

**Executive summary**  
**Fire Hardening restoration in California**

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**Background:**

This report provides a comprehensive overview of a paid environmental specialist internship undertaken at POWER Engineers, an esteemed environmental consulting firm headquartered in Portland, Oregon, spanning the period from June to December 2024. The internship primarily focused on supporting a critical fire hardening project for an electric utility company in California. The endeavor aimed to strategically replace existing poles with more fire-resistant alternatives, covering a vast network of transmission lines spanning over 500 miles. The project's scope initially concentrated on the Scott River Road area, where sustainable methods for transmission line replacement were explored. The internship entailed a diverse array of responsibilities, including environmental analysis, permitting, planning, management, GIS mapping, and compliance with state, local, and federal land-use policies. The project's scientific dimension centered on facilitating the utility company in replacing current poles with more fire-resistant alternatives, necessitating a robust planning, management, and permitting approach.

**Project Description:**

A significant aspect of the internship involved leading the permitting process for the utility company's initiative to replace electric poles with fire-resistant alternatives. The project's scope included conducting a thorough routing and siting analysis to identify optimal replacement routes while considering environmental impact, cost, and feasibility. Key deliverables included routing and siting analyses, environmental memos, wetland memos, and construction condition memos, crucial for obtaining project approvals.

**Method Used:**

**Routing and Siting Analysis:**

The routing and siting analysis employed a meticulous approach, integrating data collection, constraint mapping, and opportunity analysis to identify optimal transmission line routes. This comprehensive assessment facilitated informed decision-making, ensuring alignment with environmental regulations and minimizing adverse impacts on local communities.

**Engineering/Planning:**

Engineering efforts focused on replacing poles with fire-resistant materials such as fiberglass and steel, with considerations for automated conductor systems to mitigate fire risks. Close collaboration with engineers was essential to ensure compliance with land-use policies and obtain requisite permits from regulatory authorities.

**Environmental Memo:**

The environmental memo served as a concise document outlining critical environmental considerations, including project area ownership, access, cultural resources, wetland assessments, and biology surveys. This memo guided stakeholders in understanding potential environmental impacts and informed necessary mitigation measures.

### Construction Condition Memo:

The construction condition memo outlined key permit agreements and safety protocols for construction teams, facilitating a smooth implementation process. Permit details, including project access, transportation permits, encroachment permits, and wetland permits, were meticulously documented to ensure regulatory compliance.

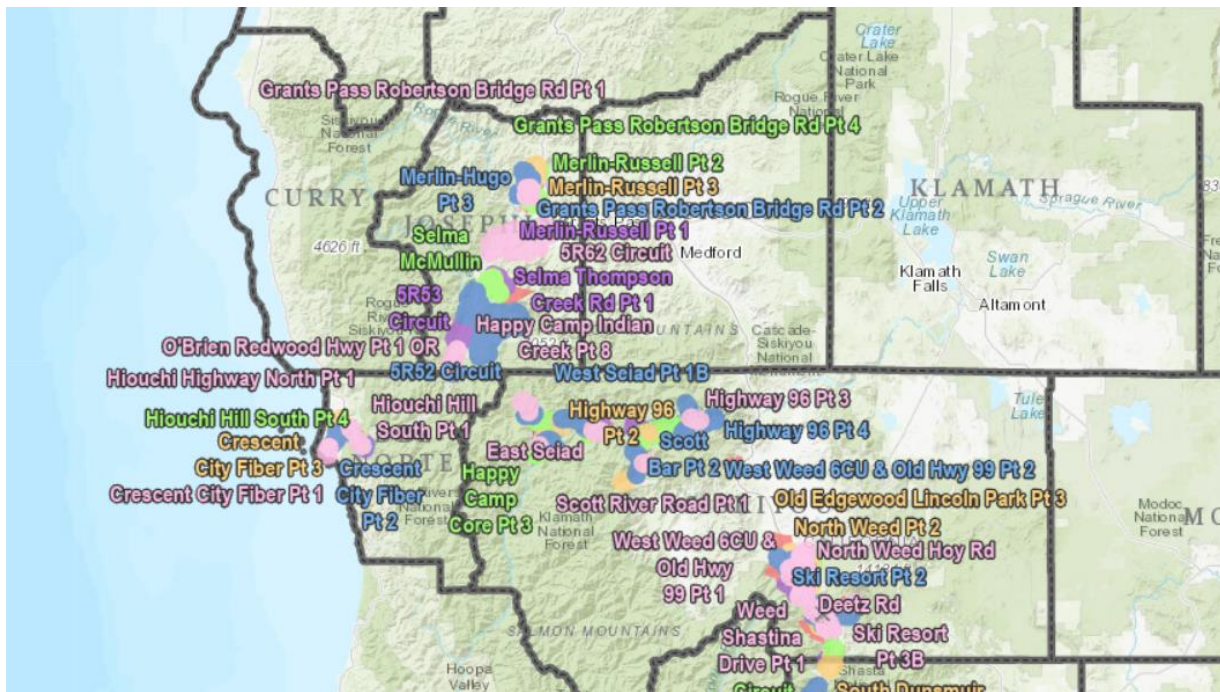
### Results:

The project yielded several noteworthy outcomes, including the provision of multiple routing options based on the routing and siting analysis. The environmental memo guided the utility company in addressing potential environmental impacts, leading to the issuance of necessary permits for the Scott River Road project. By adhering to comprehensive assessments and memos, the project successfully replaced poles, enhancing fire resilience while minimizing environmental impacts.

### Conclusion:

The internship at POWER Engineers significantly contributed to advancing the fire hardening restoration project in California, demonstrating expertise in both technical and business dimensions. The meticulous planning, permitting, and strategic analyses underscored the fusion of environmental science and practical business strategies, facilitating the transition to more fire-resilient infrastructure. Moving forward, this integrated approach will continue to drive sustainable infrastructure development, aligning with environmental goals and regulatory requirements.

Project awarded---the transmission line expands over 500 miles from California to Washington.



Scope of the project: Scott River Road

