



CITY OF SALINAS COUNCIL STAFF REPORT

DATE: SEPTEMBER 6, 2022

DEPARTMENT: PUBLIC WORKS

FROM: DAVID JACOBS P.E., L.S., PUBLIC WORKS DIRECTOR

THRU: ANDREW EASTERLING, TRAFFIC ENGINEER

BY: GERARDO RODRIGUEZ, ASSISTANT ENGINEER

TITLE: FRONT STREET/SHERWOOD DRIVE ADAPTIVE TRAFFIC CONTROL SYSTEM; CIP 9431

RECOMMENDED MOTION:

A motion to approve a Resolution:

- 1) Approving the plans and specifications for the Front Street/Sherwood Drive Adaptive Traffic Control System Project, CIP 9431;
- 2) Awarding a contract to Bear Electrical Solutions, Inc. for the Front Street/Sherwood Drive Adaptive Traffic Control System Project; CIP 9431, in the amount of \$585,870.00;
- 3) Authorizing a budget transfer of \$80,000.00 funds from CIP 9253 – ADA Traffic Signal Upgrades and \$130,000.00 funds from 9654 – Traffic Sign Installations, for a total increase of \$210,000.00 to CIP 9431 – Traffic Signal Coordination; and,
- 4) Authorizing the direct purchase of traffic signal equipment in the amount of \$219,572.22 for the Front Street/Sherwood Drive Adaptive Traffic Control System Project, CIP 9431.

RECOMMENDATION:

Staff recommends that the City Council approve a Resolution approving the plans and specifications for the Front Street/Sherwood Drive Adaptive Traffic Control System Project; awarding a contract to Bear Electrical Solutions, Inc. for the Front Street/Sherwood Drive Adaptive Traffic Control System Project, CIP 9431, in the amount of \$585,870.00; authorizing a budget transfer of \$80,000.00 funds from CIP 9253 – ADA Traffic Signal Upgrades and \$130,000.00 funds from 9654 – Traffic Sign Installations, for a total increase of \$210,000.00 to CIP 9431 – Traffic Signal Coordination; and authorizing the direct purchase of traffic signal equipment in the amount of \$219,572.22 for the Front Street/Sherwood Drive Adaptive Traffic Control System Project, CIP 9431.

EXECUTIVE SUMMARY:

On February 2, 2021, City Council approved Resolution No. 22041 accepting grant funds from Monterey Bay Air Resources District (MBARD) for Front Street/Sherwood Drive Adaptive Traffic Control System and authorizing the Public Works Director to execute agreements related to the MBARD grant. The project will improve Front Street/Sherwood Drive corridor by improving travel times, reducing delay, reducing emissions, improving air quality, and reducing rear-end collisions. Project plans and specifications are complete, and the project was advertised on June 20, 2022. The City opened bids on July 26, 2022, and the low bidder was Bear Electrical Solutions, Inc. for the amount of \$585,870.00. City staff is recommending a budget transfer of \$210,000.00 to fully fund the estimated project costs.

BACKGROUND:

The City was awarded funding from the Air District's Emissions Reductions Program (AB2766) for the Front Street/Sherwood Drive Adaptive Traffic Control System Project. The City of Salinas experiences traffic congestion at signalized intersections that creates inefficient motor vehicle traffic resulting in considerable emissions of pollutants and particulate matter. The Front Street and Sherwood Drive corridor consists of five contiguous traffic signals. The congested portion of the corridor extends between the intersections of East San Luis Street and East Rossi Street. These five intersections are closely spaced, between 500 and 1,100 feet away from each other. This roadway segment can experience severe congestion during peak periods. The northbound queues have been observed to extend throughout the corridor from East Rossi Street to East San Luis Street. It is common for the northbound traffic to wait two to three cycles before being served by a green light.

Adaptive traffic control systems can monitor traffic conditions and can adjust signal controller timing to prioritize platoons of vehicles and provide a series of green lights for the busiest movements. Installing an adaptive system in traffic signals corridors can improve the performance of the signals and slightly improve the capacity of the corridor. The benefit to the community will be improved travel time reliability, reduced delay, reduced emissions, improved air quality, and reduced rear-end collisions. The City has previously installed adaptive traffic control systems on several congested roadway segments, specifically on North Main Street (Boronda Road to Bernal Drive), East Boronda Road (Independence Boulevard to North Main Street), and North Sanborn Road (Freedom Parkway to East Alisal Street). These past projects not only saved motorists considerable time and fuel consumption, but also reduced motor vehicle emissions and rear end collisions.

The City applied for a MBARD grant to improve the Front Street/Sherwood Drive corridor and reduce delays and emissions. The City was awarded a grant by the MBARD in the amount of \$400,000 for the Front Street/Sherwood Drive Adaptive Traffic Control System Project. On February 2, 2021, City Council approved Resolution No. 22041 accepting grant funds and authorizing the Public Works Director to execute agreements related to the grant (Attachment 1).

The Front Street/Sherwood Drive Adaptive Traffic Control System Project consists of the installation of communication equipment, upgrading traffic signal controllers and peer-to-peer

adaptive controller timing. In the past the City has used third-party vendors for adaptive traffic signal systems to provide coordinated and responsive traffic signal timing. For this application the City is programming the adaptive timing plans without the use of a third-party vendor, which generally requires an on-going expensive subscription service and limits local control of the timing settings. The City plans to use peer-to-peer functions to allow controllers to communicate and place advance calls to adjacent traffic signal controllers. Staff anticipates the peer-to-peer function, along with coordinated time of day plans and dynamic max settings can provide similar performance as the third-party vendors. However, in the event that the peer-to-peer function is not as effective as staff anticipates, the project was also designed to be compatible with the SCOOT (Split Cycle and Offset Optimization Technique) software. The City must upgrade the signals' camera and controller cabinet equipment in order to be upward compatible with the SCOOT system.

Additionally, the project also includes the installation of approximately 3,300 feet of fiber optic communication which will connect the City's fiber optic backbone on East Alisal Street. The new fiber optic communication equipment will expand the City's existing fiber optic network. The additional fiber optic communication equipment benefits the City in other ways unrelated to the project and supports efforts to improve broadband infrastructure. Other City departments which require IoT (internet of things) communication equipment will also benefit from the fiber optic network expansion.

City staff developed and completed plans, specifications and estimate (PS&E) documents for the project. The project generally consists of traffic signal modifications, controller cabinet updates, video detection equipment, and fiber optic communication equipment at five signalized intersections: Front Street and East San Luis Street; Front Street and East Alisal Street; Front Street and East Market Street; Sherwood Drive and East Market Street; and Sherwood Drive and East Rossi Street/Calle Cebu. The modifications include safety improvements such as protected left turns phases and ADA upgrades including, accessible pedestrian push buttons.

The project was advertised on June 20, 2022, and the City opened bids on July 26, 2022. Four contractors submitted bid proposals for the project, and the results are as follows:

Contractor	Total Bid
Bear Electrical Solutions, Inc.	\$585,870
PTM General Engineering Service	\$646,046
Tennyson Electric, Inc.	\$688,850
Monterey Peninsula Engineering	\$869,500

Bear Electric Solutions, Inc. was the low bidder, and a full bid tab is included in the attachments (Attachment 2). All bid contract documents and bonds have been received. The City has verified Bear Electrical Solutions Inc. and their only subcontractor, SoCal Stormwater Runoff Solutions Services Inc., have active Department of Industrial Relations (DIR) registration. Bear Electrical Solutions Inc. has an active contractor's license, and a contractor's licenses is not required for the

subcontractor's work. Additionally, both Bear Electrical Solutions Inc., and SoCal Stormwater Runoff Solutions Services Inc. have active City of Salinas business licenses. Staff recommends that the City Council approve a Resolution awarding the contract to Bear Electrical Solutions, Inc. for the Front Street/Sherwood Drive Adaptive Traffic Control System Project; CIP 9431, in the amount of \$585,870.00.

CEQA CONSIDERATION:

The City of Salinas has determined that the project is exempt from the California Environmental Quality Act (CEQA) Guidelines (Section 15301, Class 1(c)) because the actions consist of operation and minor alteration of an existing City street. A notice of exemption has been prepared and will be filed at the County Clerk's office.

STRATEGIC PLAN INITIATIVE:

This item supports the City Council's goals of Infrastructure and Environmental Sustainability and Public Safety.

DEPARTMENTAL COORDINATION:

The Public Works Department and Finance Department manage the project accounting. The Public Works Department oversees construction projects.

FISCAL AND SUSTAINABILITY IMPACT:

The estimated funding for this project comes from sources below:

CIP No.	Name	Funding Source	Appropriations	Available Balance*
9431	Front Street/Sherwood Drive Adaptive Traffic Control System Project	MBARD Grant / Local Match	\$427,000.00	\$390,800.00
9431	Front Street/Sherwood Drive Adaptive Traffic Control System Project	Measure X (2510 Funds)	\$280,000.00	\$271,328.00
9431	Front Street/Sherwood Drive Adaptive Traffic Control System Project	Gas Tax (2404 Funds)	\$43,000.00	\$39,927.33
		Total	\$750,000.00	\$702,055.33

*As of 8/8/2022

Construction Cost

Base Bid	\$585,870.00
City Furnished Equipment	\$219,572.22
Contingencies (10%)	\$59,000.00
Construction Engineering (8%)	\$47,000.00
Total Estimated Construction Costs	\$ 911,442.22

Based on the bid results and the existing available balance there is an estimated budget shortfall of \$209,386.89. A total appropriation of \$210,000.00 of funds will cover the estimated budget shortfall. Staff recommends the transfer of \$80,000 funds from CIP 9253 – ADA Traffic Signal Upgrades and \$130,000 funds from 9654 – Traffic Sign Installations to CIP 9431 – Traffic Signal Coordination.

In an effort to reduce project costs, the project plans and specifications call for the City to furnish some of the traffic signal equipment. Typically, when a contractor supplies equipment for a construction project, a mark-up on the material is paid by the City. As part of this contract, the City proposes furnishing controller cabinet equipment and the detection cameras for this project. The City received a quote from Iteris for \$113,403.90 to purchase the project's video detection cameras and a quote from Western Systems for \$106,168.32 to purchase the project's controller cabinet equipment. Quotations for City-furnished equipment are included in the attached documents (Attachment 3). It is recommended City Council approve a Resolution authorizing the direct purchase of traffic signal equipment in the amount of \$219,572.22 for the Front Street/Sherwood Drive Adaptive Traffic Control System Project; CIP 943.

ATTACHMENTS:

Resolution

Attachment 1: Resolution 22041

Attachment 2: Bid Tab

Attachment 3: Quotations for City-Furnished Equipment