



Pasadena Water and Power

ADOPTION OF THE WATER AND POWER DEPARTMENT'S WILDFIRE MITIGATION PLAN

City Council

November 18, 2019

Item 16





PWP Wildfire Mitigation Plan

Pasadena Water and Power

- > The Plan includes various programs, policies, and range of activities taken to mitigate the threat of power-line ignited wildfires
- > The Plan fully complies with the California Public Utilities Code (“CPUC”) Section 8387 which requires public utilities to prepare a wildfire mitigation plan by January 1, 2020
- > PWP will present specific fire mitigation measures (projects/policies/actions) to MSC by April 30, 2020



CPUC Fire Threat Map

Pasadena Water and Power

- **Current Map Adopted by CPUC in 2018**
 - > Developed with input from numerous stakeholders, including PWP
 - > Reviewed and approved by Independent Review Team led by Cal Fire
- **Includes 3 Tiers of Fire Risk Areas**
 - > Tier 1 – High Hazard Fire Risk Area (*white*)
 - Incorporates U.S. Forest Service-CAL FIRE joint map of Tree Mortality High Hazard Zones
 - Considers direct proximity to communities, roads, and utility lines, and represent a direct threat to public safety
 - > Tiers 2 and 3 are relative assessments of risk from wildfires **associated with overhead utility power lines and facilities**
 - Considers likelihood and potential impacts on people and property
 - **Tier 2** – Elevated Fire Risk Area (*yellow*)
 - **Tier 3** – Extreme Fire Risk Area (*pink/orange/red*)



CPUC Fire Threat Map

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In Tier 2

62,232 feet OH wires
435 transformers
5,177 structures

Tier 3 - Extreme

In Tier 3

4,371 feet OH wires
21 transformers
254 structures
Two water facilities

Tier 2 - Elevated

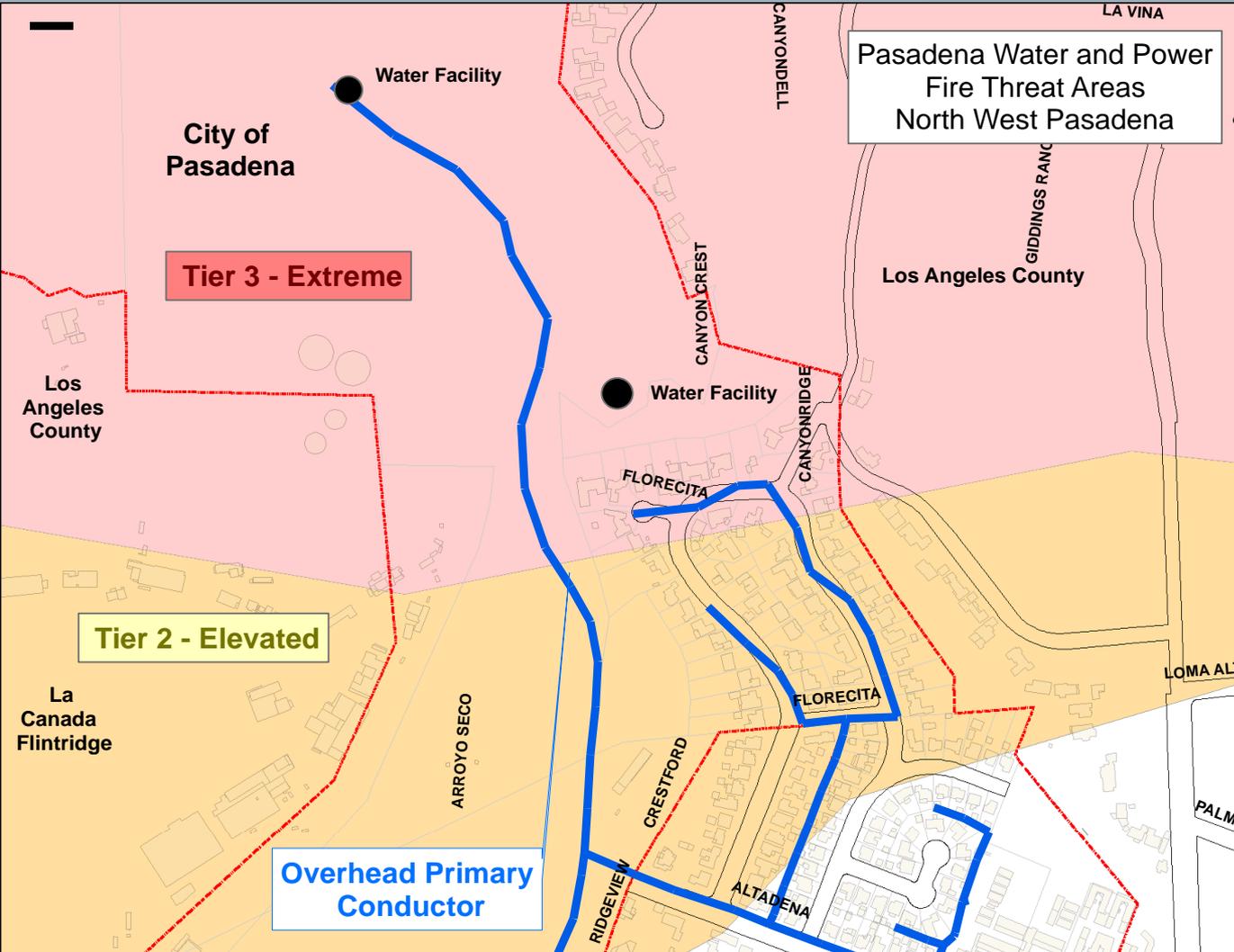
Tier 1 - High Hazard

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Fire Map – PWP Northwest

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Fire Threat Areas
North West Pasadena

Tier 3 - Extreme

Tier 2 - Elevated

Overhead Primary
Conductor

In Tier 3
 2,580 feet OH wires
 5 transformers
 55 structures
 Two water facilities



Fire Map – PWP Northwest

Pasadena Water and Power

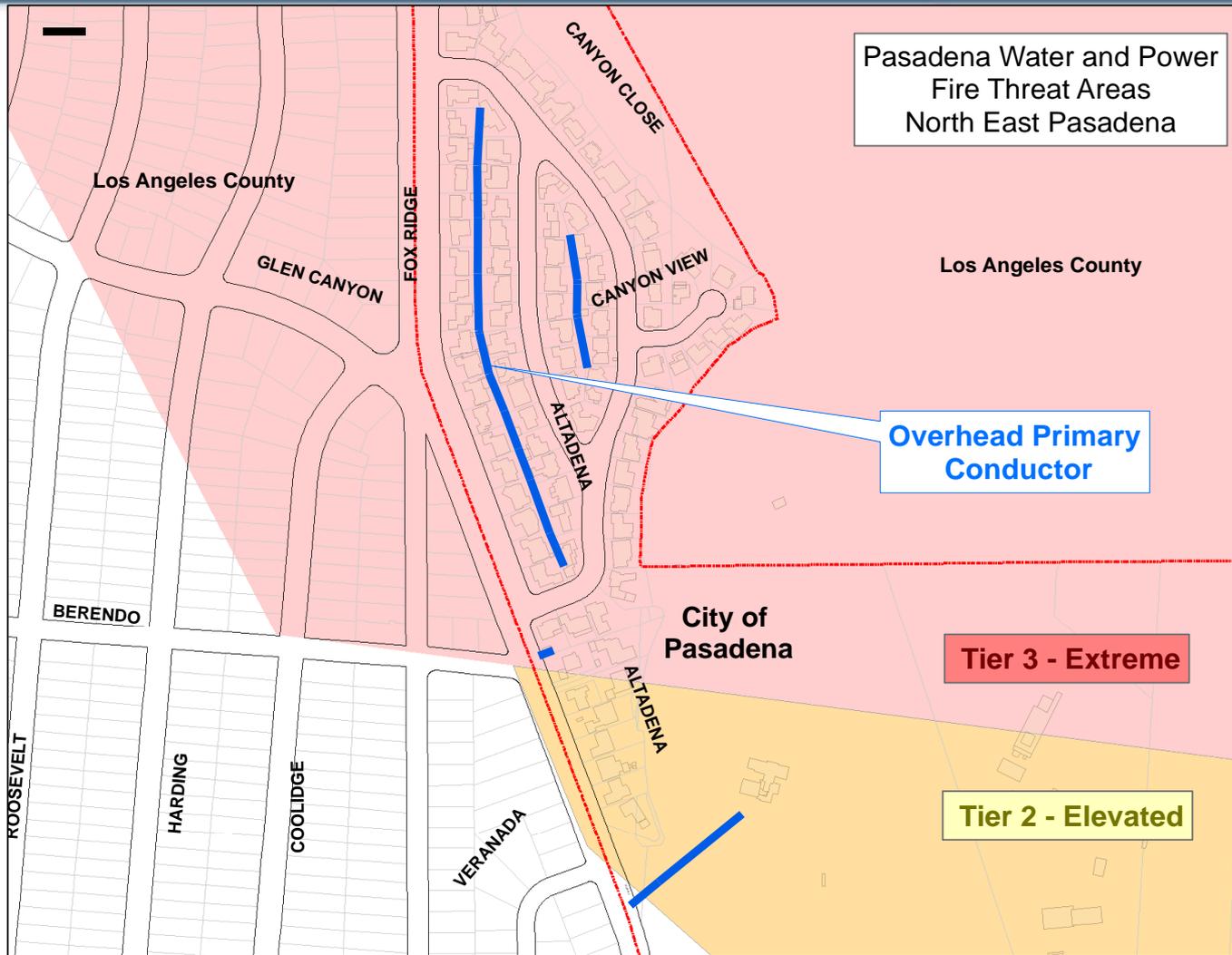


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Fire Map – PWP Northeast

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Fire Threat Areas
North East Pasadena

Los Angeles County

In Tier 3

1,792 feet OH wires
16 transformers
199 structures

Overhead Primary
Conductor

City of
Pasadena

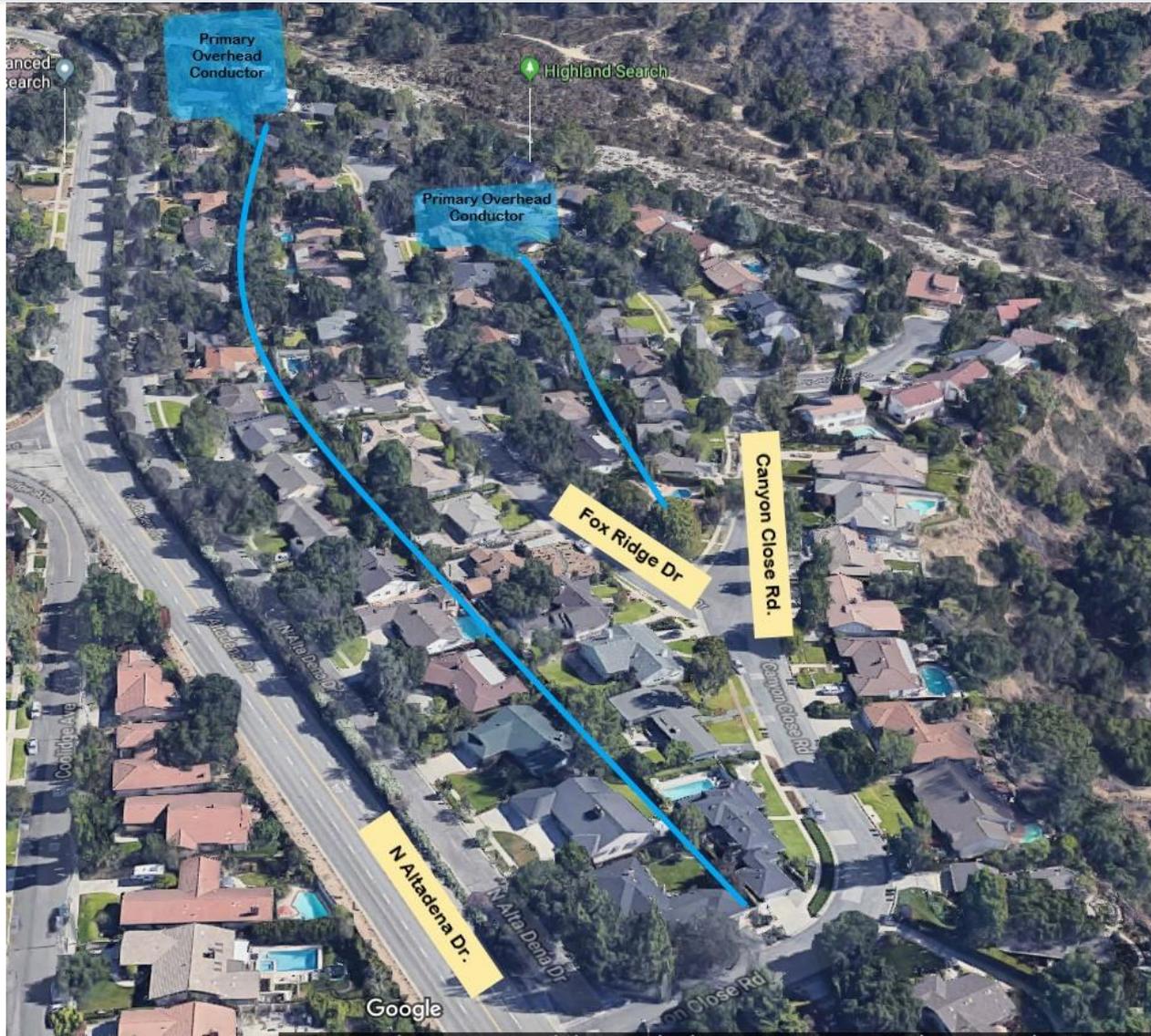
Tier 3 - Extreme

Tier 2 - Elevated



Fire Map – PWP Northeast

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Objectives

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The Plan has three main objectives:

1. Minimizing Sources of Ignition of Wildfires
2. Improving Resiliency of the PWP Electric Grid
3. Identifying Unnecessary and Ineffective Actions



Plan Objectives

Pasadena Water and Power

- Minimizing the sources of ignition will reduce the probability that the City's electric distribution system may be the origin or contribution source for the ignition of a fire.
- PWP has evaluated the cost-effective improvements to its physical assets, operations, and training by implementing changes in design and construction standards to meet this objective.



Examples of Mitigating Measures

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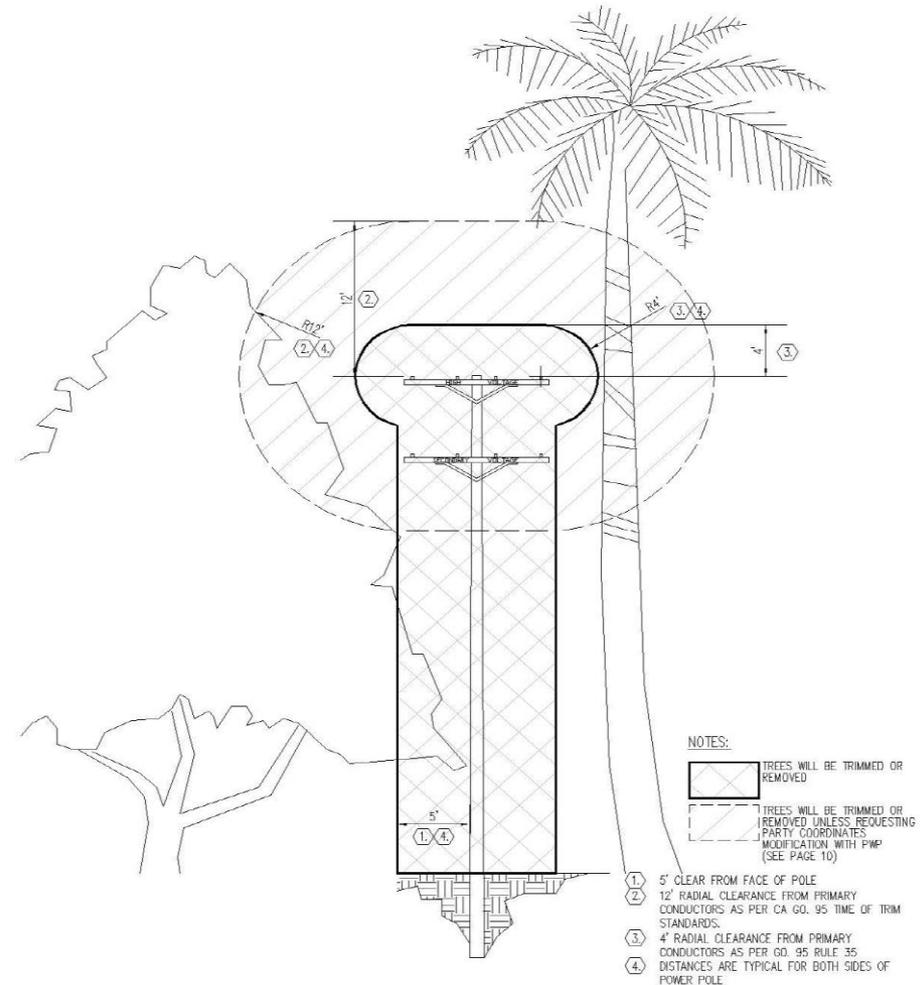
- Installation of covered overhead wires
- Enhanced fault current protection
- Enhanced equipment replacement criteria
- Enhanced tree trimming criteria
- Prevention of re-energizing circuits during red flag warnings



Enhanced tree trimming criteria

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- Recommended by CPUC for Tier 2 and Tier 3 Areas:
 - > 4' radial clearance from high voltage conductors at all times
 - > 12' radial time-of-trim clearance from high voltage conductors
- PWP evaluating options and alternatives





Potential Alternatives

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- **Undergrounding**
 - > PWP is evaluating feasibility, cost, and effectiveness of undergrounding wires in Tier 3 and Tier 2 zones as part of wildfire mitigation strategies
- **Applying Flame Retardant to Trees**
 - > PWP is inquiring if there is an existing non-toxic product which could safely be applied to trees
 - > Must be effective, long lasting, and non-toxic for foliage, wildlife, and people



Plan Updates

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- > Annual assessments of new industry practices and technologies that may have the potential to reduce the likelihood of an interruption and improve restoration of service.
- > Annual assessment of actions, program components, or protocols for effectiveness or necessity.
- > Revise the Plan if modifications are warranted to produce improved or cost-effective results.



Public Safety Power Shutoffs

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- PWP does not intend to preemptively de-energize portions of the city during periods of elevated fire risk.
- The reasons for this strategy are:
 - > PWP's service territory is mostly urban and relatively small (23 square miles);
 - > PWP has been using covered conductors for decades which provide more protection against incidental contacts;
 - > PWP prevents automatic re-energization of circuits during red flag warnings.



Summary

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- PWP has the right and authority to preemptively de-energize portions of the city and shut off power if necessary and in extraordinary circumstances
 - > due to fire threat conditions
 - > when power lines are compromised
- In case of such an event, PWP will make every effort to provide notification to impacted customers if feasible



Summary

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- The Plan has been developed in coordination with the Pasadena Fire Department
 - > PWP will continue to collaborate with PFD in its effort to mitigate the potential to ignite wildfires
- PWP's efforts to mitigate catastrophic wildfires align with the City's goals to provide safe and reliable service to the citizens of Pasadena
- Specific mitigation measures will be presented to MSC by April 30, 2019



Fiscal Impact

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- No direct or indirect Fiscal Impacts from adopting the Wildfire Mitigation Plan
- No anticipated impact to other operational programs or capital projects as a result of this action
- Costs of specific mitigation measures to implement the Plan will be addressed in CIP and O&M budgets for FY2021



Recommendation

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- **CEQA Exemption:**
 - > Sections 21080(b)(4) and 15269
- **Adopt PWP's Wildfire Mitigation Plan as an approved operating manual to mitigate the utility's risk of causing a catastrophic wildfire**