For FRSA Use:
Log # _____
Date: _____

Four Rivers Sanitation Authority
Engineering Dept.
3501 Kishwaukee Street
Rockford, Illinois 61109

Schedule F - Sewer System Lift Station / Force Main

1. Name of Project: _____

2. Design Population:
Area to be served _____ acres. Population to be served _____ P.E.

3. Design Flows:
Design Average Flow _____ gpm. Design Maximum Flow _____ gpm.

4. Lift Station will serve:

Only separate sewers	◯ Yes	◯ No	Domestic waste sewers	◯ Yes	◯ No
Industrial waste sewers	◯ Yes	◯ No	Domestic & industrial wastes	◯ Yes	◯ No

5. Lift Station is designed to serve:
☐ Only the population indicated above ☐ An anticipated additional waste contribution of _____ P.E.

6. Force Main:
Size of Force Main (inches) _____ Total Length (feet) _____
Pipe material specifications _____ Joint specifications _____

Are air relief valves provided at high points? ◯ Yes ◯ No

Are clean-outs (blow-offs) provided at low points? ◯ Yes ◯ No

7. Design Head (Total Dynamic Head):

Static Head:
Forcemain High Point Elevation: _____
Low Water Elevation: _____

Static Head: (A) _____ Feet

Pipe friction loss: (B) _____ Feet at "C" = 100 or
(Attach calculations) _____ Feet at "C" = 120

Minor Losses (Valves, etc.): (C) _____ Feet at "C" = 100
(Attach calculations)

Total Dynamic Head (A + B + C) _____ Feet

8. Pumps

Number of Pumps	Type of Pumps	GPM per Pump	at TDH (Feet)	HP of Each Pump	Pass 3" Spheres
					☐ Yes ☐ No
					☐ Yes ☐ No
					☐ Yes ☐ No

a. Rated Capacity of Lift Station _____ gpm at _____ feet of TDH.

b. Pumping Capacity with Largest Unit Out of Service _____ gpm at _____ feet of TDH.

c. Are all pumps with positive suction head and/or self-priming? ◯ Yes ◯ No

d. Have provisions been made to detect shaft seal failure or potential shaft seal failure? ◯ Yes ◯ No

9. Valves

a. Discharge Pipe ☐ Gate ☐ Check ☐ Other ☐ Other

b. Suction Line (if Applicable) ☐ Gate ☐ Check ☐ Other ☐ Other

10. Wet Well

a. Effective capacity (volume between pumps off and pumps on switches) = _____ gallons

b. Detention time at design flow = _____ minutes

c. Are there provisions for pump removal? ◯ Yes ◯ No

11. Buoyancy Calculations

a. Have buoyancy calculations been submitted? ◯ Yes ◯ No ◯ N/A

b. Depth of groundwater table: _____ feet below the ground surface.

12. Accessibility

Is the pump station accessible by an all-weather road? ◯ Yes ◯ No

13. Ventilation

a. Wet Well:

Continuous with at least 12 complete air changes per hour? ◯ Yes ◯ No

Intermittent with at least 30 complete air changes per hour? ◯ Yes ◯ No

b. Dry Well (if applicable):

Continuous with at least 6 complete air changes per hour? ◯ Yes ◯ No ◯ N/A

Intermittent with at least 30 complete air changes per hour? ◯ Yes ◯ No ◯ N/A

c. Is portable ventilation equipment available for use at all times? ◯ Yes ◯ No

14. Emergency Operations

a. In case of power failure, is an alternate power supply available? ◯ Yes ◯ No

If yes, please describe the source of the alternate power supply. _____

b. Is a portable pump, with adequate pumping capacity, available for use at all times? ◯ Yes ◯ No

c. Has a riser from the force main been provided to hook-up portable pumps? ◯ Yes ◯ No

d. Length of time between a power failure and commencement of pumping by emergency equipment: _____

e. Estimated time interval before damage or sewer backup will occur: _____

f. Type of alarm system proposed: ◯ Telemetering System ◯ Audio-Visual with self-contained power

g. Are personnel available at all times to operate emergency equipment? ◯ Yes ◯ No

15. Flow Measurement

a. Type of flow measurement provided: ◯ Flow meter ◯ Elapsed time meters ◯ ITR

16. Compliance with Illinois Recommended Standards for Sewage Works

a. Can the pump station remain operational during the 25-year flood? ◯ Yes ◯ No

b. Is the pump station protected from physical damage during the 100-year flood? ◯ Yes ◯ No

c. When applicable, will electrical systems and components comply with NEC requirements for Class I, Group D, Division I locations? ◯ Yes ◯ No

d. Have provisions been made to automatically alternate the pumps? ◯ Yes ◯ No

e. Is the motor control center located outside and protected by a conduit seal? ◯ Yes ◯ No

f. Can the motor be electronically disconnected without disturbing the seal? ◯ Yes ◯ No

This Agency is authorized to require this information under Illinois Compiled Statutes, 1998, Chapter 415, Title X, Section 5/39 et seq. Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied.