



IN REPLY REFER TO:
L7615(YOSE-PM)

United States Department of the Interior NATIONAL PARK SERVICE

Yosemite National Park
P. O. Box 577
Yosemite, California 95389

Memorandum

To: Jim Roche, Project Manager, Yosemite National Park
From: Superintendent, Yosemite National Park
Subject: NEPA and NHPA Clearance: 2016-011 Tioga Road Weather Station Transect Upgrades (64574)

The Executive Leadership Team has reviewed the proposed project/action and completed its environmental assessment documentation, and we have determined the following:

- There will not be any effect on threatened, endangered, or rare species and/or their critical habitat.
- There will be no adverse effect on historical, cultural, or archeological resources.
- There will not be serious or long-term undesirable environmental or visual effects.

The subject proposed project, therefore, is now cleared for all NEPA and NHPA compliance requirements as presented above. Project plans and specifications are approved and construction and/or project implementation can commence.

For the proposed project actions to be within compliance requirements during construction and/or project implementation, the following mitigations must be adhered to:

- Any discovered cultural resources must be turned over to the park immediately upon discovery.
- Ensure that all equipment within view of the road is painted to blend with the setting.

Recommendations for Conditions or Stipulations:

None

For complete compliance information see PEPC Project 64574.

// Don L. Neubacher //
Don L. Neubacher

*The signed original of this document is on file at the
Environmental Planning and Compliance Office in
Yosemite National Park.*

Enclosure (with attachments)

cc: Statutory Compliance File



Categorical Exclusion Form

Project: 2016-011 Tioga Road Weather Station Transect Upgrades

PEPC Project Number: 64574

Description of Action (Project Description):

The purpose of this project is to upgrade existing temporary snow depth and soil moisture sensors at four locations and add remote data access telemetry equipment at each location. This project builds on the previous action covered by CE 2006-084, "Highway 120 Corridor Weather Station Installations and Upgrades". Under the previous CE, these installations were temporary, to be removed annually as feasible, and not equipped with remote data transmission capabilities. In addition to upgrades and telemetry, under this project the sensors remain installed year-round for a period of up to ten years.

These installations span the existing rain-to-snow transition in Yosemite National Park. The primary purpose of these stations is to monitor changes in snowpack and associated soil moisture along this elevation gradient in order to better understand variability in these quantities in wet and dry years and with climate warming. In addition to research that informs park climate science needs, this system would serve downstream stakeholders such as the Merced Irrigation District by providing near real-time data on snowmelt and soil moisture that is critical to runoff forecasting.

Four locations along the Tioga Road corridor (outside of designated Wilderness and outside of the Tioga Road Historic District) would continue to be instrumented as during the preceding 10 years. These sites are:

1. Across the Big Oak Flat Road from Merced Grove parking area
2. Gin Flat
3. Across the Tioga Road from the old Smoky Jack campground
4. Adjacent to the Olmsted quarry (May Lake pit)

Each site will continue to have up to ten snow depth sensors, three of which would include soil moisture sensors. These sensors will be mounted on U-channel posts driven into the ground and stand 10-15 feet in height (see photo). All installations will be upgraded; this will include replacing the soil moisture sensors, requiring excavation of new soil pits adjacent to the existing installation locations. The new soil pit excavation will be approximately 2 feet square by 4 feet deep.

Remote data transmission at Olmsted Quarry will be made possible by the addition of a 10-15 foot tower equipped with a 14-inch Yagi antenna, 30-watt solar panel (30 x 14 inches), and a battery box (12 x 12 x 12 inches). The tower would consist of a galvanized schedule 80 3-inch diameter pipe secured by a poured concrete base constructed in a 3 foot square by 4 foot deep hole. All work would be done using hand tools. Remote data transmission at all other sites will utilize existing weather towers in the vicinity for mounting solar panels and telemetry equipment.

Stations will be maintained by a consortium of researchers from the U.S. Geological Survey, Scripps Institute of Oceanography, and the University of California Merced.

Project Locations:

Mariposa County, CA

Mitigation(s):

- Any discovered cultural resources must be turned over to the park immediately upon discovery
- Ensure that all equipment within view of the road is painted to blend with the setting

CE Citation: C.18 Construction of minor structures, including small improved parking lots, in previously disturbed or developed areas.

Decision: I find that the action fits within the categorical exclusion above. Therefore, I am categorically excluding the described project from further NEPA analysis. No extraordinary circumstances apply.

Superintendent: // Don L. Neubacher //

Date: 7/21/2016

Don L. Neubacher

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Extraordinary Circumstances:

If implemented, would the proposal...	Yes/No	Notes
A. Have significant impacts on public health or safety?	No	
B. Have significant impacts on such natural resources and unique geographic characteristics as historic or cultural resources; park, recreation, or refuge lands; wilderness areas; wild or scenic rivers; national natural landmarks; sole or principal drinking water aquifers; prime farmlands; wetlands (Executive Order 11990); floodplains (Executive Order 11988); national monuments; migratory birds; and other ecologically significant or critical areas?	No	
C. Have highly controversial environmental effects or involve unresolved conflicts concerning alternative uses of available resources (NEPA section 102(2)(E))?	No	
D. Have highly uncertain and potentially significant environmental effects or involve unique or unknown environmental risks?	No	
E. Establish a precedent for future action or represent a decision in principle about future actions with potentially significant environmental effects?	No	
F. Have a direct relationship to other actions with individually insignificant, but cumulatively significant, environmental effects?	No	
G. Have significant impacts on properties listed or eligible for listing on the National Register of Historic Places, as determined by either the bureau or office?	No	
H. Have significant impacts on species listed or proposed to be listed on the List of Endangered or Threatened Species, or have significant impacts on designated Critical Habitat for these species?	No	
I. Violate a federal, state, local or tribal law or requirement imposed for the protection of the environment?	No	
J. Have a disproportionately high and adverse effect on low income or minority populations (EO 12898)?	No	
K. Limit access to and ceremonial use of Indian sacred sites on federal lands by Indian religious practitioners or adversely affect the physical integrity of such sacred sites (EO 130007)?	No	
L. Contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area or actions that may promote the introduction, growth, or expansion of the range of such species (Federal Noxious Weed Control Act and Executive Order 13112)?	No	



ENVIRONMENTAL SCREENING FORM (ESF)

Updated Sept 2015 per NPS NEPA Handbook

A. PROJECT INFORMATION

Project Title: 2016-011 Tioga Road Weather Station Transect Upgrades

PEPC Project Number: 64574

Project Type: Other Natural/Cultural Resource Activities (NCR)

Project Location:

County, State: Mariposa, California

County, State: Tuolumne, California

Project Leader: Jim Roche

B. RESOURCE IMPACTS TO CONSIDER:

Resource	Potential for Impact	Potential Issues & Impacts
Air Air Quality	None	
Biological Nonnative or Exotic Species	None	
Biological Species of Special Concern or Their Habitat	None	
Biological Vegetation	None	
Biological Wildlife and/or Wildlife Habitat including terrestrial and aquatic species	None	
Cultural Archeological Resources	Potential	Ground disturbance is limited. No archeological monitoring is required.
Cultural Cultural Landscapes	None	
Cultural Ethnographic Resources	None	
Cultural	None	

Resource	Potential for Impact	Potential Issues & Impacts
Museum Collections		
Cultural Prehistoric/historic structures	Potential	Installations are within close proximity of Tioga Road Historic. Historic District boundary is 30 ft. from center line of the road. All installations are outside of the historic district boundary.
Geological Geologic Features <i>soils</i>	Potential	This project requires digging three 2 ft. square by 4 ft. deep holes at each of the 4 locations, and one 3 ft. square by 4 ft. deep hole at the Olmstead Quarry location.
Geological Geologic Processes	None	
Lightscares Lightscares	None	
Other Human Health and Safety	None	
Other Operational	None	
Other Other	None	
Socioeconomic Land Use	None	
Socioeconomic Minority and low-income populations, size, migration patterns, etc.	None	
Socioeconomic Socioeconomic	None	
Soundscapes Soundscapes	None	
Viewsheds Viewsheds	Potential	All structures (10-15 ft. tall and 2-3 in. in diameter) are within 200 ft. of the Tioga Road, within view of motorists.
Visitor Use and Experience Recreation Resources	None	
Visitor Use and Experience Visitor Use and Experience	None	
Water Floodplains	None	
Water Marine or Estuarine Resources	None	
Water Water Quality or Quantity	None	
Water Wetlands	None	

Resource	Potential for Impact	Potential Issues & Impacts
Water Wild and Scenic River	None	
Wilderness Wilderness	None	

Recommended:

Compliance Specialists	<u>Date</u>
<u>// Kristin Anderson //</u> Compliance Specialist – Kristin Anderson	<u>7/18/2016</u>
<u>// Madelyn Ruffner //</u> Compliance Program Manager – Madelyn Ruffner	<u>7/18/2016</u>
<u>// Randy Fong //</u> Chief, Project Management – Randy Fong	<u>7/19/2016</u>

Approved:

Superintendent	Date
<u>// Don L. Neubacher //</u> Don L. Neubacher	<u>7/21/2016</u>

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ASSESSMENT OF ACTIONS HAVING AN EFFECT ON HISTORIC PROPERTIES

A. DESCRIPTION OF UNDERTAKING

1. **Park:** Yosemite National Park

2. **Project Description:**

Project Name: 2016-011 Tioga Road Weather Station Transect Upgrades

Prepared by: Renea Kennec **Date Prepared:** 06/07/2016 **Telephone:** 209-379-1038

PEPC Project Number: 64574

Locations:

County, State: Mariposa, CA

County, State: Tuolumne, CA

Area of potential effects (as defined in 36 CFR 800.16[d])

Tioga Road Historic District

3. **Has the area of potential effects been surveyed to identify historic properties?**

☐ No

☒ Yes

Source or reference:

4. **Potentially Affected Resource(s):**

Archeological resources affected:

Name and number(s): Archeological Site

Archeological Resources Notes: The project area is nearby 3 historic sites.

Historical Structures/Resources Affected:

Name and number(s): Tioga Road Historic District

Historical Structures/Resources Notes: Installations within close proximity of Tioga Road. Historic District boundary is 30 feet of center line of road. All installations are outside of the historic district boundary.

5. **The proposed action will: (check as many as apply)**

☐ No Destroy, remove, or alter features/elements from a historic structure

☐ No Replace historic features/elements in kind

☐ No Add non-historic features/elements to a historic structure

☐ No Alter or remove features/elements of a historic setting or environment (inc. terrain)
 Add non-historic features/elements (inc. visual, audible, or atmospheric) to a historic setting
☐ Yes or cultural landscape
☐ No Disturb, destroy, or make archeological resources inaccessible
☐ No Disturb, destroy, or make ethnographic resources inaccessible
☐ Yes Potentially affect presently unidentified cultural resources
☐ No Begin or contribute to deterioration of historic features, terrain, setting, landscape elements, or archeological or ethnographic resources
☐ No Involve a real property transaction (exchange, sale, or lease of land or structures)
 Other (please specify): _____

6. Supporting Study Data:

(Attach if feasible; if action is in a plan, EA or EIS, give name and project or page number.)

B. REVIEWS BY CULTURAL RESOURCE SPECIALISTS

The park 106 coordinator requested review by the park's cultural resource specialist/advisors as indicated by check-off boxes or as follows:

☒ [X] 106 Advisor

Name: Kimball Koch

Date: 07/14/2016

Check if project does not involve ground disturbance ☐ []

Assessment of Effect: ☐ No Potential to Cause Effect ☐ No Historic Properties

Affected ☒ X No Adverse Effect ☐ Adverse Effect ☐ Streamlined Review

Recommendations for conditions or stipulations:

☒ [X] Anthropologist

Name: Eirik Thorsgard

Date: 07/14/2016

Comments: No identified ethnographic resources identified within project area. Tribal consultation was conducted via April Tribal Spreadsheet mailed on May 11, 2016. No comments or concerns have been received from the traditionally associated tribes and groups regarding the project to date.

Check if project does not involve ground disturbance ☐ []

Assessment of Effect: ☐ No Potential to Cause Effect ☐ No Historic Properties

Affected ☒ X No Adverse Effect ☐ Adverse Effect ☐ Streamlined Review

Recommendations for conditions or stipulations:

☒ [X] Archeologist

Name: Sara Dolan

Date: 07/11/2016

Comments: No archeological monitoring is required.

Check if project does not involve ground disturbance ☐

Assessment of Effect: ☐ No Potential to Cause Effect ☐ No Historic Properties
Affected ☒ No Adverse Effect ☐ Adverse Effect ☐ Streamlined Review

Recommendations for conditions or stipulations: Should unanticipated artifacts be uncovered during project operations, the Yosemite Anthropology Branch will be informed and will document the discoveries.

Doc Method: Park Specific Programmatic Agreement

☒ Historian

Name: Scott Carpenter

Date: 07/13/2016

Check if project does not involve ground disturbance ☐

Assessment of Effect: ☐ No Potential to Cause Effect ☒ No Historic Properties
Affected ☐ No Adverse Effect ☐ Adverse Effect ☐ Streamlined Review

Recommendations for conditions or stipulations:

☒ Historical Architect

Name: Scott Carpenter

Date: 07/13/2016

Check if project does not involve ground disturbance ☐

Assessment of Effect: ☐ No Potential to Cause Effect ☒ No Historic Properties
Affected ☐ No Adverse Effect ☐ Adverse Effect ☐ Streamlined Review

Recommendations for conditions or stipulations:

☒ Historical Landscape Architect

Name: Kimball Koch

Date: 07/14/2016

Check if project does not involve ground disturbance ☐

Assessment of Effect: ☐ No Potential to Cause Effect ☒ No Historic Properties
Affected ☐ No Adverse Effect ☐ Adverse Effect ☐ Streamlined Review

Recommendations for conditions or stipulations:

No Reviews From: Curator, Other Advisor

C. PARK SECTION 106 COORDINATOR'S REVIEW AND RECOMMENDATIONS

1. Assessment of Effect:

☐ No Potential to Cause Effects
☐ No Historic Properties Affected
☒ No Adverse Effect
☐ Adverse Effect

2. Documentation Method:

☐ A. STANDARD 36 CFR PART 800 CONSULTATION
Further consultation under 36 CFR Part 800 is needed.

☐ B. STREAMLINED REVIEW UNDER THE 2008 SERVICEWIDE PROGRAMMATIC AGREEMENT (PA)

The above action meets all conditions for a streamlined review under section III of the 2008 Servicewide PA for Section 106 compliance.

APPLICABLE STREAMLINED REVIEW Criteria
(Specify 1-16 of the list of streamlined review criteria.)

☐ C. PLAN-RELATED UNDERTAKING

Consultation and review of the proposed undertaking were completed in the context of a plan review process, in accordance with the 2008 Servicewide PA and 36 CFR Part 800.
Specify plan/EA/EIS:

☒ D. UNDERTAKING RELATED TO ANOTHER AGREEMENT

The proposed undertaking is covered for Section 106 purposes under another document such as a statewide agreement established in accord with 36 CFR 800.7 or counterpart regulations.

1999 Programmatic Agreement as amended in 2016

☐ E. COMBINED NEPA/NHPA Document

Documentation is required for the preparation of an EA/FONSI or an EIS/ROD has been developed and used so as also to meet the requirements of 36 CFR 800.3 through 800.6

☐ G. Memo to SHPO/THPO

☐ H. Memo to ACHP

SHPO/THPO Notes:

3. Additional Consulting Parties Information:

Additional Consulting Parties: No

4. Stipulations and Conditions:

Following are listed any stipulations or conditions necessary to ensure that the assessment of effect above is consistent with 36 CFR Part 800 criteria of effect or to avoid or reduce potential adverse effects.

5. Mitigations/Treatment Measures:

Measures to prevent or minimize loss or impairment of historic/prehistoric properties:
(Remember that setting, location, and use may be relevant.)

- Assessment of Effect - Archeology - Any discovered cultural resources must be turned over to the park immediately upon discovery.
- Assessment of Effect - Ensure that all equipment within view of the road is painted to blend with the setting.

D. RECOMMENDED BY PARK SECTION 106 COORDINATOR:

Assessment of Effect Form - Tioga Road Weather Station Transect Upgrades - PEPC ID: 64574

Kimball
Koch

// Kimball Koch //

Date: 7/18/2016

E. SUPERINTENDENT'S APPROVAL

The proposed work conforms to the NPS *Management Policies* and *Cultural Resource Management Guideline*, and I have reviewed and approve the recommendations, stipulations, or conditions noted in Section C of this form.

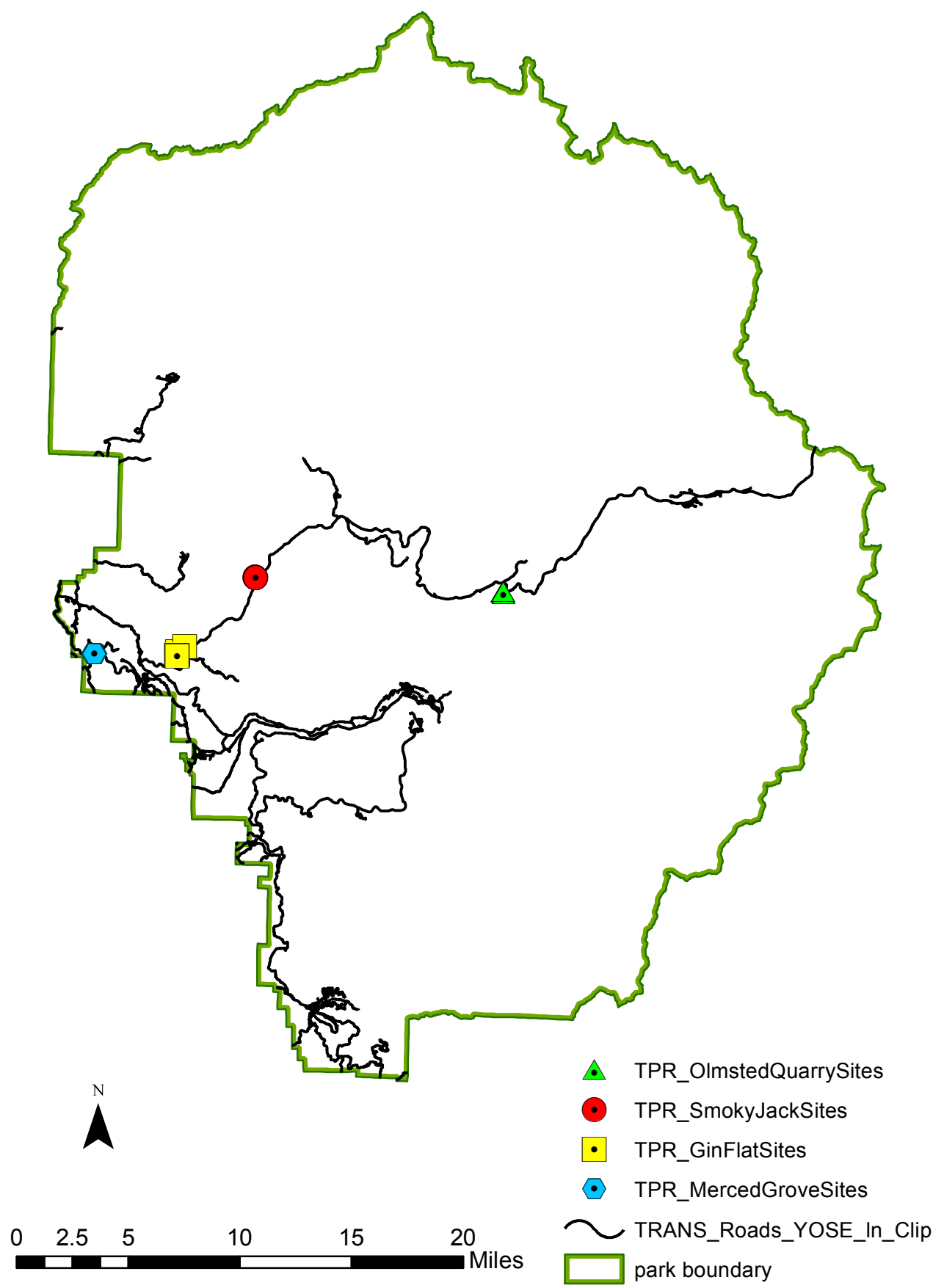
Superintendent: // Don L. Neubacher //

Date: 7/21/2016

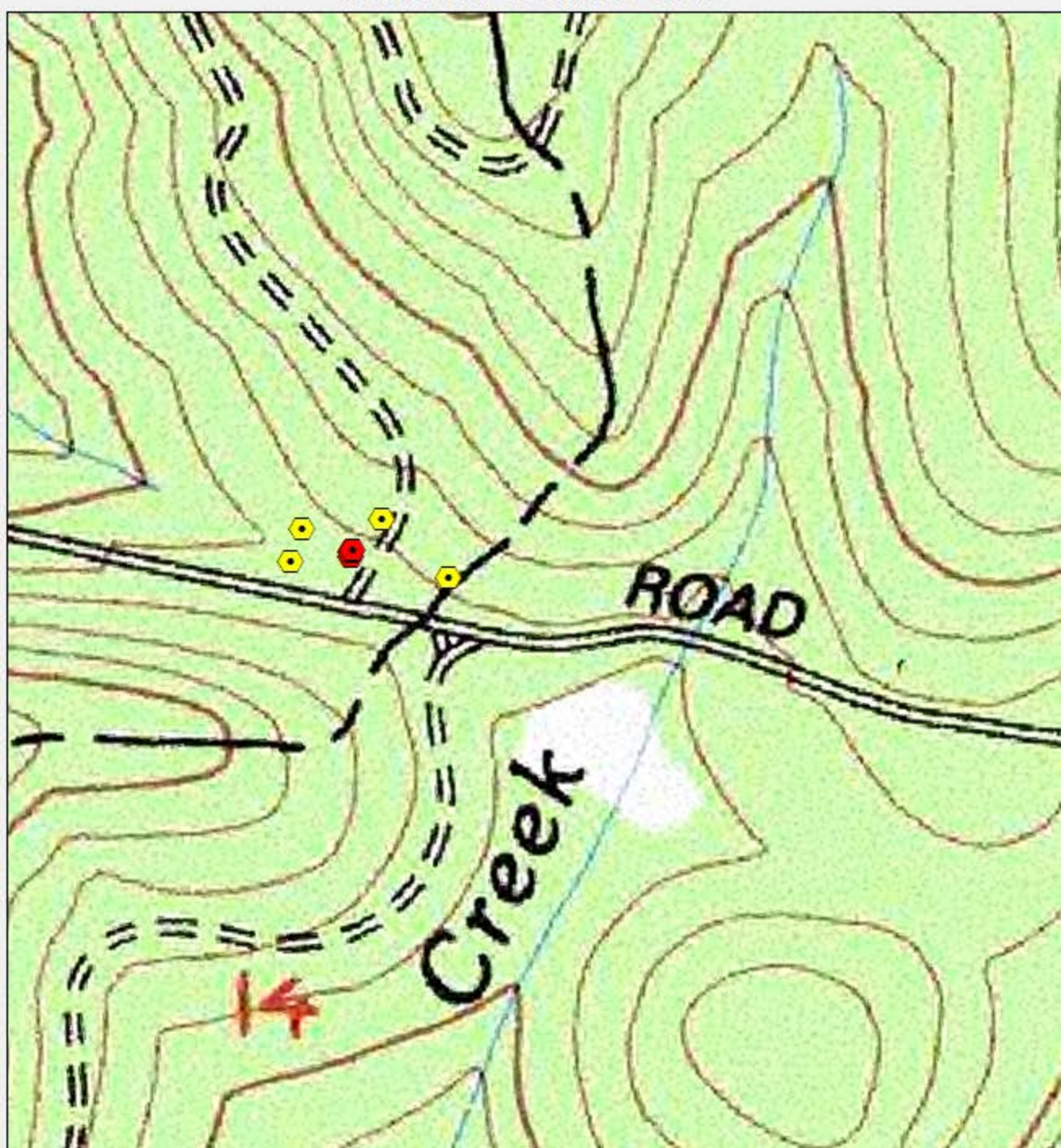
Don L. Neubacher

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Tioga Pass Road Snow/Soil Sensor Networks



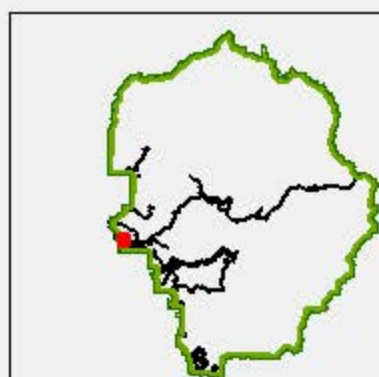
Tioga Pass Road Snow/Soil Sensor Networks Merced Grove Site



- Merced Grove Far Right
- Merced Grove Met
- Merced Grove Road
- Merced Grove Low
- Merced Grove Under
- Merced Grove Open
- Merced Grove Edge
- Roads
- Park Boundary



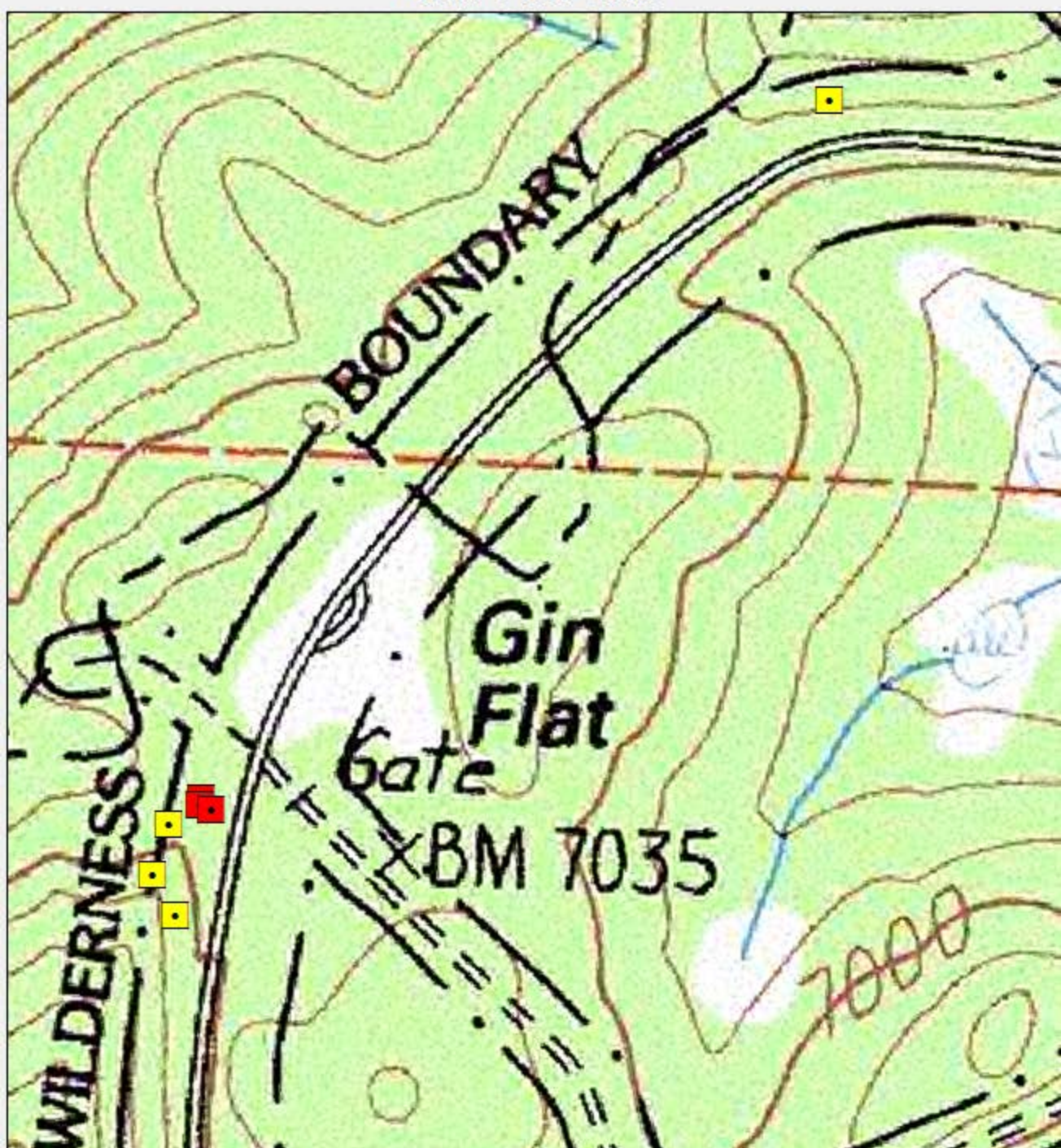
0 0.05 0.1 0.2 Miles










*Locations in red have soil moisture sensors

Tioga Pass Road Snow/Soil Sensor Networks

Gin Flat Site



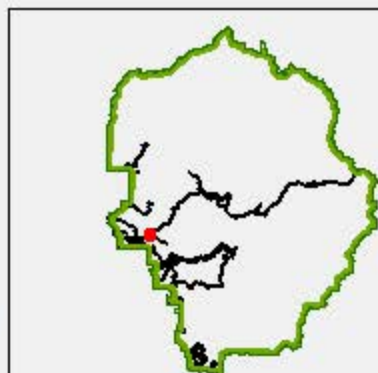
Sensor Name

-  Gin Flat East
-  Gin Flat Northwest
-  Gin Flat Southwest
-  Gin Flat West
-  Gin Flat Edge
-  Gin Flat Under
-  Gin Flat Open

 Roads  Park Boundary

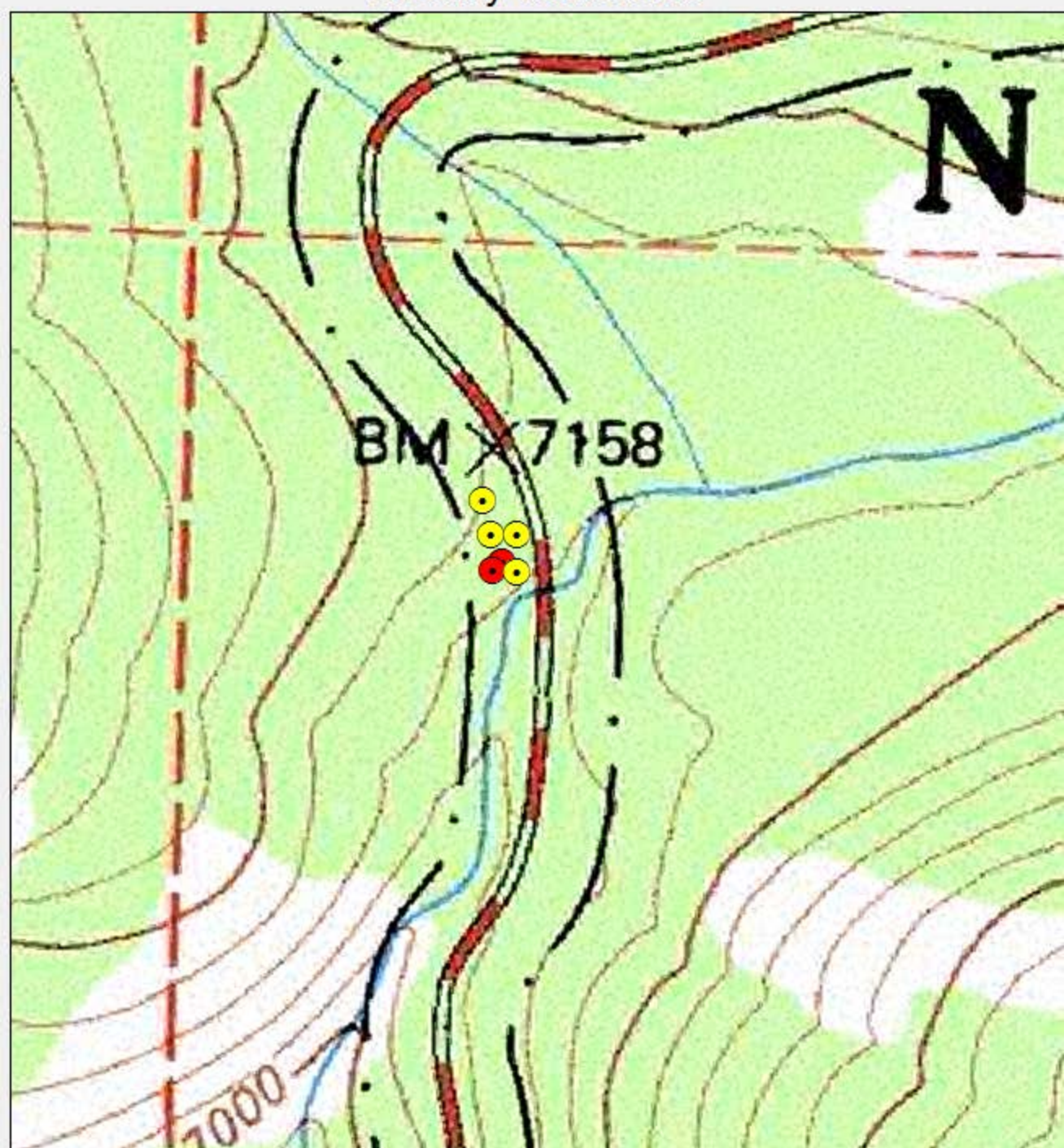


0 0.05 0.1 0.2 Miles

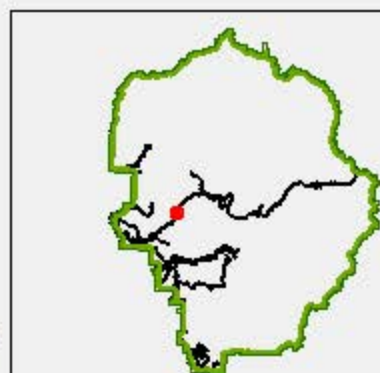
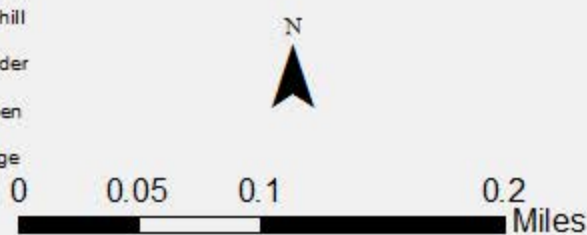


*Locations in red have soil moisture sensors

Tioga Pass Road Snow/Soil Sensor Networks Smoky Jack Site



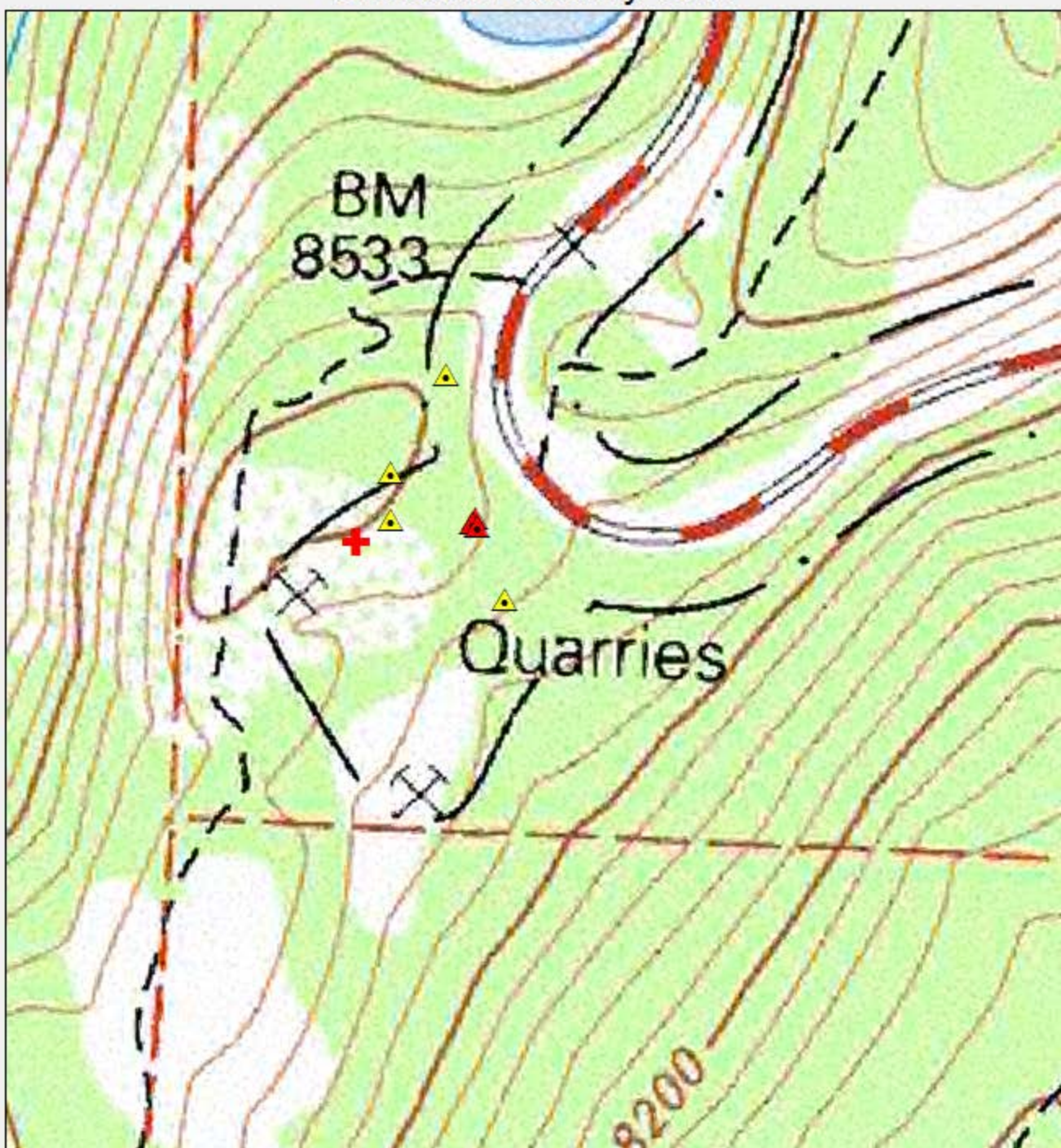
- Smoky Jack Creek
 - Smoky Jack Met
 - Smoky Jack Road
 - Smoky Jack Uphill
 - Smoky Jack Under
 - Smoky Jack Open
 - Smoky Jack Edge
- Roads
 Park Boundary



*Locations in red have soil moisture sensors

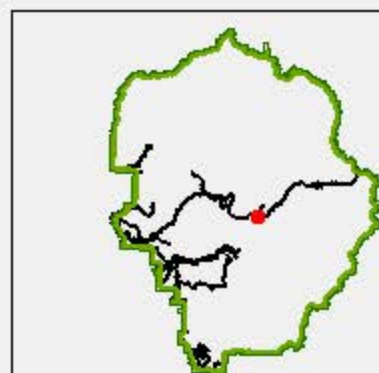
Tioga Pass Road Snow/Soil Sensor Networks

Olmsted Quarry Site



- + Proposed Telemetry Pole Location
- ▲ Olmsted Quarry Met
- ▲ Olmsted Quarry North
- ▲ Olmsted Quarry Quarry
- ▲ Olmsted Quarry Top
- ▲ Olmsted Quarry Edge
- ▲ Olmsted Quarry Open
- ▲ Olmsted Quarry Under
- Roads
- Park Boundary

0 0.05 0.1 0.2 Miles



*Locations in red have soil moisture sensors

Figure 1. Snow depth sensor pole installation.



Figure 2. Telemetry pole installation. The proposed installation would use a solar panel that is approximately $\frac{1}{2}$ the size illustrated here with the battery box mounted on the pole (not on the ground as pictured here).

