APPENDIX A

CONSTRUCTION SPREADSHEETS

LADWP Elysian Park Water Recycling Project

ESTIMATED VEHICLE TRIPS

			QTY		Trips Support/Misc	Trips Total	Month	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	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	Total Trips
	Mob		1	ls		30		15																																									15			30
	Pipe (Assumed to be delivered in total to District yard and taken to jobsite each morning on pipe truck)					270			18	18	18	18	18	18	18	18	18	18	18	18	18	18	18																												270
	Pump Station (Misc equip., supplies, etc.)					200																										14	14	14	14	14	14	14	14	14	14	14	14	14						200
	Tank (Tank pieces delivery, misc. equipment)					150																							12	12	12	12	12	12	12	12	12	12	12	12										150
1	Mobilize Construction Yards, Etc.					30																		15																									15		30
2a	RW Line from LA River to EPWRP-1 Tank (10,800 LF) -> (Trench cut (3'X4.5')		5,400	CY		810			62	62	62	62	62	62	62	62	62	62	62	62	62																													0
2b	PW Line from Park Dr. to Grace E. Simons Lodge (1,000 Trench cut (2.5'X4')		370	CY		55																28	28																												0
3a	Construct RW Pump Station	Foundation (65' X 30' X 2' deep) Assumed	150	CY		22																										4	4	4	4	4															22
3b	Construct PW Pump Station	Foundation (65' X 30' X 2' deep) Assumed	150	CY		22																														4	4	4	4	4											22
4a	Construct RW Tank	Foundation Exc (104' dia X 5' deep) Assumed	1573	CY		236																			29	29	29	29	29	29	29	29																			236
4b	Construct PW Tank	Foundation Exc (26' dia X 2' deep) Assumed	40	CY	2	8																							8																						8
5	Demolish Existing Tank and Pump Station	Demolish Foundation (69' X 2' deep) Assumed	277	CY		42																																							14	14	14				
	Misc. Concrete Operations (Pipeline Bckfill + Tank Fdn + Pump Sta Fdn)								40	40	40	40	40	40	40	40	40	40	40	40	40	40	40									32	43	11	11	4															701
	Total Commuter Vehicle Trips							100	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	320	540	540	280	280	400	400	400	480	480	480	480	620	620	620	620	620	620	200	0	200	200	180	180	180	180	0	14,120

	General Construction Schedule	Quantity	WD	Months	Start	Finish	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	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43
1	Mobilize Construction Yards, Etc.		20	1.0	0.0	1.0																																											
2a	RW Line from LA River to EPWRP-1 Tank		260	13.0	1.0	14.0																																											
2b	PW Line from Park Dr. Grace E. Simons Lodge		30	1.5	15.0	16.5																																											
3a	Construct RW Pump Station		200	10.0	9.0	19.0																																											
3b	Construct PW Pump Station		200	10.0	13.0	23.0																																											
4a	Construct RW Tank (10-mo grading/foundation, 4-mo tank install, 3-mo mech/elec)	1573 CY	340	17.0	4.0	21.0																																											
4b	Construct PW Tank	40 CY	60	3.0	15.0	18.0																																											
5	Demolish Existing Tank and Pump Station		60	3.0	23.0	26.0																																											
6	Demobilize		20	1.0	26.0	27.0																																											

Note that all these vehicles require a return trip. Multiply by 2.

	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	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43
Total Vehicles	115	380	380	380	380	380	380	380	380	380	380	380	380	380	346	346	335	569	569	309	309	449	441	441	540	542	553	521	666	654	650	650	650	646	214	14	214	214	194	194	194	210	0
Total Delivery Vehicle Trips	15	120	120	120	120	120	120	120	120	120	120	120	120	120	86	86	15	29	29	29	29	49	41	41	60	62	73	41	46	34	30	30	30	26	14	14	14	14	14	14	14	30	0
Avg. Daily Delivery Vehicle Trips	1	6	6	6	6	6	6	6	6	6	6	6	6	6	4	4	1	1	1	1	1	2	2	2	3	3	4	2	2	2	2	2	2	1	1	1	1	1	1	1	1	2	0
Total Commuter Vehicle Trips	100	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	320	540	540	280	280	400	400	400	480	480	480	480	620	620	620	620	620	620	200	0	200	200	180	180	180	180	0
Avg. Daily Commuter Vehicle Trips	8	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	18	27	27	14	14	20	20	20	27	27	27	27	34	34	34	34	34	34	13	0	13	13	9	9	9	9	0
Avg. Daily Total Vehicle Trips	9	19	19	19	19	19	19	19	19	19	19	19	19	19	17	17	19	28	28	15	15	22	22	22	30	30	31	29	36	36	36	36	36	35	14	1	14	14	10	10	10	11	0

ESTIMATED EQUIPMENT OPERATIONS

23 'D/Month

		Qty	Operating Hrs/WD/each	Operating Hours per Month	Month	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	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	Totals, Operating Hours	Unit Days
1	1/2 Ton Pickup (Commute Vehicle)	6	2	240		200	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	200	400	400	400	400	400	400	400	600	600	600	600	600	600	600	600	600	600	200	200	200	200	400	400	400	400		17,600	110
2	3/4 Ton Pickup	2	8	320			320	320	320	320	320	320	320	320	320	320	320	320	320	320	320		320	320	320	320	320	320	320	640	640	640	640	640	640	640	640	640	640	320	320	320	320	320	320	320	320		16,000	100
3	1 Ton Pickup	0	8	0																																															
4	4000 Gallon Water Truck	1	2	40		20	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	20	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	20	20	20	20	40	40	40	10		1,530	10
5	Job Trailers (1)	1	8	160		160																160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160		4,320	27
6	Excavator, Cat 365	1	8	160																			160	160	160	160	320	320	160	160	160	160	160	160	160	160	160	160	160						160	160	160		3,200	20
7	Roller/Compactor (Vibratory)	1	4	80																						80	80	80			160	160	160	80	80	80	80	80	80											1,200	8
8	Backhoe with Carrier	1	6	120			120	120	120	120	120	120	120	120	120	120	120	120	120	120	120									240	240	240	240	240	240	240	240	240	240	120	120	120	120	120	120	120			5,040	32
9	Dump Truck (3-axle)	3	8	480			480	480	480	480	480	480	480	480	480	480	480	480	480	480	480																							480	480	480			8,640	54
10	AC paver	1	8	160			40	40	40	40	40	40	40	40	40	40	40	40	40																															520	3
11	Tandem Roller	1	8	160			20	20	20	20	20	20	20	20	20	20	20	20	20																															260	2
12	Concrete/slurry truck	1	8	160			160	160	160	160	160	160	160	160	160	160	160	160	160	160	160												160				160													2,720	17
13	Hoist, truck mounted	2	8	320			320	320	320	320	320	320	320	320	320	320	320	320	320	320	320																													4,800	30
14	Forklift	1	8	160																																														0	0
15	K45 Generator	1	8	160			160	160	160	160	160	160	160	160	160	160	160	160	160	160	160			160	160	160	160	160	160	160	320	320	320	320	320	320	320	320	320	160	160								6,720	42
16	Air compressor	1	8	160																				160	160	160	160	160	160	160	320	320	320	320	320	320	320	320	320	160	160								4,320	27
17	Misc.	4	2	160																				160	160	160	160	160	160	160	160	160	160	160	160	160	160	160	160										2,560	16
					TOTAL Hours	380	2,060	2,060	2,060	2,060	2,060	2,060	2,060	2,060	2,060	2,060	2,060	2,060	2,060	2,000	2,000	380	1,080	1,560	1,640	1,640	1,800	1,720	1,560	2,320	2,800	2,720	2,880	2,720	2,720	2,720	2,880	2,560	2,560	1,140	1,140	820	820	1,680	1,680	1,680	890		79,270	495
					TOTAL Ave. Daily Equip. Units	2	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	2	6	8	9	9	10	9	8	13	15	15	16	15	15	15	16	14	14	6		4	4					5				

	General Construction Schedule	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	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43
1	Mobilize Construction Yards, Etc.																																											
2a	RW Line from LA River to EPWRP-1 Tank																																											
2b	PW Line from Park Dr. to EPWRP-1 Tank																																											
3a	Construct RW Pump Station																																											
3b	Construct PW Pump Station																																											
4a	Construct RW Tank (8-mo grading/foundation, 4-mo tank install, 3-mo mech/elec)																																											
4b	Construct PW Tank																																											
5	Demolish Existing Tank and Pump Station																																											
6	Demobilize																																											

ESTIMATED PERSONNEL

Civil Work

MANDAYS

						Month	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	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43
1	Mobilize Construction Yards, Etc.						60																60																											
2a	RW Line from LA River to EPWRP-1 Tank							200	200	200	200	200	200	200	200	200	200	200																															
2b	PW Line from Park Dr. to EPWRP-1 Tank																				200	200	200	200	200																								
3a	Construct RW Pump Station																														140	140	140	140	140	140	140	140	140										
3b	Construct PW Pump Station																																		140	140	140	140	140	140	140	140	140						
4a	Construct RW Tank (8-mo grading/foundation, 4-mo tank install, 3-mo mech/elec)																							240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240										
4b	Construct PW Tank																											120	120	120																			
5	Demolish Existing Tank and Pump Station																																											120	120	120			
6	Demobilize																																														120		
	Office and Supervision	WD/Month	20				40	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	100	100	40	40	40	40	40	100	100	100	100	100	100	100	100	100	100	60	60	60	60	60	60	60	60	
					TOTAL MD/Month		100	260	260	260	260	260	260	260	260	260	260	260	260	260	260	260	320	540	540	280	280	400	400	400	480	480	480	480	620	620	620	620	620	620	200		200	200	180	180	180	180	0
					Avg. Field Worker MDs		3	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	13	22	22	12	12	18	18	18	22	22	22	22	29	29	29	29	29	29	10	10	10	10	6	6	6	6	
					Office and Supervision		5	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	5	5	5	2	2	2	2	2	5	5	5	5	5	5	5	5	5	5	3	3	3	3	3	3	3	3	
					Avg. Daily Total Personnel		8	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	18	27	27	14	14	20	20	20	27	27	27	27	34	34	34	34	34	34	13		13	13	9	9	9	9	0

General Construction Schedule	Field Worker MDs	Total Avg MDs	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	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43
1 Mobilize Construction Yards, Etc.	6	11																																											
2a RW Line from LA River to EPWRP-1 Tank	10	13																																											
2b PW Line from Park Dr. to EPWRP-1 Tank	10	13																																											
3a Construct RW Pump Station	7	9																																											
3b Construct PW Pump Station	7	9																																											
4a Construct RW Tank (8-mo grading/foundation, 4-mo tank install, 3-mo mech/elec)	12	14																																											
4b Construct PW Tank	6	8																																											
5 Demolish Existing Tank and Pump Station	6	9																																											
6 Demobilize	6	9																																											

PROJECT: ELYSIAN PARK WATER RECYCLING PROJECT PHASE II

Work Schedule

Total footage of pipe (LF)	Pipe lay rate (LF/day)	Total days required to install pipe	Working days per year	Number of years required to install total pipe
52,800	90	587	251	2.3

Excavation of Soils

Total soil excavated incl. 20% expansion (ft^3)[1]	Soil hauled per day (ft^3/day)	Soil hauled per day (yd^3/day)	Maximum volume allowed in a 10-yd. Dump Truck (yd^3)	Number of loads (loads per day)	Number of 10 yd^3 Dump Trucks used	Round trips per truck
792,000	1,350	50.0	8.5	6	3	2

Dump Site Locations

NU-WAY 1270 Arrow HighWay Irwindale Ca. I -10 E 19.0 miles

Vulcan 11520 Sheldon St. Sun Valley Ca. I - 5 N (4.7 miles - 22.3 miles)

Construction Crew		Crew Equipment	
1-Supervisor	2-Operator	2-Pick-up Trk	1-Truck Mounted Crane
1-Sr.W.U.W.	3- H.D.T.O.	1-Gang Trk	1-Back Hoe W/ Carrier
2-W.U.W.	1-Field Engineer	1-5 yd^3 Dump Trk	1-Pipe Trk
2-M.C.H		3-10 yd^3. Dump Trk	

CNG
DIESEL
GAS

Trips per vehicle

Pick-up truck - varies
5 yd^3 dump truck - varies
Gang Trk - 1 trip to and from job
Pipe Truck - 1 trip to & from job
Backhow w/carrier - 1 trip to and from job
Truck mounted crane - 1 trip to and from job
10 $yard^3$ dump trucks - see round trips above

Best Management Practices

Geotextile Fabrics / sandbag on all storm drain catch basins opening
All spoils being transported covered with tarp
Comply with City approved traffic control plans

[1] *assumed a 2.5' wide x 5' deep trench*