



Institute for
Sustainable
Infrastructure



FOR IMMEDIATE RELEASE:

City of Westminster's Big Dry Creek Wastewater Treatment Facility earns Envision Bronze Award for Sustainable Infrastructure

WASHINGTON, D.C. – June 15, 2021 – The Institute for Sustainable Infrastructure (ISI) proudly announces the most recent recipient of the Envision Bronze award for sustainable infrastructure is the City of Westminster's Big Dry Creek Wastewater Treatment Facility (BDCWWTF). This is the City of Westminster's first Envision award.

The City of Westminster, located just north of Denver CO, owns and operates the BDCWWTF which is located in the northeastern most area of the City's wastewater collection system. The BDCWWTF is designed for biochemical oxygen demand removal, nitrification and denitrification, and limited phosphorous removal. The facility has undergone several major upgrades over its 30-year operational life so far, with the most recent expansion in 2009. A few years ago, the City of Westminster commissioned a Solids Handling Master Plan (Plan) for the facility. This Plan led to the Solids Dewatering and Campus Wide Improvements project at the facility, which was the subject of the Envision verification. This project provides the City with new solids dewatering equipment and facilities, an improved central handling system, enhanced nutrient removal, biosolid beneficial use optimization at the City's farm, operational optimization, and campus-wide improvements throughout and around the facility.

Several overarching issues were addressed as part of this project, in part contributing to the Envision Bronze award for the facility, including:

- Reducing the number of hauling trips by two-thirds
- Holistic design of the facility, along with efficient coordination of on-site design elements with off-site elements
- Flexibility to meet current needs and projected future needs
- Enhanced nitrogen removal to improve biosolids quality

"Using the Envision certification process has helped the City become a better fiscal, social and environmental steward," said Max Kirschbaum, City of Westminster's Public Works and Utilities Director. "Sustainability and safe, reliable service are top priorities for our residents and will be a continued focus of our strategic infrastructure investments."

The City of Westminster worked closely with HDR to deliver this award-winning sustainable project.

“The City of Westminster has been a long-time supporter of and advocate for Envision. By using Envision on this project, the City is affirming its commitment to sustainability, and the use of Envision as an important tool to improve the sustainable performance of its infrastructure assets. ISI is very proud and pleased to present the City of Westminster and its project partners with an Envision Bronze award for sustainable infrastructure for the BDCWWTF Solids Dewatering and Campus Wide Improvements Project,” said Melissa Peneycad, ISI’s managing director.

The Envision sustainable infrastructure framework assesses project sustainability across five categories: Quality of Life, Leadership, Resource Allocation, Natural World, and Climate and Resilience. These areas contribute to positive social, economic, and environmental outcomes during the planning, design, and construction of infrastructure projects.

Some of the factors contributing to the Big Dry Creek Wastewater Treatment Facility project earning an Envision Verified award for sustainability are highlighted below.

Pursuing byproduct synergy opportunities

Biosolids are nutrient rich and are a byproduct of the wastewater treatment process. Despite being nutrient rich byproducts that can be used as fertilizer to increase crop yields, the United States Environmental Protection Agency reports that only 50% of all biosolids in the US are captured and put to beneficial use, with the remaining 50% being sent to landfill or incinerated. One of the main purposes of the BDCWWTF Solids Dewatering Project is to reduce the water content and nitrogen load of the City’s biosolids, which will result in an improved byproduct, allowing more biosolids from the City’s wastewater treatment processes to be beneficially used as fertilizer by the City’s Strasburg Natural Resource Farm (SNRF) and other contracted farms nearby.

Improving efficiencies and saving costs

By reducing the water content of biosolids and allowing more material to be applied to the same acreage, the City is able to reduce the number of truck trips to the SNRF and other contracted farms by 75%, resulting in a more efficient use of employee time and reducing storage requirements at the site when farmland is unavailable for biosolids application.

By 2035, with the anticipated increase of the supply of biosolids produced at the facility, composting expenditures would have grown significantly, further burdening utility ratepayers if not for this project. Instead, this project will lead to savings of \$100,000 per year, savings which will ensure ratepayers are not unduly burdened in the future.

Extending the life of the project

The Solids Dewatering Building – a key component of this project – was designed with future loading in mind, reducing the need for a redesign in the near-term, and leading to reduced maintenance spending. In addition to the design and construction of the Solids Dewatering Building, other campus-wide improvements and updates provide flexibility, durability and resiliency for the facility, as they provide necessary upgrades and replacements to keep the system functioning effectively as a whole.

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PHOTOS/IMAGES INCLUDED:

City of Westminster, Big Dry Creek Wastewater Treatment Facility, Solids Dewatering Facility



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PROJECT ORGANIZATION INFORMATION:

About The City of Westminster: Westminster, Colorado, is thriving community of safe neighborhoods and beautiful open space located in the heart of the U.S. 36 Tech Corridor connecting Denver to Boulder. The City maintains a \$4 billion utility system including over 900 miles pipe and four treatment facilities serving over 27,000 utility accounts.

About HDR: *For more than a century, HDR has partnered with clients to shape communities and push the boundaries of what's possible. Our expertise spans nearly 10,000 employees, in more than 200 locations around the world — and counting. Our engineering, architecture, environmental and construction services bring an impressive breadth of knowledge to every project. Our optimistic approach to finding innovative solutions defined our past and drives our future.*

About ISI and Envision®: *Envision is the product of a joint collaboration between ISI, which was founded by three national engineering associations: American Society of Civil Engineers (ASCE), American Council of Engineering Companies (ACEC) and American Public Works Association (APWA), and the Zofnass Program for Sustainable Infrastructure at Harvard University Graduate School of Design. For more information, please visit www.sustainableinfrastructure.org.*