ATTACHMENT 1
GENERAL FACILITY INFORMATION

1. Facility Name: _____

2. Type of Facility: _____

3. Population Served:
   Present: _____ Design: _____

4. Flow:

	Present	Design
Average		
Maximum		
Peak		

5. Water Quality:

Assumed ☐ Actual ☐ Source: _____

	Influent:		Effluent:	
BOD5		mg/l		mg/l
TSS		mg/l		mg/l
NH3-N		mg/l		mg/l

Basis for Assumptions, if made:

_____

6. Is the system above the 100-year flood plain? Yes ☐ No ☐

7. List Treatment System:

   a. Existing:

   1. _____ 5. _____
   2. _____ 6. _____
   3. _____ 7. _____
   4. _____ 8. _____

   b. Proposed:

   1. _____ 5. _____
   2. _____ 6. _____
   3. _____ 7. _____
   4. _____ 8. _____

ATTACHMENT 2
FLOW MEASUREMENT, SCREENING AND GRIT REMOVAL

A. Flow Measurement

1. Type Metering Device: _____

2. Location: Influent _____ Effluent _____

3. Indicating and Recording Mechanism: _____

B. Bar Screen

1. Area: Total _____ ft^2 Effective _____ ft^2.

2. Space Between Bars: _____ inches

3. Velocity: _____ ft/s 4. Slope of Screen: _____

5. Is Drainage Platform Provided? Yes ☐ No ☐

6. Method of Cleaning: Manual ☐ Mechanical ☐

7. Mechanical Screen:
Capacity _____ MDG Type _____

8. Auxiliary Bar Screen: Yes ☐ No ☐

C. Comminutoring Device

1. Location _____

2. Size: _____ inches 3. Capacity: _____ MGD

2. Auxiliary Bar Screen: Yes ☐ No ☐

D. Grit Chamber

1. No. of Chambers _____ 2. Type _____

3. Cross Section Area:
   Each _____ ft^2 Total _____ ft^2 Length _____ ft

   Width _____ ft Diameter _____ ft

4. Calculated Velocity of Flow _____ ft/s

5. Method of Cleaning: Manual ☐ Mechanical ☐

6. Surge prevention: Yes ☐ No ☐

7. Method of Velocity Control _____

8. Detention Period:
   Present _____ Seconds Design _____ Seconds

9. Drain Provided: Yes ☐ No ☐

ATTACHMENT 3
ACTIVATED SLUDGE

1. Process:

   Conventional ☐ Contact Stabilization ☐ Extended Aeration ☐
   Sequence Batch Reactor ☐ Step Aeration ☐ Complete Mix ☐
   Other _____

2. Number of Tanks: _____ 3. Are all tanks same size? Yes ☐ No ☐

4. Shape of Tank: _____ 5. Are waterstops provided? Yes ☐ No ☐

5. Inside Dimensions of Each Tank (ft):

   Length _____ Width _____ Depth _____ Diameter _____

6. Effective Volume of each Tank: _____ gallons

7. Total Tank Volume: _____ gallons

8. Recirculation Rate: _____ MGD

9. Design Flow (including recirculation): _____ MGD

10. Percentage of Daily Flow of Return Sludge to Tank: _____

11. Detention Time: _____ minutes

12. Aeration Tank Organic Loading: _____ lb BOD5/day/1000ft^3

13. F/M Ratio: _____ lb BOD5/day/ lb MLVSS

14. MLSS: _____ mg/L Assumed ☐ or Actual ☐

15. MLVSS/MLSS Ratio: _____

16. Are the inlets and outlets for each aeration tank suitably equipped to permit controlling the flow to any unit and to maintain reasonably constant liquid levels?
    Yes ☐ No ☐

17. Freeboard in Aeration Tanks (minimum 24 inches): _____ inches

18. Is the type of aeration system able to provide the necessary oxygen requirements?
    Yes ☐ No ☐

19. Sludge Return Pumps:

    Number Pumps: _____ Type: _____ Capacity Each: _____ gpm
    Total Capacity: _____ gpm Rated Heads: _____ ft
    Computed Heads: _____ ft

20. Sequence Batch Reactors **Only**:

    Cycle Duration: _____ minutes Mixing Duration: _____ minutes

    Low water level: _____ ft High water level: _____ ft

    Hydraulic Retention Time: _____ minutes

ATTACHMENT 4
AERATION SYSTEM

1. Required Air: _____ ft^3/lb BOD5/day

2. Furnished Air: _____ ft^3/ lb BOD5/day

3. Type of System: Diffused Air ☐ Mechanical ☐

4. Diffused Air Equipment:

   Number Blowers _____ Capacity of each _____ ft^3/m

   Total Capacity of Blowers _____ ft^3/m

   Diffusers: Plates ☐ Fixed Tubes ☐ Swing Diffusers ☐
   Impingement Aerator ☐ Jet Aerator ☐

5. Mechanical Aeration Equipment:

   Number Units _____ Type of Unit _____
   Capacity of Each Unit _____ hP
   Operated Intermittently by Clock Time? Yes ☐ No ☐

ATTACHMENT 5
LAGOONS

1. Type: Controlled Discharge Facultative Lagoon System ☐
   Flow-Through Facultative Lagoon System ☐
   Aerated Lagoon System ☐
   Combination _____

2. Number of Ponds: _____ 3. Number of Cells per Pond: _____

4. Ponds in Series or Parallel Operation: _____

5. Pond/Cell Depth (ft):

Pond Number	Maximum	Minimum	Average
1			
2			
3			

6. Freeboard of Each Pond (ft):

   Pond 1: _____ Pond 2: _____ Pond 3: _____

7. Pond/Cell Width (ft):

Pond Number	Maximum	Minimum	Average
1			
2			
3			

8. Pond/Cell Length (ft):

Pond Number	Maximum	Minimum	Average
1			
2			
3			

9. Volume of Each Pond/Cell (gallons):

Pond Number	At Maximum Depth	At Minimum Depth	At Average Depth
1			
2			
3			

7. BOD Loading of Each Pond/Cell (mg/l):

Pond Number	Present	Design
1	_____	_____
2	_____	_____
3	_____	_____

8. Retention Time at Average Depth (minutes):

Pond Number	Present	Design
1	_____	_____
2	_____	_____
3	_____	_____

9. Liner Material of Each Pond:

Pond 1: _____ Pond 2: _____ Pond 3: _____

10. If synthetic liner, how is liner attached? Is liner vented?

_____

12. How is the bank protected?

_____

13. Slope of internal banks: _____

14. Outlet

Adjustable: Yes ☐ No ☐ Height above bottom of Pond: _____ ft

15. Is lagoon aerated? Yes ☐ No ☐

ATTACHMENT 6
RECIRCULATING SAND FILTER

1. Type of Pretreatment: _____

2. Filter Media:
   Material _____ Effective Size _____ mm
   Uniformity Coefficient _____ Depth _____ ft

3. Underdrains:
   Type _____ Slope _____ Bedding _____

4. Hydraulic Loading: _____ gpd/ft2

5. Organic Loading: _____ lb/day/ft2

6. Recirculation Ratio: _____

7. Recirculation Tanks:
   Volume _____ gallons Number of Tanks _____

8. Dosing:
   Time On _____ minutes Time Off _____ minutes
   Frequency _____ Volume/orifice _____ gallons/orifice

ATTACHMENT 7
CLARIFIERS

1. Type: _____

2. Number of Tanks: _____

3. Surface Dimensions (ft):

   Width _____ Length _____ Diameter _____

4. Sidewall Depth: _____ ft

5. Detention Period (minutes):
   At design flow _____ At peak flow _____

6. Overflow Rate (gpd/ft^2):
   At design flow _____ At peak flow _____

7. Surface Area: _____ ft^2

ATTACHMENT 8
SLUDGE TREATMENT

A. Sludge Digestion Tanks

1. Number of Units _____ 2. Type _____

3. Capacity: _____ 4. Single or Two Stage: _____

5. Type of Cover: _____ 6. Is Tank Insulated? Yes ☐ No ☐

7. Heating (pipe coils): Diameter of Pipes: _____ inches
Total Surface Area: _____ ft^2

8. Heating (heat exchanger): Capacity of unit _____

9. Is there a cross connection between the liquor selector flushing line and the drinking water supply? Yes ☐ No ☐

10. Thermometers: Yes ☐ No ☐ 11. Flame or Drip Traps: _____

12. Waste Burner: Yes ☐ No ☐ 13. Manholes in Cover: Yes ☐ No ☐

14. Supernatant Outlets: Yes ☐ No ☐

15. Disposal of Supernatant: _____

16. Provisions for Recirculation of Sludge? Yes ☐ No ☐

17. Provisions for Sampling? Yes ☐ No ☐

18. Sludge Removal Lines: Yes ☐ No ☐

19. Explosion Proof switches, fixtures: Yes ☐ No ☐

20. Disposal of Wet Sludge: _____

B. Sludge Drying Beds

1. Number Units: _____ 2. Required Area: _____ ft^2

3. Area Each Bed: _____ ft^2 4. Total Area: _____ ft^2

4. Area per Capita: Present _____ ft^2 Design _____ ft^2

5. Gravel:
   Layer Depths: _____ ft, _____ ft _____ft
   Sizes: _____. _____ , _____

6. Sand: Depth _____ ft Size _____

7. Underdrains: Size _____ Spaced _____

8. Freeboard above Sand: _____ ft

9. Slope of Delivery Pipe: _____

10. Suitable Splash Plate: Yes ☐ No ☐

11. Disposal of Sludge Bed Drainage: _____

12. Disposal of Dry Sludge: _____

ATTHACHMENT 9
DISINFECTION

A. CHLORINATION

1. Type of Chlorination: Tablet ☐ Gas ☐

2. Capacity: _____ #/24 hr 3. Location: _____

4. Ventilation: Yes ☐ No ☐

5. Point of Application in Process: _____

5. Contact Chamber:
Design Flow _____ MGD Peak Flow _____ MGD
Volume _____ gallons

Inside Dimensions (ft)
Length _____ Width _____ Depth _____ Diameter v

Detention Time _____ minutes Drain Provided? Yes ☐ No ☐

6. Scum Baffle: Yes ☐ No ☐

7. Point of Application: _____

B. ULTRA VIOLET

1. Design Flow : _____ MGD 2. Peak Flow: v MGD

3. Number of Channels: _____ 4. Number of Banks per Channel: _____

5. Space between lamps: _____ inches

6. UV Radiation Dosage: _____ mW s/cm2

ATTACHMENT 10
FLOW EQUALIZATION

1. Use: _____

2. Location in process: _____

3. Type: _____

4. Shape: _____

5. Dimensions (ft):
   Width _____ Length _____ Diameter _____ Depth _____

6. Effective Volume: _____ gallons

7. Will excess flow being diverted to the equalization basin undergo preliminary treatment first? Yes ☐ No ☐

8. Is aeration or mechanical equipment used for mixing? Yes ☐ No ☐

ATTACHMENT 11
PRIMARY SEDIMENTATION

A. Settling Tanks:

1. Type: _____ 2. Number of units: _____

3. Dimensions: (ft)
Width _____ Length _____ Diameter _____ Depth _____

Surface Loading: _____ gpd/ft^2

6. Overflow Rate: _____ gpd/ ft. weir

7. Design of inlet and outlet baffles: _____

8. Design for skimming: _____

9. Disposal of scum: _____

10. Diameter sludge pipes: _____ inches

11. Provision for flushing and draining sludge lines? Yes ☐ No ☐

B. Other:

Describe the type of primary sedimentation provided in detail. Provide pertinent design information and details.

_____

ATTACHMENT 12
TRICKLING FILTERS

A. High Rate:

	First Stage	Second Stage
1. Dimensions (ft):		
Width		
Length		
Diameter		
Depth		
2. Area (ft^3):		
3. Recirculation:		
Ratio		
How Controlled?		
How Measured?		
Where returned?		
3. Organic Loading (lb BOD/Ac-ft./day):		
5. Hydraulic Loading (Mg/Ac/day):		
6. Type of distributor:		
7. Dosing Method:		
8. Minimum Head On Distributor Arms (ft):		
9. Size Filter Rock (inches):		
10. Sodium Sulfate Cycle Test		
11. Provision for ventilation?	Yes ☐ No ☐	Yes ☐ No ☐
12. Provision for flooding?	Yes ☐ No ☐	Yes ☐ No ☐
13. Filter efficiency, after settling %:		

B. Standard Rate:

1. Dimensions (ft):
   Width _____ Length _____ Diameter _____ Depth _____

2. Area: _____ ft^3

2. Organic Loading: _____ (lb BOD/Ac-ft./day)

3. Hydraulic Loading: _____ (MGD/Ac)

4. Type of distributor: _____

5. Dosing Method: _____

6. Detention Time in Dosing Tank: _____ minutes

7. Is Siphon Capacity Adequate? Yes ☐ No ☐

8. Minimum Head on Distributor Arms: _____ ft

9. Size Filter Rock: _____ inches

10. Sodium Sulfate Cycle Test: _____

11. Provision for Ventilation: Yes ☐ No ☐

12. Provision for flooding: Yes ☐ No ☐

13. Provision for Recirculation: Yes ☐ No ☐