

APPENDIX C

Legacy Biosolid Lagoon Construction Duration and Equipment Usage

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LEGACY BIOSOLID LAGOON PHASE 1 CONSTRUCTION DURATION & EQUIPMENT USAGE

Potential work to be completed: Pickleweed Removal L13-L19, L16-L19 Biosolid Removal, Temporary Storage L13-L15, Temporary Erosion Control																					
Component	Area	Quantity	Units	Production/Rate	Units	Duration (days)	Equipment	Quantity (Equip)	Hour/day	Truck Capacity	Units	Truck ops/Day	Equipment Hours								
Earthwork - Cut* (Biosolid removal)	L16-L19	180,000	CY	1,500	CY/Day	120	Bulldozer	5	8	N/A	N/A	N/A	4,800								
							Excavator	2		N/A	N/A	N/A	1,920								
							Compactor	1		N/A	N/A	N/A	960								
							Front Loader	1		N/A	N/A	N/A	960								
							Water Truck	1		N/A	N/A	N/A	960								
							Sweeper	1		N/A	N/A	N/A	960								
							Pick-up Truck	16		N/A	N/A	N/A	15,360								
							Dump Truck	9,000		20	CY	4	8,640,000								
							Earthwork - Fill*	L13-L15		180,000	CY	1,500	CY/Day	120	Bulldozer	5	8	N/A	N/A	N/A	4,800
Excavator	1	N/A	N/A	N/A	960																
Compactor	1	N/A	N/A	N/A	960																
Front Loader	1	N/A	N/A	N/A	960																
Water Truck	1	N/A	N/A	N/A	960																
Pick-up Truck	8	N/A	N/A	N/A	7,680																
Dump Truck	0	20	CY	0	0																
Hand Removal - Pickleweed	L13-L19	24.0	AC	2.0	AC/Day	12			Bulldozer						0	8		N/A	N/A	N/A	0
									Excavator						0			N/A	N/A	N/A	0
							Compactor	0	N/A	N/A	N/A	0									
							Front Loader	0	N/A	N/A	N/A	0									
							Water Truck	0	N/A	N/A	N/A	0									
							Sweeper	0	N/A	N/A	N/A	0									
							Pick-up Truck	20	N/A	N/A	N/A	1,920									
							Dump Truck	0	20	CY	0	0									
							Aggregate Base	Haul Routes	11,244.0	CY	1,000.0	CY/Day	12	Grader	1		8	N/A	N/A	N/A	96
CB2.7 Drum Roller	2	N/A	N/A	N/A	192																
Excavator	1	N/A	N/A	N/A	960																
Spreader	0	N/A	N/A	N/A	0																
Water Truck	1	N/A	N/A	N/A	960																
Pick-up Truck	5	N/A	N/A	N/A	4,800																
Hauling Truck	0	18	CY	N/A	0																
Dump Truck	625	18	CY	7	59,968																
Erosion Control	L13-L15	6,500	LF	1,300	LF/DAY	5								Bulldozer	0	8		N/A	N/A	N/A	0
							Excavator	0	N/A	N/A	N/A	0									
							Compactor	0	N/A	N/A	N/A	0									
							Front Loader	0	N/A	N/A	N/A	0									
							Water Truck	0	N/A	N/A	N/A	0									
							Sweeper	0	N/A	N/A	N/A	0									
							Pick-up Truck	3	N/A	N/A	N/A	120									
							Dump Truck	0	20	CY	0	0									

*Assumes Earthwork cut and fill operations are concurrent, 6 days per week

TOTAL WORK DAYS:	132
TOTAL CALENDAR DAYS:	160

Equipment Assumptions
JD 850L Bulldozers
CAT 336 Excavators
Volvo A25G Articulated Trucks
CAT 980 M Wheel Loader
CAT 815K Wheel Compactor
CAT RM500B Rotary Mixer
Hauling trucks are tandem Bulk Cement Trucks
Does not calculate hand equipment used for pickleweed removal
Internal Truck Trips
Potential Vehicles traveling to site/ being utilized on-site
External Truck Trips

Personal/Work Vehicle Assumptions
1 per operator
1 superintendent, 1 foreman per operation
4 laborers to support earth moving

LEGACY BIOSOLID LAGOON PHASE 2 CONSTRUCTION DURATION & EQUIPMENT USAGE

Potential work to be completed: Pickleweed Removal, L1-L7; L13-L15; L20-L25 Biosolid Removal, L9-L12 Consolidation Pile, Temporary Erosion Control, L1-L7; L13-L15; L20-L25 Grading & Drainage													
Component	Area	Quantity	Units	Production/Rate	Units	Duration (days)	Equipment	Quantity (Equip)	Hour/day	Truck Capacity	Units	Truck ops/Day	Equipment Hours
Earthwork - Cut* (Biosolid removal)	L1-L3; L5-L7	194,000	CY	3,000	CY/Day	65	Bulldozer	10	8	N/A	N/A	N/A	5,200
							Excavator	4		N/A	N/A	N/A	2,080
							Compactor	2		N/A	N/A	N/A	1,040
							Front Loader	2		N/A	N/A	N/A	1,040
							Water Truck	1		N/A	N/A	N/A	520
							Sweeper	1		N/A	N/A	N/A	520
							Pick-up Truck	32		N/A	N/A	N/A	16,640
							Dump Truck	9,700		20	CY	10	5,044,000
							Bulldozer	10		N/A	N/A	N/A	6,560
							Excavator	4		N/A	N/A	N/A	2,624
Earthwork - Cut* (Biosolid removal)	L13-L15	245,000	CY	3,000	CY/Day	82	Bulldozer	10	8	N/A	N/A	N/A	6,560
							Excavator	4		N/A	N/A	N/A	2,624
							Compactor	2		N/A	N/A	N/A	1,312
							Front Loader	2		N/A	N/A	N/A	1,312
							Water Truck	1		N/A	N/A	N/A	656
							Sweeper	1		N/A	N/A	N/A	656
							Pick-up Truck	32		N/A	N/A	N/A	20,992
							Dump Truck	12,250		20	CY	10	8,036,000
							Bulldozer	10		N/A	N/A	N/A	3,520
							Excavator	4		N/A	N/A	N/A	1,408
Earthwork - Cut* (Biosolid removal)	L20-L25	132,000	CY	3,000	CY/Day	44	Bulldozer	10	8	N/A	N/A	N/A	3,520
							Excavator	4		N/A	N/A	N/A	1,408
							Compactor	2		N/A	N/A	N/A	704
							Front Loader	2		N/A	N/A	N/A	704
							Water Truck	1		N/A	N/A	N/A	352
							Sweeper	1		N/A	N/A	N/A	352
							Pick-up Truck	32		N/A	N/A	N/A	11,264
							Dump Truck	6,600		20	CY	10	2,323,200
							Bulldozer	10		N/A	N/A	N/A	15,360
							Excavator	2		N/A	N/A	N/A	3,072
Earthwork - Fill* (Consolidation Pile)	L9-L12	575,000	CY	3,000	CY/Day	192	Bulldozer	10	8	N/A	N/A	N/A	15,360
							Excavator	2		N/A	N/A	N/A	3,072
							Compactor	2		N/A	N/A	N/A	3,072
							Front Loader	1		N/A	N/A	N/A	1,536
							Water Truck	1		N/A	N/A	N/A	1,536
							Pick-up Truck	16		N/A	N/A	N/A	24,576
							Dump Truck	0		20	CY	150	0
							Bulldozer	5		N/A	N/A	N/A	1,200
							Excavator	4		N/A	N/A	N/A	960
							Compactor	2		N/A	N/A	N/A	480
Earthwork - Grading	L1-L3; L5-L7	88,500	CY	3,000	CY/Day	30	Bulldozer	5	8	N/A	N/A	N/A	1,200
							Excavator	4		N/A	N/A	N/A	960
							Compactor	2		N/A	N/A	N/A	480
							Front Loader	2		N/A	N/A	N/A	480
							Water Truck	1		N/A	N/A	N/A	240
							Scraper	5		N/A	N/A	N/A	1,200
							Sweeper	1		N/A	N/A	N/A	240
							Pick-up Truck	32		N/A	N/A	N/A	7,680
							Motor Grader	5		N/A	N/A	N/A	1,200
							Bulldozer	5		N/A	N/A	N/A	1,280
Earthwork - Grading	L13-L15	95,000	CY	3,000	CY/Day	32	Bulldozer	5	8	N/A	N/A	N/A	1,280
							Excavator	4		N/A	N/A	N/A	1,024
							Compactor	2		N/A	N/A	N/A	512
							Front Loader	2		N/A	N/A	N/A	512
							Water Truck	2		N/A	N/A	N/A	512
							Scraper	5		N/A	N/A	N/A	1,280
							Sweeper	2		N/A	N/A	N/A	512
							Pick-up Truck	32		N/A	N/A	N/A	8,192
							Motor Grader	5		N/A	N/A	N/A	1,280
							Bulldozer	5		N/A	N/A	N/A	2,000
Earthwork - Grading	L20-L25	149,500	CY	3,000	CY/Day	50	Bulldozer	5	8	N/A	N/A	N/A	2,000
							Excavator	4		N/A	N/A	N/A	1,600
							Compactor	2		N/A	N/A	N/A	800
							Front Loader	2		N/A	N/A	N/A	800
							Water Truck	1		N/A	N/A	N/A	400
							Scraper	5		N/A	N/A	N/A	2,000
							Sweeper	1		N/A	N/A	N/A	400
							Pick-up Truck	32		N/A	N/A	N/A	12,800
							Motor Grader	5		N/A	N/A	N/A	2,000

LEGACY BIOSOLID LAGOON PHASE 2 CONSTRUCTION DURATION & EQUIPMENT USAGE

Potential work to be completed: Pickleweed Removal, L1-L7; L13-L15; L20-L25 Biosolid Removal, L9-L12 Consolidation Pile, Temporary Erosion Control, L1-L7; L13-L15; L20-L25 Grading & Drainage													
Component	Area	Quantity	Units	Production/Rate	Units	Duration (days)	Equipment	Quantity (Equip)	Hour/day	Truck Capacity	Units	Truck ops/Day	Equipment Hours
Earthwork - Fill* (Cap Material)	L9-L12	170,000	CY	3,000	CY/Day	57	Bulldozer	10	8	N/A	N/A	N/A	4,560
							Excavator	2		N/A	N/A	N/A	912
							Compactor	2		N/A	N/A	N/A	912
							Front Loader	1		N/A	N/A	N/A	456
							Water Truck	1		N/A	N/A	N/A	456
							Pick-up Truck	16		N/A	N/A	N/A	7,296
							Dump Truck	9,444		18	CY	21	4,306,667
Hand Removal - Pickleweed	L1-L3; L5-L7; L13-L15, L20-L25	50.0	AC	2.0	AC/Day	25	Bulldozer	0	8	N/A	N/A	N/A	0
							Excavator	0		N/A	N/A	N/A	0
							Compactor	0		N/A	N/A	N/A	0
							Front Loader	0		N/A	N/A	N/A	0
							Water Truck	0		N/A	N/A	N/A	0
							Sweeper	0		N/A	N/A	N/A	0
							Pick-up Truck	20		N/A	N/A	N/A	4,000
							Dump Truck	0		18	CY	0	0
Drainage Installation	L1-L3; L5-L7	1,500.0	LF	200.0	LF/Day	8	Bulldozer	0	8	N/A	N/A	N/A	0
							Excavator	1		N/A	N/A	N/A	64
							Compactor	1		N/A	N/A	N/A	64
							Front Loader	1		N/A	N/A	N/A	64
							Water Truck	1		N/A	N/A	N/A	64
							Sweeper	1		N/A	N/A	N/A	64
							Pick-up Truck	5		N/A	N/A	N/A	320
							Dump Truck	2		18	CY	2	128
Lime Treatment	L1-L3; L5-L7; L9-12; L13- L15, L20-L26	133.0	AC	2.0	AC/Day	67	Grader	2	8	N/A	N/A	N/A	1,072
							CB2.7 Drum Roller	4		N/A	N/A	N/A	2,144
							Cat RM500B	2		N/A	N/A	N/A	1,040
							Spreader	2		N/A	N/A	N/A	1,040
							Water Truck	4		N/A	N/A	N/A	2,080
							Pick-up Truck	10		N/A	N/A	N/A	5,200
							Hauling Truck	6		18	CY	0	3,216
							Dump Truck	0		18	CY	0	0
Erosion Control	L1-L3; L5-L7; L13-L15, L20-L27	20,000	LF	2,600	LF/DAY	8	Bulldozer	0	8	N/A	N/A	N/A	0
							Excavator	0		N/A	N/A	N/A	0
							Compactor	0		N/A	N/A	N/A	0
							Front Loader	0		N/A	N/A	N/A	0
							Water Truck	0		N/A	N/A	N/A	0
							Sweeper	0		N/A	N/A	N/A	0
							Pick-up Truck	6		N/A	N/A	N/A	384
							Dump Truck	0		18	CY	0	0

*Assumes Earthwork cut and fill operations are concurrent, 6 days per week

TOTAL WORK DAYS:	250
TOTAL CALENDAR DAYS:	300

Equipment Assumptions	
JD 850L Bulldozers	
CAT 336 Excavators	
Volvo A25G Articulated Trucks	
CAT 980 M Wheel Loader	
CAT 815K Wheel Compactor	
CAT RM500B Rotary Mixer	
CAT 160 AWD Motor Grader	
CAT 627K Scraper	
Does not calculate hand equipment used for pickleweed removal	
Internal Truck Trips	
Potential Vehicles traveling to site/ being utilized on-site	
External Truck Trips	

Personal/Work Vehicle Assumptions	
1 per operator	
1 superintendent, 1 foreman per operation	
4 laborers to support earth moving	