

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

**Appendix 3 to Consolidated Fifth
Amended Consent Decree**

**Green Infrastructure and Additional
CSO Control Measure Requirements**

APPENDIX 3

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

Green Infrastructure and Additional CSO Control Measure Requirements

1. **Green Infrastructure Plan.** In accordance with the requirements of Appendix 3 that were in effect when the Consent Decree was originally entered (“Old Appendix 3”), on December 28, 2011, NEORSD submitted to EPA and Ohio EPA for approval in accordance with Paragraph 20 of the Consent Decree, a Green Infrastructure Plan (the “Plan”) to implement Green Infrastructure control measures to achieve capture of a minimum of 44 MG of wet weather flows in a Typical Year that would otherwise be discharged by NEORSD’s CSOs. This 44 MG volume of capture would be in addition to the capture per Typical Year that would be achieved by all of the other Old Appendix 1 Gray Infrastructure control measures required under the Consent Decree in the absence of the Green Infrastructure control measures. The Plan indicated that NEORSD would expend at least \$42 million, as required by Appendix 3, for the construction and installation of the Green Infrastructure control measures.
 2. **Implementation of the Plan.** Following approval of the Green Infrastructure Plan by EPA and Ohio EPA on April 2, 2012, NEORSD began implementing the Plan, including the construction, installation, operation, and maintenance, in accordance with the milestones, performance requirements, and schedules in the approved Plan. NEORSD has constructed nine Green Infrastructure Projects, as follows:
 - a) East 140th Consolidation and Relief Sewer GI, East Cleveland, Ohio
 1. Page Ave Basin (Page Ave. and Euclid Ave.)
 2. Scioto Ave Basin (Scioto Ave. and Hayden Ave.)
 3. 2nd Ave Basin (2nd Ave. and Hayden Ave.)
 - b) Fairhill-MLK GI (Fairhill Rd. and MLK Dr.), Cleveland, Ohio
 - c) University Circle GI (Euclid Ave. and Mayfield Rd.), Cleveland, Ohio
 - d) Buckeye GI (Buckeye Ed and Woodhill Rd.), Cleveland, Ohio
 - e) Union GI (Union Ave. and E 71st St.), Cleveland, Ohio
 - f) Slavic Village Demonstration GI (E 75th St. and E 78th St South of Union Ave.), Cleveland, Ohio
 - g) Fleet Ave GI (Fleet Ave. and E 53rd St.), Cleveland, Ohio
 - h) Urban Agriculture GI (E 81st St. and E 83rd St. North of Kinsman Rd.), Cleveland, Ohio
 - i) Woodland Central GI (E 64th St. and E 75th St. North of Kinsman & South of Woodland Rd.), Cleveland, Ohio
 3. **Evaluating the performance of Green Infrastructure control measures.** On July 1, 2013, NEORSD submitted its proposal to perform its Green Infrastructure post-construction monitoring programs (“GIPCMs”) that detailed NEORSD’s plan to evaluate
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the performance and effectiveness of the Green Infrastructure control measures, which were constructed in accordance with Old Appendix 3 to EPA and Ohio EPA for review and approval. Following approval by EPA and Ohio EPA on September 9, 2016, NEORSD implemented the GIPCMs.

4. **Initial Post-Construction Monitoring Report.** In its Appendix 3 Green Infrastructure Post-Construction Monitoring Report entitled “Appendix 3 Green Infrastructure Performance Report,” submitted to EPA and Ohio EPA on December 27, 2021, NEORSD concluded that (a) its Green Infrastructure control measures constructed in accordance with Old Appendix 3 failed to capture a minimum of 44 MG of wet weather flows in a Typical Year that would otherwise be discharged by NEORSD’s CSO outfalls and (b) it would not be feasible to achieve a minimum capture 44 MG of wet weather flows through Green or Gray infrastructure enhancements/expansions within twelve years of entry of the Consent Decree as had been required in Paragraph 7 of the Old Appendix 3. On the same date, NEORSD timely submitted a Corrective Action Proposal.

5. **Evaluating the co-benefits of Green Infrastructure control measures.** On March 26, 2015, NEORSD submitted a report to EPA and Ohio EPA for review and approval entitled “Appendix 3 Green Infrastructure Anticipated Co-Benefits Analysis” quantifying the anticipated co-benefits of NEORSD’s Green Infrastructure control measures. Co-benefits, for the purposes of this Consent Decree, mean the benefits, in addition to mitigating wet weather flow, that are achieved by NEORSD’s Green Infrastructure constructed in accordance with the Old Appendix 3. In the report, NEORSD described the methods used to identify/analyze co-benefits. EPA and Ohio EPA approved NEORSD’s submitted Appendix 3 Green Infrastructure Anticipated Co-Benefits Analysis on February 19, 2016. The co-benefits evaluated and quantified included, 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

6. **Modified Performance Criteria, Modified Date for Achievement of the Modified Performance Criteria, and Modified Post-Construction Provisions.** The following provisions supersede the requirements of the Old Appendix 3:
 - a. NEORSD shall achieve as a performance criteria a minimum capture of 54 MG (rather than 44 MG as required under the Old Appendix 3) of wet weather flows in addition to the wet weather flow reductions resulting from the construction and operation of the

Old Appendix 1 Gray Infrastructure CSO Control Measures in a Typical Year.

- b. In order to achieve capture of wet weather flows in addition to the wet weather flow reductions resulting from the construction and operation of the Old Appendix 1 Gray Infrastructure CSO Control Measures, NEORS D shall (i) implement, operate, and maintain the Green Infrastructure control measures identified in Paragraph 2 in accordance with sound operation and maintenance practices to ensure the long-term effectiveness of those green infrastructure investments and (2) design and construct five tunnels that are larger than the sizes previously required by Appendix 1 to the Second Amended Consent Decree (ECF Doc. No. 30-2). Specifically, as set forth in Appendix 1 as modified by this Fifth Amendment, NEORS D shall design and construct Control Measure 7 (Shoreline Tunnel System) with a minimum effective storage volume of 46 MG (rather than 43 MG as originally required); has designed and constructed Control Measure 8 (Doan Valley Tunnel System) with a minimum effective storage volume of 18 MG (rather than 16 MG as originally required); shall design and construct Control Measure 14 (Westerly Tunnel System) with a minimum effective storage volume of 38 MG (rather than 36 MG as originally required); shall design and construct Control Measure 21 (Southerly Tunnel System) with a minimum effective storage volume of 60 MG (rather than 54 MG as originally required); and shall design and construct Control Measure 22 (Big Creek Tunnel System) with a minimum effective storage volume of 49 MG (rather than 46 MG as originally required).
- c. The date by which the performance criteria in Paragraph 6.a must be achieved is December 31, 2034 (the final date for Achievement of Full Operation of Control Measure 22) rather than within twelve years of entry of the Consent Decree (i.e., July 7, 2023) or April 8, 2024 (the extended date for achieving the prior performance criteria established by the non-material Agreed Fourth Amendment to Consent Decree signed by the District Court on July 24, 2023) (ECF Doc. No. 40)).
- d. Section 2.4.2 in Appendix 2 sets forth the post-construction monitoring and modeling simulations that NEORS D will perform to assess whether NEORS D has achieved the 54 MG performance criteria in Paragraph 6.a.