Appendix B – Summary of Theresa Street Treatment System Process Information

Table B-1 Theresa Street WWTP Liquid Stream Process Data

Existing Treatment Units	Design Data[a]
PRELIMINARY TREATMENT	
Bar Screens	
Number	4
Clear opening, inch	1/2
Raw Wastewater Pumping	
Number	3
Capacity, mgd	10
Number	3
Capacity, mgd	15
Number	1
Capacity, mgd	12
Number	1
Capacity, mgd	25
Aerated Grit Basins	
Number	6
Design flow per basin, mgd	5
Side water depth, ft	13.75
Detention time, min	24
Air flow per lin ft basin, cfm	3.1
Compressors	3
Number	3
Capacity, scfm	500
PRIMARY TREATMENT	
Primary Clarifiers	
Units 1 and 2	
Diameter, ft	70
Side water depth, ft	13.5
Weir loading rate, gpd per lin ft	11,368
Detention time, hr	3.7
Units 3 and 4	
Diameter, ft	100
Side water depth, ft	13.0
Weir loading rate, gpd per lin ft	15,915
Detention time, hr	3.7
Units 5 and 6	
Diameter, ft	125
Side water depth, ft	12.5
Weir loading rate, gpd per lin ft	10,150
Detention time, hr	3.7
SECONDARY TREATMENT	
Trickling Filters	8
Number	0.625

Table B-1 Theresa Street WWTP Liquid Stream Process Data

Existing Treatment Units	Design Data[a]
Design flow per unit, mgd	120
Diameter, ft	1.1
Recirculation ratio	
Trickling Filter Recirculation/Effluent Pumping Station	
Number of units	3
Rated head, ft	34
Rated capacity at rated head, mgd	5.0
Motor size, hp	40
Unit 5 Final Clarifier	
Diameter, ft	100
Side water depth, ft	12.25
Weir loading rate, gpd per lin ft	8,500
Detention time, hr	3.4
Aeration Basins	
West Side	
Design flow per unit, mgd	5
Diameter, ft	80
Depth, ft	17
Detention time, hr	3.0
Aerator type	Fine Bubble Diffusion
Blowers	
Number	3
Capacity, each, scfm	3,000
Number	1
Capacity each, scfm	5,000
Aeration Basins	
East Side (to be completed in 2003)	
Design flow per unit, mgd	7.5
Unit size, ft	105 x 105
Depth, ft	20
Detention time, hr	5.0
Number of aerators per basin	Fine Bubble Diffusion
Blowers	
Number	2
Capacity, scfm	19,000
Secondary Clarifiers	
Units 1 and 2	
Diameter, ft	110
Side water depth, ft	10
Weir loading rate, gpd per lin ft	7,879
Detention time, hr	3.41
Unit 3 and 4	
Diameter, ft	130
Side water depth, ft	12.0

Table B-1 Theresa Street WWTP Liquid Stream Process Data

Existing Treatment Units	Design Data[a]
Weir loading rate, gpd per lin ft	9,660
Detention time, hr	3.8
Return Sludge Pumps	
Secondary Clarifiers 1 and 2	
Number	3
Rated head, ft	9
Rated capacity at rated head, mgd	5.0
Motor size, hp	20
Secondary Clarifiers 3 and 4	
Number	3
Rated head, ft	20
Rated capacity at rated head, mgd	7.5
Motor size, hp	40
DISINFECTION	
Chlorine Contact Basin	
Number	2
Design flow per unit, mgd	15
Unit size, ft	100 x 50
Depth, ft	10
Detention time, min	35

Table B-2 Solids Handling and Disposal Facilities at Theresa Street WWTP

Existing unit process	Design data
Primary Sludge and Scum Pumps	
Primary Clarifiers 1 and 2	
Number	2
Rated capacity, gpm	85
Motor size, hp	5
Primary Clarifiers 3 and 4	
Rated head, ft	2
Rated capacity at rated head, gpm	80
Motor size, hp	5
Primary Clarifiers 5 and 6	
Rated head, ft	3
Rated capacity at rated head, gpm	100
Motor size, hp	125
	15
Waste Activated Sludge Pumps	
Number	5
Rated head, ft	14
Rated capacity at rated head, gpm	200
Motor size, hp	2
Secondary Sludge and Scum Pumps	
Number	4
Rated head, ft	23.5
Rated capacity at rated head, gpm	100
Motor size, hp	2
Flotation Thickeners	
Number	3
Size, ft	11.5 x 41
Effective surface area per basin, sq ft	400
Thickened Sludge Pumps	
Number	2
Rated head, ft	100
Rated capacity at rated head, gpm	50-125
Motor size, hp	10
Anaerobic Digesters	
Number	3
Capacity, mg	1.1
Sludge Dewatering	
Belt Filters Press	
Number	3
Capacity, pounds per hour	3,300
Size, meter	3