



**TOWN
+GOWN:
NYC**

**Mud, Glorious Mud: A Dive into Dredged
Material (URR.12)
November 17, 2025, 9 AM—Noon
HRA, Dumpson Center, 4 WTC, 43rd floor**

9—9:05 AM	Introduction Terri Matthews, Director, Town+Gown:NYC
9:05—9:35 AM	Introduction to US Army Corps of Engineer Dredge Program Arsheen Ehtesham, Dredged Material Management- SME. Dredged Material Management Section, USACE
9:35-9:45 AM	Navigational Dredge Material and NYS DEC Regulations Terri Matthews, Director, Town+Gown:NYC
9:45-10 AM	Short Break
10—10:45 AM	Practitioners’ Experience Robert Feller, Senior Engineer/Partner, Environmental Engineering Group, LLC Kerri K. Mullins, Director Environmental Operations, Donjon Marine Co., LLC Christopher Haight, Ecologist, Division of Environment & Planning, NYC Department of Parks and Recreation
10:45—11 AM	Short Break
11--Noon	NYC Agencies Brainstorming Potential Sources and Uses Maps of projects and time lines—jumping off point for agency brainstorming

Presenters' Biographies

Arsheen Ehtesham is the Dredged Material Management Subject Matter Expert at US Army Corps, working in collaboration with multiple divisions within the New York District to support the Beneficial Use of Dredged Material (BUDM) and explore innovative technologies in New York, New Jersey, and Pennsylvania. She brings over 14 years of experience in environmental remediation to this role, with a background in both the public sector at NYC Parks and in private environmental consulting. Ms. Ehtesham holds a M.S. in Environmental Science from Rutgers University. In her presentation, she will provide an introduction to the New York District dredging program, discuss upcoming projects, and highlight available USACE resources.

Robert Feller, Senior Engineer/Partner, Environmental Engineering Group, LLC, has been an environmental scientist and engineer for 40+ years having been granted a master's degree in environmental sciences from Cook College where he had been adjunct faculty for three years. His work done for General Electric in the late 1990's to develop a technology that would address the PCB contamination of the Hudson River sediments that lead to the development of the URRICHEM stabilization – fixation technology that was approved by the EPA S.I.T.E Program and was the foundation for the solidification process selected for this dredge materials processing capabilities. The process was eventually approved by not just the US EPA but the NYS DEC as well and the processed stabilized sediments were deemed nonhazardous, delisted and allowed to be used around the base of a bridge to address the scouring of the bridge footings where the tidal flows had previously been eroding the base of the bridge. Mr. Feller's concept of making dredged materials into beneficial reuse coincides with the Army Corps mandate to utilize 70% of dredged materials for beneficial reuse and with the opening of the new dredge processing facility, the company will meet 100% beneficial reuse of dredged materials in 2026, four years ahead the Army Corps 70% benchmark.

Chris Haight is an Ecologist with the Wetlands Team and the Conservation Team in NYC Parks Division of Environment & Planning. Chris has over 15 years of research and management experience focused on tidal wetlands in NYC and Massachusetts. Chris holds a Bachelor's degree in Environmental Studies from Connecticut College and a Master's degree in Conservation Biology from Columbia University.

Terri Matthews is Director of Town+Gown:NYC and created the Town+Gown:NYC program to support collaborative efforts among practitioners and academics envisioned by the Urban Resource Recovery Working Group, which aims at policy making and operational change based on applied research results. She started out as a public finance law attorney and previously worked in New York City government on public budgeting, public finance, performance

measurement and public procurement, all of which influence her current work in the built environment through Town+Gown. Ms. Matthews is a graduate of Boston College and Boston College Law School, and has a Master of Public Administration from NYU Wagner and a Master of Science from NYU Tandon.

Kerri K. Mullins, Director Environmental Operations, Donjon Marine Co., Inc., provides leadership, direction and management dredge material processing and upland placement operations and designing and permitting the processing system. Ms. Mullins has reviewed, negotiated and permitted upland placement sites dependent upon individual project chemical profile(s), is responsible for interface with upland placement sites daily issues, directs and monitors compliance with regulatory agencies and provides management oversight and responsibility for project and facility reporting. A graduate of Texas A&M University, Ms Mullins has also worked at Saftey Kleen, Inc., and Chemical Waste Management.

Precis

Where We Left Off.

On February 26, 2021, Town+Gown:NYC hosted *Urban Resource Recovery: Pneumatic Flow Tube Technology Event (URR.6)* (see [Precis with Agenda and Biographies FINAL 2.26.21.pdf](#) and [Under the Surface 2 event 1](#)). This event took place before Town+Gown:NYC revealed the Closing Loops City Program Initiative (CLCPI) on October 13, 2021 (see [AgendaandPrecis.Final10-12-21.pdf](#)), which included nearshore dredged materials within the Direct Re-use category, based on the knowledge gained from the February 26, 2021 event. In the summer of 2021, a team of Brooklyn Law School students analyzed NYS DEC's Part 360 Beneficial Use Designation regulations across all the materials for Direct and Indirect Re-Use in the CLCPI. Please see the final version of this memorandum posted on the Town+Gown:NYC website under [Town+Gown Working Groups: Urban Resource Recovery \(URR\)](#), some of which is abstracted below under [Overview of Applicable Federal Law Translated into Applicable State Law](#) below.

As reported last summer, the Army Corps of Engineers, which is responsible for all navigable waters in the US under the federal Rivers and Harbors Acts, will be dredging “the shipping lanes of New York and New Jersey Harbor [to] be deep enough for large cargo ships. To maintain a depth of around 50 feet, the harbor requires constant dredging from the ocean floor” with estimates that the Corps “will dig up about 50 million cubic yards of seabed over the next 20 years.”¹ Under Section 204 of the federal Water Resource Development Act of 1992, Congress established a mechanism for the Corps to permit the beneficial reuse of dredged materials from Corps projects.² So NYC will have a lot of potential re-use opportunities for this material over the next two decades!

What follows is a summary of beneficial re-use of nearshore dredged materials in New York:³

¹ Rosemary Misdary, “To maintain NY, NJ port traffic, feds seek new ocean site for 50 million cubic yards of dirt,” *Gothamist*, July 1, 2025 (at

[To maintain NY, NJ port traffic, feds seek new ocean site for 50 million cubic yards of dirt - Gothamist](#))

² <https://planning.erdc.dren.mil/toolbox/library/PL/WRDA1992-Section204.pdf>

³ The following text is presented largely *verbatim* from Samuel Caldarone, Katana Meganck, Kirk Rotger and Katherine Will, Brooklyn Law School, *Analysis of 360 Regulations Closing Loops City Program*.” Please see the final version of this memorandum posted on the Town+Gown:NYC website under [Town+Gown Working Groups: Urban Resource Recovery \(URR\)](#)

Navigational dredged material can pose risks to the environment, which means the material must meet many requirements in order to be disposed of properly, leading to associated costs.⁴ However, reusing the dredged material instead of disposing of it can “greatly reduce” the negative impacts of dredging.⁵ Furthermore, the amount of material dredged from the City harbors is likely to increase over the next 60 years, heightening the need to find beneficial uses for this material.⁶

New York’s Part 360 regulations (discussed in greater detail below under Overview of Applicable Federal Law Translated into Applicable State Law, *New York State’s Compliance with Federal Law*) provide for two predetermined beneficial uses.

The first is Section 360.12(c)(1)(iii) for NDM used outside ecologically sensitive areas, as commercial aggregate in place of sand or gravel if the NDM contains at least 90 percent sand and gravel (as determined by a standard grain size analysis method approved by the NYSDEC and performed by an independent laboratory), and if the NDM contains less than 0.5 percent total organic carbon.⁷

The second is Section 360.12(c)(3)(xii) for clay, till, or rock excavated as part of navigational dredging, which is separated from overlying navigational dredged material and used as fill or aggregate.⁸

Bringing this back to the earlier Town+Gown events, for the City to implement the CLCPI for direct reuse of NDM for concrete on projects to repair or build seawall, the first predetermined beneficial use above would apply (provided the dredged material meets the BUD’s additional requirements). This would constitute direct reuse since the pneumatic tube technology would not require keeping the NDM at an interim processing facility; instead, the technology would mix the NDM with concrete to build or repair a seawall. Since there would be no use for an interim processing facility, direct reuse of NDM on a seawall could save a City agency money and be environmentally sustainable. Therefore, if a City agency is looking for an environmentally friendly and lower-cost method of building or repairing seawall, it could avail itself of the predetermined beneficial use for NDM pursuant to 360.12(c)(1)(iii).

⁴ Chapter 3: Vision 2020 Citywide Strategies, New York City Department of City Planning, (March 14 2011) <https://www1.nyc.gov/assets/planning/download/pdf/plans-studies/vision-2020-cwp/vision2020/chapter3.pdf>.

⁵ *Id.*

⁶ *Id.* at 55. See also footnote 1.

⁷ 6 NYCRR §360.12(c)(1)(iii).

⁸ § 360.12(c)(3)(xii).

Assuming compliance with this predetermined beneficial use, the dredged material may be reused on-site via pneumatic flow tube technology. Pneumatic flow tube technology, developed in Japan in the early 2000s, involves breaking the soft soil on-site into “plugs” via compressed air.⁹ These plugs reduce pipe surface friction, allowing cement and clay to be mixed together within the “plug.”¹⁰ This mixture can subsequently be used for a number of beneficial purposes, such as a City agency using NDM to build or repair a seawall.¹¹

Restraints on available funding, however, remain “the most significant impediment[s] to beneficial use projects.”¹² However, there are possible avenues for interested parties to raise funds, including cost-sharing arrangements and federal or state loans,¹³ which include alternative financing strategies available through the Clean Water State Revolving Fund (CWSRF).¹⁴ The use of pneumatic flow tube technology, which would mitigate the need and cost of transporting NDM, could further improve the cost efficiency of the project.

As discussed in greater detail below under Overview of Applicable Federal Law Translated into Applicable State Law, *New York State’s Compliance with Federal Law*, when there is proposed reuse of a material that is not a part of one of the predetermined beneficial uses, generators or potential reusers can petition the NYSDEC for a case-specific BUD.¹⁵ The Part 360 regulations lay out a plan for navigational dredge, as discussed in greater detail below.

From the 2023 New York State Solid Waste Management Plan,¹⁶ case-specific BUDs granted for NDM is the largest waste type from 2010-2022:

⁹ Maher, A., Miskewitz, R., Janbaz, M. and Douglas, S., n.d. *Pneumatic Flow Tube Demonstration Project*. Rutgers Center for Advanced Infrastructure and Transportation.

¹⁰ *Id.*

¹¹ Dredged material that is generated by a manufacturing or industrial process is considered industrial waste rather than solid waste, pursuant to § 360.2(a)(3)(xi). In such cases, the city would have to receive a case-specific BUD by submitting a written petition to the DEC.

¹² *Beneficial Use Planning Manual: Identifying, Planning, and Financing Beneficial Use Projects Using Dredged Material*, U.S. Environmental Protection Agency, U.S. Army Corps of Engineers, October 2007, https://www.epa.gov/sites/default/files/2015-08/documents/identifying_planning_and_financing_beneficial_use_projects.pdf (last visited July 22, 2021), 54.

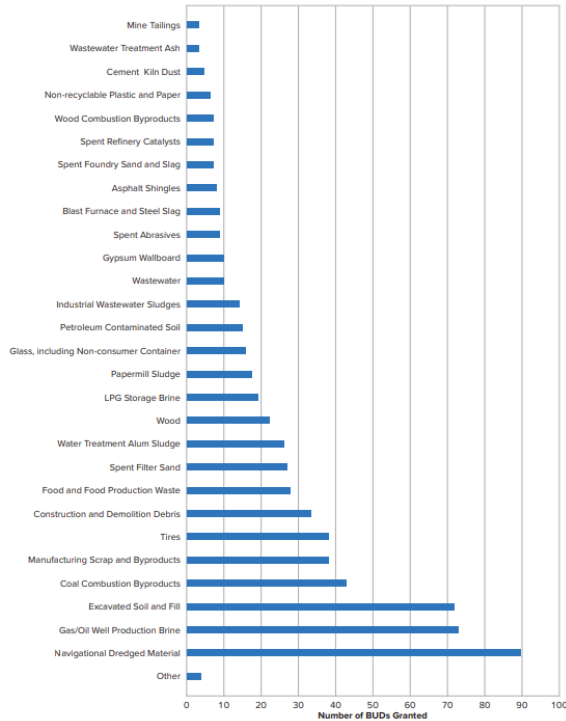
¹³ *Id.* at 54-55.

¹⁴ *Id.* at 63.

¹⁵ § 360.12(d).

¹⁶ [New York State Solid Waste Management Plan](#), p. 18.

Case-Specific BUDs by Waste Type 2010 – 2022



Overview of Applicable Federal Law.

Resource Conservation and Recovery Act.¹⁷ The Resource Conservation and Recovery Act (RCRA), enacted in 1976, established the first comprehensive federal framework for the management of solid and hazardous waste. Designed to fill gaps left by earlier statutes, such as the Solid Waste Disposal Act of 1965 (SWDA), RCRA ensures that waste is managed from “cradle to grave” in an effort to protect human health and the environment. Administered by the U.S. Environmental Protection Agency (EPA), RCRA authority has developed into a permitting and enforcement regime which also has the capacity to fund projects that specifically address waste management. Modern amendments to RCRA have focused on sustainable development and waste minimization, emphasizing recycling and the efficient use of resources. While the EPA oversees compliance, states may seek authorization to implement their own programs in lieu, provided that the state standards are at least as stringent as the promulgated minimum national standards. This delegation allows for flexibility according to local needs, while maintaining a consistent program across the nation. New York operates one

¹⁷ The following text is presented largely *verbatim* from Ilya Van Nieuwenhuyse, Brooklyn Law School, Class of 2027, “Analysis of Resource Conservation and Recovery Act.” Please see the final version of this memorandum to be posted on the Town+Gown:NYC website under [Town+Gown Working Groups: Urban Resource Recovery \(URR\)](#)

such EPA authorized program, which means the primary enforcement responsibility rests with the state.

Driven by mounting public concern over unchecked industrial waste practices and fueled by high-profile incidents like the Valley of the Drums, Congress enacted the RCRA in 1976. Prior to 1976, federal environmental laws were aimed at regulating future pollution, with no comprehensive system to track or regulate the generation and disposal of hazardous at active sites. The final legislation transformed the prior framework of voluntary state participation into a mandatory, enforceable federal–state regulatory partnership for waste management.

Pursuant to RCRA § 2002(a), RCRA empowers the U.S. Environmental Protection Agency (EPA), to administer, implement and enforce standardized waste disposal practices across the nation.¹⁸ Unlike the later adopted Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Congress intentionally designed RCRA as a preventive regulatory program which explicitly delegated its administration to the EPA from the outset.¹⁹ While the EPA has primary enforcement authority, under RCRA § 3006(b), states can apply to implement their own hazardous waste programs, so long as the state rules were no less stringent than the federal standard.²⁰ State programs can differ from the federal standard, provided that the State enforces hazardous waste requirements that are “more stringent” than the federal standards.²¹

RCRA enforcement authority is shared among the federal government, states, and private citizens. States with EPA-authorized RCRA programs have primary enforcement responsibility and may bring actions in either state or federal court. Nevertheless, EPA retains broad authority under Subtitles C and I to compel compliance, enforce permit conditions, and halt the unlawful treatment, storage, or disposal of hazardous waste. Private enforcement is authorized under RCRA § 7002, which allows any person to bring suit against an alleged violator of RCRA requirements, subject to a 60-day notice requirement. However, a citizen suit is barred if the EPA or a state is “diligently prosecuting” a civil or criminal action for the same violation. RCRA § 7002 also authorizes suits for imminent and substantial endangerment to health or the environment, even where no specific regulatory violation has occurred.

Congress intended the statute to have a broad definition of “waste” to encompass local realities across the nation. Under RCRA §1004 (27), solid waste is understood to be:

¹⁸ Codified at 42 U.S.C. § 6912(a)

¹⁹ *Types of and Approaches to RCRA Corrective Action Enforcement Actions*, U.S. ENVTL. PROT. AGENCY, <https://www.epa.gov/enforcement/types-and-approaches-rcra-corrective-action-enforcement-actions>

²⁰ Codified at 42 U.S.C. § 6926(b)

²¹ Codified at 42 U.S.C. § 6929

“any garbage, refuse, sludge... and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities”²²

Importantly, the term “solid waste” is not limited to physically solid material as the operative concept is “discarded.”²³ Once a material is deemed a solid waste, the EPA must then assess its hazardous characteristics, which determines whether the waste falls under Subtitle C or Subtitle D of RCRA. Subtitle C governs hazardous waste, while Subtitle D applies to non-hazardous solid waste. For the full memorandum including a detailed analysis of Subtitle C: Hazardous Waste Management, please see the final version of this memorandum to be posted on the Town+Gown:NYC website under [Town+Gown Working Groups: Urban Resource Recovery \(URR\)](#). For a summary of RCRA amendments, see Exhibit 1.

While Subtitle C focuses on hazardous waste, Subtitle D addresses non-hazardous municipal and industrial waste.²⁴ Pursuant to RCRA § 4001, instead of relying on direct federal permitting or enforcement, the core function encourages state and local governments to develop comprehensive plans themselves.²⁵ Pursuant to RCRA § 4002(b), EPA was required to issue guidelines for state planning and management of solid waste which focuses on methods for collection and disposal, resource recovery and reuse, and landfill design and operation.²⁶ EPA regulations established criteria to distinguish “open dumps”, which are prohibited, from “sanitary landfills”, which are permitted if they meet specific performance standards.²⁷ These criteria serve as a condition for federal approval of state plans. RCRA § 4005(a) makes open dumping of solid waste unlawful, unless the disposal site meets EPA’s sanitary landfill criteria.²⁸ Federal facilities generating or managing solid waste must comply with state and local requirements to the same extent as private entities.

While RCRA is a federal law administered by the EPA, it is designed to be carried out primarily by the states through an authorization program. State authorization is a rulemaking process where EPA delegates the primary responsibility of implementing the RCRA hazardous waste program to individual states.²⁹ Pursuant to 42 U.S.C. § 6926(b), New York is a fully authorized

²² Codified at 42 U.S.C. § 6903(27)

²³ EPA regulations further define “solid waste” See 40 C.F.R. § 261.2(2)(i)(A-D) which states that discarded materials include any material which are abandoned, recycled, considered inherently waste like, or a military munition.

²⁴ Codified at U.S.C. §§ 6921–6939g, with implementing regulations found at 40 C.F.R. Parts 260–279

²⁵ Codified at 42 U.S.C. § 6941

²⁶ Codified at 42 U.S.C. § 6942(b)

²⁷ Codified at 42 U.S.C § 6944, with implementing regulations found at 40 C.F.R. Part 257 and 40 C.F.R. Part 258.

²⁸ Codified at 42 U.S.C. § 6945(a)

²⁹ <https://www.epa.gov/rcra/state-authorization-under-resource-conservation-and-recovery-act-rcra>

state, meaning it operates its own hazardous waste program subject to EPA oversight. New York is more stringent than the federal regulations as it requires more frequent reporting, with state specific waste designations. The New York State Department of Environmental Conservation (NYSDEC) runs the program and has adopted more stringent regulations than the federal baseline. Though EPA sets minimum federal criteria for municipal solid waste landfills under Subtitle D, the state is responsible for regulating solid waste facilities. NYSDEC administers a Solid Waste Management Program, including:

- Landfill design and operation permits
- Recycling mandates (under state law)
- Organic waste and food scrap diversion programs
- Compliance with the Climate Leadership and Community Protection Act (CLCPA)

Rivers and Harbors Acts.³⁰ The Rivers and Harbors Acts comprise one of the oldest frameworks for the federal regulation of U.S waterways. Originally Congress used the statute as a series of congressional appropriation measures for specific navigation improvements on key commercial routes. However, with the proliferation of industrialization, unregulated construction and waste disposal increasingly obstructed navigation and Congress ultimately evolved what had previously been used as a funding mechanism into a transformative regulatory statute. This evolution culminated in Rivers and Harbors Act of 1899 (RHA), which consolidated decades of fragmented statutes into one of the first comprehensive statutes regulating the nation’s waterways. While the RHA was primarily enacted to preserve and enhance interstate commercial navigation, judicial interpretation and enforcement by the United States Army Corps of Engineers (Corps) progressively expanded its scope encompass the regulation of water pollution and shoreline alterations. Ultimately, the RHA laid the foundation for later environmental statutes which further expanded and formalized federal jurisdiction over waste discharges, without displacing the RHA’s permitting authority. Given New York’s complex network of commercial harbors and coastal infrastructure the RHA carved out unique provisions which create a distinct administrative and permitting regime that remains in force today. For the full memorandum, please see the final version of this memorandum to be posted on the Town+Gown:NYC website under [Town+Gown Working Groups: Innovative Water Research \(IWR\)](#).

³⁰ The following text is presented largely *verbatim* from Ilya Van Nieuwenhuysse, Brooklyn Law School, Class of 2027, “Analysis of Rivers and Harbors Act.” Please see the final version of this memorandum to be posted on the Town+Gown:NYC website under [Town+Gown Working Groups: Innovative Water Research \(IWR\)](#)

Historically, Congress used Rivers and Harbors Appropriation Acts as funding statutes for specific navigation improvement projects, rather than regulatory laws.³¹ Congress passed the first Rivers and Harbors Act of 1824 for navigation improvements on the Ohio and Mississippi Rivers.³² From the 1830s to the 1860s, Congress periodically passed Rivers and Harbor Acts to fund specific projects across the country. Since the RHA's inception, the Corps has served as the primary federal agency responsible for administering and enforcing compliance.³³ Overtime, these acts extended federal authority beyond simply funding projects to regulating private actions that might interfere with navigation.

As the national economy began to grow in the 19th century, unregulated construction and refuse disposal along waterways increasingly obstructed navigation and placed a significant burden on interstate commerce. In response, Congress began to attach regulatory conditions to appropriations statutes, gradually moving beyond funding projects to assert federal control over navigable waters pursuant to the commerce power.³⁴ For example, the Rivers and Harbors Act of 1888 and 1890 prohibited unauthorized obstructions, criminalized the dumping of refuse and required advanced approval for bridges, wharves and similar structures on navigable waters.³⁵ Such provisions, though scattered and piecemeal, marked the first exercise of federal regulatory power over water-based infrastructure. This incremental approach culminated in the RHA of 1899, which consolidated prior enactments into a comprehensive and permanent regulatory framework.

By the 1890s, Congress recognized that piecemeal regulation tied to appropriations did not sufficiently protect the nation's navigable waters as industrialization, rail bridges, and waste disposal practices were causing widespread navigation hazards. In response, Congress consolidated and codified these scattered provisions into the Rivers and Harbors Act of 1899 (RHA).³⁶ RHA granted the Corps clear statutory authority to review and enforce permits for construction and discharges in navigable waters, an authority that remains foundational to Corps oversight today. The original act also set general standards for protecting navigation and

³¹ John B. Miller, *Principles of Public and Private Infrastructure Delivery*, 146 (Springer 2000)

³² U.S. ARMY CORPS OF ENGINEERS, *Brief Legislative History of the General Survey Act*, <https://www.usace.army.mil/About/History/Historical-Vignettes/Civil-Engineering/165-General-Survey-Act>

³³ U.S. ARMY CORPS OF ENGINEERS, *Summary of Authorities for the Regulatory Program*, <https://www.spn.usace.army.mil/Missions/Environmental/Summary-of-Authorities-for-the/>

³⁴ See U.S. CONST. ART. I, § 8, cl. 3

³⁵ Encyclopedia.com, Rivers and Harbors Appropriation Act of 1899, <https://www.encyclopedia.com/environment/energy-government-and-defense-magazines/rivers-and-harbors-appropriation-act-1899>

³⁶ PUB. L. NO. 55-425, 30 Stat. 1121 was signed into law on March 3, 1899, by President William McKinley

preserving the public interest in waterways, including prohibitions on obstructions and measures to control refuse and debris.³⁷

RHA is a navigation-focused regulatory tool which gives the Corps jurisdiction over any structure, dredging or fill in navigable water and provides a legal basis for federal involvement in infrastructure and remediation projects.³⁸ The RHA achieves its regulatory objectives through a series of statutory provisions, each defining specific restrictions on activities in navigable waters and granting the Corps authority to permit and enforce compliance.

The core function of the RHA prohibits the construction of dams, bridges or any similar structure over navigable waters without the consent of the Corps. RHA §9 allocates legislative approval authority between state legislatures and Congress.³⁹ States have authority over structures in wholly intrastate waters, while Congress retains approval power for structures in interstate waters. Regardless, in both circumstances, the Corps have final approval discretion and must consent to the construction of a project in navigable waters.⁴⁰ RHA §9 remains a foundational provision and is actively enforced today. RHA §4 provides the Corps with administrative rulemaking authority to promulgate regulations governing the use, administration, and navigation of navigable waters and harbors.⁴¹ RHA §10 gives the Corps exclusive authority to approve dredging and filling operations. Together, RHA §§9-10 attempt to protect the federal interest in open and unfettered waterborne commerce between the states while simultaneously allowing for the accommodation of local interests. The Corps continues to require permits for any construction in navigable waters and violations can result in enforcement actions, including removal orders and or civil penalties.⁴² While RHA §12 focused on enforcing the removal of unlawful structures and obstructions, RHA §13, commonly referred to as the Refuse Act, extended the federal government's reach by prohibiting the discharge of waste materials into navigable waters, essentially making it one of the earliest instances of national pollution control.⁴³

Although the RHA was not drafted as an environmental statute *per se*, courts upheld federal prosecutions for dumping industrial waste and other materials to the extent that such waste

³⁷ Codified at 33 U.S.C. §§ 401,403,407

³⁸ U.S. ARMY CORPS OF ENGINEERS, *Section 10 of the Rivers & Harbors Act*, <https://www.spl.usace.army.mil/Missions/Regulatory/Jurisdictional-Determination/Section-10-of-the-Rivers-Harbors-Act>

³⁹ Codified at 33 U.S.C. §401

⁴⁰ D.L. Hankey, *Sections 9 and 10 of the Rivers and Harbors Act of 1899*, 29 DUKE L.J. 1 (1980).

⁴¹ Codified at 33 U.S.C. §1

⁴² Enforcement actions for activities in navigable waters without required U.S. Army Corps of Engineers permit implemented at 33 C.F.R § 326 (2025)

⁴³ Codified at 33 U.S.C. §407

discharges were considered as obstructions to navigation. Until the Water Pollution Control Act of 1948 (WPCA), there was no dedicated pollution-control statute.⁴⁴ As a result, for much of the first half of the 20th century, the RHA was the primary federal statutory tool for navigation protection, and pollution control. Courts and agencies broadly interpreted the RHA's navigation-based jurisdiction as a backdoor way to address waste discharges, particularly when they obstructed navigation. This broad judicial reading laid the groundwork for President Nixon's 1970 effort to transform the Refuse Act into a comprehensive federal discharge permit program.⁴⁵ Although not a formal legislative amendment, it marked an attempt by the executive branch to repurpose RHA authority. However, in *Kalur v. Resor*, the court enjoined the program holding that the executive branch did not have sufficient statutory authority under RHA §13 to require permit compliance.⁴⁶

The collapse of the Refuse Act permit program exposed the inadequacy of relying on a 19th century navigation statute to address the issue of modern pollution and highlighted the need for a comprehensive statutory framework. In turn, Congress swiftly moved to enact a series of environmental statutes in the 1970s.⁴⁷ This moment directly led to the passage of the Clean Water Act (CWA), which in turn paved the way for various other environmental laws.⁴⁸ Although still technically enforceable today, after 1972, the core function of the Refuse Act was largely displaced by the CWA's National Pollutant Discharge Elimination System (NPDES) permitting system. In the modern day, RHA's purpose is to preserve the integrity of the nation's navigable waters for commerce, navigation, and public use, while regulating construction and alterations. It is a jurisdictional legal hook for federal involvement in infrastructure and remediation projects with navigation impacts. Moreover, RHA establishes the Corps' ongoing role in permitting, enforcement and coordination with other federal and state agencies.

The Corps is the primary implementing agency responsible for evaluating any construction, dredging, or filling activities in navigable waters under the RHA. To the extent that RHA §1 grants the Corps an exclusive authority to promulgate regulations governing the use of navigable interstate waters, any state law that conflicts with the RHA may ultimately be preempted by the supremacy clause.⁴⁹ Only when a new structure is constructed in wholly intrastate navigable waters can the state legislature approve of a design with Corps consent.

⁴⁴ PUB. L. NO. 80-845, 62 Stat. 1155

⁴⁵ EXEC. ORDER NO. 11,574, 3 C.F.R. 939 (1966–1970), reprinted in 33 U.S.C. § 407 (1970)

⁴⁶ 335 F. Supp. 1 (D.D.C. 1971)

⁴⁷ ENVIRONMENTAL PROTECTION AGENCY, *Overview of the Clean Water Act and the NPDES Program*, https://www.epa.gov/sites/default/files/2021-01/documents/overview_of_the_clean_water_act_and_the_npdes_program.pdf

⁴⁸ PUB. L. NO. 92-500, 86 Stat. 816 (1972) (codified as amended at 33 U.S.C. §§ 1251–1389)

⁴⁹ U.S. CONST. ART. VI.

Enforcement actions under the RHA are left exclusively to the federal government. RHA §§12–13 authorize only the Department of Justice, acting upon referral from the Corps, to bring civil or criminal enforcement actions to remove unlawful structures or prosecute illegal discharges. The Supreme Court in *California v. Sierra Club* held that RHA §10 did not create an implied private right of action.⁵⁰ As a result, states and private citizens are barred from directly enforcing the RHA.

Until the enactment of the CWA in 1972, the Corps alone issued building permits in navigable waters. However, the CWA introduced a new permit program that did not repeal RHA §10 but rather expanded its scope. The CWA §404 program extended the Corps jurisdiction beyond navigation to regulate the discharge of dredged or filled material into navigable waters with mandatory state certification.⁵¹ As a result, Corps permits under RHA §10 and CWA §404 now require state approval for water quality compliance, giving the states an increased role in regulating activities in navigable waters.⁵²

The RHA continues to provide a federal statutory framework for protecting interstate navigable waters in New York. RHA §20(a) explicitly states that “[n]othing contained in ... this title shall be construed as repealing, modifying, or in any manner affecting the provisions of Subchapter III of this chapter.”⁵³ Subchapter III established a comprehensive regulatory framework for managing refuse disposal, navigation, and harbor improvements within certain harbors. It created specific inspectors and harbor supervisors who are tasked with enforcing the provisions its provisions to ensure that the local regulations for refuse disposal and navigation adhere to the federal standard.⁵⁴ Subchapter III also created a unique permitting system which specifies the exact location for disposal, ensuring controlled and regulated refuse management.⁵⁵ Deviation from the designative dumping site without proper authorization is considered a misdemeanor with penalties.⁵⁶ The savings clause ensures that New York Harbors special protections remain intact, even as general RHA authority was supplanted by the CWA and other environmental statutes. Today, these provisions provide statutory justification for enhanced Corps scrutiny in New York municipal projects.

Overview of Applicable Federal Law Translated into Applicable State Law.

⁵⁰ 451 U.S. 287 (1981)

⁵¹ Codified at 33 U.S. Code § 1344

⁵² U.S. ARMY CORPS OF ENG'RS, *Section 404/Section 10 Permits*, NAT'L PARK SERV., <https://npgallery.nps.gov/WSR/GetAsset/49b98840-2132-417d-b9c6-f365763434a7/original>

⁵³ Codified at 33 U.S. Code § 418

⁵⁴ Codified at 33 U.S. Code § 446

⁵⁵ Codified at 33 U.S. Code § 443

⁵⁶ Codified at 33 U.S. Code § 449

Part 258 Municipal Solid Waste Landfill Regulations.⁵⁷ RCRA aims to protect human health and the environment by reducing the amount of waste generated,⁵⁸ allowing the EPA to control hazardous and solid waste generation, transportation, treatment, storage, and disposal throughout its entire lifecycle.⁵⁹ Following the enactment of RCRA and CWA, in 1991, the federal government established Part 258 regulations, which set forth a minimum national criteria under both RCRA and CWA for all Municipal Solid Waste Landfills (MSWLFs).^{60,61} For a more detailed examination of items covered by the States' Part 360 Regulations in compliance with the federal Part 258 regulations, please see the final version of this memorandum posted on the Town+Gown:NYC website under [Town+Gown Working Groups: Urban Resource Recovery \(URR\)](#).

The EPA intended for states to take the lead in implementing the Part 258 regulations.⁶² Municipal solid waste management regulatory oversight is more amenable to state and local governments, rather than federal.⁶³ Therefore, the EPA's goal is for states to receive approval of their MSWLF programs.⁶⁴ States with approved programs are given flexibility to consider site-specific conditions regarding MSWLF design and other requirements.⁶⁵ States are able to independently enforce the program and have the freedom to apply stricter standards than those given in RCRA, as long as they maintain minimum federal standards.⁶⁶ The EPA promulgated the State Implementation Rule (SIR) to encourage states to receive program approval.⁶⁷ SIR, finalized in 1998, provides a "flexible framework for modifications of approved programs, establishes procedures for withdrawals of approvals, and confirms the process for future program approvals."⁶⁸

⁵⁷ The following text is presented largely *verbatim* from Samuel Caldarone, Katana Meganck, Kirk Rotger and Katherine Will, Brooklyn Law School, *Analysis of 360 Regulations Closing Loops City Program*." Please see the final version of this memorandum posted on the Town+Gown:NYC website under [Town+Gown Working Groups: Urban Resource Recovery \(URR\)](#)

⁵⁸ *EPA History: Resource Conservation and Recovery Act*, EPA (June 8, 2020), <https://www.epa.gov/history/epa-history-resource-conservation-and-recovery-act>.

⁵⁹ 42 U.S.C. §6901.

⁶⁰ 40 CFR § 258.1.

⁶¹ §258.1(a).

⁶² *Introduction to Municipal Solid Waste Disposal Facility Criteria*, EPA (Sept. 2005), <https://www.epa.gov/sites/production/files/2015-09/documents/mswlf05.pdf>

⁶³ *Id.* at 6.

⁶⁴ *Id.*

⁶⁵ 42 U.S.C. §6926(b).

⁶⁶ 42 U.S.C. §6929.

⁶⁷ *Introduction to Municipal Solid Waste supra* at 7.

⁶⁸ 63 FR 57026.

New York State's Compliance with Federal Law. NYSDEC was created on July 1, 1970, the same year the EPA was created, to consolidate all New York State (State) programs designed to protect the environment into a single agency.⁶⁹ The Environmental Conservation Law (ECL), found within the Consolidated Laws of New York, established NYSDEC which subsequently “implements and enforces” the ECL.⁷⁰ NYSDEC’s mission statement is to “conserve, improve and protect” the State’s natural resources in order to “enhance the health, safety and welfare of the people ... and their overall economic and social well-being.”⁷¹ NYSDEC is empowered to do so through Article 3 of the ECL.⁷² NYSDEC defines the provisions of the ECL by “drafting, promulgating and enforcing” the environmental regulations of NYSDEC, which are found at Title 6 of the New York Codes, Rules and Regulations.⁷³ Proposed regulations are presented by the NYSDEC for public comment and usually involve public hearings.⁷⁴ In order to achieve its goals, NYSDEC appoints a single commissioner who is assisted by executive managers.⁷⁵ NYSDEC has 24 divisions and offices and is further organized into bureaus to fulfill the Title 6 provisions.⁷⁶ Furthermore, some NYSDEC programs are governed by federal law.⁷⁷

In 1973, the State authorized NYSDEC to develop rules governing landfill operations.⁷⁸ The first State regulations were put on the books in 1977, following the federal RCRA in 1976. The first set of regulations were enacted around landfill regulations and security. The NYSDEC landfill regulations required landfill operators to comply with individual site permits.⁷⁹ Approval of those permits requires operators to ensure landfill security, monitoring of water pollution, and the proper sealing of the contents of the landfill.⁸⁰ NYSDEC’s landfill regulations increased the cost of operating landfills. Many landfills shuttered operation as a result of the high cost of conforming to the regulations, thus decreasing the number of landfill’s being operated in the State.⁸¹ Since the 1970s, the State has enacted several regulations and revisions governing the disposal, reuse, and recycling of solid waste. The Solid Waste Management Act of 1988, NYSDEC’s 1993 revision of the Part 360 regulations, and the NYSDEC’s 2017 overhaul of the Part

⁶⁹ *About DEC*, NYS Dept. of Environmental Conservation. <https://www.dec.ny.gov/24.html>.

⁷⁰ *Home - Regulations and Enforcement*, NYS Dept. of Environmental Conservation. <https://www.dec.ny.gov/65.html>.

⁷¹ *Id.*

⁷² Env’t Conserv. Law §3-0101 (2021).

⁷³ *Id.*

⁷⁴ *Id.*

⁷⁵ *About DEC supra.*

⁷⁶ *Id.*

⁷⁷ *Id.*

⁷⁸ Brad Edmondson, *Environmental Affairs in New York State: An Historical Overview*, New York State Archives, Pub. 27, 44 (2001) http://www.archives.nysed.gov/common/archives/files/mr_pub72.pdf.

⁷⁹ *Id.* at 45.

⁸⁰ *Id.*

⁸¹ *Id.*

360 regulations have each shaped the direction New York has taken to reduce the flow of solid municipal waste into landfills.

In 1987, NYSDEC drafted the State's Solid Waste Management Plan (Plan) in response to growing environmental concerns surrounding municipal solid waste (MSW) across the State.⁸² Throughout the State there was concern with groundwater contamination and operational deficiencies at many older, unlined landfills.⁸³ By 1986, only 47 of New York's 358 landfills were operating with valid permits.⁸⁴ Moreover, the disposal capacity for the State's landfills (excluding New York City) was estimated to be four years.⁸⁵ The Plan articulated an integrated waste management system to fix this impending landfill crisis. Additionally, the Plan implemented Part 360 regulations (Part 360 regulations), bringing the State into compliance with RCRA.⁸⁶ The most ambitious goal of the Plan was to reduce, reuse, or recycle 50 percent of New York's waste stream within ten years.⁸⁷

Governor Mario Cuomo signed the Plan into law and enacted the Solid Waste Management Act (Act) in 1988. The Act prioritized a four-part hierarchy of solid waste management:

- (1) reduce the amount of solid waste generated;
- (2) reuse material for the purpose for which it was originally intended or to recycle material that cannot be reused;
- (3) to recover, in an environmentally acceptable manner, energy from solid waste that cannot be economically and technically reused or recycled; and
- (4) to dispose of solid waste that is not being reused, recycled or from which energy is not being recovered, by land burial or other methods approved by NYSDEC.⁸⁸

The goal of the hierarchy of solid waste management was to decrease and redirect the amount of "recyclable and reusable solid waste away from the landfills."⁸⁹

The Act outlined a set of guidelines to ensure that state and local governments worked cooperatively in establishing environmentally friendly solid waste management systems that

⁸² *Beyond Waste: A Sustainable Materials Management Strategy for New York State*, NYS Dep't of Env. Conservation, https://www.dec.ny.gov/docs/materials_minerals_pdf/frptbeyondwaste.pdf (last visited: June 10, 2021).

⁸³ *Id.* at 17.

⁸⁴ *Id.*

⁸⁵ *Id.*

⁸⁶ *Id.*

⁸⁷ *Id.*

⁸⁸ ECL §27-0106.

⁸⁹ *Beyond Waste: A Sustainable Materials Management Strategy for New York State*, at 18.

incorporated the hierarchy.⁹⁰ The guidelines included the following: structure and expectations for regional solid waste management planning units; requirements and funding for local solid waste management plans in accordance with the hierarchy of waste management methods; a mandate that state-wide municipalities “adopt and implement source separation laws or ordinances for recyclables from all generating sectors by September 1, 1992 (less than five years from enactment);” and NYSDEC’s role in fulfilling these requirements.⁹¹

NYSDEC updated the Part 360 regulations in 1993, which govern solid waste, to comply with the federal government's new Part 258 regulations of 1991.⁹² Part 258 established minimum national criteria under RCRA “for all municipal solid waste landfill (MSWLF) units and under the Clean Water Act, as amended, for municipal solid waste landfills that are used to dispose of sewage sludge.”⁹³ These minimum criteria provide more stringent regulations surrounding existing landfills, design requirements for new landfill construction, and update the reporting requirements of landfill operators.⁹⁴ Part 258 addresses “seven major aspects of MSWLFs: location restrictions, composite liners requirements, leachate collection and removal systems, operating practices, groundwater monitoring requirements, closure and post-closure care requirements, corrective action provisions, and financial assurance.”⁹⁵

The next major change to the Part 360 regulations did not come until nearly 20 years later, when in 2017, NYSDEC provided a complete overhaul of the Part 360 regulations, which set design standards and operational criteria for all solid waste management facilities.⁹⁶ The Part 360 Regulations introduced the concept of Beneficial Use Determinations (BUDs). BUDs are a designation made by NYSDEC pursuant to 6 NYCRR Part 360.12. Once the NYSDEC grants a BUD, the waste material ceases to be considered a solid waste (for the purposes of Parts 360-365) when used as described in the BUD.⁹⁷ The updated Part 360 regulations also address growing concerns for illegal dumping of CDW and fill material by increasing tracking of materials in New York City and expanding reuse opportunities for these materials.⁹⁸ When discussing the 2017 revision of the regulations, NYSDEC Commissioner Basil Seggos stated that “... these final

⁹⁰ *Id.*

⁹¹ *Id.*

⁹² *Solid Waste Program*, NYS Dept. of Environmental Conservation, <https://www.dec.ny.gov/chemical/8498.html> (last visited May 27, 2021).

⁹³ 40 CFR § 258(1)(a).

⁹⁴ 40 CFR § 258(40).

⁹⁵ *Municipal Solid Waste - Landfills*, EPA, <https://www.epa.gov/landfills/municipal-solid-waste-landfills> (last visited June 10, 2021).

⁹⁶ *Parts 360-366 and 369*, NYS Dept. of Environmental Conservation, <https://www.dec.ny.gov/regulations/118777.html> (last visited May 27, 2021).

⁹⁷ *Beneficial Use Determinations*, NYS Dept. of Environmental Conservation, <https://www.dec.ny.gov/chemical/8821.html>

⁹⁸ *Id.*

regulations incorporate public comments we received and will ensure New York State remains a leader in protecting our communities and natural resources through enhanced recycling and waste management.”⁹⁹

The 2017 update of the Part 360 regulations included the removal of some materials from the list of predetermined BUDs. Prior to the update, solid wastes, with prior approval from NYSDEC, were approved for use as daily cover material, landfill liner, or final cover system components pursuant to the provisions of subdivision 360-2.13(w) of Part 360.¹⁰⁰ Additionally, NYSDEC removed fuel as an alternative use for the use of case-specific BUDs. The 1999 update to the 360 regulations included that “material under review must be intended to function as an effective substitute for an analogous raw material or fuel.”¹⁰¹ The language of the updated 2017 Part 360 regulations states that the BUD petition must include a “justification that the waste functions as an effective substitute for the commercial product or raw material.”¹⁰²

In addition to establishing NYSDEC, the ECL provides regulations relating to various types of environmental hazards faced by the State.¹⁰³ Article 27 of the ECL adjudicates the collection, treatment, and disposal of refuse and other solid waste.¹⁰⁴ The purpose of Article 27 is to (1) encourage the development of economical projects for the present and future collection, (2) assure treatment and management of solid and hazardous waste will have full consideration of all aspects of planning for proper and effective waste disposal, (3) coordinated with other related state, regional and local planning activities, and (4) protect the public health.¹⁰⁵ The New York legislature also intended to “effect maximum resource recovery from solid waste on a cost-effective basis, with minimum environmental debit, energy-efficient materials recovery, prudent land use, maximum economic benefits and maximum effective private sector participation.”¹⁰⁶

Solid waste refers to any garbage, refuse, or sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control facility and other discarded materials including “solid, liquid, semi-solid, or contained gaseous material”, resulting from industrial, commercial,

⁹⁹ *NY DEC strengthens state's solid waste regulations*, American Recycler News, Inc., (December 2017). <https://americanrecycler.com/8568759/index.php/news/waste-news/2737-ny-dec-strengthens-state-s-solid-waste-regulations>.

¹⁰⁰ 6 NYCRR §360-1.5(b)(10).

¹⁰¹ §360-1.5(d)(2)(iii).

¹⁰² §360.12(d)(2)(v).

¹⁰³ ECL §§ 1-0101 - 75-0119

¹⁰⁴ ECL §§ 27-0101 - 27-3101.

¹⁰⁵ ECL §27-0101(1).

¹⁰⁶ §27-0101(2).

mining and agricultural operations, and from community activities.¹⁰⁷ NYSDEC has determined that the following materials are not considered solid waste for the purpose of Parts 360-66:¹⁰⁸

1. Materials that are intended for reuse for their original function without processing.¹⁰⁹
2. Materials that are incorporated into food products for human consumption.¹¹⁰
3. Wood generated from sources other than construction and demolition, that is burned in campfires, ceremonial burns, cooking fires, wood stoves, or other similar uses.¹¹¹
4. Any mixture of domestic sewage and other wastes that pass through a sewer system to a publicly or privately owned treatment works for treatment.¹¹²
5. Industrial wastewater discharges.¹¹³
6. Irrigation return flows.¹¹⁴
7. Materials subject to in-situ mining techniques which are not removed from the ground as part of the extraction process.¹¹⁵
8. Crumb rubber.¹¹⁶
9. Materials that are used for artificial reefs.¹¹⁷
10. Material removed from the waters of New York State and placed or disposed in compliance with a permit.¹¹⁸
11. Waste samples received at a laboratory or educational institution for analysis of constituents.¹¹⁹

¹⁰⁷ 6 NYCRR § 360.2(a).

¹⁰⁸ § 360.2(a)(3).

¹⁰⁹ § 360.2(a)(3)(i) (such as materials at a garage sale, consignment shop, textile collection location or similar venue).

¹¹⁰ § 360.2(a)(3)(ii).

¹¹¹ § 360.2(a)(3)(iii).

¹¹² § 360.2(a)(3)(iv).

¹¹³ § 360.2(a)(3)(v) (that are point source discharges subject to permits under Environmental Conservation Law (ECL) article 17).

¹¹⁴ § 360.2(a)(3)(vi).

¹¹⁵ § 360.2(a)(3)(vii).

¹¹⁶ § 360.2(a)(3)(viii).

¹¹⁷ § 360.2(a)(3)(x) (must be in compliance with applicable water quality criteria).

¹¹⁸ § 360.2(a)(3)(xi) (permit must be issued under ECL article 15, 24, 25, or 34 or a water quality certification issued under Section 401 of the Federal Water Pollution Control Act to the extent that disposal of the material is regulated by such permit or certification. However, any disposal not regulated by such permit remains subject to regulation under Parts 360, 361, 362, 363, and 365 of this Title. Dredged or excavated material generated by a manufacturing or industrial process is industrial waste, and the treatment, storage, transfer, or disposal of the material is subject to regulation under Parts 360 to 365 of this Title).

¹¹⁹ § 360.2(a)(3)(xii).

In addition to the specific materials determined not to be solid waste, NYSDEC has also determined several materials are not considered solid waste when used in a certain way.¹²⁰ The Part 360.12 regulations detail how solid waste materials can be reused in a way that they are no longer considered solid waste.¹²¹ In 2017, NYSDEC updated the Part 360 regulations that govern the reuse, recycling, transportation, and disposal of solid waste.¹²² The purpose of the statewide change was to create more beneficial use opportunities for the increasing amount of materials from New York City while also preventing the improper reuse of the same materials.¹²³ A Beneficial Use Determination (BUD) is used to decide if a material can cease to be considered a solid waste and therefore be beneficially used.¹²⁴ There are 28 predetermined BUDs.¹²⁵ If a BUD does not currently exist for a material then potential users can petition the NYSDEC for a case-specific BUD.¹²⁶

New York's beneficial use guidelines apply to the use of certain wastes as "effective substitutes for commercial products" or "raw materials" as determined by NYSDEC.¹²⁷ It does not apply to waste "used in a manner that constitutes disposal" or to materials that are being sent to facilities subject to regulation under Part 361.¹²⁸ Materials cannot be stored for more than 365 days prior to its beneficial use unless otherwise indicated by registration, permit condition, or case-specific beneficial use designation.¹²⁹

A BUD will not be granted for waste if it is used in any of the following ways: (1) as "flowable fill" for reclamation of mined land, (2) as encasement of "waste tires" in concrete, or (3) usage of "waste tires" as fences or screening.¹³⁰ Flowable fill is a "self-compacting, cementitious, low-strength mixture of soil, water, or coal combustion residuals", that is used to backfill excavations and is capable of being pumped.¹³¹ Waste tires are waste which consists of whole tires (on or off the rims) or portions of tires from a vehicle or motor vehicle.¹³² Waste tires and

¹²⁰ § 360.2(a)(3)(ix).

¹²¹ *Id.*

¹²² *Parts 360-366 and 369, supra.*

¹²³ *Id.*

¹²⁴ 6 NYCRR § 360.12. *See also Safe Harbor, The Wolters Kluwer Bouvier Law Dictionary* (Dictionary Desk ed. 2012) (the regulatory sense of a safe-harbor provision in a statute or regulation, which provides individuals or entities that it governs a diminished or waived punishment in return for conduct that mitigates the harm the statute or regulation seeks to prevent).

¹²⁵ § 360.12(c).

¹²⁶ § 360.12(d)(e)(f).

¹²⁷ § 360.12(a).

¹²⁸ § 360.12(a)(1).

¹²⁹ § 360.12(a)(2).

¹³⁰ § 360.12(b).

¹³¹ § 360.2(b)(110)

¹³² § 360.2(b)(308). *See also* ECL § 27-1901 ("Vehicle" or "Motor Vehicle" means any device which by virtue of its design could qualify for registration).

fill material can be granted a BUD if they are used in a manner consistent with the predetermined or case specific BUDs.

Dredged Sand and Gravel materials are not considered solid waste when used in the ways described in a Predetermined Beneficial Use. Navigational dredge material (NDM) utilized outside of ecologically sensitive areas, as a commercial aggregate replacement for sand or gravel if the NDM contains at least 90% sand and gravel,¹³³ and less than 0.5% total organic carbon.¹³⁴ For NDM not meeting these conditions, generators or potential users may petition NYSDEC for a case-specific BUD.¹³⁵

When there is proposed reuse of a material that is not a part of one of the predetermined BUDs, generators or potential reusers can petition the NYSDEC for a case-specific BUD.¹³⁶ Generally, case-specific BUDs are for waste material used: (1) as a substitute for a component material in the manufacture of a product; or (2) as a substitute for a commercial product.¹³⁷ Some examples of case-specific BUDs that have been granted include: (1) The use of dried paper mill sludge as animal bedding; (2) The use of crushed countertop material as a construction aggregate; (3) The use of gypsum in the manufacture of wallboard or as a soil amendment; and (4) The use of a nitrate solution from silver processing as a fertilizer.¹³⁸ The Part 360 regulations lay out a plan for two case-specific materials, navigational dredge, discussed below, and brine, as well as a process for unspecified materials.

Navigational Dredge Materials (NDM) are materials such as sediment and silt which have been excavated or otherwise removed from the bottoms of the navigable waters of the United States to maintain channels and docks.¹³⁹ This subdivision does not apply to NDM found in surface water or the riparian zone; further, it only applies to upland management of NDM in the absence of an applicable dredging permit.¹⁴⁰ A BUD application for NDM requires submitting a written petition to the NYSDEC.¹⁴¹ This petition must contain the following:

¹³³ Determined by a standard grain size analysis method approved by the department and performed by an independent laboratory.

¹³⁴ 6 NYCRR § 360.12(c)(1)(iv).

¹³⁵ § 360.12(e).

¹³⁶ § 360.12(d).

¹³⁷ § 360.12(d)(1).

¹³⁸ *Beneficial Use Determinations (BUDs)*, DEC, <https://www.dec.ny.gov/chemical/8821.html> (last visited June 22, 2021).

¹³⁹ *Ocean Disposal of Dredged Material*, EPA, <https://www.epa.gov/ocean-dumping/ocean-disposal-dredged-material> (last visited June 24, 2021).

¹⁴⁰ 6 NYCRR § 360.12(e)(1).

¹⁴¹ *Id.*

1. The source of the NDM¹⁴²;
2. A sampling plan¹⁴³
3. Analytical results of the untreated, unamended NDM and of the treated or amended NDM¹⁴⁴
4. A description of known or probable markets for the intended use of the NDM or end product¹⁴⁵
5. A material management plan¹⁴⁶
6. A detailed description of all amendments or treatments that will occur before NDM use.¹⁴⁷

NYSDEC will evaluate the above criteria in addition to the criteria listed in 360.12(d)(3) in determining whether the proposal constitutes a beneficial use.¹⁴⁸ If the NDM will be used as general fill or cover, the requirements of 360.12(d)(3)(vi) must be met, unless the NDM will be used as Restricted-Use or Limited-Use Fill Material as described in 360.13.¹⁴⁹ If the NDM meets the requirements listed above within the 365 days, it will cease to be waste, unless otherwise stated by NYSDEC.¹⁵⁰

The petitioner may include the results of tests that were performed for other purposes (such as to obtain a dredging permit).¹⁵¹ Such a test is not required to conform to the procedures listed in 360.12(e)(4)(ii), but must abide by “NYSDEC-approved analytical methods,” unless otherwise approved by the NYSDEC.¹⁵² These tests must provide proof that the NDM has been analyzed for: “volatile organic compounds; semi-volatile organic compounds; pesticides; polychlorinated

¹⁴² § 360.12(e)(2)(i) (Must include the estimated quantity of use and the proposed schedule of use).

¹⁴³ § 360.12(e)(2)(ii) (The sampling plan must describe how representative samples will be obtained and the analytical methods used to assess the sample).

¹⁴⁴ § 360.12(e)(2)(iii) (These results must be in compliance with §360.12(d)).

¹⁴⁵ § 360.12(e)(2)(iv) (For example, the description could include a description of the placement site and of the end use of the NDM, a contract to purchase or use the NDM after processing, a demonstration that the NDM will comply with industry standards after processing, or any other documentation showing that a legitimate market for the NDM exists after processing. See also §360.12(e)(2)(iii)(a-d)).

¹⁴⁶ § 360.12(e)(2)(v) (The plan should provide a description of the waste resulting from the NDM processing, a description of the type of storage and maximum anticipated inventory of NDM before being used, procedures for run-on and run-off control at the storage areas for the NDM and end product after processing, a program and schedule of best management practices designed to minimize uncontrolled dispersion of the NDM during processing, transportation, and storage and during beneficial use, and a description of how the NDM project-specific fill specifications at the site of the placement. See also §360.12(e)(2)(v)(a-e)).

¹⁴⁷ § 360.12(e)(2)(vi) (The description must include the type and quantity of amendment or treatment procedures, and location of all processing operations.).

¹⁴⁸ § 360.12(e)(3)(i).

¹⁴⁹ *Id.*

¹⁵⁰ § 360.12(e)(3)(ii).

¹⁵¹ § 360.12(e)(4).

¹⁵² § 360.12(e)(4)(ii).

biphenyls; metals; sulfides; salt content; grain-size distribution; chlorinated dioxins/furans; carbazole; mirex; hexavalent chromium and cyanides.”¹⁵³ Furthermore, the NYSDEC may require submission of test results for Synthetic Precipitation Leaching Procedure or Toxicity Characteristic Leaching Procedure, and “other data needed to justify the proposed end-use.”¹⁵⁴

The NDM tests must show a certain ratio of analyses performed to NDM cubic yardage unless otherwise approved by the NYSDEC.¹⁵⁵ If the NDM source has a “history of significant contamination” or “highly variable contamination,” additional sampling will be required.¹⁵⁶ A sampling plan must be approved by the NYSDEC prior to any sampling of NDM.¹⁵⁷ The ratio of analyses performed to NDM cubic yardage is below:

TABLE 3: Analyses Required for NDM	
Cubic Yards of NDM	Minimum Number of Analyses
Under 5,000	1 for each 1,000 Cubic Yards
5,000-10,000	6
10,000-20,000	7
20,000-30,000	8
Over 30,000	The NYSDEC will require a project-specific approved sampling frequency ¹⁵⁸

All samples must be representative of the NDM that will be used, and a written report with pertinent details (including date, location, and protocol used to obtain the samples) must be submitted to NYSDEC.¹⁵⁹ An excess of contaminants may still be justifiable if the statistical analysis is performed in accordance with USEPA SW-846, as incorporated by reference in

¹⁵³ § 360.12(e)(4)(i).

¹⁵⁴ *Id.*

¹⁵⁵ § 360.12(e)(4)(ii).

¹⁵⁶ *Id.*

¹⁵⁷ *Id.*

¹⁵⁸ The following text is presented largely *verbatim* from Joseph Getz, Brooklyn Law School, “Analysis of Proposed Revisions to the 360 Regulations Closing Loops City Program”. Please see the final version of this memorandum to posted on the Town+Gown:NYC website under [Town+Gown Working Groups: Urban Resource Recovery \(URR\)](#).

¹⁵⁹ § 360.12(e)(4)(iv).

section 360.3 of this Part. If an analytical result is less than the required detection limit, the result will be “considered to comply with the pollutant limit.”¹⁶⁰

In 2022, NYSDEC gave notice of its Proposed 2022 Part 360 Revisions.¹⁶¹ The 2022 Part 360 Revisions alter the BUD requirements for some materials, while increasing the number of Predetermined BUDs from 28 to 37.¹⁶² The Revisions do not change the BUD requirements related to the following materials: Certain Excluded Hazardous Wastes;¹⁶³ and Dredged Sand and Gravel.¹⁶⁴ The Revisions made small changes to the Case-Specific BUDs for Navigational Dredge Materials:

1. Navigational Dredge Materials. All references to general fill have been changed to Fill Type 2 and Fill Type 3. All references to Restricted-Use or Limited-Use Fill have been changed to Fill Type 4 or Fill Type 5, respectively.¹⁶⁵

In addition, the Proposed Revisions remove a *de minimus* compliance level by deleting “[i]f the pollutant limit for beneficial use is lower than the required detection limit, an analytical result less than the required detection limit will be considered to comply with the pollutant limit” in Section 360.12(e)(4)(iv).^{166,167}

Navigational Dredged Material Handling and Recovery Facilities are “any facility that handles, stores or processes navigational dredged material (NDM).”¹⁶⁸ There are no exemptions for these facilities. To be subject to a registration, an NDM facility must “receive NDM for the purpose of amending the NDM with portland cement or for the purpose of dewatering on pads or in enclosed geotextile tubes.”¹⁶⁹ Note that NDM facilities located at “active mined land reclamation sites or C&D debris handling and recovery facilities are ineligible for registrations.”¹⁷⁰ As such these facilities are not subject to a registration and must obtain a permit. The application must include “a description of how the facility will comply with the

¹⁶⁰ *Id.*

¹⁶¹ *Proposed Parts 360-369, 371, 377*, NYS Dept. of Environmental Conservation, <https://www.dec.ny.gov/regulations/125274.html> (last visited August 15, 2022).

¹⁶² § 360.12(c). *Proposed Parts 360-366, 369, 371, 377; Full Text of Parts 360-366 and 369* (PDF), NYS Dept. of Environmental Conservation, <https://www.dec.ny.gov/regulations/125274.html> (last visited August 15, 2022).

¹⁶³ 6 NYCRR § 371.1.

¹⁶⁴ For pre-existing BUD for NDM See 6 NYCRR § 360.12(c)(1)(iv). For case-specific BUD for NDM See 6 NYCRR § 360.12(e).

¹⁶⁵ § 360.12(e)(3)(i) *Proposed Parts 360-366, 369, 371, 377*.

¹⁶⁶ 6 NYCRR § 360.12(e)(4)(iv).

¹⁶⁷ § 360.12(e)(4)(iv) *Proposed Parts 360-366, 369, 371, 377*.

¹⁶⁸ 6 NYCRR § 361-9.1.

¹⁶⁹ 6 NYCRR § 361-9.2(a)(1).

¹⁷⁰ § 361-9.2(a) *Proposed Parts 360-366, 369, 371, 377*.

operating requirements in Part 360.19.”¹⁷¹ For a more detailed examination of the 2022 Revisions, please see the final version of this memorandum posted on the Town+Gown:NYC website under [Town+Gown Working Groups: Urban Resource Recovery \(URR\)](#).

¹⁷¹ § 361-9.3(a) *Proposed Parts 360-366, 369, 371, 377.*

RCRA has been amended, primarily related to Subtitle C Hazardous Waste Management, by the *Solid Waste Disposal Act Amendments of 1980*, which revised and refined the hazardous waste management program, addressing implementation challenges that emerged after the initial regulations under Subtitle C were promulgated;¹⁷² the *Hazardous and Solid Waste Amendments of 1984 (HSWA)*, which addressed early criticisms of the program, such as EPA's slow rulemaking and continued unchecked land disposals;¹⁷³ the *Superfund Amendments and Reauthorization Act of 1986*, which expanded the CERCLA Superfund including establishing a separate funding mechanism to address petroleum contamination; the *Federal Facility Compliance Act of 1992*, which ensured federal agencies could be held legally accountable under RCRA;¹⁷⁴ the *Land Disposal Program Flexibility Act of 1996*, which streamlined specific RCRA Subtitle C requirements for the land disposal of hazardous wastes;¹⁷⁵ the *Energy Policy Act of 2005*, which strengthened federal and state enforcement related to groundwater contamination, reduced the risk of contamination, promote long-term regulatory compliance, and enhanced cooperative implementation between EPA and local governments;¹⁷⁶ the *e-Manifest Act of 2012*, which modernized RCRA's manifest system by mandating an electronic infrastructure, funding mechanism, oversight structure, and regulatory framework to support accurate, efficient hazardous waste tracking nationwide;¹⁷⁷ the *Water Infrastructure Improvements for the Nation Act of 2016*, addressed gaps in coal combustion residuals (CCR) regulated under Subtitle D, where federal oversight was limited,¹⁷⁸ by setting national minimum criteria under Subtitle D for CCR disposal in landfills and surface impoundments and establishing a federally led state CCR permitting framework state;¹⁷⁹ and the *Infrastructure Investment and Jobs Act of 2021*, which aimed at Subtitle D materials management and market development to support the nation's shift toward a circular economy and modernization of solid waste management infrastructure¹⁸⁰ by giving EPA authority and funding to strengthen

¹⁷² Pub. L. No. 96-482 was enacted by President Jimmy Carter on October 21, 1980

¹⁷³ P.L. No. 98-616 was signed into law by President Ronald Reagan on October 17, 1986

¹⁷⁴ Pub. L. No. 102-386 was signed into law by George H. W. Bush on October 6, 1992

¹⁷⁵ Public Law 104-119, was signed into law by President Bill Clinton on March 26, 1996

¹⁷⁶ U.S. ENVTL. PROT. AGENCY, *Energy Policy Act of 2005 and Underground Storage Tanks*, <https://www.epa.gov/ust/energy-policy-act-2005-and-underground-storage-tanks>

¹⁷⁷ Pub. L. No. 112-195 was signed into law by President Barack Obama on October 5, 2012

¹⁷⁸ VA. CONSERVATION NETWORK, *Protection from Coal Ash*, <https://vcnva.org/agenda-item/protection-from-toxic-coal-ash/#:~:text=Why%20it%20Matters,Current%20Landscape>

¹⁷⁹ Pub. L. No. 114-322 was enacted on December 16, 2016, by President Donald J. Trump

¹⁸⁰ Pub. L. No. 117-58 was signed into law by President Joe Biden on November 15, 2021

municipalities' recycling, reuse, and waste reduction programs through grants, education, and better materials tracking.^{181, 182}

¹⁸¹ <https://www.epa.gov/circulareconomy/national-recycling-strategy>

¹⁸² Codified at 42 U.S.C. § 6966d