

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26

**BEFORE THE STATE WATER
RESOURCES CONTROL BOARD**

In the Matter of the State Water Resources)
Control Board (State Water Board))
Hearing to Determine whether to Adopt a)
Draft Cease & Desist Order against)
California American Water Regarding its)
Diversion of Water from the Carmel River)
in Monterey County under Order WR 95-10)

Hearing Date: July 23 - 25, 2008

Carmel River in Monterey County

EXHIBIT MPWMD-HS3

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

EXHIBIT 3-A
MPWMD Comparative Matrix, Part I: Desalination Projects

A		B		C		D	
FINAL for 3/27/08 Meeting		MPWMD Comparative Matrix -- Part I: Desalination Projects		MPWMD Comparative Matrix -- Part I: Desalination Projects		MPWMD Comparative Matrix -- Part I: Desalination Projects	
1	DECISION ELEMENT	COASTAL WATER PROJECT	NORTH MONTEREY COUNTY DESALINATION PROJECT	LONG-TERM WATER SUPPLY PROJECT (Sand City Desal)			
2	PROPOSER/SPONSOR	California American Water	Pajaro/Sunny Mesa OSD	MPWMD			
3	PROJECT DESCRIPTION	Moss Landing desal plant assumes use of Duke Energy site and intake/outfall. Includes desal conveyance system comprised of transmission main, terminal reservoir, and pump stations; and ASR facilities to store CR (or desalinated) water in Seaside Basin. PEA analyzes Proposed Project and five alternatives (see Line 60). Proposed Project yield is 11,730 AFY.	Desal plant at National Refractories site; prefer use of Duke Energy wastewater as source (existing intake as backup) with existing outfall. Includes energy recovery; possible 30-ac solar energy. Current focus on regional plant, including PISM service area; willing to expand to serve other areas. No ASR is planned, but could be combined with MPWMD ASR project.	Desal plant at Sand City with potential intake and outfall locations from Seaside State Beach to coastal Fort Ord. HBD well technology needed to achieve 8,409 AF yield goal; brine disposal via MRWPCA outfall likely needed. Could be combined with MPWMD ASR project.			
4	Pilot Project	Permits from Monterey County and California Coastal Commission received in 2006; installed 2007-2008. ready to begin testing; operate for one year via agreement with LS Power	Permit from Monterey County received in 2006. California Coastal Commission permit pending, based on approved Encina plant design; plan to operate 4 yrs. managed by Kennedy/Jenks expert	None planned currently, but will be required by DHS			
5	PROJECT YIELD	Actual yield based on commitments of purveyor customers	Actual yield based on commitments of purveyor customers	8,409 AFY yield goal			
6	Comply with Order 95-10? Water for Seaside Basin?	Yes. 10,730 AFY for compliance with Order 95-10; 1,000 AFY to replace Cal-Am use in Seaside Basin	Yes. 10,730 AFY for compliance with Order 95-10; 3,000 AF to address gap between current production and sustainable yield estimate in Seaside Basin	7,909 AFY for compliance with Order 95-10; 500 AFY to address Seaside Basin overcraft.			
7	Future Monterey Peninsula Needs?	Regional Ait includes 3,572 AFY for jurisdictions within CAW service area as previously identified by MPWMD and jurisdictions.	Regional Ait lists 4,970 AFY for MCWD/North Mo.Co. as amended by participants. North Marina Ait could also be sized to meet regional needs.	Current project goal is legalizing existing use from CR (11,285 AFY); 3,500 AFY assumed available from Seaside basin			
8	Future Non-Monterey Peninsula Needs			None			
9	TOTAL YIELD	11,730 AFY for Proposed Project (or North Marina Alternative); 20,272 AFY for Regional Alternative	11,730 AFY for Proposed Project (or North Marina Alternative); 20,272 AFY for Regional Alternative	8,409 AFY yield goal			
10	Yield Phasing to Monterey Peninsula	11,730 AFY is Proposed Project amount. Oversized Pipeline Ait or Regional Ait could facilitate incremental future supply above 11,730 AFY	Phasing based on demand; assume 10,730 AF plus amount needed for Seaside first	No phasing			
11	PROJECT COST	2005 Costs for Proposed Project (11,730 AFY) indexed to 2004 through 2008	Costs in 2005 dollars for 20 MGD project provided to B-E/GEI Consultants by Poseidon Resources	Varies with site; see Dec 2003 Board Review Draft EIR			
12	Capital - see lines 77-106	\$176,000,000 for proposed project (11,730 AFY), based on 10% contingencies. B-E/GEI: \$209,720,000 based on recommended 25% contingencies.	\$132,000,000 for 20 MGD project B-E/GEI: \$211,970,000, based on increasing contingencies by 10-15% to 25%)	\$176,200,000 - \$193,000,000 B-E/GEI: \$173,960,000 - \$192,121,000			
13	Amortized Cap. Cost (\$/yr)	Information not provided B-E/GEI: \$16,900,000/yr	Information not provided B-E/GEI: \$20,080,000/yr	\$14,200,000 - \$15,600,000/yr B-E/GEI: \$14,020,000/yr - \$15,480,000/yr			
14	O&M - see lines 108-112	\$5,440,000/yr.	\$16,900,000/yr	\$8,740,000 - \$9,090,000/yr B-E/GEI: \$6,740,000 - \$7,090,000/yr			
15	Assumed energy cost (\$/kwh)	\$0.07 - \$0.12/kwh	Information not provided	\$0.12/kwh			
16	Total Annual Cost	Information not provided	Information not provided	\$22,990,000 - \$24,690,000/yr			
17	Time frame for estimates	Capital cost escalated through end of construction in 2008 with 4% inflation. B-E/GEI: 2007	2005 B-E/GEI: 2007	B-E/GEI: \$22,760,000 - \$24,550,000/yr December 2002 B-E/GEI: 2007			

EXHIBIT 3-A
MPWMD Comparative Matrix, Part I, Desalination Projects

	A	B	C	D
4	DECISION ELEMENT	COASTAL WATER PROJECT	NORTH MONTEREY COUNTY DESALINATION PROJECT	LONG-TERM WATER SUPPLY PROJECT (Sand City Desal)
22	Share of total project cost	100% of Proposed Project costs are for CAW Peninsula customers; Regional Alt would rely on prorata share of participation.	(cost of water based on contract volume (capacity+annual usage charges)); separate charge for pipelines and pumping facilities.	Entire cost to be paid by Peninsula consumers.
23	How share determined.	See line 23	See line 23	N/A
24	Cost sharing of existing vs. future Cal-Am ratepayers	See CPCN application: David Stephenson testimony	Future capacity cost based on construction and transmission	New users pay connection fee similar to current; system
25	Cost of Water (\$/AF)	Proposed Project is \$1,725/AF delivered to Peninsula customers (\$1,000/AF for desal plant, pumps, pipes and storage; \$150/AF for ASR; \$550/AF for O&M). Includes lease of desal site. Regional Alternative would be \$1,600/AF for CAW customers. B-E/GEI: \$2,190/AF for Proposed Project, \$1,640/AF for Regional Project	Information not provided by project proponent. B-E/GEI: \$1,520/AF	\$2,737 - \$2,939/AF based on 7.5 MGD (\$8,409 AFY) project. Includes site acquisition and other RJW costs. B-E/GEI: \$2,710 - \$2,920/AF if energy costs reduced by 33% as recommended. Need to add conveyance and related costs to obtain cost of delivered water.
26	Impact to Cal-Am Bill	Increase of \$2,200/cf in 2007 to \$5,793/cf in 2011	No information provided	No information provided
27	FINANCING ASSUMPTIONS	See CPCN application amended 7/14/05	Revenue bonds or C&D's, possible Poseidon funding	Pursuant to District Law
28	Interest rate (%)	7% B-E/GEI: 7%	Information not provided. B-E/GEI: 7%	7% B-E/GEI: 7%
29	Term (yrs)	30 year. B-E/GEI: 30 years	Information not provided. B-E/GEI: 30 years	30 years. B-E/GEI: 30 years
30	Public vote required?	No public vote required; possible if public financing. CPUC makes CPCN decision.	Not required of PISM unless Prop 218	Depends on type of funding or if part of JPA etc.
31	Grants (describe)	None anticipated at this time.	On DWR eligible list, but no grant to date. Will pursue funds for pilot and envtl studies with MLML.	None currently
32	TIMELINE	See CWP charts	See Line 37	N/A -- Board tabled action in October 2004
33	Draft EIR (and/or EIS)	PEA submitted 7/14/05 forms basis of DEIR, anticipated to be published by CPUC Spring 2007. NEPA requirement uncertain.	June 2008 ("Environmental Review and Permitting")	Unknown; minimum 7 mos to evaluate onshore HDD, and DEIR; assume NEPA tiers on EIR.
34	Certify FEIR (EIS ROD)	FEIR anticipated Summer 2007; NEPA depends on timing of ARMY/FORA land transfer	Pilot plant permits: Monterey County - Mar 2006, but appealed to CCC; RWQCB - Sep 2006; CCC - anticipated to be considered late 2006. See Line 37 for full-scale project permits	Unknown; assume 6 mos to FEIR
35	Obtain key permits	Pilot plant permits: Monterey County - Aug 2006, but appealed to CCC; RWQCB - Sep 2006; CCC - to be considered late 2006. Full-Scale Project: CPUC issuance of CPCN - Sep 2007; CCC Coastal Development Permit anticipated March 2008	Information not provided	Assume 6 months after approval/vote
36	Secure financing	Upon CPUC approval of CPCN (Sep 2007)	Information not provided	Assume 3-6 months after financing
37	Secure ROW/property access	After FEIR certified by CPUC	Information not provided	Assume 3-6 mo after ROW/access
38	Start construction	Winter/Spring 2008 to 2010	July 2010	Assume 24-month construction
39	Commence water delivery	3-1/2 - 4 years from Sep 06	4 years from Sep 06	Unknown; 4-5 years from Day 1
40	Total time to water delivery	3-1/2 - 4 years from Sep 06	4 years from Sep 06	Unknown; 4-5 years from Day 1

EXHIBIT 3-A
MPWMD Comparative Matrix, Part I, Desalination Projects

A		S		C		D	
DECISION ELEMENT		COASTAL WATER PROJECT		NORTH MONTEREY COUNTY DESALINATION PROJECT		LONG-TERM WATER SUPPLY PROJECT (Sand City Desal)	
44	PERMITS/REGS Federal Agencies	USEPA, MBNMS, USFWS, NOAA Fisheries, USACOE, USCG	Same as CWP except no ASR permits needed; fewer stream crossings/avoidance lessen federal permits				Similar to CWP, no pipeline under sloughs and streams lessens some federal permits
46	EIS needed?	NEPA review required; EIS possible based on pipeline alignment through federal lands if not airway transferred to local jurisdictions	NEPA review may be needed by Army for pipes; EIS unlikely if demonstrate avoidance, reduced impact				NEPA review assumed; EIS is possible
47	Federal lead agency?	US Army likely	To be determined, if needed				To be determined (US Army?)
48	Sanctuary approval?	Permit to construct; review NPDES application	Yes, related to NPDES/outfall; need to confirm outfall capacity				Yes, related to intake and discharge
49	State Agencies	CPUC, SWRCB, RWQCB, SILC, CDFG, CCC, CEC, CDPH, CDPR, SPO, (CDTS?)	Same as CWP, except no CPUC, CEC, or SWRCB				Same as CWP, except no CPUC, CEC, or SWRCB
50	CPUC approval?	Needed for Cal-Am rates; CPUC submitted for CWP Sept 20, 2004 and amended July 14, 2005.	N/A				N/A
51	EIR lead agency	CPUC	Palato/Sunny Mesa CSD				MPWMD
52	SWRCB/Water Rights	Needed for ASR or any other new Carmel River diversions	N/A, no ASR planned				N/A
53	Regional Agencies	MBUAPCD, MPWMD, TAMC, FORA	Same as CWP				Same as CWP
54	Monterey County	MCWRA, MCPBI, MCEH, MCPW	MCEH, construction and use permits				MCEH, MCPBI (?)
55	Local Agencies	All affected cities and jurisdictions for encroachment and construction permits; includes MLHD	Similar to CWP; jurisdictions may vary; MLHD (?)				Construction and use permits within affected jurisdictions
56	SITE CONTROL						
57	Confirmed site?	Moss Landing Power Plant planned for pilot plant. "Duke East" site evaluated in PEA as preferred site.	Confirmed site for pilot project. Lease agreement signed with owner of Natl Refractory site. Potential use of LS Power discharge rather than own intake; will use own outfall.				Alternatives identified; agreement(s) with owner(s) needed, including MRWP/PCA for use of regional outfall
59	Alternative sites and projects?	Moss Landing scenario in PEA evaluates Granite Rock and Natl Refractories sites. Five project alternatives in PEA include: (1) Regional Alt with 20,272 AFY yield; (2) Over-sized Pipeline Alt with larger source and transmission pipelines to enable future supply increases; (3) HDD Intake Alt using HDD intake wells near MLPP as feedwater supply rather than Duke intake; (4) North Marina Alt, which locates plant in Armstrong Ranch area with HDD intake and MLPP outfall for brine; and (5) No Project Alt, comprised of existing conservation efforts.	No alternative to National Refractories site needed. EIR will identify project alternatives.				Several locations for desalination plant; seawater collectors and brine disposal via HDD and MRWP/PCA outfall evaluated in BRDEIR, along with other project alternatives.
60							

EXHIBIT 3-A
MPWMD Comparative Matrix, Part I, Desalination Projects

A		B		C		D	
DECISION ELEMENT		COASTAL WATER PROJECT		NORTH MONTEREY COUNTY DESALINATION PROJECT		LONG-TERM WATER SUPPLY PROJECT (Sand City Desal)	
61	OPERATIONS/OTHER	Cal-Am has extensive TMF capabilities and current certifications to own/operate water systems. Over 39,000 customers in Monterey County		P/S/M has current TMF certification by DHS. Planned enhancement for desal project includes expanded board and staff; plan to outsource engineering (KJJ), legal, development, contract, admin, construction, management; Poseidon is "Exclusive Management Agent" in current agreement.		Assume certified entity would operate plant in coordination with Cal-Am system, with MPWMD oversight.	
63	Technical, Managerial and Financial Capabilities (TMF) to meet DHS standards	CWP design is consistent w/ Duke operations; forebay, storage tanks and ASR as backup; also other Cal-Am sources in Seaside and CR.		Own intake is backup supply if MLPP discharge water not available; refurbishing seawater tanks with 11-day supply, generators and onsite solar, if feasible. Notes County Ordinance requires back-up supply.		Redundant plant design; back-up generators; ASR source	
64	Back-up; water production interruptions (e.g., power or intake water)						
65							
66	PROJECT PARTICIPANTS	CAW willing to participate in public/private partnerships and regional governance formation. Proposed project is geared toward existing CAW customers. Regional Alternative includes cities and areas within MPWMD, MoCo, MCWD, Castroville WD and Moss Landing, pending further study and action by entities.		Focus on regional plant, including P/S/M needs, willing to expand plant to meet needs of others such as FORA, MCWD and Monterey Peninsula.		Funded by MPWMD via methods allowed by MPWMD Law; possible public-private partnership or JPA.	
67	Overview						
68	MPWMD participation	MPWMD and CAW executed April 2006 Management and Operations Agreement regarding ASR component. No approvals to date.		P/S/M Board authorized JPA with MPWMD in 2004; MPWMD declined offer at that time.		MPWMD currently envisioned as sole sponsor.	
69	Other entities participation	Other water purveyors are wholesale water customers		Ongoing discussions with FORA and MCWD. Met met with Cal-Am in Nov 2004; sent letter in Feb 05		None specified; partnerships possible.	
70							
71	PUBLIC INVOLVEMENT	Formal outreach program with 52 town hall meetings; presentations to jurisdictions. Website. Direct mail communication to CAW customers and stakeholders. CPUC staff to facilitate DEIR, public involvement.		Presentations to MPWMD, City of Monterey, MCWD, FORA, DHS, Monterey County, MoCo Planning; Castroville WD as requested		Monthly written updates and quarterly public workshops 2002-early 2004.	
72	Outreach programs						
73							
74	INFORMATION SOURCES	PEA and Amended Application to CPUC on CWP dated July 14, 2005, including technical memoranda on engineering and cost estimates; amended CPCN application for CWP July 2005. Handout materials from CAW consultant (RBF); matrix input data from RBF July-August 2005, including detailed basis of cost documents. August 25, 2005 Town Hall Meeting presentation by Steve Leonard of CAW and responses to questions. Seawater Desalination Projects Evaluation. B-E/GEI Consultants, February 20, 2008		Application by P/S/M to California Department of Water Resources for Proposition 50 Grant for Pilot Demonstration Project, March 24, 2006. Monterey Bay Regional Desalination Project Conceptual Design Report, P/S/M in cooperation with Poseidon Resources Corp., April 2006. Information provided in 2006 by Poseidon Resources to B-E/GEI Consultants for preparation of desalination projects evaluation. Seawater Desalination Projects Evaluation. B-E/GEI Consultants, February 20, 2008		Board Review Draft EIR, MPWMD Water Supply Project, December 2003. Regulatory agency worksheets prepared by Jones & Stokes Sept 2004. See line 115 for technical reports with cost information. MPWMD consultant studies (CDM). Seawater Desalination Projects Evaluation. B-E/GEI Consultants, February 20, 2008	
75							

EXHIBIT 3-A
M/P/W/D Comparative Matrix, Part I, Desalination Projects

A		B		C		D	
DECISION ELEMENT	COASTAL WATER PROJECT	NORTH MONTEREY COUNTY DESALINATION PROJECT	LONG-TERM WATER SUPPLY PROJECT (Sand City Desal)				
76	CAPITAL COST DETAIL	Year 2005 costs indexed to 2004 through 2008	Year 2005 costs	Year 2004 information - December 2002 costs			
77	DESALINATION	Included in plant cost	Information not provided	\$27,120,000 B-E/GEI: \$52,370,000 - \$63,540,000 including brine discharge			
78	Intake	Included in plant cost	Information not provided	\$35,470,000 B-E/GEI: \$36,840,000			
79	Pre-treatment	Included in plant cost	Information not provided				
80	Desal Plant	\$84,680,000 B-E/GEI: \$90,290,000	Information not provided				
81	Post-treatment	Included in plant cost	Information not provided				
82	Brine discharge	Included in intake cost	Information not provided				
83	Storage	\$5,400,000 includes term reser. pump station	Information not provided				
84	Transmission Pipelines	\$22,700,000 B-E/GEI: \$24,200,000	Information not provided				
85	Pump stations	Included in storage costs	Information not provided				
86	Energy facilities	None identified	Information not provided				
87	DESAL SUBTOTAL	\$112,780,000 B-E/GEI: \$120,250,000	Information not provided				
88	ASR COSTS	\$14,120,000 B-E/GEI: \$15,060,000	N/A				
89	RECYCLED WATER COSTS	N/A	N/A				
90	OTHER WATER SOURCES	N/A	N/A				
91	ADDL CAPITAL COSTS						
92	Pilot Plant	\$2,585,000	\$2,970,000	None identified			
93	Distribution system	Included in desal and ASR costs	none identified	None identified			
94	Improvements						
95	Right-of-way	\$2,000,000 (desal plant site to be leased)	None identified (desal plant site to be leased)	\$5,900,000 - \$9,100,000 (includes site acquisition)			
96	Env't review, permits, etc.	\$30,456,000 B-E/GEI: \$32,470,000 for Engineering, Overhead, & Legal	Information not provided	\$38,650,000 - \$42,690,000 B-E/GEI: \$40,140,000 - \$44,340,000 for Engineering, Overhead, & Legal			
97	Engineering	Included in env't/permits	Information not provided	Included in env't/permits			
98	Construction Management	Included in env't/permits	Information not provided	Included in env't/permits			
99	Admin/legal	Included in env't/permits	Information not provided	Included in env't/permits			
100	Mitigation measures	To be determined	None identified	To be determined			
101	Contingencies	\$15,935,000 B-E/GEI: \$41,940,000	Information not provided	\$25,770,000 - \$26,450,000 B-E/GEI: \$26,760,000 - \$29,560,000			
102	SUBTOTAL	\$50,976,000	Information not provided	\$75,530,000 - \$79,160,000 B-E/GEI: \$66,910,000 - \$73,890,000			
103	TOTAL CAPITAL COST	\$178,000,000 for proposed project (11,730 AFY), based on 10% contingencies. B-E/GEI: \$209,720,000 based on recommended 25% contingencies.	\$132,000,000 for 20 MGD project. B-E/GEI: \$169,030,000, based on increasing contingencies by 10-15% to 25%	\$176,200,000 - \$193,000,000 B-E/GEI: \$173,960,000 - \$192,120,000			
104	ANNUAL O&M COST DETAIL						
105	Energy	Included in total O&M	Information not provided	\$7,200,000 - \$7,550,000 B-E/GEI: \$5,200,000 - \$5,550,000			
106	Facilities O&M	Included in total O&M	Information not provided	\$1,540,000			
107	Mitigation O&M	To be determined	None identified	To be determined			
108	TOTAL O&M (\$/yr)	\$8,440,000/yr. B-E/GEI: \$8,840,000/yr	\$16,900,000/yr B-E/GEI: \$16,900,000/yr	\$8,740,000 - \$9,090,000/yr B-E/GEI: \$6,740,000 - \$7,090,000/yr			

EXHIBIT 3-A
MPWMD Comparative Matrix, Part I, Desalination Projects

A	B	C	D
4. DECISION ELEMENT	COASTAL WATER PROJECT	NORTH MONTEREY COUNTY DESALINATION PROJECT	LONG-TERM WATER SUPPLY PROJECT (Sand City Desal)
TT4	Costs presented in Amended CPCN Application, July 14, 2006, including detailed Basis of Cost documents and tables. Seawater Desalination Projects Evaluation, B-E/GEI Consultants, February 20, 2008	Total capital and O&M costs were provided by Poseidon Resources. Cost breakdowns were provided to B-E/GEI Consultants under condition of confidentiality. Pilot plant capital costs are provided in application by P/SM to California Department of Water Resources for Proposition 50 grant, March 24, 2006. Seawater Desalination Projects Evaluation, B-E/GEI Consultants, February 20, 2008	Monterey Peninsula Water Supply Project, Phase 2 Technical Memorandum, Project Facilities Alternatives for the Sand City Desalination Project, June 23, 2004, CDM, p 6-2. Seawater Desalination Projects Evaluation, B-E/GEI Consultants, February 20, 2008
TT5			

EXHIBIT 3-A
MPWMD Comparative Matrix, Part I, Desalination Projects

A	B	C	D
4 DECISION ELEMENT	COASTAL WATER PROJECT	NORTH MONTEREY COUNTY DESALINATION PROJECT	LONG-TERM WATER SUPPLY PROJECT (Sand City Desal)
116			
117	ACRONYMS		
118	\$/AF		
119	\$/kwh-		
120	ac		
121	AFY		
122	ARB		
123	ASR		
124	B-E/GEI		
125	BRAC		
126	BRDEIR		
127	Cal-Am		
128	CalTrans		
129	CAW		
130	CCC		
131	CDFG		
132	CDM		
133	CDPH		
134	CDTS		
135	CEC		
136	CEQA		
137	COP		
138	CPCN		
139	CPUC		
140	CR		
141	CSD		
142	CWP		
143	DBO		
144	DEIR		
145	DPR		
146	Duke		
147	DWR		
148	EIR		
149	EIS		
150	FEIR		
151	FORA		
152	HDD		
153	IS		
154	JPA		
155	KJ		

EXHIBIT 3-A
MPWMD Comparative Matrix, Part I, Desalination Projects

A	B	C	D
DECISION ELEMENT	NORTH MONTEREY COUNTY DESALINATION PROJECT	LONG-TERM WATER SUPPLY PROJECT (Sand City Desal)	
156 MBNMS	COASTAL WATER PROJECT		
157 MBUAPCD	Monterey Bay National Marine Sanctuary		
158 MCEH	Monterey Bay Unified Air Pollution Control District		
159 MCPBI	Monterey County Environmental Health		
160 MCPW	Monterey County Dept. Planning & Building Inspection		
161 MCWD	Monterey County Public Works		
162 MCWRA	Marina Coast Water District		
163 MLHD	Monterey County Water Resources Agency		
164 MLML	Moss Landing Harbor District		
165 MLPP	Moss Landing Marine Laboratory		
166 MoCo	Moss Landing Power Plant		
167 MP	Monterey County		
168 MPWMD	Monterey Peninsula		
169 MRWPCA	Monterey Peninsula Water Management District		
170 N/A	Monterey Regional Water Pollution Control Agency		
171 NEPA	not applicable		
172 NIMCDP	National Environmental Policy Act		
173 NOAA Fish	North Monterey County Desalination Project		
174 NOP	National Marine Fisheries Service (part of Natl Oceanic and Atmospheric Administration)		
175 NorCo	Notice of Preparation		
176 O&M	North Monterey County		
177 IEA	operations and maintenance		
178 P/S/M	Proponent's Environmental Assessment		
179 RBF	Pajaro/Sunny Mesa Community Services District		
180 ROD	RBF Consulting, Inc		
181 ROW	Record of Decision		
182 RWQCB	right-of-way		
183 SHPO	Regional Water Quality Control Board		
184 SLC	State Historic Preservation Office		
185 SRF	State Lands Commission		
186 SWRCS	State Revolving Fund, a loan administered by SWRCS		
187 TAMC	State Water Resources Control Board		
188 TBD	Transportation Agency of Monterey County		
189 USACOE	to be determined		
190 USBLM	US Army Corps of Engineers		
191 USBR	US Bureau of Land Management		
192 USCG	US Bureau of Reclamation		
193 USEPA	US Coast Guard		
194 USFWS	US Environmental Protection Agency		
195	US Fish & Wildlife Service		
196			
197			

EXHIBIT 3-B
MPWMD Comparative Matrix, Part II, Desalination Projects

A		B
1 FINAL for 3/27/08 Meeting		MPWMD Comparative Matrix, Part II, Desalination Projects
2		
4	DECISION ELEMENT	Seawater Conversion Vessel
5	PROponent/SPONSOR	Water Standard Company
	PROJECT DESCRIPTION	Completely self contained seawater desalination treatment plant installed on a ship. Electrical energy and propulsion will be provided by gas turbine engines fueled with Biodiesel. No seabed intake or outfall lines are required. Water produced on the ship will be shuttled to shore as required. Facilities required to distribute the water to customers on shore are unknown at this time but could be assumed to be similar to those required in the other alternatives. Size of project is unknown but assumed to be 20 MGD (approx. 22,000 AFY). Costs provided for 18 MGD project yield (approx. 22,000 AFY).
6	Pilot Project	None planned. State currently requires pilot plants but that requirement was written around land based facilities. WSC sees no need to pilot the process since we have over 2,000 ships currently successfully treating seawater. Issues needs to be discussed with the State DOHS.
7	PROJECT YIELD	10 MGD - 75 MGD. Actual yield to be based on commitments of purveyor customers
8	Comply with Order 96-10? Water for Seaside Basin?	Yes, and can easily meet all future needs
9	Future Monterey Peninsula Needs?	Could easily be sized for all future needs
10	Future Non-Monterey Peninsula Needs	Could easily be sized for all future needs
11	TOTAL YIELD	Could easily be sized for all future needs
12	Yield Phasing to Monterey Peninsula	Phasing will be based on demands. Larger size initially is better.
13		
14		
15	PROJECT COST	Costs in 2006-2007 dollars for 18 MGD (approx 20,000 AFY) project provided by WSC \$168,290,000 for 18 MGD SCV (with power plant). Distribution improvements unknown. B-E/G/EI: \$185,620,000
16	Amortized Cap. Cost (\$/yr) O&M - see lines 108-112	Information not provided. B-E/G/EI: \$14,960,000 \$16,262,000 using subsidized fuel. B-E/G/EI: \$16,260,000 (subsidized fuel) - \$20,850,000 (unsubsidized fuel)
17	Assumed energy cost (\$/kwh)	\$0.05 / kwh (using Biodiesel with current US government rebate tax incentive)
18	Total Annual Cost	Information not provided. B-E/G/EI: \$31,220,000 (subsidized fuel) - \$35,810,000 (unsubsidized fuel)
19	Time frame for estimates	2006 - 2007. B-E/G/EI: 2007.

EXHIBIT 3-B
MPWMD Comparative Matrix, Part II, Desalination Projects

	A	B
4	DECISION ELEMENT	Seawater Conversion Vessel
22	COST TO PENINSULA	
23	Share of total project cost	
24	How share determined	
25	Cost sharing of existing vs. future Cal-Am ratepayers	
	Cost of Water (\$/AF)	Cost of water produced on the SCV estimated to be less than \$1,000 AF. Costs for required distribution and pumping unknown. B-E/GEI: \$1,550 (subsidized fuel) - \$1,770 (unsubsidized fuel). Based on 18 MGD yield (approx. 20,000 AFY).
26		
27	Impact to Cal-Am Bill	N/A
28		
	FINANCING ASSUMPTIONS	WSC funding can be used. Prefer a public private partnership with MPWMD
29	Interest rate (%)	60% at 7% interest and 20% at 12% if private, 7% if municipal.
30		B-E/GEI: 7%
31	Term (yrs)	20 years if private, 30 yrs if municipal. B-E/GEI: 30 years
32	Public vote required?	
	Grants (describe)	Office of Emergency Services or other Homeland Security funding should be looked into. WSC has not done that.
33		
34		
	TIMELINE	
35	Draft EIR (and/or EIS)	No actions taken on CEQA activities
37	Certify FEIR (EIS ROD)	
38	Obtain key permits	None applied for at this time
39	Secure financing	Upon municipal agency approval
40	Secure ROW/property access	NA for SCV
41	Start construction	Information not provided
42	Commence water delivery	3 years after contractual arrangements
43	Total time to water delivery	3 years after contractual arrangements

EXHIBIT 3-8
MPWMD Comparative Matrix, Part II: Desalination Projects

A		B
4	DECISION ELEMENT	Seawater Conversion Vessel
44		
45	PERMITS/REGS	
46	Federal Agencies	Same as land based facility except Coast guard must review operational plans.
47	EIS needed?	
48	Fed lead agency?	To be determined, if needed.
49	Sanctuary approval?	Permit will be required. Not applied for yet.
50	State Agencies	Same as any land based treatment plant
51	CPUC approval?	N/A
52	EIR lead agency	MPWMD
53	SWRCB/Water Rights	N/A
54	Regional Agencies	None required for SCV
55	Monterey County	None required for SCV
56	Local Agencies	None required for SCV. Distribution system requires construction and use permits within affected jurisdictions
57		
58	SITE CONTROL	
	Confirmed site?	Location doesn't really matter for the SCV itself. Shuttle ship off loading site must be selected depending on who the customers are.
59		
	Alternative sites and projects?	No restrictions. No land required. SCV can be located anywhere.
60		

EXHIBIT 3-B
MPWMD Comparative Matrix, Part II, Desalination Projects

A		B
DECISION ELEMENT	Seawater Conversion Vessel	
60		
61		
62	OPERATIONS/OTHER Technical, Managerial and Financial Capabilities (TMF) to meet DHS standards	Assume implementing entity would operate desal plant with MPWMD oversight.
63	Back-up water production interruptions (e.g., power or intake water)	Redundant treatment equipment per State codes; back-up gas turbine planned
64		
65		
66	PROJECT PARTICIPANTS Overview	Willing to expand plant to meet needs of others such as FORA, MCWD and Monterey Peninsula. Shuttle ship concept may allow cities up and down the coast to participate.
67		
68	MPWMD participation	MPWMD currently envisioned as sole sponsor.
69	Other entities participation	None specified; partnerships possible.
70		
71	PUBLIC INVOLVEMENT Outreach programs	Presentations by WSC to MPWMD, CCC, MBNIMS, community groups, and others
72		
73		
74	INFORMATION SOURCES	Materials submitted by WSC and PBS&J
75		

EXHIBIT 3-B
MPWMD Comparative Matrix, Part II, Desalination Projects

A		B
DECISION ELEMENT	Seawater Conversion Vessel	
76		
77	CAPITAL COST DETAIL	Year 2006-2007 costs
78	DESALINATION	(assume 18 MGD facility)
79	Intake	Included in SCV cost
80	Pre-treatment	Included in SCV cost
	Desal Plant	Ship cost with retrofitting/conversion cost is \$66,400,000 + \$49,0200,000 for all PALL process equipment B-E/GEI; Ship cost incl. feed and brine disposal - \$73,000,000. Desalination process equip. - \$64,000,000
81		Included in SCV cost
82	Post-treatment	Included in SCV cost
83	Brine discharge	Included in SCV cost
84	Storage	Unknown
	Transmission Pipelines	Seabed & distribution pipelines: \$45,370,000 B-E/GEI;
85		\$48,620,000
86	Pump stations	SCV seawater intake PS included
	Energy facilities	2 gas turbines included in Desal Plant cost (most desal plants do not include a power plant)
87		\$168,290
88	DESAL SUBTOTAL	
89		
90	ASR COSTS	N/A
91	RECYCLED WATER COSTS	N/A
92	OTHER WATER SOURCES	N/A
93		
94	ADDL CAPITAL COSTS	
95	Pilot Plant	Need has to be resolved with State Department of Health
96	Distribution system improvements	None identified
97	Right-of-way	N/A for SCV
98	Envrt review, permits, etc	Unknown
99	Engineering	Included in above categories (Engineering, OH, Legal, & Admin. Costs total \$18,810,000) B-E/GEI: \$28,740,000
100	Construction Management	Included in above categories
101	Admin/legal	Included in above categories
102	Mitigation measures	N/A for SCV
	Contingencies	\$32,560,000 (included in above categories) B-E/GEI:
103		\$97,120,000
104	SUBTOTAL	Included in above categories
105	TOTAL CAPITAL COST	Capital costs for SCV are \$168,290,000 (including the power plant); CAW distribution system costs are unknown at this time. B-E/GEI: \$185,620,000
106		
107		
108	ANNUAL O&M COST DETAIL	
109	Energy	Included in total O&M
110	Facilities O&M	Included in total O&M
111	Mitigation O&M	N/A
	TOTAL O&M (\$/yr)	\$16,262,000 using subsidized fuel. B-E/GEI: \$16,260,000 (subsidized fuel) - \$20,850,000 (unsubsidized fuel)
112		
	SOURCES FOR COSTS	Capital and O&M costs were provided by WSC and PBS&J based on detailed estimates from V Ship, Pall Corp, GE Energy, Seawater Desalination Projects Evaluation, B-E/GEI Consultants, February 20, 2006
115		

EXHIBIT 3-B
MPWMD Comparative Matrix, Part II, Desalination Projects

A		B
DECISION ELEMENT		
4	Seawater Conversion Vessel	
156	Monterey Bay National Marine Sanctuary	
157	Monterey Bay Unified Air Pollution Control District	
158	Monterey County Environmental Health	
159	Monterey County Dept. Planning & Building Inspection	
160	Monterey County Public Works	
161	Marina Coast Water District	
162	Monterey County Water Resources Agency	
163	Moss Landing Harbor District	
164	Moss Landing Marine Laboratory	
165	Moss Landing Power Plant	
166	Monterey County	
167	Monterey Peninsula	
168	Monterey Peninsula Water Management District	
169	Monterey Regional Water Pollution Control Agency	
170	not applicable	
171	National Environmental Policy Act	
172	North Monterey County Desalination Project	
173	National Marine Fisheries Service (part of Natl. Oceanic and Atmos.	
174	Notice of Preparation	
175	North Monterey County	
176	operations and maintenance	
177	Proponent's Environmental Assessment	
178	Pajaro/Sunny Mesa Community Services District	
179	RBF Consulting, Inc	
180	Record of Decision	
181	right-of-way	
182	Regional Water Quality Control Board	
183	State Historic Preservation Office	
184	State Lands Commission	
185	State Revolving Fund, a loan administered by SWRCB	
186	State Water Resources Control Board	
187	Transportation Agency of Monterey County	
188	to be determined	
189	US Army Corps of Engineers	
190	US Bureau of Land Management	
191	US Bureau of Reclamation	
192	US Coast Guard	
193	US Environmental Protection Agency	
194	US Fish & Wildlife Service	
195	US Coast Guard	
196	Seawater Conversion Vessel	
197	Water Standard Company	
198	Post, Buckley, Schuh & Jernigan, Inc.	
199	V Ships, Inc.	
200	Pall Corporation	

Intentionally blank

MPWMD Comparative Matrix, Part III, Projects Other Than Desalination

EXHIBIT 3-C

A		B		C		D	
FINAL for 3/27/08 Meeting		MPWMD Comparative Matrix, Part III, Projects Other Than Desalination		MPWMD Comparative Matrix, Part III, Projects Other Than Desalination		MPWMD Comparative Matrix, Part III, Projects Other Than Desalination	
1	DECISION ELEMENT	PHASE 1 AQUIFER STORAGE AND RECOVERY (Seaside Basin)	REGIONAL URBAN WATER AUGMENTATION PROJECT (RUWAP)	SEASIDE BASIN GROUNDWATER REPLENISHMENT PROJECT (GRP)			
2	PROPOSER/SPONSOR	MPWMD	MCOWD for desal project; MCOWD and MRWPCA for recycled water project	MRWPCA			
3	PROJECT DESCRIPTION	Divert treated excess Carmel River winter flow via existing Cal-Am pipelines (and those planned up Gen Jim Moore Blvd) to ASR wells in Seaside Basin. Phase 1 is second well at existing Santa Margarita test site. Phases 2 and 3 to be considered in future.	Desalinated water provided for potable uses. Reclaimed wastewater provided for nonpotable irrigation in Marina, Ord Community, Seaside, Del Rey Oaks and Monterey. Reclaimed water in first phase: 1,500 AFY; possible second phase: 3,300 AFY total, including Phase 1. Surface storage reservoir, ASR and/or tank needed to meet peak demand in Phase 2.	Repurified water from the MRWPCA reclamation plant provided to Seaside GW Basin to help recharge it. Initial project size estimated at 2,400 AFY.			
4	Pilot Project	Successful pilot and full-scale test wells since 1996; annual reporting to SWRCB and MPWMD.	MCOWD Desal Plant built in 1997. Salinas Valley Reclamation Project completed in 1997 providing irrigation water to agriculture. Pilot recycled project in progress on Seaside golf course.	Pilot testing (treatment and percolation) anticipated in 2008			
5	PROJECT YIELD	Maximum CR diversion and injection is 2,426 AFY; maximum extraction from Seaside is 1,500 AFY; average annual yield is 920 AFY based on August 2006 computer modeling.	Desal component: 1,273 AFY. 973 AFY is available for the Ord Community and 300 AFY will replace MCOWD's existing desalination plant. Reclaimed water: Phase 1 - 1,727 AFY, of which 1,427 AFY will be used in the Ord Community and 300 AFY will be available for the Monterey Peninsula. Possible Phase 2 - 3,300 AFY total, including Phase 1. Surface storage reservoir, ASR and/or tank needed to meet peak demand in Phase 2.	2,400 AFY in initial project, possibly expandable in the future			
6	Comply with Order 95-10? Water for Seaside Basin?	No, unless teamed with other large project(s); up to 2,426 AFY injected into Seaside Basin	300 AFY to the Monterey Peninsula for irrigation use; see Line 8.	No, unless teamed with another large project; up to 2,400 AFY recharged into Seaside Basin			
7	Future Monterey Peninsula Needs	No, unless teamed with other large project(s)	No; see Line 8.	No, unless teamed with other large project(s)			
8	Future Non-Monterey Peninsula Needs	None	Desal project: 1,200 AFA. Reclaimed project: Phase 1 - 1,200 AFY; Phase 2 - 3,000 AFY (Phase 2 includes Phase 1 amount)	None			
9	TOTAL YIELD	920 AFY average annual yield.	Desal project: 1,500 AFY. Reclaimed project: Phase 1 - 1,500 AFY; Phase 2 - 3,300 AFY (Phase 2 includes Phase 1 amount)	2,400 AFY in initial project, possibly expandable in the future			
10	Yield Phasing to Monterey Peninsula	No phasing; build facilities	Desal project: None currently identified. Reclaimed project: 300 AFY (Phase 1)	2,400 AFY in initial project, possibly expandable in the future			
11	PROJECT COST	Costs for Phase 1 Project only					
12	Capital - see lines 77-106	\$3,255,600 (year 2005 dollars)	Desal project: \$42 mil. Reclaimed project: Phase 1 - \$54 mil. Phase 2 - not yet determined	\$47.5 mil			
13	Amortized Cap. Cost (\$/yr)	\$261,100/yr (amortized at 5% for 20 yrs)	Desal project: TBD. Reclaimed project: costs not yet determined	Not yet determined			
14	O&M - see lines 108-112	\$300,000/yr	Not yet determined	\$1,440,000/yr			
15	Assumed energy cost (\$/kwh)	\$0.10/kwh	Not yet determined	\$0.11/kwh			
16	Total Annual Cost	\$561,100/yr	Not yet determined	Not yet determined - depends on availability of Prop. 50 grants and other funding sources			
17	Time frame for estimates	2005	Aug. 2006	Dec. 2007			

EXHIBIT 3-C
MPWMD Comparative Matrix, Part III, Projects Other Than Desalination

	A	B	C	D
4	DECISION ELEMENT	PHASE 1 AQUIFER STORAGE AND RECOVERY (Seaside Basin)	REGIONAL URBAN WATER AUGMENTATION PROJECT (RUWAP)	SEASIDE BASIN GROUNDWATER REPLENISHMENT PROJECT (GRP)
22	COST TO PENINSULA	Entire cost to be paid by Peninsula consumers.	Desal project: TBD. Reclaimed Project: TBD.	Not yet determined
23	Share of total project cost	N/A	N/A	Not yet determined
24	How share determined	New users pay connection fee similar to current system	Recycled water users will pay for their share of the recycled water.	Not yet determined
25	Cost sharing of existing vs. future Cal-Arm ratepayers	\$610/AF based on 920 AFY average yield	Not yet determined. Financing will determine cost.	Not yet determined, but goal is less than \$2,900/AF
26	Cost of Water (\$/AF)	Ordinance 123 authorized 1.2% user fee added to Cal-Arm bill to construct Phase 1 ASR; assumes payoff of future pooled debt issuance.	No impacts anticipated.	Not yet determined
27	Impact to Cal-Arm Bill			
28				
29	FINANCING ASSUMPTIONS	pursuant to District Law		
30	Interest rate (%)	5%	3% (assume SRF loan)	Assume either Prop. 50 grant, 3% SRF loan, refinancing
31	Term (yrs)	20 years	20 years	20 years if SRF loan
32	Public vote required?	No	No	No
33	Grants (describe)	Applied for Prop 50 grant; top priority project.	A Prop 50 grant application was submitted, but not approved. No grants currently anticipated.	Have applied under Prop. 50. Will apply under Prop 64 when possible.
34				
35	TIMELINE			
36	Draft EIR (and/or EIS)	DEIR/EA issued March 2006.	DEIR distributed June 04.	See MRWPCA materials
37	Certify FEIR (EIS ROD)	FEIR/EA certified August 2006	EIR certified in October 2004; no info on NEPA 2008-2009	Pilot facility - start in late 2008 and be completed in early 2009. Full facility - start in late 2008.
38	Obtain key permits	Summer/Fall 2006 (3-6 mos from FEIR/EA); Water rights permit issued November 2007		Anticipate this to occur in mid 2010
39	Secure financing	Late 2006 (concurrent with permits)	2006-2009	Anticipate this to occur in 2009
40	Secure ROW/property access	Summer/Fall 2006 (US Army)	2006/2007	Anticipate this to be complete in late 2010
41	Start construction	Late 2006	Desalination project: 2010. Reclaimed project: 2007	Anticipate starting construction of full scale project in early 2011
	Commence water delivery	Early 2008	Desalination project: 2010. Reclaimed project: Phase 1 in 2009; Phase 2 TBD	Anticipate completion of construction in late 2012 with commencement of delivery of water immediately thereafter.
42	Total time to water delivery	1 1/2 years from August 2006 certification of Final EIR	Desalination project: 3 years from Sep 2009. Reclaimed project: 2 years from Sep 2007.	Approximately 4-1/2 years from Feb. 2008
43				

MPWMD Comparative Matrix, Part III, Projects Other Than Desalination

EXHIBIT 3-C

A		B		C		D	
DECISION ELEMENT		PHASE 1 AQUIFER STORAGE AND RECOVERY (Seaside Basin)		REGIONAL URBAN WATER AUGMENTATION PROJECT (RUWAP)		SEASIDE BASIN GROUNDWATER REPLENISHMENT PROJECT (GRP)	
44	PERMITS/REGS						
45	Federal Agencies	US Army Fort Ord; amend existing easement agreement to add second well site		USACE, USBR; other federal agencies possible as part of NEPA review		U.S. Bureau of Reclamation, U.S. Army Base Realignment and Closure (BRAC), U.S. Bureau of Land Management (BLM)	
46	EIS needed?	NEPA review; US Army will use combined EIR/EA		NEPA review required but EIS not anticipated (tier off EIR)		Yes, as most likely on Federal land plus may use SVRP facilities	
47	Fed lead agency?	US Army		USBR assumed		USBR assumed	
48	Sanctuary permit?	No		none expected to be required		none expected to be required	
49	State Agencies	SWRCB, CDFG, CDPH, RWQCB		CDPH, RWQCB, CCC anticipated		CDPH, RWQCB	
50	CPUC approval?	N/A		N/A		Not anticipated	
51	EIR lead agency	MPWMD		MCWD		MRV/PCA	
52	SWRCB/Water Rights	Yes, diversion of Carmel River; Petition for Change		N/A			
53	Regional Agencies	None		MPWMD, MBUAPCD, FORA		FORA, MPWMD, Cal-Am, PG&E	
54	Monterey County	MCEH		MCPW, MCPBI, MCEH, MCWRA		MCEH, P&B, MCWRA	
55	Local Agencies	Construction and use permits within jurisdictions to receive federal land (Seaside)		Marina, Seaside, Del Rey Oaks, Monterey		Seaside, MCWD, Watermaster Board	
56							
57							
58	SITE CONTROL						
	Confirmed site?	Current 50-year easement with US Army at present site of full-scale test well.		Desal project; Yes. Reclaimed project; Treatment facilities; yes. ROW will be needed.		No. Still investigating site locations. Likely on former Fort Ord either east of Gen Jim Moore Blvd in Eucalyptus Road ROW or near Child Care center on Monterey Road	
59	Alternative sites and projects?	Contiguous and non-contiguous injection well locations and alternative projects evaluated in pending EIR/EA		N/A		Between Child Care center on Monterey Road and Highway 1	
60							

EXHIBIT 3-C
MPWMD Comparative Matrix, Part III, Projects Other Than Desalination

A	B	C	D
DECISION ELEMENT	PHASE 1 AQUIFER STORAGE AND RECOVERY (Seaside Basin)	REGIONAL URBAN WATER AUGMENTATION PROJECT (RUWAP)	SEASIDE BASIN GROUNDWATER REPLENISHMENT PROJECT (GRP)
61			
62	OPERATIONS/OTHER		
	Technical, Managerial and Financial Capabilities (TMF) to meet DHS standards	Cal-Am and MPWMD are developing a long-term management and operations agreement for ASR.	MRWPCA is an established and certified reclamation system operator.
63	Water production interruptions (e.g., power or intake water)	Back-up generators	Pump stations will not have back-up generators.
64			
65			
66	PROJECT PARTICIPANTS	Overview	
67	MPWMD participation	Funded by MPWMD via methods allowed by MPWMD Law, possible public-private partnership or JPA.	Previous agreements spell out MRWPCA recycled water entitlements.
68	Other entities participation	MPWMD envisioned as sole sponsor in coordination with Cal-Am.	Close coordination with MPWMD due to proximity of MPWMD's ASR wells to the proposed recharge sites, and due to MPWMD's water management role in the Cal-Am service area.
69		ASR could be coordinated with any other larger water supply project to meet community needs.	MCWD, Cal-Am, Seaside, and others possible
70			
71	PUBLIC INVOLVEMENT	Outreach programs	
72		Monthly or quarterly updates; oral reports Board meetings.	Began outreach to community leaders in 2005 with trips to view similar projects. Outreach to general public to begin in late 2006 or early 2007.
73			
74	INFORMATION SOURCES	MPWMD staff and consultant technical reports and memoranda (Padre Consultants, 2005; Jones & Stokes Associates, 2006)	Materials submitted by Bob Holden, Water Recycling Projects Coordinator
75			

MPWMD Comparative Matrix, Part III, Projects Other Than Desalination

EXHIBIT 3-C

A		B		C		D	
DECISION ELEMENT		PHASE 1 AQUIFER STORAGE AND RECOVERY (Seaside Basin)		REGIONAL URBAN WATER AUGMENTATION PROJECT (RUWAP)		SEASIDE BASIN GROUNDWATER REPLENISHMENT PROJECT (GRP)	
76	CAPITAL COST DETAIL						
77	DESALINATION						
78	Intake	N/A		N/A		N/A	
79	Pre-treatment	N/A		N/A		N/A	
80	Desal Plant	N/A		N/A		N/A	
81	Post-treatment	N/A		N/A		N/A	
82	Brine discharge	N/A		N/A		N/A	
83	Storage	N/A		N/A		N/A	
84	Transmission Pipelines	N/A		N/A		N/A	
85	Pump stations	N/A		N/A		N/A	
86	Energy facilities	N/A		N/A		N/A	
87	DESAL SUBTOTAL						
88	ASR CONSTRUCTION	\$1,815,000		N/A		N/A	
89	RECYCLED WATER COSTS	N/A		Breakdown of costs not provided		\$47.5 mil	
90	OTHER WATER SOURCES	N/A		N/A		N/A	
91	ADDL CAPITAL COSTS						
92	Pilot Plant	MPWMD plant already operational		N/A		1500000, included in line 91	
93	Distribution system			N/A		Included in line 91	
94	Improvements						
95	Right-of-way	\$10,000		Breakdown of costs not provided		Net yet determined	
96	Envil review, permits, etc.	\$117,600		Breakdown of costs not provided		\$600,000, included in line 91	
97	Engineering	\$535,000		Breakdown of costs not provided		\$4,000,000, included in line 91	
98	Construction Management	Included in engineering		Breakdown of costs not provided		\$50,000, included in line 91	
99	Admin/legal	\$310,000		Breakdown of costs not provided		\$200,000, included in line 91	
100	Mitigation measures	None anticipated in addition to project description		Breakdown of costs not provided		None anticipated	
101	Contingencies	\$468,000		Breakdown of costs not provided		Included in line 91	
102	SUBTOTAL	\$1,440,600		Breakdown of costs not provided		\$6,350,000, included in line 91	
103	TOTAL CAPITAL COST	\$3,255,600		Desal project: \$41 mil. Reclaimed project, Phase 1 - \$54 mil. Phase 2 - not yet determined		\$47.5 mil	
104	ANNUAL O&M COST DETAIL						
105	Energy	\$200,000		Not yet determined		\$261,000	
106	Facilities O&M	\$100,000		Not yet determined		\$753,000	
107	Mitigation O&M	None anticipated		None anticipated		None anticipated	
108	TOTAL O&M (\$/yr)	\$300,000		Not yet determined		\$1,014,000	
109	SOURCES FOR COSTS	MPWMD staff and consultant technical memoranda, 2005		Regional Urban Recycled Water Distribution Project, Prepared for MCWD and MRWPCA, July 2003. RBF Consulting, pp 6-3 and 6-9; Marc Lucca, MCWD General Manager, Aug 2006; RMC Water and Environment, Sep 2006; Jeff Cattaneo, MCWD District Engineer, March 2008.		CDM draft memos dated August 2, 2006; October 6, 2007, and October 11, 2007 plus MRWPCA memo dated February 20, 2008.	
110							
111							
112							
113							
114							
115							

EXHIBIT 3-C
MPWMD Comparative Matrix, Part III, Projects Other Than Desalination

A		B		C		D	
4	DECISION ELEMENT	PHASE I AQUIFER STORAGE AND RECOVERY (Seaside Basin)	REGIONAL URBAN WATER AUGMENTATION PROJECT (RUWAP)	SEASIDE BASIN GROUNDWATER REPLENISHMENT PROJECT (GRP)			
116							
117	ACRONYMS						
118	S/AF	cost per acre-foot					
119	S/kwh	cost per kilowatt-hour					
120	ac	acre					
121	AFY	acre-feet per year					
122	ARB	Air Resources Board					
123	ASR	aquifer storage and recovery					
124	BRAC	Base Realignment and Closure Office (US Army)					
125	BRDEIR	Board Review Draft EIR on MPWMD Water Supply Project (Dec 2003)					
126	Cal-Am	California American Water					
127	CalTrans	California Dept. of Transportation					
128	CAW	California American Water					
129	CCC	California Coastal Commission					
130	CDFG	California Dept. Fish & Game					
131	CDM	Camp Dresser & McKee Inc.					
132	CDPH	California Dept. of Public Health					
133	CDTS	California Dept. of Toxic Substances					
134	CEC	California Energy Commission					
135	CEQA	California Environmental Quality Act					
136	COP	Certificate of Participation					
137	CPUC	California Public Utilities Commission					
138	CR	Carmel River					
139	CSD	Community Services District					
140	CWP	Coastal Water Project					
141	DBO	design-build-operate					
142	DEIR	Draft EIR					
143	DPR	California Dept. of Parks & Recreation					
144	Duke	Duke Energy Corporation					
145	DWR	California Dept. of Water Resources					
146	EA	Environmental Assessment (federal)					
147	EIR	Environmental Impact Report					
148	EIS	Environmental Impact Statement					
149	FEIR	Final EIR					
150	FORA	Fort Ord Reuse Authority					
151	GRP	Seaside Basin Groundwater Recharge Project					
152	HDD	horizontal directional drilling					
153	IS	Initial Study					
154	JPA	Joint Powers Authority					
155	K/J	Kennedy Jenks Engineers, Inc.					

MPWMD Comparative Matrix, Part III, Projects Other Than Desalination

EXHIBIT 3-C

A		B		C		D	
4	DECISION ELEMENT	PHASE 1 AQUIFER STORAGE AND RECOVERY (Seaside Basin)	REGIONAL URBAN WATER AUGMENTATION PROJECT (RUWAP)	SEASIDE BASIN GROUNDWATER REPLENISHMENT PROJECT (GRP)			
156	MBNMS	Monterey Bay National Marine Sanctuary					
157	MBUAPCD	Monterey Bay Unified Air Pollution Control District					
158	MCEH	Monterey County Environmental Health					
159	MCWD	Marina Coast Water District					
160	MCWRA	Monterey County Water Resources Agency					
161	MLHD	Moss Landing Harbor District					
162	MoCo	Monterey County					
163	MP	Monterey Peninsula					
164	MPWMD	Monterey Peninsula Water Management District					
165	MRWFCA	Monterey Regional Water Pollution Control Agency					
166	N/A	not applicable					
167	NEPA	National Environmental Policy Act					
168	NMCDP	North Monterey County Desalination Project					
169	NOAA Fish	National Marine Fisheries Service (part of Natl Oceanic and Atmospheric Administration)					
170	NOA	Notice of Preparation					
171	NorCo	North Monterey County					
172	O&M	operations and maintenance					
173	PEA	Proponent's Environmental Assessment					
174	P&B	Monterey County Dept. Planning & Building Inspection					
175	P/SM	Pajaro/Sunny Mesa Community Services District					
176	RBF	RBF Consulting, Inc					
177	ROD	Record of Decision					
178	ROW	right-of-way					
179	RWQCB	Regional Water Quality Control Board					
180	RUWAP	Regional Urban Water Augmentation Project					
181	SLC	State Lands Commission					
182	SRF	State Revolving Fund, a loan administered by SWROB					
183	SWRCB	State Water Resources Control Board					
184	TBD	to be determined					
185	USACOE	US Army Corps of Engineers					
186	USBLM	US Bureau of Land Management					
187	USBR	US Bureau of Reclamation					
188	USCG	US Coast Guard					
189	USEPA	US Environmental Protection Agency					
190	USFWS	US Fish & Wildlife Service					
191							
192							
193							