Enforcement-Sensitive Information Attached

ACTION MEMORANDUM

Date: September 18, 30, 2019 Reviewed following DES final review.

Subject: Request for Non-Time Critical Removal Action, Mohawk Tannery Site, Nashua, New Hampshire – **ACTION MEMORANDUM**

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To: Bryan Olson, Director
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I. PURPOSE

The purpose of this Action Memorandum is to request approval for a change in scope to the non-time-critical removal action (NTCRA) that was approved in an Action Memorandum dated October 29, 2002, for the Mohawk Tannery Site (the Site), located in Nashua. NH. The NTCRA that was approved in 2002 was put on hold, at the request of the City of Nashua, until a viable and desirable re-development plan for the Site materialized. This proposed change in scope will not result in an increase to the total project cost ceiling that was approved by the 2002 Action Memorandum. This Action Memorandum hereby supersedes the 2002 Action Memorandum, although Section II (Site Conditions and Background) and Section III (Threats to Public Health or Welfare or the Environment and Regulatory Authorities) from the 2002 Action Memorandum are incorporated by reference into this document.[1]

[1] To prepare this Action Memorandum, EPA relied on data from the 2002 Action Memo and the 2018 Amended Engineering Evaluation and Cost Analysis (EE/CA). The reader is referred to the Administrative Record established for the Site, to access those documents. (See Attachment C, Administrative Record File Index).

The 2002 approved NTCRA involved: excavating approximately 60,000 cubic yards (cy) of contaminated waste from six disposal areas located on the Northern Parcel of the Site and transporting the waste off-site for disposal in a permitted landfill. The total project cost ceiling for the 2002 NTCRA was $15 million.

Following additional investigation, including a 2018 Engineering Evaluation/Cost Analysis Amendment ("EE/CA Amendment") to an earlier 2002 EE/CA, the recommended change in scope to the 2002 NTCRA involves: consolidating the approximately 78,600 cy of contaminated waste and overlying soil from six disposal areas, approximately 1,150 cy of contaminated soil from areas of the Site located outside the footprint of the six disposal areas, and approximately 2,500 cy of contaminated soil from the Site's Southern Parcel onto the Northern Parcel of the Site, enclosed with a vertical barrier, and covered with an impermeable cap. Approximately, a total volume of 82,250 cy of contaminated material (*i.e.*, 78,600 cy + 1,150 cy + 2,500 cy (see Figure 4)[2] would be consolidated, encapsulated and capped this way.

The total project cost ceiling for the NTCRA recommended in this Action Memorandum ranges from about $7.7 million to $14.5 million. Different possible vertical barrier technologies (sheet pile, slurry wall, or secant wall), is the primary reason for the price range.

It is anticipated that this NTCRA will be performed in connection with a private party redevelopment of the Site under an administrative order. EPA understands that as part of this re-development, while not part of this NTCRA, a private party may opt to: 1) consolidate approximately 20,000 cy of sludge waste from a landfill within an adjacent property (Fimbel Door property) into the capped area on the Site, and 2) excavate approximately 17,000 cy of asbestos containing material (ACM) from a City-owned property and approximately 5,000 cy of ACM from the Fimbel Door property and deposit this ACM into a separate capped cell to be built adjacent to the eastern edge/wall of the capped area.

Additional information regarding planned negotiations is provided in an attached confidential Enforcement Strategy (Attachment D). The NTCRA is expected to be completed within 18 months of mobilization. The NTCRA is consistent with the long-term remedial strategy for this Site to minimize exposure to and migration of contaminants and to restore the Site to its productive use.

II. SITE CONDITIONS AND BACKGROUND

CERCLIS Identifier:	NHD981889629
Site Identifier:	017C

[2] Figure 4 of this Action Memo is a copy of Figure 3 from the Removal Alternatives Update Technical Memorandum, prepared by KGSNE on April 2018.

Category of Removal:	Non-Time-Critical
National Priorities List (NPL) Status:	Proposed to the NPL on May 11, 2000

A. Site Description

1. Removal Site Evaluation

The Mohawk Tannery Site (*a.k.a.* Granite State Leathers) is a former leather tanning facility that consisting of two buildings and other structures that operated from 1924 to 1984. The Site was proposed for listing on the NPL on May 11, 2000; however, at the request of the City of Nashua EPA did not move forward with the final NPL listing (as further explained below).

Figure 1 shows a Locus Plan of the Mohawk Tannery Site and Figure 2 is an Area Site Plan showing the Site and surrounding properties. Figure 3 is a Site Plan showing current and former Site features and Figure 4 shows the main features of the proposed NTCRA.

As shown on Figure 2 and highlighted in green, the Site consists of two adjacent parcels: a developed parcel commonly known as the Northern Parcel (which contained the facility buildings), and an undeveloped parcel commonly known as the Southern Parcel. Each parcel is approximately 15 acres. Adjacent and north of the Site lie two other contiguous properties, the Fimbel Door property and a property owned by the City of Nashua. The Site is bounded to the west and south by the Nashua River, and to the east and southeast by residential parcels.

In July of 2000, EPA first prepared a Memorandum calling for the completion of an EE/CA. The purpose of the EE/CA was to further characterize the nature and extent of contamination in the unlined lagoons and disposal areas at the northern portion of the Site and to evaluate removal options for these materials. A final EE/CA was released to the public in July of 2002.

As stated above, the 2002 EE/CA recommended a removal action which included: excavating approximately 60,000 cy of contaminated waste from six disposal areas from the Site and transporting the waste off-site to a permitted landfill for disposal. There was a 30-day public comment period for EPA's recommended removal action. During the comment period EPA held a public information meeting and a public hearing.

On October 29, 2002, EPA approved an Action Memorandum which selected the EE/CA recommended removal action (Attachment E). However, the approved removal action was put on hold at the request of the City of Nashua until a viable and desirable re-development plan for the Site materialized. Since at least late summer of 2000, various private parties have expressed interest in re-developing the Site, but these projects did not proceed for a variety of reasons.

EPA and the New Hampshire Department of Environmental Services (NHDES)

(jointly, the "agencies") performed additional studies including: a Remedial Investigation of the Northern Parcel of the Site including a Baseline Human Health Risk Assessment (HHRA) in 2005 and Screening Level Ecological Risk Assessment (SLERA) of the Southern Parcel in 2013. Additional studies are discussed in Section II.B.1 of this Action Memorandum.

In early 2013, a private party approached EPA with the idea to remediate and re-develop the Northern Parcel of the Site by applying *In-Situ* Solidification/Stabilization of the waste at the former lagoons. The private party subsequently completed a Treatability Bench Test, drafted a Remedial Action Plan for the Site, and after consultation with the agencies, determined that this approach was not economically feasible. However, the private party remained interested in pursuing other removal options.

EPA revised the 2002 EE/CA in July 2018 to update the costs of the removal option recommended in the 2002 EE/CA and approved in the 2002 Action Memorandum, and to evaluate additional removal options not considered in the 2002 EE/CA (the EE/CA Amendment).

In July 2018 a Press Release and Fact Sheet informed the public of the 2018 EE/CA Amendment's recommendations and the start of a thirty-day public comment period (July 9th to August 8th, 2018). A public informational meeting and hearing was held in Nashua on July 25, 2028. The public comment period was extended an additional thirty days to September 7th, 2018. EPA's response to the comments received during the sixty-day comment period are provided in the Responsiveness Summary (Attachment B).

2. Physical Location

The geographic coordinates of the site, as measured from its approximate center, are 42° 45′ 55″ north latitude and 71° 29′ 08″ west longitude. The 30-acre Mohawk Tannery Site is located at 11 Warsaw Avenue in the City of Nashua, Hillsborough County, New Hampshire. The Site is in a residential neighborhood directly across the river from the 325-acre Mine Falls Park. About 1,470 people live within one mile of the Site (see Figures 1 and 2).

3. Site Characteristics

The Site is currently vacant and owned by Chester Realty Trust. Both parcels of the Site are currently zoned for commercial use. Future use after the NTCRA completion can be reasonably expected to be a mix of residential and commercial use for the Northern Parcel, and recreational for the Southern Parcel. The tannery property slopes steeply toward the Nashua River, with a topographic relief of approximately 70 feet from the eastern boundary to the western boundary along the Nashua River. Groundwater was measured between 7 and 14 feet below ground surface in monitoring wells located near

disposal Areas 1 and 2, and approximately 70 feet below ground surface in the eastern portion of the Site adjacent to Warsaw Avenue. The lower portion of the Site, on the Northern Parcel, which contains Areas 1 and 2 and approximately 90 percent of the waste disposed of at the Site, is located partially in the 100-year floodplain and predominantly within the 500-year floodplain of the river.

During its 60 years of operation, the Mohawk Tannery produced sludge and acidic residues from the tanning process, much of which was disposed of on-site. Site contaminants consist of: metals in groundwater, soil, and asbestos in soil; and metals, pentachlorophenol, 4-methylphenol, 2,4,5-trichlorophenol, and dioxins in open sludge lagoons. Approximately 82,250 cy of contaminated material (sludge waste and soils) remains at the Site. Most of this contaminated material (approximately 68,150 cy) is contained in two Areas (Areas 1 & 2) on the Northern Parcel adjacent to the Nashua River, with one of these areas (Area 2) being partially located within the 100-year flood plain and both areas being totally located within the 500-year floodplain.

This NTCRA will not be the first response action taken at the Site. The previous actions are described in Section II.B of this Memorandum.

4. Release or Threatened Release into the Environment of a Hazardous Substance, or Pollutant, or Contaminant.

The sources of contamination at the Site are a result of releases from the former tanning and tannery wastewater treatment operations at the Site. A more detailed description of the processes leading to releases is in discussed Section 1.2.2. of the 2002 EE/CA. The contaminants were primarily collected in sludge formed during wastewater treatment and disposed in soil pits that were covered with soil AKA Areas 3 through 7. Area 1 is a former wastewater treatment lagoon that contains contaminated sludge, and Area 2 is a former lagoon that has been covered with fill. Although these two areas are commonly referred as "Sludge Lagoons", the material's consistency is semi-solid, very similar to soil, as evidenced by test pits that were collected in February 2018 to assess the lateral extent of the material within them. Other areas received releases directly from the wastewater handling system and potentially from other waste handling practices.

The contaminants of concern (COCs): benzo(a)pyrene, pentachlorophenol, 4-methylphenol, dioxin, antimony, arsenic, barium, cadmium, chromium, lead, manganese, and vanadium, are generally present in the sludge, overlying soils, and groundwater at the Site. Sections 3.1 through 3.3 of the 2018 EE/CA provide more information on their location. Potential exposures to future residents, recreators, and ecological receptors, to be addressed to the extent practicable, can be summarized as follows:

- direct contact with, and ingestion of, contaminants in tannery sludge/waste and associated soil,
- direct contact with, ingestion, and inhalation of asbestos fibers present in asbestos containing material (ACM),
- release of contaminants to the Nashua River and surrounding properties from a

flooding event,

- ingestion of on-site groundwater exceeding the NHDES Ambient Groundwater Quality Standards (AGQSs),
- further migration of contaminants from tannery sludge/waste and associated soil to site groundwater, and
- ecological receptor exposure to tannery sludge/waste which could potentially cause adverse effects.

The 2002 EE/CA included a streamlined human health and ecological risk assessment that focused on the seven sludge disposal areas of the Site (Northern Parcel). The COCs and risks were initially discussed in the 2002 EE/CA and Action Memorandum. The 2018 EE/CA Amendment incorporated this discussion and the conclusions of other risk assessments performed after 2002 and mentioned below. Section II (Site Conditions and Background) and Section III (Threats to Public Health or Welfare or the Environment and Regulatory Authorities) in the 2002 Action Memorandum are incorporated by reference into this Action Memorandum.

Since 2002, additional studies and risk assessments have been performed. In 2005, studies were completed to further evaluate contamination and risks at the Northern Parcel. Also, in 2013, EPA further evaluated the risks posed by soils, sediments, surface water and groundwater within the Southern Parcel. These risk evaluations looked at non-cancer and cancer risks to human health and concluded that the sludge waste areas within the Northern Parcel pose the greatest human health risks as they are readily accessible to trespassers, although a limited area of asbestos contamination poses human health risks in the Southern Parcel. The major contributors to excess non-cancer risks from the sludge waste are 4-methylphenol, arsenic, antimony, cadmium, and manganese. The major contributors to cancer risks from the sludge waste are dioxins, pentachlorophenol, arsenic, and benzo(a)pyrene. An ecological risk assessment performed as part of the 2002 EE/CA concluded that the sludge waste also poses a concern to ecological receptors.

For contaminated soils and groundwater within the Northern Parcel, the 2005 studies and risk assessments concluded that cancer risks were largely due to dioxin/furans, and arsenic. Non-cancer risks were primarily due to arsenic and vanadium. The 2005 studies also concluded that the soils within the Northern Parcel have a potential to cause adverse effects to ecological receptors.

On the Southern Parcel, the 2013 Screening Level Risk Assessment (SLRA) concluded that contaminants in the groundwater exceeded risk-based concentrations for potential future residents that may drink the water, while contaminants in surface and sub-surface soils exceed the risk limits for potential future residential use, but not for future recreational use except for two locations immediately adjacent to the Area 2 lagoon and these areas will be addressed by the containment remedy for the lagoon areas. The 2013 SLRA concluded that the potential ecological effects are not significant, except for limited areas of soil contamination adjacent and within the two wetlands in the Southern Parcel. These limited areas of soil contamination are co-located with asbestos and will be removed.

5. NPL Status

The Site was proposed on the NPL on May 11, 2000. In July of 2002, the City of Nashua submitted a letter to Senator Bob Smith of New Hampshire requesting that the finalization of the Mohawk Tannery Site on the NPL be delayed. The reason for the delay was to allow the City time to explore alternative means for funding the cleanup of the Site *in lieu* of placing the Site on the NPL. As a result, the Mohawk Tannery Superfund Site has not been finalized on the NPL.

6. Maps, pictures and other graphic representations

Figures are provided in Attachment A. Additional figures can be found in the 2018 EE/CA Amendment.

B. Other Actions to Date

1. Previous Actions

1.1 Investigations

Several environmental investigations have been completed at the Site. The following is a summary and the reader is referred to the referenced documents in the Administrative Record for further description of the activities (Administrative Record Index can be found in Attachment C):

- Phase I Hydrogeologic Study, Granite State Leathers, Inc. Facility, Nashua, New Hampshire", dated April 1985, prepared by Goldberg, Zoino and Associates, Inc. (GZA) for Fairmount Height Associates (GZA, 1985a). An initial Site characterization was performed to support future Site use after the closure of the tannery. Information on historical tannery operations, waste streams, and treatment facilities was reviewed. Thirty-six test pits, and a test boring/monitoring well were completed.

- Phase II Hydrogeologic Study and Conceptual Closeout Plan, Granite State Leathers, Inc. Facility, Nashua, New Hampshire, dated October 1985, prepared by GZA for Fairmount Height Associates (GZA, 1985b). This study was performed to further characterize hydrogeologic conditions, the nature and extent of tannery sludge, the nature and extent of groundwater contamination, assess the potential impact to the Nashua River, and provide recommendations for containment of the tannery sludge/waste. Additional test pits and 12 test borings/monitoring wells were performed.

- Expanded Site Inspection, Mohawk Tannery Site, Nashua, NH, dated December 29, 1993, prepared by NHDES. Bottom sediment samples were collected by NHDES from six transects across the Nashua River, two upstream and four downstream

from the former Mohawk Tannery effluent discharge pipe. Three sediment samples were collected from each transect, as well as a soil sample from the immediate proximity of the effluent discharge pipe. Samples were analyzed for total cadmium, chromium and lead, as well as acid extractable semi-volatile organic compounds (SVOCs) (*i.e.*, phenolic compounds).

- Final Site Inspection Prioritization Report, for Mohawk Tannery, Nashua, New Hampshire, dated November 1996, prepared by NHDES. This report was prepared by NHDES as a preliminary screening to facilitate EPA's assignment of site priorities. This report summarizes the results of previous Site activities, and information from readily available sources.

- Preliminary Sludge Characterization Investigation, Mohawk Tannery, 11 Warsaw Avenue, Nashua, New Hampshire, dated January 2001, prepared by GeoSyntec Consultants for Environmental Reclamation, Inc. (GeoSyntec, 2001). Sludge samples from Areas 1 and 2, considered representative of sludge characteristics Site-wide, were collected and analyzed. Analytical results indicated that none of the sludge samples exhibited hazardous waste characteristics pursuant to the Resource Conservation and Recovery Act (RCRA). The report concluded that the sludge could be handled, transported and disposed as non-hazardous solid waste at a USEPA- and NHDES-approved landfill.

- In February 2001, USEPA completed the first EE/CA for the Site as part of a Non-Time Critical Removal Action (NTCRA), to focus on evaluating risks and identifying remedial alternatives for the on-Site sludge disposal areas. The EE/CA report was completed in July 2002 (TtNUS, 2002). It included a streamlined Human Health and Ecological Risk Evaluations which indicated that Site contaminants associated with the sludge/waste are likely to pose risk to human and ecological receptors under current and future exposure scenarios.

- In October 2002, USEPA signed an Action Memorandum for the Site. The approved removal action included: excavating approximately 60,000 cy of contaminated waste from six disposal areas from the Northern Parcel of the Site and transporting the waste off-site to a permitted landfill for disposal. The total project ceiling for the approved removal action was $15 million.

- In June 2005, Sanborn Head & Associates completed a Remedial Investigation (RI) (Draft Final Remedial Investigation for OU-1, Sanborn Head & Associates, 2005) that characterized the nature and extent of the Site contamination not addressed by the NTCRA (*i.e.* soils within the Northern Parcel excluding the Sludge Lagoons and Disposal Areas). The RI completed the definition of the source and extent of contaminants released to soil and shallow groundwater on the Northern Parcel of the Site; provided information for an assessment of the current and future risks to human health and the environment; and provided information to subsequently evaluate remedial alternatives.

- In 2009 EPA retained Shaw Environmental Inc. to perform a Solidification/ Stabilization Bench -Scale Treatability Study. The result of this study identified that binders containing primarily Portland Cement (PC), with lesser quantities of blast-furnace slag and hydrated lime, would meet Site geotechnical criteria and metals leaching standards; however, post-treatment samples indicated higher phenol concentrations. Shaw recommended the use of absorbent additives to control this leaching.

- In 2012, NHDES via an EPA funded cooperative agreement, retained Sanborn Head & Associates to collect soil, sediment and groundwater data in support of a SLRA of the Southern Parcel. EPA completed the SLRA on September 2013. The SLRA evaluated whether all or part of the Southern Parcel of the Mohawk Tannery Site has acceptable risk to human health and the environment. The data suggested that, although in a portion of the Southern Parcel contamination posed a human health risk for unrestricted use, contaminant levels would permit future use for recreation. In contrast, other areas of the Southern Parcel (*i.e.* the areas with asbestos contamination) presented contamination problems that would need to be remediated before considering any recreational use of the property.

- In October 2013 the private party conducted test pits in several disposal areas to determine the sludge depth and the thickness of overlying soils. This activity helped to establish the basis for the proposed design of a Solidification/Stabilization (S/S) action plan.

- From October 2015 through September 2016, the private party conducted an S/S bench-scale treatability study and furthered the 2009 Shaw Environmental Bench Scale Study. This treatability test evaluated the use of PC with organophilic clays and powdered activated carbon (PAC) absorbents and helped to develop a proposed optimal mixture of PC and PAC absorbents to be used. EPA and NHDES reviewed several iterations of the bench-scale treatability study and provided recommendations to the developer's consultant.

- From October 2015 through November 2016, the private party conducted a Site-wide data review (previous Tetra-Tech and Sanborn Head studies) to estimate the extent of evaluate satellite areas of sludge and soil contamination requiring removal. Also, the private party developed a proposed approach for implementing S/S at the Site to achieve residential reuse of the property outside of Areas 1 and 2. This proposed approach was laid out in an action plan dated 2016[3]

[3] At that time the private party was proposing to remediate the entire Site by mixing the existing sludge and soils *in-situ* with Portland cement and additives that would solidify all the contaminated materials into a solid monolith that would serve as the platform for a parking lot and prevent any leaching of contaminants into the surrounding groundwater. This technique is known as *In-situ* Solidification/Stabilization. Eventually, the private party determined that it was too costly to make the mix totally stable (non-leaching) and abandoned the idea.

- In February 2018, the private party conducted additional test pits to assess the lateral extent of sludge in Areas 1 and 2, and additional test pits across the Site to assess geotechnical properties of uncontaminated soil outside of proposed remediation areas. This activity gathered basic information needed to develop a proposed conceptual remedial design for the excavation and consolidation of the sludge and contaminated soils across the Site.

- From January 2017 through Feb 2019, the private party worked on the following:

    - a preliminary 500-year flood analysis with geotechnical evaluation of the Nashua River bank and the proposed containment structure's erosion resistance;
    - an upstream flooding analysis of potential flood impacts due to proposed activities within the 500-yr floodplain; and,
    - held multiple meetings with the public, the City, NHDES and EPA to discuss the proposed containment approach.

1.2 Removal Actions

- USEPA performed a Time Critical Removal Action (TCRA) at the Site between September 2000 and January 2001 (Weston, 1999; Weston, 2001). Removal activities included: abatement of asbestos-containing material from the Main Building; characterizing and disposing of the contents of 42 drums, the 4,000-gallon sodium hydrosulfide above-ground storage tank (AST), approximately 400 gallons of contained sodium hydrosulfide, and a large clarifier tank; and removing and disposing of approximately 110 empty drums and 360 laboratory-type containers. In addition, several gates at the Site were repaired and warning signs were posted indicating the dangers of trespassing.

- On October 6, 2007, at the request of NHDES, EPA provided asbestos air monitoring and sampling support following a fire at the Mohawk Tannery. The fire was extinguished, and no injuries or evacuations resulted from the fire. The EPA On-Scene Coordinator (OSC) integrated into Unified Command with NHDES and the Nashua Fire Department, and it was agreed that EPA would collect air and debris samples to be analyzed for asbestos. A total of twelve debris samples and four air samples were collected. None of the twelve debris samples or the four air samples were found to contain asbestos. EPA provided the data to the Agency for Toxic Substances and Disease Registry (ATSDR) and requested a health consultation. ATSDR concluded that there was no significant public health risk due to asbestos associated with materials deposited because of the fire.

- In April 2012, contractors hired by the City of Nashua removed and disposed of asbestos containing materials from on-site buildings. City contractors demolished and removed the buildings in May 2012.

2. Current Actions

As indicated above, access to the Northern Parcel of the Site has been restricted by fencing and signs since 2001, although trespassing has still occurred.

At the request of a private citizen whose residence abuts the Site, the EPA Region 1 Emergency Response Branch has initiated a CERCLA Removal Site Assessment of his property. The property owner claims to have observed hides and other materials that presumably originated at the Site. Access agreements have been obtained and the property soils shall be tested in the Spring of 2019. The EPA OSC is closely coordinating this activity with the EPA Remedial Project Manager (RPM) for the Site. If it is determined that additional removal measures are warranted, this NTCRA may be amended to incorporate the additional removal measures or a separate CERCLA decision document issued.

C. State and Local Authorities' Roles

1. State and Local Actions to Date

Since the 2002 Action Memo, the NHDES has performed extensive characterization and investigative activities at the Site. NHDES, via an EPA-funded cooperative agreement retained Sanborn Head & Associates and completed:

- Draft RI (Draft Final Remedial Investigation for OU-1, Sanborn Head & Associates, 2005) that further characterized the nature and extent of the Site contamination (*i.e.* soils within the Northern Parcel excluding the Sludge Lagoons and Disposal Areas).

- In 2012, Sanborn Head & Associates collected soil, sediment and groundwater data in support of a SLRA of the Southern Parcel. EPA completed the SLRA on September 2013.

The City of Nashua has also been consulted and regularly involved in cleanup related activities occurring at the Site. EPA and the NHDES have met with City officials on numerous occasions to discuss topics related to the Site including: the potential for private development of the property; future ownership of the property; the status of cleanup work; and the status of listing the Site on the NPL. As mentioned previously, the City of Nashua, although initially supportive of the listing of the Mohawk Tannery Site on the NPL, submitted a letter to Senator Bob Smith of New Hampshire on July 8, 2002, requesting that finalization of the Site on the NPL be delayed. Representatives from the City have repeatedly stated that they want to explore alternative means for funding the cleanup of the Site *in lieu* of placing the Site on the NPL.

2. Potential for Continued State/Local Response

Currently there is no state response mechanisms available with sufficient funds to perform the NTCRA.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT AND REGULATORY AUTHORITIES

Section 300.415(b)(2) of the National Contingency Plan (NCP) lists several factors for EPA to consider in determining whether a removal action is appropriate, including:

(i) Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants;

(ii) Actual or potential contamination of drinking water supplies or sensitive ecosystems;

(iii) Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release;

(iv) High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate;

(v) Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released;

(vi) Threat of fire or explosion;

(vii) The availability of other appropriate federal or state response mechanisms to respond to the release; and

(viii) Other situations or factors that may pose threats to public health or welfare or the environment.

The 2002 Action Memorandum determined that factors (i), (iv), (v), and (vii) above were applicable.

Regarding factor (i), EPA has documented elevated levels of hazardous substances including, but not limited to, dioxin, 4-methylphenol, pentachlorophenol, antimony, and chromium in six unlined waste disposal areas at the Site. One of the disposal areas (Area 1) remains open and uncovered, with wastes easily accessible to trespassers entering the property. The Site abuts a densely settled neighborhood and there is evidence of children (mainly adolescents) entering the Site and playing in and around Area 1 potentially exposing themselves to the hazardous substances present there. The remainder of the waste disposal areas have been covered with fill, but the thickness of the fill as well as its ability to limit human exposure and migration of contaminants in the future is questionable at best.

Additionally, the Site has been zoned urban residential and future development of the property is likely, given its proximity to downtown Nashua. Development of the Site without any further remediation would have the potential to expose future residents (both children and adults) to hazardous substances found at the surface and buried in many of the disposal areas.

The Streamlined Human Health Risk Evaluations conducted as part of the 2002 EE/CA and the 2005 RI focused on the risks to humans from the soil and wastes contained in the disposal areas at the Site. The findings of the risk evaluations strongly indicate that there are unacceptable risks at the Site for future for residents, if the property is developed in accordance with the current zoning. The potential future risks identified at the Site exceed EPA's acceptable target cancer risk range and non-cancer hazard index values. See Sections 2.6.1 and 2.6.3 of the 2018 EE/CA Amendment for a summary of these risks.

The potential for a release from the disposal areas is certainly a real concern. A catastrophic event such as a flood, could release tens of thousands of cubic yards of waste into the Nashua River impacting the river, recreational users, and potentially downstream communities which use the Merrimack River as a drinking water source (the Nashua River joins the Merrimack River several miles downstream of the Site). See Sections 2.6.2 and 2.6.4 of the 2018 EE/CA Amendment for a summary of the ecological risks identified in the 2002 EE/CA and the 2005 RI, respectively.

Regarding factor (iv), High levels of hazardous substances have been found in waste and soil largely at or near the surface of the Site. Although several of the waste disposal areas have been covered with fill, the thickness of the fill as well as its ability to limit the migration of contaminants is questionable at best. The migration of contaminants from the waste disposal areas through overland flow and erosion is likely, given the topography of the Site (i.e., the steep relief sloping down toward the Nashua River) and the lack of a designed and engineered cover for these areas.

As discussed in the 2018 EE/CA Amendment, most of the contaminated material (approximately 68,150 cy) that remains on-Site, is contained in two Areas (Areas 1 & 2) on the Northern Parcel adjacent to the Nashua River, with one of these areas (Area 2) being partially located within the 100-year flood plain and both areas being totally located within the 500-year floodplain. The Area 1 lagoon is not located within the 100-year floodplain due to the elevation of the earthen berm that has been constructed around its perimeter. However, if the berm were ever breached during a 100-year flood event, then the contents of the lagoon could be released into the river. It is clear from the physical condition of both areas (i.e., lack of erosion control and/or scouring prevention measures) and an earlier documented release from Area 1 into the Nashua River in 1987, that Areas 1 and 2 have not been designed and constructed to prevent the migration of hazardous substances.

Regarding factor (iv), the lower portions of the Site which contain the two largest waste disposal areas are located predominantly within the 100-year floodplain and totally within the 500-year floodplain of the Nashua River. These two areas, which abut the river, have

not been designed, constructed, operated, or maintained to prevent the washout of hazardous substances in the event of a flood. The release of approximately 68,150 cy of contaminated material into the river would have a detrimental effect on the Nashua River from both a recreational use and wildlife habitat standpoint. It should also be noted that a release of contaminants into the Nashua River could also potentially impact the drinking water intake for the City of Lowell which is located approximately 18 miles downstream of the Site on the Merrimack River. This water intake serves a population of over 135,000.

Relative to factor (vii), there are no other known federal or state funds or response mechanisms available to finance this action.

Finally, since 2002, the only new information on the Site is the documentation of asbestos contaminated soils adjacent to wetlands within the Southern Parcel. This finding does not alter the determination that a removal action is appropriate. See Sections 2.6.5 and 2.6.6 of the 2018 EE/CA Amendment for a summary of the risks documented by the EPA 2013 Screening level human health and ecological risk assessment of the Southern Parcel.

IV. ENDANGERMENT DETERMINATION

Actual or threatened releases of hazardous substances from this Site, if not addressed, may continue to present an imminent and substantial endangerment to public health, or welfare, or the environment.

V. EXEMPTION FROM STATUTORY LIMIT

CERCLA § 104(c) states that removal actions can exceed the 12-month and/or the $2 million statutory limits if conditions meet either the "emergency exemption" criteria or the "consistency exemption" criteria. The consistency exemption requires that the proposed removal be appropriate and consistent with the remedial action to be taken. This Action Memorandum has determined that the conditions at the Site and the removal action recommended meet the criteria for a consistency exemption.

As described below, conditions and proposed actions at the Site meet the criteria for a consistency exemption.

A. Appropriateness

EPA OSWER directive 9360.0-12, "Guidance on Implementation of the Revised Statutory Limits on Removal actions", April 6, 1987, states that an action is appropriate if the activity is necessary for any one of the following reasons:

1. To avoid a foreseeable threat;
2. To prevent further migration of contaminants;

3. To use alternatives to land disposal, or;
4. To comply with the off-sitepolicy.

The NTCRA described in Section VI below **meets criteria one and two identified above.**

The risk evaluations conducted as part of the 2002 EE/CA, the 2005 RI, and the 2013 SLERA demonstrate that contaminants in the waste disposal areas and contaminated soils at the Site pose a foreseeable threat for future residents if left as-is, and the property is developed in accordance with the anticipated future residential use in the Northern Parcel and recreational use in the Southern Parcel. The potential future risks identified at the Site exceed EPA's acceptable target cancer risk range and non-cancer hazard index value. Consolidation and containment of the contaminated wastes will reduce the risk of these health effects to acceptable levels and avoid a foreseeable threat.

Approximately 82,500 cy (sludge waste and soils) remains at the Site. Most of this contaminated material (approximately 68,150 cy) is contained in two Areas (Areas 1 & 2) on the Northern Parcel adjacent to the Nashua River, with one of these areas (Area 2) being partially located within the 100-year flood plain and both areas being totally located within the 500-year floodplain. These areas were not designed, constructed, operated, or maintained to prevent the washout of hazardous substances in the event of a flood. Furthermore, a release from one of them into the Nashua River was documented by NHDES personnel in 1987. Therefore, the proper containment of this contaminated material would prevent further migration of the contaminants into the Nashua River.

B. Consistency

This Site remains proposed on the NPL. The earlier TCRAs, the ongoing CERCLA Removal Site Assessment, and this NTCRA have been coordinated by the Removal and the Remedial Programs and their completion is likely to enhance the effectiveness of any further remedial action measures. The NHDES has been involved in all planning activities associated with this proposed action to ensure consistency with State regulations. At a minimum, the NTCRA will complete a significant portion, if not all, of the source control measures needed for the Site. This would allow the Site to be put back into productive use.

At a minimum, this NTCRA will achieve the Removal Action Objectives and the Removal Goals for the Contaminants of Concern in the 2018 EE/CA Amendment and further summarized in the following Section. This NTCRA will reduce human health exposure risks to acceptable levels for the anticipated reuse of the Site and will facilitate the Site to be put back into productive use.

VI. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Actions

1. Proposed Action Description

1.1 Removal Action Goals and Objectives

The development of removal action alternatives begins with the establishment of Removal Action Objectives (RAOs). RAOs address the contaminants and media of interest and the exposure pathways that result in an unacceptable risk. RAOs are medium specific or unit specific goals for protecting human health and the environment.

The 2002 EE/CA (EPA, 2002), the 2005 RI (Sanborn Head & Associates, 2005), and the 2013 SLRA (EPA, 2013) presented the findings of baseline human health and ecological risk assessment for the sludge waste disposal areas at the Site's Northern Parcel, the remaining soils and groundwater at the Northern Parcel, and several media within the Southern Parcel. Using analytical results from these investigations and the results of the human health risk and ecological evaluations, contaminants of concern (COCs) in soil and sludge that pose threats to human health were identified[4].

Removal Goals (RGs) to permit anticipated Site use (except in consolidated, capped wastes) were established for these COCs using risk-based values calculated from exposure scenarios identified in the streamlined human health risk evaluations; Site-specific risk-based standards developed for dioxins and vanadium; and the NHDES Soil Remediation Standards (SRS) concentrations, for contaminants where the State standard is more protective than federal risk-based standards. For all COCs except dioxin and vanadium, the RG was selected from either the lower of the risk-based concentration corresponding to a cancer risk level of 1.0×10^{-6}, or to a hazard index of 1.0, unless this risk-based value was higher than the NHDES SRS standards, in which case the SRS concentration was selected as the RG. For dioxin and vanadium, the RG was selected using Site-specific standards based on non-cancer risk. The RG for each contaminant has been used as the cleanup level for the NTCRA.

Because the scope of the NTCRA is limited to source control for contaminated soils, sludges, and wastes, RGs were not developed for groundwater, surface water or river sediments. Also, the RGs were based strictly on human health risk levels because the potential ecological effects are not significant, except for limited areas of soil contamination adjacent and within the two wetlands within the Southern Parcel, as concluded by the 2013 SLRA.

[4] Since groundwater is not within the scope of this NTCRA, groundwater COCs were not identified. Addressing ecological risk is not within the scope of this NTCRA; however, contamination that poses an ecological risk is co-located with contamination that poses a human health risk and will be addressed by this removal action.

The following is a table showing all the COCs and their respective RGs.

Table 1: Removal Goals (RGs) for Unrestricted Use

Contaminant of Concern	Removal Goal (mg/kg)	Basis[a,b,c,d]
Benzo(a)pyrene	0.7	SRS[a]
Pentachlorophenol	3.0	SRS[a]
4-Methylphenol(p-cresol)	0.7	SRS[a]
Dioxin - TCDD (expressed as toxicity equivalency [TEQ])	5.11E-05	non-cancer risk[b]
Antimony	9.0	SRS[a]
Arsenic	11.0[c]	SRS[a]
Barium	1,000.0	SRS[a]
Cadmium	33.0	SRS[a]
Chromium total	1,000.0	SRS[a]
Lead	200.0	EPA IEUBK model[d]
Manganese	1,000.0	SRS[c]
Vanadium	393.0*	non-cancer risk*

Notes:

[a] SRS = Soil Remediation Standards. SRSs are derived from New Hampshire Code of Administrative Rules Chapter Env-Or-606.19, Table 600-2 Soil Remediation Standards as-of 2017.

[b] The Site-specific RG for Dioxin, and Vanadium is based a Hazard Quotient (HQ) = 1, expressed as mg/kg.

[c] Arsenic RG may be modified to be set a Site-specific background, if determined during pre-design soil studies that arsenic is attributable to background and Site-specific background levels are higher than the current RG of 11 mg/kg.

[d] The current EPA Region 1 approach for lead in soils is based on the Lead Technical Review Workgroup's current support for using a target Blood Lead Level (BLL) of 5 µg/dL and updated default parameters in the Integrated Exposure Uptake Biokinetic Model (IEUBK) and Adult Lead Methodology (ALM). Using these updated parameters, the model results in screening levels which round to 200 mg/kg for residential and 1000 mg/kg for commercial/industrial land uses. A target BLL of 5 µg/dL reflects current scientific literature on lead toxicology and epidemiology that provides evidence that the adverse health effects of lead exposure do not have a threshold.

Cleanup of the Site to the RGs will result in acceptable cancer or non-cancer risks for unrestricted use. For Asbestos, there is no numeric Remedial Goal. Potential risks will be addressed through following EPA guidance on addressing asbestos at CERCLA Sites by consolidating all asbestos wastes that may pose a risk of future air-born exposure into the asbestos disposal cell to be located adjacent to the containment structure. The asbestos cell will meet requirements under the Clean Air Act (CAA), National Emission Standards for Hazardous Air Pollutants (NESHAPS), Standards for Inactive waste disposal sites for asbestos mills and manufacturing and fabricating operations, 40 C.F.R. § 61.151 and include dust suppression standards and cover standards.

The following RAOs were developed to address the unacceptable risks at the Site:

- Prevent, to the extent practicable, direct contact with, and ingestion of, contaminants in tannery sludge/waste and associated soil at concentrations exceeding RGs;
- Prevent, to the extent practicable, direct contact with, ingestion, and inhalation of asbestos fibers present within the Site;
- Prevent, to the extent practicable, a release of contaminants to the Nashua River from a flooding event;
- Limit, to the extent practicable, further migration of contaminants from tannery sludge/waste and associated soil to Site groundwater; and
- Prevent future ecological receptor exposure to contaminated materials which could potentially cause adverse effects.

1.2 Removal Action Volume Estimates

Sample analytical results from studies conducted prior to the 2002 Action Memorandum and additional studies conducted since were compared with the RGs to estimate the volume of sludge/waste and soil to be addressed under the NTCRA as follows:

- The estimated volumes of sludge/waste and overlying soils in disposal areas 1-7 that contains COCs at concentrations exceeding RGs. No evidence of sludge/waste was observed in Area 5 during field investigation activities performed prior to the 2002 EE/CA, and samples collected from Area 5, at that time, did not exceed any of the RGs. As a result, no sludge/waste volume has been estimated for this area. For the purposes of defining contaminated material volumes, the overlying soils were assumed to be contaminated and were included in the total volume of contaminated material.

- The estimated volume of soil from areas within the Northern Parcel outside of the Areas 1-7 that were tested and revealed concentrations above the RGs, and
- The estimated volume of soils located in the Southern Parcel contaminated with asbestos and other COCs above the RGs.

Table 2: Estimated volumes of contaminated material in Areas 1-7 with COCs above RGs

Disposal Area	Estimated Volume of Sludge/Waste (cy)	Estimated Volume of Overlying Soil (cy)
Area 1	29,630	0
Area 2	29,630	8,889
Area 3	556	222
Area 4	800	400
Area 6	1,111	667
Area 7	4,459	2,230
TOTALS	**66,186**	**12,408**

Table 3: Estimated soil volumes in the Northern Parcel in areas outside Areas 1-7 with COCs above RGs

Soil Area	Estimated Volume of Contaminated Soils* (cy)
Former Main/Control Buildings sumps/pits	6
Former Chrome Fill up Area	15

Former Wastewater Area	1,020
Former Boiler House	100
Main Building Sub-slab Soil	10
TOTAL	**1,151**

The volume of asbestos-containing material and associated soil in the Southern Parcel is approximately 2500 cubic yards.

1.3 Description of Proposed Removal Action

The removal action selected in this Action Memorandum (2018 EE/CA Amendment Alternative 5) involves: consolidating the approximately 78,600 cy of contaminated waste and overlying soil from six disposal areas, approximately 1,150 cy of contaminated soil from areas of the Site located outside the footprint of the six disposal areas, plus approximately 2,500 cy of contaminated soil from the Site's Southern Parcel. A total volume of approximately 82,250 cy of contaminated material (*i.e.,* 78,600 cy + 1,150 cy + 2,500 cy) would be consolidated onto the Northern Parcel of the Site, contained by a vertical barrier and covered with an impermeable cap[5]. There will be restoration of altered 100-year flood storage capacity on-Site, and restoration of any floodplain and wetland altered by the removal action, to the extent practicable.

This consolidation will allow for unrestricted use (except in the area of consolidated, encapsulated wastes) of the Site's Northern Parcel; and recreational use of the Site's Southern Parcel. An additional asbestos cell will be created for the disposal of asbestos waste that will meet protectiveness requirements for asbestos disposal. The purpose of this alternative is to prevent direct contact with the waste, prevent migration of the wastes to the surrounding property and the River; and to minimize potential groundwater and surface water impacts.

The vertical barriers and capping would be designed with long-term integrity for seasonal conditions, severe storms (up to a 500-year storm event), and freeze/thaw conditions; to satisfy ARAR requirements (*e.g.*, RCRA Floodplain Restrictions for Solid Waste Disposal

[5] EPA understands that as part of the overall re-development of this area, while not part of this NTCRA, a the private party may opt to: 1) consolidate approximately 20,000 cy of sludge waste from a landfill within an adjacent property (Fimbel Door property) into the capped area on the Site, and 2) excavate approximately 17,000 cy of asbestos containing material (ACM) from a City-owned property and approximately 5,000 cy of ACM from the Fimbel Door property and deposit this ACM into a separate capped cell to be built adjacent to the eastern edge/wall of the capped area.

Facilities and Practices and NESHAP standards for asbestos disposal); and minimize contaminant leaching to groundwater (*i.e.* meet impermeability requirements). Any lost flood storage volume filled by the remedy below the 100-year flood elevation will be replaced on-site or in the immediate vicinity. Lost flood storage volume between the 100- and 500-year flood elevation has been assessed to have *de minimus* impact on floodplain resources and will not require replacement. See EPA's floodplain assessment in Section 6.1.3 of the 2018 EE/CA Amendment.

Impermeable capping will include a synthetic geomembrane installed with bedding and protection layers and covered with vegetation. A few options are available for vertical encapsulation of the waste including: steel sheet-pile walls, slurry walls, and secant-pile walls, which will be further assessed in the pre-design stage.

Figure 4 includes a conceptual layout of Alternative 5. Additional details are provided in Section 4.4.6 of the 2018 EE/CA Amendment.

1.4 Other Actions

None.

2. Contribution to Remedial Performance

The completion of this NTCRA action is likely to enhance the effectiveness of any further remedial action measures that may be necessary.

At a minimum, the NTCRA will achieve the Removal Action Objectives and the Removal Goals for the Contaminants of Concern in the 2018 EE/CA Amendment and further summarized above. This NTCRA will reduce exposure risks to acceptable levels for the anticipated reuse of the Site and will facilitate the Site to be put back into productive use.

3. Engineering Evaluation/Cost Analysis Amendment

Section 300.415(b)(4) of the NCP states that whenever a planning period of six months exists before on-site activities must be initiated, and the lead agency determines a removal action is appropriate, the lead agency shall conduct an EE/CA or its equivalent. EPA issued the original 2002 EE/CA in July 2002 and held a 30-day public comment period from July 30, 2002 to August 29, 2002.

The 2002 EE/CA was amended in July 2018. The purpose of the 2018 EE/CA Amendment was to update the costs of the removal option recommended in the 2002 EE/CA and approved in the 2002 Action Memorandum, and to evaluate additional, removal options not considered in the 2002 EE/CA.

In July 2018 a Press Release and Fact Sheet informed the public of the EE/CA Amendment's recommendation and the start of a thirty-day public comment period (July 9th to August 8th, 2018). A public informational meeting and hearing was held in Nashua on July 25, 2018. The public comment period was extended an additional thirty days to September 7th, 2018. EPA's response to the comments received during the sixty-day comment period are provided in the Responsiveness Summary (Attachment B).

4. Applicable or Relevant and Appropriate Requirements (ARARs)

The proposed action, as well as the other options evaluated in the 2018 EE/CA Amendment, were reviewed to determine whether they would attain federal and state ARARs, to the extent practicable. Attachment D includes the ARARs to be met, to the extent practicable, under this NTCRA. Federal environmental and state environmental and facility-siting laws and regulations are considered ARARs for removal alternative implementation. Also, any non-promulgated federal criteria, guidelines, and advisories for evaluating the human and environmental risk associated with the removal action, referred to by the USEPA as To Be Considered (TBC) guidance, were included in the evaluation.

During the public comment period for the 2018 EE/CA EPA specifically requested public comment concerning the removal action's proposed impacts to wetland and floodplain resources, as required by federal regulations, and the Agency's determination that the proposed removal action was the "least environmentally damaging practicable alternative" as defined under the federal Clean Water Act. In the Responsiveness Summary, EPA responded to public questions concerning the proposed removal action's impacts to wetlands and floodplain resources (*see* Attachment B) and has determined that its protectiveness determinations concerning floodplains and wetlands are still valid.

In accordance with the NH Requirements for Hazardous Waste Surface Impoundment Closure/Post Closure (Env-Hw 708.03), closure of the lagoon with the consolidated encapsulated waste will meet the following substantive closure standards: (i) Eliminate free liquids by removing liquid wastes or solidifying the remaining wastes and waste residues; (ii) Stabilize remaining wastes to a bearing capacity sufficient to support final cover; and (iii) Cover the surface impoundment with a final cover designed and constructed to: (A) Provide long-term minimization of the migration of liquids through the closed impoundment; (B) Function with minimum maintenance; (C) Promote drainage and minimize erosion or abrasion of the final cover; (D) Accommodate settling and subsidence so that the cover's integrity is maintained; and (E) Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present. O&M and ICs (including use restrictions to eliminate disturbance of the remedy and a well-restriction buffer zone around the containment area) will meet post-closure standards under these regulations.

In accordance with Section 300.415(j) of the NCP, on-site removal actions conducted under CERCLA are required to attain ARARs to the extent practicable. In determining

whether compliance with ARARs is practicable, the lead agency may consider appropriate factors, including the urgency of the situation and the scope of the removal action to be conducted.
The ability of the recommended removal action, as well as the other options evaluated, to attain ARARs was evaluated in Section 5.0 of the 2018 EE/CA Amendment.

5. Project Schedule

Table 5 below provides the estimated construction schedule for the recommended removal action.

Table 5: Estimated construction schedule

Definable Feature	Duration – Sheet-Pile Wall (Weeks)	Duration – Slurry Wall (Weeks)	Duration – Secant Wall (Weeks)
Engineering & Removal Design	25	30	30
Subcontracting and Procurement	8	8	8
Mobilization	1	1	1
Site Preparation	3	3	3
Excavation and Consolidation	7	7	7
Wall Installation	11	33	50
Impermeable Cap & Vent Construction	6	6	6
Backfilling and Site Restoration	5	5	5
Demobilization	1	1	1
Total Pre-Construction Estimated Duration	33	38	38
Estimated Construction Duration	34 (8.5 months)	56 (14 months)	73 (18.25 months)

B. Estimated Cost

1. Sheet Pile/Impermeable Cap

Extramural Costs	
• Capital Costs	$5,193,944
• 15% Engineering, 3% Office & Management, and 10% Construction contingency	$1,240,643
• Post-Removal Site Control	$1,166,746
Intramural Costs	
• EPA Regional Personnel	$ 150,000
TOTAL NTCRA PROJECT CEILING	**$7,751,333**

2. Slurry Wall/Impermeable Cap

Extramural Costs	
• Capital Costs	$9,443,944
• 15% Engineering, 3% Office & Management, and 10% Construction contingency	$2,306,418
• Post-Removal Site Control	$1,166,746
Intramural Costs	
• EPA Regional Personnel	$ 150,000
TOTAL NTCRA PROJECT CEILING	**$13,067,108**

3. Secant Wall/Impermeable Cap

Extramural Costs	
• Capital Costs	$10,679,024
• 15% Engineering, 3% Office & Management, and 10% Construction contingency	$ 2,516,720
• Post-Removal Site Control	$ 1,166,746
Intramural Costs	
• EPA Regional Personnel	$ 150,000
TOTAL NTCRA PROJECT CEILING	**$14,542,490**

VII. EXPECTED CHANGES IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

A delay or lack of action will increase the risks to human health and the environment by allowing for: (1) the potential direct contact, ingestion, and adsorption of dioxin and other hazardous substances by future residents who might be exposed to wastes; and (2) the potential migration of waste contaminated with dioxin and other hazardous substances into the groundwater, surrounding properties, and the Nashua River.

VIII. OUTSTANDING POLICY ISSUES

None.

IX. ENFORCEMENT

See Attachment E. **(FOR INTERNAL DISTRIBUTION ONLY.)**

X. RECOMMENDATION

This removal action was developed in accordance with CERCLA, as amended, and is consistent with the NCP. This decision document is based on documents contained in the Administrative Record established for the Site. (See Appendix C, Administrative Record File Index). This Action Memorandum supersedes the 2002 Action Memorandum.

Conditions at the Site meet the NCP §300.41S(b)(2) criteria for removal and the CERCLA §104(c) consistency exemption from the $2 million limitation due to the presence of:

- "Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances, or pollutants or contaminants" [300.41S(b)(2)(i)];
- "High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate" [300.415(b)(2)(iv)],
- "Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released" [300.415(b)(2)(v)],
- "The availability of other appropriate federal or state response mechanisms to respond to the release" [300.415(b)(2)(vii)], and
- "Continued response action is otherwise appropriate and consistent with the remedial action to be taken" [CERCLA §104(c)].

The removal action proposed in this Action Memorandum will abate, prevent, minimize, stabilize, mitigate and/or eliminate the release or threat of release of

hazardous substances at the Site. I recommend your approval of the proposed removal action. Your signature will also reflect that an exception pursuant to Section 104(c) of CERCLA and Section 300.415(b)(5)(ii) of the NCP has been granted.

Approval: _____ Date: 9/30/19

Bryan Olson, Director
Superfund & Emergency Management Division
EPA New England, Region 1

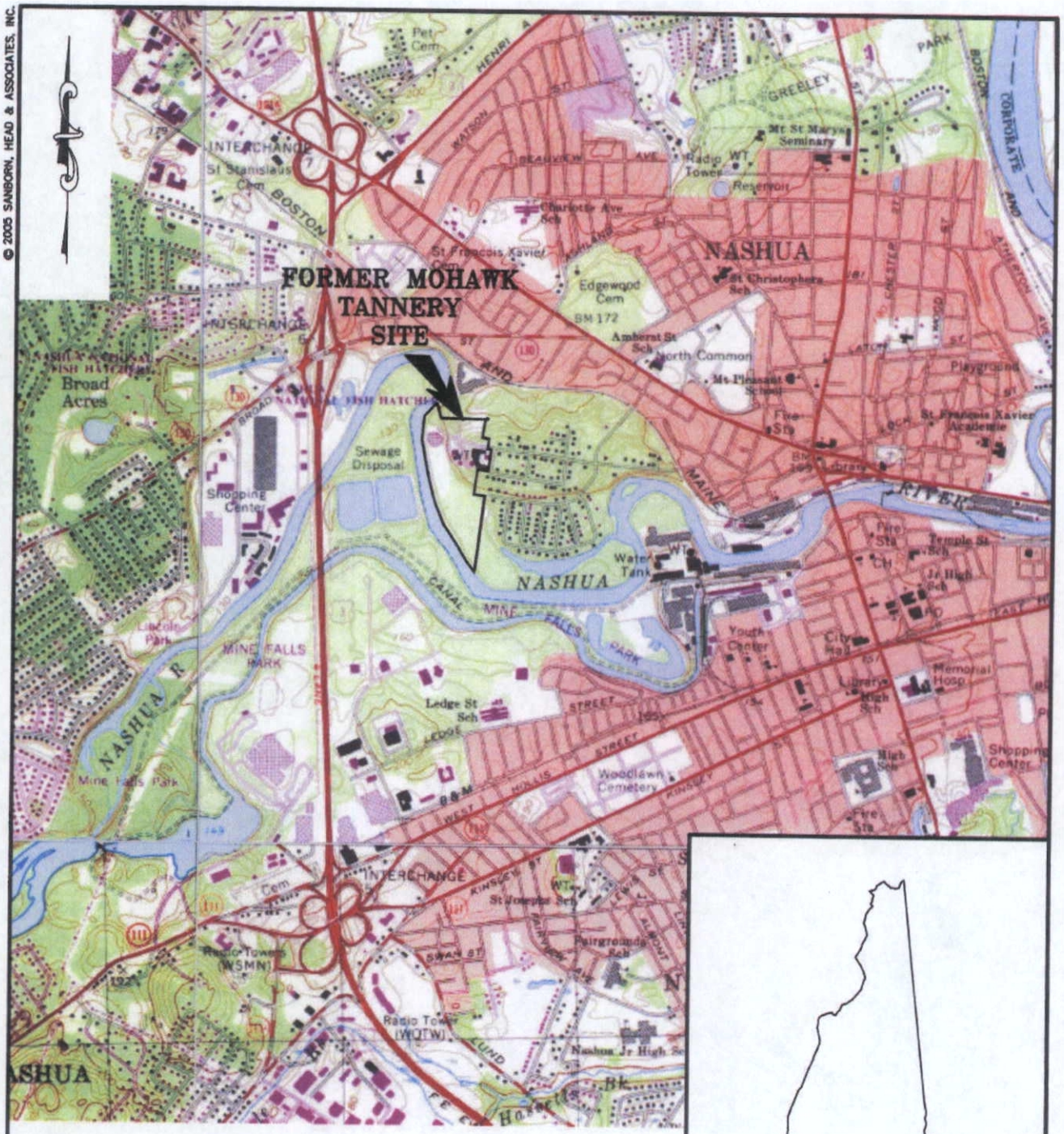
Disapproval: _____ Date: _____

Bryan Olson, Director
Superfund & Emergency Management Division
EPA New England, Region 1

Attachments:

Attachment A: Figures
Attachment B: Responsiveness Summary
Attachment C: Administrative Record File Index
Attachment D: ARARs Tables
Attachment E: Enforcement Strategy (Confidential)

ATTACHMENT A: FIGURES



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LAYOUT: LOCUS
CTB FILE: SHA STANDARD.CTB
PLOT DATE: 3-16-05

NOTES:

BASE MAP TAKEN FROM 7.5 MINUTE USGS QUADRANGLE MAPS:
NASHUA NORTH, NH (1965)(PROVISIONAL 1979)
NASHUA SOUTH, NH (1965)(PROVISIONAL 1979)
PEPPERELL, MA (1965)(PROVISIONAL 1979)
SOUTH MERRIMACK, NH (1968)(PHOTOREVISED 1985)

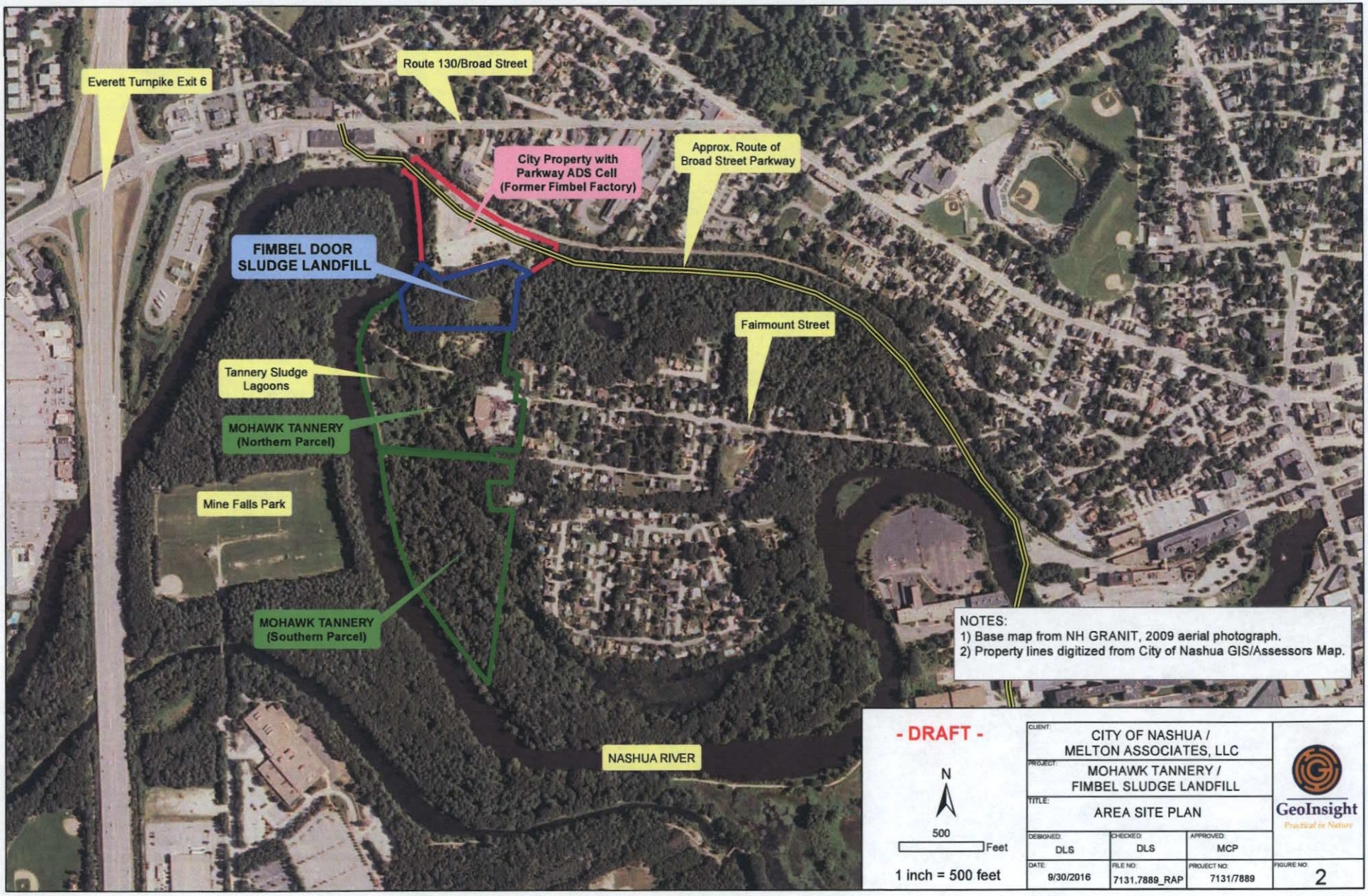
-DRAFT-

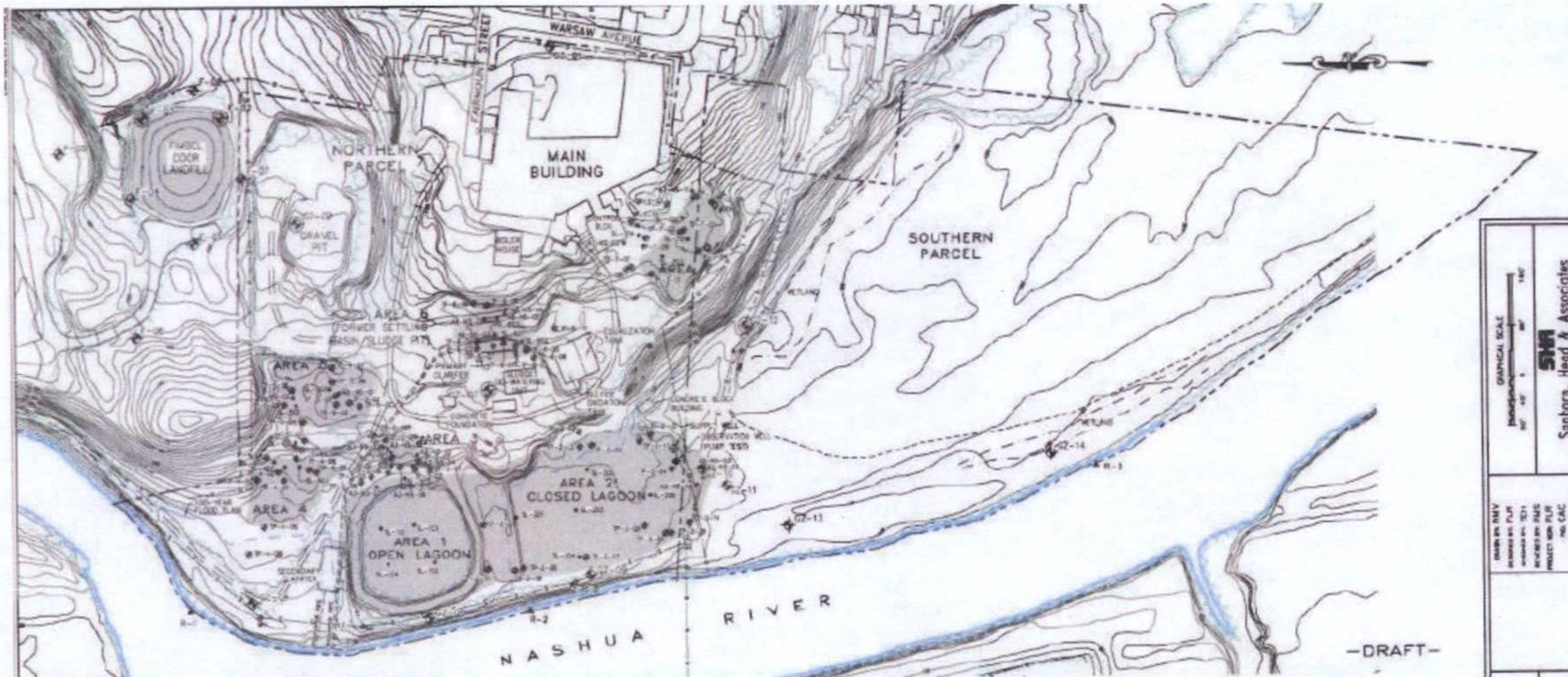
FORMER MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

REMEDIAL INVESTIGATION
OPERABLE UNIT 1
LOCUS PLAN

SHA
Sanborn, Head & Associates
Consulting Engineers & Scientists

SCALE: 1"=2000'	DRAWN BY: PGP	FILE NO. 2158
DATE: MAR 05	CHECKED BY: CAC	FIGURE NO. 1


Everett Turnpike Exit 6
Route 130/Broad Street
City Property with Parkway ADS Cell (Former Fimbel Factory)
Approx. Route of Broad Street Parkway
FIMBEL DOOR SLUDGE LANDFILL
Fairmount Street
Tannery Sludge Lagoons
MOHAWK TANNERY (Northern Parcel)
Mine Falls Park
MOHAWK TANNERY (Southern Parcel)
NASHUA RIVER
NOTES:
1) Base map from NH GRANIT, 2009 aerial photograph.
2) Property lines digitized from City of Nashua GIS/Assessors Map.
- DRAFT -
N
500
Feet
1 inch = 500 feet
CLIENT: CITY OF NASHUA / MELTON ASSOCIATES, LLC
PROJECT: MOHAWK TANNERY / FIMBEL SLUDGE LANDFILL
TITLE: AREA SITE PLAN
DESIGNED: DLS
CHECKED: DLS
APPROVED: MCP
DATE: 9/30/2016
FILE NO: 7131.7889_RAP
PROJECT NO: 7131/7889
FIGURE NO: 2
GeoInsight
Practical in Nature



LEGEND:

GZ-13/F-02	MONITORING WELL LOCATION AND DESIGNATION (GZA 1985, WCI 1991)
GZ-02/F-03	INDICATES WELL COULD NOT BE LOCATED/WAS NOT FUNCTIONAL DURING OPERABLE UNIT 1 REMEDIAL INVESTIGATION
TP-2-14	TEST PIT LOCATION AND DESIGNATION (TINUS 2001)
SL-205	OVERLYING SOIL, SLUDGE AND UNDERLYING SOIL SAMPLE LOCATION AND DESIGNATION (TINUS 2001)
A3-NS-01	OBSERVATION BORING (NO SAMPLES [NS] SUBMITTED FOR LABORATORY ANALYSIS) LOCATION AND DESIGNATION (TINUS 2001)
#004	SURFACE SOIL/SLUDGE SAMPLE LOCATION AND DESIGNATION (COLLECTED BY WESTON IN 1989)
R-2	NASHUA RIVER SAMPLE LOCATION AND DESIGNATION (GZA 1985)
	APPROXIMATE LOCATION OF PROPERTY BOUNDARY
	AREA OF SLUDGE/WASTE DISPOSAL
	EXISTING BUILDING
	FOUNDATION/SLAB OF FORMER STRUCTURE
MH	MANHOLE
	APPROXIMATE LOCATION OF FENCE
	APPROXIMATE LOCATION OF SEWER LINE
	APPROXIMATE LOCATION OF TRAIL/FOOTPATH

NOTES:

1. THE BASE MAP WAS DRAWN FROM A PLAN ENTITLED, "SITE PLAN AND SAMPLING LOCATION PLAN, MOHAWK TANNERY SITE, NASHUA, NEW HAMPSHIRE" PREPARED BY TETRA TECH NUS, INC. (TtNUS) OF WILMINGTON, MASSACHUSETTS, DATED OCTOBER 17, 2001. ORIGINAL SCALE: 1"=60'.

2. THE LOCATION OF THE SITE AND SITE FEATURES SHOULD BE CONSIDERED APPROXIMATE ONLY.

3. BASED ON HISTORICAL DATA PROVIDED IN A REPORT TITLED "PHASE II HYDROGEOLOGIC STUDY AND CONCEPTUAL CLOSEOUT PLAN, GRANITE STATE LEATHERS FACILITY, NASHUA, NEW HAMPSHIRE" PREPARED BY GOLDBERG-ZOINO & ASSOCIATES, INC. (GZA) OF MANCHESTER, NEW HAMPSHIRE IN OCTOBER 1985 (1985 GZA REPORT), AREAS 1 THROUGH 7 ARE DESIGNATED AS AREAS THAT RECEIVED UNTREATED TANNERY WASTE STREAMS (LAGOONS), TANNERY WASTE SLUDGE (BURIED), OR SCRAP ANIMAL HIDES AND RELATED MISCELLANEOUS REFUSE (BURIED) THROUGHOUT THE HISTORY OF OPERATION OF THE SITE.

4. THE GZ-SERIES MONITORING WELLS AND MONITORING WELLS F-01 THROUGH F-04 WERE INSTALLED UNDER THE DIRECTION OF GZA IN NOVEMBER 1984 (GZ-01), AND JUNE 1985 (REMAINING WELLS).

5. MONITORING WELLS F-05 THROUGH F-08 WERE INSTALLED UNDER THE DIRECTION OF WOODARD & CURRAN, INC. IN DECEMBER 1991.

6. TP-SERIES TEST PITS, SL-SERIES SOIL/SLUDGE SAMPLING PROBES, AND A-SERIES OBSERVATION BORINGS (NO SAMPLES [NS] SUBMITTED FOR LABORATORY ANALYSIS) WERE COMPLETED UNDER THE DIRECTION OF TtNUS IN AUGUST AND SEPTEMBER 2001.

7. THE LOCATIONS OF THE TEST PITS, SOIL/SLUDGE SAMPLES AND OBSERVATION BORINGS PERFORMED/COLLECTED BY TtNUS ARE BASED ON THE OCTOBER 17, 2001 TtNUS SITE PLAN.

8. THE LOCATIONS OF MONITORING WELLS F-01, F-04 THROUGH F-08, GZ-01, GZ-04, GZ-08, GZ-09 AND GZ-10 WERE SURVEYED BY CHAS. H. SELLS, INC. OF NASHUA, NEW HAMPSHIRE ON AUGUST 19 AND 20, 2003. THE LOCATIONS OF MONITORING WELLS F-02, F-03, GZ-02, GZ-07, AND GZ-11 THROUGH GZ-14, AND NASHUA RIVER SAMPLING LOCATIONS R-1, R-2, AND R-3 ARE BASED ON FIGURE NO. 4, TITLED "GROUNDWATER ELEVATION CONTOUR PLAN" OF THE 1985 GZA REPORT.

9. REFER TO "SITE FEATURES PLAN DETAIL – NORTHERN PARCEL (SITE)" FOR ADDITIONAL DETAIL REGARDING FEATURES ON THE NORTHERN PARCEL.

GRAPHICAL SCALE

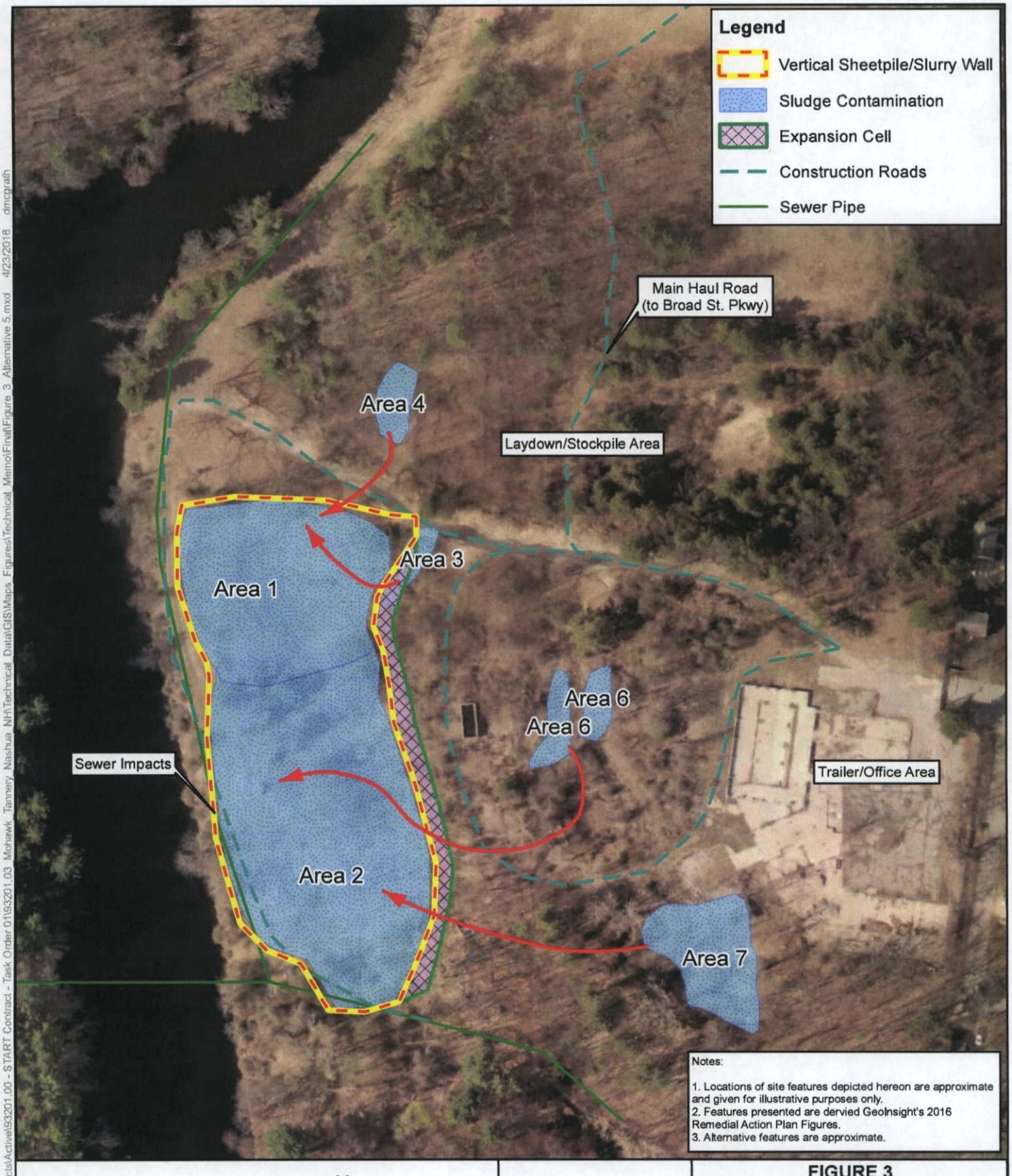
SHA Sanborn, Head & Associates
Consulting Engineers & Scientists

DRAWN BY: RMV
DESIGNED BY: PLR
CHECKED BY: TCH
REVIEWED BY: PMS
PROJECT MGR: PLR
FILE: CAC
DATE: MAR 05

REMEDIAL INVESTIGATION – OPERABLE UNIT 1
FORMER MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

SITE FEATURES AND PRE-EXISTING EXPLORATION LOCATION PLAN – NORTHERN AND SOUTHERN PARCELS

PROJECT NUMBER 2138
SHEET NUMBER 1



0 75 150 300

Feet

1 inch = 150 feet

N

KGSNE

FIGURE 3

ALTERNATIVE 5 ENCAPSULATION FEATURES
MOHAWK TANNERY SITE
TDD No. SA-01-17-09-0001

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ATTACHMENT B: RESPONSIVENESS SUMMARY

Responsiveness Summary

Mohawk Tannery Site, Engineering Evaluation/Cost Analysis (EE/CA)

A notice was placed in a local paper (The Telegraph) on July 13, 2018, announcing a 30-day public comment period (July 9th through August 8th , 2018) on an EE/CA Amendment for a proposed Non-Time Critical Removal Action at the Mohawk Tannery Site. The notice also announced a public information meeting to be held on July 25, 2018 and invited the public to submit comments during the 30-day public comment period. EPA did home visits in the Site's area to invite residents to the meeting. During the meeting, verbal comments from the public were taken and transcribed by a stenographer. Also, during the meeting, several commenters requested (and EPA granted) an extension to the public comment period of one additional month (through September 7, 2018).

After the public information meeting, a group of neighbors requested an informal meeting to clarify technical questions on the alternatives presented. EPA, the local private party, the private party's consultant, and a contractor met with this group of neighbors and other citizens on August 29, 2018. The local private party's consultant and the contractor showed figures and videos about the construction techniques that could be used and answered numerous technical questions. The meeting was made public (announced in the local newspapers) by the group of neighbors and it was very well attended with over 50 people, including some City Aldermen. New Hampshire Department of Environmental Services (NHDES) staff was also present at the meeting.

After that, the City's Board of Aldermen asked for a presentation of EPA's preferred alternative to ensure all Board members were up to date on the project status. On October 2nd, 2018, EPA and the private party's consultant provided a summary of EPA's preferred alternative, including a position statement, a summary of recent past and future activities, and a general description of EPA's preferred alternative. The meeting was open to the public and it was attended by NHDES and City officials, including Mayor Jim Donchess.

The following day, on October 3rd, 2018, at the request of the group of neighbors, EPA and the local private party held a tour of the Site to show the Site's major features and an overview of the preferred alternative. About 20 people including residents and City Aldermen attended the Site visit. Numerous general and technical questions were answered during the Site tour.

Verbal comments received during the public information meeting, written comments received during the 60-day public comment period, and EPA responses (in blue) to those, are summarized below.

1. Some commenters expressed concern about two possible pathways of exposure, *i.e.* the consumption of groundwater as drinking water and for irrigation purposes, and the exposure to chemicals by children playing in the woods.

Exposures to Site contaminants in the drinking or irrigation water should not be a concern because no one in the Site's adjacent neighborhoods is using the groundwater for these purposes (everyone is connected to Nashua Public Water). Also no one is currently exposed to the

contaminated groundwater because it flows away and downgradient from the neighborhoods towards the Nashua River. This information was presented during the public meetings and is thoroughly documented in the 2005 Remedial Investigation.

Exposures to contaminants in on-site soils is possible and that is the primary reason for the Site being currently fenced. It is also one of the main exposure scenarios that EPA plans to address with the selected alternative. Once the selected alternative is implemented contaminated soils around the Site will be consolidated into the containment structure to prevent exposure to people (including children) who spend time on the Site. The Southern Parcel will be cleaned up to prevent any unacceptable risk of contaminant exposure from future recreational activities on the parcel.

2. One commenter stated that it was impossible to see a legitimate reason to choose containment over removal for any reason other than financial prudence.

As explained at the public meetings and documented in the 2018 Amended EE/CA, cost is only one of several factors used to evaluate and choose Alternative 5 as the selected alternative. All alternatives to address the Site were subject to a comparative analysis that included a balancing act of the following factors and sub-factors:

- Effectiveness
    - Overall Protection of Human Health and the Environment
    - Compliance with Applicable or Relevant and Appropriate Requirements (ARARs) and Remedial Action Objectives (RAOs) per the Comprehensive Environmental Response Compensation and Liability Act (CERCLA)
    - Reduction of Toxicity, Mobility, or Volume through Treatment
    - Short-term and Long-term Effectiveness
- Implementability
- Cost

The comparative analysis concluded that all three alternatives would be protective, meet the CERCLA ARARs, achieve RAOs, and be effective in the short and long terms. However, only Alternative 5 offered the possibility to meet these requirements while causing limited environmental impacts, at a reasonable cost. For further information, please see the 2018 EE/CA Amendment at https://semspub.epa.gov/src/document/01/627479.

3. Several commenters were generally opposed to containment, stating that EPA's preferred alternative is not safe because:
    - the barrier could fail and pollute the surrounding waterways;
    - severe rain events are becoming more common and that the containment will be too close to the river; and
    - the bottom is not lined so that material will leak out sooner than expected.

    The commenters stated that EPA's preferred alternative will eventually cost more than Alternative #1 because repairs will eventually need to be made; monitoring will need to be paid for indefinitely; and because of likely cost overruns associated with its implementation.

The commenters also said that residents adjacent to the Site have waited a long time for cleanup of this proposed Superfund Site and that the only alternative they will accept is Alternative #1 (Excavation and Offsite Disposal).

EPA understands these concerns and addressed them at the public informational meeting, at the informal meeting, and at a Site visit with the neighbors. The vertical containment unit and impermeable capping to be built around the former lagoons will be designed and built to withstand a 500-year flood event. This would be the event that has a 1 in 500 (0.2 percent) chance of occurring in any given year, and it is a much rarer event than the 100-year flood (1.0 percent) event. The 100-year flood and 500-year flood elevations correspond to 127.7 feet above mean sea level (AMSL) and 135.5 feet AMSL, respectively. Only approximately 20 % of the containment area will be within the 100-year flood zone.

The current plan for the containment structure envisions the top of the retaining walls on the west side to be 136 feet AMSL and up to 145 feet AMSL or higher on the east side. This means that even in the worst-case scenario (the 500-year flood event), the flood waters will always be passing around/against the vertical concrete retaining walls and not over the top of the cap.

The containment structure design will comply with all the FEMA and US Army Corps of Engineers (USACE) specifications for a project located within the 500-year flood zone and will be reviewed and approved by a Licensed Professional Engineer. While some aspects of the containment wall design were discussed at various public meetings, such as reinforcing the river edge with some stabilizing material to help prevent the erosion of the area between the river and the vertical containment unit, no determination has been made as to the final design of the containment structure. The design of any structure will be reviewed and approved by EPA and must meet regulatory requirements for a structure being built to withstand a 500-year flood event. At a minimum the design will include a 500-year flood scour analysis to determine if the existing river bank and its natural vegetation would withstand 100-year and 500-year floods. Because of all these design features, EPA considers it highly unlikely that the containment structure will fail.

EPA does not believe that the sludge waste in the former lagoons will leak out because the bottom of the containment unit will be unlined. As presented during the meetings and observed on-site, the sludge waste at these former lagoons is of a semi-solid consistency in former Lagoon #1, and of solid (soil) consistency at Lagoon #2. Additionally, this material currently sits on top of the till, which is a geologic formation with a very low permeability rate. Any of the vertical barriers contemplated in the Action Memorandum will reach the till layer, and therefore will greatly enhance the existing natural barrier between the sludge waste and its surroundings by installing vertical barriers around it, and an impermeable cap on the top.

While EPA's selected alternative (Alternative #5) will have indefinite monitoring costs, the cost estimates that were used as part of the 2018 EE/CA Amendment are extremely conservative and show a significant cost differential between it and Alternative #1

(Alternative #5 is 14.2 to 24.6 million dollars less expensive than Alternative #1). It is very difficult to conceive that any repairs or cost overruns will reach this differential, thus EPA does not believe that its selected alternative will cost more than Alternative #1.

Since the Site was proposed to the National Priorities List (NPL) in 2000, many actions have taken place and explain the Site's status. Here's a brief chronology of events:

- From 2000 to 2001, EPA addressed immediate health threats from the Site (*i.e.* asbestos-containing material from a former tannery building, hazardous substances, and contaminated containers, drums and tanks).

- In 2002, EPA conducted an EE/CA but, at the request of the City, stopped its efforts to conduct a Non-Time Critical Removal Action (NTCRA). The City wanted to explore the possibility of engaging a local private party who would be able to conduct the cleanup and re-use the property in a productive and meaningful way to the City and the surrounding community.

- In April 2012, contractors hired by the City of Nashua removed and disposed of asbestos containing materials from on-site buildings. City contractors demolished and removed the buildings in May 2012.

- From 2002 to 2016, several private parties showed interest in the Site but declined moving forward. EPA funded several investigations to characterize the Site, including a Remedial Investigation (RI) conducted by the NHDES and a Solidification/Stabilization Treatability Study. EPA also responded to fires and other emergencies at the Site. A private party entered into a purchase and sale agreement with the owners of the Site and furthered the EPA Treatability Study.

- In 2017, EPA targeted the Site for immediate attention and in 2018 completed an amendment to the 2002 EE/CA, selecting Waste Encapsulation and Impermeable Capping as the preferred alternative (referred to as Alternative #5).

- In 2019 the private party has been preparing design plans and refined cost estimates for EPA's selected alternative.

4. One commenter stated that EPA suggested full remediation in its initial study, but the agency did not put it on the National Priorities List many years ago because of how long it would have taken to be addressed.

   Please see the response to comment #3 above.

5. One commenter indicated that EPA did not describe the full removal option at any public meetings and only discussed encapsulation. The commenter requested a detailed explanation of Alternative #1 and the factors that contributed to its cost. This commenter also noted that

there may be some confusion about whether there was a nearby site that would accept the Site's waste; whether the waste would be treated off-site; and whether there was also an on-site treatment method. Lastly, he wanted to know if Fimbel Door Landfill material would be addressed the same way as the Site's waste since it originated at the Site.

As required by CERCLA and the National Contingency Plan (NCP), all three alternatives, Alternative #1 (Excavation with Off-Site Disposal), Alternative #4 (Solidification/Stabilization), and Alternative #5 (Waste Encapsulation and Impermeable Capping) were equally and fully evaluated in the 2018 EE/CA Amendment using a comparative analysis of three criteria: effectiveness, implementability, and cost. Alternative #5 was determined to be the selected alternative, as it achieves the best overall balance of the criteria above and meets the Removal Action Objectives. At the public meetings, the emphasis was on EPA's preferred alternative at the time, however there was ample opportunity to discuss the other alternatives as well. Please see the introduction to this responsiveness summary for more information about the meetings held.

To address the commenter's last question, the Fimbel Door Landfill is not within the scope of this NTCRA, therefore the selected alternative does not address the Fimbel Door Landfill. However, the private party performing the NTCRA may opt to address the Fimbel Door landfill in the same manner as the remedy chosen in this Action Memorandum. In such a case, those other actions would be done by the private party in conjunction with the work at the Site.

6. One commenter shared with EPA pictures of a steel reinforced concrete secant wall used as the foundation of an apartment building near the Back-Bay area of Boston. The commenter indicated that the wall was used to hold back and retain the water table around the building, that leaking, and reinjections are so common for this type of walls, and that the observed dampness is acceptable for the construction standards. The commenter requested that EPA consider this fact moving forward and that it strongly consider total removal of all toxic materials.

   EPA appreciates the sharing of the pictures and the interest of the commenter in the selected alternative. EPA is aware that some leaking from the surrounding groundwater into the containment unit through the secant walls is to be expected. However, given the current state of the sludge waste (semi-solid to solid); and considering that any encapsulation structure would be keyed into the till formation; EPA does not expect the selected alternative #5 to exacerbate the current levels of contamination in the groundwater.

7. One commenter repeatedly indicated that anaerobic digestion of the Site waste and Fimbel Door property waste could be a better solution than EPA's preferred alternative. This commenter stated that the biogas that would be generated could be used in a controlled and enhanced manner to generate electricity. The commenter also stated that anaerobic digestion would reduce the waste volume to 20% of the original volume and that the remaining volume of digestate containing hexavalent chromium and other heavy metals could be converted to slag using gasification and plasma cracking powered by some of the generated electricity.

The commenter also objected to the proposed remedy because methane gas would be produced, resulting in internal containment pressures which, if exceeded design pressure limits, could result in a breach or explosion.

The commenter proposed two alternatives. The first (On-Site Modification) would involve:

- designing an external anaerobic digestion system;
- installing a specially designed cover that would vent the methane and deliver it to an electrical generator to power the planned housing units;
- designing a gasification/plasma system to elemental slag; and
- providing a facility for the organic waste from the planned housing units to be used as a continual supply of fuel for the anaerobic digestion system.

The second alternative (Off-Site Modification) would include:

- excavating the tannery waste and depositing it at a separate barrier lined excavation pit within the 4 Hills Landfill;
- installing a specially designed cover to deliver methane to a Landfill Operating Plant System, and allowing for the filling and extraction of organic waste;
- designing an anaerobic digestion system to generate heat, electricity, and reduce the tannery waste to a residual digestate;
- designing a gasification/plasma system that would be powered by the anaerobic digestion system and would clean up the digestate to elemental slag; and
- conducting a study for the separation of the organic part of the trash pickup to be used as feedstock for the entire system.

EPA appreciates the commenter's interest in addressing the issues at the Site with an innovative, sustainable, and energy generating set of technologies. EPA has carefully evaluated the technical feasibility of the anaerobic digestion technology which is at the core of the two alternatives proposed, and has determined that it is not applicable, given the characteristics of the sludge waste.

The following considerations factored into EPA's evaluation and conclusion:

- The inorganic contaminants (*i.e.* metals) are not biodegradable. Anaerobic digestion may possibly change their chemical state, but the metals would remain present in the sludge waste, after digestion.
- Many organic contaminants can be bio-degraded under the appropriate conditions. However, the organic contaminants in the tannery sludge are particularly recalcitrant to bio-degradation, particularly in an anaerobic environment. In general, organic chemicals are more quickly degraded in the aerobic settings, rather than the anaerobic approach described in the proposed technology. In addition, heavy metals in the sludge can inhibit the growth of microbes necessary to bioremediate organic contaminants. Anaerobes (microbes that grow under no-oxygen conditions) are particularly sensitive to inhibitory compounds such as heavy metals.

- Anaerobic digestion will not treat the asbestos at the site.
- It is likely that the former lagoons already have anaerobic zones and that they are not showing treatment of the organic chemicals. In fact, the data collected between the early 2000's and 2013 supports this assertion, indicating that it is likely that inhibitory conditions are present. Based on these Site conditions, it is unlikely that the proposed technology would significantly assist in meeting the NTCRA RAOs:
    - Prevent, to the extent practicable, direct contact with, and ingestion of, contaminants in tannery sludge/waste and associated soil at concentrations exceeding Removal Goals (RGs);
    - Prevent, to the extent practicable, direct contact with, ingestion, and inhalation of asbestos fibers present within the Site;
    - Prevent, to the extent practicable, a release of contaminants to the Nashua River from a flooding event;
    - Limit, to the extent practicable, further migration of contaminants from tannery sludge/waste and associated soil to Site groundwater; and
    - Prevent future ecological receptor exposure to contaminated materials consolidated and contained on-Site which could potentially cause adverse effects.

  For these reasons, anaerobic digestion would not be a viable alternative to treat the waste sludge and the two alternatives proposed by the commenter do not warrant further consideration.

8. A couple of commenters acknowledged that full excavation and cleanout will be more expensive and require more work in the short term; that it will be more disruptive and generally annoying to the neighborhood, and that it will result in some increased emissions from the heavy vehicular traffic in the area but that this traffic will happen despite the option chosen. They would not mind the increased traffic along Fairmount Street; however, they would prefer that the Broad Street Parkway be used instead. In their opinion, these problems pale in comparison to the long-term risks that the community has already been facing and will continue to face if the Site is not cleaned up. They stated that the citizens of Nashua hope that EPA will reconsider its options and decide that Alternative #1 is the only way to proceed.

   EPA understands that there is general apprehension in the community towards the selected alternative (Alternative #5). However, as explained in the various public meetings, that apprehension is largely based on a limited understanding of the Site's physical conditions, the nature and the location of the Site contaminants, and the details of the construction techniques to implement Alternative #5. EPA has carefully reevaluated all its options considering the comments received and has confirmed its conclusion that Alternative #5 should be the selected alternative as it achieves the best balance of the CERCLA evaluation criteria.

9. A couple of commenters wanted to know what other Sites in EPA Region 1 and in the nation had waste capped in place along with residential development and how successful they were.

One of the commenters specifically mentioned the Kooper's Corporation Brownfields Site as an example where community opposition resulted in the cancellation of similar plans, and that additional remediation is ongoing with uncertain development plans. The commenter also asked what the outcome of the 2004 plan was to encapsulate the oil contamination at the Beede Site in Plaistow, NH so that residential development could proceed.

There are several Sites both within EPA Region 1, and even more so nationwide, where there has been successful capping in place of waste, along with residential development near the capped area. Just a few examples of Superfund Sites in EPA Region 1 are as follows:

- Nyanza Chemical Waste Dump, Ashland, MA
- Winthrop Landfill, Winthrop, ME
- South Weymouth Naval Station, South Weymouth, MA
- Industriplex, Woburn, MA

Some other examples of Superfund Sites nationwide are as follows:

- Velsicol Chemical, St. Louis, MI
- Stauffer Chemical, Tarpon Springs, FL
- GE Moreau, Moreau, NY

The "Kooper's Corporation Brownfields Site" that was mentioned as an example, is a State Brownfields Site known as the Former Koppers Site in Nashua NH. It is a Site where the remedy has some components similar to the EPA's selected alternative for the Mohawk Tannery Site (*e.g.* a cap over existing waste and a Sheet Pile barrier), but also differs greatly from the Mohawk site in terms of the type of contaminants and the media where these contaminants are located. For instance, at the Former Koopers Site the composition of the waste is in liquid form within the groundwater and the original remedy was a sheet-pile barrier along a section of the Merrimack River bank to prevent its discharge to the River. In contrast, at the Mohawk Site, the waste is semi-solid sludge and/or soil-like material and the waste will be contained in place by surrounding it completely with an appropriately designed containment structure.

Regarding the Beede Site in Plaistow, NH, EPA must clarify that the Site's remedy per the 2004 Record of Decision did not require encapsulation. Rather it required a four-phased comprehensive cleanup approach which included capture and on-site treatment of contaminated groundwater, two phases of thermal enhanced vacuum extraction to remove VOCS and residual oils, and a final phase to remove contaminated soils and sediment within the property. Cleanup standards were set to allow for eventual residential reuse and the groundwater treatment system has been operating since 2014. The first phase of the vacuum extraction was completed and met the cleanup requirements in 2015, while the second phase is currently underway. The final soil and sediment excavation is expected to start in 2021. At the completion of the remedial actions for soils, residential reuse would be allowed with activity and use restrictions placed in certain areas to restrict activities that might expose certain wastes left on site.

10. One commenter stated that the toxins at the Site should be treated on-site if possible, and any toxic residues should be removed and buried in a landfill approved for such materials.

    On-Site treatment of the contaminants at the Site has been considered and evaluated at several points throughout the history of the Site. Unfortunately, the treatment option most compatible with the Site conditions and re-development plans (*in-situ* solidification/stabilization) proved to be technically feasible but with concerns/questions about possible leaching of more toxic by-products, such as phenols, and at a cost-prohibitive expense in the use of additives (*i.e.* organic clay materials) to prevent their release from the solidified wastes into the surrounding groundwater.

    As for the removal and off-site disposal of toxic residues in approved facilities, the presence of dioxins would be the most significant limiting factor, closely followed by the high volume of wastes at the Site (approximately 109,210 tons or 80,896 cubic yards of sludge waste and contaminated soils combined). The presence of dioxin in the sludge waste may result in there being only a limited number of licensed disposal facilities that would likely accept the dioxin-contaminated waste. Please see the answer to question # 5 above for more details about the review of the Off-Site Disposal Alternative #1 in the 2018 EE/CA Amendment.

11. One commenter expressed full support of EPA's recommended alternative. The commenter felt that the recommended alternative is the best and most affordable alternative to remediate the Site and protect the environment and the health of the neighboring community. They also indicated that it would allow the property (which has not paid City taxes in years) to contribute once again to the City's Annual Revenues, and that the local developer has an excellent reputation and track record of remediating Brownfield Sites and can be trusted to do a safe and thorough job at the Site.

    EPA appreciates the commenters' support for EPA's selected remedy. It is a goal of EPA to return sites to beneficial use whenever possible, and as the commenter expressed, this remedy will promote re-use, as well as allow the property to contribute tax revenue for the City.

12. Another commenter expressed support to the EPA, NHDES, and the City of Nashua's effort to remediate and make productive the former Site and adjacent properties. The commenter indicated that it is critical that the two open lagoons and their prospective impact on the river and surrounding floodplain be addressed as larger and more violent weather events are experienced. The commenter also indicated that the remediation of the Site will allow the neighborhood access to both the river and the Mine Falls Park at the opposite side of the river.

    EPA appreciates the commenter's support. The selected remedy will be constructed so as to withstand a 500-year flood event, whereas the current status of the lagoons has no protections in place to prevent the release of lagoon materials into the river due to any flooding, much less a 500-year flood event. The Southern Parcel will be cleaned up to prevent any risk of contaminant exposure from future recreational activities on the parcel.

13. Another commenter expressed support to EPA's proposed remedy stating several benefits:
    - the provision of a secure, long-term remedial solution to protect the neighborhood and the Nashua River;
    - after remediation completion, the transfer of the long-term oversight of the project from EPA to NHDES would allow EPA to focus on other important cleanup projects;
    - the community would benefit with future tax revenue from a new development; and
    - the new development would help preserve undeveloped greenspace from the effects of urban sprawl.

    EPA appreciates the commenter's support. Please see response to comment #12 above.

14. Another commenter expressed support for the proposed remedy indicating that the benefits derived from the remediation and new development far outweigh the alternative of leaving the Site in its current condition.

    EPA appreciates the commenter's support for EPA's selected remedy and, as stated above in response to comment #12, EPA agrees that the benefits of this remedy far outweigh leaving the Site as is.

15. One commenter stated that the local developer at an informal meeting on August 28, said that a complete remediation of the Site would not occur. The commenter expressed that [the private party] had a done deal with the City and EPA and that these entities are on his side and not with the neighboring community. The commenter also expressed the following:

    - that the developer, his family, friends, people working on the project, and the City's tax base would be the only ones to benefit from EPA's preferred alternative;

      EPA understands that if this Site is remediated under the selected alternative, the entire surrounding community, the City and the State will benefit from the abatement of risks to human health and the environment, and the productive re-use of the property.

    - that City residents ignored the fact that the lagoons in question are located on the river's edge and that toxins have been leaching into the Nashua River;
      The existence of the lagoons has been documented in EPA and NHDES public documents since the Site's first pre-remedial investigation was completed in August 1987. Although direct discharge of tannery operation waste was documented in the past, testing of surface water and sediments at the Nashua River have not revealed the presence of any contaminants at levels exceeding Federal or State standards. In fact, a 2013 EPA Risk evaluation concluded that Site-related contaminants in river sediment did not exceed ecological benchmarks for aquatic organisms and indicated that surface water in the Nashua River did not require analysis because previous studies had shown that Site-related chemicals in the surface water were not elevated.

- that the neighborhood has no idea if their properties are contaminated and that no testing has been done on the land with homes at numerous roadways and properties surrounding the Site;

  On several occasions, EPA's Removal Program has tested the soils of neighboring properties as part of their response to fires at the abandoned buildings of the former tannery operations. Testing for asbestos in soil found no asbestos in all the samples taken. Most recently, on a property abutting the Site, the EPA Removal Program performed a Removal Preliminary Assessment/Site Investigation (PA/SI), at the request of the property owner, to determine if there were Site related contaminants on the soils posing unacceptable risks. The PA/SI concluded that there were no Site related contaminants posing unacceptable risks.[1]

- that EPA's preferred alternative will not protect the groundwater as the contamination would continue to be unlined at the bottom, the same way that it was done at the Coakley Landfill in North Hampton and that the contamination has been and continues to be a large threat to its neighbors;

  Coakley Landfill is an unlined landfill, as are many landfills in New Hampshire and across the country, especially those that were capped in-place as part of a CERCLA Remedial Action. Each CERCLA site needs to address site-specific conditions, that are often unique to each site, thus comparisons across sites are seldom applicable. The potential relationship between the selected remedy and the Site's groundwater is specifically discussed in Comment #1. It is not accurate to state that the Coakley Landfill's contamination has been and continues to be a large threat to its neighbors since CERCLA remedies have been implemented at that Site that are protective of human health and the environment.

- that the installation of secant walls will push the toxins into the water table, the river, streams and adjacent neighborhoods, and that it is impossible to know what will be pounded and dispersed to these areas;

  The type of containment structure used has not been decided and will be determined during design. If the use of a secant wall is chosen, there is no reason to expect that the installation of a secant wall will push toxins into the water table, the river, streams and adjacent neighborhoods as the wall will be outside the contaminated soil/sludge and clean soil is removed prior to the installation of the wall. The consistency (it is mostly soil-like) and location of the sludge waste is such that it is relatively immobile so once contained would not pose a threat of migration into downstream areas (see response to comment #3 above). EPA has extensive data on the location of the lagoon materials which has been thoroughly evaluated and documented in public documents since 1987 and will be used to precisely locate the installation of the walls

[1] For a complete report of the PA/SI and its evaluation please see the Site Investigation Closure Memorandum for the Hughey St. Site, dated July 1, 2019, SEMS doc ID# 637702.

so that Site contaminants are consolidated within the containment area and encapsulated from the rest of the environment.

- asked what the effect of forcing pylons would be on the foundations of surrounding properties;

  Again, the type of containment structure used has not been decided and will be determined during design. It is unclear what the commenter is referring to regarding pylons as pylons were not one of the three types of containment structures considered. Regardless, no impact to the foundations of surrounding properties is expected from the installation of any of the containment structures considered in the Action Memorandum.

- that not all "dumping grounds" at the Site have been identified and that most likely these would be the soils that would be dug up during the construction;

  EPA has extensive data on the location of the lagoon materials and contaminated soils throughout the Site which has been thoroughly evaluated and documented in public documents since 1987. In addition, areas to be excavated during the construction will need to demonstrate, via confirmatory sampling, that contaminant levels at the remaining soils meet the Removal Goals listed in the Action Memorandum.

- asked if these soils would be sold for profit;

  No. Under the selected alternative excavated soils will be disposed at the containment structure. No material would be transferred off-Site.

- that a small company just formed by the local developer is not large, experienced and capable enough, to address such a large project;

  It is EPA's responsibility to approve a qualified contractor to perform the work. Therefore, any contractor proposed will have to meet EPA's standards for contractors that are experienced in remediation of contaminated sites before being permitted to work on the selected alternative.

- that she does not trust the developer and the City of Nashua who have contrived the preferred alternative project, and thrown it at the public with 2 months of public comment;

  To be clear, the selected alternative was chosen by EPA after considering several alternatives that were presented and evaluated by a federal contractor. Following the rules laid out by CERCLA and regulations issued to implement the law, titled the National Contingency Plan (NCP), EPA presented its preferred alternative to the public on July 25, 2018 and offered the 30-day comment period prescribed by law. However, in deference to the numerous requests received at the public hearing, EPA immediately granted an additional 30 days to the comment period.

- that the public should be educated on the contents of the lagoons, the tannery property, and the repercussions of the secant wall being erected;

  Please see EPA's response to second bullet above. At three separate public meetings and a Site tour, EPA has held extensive and thorough education of the public on the three presented alternatives and other Site-related topics. Please see the introduction to this responsiveness summary for more details.

- that the public should be given an opportunity to ask the City's Board of Aldermen and the Mayor to contribute a substantial amount of funds to alleviate their future cancer and property value fears;

  The public's potential interactions with local authorities are outside of the scope of this NTCRA. The selected alternative will address potential cancer risks posed by the Site (current risks identified have been found to be limited to trespassers who have had direct contact with the sludge waste and other contaminants in the soil) and will remediate the Site so that the Northern Parcel is safe for unrestricted use (except in the area of the contained waste) and the Southern Parcel is safe for its future intended use (recreation). As for property values, EPA cannot predict future outcomes but re-use of the Site property, facilitated by EPA's selected alternative, would be expected to have a positive impact.

- that the City has a purchase and sale agreement to sell a parcel of land to the developer and that this property holds waste from the Site and asbestos removed during the construction of the Broad Street Parkway; and that EPA is promoting a plan which will forever decrease the neighbors' property values, increase the risk of contaminating their land, drinking water, and contracting cancer.

  EPA understands that a private party is in conversations with the City to acquire a parcel of land known as the City's Right of Way. This parcel is not part of the Site and therefore is not within the scope of this NTCRA.

  EPA respectfully disagrees with the overall comment. EPA has documented within the Administrative Record for the NTCRA that the selected alternative is protective of human health and the environment, and when weighed against the evaluation criteria of effectiveness, implementability and cost, achieves the best balance of these criteria while achieving the Removal Action Objectives.

16. One commenter believes that removal of contaminants is a much better alternative than on-site containment, but that given the long time and high uncertainty for the funding of contaminant removal, the commenter supports on-site containment. Nonetheless the commenter is concerned about the long-term viability of the remedy and asked:
    - *What predictions have been used, and analyses carried out, relative to storm flows in the Nashua River near the Site and of the likelihood of erosion and damage to river banks in this area?*

- *It is understood that the proposed secant walls will be constructed with a mixture of soil, bentonite clay and cement and will be considerably softer than, for instance, concrete walls. If the slope between the walls and the river, or the areas upgradient or downgradient of the containment area, erode, would the exposed containment walls be strong enough to resist scouring or impact from trees or ice blocks being carried by floodwaters?*
- *What slope stabilization strategies will be taken and how will these strategies affect wildlife and the ecology of the immediate area?*
- *Has consideration been given to relocating the containment farther from the river?*

EPA appreciates the understanding of the time and funding uncertainties and the general support for the selected. alternative. EPA also understands the concerns about the long-term viability of the remedy and offers the following response to the specific questions:

Relative to storm flows in the Nashua River near the Site and of the likelihood of erosion and damage to river banks in this area, the private party's consultant performed an analysis to predict flood conditions from computer models resulting from the 100-year and 500-year flood events in the Nashua River, adjacent and west of the proposed sludge containment structure. The intent of the evaluation was to: 1) predict theoretical water surface elevations for each of the projected events, 2) approximate the water flow and velocity in the river channel, and 3) evaluate the potential for these catastrophic events to cause scouring of the riverbank and floodplain at the Site. The consultant evaluated the potential for both events to result in scour of the ground surface within the elevations between the normal water level and the 500-year flood level. Based upon the Site-specific model simulations, there is a potential for erosion of the ground surface located between the normal water level and the 500-year flood level in a worst-case scenario. This could occur with unvegetated/bare riverbank soil surfaces if not well-maintained.

In general, unvegetated/bare soil surfaces can be resistant to water velocities up to approximately 2 to 4 feet per second (fps), depending upon the composition and density of the soil. Well-vegetated soil surfaces can be resistant to water velocities up to approximately 3 to 8 fps. For water velocities above approximately 4 to 8 fps (or lower for soils that are more susceptible to erosion), resistance to scour can be achieved by: maintaining specific erosion-resistant vegetative species; installing erosion control materials such as erosion control blankets (ECBs) or turf reinforcement mats (TRMs); or constructing hard armored surfaces such as rip-rap slopes, gabions, concrete, etc. Engineering references indicate that well-vegetated riverbanks could withstand a range of flood flow velocities of 3 to 8 fps. The consultant used the 5 to 7 fps flow range (500-year flood) from the modeling as the water will have a higher velocity at the current riverbank than it will at the fringes of the 100 or 500-year flood limits (where it was predicted at 0.9 to 2.2 fps). Since the engineering references cited "well-vegetated" riverbank and the predicted flow range (5 to 7 fps) overlaps with the reference resistance range (3 to 8 fps), being conservative, the consultant decided to

add a Geoweb ™ roadway material and TRMs on the riverbank as a safety measure to amour against erosion.

For the question about the exposed containment walls being strong enough to resist scouring or impact from trees or ice blocks, please see the response to comment #3 above. Additionally, based upon the results of the flood and riverbank scour analysis, if the existing vegetated riverbank were to remain unchanged, it would possibly be resistant as-is against scour and erosion under a 500-year flood. However, worst-case model simulations at the high-end range of predicted flood flow velocities, indicated that worst-case flooding may cause erosion to the currently vegetated riverbank. Therefore, the remedial design will include the installation of a Geoweb ™ stabilized roadway product on the City's sewer Right of Way (ROW) and a TRM on the riverbank. These features will further protectthe riverbank against erosion during flooding.

It is true that the strength of the bentonite clay-cement secant walls (100 PSI) is less than structural concrete (2,000-6,000 PSI); however, 100 PSI is approximately the strength of dense glacial till soil, which has more strength than the native sand soil currently comprising the river bank. The consultant's analysis evaluated the effect of trees impacting the modular concrete block retaining wall that is proposed for placement above the secant wall and the wall was resistant to blows from a 1,000-pound tree trunk.

Regarding the question about what slope stabilization strategies will be taken and how will these strategies affect wildlife and the ecology of the immediate area, a Geoweb™ stabilized roadway product is proposed for installation at the ground surface of the City's sewer ROW and this would be in-filled with gravel or loam and seed, which would be similar to the current conditions. A TRM is proposed for the riverbank, which would be installed after removing existing vegetation. A landscape architect may design replacement vegetation on the river bank as a part of the overall landscape design. However, the TRM at minimum includes turf established on the river bank, which locks in-place a geotextile layer.

Regarding the question on relocating the containment area farther from the River, the answer is yes. This possibility was considered by EPA during the development of the 2002 EE/CA. Now, with the prospect of a private party remediating and re-developing the Site, the current location of the former lagoons is the most viable place on Site that will not inhibit productive re-development of the property.

17. One commenter at the public informational meeting cited the conclusion of the Site's Public Health Assessment dated April 21st, 2001: *if the Site were redeveloped in the future for residential housing or as a park, exposures to dioxin in the buried sludges could potentially result in adverse health effects.* The commenter asked EPA how the Agency would work with the City and the State to monitor and avoid that risk, and how the Site's wetlands and wildlife will be protected.
During the construction of the preferred alternative, the risk of exposure to dioxin in the buried sludge will be addressed by educating all the construction personnel on the location,

appearance, toxic effects, and best practices to safely handle the contaminated sludge. Appropriate personal protective equipment (PPE) and training on its use, in conformance with the Occupational Safety and Health Agency (OSHA) regulations, will be provided to the construction personnel on-Site. All these measures will be documented on a Health and Safety Plan that will be reviewed by an EPA On Scene Coordinator (OSC) and NHDES.

The contractor performing the field work will rely on the extensive documentation about the areas of contamination, and visual observations at the Site to delineate the excavations. They will also be required to perform confirmatory sampling after the excavations are completed, to demonstrate that the concentrations of all contaminants of concern (COCs) are at or below the RGs, which are the concentrations at which these COCs present no adverse human health effects. The RGs were established using risk-based values calculated from exposure scenarios identified in the streamlined human health risk evaluations; available guidance for addressing dioxin contamination; and the NHDES Soil Remediation Standards (SRS) concentrations. See Table 1 of the Action Memo for more information. All of these actions will be documented in detail in a set of documents that will be submitted to EPA for review and approval, considering comments provided by NHDES.

In accordance with Section 121(d) of CERCLA, and in consultation with the State of New Hampshire, ARARs have been established for the EPA's selected alternative. Some of these ARARs specifically protect wildlife (*e.g.* the Fish and Wildlife Coordination Act, which requires that any federal agency proposing to modify a wetland or body of water must consult with the U.S. Fish and Wildlife Service), and some other ARARs specifically protect the wetlands (*e.g.* federal wetland and floodplain regulations at 44 C.F.R. Part 9, NH wetlands protection regulations). These Executive Orders require that wetlands and floodplains be protected and preserved to the extent practicable, and that adverse impacts be minimized. EPA, in coordination with NHDES, will provide oversight of the construction activities to ensure that all these ARARs are observed. The ARARs for the selected alternative are in Attachment C of the Action Memorandum.

18. Another commenter at the public informational meeting stated that the cost difference between EPA's preferred alternative and Alternative #1 (about $18 million), is not that much and that most of this sum of money would be quickly spent in the monitoring and repairs that the preferred alternative will require. He stated that Nashua has several capped landfills, including a Superfund Site and that one of the City's schools was built on top of one of those capped landfills. He stated that in one of that school's classroom, he believed there was an incident related to the improper use of methylene chloride solvent, which resulted in the students being re-located and the City spending millions of dollars. He said something similar could happen if the public selects the preferred alternative and not Alternative #1.

According to the EPA estimates presented in the 2018 EE/CA Amendment, the cost difference between EPA's selected alternative (Alternative #5) and Alternative #1 ranges from 18.4 to 24.6 million dollars, depending on the specific technology used for the

construction of the vertical containment. In the context of Superfund and the specific conditions present at the Site (*i.e.* limited amount of government funding available, and a private party interested in assuming most of the cost.), even the smallest figure of this range is significant. These estimates also indicate that post-construction vegetation and erosion inspections, and 30 years[2] of groundwater monitoring and cap operation & maintenance, would result in a present value of approximately $270,000. Thus, EPA disagrees with the assertion that the cost difference is insignificant and that most of it would be quickly spent in monitoring and repairs.

Regarding the school incident with the improper use of methylene chloride, EPA has no knowledge of this incident being related to landfill waste, hence the analogy to the selection of the selected alternative is not applicable.

This commenter stated that the permanent use restrictions that would need to be applied to the capped waste would be a big commitment in comparison to the relatively simple solution offered by Alternative #1.

The permanent use restrictions applicable to the capped waste would only restrict a small area of the property encompassing the containment area and certain remedy components (*e.g.* monitoring wells). They would be relatively uncomplicated to establish and may be in be the form of City Ordinances, State Activity and Use Restrictions, or Deed notices, among other forms of property controls that could be administered relatively easily. They would protect the integrity of specific remedy components and would prevent the exposure to the encapsulated contaminants. Alternative #1 does not need these restrictions but carries an enormous cost and much more direct impacts to the surrounding community.

19. Another commenter expressed regret about not agreeing to the NPL listing of the Site during the City Committee conversations that took place around 2002. She requested that after the closing of the comment period, all comments and EPA responses be provided to the public and that another public meeting be held after the release of the Action Memo to receive feedback from the public.
She expressed that the community feels their lives are possibly at risk and that she does not trust EPA under this administration.

The commenter stated that around 2010 there was a major flooding in the area and she asked how that event affected the lagoons, how much of their contents were washed away into the river and the soils of the neighborhood properties. She also expressed concern about ashes that covered her property and wonders what chemicals may still be at the soils and affecting the potable water pipes underneath. She requested that the neighborhood soils and drinking water be tested.

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[2] Under EPA guidance a 30-year monitoring period is used for cost estimation purposes. However, permanent monitoring may be required if waste is left in place, depending on the regulatory oversight requirements for long-term management of the disposal area.

EPA regrets the lack of trust expressed by the commenter. In accordance with 40 C.F.R. §300.415(n)(2)(iii) EPA has published this summary of all the comments received and the agency response to those as part of the Action Memorandum. While the decision in the Action Memorandum is final, other public meetings will be held, as needed, after the release of the Action Memorandum to receive feedback from the public on the implementation of the removal action.

EPA is aware of a major flood event in the area that occurred in 2010. It is unknown how exactly the event affected the lagoons, although the lagoons exhibit no evidence of having been washed out. Based on the available information and the topography of the Site, it does not appear that the flood waters from that event reached the residential areas adjacent to the Site. Thus, there should be no concern about lagoon contents being present at residential properties neighboring the Site.

Regarding the ashes that covered the commenter's property, EPA does have documentation showing that debris samples and air samples from a fire that occurred on October 6, 2007, were tested for asbestos by the EPA Region 1 Removal program, and the results were negative. Also, most recently, on an adjacent property to the Site, the EPA Removal Program performed a Removal Preliminary Assessment/Site Investigation (PA/SI), at the request of the property owner, to determine if there were Site related contaminants on the soils posing unacceptable risks. The PA/SI concluded that there were no Site related contaminants posing unacceptable risks.

Regarding the possible contamination of the water supply pipes, there is no possibility the Site-related chemicals could enter underground supply pipes much less the Pennichuck Water Supply (from which the City of Nashua gets its drinking water), as this source of water has no hydrological connection to the Site.

EPA will not be testing drinking water of neighboring properties as there is no reason to expect Site-related contaminants to be present in the potable water.

20. Another commenter expressed that the Site is responsible for untold cases of cancer; that if the damage is reversed, cancer rates could stabilize and perhaps reverse. She also stated that addressing the problem is not the responsibility of the developer but the responsibility of the property owner, the City and the EPA.

EPA has no knowledge of a link between cancer cases and the contamination at the Site. The regulatory agencies with the expertise and authority to establish any such links or connections are the New Hampshire Human Health Services (NH HHS) and the Agency for Toxic Substances and Disease Registry (ATSDR). EPA will defer to those two agencies in that matter if a cancer cluster is identified by these agencies.

At this time, no financially viable parties have been identified to implement the selected removal action. The NTCRA established the removal actions required to best address the contaminant risks posed by the Site and may be implemented by several potential parties. If a private party were to do the work, it would be under the terms of a voluntary agreement. The removal action could also be implemented by EPA, in coordination with the State and the City.

A public-private partnership with a private party in this case has the potential to implement the removal action selected in this Action Memorandum in a much more rapid and economical way than it would be possible through the conventional route of listing the Site on the National Priorities List (NPL).

21. Several commenters expressed that they were not aware of the contaminants at the Site nor the pamphlet that was handed out. One commenter requested that the information be shared with a larger number of Nashua Residents.

To notify residents of the EE/CA and to provide an opportunity for public comment, EPA used a variety of methods to reach the public and neighbors nearby the Site. A public meeting and hearing were held on July 25, 2018. Notification of the meeting was published by the Nashua Telegraph via a public notice. EPA created a fact sheet with background information on the Site status and EE/CA process, including public hearing information. The fact sheet was left at residences' doors in the neighborhood directly abutting the Site including Fairmount St., Warsaw Ave, Carver St, Hutchinson St., and Interval Street. The fact sheet was also posted on the EPA website and the City of Nashua website. A postcard with the public meeting information along with links to the EPA website on the Mohawk Tannery was sent out via U.S. Post Office to homes on the streets previously listed, plus Prescott St, Baldwin St., Bennett St., Amherst St., Bitirnas St., Burns St., Miami St., Orlando St., and Tampa St.

On October 2, 2018 EPA presented its cleanup plans to the City Alderman. On October 3, 2018 EPA hosted a walking tour of the site with residents and interested parties. EPA is working with the City of Nashua and the local private party to develop and expand an email list to communicate with interested residents and parties about the Site status. The EPA website: **http://epa.gov/superfund/mohawk** is updated with current information on the Site status, as needed. Any individual with an interest in the Site can contact EPA to either confirm their contact information is accurately documented or to add their contact information to EPA's mailing list for the Site.

ATTACHMENT C: ADMINISTRATIVE RECORD FILE INDEX

Mohawk Tannery
NPL Site Administrative Record File
Update to
Non-Time Critical Removal Action
(NTCRA)

Index

NTCRA Action Memo Signed: September 2019
Released: September 2019

Prepared by
EPA New England
Office of Site Remediation & Restoration

Introduction to the Collection

This is the administrative record for the Mohawk Tannery Superfund Site, Nashua, New Hampshire, Updated Non-Time Critical Removal Action, released September 2019. The file contains site-specific documents and a list of guidance documents used by EPA staff in selecting a response action at the site.

This file replaces the Engineering Evaluation / Cost Analysis (EE/CA) Amendment administrative record file released in July 2018. This record includes, by reference, administrative record for the Mohawk Tannery Removal Action, issued October 2000. Documents listed as bibliographic sources in individual reports might not be listed separately in the index.

The administrative record is available for review at:

Online: https://go.usa.gov/xUZYe

Additional information about the site is also available at www.epa.gov/superfund/mohawk

EPA New England
Office of Site Remediation & Restoration
Records and Information Center
5 Post Office Square, Suite 100 (OSRR02-3)
Boston, MA 02109-3912
(by appointment)
617-918-1440 (phone)
617-918-0440 (fax)

Nashua Public Library
2 Court Street
Nashua, NH 03060
603-594-3412
http://www.nashualibrary.org/

An administrative record is required by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA).

Questions about this administrative record should be directed to the EPA New England site manager, Gerardo Millan-Ramos (617) 918-1377, millan-ramos.gerardo@epa.gov

AR 65694 UPDATED NON-TIME CRITICAL REMOVAL ACTION (NTCRA) ADMINISTRATIVE RECORD (AR) INDEX September 2019

Document ID	Title	Document Date	Page Count	Author	Addressee	Resource Type	Program Information	Access Control	Document URL
631423	NEWS ARTICLE: NASHUA WEIGHS PARTNERSHIP TO CLEAN UP 150K TONS OF TOXIC WASTE AT MOHAWK TANNERY	11/27/2018	12	R01: Gibson, Sarah (NEW HAMPSHIRE PUBLIC RADIO)		PUB / Publication	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.03-NEWS CLIPPINGS/PRESS RELEASES	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/631423
631150	NEWS ARTICLE: MOHAWK TANNERY CLEANUP COULD COST MUCH MORE THAN EXPECTED, SAYS ENGINEER	10/17/2018	3	R01: Houghton, Kimberly (NEW HAMPSHIRE UNION LEADER)		PUB / Publication	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.03-NEWS CLIPPINGS/PRESS RELEASES	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/631150
629393	NEWS ARTICLE: EPA STILL PUSHING FOR IMPERMEABLE CAP FOR NASHUA'S MOHAWK TANNERY SITE	10/2/2018	1	R01: (NEW HAMPSHIRE UNION LEADER)		PUB / Publication	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.03-NEWS CLIPPINGS/PRESS RELEASES	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/629393
629364	LETTER REGARDING PUBLIC COMMENT ON ON ENGINEERING EVALUATION / COST ANALYSIS (EE/CA) (EMAIL TRANSMITTAL ATTACHED)	9/7/2018	6	R01: Dufoe, Stephanie (NASHUA (NH) RESIDENT)	R01: Millan-ramos, Gerardo (US EPA REGION 1)	LTR / Letter	054-REMOVAL/0541-Removal Responses/02.02-REMOVAL RESPONSE REPORTS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/629364
629360	EMAIL REGARDING PUBLIC COMMENT ON ON ENGINEERING EVALUATION / COST ANALYSIS (EE/CA)	9/6/2018	2	R01: Santos, Darrin, L (GEOINSIGHT INC)	R01: Millan-ramos, Gerardo (US EPA REGION 1)	EML / Email	054-REMOVAL/0541-Removal Responses/02.02-REMOVAL RESPONSE REPORTS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/629360
629368	EMAIL REGARDING PUBLIC COMMENT ON ON ENGINEERING EVALUATION / COST ANALYSIS (EE/CA)	9/6/2018	1	R01: Petropulos, James, N (NASHUA (NH) RESIDENT)	R01: Millan-ramos, Gerardo (US EPA REGION 1)	EML / Email	054-REMOVAL/0541-Removal Responses/02.02-REMOVAL RESPONSE REPORTS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/629368
629378	EMAIL REGARDING PUBLIC COMMENT ON ON ENGINEERING EVALUATION / COST ANALYSIS (EE/CA) (EMAIL HISTORY ATTACHED)	9/6/2018	2	R01: Lopez, Tom (NASHUA (NH) CITY OF)	R01: Millan-ramos, Gerardo (US EPA REGION 1)	EML / Email	054-REMOVAL/0541-Removal Responses/02.02-REMOVAL RESPONSE REPORTS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/629378
629362	EMAIL REGARDING PUBLIC COMMENT ON ON ENGINEERING EVALUATION / COST ANALYSIS (EE/CA)	9/5/2018	2	R01: Burnett Young, Sherilyn (RATH YOUNG & PIGNATELLI PC)	R01: Millan-ramos, Gerardo (US EPA REGION 1)	EML / Email	054-REMOVAL/0541-Removal Responses/02.02-REMOVAL RESPONSE REPORTS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/629362
629366	EMAIL REGARDING PUBLIC COMMENT ON ON ENGINEERING EVALUATION / COST ANALYSIS (EE/CA)	9/5/2018	1	R01: Plante, Bernard N (MELTON ASSOCIATES, LLC)	R01: Millan-ramos, Gerardo (US EPA REGION 1)	EML / Email	054-REMOVAL/0541-Removal Responses/02.02-REMOVAL RESPONSE REPORTS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/629366
629370	LETTER REGARDING PUBLIC COMMENT ON ON ENGINEERING EVALUATION / COST ANALYSIS (EE/CA) (EMAIL TRANSMITTAL ATTACHED)	9/5/2018	4	R01: Solomon, Harold (UNIVERSAL ENVIRONMENTAL TECHNOLOGIES)	R01: Millan-ramos, Gerardo (US EPA REGION 1)	LTR / Letter	054-REMOVAL/0541-Removal Responses/02.02-REMOVAL RESPONSE REPORTS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/629370
629380	PUBLIC COMMENT ON ON ENGINEERING EVALUATION / COST ANALYSIS (EE/CA) RECEIVED ON SUPERFUND WEBSITE (09/07/2018 EMAIL TRANSMITTAL ATTACHED)	9/5/2018	2	R01: Prince, Sonia (NASHUA (NH) RESIDENT)	R01: (US EPA)	ROC / Record of Communication	054-REMOVAL/0541-Removal Responses/02.02-REMOVAL RESPONSE REPORTS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/629380
629372	LETTER REGARDING PUBLIC COMMENT ON ON ENGINEERING EVALUATION / COST ANALYSIS (EE/CA) (09/05/2018 EMAIL TRANSMITTAL ATTACHED)	9/4/2018	4	R01: Campbell, Elizabeth A (NASHUA RIVER WATERSHED ASSOCIATION), R01: Pine, Bob (NASHUA RIVER WATERSHED ASSOCIATION)	R01: Millan-ramos, Gerardo (US EPA REGION 1)	LTR / Letter	054-REMOVAL/0541-Removal Responses/02.02-REMOVAL RESPONSE REPORTS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/629372
629308	NEWS ARTICLE: DEVELOPER DISCUSSES PLANS FOR TANNERY	8/30/2018	3	R01: Fisher, Damien (NASHUA TELEGRAPH)		PUB / Publication	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.03-NEWS CLIPPINGS/PRESS RELEASES	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/629308
629309	MEMO REGARDING NEIGHBORHOOD MEETING	8/30/2018	2	R01: Millan-ramos, Gerardo (US EPA REGION 1)		MEMO / Memorandum	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.04-PUBLIC MEETINGS/HEARINGS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/629309
629382	PUBLIC COMMENT ON ON ENGINEERING EVALUATION / COST ANALYSIS (EE/CA) RECEIVED ON SUPERFUND WEBSITE (08/31/2018 EMAIL TRANSMITTAL ATTACHED)	8/30/2018	2	R01: Simkin, Jay, E (NASHUA (NH) RESIDENT)	R01: (US EPA)	ROC / Record of Communication	054-REMOVAL/0541-Removal Responses/02.02-REMOVAL RESPONSE REPORTS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/629382
629307	NEWS ARTICLE: NASHUA RESIDENTS TO MEET WITH EPA AND REAL ESTATE DEVELOPER OVER TANNERY	8/29/2018	2	R01: Gibson, Sarah (NEW HAMPSHIRE PUBLIC RADIO)		PUB / Publication	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.03-NEWS CLIPPINGS/PRESS RELEASES	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/629307
629304	NEWS ARTICLE: CITY OFFICIALS WANT TOXIC WASTE AT TANNERY TO BE REMOVED FROM SITE	8/28/2018	2	R01: Houghton, Kimberly (NEW HAMPSHIRE UNION LEADER)		PUB / Publication	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.03-NEWS CLIPPINGS/PRESS RELEASES	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/629304
629303	EMAIL REGARDING PUBLIC COMMENT ON ON ENGINEERING EVALUATION / COST ANALYSIS (EE/CA) (EMAIL HISTORY ATTACHED)	8/27/2018	2	R01: Porter, Gene (NASHUA (NH) RESIDENT)	R01: Millan-ramos, Gerardo (US EPA REGION 1)	EML / Email	054-REMOVAL/0541-Removal Responses/02.02-REMOVAL RESPONSE REPORTS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/629303
629311	NEWS EDITORIAL: ATTEND TANNERY MEETING	8/26/2018	2	R01: (NASHUA TELEGRAPH)		PUB / Publication	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.03-NEWS CLIPPINGS/PRESS RELEASES	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/629311
628199	EMAIL REGARDING PUBLIC COMMENT ON ON ENGINEERING EVALUATION / COST ANALYSIS (EE/CA)	8/24/2018	1	R01: Silva, Priscilla (NASHUA (NH) RESIDENT)	R01: Millan-ramos, Gerardo (US EPA REGION 1)	EML / Email	054-REMOVAL/0541-Removal Responses/02.02-REMOVAL RESPONSE REPORTS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/628199
629301	EMAIL REGARDING PUBLIC COMMENT ON ON ENGINEERING EVALUATION / COST ANALYSIS (EE/CA)	8/24/2018	1	R01: Healy, Emmarae (NASHUA (NH) RESIDENT)	R01: Millan-ramos, Gerardo (US EPA REGION 1)	EML / Email	054-REMOVAL/0541-Removal Responses/02.02-REMOVAL RESPONSE REPORTS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/629301
629356	EMAIL REGARDING PUBLIC COMMENT ON ON ENGINEERING EVALUATION / COST ANALYSIS (EE/CA) (09/06/2018 TRANSMITTAL ATTACHED)	8/24/2018	2	R01: Healy, Emmarae (NASHUA (NH) RESIDENT)	R01: Dunn, Alexandra (US EPA REGION 1)	EML / Email	054-REMOVAL/0541-Removal Responses/02.02-REMOVAL RESPONSE REPORTS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/629356
629358	EMAIL REGARDING PUBLIC COMMENT ON ON ENGINEERING EVALUATION / COST ANALYSIS (EE/CA)	8/24/2018	1	R01: Zimmerman, Sarah (NASHUA (NH) RESIDENT)	R01: Millan-ramos, Gerardo (US EPA REGION 1)	EML / Email	054-REMOVAL/0541-Removal Responses/02.02-REMOVAL RESPONSE REPORTS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/629358
629374	EMAIL REGARDING PUBLIC COMMENT ON ON ENGINEERING EVALUATION / COST ANALYSIS (EE/CA)	8/22/2018	2	R01: Lopez, Tom (NASHUA (NH) CITY OF)	R01: Millan-ramos, Gerardo (US EPA REGION 1)	EML / Email	054-REMOVAL/0541-Removal Responses/02.02-REMOVAL RESPONSE REPORTS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/629374
629376	EMAIL PROVIDING ADDITIONAL INFORMATION ON SECANT WALL PHOTOS (EMAIL HISTORY ATTACHED)	8/17/2018	3	R01: Masiello, Joe (NASHUA (NH) RESIDENT)	R01: Millan-ramos, Gerardo (US EPA REGION 1)	EML / Email	054-REMOVAL/0541-Removal Responses/02.01-CORRESPONDENCE (REMOVAL RESPONSE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/629376

628170	EMAIL SEEKING INFORMATION ON SECANT PILE AND SLURRY WALLS (EMAIL HISTORY AND CURRENT PRACTICE DOCUMENTS ATTACHED)	8/16/2018	614	R01: Hull, Richard (US EPA REGION 1)	R01: Costanzi, Frances (US EPA REGION 8), R01: Bourgeois, Sandra (US EPA REGION 8), R01: Donovan, Betsy (US EPA REGION 2), R01: Lalja, Emerald (US EPA), R01: Mathur, Rashmi (US EPA REGION 3), R01: Jones, Yvonne (US EPA REGION 4), R01: Cox, Deborah (US EPA REGION 4), R01: Mason-smith, Karen (US EPA REGION 5), R01: Meier, Kathleen (US EPA REGION 5), R01: Duda, Damian (US EPA), R01: Henry, Sherrel (US EPA REGION 2), R01: Salkie, Diane (US EPA REGION 2), R01: Cunningham, Lisa, Bradford (US EPA REGION 3), R01: Denmark, Lisa (US EPA REGION 3), R01: Bain, Andrea (US EPA REGION 3), R01: Thornton, Hilary (US EPA REGION 4), R01: Novak, Dion (US EPA REGION 5), R01: Tierney, Mary (US EPA REGION 5), R01: Patel, Viral (US EPA REGION 5), R01: Lennox, Ursula (US EPA REGION 6), R01: Tzhone, Stephen (US EPA REGION 6), R01: Appaji, Sairan (US EPA REGION 6), R01: Hagenmaier, Elizabeth (US EPA REGION 7), R01: Sperry, Clint (US EPA REGION 7), R01: Vann, Bradley (US EPA), R01: Mckarty, Cody (US EPA REGION 7), R01: Hoogerheide, Roger (US EPA REGION 8), R01: Sparks, Sara (US EPA REGION 8), R01: Archer, Allie (US EPA REGION 8), R01: Bowlin, Patricia (US EPA REGION 9), R01: Burke, Nadiahollan (US EPA REGION 9), R01: Hale, Elly (US EPA REGION 10), R01: Eskelsen, Joann (US EPA), R01: Stankowski, Laura (US EPA REGION 6), R01: Koch, Kristine (US EPA REGION 10), R01:	EML / Email	054-REMOVAL/0541-Removal Responses/02.01-CORRESPONDENCE (REMOVAL RESPONSE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/628170
628172	EMAIL REQUESTING INFORMATION ON SECANT PILE WALLS (EMAIL HISTORY ATTACHED)	8/15/2018	2	R01: Millan-ramos, Gerardo (US EPA REGION 1)	R01: Barth, Edwin (US EPA - HAZARDOUS WASTE ENGINEERING RESEARCH LABORATORY)	EML / Email	054-REMOVAL/0541-Removal Responses/02.01-CORRESPONDENCE (REMOVAL RESPONSE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/628172
628174	EMAIL REGARDING TECHNICAL INFORMATION ON SECANT WALLS VERSUS SLURRY WALLS (CURRENT PRACTICE DOCUMENTS ATTACHED)	8/14/2018	613	R01: Barth, Edwin (US EPA - HAZARDOUS WASTE ENGINEERING RESEARCH LABORATORY)	R01: Millan-ramos, Gerardo (US EPA REGION 1)	EML / Email	054-REMOVAL/0541-Removal Responses/02.01-CORRESPONDENCE (REMOVAL RESPONSE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/628174
628176	EMAIL REGARDING USE OF SECANT WALLS AT SUPERFUND SITES (EMAIL HISTORY ATTACHED)	8/13/2018	3	R01: Szaro, Jan (US EPA REGION 1)	R01: Millan-ramos, Gerardo (US EPA REGION 1), R01: Barth, Edwin (US EPA - HAZARDOUS WASTE ENGINEERING RESEARCH LABORATORY)	EML / Email	054-REMOVAL/0541-Removal Responses/02.01-CORRESPONDENCE (REMOVAL RESPONSE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/628176
629384	PUBLIC COMMENT ON ON ENGINEERING EVALUATION / COST ANALYSIS (EE/CA) RECEIVED ON SUPERFUND WEBSITE, ALSO SUBMITTED AS LETTER TO THE EDITOR OF NASHUA TELEGRAPH (EMAIL TRANSMITTAL ATTACHED)	8/13/2018	2	R01: Solomon, Harold (UNIVERSAL ENVIRONMENTAL TECHNOLOGIES)	R01: (US EPA)	ROC / Record of Communication	054-REMOVAL/0541-Removal Responses/02.02-REMOVAL RESPONSE REPORTS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/629384
628178	EMAIL REGARDING USE OF SECANT WALLS AT SUPERFUND SITES (EMAIL HISTORY ATTACHED)	8/9/2018	3	R01: Millan-ramos, Gerardo (US EPA REGION 1)	R01: Barth, Edwin (US EPA - HAZARDOUS WASTE ENGINEERING RESEARCH LABORATORY), R01: Szaro, Jan (US EPA REGION 1)	EML / Email	054-REMOVAL/0541-Removal Responses/02.01-CORRESPONDENCE (REMOVAL RESPONSE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/628178
628168	EMAIL REGARDING PUBLIC COMMENT ON DRAFT ENGINEERING EVALUATION / COST ANALYSIS (EE/CA) AMENDMENT	8/7/2018	2	R01: Robinson, Rhiannon (NASHUA (NH) RESIDENT)	R01: Millan-ramos, Gerardo (US EPA REGION 1)	EML / Email	054-REMOVAL/0541-Removal Responses/02.02-REMOVAL RESPONSE REPORTS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/628168
628147	LETTER REGARDING INITIATION OF SECTION 106 CONSULTATION	8/1/2018	87	R01: Millan-ramos, Gerardo (US EPA REGION 1)	R01: Muzzey, Elizabeth H (NEW HAMPSHIRE STATE HISTORIC PRESERVATION OFFICE)	LTR / Letter	053-REMEDIAL/0531-Remedy Characterization/16.01-CORRESPONDENCE (NATURAL RESOURCE TRUSTEE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/628147
628166	PUBLIC COMMENT ON DRAFT ENGINEERING EVALUATION / COST ANALYSIS (EE/CA) AMENDMENT - LETTER TO THE EDITOR OF THE NASHUA TELEGRAPH (EMAIL FORWARDING ATTACHED)	7/31/2018	2	R01: Solomon, Harold (UNIVERSAL ENVIRONMENTAL TECHNOLOGIES)	R01: (US EPA), R01: (NASHUA TELEGRAPH)	EML / Email	054-REMOVAL/0541-Removal Responses/02.02-REMOVAL RESPONSE REPORTS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/628166
628164	EMAIL REGARDING PUBLIC COMMENT ON DRAFT ENGINEERING EVALUATION / COST ANALYSIS (EE/CA) AMENDMENT - USE OF SECANT WALLS TO HOLD BACK GROUND WATER	7/27/2018	5	R01: Joe, Masiello (NASHUA (NH) RESIDENT)	R01: Millan-ramos, Gerardo (US EPA REGION 1)	EML / Email	054-REMOVAL/0541-Removal Responses/02.02-REMOVAL RESPONSE REPORTS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/628164
628128	NEWS ARTICLE: NASHUA RESIDENTS WANT MORE CLEANUP AT TOXIC WASTE SITE TAPPED FOR REDEVELOPMENT	7/26/2018	5	R01: Ropiek, Annie (NEW HAMPSHIRE PUBLIC RADIO)		PUB / Publication	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.03-NEWS CLIPPINGS/PRESS RELEASES	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/628128
628131	NEWS ARTICLE: RESIDENTS WEIGH IN ON EPA OFFICALS' PLANS FOR DECONTAMINATING MOHAWK TANNERY SITE	7/26/2018	4	R01: Shalhoup, Dean (NASHUA TELEGRAPH)		PUB / Publication	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.03-NEWS CLIPPINGS/PRESS RELEASES	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/628131
628162	EMAIL REGARDING PUBLIC COMMENT ON DRAFT ENGINEERING EVALUATION / COST ANALYSIS (EE/CA) AMENDMENT	7/26/2018	2	R01: Laws, Brandon, Michael (NASHUA (NH) CITY OF)	R01: Millan-ramos, Gerardo (US EPA REGION 1), R01: Dumville, Kelsey (US EPA REGION 1)	EML / Email	054-REMOVAL/0541-Removal Responses/02.02-REMOVAL RESPONSE REPORTS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/628162
628127	PRESENTATION: MOHAWK TANNERY INFORMATION MEETING	7/25/2018	34	R01: Millan-ramos, Gerardo (US EPA REGION 1)		MTG / Meeting Document	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.04-PUBLIC MEETINGS/HEARINGS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/628127
628130	NEWS ARTICLE: NASHUA RESIDENTS VOICE CONCERN OVER PLANS FOR MOHAWK TANNERY SITE (VIDEO TRANSCRIPT ATTACHED)	7/25/2018	3	R01: Moran, Jess (WMUR-TV)		PUB / Publication	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.03-NEWS CLIPPINGS/PRESS RELEASES	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/628130
628194	TRANSCRIPT OF PUBLIC MEETING AND HEARING ON ENGINEERING EVALUATION / COST ANALYSIS (EE/CA)	7/25/2018	124	R01: Dean, Deanna, J (DUFFY & MCKENNA COURT REPORTERS)		MTG / Meeting Document	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.04-PUBLIC MEETINGS/HEARINGS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/628194
628122	MEDIA ADVISORY: EPA HOSTS PUBLIC MEETING ON 07/25/2018 ON MOHAWK TANNERY SUPERFUND SITE CLEANUP PLAN	7/24/2018	1	R01: (US EPA REGION 1)		PUB / Publication	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.03-NEWS CLIPPINGS/PRESS RELEASES	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/628122

628129	NEWS RELEASE: NASHUA RESIDENTS TO SPEAK ON MOHAWK TANNERY CLEANUP WEDNESDAY AT EPA MEETING	7/24/2018	2	R01: (NEW HAMPSHIRE CENTER FOR PUBLIC INTEREST JOURNALISM)		PUB / Publication	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.03-NEWS CLIPPINGS/PRESS RELEASES	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/628129
628108	NEWS ARTICLE: EPA ISSUES CLEANUP RECOMMENDATION FOR NASHUA'S MOHAWK TANNERY SITE	7/10/2018	2	R01: Ropiek, Annie (NEW HAMPSHIRE PUBLIC RADIO)		PUB / Publication	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.03-NEWS CLIPPINGS/PRESS RELEASES	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/628108
627497	PUBLIC NOTICE: US EPA ANNOUNCES A 30-DAY PUBLIC COMMENT PERIOD ON AN ENGINEERING EVALUATION / COST ANALYSIS (EE/CA) AMENDMENT	7/9/2018	1	R01: (US EPA REGION 1)		PUB / Publication	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.03-NEWS CLIPPINGS/PRESS RELEASES	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/627497
627478	FACT SHEET: ENGINEERING EVALUATION / COST ANALYSIS (EE/CA) AMENDMENT	7/1/2018	7	R01: (US EPA REGION 1)		PUB / Publication	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.05-FACT SHEETS/INFORMATION UPDATES	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/627478
627479	ENGINEERING EVALUATION / COST ANALYSIS (EE/CA) REPORT AMENDMENT	7/1/2018	1021	R01: (US EPA REGION 1)		RPT / Report	054-REMOVAL/0541-Removal Responses/02.02-REMOVAL RESPONSE REPORTS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/627479
627489	POSTCARD ANNOUNCING PUBLIC MEETING AND COMMENT PERIOD ON RECOMMENDED REMOVAL ACTION	7/1/2018	2	R01: (US EPA REGION 1)		PUB / Publication	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.05-FACT SHEETS/INFORMATION UPDATES	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/627489
627486	REMOVAL ALTERNATIVES UPDATE TECHNICAL MEMORANDUM	3/30/2018	59	R01: Mcgrath, Denis (KGSNE JV LLC)	R01: Millan-ramos, Gerardo (US EPA REGION 1)	MEMO / Memorandum	054-REMOVAL/0541-Removal Responses/02.02-REMOVAL RESPONSE REPORTS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/627486
627414	REMEDIAL ACTION (RA) PLAN (DRAFT 1.0)	11/14/2016	159	R01: (GEOINSIGHT INC)	R01: (NASHUA (NH) CITY OF), R01: (MELTON ASSOCIATES, LLC)	WP / Work Plan	053-REMEDIAL/0533-Remedial Action/07.06-WORK PLANS & PROGRESS REPORTS (RA)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/627414
547883	TECHNICAL MEMORANDUM (TM) - SCREENING LEVEL HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT (ERA) OF SOUTHERN PARCEL	9/26/2013	110	R01: Sugatt, Richard (US EPA REGION 1)	R01: Millan-ramos, Gerardo (US EPA REGION 1)	MEMO / Memorandum	053-REMEDIAL/0531-Remedy Characterization/03.07-WORK PLANS & PROGRESS REPORTS (RI)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/4547883
627415	SAMPLING AND ANALYSIS PLAN (SAP) - SOUTHERN PARCEL STUDY	9/28/2012	220	R01: (SANBORN HEAD & ASSOCIATES INC)	R01: (NH DEPT OF ENVIRONMENTAL SERVICES (NHDES))	WP / Work Plan	054-REMOVAL/0541-Removal Responses/02.03-SAMPLING & ANALYSIS DATA (REMOVAL RESPONSE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/627415
457975	FINAL REPORT: SOLIDIFICATION/STABLIZATION BENCH-SCALE TREATABILITY STUDY	12/1/2009	59	R01: (SHAW ENVIRONMENTAL INC)	R01: (US EPA)	RPT / Report	053-REMEDIAL/0531-Remedy Characterization/04.04-INTERIM DELIVERABLES (FS)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/457975
190041	SUPERFUND REMOVAL GUIDANCE FOR PREPARING ACTION MEMORANDA	9/1/2009	75			RPT / Report	058-PROGRAM SUPPORT/0583-Regulatory Development/B8.1-Regulations, Standards & Guidelines	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/11/190041
535587	POLLUTION REPORT (POLREP) NO. 1, FIRST AND FINAL - MOHAWK TANNERY - MOBILIZATION DATE 10/06/2007, DEMOBILIZATION DATE 10/08/2007	10/15/2007	1	R01: (US EPA REGION 1)		RPT / Report	054-REMOVAL/0541-Removal Responses/02.04-POLLUTION REPORTS (POLREPS)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/535587
70416	SETTLEMENT AGREEMENT - CHESTER REALTY TRUST, WARREN KEAN (INCLUDES APPENDIX A - C & ESCROW AGREEMENT)	4/28/2006	39	R01: (US EPA REGION 1)		LGL / Legal Instrument	052-ENFORCEMENT/0522-Negotiations/10.06-PRP SPECIFIC NEGOTIATIONS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/70416
237052	DRAFT FINAL REMEDIAL INVESTIGATION, VOLUME 1: TEXT, FIGURES AND TABLES	6/1/2005	274	R01: (SANBORN HEAD & ASSOCIATES INC)	R01: (NH DEPT OF ENVIRONMENTAL SERVICES (NHDES))	RPT / Report	053-REMEDIAL/0531-Remedy Characterization/03.06-REMEDIAL INVESTIGATION REPORTS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/237052
237053	DRAFT FINAL REMEDIAL INVESTIGATION, VOLUME 2: APPENDICES	6/1/2005	998	R01: (SANBORN HEAD & ASSOCIATES INC)	R01: (NH DEPT OF ENVIRONMENTAL SERVICES (NHDES))	RPT / Report	053-REMEDIAL/0531-Remedy Characterization/03.06-REMEDIAL INVESTIGATION REPORTS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/237053
35976	TRANSMITTAL LETTER TO FIELD REPOSITORY FOR THE MOHAWK TANNERY NON-TIME-CRITICAL (NTCRA) REMOVAL ACTION ADMINISTRATIVE RECORD	11/1/2002	1	R01: (US EPA REGION 1)		LTR / Letter	056-SITE SUPPORT/0565-Records Management/20.00-RECORDS MANAGEMENT	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/35976
33578	INDEX FOR MOHAWK TANNERY NON-TIME-CRITICAL REMOVAL ACTION ADMINISTRATIVE RECORD	10/29/2002	10			ARI / Administrative Record Index	056-SITE SUPPORT/0565-Records Management/20.01-ADMINISTRATIVE RECORD INDEXES	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/33578
35785	ACTION MEMORANDUM - NON-TIME-CRITICAL REMOVAL ACTION (NTCRA)	10/29/2002	219	R01: (US EPA REGION 1)		MEMO / Memorandum	054-REMOVAL/0541-Removal Responses/02.09-ACTION MEMORANDA	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/35785
35784	HEALTH CONSULTATION, TECHNICAL ASSISTANCE, PUBLIC HEALTH EVALUATION OF THE ENGINEERING EVALUATION/COST ANALYSIS REPORT (EE/CA) [TRANSMITTAL LETTER DATED 09/25/02 IS ATTACHED]	9/12/2002	11	R01: (US AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY (ATSDR))		RPT / Report	054-REMOVAL/0541-Removal Responses/02.02-REMOVAL RESPONSE REPORTS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/35784
33269	COMMUNITY RELATIONS PLAN	7/26/2002	56	R01: (US EPA REGION 1)		WP / Work Plan	051-COMMUNITY INVOLVEMENT/0513-Community Involvement Activities/13.02-COMMUNITY RELATIONS PLANS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/33269
33270	ANNOUNCEMENT OF PUBLIC MEETING AND COMMENT PERIOD ON CLEANUP ALTERNATIVE AND ENGINEERING EVALUATION/COST ANALYSIS	7/26/2002	1	R01: (US EPA REGION 1)		PUB / Publication	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.04-PUBLIC MEETINGS/HEARINGS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/33270
33402	EPA ENVIRONMENTAL NEWS - EPA ANNOUNCES PUBLIC COMMENT PERIOD AND PUBLIC MEETINGS ON PREFERRED CLEANUP OPTION FOR CONTAMINATED WASTE AREAS AT MOHAWK TANNERY SITE	7/26/2002	2	R01: (US EPA REGION 1)		PUB / Publication	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.03-NEWS CLIPPINGS/PRESS RELEASES	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/33402
32981	ENGINEERING EVALUATION/COST ANALYSIS (EE/CA)-MOHAWK TANNERY	7/1/2002	660	R01: (TETRA TECH NUS INC)		RPT / Report	054-REMOVAL/0541-Removal Responses/02.02-REMOVAL RESPONSE REPORTS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32981
33212	MOHAWK TANNERY SITE FACT SHEET - EPA PLANS CLEANUP FOR WASTE DISPOSAL AREAS	7/1/2002	9	R01: (US EPA REGION 1)		PUB / Publication	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.05-FACT SHEETS/INFORMATION UPDATES	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/33212
32963	RESPONSE TO REQUEST FOR CLARIFICATION OF CORPS OF ENGINEERS JURISDICTION OF WASTE DISPOSAL AREAS AT SITE	6/14/2002	2	R01: Killoy, David H (US ARMY CORPS OF ENGINEERS)	R01: Handler, Neil E (US EPA REGION 1)	LTR / Letter	054-REMOVAL/0541-Removal Responses/02.01-CORRESPONDENCE (REMOVAL RESPONSE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32963
32972	SUMMARY OF PHONE CONVERSATION WITH COLLIS ADAMS, NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICE, WETLAND DIVISION	6/13/2002	1	R01: Handler, Neil E (US EPA REGION 1)		FRM / Form	054-REMOVAL/0541-Removal Responses/02.01-CORRESPONDENCE (REMOVAL RESPONSE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32972
32962	REQUEST FOR CLARIFICATION OF CORPS OF ENGINEERS JURISDICTION OF WASTE DISPOSAL AREAS AT SITE	5/30/2002	1	R01: Handler, Neil E (US EPA REGION 1)	R01: Killoy, David H (US ARMY CORPS OF ENGINEERS)	LTR / Letter	054-REMOVAL/0541-Removal Responses/02.01-CORRESPONDENCE (REMOVAL RESPONSE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32962

33003	THE TELEGRAPH ONLINE - LOCAL AND REGINAL NEW BRIEFS - NASHUA: SUNUNU CALLS FOR SUPERFUND LISTING OF DEFUNCT TANNERY	4/14/2002	3			PUB / Publication	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.03-NEWS CLIPPINGS/PRESS RELEASES	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/33003
33002	THE TELEGRAPH ONLINE - SMITH REQUESTS $12.7M FOR CITY CLEANUP PROJECTS	4/11/2002	2	R01: Nelson, Andrew (NASHUA (NH) TELEGRAPH)		PUB / Publication	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.03-NEWS CLIPPINGS/PRESS RELEASES	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/33002
32960	RESPONSE TO EPA LETTER ON THE MANAGEMENT OF EXCAVATED MATERIAL DATED MARCH 20, 2002	4/10/2002	2	R01: Bowen, David C (NH DEPT OF ENVIRONMENTAL SERVICES (NHDES))	R01: Handler, Neil E (US EPA REGION 1)	LTR / Letter	054-REMOVAL/0541-Removal Responses/02.01-CORRESPONDENCE (REMOVAL RESPONSE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32960
32979	COMMENTS REGARDING JURISDICTION OF US DEPT OF INTERIOR AND DEPT OF COMMERCE, AND NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA) AT SITE AND REQUEST FOR COORDINATION OF CONTINUING INVESTIGATIONS	4/10/2002	5	R01: Meaney, Patricia L (US EPA REGION 1)	R01: Finkelstein, Kenneth (US NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION), R01: Raddant, Andrew (US DEPT OF INTERIOR)	LTR / Letter	053-REMEDIAL/0531-Remedy Characterization/16.01-CORRESPONDENCE (NATURAL RESOURCE TRUSTEE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32979
33004	VALLEY NEWS: SHAHEEN SEES HARM TO TOXIC SITE REPAIR IN BUSH BUDGET PLAN, GOVERNOR ASKS SMITH, BASS, SUNUNU TO ENSURE MONEY FOR SUPERFUND PROGRAM	3/26/2002	1			PUB / Publication	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.03-NEWS CLIPPINGS/PRESS RELEASES	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/33004
32961	PROPOSED REGULATORY APPROACH FOR MANAGING EXCAVATED MATERIAL AT SITE	3/20/2002	5	R01: Handler, Neil E (US EPA REGION 1)	R01: Splendore, John L (NH DEPT OF ENVIRONMENTAL SERVICES (NHDES))	LTR / Letter	054-REMOVAL/0541-Removal Responses/02.01-CORRESPONDENCE (REMOVAL RESPONSE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32961
33104	LABORATORY REPORT - TOTAL RECOVERABLE METALS IN WATER	3/7/2002	8	R01: Andrade, William J (US EPA REGION 1)	R01: Granz, Daniel S (US EPA REGION 1)	RPT / Report	054-REMOVAL/0541-Removal Responses/02.03-SAMPLING & ANALYSIS DATA (REMOVAL RESPONSE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/33104
33103	LABORATORY REPORT - DISSOLVED METALS IN WATER BY ICP/MS	3/6/2002	6	R01: Andrade, William J (US EPA REGION 1)	R01: Granz, Daniel S (US EPA REGION 1)	RPT / Report	054-REMOVAL/0541-Removal Responses/02.03-SAMPLING & ANALYSIS DATA (REMOVAL RESPONSE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/33103
33102	LABORATORY REPORT - PESTICIDES AND PCBS IN WATER	3/4/2002	7	R01: Andrade, William J (US EPA REGION 1)	R01: Granz, Daniel S (US EPA REGION 1)	RPT / Report	054-REMOVAL/0541-Removal Responses/02.03-SAMPLING & ANALYSIS DATA (REMOVAL RESPONSE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/33102
33101	LABORATORY REPORT - SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS	2/26/2002	9	R01: Andrade, William J (US EPA REGION 1)	R01: Granz, Daniel S (US EPA REGION 1)	RPT / Report	054-REMOVAL/0541-Removal Responses/02.03-SAMPLING & ANALYSIS DATA (REMOVAL RESPONSE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/33101
32958	SITE SLUDGE DISPOSAL AND STATUS OF THE NASHUA FOUR HILLS UNLINED MSW LANDFILL CLOSURE	2/20/2002	2	R01: Regan, John (NH DEPT OF ENVIRONMENTAL SERVICES (NHDES))	R01: Reine, Richard (NASHUA (NH) CITY OF)	LTR / Letter	054-REMOVAL/0541-Removal Responses/02.01-CORRESPONDENCE (REMOVAL RESPONSE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32985
33100	ANALYSIS DATA ON WATER SAMPLES COLLECTED FOR VOLATILE ORGANIC COMPOUNDS	2/11/2002	14	R01: Granz, Daniel S (US EPA REGION 1)	R01: Handler, Neil E (US EPA REGION 1)	MEMO / Memorandum	054-REMOVAL/0541-Removal Responses/02.03-SAMPLING & ANALYSIS DATA (REMOVAL RESPONSE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/33100
32994	COMMENTS REGARDING STATUS OF OPERATIONS IN THE NASHUA MSW LANDFILL AND THE CITY'S PLANS FOR ONGOING OPERATIONS	2/6/2002	2	R01: Reine, Richard (NASHUA (NH) CITY OF)	R01: Sills, Michael A (NH WATER SUPPLY AND POLLUTION CONTROL COMMISSION)	LTR / Letter	054-REMOVAL/0541-Removal Responses/02.01-CORRESPONDENCE (REMOVAL RESPONSE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32994
33099	TIER III DATA VALIDATION - DIOXIN/FURAN	1/4/2002	21	R01: Stodola, Steven (US EPA REGION 1)	R01: Clark, Christine (US EPA REGION 1)	ADD / Analytical Data Document	054-REMOVAL/0541-Removal Responses/02.03-SAMPLING & ANALYSIS DATA (REMOVAL RESPONSE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/33099
33098	TIER III DATA VALIDATION - DIOXIN/FURAN	12/21/2001	21	R01: Stodola, Steven (US EPA REGION 1)	R01: Clark, Christine (US EPA REGION 1)	ADD / Analytical Data Document	054-REMOVAL/0541-Removal Responses/02.03-SAMPLING & ANALYSIS DATA (REMOVAL RESPONSE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/33098
33079	MOHAWK TANNERY SITE UPDATE - NO. 3	12/1/2001	2	R01: (US EPA REGION 1)		PUB / Publication	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.05-FACT SHEETS/INFORMATION UPDATES	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/33079
33096	TIER II DATA VALIDATION - AIR TOXICS FROM HEADSPACE AIR GENERATED FROM SLUDGE SAMPLE	11/29/2001	11	R01: Wielandt, Dan (TETRA TECH NUS INC), R01: Guzman, Lucy (TETRA TECH NUS INC)	R01: Clark, Christine (US EPA REGION 1)	ADD / Analytical Data Document	054-REMOVAL/0541-Removal Responses/02.03-SAMPLING & ANALYSIS DATA (REMOVAL RESPONSE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/33096
33097	TIER III DATA VALIDATION - DIOXIN/FURAN	11/28/2001	19	R01: Stodola, Steven (US EPA REGION 1)	R01: Clark, Christine (US EPA REGION 1)	ADD / Analytical Data Document	054-REMOVAL/0541-Removal Responses/02.03-SAMPLING & ANALYSIS DATA (REMOVAL RESPONSE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/33097
33095	TIER II INORGANIC DATA VALIDATION - SLUDGE SAMPLES	11/26/2001	10	R01: Franke, Ann L (TETRA TECH NUS INC), R01: Guzman, Lucy (TETRA TECH NUS INC)	R01: Clark, Christine (US EPA REGION 1)	ADD / Analytical Data Document	054-REMOVAL/0541-Removal Responses/02.03-SAMPLING & ANALYSIS DATA (REMOVAL RESPONSE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/33095
33094	TIER II DATA VALIDATION - SLUDGE AND SOIL SAMPLES	11/20/2001	52	R01: Guzman, Lucy (TETRA TECH NUS INC)	R01: Clark, Christine (US EPA REGION 1)	ADD / Analytical Data Document	054-REMOVAL/0541-Removal Responses/02.03-SAMPLING & ANALYSIS DATA (REMOVAL RESPONSE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/33094
33093	TIER II DATA VALIDATION - SLUDGE SAMPLES	11/19/2001	36	R01: Wielandt, Dan (TETRA TECH NUS INC), R01: Guzman, Lucy (TETRA TECH NUS INC)	R01: Clark, Christine (US EPA REGION 1)	ADD / Analytical Data Document	054-REMOVAL/0541-Removal Responses/02.03-SAMPLING & ANALYSIS DATA (REMOVAL RESPONSE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/33093
33090	TIER II INORGANIC DATA VALIDATION - SLUDGE AND SOIL SAMPLES	11/15/2001	13	R01: Guzman, Lucy (TETRA TECH NUS INC), R01: Dimattei, Paula L (TETRA TECH NUS INC)	R01: Clark, Christine (US EPA REGION 1)	ADD / Analytical Data Document	054-REMOVAL/0541-Removal Responses/02.03-SAMPLING & ANALYSIS DATA (REMOVAL RESPONSE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/33090
33091	TIER II INORGANIC DATA VALIDATION - SLUDGE AND SOIL SAMPLES	11/15/2001	11	R01: Guzman, Lucy (TETRA TECH NUS INC), R01: Dimattei, Paula L (TETRA TECH NUS INC)	R01: Clark, Christine (US EPA REGION 1)	ADD / Analytical Data Document	054-REMOVAL/0541-Removal Responses/02.03-SAMPLING & ANALYSIS DATA (REMOVAL RESPONSE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/33091
33092	TIER II INORGANIC DATA VALIDATION - SLUDGE AND SOIL SAMPLES	11/15/2001	8	R01: Franke, Ann L (TETRA TECH NUS INC), R01: Guzman, Lucy (TETRA TECH NUS INC)	R01: Clark, Christine (US EPA REGION 1)	ADD / Analytical Data Document	054-REMOVAL/0541-Removal Responses/02.03-SAMPLING & ANALYSIS DATA (REMOVAL RESPONSE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/33092
33089	TIER II DATA VALIDATION - SLUDGE AND SOIL SAMPLES	11/13/2001	32	R01: Wielandt, Dan (TETRA TECH NUS INC), R01: Guzman, Lucy (TETRA TECH NUS INC)	R01: Clark, Christine (US EPA REGION 1)	ADD / Analytical Data Document	054-REMOVAL/0541-Removal Responses/02.03-SAMPLING & ANALYSIS DATA (REMOVAL RESPONSE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/33089
33086	TIER II INORGANIC DATA VALIDATION - SLUDGE AND SOIL SAMPLES	11/12/2001	12	R01: Franke, Ann L (TETRA TECH NUS INC), R01: Guzman, Lucy (TETRA TECH NUS INC)	R01: Clark, Christine (US EPA REGION 1)	ADD / Analytical Data Document	054-REMOVAL/0541-Removal Responses/02.03-SAMPLING & ANALYSIS DATA (REMOVAL RESPONSE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/33086
33087	TIER II INORGANIC DATA VALIDATION - SLUDGE AND SOIL SAMPLES	11/12/2001	11	R01: Franke, Ann L (TETRA TECH NUS INC), R01: Guzman, Lucy (TETRA TECH NUS INC)	R01: Clark, Christine (US EPA REGION 1)	ADD / Analytical Data Document	054-REMOVAL/0541-Removal Responses/02.03-SAMPLING & ANALYSIS DATA (REMOVAL RESPONSE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/33087

33088	TIER II DATA VALIDATION - SLUDGE AND SOIL SAMPLES	11/12/2001	62	R01: Wielandt, Dan (TETRA TECH NUS INC), R01: Guzman, Lucy (TETRA TECH NUS INC)	R01: Clark, Christine (US EPA REGION 1)	ADD / Analytical Data Document	054-REMOVAL/0541-Removal Responses/02.03-SAMPLING & ANALYSIS DATA (REMOVAL RESPONSE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/33088
33084	TIER II DATA VALIDATION - AIR TOXICS - VOLATILES/SULFER COMPOUNDS	10/15/2001	10	R01: Wielandt, Dan (TETRA TECH NUS INC), R01: Guzman, Lucy (TETRA TECH NUS INC)	R01: Clark, Christine (US EPA REGION 1)	ADD / Analytical Data Document	054-REMOVAL/0541-Removal Responses/02.03-SAMPLING & ANALYSIS DATA (REMOVAL RESPONSE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/33084
32973	SUMMARY OF PHONE CONVERSATION WITH ELLEN BELLIO, WASTE MANAGEMENT TURNKEY DISPOSAL FACILITY	9/14/2001	2	R01: Handler, Neil E (US EPA REGION 1)		FRM / Form	054-REMOVAL/0541-Removal Responses/02.01-CORRESPONDENCE (REMOVAL RESPONSE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32973
32974	SUMMARY OF PHONE CONVERSATION WITH KEN VERHELLE, WASTE MANAGEMENT TURNKEY DISPOSAL FACILITY	9/14/2001	1	R01: Handler, Neil E (US EPA REGION 1)		FRM / Form	054-REMOVAL/0541-Removal Responses/02.01-CORRESPONDENCE (REMOVAL RESPONSE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32974
32975	SUMMARY OF PHONE CONVERSATION WITH MIKE MCCLOSKEY, NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES	9/14/2001	2	R01: Handler, Neil E (US EPA REGION 1)		FRM / Form	054-REMOVAL/0541-Removal Responses/02.01-CORRESPONDENCE (REMOVAL RESPONSE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32975
32917	PUBLIC HEALTH ASSESSMENT FOR SITE (09/13/01 COVER LETTER IS ATTACHED)	8/22/2001	104	R01: (US DEPT OF HEALTH AND HUMAN SERVICES), R01: (US AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY (ATSDR))		RPT / Report	054-REMOVAL/0541-Removal Responses/02.02-REMOVAL RESPONSE REPORTS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32917
33000	THE TELEGRAPH ONLINE - BEST TO STUDY FULL IMPACT OF TANNERY WASTE TRANSFER	8/21/2001	1			PUB / Publication	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.03-NEWS CLIPPINGS/PRESS RELEASES	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/33000
33001	THE TELEGRAPH ONLINE - NO HEALTH HAZARD FOUND AT TANNERY	8/21/2001	2	R01: Mckeon, Albert (NASHUA (NH) TELEGRAPH)		PUB / Publication	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.03-NEWS CLIPPINGS/PRESS RELEASES	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/33001
32999	THE TELEGRAPH ONLINE - BACK TO FUTURE? AS IDEA OF DUMPING TANNERY SLUDGE IN LANDFILL RESURFACES, PROTESTERS FROM 1981 RENEW OLD QUESTIONS	8/18/2001	2	R01: Bruce, Corene Dee (NASHUA (NH) TELEGRAPH)		PUB / Publication	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.03-NEWS CLIPPINGS/PRESS RELEASES	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32999
32914	HEALTH AND SAFETY PLAN, ENGINEERING EVAUATION/COST ANALYSES FOR SITE	8/1/2001	279	R01: (TETRA TECH NUS INC)	R01: (US EPA REGION 1)	RPT / Report	054-REMOVAL/0541-Removal Responses/02.02-REMOVAL RESPONSE REPORTS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32914
32971	AUGUST ACTIVITIES AT THE MOHAWK TANNERY SITE	8/1/2001	1	R01: (US EPA REGION 1)		PUB / Publication	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.03-NEWS CLIPPINGS/PRESS RELEASES	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32971
32998	THE TELEGRAPH ONLINE - CITY MAY POSTPONE LANDFILL CLOSING	6/14/2001	2	R01: Bruce, Corene Dee (NASHUA (NH) TELEGRAPH)		PUB / Publication	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.03-NEWS CLIPPINGS/PRESS RELEASES	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32998
32893	QUALITY ASSURANCE PROJECT PLAN (QAPP), ENGINEERING EVALUATION/COST ANALYSIS	6/1/2001	370	R01: (TETRA TECH NUS INC)	R01: (US EPA REGION 1)	WP / Work Plan	054-REMOVAL/0541-Removal Responses/02.02-REMOVAL RESPONSE REPORTS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32893
32897	QUALITY ASSURANCE PROJECT PLAN (QAPP), ENGINEERING EVALUATION/COST ANALYSIS (PART 2)	6/1/2001	412	R01: (TETRA TECH NUS INC)	R01: (US EPA REGION 1)	WP / Work Plan	054-REMOVAL/0541-Removal Responses/02.02-REMOVAL RESPONSE REPORTS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32897
32976	SUMMARY OF PHONE CONVERSATION WITH BRAD PERKINS, CENTER FOR DISEASE CONTROL (05/17/01 AND 05/16/01 EMAIL CORRESPONDENCE ARE ATTACHED)	5/16/2001	4	R01: Handler, Neil E (US EPA REGION 1)		FRM / Form	054-REMOVAL/0541-Removal Responses/02.01-CORRESPONDENCE (REMOVAL RESPONSE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32976
32997	THE TELEGRAPH ONLINE - TANNERY NO THREAT TO HEALTH, RESIDENTS TOLD	5/3/2001	2	R01: West, Tom (NASHUA (NH) TELEGRAPH)		PUB / Publication	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.03-NEWS CLIPPINGS/PRESS RELEASES	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32997
33080	DRAFT FINAL WORK PLAN - BASE PERIOD (THROUGH 8/28/01)	5/1/2001	34	R01: (TETRA TECH NUS INC)		RPT / Report	054-REMOVAL/0541-Removal Responses/02.06-WORK PLANS & PROGRESS REPORTS (REMOVAL RESPONSE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/33080
33081	DRAFT WORK PLAN - OPTION PERIOD	5/1/2001	37	R01: (TETRA TECH NUS INC)		RPT / Report	054-REMOVAL/0541-Removal Responses/02.06-WORK PLANS & PROGRESS REPORTS (REMOVAL RESPONSE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/33081
32996	THE TELEGRAPH ONLINE - STATE: MOHAWK SITE SAFE	4/13/2001	2	R01: Bruce, Corene Dee (NASHUA (NH) TELEGRAPH)		PUB / Publication	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.03-NEWS CLIPPINGS/PRESS RELEASES	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32996
33082	TIER III DATA VALIDATION - DIOXIN/FURAN: 7 SLUDGE SAMPLES	4/9/2001	73	R01: Macri, Louis (LOCKHEED ENGINEERING AND SCIENCES CO), R01: Baca, Maria E (LOCKHEED ENGINEERING AND SCIENCES CO)	R01: Clark, Christine (US EPA REGION 1)	ADD / Analytical Data Document	054-REMOVAL/0541-Removal Responses/02.03-SAMPLING & ANALYSIS DATA (REMOVAL RESPONSE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/33082
32957	TOPICS FOR DISCUSSION AT PROPOSED MEETING WITH THE CITY, EPA, AND NHDES, DES # 198404002	4/4/2001	3	R01: Regan, John (NH DEPT OF ENVIRONMENTAL SERVICES (NHDES))	R01: Hawk, Roger (NASHUA (NH) CITY OF)	LTR / Letter	054-REMOVAL/0541-Removal Responses/02.01-CORRESPONDENCE (REMOVAL RESPONSE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32957
32900	REMOVAL PROGRAM AFTER ACTION REPORT FOR SITE FROM OCTOBER 2, 2000 THROUGH JANUARY 26, 2001	4/1/2001	58	R01: (ROY F WESTON INC)	R01: (US EPA REGION 1)	RPT / Report	054-REMOVAL/0541-Removal Responses/02.02-REMOVAL RESPONSE REPORTS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32900
32982	REVIEW OF PRELIMINARY ECOLOGICAL RISK EVALUATION REPORT AND GENERAL RECOMMENDATIONS FOR SAMPLING AND ANALYSIS TO SUPPORT ENGINEERING EVALUATION/COST ANALYSIS (EE/CA) AND REMEDIAL INVESTIGATION/FEASIBILITY STUDY (RI/FS)	3/26/2001	19	R01: Sugatt, Richard (US EPA REGION 1)	R01: Handler, Neil E (US EPA REGION 1)	MEMO / Memorandum	054-REMOVAL/0541-Removal Responses/02.02-REMOVAL RESPONSE REPORTS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32982
32978	HEALTH CONSULTATION EVALUATION OF SLUDGE IN AREAS I AND II	3/13/2001	14	R01: (NH DEPT OF HEALTH & HUMAN SERVICES)		LTR / Letter	054-REMOVAL/0541-Removal Responses/02.02-REMOVAL RESPONSE REPORTS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32978
270141	POLLUTION REPORT (POLREP) NO. 3, FINAL - MOHAWK TANNERY - DEMOBILIZATION DATE 01/23/2001	2/27/2001	7	R01: (US EPA REGION 1)		RPT / Report	054-REMOVAL/0541-Removal Responses/02.04-POLLUTION REPORTS (POLREPS)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/270141
32995	THE TELEGRAPH ONLINE - MORE TESTS NEEDED FOR TANNERY	2/23/2001	3	R01: West, Tom (NASHUA (NH) TELEGRAPH)		PUB / Publication	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.03-NEWS CLIPPINGS/PRESS RELEASES	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32995
32959	HAZARDOUS WASTE DETERMINATION FOR SLUDGE AT SITE (TRANSMITTAL LETTER DATED 2/27/01 ATTACHED)	2/20/2001	20	R01: Bowen, David C (NH DEPT OF ENVIRONMENTAL SERVICES (NHDES))	R01: Regan, John (NH DEPT OF ENVIRONMENTAL SERVICES (NHDES))	MEMO / Memorandum	054-REMOVAL/0541-Removal Responses/02.03-SAMPLING & ANALYSIS DATA (REMOVAL RESPONSE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32959

32992	THE TELEGRAPH ONLINE - NASHUA FROM THE INSIDE: MOHAWK MEETING	2/17/2001	3	R01: Nelson, Andrew (NASHUA (NH) TELEGRAPH), R01: Bruce, Corene Dee (NASHUA (NH) TELEGRAPH)		PUB / Publication	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.03-NEWS CLIPPINGS/PRESS RELEASES	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32992
32980	EPA ENVIRONMENTAL NEWS - EPA AND NH DES TO HOLD INFORMATIONAL MEETING ON MOHAWK TANNERY SITE	2/7/2001	2	R01: (US EPA REGION 1)		PUB / Publication	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.03-NEWS CLIPPINGS/PRESS RELEASES	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32980
32970	MOHAWK TANNERY SITE UPDATE - NO. 2	2/1/2001	3	R01: (US EPA REGION 1)		PUB / Publication	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.05-FACT SHEETS/INFORMATION UPDATES	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32970
33077	STATEMENT OF WORK FOR CONDUCTING ENGINEERING EVALUATION/COST ANALYSIS (EE/CA)	1/26/2001	34	R01: (US EPA REGION 1)		WP / Work Plan	054-REMOVAL/0541-Removal Responses/02.08-SCOPES OF WORK (REMOVAL RESPONSE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/33077
32922	PRELIMINARY SLUDGE CHARACTERIZATION INVESTIGATION - TEXT, FIGURES AND APPENDIX A	1/1/2001	344	R01: (GEOSYNTEC CONSULTANTS INC)	R01: (US EPA REGION 1)	RPT / Report	054-REMOVAL/0541-Removal Responses/02.02-REMOVAL RESPONSE REPORTS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32922
32924	PRELIMINARY SLUDGE CHARACTERIZATION INVESTIGATION - APPENDIX B	1/1/2001	318	R01: (GEOSYNTEC CONSULTANTS INC)	R01: (US EPA REGION 1)	RPT / Report	054-REMOVAL/0541-Removal Responses/02.02-REMOVAL RESPONSE REPORTS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32924
32953	PRELIMINARY SLUDGE CHARACTERIZATION INVESTIGATION - APPENDIX B CONTINUED AND APPENDIX C	1/1/2001	329	R01: (GEOSYNTEC CONSULTANTS INC)	R01: (US EPA REGION 1)	RPT / Report	054-REMOVAL/0541-Removal Responses/02.02-REMOVAL RESPONSE REPORTS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32953
270140	POLLUTION REPORT (POLREP) NO. 2 - MOHAWK TANNERY	11/8/2000	7	R01: (US EPA REGION 1)		RPT / Report	054-REMOVAL/0541-Removal Responses/02.04-POLLUTION REPORTS (POLREPS)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/270140
32968	EPA REMOVAL UPDATE MOHAWK TANNERY SITE - NO. 1	11/1/2000	2	R01: (US EPA REGION 1)		PUB / Publication	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.03-NEWS CLIPPINGS/PRESS RELEASES	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32968
32991	THE TELEGRAPH ONLINE - MOHAWK TANNERY NEIGHBORS HEAR STATE'S PLANS FOR ASBESTOS CLEANUP	10/6/2000	3	R01: Nelson, Andrew (NASHUA (NH) TELEGRAPH)		PUB / Publication	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.03-NEWS CLIPPINGS/PRESS RELEASES	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32991
32989	THE TELEGRAPH ONLINE - EPA STARTS MOHAWK TANNERY CLEANUP NEXT WEEK	10/4/2000	2	R01: Bruce, Corene Dee (NASHUA (NH) TELEGRAPH)		PUB / Publication	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.03-NEWS CLIPPINGS/PRESS RELEASES	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32989
32966	ENVIRONMENTAL NEWS - EPA TO BEGIN CLEANUP AT MOHAWK TANNERY SITE	9/27/2000	1	R01: (US EPA REGION 1)		PUB / Publication	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.03-NEWS CLIPPINGS/PRESS RELEASES	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32966
270139	POLLUTION REPORT (POLREP) NO. 1, FIRST - MOHAWK TANNERY - MOBILIZATION DATE 09/27/2000	9/27/2000	7	R01: (US EPA REGION 1)		RPT / Report	054-REMOVAL/0541-Removal Responses/02.04-POLLUTION REPORTS (POLREPS)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/270139
250840	FIRST UNILATERAL ADMINISTRATIVE ORDER (UAO) FOR REMOVAL ACTION (RA)	8/29/2000	28	R01: Meaney, Patricia L (US EPA REGION 1)	R01: Kean, Warren (CHESTER REALTY TRUST)	LGL / Legal Instrument	052-ENFORCEMENT/0522-Negotiations/10.07-EPA ADMINISTRATIVE ORDERS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/250840
32984	CONSULTATION ON DRAFT ENGINEERING EVALUATION/COST ANALYSIS (EE/CA) APPROVAL MEMO FOR SITE	6/22/2000	2	R01: Johnson, Art (US EPA REGION 1)	R01: Gonzalez, Rafael (US EPA REGION 1), R01: Reed, Larry (US EPA - OFFICE OF EMERGENCY & REMEDIAL RESPONSE)	MEMO / Memorandum	054-REMOVAL/0541-Removal Responses/02.01-CORRESPONDENCE (REMOVAL RESPONSE)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32984
32988	THE TELEGRAPH ONLINE - OFFICIALS OUTLINE EFFORT TO ADD SITE TO SUPERFUND	5/19/2000	3	R01: Bruce, Corene Dee (NASHUA (NH) TELEGRAPH)		PUB / Publication	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.03-NEWS CLIPPINGS/PRESS RELEASES	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32988
32985	THE TELEGRAPH ONLINE - CITY SITE PROPOSED FOR FEDERAL CLEANUP	5/12/2000	3	R01: Bruce, Corene Dee (NASHUA (NH) TELEGRAPH)		PUB / Publication	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.03-NEWS CLIPPINGS/PRESS RELEASES	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32985
32965	ENVIRONMENTAL NEWS - EPA FORMALLY PROPOSES MOHAWK TANNERY SITE TO SUPERFUND LIST	5/11/2000	2	R01: (US EPA REGION 1)		PUB / Publication	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.03-NEWS CLIPPINGS/PRESS RELEASES	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32965
32969	HAZARD RANKING SYSTEM (HRS) DOCUMENTATION RECORD PACKAGE FOR SITE	5/1/2000	62	R01: (US EPA REGION 1)		RPT / Report	055-SITE EVALUATION/0551-Pre-Remedial Site Evaluation/01.06-HAZARD RANKING SYSTEM (HRS) PACKAGES	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32969
32983	REVIEW: ECOLOGICAL SCREENING OF PRELIMINARY DATA AND RECOMMENDATIONS FOR ADDITIONAL SAMPLING AT SITE	4/17/2000	16	R01: Tyler, Patti Lynne (US EPA REGION 1)	R01: Handler, Neil E (US EPA REGION 1)	MEMO / Memorandum	054-REMOVAL/0541-Removal Responses/02.02-REMOVAL RESPONSE REPORTS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32983
129447	Memorandum concerning Use of Non-Time-Critical Removal Authority in Superfund Response Actions, 9360.0-40P	2/14/2000	7	R11: Luftig, Stephen, D (Office of Emergency and Remedial Response), R11: Breen, Barry, N (Office of Site Remediation Enforcement)		LAWS / Laws/Regulations/Guidance	058-PROGRAM SUPPORT/0583-Regulatory Development/B8.1-Regulations, Standards & Guidelines, 058-PROGRAM SUPPORT/0583-Regulatory Development/B8.4-Directives and Policy Guidance Documents	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/11/129447
32977	REGARDING PREPARATION OF PUBLIC HEALTH ASSESSMENT FOR SITE (02/01/01 FACT SHEET AND SURVEY ARE ATTACHED)	2/8/2000	4	R01: Trowbridge, Philip R (NH DEPT OF HEALTH & HUMAN SERVICES)		FRM / Form	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.01-CORRESPONDENCE (COMMUNITY RELATIONS)	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32977
6736	SITE INSPECTION (SI) PRIORITIZATION REPORT, FINAL	11/1/1996	187	R01: (NH DEPT OF ENVIRONMENTAL SERVICES (NHDES))	R01: (US EPA REGION 1)	RPT / Report	055-SITE EVALUATION/0551-Pre-Remedial Site Evaluation/01.03-SITE INSPECTION/INVESTIGATION	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/6736
561645	EXPANDED SITE INSPECTION (ESI)	12/29/1993	10	R01: Robinette, Michael J (NH DEPT OF ENVIRONMENTAL SERVICES (NHDES))	R01: Leabman, Ruth (US EPA REGION 1)	RPT / Report	055-SITE EVALUATION/0551-Pre-Remedial Site Evaluation/01.03-SITE INSPECTION/INVESTIGATION	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/561645
22230	CONDUCTING NON-TIME CRITICAL REMOVAL ACTIONS UNDER CERCLA [TRANSMITTAL LETTER ATTACHED: FROM HENRY LONGEST, US EPA HEADQUARTERS, TO EPA BRANCH CHIEFS DATED FEBRUARY 18, 1994]	1/1/1993	6	R01: (US EPA - HEADQUARTERS)		PUB / Publication	056-SITE SUPPORT/0561-Administrative Support/17.07-REFERENCE DOCUMENTS	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/22230
6738	PHASE 2 HYDROGEOLOGIC STUDY AND CONCEPTUAL CLOSEOUT PLAN, GRANITE STATE LEATHERS FACILITY	10/1/1985	261	R01: (GOLDBERG-ZOINO & ASSOCIATES INC)	R01: (FAIRMOUNT HEIGHTS ASSOCIATES)	RPT / Report	055-SITE EVALUATION/0551-Pre-Remedial Site Evaluation/01.18-SITE ASSESSMENT SUPPORT DOCUMENTATION	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/6738
627477	PHASE 1 HYDROGEOLOGIC STUDY, GRANITE STATE LEATHERS INC. FACILITY (04/10/1985 TRANSMITTAL LETTER ATTACHED)	4/1/1985	102	R01: (GOLDBERG-ZOINO & ASSOCIATES INC)	R01: (FAIRMOUNT HEIGHTS ASSOCIATES)	RPT / Report	055-SITE EVALUATION/0551-Pre-Remedial Site Evaluation/01.18-SITE ASSESSMENT SUPPORT DOCUMENTATION	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/627477

6805	INDEX OF SELECTED KEY GUIDANCE DOCUMENTS		1			LST / List/Index	056-SITE SUPPORT/0565-Records Management/20.01-ADMINISTRATIVE RECORD INDEXES	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/6805
32993	HEALTH CONSULTATION FOR THE MOHAWK TANNERY SITE		1	R01: (US DEPT OF HEALTH AND HUMAN SERVICES), R01: (US AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY (ATSDR))		PUB / Publication	051-COMMUNITY INVOLVEMENT/0511-Community Involvement Activities/13.05-FACT SHEETS/INFORMATION UPDATES	UCTL(Uncontrolled)	https://semspub.epa.gov/src/document/01/32993

ATTACHMENT D: ARARs TABLES

Attachment C, Table 1
Mohawk Tannery Site, Action Memo
Alternatives 5a, a1, a2, b, and c
Encapsulation and Capping
Chemical-Specific ARARs and TBCs
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Regulatory Authority	Requirement	Status	Requirement Synopsis	Changes in ARAR/TBC since the 2002 Action Memorandum	Action to be Taken to Attain Requirement
Federal	EPA Risk Reference Doses (RfDs)	To Be Considered (TBC)	RfDs are the levels unlikely to cause significant adverse health effects associated with a threshold mechanism of action in human exposure for a lifetime.	No change.	Exceedances of non-carcinogenic risk-based standards developed using this guidance will be addressed by consolidating wastes, encapsulation and capping. Monitoring and ICs will ensure the protectiveness of the cap during the NTCRA and thereafter.
Federal	EPA Carcinogenicity Slope Factor (CSFs)	TBC	Slope factors are developed by EPA from Health Effects Assessments and present the most up-to-date information on cancer risk potency. Slope factors are developed by EPA from Health Effects Assessments by the Carcinogenic Assessment Group.	No change.	Exceedances of carcinogenic risk-based standards developed using this guidance will be addressed by consolidating wastes, encapsulation and capping. Monitoring and ICs will ensure the protectiveness of the cap during the NTCRA and thereafter.
Federal	Carcinogenic Risk Assessment (EPA, 2005) EPA/630/P-03/001F (EPA Risk Assessment Forum, March 2005)	TBC	Framework and guidelines for assessing potential cancer risks.	Not cited.	Exceedances of carcinogenic risk-based standards developed using this guidance will be addressed by consolidating wastes, encapsulation and capping. Monitoring and ICs will ensure the protectiveness of the cap during the NTCRA and thereafter.

Attachment C, Table 1
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Regulatory Authority	Requirement	Status	Requirement Synopsis	Changes in ARAR/TBC since the 2002 Action Memorandum	Action to be Taken to Attain Requirement
Federal	Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens (EPA, 2005) EPA/630/R-03/003F (EPA Risk Assessment Forum, March 2005)	TBC	Guidance on assessing cancer risks to children.	Not cited.	Exceedances of carcinogenic risk-based standards for children developed using this guidance will be addressed by consolidating wastes, encapsulation and capping. Monitoring and ICs will ensure the protectiveness of the cap during the NTCRA and thereafter.
Federal	Recommendations of the Technical Review Workgroup for Lead for an approach to Assessing Risks Associated with Adult Exposure to Lead in Soil; EPA-540-R-03-001 (January 2003)	TBC	EPA Guidance for evaluating risks posed to adults by lead in soil. Used to develop lead risk-based cleanup standards.	Not cited	Exceedances of lead standards developed using this guidance will be addressed by consolidating wastes, encapsulation and capping. Monitoring and ICs will ensure the protectiveness of the cap during the NTCRA and thereafter.

Attachment C, Table 1
Mohawk Tannery Site, Action Memo
Alternatives 5a, a1, a2, b, and c
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Chemical-Specific ARARs and TBCs
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Regulatory Authority	Requirement	Status	Requirement Synopsis	Changes in ARAR/TBC since the 2002 Action Memorandum	Action to be Taken to Attain Requirement
Federal	Updated Scientific Considerations for Lead in Soil Cleanups (OLEM Directive 9200.2-167), December 22, 2016	TBC	Based on updated science and health effects, the Region is addressing risks posed by lead, particularly for children, on a site-specific basis.	Not cited.	Exceedances of lead standards developed using this guidance will be addressed by consolidating wastes, encapsulation and capping. Monitoring and ICs will ensure the protectiveness of the cap during the NTCRA and thereafter.
Federal	EPA Carcinogenic Assessment Group Potency Factors	TBC	These factors are used to evaluate an acceptable risk from a carcinogen (, dioxin).	Not cited.	Exceedances of dioxin standards developed using this guidance will be addressed by consolidating wastes, encapsulation and capping. Monitoring and ICs will ensure the protectiveness of the cap during the NTCRA and thereafter.
State	Contaminated Site Management, Soil Remediation Criteria; New Hampshire Code of Administrative Rules Chapter Env-Or-606.19, Table 600-2	Applicable	Promulgated numeric soil remediation standards.	Not cited.	Exceedances of these numeric standards will be addressed by consolidating wastes, encapsulation, and capping. Monitoring and ICs will ensure the protectiveness of the cap during the NTCRA and thereafter.

Attachment C, Table 2
Mohawk Tannery Site, Action Memo
Alternatives 5a, a1, a2, b, and c
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Regulatory Authority	Requirement	Status	Requirement Synopsis	Changes in ARAR/TBC since the 2002 Action Memorandum	Action to be Taken to Attain Requirement
Federal	Floodplain Management and Protection of Wetlands (44 C.F.R. § 9)	Relevant and Appropriate	FEMA regulations that set forth the policy, procedure and responsibilities to implement and enforce Executive Order 11988 (Floodplain Management) and Executive Order 11990 (Protection of Wetlands). Prohibits activities that adversely affect a federally-regulated wetland unless there is no practicable alternative and the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use. Requires the avoidance of impacts associated with the occupancy and modification of federally-designated 100-year and 500-year floodplain and to avoid development within floodplain wherever there is a practicable alternative. An assessment of impacts to 500-year floodplain is required for critical actions – which includes siting contaminated sediment management facilities in a floodplain. Requires public notice when proposing any action in or affecting floodplain or wetlands.	Not cited in Action Memo, instead regulations at 40 C.F.R. 6.302(a) and 40 C.F.R. 6, App. A were cited that have since been deleted.	Any work in federal jurisdiction wetlands associated with the excavation, consolidation, encapsulation, and capping of contaminated material will minimize impacts to wetland resources, including instituting erosion and sedimentation control measures, and may require mitigation. Excavation and consolidation work within floodplain will be conducted to minimize impacts to floodplain resources. Any flood storage lost from the encapsulation/capping of contaminated materials at or below the 100-year flood elevation will be replaced on-site. Lost flood storage between the 100-year and 500-year flood elevation is expected to be *de minimus* within the waterway but may be replaced, to the extent practicable. The cap will be designed and maintained to not release contamination if flooded, up to a 500-year event. If this alternative is selected public comment will be solicited concerning the proposed impacts to floodplain and federal wetlands resources.

Attachment C, Table 2
Mohawk Tannery Site, Action Memo
Alternatives 5a, a1, a2, b, and c
Encapsulation and Capping
Location-Specific ARARs and TBCs
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Regulatory Authority	Requirement	Status	Requirement Synopsis	Changes in ARAR/TBC since the 2002 Action Memorandum	Action to be Taken to Attain Requirement
Federal	RCRA Floodplain Restrictions for Solid Waste Disposal Facilities and Practices (40 CFR 257.3-1)	Relevant and Appropriate	Solid waste practices must not restrict the flow of a 100-year flood, reduce the temporary water storage capacity of the floodplain or result in washout of solid waste that would to pose a hazard to human life, wildlife, or land or water resources.	Cited	To the extent solid waste will be encapsulated and capped within the 100-year floodplain any flood storage lost at or below the 100-year flood elevation will be replaced on-site and the cap designed and maintained to not release contamination if flooded.
Federal	RCRA Floodplain Restrictions for Hazardous Waste Facilities (40 CFR 264.18(b))	Relevant and Appropriate	A hazardous waste treatment, storage, or disposal facility located in a 100-year floodplain must be designed, constructed, operated, and maintained to prevent washout or to result in no adverse effects on human health or the environment if washout were to occur.	Cited	To the extent hazardous waste may be consolidated, encapsulated, and capped within the 100-year floodplain, the capped lagoons will be designed, constructed, and maintained to meet RCRA floodplain standards for hazardous waste disposal facilities.
Federal	Fish and Wildlife Coordination Act, 16 U.S.C. §661 *et seq.*	Applicable	Any modification of a body of water or wetland requires consultation with the U.S. Fish and Wildlife Service and the appropriate state wildlife agency to develop measures to prevent, mitigate, or compensate for losses of fish and wildlife.	Not cited	Contact with appropriate federal agencies would be maintained during the planning and implementation of the removal action that may alter protected resource areas.

Attachment C, Table 2
Mohawk Tannery Site, Action Memo
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Regulatory Authority	Requirement	Status	Requirement Synopsis	Changes in ARAR/TBC since the 2002 Action Memorandum	Action to be Taken to Attain Requirement
Federal	National Historical Preservation Act, 16 U.S.C. 469 *et seq.*; 36 C.F.R. Part 65	Applicable	When a federal agency finds, or is notified, that its activities may cause irreparable loss or destruction of significant scientific, pre-historical, historical, archeological data, such agency shall consult with relevant federal and State officials to address the preservation of such data or other forms of mitigation, as necessary.	Not cited	If, during the removal action, it is determined that this alternative may cause irreparable loss or destruction of significant scientific, pre-historical, historical, or archaeological data, EPA will consult with federal and State officials and implement preservation and/or mitigation measures, as necessary.
State	Native Plant Protection Act, R.S.A. 217-A	Applicable	Prohibits damaging plant species listed as endangered in the State.	Not cited	Any removal action that may take state-listed species will need to meet these standards.
State	Endangered Species Conservation Act, R.S.A. 212-A	Applicable	Prohibits the taking of State-listed endangered species and regulates such activities regarding State-listed threatened species.	Not cited.	Any removal action that may take state-listed species will need to meet these standards.

Attachment C, Table 2
Mohawk Tannery Site, Action Memo
Alternatives 5a, a1, a2, b, and c
Encapsulation and Capping
Location-Specific ARARs and TBCs
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Regulatory Authority	Requirement	Status	Requirement Synopsis	Changes in ARAR/TBC since the 2002 Action Memorandum	Action to be Taken to Attain Requirement
State	Siting requirements for hazardous waste facilities and variances, Env-Hw 304.08 (Existing facilities) and 304.09 (New facilities).	Relevant and Appropriate	Flood control measures must be identified for any facility within the 100-year floodplain. Similarly, new facilities located within 3,000 feet of faults displaced in Holocene times must show that no faults pass within 200 feet of the facility.	Cited as Env-Wm 353.08 and 353.09 which have been re-designated by the State as Env-Hw 304.08 and 304.09.	Any flood storage lost from the encapsulation/capping of contaminated materials at or below the 100-year flood elevation will be replaced on-site. Seismic requirements are also met.
State	Terrain Alteration, Env-Wq 1500 and RSA 485-A:17	Applicable	These rules establish criteria for the protection of surface water quality resulting from activities that occur in or on the border of surface water or within a distance of surface water such that direct or immediate degradation may result to water quality.	Cited as "Rules Relative to Prevention of Pollution from Dredging, Filling, Mining, Transporting, and Construction (Env- Ws 415)" re-designated by the State as "Terrain Alteration, Env-Wq 1500."	The alternative will involve erosion and sedimentation controls to prevent impacts to the Nashua River
State	Criteria and Conditions for Fill and Dredge in Wetlands: RSA Ch. 482-A and NH Admin. Code Env-Wt Parts 100-900	Applicable	These standards regulate filling and other activities in or adjacent to wetland resource areas (including the 100-year floodplain), and buffer zones and establish criteria for the protection of wetlands from adverse impacts on fish, wildlife, commerce, and public recreation.	Not cited.	Any work in state jurisdiction wetlands/buffer zone associated with the excavation, consolidation, encapsulation, and capping of contaminated material will minimize impacts to wetland resources, including instituting erosion and sedimentation control measures, and may require mitigation. Excavation and consolidation work within the 100-year floodplain will be conducted to minimize impacts to floodplain resources. Any flood storage lost from the encapsulation/ capping of contaminated materials at or below the 100-year flood elevation will be replaced on-site. The cap will be designed and maintained to not release contamination if flooded.

Attachment C, Table 2
Mohawk Tannery Site, Action Memo
Alternatives 5a, a1, a2, b, and c
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Regulatory Authority	Requirement	Status	Requirement Synopsis	Changes in ARAR/TBC since the 2002 Action Memorandum	Action to be Taken to Attain Requirement
State	Shore land Water Quality Protection: RSA 483-B and NH Admin, Code Env-Wq 1400	Applicable	These standards regulate activities conducted along shore lands to protect, restore and preserve these fragile natural resources.	Not cited	Any work within the protected shore land will need to comply with these rules including but not limited to storm water and erosion control, maintenance of woodland buffers, and restoration.

Attachment C, Table 3
Mohawk Tannery Site, Action Memo
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Encapsulation and Capping
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Regulatory Authority	Requirement	Status	Requirement Synopsis	Changes in ARAR/TBC since the 2002 Action Memorandum	Action to be Taken to Attain Requirement
Federal	Resource Conservation and Recovery Act (RCRA), 42 U.S.C. §§ 6901, *et seq.*, 40 C.F.R. Parts 261, 262 and 264	Applicable	New Hampshire has been delegated the authority to administer these RCRA standards through its state hazardous waste management regulations (Env-Hw 100-1100). These provisions have been adopted by the State.	Not cited	Any wastes generated by removal activity to be sent off-site will be analyzed by appropriate test methods. If found to be hazardous wastes, then they will be managed in accordance with the substantive requirements of the State hazardous waste regulations. The lagoons will be capped in accordance with State hazardous waste closure standards which will include consolidation of all wastes from the site without further characterization testing. O&M of the capped lagoons will meet post-closure standards.
Federal	Clean Water Act - Pre-treatment Regulations (40 CFR 403)	Applicable	These regulations impose restrictions on the discharge of pollutants to Publicly Owned Treatment Works (POTW) and mandate that discharges must comply with the local pretreatment program.	Cited	Any surface water and groundwater dewatering effluent that would be discharged or disposed of at a POTW would be tested to ensure compliance with these regulations.
Federal	Clean Water Act (CWA), Section 402, 33 U.S.C. § 1342; 40 C.F.R.122,125, 131, 136, 450 - Discharge of Pollutants	Applicable	These standards address water discharges which may be directed to surface water. Also establishes storm water standards for construction and development projects that are over one acre.	Not cited.	If a discharge from the removal action, is directed to surface water the discharge will be treated, if necessary, so that these standards will be achieved. Any removal action that will disturb one acre or more, including excavation, consolidation and capping of contaminated materials will meet these storm water standards.

Attachment C, Table 3
Mohawk Tannery Site, Action Memo
Alternatives 5a, a1, a2, b, and c
Encapsulation and Capping
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Regulatory Authority	Requirement	Status	Requirement Synopsis	Changes in ARAR/TBC since the 2002 Action Memorandum	Action to be Taken to Attain Requirement
Federal	Clean Air Act (CAA), Hazardous Air Pollutants, 42.U.S.C. § 112(b)(1), National Emission Standards for Hazardous Air Pollutants (NESHAPS), 40 C.F.R. Part 61	Applicable	The regulations establish emissions standards for 189 hazardous air pollutants. Standards set for dust and other release sources.	Not cited	If the excavation, consolidation, encapsulation and/or capping generates regulated air pollutants, then measures will be implemented to meet these standards.
Federal	CAA, National Emission Standards for Hazardous Air Pollutants (NESHAPS), Standards tor Inactive waste disposal sites for asbestos mills and manufacturing and fabricating operations, 40 C.F.R. § 61.151	Relevant and Appropriate	NESHAPS standards for preventing air releases from inactive asbestos disposal sites, including cover standards, dust suppression, and land use controls.	Not cited.	Any asbestos contaminated soil/debris will be consolidated either under the lagoon cap or adjacent to the lagoon cap under a separate cap meeting the asbestos-capping standards of these regulations. O&M and ICs will be established to maintain the cap and to address any potential asbestos exposure in case the cap is disturbed.

Attachment C, Table 3
Mohawk Tannery Site, Action Memo
Alternatives 5a, a1, a2, b, and c
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Regulatory Authority	Requirement	Status	Requirement Synopsis	Changes in ARAR/TBC since the 2002 Action Memorandum	Action to be Taken to Attain Requirement
Federal	Framework for Investigating Asbestos-Contaminated Superfund Sites, OSWER Directive #9200.0-68 (Sept. 2008)	TBC	Guidance on investigating and characterizing the potential human exposure from asbestos contamination in outdoor soil at Superfund sites.	Not cited.	Any areas that are suspected of containing asbestos contamination will be investigated under these guidance standards.
Federal	Toxic Substances Control Act (Transport and Disposal of Asbestos Waste) 40 CFR Subpart E, Appendix D	Applicable	Provides standards for transport and disposal of materials that contain asbestos. Requires proper wetting and containerization.	Not cited	Asbestos will be managed in compliance with these standards.

Attachment C, Table 3
Mohawk Tannery Site, Action Memo
Alternatives 5a, a1, a2, b, and c
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Regulatory Authority	Requirement	Status	Requirement Synopsis	Changes in ARAR/TBC since the 2002 Action Memorandum	Action to be Taken to Attain Requirement
State	Contaminated Site Management, Activity and Use Restrictions; NH Admin. Code Env-Or 608	Relevant and Appropriate	Env-Or Part 608 establishes standards for setting institutional controls to protect human health and components of the remedy.	Not cited	ICs will be established for wastes left in place that meet State recording standards under these regulations.
State	Identification and Listing of Hazardous Wastes, N.H. Admin. Code Env-Hw 400	Applicable	These standards list particular hazardous wastes and identify the maximum concentration of contaminants for which the waste would be a RCRA characteristic waste. The analytical test set out in Appendix II of 40 C.F.R. Part 261 is referred to as the Toxicity Characteristic Leaching Procedure (TCLP). The federal requirements 40 C.F.R. Part 261 are incorporated by reference.	Cited, but as Env-Wm 400, State reclassified the regulation as Env-Hw 400.	Any wastes generated by removal activity to be taken off-site will be analyzed by appropriate test methods. Wastes to be consolidated on-site in the capped lagoons do not need to be tested if the capped lagoons meet RCRA closure standards.

Attachment C, Table 3
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Regulatory Authority	Requirement	Status	Requirement Synopsis	Changes in ARAR/TBC since the 2002 Action Memorandum	Action to be Taken to Attain Requirement
State	Requirements for Hazardous Waste Generators, N.H. Admin. Code Env-Hw 500	Applicable	Requires a determination as to whether waste materials are hazardous and, if so, requirements for managing such materials on site prior to shipment off site. The federal requirements 40 C.F.R. Part 262 are incorporated by reference.	Cited, but as Env-Wm 500, State reclassified the regulation as Env-Hw 500.	If removal activity generates hazardous wastes, then they will be managed in accordance with the substantive requirements of these regulations.
State	Hazardous Waste, Technical Requirements (Surface Impoundment Closure/Post Closure) Env-Hw 708.03 Technical Requirements.	Relevant and Appropriate	The operator of a facility shall: (a) Treat, store, or dispose of wastes according to best engineering judgment and with the best available technology; (b) Design and operate the facility so as to minimize the quantity and impact of planned and non-planned releases of hazardous waste or waste constituents into the environment; (c) Use the best available solution for managing the hazardous wastes received; and (d) Comply with the following requirements and standards as set forth under 40 CFR Part 264, in particular closure/post-closure performance standards at 40 C.F.R. 264.228	Not cited.	Closure of the lagoon with the consolidated encapsulated waste will meet the following substantive closure standards: (2)(i) Eliminate free liquids by removing liquid wastes or solidifying the remaining wastes and waste residues; (ii) Stabilize remaining wastes to a bearing capacity sufficient to support final cover; and (iii) Cover the surface impoundment with a final cover designed and constructed to: (A) Provide long-term minimization of the migration of liquids through the closed impoundment; (B) Function with minimum maintenance; (C) Promote drainage and minimize erosion or abrasion of the final cover; (D) Accommodate settling and subsidence so that the cover's integrity is maintained; and (E) Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present. O&M and ICs will meet post-closure standards under these regulations.

Attachment C, Table 3
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Regulatory Authority	Requirement	Status	Requirement Synopsis	Changes in ARAR/TBC since the 2002 Action Memorandum	Action to be Taken to Attain Requirement
State	Air Pollution Control: RSA Ch. 125-C; Fugitive Dust, N.H. Admin. Rule Env-A 1002; Regulated Toxic Air Pollutants, NH Admin. Rule Env-A 1400	Applicable	Part 1002 requires precautions to prevent, abate and control fugitive dust during specified activities, including excavation, maintenance, and construction. Part 1400 identifies toxic air pollutants discharge standards. These pollutants are also listed by EPA in 40 CFR 261	Cited	If the excavation, consolidation, encapsulation and/or capping generates regulated air pollutants, then measures will be implemented to meet these standards.
State	Management and Control of Asbestos Disposal Sites Not Operated After July 9, 1981; New Hampshire Code of Administrative Rules Chapter Env-Sw 2100 and RSA 141-E	Applicable	Requirements for managing certain pre-1981 asbestos disposal sites.	Not cited	Manage asbestos wastes excavated from asbestos disposal sites (ADS) in accordance with Env-Sw 2100. Construct, manage and record relocated ADS in accordance with Env-Sw2100. Use authorized personnel/contractors as required.
State	Management of Certain Wastes; New Hampshire Code of Administrative Rules Part Env-Sw 901	Applicable	Management of asbestos waste from the point of waste origination to the point of waste disposal.	Not cited	Manage asbestos and dispose of wastes generated (*e.g.*, excavated and encapsulated/capped) accordance with Env-Sw 901. Asbestos waste shall not be intentionally combined or mixed with other waste types prior to disposal. Use authorized personnel/contractors as required.

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Regulatory Authority	Requirement	Status	Requirement Synopsis	Changes in ARAR/TBC since the 2002 Action Memorandum	Action to be Taken to Attain Requirement
State	Asbestos Management and Control; New Hampshire Code of Administrative Rules Chapter Env-A 1800	Applicable	Requirements for managing asbestos in a manner that prevents the release of asbestos fibers to the environment and human exposure thereto.	Not cited	Manage asbestos wastes generated (*e.g.*, excavated an encapsulated/capped) accordance with Env- A 1800. Use authorized personnel/contractors as required.
State	Solid Waste landfill requirements: New Hampshire Code of Administrative Rules Part Env-808, Landfill Reclamation	Relevant and appropriate	Requirements for excavating a portion or an entire solid waste landfill.	Not cited	Prepare and follow a landfill reclamation plan as described in Env-Sw 808 for removal of the Fimbel Door Landfill.
State	Drinking Water Quality Standards: NH Admin. Code Env-Dw 700	Relevant and Appropriate for MCLs and non-zero MCLGs only; MCLGs set as zero are To Be Considered.	State MCLs and MCLGs establish maximum contaminant levels permitted in public water supplies and are the basis of State Ambient Groundwater Quality Standards (AGQS) that are applicable to site ground water. The regulations are generally equivalent to the Federal Safe Drinking Water Act (SDWA).	Not cited.	Used to establish Performance Standards for monitoring groundwater at the capped lagoon compliance boundary to ensure there is no migration of contaminated groundwater exceeding these standards beyond the boundary. Inside of the compliance boundary, ICs will be required to prevent contact/ingestion of groundwater that exceeds these standards.

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Regulatory Authority	Requirement	Status	Requirement Synopsis	Changes in ARAR/TBC since the 2002 Action Memorandum	Action to be Taken to Attain Requirement
State	New Hampshire Ambient Groundwater Quality Standards (NH AGQS): Env-Or 603.03, Table 600-1,	Relevant and Appropriate	Establishes maximum concentration levels for regulated contaminants in groundwater which result from human operations or activities. NH AGQS are equivalent to MCLs for contaminants that have MCLs. NH AGQS have been established for site groundwater contaminants for which no MCLs are established, and are derived to be protective for drinking water uses. The NH AGQS will be used for site contaminants where MCLs are not currently established.	Not cited.	Used to establish Performance Standards for monitoring groundwater at the capped lagoon compliance boundary to ensure there is no migration of contaminated groundwater exceeding these standards beyond the boundary. Inside of the compliance boundary, ICs will be required to prevent contact/ingestion of groundwater that exceeds these standards.
State	Non-degradation of Groundwater to Protect Surface Water: NH Admin. Code Env-Or 603.01 (c)	Applicable	Wm-Or 603.01(c) provides that, unless naturally occurring, groundwater shall not contain any contaminants at concentrations such that groundwater to surface water results in a violation of surface water standards in any surface water body within or adjacent to the site. Env-Or 603.01 (c) therefore incorporates surface water standards set forth at Env-Ws 1700.	Not cited.	Used to establish Performance Standards for monitoring groundwater at the capped lagoon compliance boundary to ensure there is no migration of contaminated groundwater exceeding these standards beyond the boundary. Inside of the compliance boundary, ICs will be required to prevent contact/ingestion of groundwater that exceeds these standards.
State	Standards for Construction, Maintenance and Abandonment of Wells, NH Admin. Code We 600	Applicable for drinking water wells; R&E for monitoring wells	This provision requires that wells be constructed, maintained, relocated, and/or abandoned according to these regulations. We 602.05 address restrictions on location wells in contaminated areas.	Not cited	Wells used for monitoring the remedy will be created, operated, and closed in compliance with these standards. Well restriction standards shall be incorporated into institutional controls to prevent groundwater use around the capped lagoon.