

APPENDIX M
WATER SUPPLY ASSESSMENT

**City of Sacramento
SB 610/SB 221 Water Supply Assessment and Certification Form**

This form may be used to complete water supply assessments for projects located in an area covered by the City's most recent Urban Water Management Plan.

Note: Please do not use this form if the projected water demand for your project area was not included in the City's latest Urban Water Management Plan. To review the City's Urban Water Management Plan, please visit:
<http://www.cityofsacramento.org/utilities/urbanwater/index.html>

Project: Railyards Specific Plan

Date: TBD

Project Applicant (Name of Company): Thomas Enterprises, Inc.

Applicant Contact (Name of Individual): David Beauchamp, EIP/PBS&J

Phone Number: 916.325.1472

E-mail: dsbeauchamp@pbsj.com

Address: 1200 Second Street, Ste 100, Sacramento, CA 95814

Project Applicant to fill in the following:

- Does the project include:

Type of Development	Yes	No
A proposed residential development of 500 or more dwelling units		
A shopping Center employing more than 1,000 persons or having more than 500,000 square feet?		
A Commercial Office building employing more than 1,000 persons or having more than 250,000 square feet?		
A proposed hotel or motel, or both, having more that 500 rooms		
A proposed industrial, manufacturing, or processing plant or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area		
A mixed use project that includes one or more of the projects specified above	YES	
A project that would demand an amount of water equivalent to, or greater than, the water required by a 500 dwelling unit project		

If the answer is no to all of the above, a water supply assessment is not required for the project.

2. Is the projected water demand for the project location included in the City's 2005 Urban Water Management Plan, adopted November 14, 2006?

Yes: X

No:

If the answer is no, you cannot use this form. Please refer to the requirements of SB 610 for preparing a water supply assessment.

3. Please fill in the project demands below:

LAND USE DESIGNATIONS WITH WATER DEMANDS			
Land Use Designation (LUD)	Acres	Average Annual Demand (gpd)	Total Annual Demand (AFA)
Retail/Residential Mixed Use (RRMU)	48.83	1,019,261.40	1,142
Residential Mixed Use (RMU)	41.95	2,030,830.00	2,275
Transportation (TU)	28.88	11,987.48	13
Open Space (OS)	41.16	145,649.77	163
Office/Residential Mixed Use (ORMU)**	19.46	626,174.55	701
Total	180.39	3,833,903.20	4,295
<small>Notes: See Appendix A: Water Demand Spreadsheet for Railyards Specific Plan, June 2007 Source: EIP Associates, a division of PBS&J, June 2007.</small>			

4. Required Elements of Water Supply Assessment (Government Code § 10910)

A. Water supply entitlements, water rights or water service contracts (Gov't Code § 10910(d)):

The City's water supply entitlements, water rights and water service contract are identified and discussed in the Urban Water Management Plan, Chapters 4, 5 and 6.

All infrastructure necessary to deliver a water supply to the project is in place, excepting any distribution facilities required to be constructed and financed by the project applicant: **Yes: No:**

B. Identification of other sources of water supply if no water has been received under City's existing entitlements, water rights or water service contracts (Gov't Code § 10910(e)):

Not applicable.

C. Information and analysis pertaining to groundwater supply (Gov't Code § 10910(f)):

Addressed by Urban Water Management Plan, Chapters 4, 5 and 6.

Verification of Water Supply
(for residential development of more than 500 dwelling units)

Based on the City's most recent Urban Water Management Plan, are there sufficient water supplies for the project during normal, single dry and multiple dry years over a 20 year period?

Yes: _____

No: _____

By: _____

Title: _____

Date: _____

This box to be filled in by the City

Distribution:

Applicant

Community Development Department (Org: 4913) – Scot Mende

Utilities Department (Org: 3334) - Development Review (Robert Thaung)

Utilities Department (Org: 3344) - Water Conservation

Utilities Department (Org: 3332) - Capital Improvements (Jim Peifer)

APPENDIX A - WATER DEMANDS FOR RAILYARDS SPECIFIC PLAN

THE RAILYARDS				Land Use Distribution and Densities - Preferred Plan												April 5, 2007	
PROGRAMMATIC LEVEL																	
Parcel #	Area	AC	Land Use	Residential		Retail	Mixed-Use		Hotel	Office		All Visitors	Hist./Cultural	Open Space	Demand		
				Density			2nd Level on Camille			FAR					AFA		
															0.0		
1	0.75	AC	OS											0.75 AC	0.0		
2	4.31	AC	RRMU			200,000 SF (Bass Pro+ 420,000 gallons/year (1.288 AFY) aquarium tank changes)					3,000,000				3.2		
3a	2.84	AC	RRMU	49 DU/AC											79.7		
3b	0.13	AC	OS											0.13 AC	0.0		
3c	0.93	AC	RRMU					500 Kys							0.6		
3d	0.73	AC	RRMU	230 DU/AC	168 DU	28,000 SF	32,000 SF								72.8		
3e	0.67	AC	OS											0.67 AC	66.8		
3f	0.28	AC	RRMU		140 DU										2.9		
5a	1.14	AC	RRMU	91 DU/AC	104 DU										36.1		
5b	0.68	AC	RRMU	118 DU/AC	80 DU	27,000 SF	29,000 SF								26.8		
6a	1.28	AC	RRMU	189 DU/AC	242 DU										42.6		
6b	1.07	AC	RRMU	93 DU/AC	100 DU	43,000 SF	47,000 SF								62.3		
6c	0.15	AC	OS											0.15 AC	61.0		
7a	2.06	AC	RRMU	90 DU/AC	186 DU	18,000 SF	18,000 SF								0.6		
7b	1.19	AC	RRMU	91 DU/AC	108 DU	54,000 SF	58,000 SF								62.0		
7c	0.03	AC	OS											0.03 AC	71.7		
8a	0.61	AC	RRMU	36 DU/AC	22 DU	27,000 SF	27,000 SF								0.1		
8b	1.22	AC	RRMU	39 DU/AC	48 DU	33,000 SF	38,000 SF								26.8		
9a	0.60	AC	RRMU	73 DU/AC	44 DU	26,000 SF	26,000 SF								40.2		
9b	1.27	AC	RRMU	38 DU/AC	48 DU	34,000 SF	38,000 SF								31.7		
10a	3.88	AC	RRMU	27 DU/AC	106 DU	116,000 SF	65,000 SF								40.6		
10b	0.57	AC	OS											0.57 AC	98.3		
11a	4.42	AC	RRMU			223,000 SF									2.4		
11b	0.27	AC	OS											0.27 AC	87.4		
12	1.17	AC	RRMU			71,000 SF	43,000 SF								1.2		
13a	0.11	AC	RRMU			3,500 SF									44.7		
13b	0.23	AC	RRMU			8,000 SF									1.4		
13c	0.12	AC	RRMU			5,600 SF									3.1		
13d	0.60	AC	OS												2.2		
14	0.62	AC	RRMU			13,000 SF		100 Kys						0.60 AC	2.6		
15a	3.33	AC	RRMU	22 DU/AC	72 DU	65,500 SF	40,000 SF				360,000	100,000 SF			19.7		
15b	0.05	AC	OS											0.05 AC	62.7		
16a	1.67	AC	RRMU	141 DU/AC	236 DU	28,000 SF	30,000 SF								0.2		
16b	0.07	AC	OS											0.07 AC	83.5		
17	1.48	AC	RRMU												0.3		
18a	1.05	AC	OS											1.05 AC	0.0		
18b	0.25	AC	RRMU			38,500 SF									4.5		
20	1.30	AC	RRMU										56,278 SF		15.1		
21	5.30	AC	OS											5.30 AC	0.9		
22	0.15	AC	RRMU										6,500 SF		22.7		
23	0.34	AC	RRMU										22,500 SF		0.0		
24	0.73	AC	RRMU										42,028 SF		0.0		
25	0.53	AC	RRMU										38,711 SF		0.0		
26	0.33	AC	RRMU										28,500 SF		0.0		
27	0.65	AC	RRMU										28,043 SF		0.0		
28	2.24	AC	RRMU										93,134 SF		0.0		
29	1.67	AC	RRMU								100,000		69,696 SF		0.0		
30a	5.07	AC	OS											5.07 AC	1.5		
30b	1.35	AC	OS											1.35 AC	21.8		
31a	2.66	AC	OS											2.66 AC	5.8		
31b	0.32	AC	OS											0.32 AC	11.4		
33	2.62	AC	RRMU												1.4		
34	1.26	AC	OS											1.26 AC	75.5		
35	4.00	AC	RMU	225 DU/AC	900 DU	15,000 SF		500 Kys							5.4		
38	16.78	AC	TU												0.0		
39	15.34	AC	TU											3.13 AC	13.4		
40	1.93	AC	ORMU	50 DU/AC	96 DU*	38,000 SF			1.4	115,200 SF*					44.5		
41	2.43	AC	ORMU	66 DU/AC	160 DU*	85,000 SF			1.8	192,000 SF*					82.6		
42	1.19	AC	ORMU	229 DU/AC	273 DU*	6,200 SF			5.8	300,000 SF*					85.3		
43	2.56	AC	ORMU	178 DU/AC	455 DU*	12,000 SF			4.5	500,000 SF*					142.8		
44	1.96	AC	ORMU	116 DU/AC	227 DU*	16,500 SF			2.9	250,000 SF*					75.5		
45	0.33	AC	OS											0.33 AC	1.4		
46	2.89	AC	ORMU	57 DU/AC	164 DU*				1.4	180,000 SF*					49.7		
47a	2.21	AC	ORMU	123 DU/AC	273 DU*				3.1	300,000 SF*					82.9		
47b	0.78	AC	RRMU												0.0		
48	2.56	AC	ORMU	178 DU/AC	455 DU*				4.5	500,000 SF*					138.1		
49a	4.87	AC	RMU	133 DU/AC	650 DU	60,000 SF									191.0		
49b	0.73	AC	ORMU												0.0		
49c	1.00	AC	ORMU												0.0		
50	1.26	AC	OS											1.26 AC	5.4		
51	4.70	AC	RMU	138 DU/AC	650 DU	40,000 SF									183.1		
52N	0.98	AC	RMU	107 DU/AC	105 DU										27.1		
52S	1.30	AC	RMU	300 DU/AC	390 DU										100.5		
53N	1.38	AC	RMU	109 DU/AC	150 DU										38.6		
53S	1.49	AC	RMU	299 DU/AC	445 DU										114.6		
54N	1.35	AC	RMU	204 DU/AC	275 DU	15,000 SF									76.7		
54S	1.68	AC	RMU	298 DU/AC	500 DU	10,000 SF									132.7		

APPENDIX A - WATER DEMANDS FOR RAILYARDS SPECIFIC PLAN

THE RAILYARDS				Land Use Distribution and Densities - Preferred Plan												April 5, 2007	
PROGRAMMATIC LEVEL																	
Parcel #	Acres	Land Use	Residential		Retail		Mixed-Use 2nd Level on Camille		Hotel		Office		All Visitors	Hist./Cultural	Open Space	Demand AFA	
			Density								FAR						
																0.0	
54a	0.12	AC	OS												0.12 AC	0.5	
57a	0.12	AC	OS												0.12 AC	0.5	
57N	1.24	AC	RMU	202 DU/AC	250 DU	15,000 SF										70.3	
57S	1.38	AC	RMU	301 DU/AC	415 DU	10,000 SF										110.8	
58N	1.17	AC	RMU	107 DU/AC	125 DU											32.2	
58S	1.15	AC	RMU	300 DU/AC	345 DU											88.9	
59N	1.27	AC	RMU	106 DU/AC	135 DU											34.8	
59S	1.11	AC	RMU	300 DU/AC	333 DU											85.8	
60	1.12	AC	OS												1.12 AC	4.8	
61	0.71	AC	OS												0.71 AC	3.0	
62	0.92	AC	OS												0.92 AC	3.9	
63	0.97	AC	OS												0.97 AC	4.2	
64	0.89	AC	OS												0.89 AC	3.8	
65	0.92	AC	OS												0.92 AC	3.9	
66N	0.33	AC	RMU	106 DU/AC	35 DU											9.0	
66S	1.07	AC	RMU	107 DU/AC	115 DU											29.6	
67N	1.27	AC	RMU	303 DU/AC	385 DU											99.2	
67S	1.12	AC	RMU	159 DU/AC	178 DU											45.9	
68N	1.48	AC	RMU	291 DU/AC	430 DU											110.8	
68S	1.17	AC	RMU	111 DU/AC	130 DU											33.5	
69N	1.64	AC	RMU	293 DU/AC	480 DU											123.7	
69S	1.21	AC	RMU	112 DU/AC	135 DU											34.8	
70N	1.10	AC	RMU	300 DU/AC	330 DU											85.0	
70S	0.88	AC	RMU	125 DU/AC	110 DU											28.3	
71N	0.77	AC	RMU	260 DU/AC	200 DU											51.5	
71S	0.84	AC	RMU	119 DU/AC	100 DU											25.8	
72	10.37	AC	OS												10.37 AC	44.5	
																0.0	
																0.0	
Acres			Residential		Retail		Mixed Use 2nd Level		Hotel		Office			Hist./Cultural	Open Space		
TOTAL	180.39	AC		<i>Max.</i> 12,101 DU	1,384,800 SF		491,000 SF		1,100 Kys	<i>Max.</i> 2,337,200 SF			485,390 SF	41.16 AC		4295.5	
				<i>Min.</i> 10,000 DU						<i>Min.</i> 0 SF						2576.3	

Roads 56.90 AC
 Site Total 237.29 AC
 Devel Total 100.79 AC 42%
 * Indicates General Mixed Land Use. Either residential dwelling units OR office sf's OR hotel rooms apply, OR combinations fitting within the zoning envelope.

TOTALS			
	Water Demand (AFA)	Gallons per Day	Mgal/day
RRMU	48.83 AC	1,142	1,019,261.40
RMU	41.95 AC	2,275	2,030,830.00
TU	28.99 AC	13	11,987.48
OS	41.16 AC	163	145,649.77
ORMU	19.46 AC	701	626,174.55
Total	180.39 AC	4,295	3,833,903.20

WATER DEMANDS		
Facility Designations	Demand Factors	Units
1 Office	0.0375	gpd/ft2
3 Residential	230	gpd/DU
7 Retail/Restaurant	0.350	gpd/ft2
2 Hotel	130	gpd/room
4 Railroad Tech Museum/Arena	5	gpd/visitor
5 Performing Arts Theatre Visitors	2.5	gpd/visitor
6 Open Space/Parks	4.29	AFY/acre

NOTES

- 1 Billings, B. R. and C. V. Jones. 1996. Forecasting Urban Water Demand. American Water Works Association.
- 2 Seattle Public Utilities Resource Conservation Section, Hotel Water Conservation, A Seattle Demonstration, July 2002, prepared by O'Neill & Siegelbaum and The RICE Group
- 3 high density residential (21+ DU/acre) from Placer County Water Agency IRWP, October 2005.
- 4 U.S. Department of Energy - Energy Efficiency and Renewable Energy, Federal Energy Management Program; Federal Water Use Indices FEMP is providing these indices as a guide for agencies. Agencies should be aware that they are rough estimates of water usage at different types of sites. Your site may vary considerably. The indices should only be used to assist in determining baseline data when no other information is available about a site's water usage.
- 5 U.S. Department of Energy - Energy Efficiency and Renewable Energy, Federal Energy Management Program; Federal Water Use Indices FEMP is providing these indices as a guide for agencies. Agencies should be aware that they are rough estimates of water usage at different types of sites. Your site may vary considerably. The indices should only be used to assist in determining baseline data when no other information is available about a site's water usage.
- 6 Sacramento Water Balance calculated from Station 131, CIMIS Western Regional Climate Center; based on a leaching fraction of 5% and assumed distribution uniformity of 90%
- 7 Mazzetti & Associates, June 2005 for PAMF-SCC Sutter Health Foundation