

# **APPENDIX F**

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Air Quality Data

**Land Use Inputs Construction and Area Source**

Land Use	Use	Acres	Phase 1		Total		URBEMIS Land Use Type(s)	Project Description	% Break down	Phase 1			SPSP Total			
			dwelling units	Non-Res Sf	Acres	dwelling units				Non-Res Sf	Acres	DU	Non-Res Sf	Acres	DU	Non-Res Sf
LDR	Low Density Residential	121	345	-	512.8	1,461	-	single family detached	single family detached	1.00	121	345	-	512.8	1461	-
MDR	Medium Density Residential	874.8	5389	-	1950.3	12014	-	single-family (detached, attached, clustered, zero lot line), townhomes, stacked flats, and apartments	single family detached	0.50	437.4	2694.5	-	975.15	6007	-
									Condo/townhouse general	0.25	218.7	1347.25	-	487.575	3003.5	-
									Low-rise apartments	0.25	218.7	1347.25	-	487.575	3003.5	-
									<i>Crosscheck (Total)</i>	<i>okay</i>	<i>okay</i>	<i>okay</i>	-	<i>okay</i>	<i>okay</i>	-
HDR	High Density Residential	91.4	1668	-	187.7	3426	-	condominiums, townhomes, stacked flats, and apartments	Mid-rise apartments	0.75	68.55	1251	-	140.775	2569.5	-
									Condo/townhouse general	0.25	22.85	417	-	46.925	856.5	-
									<i>Crosscheck (Total)</i>	<i>okay</i>	<i>okay</i>	<i>okay</i>	-	<i>okay</i>	<i>okay</i>	-
									Free-standing discount store	0.05	-	-	-	4.715	-	71,900
E1	Employment 1	0	-	-	94.3	-	1,438,000	supplies, cafes, and retail sales and services), and light industrial uses (such as high-tech manufacturing and assembly uses, distribution centers, warehousing, and regional commercial uses)	Discount club	0.03	-	-	-	2.358	-	35,950
									Electronics superstore	0.025	-	-	-	2.358	-	35,950
									Home improvement superstore	0.025	-	-	-	2.358	-	35,950
									Strip mall	0.05	-	-	-	4.715	-	71,900
									Convenience market (24-hour)	0.10	-	-	-	9.430	-	143,800
									Gasoline/service station	0.05	-	-	-	4.715	-	71,900
									General office building	0.150	-	-	-	14.145	-	215,700
									Office park	0.150	-	-	-	14.145	-	215,700
									Government office building	0.05	-	-	-	4.715	-	71,900
									Pharmacy/drug store wo/d.t.	0.05	-	-	-	4.715	-	71,900
									Medical office building	0.075	-	-	-	7.073	-	107,850
									Hospital	0.05	-	-	-	4.715	-	71,900
									General light industry	0.15	-	-	-	14.145	-	215,700
									<i>Crosscheck (Total)</i>	<i>okay</i>	-	-	-	<i>okay</i>	-	<i>okay</i>
									Supermarket	0.35	35.67	-	387,800	52.57	-	572,250
									Convenience market	0.05	5.10	-	55,400	7.51	-	81,750
Bank	0.05	5.10	-	55,400	7.51	-	81,750									
CR	Commercial Retail	102	-	1,108,000	150.2	-	1,635,000	a mix of commercial retail and service uses exclusively in activity centers	Pharmacy/drug store wo/d.t.	0.10	10.19	-	110,800	15.02	-	163,500
									Quality restaurant	0.15	15.29	-	166,200	22.53	-	245,250
									High turnover (sit) restaurant	0.15	15.29	-	166,200	22.53	-	245,250
									Fast food wo/d.t.	0.15	15.29	-	166,200	22.53	-	245,250
									<i>Crosscheck (Total)</i>	<i>okay</i>	<i>okay</i>	-	<i>okay</i>	<i>okay</i>	-	<i>okay</i>
									Mid-rise apartments	0.25	4.13	60	63,000	19.95	291	304,000
									Day care center	0.05	0.83	-	16,800	3.99	-	81,067
									Library	0.05	0.83	-	16,800	3.99	-	81,067
MU	Mixed-Use	17	60	252,000	79.8	291	1,216,000	Mixed commercial, residential, office, and civic uses. Transit stops, civic buildings, movie theaters, groceries, cafes, boutique shops, and specialty retail shops, a government center, library, and a transit center. Pedestrian-scale Main Street supporting local shops, plazas, a movie theater, or similar uses.	Quality restaurant	0.10	1.65	-	33,600	7.98	-	162,133
									High turnover (sit) restaurant	0.10	1.65	-	33,600	7.98	-	162,133
									Hardware/paint store	0.05	0.83	-	16,800	3.99	-	81,067
									Convenience market	0.10	1.65	-	33,600	7.98	-	162,133
									Bank	0.10	1.65	-	33,600	7.98	-	162,133
									General office building	0.10	1.65	-	33,600	7.98	-	162,133
									Government (civic center)	0.05	0.83	-	16,800	3.99	-	81,067
									Pharmacy/drug store wo/d.t.	0.05	0.83	-	16,800	3.99	-	81,067
<i>Crosscheck (Total)</i>	<i>okay</i>	<i>okay</i>	-	<i>okay</i>	<i>okay</i>	-	<i>okay</i>									
K-8	K-8 Schools	61.1	-	-	121.7	-	-	K-8 Schools	Elementary school (K-8)	1.00	61.1	-	1,050 students	121.7	-	8,400 students
HS	High School	52.9	-	-	52.9	-	-	high school	High school of 2,000 students	1.00	52.9	-	2,000 students	52.9	-	2,000 students

**Land Use Inputs Construction and Area Source**

Land Use	Use	Acres	Phase 1		Total		Project Description	URBEMIS Land Use Type(s)	% Break down	Phase 1			SPSP Total			
			dwelling units	Non-Res Sf	Acres	dwelling units				Non-Res Sf	Acres	DU	Non-Res Sf	Acres	DU	Non-Res Sf
P	Parks	99.4	-	-	431.8	-	-	regional parks, greens, community parks, structured recreation uses (such as play grounds, tot lots, and athletic facilities), lake shore community greens, neighborhood greens	City Park	1.00	99.4	-	-	431.8	-	-
OS	Open Space	115.8	-	-	394.8	-	-	additional recreational uses to those offered within the Parks designation within open spaces, lakes, greenbelts, trails, and a potential golf course	City Park	1.00	115.8	-	-	394.8	-	-
E1F	Detention - Interim	-	-	-	43.7	-	668,000	Free-standing discount store		0.05	-	-	-	2.185	-	33,400
								Discount club		0.03	-	-	-	1.093	-	16,700
								a variety of retail uses, medical facilities, office parks (including research and development uses), related office-supporting commercial uses (such as copy centers, office supplies, cafes, and retail sales and services), and light industrial uses (such as high-tech manufacturing and assembly uses, distribution centers, warehousing, and regional commercial uses)	Electronics superstore	0.025	-	-	-	1.093	-	16,700
								Home improvement superstore	0.025	-	-	-	1.093	-	16,700	
								Strip mall	0.05	-	-	-	2.185	-	33,400	
								Convenience market (24-hour)	0.10	-	-	-	4.370	-	66,800	
								Gasoline/service station	0.05	-	-	-	2.185	-	33,400	
								General office building	0.150	-	-	-	6.555	-	100,200	
								Office park	0.150	-	-	-	6.555	-	100,200	
								Government office building	0.05	-	-	-	2.185	-	33,400	
Pharmacy/drug store wo/d.t.	0.05	-	-	-	2.185	-	33,400									
Medical office building	0.075	-	-	-	3.278	-	50,100									
Hospital	0.05	-	-	-	2.185	-	33,400									
General light industry	0.15	-	-	-	6.555	-	100,200									
								<i>Crosscheck (Total)</i>		<i>okay</i>	-	-	-	<i>okay</i>	-	<i>okay</i>
IDB	Detention - Permanent	9.6	-	-	22.8	-	-	Industrial drainage basins and channels	City Park	1.00	9.6	-	-	22.8	-	-
<i>Subtotal Mixed-Use Residential Community</i>		<i>1,544.40</i>	<i>7,462</i>	<i>1,360,000</i>	<i>4,042.90</i>	<i>17,192</i>	<i>4,957,000</i>									

Land Use	Use	Acres	Phase A		Total		Project Description	URBEMIS Land Use Type(s)	% Break down	Acres	DU	Non-Res Sf	Acres	DU	Non-Res Sf	
			DU	Non-Res Sf	Acres	DU										Non-Res Sf
MU	Mixed-Use	84.3	308	1,285,000	84.3	308	1,285,000	Mid-rise apartments		0.25	21.08	308	321,250	21.08	308	321,250
								Day care center		0.05	4.22	-	85,667	4.22	-	85,667
								Mixed commercial, residential, office, and civic uses. Transit stops, civic buildings, movie theaters, groceries, cafes, boutique shops, and specialty retail shops, a government center, library, and a transit center. Pedestrian-scale Main Street supporting local shops, plazas, a movie theater, or similar uses.	Library	0.05	4.22	-	85,667	4.22	-	85,667
								Quality restaurant	0.10	8.43	-	171,333	8.43	-	171,333	
								High turnover (sit) restaurant	0.10	8.43	-	171,333	8.43	-	171,333	
								Hardware/paint store	0.05	4.22	-	85,667	4.22	-	85,667	
								Convenience market	0.10	8.43	-	171,333	8.43	-	171,333	
								Bank	0.10	8.43	-	171,333	8.43	-	171,333	
								General office building	0.10	8.43	-	171,333	8.43	-	171,333	
								Government (civic center)	0.05	4.22	-	85,667	4.22	-	85,667	
Pharmacy/drug store wo/d.t.	0.05	4.22	-	85,667	4.22	-	85,667									

**Land Use Inputs Construction and Area Source**

Land Use	Use	Acres	Phase 1		Total		Project Description	URBEMIS Land Use Type(s)	% Break down	Phase 1			SPSP Total		
			dwelling units	Non-Res Sf	Acres	dwelling units				Non-Res Sf	Acres	DU	Non-Res Sf	Acres	DU
									okay	okay	-	okay	okay	-	okay
								Free-standing discount store	0.05	1.920	-	29,250	3.915	-	59,700
								Discount club	0.03	0.960	-	14,625	1.958	-	29,850
							a variety of retail uses, medical facilities, office parks (including research and development uses), related office-supporting commercial	Electronics superstore	0.025	0.960	-	14,625	1.958	-	29,850
								Home improvement superstore	0.025	0.960	-	14,625	1.958	-	29,850
								Strip mall	0.05	1.920	-	29,250	3.915	-	59,700
								Convenience market (24-hour)	0.10	3.840	-	58,500	7.830	-	119,400
								Gasoline/service station	0.05	1.920	-	29,250	3.915	-	59,700
E1	Employment 1	38.4	-	585,000	78	-	1,194,000	supplies, cafes, and retail sales and services), and light industrial uses (such as high-tech manufacturing and assembly uses, distribution centers, warehousing, and regional commercial uses)	0.150	5.760	-	87,750	11.745	-	179,100
								Office park	0.150	5.760	-	87,750	11.745	-	179,100
								Government office building	0.05	1.920	-	29,250	3.915	-	59,700
								Pharmacy/drug store wo/d.t.	0.05	1.920	-	29,250	3.915	-	59,700
								Medical office building	0.075	2.880	-	43,875	5.873	-	89,550
								Hospital	0.05	1.920	-	29,250	3.915	-	59,700
								General light industry	0.15	5.760	-	87,750	11.745	-	179,100
								<i>Crosscheck (Total)</i>	okay	okay	-	okay	okay	-	okay
								Free-standing discount store	0.05	19.015	-	347,850	99.525	-	1,820,400
								Discount club	0.025	9.508	-	173,925	49.763	-	910,200
								Electronics superstore	0.025	9.508	-	173,925	49.763	-	910,200
								Home improvement superstore	0.03	9.508	-	173,925	49.763	-	910,200
								Strip mall	0.05	19.015	-	347,850	99.525	-	1,820,400
								Convenience market (24-hour)	0.05	19.015	-	347,850	99.525	-	1,820,400
								Gasoline/service station	0.03	9.508	-	173,925	49.763	-	910,200
							heavy industrial uses in addition to E1 uses; large-scale industrial campuses, technological parks, distribution centers and warehousing, and higher intensity industrial manufacturing uses	General office building	0.05	19.015	-	347,850	99.525	-	1,820,400
E2	Employment 2	380.3	-	6,957,000	1,990.50	-	36,408,000	Office park	0.10	38.030	-	695,700	199.050	-	3,640,800
								Government office building	0.05	19.015	-	347,850	99.525	-	1,820,400
								Pharmacy/drug store wo/d.t.	0.05	19.015	-	347,850	99.525	-	1,820,400
								Medical office building	0.025	9.508	-	173,925	49.763	-	910,200
								Hospital	0.025	9.508	-	173,925	49.763	-	910,200
								General light industry	0.10	38.030	-	695,700	199.050	-	3,640,800
								General heavy industry	0.15	57.045	-	1,043,550	298.575	-	5,461,200
								Industrial park	0.10	38.030	-	695,700	199.050	-	3,640,800
								Manufacturing	0.10	38.030	-	695,700	199.050	-	3,640,800
								<i>Crosscheck (Total)</i>	okay	okay	-	okay	okay	-	okay
								Supermarket	0.35	9.80	-	106,750	9.80	-	106,750
								Convenience market	0.05	1.40	-	15,250	1.40	-	15,250
								Bank	0.05	1.40	-	15,250	1.40	-	15,250
CR	Commercial Retail	28	-	305,000	28.00	-	305,000	a mix of commercial retail and service uses exclusively in activity centers	0.10	2.80	-	30,500	2.80	-	30,500
								Pharmacy/drug store wo/d.t.	0.15	4.20	-	45,750	4.20	-	45,750
								Quality restaurant	0.15	4.20	-	45,750	4.20	-	45,750
								High turnover (sit) restaurant	0.15	4.20	-	45,750	4.20	-	45,750
								Fast food wo/d.t.	0.15	4.20	-	45,750	4.20	-	45,750
								<i>Crosscheck (Total)</i>	okay	okay	-	okay	okay	-	okay
								Free-standing discount store	0.05	-	-	-	18.205	-	277,850
								Discount club	0.03	-	-	-	9.103	-	138,925
							a variety of retail uses, medical facilities, office parks (including research and development uses), related office-supporting commercial	Electronics superstore	0.025	-	-	-	9.103	-	138,925
								Home improvement superstore	0.025	-	-	-	9.103	-	138,925
								Strip mall	0.05	-	-	-	18.205	-	277,850
								Convenience market (24-hour)	0.10	-	-	-	36.410	-	555,700

**Land Use Inputs Construction and Area Source**

Land Use	Use	Phase 1			Total			Project Description	URBEMIS Land Use Type(s)	% Break down	Phase 1			SPSP Total		
		Acres	dwelling units	Non-Res Sf	Acres	dwelling units	Non-Res Sf				Acres	DU	Non-Res Sf	Acres	DU	Non-Res Sf
E1F	Detention - Interim	-	-	-	364.10	-	5,557,000	uses (such as copy centers, office	Gasoline/service station	0.05	-	-	-	18.205	-	277,850
								supplies, cafes, and retail sales and	General office building	0.150	-	-	-	54.615	-	833,550
								services), and light industrial uses	Office park	0.150	-	-	-	54.615	-	833,550
								(such as high-tech manufacturing and	Government office building	0.05	-	-	-	18.205	-	277,850
								assembly uses, distribution centers,	Pharmacy/drug store wo/d.t.	0.05	-	-	-	18.205	-	277,850
								warehousing, and regional commercial	Medical office building	0.075	-	-	-	27.308	-	416,775
								uses)	Hospital	0.05	-	-	-	18.205	-	277,850
									General light industry	0.15	-	-	-	54.615	-	833,550
	<i>Crosscheck (Total)</i>	<i>okay</i>	-	-	-	<i>okay</i>	-	<i>okay</i>								
IDB	Detention - Permanent	15.7	-	-	391.5	-	-	Industrial drainage basins and channels	City Park	1.00	15.7	-	-	391.5	-	-
<i>Subtotal Employment Villages</i>		<i>546.7</i>	<i>308</i>	<i>9,132,000</i>	<i>2,936.70</i>	<i>308</i>	<i>44,749,000</i>									
<i>Roads and Rights of Way Total</i>		<i>197.9</i>	<i>-</i>	<i>-</i>	<i>548</i>	<i>-</i>	<i>-</i>									
<b>Total</b>		<b>2,289.00</b>	<b>7,770</b>	<b>10,492,000</b>	<b>7,527.60</b>	<b>17,500</b>	<b>49,706,000</b>									

### Construction and Area Source Inputs

Tab in URBEMIS Land Use Module	URBEMIS Land Use Type(s)	SPSP Subtotals			SPSP Total			Phase 1 Subtotals			Phase 1		
		Acres	DU	Non-Res SF (1,000)	Acres	DU	Non-Res Sf	Acres	DU	Non-Res SF (1,000)	Acres	DU	Non-Res Sf
1-Residential	Condo/townhouse general	534.50	3860	0	487.575	3003.5	-	241.55	1764.3	0	218.7	1347.25	-
1-Residential	Condo/townhouse general				46.925	856.5	-				22.85	417	-
1-Residential	Low-rise apartments	487.58	3004	-	487.575	3003.5	-	218.7	1347.3	-	218.7	1347.25	-
1-Residential	Mid-rise apartments	181.80	3169	625.25	140.775	2569.5	-	93.75	1619.0	384.25	68.55	1251	-
1-Residential	Mid-rise apartments				19.95	291	304,000				4.13	60	63,000
1-Residential	Mid-rise apartments				21.08	308	321,250				21.08	308	321,250
1-Residential	single family detached	1487.95	7468.0	0	512.8	1461	-	558.4	3039.5	0	121	345	-
1-Residential	single family detached				975.15	6007	-				437.4	2694.5	-
2-Educational	Day care center	8.21	0	166.73	3.99	-	81,067	5.04	0	102.47	0.83	-	16,800
2-Educational	Day care center				4.22	-	85,667				4.22	-	85,667
2-Educational	Elementary school (K-8)	121.70	-	8,400	121.7	-	8,400	61.1	-	1,050	61.1	-	1,050
2-Educational	High school of 2,000 students	52.90	-	2,000	52.9	-	2,000	52.9	-	2,000	52.9	-	2,000
2-Educational	Library	8.21	0	166.73	3.99	-	81,067	5.04	0	102.47	0.83	-	16,800
2-Educational	Library				4.22	-	85,667				4.22	-	85,667
3-Recreational	City Park	1284.60	0	0	431.8	-	-	240.5	0	0	99.4	-	-
3-Recreational	City Park				394.8	-	-				115.8	-	-
3-Recreational	City Park				43.7	-	-				-	-	-
3-Recreational	City Park				22.8	-	-				9.6	-	-
3-Recreational	City Park				391.5	-	-				15.7	-	-
3-Recreational	Fast food wo/d.t.	26.73	0	291.00	22.53	-	245,250	19.49	0	211.95	15.29	-	166,200
3-Recreational	Fast food wo/d.t.				4.20	-	45,750				4.20	-	45,750
3-Recreational	High turnover (sit) restaurant	43.14	0	624.47	22.53	-	245,250	29.57	0	416.88	15.29	-	166,200
3-Recreational	High turnover (sit) restaurant				7.98	-	162,133				1.65	-	33,600
3-Recreational	High turnover (sit) restaurant				8.43	-	171,333				8.43	-	171,333
3-Recreational	High turnover (sit) restaurant				4.20	-	45,750				4.20	-	45,750
3-Recreational	Quality restaurant	43.14	0	624.47	22.53	-	245,250	29.57	0	416.88	15.29	-	166,200
3-Recreational	Quality restaurant				7.98	-	162,133				1.65	-	33,600
3-Recreational	Quality restaurant				8.43	-	171,333				8.43	-	171,333
3-Recreational	Quality restaurant				4.20	-	45,750				4.20	-	45,750

### Construction and Area Source Inputs

Tab in URBEMIS Land Use Module	URBEMIS Land Use Type(s)	SPSP Subtotals			SPSP Total			Phase 1 Subtotals			Phase 1		
		Acres	DU	Non-Res SF (1,000)	Acres	DU	Non-Res Sf	Acres	DU	Non-Res SF (1,000)	Acres	DU	Non-Res Sf
4-Large Retail	Discount club	64.27	0	1,131.63	2.358	-	35,950	10.47	0	188.55	-	-	-
4-Large Retail	Discount club				1.093	-	16,700				-	-	-
4-Large Retail	Discount club				1.958	-	29,850				0.960	-	14,625
4-Large Retail	Discount club				49.763	-	910,200				9.508	-	173,925
4-Large Retail	Discount club				9.103	-	138,925				-	-	-
4-Large Retail	Electronics superstore	64.27	0	1,131.63	2.358	-	35,950	10.47	0	188.55	-	-	-
4-Large Retail	Electronics superstore				1.093	-	16,700				-	-	-
4-Large Retail	Electronics superstore				1.958	-	29,850				0.960	-	14,625
4-Large Retail	Electronics superstore				49.763	-	910,200				9.508	-	173,925
4-Large Retail	Electronics superstore				9.103	-	138,925				-	-	-
4-Large Retail	Free-standing discount store	128.55	0	2,263.25	4.715	-	71,900	20.94	0	377.10	-	-	-
4-Large Retail	Free-standing discount store				2.185	-	33,400				-	-	-
4-Large Retail	Free-standing discount store				3.915	-	59,700				1.920	-	29,250
4-Large Retail	Free-standing discount store				99.525	-	1,820,400				19.015	-	347,850
4-Large Retail	Free-standing discount store				18.205	-	277,850				-	-	-
4-Large Retail	Home improvement superstore	64.27	0	1,131.63	2.358	-	35,950	10.47	0	188.55	-	-	-
4-Large Retail	Home improvement superstore				1.093	-	16,700				-	-	-
4-Large Retail	Home improvement superstore				1.958	-	29,850				0.960	-	14,625
4-Large Retail	Home improvement superstore				49.763	-	910,200				9.508	-	173,925
4-Large Retail	Home improvement superstore				9.103	-	138,925				-	-	-
5-Retail	Convenience market	182.89	0	3,136.57	7.51	-	81,750	39.43	0	681.93	5.10	-	55,400
5-Retail	Convenience market				7.98	-	162,133				1.65	-	33,600
5-Retail	Convenience market				8.43	-	171,333				8.43	-	171,333
5-Retail	Convenience market				1.40	-	15,250				1.40	-	15,250
5-Retail	Convenience market (24-hour)				9.430	-	143,800				-	-	-
5-Retail	Convenience market (24-hour)				4.370	-	66,800				-	-	-
5-Retail	Convenience market (24-hour)				7.830	-	119,400				3.840	-	58,500
5-Retail	Convenience market (24-hour)				99.525	-	1,820,400				19.015	-	347,850
5-Retail	Convenience market (24-hour)				36.410	-	555,700				-	-	-

### Construction and Area Source Inputs

Tab in URBEMIS Land Use Module	URBEMIS Land Use Type(s)	SPSP Subtotals			SPSP Total			Phase 1 Subtotals			Phase 1		
		Acres	DU	Non-Res SF (1,000)	Acres	DU	Non-Res Sf	Acres	DU	Non-Res SF (1,000)	Acres	DU	Non-Res Sf
5-Retail	Gasoline/service station	78.78	0	1,353.05	4.715	-	71,900	11.43	0	203.18	-	-	-
5-Retail	Gasoline/service station				2.185	-	33,400				-	-	-
5-Retail	Gasoline/service station				3.915	-	59,700				1.920	-	29,250
5-Retail	Gasoline/service station				49.763	-	910,200				9.508	-	173,925
5-Retail	Gasoline/service station				18.205	-	277,850				-	-	-
5-Retail	Hardware/paint store	8.21	0	166.73	3.99	-	81,067	5.04	0	102.47	0.83	-	16,800
5-Retail	Hardware/paint store				4.22	-	85,667				4.22	-	85,667
5-Retail	Strip mall	128.55	0	2,263.25	4.715	-	71,900	20.94	0	377.10	-	-	-
5-Retail	Strip mall				2.185	-	33,400				-	-	-
5-Retail	Strip mall				3.915	-	59,700				1.920	-	29,250
5-Retail	Strip mall				99.525	-	1,820,400				19.015	-	347,850
5-Retail	Strip mall	18.205	-	277,850	-	-	-						
5-Retail	Supermarket	62.37	0	679.00	52.57	-	572,250	45.47	0	494.55	35.67	-	387,800
5-Retail	Supermarket				9.80	-	106,750				9.80	-	106,750
6-Commercial	Bank	25.32	0	430.47	7.51	-	81,750	16.58	0	275.58	5.10	-	55,400
6-Commercial	Bank				7.98	-	162,133				1.65	-	33,600
6-Commercial	Bank				8.43	-	171,333				8.43	-	171,333
6-Commercial	Bank				1.40	-	15,250				1.40	-	15,250
6-Commercial	General office building	203.00	0	3,482.42	14.145	-	215,700	34.86	0	640.53	-	-	-
6-Commercial	General office building				7.98	-	162,133				1.65	-	33,600
6-Commercial	General office building				6.555	-	100,200				-	-	-
6-Commercial	General office building				8.43	-	171,333				8.43	-	171,333
6-Commercial	General office building				11.745	-	179,100				5.760	-	87,750
6-Commercial	General office building				99.525	-	1,820,400				19.015	-	347,850
6-Commercial	General office building	54.615	-	833,550	-	-	-						
6-Commercial	Government (civic center)	8.21	0	166.73	3.99	-	81,067	5.04	0	102.47	0.83	-	16,800
6-Commercial	Government (civic center)				4.22	-	85,667				4.22	-	85,667
6-Commercial	Government office building	128.55	0	2,263.25	4.715	-	71,900	20.94	0	377.10	-	-	-
6-Commercial	Government office building				2.185	-	33,400				-	-	-
6-Commercial	Government office building				3.915	-	59,700				1.920	-	29,250
6-Commercial	Government office building				99.525	-	1,820,400				19.015	-	347,850
6-Commercial	Government office building				18.205	-	277,850				-	-	-

### Construction and Area Source Inputs

Tab in URBEMIS Land Use Module	URBEMIS Land Use Type(s)	SPSP Subtotals			SPSP Total			Phase 1 Subtotals			Phase 1		
		Acres	DU	Non-Res SF (1,000)	Acres	DU	Non-Res Sf	Acres	DU	Non-Res SF (1,000)	Acres	DU	Non-Res Sf
6-Commercial	Hospital	78.78	0	1,353.05	4.715	-	71,900	11.43	0	203.18	-	-	-
6-Commercial	Hospital				2.185	-	33,400				-	-	-
6-Commercial	Hospital				3.915	-	59,700				1.920	-	29,250
6-Commercial	Hospital				49.763	-	910,200				9.508	-	173,925
6-Commercial	Hospital				18.205	-	277,850				-	-	-
6-Commercial	Medical office building	93.29	0	1,574.48	7.073	-	107,850	12.39	0	217.80	-	-	-
6-Commercial	Medical office building				3.278	-	50,100				-	-	-
6-Commercial	Medical office building				5.873	-	89,550				2.880	-	43,875
6-Commercial	Medical office building				49.763	-	910,200				9.508	-	173,925
6-Commercial	Medical office building				27.308	-	416,775				-	-	-
6-Commercial	Office park	286.11	0	4,969.35	14.145	-	215,700	43.79	0	783.45	-	-	-
6-Commercial	Office park				6.555	-	100,200				-	-	-
6-Commercial	Office park				11.745	-	179,100				5.760	-	87,750
6-Commercial	Office park				199.050	-	3,640,800				38.030	-	695,700
6-Commercial	Office park				54.615	-	833,550				-	-	-
6-Commercial	Pharmacy/drug store wo/d.t.	154.57	0	2,623.98	4.715	-	71,900	38.97	0	620.87	-	-	-
6-Commercial	Pharmacy/drug store wo/d.t.				15.02	-	163,500				10.19	-	110,800
6-Commercial	Pharmacy/drug store wo/d.t.				3.99	-	81,067				0.83	-	16,800
6-Commercial	Pharmacy/drug store wo/d.t.				2.185	-	33,400				-	-	-
6-Commercial	Pharmacy/drug store wo/d.t.				4.22	-	85,667				4.22	-	85,667
6-Commercial	Pharmacy/drug store wo/d.t.				3.915	-	59,700				1.920	-	29,250
6-Commercial	Pharmacy/drug store wo/d.t.				99.525	-	1,820,400				19.015	-	347,850
6-Commercial	Pharmacy/drug store wo/d.t.				2.80	-	30,500				2.80	-	30,500
6-Commercial	Pharmacy/drug store wo/d.t.				18.205	-	277,850				-	-	-
7-Industrial	General heavy industry	298.58	-	5461.20	298.575	-	5,461,200	57.05	-	1,043.55	57.05	-	1,043,550
7-Industrial	General light industry	286.11	0	4969.35	14.145	-	215,700	43.79	0	783.45	-	-	-
7-Industrial	General light industry				6.555	-	100,200				-	-	-
7-Industrial	General light industry				11.745	-	179,100				5.760	-	87,750
7-Industrial	General light industry				199.050	-	3,640,800				38.030	-	695,700
7-Industrial	General light industry				54.615	-	833,550				-	-	-
7-Industrial	Industrial park	199.05	-	3640.80	199.050	-	3,640,800	38.03	-	695.70	38.030	-	695,700
7-Industrial	Manufacturing	199.05	-	3640.80	199.050	-	3,640,800	38.03	-	695.70	38.030	-	695,700

## Mobile Source Inputs

### Traffic Data Summary

Scenario	VMT (daily)			Number of Trips (daily)					Average Trip Length (miles)
	Net Regional	Project, including VMT from Intra-TAZ Trips	Project Subtotal of Non-Intra-TAZ Trips (External Trips & Inter-TAZ Trips)	Total	Subtotal of Non-Intra-TAZ Trips (External Trips & Inter-TAZ Trips)	External	Internal		
							Inter-TAZ	Intra-TAZ	
Existing	48,217,200	—	—	—	—	—	—	—	—
Phase 1/A	—	1,340,133	1,301,100	134,820	128,400	84,500	43,900	6,420	9.94
Cumulative (2020) Plus	66,147,902	1,340,133	1,301,100	134,820	128,400	84,500	43,900	6,420	9.94
Cumulative (2035) No	66,999,300	—	—	—	—	—	—	—	—
Cumulative (2035) Plus	67,844,700	3,447,101	3,346,700	354,585	337,700	185,500	152,200	16,885	9.72
Cumulative (2035) Plus	68,233,900	3,664,122	3,557,400	354,585	337,700	185,500	152,200	16,885	10.33

Source: This data was provided by Dave Robinson of Fehr & Peers in an e-mail to Austin Kerr of EDAW on June 11, 2008. This table is based on the same data used to develop the traffic analysis for the Sutter Pointe Specific Plan

#### Phone Notes - June 12, 2008 2:15 p.m. with Dave Robinson of Fehr & Peers

Dave did not analyze the 2020 year without the project, which is the earliest year when full buildout of Phase

Dave explained that Intra-TAZ trips were not counted in the network-based regional traffic modeling.

Dave agreed that it would be a safe and conservative assumption to assume that the number of Intra-TAZ trips is approximately 5% of the total remaining trips, consisting of up to 3% additional VMT.

#### Summary of Input Values for URBEMIS Modeling

	Dwelling Units	Total Trips	Trips/DU	Avg. Trip Length (mi.)
Phase 1/A	12,296	134,820	11.0	9.9
Full SPSP, No Placer	17,500	354,585	20.26	9.7
Full SPSP, with Placer	17,500	354,585	20.26	10.3

Note: These values indicate the number of decimal places allowed by URBEMIS.

## Optional Results Summary

Source	Average Daily Emissions (lb/day)			
	ROG	NO <sub>x</sub>	PM <sub>10</sub>	CO <sub>2</sub>
<b>At Full Buildout of Sutter Pointe Specific Plan (2030) (Program-Level)</b>				
Area Sources				
Natural Gas	32	426	1	523,704
Hearth (winter only)	3,520	410	2,977	569,378
Landscaping (summer only)	64	4	1	625
Consumer Products	856			
Architectural Coatings	461			
Mobile Source				
Without Placer Parkway	1,240	1,512	5,895	3,615,753
With Placer Parkway	1,320	1,598	6,260	3,834,072
<b>Total, Max. Daily Unmitigated (Program), without Place</b>	<b>6,109</b>	<b>2,348</b>	<b>8,873</b>	<b>4,708,835</b>
<b>Total, Unmitigated (Program), with Placer Parkway</b>	<b>6,189</b>	<b>2,434</b>	<b>9,237</b>	<b>4,927,154</b>
<b>FRAQMD Significance Threshold</b>	<b>25</b>	<b>25</b>	<b>80</b>	<b>—</b>
<b>At Full Buildout of Phase 1/A (2020)</b>				
Area Sources				
Natural Gas	10	138	0	171,461
Hearth (winter only)	1,563	182	1,322	252,254
Landscaping (summer only)	28	2	1	308
Consumer Products	380			
Architectural Coatings	137			
Mobile Source				
	752	932	2,303	1,411,113
<b>Total, Max. Daily Unmitigated (Phase 1/A)</b>	<b>2,842</b>	<b>1,251</b>	<b>3,625</b>	<b>1,834,827</b>
<b>FRAQMD Significance Threshold</b>	<b>25</b>	<b>25</b>	<b>80</b>	<b>—</b>

### Notes

Because the Specific Plan allows for flexibility in the exact type of land use development that would take place, assumptions about specific land use types were used in the URBEMIS modeling. Overall, the total amount of residential land uses (dwelling units), commercial and industrial land uses (square feet), schools (students), and acreage that was modeled in URBEMIS is consistent with the totals stated in the project description. The detailed breakdown of land use types is included in Appendix X.

The estimation of mobile-source emissions is based on projected VMT and trip starts provided by the traffic analysis (Fehr & Peers 2008) and does not account for trip reductions that would result from the transit infrastructure that is proposed as part of the project.

# Construction Modeling in URBEMIS

## Assumptions Used in URBEMIS Modeling of Construction Emissions

The earliest year when Phase 1/A could become fully operational is 2020.

Construction of Phase 1/A would happen over a 9-year period and the first full-year in which construction activity may take place is 2011, though some construction of underground infrastructure may begin in the end of 2010.

The rate of construction would not necessarily be consistent during this 9-year period. For the sake of this analysis, it is assumed that up to 25% of Phase 1/A construction could occur in a single year (with 2011 being the earliest year).

Up to 75 acres would be graded on any single day.

No demolition would occur.

Some fill may be imported when the Lutz property is lowered for the Sankey Spill. The excavation and hauling of this fill is discussed in the analysis of emissions associated with the construction of off-site program elements.

(Alternate Assumption: No soil or aggregate would be imported to or exported from the project site beyond the amounts used for standard building practices.)

**Maximum Daily Construction Emissions if Entire Phase 1/A were Constructed in One Year (2011), No Mitigation**

	ROG	NOx	PM <sub>10</sub> Dust	PM <sub>10</sub> Exh	PM <sub>10</sub> Total	PM <sub>2.5</sub> Dust	PM <sub>2.5</sub> Exh	PM <sub>2.5</sub> Total	CO <sub>2</sub>
<b>Site Grading</b>									
Fugitive Dust	0.00	0.00	1,500.00	0.00	1,500.00	313.26	0.00	313.26	0.0
Off-Road Diesel Exhaust	10.48	89.68	0.00	4.27	4.27	0.00	3.93	3.93	8,842.9
On-Road Diesel Exhaust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Worker Trips	0.13	0.20	0.01	0.01	0.02	0.00	0.10	0.01	255.0
Subtotal	10.61	89.88	1,500.01	4.28	1,504.29	313.26	4.03	317.20	9,097.9
<b>Building Construction</b>									
Off-Road Diesel Exhaust	3.77	21.85	0.00	1.57	1.57	0.00	1.45	1.45	2,259.3
Vendor Trips	31.65	403.04	3.09	14.35	17.44	1.05	13.13	14.18	84,616.9
Worker Trips	98.96	157.12	9.78	5.30	15.08	3.53	4.32	7.85	199,707.1
Subtotal	134.38	582.01	12.87	21.22	34.09	4.58	18.90	23.48	286,583.3
<b>Architectural Coatings</b>									
Off-Gas Emissions	1,924.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Worker Trips	1.14	1.80	0.11	0.06	0.17	0.04	0.05	0.09	2,291.5
Subtotal	1,925.99	1.80	0.11	0.06	0.17	0.04	0.05	0.09	2,291.5
<b>Asphalt Paving</b>									
Off-Gas Emissions	5.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
Off-Road Diesel Exhaust	3.02	18.25	0.00	1.62	1.62	0.00	1.49	1.49	1,418.8
On-Road Diesel Exhaust	0.92	15.00	0.08	0.53	0.61	0.03	0.49	0.51	2,399.8
Worker Trips	0.06	0.10	0.01	0.00	0.01	0.00	0.00	0.01	127.5
Subtotal	9.27	33.35	0.09	2.15	2.24	0.03	1.98	2.01	3,946.2
<b>Total, Unmitigated</b>	<b>2,080.25</b>	<b>707.04</b>	<b>1,513.08</b>	<b>27.71</b>	<b>1,540.79</b>	<b>317.91</b>	<b>24.96</b>	<b>342.78</b>	<b>301,918.8</b>

Note: URBEMIS estimates the same emission levels for summer and winter.

Proportion of PM <sub>10</sub> Exhaust that is PM <sub>2.5</sub> Exhaust during Site Grading	0.94
Proportion of PM <sub>10</sub> Dust that is PM <sub>2.5</sub> Dust during Site Grading	0.21
Proportion of CO <sub>2</sub> emissions to NOx emissions during Site Grading	101.22

These ratios are used to estimate PM<sub>2.5</sub> emissions from the construction of the off-site Sewer Force Main, which involves very similar activities to site grading.

**Maximum Daily Construction Emissions if 25% of Phase 1/A were Constructed in One Year (2011), No Mitigation**

	ROG	NOx	PM <sub>10</sub> Dust	PM <sub>10</sub> Exh	PM <sub>10</sub> Total	PM <sub>2.5</sub> Dust	PM <sub>2.5</sub> Exh	PM <sub>2.5</sub> Total	CO <sub>2</sub>
<b>Site Grading</b>									
Fugitive Dust	0.0	0.0	375.0	0.0	375.0	78.3	0.0	78.3	0.0
Off-Road Diesel Exhaust	2.6	22.4	0.0	1.1	1.1	0.0	1.0	1.0	2,210.7
On-Road Diesel Exhaust	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Worker Trips	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	63.8
Subtotal	2.7	22.5	375.0	1.1	376.1	78.3	1.0	79.3	2,274.5
<b>Building Construction</b>									
Off-Road Diesel Exhaust	0.9	5.5	0.0	0.4	0.4	0.0	0.4	0.4	564.8
Vendor Trips	7.9	100.8	0.8	3.6	4.4	0.3	3.3	3.5	21,154.2
Worker Trips	24.7	39.3	2.4	1.3	3.8	0.9	1.1	2.0	49,926.8
Subtotal	33.6	145.5	3.2	5.3	8.5	1.1	4.7	5.9	71,645.8
<b>Architectural Coatings</b>									
Off-Gas Emissions	481.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Worker Trips	0.3	0.5	0.0	0.0	0.0	0.0	0.0	0.0	572.9
Subtotal	481.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	572.9
<b>Asphalt Paving</b>									
Off-Gas Emissions	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Road Diesel Exhaust	0.8	4.6	0.0	0.4	0.4	0.0	0.4	0.4	354.7
On-Road Diesel Exhaust	0.2	3.8	0.0	0.1	0.2	0.0	0.1	0.1	600.0
Worker Trips	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.9
Subtotal	2.3	8.3	0.0	0.5	0.6	0.0	0.5	0.5	986.5
<b>Total, Unmitigated</b>	<b>520.1</b>	<b>176.8</b>	<b>378.3</b>	<b>6.9</b>	<b>385.2</b>	<b>79.5</b>	<b>6.2</b>	<b>85.7</b>	<b>75,479.7</b>

**Quantitative Reductions from Construction Mitigation**

Cleaner heavy-duty off-road construction equipment fleet:

20% reduction in NOx exhaust

45% reduction in PM<sub>10</sub> exhaust

5% reduction in ROG exhaust

Fugitive Dust Control Plan:

75% reduction in fugitive PM<sub>10</sub> dust

**Maximum Daily Construction Emissions if 25% of Phase 1/A were Constructed in One Year (2011), with Mitigation**

	ROG	NOx	PM <sub>10</sub> Dust	PM <sub>10</sub> Exh	PM <sub>10</sub> Total	PM <sub>2.5</sub> Dust	PM <sub>2.5</sub> Exh	PM <sub>2.5</sub> Total	CO <sub>2</sub>
<b>Site Grading</b>									
Fugitive Dust	0.0	0.0	93.8	0.0	93.8	78.3	0.0	78.3	0.0
Off-Road Diesel Exhaust	2.5	17.9	0.0	0.6	0.6	0.0	1.0	1.0	2,210.7
On-Road Diesel Exhaust	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Worker Trips	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	63.8
Subtotal	2.5	18.0	93.8	0.6	94.3	78.3	1.0	79.3	2,274.5
<b>Building Construction</b>									
Off-Road Diesel Exhaust	0.9	4.4	0.0	0.2	0.2	0.0	0.4	0.4	564.8
Vendor Trips	7.9	100.8	0.8	3.6	4.4	0.3	3.3	3.5	21,154.2
Worker Trips	24.7	39.3	2.4	1.3	3.8	0.9	1.1	2.0	49,926.8
Subtotal	33.5	144.4	3.2	5.1	8.3	1.1	4.7	5.9	71,645.8
<b>Architectural Coatings</b>									
Off-Gas Emissions	481.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Worker Trips	0.3	0.5	0.0	0.0	0.0	0.0	0.0	0.0	572.9
Subtotal	481.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	572.9
<b>Asphalt Paving</b>									
Off-Gas Emissions	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Road Diesel Exhaust	0.7	3.7	0.0	0.2	0.2	0.0	0.4	0.4	354.7
On-Road Diesel Exhaust	0.2	3.8	0.0	0.1	0.2	0.0	0.1	0.1	600.0
Worker Trips	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.9
Subtotal	2.3	7.4	0.0	0.5	0.4	0.0	0.5	0.5	986.5
<b>Total, with Mitigation</b>	<b>519.9</b>	<b>170.3</b>	<b>97.0</b>	<b>6.3</b>	<b>103.1</b>	<b>79.5</b>	<b>6.2</b>	<b>85.7</b>	<b>75,479.7</b>

## Phase 1/A Greenhouse Gas Emissions Summary

URBEMIS Output Summary	CO2 Estimates	Conversion Factors	Total CO2 Emissions
<b>Construction Emissions</b>			
2011	39,249.45 tons/yr	0.907 metric ton/english ton	35,607 Metric tons/year
			<b>35,607</b> Metric tons
<b>Area-Source Emissions</b>			
Operational Year 2020	40,201.09 tons/yr	0.907 metric ton/english ton	36,470 Metric tons/year
<b>Operational (Mobile-Source) Emissions</b>			
Subtotal, Year 2020	246,762.65 tons/yr	0.907 metric ton/english ton	223,859 Metric tons/year
<b>Total Direct Operational Emissions, Year 2020</b>			<b>260,329</b> Metric tons/year

### Indirect Emissions from Energy Consumption

KWh/du/yr	# du	KWh/ksf/ year	# ksf Commercial	Total KWh	MWh	Region	Emission Factor (lb CO2/MWh)	GWP	Emission Factor (lb CH4/MWh)	GWP	Emission Factor (lb N2O/MWh)	GWP	Total CO2e (Metric Tons/year)
7,000	7,770	16,750	10,492	230,131,000	230,131	CALI	804.54	1	0.0067	23	0.0037	296	<b>84,113</b>

Sources:

California Energy Commission [CEC] 2000. California Energy Demand Staff Report P200-00-002

California Climate Action Registry [CCAR] General Reporting Protocol v 3.0 April 2008

**Indirect Emissions from Water Consumption (Conveyance, Treatment, Distribution, Wastewater Treatment)**

	<u>value</u>	<u>units</u>	<u>source</u>
Annual Water Demand, total	8,442	a-f/yr	Table 3.9-4 on pg. 3.9-26 of Section 3.9, "Public Utilities"
conversion rate	325,851	gal/acre	<a href="http://www.onlineconversion.com/volume.htm">http://www.onlineconversion.com/volume.htm</a>
conversion rate	1,000,000	1 mil gal	by definition
Annual Water Demand, total	2,751	mg/yr	conversion calculation
electricity consumption rate per water consumption rate, Nor Cal	3,950	kWh/mg	CEC 2005
Electricity consumption associated with water consumption	10,865,809	kWh/yr	calculation

Total kWh Assoc. w/ Water			Emission Factor	GWP	Emission Factor	GWP	Emission Factor	GWP	Total CO2e (Metric Tons/year)
Consumption	MWh	Region	(lb CO2/MWh)		(lb CH4/MWh)		(lb N2O/MWh)		
10,865,809	10,866	CALI	804.54	1	0.0067	23	0.0037	296	<b>3,971</b>

Sources:

California Energy Commission. 2005. California's Water-Energy Relationship. Final Staff Report CEC-700-2005-011-SF. Prepared in Support of the 2005 Integrated Energy Policy Support Proceeding. (04-IEPR-01E). Available: <<http://www.energy.ca.gov/2005publications/CEC-700-2005-011/CEC-700-2005-011-SF.PDF>>. Accessed June 24, 2008.

**Total Direct and Indirect Operational GHG Emissions**

**348,414 Metric tons/year**

Residential Population accommodated by Phase 1/A	20,514
Employment (jobs) accommodated by Phase 1/A	14,432
Total Service Population accommodated by Phase 1/A	34,946

**Annual GHG/SP**

**10.0 annual metric tonnes/SP**

## Input Parameters for Installation of Sewer Force Main

### Total Area of Disturbance

	<u>value</u>	<u>units</u>	<u>source</u>
length	5.5	miles	map measurement using Exhibit 3.12-1
length conversion	5280	ft/mi	conversion rate
length	29,040	ft	conversion calculation
width	6	ft	estimate, diameter of sewer pipe will range from 8 to 48 inches
area of ground disturbance	174,240	sq ft	calculation
area conversion	43,560	sq ft/acre	conversion rate
area of ground disturbance	4.00	acres	conversion calculation

### Maximum Daily Disturbance Area

	<u>value</u>	<u>units</u>	<u>source</u>
maximum length installed per day	2,000	ft	estimate
width	6	ft	estimate, diameter of sewer pipe will range from 8 to 48 inches
max. daily disturbance area	12,000	sq ft	calculation
area conversion	43,560	sq ft/acre	conversion rate
area of ground disturbance	0.28	acres	conversion calculation

### Volume of Gravel Imported

It is assumed that gravel will be imported from off-site and a depth of 1 foot will be laid under the sewer main pipe.

It is assumed that no soil or gravel will be removed.

	<u>value</u>	<u>units</u>	<u>source</u>
depth of gravel below sewer pipe	1	ft	estimate
width	6	ft	estimate
maximum length installed per day	2,000	ft	estimate
maximum daily volume	12,000	cu ft.	calculation
volume conversion	9	cu ft/cu yd	conversion rate
maximum daily volume	1,333	cu yd	conversion calculation

### Additional Assumptions

It is assumed that installing the sewer force main would take approximately 1.0 month.

**Summary of Maximum Daily Emissions from Model Output (lb/day)**

	<u>ROG</u>	<u>NOx</u>	<u>PM<sub>10</sub></u> <u>Total</u>	<u>PM<sub>10</sub></u> <u>Exhaust</u>	<u>PM<sub>10</sub> Dust</u>	<u>PM<sub>2.5</sub></u> <u>Total</u>	<u>PM<sub>2.5</sub></u> <u>Exhaust</u>	<u>PM<sub>2.5</sub></u> <u>Dust</u>	<u>CO<sub>2</sub></u>	<u>source</u>
Maximum daily emissions	14	115	11	5	6	6	5	1	11,667	Sewer_Force_Main_-
Significance Thresholds										_RoadConstructionMo
FRAQMD	25	25	80	—	—	—	—	—	—	delVer6.2.xls and
PCAPCD	82	82	82	—	—	—	—	—	—	applying emissions
SMAQMD	—	85	—	—	—	—	—	—	—	ratios, below

**Total Emissions from Construction Period (metric tons)**

	<u>NOx</u>	<u>CO<sub>2</sub></u>	<u>source</u>
Total construction emissions	0.74	74.48	Sewer_Force_Main_- _RoadConstructionModelVer6.2.xls and applying emissions ratio, below

Emissions Ratios Based on URBEMIS Modeling Estimates of Phase 1/A Construction

Proportion of PM <sub>10</sub> Exhaust that is PM <sub>2.5</sub> Exhaust during Site Grading	0.94
Proportion of PM <sub>10</sub> Dust that is PM <sub>2.5</sub> Dust during Site Grading	0.21
Proportion of CO <sub>2</sub> emissions to NOx emissions during Site Grading	101.22

*These ratios are used to estimate PM<sub>2.5</sub> emissions from the construction of the off-site Sewer Force Main, which involves very similar activities to site grading.*

## Road Construction Emissions Model, Version 6.2

Emission Estimates for -> Sewer Force Main					Exhaust	Fugitive Dust
Project Phases (English Units)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)
Grubbing/Land Clearing	4	16	32	7	1	6
Grading/Excavation	14	121	115	11	5	6
Drainage/Utilities/Sub-Grade	4	17	34	8	2	6
Paving	1	3	4	0	0	0
Maximum (pounds/day)	14	121	115	11	5	6
<b>Total (tons/construction project)</b>	0.09	0.49	0.81	0.08	0.03	0.05 <-tons

Notes:

Project Start Year -> 2010

Project Length (months) -> 1

Total Project Area (acres) -> 4

Maximum Area Disturbed/Day (acres) -> 0

Total Soil Imported/Exported (yd<sup>3</sup>/day)-> 1333

PM10 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I.

**Emission Estimates for -> Sewer Force Main**

Project Phases ( <b>Metric Units</b> )	ROG (kgs/day)	CO (kgs/day)	NOx (kgs/day)	PM10 (kgs/day)	Exhaust	Fugitive Dust
					PM10 (kgs/day)	PM10 (kgs/day)
<b>Grubbing/Land Clearing</b>	2	7	15	3	1	3
<b>Grading/Excavation</b>	7	55	52	5	2	3
<b>Drainage/Utilities/Sub-Grade</b>	2	8	16	3	1	3
<b>Paving</b>	0	1	2	0	0	0
<b>Maximum (kilograms/day)</b>	7	55	52	5	2	3
<b>Total (megagrams/construction project)</b>	0.08	0.45	0.74	0.08	0.03	0.05

<-megagrams

Notes: Project Start Year -> 2010  
 Project Length (months) -> 1  
 Total Project Area (hectares) -> 2  
 Maximum Area Disturbed/Day (hectares) -> 0  
 Total Soil Imported/Exported (meters<sup>3</sup>/day)-> 1019

PM10 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I.



Note: The program's estimates of construction period phase length can be overridden in cells C34 through C37.

Construction Periods	User Override of		Program	2005	%	2006	%
	Construction Months	Months	Calculated				
Grubbing/Land Clearing		0.10		0.00	0.00	0.00	0.00
Grading/Excavation		0.40		0.00	0.00	0.00	0.00
Drainage/Utilities/Sub-Grade		0.35		0.00	0.00	0.00	0.00
Paving		0.15		0.00	0.00	0.00	0.00
<b>Totals</b>	0.00	1.00					

Hauling emission default values can be overridden in cells C45 through C46.

Soil Hauling Emissions	User Override of		Default Values
	Soil Hauling Defaults	Default Values	
<b>User Input</b>			
Miles/round trip		30	30
Round trips/day		67	66.65
Vehicle miles traveled/day (calculated)			1999.5
<b>Hauling Emissions</b>	<b>ROG</b>	<b>NOx</b>	<b>CO</b>
Emission rate (grams/mile)	1.11	14.47	7.75
Emission rate (grams/trip)	11.78	8.19	205.93
Pounds per day	8.3	66.1	94.6
Tons per construction period	0.04	0.29	0.42

Worker commute default values can be overridden in cells C60 through C65.

<b>Worker Commute Emissions</b>	User Override of Worker			
	Commute Default Values	Default Values		
Miles/ one-way trip		20		
One-way trips/day		2		
No. of employees: Grubbing/Land Clearing		1		
No. of employees: Grading/Excavation		3		
No. of employees: Drainage/Utilities/Sub-Grade		3		
No. of employees: Paving	0.00	4		
	<b>ROG</b>	<b>NOx</b>	<b>CO</b>	<b>PM10</b>
Emission rate - Grubbing/Land Clearing (grams/mile)	0.17	0.29	2.97	0.05
Emission rate - Grading/Excavation (grams/mile)	0.17	0.29	2.97	0.03
Emission rate - Draining/Utilities/Sub-Grade (gr/mile)	0.17	0.29	2.97	0.05
Emission rate - Paving (grams/mile)	0.17	0.29	2.97	0.05
Emission rate - Grubbing/Land Clearing (grams/trip)	0.95	0.40	9.27	0.12
Emission rate - Grading/Excavation (grams/trip)	0.95	0.40	9.27	0.12
Emission rate - Draining/Utilities/Sub-Grade (gr/trip)	0.95	0.40	9.27	0.12
Emission rate - Paving (grams/trip)	0.95	0.40	9.27	0.12
Pounds per day - Grubbing/Land Clearing	0.0	0.0	0.4	0.0
Tons per const. Period - Grub/Land Clear	0.0	0.0	0.0	0.0
Pounds per day - Grading/Excavation	0.0	0.0	0.4	0.0
Tons per const. Period - Grading/Excavation	0.0	0.0	0.0	0.0
Pounds per day - Drainage/Utilities/Sub-Grade	0.0	0.0	0.4	0.0
Tons per const. Period - Drain/Util/Sub-Grade	0.0	0.0	0.0	0.0
Pounds per day - Paving	0.0	0.0	0.4	0.0
Tons per const. Period - Paving	0.0	0.0	0.0	0.0
tons per construction period	0.0	0.0	0.0	0.0

20  
2  
1.25  
2.535  
2.5  
0

Water truck default values can be overridden in cells C91 through C93 and E91 through E93.

Water Truck Emissions	User Override of	Program Estimate of	User Override of Truck	Default Values
	Default # Water Trucks	Number of Water Trucks	Miles Traveled/Day	Miles Traveled/Day
Grubbing/Land Clearing - Exhaust		0		0
Grading/Excavation - Exhaust		0		0
Drainage/Utilities/Subgrade		0		0
	<b>ROG</b>	<b>NOx</b>	<b>CO</b>	<b>PM10</b>
Emission rate - Grubbing/Land Clearing (grams/mile)	1.11	14.47	7.75	0.56
Emission rate - Grading/Excavation (grams/mile)	1.11	14.47	7.75	0.56
Emission rate - Draining/Utilities/Sub-Grade (gr/mile)	1.10	14.47	7.75	0.56
Pounds per day - Grubbing/Land Clearing	0.0	0.0	0.0	0.0
Tons per const. Period - Grub/Land Clear	0.00	0.00	0.00	0.00
Pound per day - Grading/Excavation	0.0	0.0	0.0	0.0
Tons per const. Period - Grading/Excavation	0.00	0.00	0.00	0.00
Pound per day - Drainage/Utilities/Subgrade	0.0	0.0	0.0	0.0
Tons per const. Period - Drainage/Utilities/Subgrade	0.00	0.00	0.00	0.00

0  
0  
0

Fugitive dust default values can be overridden in cells C110 through C112.

Fugitive PM10 Dust	User Override of Max	Default	
	Acreage Disturbed/Day	Maximum Acreage/Day	tons/per period
Fugitive Dust - Grubbing/Land Clearing		0.28	5.6
Fugitive Dust - Grading/Excavation		0.28	5.6
Fugitive Dust - Drainage/Utilities/Subgrade		0	5.6

## Off-Road Equipment Emissions

Grubbing/Land Clearing		Default Number of Vehicles	ROG	CO	NOx	PM10
Override of Default Number of Vehicles	Program-estimate	Type	pounds/day	pounds/day	pounds/day	pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00
		Excavators	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00
		Graders	0.00	0.00	0.00	0.00
		Off-Highway Tractors	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00
		Plate Compactors	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00
		Rollers	0.00	0.00	0.00	0.00
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00
		1 Rubber Tired Dozers	1.70	8.16	15.07	0.64
		Rubber Tired Loaders	0.00	0.00	0.00	0.00
		1 Scrapers	1.84	7.65	17.29	0.70
0.00		11 Signal Boards	0.00	0.00	0.00	0.00
		Skid Steer Loaders	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00
		Trenchers	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00
	Grubbing/Land Clearing	pounds per day	3.5	15.8	32.4	1.3
	Grubbing/Land Clearing	tons per phase	0.0	0.0	0.0	0.0

Grading/Excavation		Default	ROG	CO	NOx	PM10
Override of Default Number of Vehicles	Number of Vehicles	Type	pounds/day	pounds/day	pounds/day	pounds/day
	<i>Program-estimate</i>					
		Aerial Lifts	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00
		0 Cranes	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00
4.00	1	Excavators	2.87	13.08	21.78	1.30
		Forklifts	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00
0.00	1	Graders	0.00	0.00	0.00	0.00
		Off-Highway Tractors	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00
		0 Other Construction Equipment	0.01	0.05	0.09	0.01
		Other General Industrial Equipment	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00
		Plate Compactors	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00
		Rollers	0.00	0.00	0.00	0.00
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00
2.00	1	Rubber Tired Loaders	1.28	5.46	9.95	0.57
	1	Scrapers	1.84	7.65	17.29	0.70
0.00	11	Signal Boards	0.00	0.00	0.00	0.00
		Skid Steer Loaders	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00
		Trenchers	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00
	Grading/Excavation	pounds per day	6.0	26.2	49.1	2.6
	Grading	tons per phase	0.0	0.1	0.2	0.0



Paving	Default		ROG	CO	NOx	PM10
	Number of Vehicles	Type				
Override of Default Number of Vehicles	Program-estimate		pounds/day	pounds/day	pounds/day	pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00
		Excavators	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00
		Graders	0.00	0.00	0.00	0.00
		Off-Highway Tractors	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00
	0.00	1 Pavers	0.00	0.00	0.00	0.00
	0.00	1 Paving Equipment	0.00	0.00	0.00	0.00
		Plate Compactors	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00
		1 Rollers	0.61	2.12	3.75	0.33
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00
		Rubber Tired Loaders	0.00	0.00	0.00	0.00
		Scrapers	0.00	0.00	0.00	0.00
	0.00	11 Signal Boards	0.00	0.00	0.00	0.00
		Skid Steer Loaders	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00
		Trenchers	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00
	Paving	pounds per day	0.6	2.1	3.8	0.3
	Paving	tons per phase	0.0	0.0	0.0	0.0
<b>Total Emissions all Phases (tons per construction period) =&gt;</b>			<b>0.0</b>	<b>0.2</b>	<b>0.4</b>	<b>0.0</b>

Equipment default values for horsepower, load factor, and hours/day can be overridden in cells C285 through C317, E285 through E317, and G285 through G317.

Equipment	Default Values		Default Values		Default Values
		Horsepower		Load Factor	
Aerial Lifts		60		0.46	8
Air Compressors		106		0.48	8
Bore/Drill Rigs		291		0.75	8
Cement and Mortar Mixers		10		0.56	8
Concrete/Industrial Saws		19		0.73	8
Cranes		399		0.43	8
Crushing/Proc. Equipment		142		0.78	8
Excavators		168		0.57	8
Forklifts		145		0.30	8
Generator Sets		549		0.74	8
Graders		174		0.61	8
Off-Highway Tractors		267		0.65	8
Off-Highway Trucks		479		0.57	8
Other Construction Equipment		75		0.62	8
Other General Industrial Equipment		238		0.51	8
Other Material Handling Equipment		191		0.59	8
Pavers		100		0.62	8
Paving Equipment		104		0.53	8
Plate Compactors		8		0.43	8
Pressure Washers		1		0.60	8
Pumps		53		0.74	8
Rollers		95		0.56	8
Rough Terrain Forklifts		93		0.60	8
Rubber Tired Dozers		357		0.59	8
Rubber Tired Loaders		157		0.54	8
Scrapers		313		0.72	8
Signal Boards		20		0.78	8
Skid Steer Loaders		44		0.55	8
Surfacing Equipment		362		0.45	8
Sweepers/Scrubbers		91		0.68	8
Tractors/Loaders/Backhoes		108		0.55	8
Trenchers		63		0.75	8
Welders		45		0.45	8

## Appendix XXX

Summary of Emissions Included in the Inventory.	1990	2007	2020	2050
Projected GHG Emissions from Sectors Applicable to Land Development (million metric tonnes CO <sub>2</sub> e/year) (Business as usual)	275	317	356	466
GHG Emissions from Sectors Applicable to Land Development (million metric tonnes of CO <sub>2</sub> e/year) (to meet AB 32 & S-3-05 requirements)	275	-	275	55
California Service Population (Jobs + Residents)	44,052,313	54,768,332	64,330,584	86,736,068
GHG/Service Population (Business as usual) (metric tonnes CO <sub>2</sub> e/SP/year)	6.2	5.8	5.5	5.4
GHG/Service Population (to meet AB 32 & S-3-05 requirements) (metric tonnes CO <sub>2</sub> e/SP/year)	6.2	5.8	4.3	0.6

Note: Blue text is extrapolated data

Red text is recommended threshold

Appendix A

California:	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Avg % Chng	
Population	29,758,213	30,143,555	30,722,998	31,150,786	31,418,940	31,617,770	31,837,399	32,207,869	32,657,877	33,140,771	33,721,583	34,430,970	35,063,959	35,652,700	36,199,342	36,675,346	37,114,598	37,559,440	38,049,462	1.376%	
		1.3%	1.9%	1.4%	0.9%	0.6%	0.7%	1.2%	1.4%	1.5%	1.8%	2.1%	1.8%	1.7%	1.5%	1.3%	1.2%	1.2%	1.3%		
Employment	14,294,100	13,931,700	13,874,200	13,808,300	13,953,900	14,062,400	14,303,500	14,780,800	15,203,700	15,566,900	16,024,300	16,220,000	16,180,800	16,200,100	16,413,400	16,742,300	17,029,900	17,208,900		1.257%	
		-2.5%	-0.4%	-0.5%	1.1%	0.8%	1.7%	3.3%	2.9%	2.4%	2.9%	1.2%	-0.2%	0.1%	1.3%	2.0%	1.7%	1.1%			
Population	2000	2010	2020	2030	2040	2050														1.490%	
	34,105,437	39,135,676	44,135,923	49,240,891	54,266,115	59,507,876															
Employment	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2020	2030	2040	2050						
	16,024,333	16,220,025	16,180,792	16,200,067	16,413,358	16,742,292	17,029,933	17,208,892	17,218,793	17,408,088	17,677,260	20,194,661	22,530,470	24,829,792	27,228,192						
		1.22%	-0.24%	0.12%	1.32%	2.00%	1.72%	1.05%	0.06%	1.10%	1.55%										0.867%

Sources: Population data is from the California Department of Finance and U.S. Census Bureau. Total employment information for 1990 and 2000 is from the U.S. Census. Total civilian employment on an annual (seasonally adjusted basis) is from the California Department of Finance.

1990-2000 Population: State of California, Department of Finance, E-4 Historical Population Estimates for City, County and the State, 1991-2000, with 1990 and 2000 Census Counts. Sacramento, California, August 2007.

2001-2007 Population: State of California, Department of Finance, E-4 Population Estimates for Cities, Counties and the State, 2001-2007, with 2000 Benchmark. Sacramento, California, May 2007.

2000-2050 Population: State of California, Department of Finance, Population Projections for California and Its Counties 2000-2050, Sacramento, California, July 2007.

1990 - 2006 Employment: California Employment Development Department Labor Market Information Division, (916) 262-2162; U.S. Department of Labor, Bureau of Labor Statistics, (202) 606-6555.

2007 - 2009 Employment: Economic Research Unit of the California Department of Finance. Economic Forecasts, U.S. and California. April 2007.

2010-2050 Employment: Extrapolated as 46% of projected population (the average over last 15 years)

Notes: The Department of Finance has population estimates also for April of 1990 and 2000: 29,758,213 for 1990 and 33,873,086 for 2000. Extrapolated data presented in blue text.

Summary of GHG Emissions by Applicable Sector	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Avg % Chng
Electricity and Heat Production																
CHP Commercial	0.701	0.621	0.712	0.724	0.795	0.771	0.789	0.769	0.763	0.749	0.73	0.675	0.688	0.877	0.836	(millions of metric tonnes of CO2 equivalent)
Merchant-Owned	2.329	2.827	3.003	3.274	3.008	2.831	2.845	2.723	11.613	23.231	33.726	39.594	24.557	24.996	28.487	
Utility-Owned	29.918	26.249	32.487	28.268	35.322	22.648	18.66	21.358	15.573	8.052	7.08	7.144	5.049	5.513	5.79	
Imports (not including transmission)	60.564	56.349	49.227	54.866	55.055	53.713	49.098	55.373	58.031	55.238	40.267	50.859	50.954	57.554	60.909	
Road Transportation	137.992	134.485	141.765	139.441	140.467	143.572	145.061	148.37	151.314	155.878	159.336	162.275	168.99	165.474	171.506	
Commercial/Institutional (incl. water supply and sewage systems)	13.572	13.03	11.065	10.745	11.415	10.967	11.082	11.636	12.476	13.158	13.221	11.934	11.942	11.382	12.035	
Residential	29.66	30.23	28.56	29.07	29.79	27.19	27.3	26.72	31.42	32.21	30.61	28.59	28.52	27.92	29.1	
Total	274.736	263.791	266.819	266.388	275.852	261.692	254.835	266.949	281.19	288.516	284.97	301.071	290.7	293.716	308.663	0.90%
Annual % Change		-4%	1%	0%	4%	-5%	-3%	5%	5%	3%	-1%	6%	-3%	1%	5%	

GHG Projections - Business as Usual (Extrapolated)	2005	2006	2007	2010	2020	2030	2040	2050
	311	314	317	326	356	390	426	466

(millions of metric tonnes of CO2 equivalent)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2010	2020	2030	2040	2050
GHG/Service Population (metric ton CO2e/SP)	6.2	6.0	6.0	5.9	6.1	5.7	5.5	5.7	5.9	5.9	5.7	5.9	5.7	5.7	5.9	5.8	5.8	5.8	5.7	5.5	5.4	5.4	5.4

(SP) Population + Employment	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2010	2020	2030	2040	2050
	44,052,313	44,075,255	44,597,198	44,959,086	45,372,840	45,680,170	46,140,899	46,988,669	47,861,577	48,707,671	49,745,883	50,650,970	51,244,759	51,852,800	52,612,742	53,417,646	54,144,498	54,768,332	56,812,936	64,330,584	71,771,361	79,095,907	86,736,068

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
employment projections (1.2% change)	17,408,088	17,677,260	17,830,521	17,985,110	18,141,040	18,298,322	18,456,968	18,616,988	18,778,397	18,941,204	19,105,423	19,271,066	19,438,145	19,606,673	19,776,662	19,948,124	20,121,073	20,295,522	20,471,483	20,648,970	20,827,995	21,008,573	21,190,716
employment projections (% of population)		17906767										20194661										22530470	
Difference		(229,507)										(923,595)										(1,521,898)	

employment/ population	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Avg % of population
	48%	46%	45%	44%	44%	44%	45%	46%	47%	47%	48%	47%	46%	45%	45%	46%	46%	46%	46%

GHG Projections	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
	311	314	317	320	323	326	329	332	335	338	341	344	347	350	353	356	359	363	366	369	373	376	379

2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
21,374,438	21,559,753	21,746,675	21,935,217	22,125,395	22,317,220	22,510,710	22,705,876	22,902,735	23,101,300	23,301,587	23,503,611	23,707,386	23,912,927	24,120,251	24,329,372	24,540,306	24,753,070	24,967,677
								24829792 (1,927,057)										27228192 (2,260,515)

2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
383	386	390	393	397	400	404	407	411	415	419	422	426	430	434	438	442	446	450	454	458	462	466

Sutter Pointe Specific Plan

Scenario	TDF Model Land Use Inputs									
	Population			Retail Employment	Non-Retail Employment (jobs)					K-12 Enrollment
	LDR	HDR	Total		Office	Medical	Manufacturing & Other	Education	Non-Retail Subtotal	

Phase 1	15,138	5,376	20,514	4,941	3,669	275	5,310	237	9,491	4,380
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Buildout	35,577	10,624	46,201	8,791	16,121	1,019	30,925	795	48,860	10,050
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**Total Employment**

Phase 1	14,432
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Buildout	57,651
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persons/household      2.64

This information was e-mailed by David Robinson of Fehr & Peers to Austin Kerr of EDAW on June 13, 2008.