Dennison Monarch Systems Facility Operable Unit Number 02: Remedial Program Off-Site State Superfund Project New Windsor, Orange County Site No. 336090 March 2021



Prepared by Division of Environmental Remediation New York State Department of Environmental Conservation

DECLARATION STATEMENT - DECISION DOCUMENT

Dennison Monarch Systems Facility Operable Unit Number: 02 State Superfund Project New Windsor, Orange County Site No. 336090 March 2021

Statement of Purpose and Basis

This document presents the remedy for Operable Unit Number: 02: Remedial Program Off-Site of the Dennison Monarch Systems Facility site, a state superfund site. The remedial program was chosen in accordance with the New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR) Part 375, and is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40CFR300), as amended.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (the Department) for Operable Unit Number: 02 of the Dennison Monarch Systems Facility site and the public's input to the proposed remedy presented by the Department.

Description of Selected Remedy

The elements of the selected remedy are as follows:

1. A remedial design program will be implemented to provide the details necessary for the optimization, maintenance, and monitoring of the remedial program. Green remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows:

• Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;

- Reducing direct and indirect greenhouse gases and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;

• Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;

• Maximizing habitat value and creating habitat when possible;

• Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals; and,

• Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

2. Natural Attenuation with Monitoring

Groundwater will be addressed through natural attenuation with monitoring. Groundwater will be monitored for continuing decreasing trends in levels of site-related contamination. It is anticipated that contamination will decrease by an order of magnitude within 10 years. Reports of the attenuation will be provided every two years. The need for active remediation will be reassessed by the Department if it appears that natural processes alone will not adequately reduce the contamination. The alternative remedial action selected would depend on the information collected, but it is currently anticipated to be enhanced in-situ bioremediation through biostimulation.

3. Site Management Plan

a. The Site Management Plan for OU1 will be updated to include OU2 site management activities, which include the following:

• As a contingent remedial action, enhanced in-situ bioremediation will be employed should it be necessary based on long-term groundwater monitoring;

• The use of groundwater as a source of potable or process water without necessary water quality treatment as determined by the New York State Department of Health or Orange County Department of Health is prohibited. Also, the installation of a groundwater supply well will require approval by the Town of New Windsor building permit as stated in the Town of Windsor Part II of General Legislation, section 107.4D.5e;

• The steps necessary for the periodic review and certification of the institutional and/or engineering controls; and

• A provision for evaluation of the potential for soil vapor intrusion for any occupied buildings on OU2, including provision for implementing actions recommended to address exposures related to soil vapor intrusion.

b. A monitoring plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:

• monitoring of groundwater to assess the performance and effectiveness of the remedy;

• a schedule of monitoring and frequency of submittals to the Department; and

• monitoring for vapor intrusion for any buildings on OU2 as may be required by the Institutional and Engineering Control Plan discussed above.

Declaration

The remedy conforms with promulgated standards and criteria that are directly applicable, or that are relevant and appropriate and takes into consideration Department guidance, as appropriate. The remedy is protective of public health and the environment.

3/10/2021

ZanetEBrown

Date

Janet Brown, Director Remedial Bureau C

DECISION DOCUMENT

Dennison Monarch Systems Facility New Windsor, Orange County Site No. 336090 March 2021

SECTION 1: SUMMARY AND PURPOSE

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), has selected a remedy for the above referenced site. The disposal of contaminants at the site has resulted in threats to public health and the environment that would be addressed by the remedy. The disposal or release of contaminants at this site, as more fully described in this document, has contaminated various environmental media. Contaminants include hazardous waste and/or petroleum.

The Department has issued this document in accordance with the requirements of New York State Environmental Conservation Law and 6 NYCRR Part 375. This document is a summary of the information that can be found in the site-related reports and documents.

SECTION 2: <u>CITIZEN PARTICIPATION</u>

The Department seeks input from the community on all remedies. A public comment period was held, during which the public was encouraged to submit comment on the proposed remedy. All comments on the remedy received during the comment period were considered by the Department in selecting a remedy for the site. Site-related reports and documents were made available for review by the public at the following document repositories:

DECInfo Locator - Web Application/On-line repository <u>https://www.dec.ny.gov/data/DecDocs/336090/</u> and <u>https://www.dec.ny.gov/data/DecDocs/V00135/</u>

Newburgh Free Library 124 Grand St Newburgh, NY 12550 Phone: (845) 563-3600

NYSDEC Attn: John Spellman 625 Broadway Albany, NY 12233 Phone: (518) 402-9662

Receive Site Citizen Participation Information By Email

Please note that the Department's Division of Environmental Remediation (DER) is "going paperless" relative to citizen participation information. The ultimate goal is to distribute citizen participation information about contaminated sites electronically by way of county email listservs. Information will be distributed for all sites that are being investigated and cleaned up in a particular county under the State Superfund Program, Environmental Restoration Program, Brownfield Cleanup Program and Resource Conservation and Recovery Act Program. We public for encourage the to sign up one or more countv listservs at http://www.dec.ny.gov/chemical/61092.html

SECTION 3: SITE DESCRIPTION AND HISTORY

Location: The Dennison Monarch Systems site is located at 15-21 Ruscutti Road in the Town of New Windsor near the City of Newburgh. The 5.8-acre site is situated along a commercial and industrial corridor in a suburban area. The site is about one mile south of the intersection of State Routes 32 and 17K.

Site Features: The site has no occupied structures. As part of the site remediation, the site was graded with a gentle slope downward to the east to provide drainage away from the vegetated cap. The site is fenced to restrict access.

Current Zoning and Land Use: The site is currently vacant and is zoned planned industrial, which is defined as encouraging a full range of non-nuisance environmentally sensitive industrial activities. The surrounding land use currently consists of commercial and industrial uses, which includes a rail line, a precast concrete supplier and a construction contractor storage yard. The nearest residential area is located about 700 feet to the east of the site along the Little Falls Ponds tributary.

Past Uses of the Site: For at least 38 years, metal furniture was manufactured at the site by Birium Corp. or Avery Dennison Corporation and its predecessor. The operation included cutting, shaping, welding, deburring, degreasing, and painting of metal components. Degreasing was performed using chlorinated solvents in two vapor-phase degreaser pits in the central portion of the plant. Avery Dennison terminated operations in 1994. A cardboard box manufacturer occupied the site from about 1997 to 2009.

Operable Units: The investigation and subsequent approach to remediation of the former Dennison Monarch Facility led to the creation of two operable units (OUs). An OU represents a portion of a remedial program for a site that for technical or administrative reasons can be addressed separately to investigate, eliminate or mitigate a release, threat of release or exposure pathway resulting from the site contamination.

Operable Unit Number 01 (OU1) is the on-site area that is the location of the former facility. The site consists of a 5.8-acre parcel. In 2010, the 97,000 square-foot former manufacturing building positioned in the northwest corner of the parcel was demolished; there are currently no structures on the site. The concrete slab-on-grade foundation was left in place following the demolition. The site slopes gently to the east and southeast.

Operable Unit Number 02 (OU2) is comprised of the off-site downgradient portion of the contaminated groundwater plume. The plume, approximately 300 feet wide and 1,800 feet long, flows under Ruscutti Road and beneath three properties: a portion of property owned by a general contractor that is used for building material storage, a property owned by a concrete product supplier, and a Town of New Windsor property. The Town of New Windsor property is undeveloped, consisting of three ponds and low-lying dense vegetation. Former water supply wells, which have been inactive for over 30 years, are located on the town property, but beyond the limit of the contaminant groundwater plume which exceeds groundwater standards.

Site Geology and Hydrogeology: The geology at the site consists of glacial till and fluvial outwash overlying shale bedrock. The bedrock surface is approximately 40 to 60 feet below ground surface. The till is present on top of the bedrock with an approximate average thickness of 20 feet. A discontinuous sand and gravel outwash unit approximately five feet thick is present on top of the till, although in some areas finer-grained deposits are present directly over the till. Fine-grained deposits are present above the sand and gravel. Additional sands and gravels, both natural and fill, comprise the top of the overburden.

The groundwater is approximately seven feet below ground surface beneath the site but approaches the ground surface in the off-site area east of Ruscutti Road. Groundwater flows in a northeasterly direction towards Little Falls Ponds.

Prior to March 7, 2018, the site was assigned site number V00135.

A Decision Document for OU1 was issued in 2014. The main elements of the selected on-site remedy include a vertical, fully enclosing sealed joint sheet pile containment wall keyed into the low-permeability till, a low permeability cap and a groundwater extraction system which maintains an inward hydraulic gradient within the enclosure. Construction of the containment wall, cap and extraction system was completed in 2016. A plan for monitoring and maintaining these remedial components is currently in-place.

Operable Unit (OU) Number 02 is the subject of this document.

A site location map is attached as Figure 1.

SECTION 4: LAND USE AND PHYSICAL SETTING

The Department may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. For this site, alternatives (or an alternative) that restrict(s) the use of the site to commercial use (which allows for industrial use) as described in Part 375-1.8(g) were/was evaluated in addition to an alternative which would allow for unrestricted use of the site.

A comparison of the results of the Remedial Investigation (RI) to the appropriate standards, criteria and guidance values (SCGs) for the identified land use and the unrestricted use SCGs for the site contaminants is available in the RI Report.

SECTION 5: ENFORCEMENT STATUS

Potentially Responsible Parties (PRPs) are those who may be legally liable for contamination at a site. This may include past or present owners and operators, waste generators, and haulers.

The PRPs for the site, documented to date, include:

Avery Dennison Corporation

The Department and Avery Dennison Corporation entered into a Consent Order on September 17, 2018. The Order obligates the responsible party, Avery Dennison Corporation, to implement a full remedial program for on-site and off-site contamination.

SECTION 6: SITE CONTAMINATION

6.1: <u>Summary of the Remedial Investigation</u>

A remedial investigation (RI) serves as the mechanism for collecting data to:

- characterize site conditions;
- determine the nature of the contamination; and
- assess risk to human health and the environment.

The RI is intended to identify the nature (or type) of contamination which may be present at a site and the extent of that contamination in the environment on the site or leaving the site. The RI reports on data gathered to determine if the soil, groundwater, soil vapor, indoor air, surface water or sediments may have been contaminated. Monitoring wells are installed to assess groundwater and soil borings or test pits are installed to sample soil and/or waste(s) identified. If other natural resources are present, such as surface water bodies or wetlands, the water and sediment may be sampled as well. Based on the presence of contaminants in soil and groundwater, soil vapor will also be sampled for the presence of contamination. Data collected in the RI influence the development of remedial alternatives. The RI report is available for review in the site document repository and the results are summarized in section 6.3.

The analytical data collected on this site includes data for:

- groundwater
- surface water
- soil
- sediment
- soil vapor

6.1.1: Standards, Criteria, and Guidance (SCGs)

The remedy must conform to promulgated standards and criteria that are directly applicable or that are relevant and appropriate. The selection of a remedy must also take into consideration guidance, as appropriate. Standards, Criteria and Guidance are hereafter called SCGs.

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RI were compared to media-specific SCGs. The Department has developed SCGs for groundwater, surface water, sediments, and soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. For a full listing of all SCGs see: <u>http://www.dec.ny.gov/regulations/61794.html</u>

6.1.2: <u>RI Results</u>

The data have identified contaminants of concern. A "contaminant of concern" is a hazardous waste that is sufficiently present in frequency and concentration in the environment to require evaluation for remedial action. Not all contaminants identified on the property are contaminants of concern. The nature and extent of contamination and environmental media requiring action are summarized below. Additionally, the RI Report contains a full discussion of the data. The contaminant(s) of concern identified for this Operable Unit at this site is/are:

trichloroethene (TCE) 1,1,1-trichloroethane

The contaminants of concern exceed the applicable SCGs for:

- groundwater

6.2: Interim Remedial Measures

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before issuance of the Decision Document.

There were no IRMs performed at this site during the RI.

6.3: <u>Summary of Environmental Assessment</u>

This section summarizes the assessment of existing and potential future environmental impacts presented by the site. Environmental impacts may include existing and potential future exposure pathways to fish and wildlife receptors, wetlands, groundwater resources, and surface water. The RI report presents a detailed discussion of any existing and potential impacts from the site to fish and wildlife receptors.

Nature and Extent of Contamination: Volatile organic compounds were analyzed for at OU2 based on the site-related contaminants of concern (COCs) identified for OU1. The primary site COCs are 1,1,1-trichloroethane (TCA) and trichloroethene (TCE).

The anaerobic breakdown products of TCA and TCE: 1,1 dichloroethane, cis 1,2 dichloroethene, trans 1,2 dichloroethene and vinyl chloride were either not detected or were detected below their respective standards.

The groundwater at OU2 was analyzed for 1, 4 dioxane and polyfluoroalkyl substances (PFAS) as part of a statewide evaluation. Perfluorooctanesulfonate (PFOS) was not detected above the screening value of 10 parts per trillion (ppt). Perfluorooctanoic acid was detected at concentrations up to 12 ppt, slightly exceeding the Department screening value of 10 ppt. 1,4 dioxane was detected at concentrations of up to 4.9 parts per billion (ppb), exceeding the screening value of 1 ppb. PFOA and PFOS were detected up/side-gradient of the TCE on-site source area along a property line at 78 and 19 ppt, respectively, which indicates higher concentrations of these compounds coming onto the site.1,4 dioxane was not detected in those same monitoring wells.

<u>Soil</u>

Soil samples collected at OU2 did not exceed the unrestricted use soil cleanup objectives (SCOs).

Groundwater

At OU2, groundwater exceeding the groundwater standards for TCA and TCE extends northeast in a long narrow band. The presence of TCA and TCE are generally co-located, extending to a maximum depth of 50 feet within the overburden. The plume lies under commercial properties and undeveloped municipally owned land. In 2019, TCA in off-site groundwater was found up to 20 ppb (standard: 5 ppb) down from 1,680 ppb in 2006, while TCE was found up to 140 ppb in 2018 (standard: 5 ppb) down from 1,190 ppb in 2006. In 2019, the concentrations of TCA and TCE exceeded respective groundwater standards downgradient of the first (southern-most) Little Falls Pond, but TCA and TCE were not detected downgradient of the second Little Falls Pond to the north. The reduction of contaminant levels between 2006 and 2019 are attributed to the remedy implemented at OU1 that eliminated the migration of contamination from the site.

Also, at OU2, 1,1-dichlorethane was found in groundwater in concentrations up to 4 ppb, while 1,1-dichloroethene was measured in concentrations up to 2 ppb. In addition, cis-1,2-

dichloroethene was found in concentrations up to 1 ppb. None of these compounds exceeded their groundwater standard of 5 ppb. Vinyl chloride was not detected in groundwater.

The data support the presence of an extensive low permeability till and an upward hydraulic gradient from the bedrock into the overburden which restricts the plume to the overburden. Also, the convergence of groundwater towards the Little Falls Ponds limits lateral movement of the plume.

In 2008, the former water supply wells, located north of/downgradient from the site near the first and second Little Falls Ponds, were sampled by the Town of New Windsor. TCA was detected in two wells, but at concentrations below the New York State Department of Health drinking water standard of 5 ppb.

The former supply wells have not been in use for over 30 years and there are no plans to reactivate the wells. The town receives its water from a source distant from and unaffected by the Dennison Monarch Facility Systems site.

Figures 2A and 2B demonstrate the reductions in the TCE and TCA plumes, respectively, after the installation of the on-site barrier wall in 2016.

<u>Sediment</u>

Fifteen sediment samples from the drainage stream and each of the Little Falls Ponds were collected from a sediment depth of 0 to 6 inches and analyzed for volatile organic compounds. One sample exceeded the Class C sediment guidance value for TCA of 3.5 parts per million (ppm) with a concentration of 4 ppm. No samples exceeded the TCE guidance value.

Seven samples of sediment porewater were collected in the drainage stream before it enters the Little Falls Ponds analyzed for volatile organic compounds. TCA and TCE did not exceed the groundwater standard. Vinyl chloride exceeded the groundwater standard in one sample with a concentration of 15 ppb (GA standard: 2 ppb).

Surface Water

TCA and TCE were detected in the surface water of the first and second Little Falls Ponds as well as in tributary surface water, with maximum concentrations of 4 ppb and 12 ppb respectively. None of the TCE detections exceeded the Class C surface water standard of 40 ppb. A standard or guidance value has not been established for TCA in Class C surface water.

Soil Vapor

One building, the satellite building at the concrete products supplier, lies over the groundwater plume. Soil vapor investigation points were installed along the perimeter of the satellite building to investigate the potential for soil vapor intrusion. Constituents of the underlying groundwater plume were not detected in the soil vapor samples. Soil vapor samples were also collected in the Little Falls Ponds (LFP) Area between the plume and residences on Myrtle Avenue. TCA and TCE were found in certain LFP samples; TCA was found in the soil vapor up to 1.5 micrograms

per cubic meter while TCE was detected at up to 5.8 micrograms per cubic meter. There are no occupied structures in the Little Falls Ponds area. The low concentrations of TCA and TCE in soil vapor and the absence of significant structures in the plume area support that additional investigation is unwarranted at this time.

6.4: <u>Summary of Human Exposure Pathways</u>

This human exposure assessment identifies ways in which people may be exposed to site-related contaminants. Chemicals can enter the body through three major pathways (breathing, touching or swallowing). This is referred to as *exposure*.

Remedial actions are complete for on-site and measures are in place to control the potential for coming in contact with residual contamination remaining at the site. People are not drinking the contaminated groundwater because the area is served by a public water supply that obtains its water from a different source. Volatile organic compounds in the groundwater may move into the soil vapor (air spaces within the soil), which in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. The site is vacant so inhalation of site contaminants in indoor air due to soil vapor intrusion is not a current concern. There are no occupied buildings in the area of off-site groundwater contamination, therefore off-site soil vapor intrusion is not a current concern. An evaluation of the potential for soil vapor intrusion to occur off-site is recommended for any existing or new off-site buildings that are redeveloped or constructed in the area of off-site groundwater contamination.

6.5: <u>Summary of the Remediation Objectives</u>

The objectives for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. The goal for the remedial program is to restore the site to pre-disposal conditions to the extent feasible. At a minimum, the remedy shall eliminate or mitigate all significant threats to public health and the environment presented by the contamination identified at the site through the proper application of scientific and engineering principles.

The remedial action objectives for OU2 site are:

<u>Groundwater</u>

RAOs for Public Health Protection

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.
- Prevent contact with, or inhalation of volatiles, from contaminated groundwater.

RAOs for Environmental Protection

- Restore ground water aquifer to pre-disposal/pre-release conditions, to the extent practicable.
- Prevent the discharge of contaminants to surface water.

<u>Soil Vapor</u>

RAOs for Public Health Protection

Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at a site.

SECTION 7: ELEMENTS OF THE SELECTED REMEDY

The alternatives developed for the site and the evaluation of the remedial criteria are presented in the Alternative Analysis. The remedy is selected pursuant to the remedy selection criteria set forth in DER-10, Technical Guidance for Site Investigation and Remediation.

The selected remedy is referred to as the Natural Attenuation with Monitoring remedy.

The elements of the selected remedy, as shown in Figure 3 - Monitoring Locations, are as follows:

1. A remedial design program will be implemented to provide the details necessary for the optimization, maintenance, and monitoring of the remedial program. Green remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows:

• Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;

- Reducing direct and indirect greenhouse gases and other emissions;
- Increasing energy efficiency and minimizing use of non-renewable energy;
- Conserving and efficiently managing resources and materials;

• Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;

• Maximizing habitat value and creating habitat when possible;

• Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals; and,

• Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

2. Natural Attenuation with Monitoring

Groundwater will be addressed through natural attenuation with monitoring. Groundwater will be monitored for continuing decreasing trends in levels of site-related contamination. It is anticipated that contamination will decrease by an order of magnitude within 10 years. Reports of the attenuation will be provided every two years. The need for active remediation will be reassessed by the Department if it appears that natural processes alone will not adequately reduce the contamination. The alternative remedial action selected would depend on the information collected, but it is currently anticipated to be enhanced in-situ bioremediation through biostimulation.

3. Site Management Plan

a. The Site Management Plan for OU1 will be updated to include OU2 site management activities, which include the following:

• As a contingent remedial action, enhanced in-situ bioremediation will be employed should it be necessary based on long-term groundwater monitoring;

• The use of groundwater as a source of potable or process water without necessary water quality treatment as determined by the New York State Department of Health or Orange County Department of Health is prohibited. Also, the installation of a groundwater supply well will require approval by the Town of New Windsor building permit as stated in the Town of Windsor Part II of General Legislation, section 107.4D.5e;

• The steps necessary for the periodic review and certification of the institutional and/or engineering controls; and

• A provision for evaluation of the potential for soil vapor intrusion for any occupied buildings on OU2, including provision for implementing actions recommended to address exposures related to soil vapor intrusion.

b. A monitoring plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:

- monitoring of groundwater to assess the performance and effectiveness of the remedy;
- a schedule of monitoring and frequency of submittals to the Department; and

• monitoring for vapor intrusion for any buildings on OU2 as may be required by the Institutional and Engineering Control Plan discussed above.









FORMER DENNISON/MONARCH SYSTEMS SITE NEW WINDSOR, NEW YORK