	277	2014	794	418	2185	372	1341	498	332	1292
Starvation Cap Reductn	0	0	56	0	113	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.99	0.57	0.83	0.77	0.98	0.85	0.13	0.22	0.56	0.85

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	789	1991	1786	793	345	350	1128
v/c Ratio	0.89	0.90	1.10	0.95	0.74	0.74	1.42
Control Delay	51.9	25.3	87.6	37.0	50.1	50.4	230.7
Queue Delay	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Total Delay	51.9	25.5	87.6	37.0	50.1	50.4	230.7
Queue Length 50th (ft)	286	666	~613	443	255	260	~667
Queue Length 95th (ft)	#372	788	m#701	m#539	374	380	#815
Internal Link Dist (ft)		584	1026			911	
Turn Bay Length (ft)	400			850			
Base Capacity (vph)	938	2203	1631	838	468	471	793
Starvation Cap Reductn	0	15	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.91	1.10	0.95	0.74	0.74	1.42

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Coordinated PM

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	263	2842	316	75	2257	716	74	197	81	42	211
v/c Ratio	0.78	1.00	0.25	0.39	0.90	0.94	0.20	0.42	0.51	0.19	0.81
Control Delay	56.8	37.1	1.6	54.7	31.3	71.0	43.1	9.9	62.5	47.7	53.6
Queue Delay	0.0	0.0	0.0	0.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.8	37.1	1.6	54.7	34.9	71.0	43.1	9.9	62.5	47.7	53.6
Queue Length 50th (ft)	103	~899	12	26	407	192	49	5	61	29	98
Queue Length 95th (ft)	m#104	m#820	m11	m51	442	#268	95	71	109	63	#184
Internal Link Dist (ft)		1026			509		3060			1111	
Turn Bay Length (ft)	175		225	175		300			150		
Base Capacity (vph)	339	2839	1252	190	2508	764	368	464	251	279	307
Starvation Cap Reductn	0	0	0	0	184	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.78	1.00	0.25	0.39	0.97	0.94	0.20	0.42	0.32	0.15	0.69

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	2778	233	180	2174	328	255
v/c Ratio	0.87	0.22	0.78	0.54	0.72	0.65
Control Delay	22.8	9.1	76.6	3.5	59.1	19.0
Queue Delay	0.4	0.0	0.0	0.0	0.0	0.0
Total Delay	23.2	9.1	76.6	3.6	59.1	19.1
Queue Length 50th (ft)	429	54	149	139	126	31
Queue Length 95th (ft)	m439	m58	#243	150	174	117
Internal Link Dist (ft)	509			519	388	
Turn Bay Length (ft)		200	250			
Base Capacity (vph)	3194	1051	253	4027	515	416
Starvation Cap Reductn	105	0	0	168	0	0
Spillback Cap Reductn	37	0	0	0	0	2
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.90	0.22	0.71	0.56	0.64	0.62

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
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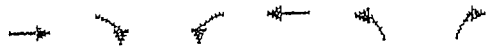
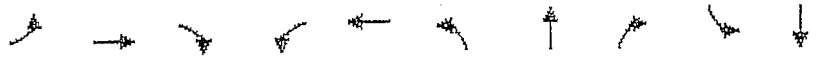


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	2840	193	193	2080	274	274
v/c Ratio	0.84	0.18	0.59	0.52	0.60	0.80
Control Delay	9.8	2.9	45.6	6.6	54.2	38.8
Queue Delay	0.6	0.0	0.0	0.2	0.0	0.2
Total Delay	10.4	2.9	45.6	6.7	54.2	38.9
Queue Length 50th (ft)	201	12	75	213	105	92
Queue Length 95th (ft)	211	m14	m85	m235	142	185
Internal Link Dist (ft)	519			549	209	
Turn Bay Length (ft)		200	150			
Base Capacity (vph)	3378	1096	351	4029	601	404
Starvation Cap Reductn	41	0	0	776	0	0
Spillback Cap Reductn	207	0	0	0	0	6
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.90	0.18	0.55	0.64	0.46	0.69

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	593	2049	651	212	1477	682	825	356	200	601
v/c Ratio	0.92	0.91	0.64	0.84	0.90	0.93	0.64	0.72	0.72	0.87dr
Control Delay	66.6	40.1	12.0	83.7	46.6	66.6	42.1	35.0	69.5	38.6
Queue Delay	0.0	2.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.6	42.8	12.3	83.7	46.6	66.6	42.1	35.0	69.5	38.6
Queue Length 50th (ft)	253	472	120	~92	400	268	205	164	79	101
Queue Length 95th (ft)	m#332	513	m222	#173	#497	#376	251	276	#127	146
Internal Link Dist (ft)		549			574		830			805
Turn Bay Length (ft)	216		365	275		300		250	300	
Base Capacity (vph)	651	2246	1014	251	1646	744	1364	515	280	822
Starvation Cap Reductn	0	118	65	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.91	0.96	0.69	0.84	0.90	0.92	0.60	0.69	0.71	0.73

Intersection Summary

~: Volume exceeds capacity, queue is theoretically infinite.
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Queue shown is maximum after two cycles.

m: Volume for 95th percentile queue is metered by upstream signal.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

URBAN SYSTEMS ASSOCIATES, INC.
PLANNING & TRAFFIC ENGINEERING, MARKETING & PROJECT SUPPORT
CONSULTANTS TO INDUSTRY AND GOVERNMENT

E-MEMO

ATTN: Bob Little – Kilroy Realty

E-Mail: rlittle@kilroyrealty.com

FROM: Andrew P. Schlaefli

TOTAL PAGES (Including Cover): 6

DATE: August 30, 2011 TIME: 3:16:03 PM JOB NUMBER: 002407

SUBJECT: Del Mar Heights Road South Side Widening

As requested we have field checked and determined that widening along the south side of Del Mar Heights Road is not feasible because of:

A. Impacts to the gas station.

B. Existing office building proximity.

C. Grade differences.

Following is a discussion of a series of photos we took to illustrate the problems with widening.

Photo Page 1 looking west along the South Side of Del Mar Heights Road to the I-5 Northbound ramp. As shown in this photo, widening of the area west of the gas station to the ramps is feasible.

Photo Page 2 looking East along the South Side of Del Mar Heights Road to the Shell Station. As shown, a drainage channel in Caltrans R/W and the Shell Station limit the ability to widen.

Photo Page 3 & 4 looking East along the South Side of Del Mar Heights Road. Shown are the exit driveway, pump islands and landscaping adjacent to the station. The distance from the curb face to the drive aisle curb is 15 feet. From the drive aisle curb to the pump island curb the distance is 20 feet.

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Photo Page 5 looking West at the entrance driveway. As shown, transformers and service cabinets for electrical (white) and irrigation (green) are located at this drive. These utilities service the service station and are located on their property.

Photo Pages 6 & 7 South Side of Del Mar Heights Road looking west and east respectively. These photos show the grade difference and proximation of buildings just east of the Shell Station property. The building is located 35 feet from the curb face of Del Mar Heights Road.

Photo Pages 8 & 9 South side of Del Mar Heights Road looking east and west respectively at the right turn lane to High Bluff. The building is located 30 feet from the curb face of the turn lane.

It is clear that a building set back variance would be required to accommodate a street widening to add another lane. The service station would be severely impacted. Photo pages 10 and 11 show the full tank location and filler access covers. With a widening, the tanks may be too close to the roadway and the entire service station may have to be acquired.

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Photo Page 1

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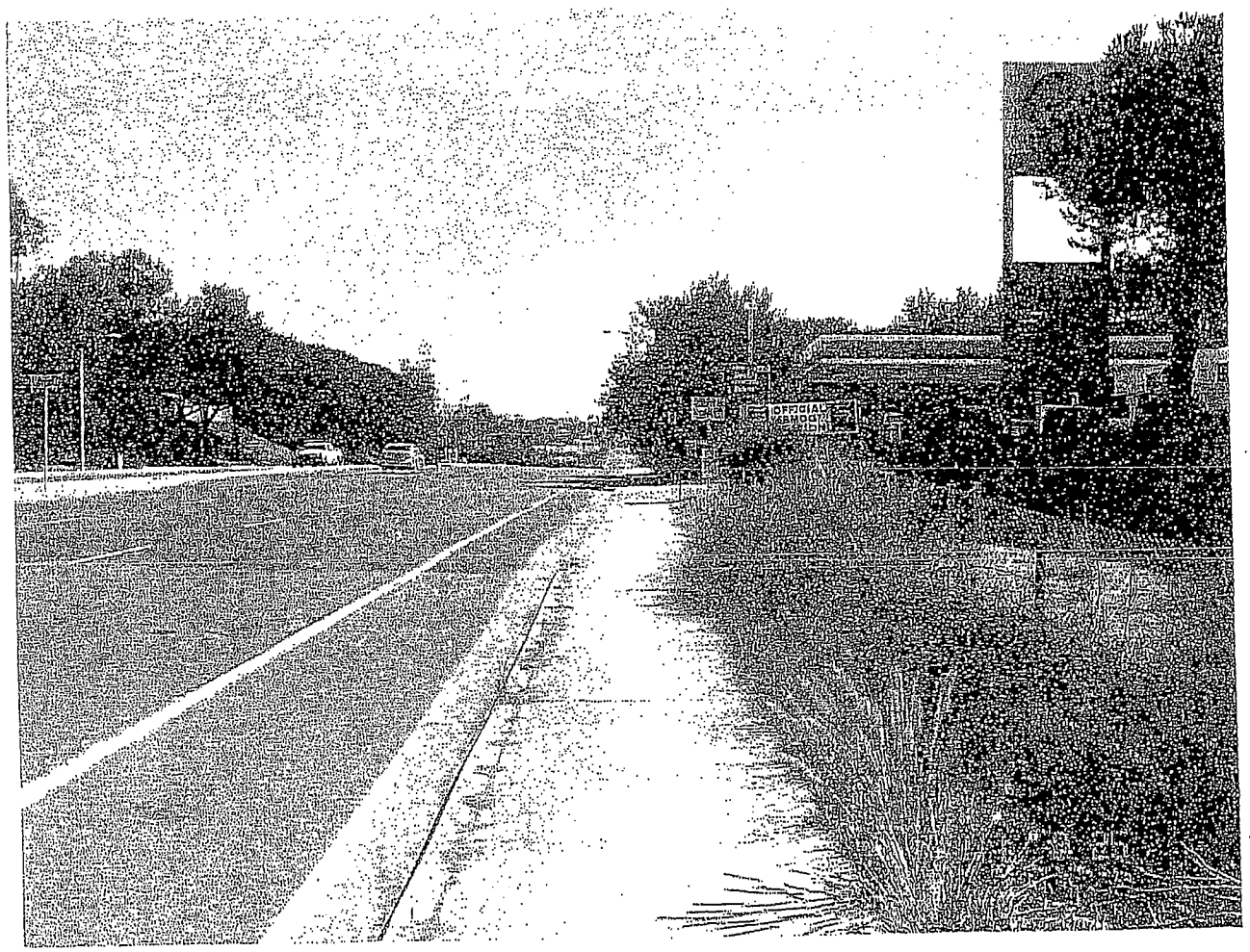

Photo Page 2

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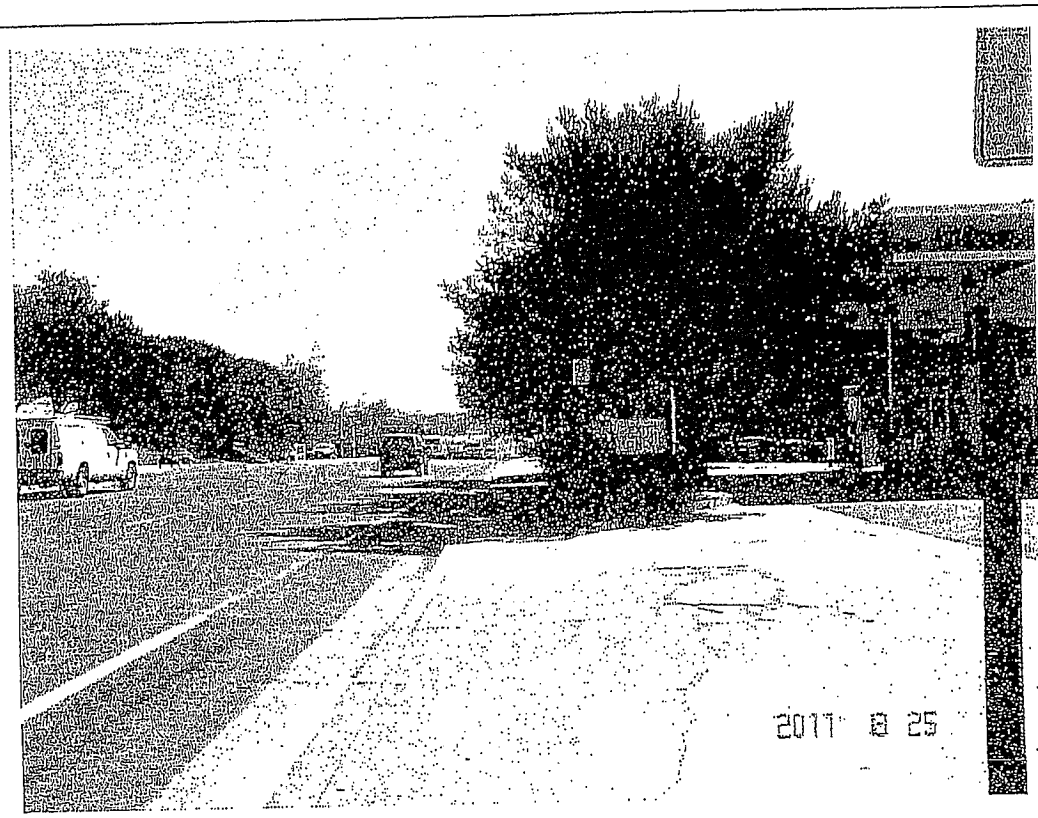

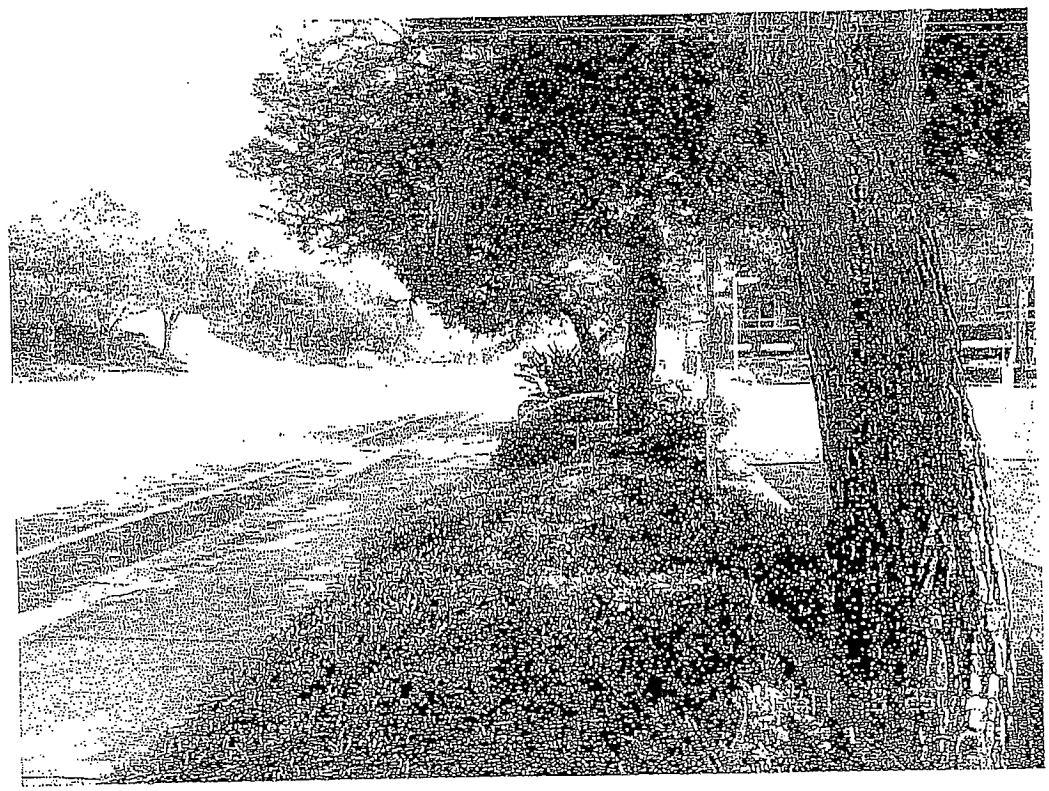

Photo Page 3 & 4

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Photo Page 5

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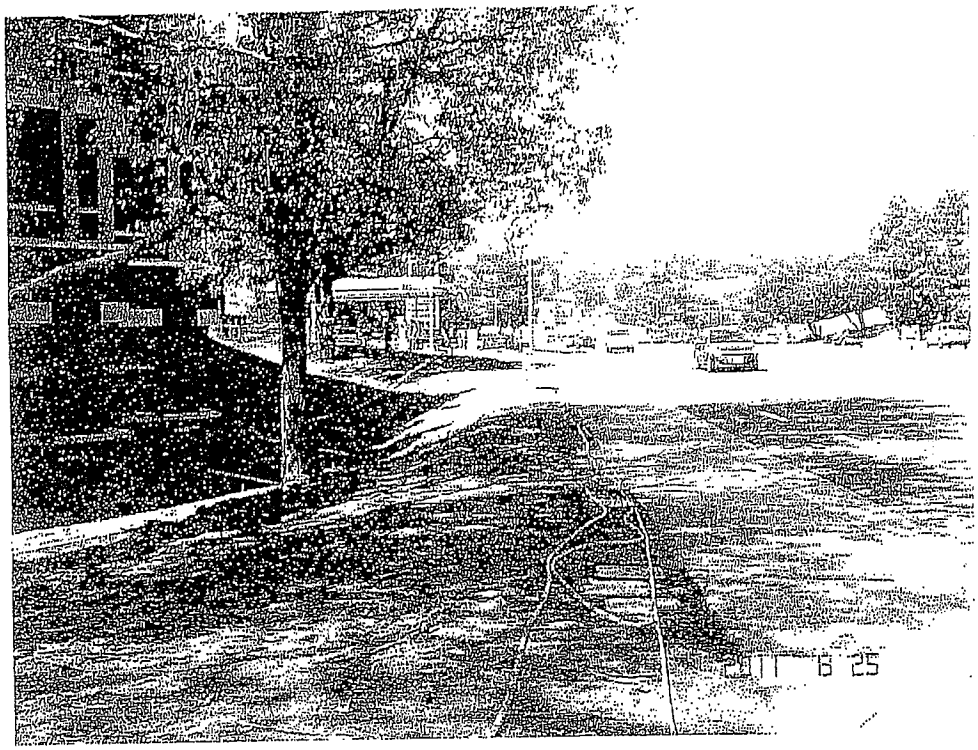

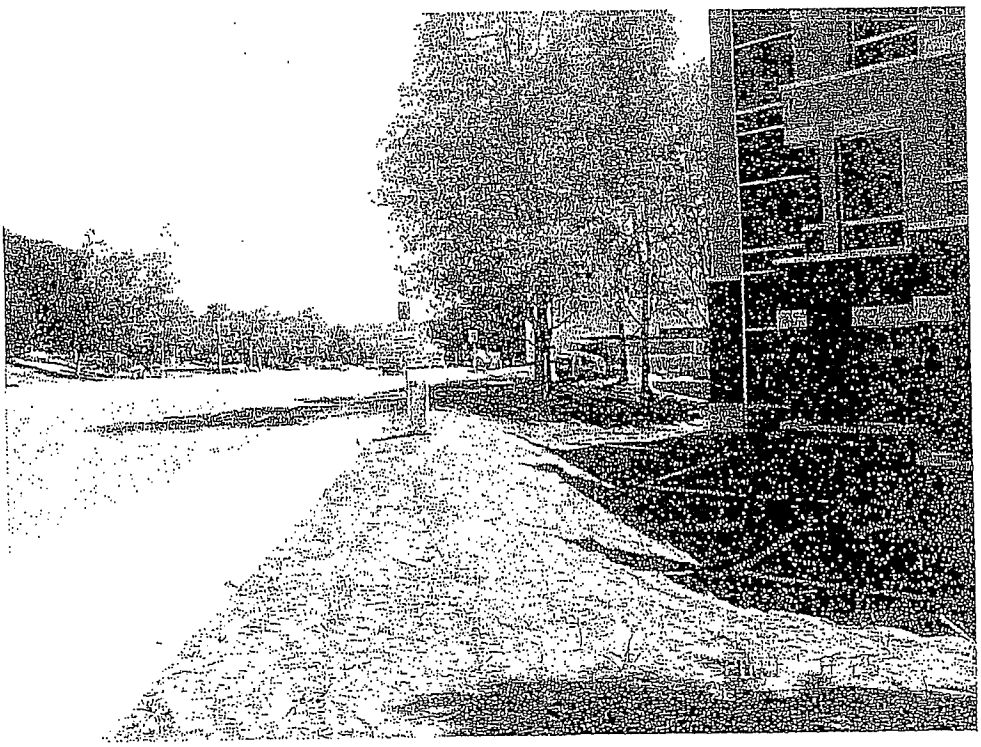

Photo Page 6 & 7

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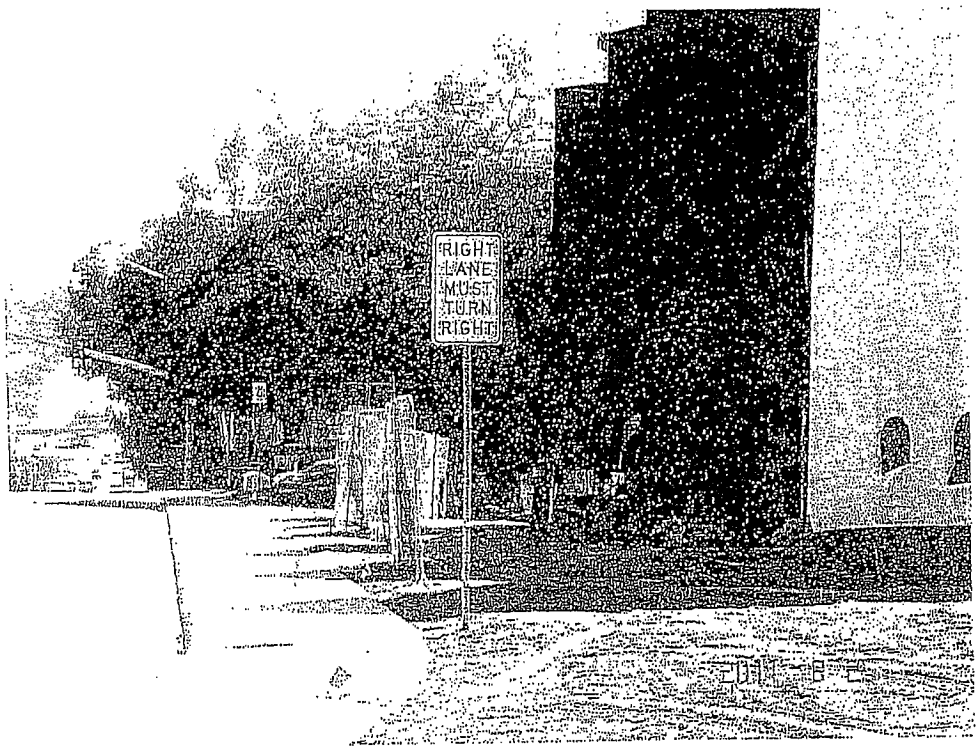

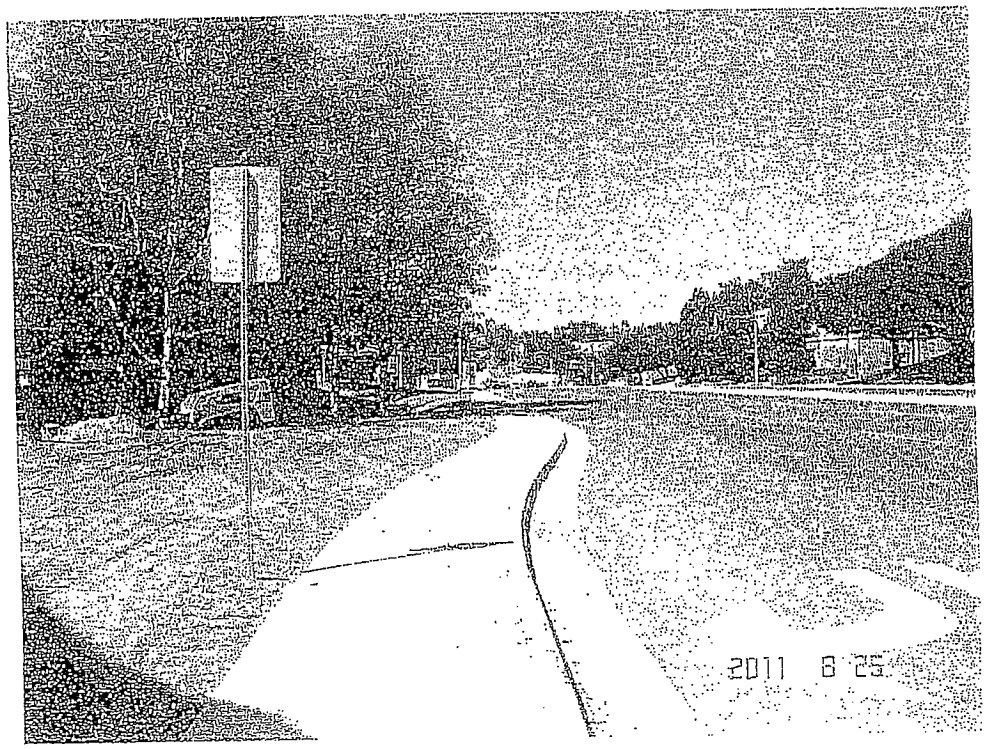

Photo Page 8 & 9

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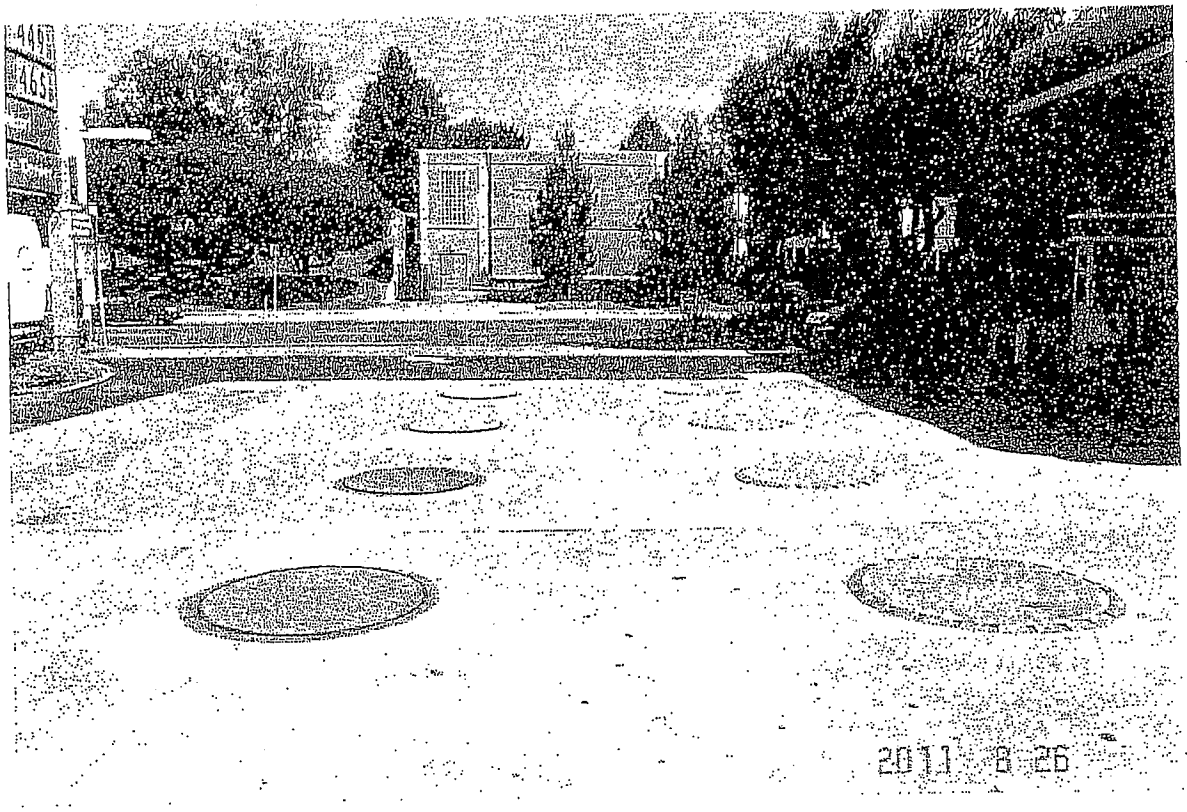

Photo Page 10

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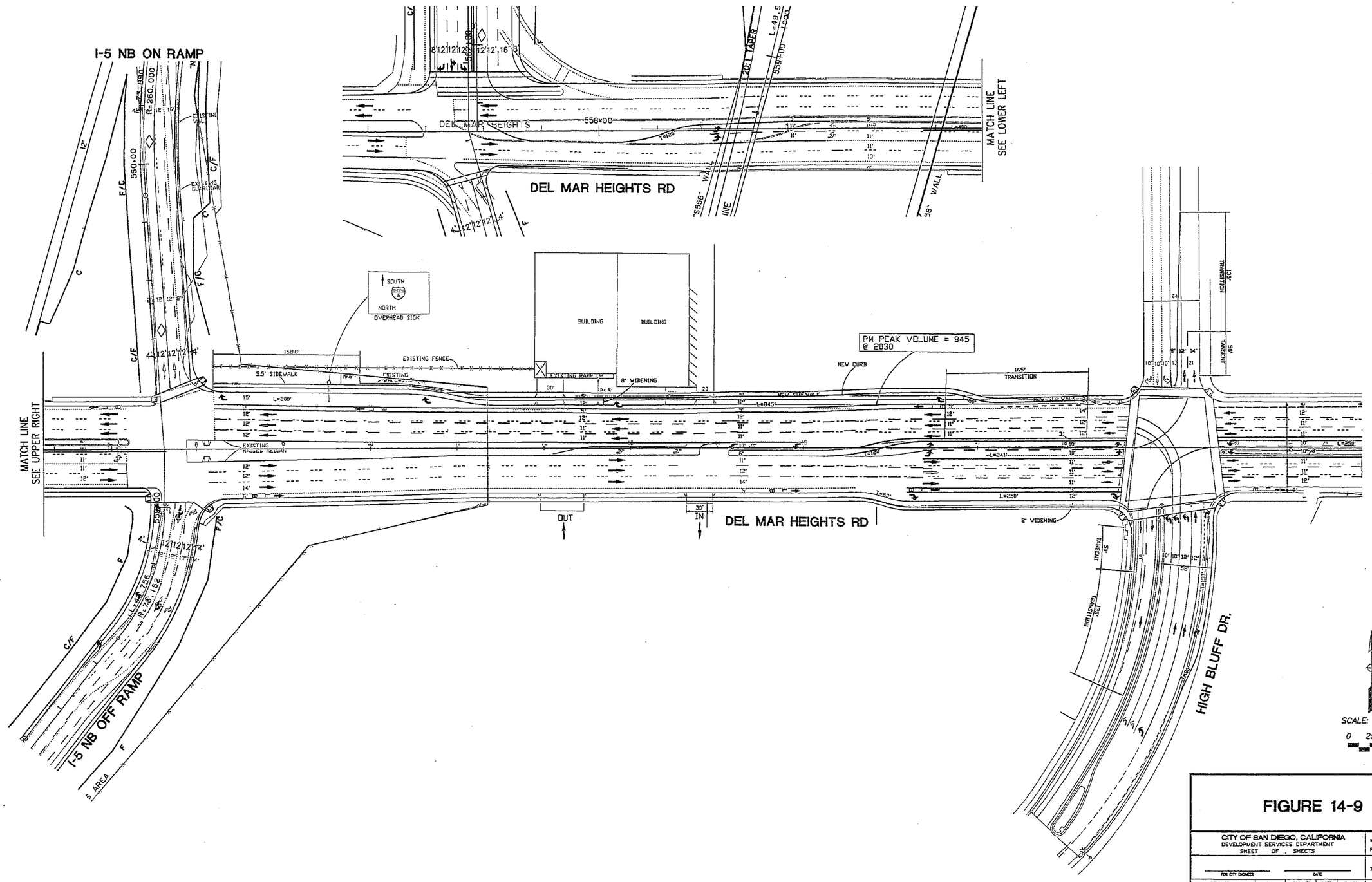


NOTE: PRELIMINARY OPINION OF COST BASED ON CONCEPTUAL PLANS WHICH ARE SUBJECT TO SIGNIFICANT CHANGE BASED ON AGENCY REVIEW AND APPROVAL.

CONCEPTUAL LAYOUT
FOR DISCUSSION PURPOSES ONLY
NOT BASED ON A SURVEY

FIGURE 14-9

CITY OF SAN DIEGO, CALIFORNIA
DEVELOPMENT SERVICES DEPARTMENT
SHEET OF SHEETS

W.O. NO.
P.T.S. NO.
TM/TPM
P/D
EOT
NAD 83 COORDINATES
LAMBERT COORDINATES

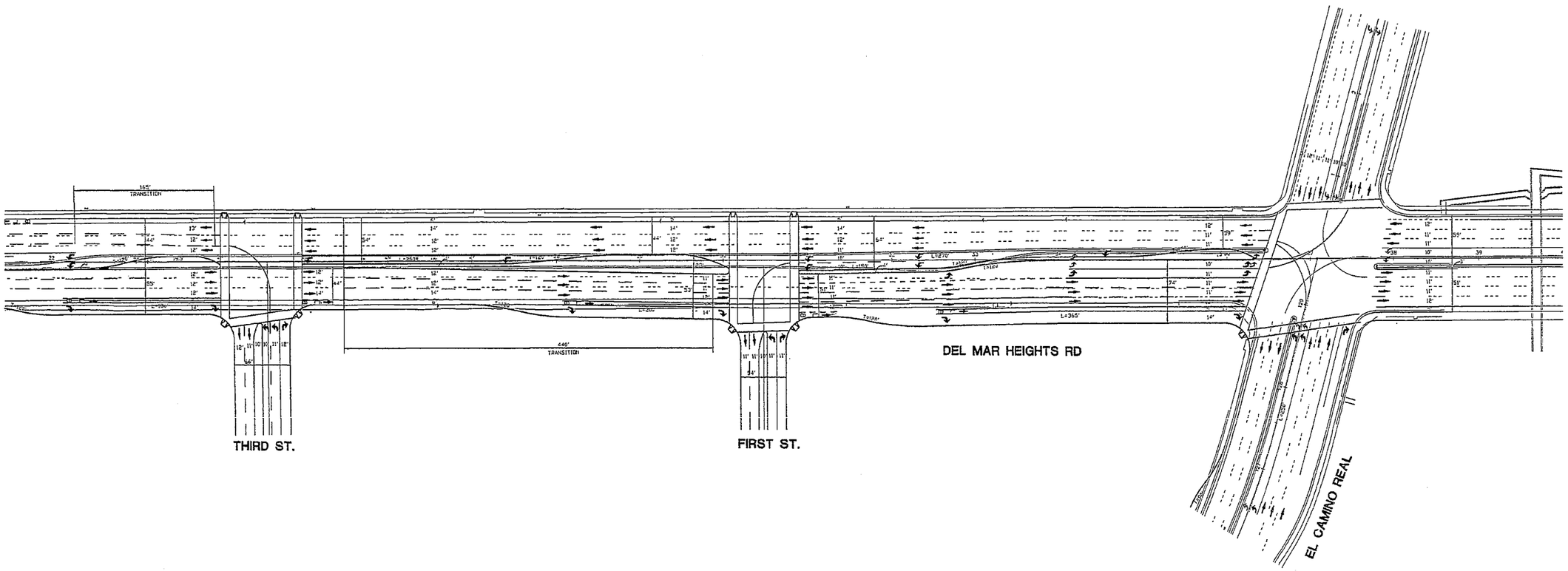
FOR CITY ENGINEER ____ DATE ____

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	USAI			

CONTRACTOR ____ DATE STARTED ____
INSPECTOR ____ DATE COMPLETED ____

URBAN SYSTEMS ASSOCIATES, INC.
4540 KEARNY VILLA ROAD, SUITE 105
SAN DIEGO, CA 92123, (619) 560-4911

FILE NAME: 2407-PD-01_F 03-20-12 MV



SCALE: 1"=60'

0 30 60

FIGURE 14-10

CITY OF SAN DIEGO, CALIFORNIA
DEVELOPMENT SERVICES DEPARTMENT
SHEET OF . SHEETS

W.O. NO. .
P.T.S. NO. .

FOR CITY ENGINEER DATE

TM/TPM —

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	USAI			

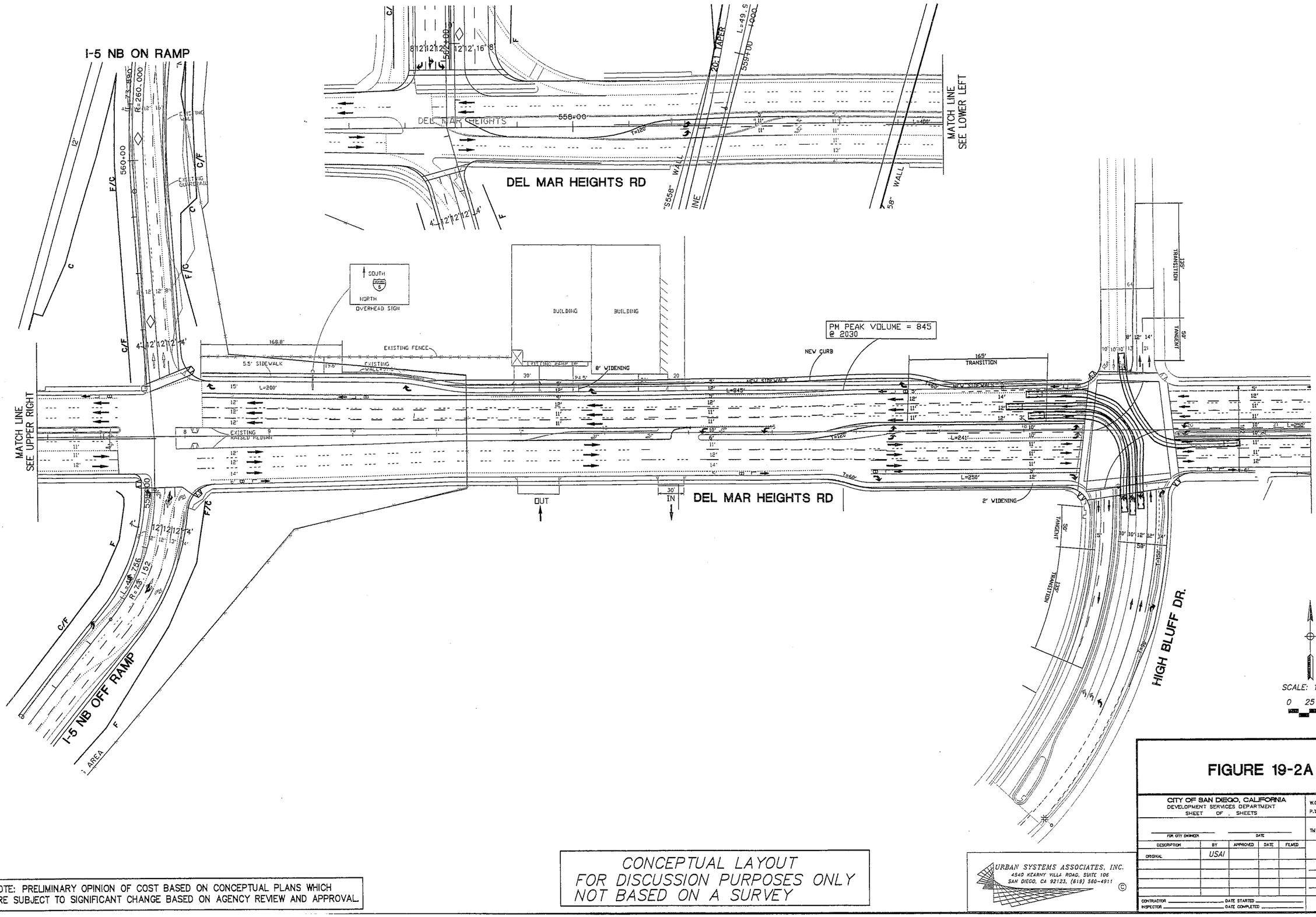
PID .
EOT .
NAD 83 COORDINATES
LAMBERT COORDINATES

CONTRACTOR DATE STARTED
INSPECTOR DATE COMPLETED

NOTE: PRELIMINARY OPINION OF COST BASED ON CONCEPTUAL PLANS WHICH ARE SUBJECT TO SIGNIFICANT CHANGE BASED ON AGENCY REVIEW AND APPROVAL.

CONCEPTUAL LAYOUT
FOR DISCUSSION PURPOSES ONLY
NOT BASED ON A SURVEY

URBAN SYSTEMS ASSOCIATES, INC.
4540 KEARNY VILLA ROAD, SUITE 106
SAN DIEGO, CA 92123, (619) 560-4911



NOTE: PRELIMINARY OPINION OF COST BASED ON CONCEPTUAL PLANS WHICH ARE SUBJECT TO SIGNIFICANT CHANGE BASED ON AGENCY REVIEW AND APPROVAL.

CONCEPTUAL LAYOUT
FOR DISCUSSION PURPOSES ONLY
NOT BASED ON A SURVEY

FIGURE 19-2A

CITY OF SAN DIEGO, CALIFORNIA
DEVELOPMENT SERVICES DEPARTMENT
SHEET OF SHEETS

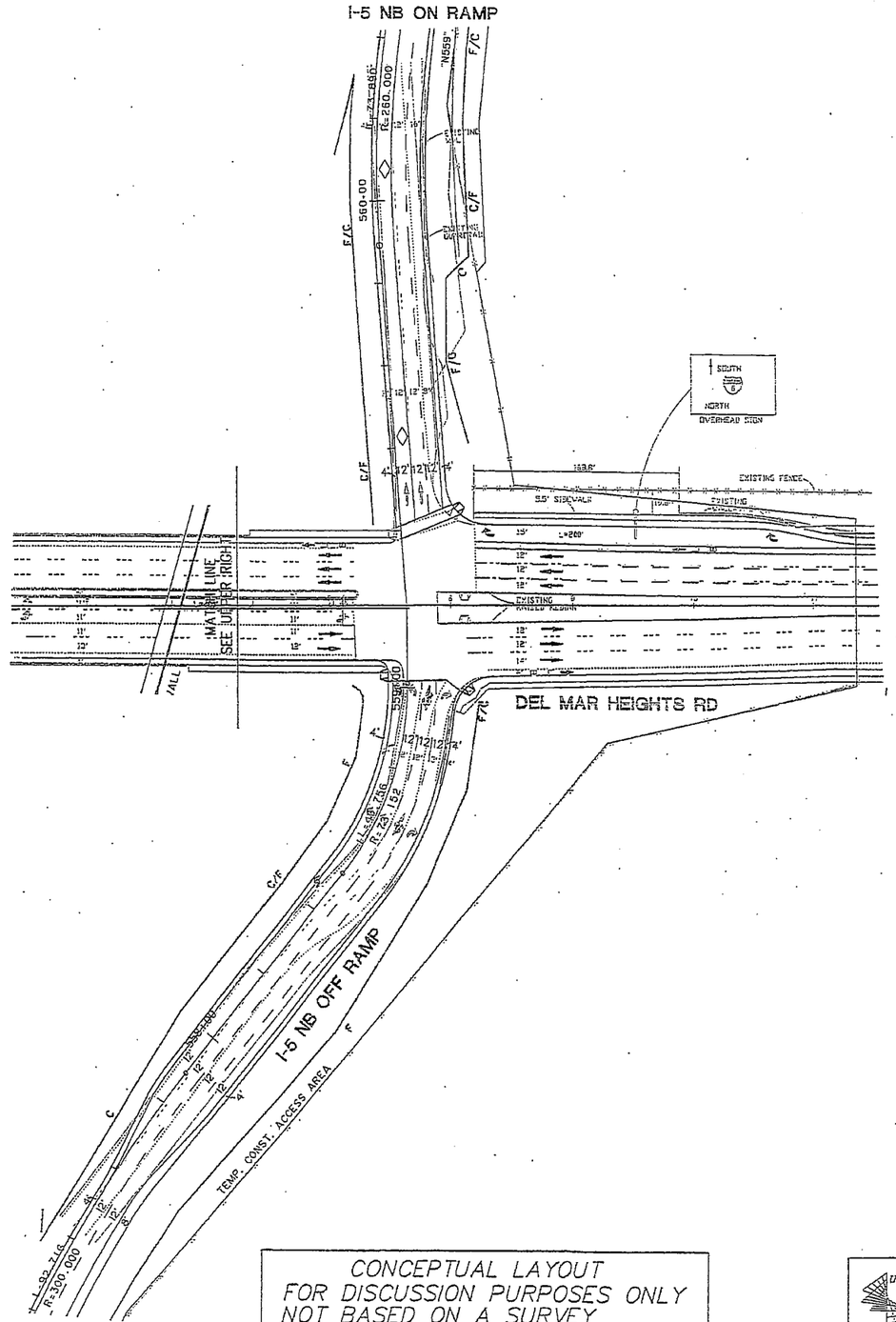
W.O. NO.
P.T.S. NO.
TM/TPM
PID
EOT
NAD 83 COORDINATES
LAMBERT COORDINATES

FOR CITY ENGINEER — DATE

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	USAI			

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

URBAN SYSTEMS ASSOCIATES, INC.
4540 KEARNY VILLA ROAD, SUITE 106
SAN DIEGO, CA 92123, (619) 560-4911



SCALE: 1"=50'

0 25 50

NOTE: PRELIMINARY OPINION OF COST BASED ON CONCEPTUAL PLANS WHICH ARE SUBJECT TO SIGNIFICANT CHANGE BASED ON AGENCY REVIEW AND APPROVAL.

CONCEPTUAL LAYOUT
FOR DISCUSSION PURPOSES ONLY
NOT BASED ON A SURVEY

FIGURE 19-2B

CITY OF SAN DIEGO, CALIFORNIA
DEVELOPMENT SERVICES DEPARTMENT
SHEET OF SHEETS

W.O. NO.
P.T.S. NO.
TM/TPM
PTD
EOT

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	USAI			

FOR CITY ENGINEER — DATE

NAD 83 COORDINATES

LAMBERT COORDINATES

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

URBAN SYSTEMS ASSOCIATES, INC.
4540 KEARNY VILLA ROAD, SUITE 106
SAN DIEGO, CA 92122, (619) 560-4911

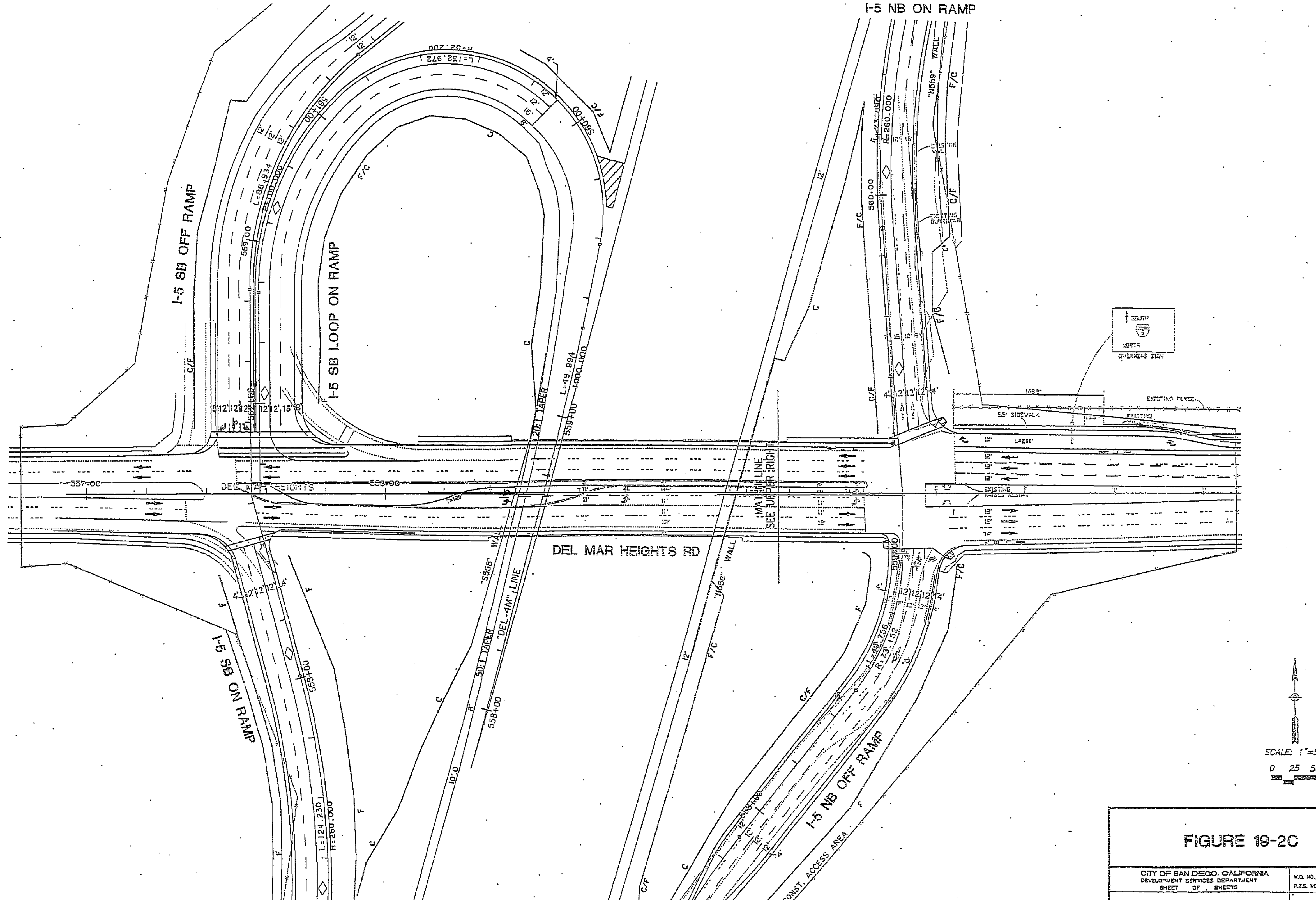


FIGURE 19-2C

CITY OF SAN DIEGO, CALIFORNIA
DEVELOPMENT SERVICES DEPARTMENT
SHEET OF SHEETS

ORIGINAL USAI

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SAN DIEGO, CA 92123, (619) 560-4911
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CONCEPTUAL LAYOUT
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NOT BASED ON A SURVEY

NOTE: PRELIMINARY OPINION OF COST BASED ON CONCEPTUAL PLANS WHICH ARE SUBJECT TO SIGNIFICANT CHANGE BASED ON AGENCY REVIEW AND APPROVAL.

FILE NAME: 2407-PD-05_D 12-12-11 MV

\\Diskstation\projects\002407 San Diego Corporate Center 3 Lots-One Paseo\Engineering Drawings\Caltrans_A\177900ea016_ALT2 (3).dwg