

*United States and State of Ohio v. Northeast Ohio
Regional Sewer District*

**Appendix 4 to the Consolidated Fifth
Amended Consent Decree**

**Requirements Applicable to Proposals for
Green for Gray Substitutions**

APPENDIX 4

To the Consolidated Fifth Amended Consent Decree, *United States and State of Ohio v. Northeast Ohio Regional Sewer District (N.D. Ohio)*

Requirements Applicable to Proposals for Green for Gray Substitutions

Any Proposal to substitute Green Infrastructure control measures for Gray Infrastructure control measures (“Green for Gray substitutions”) shall result in compliance with the CSO control performance criteria in a typical year and critical milestones in Appendix 1. Proposed reductions in Gray Infrastructure control measures shall be directly compensated for by Green Infrastructure control measures located within the drainage area of the Gray Infrastructure control measures to be reduced. All Proposals submitted pursuant to this Appendix shall meet the requirements of Section 1 below. Proposals to downsize tunnel capacity by substituting Green Infrastructure control measures shall meet the requirements of Sections 1 and 2 below. Green Infrastructure control measures may not be substituted for control measures or equipment to be installed or upgraded at the wastewater treatment plants pursuant to this Consent Decree.

1. Proposals to Meet Performance Criteria in Appendix 1 by Substituting Green Infrastructure Measure(s) for Gray Infrastructure Control Measure(s)

Upon a determination by NEORSD to incorporate Green Infrastructure control measures as an alternative to Gray Infrastructure control measures to achieve the performance criteria set forth in Appendix 1, NEORSD shall submit to EPA and Ohio EPA a detailed Green Infrastructure Project Proposal (“Proposal”).¹ Each such Proposal shall at a minimum include all Green Infrastructure control measures that NEORSD proposes to substitute for a reduction in a particular Gray Infrastructure control measure. For example, a Proposal shall include all the Green Infrastructure control measures that NEORSD intends to substitute for the reduction in the capacity of a given tunnel. This Proposal shall be consistent with this Consent Decree and shall at a minimum include the following:

- a. A detailed description (to include specific technologies to be employed, project dimensions and configurations, material specifications and characteristics, to-scale project drawings that include the drainage area tributary to the proposed Green Infrastructure control measures, intended mode(s) of operation, and any other available information that may aid EPA and Ohio EPA in their assessment of the Proposal) of the Green Infrastructure control measures, a description of the proposed reductions in Gray Infrastructure control measures, all tasks required to implement the Proposal, a detailed cost estimate, and a schedule for completion of this work and implementation of the Proposal that is consistent with this Consent Decree including its Appendices.

¹EPA and the State encourage NEORSD to informally consult with the agencies in the early stages of preparing a Green for Gray substitution Proposal to identify any questions or concerns about the nature of the substitution being considered.

- b. A detailed comparative analysis of the typical year performance expected to be achieved with the implementation of the Green Infrastructure control measures, and of the Gray Infrastructure control measures to be replaced or downsized by the Green Infrastructure control measures. This analysis shall identify: (i) the expected baseline performance of the Gray Infrastructure control measures to be replaced or downsized in terms of activation frequency, gallons of combined sewage controlled, and remaining gallons of CSO discharge; (ii) the expected performance of the downsized Gray Infrastructure control measures in terms of activation frequency, gallons of combined sewage controlled, and remaining gallons of CSO discharge; (iii) the expected performance of the Green Infrastructure control measures in terms of activation frequency, gallons of combined sewage controlled, and remaining gallons of CSO discharge; and (iv) the expected performance of the combination of the downsized Gray Infrastructure control measures and the Green Infrastructure control measures in terms of activation frequency, gallons of combined sewage controlled, and remaining gallons of CSO discharge. These analyses shall be carried out using the information and models used to develop NEORSD's LTCP, appropriate available performance data for the proposed Green Infrastructure control measures, and all monitoring information and data used in formulating the Proposal. The Proposal shall include detailed documentation of NEORSD's analyses, including detailed modeling results, engineering calculations, summaries of underlying assumptions and the bases for those assumptions, and detailed summaries of all data relied upon. The Proposal shall also include a detailed analysis and discussion of the long term effectiveness and performance expected to be achieved with implementation of the Proposal.
- c. A description of the Green Infrastructure control measure operation and maintenance activities to be carried out, including schedules for maintenance.
- d. A description of how NEORSD shall ensure it will be able to retain permanent access and sufficient control over the land devoted to the Green Infrastructure control measures set forth in the Proposal. For example, NEORSD may provide this demonstration by showing how it will acquire ownership of land parcels, or obtain legally-binding agreements with Cuyahoga County, or the pertinent governing authority or landowner, to retain permanent access and sufficient control of the parcels.
- e. A description of post-construction monitoring and modeling to be performed to determine whether the Performance criteria set forth in Appendix 1 will be met upon completion and implementation of the Gray Infrastructure and Green Infrastructure control measures outlined in the Proposal.
- f. A description of the type of corrective action measures, in compliance with Appendix 2, that can be undertaken if post-construction monitoring and modeling of the Green Infrastructure control measures do not demonstrate that the performance criteria for the Proposal are being met.

- g. A description of stakeholder outreach and public participation, implemented and planned, associated with the proposed Green Infrastructure control measures. The public participation for proposed Green-for-Gray substitutions shall include, but will not be limited to, people, households, and neighborhoods in the service area that have low household incomes or concentrated minority populations.

2. **Provisions Applicable to Proposals to Substitute Green Infrastructure Control Measures for Tunnel Capacity**

The following additional provisions apply where a Green for Gray substitution Proposal involves a reduction in the effective storage volume of any of the tunnels listed in Appendix 1.

- a. NEORSD shall submit to EPA and Ohio EPA a Green for Gray substitution Proposal for review and approval. The Proposal shall contain all the information identified in 1.a. – 1.g., above. In addition, the Proposal shall identify a date for the 30% design submittal for the pertinent tunnel, and shall include specific identification of an appropriate number of demonstration projects. The identified demonstration sites and types of Green Infrastructure control measures shall be characteristic of the Proposal's total Green infrastructure type, scale, and scope, and shall meet the following criteria:
 1. Unless otherwise approved by Ohio EPA and EPA, the identified demonstration sites and types of Green Infrastructure control measures shall be within the drainage area(s) to be impacted by the Proposal;
 2. The identified demonstration sites and types of Green Infrastructure control measures shall implement the types of Green Infrastructure technology proposed by NEORSD in the Proposal;
 3. The identified demonstration sites and types of Green Infrastructure control measures shall be of sufficient number and size, so as to provide an adequate understanding of the performance range likely to be realized by those technologies when implemented as per NEORSD's Proposal; and
 4. The identified demonstration sites and types of Green Infrastructure control measures shall be located in locations where soils, topography, and infiltration and drainage characteristics are characteristic of those to be encountered across the sites and Green Infrastructure control measures included in the Proposal.

The identified demonstration sites and types of Green Infrastructure control measures shall be planned so as to provide an adequate understanding of the performance range likely to be realized by those technologies when implemented pursuant to NEORSD's Proposal.

- b. If EPA and Ohio EPA approve the Proposal, NEORSD shall construct and implement the identified demonstration sites and types of Green Infrastructure control measures described in the Proposal.
- c. NEORSD shall conduct at least 1 year of post-construction monitoring of the identified demonstration sites and types of Green Infrastructure control measures described in the Proposal in accordance with the schedule in the approved Proposal.
- d. NEORSD shall submit a report on the post-construction monitoring of the identified demonstration sites and types of Green Infrastructure control measures. The report will include all data collected and an analysis of the data indicating whether the data demonstrates that the identified demonstration sites and types of Green Infrastructure control measures meet the performance criteria set forth in the Proposal. If the data does not demonstrate that the Green Infrastructure control measures meet the performance criteria, NEORSD shall include with the report a Modified Proposal. The Modified Proposal shall replace the initial Proposal and describe what additional measures are needed, including additional Green Infrastructure and/or Gray Infrastructure control measures to be constructed and implemented to meet the performance criteria in Appendix 1. The Modified Proposal shall highlight changes from the initial Proposal. The Modified Proposal could include implementation of a greater amount of Green Infrastructure control measures than what was planned in the original Proposal or a resizing of the pertinent tunnel or Gray Infrastructure control measures in order to achieve the performance standards set forth in Appendix 1. The report and Modified Proposal will describe the level of control actually being provided by the identified demonstration sites and types of Green Infrastructure control measures and include the volume reductions measured in the assessment along with what further control measures are needed to meet the performance criteria for the tunnel service area as specified in Appendix 1.
- e. The report on the post-construction monitoring of the identified demonstration sites and types of Green Infrastructure control measures, including a Modified Proposal if necessary, shall be submitted no later than 30 days prior to the date of the 30% design submittal for the tunnel. If NEORSD fails to submit the report 30 days or more prior to the date of the 30% design submittal, the Green for Gray substitution shall be considered disapproved and the design of the tunnel(s) and the development of detailed plans and specifications shall proceed based on the design and performance criteria specified in Appendix 1.
- f. The post-construction monitoring of the identified demonstration sites and types of Green Infrastructure control measures does not replace the post-construction monitoring of Green Infrastructure control measures across the drainage area, nor corrective action steps, if necessary, required pursuant to Appendix 2.

3. Reviews/Approvals of Green for Gray Substitution Proposals

EPA and Ohio EPA shall review each Green for Gray substitution Proposal submitted by NEORSD, each report on the performance of Green infrastructure demonstration sites and Green Infrastructure control measures, and each Modified Proposal, where needed. The Agencies may request clarifications or supplemental information to make informed decisions on each Proposal. Upon the conclusion of reviews of Proposals or Modified Proposals the Agencies will approve the Proposal, approve with conditions, or disapprove the Proposal.

Following a review of a report on the performance of Green infrastructure demonstration sites and Green Infrastructure control measures, the Agencies shall concur or non-concur on report findings, including the Report's findings on compliance with the performance criteria in Appendix 1 and the finding that a Modified Proposal is or is not necessary. If the Agencies non-concur on a finding in a report that a Modified Proposal is not necessary, NEORSD shall submit a Modified Proposal to meet the performance criteria in Appendix 1 and to fully address the substance of any comment the Agencies make with respect to the non-concurrence within 45 days of the date of the written non-concurrence notification. Design may not proceed past the 30% design point on the proposed downsized tunnel(s) until the Modified Proposal is submitted, reviewed, and concurred upon by the Agencies.

4. Provisions Applicable to Approved Green Infrastructure Control Measures

Upon approval of a Green for Gray substitution Proposal or Modified Proposal, NEORSD is authorized to implement Green Infrastructure control measures in conformance with the approved Proposal or Modified Proposal. The following additional provisions apply to implementation of Green Infrastructure control measures.

- a. NEORSD shall ensure permanent access and sufficient control over the land devoted to the Green Infrastructure control measures.
- b. NEORSD shall carry out the public participation activities described in the Proposal.
- c. NEORSD shall carry out the operation and maintenance activities described and scheduled in the approved Proposal.
- d. NEORSD shall track its implementation, operation, and maintenance of the Green Infrastructure control measures, and report on such activities and accomplishments as part of the semi-annual reporting required under Paragraph 37 of the Consent Decree.
- e. The post-construction monitoring and modeling provisions of the Proposal shall be implemented to verify if the performance criteria for the Green Infrastructure control measures have been met.
- f. If, following full completion of construction and implementation of the approved Green Infrastructure control measures, the post-construction monitoring of those measures fails to demonstrate that the Green Infrastructure control measures have met the performance criteria on which the substitution was based, NEORSD shall submit

to EPA and Ohio EPA a Corrective Action Plan as required pursuant to Section 2.4.4 of Appendix 2.

5. Evaluating the Co-Benefits of Green Infrastructure Control Measures

NEORSD shall submit a report to EPA and Ohio EPA quantifying the co-benefits of NEORSD's Green for Gray substitution Proposals by December 31, 2028 for the Easterly District, by December 31, 2029 for the Westerly District, and by December 31, 2036 for the Southerly District. Co-benefits, for the purposes of this Consent Decree, means the benefits, in addition to mitigating wet weather flow, that are achieved by NEORSD's CSO Program in Appendix 1, except for control measures 12, 13 and 25 in Appendix 1. In the report, NEORSD shall describe the methods to be used to identify/analyze co-benefits. The co-benefits to be evaluated and quantified include, at a minimum, the following:

- Life-cycle costs
- Ecological benefits (ecosystem services)
- Socio-economic and/or quality of life benefits to low-income or minority populations
- Provision of recreational benefits
- Climate change-related effects, including change in carbon footprint
- Energy savings
- Air quality
- Aesthetics
- Jobs
- Property values

This report may also include updated information about the co-benefits of Green infrastructure control measures implemented pursuant to Appendix 3 of this Decree.

6. No Material Change

EPA and Ohio EPA's approval of NEORSD's request to make Green for Gray substitutions shall not be considered to be a material change in the Consent Decree.