Chapter NR 538

BENEFICIAL USE OF INDUSTRIAL BYPRODUCTS

NR 538.01 Purpose. The purpose of this chapter is to allow and encourage, to the maximum extent possible, the beneficial use of industrial byproducts in a nuisance–free manner that is protective of public health and the environment and in accordance with good engineering practices. The department encourages the beneficial use of industrial byproducts to preserve resources, conserve energy, and reduce or eliminate the need to dispose of industrial byproducts in landfills. This chapter is adopted under ss. 289.05, 289.06, 289.43 (4), (7) and (8), and 227.11, Stats.

Note: This section is shown as amended eff. 11–1–20 by CR 19–080. Prior to 11–1–20 it reads:

NR 538.01 Purpose. The purpose of this chapter is to allow and encourage to the maximum extent possible, consistent with the protection of public health and the environment and good engineering practices, the beneficial use of industrial byproducts in a nuisance–free manner. The department encourages the beneficial use of industrial byproducts in order to preserve resources, conserve energy, and reduce or eliminate the need to dispose of industrial byproducts in landfills. This chapter is adopted under ss. 289.05, 289.06, 289.43 (4), (7) and (8), and 227.11, Stats.

History: Cr. Register, December, 1997, No. 504, eff. 1–1–98; **CR 19–080: am. Register May 2020 No. 773, eff. 11–1–20.**

NR 538.02 Applicability. (1) Except as otherwise provided, this chapter governs the beneficial use of industrial byproducts, except hazardous waste as defined in s. 291.01 (7), Stats., and regulated under chs. NR 660 to 679; metallic mining operations for nonferrous minerals as defined in s. 293.01 (9), Stats., and regulated under ch. NR 182; and metallic mining operations for ferrous minerals as defined in s. 295.41 (26), Stats., including mining wastes and mining waste sites as defined in s. 295.41 (30) and (31), Stats., and regulated under subch. III of ch. 295, Stats.

(2) This chapter does not apply to the design, construction or operation of industrial wastewater facilities, sewerage systems and waterworks treating liquid wastes approved under s. 281.41, Stats., or permitted under ch. 283, Stats., nor to facilities used solely for the disposal of liquid municipal or industrial wastes which have been approved under s. 281.41, Stats., or permitted under ch. 283, Stats., except facilities used for the disposal of solid waste.

Note: The landspreading of wastewater treatment sludges is regulated under chs. NR 206 and 214. The landspreading of solid wastes is regulated under ch. NR 518. Additional state and local laws and codes may apply to the beneficial use of industrial byproducts regulated under this chapter.

Note: This note is shown as amended eff. 11–1–20 by CR 19–080. Prior to 11–1–20 it reads:

Note: The landspreading of wastewater treatment sludges is regulated under chs. NR 206 and 214. The landspreading of solid wastes is regulated under ch. NR 518. Other state and local laws and codes, however, may apply to the beneficial use of industrial byproducts regulated under this chapter.

History: Cr. Register, December, 1997, No. 504, eff. 1–1–98; CR 13–057: am. (1) Register July 2015 No. 715, eff. 8–1–15.

NR 538.03 Definitions. In this chapter, the following definitions as well as the definitions in ch. 289, Stats., and s. NR 500.03 are applicable:

(1) "Base aggregates" means specified or selected material of designated thickness placed on a subgrade to support a pavement or other structure.

(2) "Beneficial use" means the utilization of an industrial byproduct in a productive manner.

(3) "Encapsulated use" means a use in which the measurable leaching, emissions or decomposition characteristics of the industrial byproduct are substantially eliminated by binding them into a solid matrix.

(4) "Excess quantities" means the use of industrial byproducts in volumes that are greater than necessary for the specific project purpose.

(5) "Flue gas desulfurization material" or "FGD" means the material recovered from air pollution control systems that capture sulfur dioxide emissions from energy recovery facilities. "Flue gas desulfurization material" includes flue gas desulfurization gypsum produced as a byproduct of a lime or limestone–based reagent wet air pollution control scrubbing process that includes a forced oxidation system resulting in commercial grade calcium sulfate compound. "Flue gas desulfurization material" also includes flue gas desulfurization byproduct material generated in a dry or semi–dry air quality control system, provided the system includes separate coal combustion fly ash capture by means of an electrostatic precipitator or baghouse filter.

(6) "Foundry sand" means spent silica–based molding and core sand resulting from metal casting processes, including dry baghouse and wet collector sand fines collected at the foundry during the metal casting process.

(6m) "Generator" means any person whose act or process produces an industrial byproduct as identified, listed, or determined by the department under sub. (8).

(7) "Impervious surface" means a barrier layer designed to prevent percolation or contain liquids that have come into contact with the byproduct consisting of either a minimum 3 inches thick of asphalt or concrete, a minimum 2 foot thick clay layer constructed in accordance with s. NR 504.06 (2) (a) and (f), a geomembrane layer constructed in accordance with s. NR 504.07 (5), or other impervious surface designs approved in writing by the department.

(8) (a) "Industrial byproduct" means, subject to par. (b), papermill sludge; combustion ash including coal combustion residuals such as fly ash, bottom ash, boiler slag, and material captured in flue gas desulfurization systems; ferrous, steel and aluminum foundry sand; aluminum slag; byproducts from the production of lime including lime kiln dust; or non–hazardous solid waste with similar characteristics as determined by the department.

(b) "Industrial byproduct" includes only materials that have been generated as a byproduct of an industrial process and possess consistent physical and chemical properties.

(c) "Industrial byproduct" does not include any of the following:

1. Post–consumer waste or the byproducts of combusting or processing post–consumer waste.

2. Ash from solid waste incinerators.

3. Slag generated by the production or processing of iron or steel that is managed as an item of value in a controlled manner and not discarded.

4. Material that was previously disposed or landfilled.

Note: Materials excluded from the definition of industrial byproducts may be beneficially reused if approved in writing by the department under s. NR 500.08 (5) (a) and s. 289.43, Stats., except iron or steel foundry slag which is exempted under ss. 289.01(33) and 287.29, Stats.

(9) "Lime kiln dust" means the material recovered from air pollution control systems that capture emissions from lime kilns.

(10) "Productive manner" means the use of an industrial byproduct that meets all of the following criteria:

(a) Provides a functional benefit.

(b) Substitutes for the use of a virgin material that must be otherwise obtained.

(c) Meets relevant product specifications, regulatory standards or design standards when available, and, when such standards are not available, is not used in excess quantities.

(11) "Representative sample" means any sample of industrial byproduct material collected for analysis that reliably exhibits the average properties of the byproduct production stream.

(12) "Residential area" means properties that are in an area zoned as residential, are in an area planned for residential zoning under a master plan approved or adopted by a local municipal authority, or in an area within 100 feet of a human residence.

(12m) "Select foundry sand" means foundry sand, as defined under sub. (6), that is comprised of either spent green molding sand, resin bonded molding sand, or core sand with primary components consisting of combinations of silica sand, bentonite clay, and carbonaceous additives such as bituminous coal, gilsonite, and cellulose. "Select foundry sand" may include nominal quantities of spent molding aides such as riser sleeves and ceramic filters but may not include uncured chemically bonded sands or debris beyond trace quantities. "Select foundry sand" must also have been determined to contain less than the concentration specified for the parameters listed in ch. NR 538 Appendix, Table 1, Column B to meet this definition.

(13) "Soil or plant additive" means a substance, intended for application to seeds, soil, or plants, that is designed for use or claimed to have value in promoting or sustaining plant growth, improving crop yield or quality, promoting or sustaining the fertility of the soil, or favorably modifying the structural, physical, or biological properties of the soil for agronomic or horticultural purposes and used in accordance with subch. III of ch. ATCP 40 or ch. ATCP 41.

(14) "Subgrade" means the uppermost soil bearing surface upon which base aggregates are placed.

(15) "Subgrade fill" means the layer or layers of industrial byproduct material placed to achieve a subgrade.

(16) "Topsoil" has the meaning given in s. NR 500.03 (236).

Note: This section is shown as amended eff. 11–1–20 by CR 19–080. Prior to 11–1–20 it reads:

NR 538.03 Definitions. The following definitions as well as the definitions in ch. 289, Stats., and s. NR 500.03 are applicable to the terms used in this chapter unless the context requires otherwise.

(1) "Base course" means the layer or layers of specified or selected material of designated thickness placed on a subbase or subgrade to support a pavement or other structure.

(2) "Confined geotechnical fill" means a fill that is covered by an impervious surface such as concrete or asphalt.

(3) "Flue gas desulfurization" means the material recovered from air pollution control systems that capture sulfur dioxide emissions from energy recovery facilities.

(4) "Industrial byproduct" means papermill sludge, ash from energy recovery including coal ash and slag, material captured in flue gas desulfurization systems, ferrous and steel foundry excess system sand and slag, lime kiln dust or non–hazardous solid waste with similar characteristics as determined by the department.

Note: Iron and steel process slags that meet the requirements in ss. 287.29 and 289.01(33), Stats., are not subject to regulation as an industrial byproduct under NR 538. See 2017 Wis. Act 285.

(5) "Lime kiln dust" means the material recovered for air pollution control systems that capture emissions from lime kilns.

(6) "Residential area" means properties that are zoned as residential, are in areas planned for residential zoning under a master plan approved or adopted by a local municipal authority or an area within 100 feet of a human residence.

(7) "Subbase" means the layer or layers of specified or selected material placed on a subgrade to support a base course.

(8) "Subgrade" means the top soil surface upon which a subbase or base course are placed.

(9) "Subgrade fill" means the layer or layers of material placed above the natural ground surface to achieve a subgrade.

(10) "Unconfined geotechnical fill" means a fill that is covered by native soils.

History: Cr. Register, December, 1997, No. 504, eff. 1–1–98; CR 05–020: renum. (2) to (6) to be (4) and (6) to (9) and am. (4) and (6), cr. (2), (3), (5) and (10) Register January 2006 No. 601, eff. 2–1–06; **CR 19–080: r. and recr. Register May 2020 No. 773, eff. 11–1–20; correction in (12m) made under s. 35.17, Stats., Register May 2020 No. 773.**

NR 538.04 Performance standards. No person may store, handle or beneficially use an industrial byproduct in a manner that may cause any of the following:

(1) A significant adverse impact on wetland water quality standards as provided under ch. NR 103.

Note: Sub. (1) is shown as amended eff. 11–1–20 by CR 19–080. Prior to 11–1–20 it reads:

(1) A significant adverse impact on wetlands.

(2) A take of an endangered or threatened species or other activity prohibited under s. 29.604, Stats.

(3) A detrimental effect on any surface water quality standard as provided in s. NR 102.03 (7).

Note: Sub. (3) is shown as amended eff. 11–1–20 by CR 19–080. Prior to 11–1–20 it reads:

(3) A detrimental effect on any surface water.

(4) A detrimental effect on groundwater quality or will cause or exacerbate an attainment or exceedance of any preventive action limit or enforcement standard at a point of standards application as defined in ch. NR 140.

(5) The migration and concentration of explosive gases in any structures, or in the soils or air at or beyond the project property boundary in excess of 25% of the lower explosive limit for the gases at any time.

(6) The emissions of any hazardous air contaminant exceeding the limitations for those substances contained in s. NR 445.03.

Note: The emissions of particulates and volatile organic compounds are regulated under s. NR 415.03 and chs. NR 419 to 424.

(7) A discharge of pollutants carried by storm water exceeding any applicable permit requirements or standards under ch. NR 216.

Note: Sub. (7) is created eff. 11–1–20 by CR 19–080.

Note: The placement of materials in a floodplain where an obstruction to flood flows or an increase in regional flood event or an adverse affect upon a drainage course is regulated under ch. NR 116.

History: Cr. Register, December, 1997, No. 504, eff. 1–1–98; CR 05–020: am. (2) Register January 2006 No. 601, eff. 2–1–06; **CR 19–080: am. (1), (3), cr. (7) Register May 2020 No. 773, eff. 11–1–20.**

NR 538.05 Solid waste rules exemption. (1) GENERAL. Persons who generate, use, transport, or store industrial byproducts that are characterized and beneficially used in compliance with this chapter are exempt from licensing under s. 289.31, Stats., and the regulatory requirements in chs. NR 500 to 528.

Note: Sub. (1) is shown as amended eff. 11–1–20 by CR 19–080. Prior to 11–1–20 it reads:

(1) GENERAL. Persons who generate, use, transport or store industrial byproducts that are characterized and beneficially used in compliance with this chapter are exempt from licensing under s. 289.31, Stats., and the regulatory requirements in chs. NR 500 to 538.

(2) EXISTING EXEMPTIONS. This chapter does not abrogate, rescind or terminate an approval or grant of exemption that was issued under s. 289.43 (7) or (8), Stats. Nothing in this subsection limits the authority of the department to modify, terminate or rescind any approval or grant of exemption as provided by law.

Note: Sub. (2) is shown as amended eff. 11–1–20 by CR 19–080. Prior to 11–1–20 it reads:

(2) EXISTING EXEMPTIONS. This chapter does not abrogate, rescind or terminate an approval or grant of exemption in effect on January 1, 1998 that was issued under s. 289.43 (7) or (8), Stats. Nothing in this subsection limits the authority of the department to modify, terminate or rescind any approval or grant of exemption as provided by law.

History: Cr. Register, December, 1997, No. 504, eff. 1–1–98; correction in (1) made under s. 13.92 (4) (b) 7., Stats., Register February 2010 No. 650; **CR 19–080: am. Register May 2020 No. 773, eff. 11–1–20.**

NR 538.06 Industrial byproduct characterization.

(1) GENERAL. (a) Industrial byproducts that are beneficially used under this chapter shall be characterized, as specified in this section, to determine their eligible uses under s. NR 538.10. A generator, or the generator's designee, shall report the results of this characterization to the department as specified in s. NR 538.14 (1). The department shall reply with a written concurrence within 10 business days provided the applicant meets the applicable criteria of this chapter. The department has the option of concurring with the characterization, requesting additional information or analysis, determining that a case–specific approval under s. NR 538.09 is required, or issuing a non–concurrence decision. If the department does not respond to a certification request within 10 business days, the certification is deemed complete and concurrence is considered granted. The department may approve eligible uses for industrial byproducts that do not meet the listed characterization criteria on a case–specific basis in accordance with s. NR 538.09.

(b) For those materials not explicitly listed in, and which are subject to the requirements of the "Other" materials column of ch. NR 538 Appendix Tables 1 and 2, the department may do any of the following:

1. Exempt the requirement to analyze for certain parameters on a material–specific basis.

2. Require analysis for additional parameters on a material–specific basis in order to demonstrate compliance with performance standards identified at s. NR 538.04.

3. Require the applicant submit a testing program plan, which the department must approve in writing prior to commencement of characterization.

(2) INITIAL CHARACTERIZATION. A representative sample of each industrial byproduct shall be properly characterized prior to beneficial use to determine its eligible uses under s. NR 538.10. Samples shall be obtained at the point of accumulation nearest to where the byproduct is generated. A case–specific approval under s. NR 538.09 may be required by the department if the byproduct is subject to any deliberate post–accumulation processing, excluding mechanical size reduction or sorting and the application of water to improve handling or as dust suppression.

(3) CHARACTERIZATION METHODS. (a) *General.* The limits of detection used in the characterization shall be at or below the concentrations listed in ch. NR 538 Appendix, Tables 1 to 3 for each parameter. When a limit of detection at or below a standard is not achievable, the method that will achieve the lowest detection limit shall be used. All material sampling, total elemental analyses, and analyses of elutriate from leach testing shall be performed using EPA SW–846 methods, unless alternate methods are otherwise approved by the department in writing. The generator shall report the limit of detection and the limit of quantitation with the sample results. If a substance is detected below the limit of quantitation, the detected value with the appropriate qualifier shall be reported.

(b) *Hazardous waste determination.* All industrial byproducts that are to be beneficially used under this chapter shall first be determined not to be a hazardous waste, as defined under s. NR 660.10 (52), using a method specified under ch. NR 662.011. The generator shall provide supporting documentation of the waste determination along with the initial certification submitted to the department as specified in sub. (1).

Note: Supporting documentation may include representative sampling and analysis, safety data sheets, published information, process flow diagrams, profiles developed from the prior handling of industrial byproducts, or supported process knowledge.

(c) *Water leach test.* All industrial byproducts, except byproducts to be used as a soil or plant additive in accordance with s. NR 538.10 (5), shall be analyzed using ASTM D3987–12 water leach test as specified in ch. NR 538 Appendix, Table 1.

(d) *Bulk analysis.* All industrial byproducts, except byproducts to be used as a soil or plant additive in accordance with s. NR 538.10 (5), shall be analyzed using a bulk analysis for the parameters in ch. NR 538 Appendix, Table 2, unless another analytical method is approved by the department in writing.

(e) *Flue gas desulfurization analysis.* All flue gas desulfurization materials to be marketed and used as soil or plant additives in accordance with s. NR 538.10 (5) shall be analyzed using a total elemental analysis for the parameters in ch. NR 538 Appendix, Table 3, unless another analytical method or parameters are approved by the department in writing.

(f) *Select foundry sand.* Generators may request that the department designate their foundry industrial byproducts as select foundry sand with their initial certification notification under sub. (1) (a) or recharacterization under sub. (5) provided they submit supporting documentation to the department demonstrating that the foundry byproducts meet the definition under s. NR 538.03 (12m) and have been determined to contain less than the concentration specified for the parameters listed in ch. NR 538 Appendix, Table 1, Column B. Supporting documentation shall include evidence of segregation which may include process flow diagrams, written material handling and segregation procedures, or byproduct management summaries. If the department determines that the foundry byproduct meets the definition, the department shall reply with a written concurrence of the designation within 10 business days provided the applicant meets the applicable criteria of this chapter. If the department does not respond to a notification within 10 business days, the notification is deemed complete and concurrence is considered granted.

(4) MIXING OF INDUSTRIAL BYPRODUCTS. If separate industrial byproducts will be mixed together, each of the byproducts must be individually eligible for the specific intended final use of the resulting mixture unless otherwise approved by the department in writing under s. NR 538.09.

Note: Copies of EPA SW–846 test methods are available directly from the U.S. environmental protection agency at https://www.epa.gov/hw–sw846. Copies of the test methods are available for inspection at the offices of the department of natural resources and the legislative reference bureau. See also the definition for SW–846 at s. NR 500.03 (231), Wis. Admin. Code.

Note: ASTM D3987–12 is the American society for testing and materials "Test Method for Shake Extraction of Solid Wastes with Water." Copies of the ASTM standard may be obtained from ASTM International at https://www.astm.org/Standards/D3987.htm. Copies of the standard are available for inspection at the offices of the department of natural resources and the legislative reference bureau.

(5) RECHARACTERIZATION. (a) Industrial byproducts that are beneficially used under this chapter shall be recharacterized after the initial characterization in accordance with this section, unless the department approves, in writing, an alternative recharacterization method.

(b) Industrial byproducts shall be recharacterized as follows:

1. A representative sample of each industrial byproduct shall be recharacterized whenever there is a change in the process that produces the industrial byproduct that could potentially result in a change in the eligible uses of the industrial byproduct.

2. A representative sample of each industrial byproduct shall be recharacterized in accordance with ch. NR 538 Appendix, Tables 1 and 2, at a minimum of once every 4 years from the date of the initial certification or the last recharacterization, except that recharacterization is not required under this subsection for any industrial byproduct of which less than 1000 cubic yards were beneficially used or stored for beneficial use in any calendar year during the previous 4–year period.

(c) The generator shall submit documentation of any recharacterization test results required under this section to the department in accordance with s. NR 538.14 (2). The department shall reply

with a written concurrence within 10 business days, provided the submittal meets the applicable criteria of this chapter. If the department does not respond to a recertification request within 10 business days, the recertification is deemed complete and concurrence with the recharacterization is considered granted.

(6) INITIAL APPLICABILITY. A generator that submitted an initial certification prior to January 1, 2021, may submit a recharacterization and a hazardous waste determination under sub. (3) (b) to the department within 4 years of the date the last recharacterization or initial certification was submitted to the department prior to January 1, 2021, provided there has been no change in the process that produces the industrial byproduct in accordance with sub. (5) (b) 1.

Note: This section is shown as repealed and recreated eff. 11–1–20 by CR 19–080. Prior to 11–1–20 it reads:

NR 538.06 Industrial byproduct characterization. (1) GENERAL. Industrial byproducts that are beneficially used under this chapter shall be characterized as specified in this section to determine their appropriate categorization under s. NR 538.08. The results of this characterization shall be reported to the department as specified in s. NR 538.14. The testing program for materials not specifically listed in tables 1A to 3 shall be approved by the department prior to characterization. For those materials not listed in tables 1A to 3 the department may modify the list of parameters required to be analyzed for and may establish standards on a material specific basis for additional parameters.

(2) INITIAL CHARACTERIZATION. A representative sample of an industrial byproduct shall be properly characterized prior to beneficial use to determine its category under s. NR 538.08.

(3) CHARACTERIZATION METHODS. (a) The limits of detection used in the characterization shall be at or below the concentration listed in tables 1A to 3 for each parameter for the specific target category where possible. When a limit of detection at or below a target category standard is not achievable, or if no concentration is listed, the method that will achieve the lowest detection limit shall be used. All material sampling, total elemental analyses and analyses of elutriate from leach testing shall be performed using EPA SW–846 methods, unless otherwise approved by the department. The limit of detection and the limit of quantitation shall be reported with the sample results. If a substance is detected below the limit of quantitation, the detected value with the appropriate qualifier shall be reported.

(b) All industrial byproducts that are to be beneficially used under this chapter shall be determined not to be a hazardous waste as defined under s. NR 660.10 (52) using a method specified under ch. NR 661.

(c) All industrial byproducts which are characterized to determine eligibility for category 1 to 4 under s. NR 538.08 (1) to (4) shall be analyzed using ASTM D3987–85 water leach test.

(d) All industrial byproducts which are characterized to determine eligibility for category 1 or 2 under s. NR 538.08 (1) or (2) shall be analyzed using a total elemental analysis, unless another analysis method is approved by the department.

Note: Copies of EPA SW–846 test methods are available at no cost at https://www.epa.gov/hw–sw846/basic–information–about–how–use–sw–846#UseWhich. Copies of the test methods are available for inspection at the offices of the Department of Natural Resources, the Secretary of State and the Legislative Reference Bureau. Copies may be obtained from the superintendent of documents, U.S. government printing office, P.O. Box 371954, Pittsburgh, PA 15250–7954, (866) 512–1800, www.gpo.gov. Copies may also be obtained from the National Technical Information Service, U.S. Department Of Commerce, 5285 Port Royal Road, Springfield, VA 22161, (800) 553–6847, www.ntis.gov.

Note: ASTM–D3987–85 is the American society for testing and materials "Test Method for Shake Extraction of Solid Wastes with Water." Copies of the ASTM standard may be obtained from ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428–2959, (610) 832–9585, www.astm.org. Copies of the standard are available for inspection at the offices of the Department of Natural Resources, the Secretary of State and the Legislative Reference Bureau.

(4) RECHARACTERIZATION. (a) Industrial byproducts that are beneficially used under this chapter shall be recharacterized after the initial characterization in accordance with this section, unless the department approves an alternative recharacterization method. A representative sample of each industrial byproduct shall be recharacterized whenever there is a change in the process that produces the industrial byproduct that could result in a change of the category of the industrial byproduct.

(b) A representative sample of each category 1 industrial byproduct shall be recharacterized in the same manner as specified for the initial characterization once each year. Recharacterization is not required for any category 1 industrial byproduct of which less than 1000 cubic yards were beneficially used or stored for beneficial use in the previous year.

(c) A representative sample of each category 2 industrial byproduct shall be recharacterized in the same manner as specified for the initial characterization once every 2 years. Recharacterization is not required for any category 2 industrial byproduct of which less than 2000 cubic yards were beneficially used or stored for beneficial use during the previous 2–year period.

(d) A representative sample of each category 3 industrial byproduct shall be recharacterized in the same manner as specified for the initial characterization once every 3 years. Recharacterization is not required for any category 3 industrial byproduct of which less than 3000 cubic yards were beneficially used or stored for beneficial use during the previous 3–year period.

(e) A representative sample of each category 4 industrial byproduct shall be recharacterized in the same manner as specified for the initial characterization once every 5 years. Recharacterization is not required for any category 4 industrial byproduct of which less than 5000 cubic yards were beneficially used or stored for beneficial use in the previous 5–year period.

History: Cr. Register, December, 1997, No. 504, eff. 1–1–98; CR 05–020: am. (3) (c) Register January 2006 No. 601, eff. 2–1–06; corrections in (3) (b) made under s. 13.92 (4) (b) 7., Stats., Register February 2010 No. 650; **CR 19–080: r. and recr. Register May 2020 No. 773, eff. 11–1–20; correction in numbering in (1) (b) made under s. 13.92 (4) (b) 1., Stats., and correction in (1) (a), (b) 3., (3) (b), (5) (c), (6) made under s. 35.17, Stats., Register May 2020 No. 773.**

NR 538.08 Determination of eligible uses. Acceptable beneficial uses for industrial byproducts that have been determined not to be a hazardous waste, as defined in s. NR 660.10 (52), and tested in accordance with s. NR 538.06 shall be determined as follows:

(1) CONTAINED OR CONVERTED USES. All industrial byproducts, including select foundry sand, are eligible for contained or converted uses in accordance with provisions of s. NR 538.10 (1).

(2) GEOTECHNICAL FILL. Industrial byproducts, including select foundry sand, that have been determined to contain less than the concentration specified for the parameters listed in ch. NR 538 Appendix, Table 1, Column B, are eligible for use as geotechnical fill in accordance with the provisions of ss. NR 538.10 (2) and 538.12, except nonmetallic mine reclamation uses under s. NR 538.12 (2) (e), which must be designated by the department as a select foundry sand under s. NR 538.06 (3) (f) or determined to contain less than the concentration specified for the parameters listed in ch. NR 538 Appendix, Table 1, Column A.

(3) CONSTRUCTION USES. Industrial byproducts, including select foundry sand, that have been determined to contain less than the concentration specified for the parameters listed in ch. NR 538 Appendix, Table 1, Column B, are eligible for construction uses in accordance with the provisions of s. NR 538.10 (3).

(4) UNCONFINED USES. Industrial byproducts, including select foundry sand, that have been determined to contain less than the concentration specified for the parameters listed in ch. NR 538 Appendix, Table 1, Column B and Table 2 are eligible for unconfined uses in accordance with the provisions of s. NR 538.10 (4).

(5) SOIL OR PLANT ADDITIVES. Flue gas desulfurization materials that have been determined to contain less than the concentration specified for the parameters listed in ch. NR 538 Appendix, Table 3, are eligible for use as soil and plant additives in accordance with the provisions of s. NR 538.10 (5). Industrial byproducts intended for use as agricultural liming additives that have been determined to contain less than the concentrations specified in Table 3 of s. NR 204.07 (5) (c) are eligible for use as soil or plant additives in accordance with the provisions of s. NR 538.10 (5).

(6) CRITERIA AND PROCESS FOR USING ELIGIBILITY STANDARDS. (a) If a standard for a parameter listed in ch. NR 538 Appendix is above the limit of detection and the limit of quantitation, the standard shall be considered exceeded if the parameter is reported at or above the standard.

(b) If a standard for a parameter listed in ch. NR 538 Appendix is between the limit of detection and the limit of quantitation, inclusive, the standard shall be considered exceeded if the parameter is reported at or above the limit of quantitation.

(c) The following applies when a standard for a parameter listed in ch. NR 538 Appendix is below the lowest achievable limit of detection:

1. If a parameter is not detected in a sample, the standard shall be considered to have been met.

2. If a parameter is reported at or above the limit of detection but below the limit of quantitation, a confirmation analysis shall be conducted. The standard shall be considered exceeded if the presence of that parameter has been confirmed by the use of an appropriate analytical method as determined by the department.

3. If a parameter is reported at or above the limit of quantitation, the standard shall be considered exceeded.

Note: This section is shown as repealed and recreated eff. 11–1–20 by CR 19–080. Prior to 11–1–20 it reads:

NR 538.08 Industrial byproduct categories. The categories of industrial byproducts, characterized in accordance with s. NR 538.06, for beneficial use under this chapter are as follows:

(1) CATEGORY 1 INDUSTRIAL BYPRODUCTS. **Industrial byproducts that have been determined to contain less than the concentration specified for the parameters listed in ch. NR 538 Appendix I, Tables 1A and 1B, are category 1 industrial byproducts.**

(2) CATEGORY 2 INDUSTRIAL BYPRODUCTS. **Industrial byproducts that have been determined to contain less than the concentration specified for the parameters listed in ch. NR 538 Appendix I, Tables 2A and 2B, and are not category 1 industrial byproducts are category 2 industrial byproducts. If in the total elemental analysis total polyaromatic hydrocarbons exceed 100 mg/kg, department concurrence is necessary prior to classification as a category 2 industrial byproduct. Unless authorized by the department the total elemental analysis for industrial byproducts not listed in Table 2B shall also include aluminum, antimony, barium, boron, cadmium, hexavalent chromium, cobalt, copper, lead, mercury, molybdenum, nickel, phenol, selenium, silver, strontium, thallium, vanadium and zinc.**

(3) CATEGORY 3 INDUSTRIAL BYPRODUCTS. **Industrial byproducts that have been determined to contain less than the concentration specified for the parameters listed in ch. NR 538 Appendix I, Table 2A, and are not category 1 or 2 industrial byproducts are category 3 industrial byproducts. Coal ashes are category 3 industrial byproducts if the concentration of boron is less than 3.4 mg/l and the concentration of all other parameters are less than those concentrations listed in ch. NR 538 Appendix I, Table 2A.**

(4) CATEGORY 4 INDUSTRIAL BYPRODUCTS. **Industrial byproducts that have been determined to contain less than the concentration specified for the parameters listed in ch. NR 538 Appendix I, Table 3, and are not category 1 to 3 industrial byproducts are category 4 industrial byproducts.**

(5) CATEGORY 5 INDUSTRIAL BYPRODUCTS. **Industrial byproducts that have been determined not to be a hazardous waste as defined in s. NR 660.10 (52) and are not category 1 to 4 industrial byproducts are category 5 industrial byproducts.**

(6) CRITERIA AND PROCESS FOR USING CATEGORY STANDARDS. **(a) If a standard for a parameter listed in ch. NR 538 Appendix I is above the limit of detection and the limit of quantitation, the standard shall be considered to be exceeded if the parameter is reported at or above the standard.**

(b) If a standard for a parameter listed in ch. NR 538 Appendix I is between the limit of detection and the limit of quantitation, inclusive, the standard shall be considered to be exceeded if the parameter is reported at or above the limit of quantitation.

(c) The following applies when a standard for a parameter listed in ch. NR 538 Appendix I is below the lowest achievable limit of detection:

1. If a parameter is not detected in a sample, the standard will be considered to have been met.

2. If a parameter is reported at or above the limit of detection but below the limit of quantitation, a confirmation analysis shall be conducted. The standard shall be considered to be exceeded if the presence of that parameter has been confirmed by the use of an appropriate analytical method.

3. If a parameter is reported at or above the limit of quantitation, the standard shall be considered to be exceeded.

(7) CASE SPECIFIC. **The department may review the characterization results for an industrial byproduct in response to a request from the generator of the industrial byproduct not defined in s. NR 538.03 (4) and assign a category or categories for that material, or conditionally approve a beneficial use that does not meet the beneficial uses or standards specified in this chapter, on a case specific basis. The department may require additional information prior to a case specific approval. Any exemption or approval granted under this subsection shall be in accordance with the applicable requirements of s. 289.43 (4), (7) and (8), Stats.**

Note: The department may revise this rule to add or remove parameters or revise standards if changes in ch. NR 140, or other information warrant modifications.

History: Cr. Register, December, 1997, No. 504, eff. 1–1–98; CR 05–020: am. (3) and (7) Register January 2006 No. 601, eff. 2–1–06; corrections in (1) to (5), (6) (a) to (c) made under s. 13.93 (2m) (b) 7., Stats., Register April 2013 No. 688; **CR 19–080: r. and recr. Register May 2020 No. 773, eff. 11–1–20; correction in (intro.) made under s. 35.17, Stats., Register May 2020 No. 773.**

NR 538.09 Case–specific approvals. The department may review the characterization results for an industrial byproduct not defined in s. NR 538.03 (8) in response to a request from the generator and may, on a case–specific basis, approve a beneficial use or uses for that material or conditionally approve a beneficial use that does not meet the beneficial uses or standards specified in this chapter. The department may require additional information prior to a case–specific approval. Any exemption or approval granted under this section shall be in accordance with the applicable requirements of s. 289.43 (4), (7) and (8), Stats. If the department determines that the industrial byproduct material falls under the s. NR 538.03 (8) (b) or (c) exclusions or the proposed use does not meet the definition of a beneficial use under s. NR 538.03 (2), approval for use or disposal must be obtained through the applicable provisions under ss. NR 500 to 528.

Note: This section is created eff. 11–1–20 by CR 19–080.

History: CR 19–080: r. and recr. Register May 2020 No. 773, eff. 11–1–20; correction made under s. 35.17, Stats., Register May 2020 No. 773.

NR 538.10 Eligible beneficial uses. All uses of industrial byproducts shall meet all applicable structural and physical specifications and generally accepted engineering practices for the use. Under this chapter, the eligible beneficial uses of industrial byproducts that may be exempt from licensing under s. 289.31, Stats., and the regulatory requirements under chs. NR 500 to 528 include any of the following:

(1) CONTAINED OR CONVERTED USES. Uses that are fully contained within a licensed, engineered disposal facility, are encapsulated within a matrix material, are burned for fuel, or are converted into a product, including any of the following:

(a) Encapsulated uses. Products that may meet these criteria include cement, lightweight aggregate, structural or ornamental concrete or ceramic materials, portland cement concrete pavement, asphaltic concrete pavement, slurry seals, roofing materials, plastics, paint, fiberglass, mineral wool, wallboard, plaster and other products approved in writing by the department.

(b) Agents for physical or chemical stabilization, solidification or other treatment of solid waste that is to be disposed of at a licensed, engineered disposal facility or utilized in some other final use approved in writing by the department.

(c) Supplemental material used for fuel or to assist air pollution control during the process of combustion for energy production.

(d) Daily cover or internal structures at licensed, approved landfills having a liner and leachate collection system. The industrial byproducts used for this purpose may not contain free liquids. The industrial byproducts beneficially used at landfills for alternate daily cover in accordance with s. NR 506.055 may contain no more than 15% silt and clay sized materials as determined by their P200 content and may not be placed in layers greater than 6 inches thick. Any uses under this paragraph shall be subject to the conditions of the plan of operation and any other applicable solid waste approvals associated with the landfill.

(2) GEOTECHNICAL FILL. Geotechnical fill material meeting the project criteria and uses specified in this subsection and s. NR 538.12 where applicable. If more than 5,000 cubic yards are to be used in an individual project, prior written notification in accordance with s. NR 538.14 (5) and concurrence by the department under s. NR 538.14 (6) are required unless the specific concurrence requirements in par. (b) or (f) apply. Industrial byproducts shall be used in accordance with best management practices. The criteria and uses under this subsection are as follows:

(a) *Subgrade fill for the construction of commercial, industrial or non–residential institutional buildings.* Industrial byproducts used as subgrade fill for the construction of commercial, industrial, or non–residential institutional buildings shall have placement of the concrete floor or frostwalls completed as soon as practical after placement of the fill material in accordance with s. NR 538.12 (4). Any area where industrial byproducts are not directly beneath the building shall be sloped to prevent ponding of water, covered with 2 feet of native soil including a minimum of 4 inches of topsoil, and seeded or otherwise covered as approved by the department in writing. Cover shall be placed over fill material as soon as practical after byproduct placement. Final vegetated slopes may not be steeper than a 3:1 horizontal to vertical incline. The use of industrial byproducts as subgrade fill in the construction of residential buildings is prohibited.

(b) *Subgrade fill for the construction of portland cement concrete or asphaltic concrete paved infrastructure.* Industrial byproducts used for subgrade fill for the construction of portland cement or asphaltic concrete paved infrastructure including park-

ing lots, access roads, and private roadways shall have placement of the pavement completed as soon as practical after placement of the fill material. Any area where industrial byproducts are not directly beneath the pavement structure shall be sloped to prevent ponding of water, covered with 2 feet of native soil including a minimum of 4 inches of topsoil, and seeded as soon after byproduct placement as is practical or otherwise covered as approved by the department in writing. Prior written notification in accordance with s. NR 538.14 (5) and written concurrence by the department under s. NR 538.14 (6) are required for fills that do not meet the criteria in this paragraph. The use of industrial byproducts as paved lot fill is prohibited in residential areas.

(c) *Geotechnical fill material with a soil or gravel cover.* Industrial byproducts beneficially used as geotechnical fill with a soil or gravel cover for sight, sound, safety and structural berms, public recreation trails, construction of sporting venues, limited use parking areas, access lanes, utility trenches not covered by a paved surface in accordance with sub. (3) (c), or other beneficial uses demonstrated to be acceptable by the department shall be sloped to prevent ponding of water, covered with 2 feet of native soils, including a minimum of 4 inches of topsoil or other cover approved by the department in writing, and seeded as soon as practical after placement of the industrial byproducts. Final vegetated slopes may not be steeper than a 3:1 horizontal to vertical incline. Gravel or other granular material may be substituted for topsoil if necessary for the specified use, provided the total fill cover is at least 2 feet. The beneficial use of industrial byproducts as geotechnical fill with a soil or gravel cover is prohibited in residential areas.

(d) *Use of foundry sand at livestock operations.* Foundry sand may be beneficially used at livestock operations for any of the following:

1. Liner material in an impoundment or structure used for the storage of livestock manure, livestock feed, or process wastewater. The impoundment or structure shall be designed and constructed in accordance with applicable natural resources conservation service standards and local ordinances, and in accordance with plans and specifications approved under chs. NR 213 and 243, if applicable.

2. Geotechnical fill beneath an area where livestock will be housed or confined. Any areas of foundry sand fill that will be washed or mechanically scraped shall be paved with an asphalt or concrete surface, or a 2 feet thick protective soil layer, over the industrial byproduct. The livestock housing or confinement area design and construction shall be in accordance with applicable natural resources conservation service standards and local ordinances, and in accordance with plans and specifications approved under ch. NR 243, if applicable to any portion of the project.

Note: Under ch. NR 243 Natural Resources Conservation Service (NRCS) conservation practice standard Code 313, dated December 2005 applies to waste storage facilities. Under ch. ATCP 50, NRCS conservation practice standard Code 629 dated January 2014 applies to feed storage runoff control facilities. Copies of these and other conservation practice codes can be obtained online from the NRCS Field Office Technical Guide, www.nrcs.usda.gov/wps/portal/nrcs/site/wi/home. Copies are also available at the Wisconsin NRCS state office or the Wisconsin Land and Water Conservation Association office.

(e) *Transportation facility embankments.* Industrial byproducts used as geotechnical fill for transportation facility embankments such as linear roadway sound and sight barrier berm embankments, airport embankments, and roadway bridge or overpass embankments constructed under the authority of the Wisconsin department of transportation or a municipality shall meet the criteria in this paragraph. Any area where industrial byproduct is used as an embankment and not covered by pavement or road shoulder material, shall be sloped to prevent ponding of water, covered with 2 feet of native soils including a minimum of 4 inches of topsoil, or other cover approved by the department in writing, and seeded with an approved Wisconsin department of transportation seed mix as soon as practical after placement of the industrial byproducts. Final vegetated slopes may not be steeper than a 3:1 horizontal to vertical incline.

(f) *Geotechnical fill material used in the reclamation of nonmetallic mining sites.* Industrial byproducts that have been designated by the department as select foundry sand under s. NR 538.06 (3) (f) or that do not exceed the concentrations specified in ch. NR 538 Appendix, Table 1, Column A may be beneficially used as geotechnical fill material in the reclamation of nonmetallic mining sites. Prior written notification in accordance with s. NR 538.14 (5) and concurrence by the department under s. NR 538.14 (6) are required for all nonmetallic mine reclamation projects. Reclamation of a nonmetallic mine within an area of Silurian bedrock as defined under s. NR 151.015 (17) shall be approved as a case−specific approval in accordance with s. NR 538.09. Additional requirements for the use of industrial byproducts for reclamation of nonmetallic mining sites include the following:

1. The use of industrial byproducts at a nonmetallic mining site with a reclamation permit issued under ch. NR 135 shall be in accordance with the approved reclamation plan required under s. NR 135.19. If the reclamation plan does not specify the use of industrial byproducts as fill material, the plan shall be modified in accordance with s. NR 135.24 to reflect the use of these byproducts. The reclamation plan or modification shall be approved by the regulatory authority under s. NR 135.03 (20) in accordance with ch. NR 135 before applying for concurrence by the department.

2. A mine reclamation project at a mine site that does not have an approved reclamation plan issued under ch. NR 135 shall be subject to a case−specific approval in accordance with s. NR 538.09. The applicant shall submit a reclamation plan that meets the applicable criteria under s. NR 135.19 (1) to (4) to the department as part of the case−specific approval request.

3. Eligible uses for industrial byproducts as part of the reclamation of a nonmetallic mine site under this section include construction of safety berms, buttressing of unstable side slopes to provide for a revegetated surface, placement of no more than 2 feet of manufactured soils under sub. (4) (c) or other appropriate byproducts to establish a rooting zone layer, or the use of byproducts or byproduct blends as a topsoil substitute material as defined under s. NR 135.03 (24).

4. Any area where industrial byproducts are beneficially used as geotechnical fill in a nonmetallic mine site that are to be revegetated as part of the mine reclamation plan shall be sloped to prevent ponding of water, covered with 2 feet of native soils including a minimum of 4 inches of topsoil or other cover approved by the department in writing, and seeded in accordance with the reclamation plan as soon as practical after placement of the industrial byproducts. Final vegetated slopes may not be steeper than a 3:1 horizontal to vertical incline.

5. For all nonmetallic mine reclamation project sites, industrial byproducts, including select foundry sand, that are used as geotechnical fill may not be placed within 5 feet of the groundwater table at the time the byproduct material is placed.

6. The beneficial use of industrial byproducts as geotechnical fill in the reclamation of nonmetallic mines is prohibited in residential areas or areas where residential construction is planned as a post−reclamation land use.

Note: Federal rules restrict the use of coal combustion residuals as fill in sand and gravel pits and quarries under 40 CFR 257.50−107, subpart D.

Note: Best management practices under this paragraph may include ASTM D7765−18a when foundry sand is used for structural fill or embankments, ASTM E2277−14 for the use of coal ash in structural fills, Wisconsin department of transportation specifications for highway and structure construction, or other established engineering construction standards and practices appropriate for the project.

(3) CONSTRUCTION USES. Construction uses in accordance with the project criteria and uses specified in this subsection. Industrial byproducts used in this subsection may not be placed within areas of permanent standing water or areas that need to be

dewatered prior to placement due to groundwater infiltration. Construction uses include any of the following:

(a) *Subgrade fill for the construction of a paved federal, state, or municipal roadway.* Industrial byproducts placed as part of construction of a paved federal, state or municipal roadway may not extend beyond the subgrade shoulder point and the depth of the fill may not exceed 4 feet, except for incidental sections of the fill. Any area where industrial byproducts are not directly beneath the pavement structure shall be sloped to prevent ponding of water, covered with base course or native soil, including topsoil, and seeded as soon as practical after placement of the industrial byproduct. Placement of the pavement structure shall be completed as soon as practical after placement of the fill material. For fills greater than 4 feet in depth, the design shall adhere to the criteria specified in sub. (2) (e). The use of industrial byproducts as paved roadway subgrade fill is prohibited in residential areas, unless used in a roadway designed with a rural type cross−section without curbs and gutters.

(b) *Base aggregates for the construction of commercial, industrial and non−residential institutional building slabs and paved infrastructure.* Industrial byproducts used as base aggregates for the construction of commercial, industrial, and non−residential institutional building slabs and paved infrastructure including parking lots, access roads, and federal, state and municipal roadways shall meet the project specified physical properties of the Wisconsin department of transportation Section 301 standard specifications for base aggregates unless otherwise approved by the department in writing. The use of industrial byproducts as base aggregates under this paragraph is prohibited in residential areas, unless used in a roadway designed with a rural type cross−section without curbs and gutters.

(c) *Utility trench backfill.* Industrial byproducts used to backfill a utility trench constructed for the placement of a sanitary or storm sewer, a non−potable water line, a gas main, or telecommunications, electrical or other utility lines shall be covered by a paved roadway, parking lot or other portland cement concrete or asphaltic concrete paved structure and may not extend more than 4 feet beyond the pavement structure. Any area where industrial byproducts are not directly beneath the pavement structure shall be sloped to prevent ponding of water, topsoiled, and seeded as soon as practical after placement of the industrial byproduct.

(d) *Abandonment of tanks, vaults, or tunnels.* Industrial byproducts may be beneficially used for the abandonment of tanks, vaults or tunnels that will completely contain the industrial byproduct. This use does not include the placement of an industrial byproduct in a location where environmental pollution has been identified unless it is specified in a plan approval by the department.

(e) *Slabjacking material.* Industrial byproducts used as a component in a slabjacking material in combination with portland cement, lime, or bentonite shall be placed beneath portland cement concrete paved structures to raise areas that have settled. The slabjacking material shall be placed directly from an enclosed transport vehicle. Projects using more than 2 cubic yards of industrial byproduct as a slabjacking material are prohibited in residential areas.

(f) *Soil and pavement stabilization.* Coal combustion fly ash used as soil and pavement base stabilization for structural improvements shall be used in accordance with ASTM C618−15 or the Wisconsin department of transportation specifications for highway and structure construction, or other good engineering practices acceptable to the department. The use of industrial byproducts as soil and pavement base stabilization is allowed in residential areas for those beneficial uses specified in par. (a) if approved by the local unit of government with jurisdiction over the roadway.

Note: ASTM C618−15 is the American society for testing and materials "Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete." Copies of this test procedure can be obtained from ASTM International at https://www.astm.org/Standards/C618.htm. Copies of the standard are also available for inspection at the offices of the department of natural resources and the legislative reference bureau.

(g) *Controlled low strength material.* Industrial byproducts incorporated into controlled low strength material for structural improvements, commonly referred to as flowable fill, shall be used in accordance with ACI 229R−13, the Wisconsin department of transportation specifications for highway and structure construction, or other good engineering practices acceptable to the department.

Note: ACI 229R−13 is the American Concrete Institute report "Controlled Low Strength Materials." Copies of this report can be obtained at https://www.concrete.org. Copies of this report are also available for inspection at the offices of the department of natural resources and the legislative reference bureau.

(h) *Bonded surface course material.* Industrial byproducts used as a bonded surface course such as seal coats and chip seals in paved federal, state or municipal roadways, commercial and private roadway or parking surfaces, driveways, airport runways, and trails shall conform to the Wisconsin department of transportation standard specifications for highway and structure construction applicable to asphaltic pavements, including limitations on the percentage of material passing the P200 sieve and application rates. Within 48 hours of application of the industrial byproduct, the surface shall be rolled to thoroughly embed these materials into the asphaltic mastic and, within one week of application, the surface shall be swept to remove any loose excess material.

(4) UNCONFINED USES. Unconfined uses that are not contained, encapsulated, or covered by either 2 feet of soil or an impervious surface and meet the project criteria and uses specified in this subsection. Unconfined uses include any of the following:

(a) *Unbonded surface course material.* Industrial byproducts used as an unbonded surface course shall conform to the requirements of Wisconsin department of transportation standard specifications for highway and structure construction applicable to base materials and may be placed at a cumulative thickness of 6 inches or less and in areas separated by at least a 25−foot vegetated buffer to a navigable surface water. This includes the use of industrial byproducts as a surface course material in unpaved driveways, road shoulders, farm lanes, parking areas, and recreation or exercise trails. The use of industrial byproducts as unbonded surface course is prohibited in residential areas.

(b) *Winter weather road abrasive on roadways with a rural cross−section.* Winter road abrasives using industrial byproducts, wholly or as part of a mixture of abrasives and de−icing compounds, shall meet Wisconsin department of transportation gradation and application rate recommendations for winter highway maintenance contained in the state highway maintenance manual. The use of industrial byproducts as winter road abrasives is restricted to use on roadways designed with a rural type cross−section with only incidental sections of curbs and gutters.

(c) *Manufactured soil blends.* Manufactured soil blends with the mineral component derived from spent silica−based foundry sand from iron, steel, and aluminum foundries shall be comprised of no more than 50% spent foundry sand by weight and intended for use as a commercial or consumer product. Soil blends that incorporate industrial byproducts other than foundry sand or solid waste material shall be approved under the case−specific provisions specified in s. NR 538.09.

Note: Bulk land application of spent foundry sand on agricultural fields is regulated under ch. NR 518.

(5) SOIL OR PLANT ADDITIVES DERIVED FROM FLUE GAS DESULFURIZATION OR LIME−BEARING INDUSTRIAL BYPRODUCTS. Flue gas desulfurization or lime−bearing industrial byproducts used as soil or plant additives shall be managed, applied and licensed in accordance with subch. II of ch. ATCP 40 or ch. ATCP 41. Prior to use, initial certification, and concurrence by the department in accordance with s. NR 538.06 is required. In addition to the certification information, the applicant shall demonstrate, as part of the required written notification, all of the following:

(a) The industrial byproduct, as demonstrated through research projects approved under s. NR 518.04 (2) or previously published research, has value as a soil or plant additive and will not result in detrimental effects to the soil or vegetation at the rates and mixtures proposed. If the additive is part of a mixture, the physical and chemical nature of the other materials in the mixture and the relative percentages of each material shall be described in the submittal.

(b) The industrial byproduct or byproduct mixture will not be applied at rates such that excessive accumulation of hazardous substances occurs in soil or vegetation, cause a detrimental effect on surface water quality, or cause a detrimental effect on groundwater quality that would result in an exceedance of the groundwater quality standards specified in s. NR 140.

(c) The industrial byproduct or byproduct mixture will be applied in accordance with accepted agricultural practices.

(d) Industrial byproducts that are intended for use as agricultural liming materials, as defined under s. 94.66 (1) (am), Stats., meet the requirements of ch. ATCP 41 and do not contain contaminant concentrations exceeding the values listed in Table 3 of s. NR 204.07 (5) (c).

(e) Flue gas desulfurization material intended for use as an agricultural soil amendment does not contain contaminant concentrations exceeding the values listed in ch. NR 538 Appendix, Table 3, and will not be applied in volumes exceeding the maximum recommended application rates as determined by the Wisconsin department of agriculture, trade and consumer protection.

Note: USDA Code 333 is the guidance document "Amending Soil Properties with Gypsum Products," published as Natural Resources Conservation Service Conservation Practices Standard Code 333 (333–CPS–1), June 2015, and is available through the U.S. department of agriculture website: https://efotg.sc.egov.usda.gov/references/public/OH/Amending_Soil_Properties_with_Gypsum_Products_Standard_(333).pdf.

Note: Copies of Wisconsin department of transportation specifications for highway and structure construction and the state highway maintenance manual are available for inspection at the offices of the department of transportation, department of natural resources and the legislative reference bureau.

Note: Under s. 30.2022, Stats., highway and bridge projects affecting the waters of the state that are carried out under the direction and supervision of the department of transportation are exempt from department permit or approval requirements if accomplished in accordance with interdepartmental liaison procedures established by the department of natural resources and the department of transportation.

Note: This section is shown as repealed and created eff. 11–1–20 by CR 19–080. Prior to 11–1–20 it reads:

NR 538.10 Beneficial uses. The beneficial uses of industrial byproducts under this chapter which may be exempt from regulation as provided under s. NR 538.12 are:

(1) Raw materials for manufacturing of a product in which the measurable leaching, emissions or decomposition characteristics of the industrial byproduct are substantially eliminated. Products that would meet these criteria include cement, lightweight aggregate, structural or ornamental concrete or ceramic materials, portland cement concrete pavement, asphaltic concrete pavement, roofing materials, plastics, paint, fiberglass, mineral wool, wallboard, plaster and other products as approved by the department.

(2) Agents for physical or chemical stabilization, solidification or other treatment of solid waste that is to be disposed of at a lined landfill having a leachate collection system, or utilized in some other final use approved by the department.

(3) Supplemental fuels that provide energy through controlled burning.

(4) Daily cover or internal structures at lined landfills having a leachate collection system. The industrial byproducts used for this purpose may not contain free liquids. The industrial byproducts used as landfill daily cover may contain not more than 15% of silt and clay sized materials (P200 content), and may not be placed in layers greater than 6 inches thick. In addition the industrial byproducts used as landfill daily cover shall be able to control disease vectors, fires, odors, blowing litter and scavenging without presenting a threat to human health or the environment.

(5) Confined geotechnical fill material in accordance with the project criteria and uses specified in this subsection. If more than 5,000 cubic yards are to be used in an individual project, prior written notification in accordance with s. NR 538.14 (4) and concurrence by the department are needed. If the department does not respond to the notification within 10 business days, concurrence is considered to be granted. Industrial byproducts shall be used in accordance with best management practices. The criteria and uses under this subsection are as follows:

(a) *Base course, subbase or subgrade fill for the construction of commercial, industrial or non–residential institutional buildings.* The placement of the industrial byproduct may not extend more than 4 feet beyond the outside edge of the concrete slab or the frostwalls of the building. Placement of the concrete floor or frostwalls shall be completed as soon as practical after placement of the fill material. Any area where industrial byproducts are not directly beneath the building shall be sloped to prevent ponding of water, covered with 2 feet of native soil including topsoil and seeded as soon after placement as is practical. The use of industrial byproducts as base course, subbase and subgrade fill in the construction of residential buildings is specifically prohibited.

(b) *Base course, subbase or subgrade fill for the construction of a portland cement concrete or asphaltic concrete paved lot.* The placement of the industrial byproduct may not extend more than 4 feet beyond the paved area. Placement of the pavement shall be completed as soon as practical after placement of the fill material. Any area where industrial byproducts are not directly beneath the pavement structure shall be sloped to prevent ponding of water, covered with 2 feet of native soil including topsoil and seeded as soon after placement as is practical. The fill may not exceed 3000 cubic yards per half acre of the project area. The depth of fill may not exceed 4 feet below the natural ground surface. Prior written notification in accordance with s. NR 538.14 (4) and written concurrence by the department are needed for fills that do not meet the criteria in this subsection. Concurrence by the department will be based on specific site conditions and good engineering practice. If the department does not respond to the notification within 10 business days, concurrence is considered to be granted. The use of industrial byproducts as paved lot fill is prohibited in residential areas.

(c) *Base course, subbase or subgrade fill for the construction of a paved federal, state or municipal roadway.* Industrial byproducts placed as part of construction of the paved federal, state or municipal roadway may not extend beyond the subgrade shoulder point and the depth of the fill may not exceed 4 feet except for incidental sections of the fill. Any area where industrial byproducts are not directly beneath the pavement structure shall be sloped to prevent ponding of water, covered with base course or native soil including topsoil and seeded as soon as practical after placement of the industrial byproduct. Placement of the pavement structure shall be completed as soon as practical after placement of the fill material. For fills greater than 4 feet in depth using category 4 industrial byproducts, the design criteria in sub. (6) shall be required. For fills greater than 4 feet in depth using category 3 or less industrial byproducts, the design criteria in sub. (7) shall be required. The use of industrial byproducts as paved roadway subbase or base fill is prohibited in residential areas, unless used in a roadway designed with a rural type cross–section.

(d) *Utility trench backfill.* The industrial byproducts placed as part of backfill of a trench constructed for the placement of sanitary or storm sewer, non–potable water line, gas main, telecommunications, electrical or other utility lines shall be beneath a paved roadway, parking lot or other portland cement concrete or asphaltic concrete paved structure. The industrial byproducts may not extend more than 4 feet beyond the pavement structure. Any area where industrial byproducts are not directly beneath the pavement structure shall be sloped to prevent ponding of water, topsoiled and seeded as soon as practical after placement of the industrial byproduct.

(e) *Bridge abutment backfill.* Industrial byproducts placed as part of bridge abutment backfill shall be covered by a roadway structure. Any area where industrial byproducts are not directly beneath the pavement surface shall be sloped to prevent ponding of water, covered with base course or topsoiled and seeded as soon as practical after placement of the industrial byproduct. The use of industrial byproducts as bridge abutment trench backfill is prohibited in residential areas, unless used in a roadway designed with a rural type cross–section.

(f) *Abandonment of tanks, vaults or tunnels that will provide total encapsulation of the industrial byproduct.* This use does not include the placement of an industrial byproduct in a location where environmental pollution has been identified unless it is specified in a plan approval by the department.

(g) *Slabjacking material.* Industrial byproducts used as a component in a slabjacking material in combination with portland cement, lime or bentonite shall be placed beneath portland cement concrete paved structures to raise areas that have settled. The slabjacking material shall be placed directly from an enclosed transport vehicle. Projects using more than 2 cubic yard of industrial byproduct as a slabjacking material is prohibited in residential areas.

(h) *Soil and pavement stabilization.* Industrial byproducts used as soil and pavement base stabilization for structural improvements listed in pars. (a) to (c) shall be used in accordance with ASTM C618–03, or the Wisconsin department of transportation specifications for highway and structure construction, or other good engineering practices acceptable to the department. The use of industrial byproducts as soil and pavement base stabilization is allowed in residential areas for those beneficial uses specified in par. (c) if approved by the local unit of government with jurisdiction over the roadway.

Note: ASTM C618–03 is the American society for testing and materials "Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete." Copies of this test procedure can be obtained from ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428–2959, (610) 832–9585, www.astm.org. Copies of the standard are also available for inspection at the offices of the Department of Natural Resources, the Secretary of State and the Legislative Reference Bureau.

(i) *Controlled low strength material (flowable fill).* Industrial byproducts incorporated into controlled low strength material for structural improvements listed in pars. (a), (d), (e) and (f) shall be used in accordance with ACI 229R–99 or the Wisconsin department of transportation specifications for highway and structure construction, or other good engineering practices acceptable to the department.

Note: ACI 229R–99 is the American Concrete Institute report "Controlled Low Strength Materials." Copies of this report can be obtained from the American Concrete Institute, P.O. Box 9094, Farmington Hills, MI 48333, (248) 848–3800, www.concrete.org. Copies of this report are also available for inspection at the offices of the Department of Natural Resources, Bureau of Waste Management, 101 S. Webster Street, P.O. Box 7921, Madison, Wisconsin

53707–7921. Copies are available for inspection at the offices of the Legislative Reference Bureau and the Secretary of State.

(6) Fully encapsulated transportation facility embankments constructed under the authority of the Wisconsin department of transportation, or a municipality, that meet the criteria in this subsection. Examples include linear roadway sound and sight barrier berm embankments, airport embankments and roadway bridge or overpass embankments. For projects using more than 100,000 cubic yards of industrial byproducts, or with a maximum thickness of industrial byproduct greater than 20 feet, department concurrence shall be obtained prior to initiating the project. These embankments shall be constructed, documented and monitored as follows:

(a) The embankment shall be monitored in accordance with s. NR 538.20 (2).

(b) The embankment shall be covered on the top and sidewalls by 2 feet of recompacted clay, and underlain by a 3–foot thick recompacted clay liner. The recompacted clay base, sidewalls and top cover shall meet the following specifications:

1. A minimum thickness of 3 feet under the entire base and 2 feet on the sidewalls and top compacted to a minimum of 95% standard dry proctor density at a moisture content wet of optimum, based on the characteristics of the appropriate proctor curve for the clay being placed.

2. A classification of CL or CH under the unified soil classification system.

3. A permeability of 1 x 10^{-7} cm/sec or less, when compacted to 95% standard maximum dry proctor density or greater.

4. An average liquid limit of 25% or greater with no values less than 20%, when tested in accordance with ASTM–D4318–95.

5. An average plasticity index of 12% or greater with no values less than 10%, when tested in accordance with ASTM–D4318–95.

6. A minimum of 50% by weight that passes the 200 sieve.

Note: Note: ASTM–D4318–95 is the American society for testing and materials "Test Method for Liquid Limit, Plastic Limit and Plasticity Index for Soils." Copies of this test procedure can be obtained from ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428–2959, (610) 832–9585, www.astm.org. Copies of the standard are also available for inspection at the offices of the Department of Natural Resources, the Secretary of State and the Legislative Reference Bureau.

(c) Any portion of the clay top cover or sidewalls of the embankment not covered by the pavement structure, which includes base course and pavement, shall be covered by one foot of cover soil that includes a minimum of 4 inches of topsoil.

(d) Documentation testing for the recompacted clay base, sidewalls and top cover shall be as follows:

1. Field density and moisture content testing shall be performed on a uniform grid pattern for each lift of clay placed with the grid pattern offset on each subsequent lift. A lift may not exceed 8 inches in thickness following compaction. One density test shall be performed for each 40,000 ft^2 of surface area for every 8 inch lift of clay placed on the base and top cover. One density test shall be performed for each 60,000 ft^2 of surface area for every 8 inch lift of clay placed on the sideslopes offset on each subsequent lift.

2. A disturbed soil sample shall be obtained for one of every 3 field test locations in subd. 1. and analyzed in a laboratory for atterberg limits and grain size to the 2 micron particle size. An undisturbed soil sample shall be obtained for one of every 9 field test locations in subd. 1. and analyzed for laboratory permeability.

3. A standard proctor curve, ASTM–D698–91, shall be developed for each distinct soil source and type in order that density testing can be correlated to the appropriate soil type.

4. Monitoring devices including headwells, and associated borehole construction shall be documented using the appropriate department forms: monitoring well construction form #4400–113A (rev. 4–90), soil boring log information form #4400–122 (rev. 7–91) and well information form #4400–89 (rev. 1–90).

Note: ASTM–D698–91 is the American society for testing and materials "Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort." Copies of this test procedure can be obtained from ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428–2959, (610) 832–9585, www.astm.org. Copies of the standard are also available for inspection at the offices of the Department of Natural Resources, the Secretary of State and the Legislative Reference Bureau.

Note: Copies of these forms may be obtained from the Department of Natural Resources, Bureau of Waste Management, 101 South Webster Street, Natural Resources Building, P.O. Box 7921, Madison, Wisconsin 53707–7921.

(e) Within 90 business days of completion of the construction project, a site construction report shall be prepared and 3 copies sent to the department. Two of these reports shall be submitted to the bureau of waste management and one shall be submitted to the department's field office responsible for the area in which the embankment is located. The report shall include all of the following:

1. A plot plan showing final grades actually achieved in the field, and the location of all soil tests, drainage ditches, surface water drainage control structures, monitoring wells, control points and any other pertinent features.

2. Documentation of the depth of the final cover material utilizing a 200 foot grid pattern. All borings shall be replaced with acceptable material and compacted to proper density. Hand auger or survey data may be used for this documentation.

3. Documentation of the type and quantity of fertilizer, mulch and seed used on the side slopes.

4. Documentation of the quantity and source of the industrial byproduct used in the embankment fill.

5. The final perpendicular cross–sections of the completed embankment. These cross–sections shall indicate the extent of the industrial byproduct placement.

6. Typical detailed drawings of any special design features.

7. An appendix containing all the raw data from the soil testing program.

8. A description of the institutional controls that will be in place to ensure that the structural integrity of the embankment will be maintained, and that any future disturbances of the embankment design features will be repaired.

(f) The final cover and topsoil shall be smoothly graded to enhance positive surface runoff and seeded, fertilized and mulched to establish a thick vegetative growth. Routine maintenance of the embankment slopes shall be performed to insure the integrity of the final soil cover.

(g) A perimeter berm shall be constructed within the limits of the prepared clay base to contain any surface water runoff from the industrial byproduct. The berm shall be maintained throughout the period of industrial byproduct placement.

(h) Measures shall be taken to limit blowing and tracking of the industrial byproduct during transportation to the construction site and placement in the embankment. Measures include keeping the industrial byproduct moist, and compacting it as soon as it is deposited in the fill area.

(i) The department's field office responsible for the area in which the embankment is located shall be contacted at least one week prior to initiating construction of the clay liner so that arrangements can be made for inspecting the site.

(7) Clay capped and sidewalled transportation facility embankments constructed under the authority of the Wisconsin department of transportation, or a municipality, that meet the criteria in this subsection. Examples include linear roadway sound and sight barrier berm embankments, airport embankments and roadway bridge or overpass embankments. For projects using more than 100,000 cubic yards of industrial byproducts, or with a maximum thickness of industrial byproduct greater than 20 feet, department concurrence shall be obtained prior to initiating the project. The construction, documentation and monitoring of these embankments shall be as described under sub. (6) (b) 2. to (i) and as follows:

(a) The embankment shall be monitored in accordance with s. NR 538.20 (3).

(b) The embankment shall be covered on the top and sidewalls by 2 feet of recompacted clay compacted to a minimum of 95% standard dry Proctor density at a moisture content wet of optimum, based on the characteristics of the appropriate Proctor curve for the clay being placed. The sidewalls and top cover shall be a minimum of 2 feet thick. No liner is required.

(8) Unconfined geotechnical fill material used as fill material for sight, sound and structural berms, reclamation of nonmetallic mines, public recreational trails, construction of sporting venues, limited use parking areas, access lanes, utility trenches or other beneficial uses demonstrated to be acceptable by the department. Any area where industrial byproducts are beneficially used as unconfined geotechnical fill shall be sloped to prevent ponding of water, covered with 2 feet of native soils including topsoil, or other cover approved by the department, and seeded as soon as practical after placement of the industrial byproducts. Prior written notification in accordance with s. NR 538.14 (4) and concurrence by the department are needed for all unconfined geotechnical fills. Concurrence by the department will be based on specific site conditions and good engineering practice. If the department does not respond to the notification within 10 business days, concurrence is considered to be granted. The beneficial use of industrial byproducts as an unconfined geotechnical fill is prohibited in residential areas.

(9) Unbonded surface course material used in accordance with the criteria of this subsection. This includes the use of industrial byproducts as a surface course material in unpaved driveways, parking areas and recreation or exercise trails. Industrial byproducts used as surface course shall conform to the requirements of Wisconsin department of transportation standard specifications for highway and structure construction applicable to base materials, and may be placed at a cumulative thickness of 6 inches or less and in areas separated by at least a 25 foot vegetated buffer to a navigable surface water. The use of industrial byproducts as unbonded surface course is prohibited in residential areas. If more than 1000 cubic yards of industrial byproducts or more than 6 inches are to be used in an individual surface course application, prior written notification in accordance with s. NR 538.14 (4) and concurrence by the department are needed. If the department does not respond to the notification within 10 business days, concurrence is considered to be granted.

(10) Bonded surface course material used in accordance with the criteria of this subsection. This use includes placement of industrial byproducts as a bonded surface course material such as seal coats in roads, driveways, parking areas and recreational or exercise trails. Industrial byproducts used as a bonded surface course shall conform to the Wisconsin department of transportation standard specifications for highway and structure construction applicable to asphaltic pavements. Within 48 hours of application of the industrial byproduct, the surface shall be rolled to thoroughly embed these materials into the asphaltic mastic. If more than 10,000 cubic yards of industrial byproducts are to be used in an individual bonded surface course application, prior written notification in accordance with s. NR 538.14 (4) and concurrence by the department are needed. If the department does not respond to the notification within 10 business days, concurrence is considered to be granted.

(11) Bonded surface course material used in accordance with the criteria of this subsection. This use includes placement of industrial byproducts as a bonded surface course material such as seal coats in paved federal, state or municipal roadways specified in sub. (5) (c). Industrial byproducts used as a bonded surface course shall conform to the Wisconsin department of transportation standard specifications for highway and structure construction applicable to asphaltic pavements. Within 48 hours of application of the industrial byproduct, the surface shall be rolled to thoroughly embed these materials into the asphaltic mastic. If more than 10,000 cubic yards of industrial byproducts are to be used in an individual bonded surface course application, prior written

notification in accordance with s. NR 538.14 (4) and concurrence by the department are needed. If the department does not respond to the notification within 10 business days, concurrence is considered to be granted. The use of industrial byproducts as seal coats is prohibited in residential areas, unless used in a roadway designed with a rural type cross−section.

(12) Decorative stone applications using industrial byproducts shall conform to Wisconsin department of transportation specifications for highway and structure construction applicable to base aggregates.

(13) Winter weather road abrasive on roadways with a rural cross−section, including areas with incidental sections of curb and gutter. The winter road abrasives using industrial byproducts, wholly or as part of a mixture of abrasives, shall meet Wisconsin department of transportation gradation and application rate recommendations for winter highway maintenance contained in the state highway maintenance manual.

Note: Copies of Wisconsin department of transportation specifications for highway and structure construction, and state highway maintenance manual can be obtained from the Department of Natural Resources, Bureau of Waste Management, 101 South Webster Street, Natural Resources Building, P.O. Box 7921, Madison, Wisconsin 53707−7921. Copies are also available for inspection at the offices of the Legislative Reference Bureau and the Secretary of State.

Note: Under s. 30.2022, Stats., highway and bridge projects affecting the waters of the state that are carried out under the direction and supervision of the department of transportation are exempt from department permit or approval requirements if accomplished in accordance with interdepartmental liaison procedures established by the Department of Natural Resources and the department of transportation.

History: Cr. Register, December, 1997, No. 504, eff. 1−1−98; CR 05−020: am. (5) (a) to (d), (f), (7) (b), (8) to (10), renum. (11) and (12) to be (12) and (13) and am., cr. (5) (h), (i) and (11) Register January 2006 No. 601, eff. 2−1−06; **CR 19−080: r. and recr. Register May 2020 No. 773, eff. 11−1−20; correction in (3) (b) made under s. 13.92 (4) (b) 7., Stats., and correction in (2) (b), (f) 5., (5) (intro.) made under s. 35.17, Stats., Register May 2020 No. 773.**

NR 538.12 Additional criteria for the beneficial use of industrial byproducts as geotechnical fill. (1) All geotechnical fill uses shall comply with the performance standards under s. NR 538.04 and the applicable criteria in this section.

(2) Industrial byproducts that are utilized for any of the uses under s. NR 538.10 (2) shall be placed in accordance with all of the following:

(a) Industrial byproducts may not be placed within areas of permanent standing water or areas that need to be dewatered prior to placement due to groundwater infiltration.

(b) For those beneficial uses listed in s. NR 538.10 (2) that use industrial byproducts designated by the department as select foundry sand under s. NR 538.06 (3) (f) or that do not exceed the concentrations specified in ch. NR 538 Appendix, Table 1, Column A, there shall be a minimum separation distance of 3 feet between the industrial byproduct and the groundwater table at the time of placement, except geotechnical fill used for nonmetallic mine reclamation projects under s. NR 538.10 (2) (f), which shall maintain a minimum separation distance as determined by s. NR 538.10 (2) (f) 5.

(c) For those beneficial uses listed in s. NR 538.10 (2) that use industrial byproducts, excluding select foundry sand, that exceed the concentrations specified in ch. NR 538 Appendix, Table 1, Column A, but are less than the concentrations specified in ch. NR 538 Appendix, Table 1, Column B, there shall be a minimum separation distance of 5 feet between the industrial byproducts and the groundwater table at the time the material is placed.

(d) Industrial byproducts may not be placed within an area that meets the definition of a floodplain under s. NR 116.03 (16) or below the ordinary high−water mark within any navigable waters as defined under s. NR 115.03 (6) without prior written approval from the department.

(e) Industrial byproducts used as geotechnical fill as part of the reclamation of nonmetallic mine sites in accordance with s. NR 538.10 (2) (f) may not exceed the concentrations in s. NR 538 Appendix, Table 1, Column A unless designated by the department as select foundry sand under s. NR 538.06 (3) (f).

(3) Industrial byproducts that are used for the beneficial uses listed in s. NR 538.10 (2) and exceed 5,000 cubic yards may not be placed closer than 100 feet from a private or public water well. Prior written notification to the department in accordance with s. NR 538.14 (5) and concurrence by the department under s. NR 538.14 (6) is required for separation distances less than 100 feet. Concurrence by the department shall be based on site−specific conditions such as well construction and ground water flow direction.

(4) Beneficial use projects utilizing fill materials under s. NR 538.10 (2) shall be completed, including the placement of final cover, within 12 months of first accepting industrial byproduct material. This period may be extended to no more than 16 months provided the site is adequately secured from public access by means of exclusion fencing and signage or other equally effective means as approved by the department in writing. If the beneficial use project requires more than 12 months to complete, or 16 months to complete if the site is adequately secured, the project shall be planned in phases with each phase of filling completed and interim or final cover placed prior to initiation of filling the next phase. Prior to use of an alternate cover, the generator, or the generator's designee, shall provide a written request to the department. A written approval by the department may be granted based upon site−specific conditions and good engineering practices.

(5) Confining surfaces and soil cover in beneficial use projects utilizing fill materials under s. NR 538.10 (2) shall be maintained as designed. Fill materials exposed by erosion, excavation, or weathering shall be covered in accordance with the original design, or as approved by the department, as soon as practical. Requests for modification of the final cover shall be made in accordance with s. NR 538.14 (7), and excavation of fill material shall be performed in accordance with s. NR 538.24.

(6) Beneficial use projects proposing utilization of 100,000 cubic yards or more of geotechnical fill materials under s. NR 538.10 (2) shall require a request to the department by the generator, or the generator's designee, for a case−specific approval in accordance with s. NR 538.09.

(7) All vegetated soil covers over geotechnical fill materials under s. NR 538.10 (2) shall utilize topsoil in sufficient quantities and of sufficient quality to support a vegetative cover that prevents erosion.

(8) All geotechnical fill projects under s. NR 538.10 (2) shall be conducted in a manner to minimize windblown dust, odor, tracking, and spillage of the industrial byproduct and not to cause nuisance conditions.

Note: This section is shown as repealed and recreated eff. 11−1−20 by CR 19−080. Prior to 11−1−20 it reads:

NR 538.12 Beneficial uses for specific categories of industrial byproducts. (1) Persons who beneficially use category 1 to 5 industrial byproducts in accordance with this section are exempt from licensing under s. 289.31, Stats., and the regulatory requirements under chs. NR 500 to 538.

(2) GENERAL CRITERIA FOR USES. (a) All uses shall comply with the performance standards under s. NR 538.04 and the applicable criteria in this section.

(b) Materials that are not category 1 industrial byproducts and that are utilized for any of the uses under s. NR 538.10 (5) to (13) may not be placed below the water table, into permanent standing water or areas that need to be dewatered prior to placement. For those beneficial uses listed in s. NR 538.10 (5) (a) and (b) that exceed 5000 cubic yards, there shall be a minimum separation distance of 3 feet between the industrial byproducts and the groundwater table at the time the material is placed. Prior written notification in accordance with s. NR 538.14 (4) and concurrence by the department are needed for separation distances less than 5 feet. Concurrence by the department will be based on specific site conditions and good engineering practice. If the department does not respond to the notification within 10 business days, concurrence is considered to be granted.

(br) Materials that are not category 1 industrial byproducts and used for the beneficial uses listed in s. NR 538.10 (5) (a) and (b) and exceed 5000 cubic yards shall be placed no closer than 200 feet from a private or public water well without the written consent of the property owners located within this separation distance. A consent form shall be provided by the department.

(c) All uses shall meet all applicable structural and physical specification and generally accepted engineering practices for the use.

(e) All beneficial use projects shall be conducted in a manner to minimize windblown dust, odor, tracking and spillage of the industrial byproduct and not to cause nuisance conditions or environmental pollution as defined under s. 289.01 (8), Stats.

Note: ACI 229R−94 is the american concrete institute report "Controlled Low Strength Materials." Copies of this report can be obtained from the American concrete institute, P.O. Box 19150, Detroit, Michigan 48219−0150. Copies of this report are also available for inspection at the offices of the Department of Natural Resources, Bureau of Waste Management, 101 South Webster Street,

Natural Resources Building, P.O. Box 7921, Madison, Wisconsin 53707–7921. Copies are available for inspection at the offices of the Legislative Reference Bureau and the Secretary of State.

(3) USES FOR CATEGORY 1 INDUSTRIAL BYPRODUCTS. **Category 1 industrial byproducts may be utilized for any beneficial uses described under s. NR 538.10 (1) to (13), or other beneficial uses which conform with the exposure assumptions listed in s. NR 720.19 (5) (c) 1. a. and 2. a. Category 1 industrial byproducts are exempt from the notification requirements under s. NR 538.14 (4), the environmental monitoring requirements under s. NR 538.20 and the property owner notification requirements under s. NR 538.22.**

Note: Section NR 720.19 was repealed.

(4) USES FOR CATEGORY 2 INDUSTRIAL BYPRODUCTS. **Category 2 industrial byproducts may be used for any of the beneficial uses described under s. NR 538.10 (1) to (13).**

(5) USES FOR CATEGORY 3 INDUSTRIAL BYPRODUCTS. **Category 3 industrial byproducts may be used for any of the beneficial uses described under s. NR 538.10 (1) to (8) and (11).**

(6) USES FOR CATEGORY 4 INDUSTRIAL BYPRODUCTS. **Category 4 industrial byproducts may be used for any of the beneficial uses described under s. NR 538.10 (1) to (6).**

(7) USES FOR CATEGORY 5 INDUSTRIAL BYPRODUCTS. **Category 5 industrial byproducts may be used for any of the beneficial uses described under s. NR 538.10 (1) to (4).**

History: Cr. Register, December, 1997, No. 504, eff. 1–1–98; CR 05–020: am. (2) (b), r. (2) (d), cr. (2) (br) Register January 2006 No. 601, eff. 2–1–06; correction in (3), (4) and (5) made under s. 13.93 (2m) (b) 7., Stats., Register May 2006 No. 605; correction in (1) made under s. 13.92 (4) (b) 7., Stats., Register February 2010 No. 650; **CR 19–080; r and recr. Register May 2020 No. 773, eff. 11–1–20; correction in (2) (b), (e), (3), (5) made under s. 35.17, Stats., Register May 2020 No. 773.**

NR 538.14 Reporting. (1) INITIAL CERTIFICATION. Prior to beneficial use of industrial byproducts under this chapter, or the establishment of a non–exempt storage facility, each generator, non–exempt storage facility operator, or the generator's designee, shall submit an initial certification form to the department. An initial certification form shall be submitted prior to beneficial use in accordance with this chapter for any industrial byproduct not previously approved for eligible uses, for any industrial byproduct for which the generation process has changed, or for the establishment of a storage facility for industrial byproducts. The initial certification form shall include all of the following information:

(a) The name and address of the generator or storage facility operator.

(b) The name, address, and telephone number of the designated generator or storage facility operator contact.

(c) A description of each industrial byproduct intended for beneficial use or storage that clearly identifies the process that generated the material and an estimate of the volume that may be made available for beneficial use on an annual basis.

(d) Initial byproduct characterization results as required under s. NR 538.06 (1) to (3), including a listing of the eligible uses of each industrial byproduct to be beneficially used or stored for beneficial use in accordance with s. NR 538.10 and ch. NR 538 Appendix, Tables 1 to 3. Documentation, including test results supporting the eligible use determinations, shall be included. Non–exempt storage facilities under s. NR 538.16 (1) (c) shall provide the name and address of the generators of the industrial byproducts to be stored unless the storage facility is located at the same address as the industrial byproduct generating facility.

(e) Authorization for Wisconsin department of natural resources staff to conduct inspections of the facilities generating industrial byproducts being beneficially used under this chapter or storage facilities for those industrial byproducts and collect samples to verify compliance with this chapter.

(f) Certification by each generator, or the generator's designee, and each storage facility operator, or the operator's designee, that the information on the form is true and accurate, and that the performance standards of s. NR 538.04 will be met.

Note: Copies of the initial certification form may be obtained from the department of natural resources, bureau of waste management, 101 South Webster Street, Natural Resources Building, P.O. Box 7921, Madison, Wisconsin 53707–7921.

(2) RECHARACTERIZATION. Each generator of industrial byproducts that have been beneficially used under this chapter, operator of a non–exempt storage facility for industrial byproducts as required under s. NR 538.16 (1) (c), or the designee of the generator or operator, shall submit recertification information used to determine the eligible use of each industrial byproduct, electronically or on a form supplied by the department, every 4 years or after a process change in accordance with s. NR 538.06 (5). The recertification form shall be submitted to the department no later than 60 days following the receipt of the analytical testing results which indicate a potential reassignment of the eligible uses for any industrial byproduct. Analytical testing results that confirm the eligible uses assigned during the initial certification or the previous recharacterization may be submitted with the annual certification under sub. (3). The recertification form shall include all of the following information:

(a) The name and address of the generator or storage facility operator.

(b) The name, address, and telephone number of the designated generator or storage facility operator contact.

(c) A description of each industrial byproduct intended for beneficial use or storage that clearly identifies the process and location of the generating facility.

(d) Documentation, including analytical testing results, supporting the eligible use classifications as specified under s. NR 538.06 (8).

(e) Certification by the generator, or the generator's designee, or the storage facility operator, or the operator's designee, that the information on the form is true and accurate.

(3) ANNUAL CERTIFICATION. Each generator of industrial byproducts that have been beneficially used under this chapter, operator of a non–exempt storage facility for industrial byproducts as required under s. NR 538.16 (1) (c), or the generator's or operator's designee, shall submit an annual certification, electronically or on a form supplied by the department, that documents the amount of material beneficially used for each eligible use in the previous calendar year and confirms the proper use of each industrial byproduct. The certification form shall be submitted no later than April 1 of the year following the reporting period. The annual certification form shall include all of the following information:

(a) The name and address of the generator or storage facility operator.

(b) The name, address, and telephone number of the designated generator or storage facility operator contact.

(c) A description of each industrial byproduct intended for beneficial use or storage that clearly identifies the process and location of the generating facility.

(d) The volume of each industrial byproduct that was beneficially used during the reporting period, identified by types of beneficial uses under s. NR 538.10. If the industrial byproduct was given or sold to an entity other than the generator for subsequent use or distribution, the name and address of the recipient shall be listed along with the volume the recipient received and the intended beneficial uses.

(e) For non–exempt storage facilities, the volume of each industrial byproduct that was in storage as of December 31 of the reporting year.

(f) Documentation, including test results, supporting any required recharacterization as specified in s. NR 538.06 (5). A non–exempt storage facility under s. NR 538.16 (1) (c) shall provide the name and address of the generators of the industrial byproducts to be stored unless the storage facility is located at the industrial byproduct generating facility.

(g) A summary of the performance, problems, and maintenance associated with any storage facilities in accordance with s. NR 538.16 (1) (c).

(h) Certification by the generator, or the generator's designee, or storage facility operator, or the operator's designee, that the information on the form is true and accurate, and that the performance standards of s. NR 538.04 have been met.

Note: Copies of the annual certification form may be obtained from the department of natural resources, bureau of waste management, 101 South Webster Street, Natural Resources Building, P.O. Box 7921, Madison, Wisconsin 53707–7921.

(4) EXEMPTION. Subsection (2) does not apply if the volume of the generator's industrial byproducts beneficially used, or stored for future use, during the reporting period was less than 1,000 cubic yards.

(5) NOTIFICATION. Each generator, or a person designated by the generator such as a broker, shall submit written notification to the department prior to initiating a project when required under ss. NR 538.10 (2) and NR 538.12. All of the following information shall be included in the notification:

(a) The name, address, and phone number of the contact for the project.

(b) The location of the project and a site description, including a topographic or orthophoto map, township and range to the quarter section, and land use information. In addition, the applicant shall submit geographic information system locational information based on no fewer than 6 geographically informative points that define the limits of industrial byproduct placement. These points shall be collected using the North American Datum, NAD83 (1991). For each point, the longitude and latitude shall be referenced to the 5th decimal degree. The date, method, and tools used to collect locational information for each point shall also be included. Other methods of geolocation that provide similar or better accuracy are also acceptable, subject to approval by the department.

(c) The approximate volume of industrial byproduct anticipated to be used in the project.

(d) The anticipated start and end dates for the project and the timing of any phasing.

(e) Identification of the types and generators of the industrial byproducts to be used and the eligible uses of these materials.

(f) Information demonstrating that the proposed project will meet the performance standards and beneficial use specifications of this chapter.

(g) For those beneficial uses listed in s. NR 538.10 (2) that exceed 5,000 cubic yards, the method and the data used to determine the groundwater separation distance.

(h) A copy of the property owner notification form required under s. NR 538.22.

(i) For those beneficial uses subject to the public notification requirement under s. NR 538.18, proof that a public notice was placed in the local newspaper in accordance with s. NR 538.18 (1) (a).

Note: Proof of a public notice may include a copy of the notice clipped from the newspaper along with the date it was published or any other notification verifying that an order for the public notice was placed with the newspaper and the expected date of publication.

(6) CONCURRENCE. For proposed projects that require submission of a written notification, the department shall reply with a written concurrence within 10 business days provided the applicant meets the applicable criteria of this chapter. If the department determines that the proposal does not demonstrate that the project will meet the applicable criteria, the department shall provide a written notice of non–concurrence within 10 business days, noting any deficiencies and allowing the applicant an opportunity to correct them or provide additional information. If the department does not respond to the notification within 10 business days, concurrence is considered granted.

(7) MODIFICATIONS. Any generator, or the generator's designee, that wishes to modify a project for which the department granted concurrence under sub. (6) shall notify the department in writing describing the nature of the modification requested. In determining if a modification is required, the applicant shall consider if the proposed modification alters the original project footprint, substantially increases the volume of the byproduct material, or has the potential to affect any of the performance standards under s. NR 538.04. The department shall review the modification request and notify the applicant in writing if submission of a revised notification under sub. (5) is required. If the department does not respond to the notification within 10 business days, the modification is deemed complete and concurrence is considered granted.

(8) RECORD KEEPING. The generator, or the generator's designee, shall maintain records of where industrial byproducts have been utilized under this chapter for one or more of the beneficial uses described under s. NR 538.10 (2). These records shall be maintained and be accessible to department staff upon request for 5 years after the use of the industrial byproduct.

Note: This section is shown as repealed and recreated eff. 11–1–20 by CR 19–080, eff. 11–1–20. Prior to 11–1–20 it reads:

NR 538.14 Reporting. (1) INITIAL CERTIFICATION. Prior to beneficial use of industrial byproducts under this chapter, or the establishment of a storage facility as required under s. NR 538.16 (1) (c), each generator, storage facility operator, or their designee shall submit an initial certification form to the department that contains the information listed below. An initial certification form shall be submitted prior to beneficial use in accordance with this chapter for any industrial byproducts not previously classified, for any industrial byproduct for which the classification has changed or for the establishment of a storage facility for industrial byproducts. The initial certification form shall include the following information:

(a) Name and address of generator or storage facility operator.

(b) Name, address and telephone number of designated generator or storage facility operator contact.

(c) A description of each industrial byproduct intended for beneficial use or storage that clearly identifies the process that generated it and an estimate of the volume that could be made available for beneficial use on an annual basis.

(d) The classification of each industrial byproduct to be beneficially used or stored for beneficial use in accordance with s. NR 538.08. Documentation, including test results supporting the classification, shall be included. Storage facilities may provide the name and address of the generators of the industrial byproducts to be stored as an alternative to this documentation.

(e) Authorization for Wisconsin department of natural resources staff to conduct inspections of the facilities generating industrial byproducts being beneficially used under this chapter or storage facilities for these industrial byproducts, and collect samples to verify compliance with this chapter.

(f) Certification by each generator, storage facility operator or their designee, that the information on the form is true and accurate, and that the performance standards of s. NR 538.04 will be met.

Note: Copies of this form may be obtained from the Department of Natural Resources, Bureau of Waste Management, 101 South Webster Street, Natural Resources Building, P.O. Box 7921, Madison, Wisconsin 53707–7921.

(2) ANNUAL CERTIFICATION. Each generator of industrial byproducts that have been beneficially used under this chapter, operator of a storage facility for industrial byproducts as required under s. NR 538.16 (1) (c), or their designee, shall submit an annual certification, on a form supplied by the department, that documents the amount of material beneficially used in each category in the previous calendar year and confirms the proper classification of each industrial byproduct. The certification form shall be submitted no later than April 1 of the year following the reporting period. The annual certification form shall include the following information:

(a) Name and address of generator or storage facility operator.

(b) Name, address and telephone number of the designated generator or storage facility operator contact.

(c) A description of each industrial byproduct intended for beneficial use or storage that clearly identifies the process that generated it and an estimate of the volume that could be made available for beneficial use on an annual basis.

(d) The volume of each industrial byproduct that was beneficially used, or the change in the volume stored, during the reporting period, identified by category.

(e) The classification of each industrial byproduct in accordance with s. NR 538.08. Documentation of any recharacterization test results required under s. NR 538.06 (4) shall be included. Storage facilities may provide the name and address of the generators of the industrial byproducts to be stored as an alternative this documentation.

(f) A summary of any problems or obstacles encountered in the beneficial use of the industrial byproducts and the actions taken in response to these concerns.

(g) A summary of the performance, problems and maintenance associated with any storage facilities in accordance with s. NR 538.16 (1) (c).

(h) The environmental monitoring data collected for beneficial use projects in accordance with s. NR 538.20.

(i) Certification by the generator, storage facility operator or their designee, that the information on the form is true and accurate, and that the performance standards of s. NR 538.04 have been met.

Note: Copies of this form may be obtained from the Department of Natural Resources, Bureau of Waste Management, 101 South Webster Street, Natural Resources Building, P.O. Box 7921, Madison, Wisconsin 53707–7921.

(3) EXEMPTION. Subsection (2) does not apply if the volume of the generator's industrial byproducts beneficially used, or stored for future use, during the reporting period was less than 1000 cubic yards.

(4) NOTIFICATION. Each industrial byproduct generator or a person designated by the generator, such as a broker, shall submit written notification to the

department prior to initiating a project, where required in s. NR 538.10 (5), (8), (9), (10) or (11). The following information shall be included in the notification:

(a) The name, address and phone number of the contact for the project.

(b) The location of the project and a site description.

(c) The approximate volume of industrial byproduct anticipated to be used in the project.

(d) The anticipated start and end dates for the project.

(e) Identification of the industrial byproduct or byproducts to be used and the category of these materials.

(f) For those beneficial uses listed in s. NR 538.10 (5) (a) and (b) that exceed 5000 cubic yards, the method and the data used to determine the groundwater separation distance.

(5) RECORD KEEPING. The generator of an industrial byproduct or their designee, shall maintain records of where their industrial byproduct has been utilized under this chapter for one or more of the beneficial uses described under s. NR 538.10 (5) to (8). These records shall be maintained and be accessible to department staff upon request, for 5 years after the use of the industrial byproduct.

History: Cr. Register, December, 1997, No. 504, eff. 1–1–98; CR 05–020: am. (4) (intro.), cr. (4) (f) Register January 2006 No. 601, eff. 2–1–06; **CR 19–080: r. and recr. Register May 2020 No. 773, eff. 11–1–20; correction in (2) (intro.), (4), (5) (g) made under s. 35.17, Stats., Register May 2020 No. 773.**

NR 538.16 Storage and transportation requirements. (1) STORAGE. (a) Storage of industrial byproducts for beneficial use shall meet the performance standards specified in s. NR 538.04. Storage facilities shall also satisfy all of the following:

1. The storage facility shall meet all of the following design and operational criteria:

a. Areas intended for the storage of industrial byproducts that have been determined to contain greater than the concentrations specified for the parameters listed in ch. NR 538 Appendix, Table 1, Column B shall incorporate an impervious surface pad and be surrounded by curbs or berms to control surface water run–on and run–off. Alternately, if a low permeability clay surface is used, it shall include a protective material cover of, at a minimum, one foot of gravel or an equivalent material over the clay. Areas intended for the storage of byproducts that have been determined to contain less than the concentrations specified for the parameters listed in ch. NR 538 Appendix, Table 1, Column B shall construct a surface pad beneath the storage pile consisting of either an impervious surface, compacted soil, or an aggregate surface with a minimum one–foot thickness or an equally effective design as approved by the department in writing.

b. Storage facilities shall be operated and maintained to minimize dust, off–site tracking, and storm water runoff. The storage area shall be clearly delineated and lined on 3 sides with curbs, blocks or berms designed to prevent spillage and contain the byproduct to the designated storage area. A setback shall be maintained between the stored material and the entrance to the storage area to prevent spillage of material and to reduce off–site tracking.

2. The operator of the storage facility shall provide the department an annual certification in accordance with s. NR 538.14, including a summary of the storage facility performance, problems, and maintenance in the annual certification under s. NR 538.14 (3) (g) and an affirmation that the impervious or low permeability surface pad, if required, still meets the design criteria specified in subd. 1. a.

3. Upon closure of an industrial byproduct storage facility, the storage operator shall remove all visible residues from the storage area.

(b) All of the following industrial byproduct storage facilities are exempt from the requirements of this subsection:

1. Facilities for the storage of industrial byproducts contained within enclosed structures such as buildings, silos, or roll–off boxes.

2. Facilities for the storage of industrial byproducts within a lined area at a licensed engineered landfill. Storage of industrial byproducts at a licensed engineered landfill shall be subject to the conditions of the plan of operation and any other applicable solid waste approvals associated with the landfill.

3. Municipal maintenance and storage facilities that stockpile no more than 300 cubic yards of industrial byproduct material at any given time. The stored material shall be contained by perimeter berms or curbs. These facilities shall be operated and maintained to minimize dust, minimize off–site tracking, and manage storm water runoff.

4. Facilities for the temporary off–site storage or staging of industrial byproducts to be used beneficially in accordance with s. NR 538.10. These temporary facilities shall be operated and maintained to minimize dust, off–site tracking, and storm water runoff, and limit public access. Industrial byproducts may not remain in temporary off–site storage or staging areas for more than 16 months after the date of their placement. These facilities shall provide to the department written notice of the storage location, the date on which the storage of materials began, and the total volume stored.

5. Facilities for which the department issues an exemption on a case–specific basis in accordance with s. NR 538.09.

Note: The discharge of stormwater is regulated under ch. NR 216.

(2) TRANSPORTATION. A vehicle or container used to transport industrial byproducts intended for beneficial use shall meet all of the following criteria:

(a) The vehicle or container shall be designed and built to be durable and leak–proof and maintained to prevent nuisance conditions from occurring.

(b) The vehicle or container shall be loaded and hauled in such a manner that the contents do not fall, spill, or leak, including the use of covers as necessary. Any spilled industrial byproduct shall be properly recovered.

Note: Storage and transportation of industrial byproduct in accordance with this chapter are exempt from the storage and transportation requirements of ch. NR 502 as specified in ss. NR 502.05 (3) (i) and 502.06 (2) (k).

Note: This section is shown as repealed and recreated eff. 11–1–20 by CR 19–080. Prior to 11–1–20 it reads:

NR 538.16 Storage and transportation requirements. (1) STORAGE. Storage of industrial byproducts for beneficial use shall meet the performance standards listed in s. NR 538.04. These storage facilities shall also meet the criteria in this subsection unless exempt under par. (a).

(a) The following industrial byproduct storage facilities are exempt from the requirements of this subsection:

1. Facilities for the storage of industrial byproduct within enclosed structures such as buildings, silos or green boxes.

2. Facilities for the storage of industrial byproducts within a lined area at a licensed engineered landfill that is owned or operated by the user, generator of the byproduct or a person designated by the generator, such as a broker.

3. Facilities for the storage of only category 1 industrial byproducts.

4. Facilities for the storage of category 2 or 3 industrial byproducts that are used for industrial byproduct storage for less than 2 years. These facilities shall provide to the department notice of the storage location, the date on which the storage of materials began, and the total volume stored.

5. Facilities for which the department issues an exemption on a case specific basis.

(b) Storage of industrial byproducts not exempt under par. (a) shall meet all of the following design and operational criteria:

1. The storage area shall incorporate a lined low–permeability, asphalt, concrete, or clay pad and be surrounded by curbs or berms to control surface water run–on and run–off. If a clay pad is used, it shall include protective material over the clay.

2. Means shall be provided for collecting, containing and treating the volume of run–off expected to come in contact with the stored material as a result of the 25–year, 24–hour storm event. Water contact with the stored material shall be minimized, such as by covering with a tarp, where practical.

3. A setback shall be maintained between the stored materials and the edge of the pad to prevent spillage of materials off the pad and allow for vehicle movement completely around stored material.

(c) The operators of storage facilities not exempt under par. (a) shall provide the department an initial and annual certification in accordance with s. NR 538.14, include a summary of storage facility performance, problems and maintenance in the annual certification under s. NR 538.14 (2) (g).

(d) Closure of an industrial byproduct storage facility shall include provisions to remove all visible residues from the storage area.

Note: The discharge of stormwater is regulated under ch. NR 216.

(2) TRANSPORTATION. Vehicles used to transport industrial byproducts intended for beneficial use shall meet both of the following criteria:

(a) Vehicles or containers used to transport industrial byproducts shall be durable and leak–proof. Vehicles and containers shall be repaired on an as needed basis to prevent nuisance conditions from occurring.

(b) Vehicles or containers used to transport industrial byproducts shall be loaded and hauled in such a manner that the contents do not fall, spill or leak.

Covers shall be provided to prevent littering and spillage as necessary. Any spilled industrial byproducts shall be properly recovered.

Note: Storage and transportation of industrial byproduct in accordance with this chapter is exempt from the storage and transportation requirements of ch. NR 502 as specified in ss. NR 502.05 (3) (i) and 502.06 (2) (k).

History: Cr. Register, December, 1997, No. 504, eff. 1–1–98; CR 05–020: am. (1) (a) 4. Register January 2006 No. 601, eff. 2–1–06; **CR 19–080: r. and recr. Register May 2020 No. 773, eff. 6–1–20.**

NR 538.18 Public participation. (1) NOTIFICATION. Except as provided in sub. (2), no person may initiate a beneficial use project where the volume of the industrial byproduct to be used is greater than 30,000 cubic yards, or construct or operate a permanent or temporary storage facility with a design capacity greater than 30,000 cubic yards, prior to the person giving notice to the affected public and providing for adequate public participation. Unless other forms of public notification and involvement are approved by the department in writing, the notice and public participation process provided by the person intending to initiate a beneficial use project or storage facility shall include, at a minimum, all of the following:

Note: Sub. (1) (intro.) is shown as amended eff. 11–1–20 by CR 19–080. Prior to 11–1–20 it reads:

(1) NOTIFICATION. Except as provided in sub. (2), no person may initiate a beneficial use project where the volume of the industrial byproduct to be used is greater than 30,000 cubic yards, or construct or operate a storage facility with a design capacity greater than 30,000 cubic yards, prior to the person giving notice to the affected public and providing for adequate public participation. Unless other forms of public notification and involvement are approved by the department, the notice and public participation process provided by the person intending to initiate a beneficial use project or storage facility shall include, at a minimum, the following:

(a) Placing a public notice in the local newspaper at least 30 business days prior to initiating an industrial byproduct beneficial use project or storage facility, specifying the nature of the beneficial use project or storage facility, including the type and amount of the material to be used or stored, how and where the material will be used, the time frame of the project or storage facility operation, that the person intending to initiate the beneficial use project or storage facility may hold a public informational meeting either electively or if requested, and a contact person for the public to request a meeting.

Note: Par. (a) is shown as amended eff. 11–1–20 by CR 19–080. Prior to 11–1–20 it reads:

(a) Placing a public notice in the local newspaper at least 30 business days prior to initiating an industrial byproduct beneficial use project or storage facility, specifying the nature of the beneficial use project or storage facility, including the type and amount of the material to be used or stored, how and where the material will be used, the time frame of the project or storage facility operation, that the person intending to initiate the beneficial use project or storage facility may hold a public informational meeting, and a contact person for the public to request a meeting.

Note: The public informational meeting is not considered an informational hearing under s. 289.26, Stats., even if department staff elect to participate.

Note: Par. (a) (Note) is created eff. 11–1–20 by CR 19–080.

(b) Holding a public informational meeting, if requested by the public, at which details of the project can be discussed. Department staff may participate in the meeting.

(2) EXEMPTIONS. (a) The following beneficial use projects are exempt from the public participation requirements under this section:

1. Beneficial uses described under s. NR 538.10 (1), (3), (4), and (5).

Note: Subd. 1. is shown as amended eff. 11–1–20 by CR 19–080. Prior to 11–1–20 it reads:

1. Beneficial use of category 1 industrial byproducts.

2. Wisconsin department of transportation beneficial use projects that were addressed in the department of transportation's environmental review process.

3. Beneficial use projects at facilities licensed under chs. NR 500 to 538.

4. Beneficial uses described under s. NR 538.10 (1) to (4).

Note: Subd. 4. is repealed eff. 11–1–20 by CR 19–080.

(b) The following beneficial use storage facilities are exempt from the public participation requirements under this section:

1. Storage facilities located on the property where the industrial byproducts are generated.

Note: Subd. 1. is shown as amended eff. 11–1–20 by CR 19–080. Prior to 11–1–20 it reads:

1. Storage facilities that are located on the property where the industrial byproducts are generated

2. Storage facilities that are licensed under ch. NR 502.

3. Municipal maintenance and storage facilities under s. NR 538.16 (1) (b) 3.

Note: Subd. 3. is shown as repealed and recreated eff. 11–1–20 by CR 19–080. Prior to 11–1–20 it reads:

3. Storage facilities for category 1 industrial byproducts.

History: Cr. Register, December, 1997, No. 504, eff. 1–1–98; correction in (2) (a) 3. made under s. 13.92 (4) (b) 7., Stats., Register February 2010 No. 650; **CR 19–080: am. (1) (intro.), (a), r. and recr. (2) (a) 1., r. (2) (a) 4., am. (2) (b) 1., r. and recr. (2) (b) 3. Register May 2020 No. 773, eff. 11–1–20.**

NR 538.20 Environmental monitoring. (1) The department may require environmental monitoring for beneficial use projects subject to this chapter that do not meet the beneficial uses described in s. NR 538.10 or are subject to a case–specific approval under s. NR 538.09.

Note: Sub. (1) is shown as amended eff. 11–1–20 by CR 19–080. Prior to 11–1–20 it reads:

(1) Transportation facility embankments described in s. NR 538.10 (6) or (7) shall be monitored in accordance with this section unless otherwise approved by the department. The generator of the industrial byproduct used in the embankment shall be responsible for ensuring that this monitoring is completed. The results of this environmental monitoring shall be included in the annual certification under s. NR 538.14 (2) (h). The department may require environmental monitoring for other beneficial use projects subject to this chapter that do not meet the beneficial uses described in s. NR 538.10.

(2) FULLY ENCAPSULATED TRANSPORTATION FACILITY EMBANKMENTS. Environmental monitoring for embankments that are fully encapsulated under s. NR 538.10 (6) shall be conducted as follows:

(a) One headwell shall be installed if less than 50,000 cubic yards of industrial byproducts are used in the embankment. A second headwell shall be installed if 50,000 cubic yards or more of industrial byproducts are used in the embankment.

(b) The head elevation in each headwell shall be monitored twice each year at least 4 months apart. If the head level on the liner exceeds 2 feet, the department shall be notified. This notification shall include an evaluation of the reason for the head level build up and a proposed response to reduce the head level on the liner.

(3) CAPPED TRANSPORTATION FACILITY EMBANKMENT. The environmental monitoring for embankments that are capped and not lined under s. NR 538.10 (7), shall be conducted as follows:

(a) One basin lysimeter shall be installed with a collection area of 100 square feet. The lysimeter shall be placed directly below the industrial byproduct, and shall be located so that it will be beneath the thickest placement of the industrial byproduct.

(b) The volume of fluid collected in a basin lysimeter shall be monitored and recorded twice each year at least 4 months apart. If the volume of liquid collected in a basin lysimeter exceeds 375 gallons in one year the department shall be notified. This notification shall include an evaluation as to the reason for the volume of liquid being collected, an analysis of the liquid collected for all the parameters listed ch. NR 538 Appendix I, Table 2A and a proposed response to reduce the volume of liquid exfiltrating through the industrial byproduct.

History: Cr. Register, December, 1997, No. 504, eff. 1–1–98; **CR 19–080: r. and recr. (1) Register May 2020 No. 773, eff. 11–1–20.**

NR 538.22 Property owner notification. (1) Written notice shall be provided to all owners of property on which any volume of industrial byproducts is utilized under this chapter for one or more of the beneficial uses described under s. NR 538.10 (2). This notice shall be provided to the owner of property and the department prior to its use. The generator, or a person designated by the generator, shall provide the notice in accordance with this section, unless the department approves an alternative notice procedure. This notice shall be on a form provided by the department

or in a format approved by the department in writing. Any property owner receiving this notice shall retain this information and provide this information to the next purchaser of the property.

Note: Sub. (1) is shown as amended eff. 11–1–20 by CR 19–080. Prior to 11–1–20 it reads:

(1) Written notice shall be provided to the owners of property on which industrial byproducts are utilized under this chapter for one or more of the beneficial uses described under s. NR 538.10 (5) to (9). This notice shall be provided to the owner of property prior to its use. The generator of the industrial byproduct, or a person designated by the generator, shall provide the notice in accordance with this section, unless the department approves an alternative notice procedure. This notice shall be on a form provided by the department or in a format approved by the department. Any property owner receiving this notice shall retain this information and provide this information to the next purchaser of the property. Category 1 industrial byproducts are exempt from the requirements of this section. Category 2 industrial byproducts are exempt from the requirements listed in this section for beneficial use projects of less than 2500 cubic yards provided that the owner of the property is informed in writing that industrial byproducts are being utilized.

Note: Copies of this form may be obtained from the Department of Natural Resources, Bureau of Waste Management, 101 South Webster Street, Natural Resources Building, P.O. Box 7921, Madison, Wisconsin 53707–7921.

(2) A property owner notification shall include all of the following information:

(a) The type, volume, and generator of the industrial byproduct used as geotechnical fill on the property.

(b) The location of the project and a site description, including a topographic or orthophoto map, township and range to the quarter section, or geographic information system locational information that defines the location of industrial byproduct placement.

(c) Affirmation that the generator, or the generator's designee, has discussed the contents of this notice with the property owner and has provided them with a copy.

Note: Sub. (2) is shown as repealed and recreated eff. 11–1–20 by CR 19–080. Prior to 11–1–20 it reads:

(2) SMALL–SIZED BENEFICIAL USE PROJECTS. For projects that utilize no more than 200 cubic yards of industrial byproducts, the notification shall identify the category, type, volume of industrial byproduct and describe where these materials were placed.

(3) A copy of the property owner notification form shall be submitted to the department prior to placement of any industrial byproduct material. A copy of the notification may be submitted by mail or electronically as directed by the department.

Note: Copies of this form may be obtained electronically or from the department of natural resources, bureau of waste management, 101 South Webster Street, Natural Resources Building, P.O. Box 7921, Madison, Wisconsin 53707–7921.

Note: Sub. (3) is shown as repealed and recreated eff. 11–1–20 by CR 19–080. Prior to 11–1–20 it reads:

(3) MEDIUM-SIZED BENEFICIAL USE PROJECTS. For projects that utilize more than 200 cubic yards but no more than 10,000 cubic yards of industrial byproducts, the notification shall include the information required in sub. (1), and a sketch or drawing that shows the approximate boundaries of the areas where industrial byproducts were used.

(4) For projects that utilize more than 10,000 cubic yards of industrial byproducts, the notification shall include an affidavit recorded with the register of deeds, within 60 business days after completing the placement of the industrial byproduct, indicating that industrial byproducts were used on the property, and an indication where the information required under sub. (1) may be obtained.

Note: Under s. 30.2022, Stats., highway and bridge projects affecting the waters of the state that are carried out under the direction and supervision of the department of transportation are exempt from department permit or approval requirements if accomplished in accordance with interdepartmental liaison procedures established by the Department of Natural Resources and the department of transportation.

History: Cr. Register, December, 1997, No. 504, eff. 1–1–98; CR 05–020: am. (1) Register January 2006 No. 601, eff. 2–1–06; **CR .19–080: am. (1), r. and recr. (2), (3), am. (4) Register May 2020 No. 773, eff. 11–1–20.**

NR 538.24 Excavation of existing geotechnical fill.

(1) GENERAL. An owner of property where industrial byproducts had previously been used as geotechnical fill in accordance with the provisions of this chapter, or the owner's designee, may petition the department for approval to excavate and re–use or dispose of the industrial byproduct material provided they meet the provisions of this section.

(2) RE–USE. Except as provided in sub. (5), the property owner, or the owner's designee, shall submit a written notification to the department for re–use of the existing geotechnical fill. The department shall review and respond to the notification in accordance with s. NR 538.14 (6). The notification shall contain all of the following information:

(a) The name, address, and contact information for the property owner and the owner's representative or consultant.

(b) Information demonstrating that the existing geotechnical fill had been placed as a beneficial use project in accordance with this chapter. This information may include a copy of the concurrence letter from the department, a copy of the owner notification notice required under s. NR 538.22, the location on a database maintained by the department for locating beneficial use projects, or other proof as accepted by the department.

(c) The location of the existing geotechnical fill material and the proposed extent of the excavation and relocation of the material.

(d) The proposed re–use, including a demonstration that it will meet the applicable standards specified in ss. NR 538.04 and 538.10.

(3) DISPOSAL. If any excavated geotechnical fill material will be disposed rather than reused, the property owner or the owner's designee shall provide to the department in writing the information required under sub. (2) (a) to (c), the name of the disposal facility, and the volume of disposed material within 60 days after completion of the project.

(4) OFFSITE RE–USE. If the excavated material is to be beneficially used on a property other than the original fill site, the property owner of the re–use site shall be notified in accordance with s. NR 538.22. A public notice shall also be issued in accordance with ch. NR 538.18 for excavated material re–use projects with a design capacity greater than 30,000 cubic yards.

(5) EXEMPTIONS. Minor excavations of 1,000 cubic yards or less of geotechnical fill material that had previously been approved under the provisions of ch. NR 538 shall be exempt from the requirements of sub. (2), provided the excavated fill material is either re–used in accordance with s. NR 538.04 and an eligible beneficial use per s. NR 538.10 or disposed in a landfill. Any remaining fill material shall be covered with a confining surface or soil cover in accordance with an eligible use under s. NR 538.10 (2) (a) to (f).

Note: This section is created eff. 11–1–20 by CR 19–080.

History: CR 19–080: cr. Register May 2020 No. 773, eff. 11–1–20; correction in (2) (a) to (c), (5) made under s. 35.17, Stats., Register May 2020 No. 773.