

**ORANGECREST SUBSTATION TO SPRINGS SUBSTATION FIBER OPTIC CABLE UPGRADE – WORK ORDER NO. 2224356 IN THE AMOUNT OF \$649,000**

**Riverside Public Utilities – Energy Delivery**

**Board of Public Utilities**  
November 13, 2023

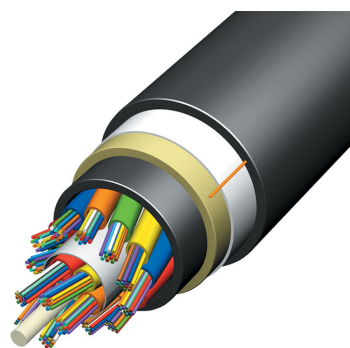
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1

## **RPU's FIBER OPTIC INITIATIVE (Mid-2000s)**

Transition from 12-strand to 144-strand cables

- **Goals:**
  - Expand network capacity
  - Maintain reliability and efficiency
- **Current status:**
  - Only segment between Springs and Orangecrest Substation on the original 12-strand configuration
- **Completion Milestone:**
  - Entire RPU network on the 144-strand system upon upgrade



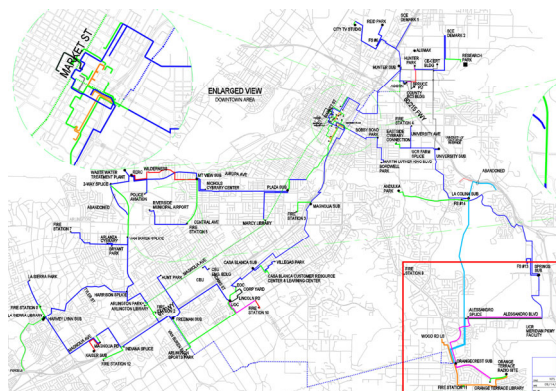
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2

## BACKGROUND

1. RPU has an existing 12-strand fiber optic aerial and underground cable from Orangecrest to Springs Substation that was installed in 1994
2. The fiber optic cable route has three segments



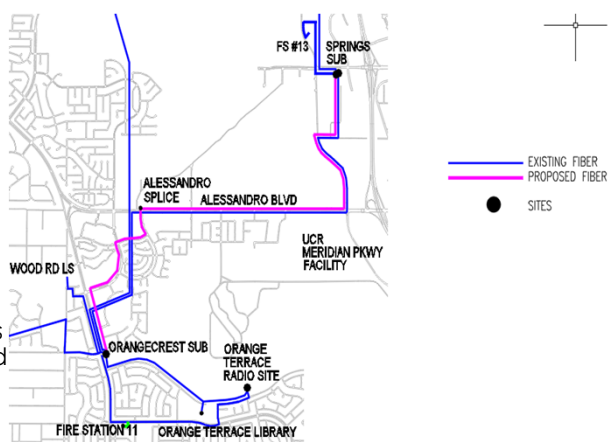
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3

## BACKGROUND (CONT.)

1. Segment One: Fiber Optic cable from Orangecrest Substation to Mission Grove Cross connect is 9,300 feet long supported and attached along an existing overhead pole-line composed of wooden and steel poles
2. Segment Two: Fiber Optic cable from Mission Grove Cross connect to Alessandro Cross connect is 9,400 feet long in existing Underground conduit
3. Segment Three: Fiber Optic cable from Alessandro Cross connect to Springs Substation is 7,000 feet long with 4,200 in existing Underground conduit and the remaining 2,400 feet supported and attached along an existing overhead pole-line composed of wooden and steel poles



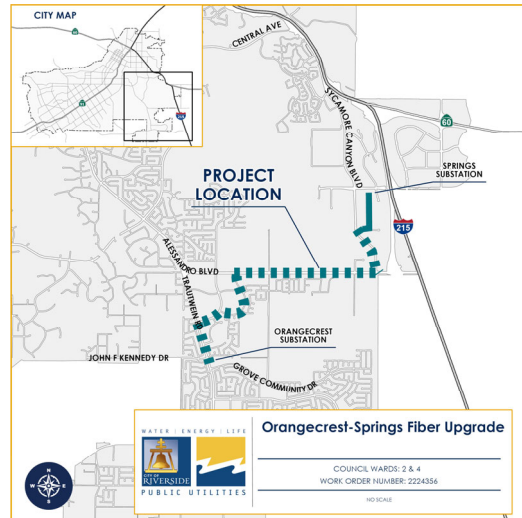
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4

## PROJECT LOCATION

1. Orangecrest and Sycamore Canyon Area
2. The project will upgrade approximately 25,700 feet of 12-strand fiber with new 144-strand fiber
3. Outages will be coordinated with field crews to minimize the impact to RPU communications system



5

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5

## SCOPE OF WORK

1. Replace and upgrade of 12,100 feet aerial fiber optic cable
2. Replace and upgrade 13,600 feet Underground fiber optic cable
3. Installation to existing pole-line, underground conduits, and cross-connect cabinets
4. Testing and commissioning of the new fiber optic network cable
5. Removal of the old cable and associated pole attachments



6



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6

## SCOPE OF WORK

### Project and Fiscal Breakdown

Work Type	Performed By:	Amount (\$)
Project Management and Engineering	RPU Engineering Staff	\$50,000
Civil Construction:	Contractor	\$40,000
Fiber Installation Work	RPU Field Forces	\$350,000
Fiber Termination, Testing, and Commissioning	RPU Testing	\$10,000
Material Procurement		\$140,000
Contingency (10%)		\$59,000
Work Order Total:		\$649,000
Anticipated Start Date:		January 2024
Anticipated Duration:		9 Months



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7

## STRATEGIC PLAN ALIGNMENT



### Strategic Priority 6 – Infrastructure, Mobility and Connectivity

**Goal 6.2** – Maintain, protect and improve assets and infrastructure within the City's built environment to ensure and enhance reliability, resiliency, sustainability, and facilitate connectivity.

### Cross-Cutting Threads



Community Trust



Fiscal Responsibility



Sustainability & Resiliency



Equity



Innovation



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8

8

## RECOMMENDATION

That the Board of Public Utilities approve the capital expenditure for Work Order No. 2224356 in the amount of \$649,000 for the Orangecrest Substation to Springs Substation Fiber Optic Cable Upgrade Project.



9

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