OPERATION AND MAINTENANCE PLAN
DENITRIFYING BIOREACTOR
CODE 747

Landowner/Operator _____

Job Location _____ GPS _____

Prepared By _____ Date _____

Operation and Maintenance Items

Operation and maintenance (O&M) is necessary for all conservation practices and is required for all practices installed with the Natural Resources Conservation Service assistance. The land user is responsible for proper O&M throughout the life of the practice and as may be required by federal, state, or local laws or regulations.

Operation refers to operation of the practice in compliance with all laws, regulations, ordinances, and easements; and in such a manner that will result in the least adverse impact on the environment and will permit the practice to serve the purpose for which it was installed. Maintenance includes work to prevent deterioration of the practice, repairing damage, or replacing components which fail.

Necessary operation and maintenance items for this practice include:

❑ For a bioreactor which is located on land that is 3 feet or more lower than the crop ground, the stop logs may be kept at the same setting year round. These settings are:

Upstream (diversion) structure: _____ inches below the ground surface

Downstream (capacity) structure: _____ inches below the ground surface

❑ For a bioreactor located on land at or near the same elevation as the crop field, manage water control levels according to the following plan:

Mode	Begin Date	Stoplog settings	
		Upstream (diversion) structure	Downstream (capacity) structure
Fallow	_____ *(After fall harvest activities)*	____ inches below the ground surface	____ inches below the ground surface
Open	_____ *(or 2 weeks before spring planting)*	_____ inches above tile flow line	Fully open
Crop	_____ *(or 2 weeks after the end of spring planting activities)*	_____ inches below the ground surface*	_____ inches below the ground surface*
Open	_____ *(Two weeks before fall harvest)*	_____ inches above tile flow line	Fully open

** During extremely wet periods in the growing season, lower the stoplogs to the Open mode to prevent the water table from rising into the crop root zone.*

- ❑ When water is released from a water control structure, high velocity flow has the potential of damaging the tile line. To prevent damage, lower the water level in the structure gradually.
- ❑ Inspect after significant storm events and at least twice a year to identify repair and maintenance needs.
- ❑ Check the valves for proper functioning. Lock structures when not in use to prevent tampering and/or vandalism. Promptly repair or replace damaged or inoperable components.
- ❑ Remove debris that may accumulate on, around or immediately upstream or downstream from the installed structure.
- ❑ Remove debris from any surface inlets to the drainage system, to prevent excessive clogging of the bioreactor flow path.
- ❑ Repair any settlement or erosion that occurs along buried pipes. If this problem persists, evaluate the pipe for leakage and

erosion of the fill material into or along the pipe.

- ❑ Eradicate or otherwise remove all rodents or burrowing animals. Immediately repair any damage caused by their activity.
- ❑ Protect the bioreactor from damage by farm equipment and livestock.
- ❑ For a bioreactor designed with an open top, monitor the level of the wood chips and add more chips if they settle below the level of the ground surface.
- ❑ For a bioreactor designed with a soil cap over the wood chip chamber, monitor to make sure that the soil over the wood chips does not settle below the level of the natural ground in the area. Make sure that the ground on top of the wood chips does not become ponded with water. Contact NRCS for assistance if settlement becomes a problem. More wood chips may need to be added, or additional soil.
- ❑ Complete three years of annual reports (see attached)

Other _____

Denitrifying Bioreactor – First Year Annual Report

Producer_____ Location _____

Field Office _____ Conservation Contract _____

Report Date _____

Report Due On Or Before December 15, _____

☐ Actual cost of installation $ _____

☐ First year maintenance requirements, if any: _____

_____

☐ Operation of the stoplogs:

Date	Stoplog Setting		Comments
	Upstream (Diversion) Structure	Downstream (Capacity) Structure	

☐ Producer's recommendations and observations:

_____

_____

_____

_____

Denitrifying Bioreactor – Second Year Annual Report

Producer_____ Location _____

Field Office _____ Conservation Contract _____

Report Date _____

Report Due On Or Before December 15, _____

☐ Second year maintenance requirements, if any: _____

_____

☐ Operation of the stoplogs:

Date	Stoplog Setting		Comments
	Upstream (Diversion) Structure	Downstream (Capacity) Structure	

☐ Producer's recommendations and observations:

_____

_____

_____

_____

_____

Denitrifying Bioreactor – Third Year Annual Report

Producer_____ Location _____

Field Office _____ Conservation Contract _____

Report Date _____

Report Due On Or Before December 15, _____

☐ Third year maintenance requirements, if any: _____

_____

☐ Operation of the stoplogs:

Date	Stoplog Setting		Comments
	Upstream (Diversion) Structure	Downstream (Capacity) Structure	

☐ Producer's recommendations and observations:

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