Permit Fact Sheet

General Permit

Permit Number:	WI-0046558-05-0
Permit Name:	Carriage and/or Interstitial Water from Dredging Operations General Permit
Permittee	Owners or operators of dredging projects
Discharge Location:	Statewide
Receiving Water:	Surface water or groundwater in the state of Wisconsin

Section 283.35, Wisconsin Statutes authorizes the Department to issue general discharge permits for categories of point source discharges. It is more efficient for the Department to cover multiple facilities under a general permit (GP) rather than issuing individual permits for each facility when no special circumstances warrant site specific permit requirements or limitations. The general permit program is intended to minimize effort for the permittee and the Department.

When a GP is issued, all facilities meeting its requirements may be covered by the GP. For facilities that are eligible for coverage under a general permit, the Department sends a letter granting coverage and a copy of the permit to the facility. A facility may need to be covered under more than one GP, depending on the different types of waste streams that a facility discharges.

If the Department determines it is necessary or appropriate to withhold or withdraw coverage by a general permit, an individual site specific WPDES permit may be issued containing additional limitations to regulate the discharge because it contains pollutants that are not typical for the general permit category and the pollutants could exceed a water quality standard. A written request from the discharger to voluntarily withdraw from coverage under the general permit may also be requested.

Description

Dredging operations includes the removal of material in the beds of waterways for navigation, the removal of sediment or bed material for a construction project such as laying a pipeline, or the removal of contaminated sediment as part of a clean-up. This permit is applicable to dredging operations that discharge carriage and/or interstitial water as defined below.

Carriage Water: Sediment in many large projects is removed by hydraulic dredging with the use of pumps. In order for pumps to move sediment it must be relatively low in total solids and thus large amounts of water are pumped along with the dredged material. Carriage water is defined as the water portion of slurry that is pumped from the dredging site to the disposal site.

Interstitial Water: The water that is squeezed out of the interstices when sediment is dewatered. Another name for interstitial water is pore water. This water becomes the "carriage water" for dredging projects where the material is moved using clam shell buckets or backhoe (mechanical dredging).

The WPDES permit program does not regulate the actual dredging nor does it address the suitability of the disposal site for long term disposal of the material. The sediment characterization and issuance of the permit to dredge is regulated under ch. 30, Wis. Stats., ch. NR 345, Wis. Adm. Code, and ch. NR 347, Wis. Adm. Code. The ch. 30 permit may impose limitations in the water body for total suspended solids allowed in suspension, and the need for a silt curtain. The characterization data required under ch. NR 347, Wis. Adm. Code, is used to determine the applicable monitoring requirements, and must be completed prior to requesting coverage under the WPDES general permit. The potential list of permit monitoring parameters consists of the sediment contaminants listed in Table 1 of ch. NR 347, Wis. Adm. Code. Appendix A to the fact sheet lists the parameters.

The WPDES permit issuance process includes a review of the data collected under ch. NR 347, Wis. Adm. Code. When this data indicates the sediment is contaminated, those contaminants detected at a level of concern should also be analyzed for in an elutriate test to determine if the contaminant may be present in a wastewater discharge. The sediment elutriate test simulates the quality of water that would discharge from dewatered sediment. The Elutriate test is a better indicator of the contaminant level that may be in the carriage return water or interstitial water. It provides a better comparison of what an effluent quality would be to compare with groundwater standards and surface water effluent limits. For a description of the elutriate test procedure refer to the "*Guidance for Applying the Sediment Sampling and Analysis Requirement of Chapter NR 347, Wis. Ad. Code*", Section 5.4. on pages 16-17. Also note comment (b) on page 9.

This general permit is primarily intended for dredging operations involving uncontaminated or moderately contaminated sediments that are unlikely to have environmental concerns. In many cases, the removed sediment is essentially innocuous, or may have low potential risk to aquatic life. Consequently, any return of water and small amounts of the dredged material from the disposal site to waters of the state are also innocuous. The Department's guidance document, "*Consensus-Based Sediment Quality Guidelines*" (CBSQG), will be used in a qualitative fashion to determine the relative degree of risk that a sediment possess, and we will extrapolate this to evaluate the probability of affecting the quality of the dredging wastewater.

If the sediment is contaminated, a wastewater treatment system to remove contaminants of concern may be necessary. Prior to the granting of general permit coverage the need for treatment of the carriage or interstitial water must be evaluated. A treatment pilot study is recommended to demonstrate if the wastewater discharged would comply with all applicable effluent limits. Alternatively, if there is documentation of a similar project to show the proposed treatment system complies with discharge limits, that may be acceptable. An elutriate test may also be conducted on the sediment to demonstrate contaminants will not be present in the effluent at a concentration of concern, or that wastewater treatment is unnecessary.

An individual permit for dredging may be necessary at remediation sites or harbor dredging projects that involve sediments contaminated with bioaccumulative chemicals of concern at concentrations where toxicity is probable. In these situations specialized environmental controls may be necessary and closer oversight is needed with an individual WPDES permit. Because of the higher contamination levels associated with this type of project there's a greater possibility of violating surface water or groundwater quality standards. The general permit may only be used if effluent limit compliance is demonstrated with a pilot study prior to granting coverage under the permit.

1 Applicability Criteria

1.1 Activities Covered

The WPDES general permit is applicable to facilities discharging carriage and/or interstitial water from dredging operations. It does not regulate the actual dredging process within the water body (the ch. 30 permit does). The applicability criteria allows coverage of innocuous dischargers from uncontaminated sediment, and also contaminated sediment provided water quality is protected. In some cases wastewater treatment must be provided to comply with effluent limits. The CBSQG is used as a screening tool to determine the applicability of the general permit, defining what is "uncontaminated" or "contaminated" sediment, and the monitoring parameters.

The general permit may be used for contaminated sediment that exceeds the probable effect concentration (PEC) for sediment toxicity listed in the CBSQG, but additional information must be provided to the Department. When requesting coverage under the general permit, the applicant must demonstrate that contaminated sediment carriage and/or interstitial water can be treated to comply with effluent limits. This would usually require that a pilot treatability study be completed.

1.2 Activities Not Covered

The permit identifies several conditions that the general permit will not cover or for which it does not apply. These include the following:

- Discharges may not significantly adversely impact wetlands and must meet the wetland protection requirements. For discharges that impact wetlands, information must be submitted that allows the Department to determine if a discharge meets code requirements.
- Discharges to outstanding or exceptional resource waters are not authorized by this permit. Regulation of discharges to outstanding or exceptional resource waters requires an individual permit to provide the oversight and discharge limitations necessary to protect this type of receiving water.
- Discharges with substances that will violate surface water or groundwater quality standards are not eligible for the general permit.
- Dredging involving contaminated sediment when one or more contaminants exceed the "Consensus-Based Sediment Quality Guidelines" probable effect concentration, unless the applicant provides a demonstration for complying with effluent limits.
- Some US Army Corps of Engineers and Department of Transportation dredging projects are exempt from this permit. Other statutory exemptions apply to certain types of dredging projects.
- Discharges of wastewater from mechanical dredging in the water body, such as from the clam shell or drainage off a barge, are not regulated under this permit. These discharges or other water quality issues would be regulated in the dredging permit issued under ch. 30 Wis. Stats. For example, the ch. 30 permit may require the installation of a silt curtain to contain re-suspended sediment in the water body.
- Discharges with Indian Country, because the Department lacks this authority in the state delegation agreement with EPA. In such instances, EPA regulates the discharge and would issue a permit.

1.3 Granting of Coverage

To obtain coverage under the general permit, the proposed dredging project must submit a completed "*General Permit Request for Coverage*" form. If the information provided fulfills the criteria for a general permit, the Department will then convey coverage by sending a letter with a copy of the permit. The letter will identify the sediment as "uncontaminated" or "contaminated" based on the characterization sampling conducted during the application process, and which monitoring requirements and limitations table applies. If the sediment is contaminated, the letter will identify any additional monitoring parameters to include in the monitoring requirements table and the applicable effluent limit.

Determining eligibility of a potential discharge situation for the general permit is somewhat subjective and qualitative because of the many environmental factors that can influence the availability of contaminants associated with bedded sediments and the same sediments suspended in a discharge or in the water column. The Department will rely on staff expertise and knowledge of site specific situations to determine if there is a concern about the potential discharge relative to surface or ground water standards.

Sediment sampling is generally required for dredging projects, in accordance with ch. NR 347, Wis. Adm. Code, unless the Department waives sampling because existing data or historical information indicates contamination is unlikely or the contaminants of concern have already been documented. Sediment characterization data may be of some or only limited value in characterizing a wastewater discharge, since bulk chemistry data is designed to evaluate the quality of the in place sediment as it relates to potential impacts to primarily benthic macroinvertebrate organisms and other aquatic organisms present on or in the sediment for various stage of their life cycles. The bulk sediment data may also be used to determine the suitability of the material for different disposal options. For discharge situations the sediment data provides a conservative indication of what could be present in dredging wastewater. It may be more helpful in showing what's absent and doesn't need to be monitored in the WPDES permit.

Permit applicants should refer to the following three guidance documents for assistance. The documents may be obtained from the Department's web site at the locations listed:

(a) "*The State of Wisconsin Approval Process for Dredging of Commercial Ports*", Publication FH-061, provides an overview of the entire permitting process for a dredging project. It was prepared for the Wisconsin Commercial Ports Association, but the information is applicable to just about all dredging projects.

http://dnr.wi.gov/org/aw/wm/publications/solid/commercialdredge.pdf

(b) "*Consensus-Based Sediment Quality Guidelines*", Publication WT-732, provides detailed information for using the effect-based concentration values for evaluating the sediment quality for determining potential environmental risks. If contaminant concentrations are below the threshold effect concentration (TEC,) toxicity is unlikely in the sediment. Concentrations above the probable effect concentration (PEC), indicates the likely presence of sediment toxicity. And between the TEC and PEC the risk of toxicity increases. Before making a direct comparison of the dredging sediment data with the TEC and PEC values in the CBSQG, it may be necessary to normalize the data to 1% total organic carbon (TOC). Nonpolar organic contaminants have less bioavailability in sediment with higher TOC. Consequently, an adjustment should be made to data when the TOC exceeds 1% in order to make a relative comparison with the TEC and PEC, which are based on 1% TOC.

http://dnr.wi.gov/org/aw/rr/technical/cbsqg_interim_final.pdf

(c) "*Guidance for Applying the Sediment Sampling and Analysis Requirement of Chapter NR 347, Wis. Ad. Code*", Publication WT-778, provides guidance to assist in interpreting the code requirements. It addresses sampling procedures and analyses to characterize sediment quality for dredging project.

http://dnr.wi.gov/org/water/wm/sms/NR347_Guidance_Final.pdf

2 Requirements for All Discharges

2.1 Other Permits and Requirements

The permittee is responsible for obtaining all other necessary approvals for dredging. For example, any work performed below, or within 500 feet of the ordinary high water mark of navigable waters, in wetland areas, or within areas subject to local floodplain and shoreland regulations, must conform to all county or local ordinances. All applicable state permits and/or contracts required by Chapters 30, 31, and 87, Wis. Stats. (or Wisconsin Administrative Code adopted under these laws), and federal permits, must be obtained as necessary. Dredging operations are to be performed in accordance with s. 30.20, Wis. Stats., ch. NR 345, Wis. Adm. Code, and ch. NR 347, Wis. Adm. Code.

2.2 Settling, Filtration, and Wastewater Treatment Systems

A plan approval is required when the sediment is considered contaminated. In these instances, a wastewater treatment system may be necessary and Department review of the proposed plans is required, in accordance with s. 281.41, Wis. Stats., and ch. NR 108, Wis. Adm. Code. For a surface water discharge, a settling basin must have sufficient capacity to allow adequate retention time for settling suspended solids, to which most of the contaminants are sequestered, with the exception of ammonia.

A dredging project may be exempt from the design requirements for settling basins or other storage or treatment facilities, and the land treatment design standards for soil absorption or land application. If the sediment is considered uncontaminated, there would be reduced wastewater concerns and a plan approval is unnecessary. A liner for a settling basin may be unnecessary, and the same settling basin could function as a groundwater absorption system.

However, even when the plans for a wastewater treatment system are exempt from the Department's plan review, the conditions regarding dikes and berms, and adequate storm water capacity are applicable. In the absence of a plan review, inclusion of these design standards in the permit is appropriate. Settling basins used to dewater sediment may not overflow. For the construction of dikes and berms, the Department is applying the appropriate standards contained in the guidance document "Recommended Standards for Wastewater Facilities", and s. NR 110.24(f), Wis. Adm. Code. Settling basin must also be capable of handling the water resulting from a storm having a 10-year, 24-hour event frequency which falls within or flows into the area of the treatment/disposal system. The design rainfall amount and

probable intensity of 10-year and 25-year, 24-hour rainfall events for Wisconsin counties are contained in ch. NR 205, Wis. Adm. Code.

2.3 Water Treatment Additives

Sometimes the use of water treatment additives, such as the addition of polymers to aid in settling, is necessary to comply with the total suspended solids limits and the removal of other substances in the wastewater. Many additives have the potential to cause aquatic toxicity. Water treatment additives must be approved prior to use to assure compliance with water quality standards. The permit identifies what must be submitted to the Department for approval.

2.4 Discharge Monitoring Reports

Effluent monitoring results must be provided as soon as possible to the Department during the first 5 weeks of operation. This may be done with a telephone call, fax, or email to the basin engineer or wastewater specialist identified in the letter granting permit coverage. It's important to confirm effluent compliance quickly because the duration of dredging projects are typically short. Waiting for an annual report at the end of the year, as is typically done with other general permits, isn't appropriate for dredging projects. Reporting with a typical monthly discharge monitoring report (DMR), and a final summary report upon completion of the dredging project, are also required. The Department has an example format for submitting monthly discharge monitoring reports.

3 Discharge Requirements

3.1 Sampling Points

A table lists five sampling points that represent the types of discharges regulated under the general permit. Depending on the quality of the sediment removed in a dredging project, the regulated outfall from the dredging will be subject to the requirements under one of the listed sampling points.

3.2 Groundwater Discharge Requirements

A discharge to groundwater includes wastewater infiltration from irrigation, drain fields, ditches, and ponds that may impact water beneath the ground surface. Depending on whether the sediment quality characterization is "uncontaminated" or "contaminated", one of the two monitoring requirements and limitations tables applies - 3.2.1 for "uncontaminated" sediment or 3.2.2 "contaminated" sediment. Information on sediment quality is collected during the ch. 30 dredging permit application process, as required under ch. NR 347, Wis. Adm. Code. The "*Consensus-Based Sediment Quality Guidelines*" is used to evaluate sediment quality.

3.2.1 Uncontaminated Sediment

For sediment that qualifies as "uncontaminated", the only monitoring is for flow.

3.2.2 Contaminated Sediment

When the sediment is characterized as "contaminated", additional monitoring may be required depending on the contaminants found in the sediment or elutriate test, and if they're at a concentration of concern. The "*Consensus-Based Sediment Quality Guidelines*" is used to make this determination using the threshold effect concentration (TEC) as the criteria for determining if the sediment is considered contaminated for the purpose of this general permit. The initial determination is any contaminant parameter that exceeds the TEC is monitored and limited in the permit.

If natural background concentrations exceed the TEC, the background concentrations may be used instead of the TEC (refer to paragraph 7.2 in the "*Guidance for Applying the Sediment Sampling and Analysis Requirements of ch. NR 347, Wis. Adm. Code*", and Appendix B of the CBSQG).

When a TEC is exceeded for a parameter, it's recommended that an elutriate test be conducted as a second optional determination of whether the contaminant is present in the wastewater at a concentration of concern. If the elutriate concentration exceeds the groundwater preventive action limit (PAL) of the contaminant parameter, monitoring is required in the permit. If the concentration is less than the PAL, monitoring isn't required.

There may be situations when a contaminant is present in the sediment does not have a TEC. In this situation, an elutriate test is necessary to determine if the wastewater could exceed the groundwater PAL and whether the parameter needs to be monitored and limited in the permit.

The groundwater enforcement standards (ES) in ch. NR 140, Wis. Adm. Code will be used for effluent limits for those parameters that have a concentration in the sediment greater than the TEC, or an elutriate test that exceeds the PAL. Because dredging projects are usually a short duration discharge, and not a continuous discharge in the same location, the ES was chosen as the limit. However, the effluent quality goal should be the more stringent PAL to assure compliance.

An exception applies for nitrogen, where instead of using the 10 mg/L nitrate+nitrite ES, a 10 mg/L total nitrogen limit is used as being more appropriate (refer to ch. NR 206, Wis. Adm. Code, land disposal of municipal and domestic wastewater). A total nitrogen limit is more protective because it accounts for all the different forms of nitrogen that may be present in the discharge. Also, limits for organic nitrogen, and total Kjeldahl nitrogen would not be known because these indicator parameters are calculated based on background groundwater monitoring, but there are no groundwater monitoring wells required under the permit to establish these limits.

3.2.3 Sample Frequency

Flow volume must be monitored every day for the duration of the project. For any other monitoring parameters the frequency is twice a week the first week, and then weekly during the next four weeks of discharge to confirm effluent quality to assure the contaminants are below limits. The Department may require daily sampling during the start-up of a treatment system to monitor treatment performance, or if an effluent limit exceedance occurs. If the discharge is in substantial compliance with effluent limits (always below limits), the monitoring frequency may be reduced from weekly to monthly, but it must resume to weekly if there is an exceedance. The permittee may make this change in monitoring frequency without concurrence from the Department.

3.2.4 Grab Sample

The definition of a grab sample is provided. Because the groundwater samples are based on dissolved concentrations, the sample must be filtered prior to analysis.

3.2.5 Flow Volume

Acceptable estimated flow volumes are described. Report the actual flow if it's measured.

3.2.6 Solids Removal

Occasional removal of solids from seepage areas is necessary to insure that these areas can continue to absorb wastewater. Solids in wastewater can cover soils and clog spaces between soil particles, resulting in decreased seepage capacity.

3.3 Surface Water Discharge Requirements

A discharge to surface water includes ditches, storm sewers and pipes that convey wastewater to creeks, streams, rivers and lakes. Depending on whether the sediment quality characterization is "uncontaminated" or "contaminated", one of the two monitoring requirements and limitations tables applies - 3.3.1 for "uncontaminated" sediment or 3.3.2

"contaminated" sediment. Information on sediment quality is collected during the ch. 30 dredging permit application process, as required under ch. NR 347, Wis. Adm. Code. The "*Consensus-Based Sediment Quality Guidelines*" is used to evaluate sediment quality.

3.3.1 Uncontaminated Sediment

For sediment that qualifies as "uncontaminated", the only monitoring is for flow and total suspended solids. A total suspended solids effluent limit of 80 mg/L applies, which is based on the ability of simple settling equipment to easily remove suspended solids. This limit was the result of a hearing examiner's decision on a Mississippi River dredging case, which decided 80 mg/L is the appropriate limit for gravity sedimentation treatment technology for sediments consisting of primarily sand and some silt. The first issuance of this general permit in 1982 included the 80 mg/L limit, and it has been used in subsequent reissuances.

3.3.2 Contaminated Sediment

When the sediment is characterized as "contaminated", additional monitoring may be required depending on the contaminants found in the sediment or elutriate test, and if they're at a concentration of concern. The "*Consensus-Based Sediment Quality Guidelines*" is used to make this determination using the threshold effect concentration (TEC) as the criteria for determining if the sediment is considered contaminated for the purpose of this general permit. The initial determination is any contaminant parameter that exceeds the TEC is monitored and limited in the permit.

If natural background concentrations exceed the TEC, the background concentrations may be used instead of the TEC (refer to paragraph 7.2 in the "*Guidance for Applying the Sediment Sampling and Analysis Requirements of ch. NR 347, Wis. Adm. Code*", and Appendix B of the CBSQG).

When a TEC is exceeded for a parameter, it's recommended that an elutriate test be conducted as a second optional determination of whether the contaminant is present in the wastewater at a concentration of concern. If the elutriate concentration exceeds 1/5 the water quality based effluent limit of the contaminant parameter, monitoring is required in the permit. If the concentration is less than 1/5 the water quality based effluent limit, monitoring isn't required.

If data indicates sediment or elutriate concentrations may be at a level of concern, the Department would calculate site specific water quality based effluent limits in accordance with chs. NR 105 and 106, Wis. Adm. Code (the limits can't be taken directly from a table like groundwater PALs and ESs). Because the procedures for determining the need for a limit and the method to calculate a limit are specified in the permit, the Department may incorporate the limits in the general permit with the cover letter that grants permit coverage.

For contaminated sediment all discharges are subject to a 40 mg/L total suspended solids limit that's based on best professional judgment. Greater sediment removal is needed to prevent contaminants from being discharged, compared to the less stringent 80 mg/L limit that applies to uncontaminated sediment. Contaminants are usually associated with the suspended solids. Controlling suspended solids is also a good indicator for the removal of other contaminants.

A best professional judgment limit of 15 mg/L for oil and grease limit may apply if oil and grease is a contaminant of concern. The oil and grease, and total suspended solids limits, are the same as in the petroleum contaminated water general permit, and are believed to be appropriate for this permit as well.

Phosphorus monitoring and 1 mg/L limit technology based limit or calculated water quality based from chs. NR 102 and NR 217, Wis. Adm. Code may apply if phosphorus is a contaminant of concern. Lacking a correlation between the sediment phosphorus concentration and the potential to exceed the limit in the dredging wastewater, an elutriate test is likely needed to make this determination. The permit would include phosphorus monitoring and a limit if there is a potential to exceed the phosphorus limit in the effluent.

3.3.3 Sample Frequency

Flow volume must be monitored every day, and total suspended solids must be monitored at least once per week for the duration of the project as a key indicator of effluent quality. For any other monitoring parameters the frequency is twice a

week the first week, and then weekly during the next four weeks of discharge to confirm effluent quality to assure the contaminants are below limits. The Department may require daily sampling during the start-up of a treatment system to monitor treatment performance, or if an effluent limit exceedance occurs. If the discharge is in substantial compliance with effluent limits (always below limits), the monitoring frequency may be reduced from weekly to monthly, but it must resume to weekly if there is an exceedance. The permittee may make this change in monitoring frequency without concurrence from the Department.

3.3.4 Grab Sample

The definition of a grab sample is provided.

3.3.5 Flow Volume

Acceptable estimated flow volumes are described. Report the actual flow if it's measured.

3.3.6 Visible Foam and Floating Solids

This is a historical requirement that pre-dates the clean water Act, and represents a narrative water quality standard for no floating solids or foam.

3.3.7 Solids Removal

Over time, settling equipment fills up with settled solids, resulting in decreased volume and residence time for wastewater and ultimately, ineffective solids treatment. Solids must be removed upon occasion to insure effective settling occurs and that permit limits are met. For some short term operations, solids may not need to be removed to maintain the hydraulic and absorptive capacities of the treatment system.

3.3.8 Impaired Waters on 303(d) List and TMDLs

If a facility discharges a pollutant of concern to an 303(d) listed impaired water body, the pollutant discharge needs to be minimized as much as possible as part of an overall state effort to reduce the pollutant loading to the water body. The 303(d) list of Wisconsin impaired water bodies may be identified by contacting the Department or by searching for the 303(d) list on the Department's internet site referenced in the permit. For a dredging operation the most common pollutant of concern may be a total suspended solids (TSS) discharge to a sediment impaired water body.

The permit requires that an annual check be conducted, by February 15th each calendar year, to determine whether the permittee discharges process wastewater to a 303(d) listed impaired water body. If so, the permittee shall evaluate, within 180 days of the annual check, whether additional control measures and practices could be used to voluntarily minimize, with the goal of elimination, the discharge of pollutants of concern that contribute to the impairment of the water body. The permittee should keep a record of the amount of pollutant discharge reduction that has been voluntarily achieved. The exact amount of pollutant reduction will be legally established in the State and Federal approved Total Daily Maximum Load (TMDL) allocation established for the discharge.

Federal Statutes, 40 CFR 122.4, prohibit the issuance of a WPDES permit to a new source or new discharger that will contribute to a violation of a water quality standard in a 303(d) listed water. Also, an increased discharge of a pollutant of concern that would cause or contribute to a violation of a water quality standard in a 303(d) listed water is not allowed. Therefore, this general permit specifies that a permittee may not discharge a new pollutant of concern to a 303(d) listed impaired water body or significantly increase the discharge of a pollutant of concern to an impaired water body unless the new or increased discharge does not contribute to the receiving water impairment, or the new discharge is consistent with an approved TMDL allocation for the impaired water body. The general permit may not be used if this requirement is not met for a new discharge.

For a new dredging operation requesting coverage under this general permit, the Department will evaluate the proposed new pollutant discharge amount and receiving water to determine if the above requirement can be met. A variety of

options may be available to insure any proposed new discharge does not contribute to the receiving water impairment such as on-site capture of the pollutant of concern, an alternate discharge location, wastewater reuse opportunities, directing the discharge to a seepage area, or enhanced treatment options so the discharge would meet the water quality standard.

Permit applicants should refer to the following two Department web sites for information on the 303(d) list and TMDLs:

http://dnr.wi.gov/org/water/wm/wqs/303d

http://dnr.wi.gov/org/water/wm/wqs/303d/Approved_TMDLs.html

3.4 Beach Nourishment and Unconfined Disposal of Sediment in the Great Lakes

Provisions are included in the GP for the disposal of dredged sediments in Lake Michigan and Lake Superior via beach nourishment and unconfined disposal as defined below.

Beach nourishment: The disposal of dredged material on the beaches or in the water landward from the high water mark of Lakes Michigan and Superior for the purpose of adding, replenishing or preventing erosion of beach material.

Unconfined disposal: The deposition of dredged sediments, in water, on the bed of a waterway. Typically, state law prohibits disposal of dredged sediments via unconfined disposal. However, unconfined disposal may be allowed where the bed of Lake Michigan or Lake Superior in the dredged disposal area has been granted to a local government entity.

Beach nourishment and unconfined disposal were originally allowed for some US Army Corps of Engineer projects, where it was believed beneficial to use clean sandy sediment for disposal in shore land location that had been scoured by wave action. Beach nourishment and unconfined disposal practices may not be used in other waters of the state, because of the concern with loss of or harm to aquatic life habitat and spawning locations. Disposal via these means is allowed only if the particle size and contaminant concentrations conditions described below are met.

3.4.1 Particle Size

The particle size of the dredged material must meet the requirements of s. NR 347.07(4)(a)1, Wis. Adm. Code. This requirement is designed to ensure that dredged sediments are similar to those of the beach or lake bed and to insure that settling of sediments will occur. Use of silt material should be avoided because it could more easily wash out.

3.4.2 Contaminant Concentration

If dredged material is used for beach nourishment or unconfined disposal, the sediment may not contain any contaminants above the threshold effect concentrations in the CBSQG. These concentrations are very similar to the concentrations listed in the previous permit that were based on EPA reference numbers for what is considered clean sediment in the Great Lakes. When beach nourishment or unconfined disposal is allowed, requirements to confine and treat the carriage and interstitial water to 80 mg/L total suspended solids is waived by this permit.

4 Standard Requirements

These requirements apply to all permittees, and reflect some of the general conditions contained in ch. NR 205, Wis. Adm. Code. They consist of permittee obligations and reporting requirements.

Other Comments:

The permit includes some minor changes, clarifications, and minor edits to the previous issuance. The changes are summarized below:

(a) Addition of language regarding requirements for 303(d) listed impaired waters and TMDLs to the surface water discharge requirements in Subsection 3, which may be applicable depending on the water body.

(b) In the last issuance of dredging general permit, elutriate testing was included as a means to help determine whether the sediment pore water or interstitial water were contaminated at a concentration of concern in a wastewater discharge. Elutriating testing is not required, but is a method to characterize the sediment if the permittee chooses to use it. The elutriate test may be used to demonstrate whether a sediment contaminant that exceeds the TEC won't partition into the water at a concentration of concern, and thus doesn't have to be monitored or limited in the permit. If the permittee doesn't conduct an elutriate test, all the contaminants exceeding the TEC must be monitored and limited.

Questions were raised about the procedures for elutriate testing because of confusion with various procedures. The effluent elutriate testing referenced in the ch. 347 Guidance is more applicable to evaluating the contaminant transfer between the sediment and water at a confined disposal facilities. For the purpose of evaluating what parameters trigger monitoring and limits under this permit in Subsections 3.2.2 or 3.3.2, a simpler screening procedure may be appropriate. An elutriate test is a sample preparation technique to obtain the water fraction of a sediment slurry. The Department may accept filtering of the supernatant from a representative sediment slurry sample and analyzing the filtrate. This process could serve as the elutriate test to characterize what contaminants would be present in the pore water or interstitial water from dredging. The filtering would be as described in Subsection 3.2.4, which is the method for compliance monitoring of a groundwater discharge.

An explanatory note was added to Subsections 3.2 and 3.3 to clarify what is acceptable for elutriate testing for evaluating what the contaminants of concern are in a groundwater or surface water discharge.

(c) For surface water discharges regulated under Subsection 3.3.2, the default technology based limit of 1mg/L for phosphorus was removed. Phosphorus limits may now need to be a site specific water quality based limit calculated according to ch. NR 102 and ch. NR 217, Wis. Adm. Code, and would apply if it's more stringent. The Oil and grease limit of 15 mg/L that may be applicable was also removed from this section, and instead reference was made to Appendix A of the fact sheet where all the potential limits are identified.

(d) Appendix A was updated to include the new groundwater PAL and ES for ammonia, and PAL and ES for manganese was revised to reflect the change from a welfare standard to health standard.

(e) The style of the permit was revised to reflect the other WPDES permit issued by the Department. New are a table of contents, and summary of reports due section.

Proposed Expiration Date:

June 30, 2016

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Appendix A

The following table is based on Table 1 in ch. NR 347, Wis. Adm. Code. It lists parameters that may be of potential concern in dredged sediment, and the threshold effect concentration (TEC) and probable effect concentration (PEC) from the *Consensus-Bases Sediment Quality Guidelines* (CBSQG). If the parameter has a ch. NR 140, Wis. Adm. Code groundwater quality standard, the preventive action limits (PAL) and enforcement standards (ES) are listed. If the parameter has a ch. NR 105, Wis. Adm. Code surface water quality criterion, "Calculated" is shown in the "Limit" column to indicate a limit could be applicable, but a numeric value isn't provided because the limit is site specific and needs to be calculated by the Department in accordance with ch. NR 106, Wis. Adm. Code.

Parameter	Sediment TEC	Sediment PEC	Groundwater		Surface Water Limit
			PAL	ES	
PCB (total)	60 µg/Kg	676 µg/Kg	3 ng/L	30 ng/L	Calculated
Dioxin 2.3.7.8 -TCDD^{TEQ}	0.10 µg/Kg	0.19 µg/Kg	3 pg/L	30 pg/L	Calculated
Aldrin	2 µg/Kg	80 µg/Kg	N/A	N/A	Calculated
Diedrin	1.9 µg/Kg	62 µg/Kg	N/A	N/A	Calculated
Chlordane	--	--	0.2 µg/L	2 µg/L	Calculated
Endrin	3 µg/Kg	1300 µg/Kg	0.4 µg/L	2 µg/L	Calculated
Heptachlor	--	--	0.04 µg/L	0.4 µg/L	Calculated
Lindane	--	--	0.02 µg/L	0.2 µg/L	Calculated
Toxaphene	1 µg/Kg	2 µg/Kg	0.3 µg/L	3 µg/L	Calculated
DDT	4.2 µg/Kg	63 µg/Kg	N/A	N/A	Calculated
Arsenic	9.8 mg/Kg	33 mg/Kg	1 µg/L	10 µg/L	Calculated
Barium	--	--	0.4 mg/L	2 mg/L	Calculated
Cadmium	0.99 mg/Kg	5.0 mg/Kg	0.5 µg/L	5 µg/L	Calculated
Chromium	43 mg/Kg	110 mg/Kg	10 µg/L	100 µg/L	Calculated
Copper	32 mg/Kg	150 mg/Kg	130 µg/L	1300 µg/L	Calculated
Cyanide	--	--	40 µg/L	200 µg/L	Calculated
Iron	20 g/Kg	40 g/Kg	0.15 mg/L	0.3 mg/L	Calculated
Lead	36 mg/Kg	130 mg/Kg	1.5 µg/L	15 µg/L	Calculated
Manganese	460 mg/Kg	1100 mg/Kg	60 µg/L	300 µg/L	Calculated
Mercury	0.18 mg/Kg	1.1 mg/Kg	0.2 µg/L	2 µg/L	Calculated
Nickel	23 mg/Kg	49 mg/Kg	20 µg/L	100 µg/L	Calculated
Selenium	--	--	10 µg/L	50 µg/L	Calculated
Zinc	120 mg/Kg	460 mg/Kg	2.5 mg/L	5 mg/L	Calculated
Ammonia Nitrogen	--	--	0.97 mg/L	9.7 mg/L	Calculated
Nitrogen (total)	--	--	N/A	10 mg/L	N/A
Oil and Grease	1000 mg/Kg*	--	N/A	N/A	15 mg/L
Phosphorus	--	--	N/A	N/A	Calculated
Total Organic Carbon	N/A	N/A	N/A	N/A	N/A

N/A = Not Applicable, a standard is not contained in ch. NR 105 or ch. NR 140, Wis. Adm. Code.

Calculated = Monitoring and a limit may apply to this parameter, pending an effluent limit calculation.

-- = No data available.

* = Based on best professional judgment. The CBSQG does not have a TEC for this parameter.

Normalized Data: The TEC and PEC values in the table are based on sediment with 1% total organic carbon (TOC). When comparing sediment data with the TEC and PEC it may necessary normalize it to 1% TOC. Higher TOC in sediment reduces the bioavailability of nonpolar organic contaminants. To normalize sediment data to 1% TOC divide the dry weight concentration by the % TOC. For metals make a direct comparison with the TEC and PEC, without any adjustment for either TOC or the fine fraction. Refer to Sections 9.1, 9.2, and Appendix D of the CBSQG.