



City Council Staff Report

From: City Manager

Report Type: CONSENT CALENDAR

Lead Department: Utilities

Meeting Date: June 17, 2024

Staff Report: 2403-2713

TITLE

Adoption of a Resolution Approving an Initial Study/Mitigated Negative Declaration for Citywide Implementation of Fiber-to-the-Premises Project (FTTP), Including the Mitigation, Monitoring and Reporting Program; Approval of Purchase Order No. 4524000496 With Thermo Bond Buildings in an Amount Not to Exceed of \$339,076 for the Design, Build and Delivery of a Modular Building “Fiber Hut”; Authorization for the City Manager or Their Designee to Negotiate and Execute Change Orders in the Amount Not-to-Exceed of \$31,384 for Related Additional but Unforeseen Work That may Develop During the Project, for a Total Not-to-Exceed Amount of \$370,460 with Thermo Bond Buildings.

RECOMMENDATION

Staff recommends that Council take the following actions regarding Fiber-to-the-Premises (FTTP) Capital Improvement Project (CIP) (FO-24000):

- 1) Adopt the Resolution (Attachment A) Approving the Final Initial Study/Mitigated Negative Declaration for the Fiber to the Premises Project, ([SCH # 2024050007](https://www.cityofpaloalto.org/files/assets/public/v/1/city-manager/communications-office/palo-alto-fiber/mnd-final-docs/final-initial-study-mitigated-negative-declaration.pdf)¹), Including the Mitigation, Monitoring and Reporting Plan (Attachment B)
- 2) Approve and Authorize the City Manager or their designee to execute Purchase Order No. 4524000496 with Thermo Bond Buildings (Attachment C) in the amount of \$339,076 for design, build, and delivery of a Modular Building “Fiber Hut” Including Ancillary Equipment to House Fiber Networking Equipment and to Serve as an Aggregation Site for FTTP; and
- 3) Authorize the City Manager or their designee to negotiate and execute one or more change orders to the purchase order with Thermo Bond Buildings for related additional but unforeseen work which may develop during the project in the amount of \$31,384; for a total not-to-exceed contract amount of \$370,460.

¹ SCH # 2024050007 <https://www.cityofpaloalto.org/files/assets/public/v/1/city-manager/communications-office/palo-alto-fiber/mnd-final-docs/final-initial-study-mitigated-negative-declaration.pdf>

EXECUTIVE SUMMARY

The COVID-19 pandemic emphasized the need for reliable, high-speed, and affordable internet, which is addressed by the Fiber-to-the-Premises “FTTP” Project (FO-24000). Through the FTTP project, the City will provide broadband high-speed internet directly to Palo Alto homes and businesses.

The City, acting as the lead agency, prepared an Initial Study/Mitigated Negative Declaration for citywide implementation of the FTTP Project. The IS/MND evaluates the complete buildout of all phases of the project, and includes a Mitigation Monitoring and Reporting Plan to reduce the environmental impacts associated with the Project to a less than significant level. However, the project will be built out in phases, and to date, Council has authorized only the Phase 1 buildout which includes the pilot area. Staff will return to Council for approval of each phase.

At this time, staff is seeking approval of a purchase order for the design, build, and delivery of a fiber hut. The modular building, the “fiber hut”, will be critical to the fiber infrastructure, housing essential fiber equipment for FTTP and serving as a local aggregation site. The fiber hut will be built to City’s specifications measuring approximately 11 feet wide by 20 feet long by 10 feet high and will be located at the Colorado Substation. The fiber hut will have an air-conditioning unit mounted on the side of the hut, a fiber-optic cable underground access vault, and a backup generator. Staff is also seeing authorization for change order funding in the event related additional but unforeseen work develops.

BACKGROUND

On December 19, 2022, City Council directed staff to proceed with the Fiber Expansion Plan to implement the Fiber Rebuild project and Phase 1 of the Fiber-to-the-Premises (FTTP) project. In Phase 1, FTTP would be built out in selected areas of the city, and expanded gradually ([Staff Report ID 14800²](https://www.cityofpaloalto.org/files/assets/public/v/1/agendas-minutes-reports/reports/city-manager-reports-cmrs/2022/12-19-2022-id-14800.pdf)). Construction of the new fiber backbone in the Fiber Rebuild project and last mile infrastructure to provide FTTP broadband internet to the community in the FTTP project will be a significant undertaking for the City.

On June 19, 2023, Council approved the FY 2024 CIP Budget with both the new FTTP project, and Grid Modernization for Electrification Project. The approval of the electrification project accelerated efforts to align electrification and fiber construction, which impacted the Fiber Expansion Plan. Staff was directed to explore opportunities to align the grid modernization project and projects under the Fiber Expansion Plan to help minimize utility engineering pole make-ready work, pole replacements, noise disruption, and construction activity in neighborhoods.

² Staff Report ID 14800 <https://www.cityofpaloalto.org/files/assets/public/v/1/agendas-minutes-reports/reports/city-manager-reports-cmrs/2022/12-19-2022-id-14800.pdf>

On December 18, 2023³, to execute on Council's direction, staff informed Council that a pilot would be deployed to evaluate how alignment of fiber and grid modernization projects may help control project costs, minimize construction impacts to the community, and prevent major delays. Activities essential to the roll-out of the pilot were highlighted as well, such as the California Environmental Quality Act (CEQA) determination and purchase of a fiber hut.

ANALYSIS

Fiber-to-the-Premises consists of the construction of a fiber optic backbone and fiber distribution infrastructure to provide communication services throughout the City of Palo Alto. FTTP would provide municipal high-speed internet service to residences and businesses in Palo Alto.

The proposed project includes the following main components:

1. Installation of approximately 194 miles of fiber optic cables (consisting of about 90 miles of below-ground installation and 104 miles of aerial installation using existing utility poles);
2. Installation of approximately two local aggregation sites either inside modular communications shelters (i.e., fiber huts) or enclosed within existing commercial buildings;
3. Installation of approximately 4,200 underground utility vaults and 147 aboveground utility cabinets; and,
4. Fiber internet connections directly to subscribing customers' homes and/or businesses ("subscribers").

The fiber hut is a critical element of the FTTP network design because it serves as the local aggregation site for up to 15,000 customers. A fiber hut is usually a modular building (approximately 11'W x 20'L x 10'H) containing communications equipment, racks, power, fire suppression, and fiber terminations that connects to fiber distribution cabinets throughout the neighborhoods. Huts may also contain backup generators and HVAC systems to maintain equipment within its operating environmental specifications, and equipment for electrical needs. The Colorado substation was selected as an ideal location due to its proximity to the area it serves and its current use for utilities.

Fiber hut vendors are specialized to design and install these modular buildings customized to the needs of the fiber network design. As a result, the City works closely with the vendor on the requirements and hut designs are finalized upon vendor selection.

Procurement Process

City staff posted a formal request for proposals on February 28, 2024 on the City of Palo Alto's e-procurement website (OpenGov).

³ December 18, 2023 <https://www.cityofpaloalto.org/files/assets/public/v/1/agendas-minutes-reports/reports/city-manager-reports-cmrs/2023/12-11-2023-id-2309-2094.pdf>

Due to the limited number of suppliers and extended lead time (24 – 52 weeks), the City requested quotes for both new and refurbished fiber huts. The City received two (2) bids. Cell Site proposed a refurbished hut at a lower price (~\$50k less) but staff had concerns about the durability of the hut due to its age (21 years), previous climate wear and tear, and limited warranty. Thermo Bond proposed a new hut based on the City's specifications including the alternate bid items (DC power distribution system and AC inverter) which are required to provide power and air conditioning to the hut. Staff recommends the new fiber hut from Thermo Bond since the hut may potentially be in place for several decades to enable municipal fiber internet service up to 15,000 customers.

Entitlement Process

A minor architectural review application is required for the proposed hut. Once a design is developed, City of Palo Alto Utilities would submit a Minor Architectural Review application to Planning for staff review and the Director's approval.

FISCAL/RESOURCE IMPACT

Funding for this contract is available in the Fiscal Year 2024 Capital Improvement Plan budget for the Fiber-To-The-Premises "FTTP" Capital Project (FO-24000). Additional services of \$31,384 is requested for any unforeseen shipping and crane-off loading services which will depend on the carrier, location and site layout. The purchase order pricing is not currently guaranteed for these services. Any unused amount for additional services will be returned to the FTTP CIP project.

STAKEHOLDER ENGAGEMENT

Staff continues to engage with the community on the FTTP and Grid Modernization Projects primarily through the City's Finance Committee and Utilities Advisory Commission discussions which are open to the public to participate and share feedback.

On November 7, 2023, the Finance Committee was updated on the Fiber Master Plan, which included the pilot program area to align FTTP with the Electric grid modernization project. The Finance Committee provided feedback on timeline, costs, and alignment of FTTP to grid modernization ([Staff Report #2309-2082](#)⁴). In addition, staff continues to share updates through the Palo Alto Fiber project webpage⁵, City communications channels such as social media⁶, Medium.com blog⁷ and interactive Palo Alto Fiber Hub⁸.

⁴ Finance Committee staff report 2309-2082, https://www.cityofpaloalto.org/files/assets/public/v/1/agendas-minutes-reports/reports/city-manager-reports-cmrs/2023/11-7-2023_2309-2082-mini-packet.pdf

⁵ Palo Alto Fiber Webpage, <https://www.cityofpaloalto.org/paloaltofiber>

⁶ City Social Media Channels, <https://www.cityofpaloalto.org/connect>

⁷ Palo Alto Connect, <https://medium.com/@paloaltoconnect>

⁸ Palo Alto Fiber Hub, <https://fiber-palo-alto.hub.arcgis.com/>

ENVIRONMENTAL REVIEW

The FTTP Project has been assessed in accordance with the authority and criteria contained in the California Environmental Quality Act (CEQA), the State CEQA Guidelines, and the environmental regulations of the City. An Initial Study-Mitigated Negative Declaration has been prepared and was circulated for a 30-day public review beginning on May 1, 2024, and ending on May 31, 2024. A final IS/MND that incorporated revisions, as appropriate, based on public comments was published on June 6, 2024. The analysis in the IS/MND includes evaluation of the fiber hut.

The IS/MND concludes that no significant and unavoidable impacts are anticipated for the proposed project. Mitigation is incorporated to mitigate potential impacts on air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, Transportation, and tribal cultural resources to a less than significant level as detailed in the Resolution in Attachment A and the related Mitigation Monitoring and Reporting Plan (MMRP) (Attachment B).

The City received five comments letters on the proposed project during the MND circulation period. These comments were from one member of the public and four responsible agencies for the proposed project: Caltrans, Valley Water, Santa Clara County, and California Department of Fish and Wildlife (CDFW). Comments from the member of the public were not related to the environmental analysis. Comments from the responsible agencies primarily indicated the permits that would be required for work in certain areas for which they have jurisdiction. Comments from CDFW recommended additional measures for the protection of Crotch's Bumble Bee, California Ridgeway's Rail and Black Rail. While the City concluded that impacts on these species would be less than significant, the city has agreed to implement these additional measures to further reduce impacts on those species. This is detailed further in the Final MND. An e-mail has been sent to each commenter responding to their comments and, where applicable, indicating where their comments have been addressed in the Final MND. A link to the Final IS/MND and MMRP are included in the [City of Palo Alto Fiber webpage](#)⁹

ATTACHMENTS

Attachment A: Resolution Approving the IS/MND for the FTTP Project

Attachment B: Mitigation Monitoring and Reporting Plan

Attachment C: Purchase Order 4524000496 with Thermo Bond Buildings

APPROVED BY:

Dean Batchelor, Director of Utilities

Staff: Dave Yuan, Strategic Business Manager

⁹City of Palo Alto Fiber Webpage, <https://www.cityofpaloalto.org/paloaltofiber>