CHAPTER 50: WATER

Section

Cross-reference

Assistant Superintendent of Water, see §§ 31.30 and 31.31
Water Cash Reserve Fund, see § 34.032

GENERAL PROVISIONS

§ 50.01 DEFINITIONS.

For the purpose of this chapter, the following definitions apply unless the context clearly indicates or requires a different meaning.

CUSTOMER or ***CONSUMER*** or ***USER.*** The person, firm, corporation, or association having an interest, whether legal or equitable, as the owner, in any property which is, or is to be, supplied with water service by the Town Waterworks.

METER. A mechanical device owned by the Town Waterworks which measures and records the quantity of water supplied to the customer.

TAP. The fitting owned by the Town Waterworks and inserted by it in the distribution and main to which service pipe is attached.

TOWN WATERWORKS. The Town of Edgewood Water Works System.

WATER MAIN. The pipe owned by the Town Waterworks and located in the street and/or easement which delivers water to the service pipes attached to the main.
(Prior Code, § 50.01) (Ord. 8-17-1999C, passed 5-17-1999; Ord. 09-20-11, passed 9-20-2011)

§ 50.02 FEES.

(A) *Water use*. The following fees shall be charged for the services rendered by the Town Waterworks System based on the use of water supplied by the waterworks system:

(1) (a) Each person purchasing water from the town's water system shall pay a minimum charge of $19.60 each month.

(b) Effective January 1, 2016, each person purchasing water from the town's water system shall pay a minimum charge of $22.80 each month.

(c) Effective January 1, 2017, each person purchasing water from the town's water system shall pay a minimum charge of $26 each month.

(2) (a) Each person purchasing water from the town's water system, and using more than 4,000 gallons each month, shall pay an additional $4.90 for each 1,000 gallons used in such month.

(b) Effective January 1, 2016, each person purchasing water from the town's water system, and using more than 4,000 gallons each month, shall pay an additional $5.70 for each 1,000 gallons used in such month.

(c) Effective January 1, 2017, each person purchasing water from the town's water system, and using more than 4,000 gallons each month, shall pay an additional $6.50 for each 1,000 gallons used in such month.

(d) Effective July 1, 2022, each person purchasing water from the town's water system, and using more than 4,000 gallons each month, shall pay an additional $6.41 for each 1,000 gallons used in such months.

(B) *Deposits*. Every user of the Town Waterworks shall submit a deposit for the services to be rendered.

(1) Residential owners and tenant users shall each submit a deposit of $150.

(2) Business users shall submit a deposit of $150.

(C) *Tap fees*.

(1) Any individual tapping into the water mains belonging to the town shall pay a tap fee of $400. Upon payment of such tap fee, the town will actually tap into the water main, if necessary, and extend a water line from the point of tapping into the water main to the property line of the individual seeking to tap into such main.

(2) Any person who does not have a water main belonging to the town running within 50 feet of one of the boundary lines of his or her lot or any person that requires a connection that is made by tunneling under any street or highway may, at the discretion of the Town Council, be charged an amount in addition to the $400 tap fee normally charged to cover the additional time and material necessary to connect such individual to the town water main.

(D) *Billing; delinquent accounts*.

(1) Water meters shall be read within approximately seven working days (weather permitting) at the end of each month. The water consumption per month shall be based on the difference in readings of the Orion water meter between the last monthly reading and the present monthly reading.

(2) Based on water consumption, billing for water, tax, and sewage shall be sent for each month by the tenth day of the month following the end of the previous month.

(3) The bills shall show the customer's name, address, meter readings at the start and end of the month, total water consumption for the month, cost of water consumed, taxes on water consumed, sewage charges based on water consumed, and total charges if paid on or before the twenty-first day of the month following the month the bills were mailed.

(4) In the event the customer does not use the town's water but discharges sewage into the town's sanitary sewer system, the billing shall be the same as in division (D)(3) above, except only the flat rate charged for sewage will be shown along with the charge if paid after the delinquent date.

(5) (a) All payments of bills received at the Town Hall Office on or before the twenty-first day of the month (or the first working day following the twenty-first day of the month if the twenty-first day of the month falls on a Saturday, Sunday, or holiday) shall be considered non-delinquent.

(b) All bills received at the Town Hall Office after the foregoing deadline shall be considered delinquent and shall be charged the delinquent late charge at 10% in addition to the regular consumption charge and shall be issued a disconnect notice.

(6) (a) For all bills not paid by seven days following the delinquent date, water service will be terminated unless the customer makes full payment, or requests installment payments to pay the bill in approximately two equal installments within the next month.

(b) If a customer is scheduled for termination (even if termination does not take place), there shall be a $50 termination fee added to the customer's account.

(7) In the event the customer's request for installment payments is granted and the customer fails to meet the payments agreed upon, water service shall be terminated.

(8) The Clerk-Treasurer, in the collection of water and sewage fees for the town, is authorized to accept direct debits (also known as ACH or auto-pay transfers) from the accounts of town residents.

(9) If a customer experiences a water leak, the customer may apply to the Clerk-Treasurer for a credit, and shall provide a billing statement to support the application for a credit from a licensed plumber. The Clerk-Treasurer and the customer shall then agree on the amount of any such credit. In the absence of agreement, the customer may then appear at the next regular meeting of the Town Council and present the customer's evidence to support the credit. The Town Council shall review the evidence presented, determine whether the customer qualifies for a credit, and if so, the amount of the credit. The Town Council's decision about the credit shall be final.

(E) *Termination of service; reinstatement.* In the event that water service is terminated to any customer by the town for any reason whatsoever, or in the event any customer of the town terminates his or her water service, the service will not be reinstated until the customer has paid a $25 turn-on fee, plus full payment owed on his or her water bill and all delinquent fees.

(F) *Failure to pay*. In the event the customer fails to pay the amount billed, and after the water service has been terminated, the Town Attorney shall be assigned the duty of bringing suit on the customer to obtain full payment of the bill and/or assessing the amount of the bill as a lien on the property.

(G) *Temporary users*. Water furnished to temporary users, such as contractors and builders, shall be charged for on the basis of a minimum bill rate, as estimated by the Clerk-Treasurer.

(H) *Hydrant rental*. A municipal hydrant rental shall be determined each year by the Town Council as part of the budget ordinance.
(Prior Code, § 50.02) (Ord. 1984, passed 12- -1984; Ord. 3-16-1993B, passed 3-16-1993; Ord. passed 5-18-1993; Ord. 8-17-93, passed 8-17-1993; Ord. 11-16-1993A, passed 11-16-1993; Ord. 9-19-95A, passed 10-17-1995; Ord. 12-17-1996A, passed 12-17-1996; Ord. 8-17-04B, passed 8-17-2004; Res. 01-17-06-A, passed 1-17-2006; Ord. 11-20-06, passed 11-20-2006; Ord. 12-19-06, passed 12-19-2006; Res. 02-19-08, passed 2-19-2008; Ord. 09-20-11, passed 9-20-2011; Ord. 05-15-12, passed 5-15-2012; Ord. 10-16-12, passed 10-16-2012; Ord. 2-17-15A, passed 2-17-2015; Ord. 04-13-15, passed 8-3-2015; Ord. 05-21-18, passed 4-16-2018; Ord. 07-18-22, passed 7-18-2022)

§ 50.03 BONDS UNAFFECTED.

The rights and obligations of the town concerning the issuance of water system bonds under the authority of ordinances adopted prior to the enactment of this code are in no way impaired by the adoption of this code.
(Prior Code, § 50.03) (Ord. 09-20-11, passed 9-20-2011)

§ 50.04 FLUORIDATE CONCENTRATION.

Fluoride compounds shall be added to the public water supply of the town in sufficient quantities to bring the total amount of fluoride ions (F-11) present in the finished water to the optimum concentration recommended by the State Board of Health, but not exceeding one and one-half parts per million by weight.
(Prior Code, § 50.05) (Res. passed 1-20-1952; Ord. passed 8-16-1977; Ord. 8-1999B, passed 8-17-1999; Ord. 09-20-11, passed 9-20-2011)

§ 50.05 ILLEGAL USE OF FIRE HYDRANTS.

It shall be unlawful for any unauthorized person, firm, or corporation to open and/or draw any water from a fire hydrant located within the corporate limits of the town.
(Prior Code, § 50.06) (Ord. 10-16-01D, passed 10-16-2001; Ord. 09-20-11, passed 9-20-2011) Penalty, see § 10.99

§ 50.06 TAMPERING WITH THE TOWN'S WATER SERVICE.

(A) Only employees of the town waterworks system are authorized to reinstate water service for a customer, or to turn on water service for a customer.

(B) Any person who tampers with the town's water system, or tampers with the town's shutoff/turn-on valves, or any unauthorized person who turns on a customer's water service, shall be in violation of the provisions of this chapter.
(Prior Code, § 50.07) (Ord. 10-17-06B, passed 10-17-2006; Ord. 09-20-11, passed 9-20-2011) Penalty, see § 10.99

§ 50.07 PAYMENT IN LIEU OF TAXES.

A payment in lieu of taxes shall be charged annually to the Town Waterworks based upon a percentage not to exceed 100% of the corporate tax rate, as determined by the Town Council, which payment shall be retroactive to January 1, 2016.
(Prior Code, § 50.08) (Res. 11-12-18, passed 11-12-2018)

METERS

§ 50.20 DEFECTIVE WATER METERS.

Any problems with the procedure or any unforeseen meter problems will be handled at the discretion of the Water Superintendent or Water Commissioner.
(Prior Code, § 50.10) (Ord. passed 4-20-1993; Res. passed 11-15-1994; Ord. 09-20-11, passed 9-20-2011)

§ 50.21 DAMAGED WATER METER REPLACEMENT FEE.

(A) In the event the water meter, which is supplied by the town to customers using water supplied by the Water Department for the purpose of determining the amount of water consumption of the customer, is damaged through no fault of the town, as a result of negligence, inadequate protection, or accident to the extent that the water meter leaks or does not measure the consumption of the customer correctly, the customer is responsible for the cost of the meter and/or the meter repair parts plus the labor to replace or repair the meter.

(B) For the replacement or repair, the Water Department shall charge the customer a standard fee of $250 to cover the Water Department's costs, labor, and administrative expense. This fee will be billed to the customer or added to the total water billing at the next billing period. Nonpayment of the fee shall constitute grounds for terminating water service until the fee is paid.
(Prior Code, § 50.11) (Ord. 3-19-1996A, passed 3-19-1996; Ord. 09-20-11, passed 9-20-2011; Ord. 03-18-19, passed 2-18-2019)

§ 50.22 UNCLAIMED METER DEPOSITS.

If a meter deposit remains unclaimed by a customer of the Town Sewer and Water Utility for greater than five years after the termination of service, such deposit shall become property of the town.
(Prior Code, § 50.12) (Ord. 11-15-10, passed 11-15-2010)

WATER CONSERVATION

§ 50.35 APPLICATION.

This subchapter shall apply to all persons, firms, partnerships, associations, corporations, company, or organizations of any kind connected to the town public water system or using water therefrom (hereafter referred to as "user").
(Prior Code, § 50.15) (Ord. 36-9-9-2, passed 8-15-1989; Ord. 09-20-11, passed 9-20-2011)

§ 50.36 DECLARATION OF NEED.

(A) The Town Council, at any regular or called meeting, may determine that the public water system of the town is:

(1) In imminent danger of a shortage of water; or

(2) Experiencing an emergency shortage of water, and thereafter, after determining that either condition exists, the Council may declare a water conservation emergency and adopt appropriate conservation measures as hereinafter specified.

(B) In the event the Town Council cannot be timely assembled, the President of the Council, or his or her designated delegate who must be a member of the Town Council, may make the determination that either condition exists, and thereafter may declare a water conservation emergency and promulgate

appropriate conservation measures as hereinafter specified, which conservation measures shall remain in full force and effect until the President or his or her delegate cancels the same, or the Council meets, at which time the Council may determine that the conditions still exist and continue the conservation measures, or may determine that the conditions do not exist and terminate such conservation measures. (Prior Code, § 50.16) (Ord. 36-9-9-2, passed 8-15-1989; Ord. 09-20-11, passed 9-20-2011)

§ 50.37 BASIS FOR DETERMINING WATER SHORTAGE.

(A) In the event the consumption by users of the town water utility exceeds 330,000 gallons during any 24-hour period, the Town Council, or the President, or his or her delegate, may determine that there is imminent danger of shortage of water.

(B) In the event the consumption of water by the users of the Town Water Utility exceeds 480,000 gallons during any 24-hour period, the Town Council, or the President, or his or her delegate, in the event the Council cannot be timely assembled, may determine that the town is experiencing an emergency shortage of water and thereupon all of the uses set forth in § 50.38 are prohibited in all districts and by all users.
(Prior Code, § 50.17) (Ord. 36-9-9-2, passed 8-15-1989; Ord. 09-20-11, passed 9-20-2011)

§ 50.38 WATER CONSERVATION MEASURES.

Upon determination of imminent danger of shortage of water by the Council, or the President of the Council, or his or her delegate, reasonable conservation measures shall be adopted whereby the use of water may be limited for one or all of the following purposes only on the days and in the zones specified on the map in Appendix A of the ordinance upon which this subchapter is based and by reference made a part hereof:

(A) Sprinkling, watering, or irrigating of shrubbery, trees, grass ground covers, plants, vines, gardens, vegetables, or any other vegetation;

(B) Washing of automobiles, trucks, trailers, mobile homes, railroad cars, or any other type of mobile equipment;

(C) Cleaning or spraying of sidewalks, driveways, paved areas, or other outdoor surfaces;

(D) Washing and cleaning of any business equipment or machinery; and

(E) The filling of swimming pools, wading pools, and ornamental fountains.
(Prior Code, § 50.18) (Ord. 36-9-9-2, passed 8-15-1989; Ord. 09-20-11, passed 9-20-2011) Penalty, see § 10.99

§ 50.39 NOTICE OF A DECLARATION OF EMERGENCY.

(A) In the event the Town Council, or the President of the Town Council, or his or her delegate, shall determine that a water conservation emergency exists as a result of an imminent danger of a shortage of water or as a result of the town experiencing a shortage of water and adopts or promulgates water conservation measures, the Clerk-Treasurer shall immediately cause publication in a newspaper published in the town authorized to publish legal notices, a notice setting forth the nature and extent of the conservation measures and restrictions on use of water, together with the penalties thereon for prohibited use of water.

(B) The penalty provisions for prohibited use of water in the event of the adoption of conservation measures when there is an imminent danger of a shortage of water or in the event of the determination that there is an emergency shortage of water shall not be enforceable until such publication appears.
(Prior Code, § 50.19) (Ord. 36-9-9-2, passed 8-15-1989; Ord. 09-20-11, passed 9-20-2011)

§ 50.40 SUMMER WATER CONSERVATION.

Under the conditions in § 50.39, the town does request its citizens to limit yard sprinkling, car washing, and pool filling during the months of June, July, and August as follows.

(A) The citizens of the town shall not use water from the water system of the town for the purposes of yard sprinkling, car washing, and pool filling on Sundays.

(B) The citizens of the town living in Wards 1 and 5 shall use water from the water system for the purposes of yard sprinkling, car washing, and pool filling only during the hours from 9:00 a.m. to 4:30 p.m., on Mondays and Thursdays.

(C) The citizens of the town living in Wards 2 and 3 shall use water from water system for the purposes of yard sprinkling, car washing, and pool filling only during the hours from 9:00 a.m. to 4:30 p.m., on Tuesdays and Fridays.

(D) The citizens of the town living in Wards 4 and 6 shall use water from the water system for the purposes of yard sprinkling, car washing, and pool filing only during the hours from 9:00 a.m. to 4:30 p.m., on Wednesdays and Saturdays.

(E) The citizens of the town shall refrain from using water from the town water system for said purposes at all other times during the months of June, July, and August.
(Prior Code, § 50.20) (Ord. 84-3, passed 6-19-1984; Ord. 09-20-11, passed 9-20-2011) Penalty, see § 10.99

§ 50.41 VIOLATIONS.

(A) *Violations of water conservation measures adopted or promulgated as a result of determination of imminent danger of shortage of water*. After adoption of conservation measures by the Town Council or the promulgation of such measures by the President of the Council, or his or her delegate, any user violating such conservation measures limiting the use of water shall be warned by the Marshal of the town or another member of the Police Force. The warning shall be in writing, and the officer serving the notice shall make a return thereon by endorsing on a copy of the notice the date, time, and the name of the persons receiving such notice. In the event such user continues to violate the conservation measures, such user shall be subject to the penalty set forth in § 10.99.

(B) *Violations of water conservation measures established in the event of emergency shortage of water*. After determination by the Town Council, or the President of the Council, or his or her delegate, in the event the Council cannot be timely assembled, that a water conservation emergency exists as a result of an emergency shortage of water, any user using water for the purposes specified in § 50.38 shall be warned by the Marshal of the town or another member of the Police Force. The warning shall be in writing, and the officer serving the notice shall make a return thereon by endorsing the notice with the date, time, and name of the person receiving such notice. If the user continues to violate the provisions of § 50.38, using water for prohibited purposes, such user shall be subject to the penalty set forth in § 10.99.

(Prior Code, § 50.21) (Ord. 36-9-9-2, passed 8-15-1989; Ord. 09-20-11, passed 9-20-2011) Penalty, see § 10.99

CHAPTER 51: SEWERS

Section

Sewer Funds and Bonds

Administration and Enforcement

GENERAL PROVISIONS

§ 51.001 ESTABLISHMENT OF SEWAGE WORKS.

(A) The Town Council authorizes the Superintendent of Utilities to:

(1) Acquire, construct, improve, operate, and maintain sewage works under this chapter;

(2) Acquire, by gift, grant, purchase, condemnation, or otherwise, all lands, rights-of-way, and other property that are necessary for the sewage works;

(3) Issue revenue bonds to pay the cost of acquiring, constructing, and improving the sewage works and property; and

(4) Lease sewage works from a person, an entity, a corporation, a public utility, or a unit for a term not to exceed 50 years.

(B) A sewage works leased under this section is subject to state law.
(Prior Code, § 51.01) (Ord. 09-20-11, passed 9-20-2011)

§ 51.002 DEFINITIONS.

For the purpose of this chapter, the following definitions apply unless the context clearly indicates or requires a different meaning.

BOD (BIOCHEMICAL OXYGEN DEMANDS). The quantity of oxygen utilized in the biochemical oxidation of organic matter under standard laboratory procedure in five days at 20°C, expressed in milligrams per liter.

BUILDING SEWER. The extension from the building drain to the public sewer or other place of disposal.

COMBINED SEWER. A sewer receiving both surface runoff and sewage.

GARBAGE. Solid wastes from the domestic and commercial preparation, cooking, and dispensing of food, and from the handling, storage, and sale of produce.

INDUSTRIAL WASTES. The liquid waste or liquid-borne waste resulting from any commercial, manufacturing, or industrial operation or process.

INSPECTOR. The person or persons duly authorized by the town, through its Council, to inspect and approve the installation of building sewers and their connection to the public sewer system.

NATURAL OUTLET. Any outlet into a watercourse, pond, ditch, lake, or other body of surface or ground water.

PERSONS. Any individual, firm, company, association, society, corporation, or group.

pH. The logarithm of the reciprocal of the weight of hydrogen ions in grams per liter of solution.

PROPERLY SHREDDED GARBAGE. The wastes from the preparation, cooking, and dispensing of food that have been shredded to such a degree that all particles will be carried freely under the flow conditions normally prevailing in public sewers, with no particle greater than one-half inch in any dimension.

PUBLIC SEWER. A sewer in which all owners of abutting properties have equal rights, and which is controlled by public authority.

SANITARY BUILDING DRAIN. The part of the lowest horizontal piping of the sanitary drainage system inside the walls of any building, which receives the discharge from soil or waste stacks and branches, and conveys the same to a point three feet outside the building walls, where it connects with its respective building sewer.

SANITARY SEWAGE. The waste from water closets, urinals, lavatories, sinks, bathtubs, showers, household laundries, basement drains, garage floor drains, bars, soda fountains, cuspidors, refrigerator drips, drinking fountains, stable floor drains, and all other water-carried wastes, except industrial wastes.

SANITARY SEWER. A sewer which carries sewage and to which storm, surface, and ground waters are not intentionally admitted.

SEWAGE. A combination of the water-carried wastes from residences, business buildings, institutions, and industrial establishments, together with such ground, surface, and storm waters as may be present.

SEWAGE TREATMENT PLANT. Any arrangement of devices and structures used for treating sewage.

SEWAGE WORKS. All facilities for collecting, pumping, treating, and disposing of sewage.

SEWER. A pipe or conduit for carrying sewage.

SLUG. Any discharge of water, sewage, or industrial waste which, in concentration of any given constituent or in quantity of flow, exceeds for any period of duration longer than 15 minutes more than five times the average 24-hour concentration or flows during normal operation.

STORM DRAIN or ***STORM SEWER.*** A sewer which carries storm and surface waters and drainage, but excludes sewage and industrial wastes, other than unpolluted cooling water.

SUPERINTENDENT. The Superintendent of the Municipal Sewage Works of the town.

SUSPENDED SOLIDS. Solids that either float on the surface of, or are in suspension in, water, sewage, or other liquids, and which are removable by laboratory filtering.

WATERCOURSE. A channel in which a flow of water occurs, either continuously or intermittently. (Prior Code, § 51.02) (Ord. SW-5, passed 2-17-1967; Ord. SW-6, passed 2-17-1967; Ord. 09-20-11, passed 9-20-2011)

§ 51.003 OBJECTIONABLE WASTE.

(A) No person shall place, deposit, or permit to be deposited in any unsanitary manner on public or private property within the town, or in any area under the jurisdiction of the town, any human or animal excrement, garbage, or other objectionable waste.

(B) No person shall discharge to any natural outlet within the town, or in any area under the jurisdiction of the town, any sewage or other polluted waters, except where suitable treatment has been provided in accordance with subsequent provisions of this section.

(C) Except as hereinafter provided, no person shall construct or maintain any privy, privy vault, septic tank, cesspool, or other facility intended or used for the disposal of sewage.

(D) The owner of all houses, buildings, or properties used for human occupancy, employment, recreation, or other purposes, situated within the town and abutting on any street, alley, or right-of-way in which there is now located a public sanitary or combined sewer of the town, is required at his or her expense to install toilet facilities therein, and to connect such facilities directly with the proper public sewer in accordance with the provisions of this section, within 90 days after the date of official notice to do so, provided that said public sewer is within 100 feet of the property line.
(Prior Code, § 51.03) (Ord. SW-6, passed 2-17-1967; Ord. 09-20-11, passed 9-20-2011) Penalty, see § 10.99

§ 51.004 PRIVATE SEWAGE DISPOSAL.

(A) Where a public sanitary or combined sewer is not available under the provisions of § 51.003(D), the building sewer shall be connected to a private sewage disposal system complying with the provisions of this chapter.

(B) Before commencement of construction of a private sewage disposal system, the owner shall first obtain a written permit signed by the Superintendent. The application for such permit shall be made on a form furnished by the town, which the applicant shall supplement by any plans, specifications, and other information as are deemed necessary by the Superintendent. A permit and inspection fee of $25 shall be paid to the town at the time the application is filed.

(C) A permit for a private sewage disposal system shall not become effective until the installation is completed to the satisfaction of the Superintendent. He or she shall be allowed to inspect the work at any stage of construction and, in any event, the applicant for the permit shall notify the Superintendent when the work is ready for final inspection, and before any underground portions are covered. The inspection shall be made within 24 hours of the receipt of notice by the Superintendent.

(D) The type, capacities, location, and layout of a private sewage disposal system shall comply with all recommendations of the State Board of Health.

(E) When a public sewer becomes available to a property served by a private sewage disposal system as provided in division (D) above, a direct connection shall be made to the public sewer in compliance with this section, and any septic tanks, cesspools, and similar private sewage disposal facilities shall be abandoned and filled with suitable material.

(F) The owner shall operate and maintain the private sewage disposal facilities in a sanitary manner at all times, at no expense to the town.

(G) No statement contained in this chapter shall be construed to interfere with any additional requirements that shall be imposed by the Health Officer.

(H) When a public sewer becomes available, the building sewer shall be connected to the sewer within 60 days, and the private sewage disposal system shall be cleaned of sludge and filled with clean bank-run gravel or dirt.
(Prior Code, § 51.04) (Ord. SW-6, passed 2-17-1967; Ord. 09-20-11, passed 9-20-2011) Penalty, see § 10.99

§ 51.005 VANDALISM.

No unauthorized person shall maliciously, willfully, or negligently break, damage, destroy, uncover, deface, or tamper with any structure, appurtenance, or equipment which is a part of the municipal sewage works.
(Prior Code, § 51.05) (Ord. SW-6, passed 2-17-1967; Ord. 09-20-11, passed 9-20-2011) Penalty, see § 10.99

§ 51.006 PAYMENT IN LIEU OF TAXES.

A payment in lieu of taxes shall be charged annually to the Town Sewage Works based upon a percentage not to exceed 100% of the corporate tax rate, as determined by the Town Council, which payment shall be retroactive to January 1, 2016.
(Prior Code, § 51.06) (Res. 11-12-18A, passed 11-12-2018)

DISCHARGES INTO SEWER SYSTEM

§ 51.020 HARMFUL DUMPING.

The town is authorized to prohibit dumping of wastes into the town's sewer system which, in its discretion, are deemed harmful to the operation of the sewage works, or to require methods affecting pretreatment of said wastes to reduce the characteristics of the waste satisfactory to the town.
(Prior Code, § 51.15) (Ord. SW-5, passed 2-17-1967; Ord. 09-20-11, passed 9-20-2011)

§ 51.021 PROHIBITED DISCHARGES.

(A) No person shall discharge any storm water, surface water, ground water, roof runoff, subsurface drainage, uncontaminated cooling water, or unpolluted industrial process waters to any sanitary sewer.

(B) Storm water and all other unpolluted drainage shall be discharged to such sewers as are specifically designated as combined sewers or storm sewers, or to a natural outlet approved by the Superintendent. Industrial cooling water or unpolluted process waters may be discharged, on approval of the said Superintendent, to a storm sewer, combined sewer, or natural outlet.

(C) No person shall discharge or cause to be discharged any of the following described waters or wastes to any public sewers:

(1) Any gasoline, benzene, naphtha, fuel oil, or other flammable or explosive liquid, solid, or gas;

(2) Any waters or wastes containing toxic or poisonous solids, liquids, or gases in sufficient quantity, either singly or by interactions with other wastes, to injure or interfere with any sewage treatment process, constitute a hazard to humans or animals, create a public nuisance, or create any hazard in the receiving waters of the sewage treatment plant processing these waters or wastes;

(3) Any waters or wastes having a pH lower than 5.5, or having any other corrosive property capable of causing damage or hazard to structures, equipment, and personnel of the sewage works; and/or

(4) Solid or viscous substances in quantities or of such size capable of causing obstruction to the flow in sewers, or other interference with the proper operation of the sewage works such as, but not limited to, ashes, cinders, sand, mud, straw, shavings, metal, glass, rags, feathers, tar, plastics, wood, unground garbage, whole blood, paunch manure, hair and fleshings, entrails and paper dishes, cups, milk containers, and the like, either whole or ground by garbage grinders.

(D) No person shall discharge, or cause to be discharged, the following described substances, materials, waters, or wastes if it appears likely in the opinion of the Superintendent that such wastes can harm either the sewers, lift stations, or appurtenances, or can otherwise endanger life, limb, public property, or constitute a nuisance. In forming his or her opinion as to the acceptability of these wastes, the Superintendent will give consideration to all factors including acceptability of waste water for treatment by the town. Substances falling in this category are:

(1) Any liquid or vapor having a temperature higher than 150°F (65°C);

(2) Any water or waste containing fats, wax, grease, or oils, whether emulsified or not, in excess of 100 mg/l or containing substances which may solidify or become viscous at temperatures between 32°F and 150°F (0°C and 65°C);

(3) Any garbage that has not been properly shredded. The installation and operation of any garbage grinder equipped with a motor of three-quarters horsepower (0.76 hp metric) or greater shall be subject to the review and approval of the Superintendent;

(4) Any waters or wastes containing strong acid iron picking wastes, or concentrated plating solutions, whether neutralized or not;

(5) Any waters or wastes containing iron, chromium, copper, zinc, and similar objectionable or toxic substances; or wastes exerting excessive chlorine requirement;

(6) Any waters or wastes containing phenols or other taste or odor-producing substances;

(7) Any radioactive wastes or isotopes;

(8) Any waters or wastes having a pH in excess of 8.5;

(9) Materials which exert or cause:

(a) Unusual concentrations of inert suspended solids (such as, but not limited to, Fullers earth, lime slurries, and lime residues) or of dissolved solids (such as, but not limited to, sodium chloride and sodium sulfate);

(b) Excessive discoloration (such as, but not limited to, dye wastes and vegetable tanning solutions);

(c) Unusual BOD, chemical oxygen demand, or chlorine requirements in such quantities as to constitute a significant load on the sewage treatment works; or

(d) Unusual volume of flow or concentration of wastes constituting slugs, as defined in § 51.002.

(10) Waters or wastes containing substances which are not amenable to treatment or reduction by the sewage treatment processes employed, or are amenable to treatment only to such degree that the sewage treatment plan effluent cannot meet the requirements of other agencies having jurisdiction over discharge to the receiving waters.

(E) (1) If any waters or wastes are discharged, or are proposed to be discharged, to the public sewers, which waters contain the substances or possess the characteristics enumerated in this section,

and which, in the judgment of the Superintendent, may have a deleterious effect upon the sewers, lift stations, or appurtenances, or which otherwise create a hazard to life or constitute a public nuisance, or which are not acceptable to the town for treatment, the Superintendent shall:

(a) Reject the wastes;

(b) Require pretreatment to an acceptable condition for discharge to the public sewers;

(c) Require control over the quantities and rates of discharge; and/or

(d) Require payment to cover the added cost of handling and treating the wastes not covered by existing sewer service charges under the provisions of this section.

(2) If the Superintendent permits the pretreatment or equalization of waste flows, the design and installation of the plans and equipment shall be subject to the review and approval of the Superintendent, and subject to the requirements of all applicable codes, ordinances, and laws.
(Prior Code, § 51.16) (Ord. SW-6, passed 2-17-1967; Ord. 09-20-11, passed 9-20-2011) Penalty, see § 10.99

SEWER INSTALLATION

§ 51.035 BUILDING SEWER PERMITS.

(A) No unauthorized person shall uncover, make any connections with or opening into, use, alter, or disturb any public sewer or appurtenance thereof without first obtaining a written permit from the Clerk-Treasurer.

(B) (1) There shall be two classes of building sewer permits:

(a) For residential and commercial service; and

(b) For service to establishments producing industrial wastes.

(2) In either case, the owner or his or her agent shall make application on a special form furnished by the town. The permit application shall be supplemented by any plans, specifications, or other information considered pertinent in the judgement of the Inspector. A permit and inspection fee of $25 for a building sewer permit shall be paid to the Clerk-Treasurer at the time the application is filed.
(Prior Code, § 51.25) (Ord. SW-6, passed 2-17-1967; Ord. 09-20-11, passed 9-20-2011) Penalty, see § 10.99

§ 51.036 SEWER INSTALLATION AND CONNECTION; REQUIREMENTS AND SPECIFICATIONS.

(A) (1) All costs and expense incident to the installation and connection of the building sewer shall be borne by the owner.

(2) The owner shall indemnify the town from any loss or damage that may directly or indirectly be occasioned by the installation of the building sewer.

(B) A separate and independent building sewer shall be provided for every building; except where one building stands at the rear of another on an interior lot and no private sewer is available or can be constructed to the rear building through an adjoining alley, court, yard, or driveway, the building sewer from the front building may be extended to the rear building and the whole considered as one building sewer.

(C) Old building sewers may be used in connection with new buildings only when they are found, on examination and test by the Inspector, to meet all requirements of this section.

(D) (1) The size, slope, alignment, materials of construction of a building sewer, and the methods to be used in excavating, placing of the pipe, jointing, testing, and backfilling the trench, shall all conform to the requirements of the building and plumbing code, or other applicable rules and regulations of the town.

(2) In the absence of code provisions, or in amplification thereof, the materials and procedures set forth in appropriate specifications of the latest edition of Volume III, *Plumbing Rules and Regulations of the State Administrative Building Council* shall apply.

(E) (1) All building sewers within a 200-foot radius of a municipal well or other well used for a public water supply shall be constructed of cast iron water pipe and fittings.

(2) The work on said building sewers shall not commence until the town shall have made necessary arrangements for inspecting the work of construction, and none of the pipe shall be covered until it has been examined, tested, and approved by the Inspector.

(F) (1) Whenever possible, the building sewer shall be brought to the building at an elevation below the basement floor.

(2) In all buildings in which any building drain is too low to permit gravity flow to the public sewer, sanitary sewage carried by such building drain shall be lifted by an approved means and discharged to the building sewer.

(G) No person shall make connection of roof downspouts, exterior foundation drains, areaway drains, or other sources of surface runoff or groundwater to a building sewer or building drain which in turn is connected, directly or indirectly, to a public sanitary sewer.

(H) (1) The connection of the building sewer into the public sewer shall conform to the requirements of the building and plumbing code or other applicable rules and regulations of the town, or the procedures set forth in appropriate specifications of the latest edition of Volume III, *Plumbing Rules and Regulations of the Administrative Building Council of the State of Indiana*.

(2) All such connections shall be made gastight and watertight. Any deviation from the prescribed procedure and materials must be approved by the Superintendent before installation.
(Prior Code, § 51.26) (Ord. SW-6, passed 2-17-1967; Ord. 09-20-11, passed 9-20-2011) Penalty, see § 10.99

§ 51.037 INSPECTIONS.

(A) The applicant for the building sewer permit shall notify the Inspector when the building sewer is ready for inspection and connection to the public sewer.

(B) The connection shall be made under the supervision of the Inspector, or his or her representative.
(Prior Code, § 51.27) (Ord. SW-6, passed 2-17-1967; Ord. 09-20-11, passed 9-20-2011) Penalty, see § 10.99

§ 51.038 EXCAVATIONS TO BE GUARDED; PROPERTY TO BE RESTORED.

(A) All excavations for building sewer installation shall be adequately guarded with barricades and lights so as to protect the public from hazard.

(B) Streets, sidewalks, parkways, and other public property disturbed in the course of the work shall be restored in a manner satisfactory to the town.
(Prior Code, § 51.28) (Ord. 09-20-11, passed 9-20-2011) Penalty, see § 10.99

§ 51.039 ADDITIONAL TAPPING INTO SANITARY SEWER SYSTEM.

No additional lots or parcels, except those lots or parcels to which the town has already committed access to the sanitary sewer system, shall be permitted to tap into the sanitary sewer system to be processed and pumped into the pump station until:

(A) The infiltration into the system is reduced;

(B) The capacity of the sewage pump (the pump station) be increased to the amount specified by the Town Engineer; and/or

(C) The sanitary sewage system be increased and modified as recommended by the Town Engineer. (Prior Code, § 51.29) (Res. passed 7-19-1994; Ord. 09-20-11, passed 9-20-2011)

RATES AND CHARGES

§ 51.050 CHARGES.

For the use of, and the service rendered by, the sewage works, rates and charges shall be collected from the owners of each and every lot, parcel of real estate, or building that is connected with the town's sanitary sewer system or otherwise discharge sanitary sewage, industrial wastes, water, or other liquids, either directly or indirectly, into the sanitary sewer system of the town, which rates and charges shall be payable as hereinafter provided, and shall be in an amount determinable as follows.

(A) Except as herein otherwise provided, sewage rates and charges shall be based on the quantity of water used on or in the property premises subject to such rates and charges, as the same is measured by the water meter there in use.

(B) (1) Persons who purchase water from the town and whose sewage goes through the town lift station shall pay a minimum sewage charge of $221.40 each quarter ($73.80 per month) to the town for such sewage service, beginning with the next billing cycle.

(2) Persons who purchase water from the town and whose sewage goes through the town lift station shall pay a minimum sewage charge of $235.20 each quarter ($78.40 per month) to the town for such sewage service, beginning July 1, 2016.

(C) (1) Additional charges to persons who purchase water in excess of 12,000 gallons metered in any quarter or 4,000 gallons metered in any month from the town, and whose sewage goes through the town lift station, shall, in addition to the minimum sewage charge established in division (B) above, pay an amount equal to $18.45 for each 1,000 gallons of water metered to such individuals in excess of the first 12,000 gallons metered each quarter, or 4,000 gallons metered in any month, beginning upon adoption of the section.

(2) Additional charges to persons who purchase water in excess of 12,000 gallons metered in any quarter, or 4,000 gallons metered in any month from the town, and whose sewage goes through the town lift station, shall, in addition to the minimum sewage charge established in division (B) above, pay an amount equal to $19.60 for each 1,000 gallons of water metered to such individuals in excess of the first 12,000 gallons metered each quarter, or 4,000 gallons metered in any month, beginning with the quarter beginning July 1, 2016.

(D) (1) Persons whose sewage goes through the lift station of the town, but who do not purchase water from the town, shall pay $387.45 each quarter (or $129.15 per month) for each sewage service, beginning with the next billing cycle.

(2) Persons whose sewage goes through the lift station of the town, but who do not purchase water from the town, shall pay $411.60 each quarter (or $137.20 per month) for each sewage service, beginning July 1, 2016.

(E) Billings and collections shall be made monthly. The billings not paid before 8:30 a.m. on the twenty-first of the following month will be subject to an additional collection charge of 10% of the past due billing for sewage service.

(F) (1) The Clerk-Treasurer is authorized to collect $30 as a recording cost for liens placed on real estate for delinquent sewer charges.

(2) Upon payment of the charge, in addition to all delinquent fees, charges, penalties, and attorney fees, if applicable, the Clerk-Treasurer is authorized to issue a release of the lien to be delivered to the owner of the real estate upon which the lien was placed, for filing with the appropriate county officials.

(G) A $1 surcharge shall be added to quarterly water and sewer bills to assist the town in having sufficient funds to pay for animal control services. Said $1 quarterly surcharge shall be added to the fees charged for water use and sewer use, and shall be collected from the owners of each and every lot or parcel of real estate in the same manner as water fees and sewer fees are customarily collected by the town. Such $1 quarterly surcharge shall commence in the second quarter of 2006, and shall continue from quarter to quarter until further action by the Town Council.
(Prior Code, § 51.35) (Ord. SW-5, passed 2-17-1967; Ord. 1984, passed 12- -1984; Ord. 1988-12A, passed 12-8-1988; Ord. 1990-2000, passed 12-18-1990; Ord. 12-23-1992, passed 12-23-1992; Ord. 3-16-1993A, passed 3-16-1993; Ord. 12-17-1996A, passed 12-17-1996; Ord. 5-21-020, passed 5-21-2002; Res. 01-17-06-A, passed 1-17-2006; Ord. 12-19-06, passed 12-19-2006; Ord. 09-15-09, passed 10-20-2009; Ord. 03-01-10, passed 3-1-2010; Ord. 09-20-11, passed 9-20-2011; Ord. 08-19-13, passed 8-19-2013; Ord. 04-13-15A, passed 8-3-2015)

§ 51.051 QUANTITY OF WATER; METERS.

(A) The quantity of water obtained from sources other than the municipal waterworks and discharged into the public sanitary sewer system shall be determined by the town in such manner as the town shall elect, and the sewage treatment service shall be billed at the appropriate rates described in § 51.050.

(B) In the event a lot, parcel of real estate, or building discharging sanitary sewage, industrial waste, water, or other liquids into the town's sanitary sewer system, either directly or indirectly, is not a user of the water supplied by the town's waterworks, and the water used thereon or therein is not measured by a meter, or is measured by a meter not acceptable to the town, then the amount of water used shall be otherwise measured or determined by the town in order to ascertain the rates of charge, or the owner or other interested party, at his or her expense, may install and maintain meters, weirs, volumetric measuring devices, or any adequate and approved method of measurement acceptable to the town for the determination of the sewage discharge.

(C) In the event a lot, parcel of real estate, or building discharging sanitary sewage, industrial waste, water, or other liquids into the town's sanitary sewer system, either directly or indirectly, is a user of water supplied by the town's waterworks, and in addition, uses water from another source which is not measured by a water meter, or is measured by a water meter not acceptable to the town, then the amount of water used shall be otherwise measured or determined by the town in order to ascertain the rates of charge, or the owner or other interested party, at his or her expense, may install and maintain meters, weirs, volumetric measuring devices, or any adequate and approved method of measurement acceptable to the town for the determination of sewage discharge.

(D) In the event a lot, parcel of real estate, or building discharges sanitary sewage, industrial waste, water, or other liquids into the town's sanitary sewer system, either directly or indirectly, and uses water in excess of 45,000 gallons per quarter or 15,000 gallons per month, and it can be shown to the satisfaction of the town that a portion of water, as measured by the water meter or meters, does not and cannot enter the sanitary sewer system, then the owner or other interested party shall install and maintain meters, weirs, volumetric measuring devices, or any adequate and approved method of measurement acceptable to the town for the determination of sewage discharge.

(E) In the event two or more residential lots, parcels of real estate, or buildings discharging sanitary sewage, water, or other liquids into the town's sanitary sewer system, either directly or indirectly, are users of water, and the quantity of water is measured by a single water meter, then in each such case, for billing purposes, the quantity of water used shall be averaged for each user, and the minimum charge and the sewage rates and charges shall apply to each of the number of residential lots, parcels of real estate, or buildings served through the single water meter.

(F) (1) In the event two or more dwelling units such as trailers, apartments, or housekeeping rooms discharging sanitary sewage, water, or other liquids into the town's sanitary sewer system, either directly or indirectly, are users of water, and the quantity of water is measured by a single water meter, then in such case, billing shall be for a single service in the manner set out elsewhere herein, except that an additional charge shall be added thereto in the amount of one-half of the minimum charge per month for each dwelling unit over one served through the single water meter.

(2) In the case of trailer parks, the number of dwelling units shall be computed and interpreted as the total number of trailers located and installed in said park plus any other dwelling units served through the meter.

(3) A ***DWELLING UNIT*** shall mean a room or rooms, or any other space or spaces in which cooking facilities are provided.

(G) Where a metered water supply is used for fire protection as well as for other uses, the town shall, in its discretion, make adjustments in the minimum charge and in the use charge as may be equitable.

(H) For the services rendered to the town, the town shall be subject to the same rates and charges provided in § 50.050 or to rates and charges established in harmony therewith.
(Prior Code, § 51.36) (Ord. SW-5, passed 2-17-1967; Ord. 1984, passed 12- -1984; Ord. 6-16-1992, passed 6-16-1992; Ord. 12-17-1996, passed 11-19-1996; Ord. 09-20-11, passed 9-20-2011)

§ 51.052 CHARGES ON STRENGTH AND CHARACTER OF SEWAGE.

(A) (1) In order that the rates and charges may be justly and equitably adjusted to the services rendered, the town shall have the right to base its charges not only on volume but also on the strength and character of the sewage and waste which it is required to dispose of.

(2) The town shall have the right to measure and determine the strength and content of all sewage and waste discharged, either directly or indirectly, into the town's sanitary sewer system in such manner and by such method as may be deemed practical in the light of the conditions and attending circumstances of the case in order to determine the proper charge.

(B) Any and all commercial and industrial installations shall be so controlled and/or treated as to the sewage strength that their effluent discharge to the town's sewers shall have a BOD not to exceed 300 parts per million and suspended solids not to exceed 350 parts per million at any time.

(C) The Town Council is authorized to prohibit the dumping of wastes into the town's sewer system which, in its discretion, are deemed harmful.
(Prior Code, § 51.37) (Ord. SW-5, passed 2-17-1967; Ord. 09-20-11, passed 9-20-2011) Penalty, see § 10.99

§ 51.053 BILLINGS.

(A) (1) The rates and charges shall be prepared and billed by the town quarterly or monthly, as the town shall deem appropriate and as determined by the bylaws and regulations of the town as hereinafter provided for, and shall be collected in the manner provided by law and ordinance.

(2) The rates and charges will be billed to the tenant or tenants occupying the property served unless otherwise requested in writing by the owners, but such billing shall in no way relieve the owner from liability in the event payment is not made as herein required.

(B) The owners of the property served, which are occupied by tenants, shall have the right to examine the collection records of the town for the purpose of determining whether such rates and charges have been paid by such tenants, provided that such examination shall be made in the office in which said records are kept and during the hours that such office is open for business.
(Prior Code, § 51.38) (Ord. SW-5, passed 2-17-1967; Ord. 09-20-11, passed 9-20-2011)

§ 51.054 TAP FEES.

(A) Any individual tapping into a sanitary sewer belonging and dedicated to the use of the citizens of the town and under control of the Town Council shall pay a $825 tap fee.

(B) Any nonresident tapping into a sanitary sewer belonging and dedicated to the use of the citizens of the town and controlled by the Town Council shall pay a tap fee of $1,237.50.
(Prior code, § 51.39) (Ord. passed 1-19-1988; Ord. 9-19-95(B), passed 9-19-1995; Ord. 09-20-11, passed 9-20-2011)

§ 51.055 DRAINAGE UTILITY FEE.

(A) Commencing February 1, 2019, every owner of property in the town who is a customer of the town's utility service, or every resident of the town who is a customer of the town's utility service, shall be assessed a drainage utility fee in the amount of $2 per month. Said fee shall be added to the customer's regular monthly bill for utility service.

(B) It is the intention of this section that whomever pays the town for water service and/or pays the town for sewer service, in addition to their regular monthly utility bill, shall also pay the drainage utility fee listed in division (A) above.

(C) Said drainage utility fee shall be deposited in the Drainage Utility Fund heretofore established by the town and shall be used exclusively to pay for expenses incurred by the town to improve storm water drainage and related purposes.

(D) All expenditures from the Drainage Utility Fund shall be approved by the Town Council. (Prior Code, § 51.40) (Ord. 1-21-2019, passed 1-21-2019)

§ 51.056 CREDITS.

(A) *General credit*.

(1) A single-family residential user of the town's water/sewage services may apply for and receive a credit against that user's sewage bill for watering lawns, watering landscaping, washing vehicles, and similar activities which are conducted during the months of July, August, and September.

(2) The maximum credit shall be $100.

(3) The application for credit shall be on a form prescribed by the town (and available through the town's utility office or website).

(4) The application for credit shall be submitted the month prior to the activity for which the user is seeking a credit.

(5) The town's utility office shall review the application and notify the user about whether a credit has been authorized within three business days after submission of the application.

(6) Any denial of a user's application for a credit may be reviewed, upon written request by the user, by the Town Council at its next regular monthly meeting after the user receives notification about the utility office's decision.

(B) *Swimming pool credit*.

(1) A single-family residential user of the town's water/sewage services may apply for a credit against that user's sewage bill for filling the user's swimming pool.

(2) The credit shall be available only for filling a swimming pool for the first time each season, or for filling a swimming pool after it has been drained for repairs. The credit shall not be available for simply topping off the water level of a user's swimming pool.

(3) The application for credit shall be submitted before the user fills the swimming pool, and on a form prescribed by the town (and available through the town's utility office or website).

(4) The town's utility office shall review the application and notify the user about whether the credit has been authorized within three business days after submission of the application.

(5) Any denial of the user's application may be reviewed, upon written request by the user, by the Town Council at its next regular monthly meeting after the user receives notification about the utility office's decision.

(6) The swimming pool credit against the single-family residential user's sewage bill shall be calculated based on actual gallons of water used, and shall not be limited by the $100 maximum amount a residential user may be entitled to as a general credit for such activities as watering lawns, watering landscaping, washing vehicles, and similar activities.
(Prior Code, § 51.41) (Ord. 12-21-20A, passed 12-21-2020; Ord. 06-21-21A, passed 7-19-2021)

SEWER FUNDS AND BONDS

§ 51.070 SINKING FUND.

(A) (1) There is created a sinking fund for the payment of the interest on and principal of revenue bonds which by their terms are payable from the revenues of the sewage works of the town, and the payment of any fiscal agency charges in connection with the payment of bonds and interest coupons, which fund shall be designated as the Sewage Works Sinking Fund. There shall be set aside and paid into said sinking fund monthly, as available, a sufficient amount of the net revenues of said sewage works, as defined in § 51.002, for the payment of:

(a) The interest on all bonds which by their terms are payable from the revenues of the sewage works, as such interest shall fall due;

(b) The necessary fiscal agency charges for paying bonds and interest;

(c) The principal of all bonds payable from the revenues of the sewage works, as such principal shall fall due; and

(d) An additional amount as a margin of safety and for the payment of premiums upon bonds redeemed by call or purchase, which margin, together with any unused surplus of such margin carried forward from the preceding year, shall equal 10% of all other amounts so required to be paid into the sinking fund.

(2) The monthly payments into the sinking fund shall be in an amount equal to at least one-twelfth of the amount required for such payments during the then next succeeding 12 calendar months, and shall continue until such time as the fund shall contain an amount sufficient to pay all of the bonds then outstanding, together with the interest thereon to the dates of maturity thereof. In addition

to said required monthly payments into the sinking fund, all of the net revenues of said sewage works not used in mailing said required sinking fund payments shall be set aside and paid into the sinking fund monthly as available until there has been accumulated as a reserve in the sinking fund, over and above said required monthly one-twelfth payments, an amount equal to the sum of the principal and interest on all then outstanding bonds which will be payable during the then next succeeding 12 calendar months. Thereafter, the fund shall be maintained at such level, and additional amounts of net revenues shall be deposited in the fund to the extent necessary to maintain such level.

(B) In no event shall any part of the Sewage Works Sinking Fund be used in calling bonds for redemption prior to maturity, except to the extent that the amount then in the sinking fund exceeds the amount required to pay the bonds which will mature within a period of 12 calendar months next following the date of such redemption, together with all interest on the bonds payable in the period. Any such excess of funds above the required level may also be used in purchasing outstanding bonds at a price less than the then applicable redemption price, if first approved by the Town Council. Monies in the sinking fund shall not be used for any purpose whatsoever except as stated in this section.

(C) In the event all required monthly one-twelfth payments into the Sewage Works Sinking Fund have been met to date, and there has been accumulated as a reserve in said fund over and above said monthly one-twelfth payments, an amount sufficient to meet the requirements of said fund for the then next succeeding 12-month period, and funds in an amount sufficient for operation, repair, and maintenance for the next succeeding 12-month period, and for depreciation, have been accumulated and reserved, then the Town Council shall transfer any excess net revenue into a fund to be designated the Sewage Works Improvement Fund and used for extensions, betterments, and additions to the works. No such transfer shall be made, however, which will interfere with the requirements of the Sewage Works Sinking Fund, the accumulation of the required reserve therein, or with the requirements as to reserving funds for the operation, maintenance, and repair of the works and depreciation. All or any portion of the funds accumulated and reserved for operation, repair, and maintenance for the then next succeeding 12 calendar months, and any funds on hand in the Sewage Works Improvement Fund, shall be transferred to the Sewage Works Sinking Fund if necessary to prevent a default in the payment of principal of, or interest on, the bonds payable from the sinking fund.
(Prior Code, § 51.50) (Ord. SW-4, passed - -1966; Ord. 09-20-11, passed 9-20-2011)

§ 51.071 REVENUE; RIGHT OF BOND HOLDERS TO INSPECT.

(A) All revenue derived from the operation of the sewage works and from the collection of sewage rates and charges shall be segregated and kept in a special fund and bank account, separate and apart from all other funds and bank accounts of the town. Out of this fund, the proper and reasonable expenses of operation, repair, and maintenance of the works shall be paid and the requirements of the Sewage Works Sinking Fund shall be met. The town shall keep proper books of records and accounts, separate

from all of its other records and accounts, on which complete and correct entries shall be made showing all revenues collected from the works and deposited in the fund, and all disbursements made therefrom on account of the operation of the works, or to meet the requirements of the Sewage Works Sinking Fund, also all transactions relating to the works. There shall be prepared and furnished to the original purchasers of the bonds and, upon written request, to any subsequent holder of the bonds, not more than 90 days after the close of each fiscal year, complete operating and income statements of the works, covering the preceding fiscal year, and a statement of the cash balances in the various funds at the beginning and end of said preceding fiscal year, which annual statements shall be certified by the Clerk-Treasurer, or an independent certified public accountant employed by the town for the purpose of preparing such statements. Copies of all such statements and reports shall be kept on file in the office of the Clerk-Treasurer.

(B) Any holder or holders of the bonds then outstanding shall have the right at all reasonable times to inspect the works and all records, accounts, and data of the town relating thereto. Such inspections shall be made by representatives duly authorized by written instrument.
(Prior Code, § 51.51) (Ord. SW-4, passed - -1966; Ord. 09-20-11, passed 9-20-2011)

§ 51.072 EQUITABLE RATES.

The town shall establish and maintain just and equitable rates or charges for the use of, and the service rendered by, the works to be paid by the owner of each and every lot, parcel of real estate, or building that is connected with, and uses said sewage works by or through, any part of the sewerage system of the town, or that in any way uses or is served by such works that such rates or charges shall be sufficient in each year for the payment of the proper and reasonable expenses of operation, repair, and maintenance of the works, and for the payment of the sums required to be paid into the Sewage Works Sinking Fund by said governing Act and this section. Such rates or charges shall, if necessary, be changed and readjusted from time to time so that the revenues therefrom shall always be sufficient to meet the expenses of operation, repair, and maintenance, and the requirements of the Sewage Works Sinking Fund. The rates or charges so established shall apply to any and all use of such works by and service rendered to the town and all departments thereof as the charges accrue.
(Prior Code, § 51.52) (Ord. SW-4, passed - -1966; Ord. 09-20-11, passed 9-20-2011)

§ 51.073 BONDS.

The town shall issue additional bonds, payable out of the revenues of its sewage works, ranking on a parity with the bonds authorized by prior ordinances, for the purpose of financing the cost of future additions, extensions, and improvements to the sewage works, subject to the following conditions.

(A) The interest on, and principal of, all bonds payable from the revenues of the sewage works shall have been paid to date in accordance with the terms thereof.

(B) As of the date of issuance of such additional bonds, the balance in the Sewage Works Sinking Fund shall equal not less than the principal and interest requirements of the then outstanding bonds payable during the then next succeeding 12 calendar months.

(C) The net operating revenues of the sewage works in the fiscal year immediately preceding the issuance of any such bonds ranking on a parity with the bonds authorized by prior ordinances shall be not less than 125% of the maximum annual interest and principal requirements of the then outstanding bonds and the additional parity bonds proposed to be issued; or, prior to the issuance of said parity bonds, the sewage rates and charges shall be increased sufficiently so that said increased rates and charges applied to the previous fiscal year's operations would have produced net operating revenues for said year equal to not less than 125% of the maximum annual interest and principal requirements of the then outstanding bonds and the additional parity bonds proposed be issued. For purposes of this division (C), the records of the sewage works shall be analyzed, and all showings shall be prepared by a certified public accountant retained by the town for that purpose.

(D) The principal of the additional parity bonds shall be payable annually on March 1, and the interest thereon shall be payable semiannually on March 1 and September 1, in the years in which principal and interest are payable.
(Prior Code, § 51.53) (Ord. SW-4, passed - -1966; Ord. 09-20-11, passed 9-20-2011)

§ 51.074 SAFEGUARDING INTERESTS OF BOND HOLDERS.

For the purpose of further safeguarding the interests of the holders of the bonds herein authorized, it is specifically provided as follows.

(A) All contracts let by the town in connection with the construction of sewage works shall be let after due advertisement as required by the laws of the state, and all contractors shall be required to furnish surety bonds in an amount equal to 100% of the amount of such contracts, to ensure the completion of said contracts in accordance with their terms, and such contractors shall also be required to carry such employer's liability and public liability insurance as are required under the laws of the state in the case of public contracts, and shall be governed in all respects by the laws of the state relating to public contracts.

(B) The town shall, at all times, maintain its sewage works in good condition and operate the same in an efficient manner and at a reasonable cost.

(C) So long as any of the bonds authorized by prior ordinance are outstanding, the town shall maintain insurance on the insurable parts of the works of a kind and in an amount such as would normally be carried by private companies engaged in a similar type of business. All insurance shall be placed with responsible insurance companies qualified to do business under the laws of the state. Insurance proceeds shall be used in replacing or repairing the property destroyed or damaged; or if not used for that purpose, shall be treated and applied as net revenues of the works.

(D) So long as any bonds authorized by prior ordinance are outstanding, the town shall not mortgage, pledge, or otherwise encumber such works, or any part thereof, nor shall it sell, lease, or otherwise dispose of any portion thereof except replaced equipment which may become worn out or obsolete.

(E) Except as provided in § 51.073, so long as any of the bonds authorized by prior ordinance are outstanding, no additional bonds or other obligations pledging any portion of the revenues of the sewage works shall be authorized, executed, or issued by the town except such as shall be made subordinate and junior in all respects to the bonds authorized by prior ordinance, unless all of the bonds authorized by prior ordinance are redeemed and retired coincidentally with the delivery of such additional bonds or other obligations, or have been duly called for redemption, and funds sufficient to affect such redemption have been deposited at the place of redemption.

(F) (1) The town shall take all action or proceedings necessary and proper to require connection of all property where liquid and solid waste, sewage, night soil, or industrial waste is produced with available sanitary sewers.

(2) The town shall, insofar as possible, cause all such sanitary sewers to be connected with the sewage works.
(Prior Code, § 51.54) (Ord. SW-4, passed - -1966; Ord. 09-20-11, passed 9-20-2011)

ADMINISTRATION AND ENFORCEMENT

§ 51.085 ENFORCEMENT.

The town shall make and enforce such bylaws and regulations as shall be deemed necessary for the safe, economic, and efficient management of the town's sewer system and for the construction and use of house sewers and connections to the sewer system, and for the regulation, collection, rebating, and refunding of rates and charges.
(Prior Code, § 51.65) (Ord. SW-5, passed 2-17-1967; Ord. 09-20-11, passed 9-20-2011)

§ 51.086 INSPECTIONS.

(A) (1) The Superintendent, Inspector, and other duly authorized employees of the town bearing proper credentials and identification shall be permitted to enter all properties for the purposes of inspection, observation, measurement, sampling, and testing in accordance with the provisions of this chapter.

(2) The Superintendent or his or her representatives shall have no authority to inquire into any processes including metallurgical, chemical, oil, refining, ceramic, paper, or other industries beyond that point having a direct bearing on the kind and source of discharge to the sewers or waterways or facilities for waste treatment.

(B) While performing the necessary work on private properties referred to in division (A) above, the Superintendent or duly authorized employees of the town shall observe all safety rules applicable to the premises established by the company, and the company shall be held harmless for injury or death to the town employees, and the town shall indemnify the company against loss or damage to its property by town employees and against liability claims and demands for personal injury or property damage asserted against the company and growing out of the gauging and sampling operation, except as such may be caused by negligence or failure of the company to maintain safe conditions as required in § 51.089(B).

(C) (1) The Superintendent and other duly authorized employees of the town bearing proper credentials and identification shall be permitted to enter all private properties through which the town holds a duly negotiated easement for the purposes of, but not limited to, inspection, observation, measurement, sampling, repair, and maintenance of any portion of the sewage works lying within said easement.

(2) All entry and subsequent work, if any, on the easement shall be done in full accordance with the terms of the duly negotiated easement pertaining to the private property involved.
(Prior Code, § 51.66) (Ord. SW-6, passed 2-17-1967; Ord. 09-20-11, passed 9-20-2011)

§ 51.087 GREASE, OIL, AND INTERCEPTORS.

(A) Grease, oil, and sand interceptors shall be provided when, in the opinion of the Inspector, they are necessary for the proper handling of liquid wastes containing grease in excessive amounts, or any flammable wastes, sand, or other harmful ingredients; except that such interceptors shall not be required for private living quarters or dwelling units.

(B) All interceptors shall be of a type and capacity approved by the Superintendent, and shall be located as to be readily and easily accessible for cleaning and inspection.
(Prior Code, § 51.67) (Ord. SW-6, passed 2-17-1967; Ord. 09-20-11, passed 9-20-2011)

§ 51.088 PRELIMINARY TREATMENT AND FLOW-EQUALIZING TO BE MAINTAINED.

Where preliminary treatment or flow-equalizing facilities are provided for any waters or wastes, they shall be maintained continuously in satisfactory and effective operation by the owner at his or her expense.
(Prior Code, § 51.68) (Ord. SW-6, passed 2-17-1967; Ord. 09-20-11, passed 9-20-2011) Penalty, see § 10.99

§ 51.089 MANHOLES; MEASUREMENTS AND TESTING.

(A) When required by the Superintendent, the owner of any property serviced by a building sewer carrying industrial wastes shall install a suitable control manhole together with such necessary meters and other appurtenances in the building sewer to facilitate observation, sampling, and measurement of the wastes. Such manhole, when required, shall be accessibly and safely located, and shall be constructed in accordance with plans approved by the Superintendent. The manhole shall be installed by the owner at his or her expense and shall be maintained by him or her so as to be safe and accessible at all times.

(B) All measurements, tests, and analyses of the characteristics of waters and wastes to which reference is made in this chapter shall be determined in accordance with the latest edition of *Standard Methods for the Examination of Water and Wastewater*, published by the American Public Health Association, and shall be determined at the control manhole provided, or upon suitable samples taken at the control manhole. In the event that no special manhole has been required, the control manhole shall be considered to be the nearest downstream manhole in the public sewer to the point at which the building sewer is connected. Sampling shall be carried out by customarily accepted methods to reflect the effect of constituents upon the sewage works and to determine the existence of hazards to life, limb, and property. (The particular analyses involved will determine whether a 24-hour composite of all outfalls of a premises is appropriate or whether a grab sample or samples should be taken. Normally, but not always, BOD and suspended solids analyses are obtained from 24-hour composites of all outfalls, whereas pHs are determined from periodic grab samples.)
(Prior Code, § 51.69) (Ord. SW-6, passed 2-17-1967; Ord. 09-20-11, passed 9-20-2011) Penalty, see § 10.99

§ 51.090 SPECIAL AGREEMENTS PERMITTED.

No statement contained in this chapter shall be construed as preventing any special agreement or arrangement between the town and any industrial concern whereby an industrial waste of unusual strength or character may be accepted by the town for treatment, subject to payment therefor, by the industrial concern.
(Prior Code, § 51.70) (Ord. SW-6, passed 2-17-1967; Ord. 09-20-11, passed 9-20-2011)

§ 51.091 VIOLATIONS.

Any person found to be violating any provision of this chapter, except § 51.021, shall be served by the town with written notice stating the nature of the violation and providing a reasonable time limit for the satisfactory correction thereof. The offender shall, within the period of time stated in such notice, permanently cease all violations.
(Prior Code, § 51.98) (Ord. SW-6, passed 2-17-1967; Ord. 09-20-11, passed 9-20-2011) Penalty, see § 10.99

CHAPTER 52: NON-STORM WATER DISCHARGES INTO THE STORM DRAINAGE SYSTEM

Section

GENERAL PROVISIONS

§ 52.01 PURPOSE AND OBJECTIVES.

(A) The purpose of this chapter is to provide for the health, safety, and general welfare of the citizens of the town, through the regulation of non-storm water discharges to the storm drainage system to the maximum extent practicable, as required by federal and state law.

(B) This chapter establishes methods for controlling the introduction of pollutants into the municipal separate storm sewer system (MS4), in order to comply with requirements of the National Pollutant Discharge Elimination System (NPDES) permit process.

(C) The objectives of this chapter are:

(1) To regulate the contribution of pollutants to the municipal separate storm sewer system (MS4) by storm water discharges by any user;

(2) To prohibit illicit connections and discharges to the municipal separate storm sewer system; and

(3) To establish legal authority to carry out all inspection, surveillance, and monitoring procedures necessary to ensure compliance with this chapter.
(Prior Code, § 52.01) (Ord. 11-16-04A, passed 11-16-2004)

§ 52.02 DEFINITIONS.

For the purposes of this chapter, the following definitions shall apply unless the context clearly indicates or requires a different meaning.

AUTHORIZED ENFORCEMENT AGENCY. Employees or designees of the Director of the municipal agency designated to enforce this chapter.

BEST MANAGEMENT PRACTICES (BMPs). Schedules of activities, prohibitions of practices, general good housekeeping practices, pollution prevention and educational practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants, directly or indirectly, to storm water, receiving waters, or storm water conveyance systems. ***BMPs*** also include treatment practices, operating procedures, and practices to control site runoff, spillage or leaks, sludge or water disposal, or drainage from raw materials storage.

CLEAN WATER ACT. The Federal Water Pollution Control Act (33 U.S.C. §§ 1251 et seq.), and any subsequent amendments thereto.

CONSTRUCTION ACTIVITY. Activities subject to a NPDES construction permit. These include construction projects resulting in land disturbance of one acre or more. Such activities include, but are not limited to, clearing and grubbing, grading, excavating, and demolition.

HAZARDOUS MATERIALS. Any material, including any substance, waste, or combination thereof, that, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may cause, or significantly contribute to, a substantial present or potential hazard to human health, safety, property, or the environment, when improperly treated, stored, transported, disposed of, or otherwise managed.

ILLEGAL DISCHARGE. Any direct or indirect non-storm water discharge to the storm drain system, except as exempted in § 52.20.

ILLICIT CONNECTIONS. Either of the following:

(1) Any drain or conveyance, whether on the surface or subsurface, that allows an illegal discharge to enter the storm drain system, including, but not limited to, any conveyances that allow any non-storm water discharge, including sewage, process wastewater, and wash water, to enter the storm drain system, and any connections to the storm drain system from indoor drains and sinks, regardless of whether said drain or connection had been previously allowed, permitted, or approved by an authorized enforcement agency; or

(2) Any drain or conveyance connected from a commercial or industrial land use to the storm drain system that has not been documented in plans, maps, or equivalent records, and approved by an authorized enforcement agency.

INDUSTRIAL ACTIVITY. Activities subject to NPDES industrial permits, as defined in 40 C.F.R. § 122.26(b)(14).

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STORM WATER DISCHARGE PERMIT. A permit issued by the EPA (or by a state under authority delegated pursuant to 33 U.S.C. § 1342(b)) that authorizes the discharge of pollutants to waters of the United States, whether the permit is applicable on an individual, group, or general area-wide basis.

NON-STORM WATER DISCHARGE. Any discharge to the storm drain system that is not composed entirely of storm water.

PERSON. Any individual, association, organization, partnership, firm, corporation, or other entity recognized by law and acting as either the owner or as the owner's agent.

POLLUTANT. Anything which causes or contributes to pollution. ***POLLUTANTS*** shall include, but are not limited to, paints, varnishes, and solvents; oil and other automotive fluids; nonhazardous liquid and solid wastes and yard wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects, ordinances and accumulations, so that same may cause or contribute to pollution; floatables; pesticides, herbicides, and fertilizers; hazardous substances and wastes; sewage, fecal coliform, and pathogens; dissolved and particulate metals; animal wastes; wastes and residues that result from constructing a building or structure; and noxious or offensive matter of any kind.

PREMISES. Any building, lot, parcel of land, or portion of land, whether improved or unimproved, including adjacent sidewalks and parking strips.

STORM DRAINAGE SYSTEM. Publicly-owned facilities by which storm water is collected and/or conveyed, including, but not limited to, any roads with drainage systems, municipal streets, gutters, curbs, inlets, piped storm drains, pumping facilities, retention and detention basins, natural and human-made or altered drainage channels, reservoirs, and other drainage structures.

STORM WATER. Any surface flow, runoff, and drainage consisting entirely of water from any form of natural precipitation, and resulting from such precipitation.

STORM WATER POLLUTION PREVENTION PLAN (SWPP). A document that describes the Best Management Practices and activities to be implemented by a person or business to identify sources of pollution or contamination at a site, and the actions to eliminate or reduce pollutant discharges to storm water, storm water conveyance systems, and/or receiving waters to the maximum extent practicable.

WASTEWATER. Any water or other liquid, other than uncontaminated storm water, discharged from a facility.
(Prior Code, § 52.02) (Ord. 11-16-04A, passed 11-16-2004)

§ 52.03 APPLICABILITY.

This chapter shall apply to all water entering the storm drain system generated on any developed and undeveloped lands, unless explicitly exempted by an authorized enforcement agency.
(Prior Code, § 52.03) (Ord. 11-16-04A, passed 11-16-2004)

§ 52.04 RESPONSIBILITY FOR ADMINISTRATION.

(A) The town shall administer, implement, and enforce the provisions of this chapter.

(B) Any powers granted or duties imposed upon the authorized enforcement agency shall be delegated in writing by the Director of the authorized enforcement agency to persons or entities acting in the beneficial interest or in the employ of the agency.
(Prior Code, § 52.04) (Ord. 11-16-04A, passed 11-16-2004)

§ 52.05 ULTIMATE RESPONSIBILITY.

The standards set forth herein and promulgated pursuant to this chapter are minimum standards; therefore, this chapter does not intend nor imply that compliance by any person will ensure that there will be no contamination, pollution, or unauthorized discharge of pollutants.
(Prior Code, § 52.05) (Ord. 11-16-04A, passed 11-16-2004)

PROHIBITIONS AND COMPLIANCE

§ 52.20 DISCHARGE PROHIBITIONS.

(A) *Prohibition of illegal discharges.*

(1) No person shall discharge, or cause to be discharged, into the municipal storm drain system or watercourses any materials, including, but not limited to, pollutants or waters containing any pollutants that cause or contribute to a violation of applicable water quality standards, other than storm water.

(2) The commencement, conduct, or continuance of any illegal discharge to the storm drain system is prohibited, except as described as follows:

(a) The following discharges are exempt from discharge prohibitions established by this chapter: water line flushing or other potable water sources, landscape irrigation or lawn watering, diverted stream flows, rising ground water, ground water infiltration to storm drains, uncontaminated pumped ground water, foundation or footing drains (not including active groundwater dewatering systems), crawl space pumps, air conditioning condensation, springs, non-commercial washing of vehicles, natural riparian habitat or wet-land flows, swimming pools (if dechlorinated, typically less than one PPM chlorine), firefighting activities, and any other water source not containing pollutants;

(b) Discharges specified in writing by the authorized enforcement agency as being necessary to protect public health and safety;

(c) Dye testing is an allowable discharge, but requires a verbal notification to the authorized enforcement agency prior to the time of the test; and

(d) The prohibition shall not apply to any non-storm water discharge permitted under a NPDES permit, waiver, or waste discharge order issued to the discharger and administered under the authority of the Federal Environmental Protection Agency; provided that the discharger is in full compliance with all requirements of the permit, waiver, or order and other applicable laws and regulations, and provided that written approval has been granted for any discharge to the storm drain system.

(B) *Prohibition of illicit connections.*

(1) The construction, use, maintenance, or continued existence of illicit connections to the storm drain system is prohibited.

(2) This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.

(3) A person is considered to be in violation of this chapter if the person connects a line conveying sewage to the MS4, or allows such a connection to continue.
(Prior Code, § 52.15) (Ord. 11-16-04A, passed 11-16-2004) Penalty, see § 10.99

§ 52.21 SUSPENSION OF MS4 ACCESS.

(A) *Suspension due to illicit discharge in emergency situation.*

(1) The town may, without prior notice, suspend MS4 discharge access to a person when such suspension is necessary to stop an actual or threatened discharge, which presents or may present imminent and substantial danger to the environment, or to the health or welfare of persons, or to the MS4 or waters of the United States.

(2) If the violator fails to comply with a suspension order issued in an emergency, the authorized enforcement agency shall take such steps as deemed necessary to prevent or minimize damage to the MS4 or waters of the United States, or to minimize danger to persons.

(B) *Suspension due to the detection of illicit discharge.*

(1) Any person discharging to the MS4 in violation of this chapter may have his or her MS4 access terminated if such termination would abate or reduce an illicit discharge.

(2) The authorized enforcement agency will notify a violator of the proposed termination of his or her MS4 access.

(3) The violator may petition the authorized enforcement agency for a reconsideration and hearing.

(4) A person commits an offense if the person reinstates MS4 access to premises terminated pursuant to this section without the prior approval of the authorized enforcement agency.
(Prior Code, § 52.16) (Ord. 11-16-04, passed 11-16-2004) Penalty, see § 10.99

§ 52.22 INDUSTRIAL OR CONSTRUCTION ACTIVITY DISCHARGE.

(A) Any person subject to an industrial or construction activity NPDES storm water discharge permit shall comply with all provisions of such permit.

(B) Prior to the allowing of discharges to the MS4, proof of compliance with such a permit shall be required in a form acceptable to the town.
(Prior code, § 52.17) (Ord. 11-16-04A, passed 11-16-2004) Penalty, see § 10.99

§ 52.23 MONITORING OF DISCHARGES.

(A) *Applicability*. This section applies to all facilities that have storm water discharges associated with industrial activity, including construction activity.

(B) *Access to facilities*.

(1) (a) The town, or a representative thereof, shall be permitted to enter and inspect facilities subject to regulation under this chapter, as often as shall be necessary to determine compliance with this chapter.

(b) If a discharger has security measures in force that require proper identification and clearance before entry into his or her premises, the discharger shall make the necessary arrangements to allow access to representatives of the authorized enforcement agency.

(2) Facility operators shall allow the town ready access to all parts of the premises for the purposes of inspection, sampling, examining, and copying of records that must be kept under the conditions of a NPDES permit to discharge storm water, and the performance of any additional duties, as described by state and federal law.

(3) The town shall have the right to set up on any permitted facility such devices as are necessary, in the opinion of the authorized enforcement agency, to conduct monitoring and/or sampling of the facility's storm water discharge.

(4) The town has the right to require the discharger to install monitoring equipment as necessary.

(a) The facility's sampling and monitoring equipment shall be maintained at all times in a safe and proper operating condition by the discharger at its own expense.

(b) All devices used to measure storm water flow and quality shall be calibrated to ensure their accuracy.

(5) (a) Any temporary or permanent obstruction to safe and easy access to the facility to be inspected and/or sampled shall be promptly removed by the operator at the written or oral request of the town, and shall not be replaced.

(b) The costs of clearing such access shall be borne by the operator.

(6) (a) Unreasonable delays in allowing the town access to a permitted facility is a violation of a storm water discharge permit and of this chapter.

(b) A person who is the operator of a facility with a NPDES permit to discharge storm water associated with industrial activity commits an offense if the person denies the authorized enforcement agency reasonable access to the permitted facility for the purpose of conducting any activity authorized or required by this chapter.

(7) If the town has been refused access to any part of the premises from which storm water is discharged, and he or she is able to demonstrate probable cause to believe that there shall be a violation of this chapter, or that there is a need to inspect and/or sample as part of a routine inspection and sampling program designed to verify compliance with this chapter or any order issued hereunder, or to protect the overall public health, safety, and welfare of the community, then the authorized enforcement agency may seek issuance of a search warrant from any court of competent jurisdiction.
(Prior Code, § 52.18) (Ord. 11-16-04A, passed 11-16-2004) Penalty, see § 10.99

§ 52.24 BEST MANAGEMENT PRACTICES REQUIRED.

(A) The town will adopt requirements identifying Best Management Practices for any activity, operation, or facility that may cause or contribute to pollution or contamination of storm water, the storm drain system, or waters of the United States.

(1) The owner or operator of a commercial or industrial establishment shall provide, at their own expense, reasonable protection from accidental discharge of prohibited materials or other wastes into the municipal storm drain system or watercourses, through the use of these structural and non-structural BMPs.

(2) Further, any person responsible for a property or premises that is, or may be, the source of an illicit discharge may be required to implement, at the person's expense, additional structural and non-structural BMPs to prevent the further discharge of pollutants to the municipal separate storm sewer system.

(B) Compliance with all terms and conditions of a valid NPDES permit authorizing the discharge of storm water associated with industrial activity, to the extent practicable, shall be deemed compliance with the provisions of this section.

(C) These BMPs shall be part of a Storm Water Pollution Prevention Plan (SWPP) as necessary for compliance with the requirements of the NPDES permit.
(Prior Code, § 52.19) (Ord. 11-16-04A, passed 11-16-2004)

§ 52.25 WATERCOURSE PROTECTION.

(A) Every person owning property through which a watercourse passes, or such person's lessee, shall keep and maintain that part of the watercourse within the property free of trash, debris, excessive vegetation, and other obstacles that would pollute, contaminate, or significantly retard the flow of water through the watercourse.

(B) In addition, the owner or lessee shall maintain existing privately owned structures within or adjacent to a watercourse, so that such structures will not become a hazard to the use, function, or physical integrity of the watercourse.
(Prior Code, § 52.20) (Ord. 11-16-04A, passed 11-16-2004) Penalty, see § 10.99

§ 52.26 NOTIFICATION OF SPILLS.

(A) Notwithstanding other requirements of law, as soon as any person responsible for a facility or operation, or responsible for emergency response for a facility or operation, has information of any known or suspected release of materials that are resulting or may result in illegal discharges or pollutants discharging into storm water, the storm drain system, or waters of the United States, the person shall take all necessary steps to ensure the discovery, containment, and cleanup of such release.

(B) In the event of such a release of hazardous materials, the person shall immediately notify emergency response agencies of the occurrence via emergency dispatch services.

(C) In the event of a release of nonhazardous materials, the person shall notify the authorized enforcement agency, in person or by phone or facsimile, no later than the next business day.

(D) Notifications in person or by phone shall be confirmed by written notice addressed and mailed to the Water Department within three business days of the phone notice.

(1) If the discharge of prohibited materials emanates from a commercial or industrial establishment, the owner or operator of such establishment shall also retain an on-site written record of the discharge and the actions taken to prevent its recurrence.

(2) Such records shall be retained for at least three years.
(Prior Code, § 52.21) (Ord. 11-16-04A, passed 11-16-2004) Penalty, see § 10.99

ENFORCEMENT

§ 52.40 NOTICE OF VIOLATION.

(A) Whenever the town finds that a person has violated a prohibition or failed to meet a requirement of this chapter, the authorized enforcement agency shall order compliance by written notice of violation to the responsible person.

(B) Such notice may require, without limitation:

(1) The performance of monitoring, analyses, and reporting;

(2) The elimination of illicit connections or discharges;

(3) That violating discharges, practices, or operations shall cease and desist;

(4) The abatement or remediation of storm water pollution or contamination hazards, and the restoration of any affected property;

(5) Payment of a fine to cover administrative and remediation costs; and

(6) The implementation of source control or treatment BMPs.

(C) If abatement of a violation and/or restoration of affected property is required, the notice shall set forth a deadline within which such remediation or restoration must be completed.

(D) The notice shall further advise that, should the violator fail to remediate or restore within the established deadline, the work will be done by a designated governmental agency or a contractor, and the expense thereof shall be charged to the violator.
(Prior Code, § 52.30) (Ord. 11-16-04A, passed 11-16-2004) Penalty, see § 10.99

§ 52.41 APPEAL OF NOTICE OF VIOLATION.

(A) Any person receiving a notice of violation may appeal the determination of the authorized enforcement agency.

(B) The notice of appeal must be received within ten days from the date of the notice of violation.

(C) Hearing on the appeal before the Board of Zoning Appeals shall take place within 15 days from the date of receipt of the notice of appeal.

(D) The decision of the Board of Zoning Appeals shall be final.
(Prior Code, § 52.31) (Ord. 11-16-04A, passed 11-16-2004)

§ 52.42 ENFORCEMENT MEASURES AFTER APPEAL.

(A) If the violation has not been corrected pursuant to the requirements set forth in the notice of violation, or, in the event of an appeal, within days of the decision of the municipal authority upholding the decision of the authorized enforcement agency, then representatives of the authorized enforcement agency shall enter upon the subject private property, and are authorized to take any and all measures necessary to abate the violation and/or restore the property.

(B) It shall be unlawful for any person, owner, agent, or person in possession of any premises to refuse to allow the government agency or designated contractor to enter upon the premises for the purposes set forth in division (A) above.
(Prior Code, § 52.32) (Ord. 11-16-04A, passed 11-16-2004) Penalty, see § 10.99

§ 52.43 COST OF ABATEMENT OF VIOLATION.

(A) Within ten days after abatement occurs, the owner of the property will be notified of the cost of abatement, including administrative costs.

(B) The property owner may file a written protest objecting to the amount of the assessment within ten days.

(C) If the amount due is not paid in a timely manner, as determined by the decision of the municipal authority or by the expiration of the time in which to file an appeal, the charges shall become a special assessment against the property, and shall constitute a lien on the property for the amount of the assessment.

(D) Any person violating any of the provisions of this section shall become liable to the town by reason of such violation.

(1) The liability shall be paid in not more than 12 equal payments.

(2) Interest at the rate of 8% per annum shall be assessed on the balance, beginning on the first day following discovery of the violation.
(Prior Code, § 52.33) (Ord. 11-16-04A, passed 11-16-2004)

§ 52.44 INJUNCTIVE RELIEF.

(A) It shall be unlawful for any person to violate any provision or to fail to comply with any of the requirements of this chapter.

(B) If a person has violated or continues to violate the provisions of this chapter, the authorized enforcement agency may petition for a preliminary or permanent injunction restraining the person from activities that would create further violations, or compelling the person to perform abatement or remediation of the violation.
(Prior Code, § 52.34) (Ord. 11-16-04A, passed 11-16-2004) Penalty, see § 10.99

§ 52.45 COMPENSATORY ACTION.

In lieu of enforcement proceedings, penalties, and remedies authorized by this chapter, the authorized enforcement agency may impose upon a violator alternative compensatory actions, such as storm-drain stenciling, attendance at compliance workshops, creek cleanup, and the like.
(Prior Code, § 52.35) (Ord. 11-16-04A, passed 11-16-2004)

§ 52.46 VIOLATIONS DEEMED A PUBLIC NUISANCE.

In addition to the enforcement processes and penalties provided, any condition caused or permitted to exist in violation of any of the provisions of this chapter is a threat to public health, safety, and

welfare and is declared and deemed a nuisance, and shall be summarily abated or restored at the violator's expense, and/or a civil action to abate, enjoin, or otherwise compel the cessation of such nuisance shall be taken.
(Prior Code, § 52.36) (Ord. 11-16-04A, passed 11-16-2004)

§ 52.47 REMEDIES NOT EXCLUSIVE.

The remedies listed in this chapter are not exclusive of any other remedies available under any applicable federal, state, or local law, and it is within the discretion of the authorized enforcement agency to seek additional remedies.
(Prior Code, § 52.37) (Ord. 11-16-04A, passed 11-16-2004)

CHAPTER 53: STORM WATER RUNOFF ASSOCIATED WITH CONSTRUCTION ACTIVITIES

Section

GENERAL PROVISIONS

§ 53.01 INTRODUCTION AND PURPOSE.

(A) During the construction process, soil is highly vulnerable to erosion by wind and water.

(1) Eroded soil endangers water resources by reducing water quality and causing the siltation of aquatic habitat for fish and other desirable species.

(2) Eroded soil also necessitates repair of sewers and ditches, and the dredging of lakes.

(3) In addition, clearing and grading during construction cause the loss of native vegetation necessary for terrestrial and aquatic habitat.

(B) As a result, the purpose of this chapter is to safeguard persons, protect property, and prevent damage to the environment in the town.

(C) This chapter will also promote the public welfare by guiding, regulating, and controlling the design, construction, use, and maintenance of any development or other activity that disturbs or breaks the topsoil, or results in the movement of earth on land in the town.
(Prior Code, § 53.01) (Ord. 11-16-04B, passed 11-16-2004)

§ 53.02 DEFINITIONS.

For the purpose of this chapter, the following definitions shall apply unless the context clearly indicates or requires a different meaning.

AGRICULTURAL LAND-DISTURBING ACTIVITY. Tillage, planting, cultivation, or harvesting operations for the production of agricultural or nursery vegetative crops. The term also includes pasture renovation and establishment, the construction of agricultural conservation practices, and the installation and maintenance of agricultural drainage tile. For the purposes of this chapter, the term does not include land-disturbing activities for the construction of agricultural-related facilities, such as barns; buildings to house livestock; roads associated with infrastructure; agricultural waste lagoons and facilities; lakes and ponds; wetlands; and other infrastructure.

BEST MANAGEMENT PRACTICES. Activities or structures that help improve the quality of storm water runoff.

CERTIFIED CONTRACTOR. A person who has received training and is licensed by the state or other local agency to inspect and maintain erosion and sediment control practices and best management practices.

CLEARING. Any activity that removes the vegetative surface cover.

CONSTRUCTION ACTIVITY. Land-disturbing activities and land-disturbing activities associated with the construction of infrastructure and structures. This term does not include routine ditch, or road maintenance, or minor landscaping projects.

CONSTRUCTION PLAN. A representation of a project site and all activities associated with the project. The plan includes the location of the project site, buildings, and other infrastructure, grading

activities, schedules for implementation, and other pertinent information related to the project site. A storm water pollution prevention plan is a part of the ***CONSTRUCTION PLAN***.

DEVELOPER. Any person financially responsible for construction activity; or an owner of property who sells or leases, or offers for sale or lease, any lots in a subdivision.

EROSION. The detachment and movement of soil, sediment, or rock fragments by water, wind, ice, or gravity.

EROSION AND SEDIMENT CONTROL MEASURE. A practice, or a combination of practices, to control erosion and resulting sedimentation.

EROSION CONTROL. A measure that prevents erosion.

GRADING. The cutting and filling of the land surface to a desired slope or elevation.

LAND DISTURBANCE or ***LAND-DISTURBING ACTIVITY.*** Any human-made change of the land surface, including removing vegetative cover that exposes the underlying soil, excavating, filling, transporting, and grading.

MEASURABLE STORM EVENT. A precipitation event that results in a total measured precipitation accumulation equal to, or greater than, one-half inch of rainfall.

PROJECT SITE. The entire area on which construction activity is to be performed.

PROJECT SITE OWNER. The person required to submit the NOI letter per state law, and required to comply with the terms of these standards, Ordinance XX and state law, including either a developer; or a person who has financial and operational control of construction activities, project plans, and specifications, including the ability to make modifications to those plans and specifications.

SEDIMENT. Solid material (both mineral and organic) that is in suspension, is being, or has been moved from its place of origin by air, water, gravity, or ice, and has come to rest on the earth's surface.

SEDIMENT CONTROL. Measures that prevent eroded sediment from leaving the project site.

SOIL. The unconsolidated mineral and organic material on the surface of the earth that serves as the natural medium for the growth of plants.

SOIL AND WATER CONSERVATION DISTRICT or ***SWCD.*** A political subdivision established under I.C. 14-32.

STORM WATER POLLUTION PREVENTION PLAN. A plan developed to minimize the impact or storm water pollution resulting from construction and post-construction activities. The plan indicates the specific measures and sequencing to be used to control sediment, soil erosion, and other construction site wastes during and after construction.

STORM WATER QUALITY MEASURE. A practice, or a combination of practices, to control or minimize pollutants associated with storm water runoff.

SUBDIVISION. Any land that is divided or proposed to be divided into lots, whether contiguous or subject to zoning requirements, for the purpose of sale or lease as part of a larger common plan of development or sale.

TECHNICAL REVIEW AND COMMENT FORM. A form issued by the Building Commissioner, stating that the erosion and sediment control plan is adequate, or that revisions are needed in the erosion and sediment control plan and storm water pollution prevention plan.

TRAINED INDIVIDUAL. An individual who is trained and experienced in the principles of storm water quality, including erosion and sediment control, as shall be demonstrated by state registration, professional certification, experience, or completion of coursework that enable the individual to make judgments regarding storm water control or treatment and monitoring.
(Prior Code, § 53.02) (Ord. 11-16-04B, passed 11-16-2004)

§ 53.03 APPLICABILITY.

(A) (1) The requirements under this chapter are in compliance with state law and apply to all persons meeting the requirements of state law.

(2) In general, this chapter requires the control of polluted runoff from construction sites with a land disturbance greater than or equal to one acre, or disturbances of less than one acre of land that are part of a larger common plan of development or sale, if the larger common plan will ultimately disturb one or more acres of land.

(B) The requirements under this rule do not apply to persons who are involved in agricultural land-disturbing activities or forest-harvesting activities.

(C) The requirements under this rule do not apply to the following activities, provided other applicable permits contain provisions requiring immediate implementation of soil erosion control measures:

(1) Landfills that have been issued a certification of closure under 329 I.A.C. 10;

(2) Coal-mining activities permitted under I.C. 14-34; and/or

(3) Municipal solid waste landfills that are accepting waste, pursuant to a permit issued by the department under 329 I.A.C. 10, and that contain equivalent storm water requirements, including the expansion of landfill boundaries and construction of new cells, either within or outside the original solid waste permit boundary.

(D) In addition to the requirements of this chapter, storm water pollution prevention plans shall be developed in accordance with the current Town Storm Water Standards.
(Prior Code, § 53.03) (Ord. 11-16-04B, passed 11-16-2004)

EROSION AND SEDIMENT CONTROL MEASURES

§ 53.15 SUBMITTALS, REVIEW, AND APPROVAL.

(A) A technical review and comment form, stating that the "plan is adequate," and a building permit shall be obtained prior to the initiation of any land-disturbing activities.

(B) A complete erosion and sediment control plan and storm water pollution prevention plan (as described in the Town Storm Water Standards and in accordance with state law) shall be submitted in duplicate to the Building Commissioner at the Town Hall.

(1) One copy will be forwarded to the County SWCD for plan review.

(2) At the time of submittal, the date and time will be recorded.

(C) Each application shall bear the name(s) and address(es) of the owner or developer of the project site, and of any consulting firm retained by the applicant, together with the name of the applicant's principal contact at such firm, and shall be accompanied by a filing fee, described in the town storm water standards.

(D) Each application shall include a statement that any land clearing, construction, or development involving the movement of earth shall be in accordance with the Storm Water Pollution Prevention Plan (SWPP), and that a certified contractor shall be on the project site on all days when construction or grading activity takes place.

(E) The County SWCD will review each erosion and sediment control plan and SWPP, to determine their conformance with the provisions of this regulation, within 28 days after receiving the plans, and

shall issue a technical review and comment form to the town's Building Commissioner. The County SWCD shall, in writing:

(1) Approve the erosion and sediment control plan and SWPP, and provide a technical review and comment form, stating that the plan is adequate;

(2) Approve the erosion and sediment control plan and SWPP, subject to such reasonable conditions as may be necessary to secure substantially the objectives of this regulation, and issue the technical review and comment form, stating that the plan is adequate; or

(3) Provide a technical review and comment form, stating that the plan is deficient and the reason(s) therefor, and indicating the procedure for submitting a revised application and/or submission.

(F) After receiving notification stating the plan is adequate, the Building Commissioner will issue a building permit.

(1) Failure of the Building Commissioner to act on an original or revised application within 35 days of its receipt shall authorize the applicant to proceed in accordance with the plans as filed, unless such time is extended by agreement between the applicant and the Building Commissioner.

(2) Pending preparation and approval of a revised plan, development activities shall be allowed to proceed in accordance with conditions established by the Building Commissioner and Madison County SWCD.

(G) The sufficiency of the construction plans shall be based upon state law regulations and the criteria described in the current Town Storm Water Standards.

(H) After receiving a technical review and comment form, stating that the plan is adequate, if revisions to the construction plans require a change in measures appropriate to control the quality or quantity of storm water runoff, then revised plans must be submitted to the Building Commissioner.

(I) The applicant will be required to file with the town a faithful performance bond, letter of credit, or other improvement security, in an amount the town deems sufficient to cover all costs of improvements, landscaping, maintenance of improvements for such period as specified by the town, and engineering and inspection costs to cover the cost of failure or repair of improvements installed on the project site.

(J) After receiving a technical review and comment form, stating that the plan is adequate, and a building permit from the Building Commissioner, within 48 hours of the start of construction, the following shall be submitted to the Indiana Department of Environmental Management (IDEM):

(1) Notice of intent (NOI) form;

(2) A copy of the technical review and comment form, stating that the plan is adequate; and

(3) Proof of publication.

(K) A copy of the NOI must also be submitted to the Building Commissioner and the County SWCD.

(L) The project site owner must submit a notice of termination (NOT) letter to IDEM, and transmit a copy of the NOT letter to the Building Commissioner and the County SWCD, when all land-disturbing activities have been completed, the entire project site has been stabilized, and all temporary erosion and sediment control measures have been removed.
(Prior Code, § 53.10) (Ord. 11-16-04B, passed 11-16-2004) Penalty, see § 10.99

§ 53.16 STORM WATER POLLUTION PREVENTION PLAN.

The storm water pollution prevention plan, including erosion and sediment control measures, shall meet the requirements contained in state law, the Town Storm Water Standards, and the *Indiana Storm Water Quality Manual*.
(Prior Code, § 53.11) (Ord. 11-16-04B, passed 11-16-2004)

§ 53.17 DESIGN REQUIREMENTS.

Erosion and sediment control measures shall be designed and installed in accordance with state law, the Town Storm Water Standards, and the *Indiana Storm Water Quality Manual*.
(Prior Code, § 53.12) (Ord. 11-16-04B, passed 11-16-2004)

§ 53.18 INSPECTIONS.

(A) (1) A self-monitoring program must be implemented.

(2) A trained individual shall perform a written evaluation of the project site by the end of the next business day, following each measurable storm event and at a minimum of one time per week.

(B) The evaluation must address the maintenance of existing storm water quality measures to ensure they are functioning properly; and identify additional measures necessary to remain in compliance with all applicable statutes and rules.

(C) Written evaluation reports must include the following:

(1) The name of the individual performing the evaluation;

(2) The date of the evaluation;

(3) Problems identified at the project site; and

(4) Details of corrective actions recommended and completed.

(D) All evaluation reports for the project site must be made available to the inspecting authority within 48 hours of a request.

(E) All persons engaging in construction activities on a project site must comply with the storm water pollution prevention plan, this chapter, state law, and the Town Storm Water Standards.

(F) Construction site owners shall allow right-of-entry for the County SWCD or local, county, or state regulatory agency, or representatives thereof, to inspect any project site involved in construction activities.

(G) (1) The County SWCD will perform inspections and provide recommendations to evaluate the installation, implementation, and maintenance of control measures and management practices at any project site involved in construction activities.

(2) Construction project sites will be prioritized based on the nature and extent of the construction activity, topography, the characteristics of soils, and receiving water quality.

(H) If, after a recommendation is provided to the project site owner, corrective action is not taken, the town will pursue enforcement according to §§ 53.30 and 53.31.
(Prior Code, § 53.13) (Ord. 11-16-04B, passed 11-16-2004) Penalty, see § 10.99

ENFORCEMENT

§ 53.30 WRITTEN NOTIFICATION.

(A) In the event the County SWCD, the Building Commissioner, or another regulatory agency determines the project is not in compliance with this chapter, state law, or the Town Storm Water Standards, the town will issue a written notification to the project site owner.

(B) The written notification may be in the form of a warning letter of noncompliance or violation notice.
(Prior Code, § 53.20) (Ord. 11-16-04B, passed 11-16-2004)

§ 53.31 STOP-WORK ORDER; REVOCATION OF PERMIT.

In the event that any person with approval pursuant to this chapter violates the terms of the building permit or implements construction practices in such a manner as to materially adversely affect the health, welfare, or safety of persons residing or working in the neighborhood or project site so as to be materially detrimental to the public welfare or injurious to property or improvements in the neighborhood, the town may suspend or revoke the building permit.
(Prior Code, § 53.21) (Ord. 11-16-04B, passed 11-16-2004)

CHAPTER 54: STORM WATER REGULATIONS

Section

GENERAL PROVISIONS

§ 54.01 PURPOSE.

This chapter is intended to establish the minimum standards for design and construction of erosion and sedimentation controls and storm water pollution prevention measures for construction sites where land-disturbing activities shall take place. These standards were developed in accordance with state law requirements.
(Prior Code, Storm Water Appendix § 1.1)

§ 54.02 AUTHORITY AND COMPLIANCE.

(A) Per Chapter 53 of this code, the town has the authority to permit, provide construction plan review for, inspect, and take appropriate enforcement actions against construction sites that meet the requirements of Chapter 53.

(B) Construction sites where land-disturbing activities meet the requirements of Chapter 53, at a minimum, shall be in compliance with all terms and conditions of Chapter 53, this chapter, and state law. In those circumstances where the requirements of Chapter 53 and this chapter are more stringent than those contained in state law, the requirements of Chapter 53 and this chapter shall be followed.

(C) The town has the right to impose additional requirements and restrictions beyond those outlined in this chapter, Chapter 53, and state law for projects where unique or special conditions exist.
(Prior Code, Storm Water Appendix § 1.2)

§ 54.03 DEFINITIONS.

For the purpose of this chapter, the following definitions apply unless the context clearly indicates or requires a different meaning.

CONSTRUCTION ACTIVITY. Land-disturbing activities and land-disturbing activities associated with the construction of infrastructure and structures. This term does not include routine ditch or road maintenance or minor landscaping projects.

CONSTRUCTION PLAN. A representation of a project site and all activities associated with the project. The plan includes the location of the project site, buildings and other infrastructure, grading activities, schedules for implementation, and other pertinent information related to the project site. A storm water pollution prevention plan is a part of the ***CONSTRUCTION PLAN***.

CONSTRUCTION SITE ACCESS. A stabilized stone surface at all points of ingress or egress to a project site for the purpose of capturing and detaining sediment carried by tires of vehicles or other equipment entering or exiting the project site.

CONTRACTOR. An individual or company hired by the project site or individual lot owner, his or her agent, or the individual lot operator to perform services on the project site.

DEVELOPER.

(1) Any person financially responsible for construction activity; or

(2) An owner of property who sells or leases, or offers for sale or lease, any lots in a subdivision.

EROSION. The detachment and movement of soil, sediment, or rock fragments by water, wind, ice, or gravity.

EROSION AND SEDIMENT CONTROL MEASURE. A practice, or a combination of practices, to control erosion and resulting sedimentation.

EROSION AND SEDIMENT CONTROL SYSTEM. The use of appropriate erosion and sediment control measures to minimize sedimentation by first reducing or eliminating erosion at the source and then, as necessary, trapping sediment to prevent it from being discharged from or within a project site.

FINAL STABILIZATION. The establishment of permanent vegetative cover or the application of a permanent nonerosive material to areas where all land-disturbing activities have been completed and no additional land-disturbing activities are planned under the current permit.

GRADING. The cutting and filling of the land surface to a desired slope or elevation.

IMPERVIOUS SURFACE. Surfaces, such as pavement and rooftops, which prevent the infiltration of storm water into the soil.

INDIVIDUAL BUILDING LOT. A single parcel of land within a multi-parcel development.

INDIVIDUAL LOT OPERATOR. A person who has financial control of construction activities for an individual lot.

LAND-DISTURBING ACTIVITY. Any human-made change of the land surface, including removing vegetative cover that exposes the underlying soil, excavating, filling, transporting, and grading.

LARGER COMMON PLAN OF DEVELOPMENT OR SALE. A plan, undertaken by a single project site owner or a group of project site owners acting in concert, to offer lots for sale or lease; where such land is contiguous, or is known, designated, purchased, or advertised as a common unit or by a common name, such land shall be presumed as being offered for sale or lease as part of a ***LARGER COMMON PLAN***. The term also includes phased or other construction activity by a single entity for its own use.

MS4. The Municipal Separate Storm Sewer System.

PERMANENT STABILIZATION. The establishment, at a uniform design of 70% across the disturbed area, of vegetative cover or permanent nonerosive material that will ensure the resistance of the soil to erosion, sliding, or other movement.

PHASING OF CONSTRUCTION. Sequential development of smaller portions of a large project site, stabilizing each portion before beginning land disturbance on subsequent portions, to minimize exposure of disturbed land to erosion.

PROJECT SITE. The entire area on which construction activity is to be performed.

PROJECT SITE OWNER. The person required to submit the NOI letter per state law and required to comply with the terms of this chapter, Chapter 53, and state law, including either of the following:

(1) A developer; or

(2) A person who has financial and operational control of construction activities and project plans and specifications, including the ability to make modifications to those plans and specifications.

SEDIMENT. Solid material (both mineral and organic) that is in suspension, is being transported, or has been moved from its site of origin by air, water, gravity, or ice and has come to rest on the earth's surface.

SOIL. The unconsolidated mineral and organic material on the surface of the earth that serves as the natural medium for the growth of plants.

SOIL AND WATER CONSERVATION DISTRICT or ***SWCD.*** A political subdivision established under I.C. 14-32.

STORM WATER POLLUTION PREVENTION PLAN. A plan developed to minimize the impact of storm water pollutants resulting from construction activities. The plan indicates the specific measures and sequencing to be used to control sediment, soil erosion, and other construction site wastes during and after construction.

STORM WATER QUALITY MEASURE. A practice, or a combination of practices, to control or minimize pollutants associated with storm water runoff.

STORM WATER STANDARDS. The storm water standards that contain policies and procedures, drainage, erosion, and sediment control, and post-construction standards that new development and redevelopment must meet. The plan indicates the specific measures and sequencing to be used to control sediment, soil erosion, and other construction site wastes during and after construction.

STRIP DEVELOPMENT. A multi-lot project where building lots front on an existing road.

SUBDIVISION. Any land that is divided or proposed to be divided into lots, whether contiguous or subject to zoning requirements, for the purpose of sale or lease as part of a larger common plan of development or sale.

TECHNICAL REVIEW AND COMMENT FORM. A form issued by the Building Department stating that the Erosion and Sediment Control Plan is adequate or stating revisions needed in the Erosion and Sediment Control Plan and Storm Water Pollution Prevention Plan.

TEMPORARY STABILIZATION. The covering of soil to ensure its resistance to erosion, sliding, or other movement. The term includes vegetative cover, anchored mulch, or other nonerosive material applied at a uniform density of 70% across the disturbed area.

TRACKING. The deposition of soil that is transported from one location to another by tires, tracks of vehicles, or other equipment.

TRAINED INDIVIDUAL. An individual who is trained and experienced in the principles of storm water quality, including erosion and sediment control as may be demonstrated by state registration, professional certification, experience, or completion of coursework that enable the individual to make judgments regarding storm water control or treatment and monitoring.
(Prior Code, Storm Water Appendix § 1.3)

§ 54.04 POLICIES AND PROCEDURES.

(A) *Coverage*. All residential and non-residential construction projects which result in land-disturbing activities equal to or greater than one acre shall be in compliance with Chapter 53, this chapter, and state law. The area of land disturbance resulting from the construction activity shall be calculated per state law.
(Prior Code, Storm Water Appendix § 1.4.1)

(B) *Exceptions*. Individual, single-family construction projects not part of a larger, common development are exempt from the submittals outlined in division (C) below, but must comply with state law provisions throughout construction activities and until the areas are permanently stabilized. (Prior Code, Storm Water Appendix § 1.4.2)

(C) *Submittals*.

(1) A technical review and comment form stating that the plan is adequate shall be obtained prior to the initiation of any land-disturbing activities. The construction site owner shall submit a review fee in the form of a check to the County SWCD according to the following table.

Disturbed Acreage	***Fee***
1-1.99	$75
2-4.99	125
5-9.99	175
10-14.99	225
15-19.99	275
20-24.99	325
25-29.99	500
30-39.99	750
40-49.99	1,000
50-74.99	1,250
75-99.99	1,500
100+	1,750 + $15/acre for each acre over 100 acres

(2) (a) In addition, two copies of the following information shall be submitted to the Town Building Commissioner at the Town Hall:

1. Construction plans (on 11- by 17-inch paper); and

2. Construction Storm Water Pollution Prevention Plan (SWPPP).

(b) One copy of the submittal and the review fee will be forwarded to the County SWCD.

(c) The detailed submittal requirements are contained in state law and summarized in § 54.35. The construction project post-construction SWPPP must also be in compliance with §§ 54.20 through 54.24.

(3) (a) After receiving the technical review and comment form (§ 54.36) stating that the "plan is adequate" from the SWCD, a building permit shall be issued by the Town Building Commissioner. The following shall be submitted to IDEM at least 48 hours prior to the initiation of land-disturbing activities:

1. Notice of intent form (§ 54.37);

2. A copy of the technical review and comment form verifying approval by the SWCD; and

3. Proof of publication required by state law.

(b) A copy of the NOI must also be forwarded to the Town Building Commissioner and the County SWCD.

(4) Single-family residential development consisting of four or fewer lots or a single-family residential strip development where the developer offers for sale or lease without land improvements, and the project is not part of a larger common plan of development or sale, shall meet the detailed submittal requirements contained in state law.

(5) (a) For those construction activities operated by the MS4 operator or MS4 municipalities within the MS4 area, construction plans must be submitted to the local SWCD, the Department of Natural Resources, Division of Soil Conservation, or other entity designated by IDEM for review and approval.

(b) If the MS4 operator does not receive either a notice of deficiency or an approval within 35 days of the submittal, the plan will be considered adequate.

(c) After a one-year period of permit compliance, the MS4 operator or the designated MS4 entity need not submit the plans and may review MS4-operated project construction plans internally with the written authorization of the Department of Natural Resources, Division of Soil Conservation.

(6) In addition to state law requirements for those construction activities operated by the MS4 operator or MS4 municipalities within the MS4 area, project construction plans must include a traffic phasing plan for those projects that have the potential to alter vehicular traffic routes. Also, the project storm water pollution prevention plan must address all state law requirements and the following areas located outside of rights-of-way:

(a) Utility relocation areas;

(b) Material hauling and transportation routes/roads;

(c) Borrow pits;

(d) Temporary staging and material stockpile areas; and

(e) Temporary disposal areas for waste materials.

(Prior Code, Storm Water Appendix § 1.4.3)

(D) *Inspection.*

(1) A self-monitoring program meeting state law requirements shall be implemented. A trained individual shall perform an inspection of the project site to verify the erosion and sediment controls are being maintained and functioning properly, and to determine whether additional controls are necessary. Inspections shall be performed after every storm event with a total measured rainfall accumulation equal to or greater than one-half inch and, at a minimum, inspections shall be performed weekly.

(2) Written evaluation reports must be prepared by the end of the business day following the day of the inspection. The written evaluation reports must also be available to the town within 48 hours of a request.

(3) Written evaluation reports must contain the following information:

(a) Name of the individual performing the inspection;

(b) Date of the inspection;

(c) Problems identified at the project; and

(d) Corrective actions recommended and completed.

(4) Construction site owners shall allow right-of-entry for the County SWCD, or local, county, or state regulatory agency, or a representative thereof, to inspect any project site involved in construction activities, at reasonable times.

(5) When construction plans are submitted for review, the reviewer will identify priority sites for inspection and enforcement. The criteria for priority sites will be based on the nature and extent of construction, proximity to sensitive areas, steep topography on or adjacent to proposed construction site,

proximity to wetlands, and potential for direct runoff to receiving waters. Construction sites inspections will be based on priority determinations.

(6) The County SWCD or local, county, or state regulatory agency, or a representative thereof, shall make recommendations to the project site owner, or his or her representative, to install appropriate measures beyond those specified in the storm water pollution prevention plan to achieve compliance. (Prior Code, Storm Water Appendix § 1.4.4)

(E) *Enforcement*.

(1) All persons engaging in construction activities on a project site shall be responsible for complying with this chapter, Chapter 53, and state law.

(2) Any person causing or contributing to a violation of any provisions of this chapter, Chapter 53, and state law shall be subject to enforcement and penalty.

(3) A stop-work order (revocation of building permit) may be issued in the event that any person violates the terms of this chapter, Chapter 53, or state law, or implements a construction activity in such a manner as to materially adversely affect the health, welfare, or safety of persons residing or working in or adjacent to the project site.

(4) If remaining storm water quality measures are not properly maintained by the person occupying or owning the property, the town may also issue fines to that individual.
(Prior Code, Storm Water Appendix § 1.4.5) Penalty, see § 10.99

§ 54.05 GENERAL REQUIREMENTS.

(A) *Storm water pollution prevention plans*. All land-disturbing projects shall implement controls to minimize the transport of sediment from the project sites. Per state law, the project site owner shall, at least, meet the following requirements.

(1) Sediment-laden water which otherwise would flow from the project site shall be treated by erosion and sediment control measures to minimize sedimentation.

(2) Appropriate measures shall be implemented to minimize or eliminate wastes or unused building materials, including garbage, debris, cleaning wastes, wastewater, concrete truck washout, and other substances from being carried from a project site by runoff or wind. Identification of areas where concrete truck washout is permissible must be clearly posted at appropriate areas of the site. Wastes and unused building materials shall be managed and disposed of in accordance with all applicable statutes and regulations.

(3) A stable construction site access shall be provided at all points of construction traffic ingress and egress to the project site.

(4) Public or private roadways shall be kept cleared of accumulated sediment that is a result of runoff or tracking. Bulk clearing of sediment shall not include flushing the area with water. Cleared sediment shall be redistributed or disposed of in a manner that is in accordance with all applicable statutes and regulations.

(5) Storm water runoff leaving a project site must be discharged in a manner that is consistent with applicable state or federal law.

(6) The project site owner shall post a notice near the main entrance of the project site. For linear project sites, such as a pipeline or highway, the notice must be placed in a publicly accessible location near the project field office. The notice must be maintained in a legible condition and contain the following information:

(a) Copy of the completed NOI letter and the NPDES permit number, where applicable;

(b) Name, company name, telephone number, e-mail address (if available), and address of the project site owner or a local contact person; and

(c) Location of the construction plan if the project site does not have an on-site location to store the plan.

(7) This permit and posting of the notice of under division (A)(6) above does not provide the public with any right to trespass on a project site for any reason, nor does it require that the project site owner allow members of the public access to the project site.

(8) The storm water pollution prevention plan shall serve as a guideline for storm water quality, but should not be interpreted to be the only basis for implementation of storm water quality measures for a project site. The project site owner is responsible for implementing, in accordance with state law, all measures necessary to adequately prevent polluted storm water runoff.

(9) The project site owner shall inform all general contractors, construction management firms, grading or excavating contractors, utility contractors, and the contractors that have primary oversight on individual building lots of the terms and conditions of this rule, and the conditions and standards of the storm water pollution prevention plan and the schedule for proposed implementation.

(10) Phasing of construction activities shall be used, where possible, to minimize disturbance of large areas.

(11) Appropriate measures shall be planned and installed as part of an erosion and sediment control system.

(12) All storm water quality measures must be designed and installed under the guidance of a trained individual.

(13) Collected runoff leaving a project site must be either discharged directly into a well-defined, stable receiving channel or diffused and released to adjacent property without causing an erosion or pollutant problem to the adjacent property owner.

(14) Drainage channels and swales must be designed and adequately protected so that their final gradients and resultant velocities will not cause erosion in the receiving channel or at the outlet.

(15) Natural features, including wetlands and sinkholes, shall be protected from pollutants associated with storm water runoff.

(16) (a) Unvegetated areas that are scheduled or likely to be left inactive for 15 days or more must be temporarily or permanently stabilized with measures appropriate for the season to minimize erosion potential.

(b) Alternative measures to site stabilization are acceptable if the project site owner, or his or her representative, can demonstrate they have implemented erosion and sediment control measures adequate to prevent sediment discharge.

(c) Vegetated areas with a density of less than 70% shall be restabilized using appropriate methods to minimize the erosion potential.

(17) During the period of construction activities, all storm water quality measures necessary to meet the requirements of this rule shall be maintained in working order.

(18) A self-monitoring program shall be implemented (see § 54.04(D)).

(19) Proper storage and handling of materials, such as fuels or hazardous wastes, and spill prevention and clean-up measures shall be implemented to minimize the potential for pollutants to contaminate surface or ground water, or degrade soil quality.

(20) Final stabilization of a project site shall be achieved when:

(a) All land-disturbing activities have been completed and a uniform (for example, evenly distributed, without large bare areas) perennial vegetative cover with a density of 70% has been established on all unpaved areas and areas not covered by permanent structures, or equivalent permanent stabilization measures have been employed; and

(b) Construction projects on land used for agricultural purposes are returned to its preconstruction agricultural use or disturbed areas, not previously used for agricultural production, such as filter strips and areas that are not being returned to their preconstruction agricultural use, meet the final stabilization requirements in division (A)(20)(a) above.
(Prior Code, Storm Water Appendix § 1.5.1)

(B) *Individual building lots within a permitted project*. Per state law, all storm water quality measures, including erosion and sediment control, necessary to comply with state law and this chapter shall be implemented in accordance with the plan. Provisions for erosion and sediment control on individual building lots regulated under the original permit of a project site owner must include the following requirements:

(1) The individual lot operator, whether owning the property or acting as the agent of the property owner, shall be responsible for erosion and sediment control requirements associated with activities on individual lots;

(2) Installation and maintenance of a stable construction site access;

(3) Installation and maintenance of appropriate perimeter erosion and sediment control measures prior to land disturbance;

(4) Sediment discharge and tracking from each lot must be minimized throughout the land-disturbing activities on the lot until permanent stabilization has been achieved;

(5) Clean-up of sediment that is either tracked or washed onto roads. Bulk clearing of sediment shall not include flushing the area with water. Cleared sediment must be redistributed or disposed of in a manner that is in compliance with all applicable statutes and rules;

(6) Adjacent lots disturbed by an individual lot operator must be repaired and stabilized with temporary or permanent surface stabilization; and

(7) For individual residential lots, final stabilization meeting the criteria in division (A)(20) above will be achieved when the individual lot operator:

(a) Completes final stabilization; or

(b) Has installed appropriate erosion and sediment control measures for an individual lot prior to occupation of the home by the homeowner, and has informed the homeowner of the requirement for, and benefits of, final stabilization.
(Prior Code, Storm Water Appendix § 1.5.2) Penalty, see § 10.99

§ 54.06 TECHNICAL DESIGN CRITERIA.

(A) Erosion and sediment controls shall be designed and installed in accordance with state law, this chapter, and the *Indiana Storm Water Quality Manual*. Technical review of the erosion and sediment control program, storm water pollution prevention plan, and other required submittals shall be completed by the County SWCD. The technical review shall assess the adequacy of proposed erosion and sediment control against the technical design criteria contained in the *Indiana Storm Water Quality Manual*.

(B) The following guidelines shall be used during development of the storm water pollution prevention plan.

(1) Construction sequencing shall minimize the amount of exposed land and the duration of exposure without temporary or permanent protection.

(2) Grading activities shall minimize the amount of cut and fill.

(3) Perimeter controls shall be installed prior to land-disturbing activities.

(4) Storm sewer inlets and conveyance outfalls shall be equipped with appropriate erosion and sediment controls and shall remain in place until the entire contributing drainage area is permanently stabilized.

(5) Project access points shall have two-inch to three-inch or larger aggregate for a depth of at least six inches placed at all ingress and egress points to minimize tracking of sediment beyond the project site by vehicles and construction equipment. The aggregate must cover a minimum area of 20 feet by 50 feet, and be periodically maintained (cleaned, top dressed). Sediment tracked to road surfaces shall be removed using acceptable practices, such as shoveling or street sweeping, daily. Washing of road surfaces is not acceptable, unless the runoff flows to a sediment control measure.

(6) Storm water runoff velocities from the project site shall be kept as low as possible.

(7) Erosion from soil stockpiles shall be minimized via stabilization or erosion control measures.

(8) Permanent seeding shall take place as soon as practicable. Temporary seeding shall be utilized in areas left undisturbed for more than 30 days.

(9) Dust control measures shall be implemented as necessary.

(10) Erosion control blankets shall be required on all fill slopes exceeding four (horizontal) to one (vertical).

(11) Mulching material is required for all temporary and permanent seeding.

(12) The minimum thickness of rock riprap shall be six inches.
(Prior Code, Storm Water Appendix § 1.6) Penalty, see § 10.99

§ 54.07 PROJECT TERMINATION.

(A) *Generally*.

(1) The project site owner shall plan an orderly and timely termination of the construction activities, including the implementation of storm water quality measures that are to remain on the project site.

(2) The project site owner, or a representative thereof, shall submit a written notice of termination (NOT) form (see § 54.38) to the County SWCD, the town, and IDEM upon project termination once the following requirements are met.

(a) All land-disturbing activities, including construction on all building lots, have been completed.

(b) Final stabilization of the entire site has been completed.

(c) All permanent storm water quality measures (if adopted) have been implemented and are operational.

(d) Temporary erosion and sediment control measures have been removed.

(3) The NOT must be submitted to the town, County SWCD, and IDEM within two weeks of project termination, and contain a statement(s) verifying that each of these conditions have been met.

(4) The County SWCD, or a representative thereof, shall inspect the project site to confirm the information provided in the NOT. Upon verification of the NOT letter, the Town Building Commissioner shall issue written approval to the project site owner that the project site owner shall no longer be responsible for compliance with the requirements of this chapter.
(Prior Code, Storm Water Appendix § 1.7.1)

(B) *Early project termination requirements*.

(1) The project site owner may submit an NOT letter to obtain early release from compliance with this chapter, Chapter 53, and state law.

(2) The project site owner must meet the state law requirements as outlined below.

(a) The remaining, undeveloped acreage does not exceed five acres, with contiguous areas not to exceed one acre.

(b) A map of the project site, clearly identifying all remaining undeveloped lots, is attached to the NOT letter. The map must be accompanied by a list of names and addresses of individual lot owners or individual lot operators of all undeveloped lots.

(c) All public and common improvements, including infrastructure, have been completed and permanently stabilized and have been transferred to the appropriate local entity.

(d) The remaining acreage does not pose a significant threat to the integrity of the infrastructure, adjacent properties, or water quality.

(e) All permanent storm water quality measures have been implemented and are operational.

(3) Upon verification of the NOT letter, the Town Building Commissioner shall issue written approval to the project site owner. Upon receipt of this approval, the project site owner shall notify all current individual lot owners and all subsequent individual lot owners of the remaining undeveloped acreage and acreage with construction activity that they are responsible for complying with § 54.05(B). The remaining individual lot owners do not need to submit a NOI letter or NOT letter. The notice must contain a verified statement that each of the conditions in divisions (B)(2)(a) through (B)(2)(e) above have been met. The notice must also inform the individual lot owners of the requirements to:

(a) Install and maintain appropriate measures to prevent sediment from leaving the individual building lot; and

(b) Maintain all erosion and sediment control measures that are to remain on-site as part of the construction plan.
(Prior Code, Storm Water Appendix § 1.7.2) Penalty, see § 10.99

POST-CONSTRUCTION STORM WATER QUALITY

§ 54.20 INTRODUCTION.

(A) The purpose of this subchapter is to establish minimum performance standards for management of post-construction storm water runoff quality, which is necessary to reduce the impacts of sediment

and pollutants on local habitat and water resources. In addition to the standards in this chapter, projects meeting the applicability of this chapter must also comply with Ord. 11-16-04A, passed 11-16-2004, an ordinance to establish requirements for post-construction storm water runoff controls.

(B) Sediments can have adverse effects on aquatic life in streams and lakes, and can transport other attached pollutants affecting the welfare of the public residing in local watersheds. Major sources of sediment include washoff of particles that are deposited on impervious surfaces and the erosion of stream banks and construction sites. Improvements in the quality of post-construction storm water runoff can be met by best management practices (BMPs) including maximizing the use of site design to reduce runoff, managing and treating storm water runoff through the use of structural controls, and implementing pollution prevention practices to prevent erosion and reduce potential contaminants.

(C) Hydrologic studies show that small-sized, frequently occurring storms account for the majority of rainfall events. The runoff from these storms accounts for a major portion of the annual pollutant loadings. By treating the frequently occurring smaller rainfall events, and a portion of the storm water runoff from larger events, it is possible to effectively mitigate the water quality impacts from developed areas.

(D) The town has adopted a policy that the control of storm water runoff quality will be based on the management of total suspended solids (TSS). This requirement will serve as the basis of the storm water quality management program for all areas within the jurisdiction of the town. The target TSS removal rate is 80%.

(E) One approach to reduce the post-development TSS loadings by 80% is to require treatment of a water quality volume from a site. A second approach is to require treatment of a water quality flow rate from the site. Approved methods for calculating the water quality volume and flow rate are described in § 54.23.

(F) The appropriate storm water quality volume (WQ_v) and/or storm water quality flow rate (Q_{wq}) generated from a qualifying site shall be adequately treated before discharge. Pre-approved structural BMPs are provided in Table 2-A located in § 54.24(F) and are presumed to comply with the 80% TSS removal rate where indicated if:

(1) Sized to capture the prescribed water quality volume or flow rate, as applicable;

(2) Designed according to the specific performance criteria outlined in this manual;

(3) Constructed properly; and

(4) Maintained regularly.

(G) Post-construction storm water quality measures must be properly maintained to ensure storm water runoff is continuously treated from the developed and stabilized site.

(H) Special circumstances that are not covered by these standards shall be regulated and reviewed on a case-by-case basis.
(Prior Code, Storm Water Appendix § 2.1)

§ 54.21 APPLICABILITY.

(A) Any land-disturbing project, including new development and redevelopment, within the town that results in the disturbance of one acre or more of total land area is subject to the requirements of this chapter. Furthermore, land-disturbing activities that are less than one acre but part of a larger common plan of development are required to comply with this chapter.

(B) Per ordinance, the following activities are exempt from these requirements:

(1) Construction of, or modifications to, single-family structures that are not a part of a larger common plan of development;

(2) Single-family residential development consisting of four or fewer lots;

(3) Individual lots within a larger common development plan that has been previously permitted for storm water management; and

(4) Any logging, agricultural, or other activity which is consistent with an approved soil conservation plan or a timber management plan prepared or approved by county, state, or federal regulating agencies.
(Prior Code, Storm Water Appendix § 2.2)

§ 54.22 SUBMITTAL REQUIREMENTS.

A submittal for storm water quality treatment review will not be considered complete until all of the items below have been submitted. The following shall be submitted to the town:

(A) A storm water pollution prevention plan (SWPPP) shall be required that details how runoff and associated water quality impacts resulting from the development will be controlled or managed. In addition to submittal requirements listed in this chapter, the following items shall be included in the SWPPP:

(1) A description of potential pollutant sources from the proposed land use, which may reasonably be expected to add a significant amount of pollutants to storm water discharges;

(2) A description of measures that will be installed to control pollutants in storm water discharges that will occur after construction activities have been completed. Such practices include infiltration of runoff, flow reduction by use of open vegetated swales and natural depressions, buffer strip and riparian zone preservation, filter strip creation, minimization of land disturbance and surface imperviousness, maximization of open space, and storm water retention and detention ponds;

(3) A sequence describing when each post-construction storm water quality measure will be installed;

(4) Storm water quality measures that will remove or minimize pollutants from storm water runoff;

(5) Storm water quality measures that will be implemented to prevent or minimize adverse impacts to stream and riparian habitat; and

(6) A narrative description and checklist of operation and maintenance guidelines for all post-construction storm water quality measures to facilitate their proper long-term function. This narrative description and checklist shall be made available to future parties who will assume responsibility for the operation and maintenance of the post-construction storm water quality measures.

(B) Construction plans must be submitted with the initial review fee of $100. The initial review fee includes one hour of storm water quality treatment review. Projects requiring more than one hour of review due to their complexity or deficiency in design or submittal shall be assessed plan review fees at the rate of $100 per hour. Review fees shall be payable to the town. A review letter with any comments generated as a result of the review will be issued to the professional engineer responsible for completing the design.

(C) A complete set of professionally certified construction plans showing the location, dimensions, and construction details of all post-construction storm water quality measures, detailed specifications and supporting water quality BMP sizing calculations.

(D) Unless otherwise stated in this chapter (refer to § 54.24 for additional details on easements), a 30-foot easement around the water quality treatment BMP along with an access easement to the BMP is required. Upon approval of the easement location shown on the construction plans, the easement shall be granted to the town by way of a grant of perpetual drainage easement.
(Prior Code, Storm Water Appendix § 2.3)

§ 54.23 METHODS FOR SIZING BMPs.

(A) *Generally*.

(1) There are two methods for calculating the required size of a BMP. The first method calculates the water quality volume to be treated, which applies to detention-based BMPs. The second method calculates the water quality peak flow rate to be treated, which applies to filtration processes and mechanical-type BMPs such as hydrodynamic devices.

(2) The water quality volume or flow rate shall be treated by an acceptable (pre-approved) BMP(s) from § 54.24(F) or an equivalent practice. Such practices or techniques and devices not pre-approved that may be more functional and desirable for storm water management may be utilized upon approval by the town. Mechanical-type BMPs must meet ASTM standard methods for verifying performance and must be certified by a professional engineer. The BMP must meet the 80% TSS removal rate at a 50-125 micron range (very fine/fine sand) without resuspension of particles at the design water quality flow rate resulting from a one-inch rainfall depth. Testing of the TSS removal rate must be conducted by an independent testing facility rather than by the manufacturer.

(3) A quick reference, minimum design criteria, and maintenance and inspection checklists for each pre-approved BMP are provided in §§ 54.50 through 54.56.

(B) *Water quality volume (WQ_v)*.

(1) The WQ_v is the storage needed to capture and treat the runoff from the first one-inch of rainfall. The WQ_v is equivalent to one inch of rainfall multiplied by the volumetric runoff coefficient (R_v) and the site area. The volume of runoff is directly related to the amount of impervious cover at the site and is calculated using the following equation:

(a) $$WQ_v = \frac{(P)\ (R_v)\ (A)}{12}$$

(b) Where:

1. WQ_v = water quality volume (acre-feet);

2. P = 1 inch of rainfall;

3. a. R_v = volumetric runoff coefficient; and

   b. $R_v = 0.05 + 0.009(I)$, where I is the percent (%) impervious cover.

4. A = area in acres.

(C) *Water quality flow rate (Q_{wq}).*

(1) The Q_{wq} is needed to size BMP devices designed to treat runoff at a peak design flow rate through the system.

(2) Conventional SCS methods have been found to underestimate the volume and rate of runoff for rainfall events less than two inches. The following procedure can be used to calculate the Q_{wq}. The method relies on the water quality volume in conjunction with an adjusted curve number (CN_{wq}) and the NRCS TR-55 methodology.

(a) *Step 1.* Using the water quality volume, calculate the adjusted CN_{wq}:

1. $CN_{wq} = 1000/[10 + 5P + 10WQ_{vi} - 10(WQ_{vi}^2 + 1.25WQ_{vi}P)^{½}]$

2. Where:

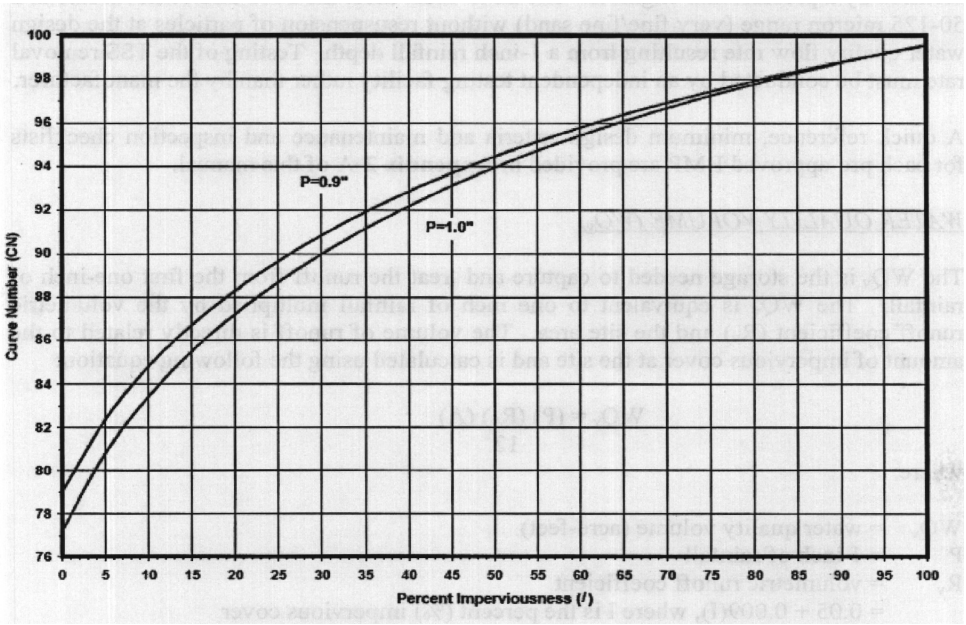
a. CN_{wq} = adjusted curve number for water quality flow rate calculation;

b. P = rainfall in inches (use 1 inch for water quality storm);

c. WQ_{vi} = water quality volume in inches = 1.0 inch(R_v); and

d. i. R_v = volumetric runoff coefficient; and

ii. $R_v = 0.05 + 0.009(I)$, where I is the percent (%) impervious cover.



(b) *Step 2.* Calculate the site time of concentration (t_c) and area in acres (A).

(c) *Step 3.* Use the adjusted CN_{wq}, t_c and A as input for TR-55 calculations in conjunction with the SCS Type II rainfall distribution, 24-hour event, for one inch of rainfall depth to calculate the Q_{wq}.
(Prior Code, Storm Water Appendix § 2.4)

§ 54.24 PROJECT CONSTRUCTION.

(A) *Inspections.*

(1) The town, or its designated representative, shall conduct inspections of the water quality treatment system construction. If required by the town, the applicant shall execute an inspection services agreement with the town and pay all applicable inspection fees per the terms stated in the agreement. The applicant must notify the town 48 hours in advance of construction of the storm water management system.

(2) The town reserves the right perform periodic inspections of BMPs. The following inspection fees shall apply and are payable prior to approval of the storm water management plan: $200 shall be made payable to town to cover the cost for the first two inspections. Fees associated with maintenance violations shall be assessed through enforcement actions if necessary.

(B) *BMP maintenance.* Each BMP must have an operation and maintenance plan signed by the BMP owner and submitted with the SWPPP. The town must approve the plan. Routine inspection and maintenance is the responsibility of the BMP owner. The approved maintenance plan and inspection forms provided in this chapter shall be used in performing maintenance activities. Records of routine inspection are the responsibility of the owner and must be made available upon request of the town.

(C) *Easements.* The following applicable easements shall be granted to the town by way of a grant of perpetual drainage easement.

(1) Twenty feet for pipes 15 inches in diameter and smaller;

(2) Twenty-five feet for pipes larger than 15 inches in diameter;

(3) Twenty feet measured horizontally outside the 100-year flood elevation for detention/retention ponds and access to the pond as determined by the town;

(4) Fifteen feet for yard swales;

(5) Easements for open channel are to be determined by the town on a case-by-case basis; and

(6) Easements for drainage conveyances shall be centered on the centerline of the conveyance.

(D) *Transfer of ownership of storm water systems*. Owners/developers that will dedicate the storm water system to the town shall enter into an agreement, the storm water system agreement for developer-installed and contributed storm water system. The owner/developer, at no cost to the town, shall furnish the design, labor, and materials to install the storm water system. The town must approve the design, materials, and the owner's/developer's selected contractor, based upon reliability and responsiveness. Waivers of lien for suppliers, subcontractors, and contractors will be required at the time of completion of the transfer of ownership form.

(E) *Performance and maintenance bond requirements*. The owner/developer shall provide a performance bond to the town prior to project construction. The performance bond shall be in the amount of 120% of the contract amount to construct drainage improvements, and shall be provided on the standard form, the town performance and repair bond. After completion of the project, the owner/developer shall provide a three-year maintenance bond in the amount of 25% of the contract amount to construct said drainage improvements to protect against defective materials and workmanship. The maintenance bond shall be provided on the standard form, the town maintenance bond.

(F) *Record drawings*. Record drawings, certified by a professional engineer or land surveyor, of the completed drainage improvements that shall become public facilities shall be provided to the town within 60 days of project completion. Record drawings shall include both a hard copy and an electronic copy (AutoCAD compatible CD) of as-built information, including horizontal alignments, elevations, inverts, top-of-castings, pond cross-sections, and flow lines of swales.

Table 2-A Pre-Approved BMPs

BMP	***Description***	***80% TSS Removal***	***Selection Guidelines***
Biofilters	Densely vegetated land engineered as pretreatment or as part of a treatment train	No	Used in conjunction with other water quality treatment measures
Bioretention area	Shallow basins or landscaped areas with engineered soils and vegetation, and filter strip treatment, prior to ponding area	Yes	0.5-2 acres preferred Maximum 5 acres
Infiltration trench with forebay	Trench that captures and treats storm water runoff by allowing it to infiltrate into the ground through aggregate into highly porous underlying soils	Yes	Maximum 5 acres
Sand filters with pretreatment	Structure that treats runoff through filtration using a sand bed as the primary filter media. Requires pretreatment due to high clog factor	Yes	Maximum 2-10 acres

BMP	*Description*	*80% TSS Removal*	*Selection Guidelines*
Storm water pond	Constructed basin with a permanent pool of water in which runoff is captured and treated	Yes	Minimum 10 acres
Storm water wetland	Constructed wetland areas consisting of shallow marsh areas, open water, and semi-wet areas above a permanent pool	Yes	Regional sites Minimum 10 acres
Water quality dry swale with pretreatment	Vegetated open channel that captures and treats storm water runoff within dry cells	Yes	Maximum 5 acres

(Prior Code, Storm Water Appendix § 2.5) Penalty, see § 10.99

Editor's note:

See Georgia Storm Water Management Manual, Volume 2, Maryland Storm Water Design Manual, Volume II, and Indianapolis Storm Water Specifications Manual for reference.

FORMS, APPLICATIONS

§ 54.35 SUBMITTAL REQUIREMENTS FOR PLAN REVIEW.

The following are required for plan review.

Section	*Description*	*Location in Plans*
	Project Narrative and Supporting Documents	
1A	An index indicating the location, in the construction plans, of all information required by this section.	
1B	Description of the nature and purpose of the project.	
1C	Legal description of the project site. The description should be to the nearest quarter section, township, and range, and include the civil township.	
1D	Soil properties, characteristics, limitations, and hazards associated with the project site and the measures that will be integrated into the project to overcome or minimize adverse soil conditions.	
1E	General construction sequence of how the project site will be built, including phases of construction.	
1F	Hydrologic Unit Code (14-digit) available from the United States Geological Survey (USGS).	

Section	*Description*	*Location in Plans*
1G	A reduced plat or project site map showing the lot numbers, lot boundaries, and road layout and names. The reduced map must be legible and submitted on a sheet or sheets no larger than 11 inches by 17 inches for all phases or sections of the project site.	
1H	Identification of any other state or federal water quality permits that are required for construction activities associated with the owner's project site.	
2	Vicinity map depicting the project site location in relationship to recognizable local landmarks, towns, and major roads, such as a USGS topographic quadrangle map, or county or municipal road map.	
	Existing Project Site Layout	
3A	Location and name of all wetlands, lakes, and watercourses on, or adjacent to, the project site.	
3B	Location of all existing structures on the project site.	
3C	100-year floodplains, floodway fringes, and floodways. Please note if none exists.	
	Existing Project Site Layout	
3D	Soil map of the predominant soil types, as determined by the United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Soil Survey, or an equivalent publication, or as determined by a soil scientist. A soil legend must be included with the soil map.	
3E	Identification and delineation of vegetative cover such as grass, weeds, brush, and trees on the project site.	
3F	Land use of all adjacent properties.	
3G	Existing topography at a contour interval appropriate to indicate drainage patterns.	
	Final Project Site Layout	
4A	Location of all proposed site improvements, including roads, utilities, lot delineation and identification, proposed structures, and common areas.	
4B	100-year floodplains, floodways fringes, and floodways. Please note if none exists.	
4C	Proposed final topography, at a contour interval appropriate to indicate drainage patterns.	
	Grading Plan	
5A	Delineation of all proposed land-disturbing activities, including off-site activities that will provide services to the project site.	

Section	*Description*	*Location in Plans*
5B	Location of all soil stockpiles and borrow areas.	
5C	Information regarding any off-site borrow, stockpile, or disposal areas that are associated with a project site, and under the control of the project site owner.	
5D	Existing and proposed topographic information.	
	Drainage Plan	
6A	An estimate of the peak discharge, based on the 10-year storm event, of the project site for both preconstruction and post-construction conditions.	
6B	Location, size, and dimensions of all storm water drainage systems such as culverts, storm sewers, and conveyance channels.	
6C	Locations where storm water may be directly discharged into ground water, such as abandoned wells or sinkholes. Please note if none exists.	
6D	Locations of specific points where storm water discharge will leave the project site.	
6E	Name of all receiving waters. If the discharge is to a separate municipal storm sewer, identify the name of the municipal operator and the ultimate receiving water.	
	Drainage Plan	
6F	Location, size, and dimensions of features such as permanent retention or detention facilities, including existing or human-made wetlands, used for the purpose of storm water management.	
	Storm Water Pollution Prevention Plan Associated with Construction Activities	
7A	Location, dimensions, detailed specifications, and construction details of all temporary and permanent storm water quality measures.	
7B	Temporary stabilization plans and sequence of implementation.	
7C	Permanent stabilization plans and sequence of implementation.	
7Di	Temporary and permanent stabilization plans shall include the following: (i) Specifications and application rates for soil amendments and seed mixtures.	
7Dii	(ii) The type and application rate for anchored mulch.	
7E	Construction sequence describing the relationship between implementation of storm water quality measures and stages of construction activities.	
7F	Self-monitoring program, including plan and procedures.	

Section	*Description*	*Location in Plans*
7G	A description of potential pollutant sources associated with the construction activities, which may reasonably be expected to add a significant amount of pollutants to storm water discharges.	
7H	Material handling and storage associated with construction activities shall meet the spill prevention and spill response requirements in 327 I.A.C. 2-6.1	
Post-Construction Storm Water Pollution Prevention Plan		
8A	A description of potential pollution sources from the proposed land use, which may reasonably be expected to add a significant amount of pollutants to storm water discharges.	
8B	Location, dimensions, detailed specifications, and construction details of all post-construction storm water quality measures.	
8C	A description of measures that will be installed to control pollutants in storm water discharges that will occur after construction activities have been completed. Such practices include infiltration of runoff, flow reduction by use of open vegetated swales and natural depressions, buffer strip and riparian zone preservation, filter strip creation, minimization of land disturbance and surface imperviousness, maximization of open space, and storm water retention and detention ponds.	
8D	A sequence describing when each post-construction storm water quality measure will be installed.	
8E	Storm water quality measures that will remove or minimize pollutants from storm water runoff.	
8F	Storm water quality measures that will be implemented to prevent or minimize adverse impacts to stream and riparian habitat.	
Post-Construction Storm Water Pollution Prevention Plan		
8G	A narrative description of the maintenance guidelines for all post-construction storm water quality measures to facilitate their proper long term function. This narrative description shall be made available to future parties who will assume responsibility for the operation and maintenance of the post-construction storm water quality measures.	

(Prior Code, Storm Water Appendix § 1-A)

§ 54.36 TECHNICAL REVIEW AND COMMENT FORM.

The following form is to be used for technical review.

Construction/Stormwater Pollution Prevention Plan
Technical Review and Comment *(Form 1)*

Project Information

Project Name:			**County:**	
Plan Submittal Date:		**Hydrologic Unit Code:**		
Project Location Description:				
Latitude and Longitude:				
Civil Township:	**Quarter:**	**Section:**	**Township:**	**Range:**
Project Owner Name:				
Contact:				
Address:				
City:	**State:**		**Zip:**	
Phone:	**FAX:**	**E-Mail:**		
Plan Preparer Name:				
Affiliation:				
Address:				
City:	**State:**		**Zip:**	
Phone:	**FAX:**	**E-Mail:**		

Plan Review

Review Date:				
Principal Plan Reviewer:				
Agency:				
Address:				
City:	**State:**		**Zip:**	
Phone:	**FAX:**	**E-Mail:**		
Assisted By:				

☐ **PLAN IS ADEQUATE: A comprehensive plan review has been completed and it has been determined that the plan satisfies the minimum requirements and intent of 327 IAC 15-5.**

- ☐ **Please refer to additional information included on the following page(s).**
- ☐ **Submit Notice of Intent (NOI):** *Attach a copy of this cover page when submitting the NOI to the Indiana Department of Environmental Management. Construction activities may begin 48 hours following the submittal of the NOI. A copy of the NOI must also be sent to the Reviewing Authority (e.g. SWCD, DNR).*

☐ **A preliminary plan review has been completed; a comprehensive review will not be completed within the 28-day review period. The reviewing authority reserves the right to perform a comprehensive review at a later date and revisions to the plan may be required at that time to address deficiencies.**

- ☐ **Please refer to additional information included on the following page(s).**
- ☐ **Submit Notice of Intent (NOI):** *Attach a copy of this cover page when submitting the NOI to the Indiana Department of Environmental Management. Construction activities may begin 48 hours following the submittal of the NOI. A copy of the NOI must also be sent to the Reviewing Authority (e.g. SWCD, DNR).*

☐ **PLAN IS DEFICIENT: Significant deficiencies were identified during the plan review.**

- ☐ **Please refer to additional information included on the following page(s).**
- ☐ **DO NOT file a Notice of Intent for this project.**
- ☐ **DO NOT commence land disturbing activities until all deficiencies are adequately addressed, the plan re-submitted, and notification has been received that the minimum requirements have been satisfied.**

☐ **Plan Revisions** ☐ **Deficient Items should be mailed or delivered to the Principal Plan Reviewer identified in the Plan Review Section above.**

Construction/Stormwater Pollution Prevention Plan - Technical Review and Comment *(Form I)*

Project Name: 0
Date Reviewed: 01/00/00

Assessment of Stormwater Pollution Prevention Plan *(Sections B & C)*

Stormwater Pollution Prevention Plan - Construction Component *(Section B)*

The construction component of the Stormwater Pollution Prevention Plan includes stormwater quality measures to address erosion, sedimentation, and other pollutants associated with land disturbance and construction activities. Proper implementation of the plan and inspections of the construction site are necessary to minimize the discharge of pollutants. The Project Site Owner should be aware that unforeseen construction activities and weather conditions may affect the performance of a practice or the effectiveness of the plan. The plan must be a flexible document, with provisions to modify or substitute practices as necessary.

Adequate	Deficient	Not Applicable	B	
☐	☐		1	Description of potential pollutant sources associated with construction activities
☐	☐		2	Sequence describing stormwater quality measure implementation relative to land disturbing activities
☐	☐		3	Stable construction entrance locations and specifications (at all points of ingress and egress)
☐	☐	☐	4	Sediment control measures for sheet flow areas
☐	☐	☐	5	Sediment control measures for concentrated flow areas
☐	☐	☐	6	Storm sewer inlet protection measure locations and specifications
☐	☐	☐	7	Runoff control measures (*e.g. diversions, rock check dams, slope drains, etc .*)
☐	☐	☐	8	Storm water outlet protection specifications
☐	☐	☐	9	Grade stabilization structure locations and specifications
☐	☐		10	Location, dimensions, specifications, and construction details of each stormwater quality measure
☐	☐		11	Temporary surface stabilization methods appropriate for each season (*include sequencing*)
☐	☐		12	Permanent surface stabilization specifications (*include sequencing*)
☐	☐		13	Material handling and spill prevention plan
☐	☐		14	Monitoring and maintenance guidelines for each proposed stormwater quality measure
☐	☐	☐	15	Erosion & sediment control specifications for individual building lots

Stormwater Pollution Prevention Plan - Post Construction Component *(Section C)*

The post construction component of the Stormwater Pollution Prevention Plan includes the implementation of stormwater quality measures to address pollutants that will be associated with the final landuse. Post construction stormwater quality measures should be functional upon completion of the project. Long term functionality of the measures are critical to their performance and should be monitored and maintained.

Adequate	Deficient	Not Applicable	C	
☐	☐		1	Description of pollutants and their sources associated with the proposed land use
☐	☐		2	Sequence describing stormwater quality measure implementation
☐	☐		3	Description of proposed post construction stormwater quality measures *(Include a written description of how these measures will reduce discharge of expected pollutants)*
☐	☐		4	Location, dimensions, specifications, and construction details of each stormwater quality measure
☐	☐		5	Description of maintenance guidelines for post construction stormwater quality measures

Construction/Stormwater Pollution Prevention Plan - Technical Review and Comment *(Form 1)*

Project Name:	0
Date Reviewed:	01/00/00

The technical review and comments are intended to evaluate the completeness of the Construction/Stormwater Pollution Prevention Plan for the project. The Plan submitted was not reviewed for the adequacy of the engineering design. All measures included in the plan, as well as those recommended in the comments should be evaluated as to their feasibility by a qualified individual with structural measures designed by a qualified engineer. The Plan has not been reviewed for other local, state, or federal permits that may be required to proceed with this project. Additional information, including design calculations may be requested to further evaluate the Plan.

All proposed stormwater pollution prevention measures and those referenced in this review must meet the design criteria and standards set forth in the "Indiana Stormwater Quality Manual" from the Indiana Department of Natural Resources, Division of Soil Conservation or similar Guidance Documents.

Please direct questions and/or comments regarding this plan review to:

0

Please refer to the address and contact information identified in the Plan Review Section on page 1.

Assessment of Construction Plan Elements *(Section A)*

The Construction Plan Elements are adequately represented to complete a plan review:

☑ Yes ☑ No

The items checked below are deficient and require submittal to meet the requirements of the rule.

A			A		
☐	1	Index showing locations of required Plan Elements	☐	2	11 by 17 inch plat showing building lot numbers/boundaries and road layout/names
☐	3	Narrative describing the nature and purpose of the project	☐	4	Vicinity map showing project location
☐	5	Legal Description of the Project Site (Include Latitude and Longitude - NOI Requirement)	☐	6	Location of all lots and proposed site improvements (roads, utilities, structures, etc.)
☐	7	Hydrologic unit code (14 Digit)	☐	8	Notation of any State or Federal water quality permits
☐	9	Specific points where stormwater discharge will leave the site	☐	10	Location and name of all wetlands, lakes and water courses on and adjacent to the site
☐	11	Identification of all receiving waters	☐	12	Identification of potential discharges to ground water (abandoned wells, sinkholes, etc.)
☐	13	100 year floodplains, floodways, and floodway fringes	☐	14	Pre-construction and post construction estimate of Peak Discharge (10 Year storm event)
☐	15	Adjacent landuse, including upstream watershed	☐	16	Locations and approximate boundaries of all disturbed areas (Construction Limits)
☐	17	Identification of existing vegetative cover	☐	18	Soils map including soil descriptions and limitations
☐	19	Locations, size and dimensions of proposed stormwater systems (e.g. pipes, swales and channels)	☐	20	Plans for any off-site construction activities associated with this project (sewer/water tie-ins)
☐	21	Locations of proposed soil stockpiles and/or borrow/disposal areas	☐	22	Existing site topography at an interval appropriate to indicate drainage patterns
☐	23	Proposed final topography at an interval appropriate to indicate drainage patterns			

Construction/Stormwater Pollution Prevention Plan

Project Name: Date Reviewed:

Priority Site Information

____ Nature and Extent of Construction
____ Close Proximity to Sensitive Area
____ Steep Topography on Proposed Construction Site
____ Close Proximately to Wetlands
____ Potential for Direct Runoff to Receiving Waters
____ Not a Priority Site

Construction/Stormwater Pollution Prevention Plan Comments

Page 4 of 4

(Prior Code, Storm Water Appendix § 1-B)

§ 54.37 IDEM NOTICE OF INTENT FORM.

The following is the notice of intent (NOI) form.

Indiana Department of Environmental Management
Notice of Intent (NOI)
Storm Water Runoff Associated with Construction Activity
NPDES General Permit Rule 327 IAC 15-5 (Rule 5)

Submission of this Notice of Intent letter constitutes notice that the project site owner is applying for coverage under the National Pollutant Discharge Elimination System (NPDES) General Permit Rule for Storm Water Discharges Associated with Construction Activity. Permitted project site owners are required to comply with all terms and conditions of the General Permit Rule 327 IAC 15-5 (Rule 5).

Check the type of Submittal: ☐ **Initial** ☐ **Amendment,** ☐ **Renewal** ☐ **Extension**

Project Name and Location:

- Project Name: _____ County: _____
- Brief Description of Project Location: _____ _____
- Latitude _____ and Quarter _____ Section __
- Longitude _____ Township_____ __ Range_____
- Does ☐ all or ☐ part of this project lie within the jurisdictional boundaries of a Municipal Separate Storm Sewer System (MS4) as defined in 327 IAC 15-13? ☐ Yes ☐ No If yes, please name the MS4(s):

_____

Project Site Owner and Project Contact Information:

- Company Name (If Applicable): _____

  Project Site Owner's Name (An Individual): _____ Title/Position: _____

  Address: _____

  City: __ _____ State: _____ Zip: _____

  Phone: _____ FAX: _____ E-Mail Address (If Available): _____
- Ownership Status (check one): Governmental Agency: ☐ Federal ☐ State ☐ Local

  Non-Governmental: ☐ Public ☐ Private ☐ Other (Explain): _____
- Contact Person: _____ Affiliation with Project Site Owner:

  Address (if different from above): _____ _____

  City: _____ State: _____ Zip: _____

  Phone: _____ FAX: _____ E-Mail Address (If Available): _____

Project Description:

☐ Residential-Single Family ☐ Residential-Multi-Family ☐ Commercial ☐ Industrial ☐ Other_____

Discharge Information:

- Name of Receiving Water: _____

  (If applicable, name of municipal operator of storm sewer. Please note that even if a retention pond is present on the property, the name of the nearest possible receiving water is required).

Project Acreage:

- Total Acreage: _____ Acres Proposed Acreage to be Disturbed: _____ Acres
- Total Impervious Surface Area (Estimated for Completed Project): _____ Square Feet

Timetable (Maximum of 5 Years):

- Start Date: _____ and Estimated End Date for all Land Disturbing Activity: _____

(Continued on Reverse Side)

Construction Plan Certification:

By signing this Notice of Intent letter, I certify the following:

A. The storm water quality measures included in the Construction Plan comply with the requirements of 327 IAC 15-5-6.5, 327 IAC 15-5-7, and 327 IAC 15-5-7.5;
B. the storm water pollution prevention plan complies with all applicable federal, state, and local storm water requirements;
C. the measures required by section 7 and 7.5 of this rule will be implemented in accordance with the storm water pollution prevention plan;
D. if the projected land disturbance is One (1) acre or more, the applicable Soil and Water Conservation District or other entity designated by the Department, has been sent a copy of the Construction Plan for review;
E. storm water quality measures beyond those specified in the storm water pollution prevention plan will be implemented during the life of the permit if necessary to comply with 327 IAC 15-5-7; and
F. implementation of storm water quality measures will be inspected by trained individuals.

In addition to this form, I have enclosed the Following:

☐ Verification by the reviewing agency of acceptance of the Construction Plan.

☐ Proof of publication in a newspaper of general circulation in the affected area that notified the public that a construction activity is to commence, including all required elements contained in 327 IAC 15-5-5 (9).

☐ $100 check or money order payable to the Indiana Department of Environmental Management. If the project lies solely within the permitted jurisdiction of an MS4 and is regulated by the MS4 under 327 IAC 15-13 – a fee is not required with submittal of this Notice of Intent.

A permit issued under 327 IAC 15-5 is granted by the commissioner for a period of five (5) years from the date coverage commences. Once the five (5) year permit term duration is reached, a general permit issued under this rule will be considered expired, and, as necessary for construction activity continuation, a new Notice of Intent letter would need to be submitted ninety (90) days prior to the termination of coverage.

Project Site Owner Responsibility Statement:

By signing this Notice of Intent letter, I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information or violating the provisions of 327 IAC 15-5, including the possibility of fine and imprisonment for knowing violations.

Printed Name of Project Owner_____

Signature of Project Owner _____ Date: _____

This Notice of Intent must be signed by an individual meeting the signatory requirements in 327 IAC 15-4-3(g)

Mail this form to: Indiana Department of Environmental Management
Office of Water Quality, Storm Water (Rule 5) Desk
100 North Senate Avenue, P.O. Box 6015
Indianapolis, IN 46206-6015

327 IAC 15-5-6 (a) also requires a copy of the completed Notice of Intent letter be submitted to the local Soil and Water Conservation District or other entity designated by the Department, where the land disturbing activity is to occur.

Questions regarding the development of the Construction Plan and/or field implementation of 327 IAC 15-5 may be directed to your local Soil and Water Conservation District office or the Department of Natural Resources at 317-233-3870. Questions regarding the Notice of Intent may be directed to the Rule 5 contact person at 317/233-1864 or 800/451-6027 ext 31864.

State Form 47487 (R/ /03)

(Prior Code, Storm Water Appendix § 1-C)

§ 54.38 IDEM NOTICE OF TERMINATION FORM.

The following is the notice of termination (NOT) form.

Indiana Department of Environmental Management
Notice of Termination (NOT)
Storm Water Runoff Associated with Construction Activity
NPDES General Permit Rule 327 IAC 15-5 (Rule 5)

Submission of this Notice of Termination letter constitutes notice to the Commissioner that the project site owner is applying for Termination of Coverage under the National Pollutant Discharge Elimination System (NPDES) General Permit Rule for Storm Water Discharges Associated with Construction Activity.

Project Name and Location:

- Permit Number: _____
- Project Name: _____ County: _____
- Company Name (If Applicable): _____

Project Site Owner's Name (An Individual): _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ FAX: _____ E-Mail Address (If Available): _____

This Notice of Termination is Being Submitted for the Following:

Select one of the three Options that apply to Permit Termination by checking the appropriate box, complete all information associated with that option, and complete the "Project Site Owner Responsibility Statement".

Option # 1

☐ **Certification for Change of Ownership:**

(Does not Apply to the Sale of Individual lots within the Permitted Acreage; only the Sale of the Entire Project Site as Originally Permitted)

By Signing this Notice of Termination, I Certify the Following:

A. The project was sold; I am no longer the project site owner as was designated in my Notice of Intent. The new owner of the project site is:
   - Company Name (If Applicable): _____

   Project Site Owner's Name (An Individual): _____

   Address: _____

   City: _____ State: _____ Zip: _____

   Phone: _____ FAX: _____ E-Mail Address (If Available): _____
B. I have notified the new Project Site Owner of his/her responsibilities to comply with 327 IAC 15-5 and the requirements associated with the rule including filing a new Notice of Intent.

Option # 2

☐ **Certification for Termination of Construction Activities:**

By Signing this Notice of Termination, I Certify the Following:

A. All land disturbing activities, including construction on all building lots have been completed and the entire site has been stabilized;
B. No future land disturbing activities will occur on this project site;
C. all temporary erosion and sediment control measures have been removed; and
D. a copy of this notice has been sent to the appropriate SWCD or other designated entity.

Option # 3

☐ Notice of Termination to Obtain Early Release from Compliance with 327 IAC 15-5

By Signing this Notice of Termination, I Certify the Following:

A. The remaining, undeveloped acreage does not exceed five (5) acres, with contiguous areas not to exceed one (1) acre.
B. A map of the project site, clearly identifying all remaining undeveloped lots, is attached to this letter. The map must be accompanied by a list of names and addresses of individual lot owners or individual lot operators of all undeveloped lots.
C. All public and common improvements, including infrastructure, have been completed and permanently stabilized and have been transferred to the appropriate local entity.
D. The remaining acreage does not pose a significant threat to the integrity of the infrastructure, adjacent properties, or water quality.
E. All permanent storm water quality measures have been implemented and are operational.

Upon Written Notification of the Department the Project Site Owner Certifies that he/she will Notify:

A. All current individual lot owners and all subsequent individual lot owners of the remaining undeveloped acreage and acreage with construction activity that they are responsible for complying with section 7.5 of 327 IAC 15-5 *(the remaining individual lot owners do not need to submit a Notice of Intent letter or Notice of Termination letter)*; and
B. the individual lot owners of the requirements to install and maintain appropriate measures to prevent sediment from leaving the individual building lot and maintain all erosion and sediment control measures that are to remain on-site as part of the construction plan.

Project Site Owner Responsibility Statement:

By signing this Notice of Termination letter, I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Printed Name of Project Site Owner: _____

Signature of Project Site Owner: _____ Date: _____

This Notice of Termination must be signed by an individual meeting the signatory requirements in 327 IAC 15-4-3(g)

Upon written notification by the Department of Environmental Management, the Project Site Owner's termination for coverage under 327 IAC 15-5 shall be considered approved.

Mail this form to: Indiana Department of Environmental Management
Office of Water Quality, Storm Water (Rule 5) Desk
100 North Senate Avenue, P.O. Box 6015
Indianapolis, IN 46206-6015

327 IAC 15-5-8 (b) also requires a copy of the completed Notice of Termination letter be submitted to the local Soil and Water Conservation District or other entity designated by the Department, where the Project Site is located.

For Agency Use Only

(SWCD, DNR-DSC, or Other Entity Designated by the Department)

The above referenced site has been inspected to determine that the request to terminate this project is compliant with the requirements of 327 IAC 15-5-8.

Signature	Printed Name	Agency	Date

State Form (R/ /03)

(Prior Code, Storm Water Appendix § 1-D)

DIAGRAMS, DESIGN CRITERIA

§ 54.50 STORM WATER PONDS.

(A) *Quick reference.*

(1) *Description.* Constructed storm water retention basin that has a permanent pool of water in which runoff from each rain event is captured and treated in the pool.

(2) *Site feasibility.*

(a) Drainage area: minimum ten acres;

(b) Residential subdivision use: yes; and

(c) High density/ultra-urban: no.

(3) *Design criteria.*

(a) Sediment forebay required;

(b) Length to width ratio is three-to-one;

(c) Maximum depth of permanent pool should not exceed eight feet;

(d) Side slopes of pond should not exceed three-to-one; and

(e) High permeable soils (hydrologic group A or B) may require a liner.

(4) *Advantages*.

(a) Moderate to high removal rate of urban pollutants;

(b) Can use for water quality and flood control;

(c) High community acceptance when designed with attention to aesthetics and maintained properly; and

(d) Opportunity for wildlife habitat.

(5) *Disadvantages*.

(a) Potential for thermal impacts/downstream warming;

(b) Pond drainage can be problematic for low relief terrain;

(c) Dam height restrictions for high relief areas; and

(d) Improperly designed or maintained ponds may become stagnant causing unpleasant conditions.

(6) *Maintenance*.

(a) Monitor sediment accumulation and remove periodically;

(b) Remove debris from inlet and outlet structures; and

(c) Maintain side slopes and remove invasive vegetation.

(B) *General*.

(1) *Description*.

(a) Storm water ponds are constructed storm water retention basins that contain a permanent pool of water in which runoff from each rain event is captured and treated in the pool. The purpose of the pond is to retain runoff and allow contaminated sediments to settle removing particulates and, through biological uptake, some nutrients attached to the particulates. A forebay placed in front of the pond is required to intercept the majority of sediments providing for ease of cleanout.

(b) Underlying soils of hydrologic group C or D should be adequate to maintain a permanent pool. Most group A soils and some group B soils will require a pond liner. Subsurface analysis and permeability tests may be required to evaluate soils. Wet ponds require an adequate water source to maintain a permanent pool of water.

(c) If storm water ponds are used on a site with an underlying water supply aquifer, a separation distance of two feet is required between the bottom of the pond and the elevation of the seasonally high water table.

(2) *Variations*.

(a) Wet pond: Provides all of the water quality volume storage volume in a permanent pool.

(b) Wet extended detention (ED) pond: Provides the water quality storage volume through a combination of the permanent pool and ED storage above the permanent pool. The ED storage volume should be detained and released over a 24-hour period.

(c) Micropool ED pond: Only a small micropool of water within an ED pond is maintained at the outlet to the pond, which is sized to detain the water quality volume for 24 hours. The micropool prevents resuspension of previously settled sediments.

(d) Multiple ponds: Provides the water quality storage volume in two or more cells that create longer pollutant removal pathways.

(C) *Design criteria*. The following criteria are minimum standards for the design of a wet storm water pond. A storm water pond may be designed to meet water quantity and quality requirements. If considered for water quality treatment only, the pond shall be designed to capture the water quality volume (WQ_v) using the equation in §§ 54.20 through 54.24.

(1) *Drainage area*. The minimum drainage area tributary to the pond is ten acres.

(2) *Pond geometry*.

(a) The pond should have a minimum length to width ratio of three-to-one. The flow path between the inlet and outlet should be maximized and shaped so that flow enters the pond and gradually spreads out, improving sediment removal. Baffles, pond shaping, and islands can be utilized to increase the flow path.

(b) The depth of the permanent pool should be greater than four feet to avoid resuspension of particles and less than eight feet to avoid stratification and anoxic conditions.

(c) Vegetated side slopes to the pond should not exceed three-to-one and shall terminate on a minimum ten-foot safety ledge with a maximum ten-to-one slope. Side slopes steeper than three-to-one require riprap to stabilize the banks. Below the safety ledge, ponds with slopes steeper than three-to-one shall also be secured with riprap and no bank shall exceed a slope of 11 over two-to-one.

(3) *Sediment forebay*.

(a) All ponds shall include a sediment forebay that consists of a separate cell, formed by an acceptable barrier. A forebay is to be provided at each inlet to the pond unless the inlet provides less than 10% of the total design storm inflow to the pond.

(b) The forebay shall be sized to contain 10% of the water quality volume. The forebay storage volume is part of the total WQ_v requirement.

(c) Entrance and exit velocities from the forebay must be non-erosive.

(d) A fixed vertical depth marker shall be installed in the forebay to continually measure sediment deposition. Sediment in the forebay shall be removed after 50% of the forebay capacity has been depleted.

(e) Direct maintenance access for appropriate equipment shall be provided to the forebay.

(4) *Outlet structures*.

(a) The outlet structure should be designed to detain the water quality volume above the permanent pool for 24 to 48 hours.

(b) Flow control from a pond is typically accomplished with the use of a riser and barrel. The riser is a vertical pipe or inlet structure that is attached to the base of the pond with a watertight connection. The outlet barrel is a horizontal pipe attached to the riser that conveys flow under the embankment. The riser should be located within the embankment for maintenance access, safety, and aesthetics. Suitable erosion control measures must be provided for the outlet and all inlet structures to the pond. Energy dissipaters should be placed at the outlet of the barrel to prevent scouring and erosion.

(c) Anti-seep collars or filter diaphragms must be provided for the barrel of the outlet structure. If reinforced concrete pipe is used, O-ring gaskets shall be used to create water-tight joints.

(d) Orifice-type outlets below the permanent pool elevation of the pond shall have an appropriate anti-clogging device.

(e) Provide trash racks, filters, hoods, or other debris control. A negatively sloped pipe from the riser to one foot below the permanent pool, away from floating debris, can reduce the risk of clogging. An orifice covered by wire mesh and a hood may accomplish protection of the extended detention orifice.

(f) Design and install an emergency drain (i.e., sluice gate or drawdown pipe) capable of draining within 24 hours.

(5) *Spillways*. An emergency spillway shall be designed to pass one and one-quarter times the peak discharge and peak flow velocity from the 100-year storm event for the entire contributing drainage area (unless bypassed), assuming post-development conditions. Provide a one-foot minimum freeboard above the maximum anticipated flow depth through the emergency spillway.

(6) *Liner*. To prevent drawdown of the permanent pool, a clay or poly liner may be needed. Hydrologic group A soils generally require a pond liner and group B soils may require infiltration testing.

(7) *Easement*. Storm water ponds must be constructed within an easement either platted or legally described and recorded as a perpetual storm water drainage easement. The easement shall extend a minimum of 30 feet horizontally outside of the design 100-year floodwater elevation of the basin and provide a minimum ten-foot wide access easement. A copy of the easement should be included in the BMP operations and maintenance manual.

(8) *Buffer*. A pond buffer should extend 25 feet outward from the maximum water surface elevation.

(9) *Sediment control*. If the pond is used as a sediment control measure during active construction, the sediment must be cleaned out of the pond and elevations and grades reestablished as noted in the approved storm water management plan for post-construction runoff control.

(D) *Maintenance and inspection checklist*. Regular inspection and maintenance is critical to the effective operation of storm water ponds. The following inspection checklist, to be completed at periods indicated, is provided for the BMP owner and should be retained as a record by the owner for a period of five years from the approval date of the storm water pollution prevention plan. Evidence of inspection and maintenance shall be provided to the town upon request.

Project Name/Site Location: _____

Owner Name: _____ Phone: _____

Owner Address: _____

Date: _____ Inspector: _____

Maintenance Item	***Yes/No***	***Comments***
Embankment and Emergency Spillway		***Inspect Annually***
1. Vegetation established and thriving?		
2. Any erosion?		
3. Animal burrows present?		

Maintenance Item	*Yes/No*	*Comments*
4. Cracking, bulging, or sliding of dam?		
5. All drains clear and functioning?		
6. Any leaks or seeps in embankment?		
7. Any slope failure?		
8. Obstructions in emergency spillway?		
9. Other problems evident?		
Outlet Structure		***Inspect Annually***
1. Low flow orifice blocked?		
2. Trash rack clear of debris?		
3. Any corrosion evident on trash rack?		
4. Excessive sediment in riser?		
5. Cracks or sinning in concrete?		
6. Any corrosion evident on metal pipes?		
7. Are all control valves operational?		
8. Outfall channels functioning?		
9. Other problems evident?		
Permanent Pool		***Inspect Monthly***
1. Undesirable vegetative growth?		
2. Floatable debris removal needed?		
3. Any visible pollution?		
4. Any shoreline problems?		
5. Other problems evident?		
Sediment Forebay		***Inspect Monthly***
1. Sedimentation marker visible?		

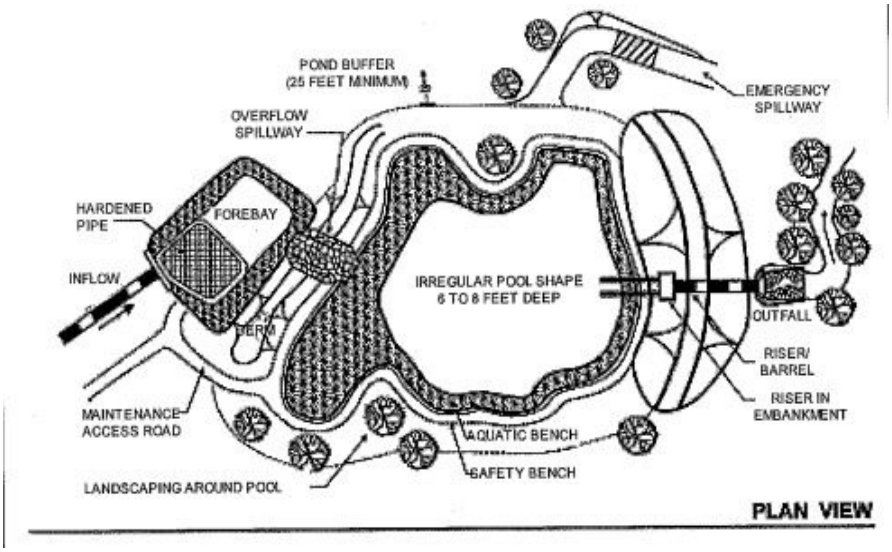
Maintenance Item	*Yes/No*	*Comments*
2. Sediment cleanout needed (50% full)?		
3. Other problems evident?		
Other		***Inspect Monthly***
1. Erosion at inflow and outfall points?		
2. Condition of headwalls satisfactory?		
3. Encroachments in pond easement area?		
4. Complaints from area residents?		
5. Any public hazards present?		
6. Other problems evident?		

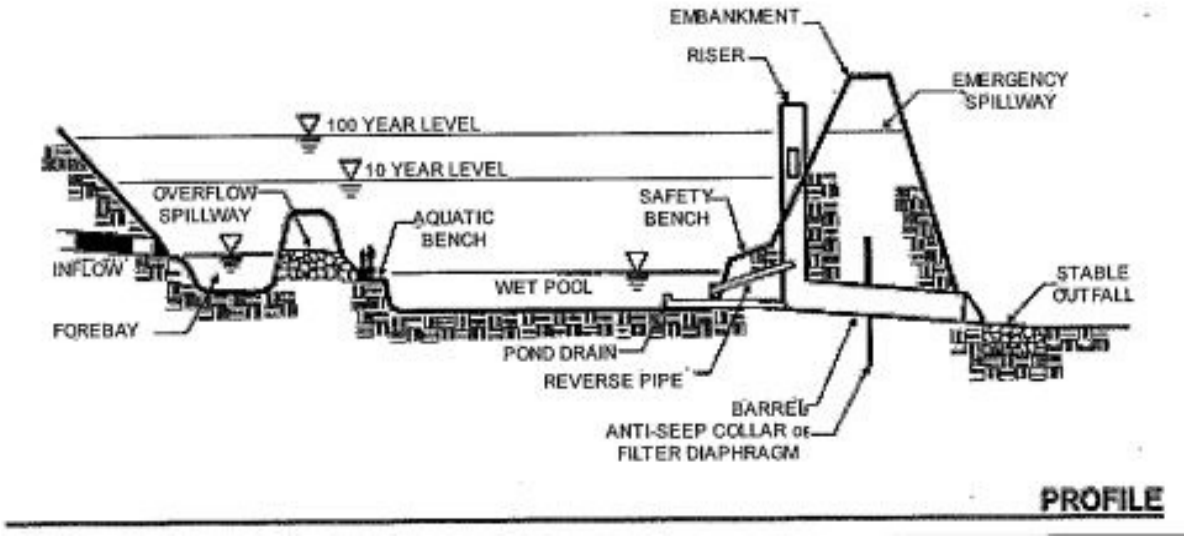
Additional Comments:
_____
_____
_____

Recommended Actions:
_____
_____
_____

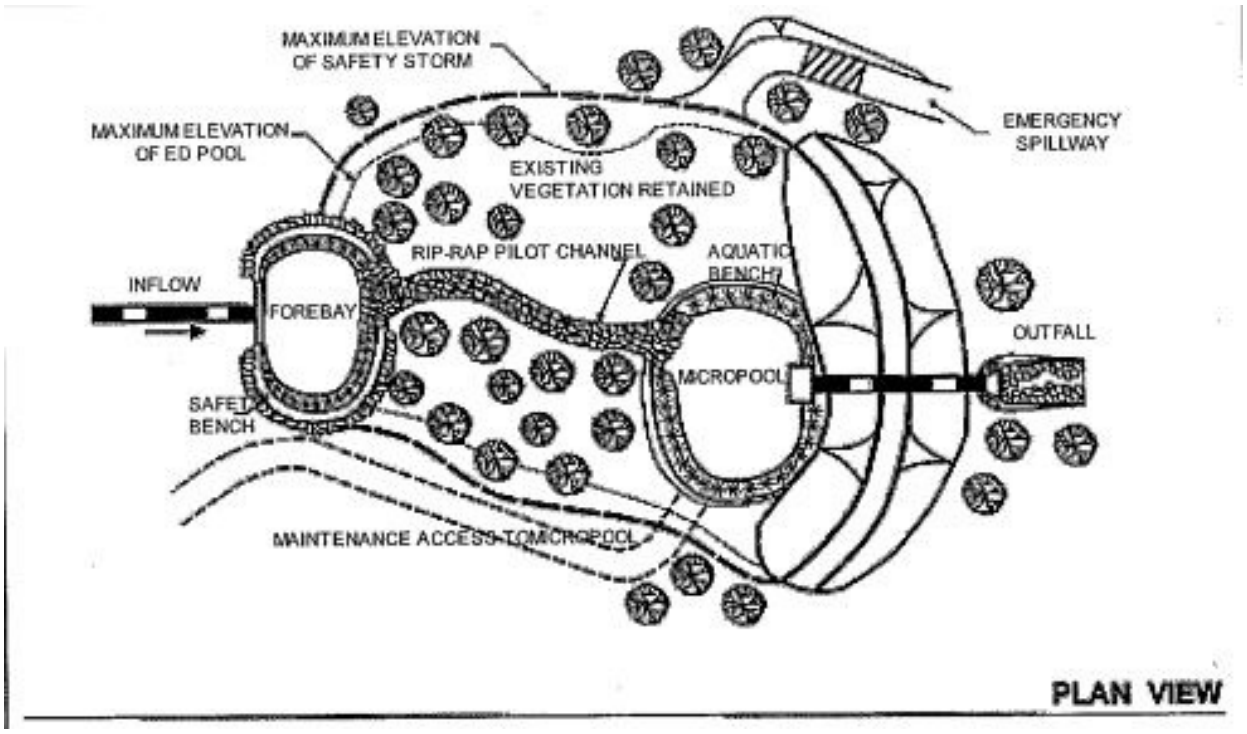
Recommended Timeframe for Actions: _____
_____
_____

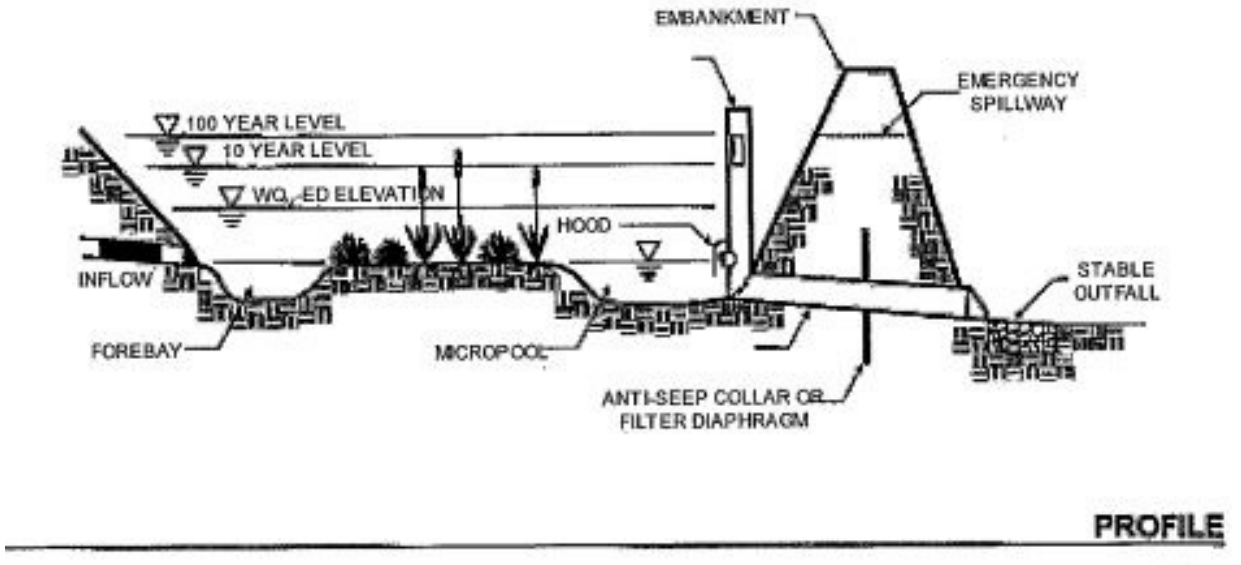
(E) *Schematic of a wet pond*. The following schematic comes from the Center for Watershed Protection, modified.





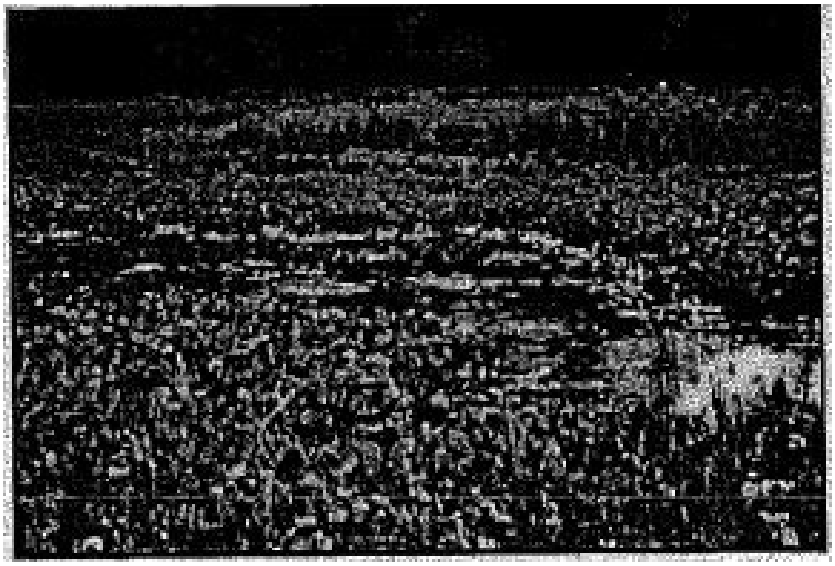
(F) *Schematic of micropool extended detention pond.* The following schematic comes from the Center for Watershed Protection, modified.





(Prior Code, Storm Water Appendix § 2-A.1)

§ 54.51 STORM WATER WETLANDS.



(A) *Quick reference.*

(1) *Description.* Constructed shallow marsh systems designed to treat storm water runoff through settling and vegetative uptake and to control runoff volumes.

(2) *Site feasibility.*

(a) Drainage area: minimum 25 acres (minimum five acres for pocket wetland);

(b) Residential subdivision use: yes; and

(c) High density/ultra-urban: no.

(3) *Design criteria.*

(a) Sediment forebay and micropool required;

(b) Minimum dry weather flow path length to width ratio is two-to-one;

(c) Minimum 35% of total surface area should have a depth of six inches or less; 10% to 20% of surface area should be deep pool (one and one-half to six-foot depth); and

(d) High permeable soils (hydrologic group A or B) may require a liner.

(4) *Advantages.*

(a) Effective nutrient removal; and

(b) Natural aesthetic qualities and wildlife habitat.

(5) *Disadvantages.*

(a) Requires large land area;

(b) Requires a continuous base flow; and

(c) Sediment regulation is critical to sustain wetlands.

(6) *Maintenance.*

(a) Replace wetland vegetation to maintain at least 50% surface area coverage;

(b) Remove invasive vegetation; and

(c) Monitor sediment accumulation and remove periodically.

(B) *General.*

(1) *Description.*

(a) Storm water wetlands are constructed shallow marsh systems designed to control the quantity and quality of storm water runoff. Microbial breakdown, settling, adsorption, retention, and vegetative uptake remove pollutants as storm water moves through the wetland under low flow conditions. Runoff volumes are reduced by evapotranspiration and infiltration. Peak flow is reduced by storage and slow release. Wetlands further offer erosion control, aesthetic value, and wildlife habitat.

(b) A sediment forebay at the inflow point to a wetland is required to allow heavier sediments to drop out before the runoff enters the wetland marsh. Underlying soils of hydrologic group C or D should be adequate to maintain a permanent pool. Most group A soils and some group B soils may require a liner. Subsurface analysis and permeability tests may be required to evaluate soils. A continuous base flow or a high water table is required to support aquatic vegetation in a wetland facility. A water balance must be performed to demonstrate the wetland can withstand a 30-day drought at summer evaporation rates without completely drawing down.

(c) If storm water wetlands are used on a site with an underlying water supply aquifer, a separation distance of two feet is required between the bottom of the pond and the elevation of the seasonally high water table. A pocket wetland is typically below the water table.

(2) *Variations.*

(a) Shallow wetland: Most of the water quality treatment volume is in the shallow high marsh or low marsh depths. The only deep portions of the shallow wetland are the forebay and the micropool. A relatively large amount of land is typically needed to store the water quality volume.

(b) Extended detention (ED) shallow wetland: The same as the shallow wetland, except part of the water quality treatment volume is provided as extended detention above the surface of the marsh and released over a period of 24 hours. This design allows for treatment in a smaller space than the shallow wetland. Plants that can tolerate both wet and dry periods must be specified in the ED zone.

(c) Pond/wetland system: This system has two separate cells, a wet pond and a shallow marsh. The wet pond traps sediments and reduces runoff velocities prior to entry into the wetland where storm water flows receive additional treatment. Less land is required than for the shallow wetland or the ED shallow wetland systems.

(d) Pocket wetland: Intended for smaller drainage areas of five to ten acres and typically requires excavation down to the water table for a reliable water source to support the wetland system.

(C) *Design criteria.* The following criteria are minimum standards for the design of a wetland. A storm water wetland may be designed to meet water quantity and quality requirements. If considered for water quality treatment only, the pond shall be designed to capture the water quality volume (WQ_v) using the equation in §§ 54.20 through 54.24.

(1) The minimum drainage area tributary to the wetland is 25 acres (five acres for a pocket wetland).

(2) (a) Base flow:

(b) A water balance must be calculated to ensure enough inflow to sustain the wetland:

1. $S = Q_i + R + Inf - Q_o - ET$

2. Where:

a. S = net change in storage;

b. Q_i = storm water runoff inflow;

c. R = contribution from rainfall;

d. Inf = net infiltration (infiltration - exfiltration);

e. Q_o = surface outflow; and

f. ET = evapotranspiration.

(3) *Wetland geometry*.

(a) The surface area of the wetland should be approximately 3% of the tributary drainage area.

(b) The wetland should have a minimum length to width ratio of two-to-one, with three-to-one preferred. The flow path may be achieved using internal dikes or berms, marsh plantings, or multiple cells.

(c) Side slopes to the wetland should not exceed four-to-one, with six-to-one preferred. Minimal longitudinal slopes are required. Safety and aquatic benches should surround the perimeter of all deep pool areas.

(d) Contours of the wetland should be irregular to provide a natural landscaping effect.

(e) The volume of the ED must not comprise more than 50% of the total WQ_v and its maximum water surface elevation must not extend more than two feet above the normal pool. Peak flow storage can be provided above the maximum WQ_v elevation within the wetland.

(4) *Depth zones*. Wetlands should be designed with the recommended proportion of depth zones as follows.

(a) Deepwater zone: One and one-half to six feet below normal pool elevation. Includes the outlet micropool and deepwater channels through the wetland facility. This zone supports little emergent wetland vegetation, but may support submerged or floating vegetation.

(b) Low marsh zone: Six to eight inches below normal pool elevation. This zone is suitable for the growth of several emergent wetland plant species.

(c) High marsh zone: Six inches or less below normal pool elevation. This zone will support a greater density and diversity of wetland species than the low marsh zone. The high marsh zone should have a higher surface area to volume ratio than the low marsh zone.

(d) Semi-wet zone: Areas above normal pool elevation that are inundated during larger storm events. This zone supports a number of species that can survive flooding.

Recommended Design Criteria for Storm Water Wetlands *Modified from Massachusetts DEP, 1997; Schueler, 1992*				
Design Criteria	***Shallow Wetland***	***ED Shallow Wetland***	***Pond/Wetland***	***Pocket Wetland***
Allocation of surface area (deepwater/low marsh/high marsh/semi-wet) in %	20/35/40/5	10/35/45/10	45/25/25/5 (includes pond surface area)	10/45/40/5
Allocation of WQ_v (pool/marsh/ED) in %	25/75/0	25/25/50	70/30/0 (includes pond volume)	25/75/0
Extended Detention (ED)	No	Yes	Optional	Optional
Forebay	Required	Required	Required	Optional
Micropool	Required	Require	Required	Required
Minimum Length to Width Ratio	2:1	2:1	2:1	2:1
Outlet Configuration	Reverse-slope pipe or hooded broad-crested weir	Reverse-slope pipe or hooded broad-crested weir	Reverse-slope pipe or hooded broad-crested weir	Hooded broad-crested weir

(5) *Sediment forebay*.

(a) All wetlands shall include a sediment forebay that consists of a separate cell, formed by an acceptable barrier. A forebay is to be provided at each inlet to the wetland unless the inlet provides less than 10% of the total design storm inflow to the wetland.

(b) The forebay shall be sized to contain 10% of the water quality volume and should be three to six feet deep. The forebay storage volume is part of the total WQ_v requirement.

(c) Entrance and exit velocities from the forebay must be non-erosive. Inflow channels should be stabilized with flared riprap aprons or the equivalent.

(d) A fixed vertical depth marker shall be installed in the forebay to measure sediment deposition. Sediment in the forebay shall be removed after 50% of the forebay capacity has been depleted.

(e) Direct maintenance access for appropriate equipment shall be provided to the forebay.

(6) *Outlet structures.*

(a) The outlet structure should be designed to detain the water quality volume above the permanent pool for 24 to 48 hours.

(b) Flow control from a storm water wetland is typically accomplished with the use of a riser and barrel. The riser is a vertical pipe or inlet structure that is attached to the base of the micropool with a watertight connection. The outlet barrel is a horizontal pipe attached to the riser that conveys flow under the embankment. The riser should be located within the embankment for maintenance access, safety, and aesthetics.

(c) Suitable erosion control measures must be provided for the outlet and all inlet structures to the pond. Energy dissipaters should be placed at the outlet of the barrel to prevent scouring and erosion.

(d) Anti-seep collars or filter diaphragms must be provided for the barrel of the outlet structure. If reinforced concrete pipe is used, O-ring gaskets shall be used to create water-tight joints.

(e) Orifice-type outlets below the permanent pool elevation of the pond shall have an appropriate anti-clogging device.

(f) Provide trash racks, filters, hoods, or other debris control. A negatively sloped pipe from the riser to one foot below the permanent pool, away from floating debris, can reduce the risk of clogging. An orifice covered by wire mesh and a hood may accomplish protection of the ED orifice.

(g) Design and install an emergency drain (i.e., sluice gate or drawdown pipe) capable of draining within 24 hours.

(h) A micropool, three to six feet deep, shall be provided before the outlet structure of the wetland to aid in the prevention of clogging of the low flow pipe and sediment resuspension. Protection against blockage must be installed as part of the outlet design.

(7) *Spillways.* An emergency spillway shall be designed to pass one and one-quarter times the peak discharge and peak flow velocity from the 100-year storm event for the entire contributing drainage area (unless bypassed), assuming post-development conditions. Provide a one-foot minimum freeboard above the maximum anticipated flow depth through the emergency spillway.

(8) *Liner.* To prevent drawdown of the permanent pool, a clay or poly liner may be needed below the planting soil. Permeable soils are not well suited for a wetland without a high water table. Hydrologic group A soils generally require a pond liner and group B soils may require infiltration testing through subsurface analyses.

(9) *Landscaping plan*. A landscaping plan must be provided that indicates the methods used to establish and maintain wetland coverage. Minimum elements of a plan include: delineation of pondscaping zones, selection of corresponding plant species, planting configuration, and sequence for preparing wetland bed, including any needed soil amendments. If a minimum coverage of 50% is not achieved in the planted wetland zones after the second growing season, a reinforcement planting will be required.

(10) *Easement*. Storm water wetlands must be constructed within an easement either platted or legally described and recorded as a perpetual storm water drainage easement. The easement shall include the frequently flooded zone surrounding the wetland and provide a minimum ten-foot wide access to the wetland facility including the forebay and outlet structure. A copy of the easement should be included in the BMP operations and maintenance manual.

(11) *Buffer*. A wetland buffer should extend 25 feet outward from the maximum water surface elevation with an additional 15-foot setback to structures.

(12) *Sediment control*. If the wetland is used as a sediment control measure during active construction, the sediment must be cleaned out of the wetland and forebay, and elevations and grades reestablished as noted in the approved storm water management plan for post-construction runoff control.

(D) *Maintenance and inspection checklist*. Regular inspection and maintenance is critical to the effective operation of storm water wetlands. The following inspection checklist, to be completed at periods indicated, is provided for the BMP owner and should be retained as a record by the owner for a period of five years form the approval date of the storm water pollution prevention plan. Evidence of inspection and maintenance shall be provided to the town upon request.

Project Name/Site Location:
_____

Owner Name: _____ Phone: _____

Owner Address: _____

Date: _____ Inspector: _____

Maintenance Item	***Yes/No***	***Comments***
Embankment and Emergency Spillways		***Inspect Annually***
1. Vegetation established and thriving?		
2. Any erosion?		
3. Animal burrows present?		

Maintenance Item	*Yes/No*	*Comments*
4. Cracking, bulging, or sliding of dam?		
5. All drains clear and functioning?		
6. Any leaks or seeps in embankment?		
7. Any slope failure?		
8. Obstructions in emergency spillway?		
9. Other problems evident?		
Outlet Structure		***Inspect Annually***
1. Low flow orifice blocked?		
2. Trash rack clear of debris?		
3. Any corrosion evident on trash rack?		
4. Excessive sediment in riser?		
5. Cracks or spalling in concrete?		
6. Any corrosion evident on metal pipes?		
7. Are all control valves operational?		
8. Outfall channels functioning?		
9. Other problems evident?		
Wetland Area		***Inspect Annually***
1. Is vegetation healthy and growing?		
2. Any evidence of invasive species?		
3. Sediment cleanout needed (50% full)?		
4. Other problems evident?		
Permanent Pool		***Inspect Monthly***
1. Undesirable vegetative growth?		
2. Floatable debris removal needed?		
3. Any visible pollution?		

Maintenance Item	*Yes/No*	*Comments*
4. Any shoreline problems?		
5. Other problems evident?		
Sediment Forebay		***Inspect Monthly***
1. Sedimentation marker visible?		
2. Sediment cleanout needed (50% full)?		
3. Other problems evident?		
Other		***Inspect Monthly***
1. Erosion at inflow or outfall points?		
2. Condition of headwalls satisfactory?		
3. Encroachments in pond easement area?		
4. Complaints from area residents?		
5. Any public hazards present?		
6. Other problems evident?		

Additional Comments:

_____

_____

_____

Recommended Actions:

_____

_____

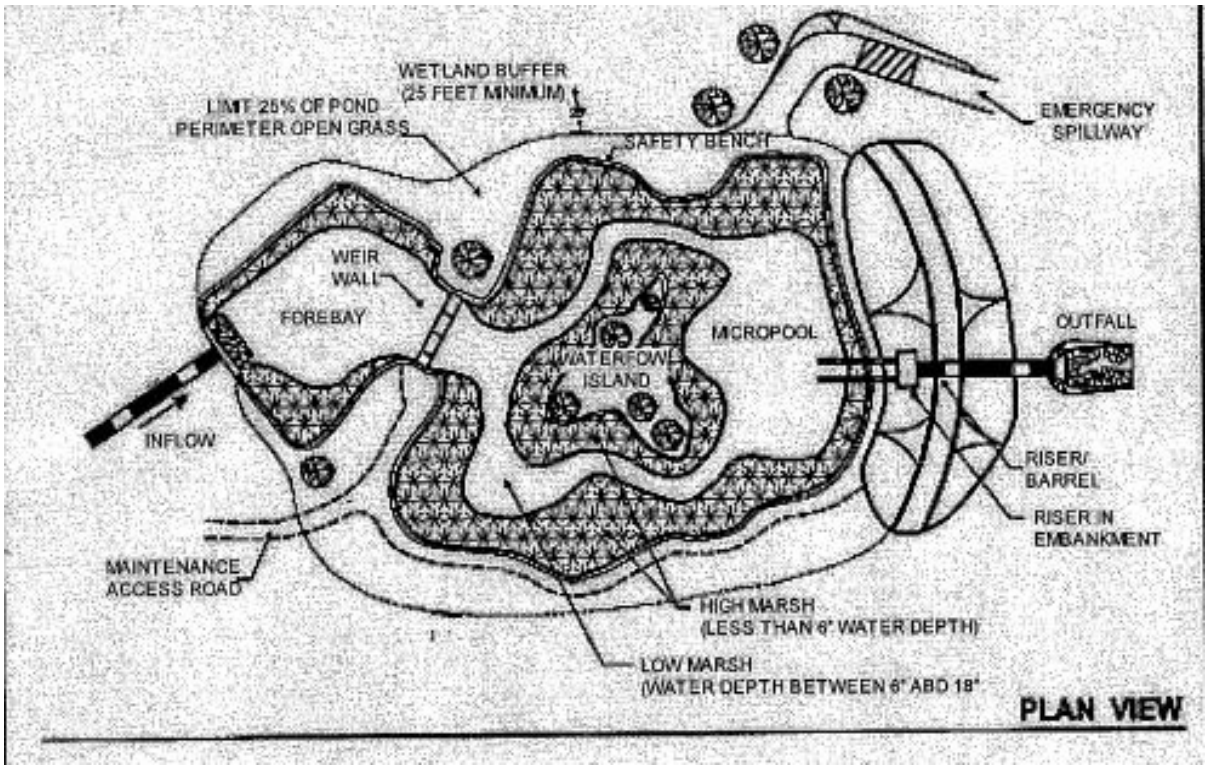
_____

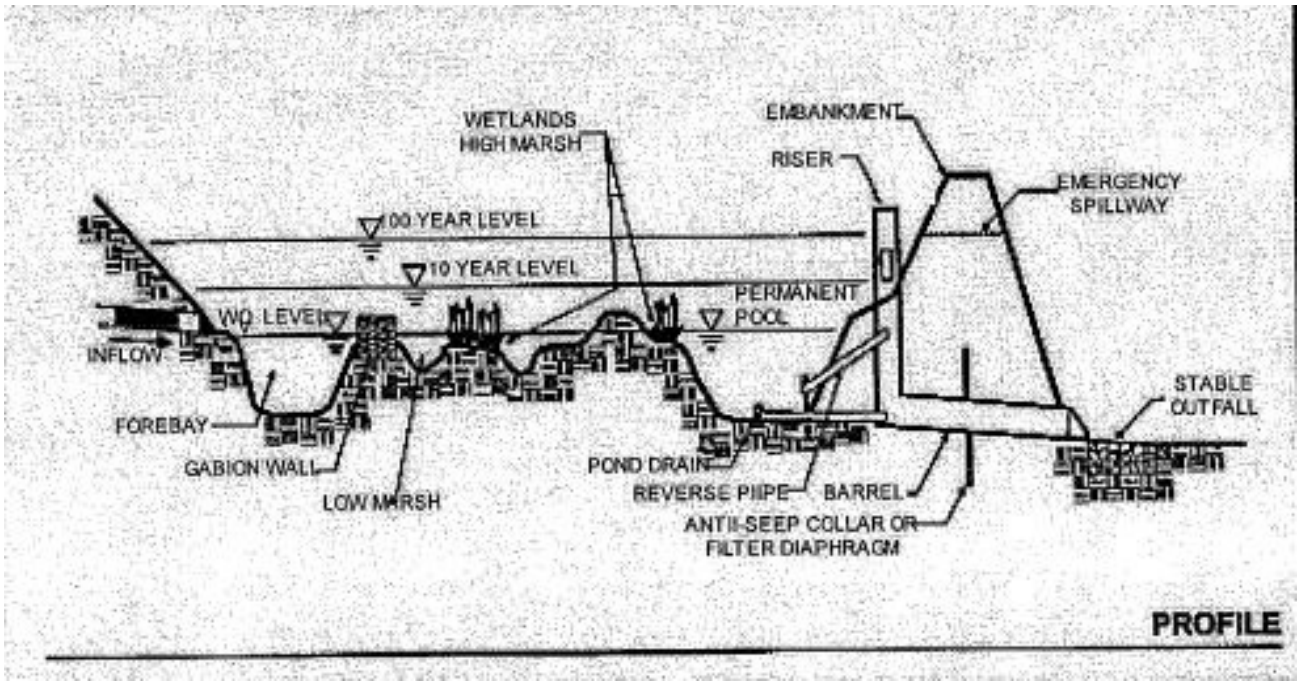
Recommended Timeframe for Actions: _____

_____

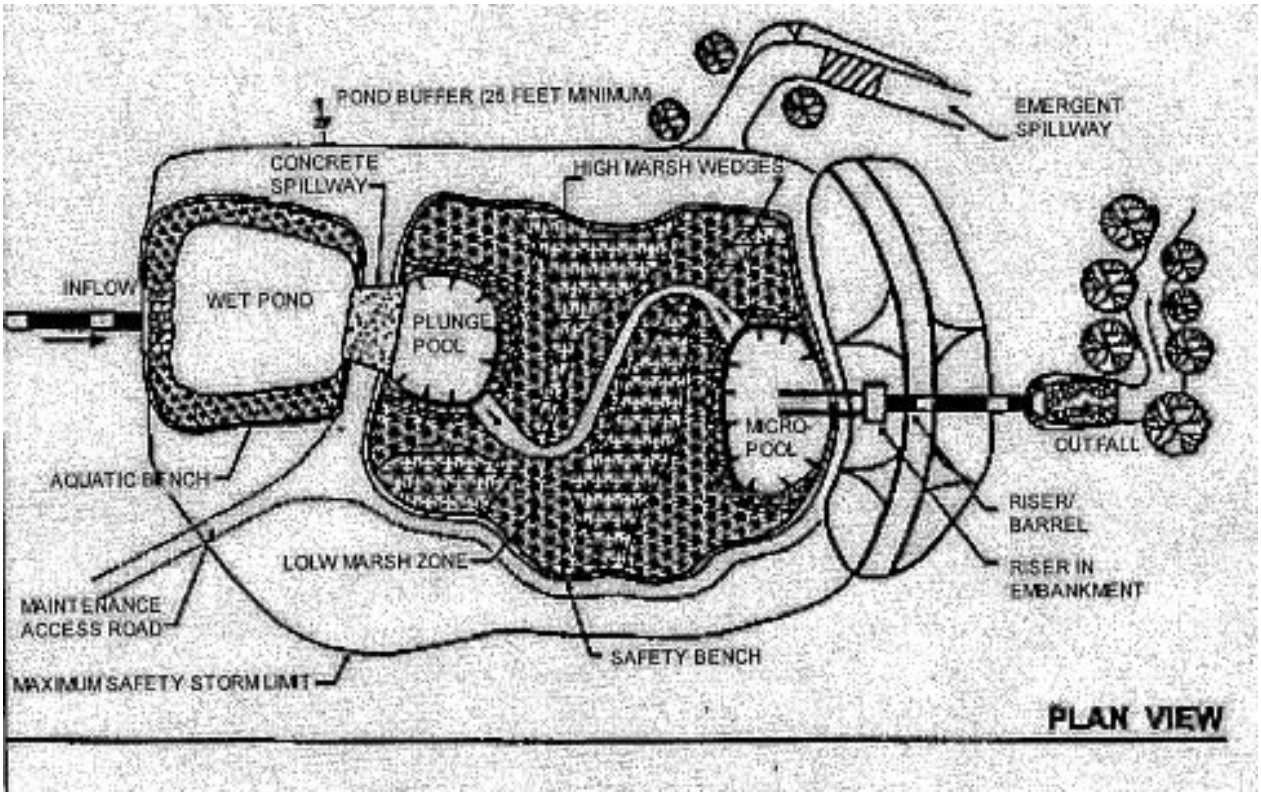
_____

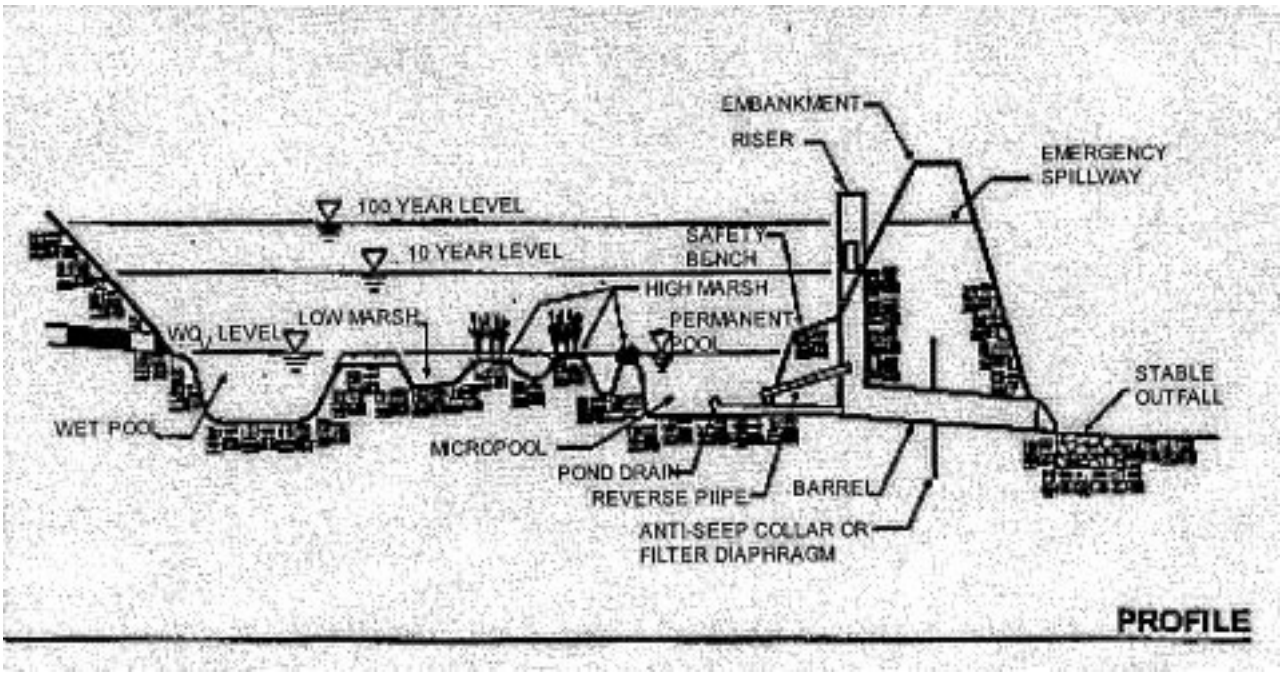
(E) *Schematic of shallow wetland.* The following schematic comes from the Center for Watershed Protection, modified.



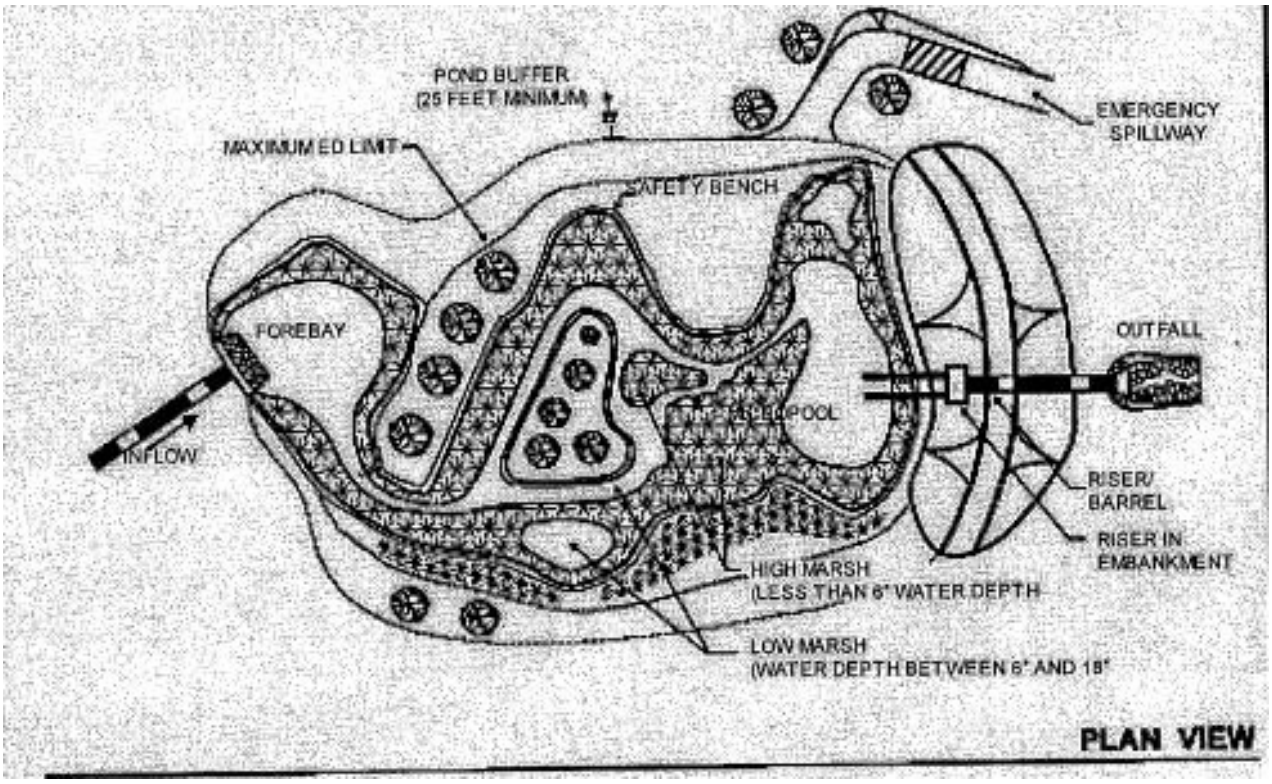


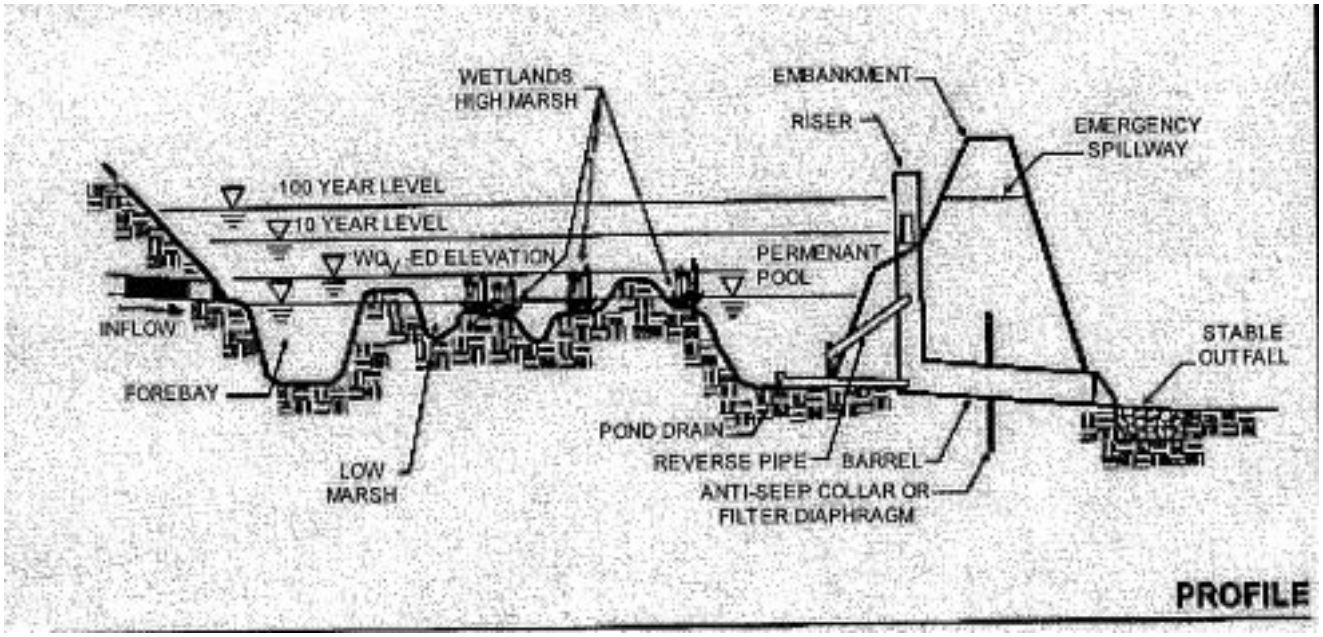
(F) *Schematic of a pond/wetland system.* The following schematic comes from the Center for Watershed Protection, modified.



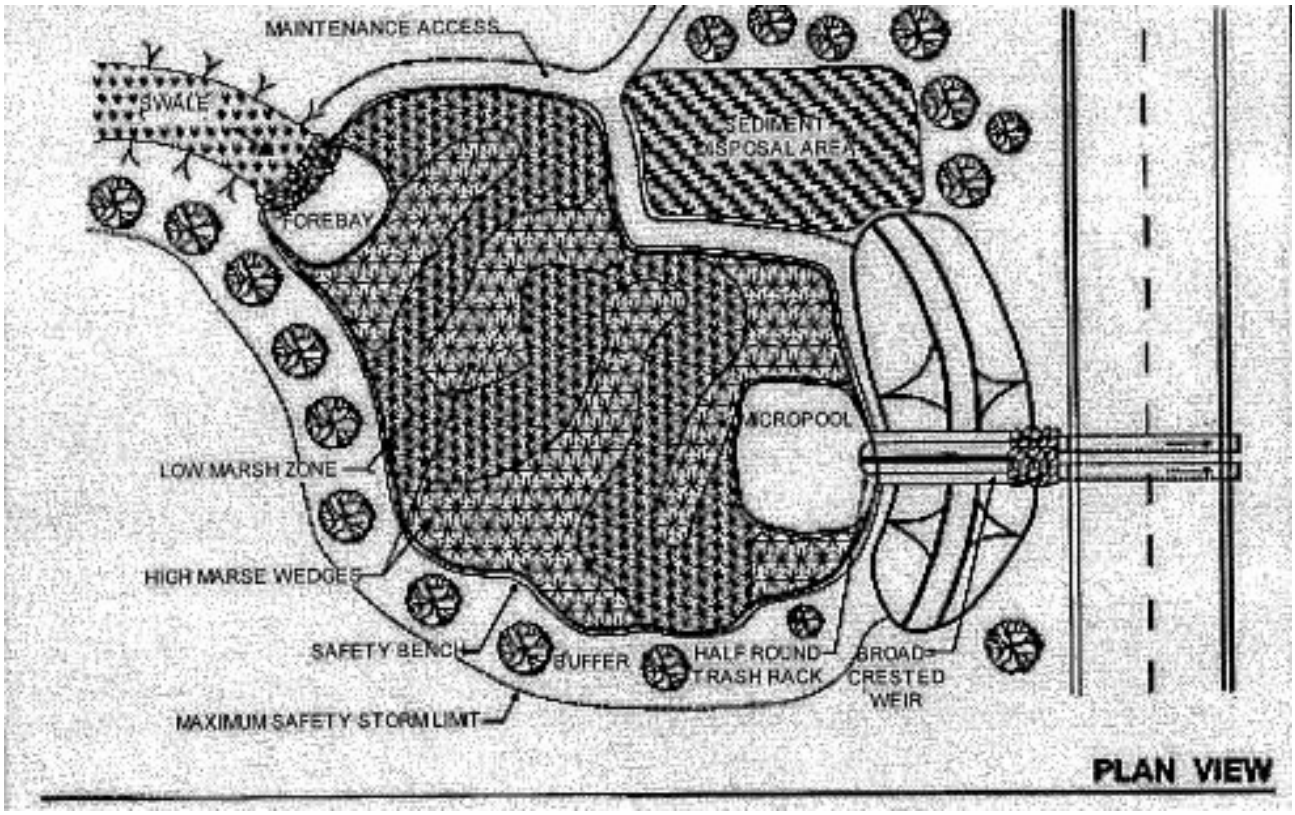


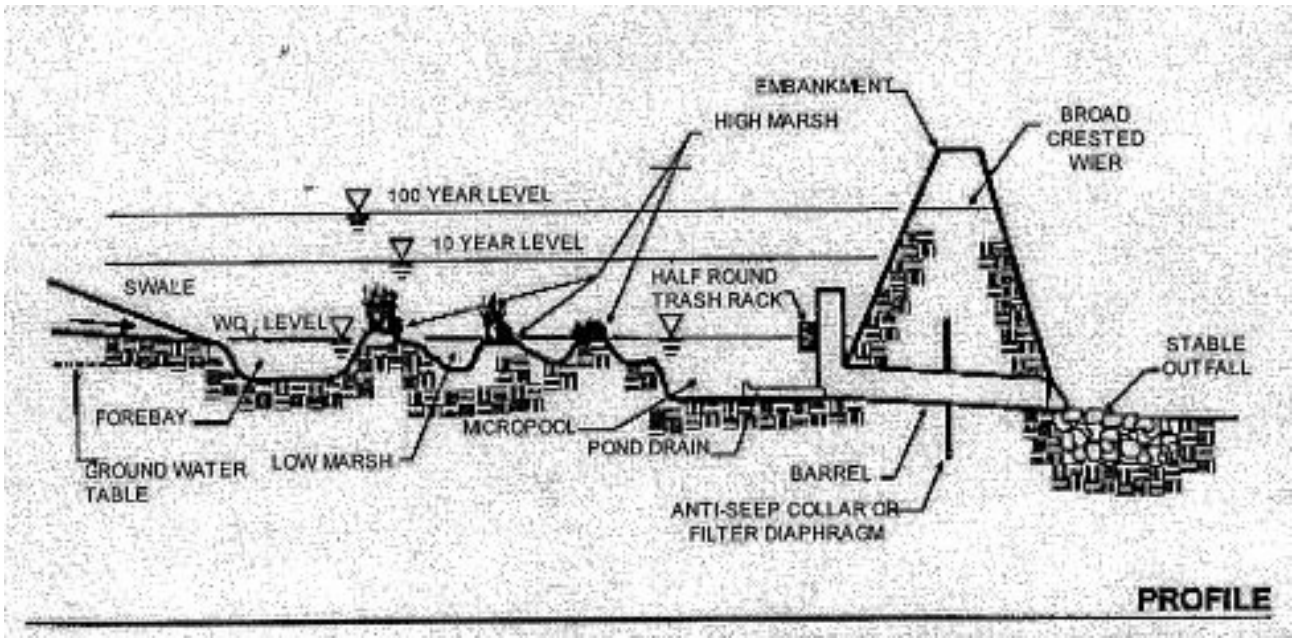
(G) *Schematic of extended shallow wetland*. The following schematic comes from the Center for Watershed Protection, modified.





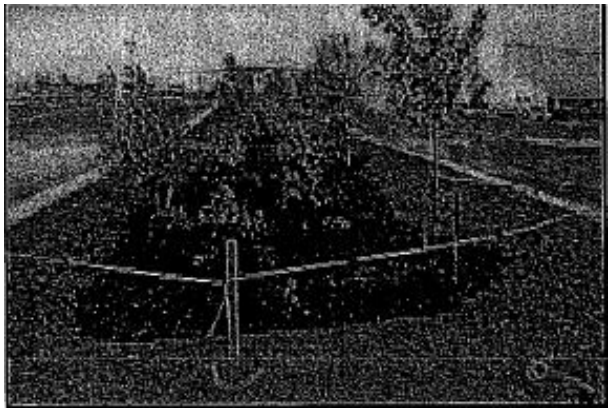
(H) *Schematic of a pocket wetland.* The following schematic comes from the Center for Watershed Protection, modified.





(Prior Code, Storm Water Appendix § 2-A.2)

§ 54.52 BIORETENTION AREAS.



(A) *Quick reference.*

(1) *Description.* Shallow storm water basins or landscaped areas that utilize engineered soils and vegetation to capture and treat runoff.

(2) *Site feasibility.*

(a) Drainage area: maximum five acres;

(b) Residential subdivision use: yes; and

(c) High density/ultra-urban: yes.

(3) *Design criteria.*

(a) Consists of grass filter strip, ponding area, organic/mulch layer, planting soil, vegetation, and possibly a sand bed; and

(b) Typically requires five feet of head.

(4) *Advantages.*

(a) High pollutant removal;

(b) Often located in landscaping islands of parking lots;

(c) Good retrofit capability for redevelopment; and

(d) Aesthetic qualities.

(5) *Disadvantages*.

(a) Requires extensive landscaping;

(b) Not acceptable for site slopes greater than 6%;

(c) Generally requires an underdrain system; and

(d) Clogging may be a problem in areas with high sediment loads.

(6) *Maintenance*. Inspect and repair/replace treatment area components.

(B) *General*.

(1) *Description*.

(a) Bioretention areas are structural storm water controls that capture and temporarily store the WQ_v using engineered soils and vegetation in shallow basins or landscaped areas to remove pollutants from storm water runoff. Runoff is conveyed as sheet flow to the bioretention area, which consists of a grass filter strip, ponding area, organic or mulch layer, planting soil, and vegetation. A sand bed can also be included in the design to provide aeration and drainage of the planting soil. The filtered runoff is typically collected and returned to the conveyance system, though it can also be exfiltrated into the surrounding soil in areas with porous soils.

(b) Bioretention systems are designed for intermittent flow and need to drain and reaerate between rainfall events. The systems should not be used on sites with a continuous flow from ground water, sump pumps, or other sources.

(c) A separation distance of two feet is required between the bottom of the bioretention facility and the elevation of the seasonally high water table.

(2) *Bioretention components*.

(a) Stone diaphragm at the beginning of the grass filter strip to reduce runoff velocities and spread flow into the grass filter strip.

(b) Grass filter strip further reduces incoming runoff velocity and filters particulates from runoff.

(c) Ponding area provides temporary storage of storm water runoff prior to its evaporation, infiltration, or uptake, and provides settling capacity.

(d) Organic or mulch layer provides filtration as well as an environment conducive to the growth of microorganisms that degrade hydrocarbons and organic material.

(e) Planting soil acts as a filtration system, and clay in the soil provides adsorption sites for hydrocarbons, heavy metals, nutrients, and other pollutants.

(f) Woody and herbaceous plants provide vegetative uptake of runoff and pollutants and serve to stabilize the surrounding soils.

(g) Sand bed provides positive drainage and aerobic conditions in the planting soil and serves as a final treatment media.

(h) Gravel and perforated pipe underdrain system collects runoff that has filtered through the soil layers. Bioretention areas can be designed to infiltrate into surrounding soils having infiltration rates greater than one-half inch per hour.

(C) *Design criteria.* The following criteria are minimum standards for the design of a bioretention area, which is designed for storm water quality treatment only. Flow from runoff in excess of the WQ_v must be diverted or the bioretention area designed to safely pass higher flows to protect the ponding area, mulch layer and vegetation. The WQ_v in the bioretention area can be subtracted from detention storage requirements for the contributing area.

(1) *Drainage area.* The maximum drainage area tributary to a bioretention area is five acres (one-half to two acres is preferred).

(2) *Bioretention area geometry.*

(a) The surface area of the bioretention area should be approximately 5% of the tributary impervious area and a minimum of 200 ft^2 for small sites. The bioretention area should have a minimum length to width ratio of two-to-one.

(b) The elevation difference (head) needed from inflow to outflow is five feet.

(c) The site slope should be a maximum of 6%. Velocities entering the mulch layer should be less than two fps.

(d) The maximum ponding depth in the bioretention area is six inches.

(e) The area of the planting soil filter bed is sized using Darcy's Law equation with a filter bed drain time of 48 hours and a coefficient of permeability (k) of one-half foot/day. The planting soil bed must be at least four feet in depth.

1. $A_f = (WQ_v)(d_f) / [(k)(h_f + d_f)(t_f)]$

2. Where:

a. A_f = surface area of ponding area (ft^2);

b. WQ_v = water quality volume (ft^3);

c. d_f = filter bed depth (four feet minimum);

d. k = coefficient of permeability of filter media (foot/day) (use one-half foot/day for silt-loam);

e. h_f = average height of water above filter bed (ft) (typically three inches, which is half of the six-inch ponding depth); and

f. t_f = design filter bed drain time (days) (two days maximum).

(3) *Pretreatment*.

(a) A grass filter strip with a pea gravel diaphragm is typically utilized for pretreatment. See division (E) below for design criteria for the grass filter strip.

(b) For off-line applications, a grass channel with a pea gravel diaphragm flow spreader is typically used for pretreatment. The minimum grassed channel length is 20 feet. See division (E) below for design criteria for the grass channel.

(4) *Components*.

(a) Pea gravel for the diaphragm and curtain should be ASTM D 448 size No. 6 (one-eighth of an inch to one-quarter of an inch). A drop of at least six inches should be provided at the inlet of the stone diaphragm.

(b) The mulch layer shall consist of two to four inches of commercially available fine shredded hardwood mulch or shredded hardwood chips.

(c) Planting soils shall be sandy loam, loamy sand, or loam texture and shall have an infiltration rate of at least one-half inch per hour. The planting soil shall be tested and shall meet the following criteria:

Clay content	10% to 25% by volume
Magnesium	35 lb./ac
Organic matter	1.5% and 4% by weight
pH	5.2 to 7.0
Phosphorus (phosphate—P_20_5)	75 lb./ac
Potassium (potash-K_20)	85 lb./ac
Sand content	35% to 60% by volume
Silt content	30% to 55% by volume
Soluble salts	500 ppm maximum

(d) The sand bed should be 12 to 18 inches thick. Sand should be clean and have less than 15% silt or clay content.

(e) The underdrain collection system shall consist of a four- to six-inch perforated PVC pipe (Schedule 40 or greater in strength) in an eight-inch gravel layer (clean washed aggregate one-half to two-inches in diameter). The pipe is spaced at a maximum of ten feet on center at a minimum grade of 0.5%. A permeable filter fabric is required between the gravel layer and the planting soil bed. An observation well/clean-out must be provided; a minimum of one well for every 1,000 ft_2 of surface area. A visible floating marker shall be provided to indicate the water level. The ends of the underdrain pipes must be capped. The underdrain pipe must discharge to an appropriate facility.

(f) Compaction during construction must be minimized at both the base of the bioretention area and for the backfill materials. Use of equipment causing excessive compaction will result in reduced infiltration rates contributing to failure of the system and is not acceptable. Do not use heavy equipment within the bioretention basin.

(5) *Overflow structure.*

(a) An overflow structure and non-erosive overflow channel must be provided to safely pass flows from the bioretention area that exceeds the system storage capacity to a stabilized downstream area or watercourse.

(b) An overflow structure within the bioretention system may consist of a catch basin with the inlet placed six inches above the mulch layer at the elevation of the shallow ponding area.

(c) An overflow structure may consist of a weir sized using the weir equation.

1. Q = CLH

2. Where:

   a. Q = peak flow;

   b. C = 2.65 for a smooth crested grass weir;

   c. L = length; and

   d. H = six inches of head.

(6) *Landscaping plan*. A landscaping plan must be provided. The bioretention area should be vegetated to resemble a terrestrial forest ecosystem, with a mature tree canopy, sub-canopy of understory trees, scrub layer, and herbaceous ground cover. Three species each of trees and shrubs should be planted. The tree-to-shrub ratio should be two-to-one to three-to-one. Trees should be spaced eight feet apart.

(7) *Easement*. Bioretention areas must be constructed within an easement either platted or legally described and recorded as a perpetual storm water drainage easement. The easement shall extend a minimum of 30 feet horizontally outside of the bioretention system limits and provide a minimum ten-foot wide access easement. A copy of the easement should be included in the BMP operations and maintenance manual.

(8) *Construction*. The bioretention facility shall not be constructed until all contributing drainage area has been stabilized. The bioretention facility shall not be used as a sediment control measure during active construction.

(D) *Maintenance and inspection checklist*. Regular inspection and maintenance is critical to the effective operation of bioretention facilities. The following inspection checklist, to be completed at periods indicated, is provided for the BMP owner and should be retained as a record by the owner for a period of five years from the approval date of the storm water pollution prevention plan. Evidence of inspection and maintenance shall be provided to the town upon request.

Project Name/Site Location: _____

Owner Name: _____ Phone: _____

Owner Address: _____

Date: _____ Inspector: _____

Maintenance Item	***Yes/No***	***Comments***
Vegetation		***Inspect Monthly***
1. Vegetation established and thriving?		

Maintenance Item	*Yes/No*	*Comments*
2. Does mulch require replacement due to erosion, silting, or deterioration? (Mulch should be replaced every three years)		
3. Any weeding or pruning needed?		
4. Grass less than six inches in height?		
5. Any trash or plant debris to be cleared?		
6. Any dead or diseased vegetation or trees to be cleared and replaced?		
7. Is soil pH test satisfactory? (5.2 to 7.0)		
8. Is surface of ponding area becoming clogged with sediment?		
9. Other problems evident?		
Inflow/Outlet Areas		***Inspect Annually***
1. Does filter strip need reseeding?		
2. Does sediment need to be removed?		
3. Does pea gravel diaphragm need to be replaced due to clogging?		
4. Any clogging of underdrain?		Inspect Monthly
5. Is overflow structure operating properly?		
6. Other problems evident?		

Additional Comments:

_____

_____

_____

Recommended Actions:

_____

_____

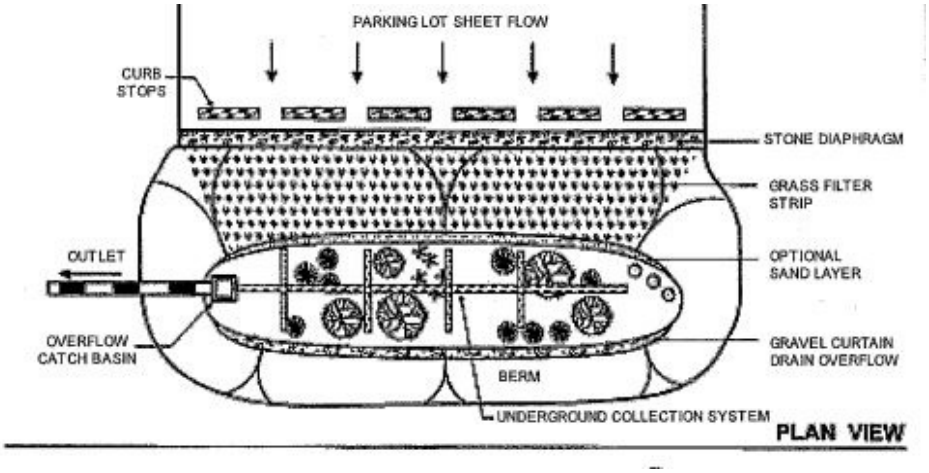
_____

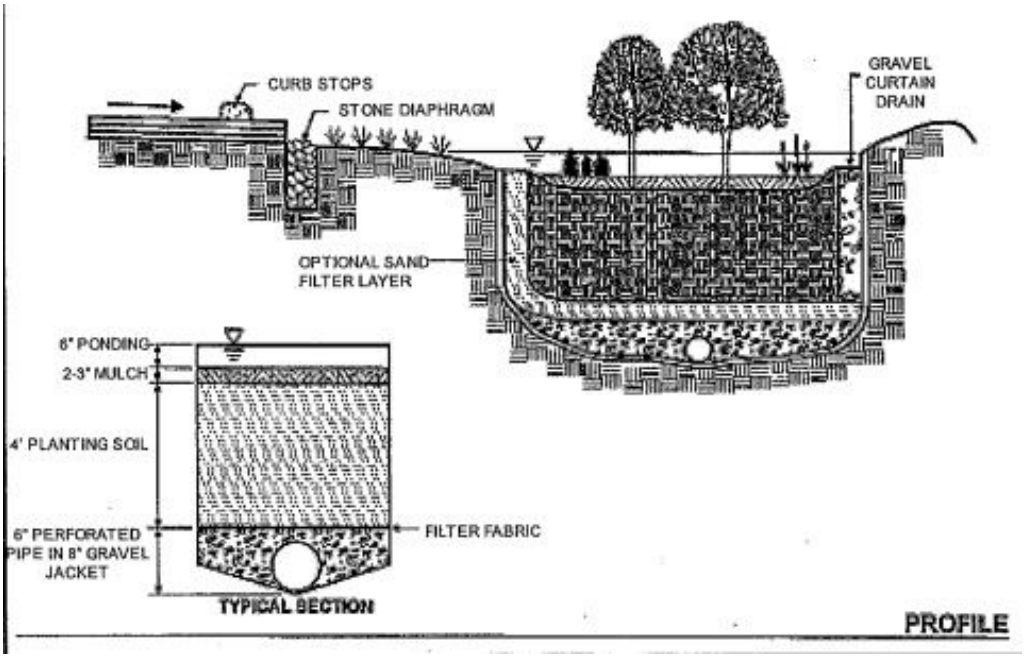
Recommended Timeframe for Actions: _____

_____

Maintenance Item	*Yes/No*	*Comments*

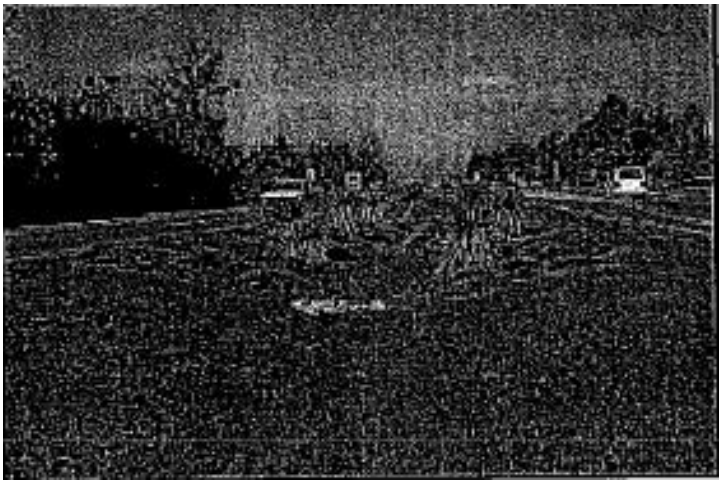
(E) *Schematic of a typical on-line bioretention area.* The following schematic comes from Claytor and Shueler, 1996.





(Prior Code, Storm Water Appendix § 2-A.3)

§ 54.53 WATER QUALITY SWALES.



(A) *Quick reference.*

(1) *Description.* Vegetated open channels that are explicitly designed and constructed to capture and treat storm water runoff within dry cells formed by check dams or other means.

(2) *Site feasibility.*

(a) Drainage area: maximum five acres;

(b) Residential subdivision use: yes; and

(c) High density/ultra-urban: no.

(3) *Design criteria.*

(a) Pretreatment forebay required;

(b) Longitudinal slopes must be less than 4%; and

(c) Maximum side slopes two-to-one with four-to-one preferred.

(4) *Advantages.*

(a) Combines storm water treatment with runoff conveyance system;

(b) Relatively inexpensive to install;

(c) Reduces runoff velocities; and

(d) Aesthetic qualities.

(5) *Disadvantages*.

(a) Cannot be used on steep slopes; and

(b) Large area requirement; not feasible for high-density areas.

(B) *General*.

(1) Water quality swales are conveyance channels engineered to capture and treat the WQ_v for a drainage area. They differ from normal drainage channels or swales through the incorporation of specific features that remove storm water pollutants by filtration through an engineered media. Water quality swales are not the same as filter strips, which are limited application structural controls and not considered acceptable for meeting the TSS removal requirements independently. Water quality swales are designed to include a forebay in addition to a filter bed of prepared soil that overlays an underdrain system. The swales are sized to allow the entire WQ_v to be filtered and discharged or infiltrated through the bottom of the swale. Limited longitudinal slopes, in conjunction with berms and/or check dams installed perpendicular to the flow path, force the flow to be slow and shallow allowing for particulates to settle and limiting erosion. Runoff is collected by a perforated pipe and discharged to an appropriate outlet.

(2) A separation distance of two feet is required between the bottom of the water quality swale and the elevation of the seasonally high water table.

(C) *Design criteria.* The following criteria are minimum standards for the design of a water quality swale, which is acceptable for storm water quality treatment only and does not provide detention storage. Flow from runoff in excess of the WQ_v must be diverted or the water quality swale adequately designed to safely pass higher flows to prevent erosion of the swale.

(1) The maximum drainage area tributary to a water quality swale is five acres.

(2) Peak flows are limited to ten cfs and runoff velocities are limited to 2.5 fps.

(3) The maximum ponding time in the water quality swale is 48 hours.

(4) The swale shall have a maximum ponding time of 48 hours. Soil media shall have an infiltration rate of at least one foot per day (f_c > one-half inch per hour), with one and one-half feet per day maximum. Infiltration of the WQ_v will only be allowed when proven by geotechnical evaluation that underlying soils have an infiltration rate of one-half inch per hour (typically hydrologic group A soils). Infiltration will not be allowed in wellhead protection areas.

(5) For water quality swale geometry:

(a) The surface area of the water quality swale should be approximately 10% to 20% of the tributary impervious;

(b) The elevation difference (head) generally needed from inflow to outflow is three to five feet;

(c) The longitudinal slope of the swale shall be a maximum of 4%, with 1% to 2% preferred;

(d) Side slopes of the swale shall be no greater than three-to-one. Swales shall be parabolic or trapezoidal in shape to maximize vegetative areas and to provide ease of maintenance;

(e) The maximum design flow depth shall be 12 inches. The depth of the WQ_v at the downstream end of the swale should not exceed 18 inches;

(f) A minimum bottom channel width of two feet is required to ensure adequate filtration;

(g) The bed of the swale shall have a minimum permeable soil layer 30 inches in depth; and

(h) The swale must have a minimum length of 100 feet.

(6) For pretreatment:

(a) All water quality swales shall include a sediment forebay that consists of a separate cell, formed by an acceptable barrier. See § 54.50 for design criteria for a forebay; and

(b) Runoff can also enter along the sides of the channel as sheet flow through a grass filter strip containing a pea gravel flow spreader trench (diaphragm) along the entrance to the filter strip. Slopes to the diaphragm shall not exceed 6% for the last 20 feet prior to entering the spreader.

(7) The underdrain collection system shall consist of a four- to six-inch perforated PVC pipe (Schedule 40 or greater in strength) in an eight-inch gravel layer (clean washed aggregate one-half to two-inches in diameter). A permeable filter fabric is required between the gravel layer and the planting soil bed. A clean out must be provided and the underdrain pipe must discharge to an appropriate facility.

(8) Compaction during construction must be minimized at both the base of the water quality swale and for the backfill materials. Use of equipment causing excessive compaction will result in reduced infiltration rates contributing to failure of the system and is not acceptable. Do not use heavy equipment within the bioretention basin.

(9) An overflow structure and non-erosive overflow channel must be provided to safely pass flows from the water quality swale that exceeds the system storage capacity to a stabilized downstream area or watercourse.

(10) Proper grass species and plants should be specified for the water quality swale.

(11) Water quality swales must be constructed within an easement either platted or legally described and recorded as a perpetual storm water drainage easement. The easement shall extend a minimum of 30 feet horizontally outside of the water quality swale limits and provide a minimum ten-foot wide access easement. A copy of the easement should be included in the BMP operations and maintenance manual.

(12) The water quality swale shall not be constructed until all contributing drainage area has been stabilized. The swale shall not be used as a sediment control measure during active construction.

(D) *Maintenance and inspection checklist*. Regular inspection and maintenance is critical to the effective operation of water quality swales. The following inspection checklist, to be completed at periods indicated, is provided for the BMP owner and should be retained as a record by the owner for a period of five years from the approval date of the storm water pollution prevention plan. Evidence of inspection and maintenance shall be provided to the town upon request.

Project Name/Site Location: _____

Owner Name: _____ Phone: _____

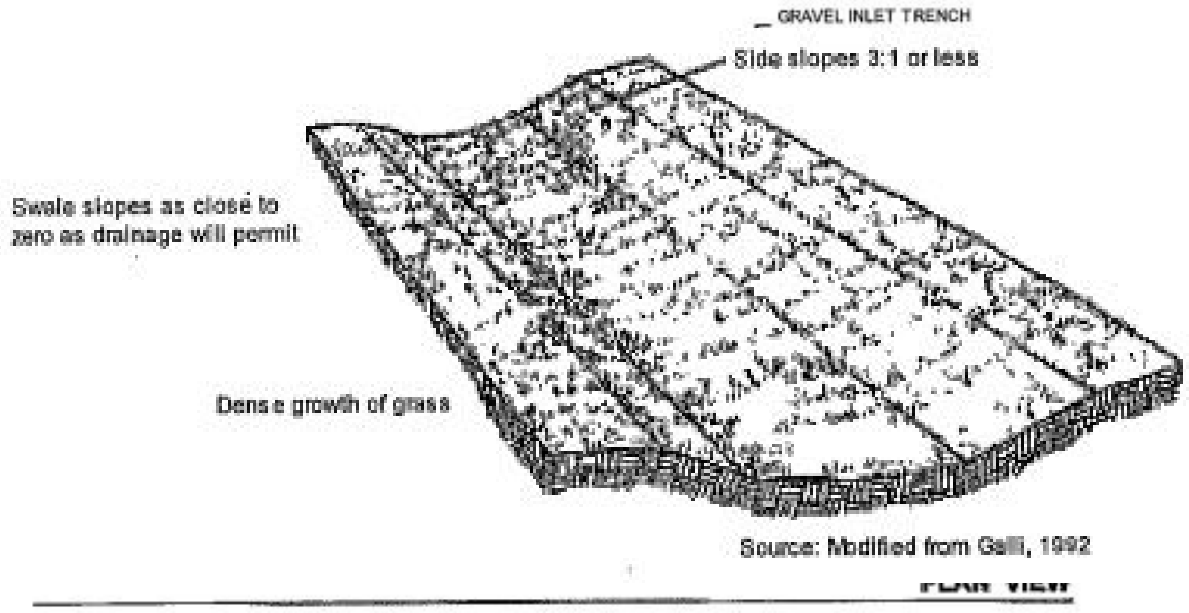
Owner Address: _____

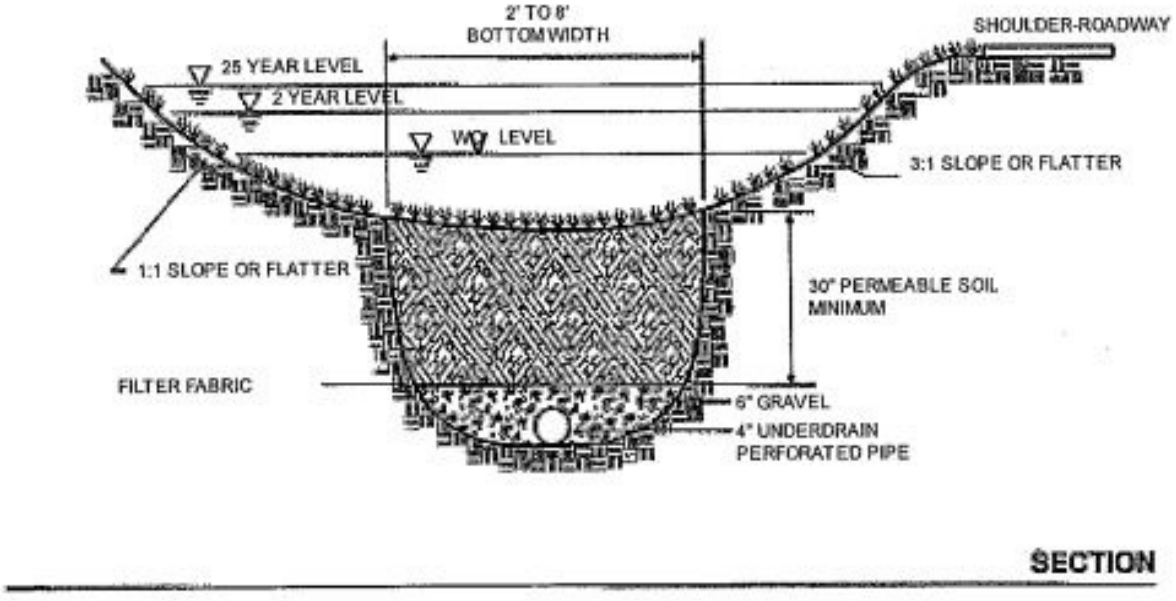
Date: _____ Inspector: _____

Maintenance Item	***Yes/No***	***Comments***
Vegetation		***Inspect Monthly***
1. Is vegetation and/or grass cover dense and vigorous?		
2. Any weeds or debris to be cleared?		
3. Any erosion of swale?		
4. Any sediment build-up in bottom of swale?		
5. Is grass height maintained at four to six inches?		
6. Other problems evident?		
Pretreatment		***Inspect Monthly***
1. Sedimentation marker visible?		
2. Sediment cleanout needed (50% full)?		

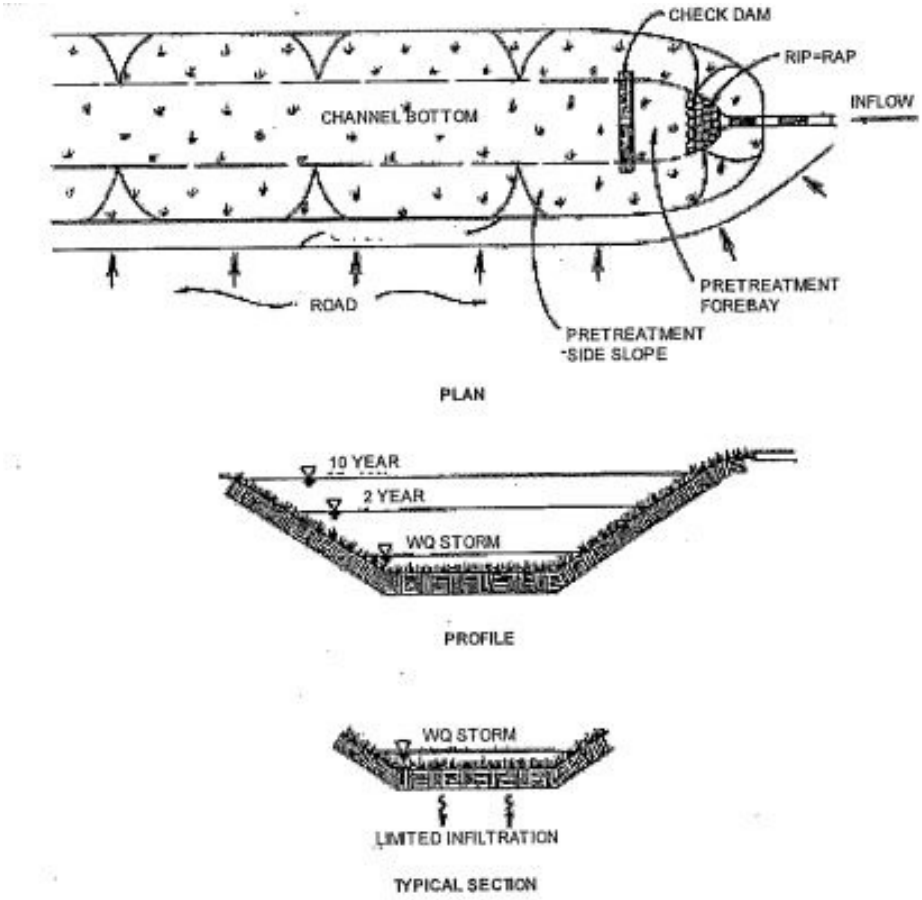
Maintenance Item	*Yes/No*	*Comments*
3. Does pea gravel diaphragm need to be replaced due to clogging?		
4. Other problems evident?		
Outlet Areas		***Inspect Monthly***
1. Any evidence of erosion or failure at berms or check dams?		
2. Any clogging of underdrain?		
3. Is overflow structure operating properly?		
4. Other problems evident?		
Additional Comments: _____ _____ _____ Recommended Actions: _____ _____ _____ Recommended Timeframe for Actions: _____ _____ _____		

(E) *Schematic of dry swale*. The following shematic comes from the Center for Watershed Protection, modified.





(F) *Schematic of grass channel.* The following schematic comes from Galli, 1992, modified.



(Prior Code, Storm Water Appendix § 2-A.4)

§ 54.54 SAND FILTERS.

(A) *Quick reference.*

(1) *Description.* Multi-chamber structure consisting of a pretreatment chamber, a sand bed as its primary filter media, and an underdrain collection system, designed to treat storm water runoff through filtration.

(2) *Site feasibility.*

(a) Drainage area: maximum two to ten acres;

(b) Residential subdivision use: no; and

(c) High density/ultra-urban: yes.

(3) *Design criteria.*

(a) Pretreatment forebay/chamber required;

(b) Requires two to six feet of head; and

(c) Sand filter media with underdrain system.

(4) *Advantages.*

(a) Good for highly impervious areas; and

(b) Good retrofit capability.

(5) *Disadvantages.*

(a) High maintenance burden;

(b) Not recommended for areas with high sediment content in runoff;

(c) Relatively costly; and

(d) Possible odor problems.

(6) *Maintenance.*

(a) Inspect for clogging;

(b) Remove sediment for forebay/chamber; and

(c) Replace sand filter media as needed.

(B) *General.*

(1) *Description.*

(a) Sand filters are structural storm water controls that capture and temporarily store storm water runoff and pass it through a filter bed of sand. Most sand filter systems consist of two-chamber

structures. The first chamber is a sediment forebay or chamber, which removes floatables and heavy sediments. The second is the filtration chamber, which removes additional pollutants by filtering the runoff through a sand bed. The filtered runoff is collected and returned to the conveyance system by way of an underdrain system.

(b) Sand filters are typically designed as off-line systems. Storm water pollutants are removed through a combination of gravitational settling, filtration, and absorption. Surface sand filters with a grass cover have additional opportunities for bacterial decomposition as well as vegetation uptake of pollutants, particularly nutrients. Sand filter systems are designed for intermittent flow and must be allowed to drain and reaerate between rainfall events. They should not be used on sites with a continuous flow from ground water, sump pumps, or other sources.

(c) Because they have few site constraints besides head requirements, sand filters can be used on development sites where the use of other structural controls may be precluded. However, sand filter systems can be relatively expensive to construct and install.

(2) *Variations.*

(a) Surface sand filter: A ground-level open-air structure that consists of a pretreatment sediment forebay and a filter bed chamber. This system can treat drainage areas up to ten acres in size and is typically located off-line. Surface sand filters can be designed as an excavation with earthen embankments or as a concrete or block structure.

(b) Perimeter sand filter: An enclosed filter system typically constructed just below grade in a vault along the edge of an impervious area such as a parking lot. The system consists of a sedimentation chamber and a sand bed filter. Runoff flows into the structure through a series of inlet grates located along the top of the control.

(c) Underground sand filter: Located in an underground vault designed for high-density land use or ultra-urban applications. Typically a three-chamber system consisting of a sedimentation chamber, a filter chamber, and an overflow chamber. Underground sand filters have a high maintenance burden and should only be used where adequate inspection and maintenance can be ensured. Underground sand filters are typically constructed on-line, but can be constructed off-line. For off-line construction, the overflow between the second and third chambers is not included.

(C) *Design criteria.* The following criteria are minimum standards for the design of a sand filter system, which is acceptable for storm water quality treatment only and does not provide detention storage. The WQ_v is generally routed to the sand filter using a diversion structure. Runoff in excess of the WQ_v must be diverted or the sand filter adequately designed to safely pass higher flows to prevent erosion of pretreatment sediment and filter media.

(1) *Surface sand filter criteria.*

(a) A surface sand filter facility consists of a two-chamber open-air structure, which is located at ground level. The first chamber is the sediment forebay, and the second chamber contains the sand filter bed. Flow enters the forebay for settling of larger sediment particles. Runoff is then discharged from the forebay through a perforated standpipe into the filtration chamber. After passing through the filter bed, runoff is collected by a perforated pipe and gravel underdrain system. In the division (E) below, a schematic of a surface sand filter is provided.

(b) The maximum drainage area tributary to a surface sand filter is ten acres.

(c) For surface sand filter geometry:

1. The elevation difference (head) needed from inflow to outflow is five feet;

2. The slope across the filter location shall be a maximum of 6%; and

3. The area of the filter bed is sized using Darcy's Law equation with a filter bed drain time of 36 hours and a coefficient of permeability (k) of 3.5 feet/day.

a. $A_f = (WQ_v)(d_f)/[(k)(h_f+d_f)(t_f)]$

b. Where:

i. A_f = surface area of filter bed (ft^2);

ii. WQ_v = water quality volume (ft^3);

iii. d_f = filter bed depth (one and one-half feet minimum);

iv. k = coefficient of permeability of filter media (feet/day) (use 3.5 feet/day for sand);

v. h_f = average height of water above filter bed (feet); and

vi. t_f = design filter bed drain time (days) (one and one-half days maximum).

(d) For pretreatment:

1. The surface sand filter system shall include a sediment forebay that consists of a separate cell, formed by an acceptable barrier. The forebay shall be sized to contain 25% of the WQ_v;

2. The forebay shall have a minimum length-to-width ratio of two-to-one;

3. Inlet and outlet structures shall be located at opposite ends of the forebay; and

4. Entrance and exit velocities to the forebay shall be non-erosive. A flow distribution chamber shall be provided at the entrance to the filter media to spread the flow evenly across the surface of the filter media. Erosion protection shall be provided over the filter media using riprap, grass, or other dissipation devices.

(e) Filter media shall be a minimum 18-inch layer of clean washed medium sand (ASTM C-33 concrete sand) on top of an underdrain system. Three inches of topsoil (or other erosion protection) are placed over the sand bed. Permeable filter fabric is required above and below the sand bed to prevent clogging of the sand filter and underdrain system.

(f) The underdrain collection system shall consist of a four- to six-inch perforated PVC pipe (Schedule 40 or greater in strength) in an eight-inch gravel layer (clean washed aggregate one-half to two-inches in diameter). The underdrain shall have a minimum slope of 1%. A clean-out must be provided, and the underdrain pipe must discharge to an appropriate facility.

(g) The surface sand filter structure may be constructed of concrete or earthen embankments. When constructed with earthen walls/embankments, filter fabric shall be used to line the bottom and side slopes of the structures before installation of the underdrain system and filter media.

(h) An emergency spillway must be included to safely pass flows that exceed the design storm flows.

(2) *Perimeter sand filter criteria.*

(a) A perimeter sand filter facility is a vault structure located just below grade level. Runoff enters a sedimentation chamber through inlet grates along the top of the structure. Runoff is discharged from the sedimentation chamber through a weir into the filtration chamber. After passing through the filter, runoff is collected by a perforated pipe and gravel underdrain system. Refer to the schematics in division (F) below for a perimeter sand filter.

(b) The maximum drainage area tributary to a perimeter sand filter is two acres.

(c) For perimeter sand filter geometry:

1. The elevation difference (head) needed from inflow to outflow is two to three feet.

2. The area of the filter bed is sized using Darcy's Law equation with a filter bed drain time of 36 hours and a coefficient of permeability (k) of 3.5 ft/day. (See division (C)(1)(c)3. above.)

(d) For pretreatment, the perimeter sand filter system shall include a sediment chamber that consists of a separate cell. The sediment chamber shall be sized to contain 50% of the WQ_v.

(e) Filter media shall be a minimum 18-inch layer of clean washed medium sand (ASTM C-33 concrete sand) on top of an underdrain system. Permeable filter fabric is required between the sand bed and the underdrain gravel layer to prevent clogging.

(f) The underdrain collection system shall consist of a four- to six-inch perforated PVC pipe (Schedule 40 or greater in strength) in an eight-inch gravel layer (clean washed aggregate one-half to two-inches in diameter). The underdrain shall have a minimum slope of 1%. A clean-out must be provided and the underdrain pipe must discharge to an appropriate facility.

(3) *Underground sand filter criteria.*

(a) An underground sand filter is located in an underground vault. The filter is a three-chamber system. The first chamber is a sedimentation chamber that temporarily stores runoff and utilizes a wet pool to capture sediment. The sedimentation chamber is connected to the sand filter chamber by a submerged wall that protects the filter bed from oil and trash. The filter bed is 18 to 24 inches deep and may have a protective screen of gravel or permeable geotextile to limit clogging. The sand filter chamber also includes an underdrain system with inspection and clean-out wells. Perforated pipes under the sand filter bed extend into a third chamber that collects filtered runoff. Flows beyond the filter capacity are diverted through an overflow weir.

(b) The maximum drainage area tributary to a perimeter sand filter is two acres.

(c) Underground sand filters are typically constructed on-line, but can be constructed off-line. For off-line construction, the overflow between the second and third chambers is not included.

(d) The underground vault shall be tested for water-tightness prior to placement of filter layers.

(e) Adequate maintenance access must be provided to the sedimentation and filter bed chambers.

(4) *General.*

(a) Sand filter facilities must be constructed within an easement either platted or legally described and recorded as a perpetual storm water drainage easement. The easement shall extend a minimum of 30 feet horizontally outside of the facility limits and provide a minimum ten-foot wide access easement. A copy of the easement should be included in the BMP operations and maintenance manual.

(b) The sand filter facility shall not be constructed until all contributing drainage area has been stabilized. The sand filter facility shall not be used as a sediment control measure during active construction.

(D) *Maintenance and inspection checklist*. Regular inspection and maintenance is critical to the effective operation of sand filter facilities. The following inspection checklist, to be completed at periods indicated, is provided for the BMP owner and should be retained as a record by the owner for a period of five years from the approval date of the storm water pollution prevention plan. Evidence of inspection and maintenance shall be provided to the town upon request.

Project Name/Site Location: _____

Owner Name: _____ Phone: _____

Owner Address: _____

Date: _____ Inspector: _____

Maintenance Item	***Yes/No***	***Comments***
Pretreatment		***Inspect Monthly***
1. Any evidence of erosion?		
2. Are grass clippings removed from contributing areas that are mowed?		
3. Are inlets, outlets, and filter area clear of debris?		
4. Is normal pool level being retained (perimeter and underground facilities)? Any leaks evident?		
5. Other problems evident?		
Filter Bed		***Inspect Monthly***
1. Is filter bed free of sediments? Is sediment clean-out needed (50% of full or six inches, whichever is less)?		
2. Is filter bed free of oil and grease?		
3. If clogging of filter bed is present, remove the top few inches of sand and replace.		
4. Any clogging of underdrain?		
5. Any clogging of filter fabric?		
6. Other problems evident?		

Maintenance Item	*Yes/No*	*Comments*
Structural		***Inspect Annually***
1. Any evidence of deterioration, spalling, or cracking of concrete vault, spillway, etc.?		
2. Are inlet grates in good condition?		
3. Is overflow structure operating properly?		
4. Other problems evident?		
Other		***Inspect Monthly***
1. Any odors?		
2. Any evidence of flow by passing the facility?		

Additional Comments: _____

_____

_____

Recommended Action:

_____

_____

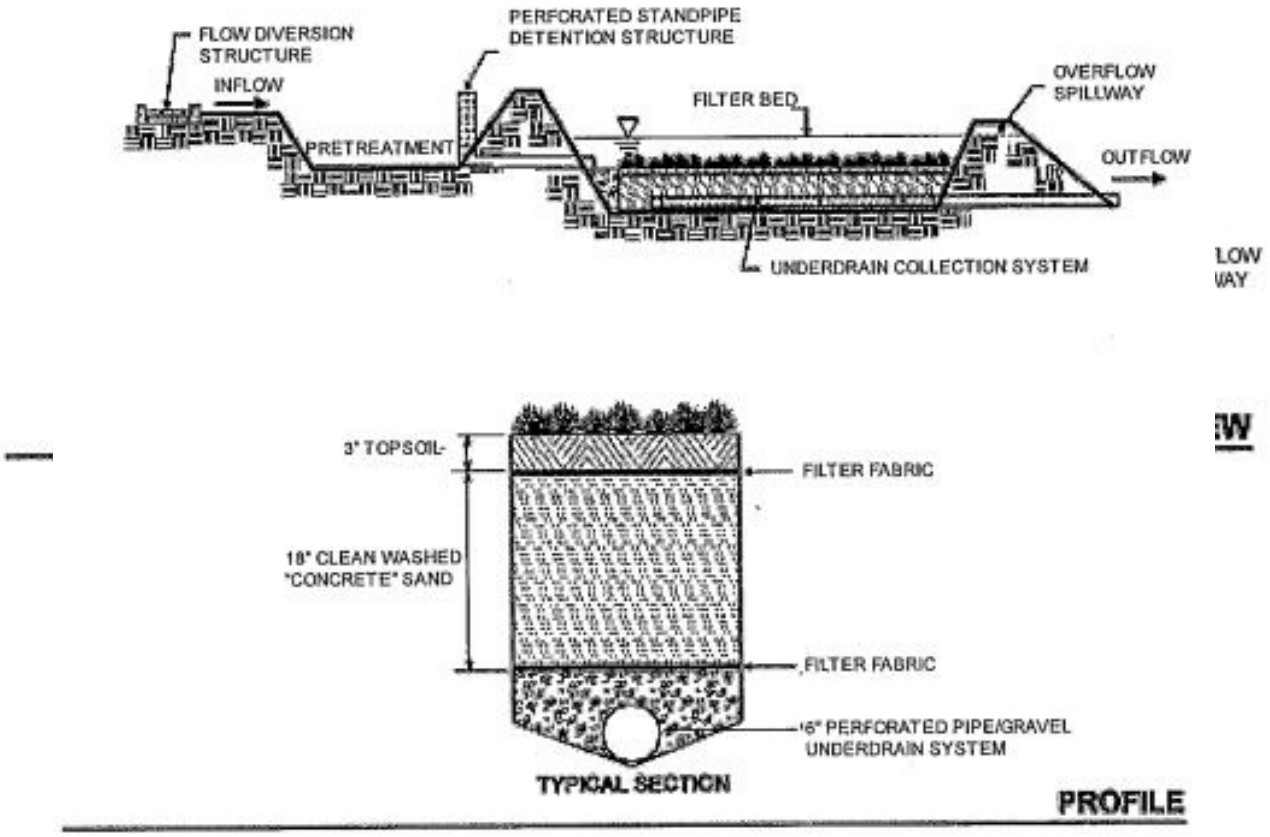
_____

Recommended Timeframe for Actions: _____

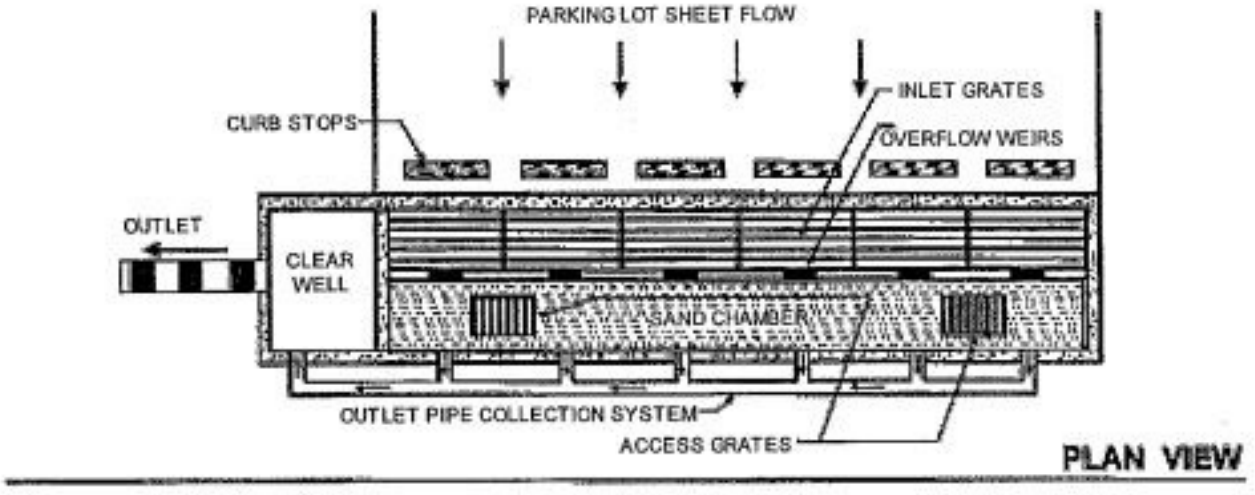
_____

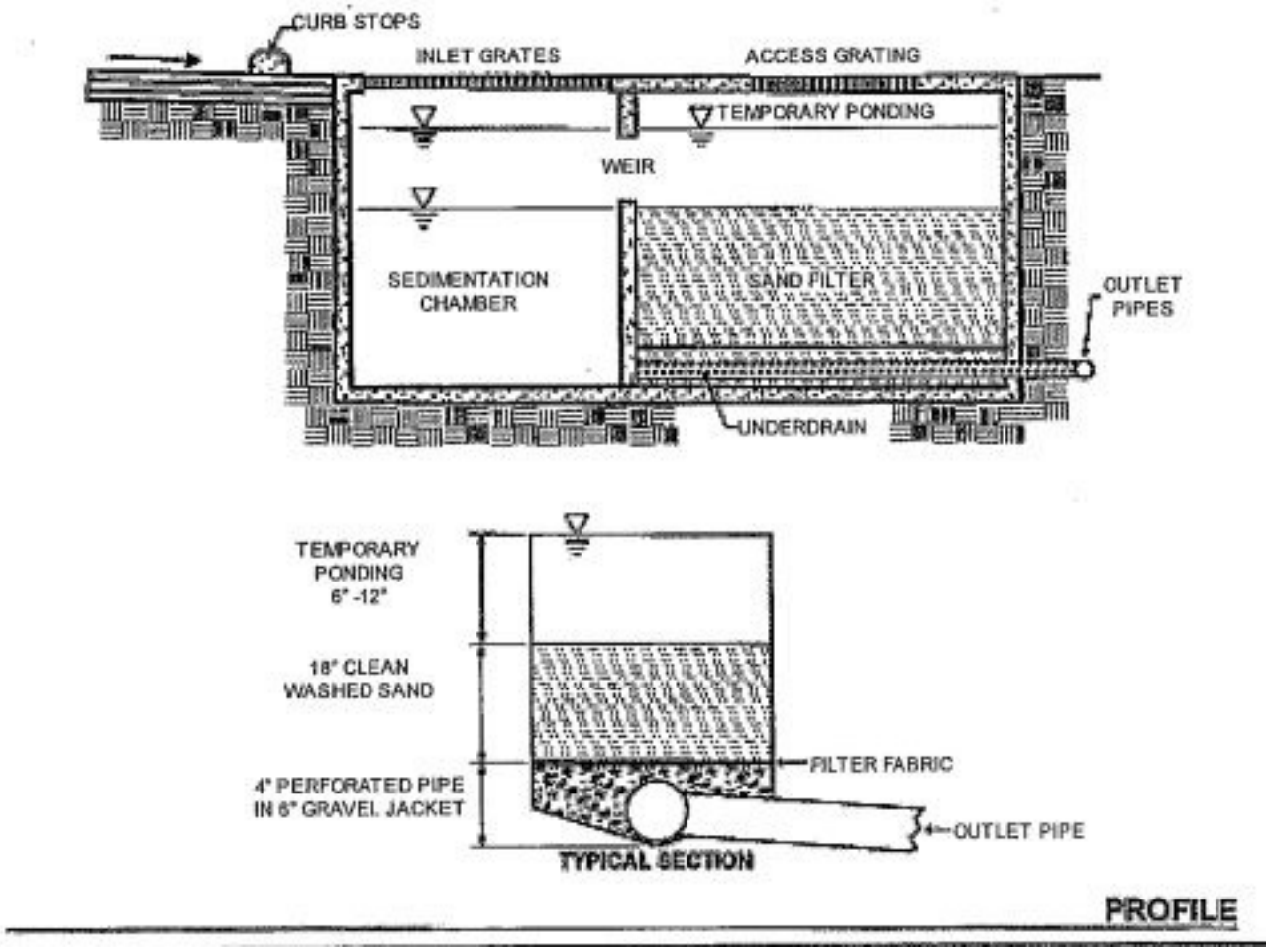
_____

(E) *Schematic of surface sand filter*. The following schematic comes from the Center for Watershed Protection.

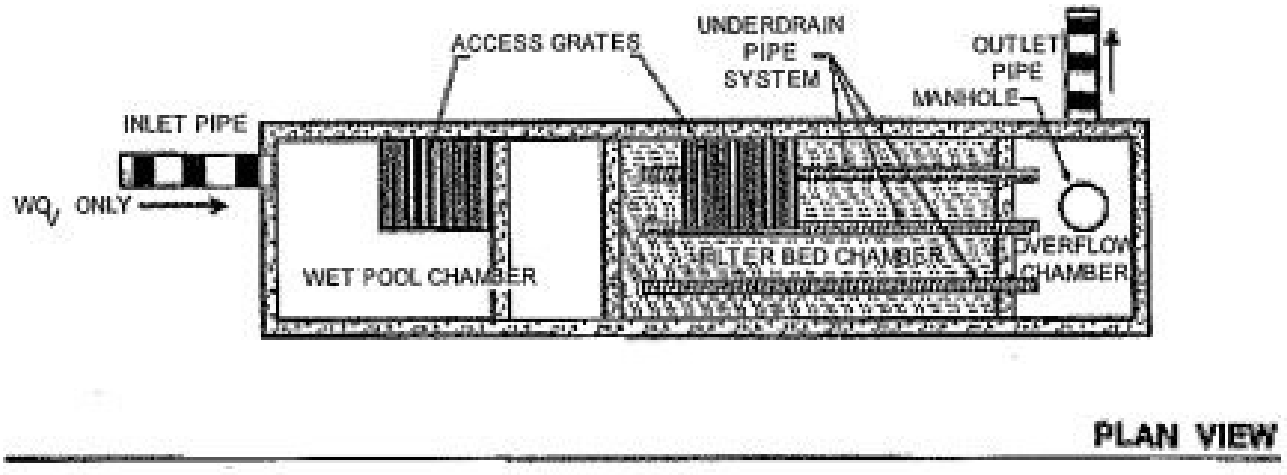


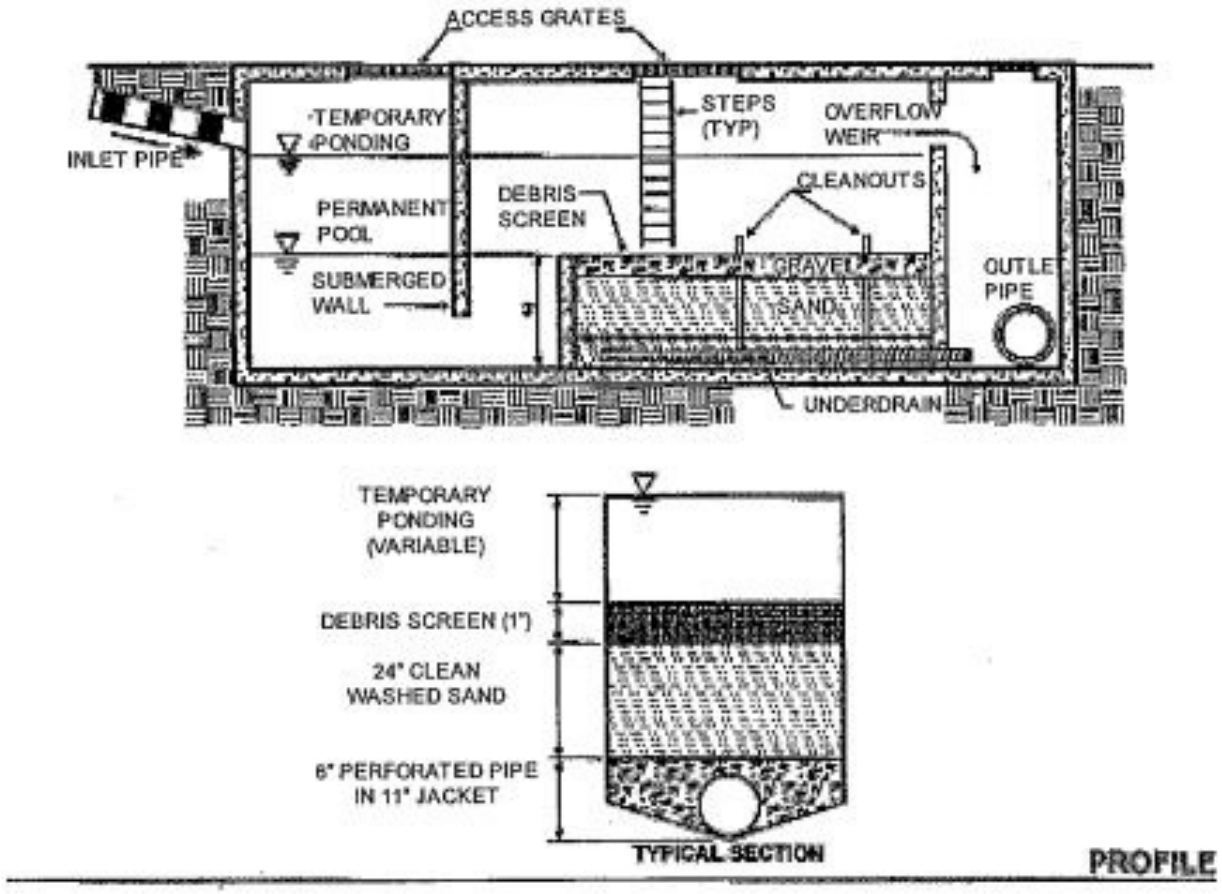
(F) *Schematic of perimeter sand filter*. The following schematic comes from the Center for Watershed Protection.





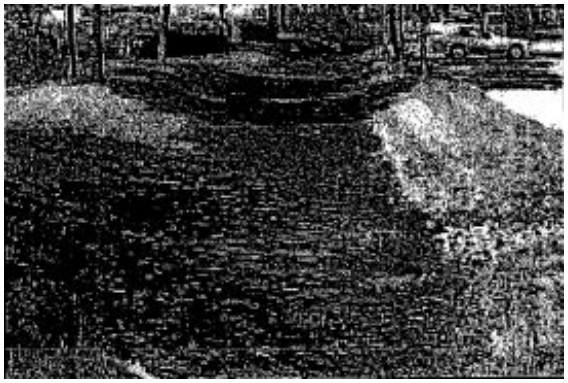
(G) *Schematic of underground sand filter*. The following schematic comes from the Center for Watershed Protection.





(Prior Code, Storm Water Appendix § 2-A.5)

§ 54.55 INFILTRATION TRENCHES.



(A) *Quick reference.*

(1) *Description.* Excavated trench filled with stone aggregate used to capture and allow infiltration of storm water runoff into the surrounding soils from the bottom and sides of the trench.

(2) *Site feasibility.*

(a) Drainage area: maximum five acres;

(b) Residential subdivision use: yes; and

(c) High density/ultra-urban: yes.

(3) *Design criteria.*

(a) Pretreatment forebay required;

(b) Minimum surrounding soil infiltration rate of one-half inch per hour;

(c) Excavated trench filled with stone media, pea gravel, and sand filter layers; and

(d) Observation well required to monitor percolation.

(4) *Advantages.* Good for small sites with porous soils.

(5) *Disadvantages.*

(a) Good retrofit capability for redevelopment;

(b) Geotechnical testing required; and

(c) High clogging potential; not to be used on sites with fine-particle soils in drainage area.

(6) *Maintenance.*

(a) Remove sediment from forebay. Inspect for clogging; and

(b) Replace pea gravel layer as needed.

(B) *Description.*

(1) Infiltration trenches are excavations filled with stone to create an underground reservoir of storm water runoff. The runoff volume gradually exfiltrates through the bottom and sides of the trench into the subsoil over a two-day period and eventually reaches the water table. By diverting runoff into the soil, an infiltration trench treats the water quality volume and helps to preserve the natural water balance on a site and can recharge ground water and preserve base flow. Due to this fact, infiltration systems are limited to areas with highly porous soils where the water table and/or bedrock are located well below the bottom of the trench. Infiltration trenches must be carefully sited to avoid the potential of ground water contamination.

(2) Infiltration trenches are not intended to trap sediment and must always be designed with a sediment forebay and grass channel or filter strip, or other appropriate pretreatment measures, to prevent clogging and failure. The facility is only for impervious areas where there are not high levels of fine particulates (clay/silt soils) in the runoff and will only be considered for sites where the sediment load is relatively low.

(3) A separation distance of four feet is required between the bottom of the infiltration trench and the elevation of the seasonally high water table.

(4) Infiltration trenches are designed for intermittent flow and need to drain and reaerate between rainfall events. The systems should not be used on sites with a continuous flow from ground water, sump pumps, or other sources.

(5) Infiltration trenches shall not be used for manufacturing and industrial sites, where there is a potential for high concentrations of soluble pollutants and heavy metals. In addition, infiltration shall not be considered for areas with a high pesticide concentration.

(C) *Design criteria.* The following criteria are minimum standards for the design of an infiltration trench, which is designed for storm water quality treatment only. Flow from runoff in excess of the WQ_v must be diverted. The WQ_v in the infiltration trench can be subtracted from detention storage requirements for the contributing area.

(1) The maximum drainage area tributary to an infiltration trench is five acres.

(2) Underlying soils shall have a minimum infiltration rate (f_c) of one-half inch per hour as determined from geotechnical tests. The minimum geotechnical testing is one test hole per 5,000 ft^2, with a minimum of two borings per facility taken within the limits of the facility. Infiltration trenches cannot be used in fill soils.

(3) Soils on the drainage area tributary to an infiltration trench shall have a clay content of less than 20% and a silt/clay content of less than 40% to prevent clogging and failure.

(4) Clay lenses, bedrock, and other restrictive layers below the bottom of the trench will reduce infiltration rates unless excavated.

(5) To reduce the potential for costly maintenance and/or system reconstruction, the trench should be located in an open or lawn area. Infiltration trenches shall not be located beneath paved surfaces.

(6) Minimum setback requirements for infiltration trench facilities (unless otherwise specified by local ordinance or criteria):

(a) From a property line: ten feet;

(b) From a building foundation: 25 feet;

(c) From a private well: 100 feet;

(d) From a public water supply well: 1,200 feet;

(e) From a septic system tank/leach field: 100 feet;

(f) From surface waters: 100 feet; and

(g) From surface drinking water sources: 400 feet (100 feet for a tributary).

(7) For infiltration trench geometry:

(a) The required trench storage volume is equal to the WQ_v;

(b) The trench must be designed to fully dewater the WQ_v within 24 to 48 hours. The slowest infiltration rate obtained from geotechnical tests performed at the site should be used in the design calculations;

(c) Trench depths should be three to eight feet. The width of the trench must be less than 25 feet;

(d) Broader, shallow trenches reduce the risk of clogging by spreading the flow over a larger area for infiltration;

(e) The surface area is calculated based on the trench depth, soil infiltration rate, aggregate void space, and fill time (assume a fill time of two hours for most designs);

(f) The bottom of a trench shall be flat across its length and width to evenly distribute flow, encourage uniform infiltration through the bottom, and reduce the risk of clogging;

(g) Stone aggregate should be washed, bank-run gravel, one and one-half to two and one-half inches in diameter with a void space of about 40%. Aggregate contaminated with soil shall not be used. A porosity value (void space/total volume) of 0.32 should be used in calculations, unless aggregate specific data exists;

(h) A six-inch layer of clean, washed sand is placed on the bottom of the trench to encourage drainage and prevent compaction of the native soil while the stone aggregate is added;

(i) The trench shall be lined on the sides and top by an appropriate geotextile filter fabric that prevents soil piping but has greater permeability than the parent soil. The top layer of filter fabric is placed two to six inches from the top of the trench to prevent sediment from passing into the stone aggregate. This top layer will need to be replaced more frequently and must be readily separated from the side section;

(j) The top surface of the trench above the filter fabric is covered with pea gravel to improve sediment filtering. It shall be removed and replaced should the device clog. Alternatively, the trench can be covered with permeable topsoil and planted with grass in a landscaped area;

(k) An observation well consisting of four- to six-inch perforated PVC pipe must be installed and extend to the bottom of the trench. The well should be installed along the centerline of the structure, flush with the ground elevation of the trench. A visible floating marker shall be provided to indicate the water level; and

(l) The trench excavation shall be limited to the width and depth specified in the design. The bottom of the excavated trench shall not be loaded in a way that causes soil compaction, and shall be scarified prior to placement of sand. The sides of the trench shall be trimmed of all large roots.

(8) For pretreatment:

(a) For an infiltration trench receiving sheet flow from an adjacent drainage area, the pretreatment system may consist of a vegetated filter strip with a minimum 25-foot length. A vegetated buffer strip around the entire trench is required if the facility is receiving runoff from other directions. See the schematic in division (E) below for design criteria for the vegetated filter strip; and

(b) For off-line applications, pretreatment shall consist of a sediment forebay or similar sedimentation chamber (with energy dissipaters) sized to 25% of the WQ_v. Exit velocities from the pretreatment chamber must be non-erosive.

(9) A non-erosive overflow channel must be provided to safely pass flows from the infiltration trench that exceeds the system storage capacity to a stabilized downstream area or watercourse.

(10) Infiltration trenches must be constructed within an easement either platted or legally described and recorded as a perpetual storm water drainage easement. The easement shall extend a minimum of 30 feet horizontally outside of the system limits and provide a minimum ten-foot wide access easement. A copy of the easement should be included in the BMP operations and maintenance manual.

(11) The infiltration trench shall not be constructed until all contributing drainage area has been stabilized. The infiltration trench shall not be used as a sediment control measure during active construction.

(D) *Maintenance and inspection checklist*. Regular inspection and maintenance is critical to the effective operation of infiltration trenches. The following inspection checklist, to be completed at periods indicated, is provided for the BMP owner and should be retained as a record by the owner for a period of five years from the approval date of the storm water pollution prevention plan. Evidence of inspection and maintenance shall be provided to the town upon request.

Project Name/Site Location: _____

Owner Name: _____ Phone: _____

Owner Address: _____

Date: _____ Inspector: _____

Maintenance Item	***Yes/No***	***Comments***
Vegetation/Pretreatment		***Inspect Monthly***
1. Any evidence of erosion? Does filter strip need to be reseeded?		
2. Are grass clippings removed from contributing areas that are mowed?		
3. Are inlets and filter area clear of debris?		
4. Sedimentation marker visible?		
5. Sediment cleanout needed (50% full)?		
6. Other problems evident?		
Trench		***Inspect Monthly***
1. Any vegetative growth in trench area?		

Maintenance Item	*Yes/No*	*Comments*
2. Are observation wells clear of water after 3 days of dry weather?		
3. Does pea gravel/topsoil need to be replaced due to clogging?		
4. Does top surface filter fabric need to be replaced due to clogging?		
5. Other problems evident?		
6. Upon failure of trench, perform total rehabilitation to maintain design storage capacity. Excavate trench walls to expose clean soil.		

Additional Comments:

_____

_____

_____

Recommended Actions:

_____

_____

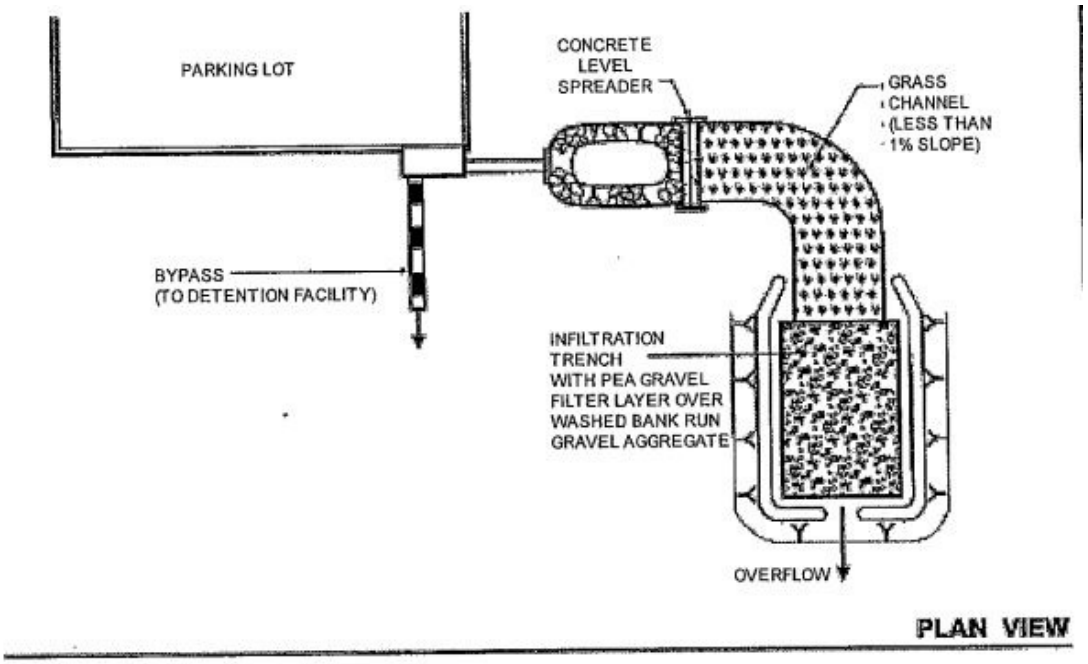
_____

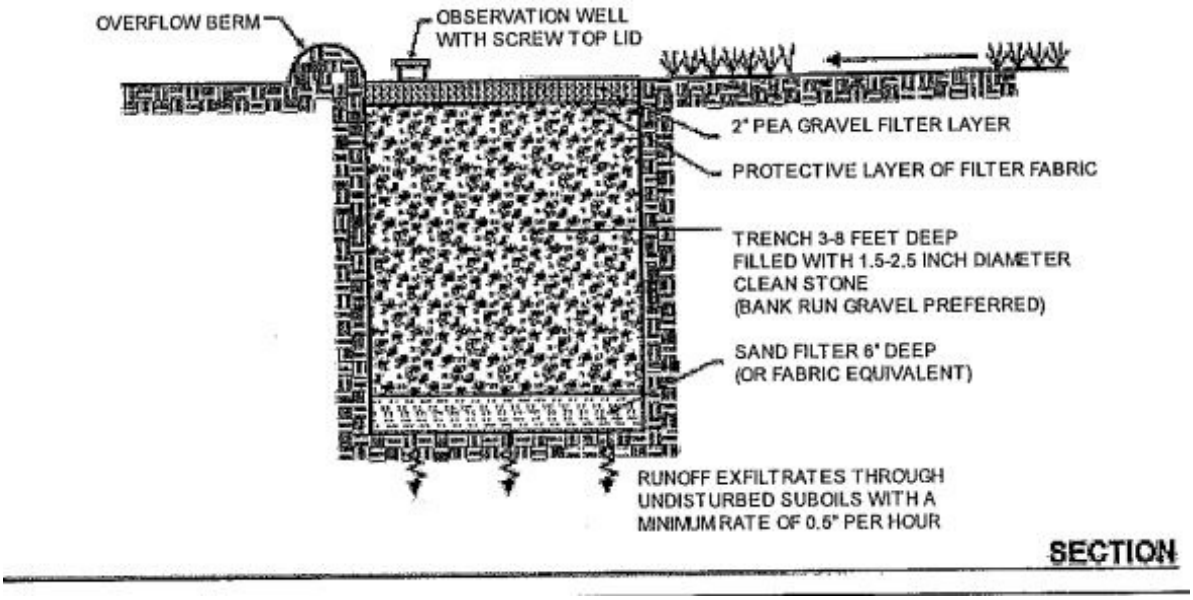
Recommended Timeframe for Actions: _____

_____

_____

(E) *Schematic of infiltration trench*. The following schematic comes from the Center for Watershed Protection.





(Prior Code, Storm Water Appendix § 2-A.6)

§ 54.56 BIOFILTERS.

(A) *Quick reference.*

(1) *Description.* Uniformly graded and densely vegetated sections of land engineered and designed to treat runoff and remove pollutants through vegetative filtering and infiltration.

(2) *Site feasibility.*

(a) Drainage area: ten acres maximum, five preferred;

(b) Residential subdivision use: yes; and

(c) High density/ultra-urban: no.

(3) *Design criteria.*

(a) Requires slopes between 2% and 6%; and

(b) Level spreader required where concentrated runoff flows into biofilter.

(4) *Advantages.*

(a) Relatively inexpensive to install;

(b) Reduces runoff velocities; and

(c) Aesthetic qualities and preservation of riparian zones.

(5) *Disadvantages.*

(a) TSS removal is less than 80%;

(b) Cannot be used on steep slopes; and

(c) Large land requirement.

(6) *Maintenance.*

(a) Maintain grass height of two to six inches; and

(b) Requires periodic sediment removal.

(B) *General.*

(1) *Description.*

(a) Biofilters are densely vegetated sections of land designed to treat runoff and remove pollutants through vegetative filtering and infiltration. Biofilters must receive runoff from adjacent areas as sheet flow to provide treatment and prevent erosion. The vegetation slows the runoff and filters out sediment and other pollutants. Biofilters provide less than 80% TSS removal but can be used as pretreatment measures in conjunction with other water quality treatment practices.

(b) Biofilters are best suited to treat runoff from roads and highways, rooftops, small parking lots, and pervious surfaces. Biofilters can be incorporated into residential developments as land-use buffers and setbacks.

(2) *Variations.*

(a) Filter strip: A uniformly graded and densely vegetated strip of land. The vegetation can be grasses or a combination of grass and woody plants.

(b) Riparian buffer: A strip of land with natural, woody vegetation along a stream or other watercourse. The riparian zone includes deep-rooted trees with undergrowth of grasses and herbaceous vegetation.

(C) *Design criteria.* The following criteria are minimum standards for the design of biofilters, which can be used as pretreatment in conjunction with other water quality measures. Biofilters alone do not fulfill the 80% TSS removal requirement.

(1) Uniform sheet flow must be maintained across the entire biofilter through the use of consistent grades and low slopes. The biofilter area shall be free of gullies or rills that can concentrate overland flow.

(2) Filter strips can be used as pretreatment measures. The minimum length (parallel to the flow path) sizing criteria shall be:

(a) Impervious area approach length of 35 feet or less: 15-foot minimum filter strip length;

(b) Impervious area approach length of 35 to 75 feet: 25-foot minimum filter strip length;

(c) Pervious area approach length of 75 feet or less: 12-foot minimum filter strip length; and

(d) Pervious area approach length of 75 to 100 feet: 18-foot minimum filter strip length.

(3) A level spreader is required at the end of sheet flow paths longer than 75 feet for impervious surfaces and 100 feet for pervious surfaces. In addition, areas of concentrated runoff tributary to a biofilter shall require a level spreader.

(a) The maximum drainage area tributary to a biofilter is ten acres with five acres preferred.

(b) The level spreader shall have a 0% slope and encompass the entire width of the biofilter (perpendicular to the flow path).

(c) The slope of the surface prior to the level spreader should provide a smooth transition into the spreader.

1. If a channel is directing runoff to the level spreader, the last 20 feet of the channel shall have a slope of 1% or less and shall provide a smooth transition of flow to the level spreader. The depth of the level spreader must be a minimum of six inches. The level spreader lip must be constructed on undisturbed soil to a uniform height and 0% slope over the length of the spreader to ensure even runoff distribution.

2. If the runoff is being directed to the level spreader overland as sheet flow, the last 20 feet of the ground shall be 6% or less.

(d) A pea gravel diaphragm at the top of the slope of a biofilter receiving sheet flow provides settling of sediment particles and acts as a level spreader, maintaining sheet flow over the biofilter.

(4) The filter strip should be designed based on Manning's equation for channel design using the following criteria:

(a) Rectangular shape for the filter strip;

(b) Maximum design flow depth of one-half inch;

(c) Velocity no greater than 0.9 ft/s to prevent flattening of grasses;

(d) Manning's n of 0.02 for grassed strips, 0.024 for infrequently mowed strips, or appropriate n for wooded strips;

(e) Width of the strip shall be dependent upon where uniform flow is obtained from the site;

(f) Because the strip is wide, the hydraulic radius approaches the flow depth and is taken to be equal to the design flow depth;

(g) Slope is between 2% and 6%; and

(h) Dense grasses must be specified.

(5) A riparian zone should consist of a 20-foot strip of trees and herbaceous vegetation closest to the stream or watercourse and a 30-foot strip of dense grasses prior to the tree zone.

(6) Biofilters must be constructed within an easement either platted or legally described and recorded as a perpetual storm water drainage easement. The easement shall encompass the biofilter and level spreader and provide a minimum ten-foot wide access easement. A copy of the easement should be included in the BMP operations and maintenance manual.

(D) *Maintenance and inspection checklist*. Regular inspection and maintenance is critical to the effective operation of biofilters. The following inspection checklist, to be completed at periods indicated, is provided for the BMP owner and should be retained as a record by the owner for a period of five years from the approval date of the storm water pollution prevention plan. Evidence of inspection and maintenance shall be provided to the town upon request.

Project Name/Site Location: _____

Owner Name: _____ Phone: _____

Owner Address: _____

Date: _____ Inspector: _____

Maintenance Item	*Yes/No*	*Comments*
Vegetation		***Inspect Monthly***
1. Is vegetation and/or grass cover dense and vigorous?		
2. Any gullies or rills present?		
3. Any erosion evident?		
4. Any sediment build-up present?		
5. Is grass height maintained at two to six inches?		
6. Other problems evident?		
Level Spreader		***Inspect Monthly***
1. Is vegetation and/or grass cover dense and vigorous?		
2. Any signs of erosion on lip of spreader?		
3. Any sediment build-up present?		
4. Does pea gravel diaphragm need to be cleaned out due to sediment build-up?		
5. Does pea gravel diaphragm need to be replaced due to clogging?		
6. Other problems evident?		

Additional Comments: _____

_____

_____

Recommended Actions: _____

_____

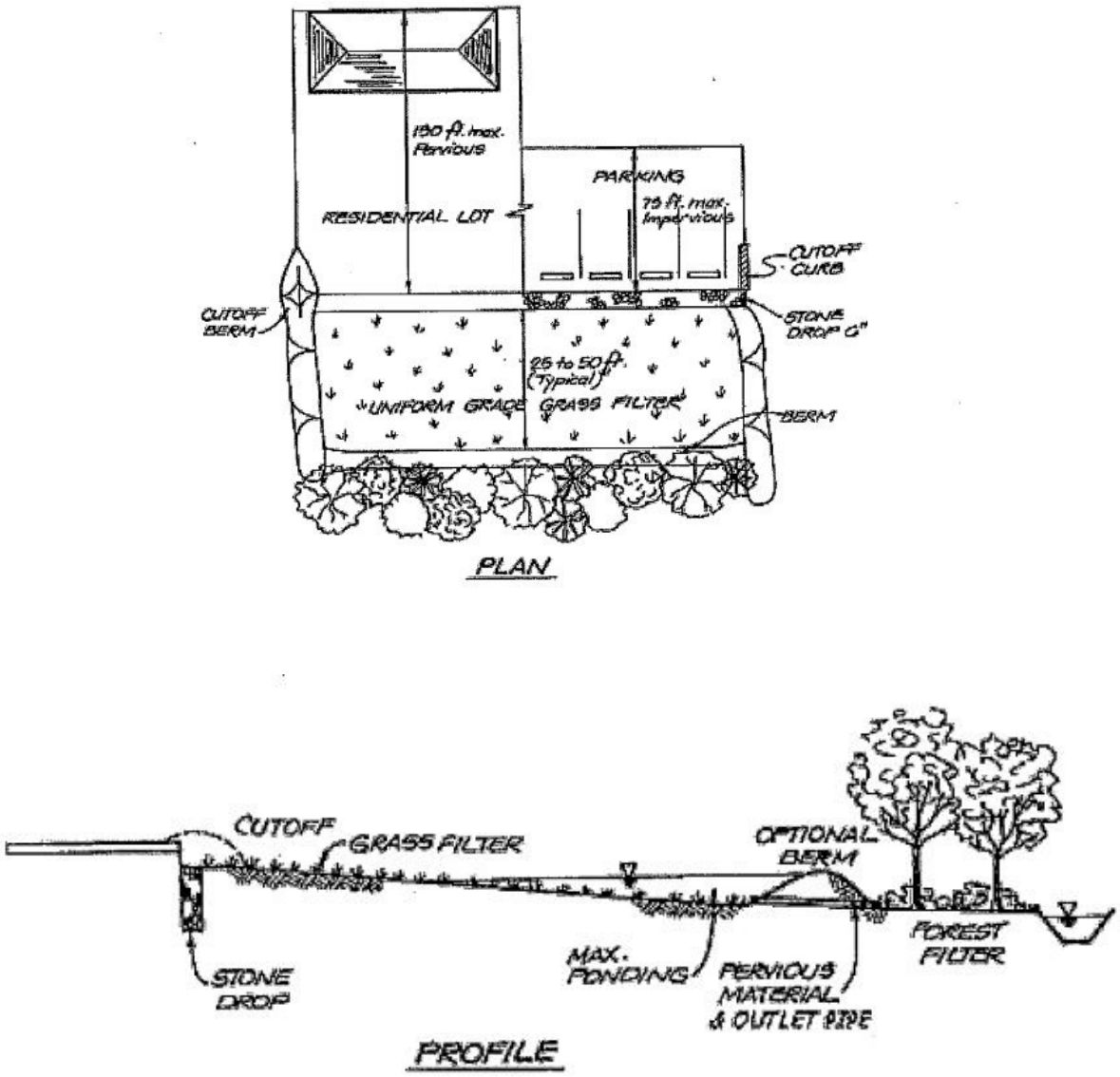
_____

Recommended Timeframe for Actions: _____

_____

_____

(E) *Schematic of filter strip (with berm).*



(Prior Code, Storm Water Appendix § 2-A.7)