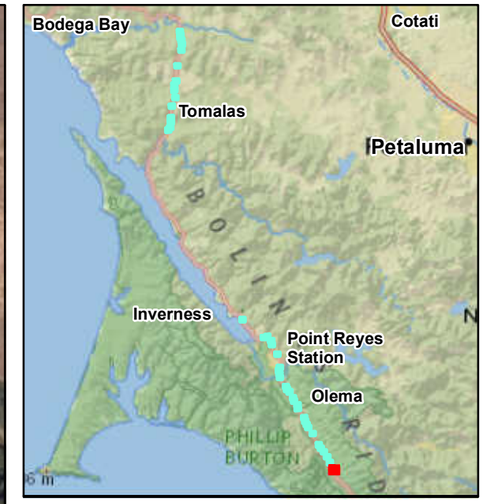
Appendix A Project Component Figures



LEGEND

- Limit of Work Area
- Right of Way
- Post Mile
- Replace Midwest Guardrail System

Note:
Caltrans Design from 08-28-2019
updated culverts, curb and ramp 09-05-2019

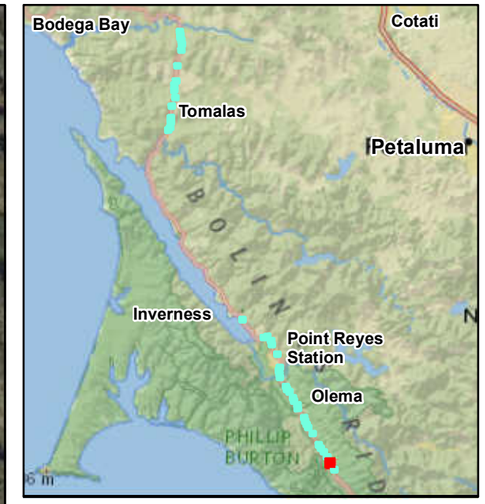
Imagery: 6/13/2018 and 6/23/2018 MarinMap, County of Marin, Golden Gate National Parks Conservancy.

N

0 100 200
Feet

Caltrans

Appendix A
Map 01 of 44
Project Components
State Route 1 Capital Preventive Maintenance (CAPM)
EA 1J960, MRN-1-PM 22.8/33.0; 45.0/50.5
Marin County, California



LEGEND

- Limit of Work Area
- Right of Way
- Post Mile
- Replace Midwest Guardrail System
- Bicycle Pullout

Note:
Caltrans Design from 08-28-2019
updated culverts, curb and ramp 09-05-2019

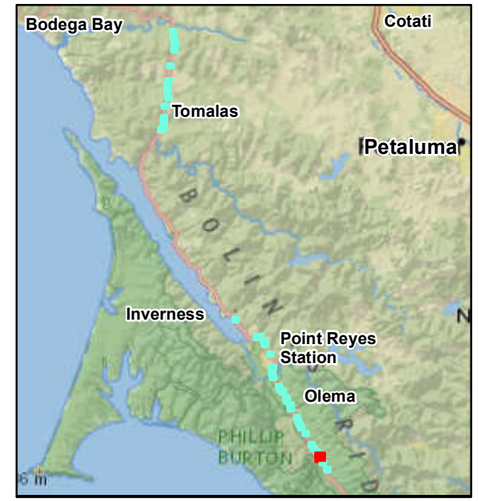
Imagery: 6/13/2018 and 6/23/2018 MarinMap, County of Marin, Golden Gate National Parks Conservancy.

N

0 100 200
Feet

Caltrans

Appendix A
Map 02 of 44
Project Components
State Route 1 Capital Preventive Maintenance (CAPM)
EA 1J960, MRN-1-PM 22.8/33.0; 45.0/50.5
Marin County, California



LEGEND

- Limit of Work Area
- Right of Way
- Post Mile
- Bicycle Pullout

Note:
Caltrans Design from 08-28-2019
updated culverts, curb and ramp 09-05-2019

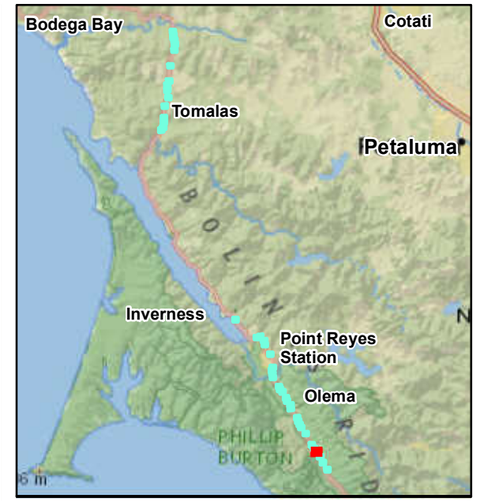
Imagery: 6/13/2018 and 6/23/2018 MarinMap, County of Marin, Golden Gate National Parks Conservancy.

N

0 100 200
Feet

Caltrans

Appendix A
Map 03 of 44
Project Components
State Route 1 Capital Preventive Maintenance (CAPM)
EA 1J960, MRN-1-PM 22.8/33.0; 45.0/50.5
Marin County, California



LEGEND

- Limit of Work Area
- Right of Way
- Post Mile
- Bicycle Pullout

Note:
Caltrans Design from 08-28-2019
updated culverts, curb and ramp 09-05-2019

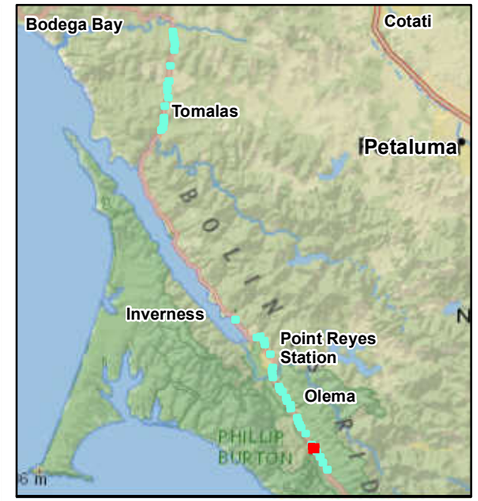
Imagery: 6/13/2018 and 6/23/2018 MarinMap, County of Marin, Golden Gate National Parks Conservancy.

N

0 100 200
Feet

Caltrans

Appendix A
Map 04 of 44
Project Components
State Route 1 Capital Preventive Maintenance (CAPM)
EA 1J960, MRN-1-PM 22.8/33.0; 45.0/50.5
Marin County, California



LEGEND

- Limit of Work Area
- Temporary Construction Easement
- Right of Way
- Post Mile
- Replace Midwest Guardrail System
- Replace Culvert
- Bicycle Pullout

Note:
Caltrans Design from 08-28-2019
updated culverts, curb and ramp 09-05-2019

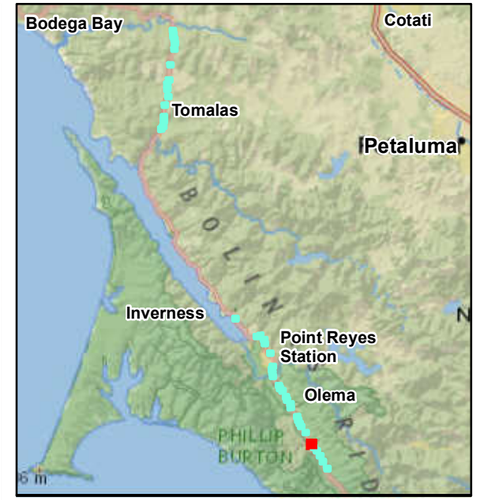
Imagery: 6/13/2018 and 6/23/2018 MarinMap, County of Marin, Golden Gate National Parks Conservancy.

N

0 100 200
Feet

Caltrans

Appendix A
Map 05 of 44
Project Components
State Route 1 Capital Preventive Maintenance (CAPM)
EA 1J960, MRN-1-PM 22.8/33.0; 45.0/50.5
Marin County, California



LEGEND

- Limit of Work Area
- Right of Way
- Post Mile
- Replace Midwest Guardrail System
- Bicycle Pullout

Note:
Caltrans Design from 08-28-2019
updated culverts, curb and ramp 09-05-2019

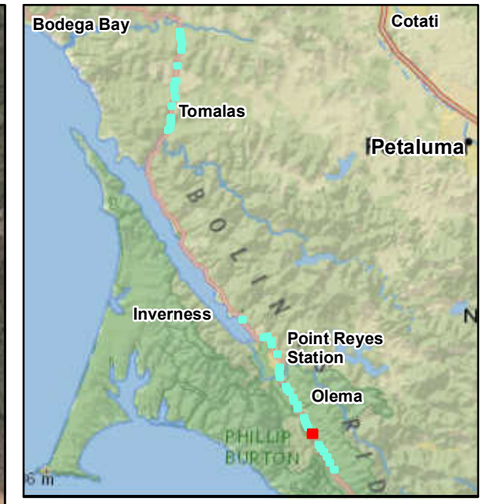
Imagery: 6/13/2018 and 6/23/2018 MarinMap, County of Marin, Golden Gate National Parks Conservancy.

N

0 100 200
Feet

Caltrans

Appendix A
Map 06 of 44
Project Components
State Route 1 Capital Preventive Maintenance (CAPM)
EA 1J960, MRN-1-PM 22.8/33.0; 45.0/50.5
Marin County, California



LEGEND

- Limit of Work Area
- Right of Way
- Post Mile
- Bicycle Pullout

Note:
Caltrans Design from 08-28-2019
updated culverts, curb and ramp 09-05-2019

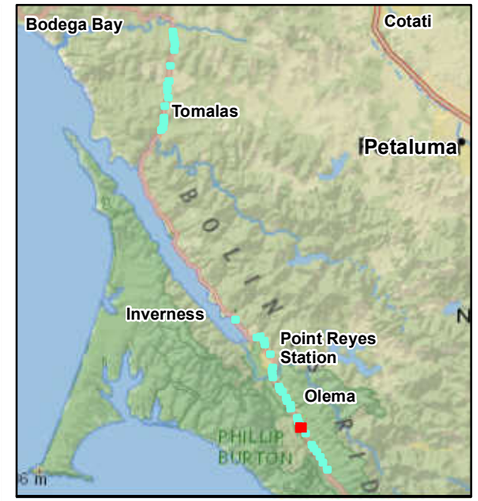
Imagery: 6/13/2018 and 6/23/2018 MarinMap, County of Marin, Golden Gate National Parks Conservancy.

N

0 100 200
Feet

Caltrans

Appendix A
Map 07 of 44
Project Components
State Route 1 Capital Preventive Maintenance (CAPM)
EA 1J960, MRN-1-PM 22.8/33.0; 45.0/50.5
Marin County, California



LEGEND

- Limit of Work Area
- Right of Way
- Post Mile
- Bicycle Pullout

Note:
Caltrans Design from 08-28-2019
updated culverts, curb and ramp 09-05-2019

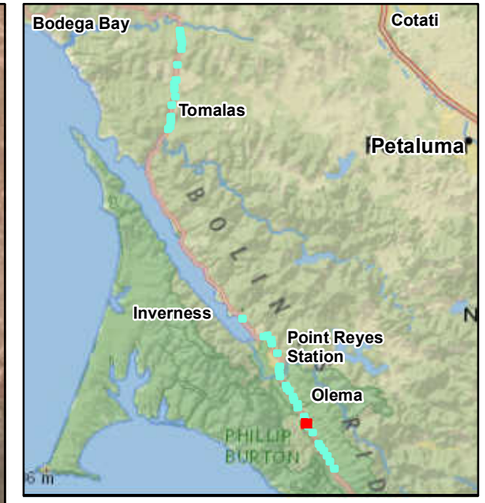
Imagery: 6/13/2018 and 6/23/2018 MarinMap, County of Marin, Golden Gate National Parks Conservancy.

N

0 100 200
Feet

Caltrans

Appendix A
Map 08 of 44
Project Components
State Route 1 Capital Preventive Maintenance (CAPM)
EA 1J960, MRN-1-PM 22.8/33.0; 45.0/50.5
Marin County, California



LEGEND

- Limit of Work Area
- Right of Way
- Post Mile
- Replace Midwest Guardrail System
- Bicycle Pullout

Note:
Caltrans Design from 08-28-2019
updated culverts, curb and ramp 09-05-2019

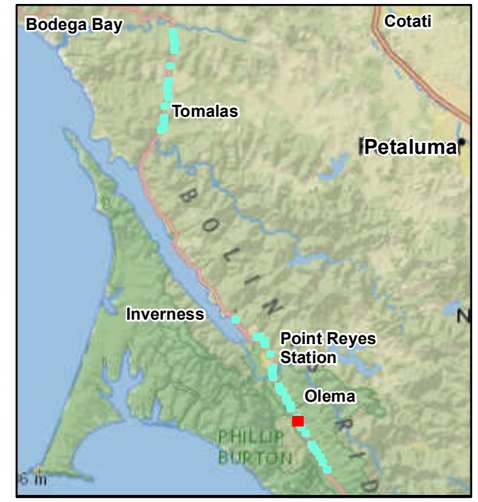
Imagery: 6/13/2018 and 6/23/2018 MarinMap, County of Marin, Golden Gate National Parks Conservancy.

N

0 100 200
Feet

Caltrans

Appendix A
Map 09 of 44
Project Components
State Route 1 Capital Preventive Maintenance (CAPM)
EA 1J960, MRN-1-PM 22.8/33.0; 45.0/50.5
Marin County, California



LEGEND

- Limit of Work Area
- Right of Way
- Post Mile
- Bicycle Pullout

Note:
Caltrans Design from 08-28-2019
updated culverts, curb and ramp 09-05-2019

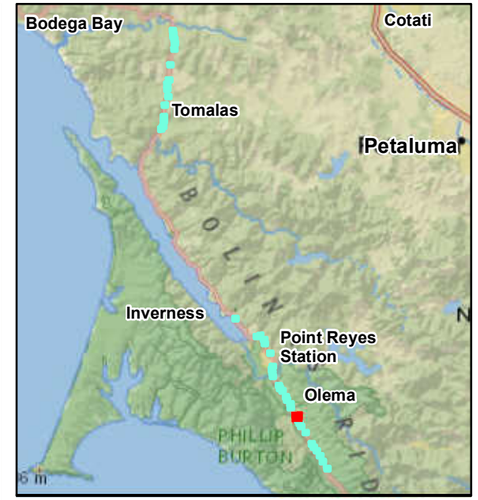
Imagery: 6/13/2018 and 6/23/2018 MarinMap, County of Marin, Golden Gate National Parks Conservancy.

N

0 100 200
Feet

Caltrans

Appendix A
Map 10 of 44
Project Components
State Route 1 Capital Preventive Maintenance (CAPM)
EA 1J960, MRN-1-PM 22.8/33.0; 45.0/50.5
Marin County, California



LEGEND

- Limit of Work Area
- Right of Way
- Post Mile
- Bicycle Pullout

Note:
Caltrans Design from 08-28-2019
updated culverts, curb and ramp 09-05-2019

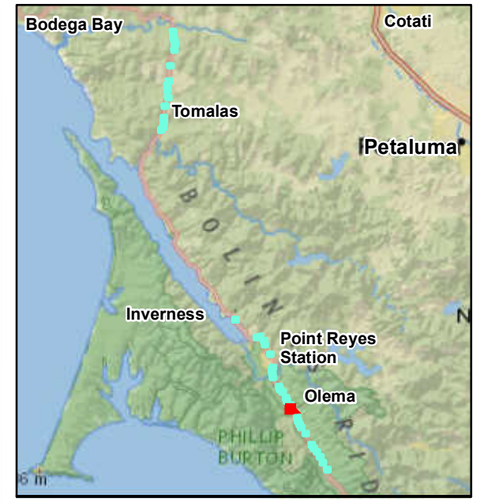
Imagery: 6/13/2018 and 6/23/2018 MarinMap, County of Marin, Golden Gate National Parks Conservancy.

N

0 100 200
Feet

Caltrans

Appendix A
Map 11 of 44
Project Components
State Route 1 Capital Preventive Maintenance (CAPM)
EA 1J960, MRN-1-PM 22.8/33.0; 45.0/50.5
Marin County, California



LEGEND

- Limit of Work Area
- Right of Way
- Post Mile
- Replace Asphalt Concrete Dike

Note:
Caltrans Design from 08-28-2019
updated culverts, curb and ramp 09-05-2019

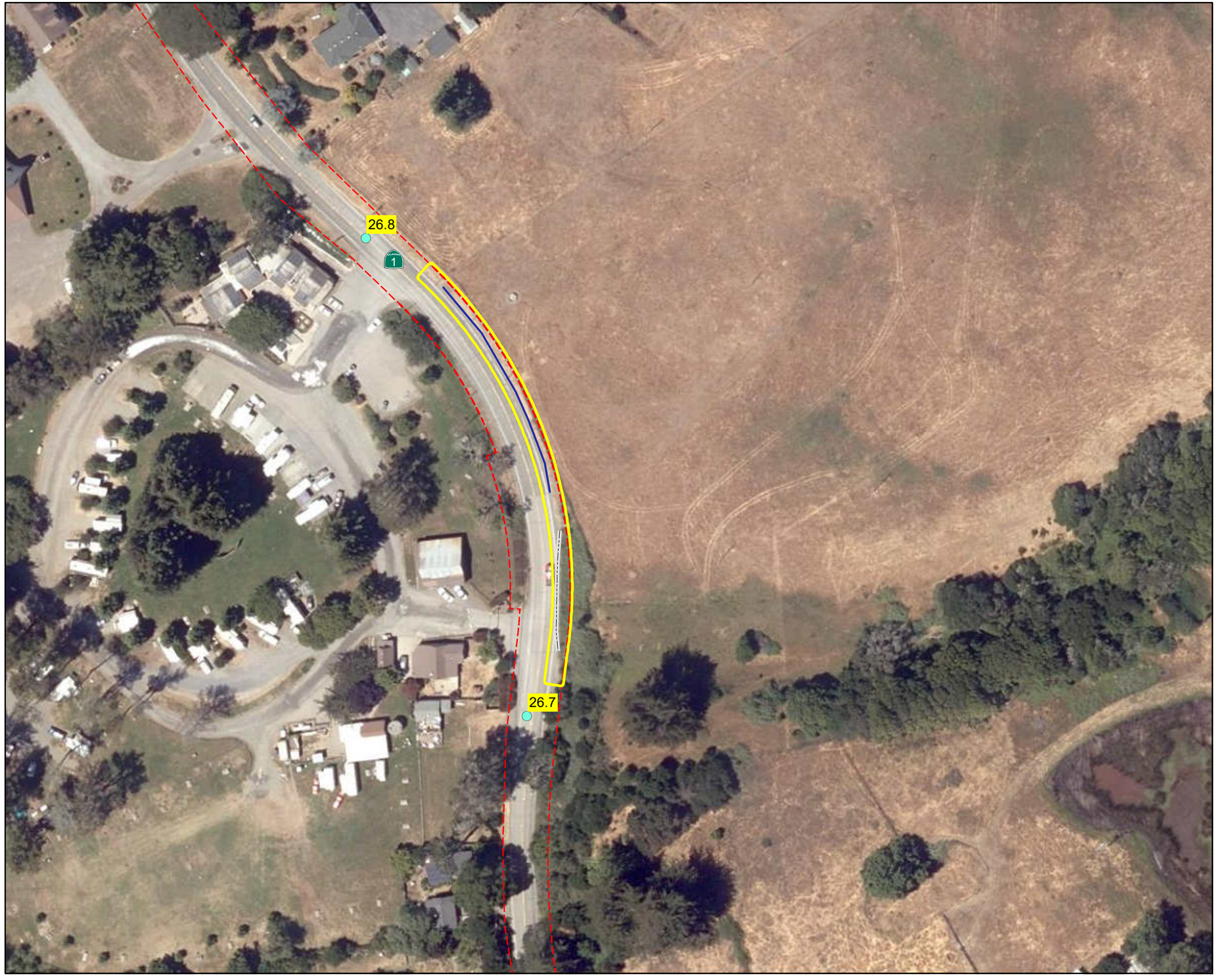
Imagery: 6/13/2018 and 6/23/2018 MarinMap, County of Marin, Golden Gate National Parks Conservancy.

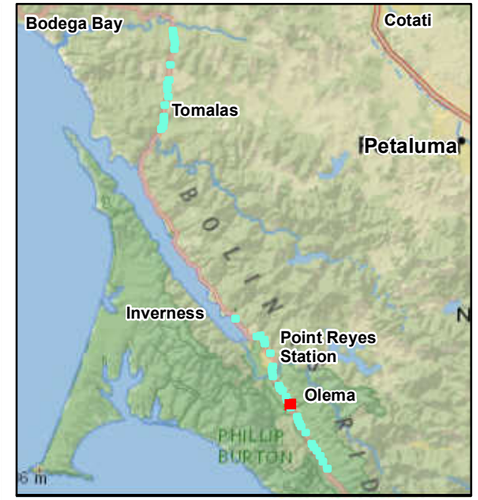
N

0 100 200
Feet

Caltrans

Appendix A
Map 12 of 44
Project Components
State Route 1 Capital Preventive Maintenance (CAPM)
EA 1J960, MRN-1-PM 22.8/33.0; 45.0/50.5
Marin County, California





LEGEND

- Limit of Work Area
- Right of Way
- Post Mile
- Replace Asphalt Concrete Dike
- Replace Midwest Guardrail System

Note:
Caltrans Design from 08-28-2019
updated culverts, curb and ramp 09-05-2019

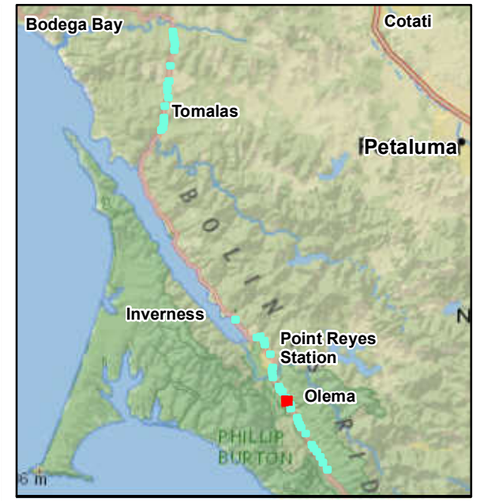
Imagery: 6/13/2018 and 6/23/2018 MarinMap, County of Marin, Golden Gate National Parks Conservancy.

N

0 100 200
Feet

Caltrans

Appendix A
Map 13 of 44
Project Components
State Route 1 Capital Preventive Maintenance (CAPM)
EA 1J960, MRN-1-PM 22.8/33.0; 45.0/50.5
Marin County, California



LEGEND

- Limit of Work Area
- Right of Way
- Post Mile
- Replace Asphalt Concrete Dike

Note:
Caltrans Design from 08-28-2019
updated culverts, curb and ramp 09-05-2019

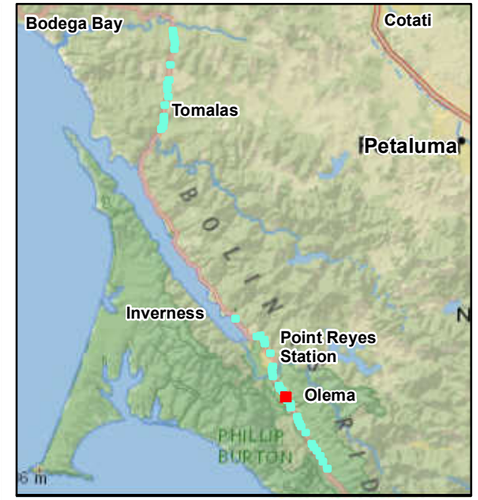
Imagery: 6/13/2018 and 6/23/2018 MarinMap, County of Marin, Golden Gate National Parks Conservancy.

N

0 100 200
Feet

Caltrans

Appendix A
Map 14 of 44
Project Components
State Route 1 Capital Preventive Maintenance (CAPM)
EA 1J960, MRN-1-PM 22.8/33.0; 45.0/50.5
Marin County, California



LEGEND

- Limit of Work Area
- Right of Way
- Post Mile
- Replace Asphalt Concrete Dike
- Replace Midwest Guardrail System
- Bicycle Pullout

Note:
Caltrans Design from 08-28-2019
updated culverts, curb and ramp 09-05-2019

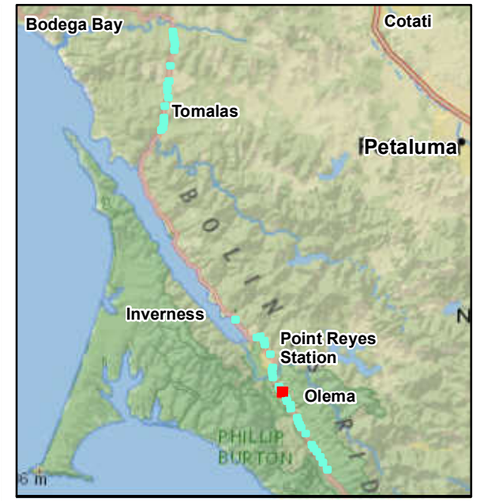
Imagery: 6/13/2018 and 6/23/2018 MarinMap, County of Marin, Golden Gate National Parks Conservancy.

N

0 100 200
Feet

Caltrans

Appendix A
Map 15 of 44
Project Components
State Route 1 Capital Preventive Maintenance (CAPM)
EA 1J960, MRN-1-PM 22.8/33.0; 45.0/50.5
Marin County, California



LEGEND

- Limit of Work Area
- Right of Way
- Post Mile
- Replace Asphalt Concrete Dike

Note:
Caltrans Design from 08-28-2019
updated culverts, curb and ramp 09-05-2019

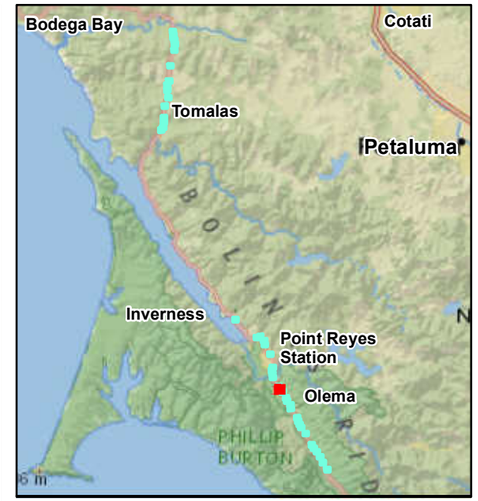
Imagery: 6/13/2018 and 6/23/2018 MarinMap, County of Marin, Golden Gate National Parks Conservancy.

N

0 100 200
Feet

Caltrans

Appendix A
Map 16 of 44
Project Components
State Route 1 Capital Preventive Maintenance (CAPM)
EA 1J960, MRN-1-PM 22.8/33.0; 45.0/50.5
Marin County, California



LEGEND

- Limit of Work Area
- Right of Way
- Post Mile
- Replace Asphalt Concrete Dike
- Bicycle Pullout

Note:
Caltrans Design from 08-28-2019
updated culverts, curb and ramp 09-05-2019

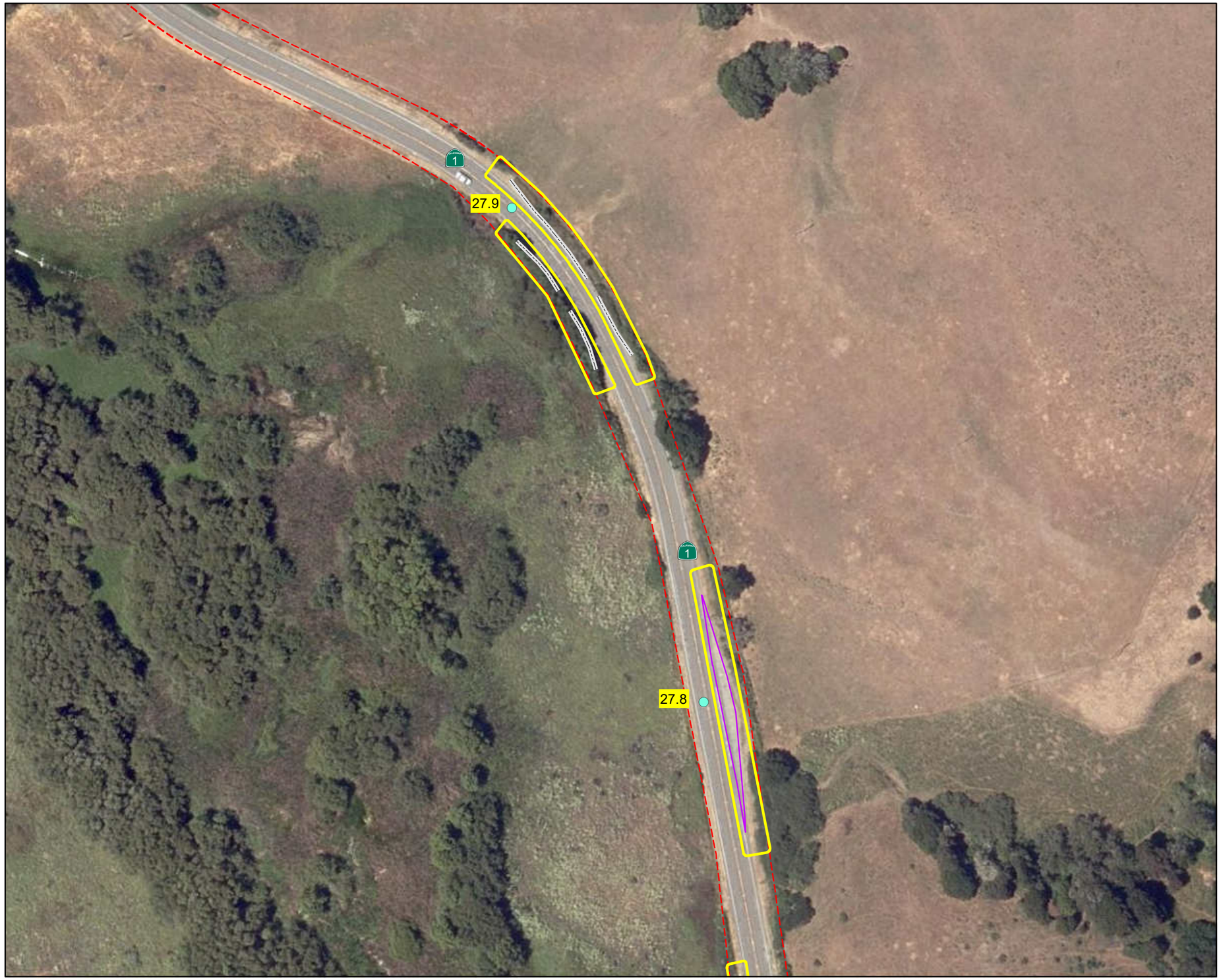
Imagery: 6/13/2018 and 6/23/2018 MarinMap, County of Marin, Golden Gate National Parks Conservancy.

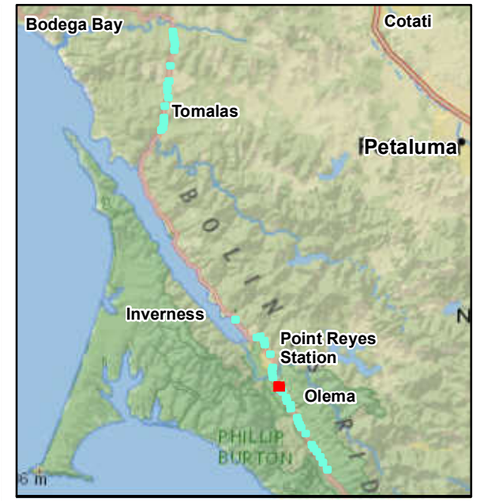
N

0 100 200
Feet

Caltrans

Appendix A
Map 17 of 44
Project Components
State Route 1 Capital Preventive Maintenance (CAPM)
EA 1J960, MRN-1-PM 22.8/33.0; 45.0/50.5
Marin County, California





LEGEND

- Limit of Work Area
- Right of Way
- Post Mile
- Replace Midwest Guardrail System
- Bicycle Pullout

Note:
Caltrans Design from 08-28-2019
updated culverts, curb and ramp 09-05-2019

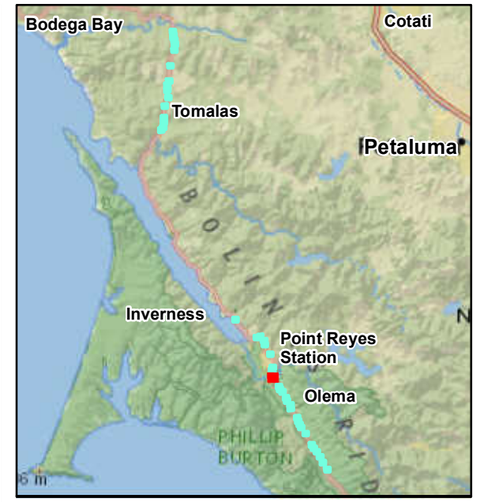
Imagery: 6/13/2018 and 6/23/2018 MarinMap, County of Marin, Golden Gate National Parks Conservancy.

N

0 100 200
Feet

Caltrans

Appendix A
Map 18 of 44
Project Components
State Route 1 Capital Preventive Maintenance (CAPM)
EA 1J960, MRN-1-PM 22.8/33.0; 45.0/50.5
Marin County, California



LEGEND

- Limit of Work Area
- Right of Way
- Post Mile
- Replace Midwest Guardrail System
- Bicycle Pullout

Note:
Caltrans Design from 08-28-2019
updated culverts, curb and ramp 09-05-2019

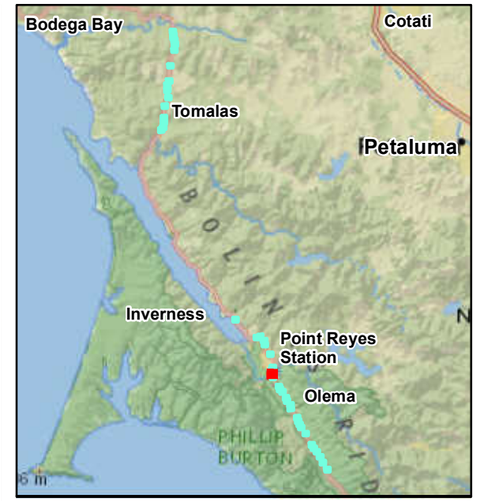
Imagery: 6/13/2018 and 6/23/2018 MarinMap, County of Marin, Golden Gate National Parks Conservancy.

N

0 100 200
Feet

Caltrans

Appendix A
Map 19 of 44
Project Components
State Route 1 Capital Preventive Maintenance (CAPM)
EA 1J960, MRN-1-PM 22.8/33.0; 45.0/50.5
Marin County, California



LEGEND

- Limit of Work Area
- Right of Way
- Post Mile
- Replace Midwest Guardrail System
- Upgrade Curb Ramps
- Gutter
- Detour Routes

Note:
Caltrans Design from 08-28-2019
updated culverts, curb and ramp 09-05-2019

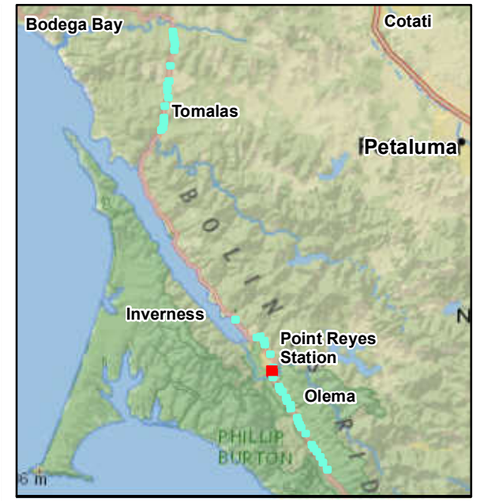
Imagery: 6/13/2018 and 6/23/2018 MarinMap, County of Marin, Golden Gate National Parks Conservancy.

N

0 100 200
Feet

Caltrans

Appendix A
Map 20 of 44
Project Components
State Route 1 Capital Preventive Maintenance (CAPM)
EA 1J960, MRN-1-PM 22.8/33.0; 45.0/50.5
Marin County, California



LEGEND

- Limit of Work Area
- Temporary Construction Easement
- Right of Way
- Post Mile
- Upgrade Curb Ramps
- Gutter
- Drainage Inlet
- Upgrade Crosswalk
- Repair/Modify Sidewalk
- Detour Routes

Note:
Caltrans Design from 08-28-2019
updated culverts, curb and ramp 09-05-2019

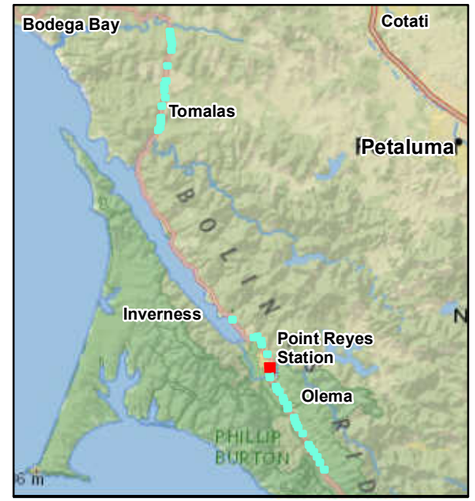
Imagery: 6/13/2018 and 6/23/2018 MarinMap, County of Marin, Golden Gate National Parks Conservancy.

N

0 100 200
Feet

Caltrans

Appendix A
Map 21 of 44
Project Components
State Route 1 Capital Preventive Maintenance (CAPM)
EA 1J960, MRN-1-PM 22.8/33.0; 45.0/50.5
Marin County, California



LEGEND

- Limit of Work Area
- Temporary Construction Easement
- Right of Way
- Post Mile
- Upgrade Curb Ramps
- Gutter
- Upgrade Crosswalk
- Repair/Modify Sidewalk

Note:
Caltrans Design from 08-28-2019
updated culverts, curb and ramp 09-05-2019

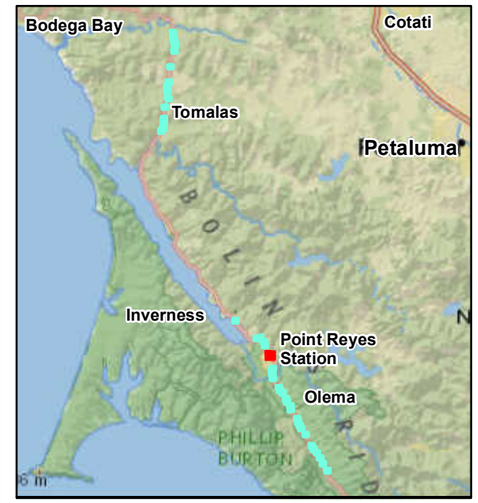
Imagery: 6/13/2018 and 6/23/2018 MarinMap, County of Marin, Golden Gate National Parks Conservancy.

N

0 100 200
Feet

Caltrans

Appendix A
Map 22 of 44
Project Components
State Route 1 Capital Preventive Maintenance (CAPM)
EA 1J960, MRN-1-PM 22.8/33.0; 45.0/50.5
Marin County, California



LEGEND

- Limit of Work Area
- Right of Way
- Post Mile
- Replace Midwest Guardrail System

Note:
Caltrans Design from 08-28-2019
updated culverts, curb and ramp 09-05-2019

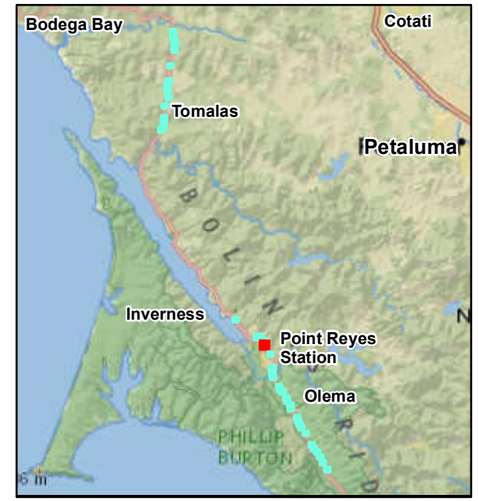
Imagery: 6/13/2018 and 6/23/2018 MarinMap, County of Marin, Golden Gate National Parks Conservancy.

N

0 100 200
Feet

Caltrans

Appendix A
Map 23 of 44
Project Components
State Route 1 Capital Preventive Maintenance (CAPM)
EA 1J960, MRN-1-PM 22.8/33.0; 45.0/50.5
Marin County, California



LEGEND

- Limit of Work Area
- Temporary Construction Easement
- Right of Way
- Post Mile
- Replace Culvert

Note:
Caltrans Design from 08-28-2019
updated culverts, curb and ramp 09-05-2019

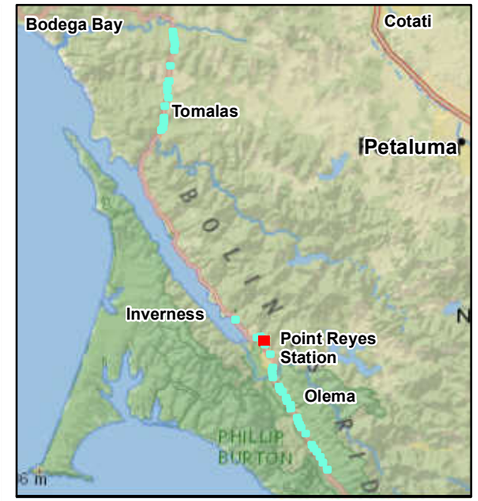
Imagery: 6/13/2018 and 6/23/2018 MarinMap, County of Marin, Golden Gate National Parks Conservancy.

N

0 100 200
Feet

Caltrans

Appendix A
Map 24 of 44
Project Components
State Route 1 Capital Preventive Maintenance (CAPM)
EA 1J960, MRN-1-PM 22.8/33.0; 45.0/50.5
Marin County, California



LEGEND

- Limit of Work Area
- Temporary Construction Easement
- Right of Way
- Post Mile
- Replace Culvert
- Bicycle Pullout

Note:
Caltrans Design from 08-28-2019
updated culverts, curb and ramp 09-05-2019

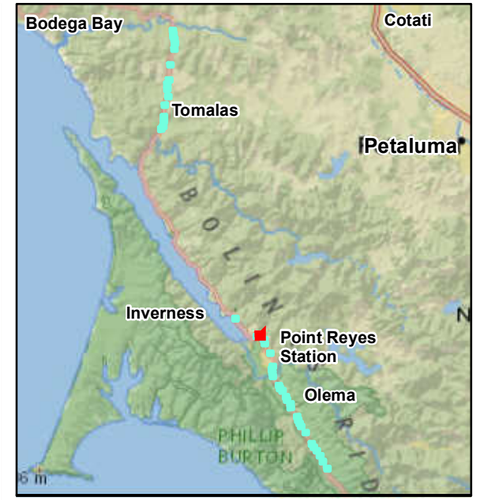
Imagery: 6/13/2018 and 6/23/2018 MarinMap, County of Marin, Golden Gate National Parks Conservancy.

N

0 100 200
Feet

Caltrans

Appendix A
Map 25 of 44
Project Components
State Route 1 Capital Preventive Maintenance (CAPM)
EA 1J960, MRN-1-PM 22.8/33.0; 45.0/50.5
Marin County, California



LEGEND

- Limit of Work Area
- Right of Way
- Post Mile
- Bicycle Pullout

Note:
Caltrans Design from 08-28-2019
updated culverts, curb and ramp 09-05-2019

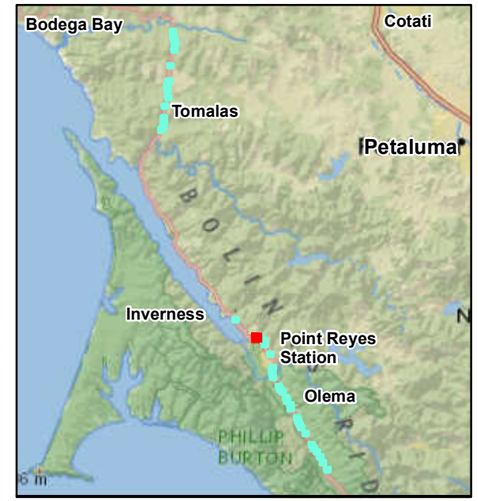
Imagery: 6/13/2018 and 6/23/2018 MarinMap, County of Marin, Golden Gate National Parks Conservancy.

N

0 100 200
Feet

Caltrans

Appendix A
Map 26 of 44
Project Components
State Route 1 Capital Preventive Maintenance (CAPM)
EA 1J960, MRN-1-PM 22.8/33.0; 45.0/50.5
Marin County, California



LEGEND

- Limit of Work Area
- Right of Way
- Post Mile
- Replace Midwest Guardrail System

Note:
Caltrans Design from 08-28-2019
updated culverts, curb and ramp 09-05-2019

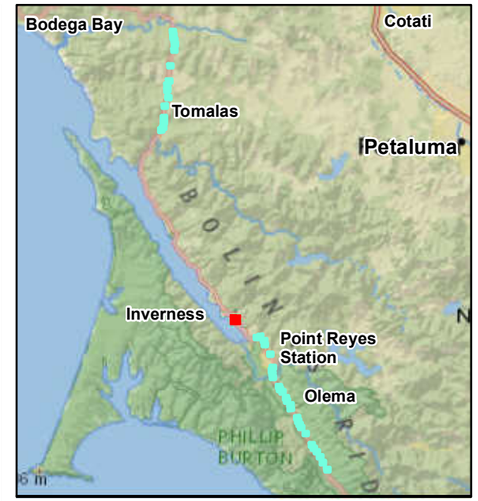
Imagery: 6/13/2018 and 6/23/2018 MarinMap, County of Marin, Golden Gate National Parks Conservancy.

N

0 100 200
Feet

Caltrans

Appendix A
Map 27 of 44
Project Components
State Route 1 Capital Preventive Maintenance (CAPM)
EA 1J960, MRN-1-PM 22.8/33.0; 45.0/50.5
Marin County, California



LEGEND

- Limit of Work Area
- Temporary Construction Easement
- Right of Way
- Post Mile
- Replace Culvert

Note:
Caltrans Design from 08-28-2019
updated culverts, curb and ramp 09-05-2019

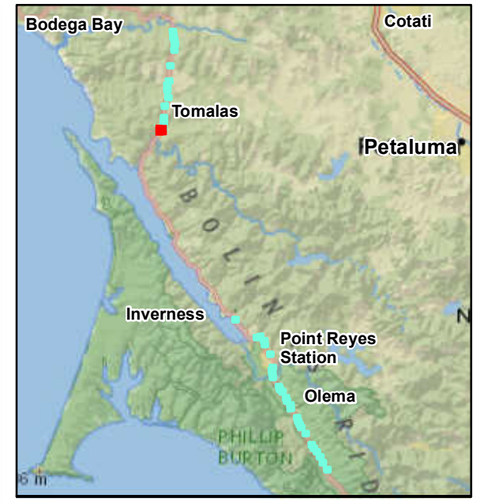
Imagery: 6/13/2018 and 6/23/2018 MarinMap, County of Marin, Golden Gate National Parks Conservancy.

N

0 100 200
Feet

Caltrans

Appendix A
Map 28 of 44
Project Components
State Route 1 Capital Preventive Maintenance (CAPM)
EA 1J960, MRN-1-PM 22.8/33.0; 45.0/50.5
Marin County, California



LEGEND

- Limit of Work Area
- Right of Way
- Post Mile
- Bicycle Pullout

Note:
Caltrans Design from 08-28-2019
updated culverts, curb and ramp 09-05-2019

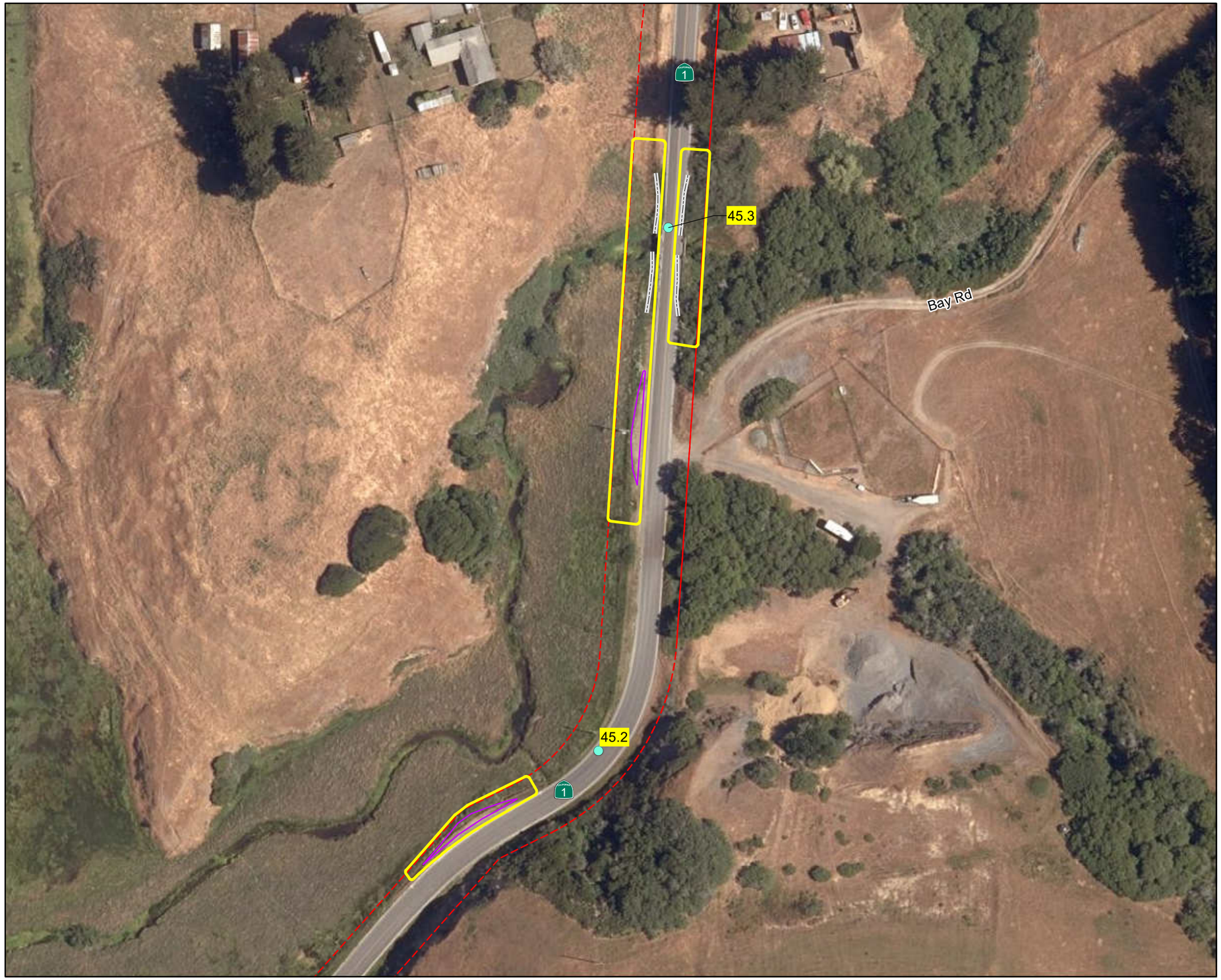
Imagery: 6/13/2018 and 6/23/2018 MarinMap, County of Marin, Golden Gate National Parks Conservancy.

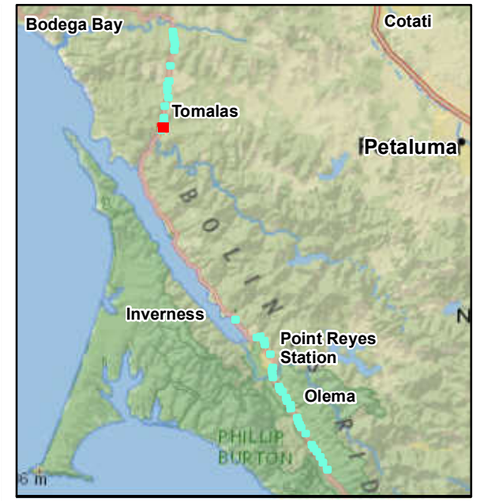
N

0 100 200
Feet

Caltrans

Appendix A
Map 29 of 44
Project Components
State Route 1 Capital Preventive Maintenance (CAPM)
EA 1J960, MRN-1-PM 22.8/33.0; 45.0/50.5
Marin County, California





LEGEND

- Limit of Work Area
- Right of Way
- Post Mile
- Replace Midwest Guardrail System
- Bicycle Pullout

Note:
Caltrans Design from 08-28-2019
updated culverts, curb and ramp 09-05-2019

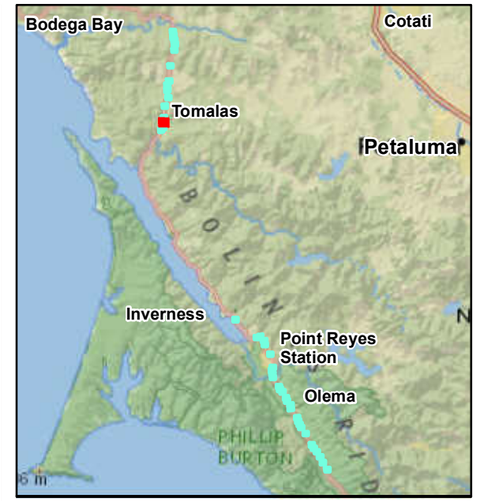
Imagery: 6/13/2018 and 6/23/2018 MarinMap, County of Marin, Golden Gate National Parks Conservancy.

N

0 100 200
Feet

Caltrans

Appendix A
Map 30 of 44
Project Components
State Route 1 Capital Preventive Maintenance (CAPM)
EA 1J960, MRN-1-PM 22.8/33.0; 45.0/50.5
Marin County, California



LEGEND

- Limit of Work Area
- Right of Way
- Post Mile
- Bicycle Pullout

Note:
Caltrans Design from 08-28-2019
updated culverts, curb and ramp 09-05-2019

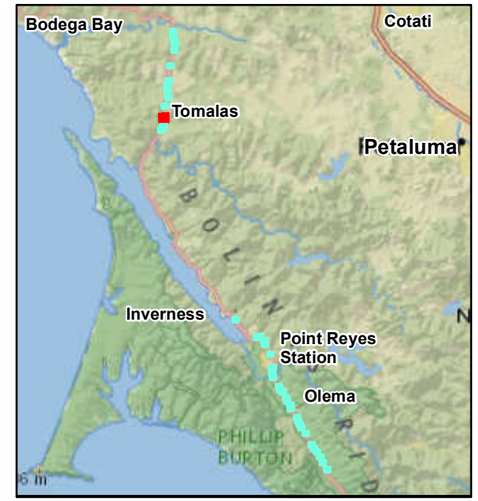
Imagery: 6/13/2018 and 6/23/2018 MarinMap, County of Marin, Golden Gate National Parks Conservancy.

N

0 100 200
Feet

Caltrans

Appendix A
Map 31 of 44
Project Components
State Route 1 Capital Preventive Maintenance (CAPM)
EA 1J960, MRN-1-PM 22.8/33.0; 45.0/50.5
Marin County, California



LEGEND

- Limit of Work Area
- Temporary Construction Easement
- Right of Way
- Post Mile
- Upgrade Curb Ramps
- Gutter
- Drainage Inlet
- Repair/Modify Sidewalk

Note:
Caltrans Design from 08-28-2019
updated culverts, curb and ramp 09-05-2019

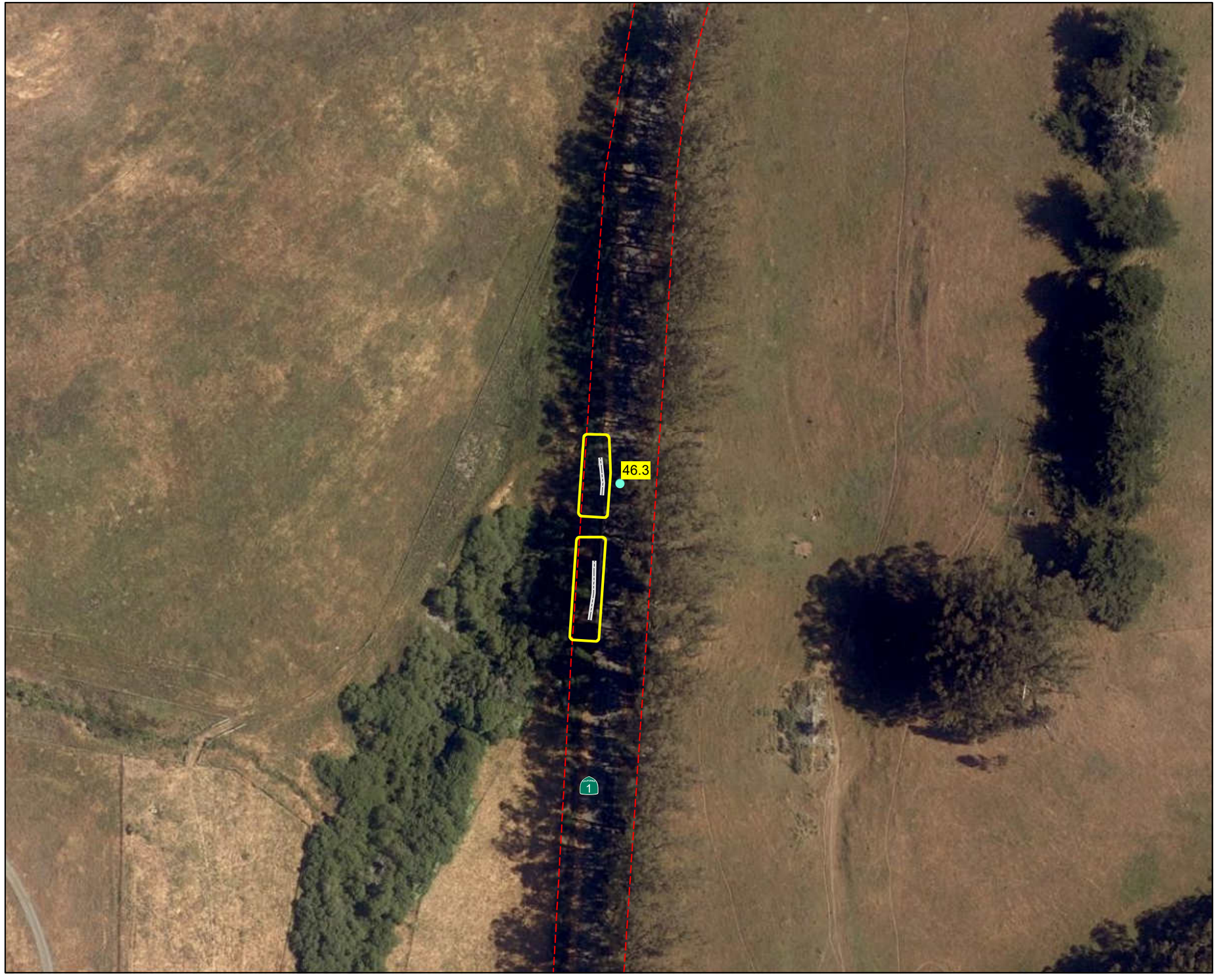
Imagery: 6/13/2018 and 6/23/2018 MarinMap, County of Marin, Golden Gate National Parks Conservancy.

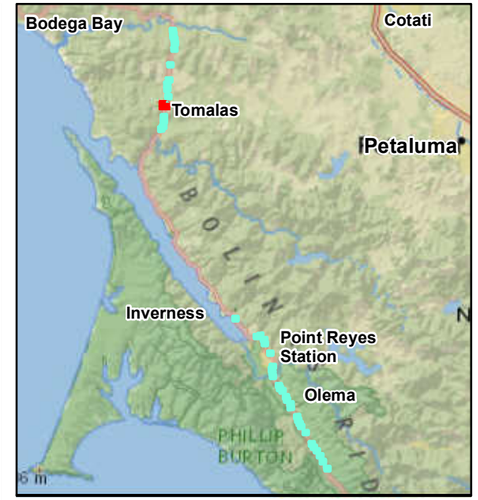
N

0 100 200
Feet

Caltrans

Appendix A
Map 32 of 44
Project Components
State Route 1 Capital Preventive Maintenance (CAPM)
EA 1J960, MRN-1-PM 22.8/33.0; 45.0/50.5
Marin County, California





LEGEND

- Limit of Work Area
- Right of Way
- Post Mile
- Replace Midwest Guardrail System

Note:
Caltrans Design from 08-28-2019
updated culverts, curb and ramp 09-05-2019

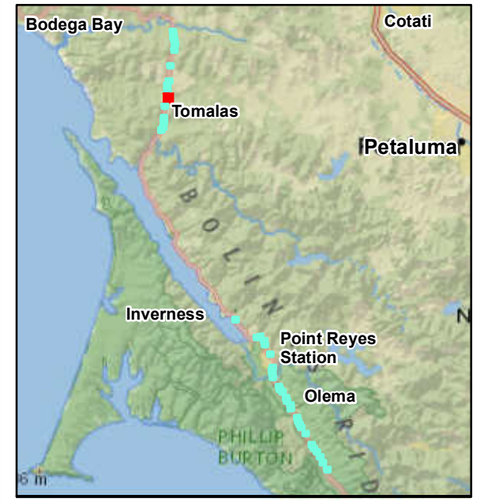
Imagery: 6/13/2018 and 6/23/2018 MarinMap, County of Marin, Golden Gate National Parks Conservancy.

N

0 100 200
Feet

Caltrans

Appendix A
Map 33 of 44
Project Components
State Route 1 Capital Preventive Maintenance (CAPM)
EA 1J960, MRN-1-PM 22.8/33.0; 45.0/50.5
Marin County, California



LEGEND

- Limit of Work Area
- Right of Way
- Post Mile
- Bicycle Pullout

Note:
Caltrans Design from 08-28-2019
updated culverts, curb and ramp 09-05-2019

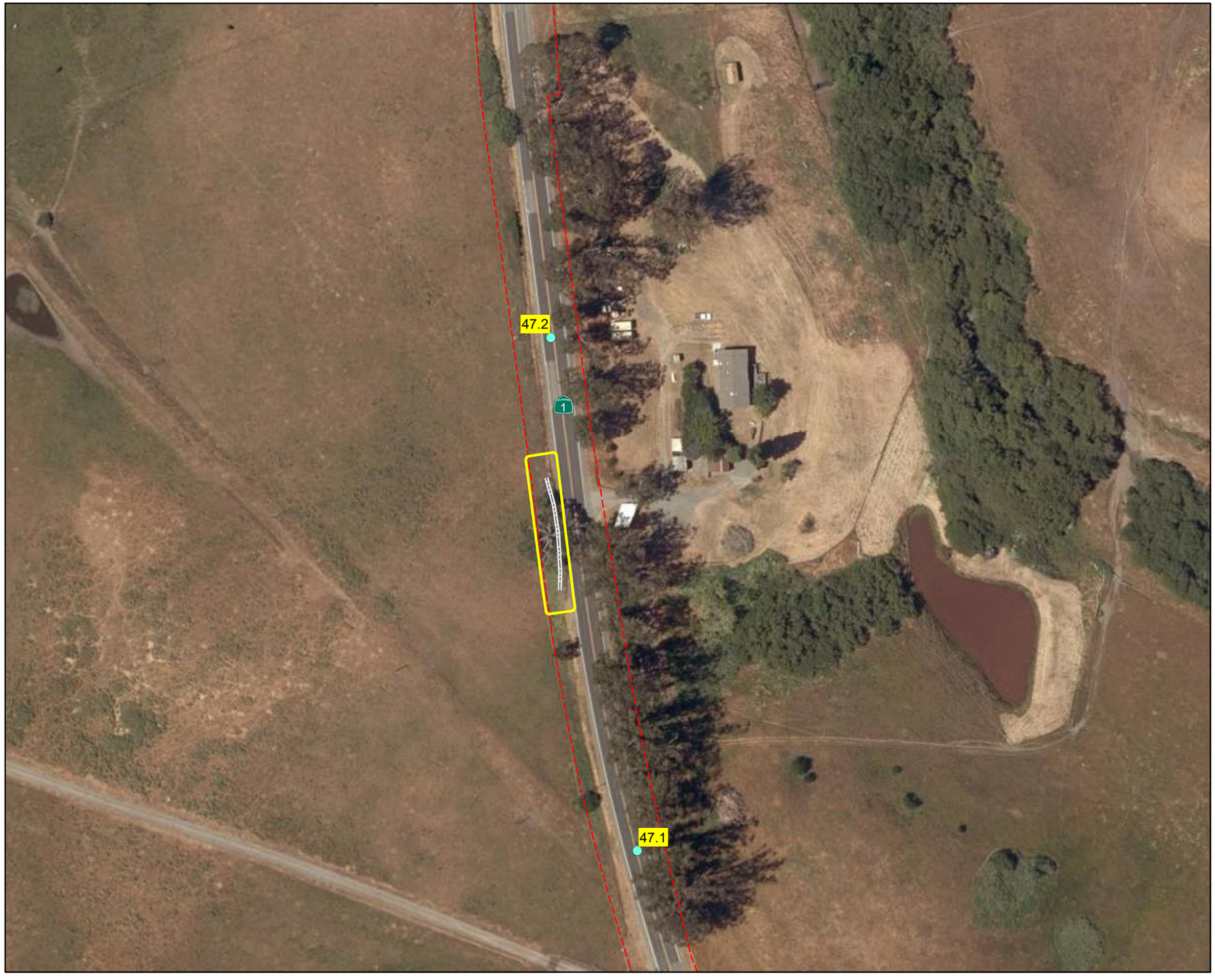
Imagery: 6/13/2018 and 6/23/2018 MarinMap, County of Marin, Golden Gate National Parks Conservancy.

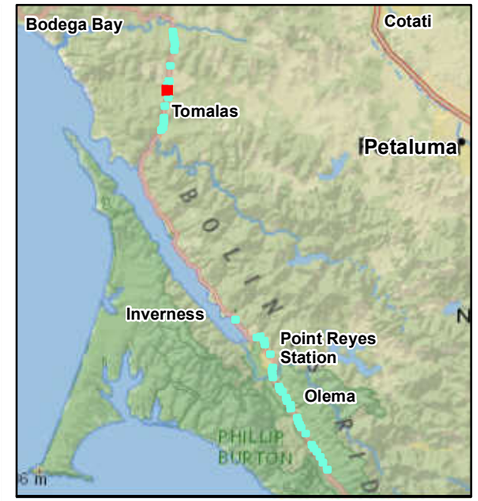
N

0 100 200
Feet

Caltrans

Appendix A
Map 34 of 44
Project Components
State Route 1 Capital Preventive Maintenance (CAPM)
EA 1J960, MRN-1-PM 22.8/33.0; 45.0/50.5
Marin County, California





LEGEND

- Limit of Work Area
- Right of Way
- Post Mile
- Replace Midwest Guardrail System

Note:
Caltrans Design from 08-28-2019
updated culverts, curb and ramp 09-05-2019

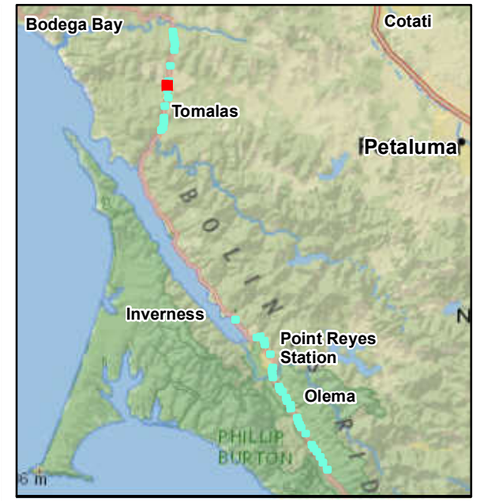
Imagery: 6/13/2018 and 6/23/2018 MarinMap, County of Marin, Golden Gate National Parks Conservancy.

N

0 100 200
Feet

Caltrans

Appendix A
Map 35 of 44
Project Components
State Route 1 Capital Preventive Maintenance (CAPM)
EA 1J960, MRN-1-PM 22.8/33.0; 45.0/50.5
Marin County, California



LEGEND

- Limit of Work Area
- Right of Way
- Post Mile
- Replace Midwest Guardrail System

Note:
Caltrans Design from 08-28-2019
updated culverts, curb and ramp 09-05-2019

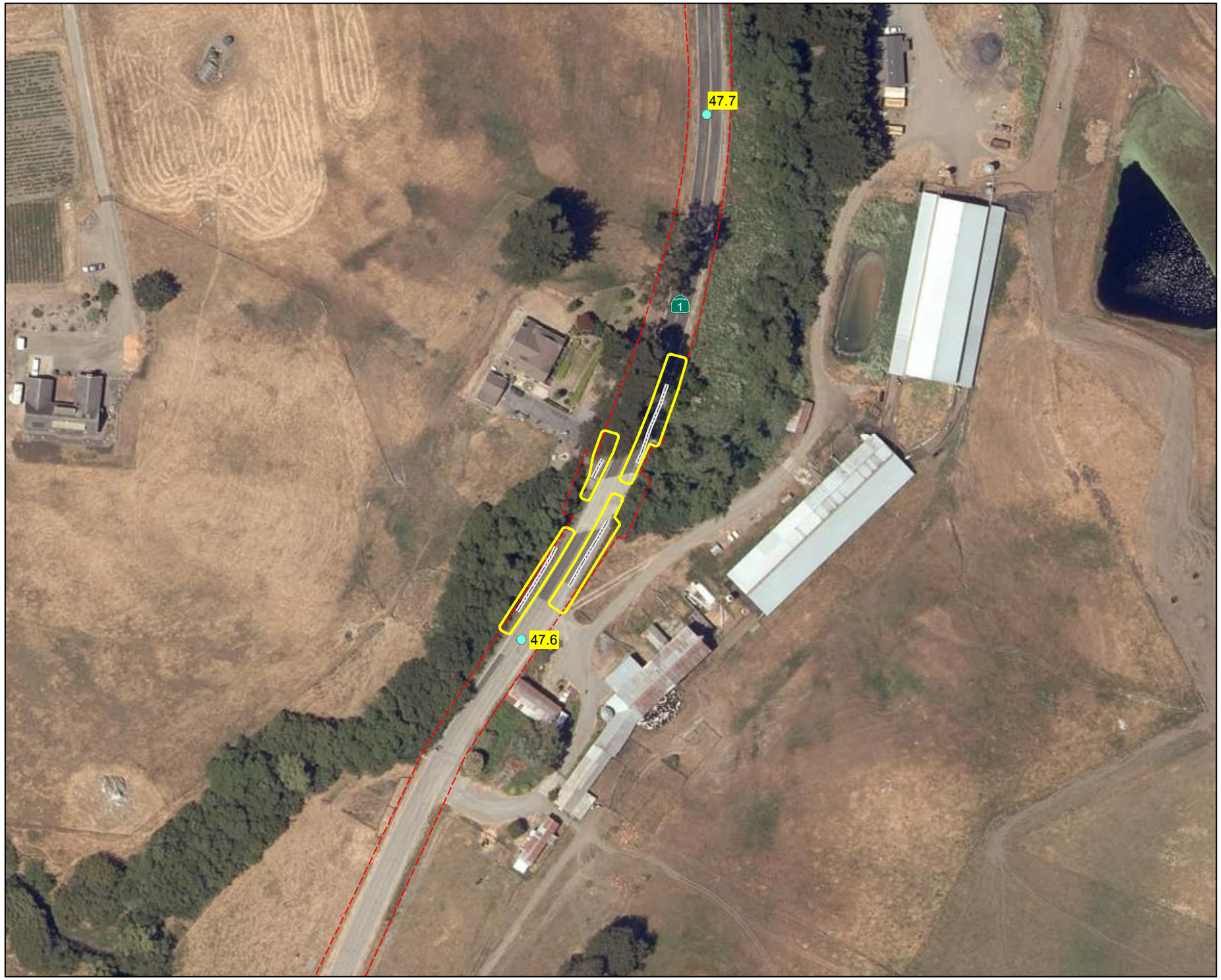
Imagery: 6/13/2018 and 6/23/2018 MarinMap, County of Marin, Golden Gate National Parks Conservancy.

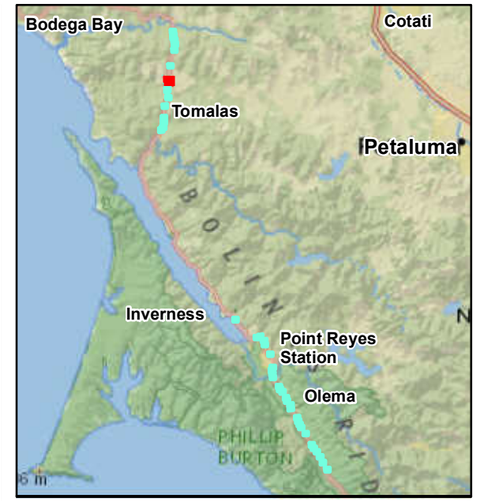
N

0 100 200
Feet

Caltrans

Appendix A
Map 36 of 44
Project Components
State Route 1 Capital Preventive Maintenance (CAPM)
EA 1J960, MRN-1-PM 22.8/33.0; 45.0/50.5
Marin County, California





LEGEND

- Limit of Work Area
- Right of Way
- Post Mile
- Replace Midwest Guardrail System

Note:
Caltrans Design from 08-28-2019
updated culverts, curb and ramp 09-05-2019

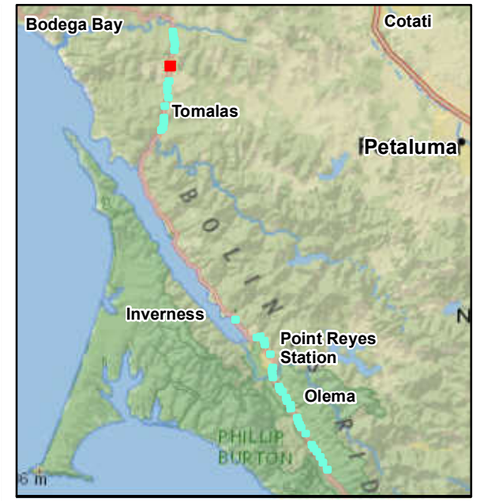
Imagery: 6/13/2018 and 6/23/2018 MarinMap, County of Marin, Golden Gate National Parks Conservancy.

N

0 100 200
Feet

Caltrans

Appendix A
Map 37 of 44
Project Components
State Route 1 Capital Preventive Maintenance (CAPM)
EA 1J960, MRN-1-PM 22.8/33.0; 45.0/50.5
Marin County, California



LEGEND

- Limit of Work Area
- Right of Way
- Post Mile
- Bicycle Pullout

Note:
Caltrans Design from 08-28-2019
updated culverts, curb and ramp 09-05-2019

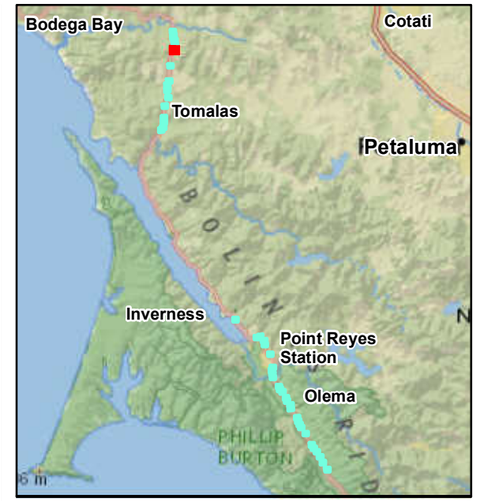
Imagery: 6/13/2018 and 6/23/2018 MarinMap, County of Marin, Golden Gate National Parks Conservancy.

N

0 100 200
Feet

Caltrans

Appendix A
Map 38 of 44
Project Components
State Route 1 Capital Preventive Maintenance (CAPM)
EA 1J960, MRN-1-PM 22.8/33.0; 45.0/50.5
Marin County, California



LEGEND

- Limit of Work Area
- Temporary Construction Easement
- Right of Way
- Post Mile
- Replace Culvert
- Bicycle Pullout

Note:
Caltrans Design from 08-28-2019
updated culverts, curb and ramp 09-05-2019

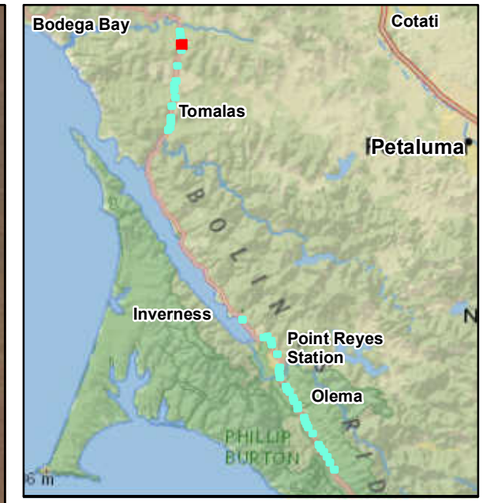
Imagery: 6/13/2018 and 6/23/2018 MarinMap, County of Marin, Golden Gate National Parks Conservancy.

N

0 100 200
Feet

Caltrans

Appendix A
Map 39 of 44
Project Components
State Route 1 Capital Preventive Maintenance (CAPM)
EA 1J960, MRN-1-PM 22.8/33.0; 45.0/50.5
Marin County, California



LEGEND

- Limit of Work Area
- Temporary Construction Easement
- Right of Way
- Post Mile
- Replace Culvert

Note:
Caltrans Design from 08-28-2019
updated culverts, curb and ramp 09-05-2019

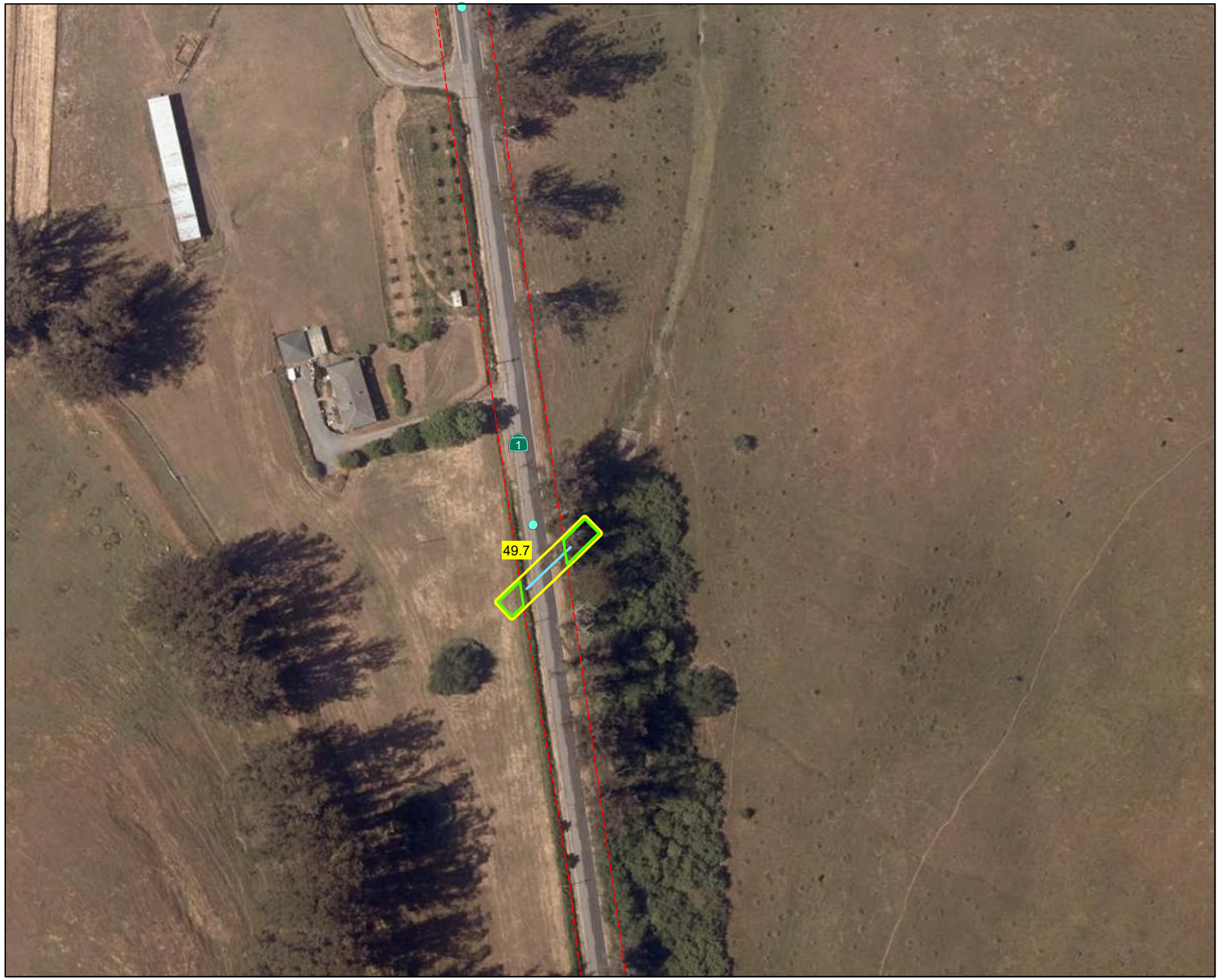
Imagery: 6/13/2018 and 6/23/2018 MarinMap, County of Marin, Golden Gate National Parks Conservancy.

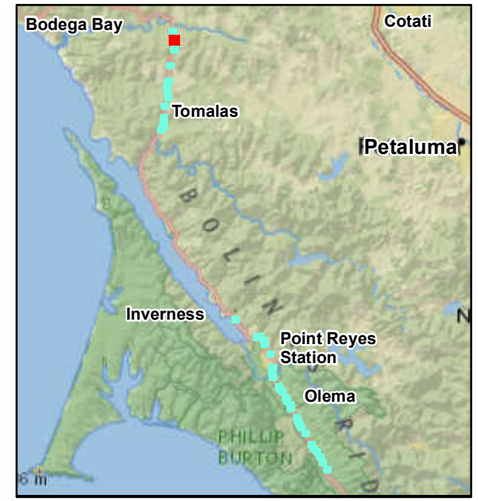
N

0 100 200
Feet

Caltrans

Appendix A
Map 40 of 44
Project Components
State Route 1 Capital Preventive Maintenance (CAPM)
EA 1J960, MRN-1-PM 22.8/33.0; 45.0/50.5
Marin County, California





LEGEND

- Limit of Work Area
- Temporary Construction Easement
- Right of Way
- Post Mile
- Replace Culvert

Note:
Caltrans Design from 08-28-2019
updated culverts, curb and ramp 09-05-2019

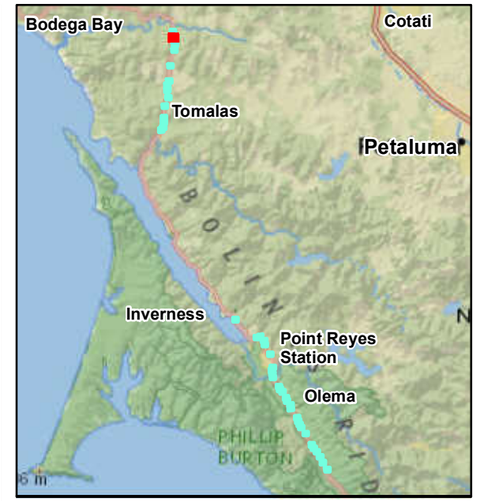
Imagery: 6/13/2018 and 6/23/2018 MarinMap, County of Marin, Golden Gate National Parks Conservancy.

N

0 100 200
Feet

Caltrans

Appendix A
Map 41 of 44
Project Components
State Route 1 Capital Preventive Maintenance (CAPM)
EA 1J960, MRN-1-PM 22.8/33.0; 45.0/50.5
Marin County, California



LEGEND

- Limit of Work Area
- Temporary Construction Easement
- Right of Way
- Post Mile
- Replace Culvert

Note:
Caltrans Design from 08-28-2019
updated culverts, curb and ramp 09-05-2019

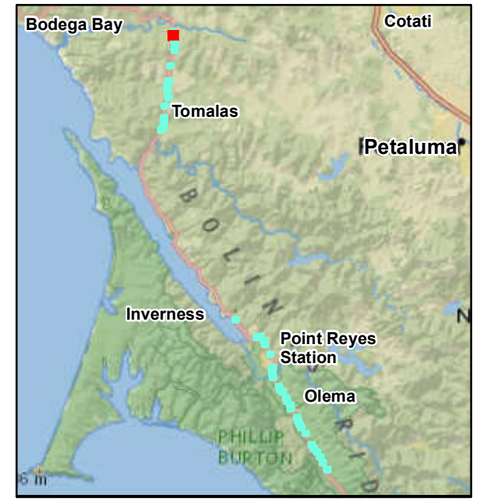
Imagery: 6/13/2018 and 6/23/2018 MarinMap, County of Marin, Golden Gate National Parks Conservancy.

N

0 100 200
Feet

Caltrans

Appendix A
Map 42 of 44
Project Components
State Route 1 Capital Preventive Maintenance (CAPM)
EA 1J960, MRN-1-PM 22.8/33.0; 45.0/50.5
Marin County, California



LEGEND

- Limit of Work Area
- Right of Way
- Post Mile
- Replace Midwest Guardrail System

Note:
Caltrans Design from 08-28-2019
updated culverts, curb and ramp 09-05-2019

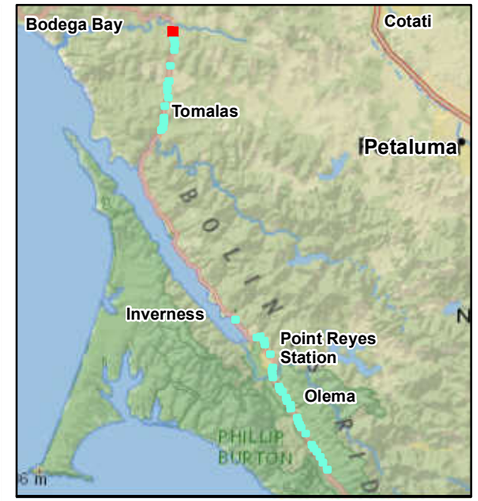
Imagery: 6/13/2018 and 6/23/2018 MarinMap, County of Marin, Golden Gate National Parks Conservancy.

N

0 100 200
Feet

Caltrans

Appendix A
Map 43 of 44
Project Components
State Route 1 Capital Preventive Maintenance (CAPM)
EA 1J960, MRN-1-PM 22.8/33.0; 45.0/50.5
Marin County, California



LEGEND

- Limit of Work Area
- Right of Way
- Post Mile
- Bicycle Pullout

Note:
Caltrans Design from 08-28-2019
updated culverts, curb and ramp 09-05-2019

Imagery: 6/13/2018 and 6/23/2018 MarinMap, County of Marin, Golden Gate National Parks Conservancy.

N

0 100 200
Feet

Caltrans

Appendix A
Map 44 of 44
Project Components
State Route 1 Capital Preventive Maintenance (CAPM)
EA 1J960, MRN-1-PM 22.8/33.0; 45.0/50.5
Marin County, California

Appendix B Title VI Policy Statement

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE DIRECTOR
P.O. BOX 942873, MS-49
SACRAMENTO, CA 94273-0001
PHONE (916) 654-6130
FAX (916) 653-5776
TTY 711
www.dot.ca.gov

Making Conservation a California Way of Life.

April 2018

NON-DISCRIMINATION
POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964, ensures *"No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance."*

Related federal statutes and state law further those protections to include sex, disability, religion, sexual orientation, and age.

For information or guidance on how to file a complaint, please visit the following web page: http://www.dot.ca.gov/hq/bep/title_vi/t6_violated.htm.

To obtain this information in an alternate format such as Braille or in a language other than English, please contact the California Department of Transportation, Office of Business and Economic Opportunity, 1823 14th Street, MS-79, Sacramento, CA 95811. Telephone (916) 324-8379, TTY 711, email Title.VI@dot.ca.gov, or visit the website www.dot.ca.gov.

LAURIE BERMAN
Director

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"

Appendix C Summary of Project Features and Avoidance, Minimization, and Mitigation Measures

Project Features

Project Feature AQ-1: Control Measures for Construction Emissions of Fugitive Dust. Dust control measures would be implemented to minimize airborne dust and soil particles generated from construction. For disturbed soil areas, the use of tackifier to control dust emissions would be included in the construction contract. Any material stockpiles would be watered, sprayed with tackifier, or covered to minimize dust production and wind erosion.

Project Feature BIO-1: ESA Fencing. Prior to the start of construction, ESAs (defined as areas containing sensitive habitats adjacent to or within construction work areas for which physical disturbance is not allowed) will be clearly delineated using high-visibility orange fencing. The ESA fencing will remain in place throughout the duration of the Project construction, preventing construction equipment or personnel from entering sensitive habitat areas. The final Project plans will depict all locations where ESA fencing will be installed and how it will be installed. The special provisions in the bid solicitation package will clearly describe acceptable fencing material and prohibited construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within ESAs.

Project Feature BIO-2: Wildlife Exclusion Fencing. Prior to the start of construction, the Project footprint will be delineated with temporary, high-visibility wildlife exclusion fencing, as needed, to prevent the inadvertent encroachment of wildlife into the Project footprint. The fencing will be removed only when all construction equipment is removed from the job site. The final Project plans will depict the locations where the exclusion fencing will be installed, and the type of materials used.

Project Feature BIO-3: Construction Site Management Practices. The following site restrictions will be implemented to avoid or minimize potential effects on listed species and their habitats:

a. Project-related vehicle traffic will be restricted to established roads and construction areas. Project vehicles will observe a 15-mile-per-hour speed limit while in the Project footprint, except on the current highway.

b. Construction access, staging, storage, and parking areas will be located within the Project's ROW, outside of any designated ESA or the ROW in areas environmentally cleared and permitted by the contractor. The following areas will be limited to the minimum necessary to construct the proposed Project: access routes, staging and storage areas, and contractor parking. Routes and boundaries of roadwork will be clearly marked prior to initiating construction or grading.

c. Any borrow material will be certified, to the maximum extent practicable, as being non-toxic and weed free.

d. All food-related trash items, such as wrappers, cans, bottles, and food scraps, will be disposed of in closed containers and removed at least once daily from the Project footprint.

e. All pets will be prohibited from entering the Project area during construction.

f. Firearms will be prohibited within the Project site, except for those carried by authorized security personnel or local, state, or federal law enforcement officials.

g. All equipment will be maintained to prevent the leakage of vehicle fluids, such as gasoline, oils, or solvents. A spill response plan would be developed. Hazardous materials, such as fuels, oils, and solvents, will be stored in sealable containers, in a designated location that is at least 50 feet from wetlands and aquatic habitats.

h. Vehicles and construction equipment will be serviced, including fueling, cleaning, and maintenance, at least 50 feet from any aquatic habitat unless the activity is separated by topographic or drainage barrier.

Project Feature BIO-4: Dewatering. Dewatering and discharging activities will be conducted according to standard Caltrans requirements.

Project Feature BIO-5: Seasonal Avoidance. Constrain construction, below top of bank, to occur during the dry season, during creek low flows (starting June 15 and ending October 31). Limit work in the creek to when the creek is dry or mostly dry, as much as practicable, or when the creek diversion has been installed. Caltrans will

complete advanced tree removal activities outside of the California red-legged frog-breeding season and bird nesting season at the bridge locations.

Project Feature BIO-6: Night Work. During the work that needs to occur at nighttime, direct all lighting downward and toward the active construction area.

Project Feature BIO-7: Agency Site Access. If requested, before, during, or upon completion of groundbreaking and any construction activities, Caltrans will allow access by agency personnel into the Project footprint to inspect the Project and its activities. Caltrans requests that all agency representatives contact the resident engineer (RE) prior to accessing the work site and review and sign the Safe Work Code of Practices, prior to accessing the work site for the first time.

Project Feature BIO-8: Migratory Birds and Nest Avoidance. During the nesting season (February 1 through September 30), have a qualified biologist conduct pre-construction surveys for nesting birds no more than 72 hours prior to the start of construction activities. If work is to occur within 300 feet of active raptor nests or 50 feet of active non-game bird nests, a non-disturbance buffer will be established at a distance sufficient to minimize disturbance based on the nest location, topography, cover, the species' sensitivity to disturbance, and the intensity/type of potential disturbance. To minimize and avoid take of migratory birds, their nests, and their young, Caltrans will conduct vegetation and tree trimming outside of the bird nesting season, prior to construction.

Project Feature BIO-9: Vegetation Removal. Clear any vegetation within the cut-and-fill line or growing in locations where permanent structures will be placed (such as MGS and culvert replacements). Clear vegetation only where necessary and cut above soil level, except in areas that will be excavated for construction. All clearing and grubbing of woody vegetation will occur by hand or using construction equipment, such as mowers, backhoes, and excavators.

Project Feature BIO-10: Erosion Control Matting. To avoid wildlife entrapment, use coconut coir matting or tackified hydroseeding compounds.

Project Feature BIO-11: Replant, Reseed, and Restore Disturbed Areas. Caltrans will restore temporarily disturbed areas to the maximum extent practicable. Exposed slopes and bare ground will be reseeded with native grasses and shrubs to stabilize and prevent erosion. Where disturbance includes the removal of trees and woody shrubs, native species will be replanted, based on the local species composition.

Project Feature BIO-12: Reduce Spread of Invasive Species. To reduce the spread of invasive, nonnative plant species and minimize the potential decrease of palatable vegetation for wildlife species, comply with Executive Order 13112. This order is provided to prevent the introduction of invasive species and provide for their control to minimize the economic, ecological, and human health effects. In the event that noxious weeds are disturbed or removed during construction-related activities, the contractor will be required to contain the plant material associated with these noxious weeds and dispose of them in a manner that will not promote the spread of the species. The contractor will be responsible for obtaining all permits, licenses, and environmental clearances for properly disposing of materials. Areas subject to noxious weed removal or disturbance will be replanted with fast-growing native grasses or a native erosion control seed mixture. Where seeding is not practical, the target areas within the Project area will be covered to the extent practicable with heavy black plastic solarization material until the end of the Project.

Project Feature BIO-13: Prevention of Entrapment. At the close of each working day, to prevent the inadvertent entrapment of the California red-legged frog, cover all excavated, steep-walled holes or trenches more than 1 foot deep with plywood or similar materials. If covering an excavation is not feasible, then install one or more escape ramps constructed of earthen fill or wooden planks. Before such holes or trenches are filled, thoroughly inspect them for trapped animals. If at any time a trapped listed animal is discovered, the biologist will immediately place escape ramps or other appropriate structures to allow the animal to escape, or USFWS will be contacted by telephone for guidance. The USFWS will be notified of the incident by telephone and electronic mail within one working day.

Project Feature CULT-1: Discovery of Cultural Materials. If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area would be diverted until a qualified archaeologist can assess the nature and significance of the find.

Project Feature CULT-2: Discovery of Human Remains. If remains are discovered during excavation, all work within 60 feet of the discovery will halt and Caltrans Cultural Resource Studies Office will be called. Caltrans Cultural Resources Studies Office Staff would assess the remains and, if they are determined to be human, will contact the County Coroner, per Public Resources Code (PRC) Sections 5097.98, 5097.99, and 7050.5 of the California Health and Safety Code. If the Coroner determines the remains to be Native American, then the Coroner will contact

the Native American Heritage Commission, which would assign a Most Likely Descendant. Caltrans will consult with the Most Likely Descendant on treatment and reburial of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

Project Feature GHG-1: Control Measures for Greenhouse Gases. Measures would be determined during the later Project phases and implemented during construction to: (1) ensure regular construction maintenance of construction vehicle and equipment; (2) limit idling of vehicles and equipment onsite; (3) recycle nonhazardous waste and excess material if practicable; and (4) use solar-powered signal boards, if feasible.

Project Feature WQ-1: Stormwater Pollution Prevention Plan. To comply with the CGP, the Project contractor is required to implement a SWPPP containing BMPs for stormwater pollution control. The SWPPP be prepared by the contractor and approved by Caltrans, and detail the implementation of temporary construction site BMPs during all phases of construction to avoid or minimize stormwater and water quality effects to surface water, groundwater, or domestic water supplies. The SWPPP will include erosion control BMPs implemented, to minimize wind- or water-related erosion. These prevention measures will also fulfill the requirements of the San Francisco RWQCB. The Caltrans BMP Guidance Handbook will provide the design staff with guidance for including appropriate provisions in the construction contract that will prevent or minimize stormwater and non-stormwater discharges and protect sensitive areas. At a minimum, protective measures will include the following:

- Any discharging of pollutants from vehicle and equipment cleaning into any storm drains or watercourses will be disallowed.

- Vehicle and equipment fueling and maintenance operations will be kept at least 50 feet away from watercourses, except at established commercial gas stations or an established vehicle maintenance facility.

- All grindings and asphaltic-concrete waste will be stored within previously disturbed areas absent of habitat and at a minimum of 50 feet from any downstream riparian habitat, aquatic habitat, culvert, or drainage feature.

- Dedicated fueling and refueling practices will be designated as part of the approved SWPPP. Dedicated fueling areas will be protected from stormwater

runoff and be located at least 50 feet from downslope drainage facilities and water courses.

- Fueling must be performed on level-grade areas. Onsite fueling will only be used when and where sending vehicles and equipment offsite for fueling is impractical. When fueling must occur onsite, the contractor will designate an area to be used subject to the approval of the RE representing Caltrans. Drip pans or absorbent pads will be used during onsite vehicle and equipment fueling.

- Spill containment kits will be maintained onsite at all times during construction operations and/or staging or fueling of equipment.

- Dust control measures will be implemented. These will consist of regular truck watering of construction access areas and disturbed soil areas, including the use of organic soil stabilizers, if required, to minimize airborne dust and soil particles generated from graded areas. For disturbed soil areas, the use of tackifier to control dust emissions blowing off of the ROW or out of the construction area during construction will be included in the construction contract. Watering guidelines will be established to avoid any excessive runoff that may flow into contiguous areas. Any material stockpiles will be watered, sprayed with tackifier, or covered to minimize dust production and wind erosion. All of these efforts will be consistent with the RWQCB or approved SWPPP. Dust control will be addressed during the environmental education session.

- Coir rolls or straw wattles will be installed along or at the base of slopes during construction to capture sediment.

- Graded areas will be protected from erosion using a combination of silt fences, fiber rolls along toes of slopes or along edges of designated staging areas, and erosion control netting (such as jute or coir) as appropriate on sloped areas.

Project Feature WQ-2: Construction Site BMPs. To prevent or reduce impacts to water quality during construction, construction site BMPs would be deployed for sediment control and material management. These include:

- **Job Site Management:** This non-stormwater discharge and waste management practice includes considerations for operations, illicit discharge detention and reporting, vehicle and equipment cleaning, vehicle and equipment fueling, and material use.

- **Temporary Fiber Rolls:** A fiber roll consists of straw or other similar materials placed on the face of the slopes at regular intervals to intercept runoff, reduce its flow velocity, release the runoff as sheet flow, and provide removal of sediment from the runoff.

- **Silt Fence:** A silt fence is a temporary linear sediment barrier of permeable fabric designed to intercept and slow the flow of sediment-laden sheet flow runoff. Silt fences allow sediment to settle from runoff before water leaves the construction site. Silt fences are placed below the toe of exposed and erodible slopes, downslope of exposed soil areas, around temporary stockpiles and along streams and channels. Silt fences should not be used to divert flow or in streams, channels, or anywhere flow is concentrated.

- **Drainage Inlet Protection:** Drainage inlet protection is a practice to reduce sediment from stormwater runoff discharging from the construction site prior to entering the storm drainage system. Effective drainage inlet protection allows sediment to settle out of stormwater or filters sediment from the stormwater before it enters the drain inlet. Drainage inlet protection is the last line of sediment control defense prior to stormwater leaving the construction site.

- **Portable Concrete Washout:** This waste management BMP contains procedures and practices that would minimize or eliminate the discharge of concrete waste materials to the storm drain systems or watercourses.

- **Temporary Cover:** This BMP involves the placement of geosynthetic fabrics (geotextiles), plastic covers, or erosion control blankets/mats to stabilize DSA and protect soil from erosion by wind or water.

- **Stockpile Management:** This BMP consists of procedures and practices to eliminate pollution of stormwater from stockpiles of soil and paving materials (such as concrete rubble, aggregate, and asphalt concrete). These procedures include locating stockpiles away from drainages, and providing perimeter sediment barriers, soil stabilization, and wind erosion control measures.

- **Solid Waste Management:** This BMP consists of procedures and practices to minimize or eliminate the discharge of pollutants to storm drain systems or watercourses as a result of creation, stockpiling, or removal of construction site wastes. Measures include education as well as collection, storage, and disposal practices (such as, plywood and tarp directly on streambed).

- **Stream Diversion System:** The system consists of upstream and downstream berms, with a pipe conveying runoff to create a dry working environment for temporary access. The system would be required at specific culvert locations and used during the summer months for one or both summers of the construction period. Each stream diversion system would be removed immediately after in-stream work is completed at the location, and would not be left in place during the wet season (typically beginning October 15). A risk analysis would be done to determine the design flow for the stream diversion system.

Project Feature WQ-3: Permanent Treatment BMPs. Permanent treatment BMPs are as follows:

- **Design Pollution Prevention BMP Strategy:** The goal of an effective erosion control strategy is to maintain the natural pre-construction conditions. Existing vegetation would be preserved to the maximum extent practicable, and areas disturbed by construction activities would be minimized using construction site BMPs. Preservation involves the identification and protection of desirable vegetation to provide erosion and sediment control benefits.

- **Treatment BMP Strategy:** Treatment BMPs would address the post-construction water quality impacts and remove pollutants from stormwater runoff before discharging to receiving waters. The Project currently proposes the use of biofiltration strips as the stormwater treatment devices to meet Project requirements. The locations for the biofiltration strips would be determined during later Project phases.

- Do not deliver equipment and materials or dispose of spoils/construction waste between 9:00 p.m. and 6:00 a.m.

- Use quieter alternative methods or equipment (like electricity instead of generator), if feasible.

- Avoid idling of equipment near sensitive receptors.

- Confirm that all equipment used on the construction site, including jackhammers, has exhaust systems and mufflers recommended by the manufacturer as having the lowest noise.

Project Feature UTI-1: Trash Management. All food-related trash items, such as wrappers, cans, bottles, and food scraps, would be disposed of in closed containers and removed by the contractor at least once daily from the Project limits. A trash reduction system would also be developed by the contractor, approved by Caltrans, and implemented per Caltrans Statewide National Pollution Discharge Elimination System Permit and San Francisco RWQCB Cease and Desist Order.

Project Feature UTI-2: Treated Wood Waste. Wood removed from metal beam guardrails will be considered treated wood waste, and must be disposed of by the contractor pursuant to Caltrans standard specifications.

Avoidance and Minimization Measures

AMM AES-1: Design Information Bulletin (DIB) 82-06. DIB 82-06 allows for alternative color selection of suitable contrast with adjacent paving. Select a muted color (such as brick red or brown) with an adequate level of adjacent surface contrast to ADA-compliant upgrades, while minimizing visual change. Tint concrete paving used for pedestrian facilities (sidewalks and curb ramps) to minimize visual change relative to adjacent existing pavement within the rural villages of Point Reyes Station and Tomales.

AMM AES-2: Conceal drainage features. Color drainage features (including associated concrete) to match adjacent earth tones where they are not permanently hidden from view.

AMM AES-3: Selection of Attenuators and Crash Cushions. Select attenuators and crash cushions that are visually consistent with MGS metal railings, to the maximum extent feasible.

AMM AES-4: Aesthetically Treat Concrete Blocks. Aesthetically treat MGS terminal blocks adjacent to existing see-through concrete railings to minimize character change. Locations are: PM 22.8/22.91, PM 23.21/23.34, and PM 28.55.

AMM AES-5: Color Concrete Structures. Color concrete structures to minimize visual dissimilarity when compared to existing concrete barriers and other structures.

AMM AES-6: Minimize Construction Appearance. Minimize appearance of construction equipment and staging areas locations to the extent feasible.

AMM AES-7: Culvert Footprints. Minimize culvert footprints.

AMM AES-8: Treatments at MVPs and Turnouts. Use non-pavement treatments at MVPs and turnouts. Per Marin SR 1 Repair Guidelines, paving beyond a 4-foot-wide shoulder should be limited.

AMM AES-9: Revegetation of Disturbed Areas. Revegetate disturbed soils using native plants and plant seeds as appropriate. In Project locations in or adjacent to park lands including, Point Reyes National Seashore, or state parks lands, propagate plants from local plant material and locally collect seeds.

AMM AES-10: Protect Existing Trees. Avoid impacts to existing trees and shrubs, including associated tree roots, where feasible. Caltrans Landscape Architecture and Biological Resources offices will identify specific locations and BMPs during later Project phases and include appropriate information in the plans and specifications.

AMM AES-11: Limit Construction Lighting. Limit construction lighting to the specific areas under construction along the Project corridor and avoid light trespass with the use of directional lighting, shielding, and other measures as needed.

AMM BIO-1: Approved Biologist. Submit the names and qualifications of the proposed biomonitor(s) to the USFWS and CDFW for approval at least 30 calendar days prior to the start of construction.

a. Prior to working on the site, the approved biomonitor(s) will submit a letter to the USFWS and CDFW verifying that they possess a copy of the BO, Streambed Alteration Agreement, and other relevant permits for the Project, and understand the *Terms and Conditions*.

b. The biomonitor(s) will keep a copy of the BO, Streambed Alteration Agreement, and other relevant permit materials in their possession when onsite.

c. The biomonitor(s) will be onsite during all work that could reasonably result in take of special-status wildlife.

d. In coordination with the Caltrans RE, the biomonitor(s) will have the authority to stop work that may result in the unauthorized take of special-status species. If the biomonitor(s) exercises this authority, the USFWS or CDFW will be notified by telephone and email within one working day.

e. At least 30 days prior to the onset of activities, submit to the USFWS and CDFW the name(s) and credentials of biologists who will conduct preconstruction

surveys and relocation activities for the listed species. No Project activities will begin until the proponent has received written approval from the agencies that he/she is approved to conduct the work. An agency-approved biologist will be present onsite during the construction of any erosion control fencing or cofferdams, and prior to and during the dewatering activities to monitor for the California red-legged frog. Through communication with the RE or his/her designee, the agency-approved biologist may stop work, if deemed necessary, for any reason to protect listed species; the biologist will advise the RE or designee on how to proceed accordingly.

f. The RE (or designee) will do the following tasks: 1) Send a letter to the USFWS and CDFW verifying that they possess a copy of the BO and Lake and Streambed Alteration Agreement and understands the *Terms and Conditions*. 2) Maintain a copy of the BO, Lake and Streambed Alteration Agreement, and other relevant permits onsite whenever construction is taking place. 3) Immediately contact the agency-approved biological monitor when a California red-legged frog is observed within the construction zone. Construction activities will be suspended within a 50-foot radius of the California red-legged frog until the animal leaves the site voluntarily or is relocated by the agency-approved biological monitor. The agency-approved biological monitor will follow established California red-legged frog protocols for relocation of the California red-legged frog.

AMM BIO-2: Worker Environmental Awareness Training. Prior to ground-disturbing activities, have an agency-approved biologist conduct an education program for all construction personnel. At a minimum, the training will include: a description of special-status species, migratory birds, and their habitats; how the species might be encountered within the Project area; an explanation of the status of these species and protection under the federal and state regulations; the measures to be implemented to conserve listed species and their habitats as they relate to the work site; boundaries within which construction may occur; and how to best avoid the incidental take of listed species. The field meeting will include topics on species identification, life history, descriptions, and habitat requirements during various life stages. Emphasis will be placed on the importance of the habitat and life stage requirements within the context of Project maps showing areas where AMMs are to be implemented. The program will include an explanation of applicable federal and state laws protecting endangered species, as well as the importance of compliance with Caltrans and various resource agency conditions.

AMM BIO-3: Pre-Construction California Red-Legged Frog Surveys. An agency-approved biologist will conduct pre-construction surveys for the California red-legged frog no more than 20 calendar days prior to any initial ground disturbance and immediately prior to ground-disturbing activities (including vegetation removal) beyond the existing pavement. These efforts will consist of walking surveys within the area of ground disturbance and, if possible, accessible adjacent areas within at least 50 feet of the Project limits. The agency-approved biologist will investigate potential cover sites when such investigation is feasible and safe. This includes thorough investigation of mammal burrows, rocky outcrops, appropriately sized soil cracks, tree cavities, and debris. Native vertebrates found in the cover sites within the Project limits will be documented and relocated to an adequate cover site in the vicinity. Safety permitting, the agency-approved biologist(s) will investigate areas of disturbed soil for signs of California red-legged frogs within 30 minutes following initial disturbance of the given area.

AMM BIO-4 Protocol for Species Relocation and Reporting. Follow these procedures if California red-legged frogs are encountered in the immediate work area:

a. If a frog is discovered during surveys or Project activities, the RE and agency-approved biologist will be immediately informed. If a frog gains access to a construction zone, work will be halted immediately within 50 feet, until the animal leaves the construction zone or is removed by the agency-approved biologist. The captured frog will be released within appropriate habitat outside of the construction zone within the creek riparian corridor. The release habitat will be determined by the agency-approved biologist.

b. The agency-approved biologist will have the authority to halt work through coordination with the RE if a frog is discovered within the Project footprint. The RE will ensure construction activities remain suspended in any construction area where the qualified biologist has determined that a potential take of the frog could occur. Work will resume once the animal leaves the site voluntarily, or is removed by the biologist(s) to a release site using USFWS-approved handling techniques, or if it is determined that the frog is not being harassed by construction activities. If take occurs, the biologist(s) will notify the USFWS contact by telephone and electronic mail within one working day.

c. The biological monitor(s) will take precautions to prevent introduction of amphibian diseases in accordance with the *Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog* (USFWS 2005).

d. An agency-approved biologist or a licensed veterinarian will care for injured frogs, if necessary. Dead frogs will be preserved according to standard museum techniques and held in a secure location. The USFWS will be notified within one working day of the discovery of a death or injury of frog(s) resulting from Project-related activities or if a frog is observed at the Project site. Notification will include the date, time, location, and any other pertinent information related to the incident or the finding of a dead or injured animal, clearly indicated on a USGS 7.5-minute quadrangle and other maps at a finer scale, as requested by the USFWS.

e. Caltrans will submit post-construction compliance reports prepared by the biologist to the USFWS within 60 calendar days following completion of Project activities, or within 60 calendar days of any break in construction activity lasting more than 60 calendar days. This report will detail: (1) dates that relevant Project activities occurred; (2) pertinent information concerning the success of the Project in implementing AMMs for listed species; (3) an explanation of failure to meet such measures, if any; (4) known Project effects on the frog, if any; (5) occurrences of incidental take of listed species; (6) documentation of employee environmental education; and (7) other pertinent information.

AMM BIO-5: Vegetation Removal Avoidance for Northern Spotted Owl. To the extent feasible, conduct all major tree removal between October 1 and January 31, prior to the onset of winter rains, outside the northern spotted owl nesting season and during the later portion of the northern spotted owl's breeding season (February 1 to September 30) and one year prior to the start of construction activities. Trees will be stumped and roots left in place until construction commences the following year. Should vegetation removal occur during the northern spotted owl's breeding season, an agency-approved biologist will conduct protocol surveys following the USFWS northern spotted owl survey protocols (USFWS 2012) or most current protocol.

AMM BIO-6: Vegetation Removal Avoidance for Bats. Remove any trees that may provide roosting habitat (such as large snags or trees with cavities) using the two-phase method of removing limbs from the tree on the afternoon of the first day and stumping the tree on the following day.

AMM BIO-7: Fish Passage Assessment. During later phases of the Project, a fish passage assessment will be conducted to determine if any of the eight culverts proposed for replacement are currently a barrier to fish passage. If any of the culverts proposed for replacement are determined to be a barrier to fish passage, then the Project will be designed to eliminate the fish passage barrier in accordance with Senate Bill 857.

AMM Noise-1: Noise Levels During Construction. Noise from construction activities is not to exceed 86 dBA Lmax[3] at 50 feet from the Project site from 9:00 p.m. to 6:00 a.m. per 2018 Caltrans Standard Specifications, Section 14-8.02.

AMM Noise-2: Noise Best Management Practices. The following BMPs would be implemented during all phases of construction activities to reduce noise:

- Provide public outreach/communication plan throughout the Project for residents to have a source of accurate information, including social media, on Project information and schedules.
- Inform West Marin Elementary School of the construction schedule at their location and to use classrooms at least 100 feet away from SR 1 during construction located adjacent to the school.
- Locate staging and storage areas away from sensitive receptors (especially residences).
- Enclose staging and storage areas, if feasible. Use natural barriers (like situating idling equipment behind hills at Valley Ford), when available.
- Consider reducing impact of detours through public information and choosing detours away from residences.
- Do not deliver equipment and materials or dispose of spoils/construction waste between 9:00 p.m. and 6:00 a.m.
- Use quieter alternative methods or equipment (like electricity instead of generator), if feasible.

[3] Lmax noise descriptor is the highest instantaneous noise level during a specified period, in the noise analysis 1 hour.

- Avoid idling of equipment near sensitive receptors.
- Confirm that all equipment used on the construction site, including jackhammers, has exhaust systems and mufflers recommended by the manufacturer as having the lowest noise.

AMM Noise-3: Vibration Control Measures: (1) At locations where structures are 30 feet or less from SR 1, schedule activities (such as, paving, curb/sidewalk replacement and sign replacement/installation) separately. (2) Prevent idling of other equipment within 100 feet of structures.

AMM TRANS-1: Traffic Management Plan: To minimize potential effects from construction activities to motorists, bicyclists, or pedestrians using local streets, a TMP would be developed by Caltrans and implemented throughout construction. The TMP would include public information, motorist information, incident management, construction, and alternate routes or detours. The TMP would also include elements, such as detour and haul routes, one-way traffic controls to minimize speeds and congestion, flag workers, and phasing, to reduce impacts to local residents as much as feasible and maintain access to businesses in the local area. The TMP would also provide access for police, fire, and medical services in the local area. Detour routes would be planned in coordination with Caltrans and Marin County, and would include notices to emergency service providers, transit operators, and the public in advance.

Mitigation Measures

Mitigation Measure BIO-1: Riparian Tree Replacement. Riparian trees that are removed as a result of this Project will be replanted onsite, at a ratio of 3:1, upon Project construction completion.

Mitigation Measure BIO-2: Wetlands and Waters Restoration. Mitigation for temporary impacts to wetlands and waters within the California Coastal Zone will be accomplished through onsite restoration, upon Project construction completion.

Appendix D List of Acronyms

AC	asphalt concrete
ADA	Americans with Disabilities Act
AES	aesthetics
AMM	avoidance and minimization measure
APE	area of potential effects
AQ	air quality
BIO	biology
BMP	best management practice
BO	Biological Opinion
BSA	biological study area
Caltrans	California Department of Transportation
CAPM	Capital Preventative Maintenance
CCA	California Coastal Act of 1976
CCC	California Coastal Commission
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CGP	Construction General Permit for construction activities (2009-0009-DWQ, CAS000002, as amended by 2010-0014-DWQ and 2012-0006-DWQ)
CH_4	methane
CNDDB	California Natural Diversity Database

CNPS	California Native Plant Society
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
CSP	corrugated steel pipe
CSPA	corrugated steel pipe arc
CULT	cultural
dBA	A-weighted decibel
DSA	disturbed soil area
ESHA	environmentally sensitive habitat area
EIR	environmental impact report
FESA	federal Endangered Species Act
FHWA	Federal Highway Administration
FMMP	Farmland Mapping and Monitoring Program
GHG	greenhouse gas
HPSR	Historic Property Survey Report
HSA	Hydrologic Sub-Area
LCP	Local Coastal Program
MGS	Midwest Guardrail System
MTC	Metropolitan Transportation Commission
MVP	maintenance vehicle pullout
N_2O	nitrous oxide
National Register	National Register of Historic Places

NES	Natural Environment Study
PCS	pavement condition survey
PM	post mile
PPV	peak particle velocity
PRC	Public Resources Code
RE	resident engineer
ROW	right of way
RWQCB	Regional Water Quality Control Board
SHOPP	State Route Operation and Protection Program
SR	State Route
SWPPP	stormwater pollution prevention plan
SWRCB	State Water Resources Control Board
TAM	Transportation Authority of Marin
TCE	temporary construction easement
TMP	Traffic Management Plan
TRANS	transportation and traffic
TTY	text telephone
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	underground storage tank
VIA	visual impact assessment
WQ	water quality

Appendix E List of Technical Studies and References

Association of Bay Area Governments (ABAG) and Metropolitan Transportation Commission (MTC). 2017. Plan Bay Area 2040: Regional Transportation Plan and Sustainable Communities Strategy for the San Francisco Bay Area 2017 to 2040. Available at http://2040.planbayarea.org/cdn/ff/buje2Q801oUV3Vpib-FoJ6mkOfWC9S9sgrSgJrwFBgo/1510696833/public/2017-11/Final_Plan_Bay_Area_2040.pdf. Adopted July 25, 2017.

CAL FIRE. 2007. Marin County Fire Hazard Severity Zones in SRA. Available at https://osfm.fire.ca.gov/media/6707/fhszs_map21.pdf. November 7.

California Department of Conservation. 2019. Farmland Mapping and Monitoring Program imagery. Accessed October 2019.

California Department of Transportation (Caltrans). 2019a. Visual Impact Assessment State Route 1 Capital Preventive Maintenance Project. District 4, Office of Landscape Architecture. Oakland, CA. October 15.

California Department of Transportation (Caltrans). 2019b. Supplemental Visual Impact Assessment State Route 1 Capital Preventive Maintenance Project. District 4, Office of Landscape Architecture. Oakland, CA. November 22.

California Department of Transportation (Caltrans). 2019c. *Marin 1 CAPM Project Draft Natural Environment Study*. December.

California Department of Transportation (Caltrans). 2019d. California Coastal Commission Aquatic Resources Report for State Route 1 Capital Preventive Maintenance (CAPM) Project from Post Mile 22.8 to 31.2 and 45.0 to 50.5. November.

California Department of Transportation (Caltrans). 2019e. Aquatic Resources Delineation Report for Marin State Route 1 Capital Preventative Maintenance Project. January.

California Department of Transportation (Caltrans). 2019f. *Office of Cultural Resource Studies (OCRS) Summary Memo for the State Route 1 Capital*

Maintenance Project in Marin County. District 4 Office of Cultural Resources Studies. Oakland, CA. June 20.

California Department of Transportation (Caltrans). 2019g. *Historic Property Survey Report (HPSR)*. District 4 Office of Cultural Resources Studies. Oakland, CA. May 14.

California Department of Transportation (Caltrans). 2019h. *Historic Resources Evaluation Report (HRER)*. District 4 Office of Cultural Resources Studies. Oakland, CA. March.

California Department of Transportation (Caltrans). 2019i. Archaeological Survey Report for the State Route 1 CAPM Project. District 4 Office of Cultural Resources Studies. Oakland, CA. April.

California Department of Transportation (Caltrans). 2019j. *Water Quality Study*. District 4 Office of Water Quality. October.

California Department of Transportation (Caltrans). 2019k. *Stormwater Data Report*. District 4 Office of Water Quality. September.

California Department of Transportation (Caltrans). 2019l. Construction Noise Analysis Report. District 4, Office of Environmental Engineering. Oakland, CA. March 13, 2019.

California Department of Transportation (Caltrans). 2019m. *Construction-Related Vibration Assessment Report*. District 4, Office of Environmental Engineering. Oakland, CA. March 12, 2019.

California Department of Transportation (Caltrans). 2018a. *Standard Plans U.S. Customary Units 2018 Edition*. Available at http://ppmoe.dot.ca.gov/hq/esc/oe/project_plans/HTM/stdplns-US-customary-units-new18.htm. Accessed February 2019.

California Department of Transportation (Caltrans). 2018b. *Highway Design Manual Sixth Edition*. Available at https://dot.ca.gov/-/media/dot-media/programs/design/documents/hdm-complete-14dec2018.pdf.

California Department of Transportation (Caltrans). 2018c. Comments from the Air/Noise/Energy Branch Memorandum – 1J960 Capital Preventive

Maintenance Improvement Project. District 4, Office of Environmental Engineering. Oakland, CA. September 27, 2018.

California Department of Transportation (Caltrans). 2018d. State Route 1 Capital Preventive Maintenance Project Technical Memorandum. District 4 Office of Geotechnical Design – West. Oakland, CA. October 4, 2018.

California Department of Transportation (Caltrans). 2018e. Construction Greenhouse Gas Emissions Analysis Memorandum. Capital Preventive Maintenance Project on State Route 1. District 4 Office of Environmental Engineering. Oakland, CA. August 28, 2018.

California Department of Transportation (Caltrans). 2018f. 2018 Standard Plans and Standard Specifications. Available at https://dot.ca.gov/programs/design/ccs-standard-plans-and-standard-specifications.

California Department of Transportation (Caltrans). 2017. *Preliminary Drainage Assessment and Location Hydraulic Study*. Office of Hydraulics. Oakland, CA. November 30, 2017.

California Department of Transportation (Caltrans). 2015. *Marin State Route 1 Repair Guidelines*. Caltrans District 4. Oakland, CA. July 2015.

California Department of Transportation (Caltrans). 2007. *Design Information Bulletin 81: Capital Preventative Maintenance (CAPM) Guidelines.* Available at http://www.dot.ca.gov/hq/maint/Pavement/Offices/Pavement_Engineering/PDF/dib81-6-29-07.pdf. June 22, 2007. Accessed February 2019.

California Department of Fish and Wildlife (CDFW). 2016. "Tomales Bay Ecological Reserve" Web page. Available at https://www.wildlife.ca.gov/Lands/Places-to-Visit/Tomales-Bay-ER.

California Department of Fish and Wildlife (CDFW). 2019a. California Natural Diversity Database. RareFind Version 5.0 and monthly GIS layer Download. Desktop Commercial Subscription. Biogeographic Data Branch. Sacramento, California.

California Department of Fish and Wildlife (CDFW). 2019b. Biogeographic Information and Observation System. *California Natural Diversity*

Database/Spotted Owl Viewer Database. Biogeographic Data Branch, Sacramento, CA.

California Native Plant Society (CNPS). 2019. Inventory of Rare and Endangered Plants of California (online edition). Available at: http://www.rareplants.cnps.org.

Federal Highway Administration (FHWA). 1981. Visual Impact Assessments for Highway Projects. Publication No. FHWA-HI-88-054. Available at http://www.dot.ca.gov/ser/downloads/visual/FHWAVisualImpactAssmt.pdf.

Marin County. 2019. Marin GeoHub Fire Hazard Severity Zones. https://gisopendata.marincounty.org/datasets/0683285b35354c18a93de194a8e3b70d_70/data?geometry=-122.830%2C38.027%2C-122.720%2C38.051. Updated August 7, 2019. Accessed November 1, 2019.

Marin County. 2012. Marin County Coastal Zone Map. Available at https://www.marincounty.org/~/media/files/departments/cd/planning/local-coastal/marin_county_coastal_zone_map.pdf. Accessed: February 20, 2018.

Marin County. 2007. Marin Countywide Plan. Available at http://www.marincounty.org/depts/cd/divisions/planning/2007-marin-countywide-plan/countywide-plan.

Marin County. 2001. Point Reyes Station Community Plan. Available at http://www.marincounty.org/~/media/files/departments/cd/planning/currentplanning/publications/communityandareaplans/pt_reyes_commnity_plan_2001.pdf.

Marin County. 1981. Marin County Local Coastal Program, Unit 2. Available at http://www.marincounty.org/depts/cd/divisions/planning/plans-policies-and-regulations/local-coastal-program.

Marin County. 2007. *Marin Countywide Plan*. Available at: https://www.marincounty.org/-/media/files/departments/cd/planning/currentplanning/publications/county-wide-plan/cwp_2015_update.pdf. Assessed December 13, 2019.

Marin County. 2012a. Marin County Municipal Code Chapter 22.27 – Native Tree Protection and Preservation. Available at:

https://library.municode.com/ca/marin_county/codes/code_of_ordinances?nodeId=TIT22DECO_ARTIIISIPLGEDERE_CH22.27NATRPRPR. Assessed December 13, 2019.

Marin County. 2012b. Marin County Municipal Code Chapter 22.130 – Definitions. Available at: https://library.municode.com/ca/marin_county/codes/code_of_ordinances?nodeId=TIT22DECO_ARTVIIIDECODE_CH22.130DE. Assessed December 13, 2019.

Marin Transit. 2019. Service Map. Available at https://marintransit.org/map. Accessed November 2019.

National Park Service (NPS). 2016. Point Reyes National Seashore. Available at https://www.nps.gov/pore/index.htm.

Natural Resources Conservation Service (NRCS). 2019. "Web Soil Survey". United States Department of Agriculture. Available at https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx. Accessed November 2019.

State Water Resources Control Board (SWRCB). 2019. Geotracker Database Search – Marin County. Available at https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=Sacramento. Accessed October 18, 2019.

Transportation Authority of Marin (TAM). 2019. Draft 2019 CMP Update. Available at https://2b0kd44aw6tb3js4ja3jprp6-wpengine.netdna-ssl.com/wp-content/uploads/2019/10/10c-2019-DRAFT-CMP-9-20-19-Copy.pdf. October.

United States Department of Agriculture (USDA) Soil Conservation Service. n.d. Soil Survey of Marin County. Available at https://www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/california/marinCA1985/marinCA1985.pdf. Accessed November 2019.

United States Geological Survey (USGS). 2018. National Hydrography Dataset. United States Department of the Interior. Available at https://www.usgs.gov/core-science-systems/ngp/national-hydrography. Accessed August 22, 2018.

United States Geological Survey (USGS). 2019. U.S. Quaternary Faults. Available at https://usgs.maps.arcgis.com/apps/webappviewer/index.html?id=5a6038b3a1684561a9b0aadf88412fcf. Accessed November 2019.

United States Fish and Wildlife Service (USFWS). 2019. The Information, Planning, and Consultation System. Available at https://ecos.fws.gov/ipac/.

United States Fish and Wildlife Service (USFWS). 2018b. National Wetlands Inventory Map. Available at http://www.fws.gov/wetlands/Data/Mapper.html. Accessed August 22, 2018.