

PUBLIC WORKS PROJECT OF THE YEAR NOMINATION FORM



SUBMITTAL DEADLINE: August 15 each year

PROJECT INFORMATION

Oregon City Engineering & Operations Center

Project Name

November 2021

*Project Completion Date**

2022

Application Submittal Year

City of Oregon City Public Works

Public Agency

PROJECT CATEGORY (select one):

☒

Structures

☐

Transportation

☐

Environmental (Water, Wastewater, Stormwater)

☐

Historical Restoration/Preservation

☐

Disaster or Emergency Construction/Repair

PROJECT DIVISION (select one):

☐

Less than \$5 million

☒

\$5 million to less than \$25 million

☐

\$25 million to \$75 million

☐

More than \$75 million

*Must be substantially complete and available for public use within two calendar years prior to nomination.

MANAGING AGENCY

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Agency/Organization

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*Email**Phone**Fax***NOMINATED BY** (only managing public agency or APWA Chapters eligible to nominate)

John Lewis

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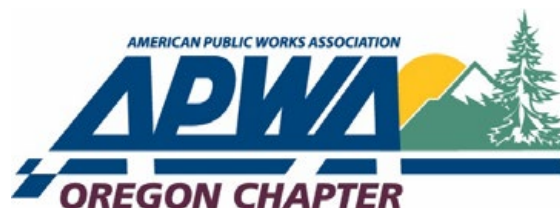
*City**State**Zip*

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971-204-4601

*Email**Phone**Fax***APPLICATION SUBMITTAL:**

Return completed form to the recipient identified on the Oregon Chapter APWA web page at <http://oregon.apwa.net/PageDetails/2543> using a method identified in the Submittal Guidelines.





2022 Public Works Project of the Year

Oregon City Engineering & Operations Center

Structure • \$5 million to less than \$25 million • August 15, 2022



CUMMING
Building Value Through Expertise



Scott
Edwards
Architecture

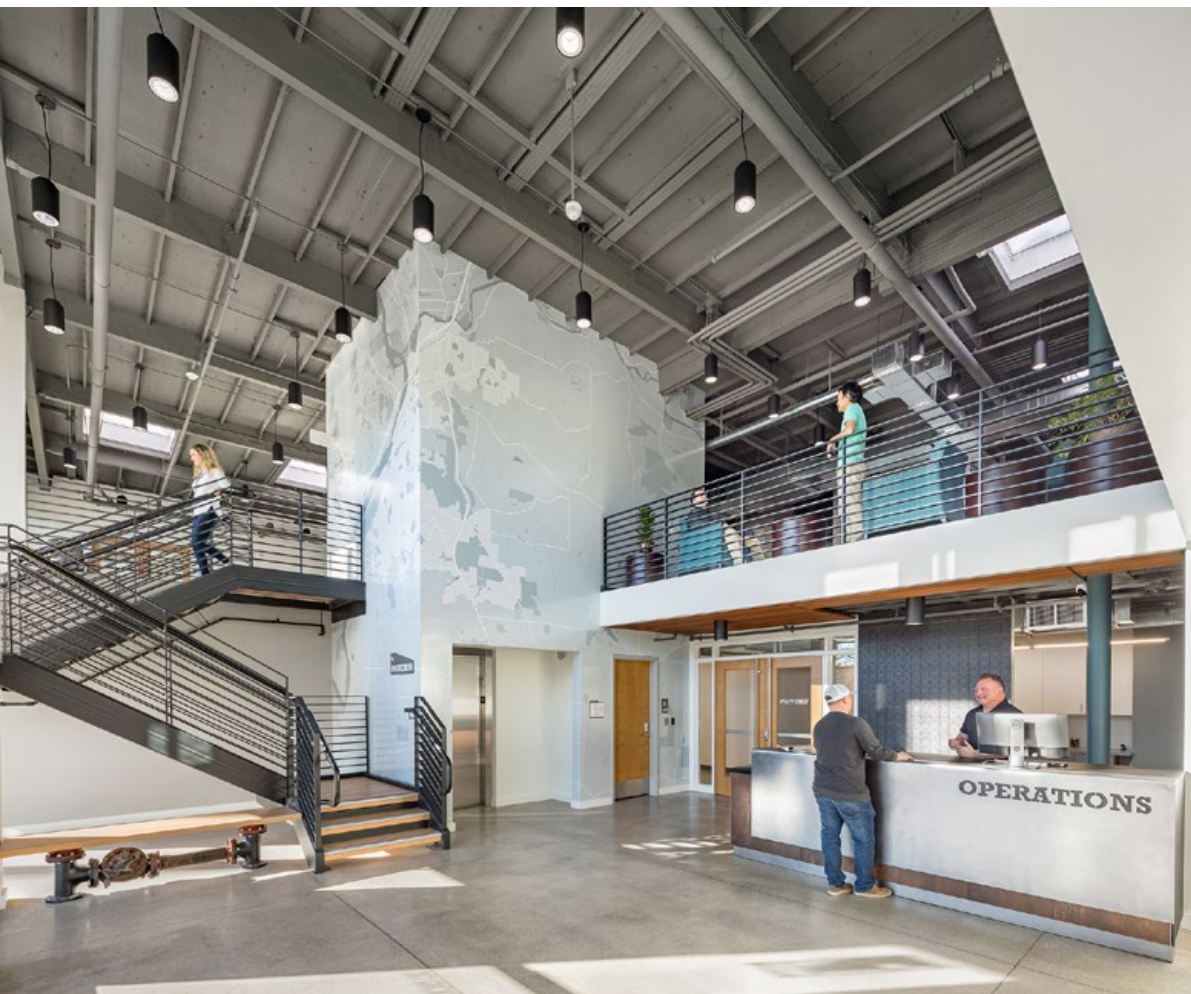


General Description



The Oregon City Engineering and Operations Center unifies a Class A office with a fleet maintenance facility, storage warehouse, and operations yard. Scott Edwards Architecture's (SEA) adaptive reuse of this former beverage distribution warehouse brings the City's engineering department, public works operations crew, and parks operations crew all under one roof. The project team included the City's Public Works Director, Assistant Public Works Director, Assistant Parks Director, and a City Commissioner. Once tapped by the City of Oregon City to lead the project, SEA met regularly with multiple stakeholders including staff advisory groups and navigated design criteria specific to the building's industrial zone to develop a program tailored to present and future needs. The result is a building that is resilient and modern and pays homage to the area's industrial context.

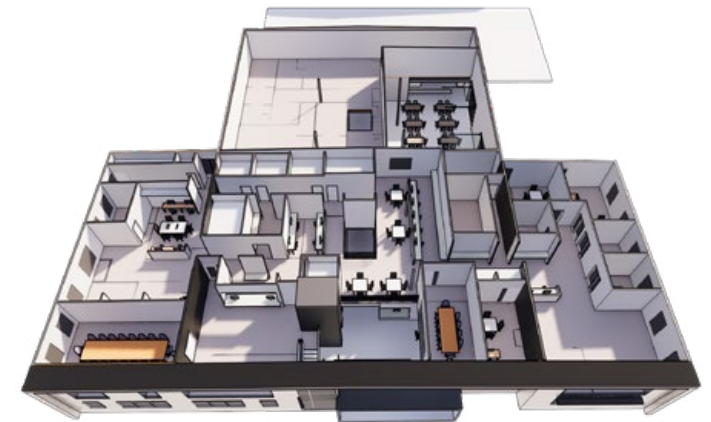
Initially, the City of Oregon City planned to demolish the site's existing office building and build new in its place. After evaluating the City's construction budget and program, the project team concluded the project could not support constructing a new office building without significant concessions in program and amenities. SEA and Emerick Construction saw potential in the existing structure and explored avenues for reuse. After an in-depth analysis of the existing office and warehouse building, the team was able to determine a path that could retain the original shell while also maintaining 100% of the City's program. While analysis identified numerous challenges, the decision to adaptively reuse allowed SEA to implement the City's entire program while still staying on schedule and budget, and ultimately saving approximately \$3 million.



A key challenge in this project was that the building's existing footprint and height had to be maintained. SEA worked diligently to not only confirm the existing office building would accommodate the City's program but that the program could be configured to minimize the impact on the main structural elements of the building while facilitating each respective department to function as desired. The design located the City's operations crews on the ground floor adjacent to locker rooms, washrooms, staff kitchen, and break areas, allowing for efficient crew deployment at the beginning and end of each day.



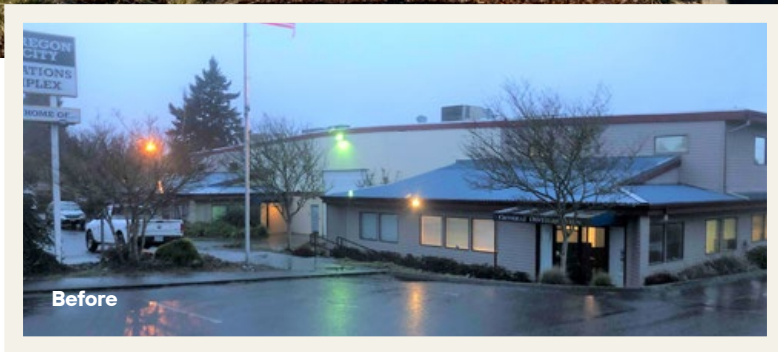
The engineering and executive staff are located on the second floor adjacent to large and dedicated conference rooms. As most of these staff roles are office-oriented, this allows people who spend most of their day in the building access to daylight and views.





The structural upgrade of the existing building to a seismic level 4 presented challenges as well. The existing building consisted of tilt-up concrete construction, pre-engineered metal, wood framing, and light gauge steel framing from 6-7 additions or modifications over the life of the building—the result was a 75,000 sf puzzle. Scott Edwards Architecture performed comprehensive conditions assessments to understand all available upgrade options.

The final strategy utilized natural breaks between the typical construction assemblies and pre-engineered metal building along with leaning on the concrete tilt-up components of the original warehouse building. These assessments also showed that the existing concrete walls contained sufficient reinforcing such that strategically placed steel columns and enlarged column footings and stem walls met the performance criteria of the structural upgrade.



When SEA and the City of Oregon City decided to renovate rather than build new, City leaders adamantly expressed the desire for the building's appearance to be completely different. Part of SEA's approach to achieving this included demolishing the south street façade and then rebuilding it to be more contemporary in aesthetic. The overall design drew inspiration from the site's industrial location and traditional elements of warehouses, like the shallow gable roof shape and materials like metal panels and tilt-up concrete. Existing materials were refreshed when it made sense to do so and they were placed on display where possible. Portions of the original concrete tilt-up wall are exposed in the design of the new south façade.



As people approach the building's entrance, elements of its warehouse origins are clear, but the aesthetics are noticeably elevated. Glass is incorporated generously in the design, with large exterior and interior windows letting natural light brighten deep into the offices and common areas throughout the building. SEA gave additional thought to this aspect of the design and approached it with the mindset to put communal areas on display—elements like the feature staircase, lobby, and conference rooms can be seen from the exterior of the building through large windows, offering a view of the inner-workings to the passersby.

The warehouse portion of the facility has 50,000 sf of space and houses fleet vehicles and equipment, fleet maintenance bays, a street sign-making studio, shop, parts and materials storage, and more. Like the 25,000 sf of office space, this area is designed to be flexible and durable to meet shifting needs. SEA developed the layout of the warehouse based on numerous workshops with internal advisory groups, crew supervisors, and leads throughout the project.



Completion Date



The Oregon City Engineering and Operations Center experienced no changes in the contracted completion date despite the project enduring significant impacts from labor and material shortages, COVID-19, unprecedented weather, and forest fires. During construction, the Public Works Department initiated its emergency operations protocols to address forest fires and significant ice storms. During these times, the project weathered the impacts and any delays that occurred were resolved without affecting the final completion date. The project reached substantial completion in late November of 2021 but due to supply issues with regards to the fire-resistive glass, final occupancy was achieved in March of 2022.





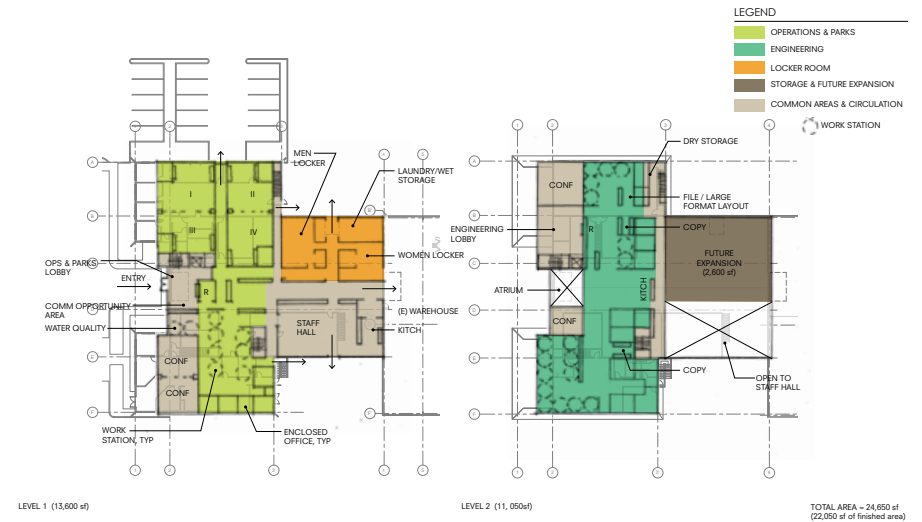
Construction Schedule, Management, and Control Techniques

Emerick Construction used a Critical Path Method (CPM) schedule to track the overall project progress at a high level. This technique ensured that tasks necessary for the project's completion were identified early and monitored closely. Progress was also tracked at the daily level to ensure all activities remained on schedule, and they maintained a three-week look ahead schedule to track activities in much more detail. Material lead times proved to be a substantial factor and many actually entered the critical path, meaning the timeline and success of the project often hinged on these components. Throughout the duration of the project, unique events (wildfires, ice storms, COVID) occurred that required creative problem solving and nimbleness on the part of the construction team—through careful management and constant communication, they mitigated these potential delays and delivered an exceptional result.



Safety Performance

Emerick Construction's safety performance was flawless—Oregon City Engineering and Operations Center saw 0 lost-time injuries over the course of the project. The firm's investment of time and effort into their safety program was evident in how they ran the project. Emphasis on safety is established at the beginning of construction—every subcontractor must agree to comply with Emerick's program—and maintained throughout. Their health and safety program is comprised of a clear chain of command, regular and periodic inspections by those within Emerick and from outside resources, established protocols for all job site occurrences, and a designated Safety Coordinator that is responsible for implementing the program, which includes education, monitoring, interpreting, updating, and recordkeeping.



Community Need

The new Oregon City Engineering and Operations Center is a community asset from many perspectives. Both the Public Works and the Parks Department provide important services for the Oregon City community and the old facilities were ill-equipped to keep up with growth. The City had been setting aside funds to develop an Operations Center for over 18 years—the old facility was deficient in many areas including structural integrity, adequate workspaces, and overall efficiency. The newly renovated facility exceeds expectations in solving these deficiencies and is now considered a Class A office building and a seismically sound facility. Part of the challenge of this site and the reuse of this existing building is creating a street presence. The area, though industrial, is near food and transportation options, supporting staff and building occupants. To develop a street presence and access these amenities, SEA designed a public plaza connecting the street to the building's entrance, activating the pedestrian experience. Landscaping, seating, and lighting create an inviting outdoor space for staff and visitors alike. Features including community bulletin boards, a

bicycle repair area, water bottle fill stations, and electric charging stations are available to the public.

Renovation and adaptive reuse are inherently a creative use of resources—by opting to renovate, the City of Oregon City not only worked within the allotted budget but also brought new life to an existing city building. This approach required thoughtful design and construction, but the result is that much richer for it. To repurpose a metal warehouse shell, previously used as cold storage, into efficient and purposeful public works uses, like the new sign shop, equipment and fleet maintenance shop, and internal vehicle wash rack, is unique and demonstrates what a strong vision and team can achieve. Similarly, the office building maintained the existing concrete tilt-up warehouse shell. The design team opened the face of the warehouse using contemporary glazing and large skylights to create a bright and inviting office floor plan complete with a multi-purpose staff room and centralized crew pods where utility maintenance staff can gather and organize their field work.

Sustainable Practices



The primary sustainable practice used in this project was the decision to adaptively reuse an existing building rather than build new—this decision allowed the team to work creatively to reuse as much of the materials and structure as possible, all with sustainability in mind. Elements of this approach are visible big and small, from how the footprint was developed to the revamping of the existing sprinkler system to the repurposing of glulam beams as furniture in the new space.



Other sustainable practices found in the Oregon City Engineering and Operations Center include lighting controls that utilize daylight and occupancy sensors, the incorporation of large skylights to reduce energy consumption for lighting, and all LED light fixtures. A highly efficient mechanical system VRV with heat recovery and low flow plumbing fixtures also contributes to the building's sustainability, while a photovoltaic system mounted on a roof structure harnesses solar power to further offset energy use.

Environmental Considerations

During the construction phase, several steps were taken to protect and preserve the surrounding environment. Emerick and the project team used erosion control measures, including capturing debris at catch basins and preventing debris from entering stormwater systems. The construction team also focused on protecting adjacent properties and existing onsite landscaped areas from construction debris, construction equipment fluids, and any harmful contaminants, and emphasized avoiding and mitigating these impacts. All

demolished items and construction debris were hauled off-site to a location where the material was sorted between disposal items and recyclables. The adaptive reuse of the original concrete structure and design approach to work within the existing building footprint and height greatly reduced the project's environmental impact and represents the most significant environmental consideration.





Community Relations

The Oregon City Engineering and Operations Center improved community relations in several ways. Prior to acquiring the final site on Fir Street, the City had explored and planned to use the site it already occupied for a new facility. The reuse of the old site for a new facility was controversial because it was located well within a historic neighborhood. The neighborhood voiced that they preferred the City to move the facility elsewhere, so when the Fir Street site was acquired, the project's trajectory shifted in a more positive direction. While the Fir Street site presented challenges, the project team took care to meet and work with all stakeholders, including the community, to understand needs, wants, and the overall vision.

The community saw the benefit of co-locating much of the City's operations under one roof. Long-time constituents who had misgivings about the project now saw the value and praised the project team for efforts to build in so many efficiencies. Lauded elements include the solar array on the covered parking,

the organized material storage under one roof, and creating a multipurpose space that performs as a lunchroom but easily transitions to a training or staff meeting room when needed. While not the City's Emergency Operations Center (EOC), the facility can perform many EOC functions—it has a 4000KW generator, onsite fuel, and a dynamic AV system that can configure in just about any form needed to respond to an emergency event.

Another benefit to the Fir Street site that improves public accessibility, both in times of emergency and in daily use, is its central location. It is located in one of the City's industrial corridors with convenient truck access to Beaver Creek Road and Molalla Avenue, two of the City's most popular arterials. By virtue of the past location in a busy but residential neighborhood, the City has taken a large step forward in addressing past concerns for public inconvenience and safety involving Oregon City Public Works and the work they perform.

Unusual Accomplishments

During the course of this project, the City of Oregon City implemented emergency operations twice, once for wildfires in the area and once for an ice storm. Observing how the Public Works team responded in both instances gave SEA and the project team a strong understanding of the needs not only for this facility but facilities like it.

During construction, Emerick Construction helped to navigate multiple obstacles. Alongside material, cost, and worker challenges due to the COVID-19 pandemic, they also addressed significant unforeseen conditions like a complete redesign of a sanitary line, a re-sheathing of the roof, the decommissioning and removal of an unexpected septic tank, and a new storm sewer connection for the property. Despite these challenges, the City of Oregon City, the design team, and Emerick were able to minimize the potential impacts by working together to come up with creative, efficient solutions.



Additional Considerations

The existing structure comprised multiple construction types including Pre-Engineered Metal Building (PEMB), light gauge metal framing, wood framing, and concrete tilt-up assemblies. Structurally upgrading these assemblies to a Seismic Category IV building to convert the building to an essential facility created complexity in design. The approach separated the office building (wood framing, light gauge, concrete tilt) from the PEMB warehouse and fleet shop so that the two components were structurally independent of each other. The design team strategically placed seismic joints to create separation and limit where seismic improvements were required. Ultimately, the office building achieved the goal of being a Seismic Category IV building and was constructed to allow the PEMB to remain as is.

Oregon City has robust design standards, including specific requirements in industrial zones that are not typical of most jurisdictions. The City requires certain percentages of glazing, multiple varying exterior materials, building

undulation to create architectural interest, and more. To address setback limitations (non-conforming), Scott Edwards Architecture and the project team created the public plaza between the building and right-of-way to connect the two to the building. The project team was also required to incorporate 14 different pedestrian amenities into the plaza to meet the conditions approval addressing the non-conforming items. Ultimately, the project team navigated the competing elements and were granted adjustments to landscaping and parking standards to maximize the use of the site for operations and fleet vehicles.

