



Iowa Department of Natural Resources  
Wastewater Section  
Construction Permit Application  
**SCHEDULE M, Fixed Film Reactor- Stationary Media**

|                   |
|-------------------|
| DNR USE ONLY      |
| Project No. _____ |
| Permit No. _____  |

|                        |                  |
|------------------------|------------------|
| Date Prepared<br>_____ | Project Identity |
| Date Revised<br>_____  |                  |

1. Design Loadings: (waste entering reactor unit operations)      ADW                      AWW                      MWW                      PHWW

|                       |                          |       |       |       |       |
|-----------------------|--------------------------|-------|-------|-------|-------|
|                       | Flow, MGD                | _____ | _____ | _____ | _____ |
| Design Temp: _____ °F | BOD <sub>5</sub> , mg/l  | _____ | _____ | _____ | _____ |
|                       | TSS, mg/l                | _____ | _____ | _____ | _____ |
|                       | NH <sub>3</sub> -N, mg/l | _____ | _____ | _____ | _____ |

2. Reactor unit operation follows: \_\_\_\_\_ and precedes: \_\_\_\_\_

3. Design data: First stage: \_\_\_\_\_ Second stage: \_\_\_\_\_

|  | Unit 1                  | Unit 2 | Unit 3 |
|--|-------------------------|--------|--------|
| Specify whether new or existing          |                         |        |        |
| Classification                           |                         |        |        |
| Dimensions                               |                         |        |        |
| Surface Area (ft <sup>2</sup> )          |                         |        |        |
| Media Depth (ft)                         |                         |        |        |
| Media Volume (1,000 ft <sup>3</sup> )    |                         |        |        |
| Media                                    | A. Type                 |        |        |
|  | B. Size                 |        |        |
|  | C. Grading              |        |        |
| Type of Distributor                      |                         |        |        |
| Activated by                             |                         |        |        |
| BOD Loading (#/D/1,000 ft <sup>3</sup> ) |                         |        |        |
| Hydraulic Loading (gpm/ft <sup>2</sup> ) |                         |        |        |
| Underdrainage                            | A. Type                 |        |        |
|  | B. Slope                |        |        |
|  | C. Min Channel Velocity |        |        |
| Recirculation Ratio                      |                         |        |        |

4. Method of reactor flooding: \_\_\_\_\_

5. Ventilation provisions: \_\_\_\_\_

6. Type of cover provided: \_\_\_\_\_

7. Is service bypass provided?     Yes     No    Discharge to: \_\_\_\_\_

8. Recirculation Pumps

| Pump No. | Location | Type | Capacity (GPM) | TDH (ft) |          | Discharged To |
|----------|----------|------|----------------|----------|----------|---------------|
|          |          |      |                | Rated    | Computed |               |
| 1        |          |      |                |          |          |               |
| 2        |          |      |                |          |          |               |
| 3        |          |      |                |          |          |               |
| 4        |          |      |                |          |          |               |