Addendum to the Mitigated Negative Declaration for MHTS 2696 Windsor Ave, Pasadena, CA

ADDENDUM TO THE MITIGATED NEGATIVE DECLARATION FOR THE MONK HILL TREATMENT SYSTEM PROJECT LOCATED AT 2696 WINDSOR AVENUE, PASADENA, CALIFORNIA

SUMMARY:

At a public meeting on July 10, 2008, the Hearing Officer, pursuant to the California Environmental Quality Act (CEQA), adopted a Mitigated Negative Declaration to construct, install, and operate an ion exchange (IX) and liquid granular activated carbon (LGAC) treatment system and a disinfection facility to treat groundwater from four Pasadena and Water (PWP) wells. Groundwater extracted from these four wells will be treated using IX to remove perchlorate, LGAC to remove volatile organic compounds (VOCs), followed with disinfectant consisting of gas chlorine and ammonium hydroxide prior to storing the treated water in the Windsor Reservoir for distribution.

Since this date, PWP has decided to modify the well rehabilitation portion of the approved project. After reviewing the revised project description and determining the project has minimally changed in scope and form from what was originally reviewed and approved, the city has determined the previously adopted Mitigated Negative Declaration applies to the revised project and has prepared this addendum pursuant to Section 15162(b) of the CEQA Guidelines.

PREVIOUS PROJECT DESCRIPTION:

To address chemicals in off-facility groundwater, the National Aeronautics and Space Administration (NASA) agreed to fund removal of target chemicals (perchlorate and VOCs) from the aquifer at four PWP drinking water wells by adding a treatment facility to treat pumped groundwater at the Windsor Reservoir. This new treatment facility will be known as the Monk Hill Treatment System (MHTS). Groundwater from the four wells – Arroyo Well, Well 52, Windsor Well, and Ventura Well – will be cleaned of the target chemicals with this new treatment facility.

Due to the age and recent inoperation of the four wells, they must be rehabilitated prior to activation. A significant volume of water is expected to be generated during the initial phase of the rehabilitation effort (e.g. initial well cleaning) and during subsequent well development and performance testing activities. During the initial well cleaning, the anticipated water quality (i.e. particulate and chemical load: biomass, mineral precipitate, silt/sand content, metallic corrosion, etc.) will be such that MHTS cannot be used for treatment due to design limitations. Therefore, an alternate means of treatment, such as off-site disposal or temporary on-site treatment and disposal, must be used. Because the initial well cleaning will substantially increase the quality of extracted water, it is anticipated that water generated during the latter stages of the rehabilitation effort (well development and performance testing) can be routed through the MHTS for treatment and subsequent disposal/reuse.

PWP applied for a Conditional Use Permit to construct, install, and operate the MHTS including additional work to support the treatment plant and treatment processes (i.e. pipelines, valves, foundation and substructures, well rehabilitation, etc.).

In the approved CUP and adopted Initial Study for this treatment project, the scope for well rehabilitation described two options for handling water generated during the initial well cleaning.

- **Temporary Containment and Offsite Disposal**

This option consists of temporary on-site containment and subsequent offsite disposal of water generated during initial well cleaning activities. Eight Baker® tanks will be staged adjacent to each wellhead during well cleaning. The first one to two tanks will serve as settling tanks for the significant quantity of solids (i.e., sand and debris) expected to be generated during the initial well cleaning. As needed, water will be removed from the tanks using a vacuum truck and transported offsite for disposal. Samples of the water will be collected and analyzed prior to removal to determine the appropriate disposal method. The estimated volume of development water necessitates roughly 64 change-outs using vacuum trucks, resulting in significant increased traffic flow around the wells. See Table 1 in the attachment, which presents the advantages, disadvantages, and approximate cost associated with the temporary containment and offsite disposal option.

- **On-Site Treatment and Disposal**

  This option consists of on-site treatment and subsequent disposal of development water generated during well cleaning activities. Table 1 in the attachment presents the advantages, disadvantages, and approximate cost associated with this treatment option. A temporary treatment system (TTS) capable of handling 300 gallons per minute would be installed at the Ventura well site during the entire duration of the initial well cleaning. Water from each of the wells would be transferred to the TTS for treatment via existing below-ground piping and temporary above-ground piping.

  Treated water leaving the TTS will be routed through a holding tank, where samples will be periodically collected for analysis to ensure that it complies with state and local discharge requirements. Water from the tank will be discharged via temporary above-ground piping to Arroyo Seco Spreading Basin 10, which is located approximately 90 ft northwest of the Ventura well.

REVISED PROJECT DESCRIPTION:

The approved project has been revised as follows:

1. A third option for handling water generated during the initial well cleaning has been developed. This option utilizes NASA's existing Operable Unit 1 (OU-1) treatment facility to treat the water prior to re-injection of the treated water into the aquifer. Table 1 in the attachment presents the advantages, disadvantages, and approximate cost associated with this treatment option. A temporary pipeline capable of transferring 1.2 million gallons of water would be installed from the Ventura sump, located at 21 Karl Johnson Parkway (immediately adjacent to Arroyo Seco Spreading Basin 11), to the NASA's OU-1 groundwater treatment system located at the Jet Propulsion Laboratory (JPL).

   Development water from each of the wells would be transferred to the JPL OU-1 system for treatment via existing below-ground piping (i.e. from the Windsor well to Ventura sump) and approximately 5,300 ft of temporary above-ground 4-inch-diameter piping (i.e. extending from the Ventura sump to the OU-1 treatment system) to be installed as part of this project.

   A second 4-inch pipeline will be installed connecting Arroyo, Well 52, and Ventura wells to the Ventura sump. The second pipeline will have an approximate length of 1,400 feet. This pipeline will allow water to be transferred from the three wells to the Ventura sump prior to being pumped to the OU-1 treatment system.

2. **Generalized Process Flow**

As each well is rehabilitated one at a time, the initial development water generated during this work will be processed as described below.

Water from each well will first be routed through a roll-off bin (i.e. 17' x 8' x 4') for solids collection, and then the water is boosted from the bin with a gasoline powered pump to a 21,000 gallon Baker® tank. The use of the holding tanks will allow the solids to settle. The water will then be pumped through a filter to remove remaining particulates and placed into a third tank. Next the water will be pumped from the tank to the 38,000 gallon Ventura sump. The final step will involve pumping water from the Ventura sump through the 5,300 foot temporary pipeline to the OU-1 treatment system for processing.

Depending on space limitations, one or more tanks maybe stored at the individual well site. If space is limited, the tanks will be stationed at the Ventura sump.

3. **Installation and Removal Schedule**

It is anticipated that the temporary pipeline will be installed in early January 2010, and will be removed in June 2010. This schedule is based on the MHTS construction schedule. The temporary pipelines will be removed by the installation contractor and it is assumed that it will be recycled or reused.

4. **Hours of Operation**

The transfer of initial development water through the temporary pipelines will occur during regular work hours (i.e. Monday – Friday 07:00 – 17:00). At the completion of days when the pipeline is utilized, potable water will be flushed through the pipelines. The pipelines will be visually inspected and monitored five times per day (i.e. 07:00, 09:30, 12:00, 14:30, and 17:00) during its use.

5. **Pipeline Overview**

Figure 1 (see attachment) shows the 5,300 foot temporary pipeline layout, swale, road, and bridge crossing. The attachment contains detailed routing locations for the temporary piping. The second 1,400 foot pipeline from Arroyo to Ventura well sites will be placed adjacent to the 5,300 foot temporary pipeline.

Pipelines will be buried beneath high traffic areas located off the JPL property. The trench for the pipe will be cut approximately 12" to 18" in width and 18" to 24" in depth. The fill will be compacted and leveled to the adjacent roadway. At the completion of the initial well cleaning, all temporary pipelines and supporting hardware will be removed from the property, pipeline trenches will be backfilled, compacted, and the surface restored to the City Public Works' requirements.

The development water will be treated to meet the Environmental Protection Agency, California Department of Public Health, and Regional Water Quality Control Board's requirements for the OU-1 treatment system prior to re-injection.

CEQA Requirements

Pursuant to CEQA, the City of Pasadena is the Lead Agency, and as part of their decision making process, the Lead Agency must consider the project's environmental consequences.

In accordance with CEQA, if changes to a project or its circumstances occur or new information becomes available after adoption of a negative declaration, the Lead Agency shall determine whether to prepare a Subsequent Environmental Impact Report (EIR), a Subsequent Negative Declaration, an Addendum to the Negative Declaration, or no further documentation (State CEQA Guidelines Section 15162[b]).

State CEQA Guidelines Section 15162(a) identifies when additional CEQA documentation requiring public review is required. This section states:

> When an EIR has been certified or negative declaration adopted for a project, no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in the light of the whole record, one or more of the following:
>
> (1) Substantial changes are proposed in the project which will require major revision of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
>
> (2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
>
> (3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at
>
> (4) the time the previous EIR was certified as complete or the Negative Declaration was adopted, shows any of the following:
>
> (A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;
>
> (B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;
>
> (C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
>
> (D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the

environment, but the project proponents decline to adopt the mitigation measure or alternative.

State CEQA Guidelines Section 15164(b) identifies when an Addendum to an adopted Negative Declaration is appropriate: This section states:

> An addendum to an adopted negative declaration may be prepared if only minor technical changes or additions are necessary or none of the conditions described in Section 15162 calling for the preparation of a subsequent EIR or negative declaration have occurred.

Environmental Considerations

The revised project has not substantially changed from the originally approved project analyzed in the Mitigated Negative Declaration that was adopted on July 10, 2008. The installation of temporary pipelines between Ventura sump and OU-1 will not impede the flow of traffic and will not result in removal of any trees. The installation will provide for groundwater recharge and will be temporary in nature. There are no new significant impacts or mitigation measures as a result of the revisions. Therefore, pursuant to Sections 15162 and 15164 of the California Environmental Quality Act (CEQA) this addendum has been prepared.

Determination

The proposed changes to the project description do not trigger any of the conditions identified in State CEQA Guidelines Section 15162 that require additional CEQA documentation to be circulated for pubic review, and this addendum clarifies the changes to the project that occurred after the Mitigated Negative Declaration was adopted.

Prepared By: Gary Takara Date: 11/5/2009

Gary Takara, Principal Engineer, Pasadena Water and Power

Reviewed By: Date: 11/4/09

Kevin Johnson, Acting Senior Planner

Addendum to the Mitigated Negative Declaration for the Monk Hill Treatment System Project Located at 2696 Windsor Avenue, Pasadena, California

Table 1 - Summary of Development Water Disposal Options

Disposal Option	Advantages	Disadvantages	Approximate Cost
Temporary Containment and Offsite Disposal	• No temporary treatment system required to treat water prior to disposal • Wells developed in series, so only one set of equipment is necessary	• Cost and labor intensive • Required number of change-outs results in increased traffic and noise • Increased resource usage – 64 tanker truck change-outs required per well (consumes roughly 5,200 gallons of gasoline/diesel) • Logistical difficulties – space for Baker® tanks is limited near the production wells • Extraction rate and duration limited by the number of tanks and the change-out frequency • Development water cannot be reclaimed • Must relocate equipment between wells	$725,000[(a)]
On-Site Treatment and Disposal	• Wells developed in series, so treatment system can be installed at a single central location • Development water can be reclaimed through infiltration • Less labor intensive • Lower cost • Less resource usage • Minimal traffic and noise • Extraction rate not limited by storage volume	• Treated water must meet Regional Water Quality Control Board Waste Discharge Requirements (WDRs) prior to disposal. • Water must be routed significant distances (>2,000 ft) from the wellheads to the TTS • Discharge piping must cross access road	$540,000 to $690,000[(b)]
Temporary Pipeline	• Development water can be treated by OU-1 treatment system • Development water can be reclaimed through injection • Lower carbon footprint • Less labor intensive • Lower cost • Less resource usage • Additional laboratory analyses not necessary (covered by OU-1 sampling schedule)	• Pipeline runs through Hahamonga park, JPL parking lot, and onto JPL property • Pipeline must be inspected on a routine basis to ensure that it is not leaking • Piping must cross roads, drainage swales, and a bridge • Repairs will be required at road crossings at project completion	$135,000[(c)]

(a) Approximate cost is based on subcontractor estimates for temporary containment, off-site transportation and disposal.
(b) Approximate cost is based on two subcontractor estimates for rental of equipment for on-site treatment and disposal.
(c) Based on initial estimates for installation and servicing. Based on 6 month time span.

Source: NASA, Technical Memorandum, Evaluation of Disposal Options for Initial Development Water Generated During Operable Unit 3 Municipal Production Well Rehabilitation, October 2009

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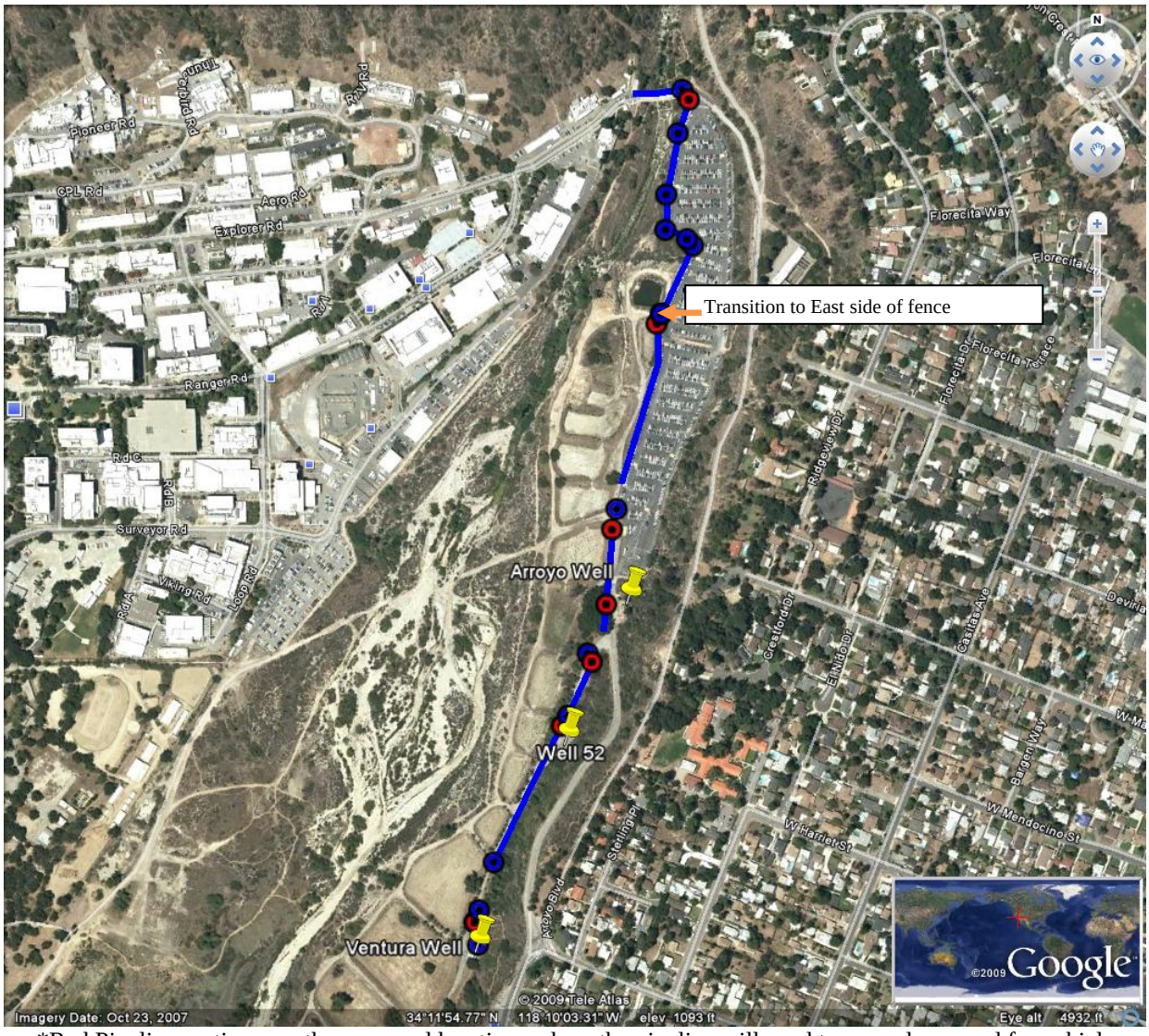
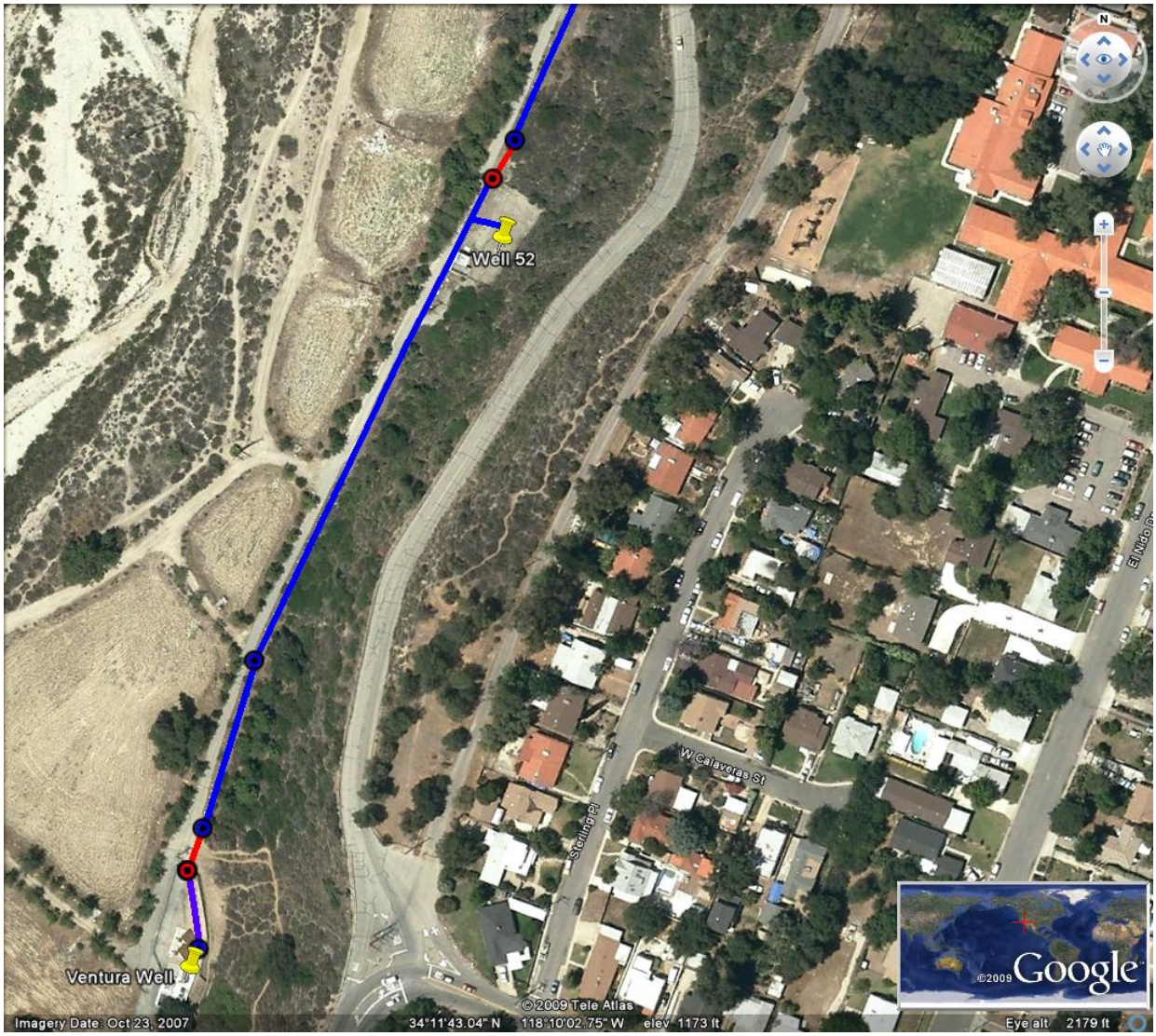
(Source: NASA, Technical Memorandum, Evaluation of Disposal Options for Initial Development Water Generated During Operable Unit 3 Municipal Production Well Rehabilitation, October 2009)

Temporary Pipeline Layout



*Red Pipeline sections are the proposed locations where the pipeline will need to go underground for vehicle crossings.

Black line indicates existing underground piping to be utilized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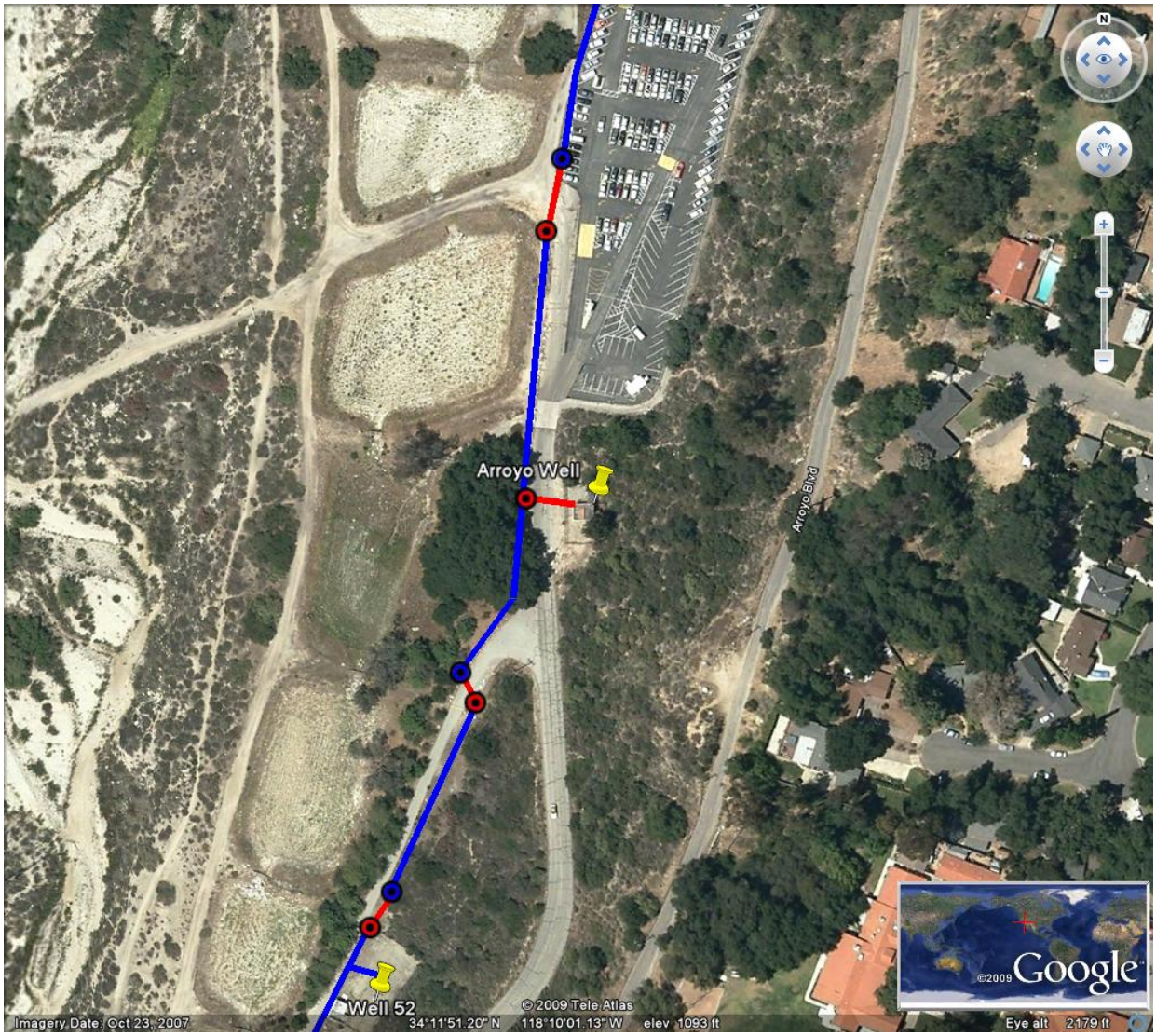
Ventura Well
W Calaveras St
Sterling Pl
©2009 Tele Atlas
Imagery Date: Oct 23, 2007
34°11'43.04" N 118°10'02.75" W elev 1173 ft
Eye alt 2179 ft
©2009 Google


Arroyo Well
Arroyo Blvd
Well 52
©2009 Tele Atlas
Imagery Date: Oct 23, 2007
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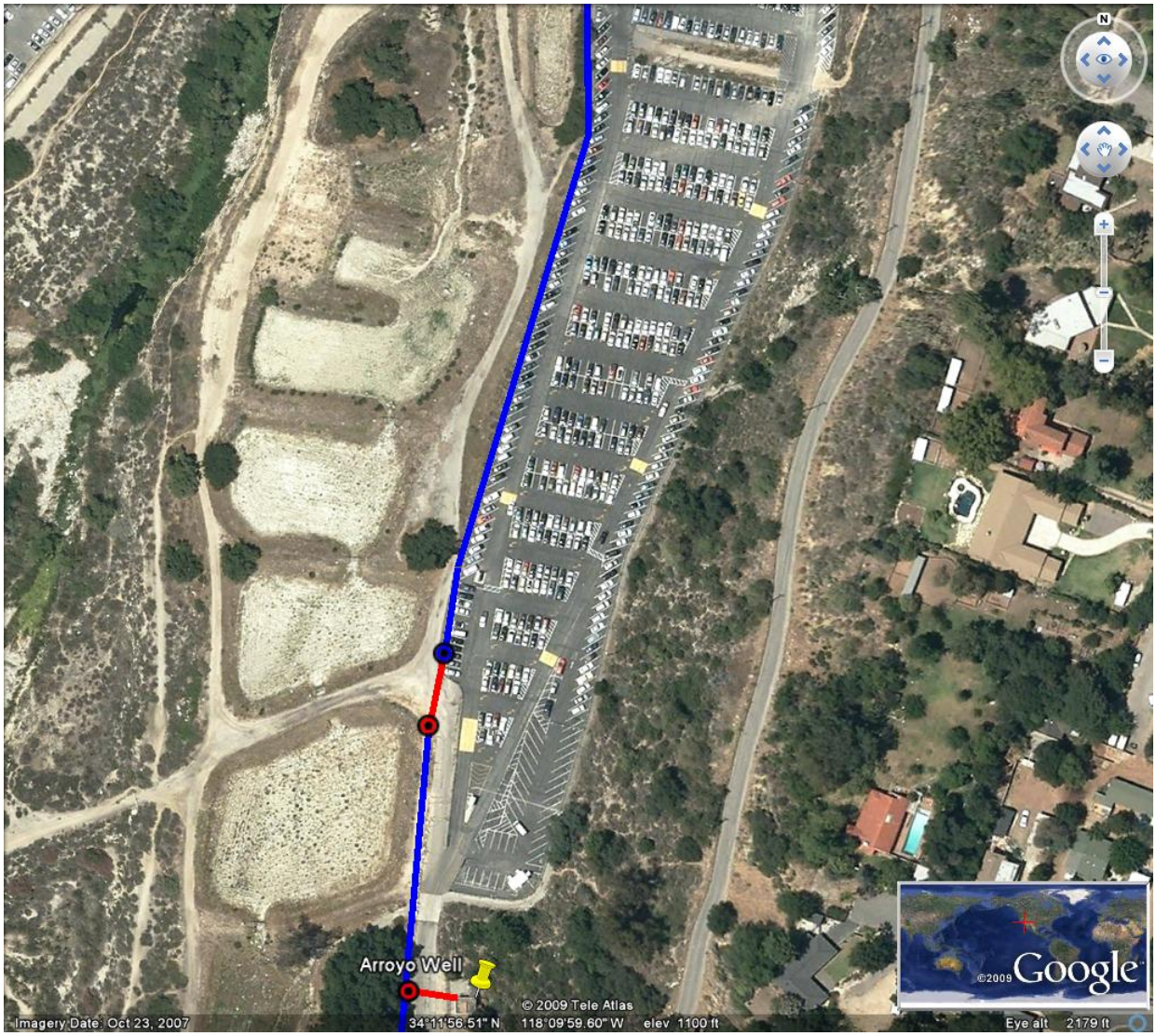
Eye alt 2179 ft
©2009 Google


Arroyo Well
© 2009 Tele Atlas
Imagery Date: Oct 23, 2007
34°11'56.51" N 118°09'59.60" W elev 1100 ft
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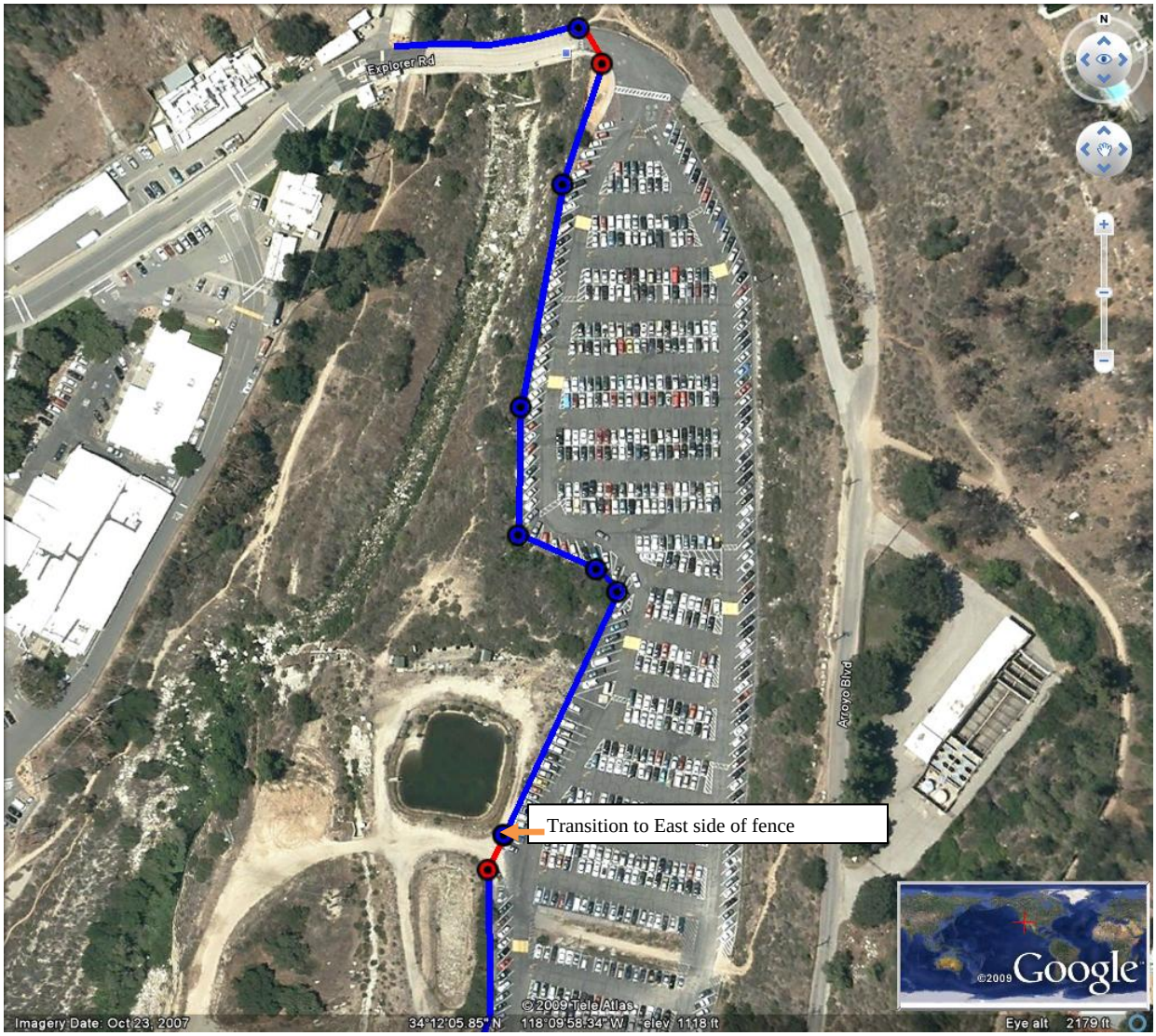
©2009 Google



*After the road crossing the pipeline will need to transition to the east side of the fence so as to not impact the native plant habitat.