State of Delaware
Department of Natural Resources and Environmental Control
Division of Water Resources, R & R Building, 89 Kings Highway
Dover, Delaware 19901
Phone: (302)739-9946 Fax: (302)739-8369

Application for Central Sewer Collection and Transmission Systems

The following documents must accompany the application:

1. Two sets of construction plans signed and sealed by a Delaware - registered Professional Engineer, or a Delaware registered Professional Land Surveyor for gravity systems only.

2. The plans must be drawn to scale showing slope, inverts, pipe size, groundline and tops of manholes, water lines, stormwater and streams crossings and encasements shown in profile.

3. Pump/performance curves for all pump/lift stations and force mains.

4. A letter from the municipality/authority responsible for the operation and maintenance of the central wastewater collection, transmission and treatment facilities authorizing and approving this project. The letter should include confirmation that the project has the proper zoning approval and that the system can accommodate the additional flows without causing or contributing to violations of Delaware's Environmental Protection Act (7 Del. C., Chapter 60) and regulations promulgated thereafter. This includes, but is not limited to, unauthorized discharges such as overflows at manholes and violations of discharge permit terms and conditions.

5. The appropriate permit review fee. Currently the review fee for waste-water collection and transmission facilities is eight hundred and twenty-five dollars. ($825.00) Checks should be made payable to the State of Delaware. This fee covers the initial Division review and one follow-up review of any corrections or changes made to address the Division's comments. An additional review fee must be submitted for resubmission of the plans if substantial changes are made to the project which trigger a complete review of the permit reapplication. ($825.00) payable to the State of Delaware.

Gravity Sewer Collection Systems

Project Name: _____ Date: _____

Project Description: _____

_____

Location: _____

Ownership: Public _____ Private: _____

Type of sewer system:
Residential: _____ Commercial: _____

Other: _____

Design Considerations for Gravity Sewers:

Type of pipe: _____

Length: _____ ft. Diameter: _____ in.

Number of Manholes: _____ Maximum distance between manholes? _____

Minimum slope provided _____ ft/ft. Minimum velocity provided _____ft/sec.

Minimum ground cover for pipe provided _____ ft.

Design flow:

Average: _____ gallons/day

Peak: _____ gallons/day

Capacity _____ gallons/day

Joint Specifications: _____

Are drop type manholes provided? _____

Will minimum ten foot horizontal and eighteen inch vertical separation from water lines be maintained? _____

Stream crossings: _____

_____

Comments: _____

_____

Pump/Lift Station - Force Main

Project Name: _____ Date: _____

Project Description: _____

_____

Location: _____

Ownership: Public _____ Private: _____

Type of Wastewater:

Residential: _____

Industrial: _____

Other: _____

Station Capacity:

Design Flow _____gallons/day

Average Flow _____gallons/day

Peak Flow _____ gallons/day

Design Considerations for Pump/Lift Station:

Can peak flow be accommodated if largest unit fails? _____

Are check valves provided on the discharge line? _____

If not, explain alternative procedure _____

Are gate valves provided on the discharge line? _____

Is ventilation provided in wet well? _____

dry well? _____

Is an alarm system included? _____

Is an alternate source of power provided? _____

What other provisions are included for emergency operations? _____

_____

Pump/Lift Station - Force Main (continued)

Project Name: _____ Date: _____

Design Criteria for Pump/Lift Station (continued):

Physical Conditions:

Height of influent above pump (suction head) _____ ft.

Height of pump effluent above pump (discharge head) _____ ft.

Friction loss _____ ft.

Pump capacity _____ gal/min.

Head characteristics:

Static head _____ ft. Total head _____ ft.

Horsepower characteristics:

Required motor horsepower _____ hp.

Design Considerations for Force Main:

Type of pipe: _____

Hazen-Williams "C" factor used for design _____

Force-main:

Diameter _____in. Total Length _____ ft.

Velocity at design average flow _____ ft/sec.

Are air relief valves specified? _____ Are clean out provided? _____

Maximum distance between cleanouts? _____

Minimum ground cover for pipe provided? _____

Are drop type manholes provided? _____

Will minimum ten foot horizontal and eighteen inch vertical separation from water lines be maintained? _____

Type of joint specified? _____

Comments: _____

_____