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March 13, 2015

re: Draft EIR, Three Creeks Trail Pedestrian Bridge Project, File No. PP13-085

Mr. Davidson,

I would like to submit the following questions and comments regarding the Draft Environmental Impact Report (DEIR) on the Three Creeks Trail Pedestrian Bridge Project (File No. PP13-085), which details the plans for the demolition of the 1922 Western Pacific Railroad Trestle across the Los Gatos Creek in Willow Glen (called the "Los Gatos Creek Trestle" in the DEIR and what we call the "Willow Glen Trestle"), and the installation in its place of a new prefabricated single-span truss steel bicycle/pedestrian bridge (the "prefab steel bridge").

The DEIR is a very extensive report: 512 pages long, 1.5 inches thick and weighing in at 3 lbs 10 oz when printed double-sided. (I really appreciate the long 45-day comment period!)

While the DEIR contains a number of very thorough and detailed analyses, **there are topics that are entirely omitted**.

Also, the section in the DEIR on Historic Significance cannot be completed, because, as the California Office of Historic Preservation states, "since the DEIR was completed prior to a determination by the landmarks commission it could never have properly considered whether the trestle was a historic resource to the local community. That determination is up to the landmarks commission and the city council, as stated correctly in Appendix F; therefore, the landmark commission should have been consulted prior to the DEIR's conclusion that no historical resources are present. San Jose's landmark commission, in its unique discretion, is responsible for determining if the trestle is historically significant to the community of Willow Glenn, and the citizens of City San Jose." The City's Historic Landmarks Commission has just begun this determination, as indicated by the initiation of processing City Permit HL15-001.

And there are fatal flaws in the one section that most people read:
the Executive Summary totally misrepresents the analyses in the body of the report and, by using the lamest of justifications, **it reaches a false conclusion**.

This Draft of the EIR needs to be revised and then recirculated for additional public comment.

The DEIR analyzes three Alternatives: "Project", "Retrofit", and "No Project", where

- "Project" involves the demolition of the Willow Glen Trestle and replacing it with the prefab steel bridge,

- "Retrofit" involves restoring the Willow Glen Trestle and adapting it for trail use, and
- "No Project" just leaves everything alone – no restored or replaced bridge and no trail connection.

The DEIR is defective in that it does not recognize the "Retrofit Alternative" as the environmentally preferred alternative.

As will be explained in detail below, the analyses within the DEIR indicate that the Retrofit Alternative is less expensive (both initially and over the entire lifetime), faster to implement, better for the environment, and more appropriate for the "Neighborhood Aesthetics". But then, in the trade matrix (Table 16 on p. 5-7 of Appendix G) that is pivotal in justifying the selection, the prefab steel bridge is given extra credit because it "could be made pleasing [with] railroad themed signs … at the approaches", and then two more points because, during an inspection every other year, the trestle requires "specialized equipment" (a ladder!) and additional personnel (a person to hold that ladder!)

But I digress: Comments on a Draft EIR need to point to specifics, so here goes.

Nomenclature:

For convenience, first let me define some terms:

Several designs have been advanced for the restored trestle. When a distinction is needed, let me refer to them as:

- "Restored 2012" – the trestle is repaired and adapted as per the plans in the City-commissioned 2012 Engineering Report by CH2M-Hill. This involves stripping the ties, catwalk, and guywire railings from the trestle, stabilizing and repairing the substructure, and placing decking (e.g., concrete slabs) on top of the stringers, with fencing/hand-rails on top.
- "Restored 2004" – the trestle is repaired and adapted as per the 2004 CEQA documents. This keeps more of the trestle more intact: the catwalk and guywire railings are stripped but the ties are kept/repaired/replaced, and the trail decking and railing are placed on top of the ties.

As stated in DEIR §6.2.1, "If bridge retrofit is selected as the preferred alternative, then additional refinements could be made. Architectural and aesthetic treatments could be reconsidered based on community input, and it may be possible to more closely mimic the existing trestle." I look forward to working with the planners from PRNS (San José Department of Parks, Recreation, and Neighborhood Services), together with their consultants and the public, on possible improvements to the design shown in Fig. 6-1 for the "Retrofit Alternative". For example, perhaps the railing could be made to look more like the original, the decking could have a contoured edge to replicate the appearance of railroad ties, or alternative decking materials could be considered (e.g., the steel grating used in draw-bridges: strong, and yet allows the trail user to look down at the trestle substructure and riparian habitat), and, since the trestle structure is sufficiently wide, it may be possible to provide for a mid-stream area that would allow trail users to view the stream and habitat without blocking the trail. But first the trestle has to be saved, which means that the Retrofit Alternative needs to be the Preferred Alternative.

By the way, to aid in the writing (and reading) of these comments, let me name the parts of the trestle, using the terminology from the 2012 City-commissioned Engineering Report by CH2M-Hill: the existing trestle consists of a "superstructure" and a "substructure".

- The superstructure is the deck and the railing. The deck is top surface, used by the trestle-user: ties and rails in the case of the railroad, or concrete slabs (or other surface) for the trail.
- The trestle's substructure consists of piles (the main vertical timbers), braces (diagonal beams bolted to the piles), sashes (horizontal beams bolted to the piles), caps (the large beams across the top of the piles), and stringers (the two 32" × 20" beams that run the entire 210' length of the trestle). A "bent" is a set of piles in a row, the cap on top of them, and possibly braces and sashes tying them together. The Willow Glen (WG) Trestle has 13 bents, plus an abutment at either end.

References to the DEIR are either by Section Number (§) or page number, which are given either as they appear in the DEIR or Appendix or by the sequence number in the PDF file.

So now, let me discuss some issues:

Fire:

Fire has been one of the main concerns ever since the concept of replacing the trestle with the prefab steel bridge was first raised. Questions concerning fire were raised during the EIR Scoping Process (see, for example, my letter, which is included in the DEIR in Appendix D). Fire safety measures are discussed in detail for the trestle (see Appendix G): the removal of some splintered or charred materials, the installation of a sprinkler system, fire alarms, fire-retardant treatments, and the management of vegetation and debris in the creek channel. However, **a discussion of the impact of fire on the prefab steel bridge is missing.**

The EIR includes no fire safety precautions for the steel bridge: despite requests made during EIR-scoping, **it's not even discussed**. The EIR does say, however, that the new bridge won't have sprinklers (§3.13.3, PDF p. 90) and that vegetation and debris won't be removed (ES-6, PDF p. 8).

Fire does affect steel: when it gets above about 1,100 deg. F (600° C), it loses half its strength, and at 1,500° F (850° C – the temperature of a small campfire) it's only a tenth as strong. A fire in a nearby clump of the invasive giant reed (Arundo donax, sometimes referred to as "bamboo") could exceed 2,000° F (1,100° C), and the entire single-span bridge could collapse if any portion of the truss is compromised – which might require more than a "short-term closure" to repair.

This is not very esoteric knowledge: it can quickly be found with an internet search. For example, my Fig. 1 here is adapted from data found in at paper entitled "Behavior of high strength structural steel at elevated temperatures", online at http://ro.uow.edu.au/cgi/viewcontent.cgi?article=1345&context=engpapers. It is information known to architects (I remember an architect explaining this to me decades ago) and to firefighters (I'm told that they have to have their ladders recertified if exposed to flames). Figure 2 is a real-world example: the metal walkway on the Willow Glen Trestle sagged in the heat of a past brush-fire, while the supporting wood timbers are charred but still strong.

Fig. 1

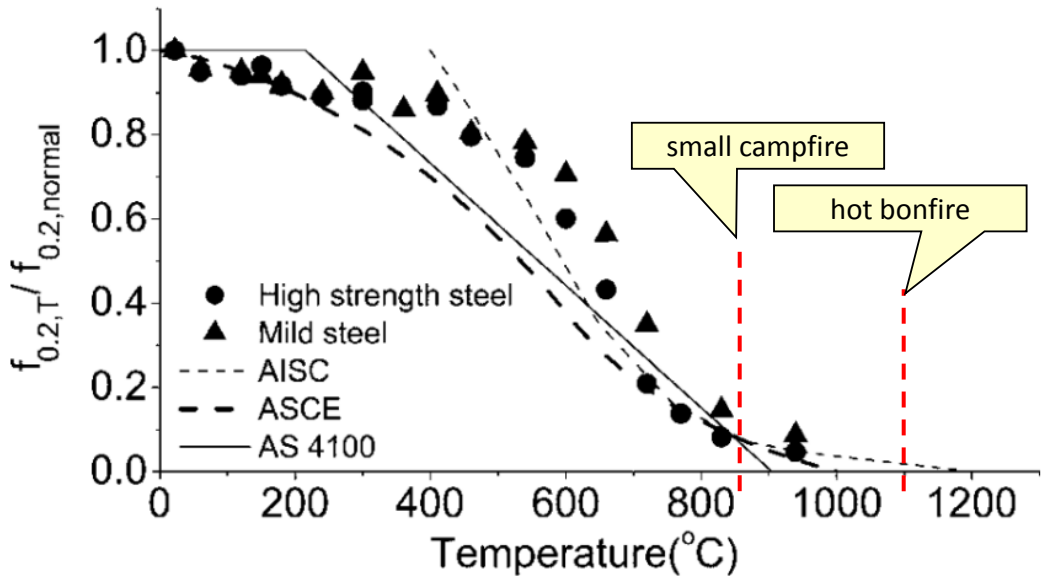


Fig. 2

the walkway on the WG Trestle

These are basically the unanswered questions that I asked during the DEIR scoping process:

- What type of wood was used in the trestle for the pilings? For the cap beams? For the stringers? Is it true that they are locally-harvested old-growth redwood, as has been ascertained by several uncertified but knowledgeable individuals?
- What is the "char rate" of that type (or types) of wood? Large wood beams will burn on the outer surface, but the wood is insulating and so the inner portion of the beam is not immediately

burned: there is a rate (inches per hour under some standard fire condition, such as when surrounded by a large brush fire) at which the wood is burned inward from the outside surface.

- Given the "margin of safety" in the trestle design, how long could the structure burn before a beam becomes too weak to safely support the load? (For example, if the timbers are 12" in diameter, and need to be at least 8" to carry the load, then two inches could be lost from the outer surface without failing. If the wood burned at 1"/hr., then it could burn for 2 hours without serious damage. Please provide the actual numbers for these calculations.)
- Does the creosote treatment make the timbers easier or harder to ignite? What is the ignition temperature for wood? For creosote? Would the fire-retardant treatment that is proposed for the Retrofit Alternative described in DEIR Appendix G have an impact on these ignition temperatures?
- Would the fire suppression sprinkler system proposed for the restored wood trestle be adequate to suppress brush fires and to reduce the probability that the structure would become involved in the fire?
- Given the design's redundancy with the multiple piles and cross-bracing, would the trestle remain structurally sound even if one or two pilings were totally compromised by fire?
- From a fire safety point of view, is there a significant difference between building the trail decking directly on top of the stringers (as proposed in the "Restored 2012" design) or building it atop the existing (or repaired/replaced, as needed) railroad ties (as proposed in the "Restored 2004" design)?
- Is any added risk from the "Restore 2004" alternative adequately mitigated by the planned sprinkler system?
- Do the fire engines routinely carry the materials and equipment needed to suppress an oil-based fire (e.g., the creosote-treated timbers)?
- Do the fire respondents have adequate access to the entire length of the structure? Can the trestle be reached from the top-of-bank, and/or do the fire-suppression personnel and equipment have adequate access to enter the channel?

Wood burns and steel doesn't, but, as indicated by Fig. 1 and 2 above, steel can "yield" when excessively heated. The metal does not melt, but it does lose its strength, resulting in structures "buckling" (or "crumpling", "sagging", …). This gives rise to a group of questions that need to be addressed by the DEIR:

- What type of steel is used in the prefabricated steel bridge?
- What is the "specific yield strength vs. temperature" profile for the bridge's structural steel?
- What is the design safety margin for the prefab steel truss bridge?
- At what temperature does the steel's reduced strength offset the design safety margin?
- The metal conducts the heat, and so adding thickness to the metal provides little protection against failure. Would the metal need to be insulated by the application of a thick protective coating, as is commonly done with structural steel (e.g., in ceiling trusses and girders in garages)? Is this insulating coating included in the designs and cost estimates? How would such insulation affect the appearance of the prefab steel bridge?

Apparently, the prefab steel bridge will not be provided with a sprinkler system: from §3.13.3 in the DEIR: "Replacement of the existing trestle with a fire-resistant structure would eliminate the need for fire suppression." Debris in the channel beneath the bridge will not be cleared away (DEIR Executive

Summary: “clearing debris … would not be required under the proposed project due to the clear-span bridge.”) However, there are obstructions in the creek channel other than trestle piers, such as sapling trees and clumps of arundo (the giant bamboo-like reeds), and these obstructions can also snag debris.

- What is the expected temperature of a large brush fire (e.g., of a clump of dried arundo and uncleared debris) at the height of the bridge?
- How long would it take before a metal structure in, near, or above such a fire would fail?
- Would the nearest fire station be able to control a brush fire in time to prevent damage to the prefab steel bridge?
- If there were a localized fire (e.g., from a fire in a single clump of reeds), would the entire single-span truss collapse, or would the damage be localized to specific truss members?
- If there were a brush fire adjacent to or beneath the steel bridge, how long would it take to inspect and repair the heat damage to the bridge, certify the structural integrity, and restore the bridge to service?

Arson:

The phrase, “The existing trestle has been the subject of multiple arson attempts as documented by San José Fire Department records” is repeated numerous times in the DEIR – on pages 98, 99, and 100 (as counted by the PDF), and again on p. 281 of the Appendices. Can that information please be provided, since even my friend, a retired deputy fire chief, has been unable to find it? While there have been some fires in the vicinity of the trestle, very few have actually involved the trestle. Often the fires have been associated with homeless encampments formerly in the vicinity.

And a note about the homeless: their encampments were unrelated to the trestle. The homeless had not been seeking shelter under the structure, but instead they would camp nearby. The creek channel is quite wide in this region – apparently it once was a quarry – and so there are places that are below top-of-bank (and out-of-sight) but still above normal seasonal flow (and high-and-dry). The homeless had been using the railroad right-of-way to access the channel to reach their nearby encampments: the trestle has nothing to do with it, and replacing it with a prefab steel bridge would not have alleviated the situation.

Sometimes the cook-fire from a homeless encampment got out of control. Sometimes the police rousted the homeless and disturbed/destroyed their encampments, and then the homeless returned and burned their trashed campsites. None of these count as arson attempts on the trestle, and all of them would have impacted a replacement prefab steel bridge as well.

I expect that the prefab steel bridge *could* be made safe by using the same precautions listed for the trestle: keep the vicinity clear of vegetation and debris, and provide sprinklers to douse any brush-fires. However, none of these measures are presently included for the prefab steel bridge: **they need to be included in the cost estimates and in the environmental trades**. As the trestle with sprinklers was already nearly $700,000 less expensive than the prefab steel bridge without sprinklers (see below), this cost differential is only going to be larger in a fair “fire-safe trestle” vs “fire-safe prefab steel bridge” evaluation. And, the scoring in the Executive Summary of the DEIR also needs to be corrected: both the trestle retrofit and the prefab steel bridge would require the 25' trimming of vegetation and the clearing of debris, and so one alternative should not be scored better relative to the other on that criteria.

Thus, one of the main reasons given in the Executive Summary of the DEIR for recommending the prefab steel bridge over the retrofitted trestle is wrong:

> "The Retrofit Alternative includes a 25-foot clear space on either side of the bridge to help protect the timber structure from fire damage. As a result, the Retrofit Alternative would require more vegetation removal than would the proposed project."

This statement in the DEIR Executive Summary on p. ES-6 needs to be corrected to indicate that the prefab steel bridge **also** requires this 25-foot clear space on either side, **or amended** to indicate that the prefab steel bridge is inferior in regards to fire safety because of the absence of fire-safety measures.

Hydrology and Water Quality:

Table ES-2 in the DEIR's Executive Summary says that the prefab steel Alternative is superior in part because, in the "Hydrology and Water Quality" category, the "Proposed Project" would give "Long-term benefits …, as creek would no longer be obstructed by piles."

Perhaps that assessment is based on an "Opinion" given in Appendix C (page 140 in the PDF), which says, "the existing derelict trestle is supported by approximately 81 creosote treated timber piles that … impair streamflow, and the creosote contained within the piles impairs water quality for CCC steelhead." However, that opinion is not supported by the "Ecological Toxicology Report" included in the DEIR as Appendix D, nor by the "Hydrology and Water Quality" analysis given in §3.9 of the DEIR. (In addition, it seems disingenuous and unprofessional to use pejorative adjectives such as "derelict": we all acknowledge that the railroad line and trestle were, to use the dictionary definition of "derelict", "abandoned by their owner" – that's why the City was able to buy them for use for this trail.)

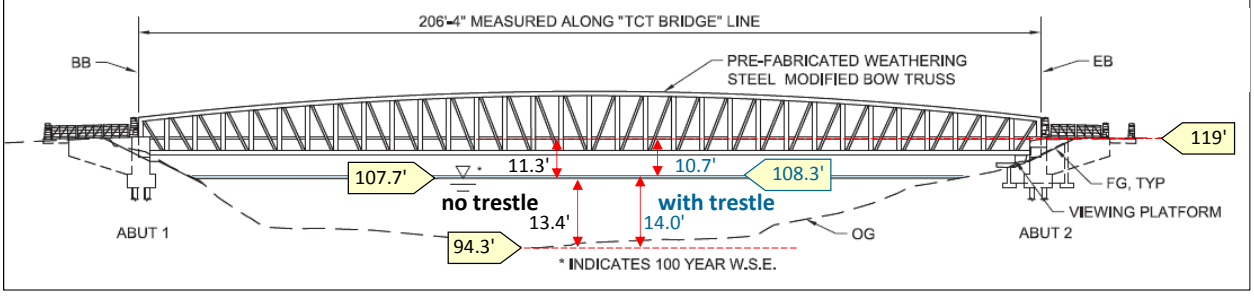
Information about **hydrology, impaired streamflow, and flood-levels** are scattered across several pages:

- Table 3.9-2 in DEIR §3.9.3 (PDF page 77), titled "Summary of Hydraulic Effects under Flood Conditions", gives model calculations of the "Water Surface Elevation" (WSE) in the case of a 100-year event at various locations along the stream. Just upstream of the trail crossing, the 100-year flood WSE under "Existing Conditions" (i.e., with the trestle in place) is 108.3 feet; and with the "Proposed Project" (trestle demolished), it is 107.7 feet: a difference of 0.6 feet, or about 7 inches. (Further upstream, at the Lincoln Avenue Bridge, the 100-year WSE levels are 109.8 and 109.5 feet: removing the trestle would lower the level of the water during a 100-year flood by about 4 inches. Downstream of the crossing, there is no difference whether the trestle stays or is removed.)
- The elevation of the top-of-bank and the bottom of the channel are shown in DEIR Fig. 2-1 in §2.4 (page 25 of the DEIR PDF): the top has an elevation of over 119 feet, and the bottom is at 94.3 feet.

By combining these pieces of information from various locations within the DEIR, one can learn that the creek channel is 25' deep, and the 100-year flood waters are more than 10' below the top-of-bank: it is not a flood hazard. As summarized on DEIR page 3-48 (p. 78 in the PDF), "**hydraulic changes and flooding upstream or downstream of the project site would be less than significant.**" [Emphasis in the original.]

It would be quite helpful for the decision-makers if all this information were to be collected into a single graphic, perhaps by annotating DEIR Fig. 2.1 as shown here in Fig. 3:

Fig. 3

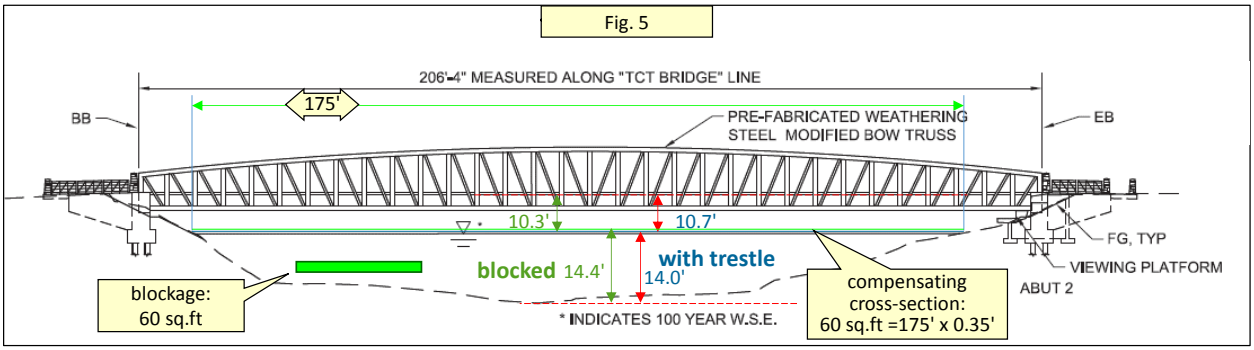


Debris and Blockage:

There has been considerable discussion about debris, such as large tree trunks, washing down the channel and becoming snagged on the trestle piles (see Fig. 4), thereby blocking the flow of the creek. It is straightforward to estimate the impact such logs might have:

- Estimate the typical diameter and length of a log: say, 2' in diameter and 30' long, and then multiply them together to find the cross-sectional area: 60 sq.ft. in this case.
- To first order, the water level will rise to compensate for the blocked cross-section. From Table 3.9-2 in DEIR §3.9.3 (PDF page 78), note that the "top width" of the creek during the 100-year flood event is about 175'. As shown in Fig. 5 below, to make up for the 60 sq.ft. blocked by the log, since 0.35 ft. × 175 ft. also equals 60 sq.ft., the water level would rise by about 0.35 feet – approximately 4 inches.

Fig. 4



Question: what should be done with the snagged logs? On the one hand, as noted in the DEIR (Appendix C, p. 138 in the PDF), they help provide "essential fish habitat" ("EFH"), as the "clustering of large woody debris at multiple locations" creates naturally scoured pools that serve as habitat for juvenile steelhead. On the other hand, these logs could snag on downstream structures (e.g., the CalTrain bridge over the Los Gatos near San Carlos Street, or in the culverts beneath the intersection of Park and Montgomery) and create a flood hazard. If it is determined that it is beneficial for these logs to continue migrating downstream, it would be quite easy to periodically (say, once a year in the summer) for staff or volunteers to walk down to the creek channel and drag the logs around so that they are aligned with the channel and can be washed past the trestle in the next high-water flow.

Regarding **Water Quality**: this is evaluated in detail in DEIR Appendix D, "Ecological Toxicology Report" (starting on page 159 in the PDF). After thoroughly reviewing the literature, it concludes:

> "Our current knowledge of the behavior of creosote and its constituents in older creosote-treated wooden structures suggests that leaving the pilings of the Three Creeks Bridge in place will not pose a risk to terrestrial or aquatic receptors. Conversely, if removal is contemplated, this same knowledge clearly indicates that pile removal projects must deploy best management practices (BMPs) to avoid or mitigate the possibility of temporarily increasing PAH [polycyclic aromatic hydrocarbons] levels in soils or sediment as a consequence of the physical disturbance of pilings."

Translation: they don't hurt anything if you leave them alone, but you have to be very careful if you try to remove them.

The comparison given in Table ES-2 in the DEIR's Executive Summary, page ES-7, under the category "Hydrology and Water Quality", is **misleading and needs to be amended**. As just discussed, the impact of retaining the trestle is "less than significant" to hydrology, whereas, for water-quality issues, "if removal is contemplated, … it clearly indicates" that there is the potential for contamination. Thus, for the category "Hydrology and Water Quality", **the Retrofit Alternative is environmentally superior.**

Historic Significance:

The Friends of the Willow Glen Trestle had to sue the City of San José in order to have the historic significance of the trestle be evaluated. The report from that evaluation is given in the DEIR Appendix F (starting on page 221 in the PDF file). This report is 30 pages long and is an interesting read, but it is **incomplete, inaccurate, and needs to be redone**. The report cites "secondary sources" (e.g., it references a quote from a person-on-the-street at a local festival) while overlooking numerous "primary

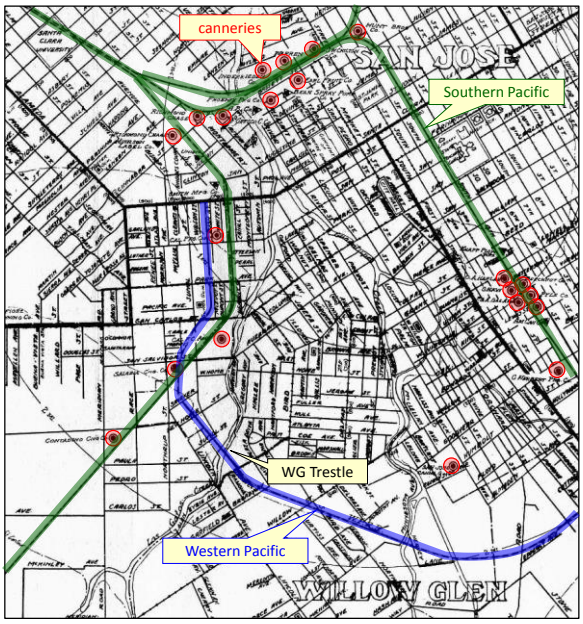
sources" (e.g., contemporary news reports, court briefs, blueprints and filed plans, etc.). The report discusses the standards for State and Federal historic recognition, but does not evaluate the trestle for local significance. Indeed, as the California Office of Historic Preservation points out in the previously cited letter, it is not for the consultant to do so: that is the purview of the City Historic Landmarks Commission (HLC). This was discussed at the March 4, 2015 meeting of the HLC, the audio recording of which is online at http://sanjose.granicus.com/MediaPlayer.php?view_id=54&clip_id=7968.

Before the DEIR can conclude that the trestle has no historic significance, the HLC has to make a determination as to whether the trestle is of local historic significance.

In addition, some comments, large and small, on the report (Appendix F, using page numbers in the report):

- A minor point, but still: the caption for the photo on p. 1 is wrong: that's the view from the northern side. I should know: I took the picture – on April 19, 2003, at about 4:30 in the afternoon. Note that the rails are still on the trestle: they were removed in 2009 or before. (And while I have shared this photo online with the world, an acknowledgement still would have been nice…)
- Page 2: "The trestle was constructed by the Western Pacific Railroad in 1922." That is the year the trestle was completed. Based on an account of a construction accident that was reported in a July 1921 San José Evening News, the trestle was under construction then. In some of my correspondence, I have referred to the date of the trestle as 1921 instead of 1922: I apologize for any confusion I have caused.
- Page 10: the consultant quotes the Western Pacific's Annual Report, "The extension of the Western Pacific line into San Jose and the Santa Clara Valley and a number of minor extensions which together are of substantial importance have recently been completed and should contribute to 1922 revenue." How can the consultant later conclude (p. 18) that the trestle "does not appear to be significantly associated with the history of the Western Pacific Railroad"?
- Page 10: "the Western Pacific chose a great looping approach to San Jose in what many have called a huge fishhook …". From public comments at the March 2015 Historic Landmarks Commission hearing, apparently there had been a station near the Five Wounds Church that served the farmers on the east side of the valley, a region that was not served by Southern Pacific. (Also, I've heard, perhaps the looping alignment might have been so WP could avoid crossing the city limits of San José, allowing it to avoid the need to acquire a franchise.)
- Page 11: "One category, particularly apropos for the San Jose area, was 'dried fruit.' " But the trestle was built so that Western Pacific would be able to serve the canneries: statistics on canned good would have been more relevant. (Figure 6 is the 1934 Polk San José City Directory map, where I've highlighted the canneries in red, the SP tracks in green, and the WP line in blue.)

Fig. 6



- Page 12: the report provides lots of statistics for the shipping of dried fruit. The consultant asserts that, since Western Pacific (WP) only shipped 5 to 10% of the amount that Southern Pacific (SP) shipped, it follows that Western Pacific was not relevant. Looking at the map in Fig. 6, it is apparent why: SP served more canneries than WP. That doesn't mean that the WP wasn't important for the canneries that it did serve. Additionally, sometimes all it takes is the threat of competition and a 5% market share to shake up an industry – just look what Apple Computers did with IBM!
- Page 13: the "common presence of timber trestles". Okay, so trestles are common. Many of them are simple structures, like that shown in Fig. 7 (this is the third trestle on this railroad spur, where it crosses Silver Creek), whereas the Willow Glen Trestle is quite scenic and is quite tall for a simple "pile-and-cap" structure. Also, many trestles are still in use by the railroads, and many are in remote areas: not accessible for public enjoyment and enlightenment. ***The Willow Glen Trestle is aesthetic, accessible, and available.***

Fig. 7

- Page 15: "The Development of the Community of Willow Glen". Parts of this section are downright wrong! There were no plans to have the train go down Lincoln Avenue, and it is not professional to cite a one-sentence recollection from a random event-goer as evidence of fact ([46] Cecily Barnes, "Willow Glen residents think of their community, rather than their history, on Founders Day, 1998," reprinted on http://www.willowglen.com/history/founders.shtml). It would be far better to cite *primary historic sources* rather than some free weekly "penny-saver" paper. I recommend that the consultant read *"Touring Historic Willow Glen: Ten Walking Loops"* (disclosure: Foreword by Larry Ames, available for purchase at various shops on Lincoln Avenue): it has a section discussing the development of Willow Glen that was written by the granddaughter of the attorney who was directly involved in the process. At issue then was whether Southern Pacific would be required to provide grade-separation of their track when they moved the line away from downtown San José. The residents of Willow Glen had already been impacted by the slow-moving WP freight trains crossing the trestle, and they didn't want even more trains from the main SP line further blocking the streets and cutting them off from San José. The "Touring" book has maps showing the various track alignments under consideration. The line selected (and still in use today) was chosen because it didn't cross any streets within the town limits of Willow Glen, and so SP argued that thus they didn't need a franchise from the Town. Retired State Assemblymember L.D. Bohnett argued otherwise: a franchise *was* required because at least some part of the alignment did enter town limits. Had the freight traffic crossing the Willow Glen Trestle been faster, the residents at the time might not have been so concerned that they resorted to a lawsuit.
- Page 22: the grade separation movement: we have never suggested that the Willow Glen Trestle represented an example of a solution to the problem, but rather that it was an excellent example *of* the problem! (Jean Dresden has found newspaper articles from the time that show that the presence of the WPRR alignment through Willow Glen was used as a bargaining chip

with SPRR about grade separations by San Jose City Manager Charles E. Goodwin throughout the 1920s.)

- Page 25: we never claimed that the Willow Glen Trestle was the longest or tallest in the state, just that it was a good example of the style, and that it was conveniently accessible, no longer used for trains, and owned by the public. It's worth noting that to see the trestle shown on page 26, "getting there involves traveling over rough terrain: off-roading to a remote trailhead, committing a whole day to hiking in and hiking out, and possibly breaking the law." (quote from www.LastAdvernturer.com).

At the SJ Historic Landmarks Commission discussion of March 4, 2015 (the audio is available on-line at http://sanjose.granicus.com/MediaPlayer.php?view_id=54&clip_id=7968), the public provided lots of good information:

- The Western Pacific had an importance beyond the mere quantity of fruit carried: it was critical to the survival of the local farmers during the Great Depression. According to the public comment (which I believe is being provided in writing in another letter), SP would only ship cargo by the full freight car, whereas WP would take a partial car. When times were tough during the Depression, farmers were able to ship a partial carful of produce to market and earn enough money to survive; if SP had been the only rail service in town, the farmers would not have been able get their produce to the markets back East.
- One of the speakers, an elderly gentleman, showed a book on Western Pacific that described in detail this spur line, and it even had a photograph of the trestle. Afterwards, he told us that he'd lived in the area his whole life, and as a kid he'd jump on the trains and ride over the trestle and on into town.

Specific points:

- The Historic Consultant for the DEIR did not adequately research the subject, and relied on secondary source material rather than primary sources.
- There are a number of relevant sources that were overlooked.
- The trestle does not have to be the longest, oldest, or tallest to be of local historic significance.
- The trestle has yet to be evaluated for local historic significance, since, to this date, it has not been brought before the City's Historic Landmark Commission as an Action Item for evaluation.
- I understand that there is supposed to be a checklist or tally-card that grades structures for potential historic significance against numerous criteria (age, material, workmanship, is it still relatively intact, has it ever been moved, etc.) Information from a fair evaluation of the trestle against such a scorecard would likely be of use for the Historic Landmarks Commission.

Unless the San José Historic Landmarks Commission has evaluated the Willow Glen Trestle for local historic significance, it is incorrect for the DEIR to claim that the trestle has no historic significance.

Traffic Impacts:

When completed, the project will provide a trail connection for bicyclists, pedestrians, joggers, and other trail users. Until then, trail users have to make a four-block detour, crossing the Los Gatos Creek at Lincoln Avenue. It seems downright silly to claim in the Executive Summary that there would be a significant traffic impact caused by the potential need to close the trestle for maintenance once every five years.

Schedule:

This isn't really a CEQA issue, but it has been raised as a concern to the community: the public wants to use the trail as soon as possible, and delays could be considered an impact in that the public can't use the trail as a non-motorized transportation alternative. Thus, I'd like to point out:

- DEIR §6.2.1: "Completion of the retrofit project is expected to require 5 months of construction"
- DEIR §2.2: "Construction [of the prefab steel bridge] is expected to begin in summer 2015, and last for approximately 7 months."

The trail connection could be completed quicker by restoring the trestle than by replacing it.

Cost:

An EIR is only supposed to discuss environmental impacts, not the financial ones. Nonetheless, money ***is*** mentioned, and right at the very beginning – on page 1-1:

- The cost of the Replacement (demolished trestle) Alternative is given as $1,648,884, and
- The cost of the Retrofit (repaired trestle) Alternative is given as $1,592,478 – about the same.

The numbers on page 1-1 refer to Table 16 on page 5-7 of Appendix G. As explained in a footnote, the accounting is done in "present value", which means they assume that all the money is available now, and some of it is invested at 3% rate-of-return above inflation for the future expenses.

The cost to repair, restore, and adapt the existing trestle is given as $959,000 based on roughly 20 pages of quite detailed line-item accounting (e.g, $1,986 in labor to pressure-wash the trestle before applying fire-retardant, $11,984 for 380 bolts, a sprinkler system, trail decking, railing, etc., etc.), given in Appendix B within Appendix G of DEIR Appendix G (page 363 of the PDF file).

The cost of the prefab steel bridge is given as $1,637,323 – and that assumes that the existing trestle can be removed by a 4-person crew at the *unbelievably* quick rate of 15 minutes per piling and 9 minutes per sash or sway brace (for example, line item "133030 Remove Sash Brace" on page 386 in the PDF: remove all 20 sash beams in 3 hours), in a responsible manner in an environmentally sensitive area.

Add in the cost of maintenance:

- The Trestle is estimated to need about $20k in repairs once every five years, totaling $87,078. (Remember: invest the $87k now at 3% interest; otherwise it'd total $160k over the 40-year evaluation period.)
- The new steel bridge is assumed to need absolutely NO maintenance over the 40 years.

And then there's the inspection. For the steel bridge, it just takes a couple hours to walk across it and inspect it every other year, whereas the trestle requires climbing up a ladder: they budget $1k for the steel bridge, $4k for the trestle: over 40 years, the totals are $11,558 for steel and $46,230 for wood. (Maybe future inspections can be done by drone, thereby saving the cost of renting that ladder!)

Add up all these costs and get the above-mentioned total of $1.649 M for the steel bridge, but the total for the wood trestle is only $1,092,308, including maintenance and inspection – a half-million dollars short.

Q: What happened to the extra half-million dollars? A: These are estimates for a 40-year period. Hidden in another note, the consultants state that, while they estimate that a restored and maintained trestle is expected to have a life of 30 to 50 years, after 40 years we *might* need a new bridge: take that

half-million dollar difference, invest it at 3%, and in 40 years we'll have $1.634 M (plus inflation) available to buy a whole new steel bridge.

The purpose of an Environmental Impact Report is to provide information to the decision-makers so that the best alternative can be selected. It is hardly fair to these readers when the report says the cost of repair or replace are about equal, when, in fact, the choice is between

- Tearing down the trestle and replacing it now, and in 40 years we'll have an old and unmaintained (and boring!) prefab steel bridge; and
- Restoring and maintaining the trestle, which we in the community can enjoy for generations, and then, *if needed at that time*, there will be the money necessary to buy new bridge: we'd either have a **new** bridge rather than a 40-year-old one, or we might still have our well-maintained trestle – and $1.6 million in the bank!

(Personally, I'd rather keep our interesting piece of local history.)

The Trade Matrix

The Executive Summary in the DEIR, page ES-6, states: "Both the proposed project and the Retrofit Alternative would provide a bicycle and pedestrian crossing of Los Gatos Creek on the alignment designated in relevant plans and policies; therefore, both would meet a fundamental City objective. As described Section 1.1, the Retrofit Alternative would not be as cost effective as the proposed project due to long-term maintenance needs." But this Section 1.1 it refers to is only two paragraphs long: one describing the 2004 work, and the other saying "… the City further studied the potential to retrofit the trestle as part of an engineering study. The study considered the condition of the structure (about 10 years after the 2004 environmental study) and determined the extent of a retrofit project would be much greater than anticipated by previous engineering and environmental studies. Given the relative merits of a retrofit versus a replacement project, the City decided to advance the replacement project and conducted a new environmental analysis.[2]" – the whole discussion of "cost effectiveness" and "relative merits of a retrofit" is buried in Footnote 2. And Footnote 2, on DEIR page 1-1, says:

> "The engineering study evaluated the different approaches using the following criteria: streambed maintenance, structure maintenance, inspection, construction and design cost, time to completion, expected lifespan, neighborhood aesthetics, and environmental permitting. The **replacement alternative had the highest rating** and an overall present value of $1,648,884. The **retrofit alternatives had lower ratings** and present values of $1,592,478 and $1,756,798 for the concrete deck and timber deck options, respectively. See Chapter 6, Alternatives, for additional discussion of the retrofit approach and Appendix G for additional details (see Table 16, Alternatives Comparison Matrix, in Appendix G)." [Emphasis added]

I've already discussed costs in the previous section: it is a cheat to state in the Executive Summary that the Retrofit Alternative "would not be as cost effective" when it is over a half-million dollars cheaper, including a ***lifetime*** of maintenance. It is truly deceptive to hide in a footnote the cost of a whole new replacement bridge 40 years down the line, just to make the dollar-values match, and furthermore to object to the high cost of "long-term maintenance needs" when that cost is already included in the total: that's double-counting and padding as well.

So, let us now talk about "the ratings" in "The Matrix".

The Matrix is a trade that was used to evaluate three options:

- The restored trestle with a wood decking (Ipe – a South American hardwood),

- The restored trestle with concrete decking (now called the “Retrofit Alternative”), and
- A new prefab steel bridge (the “Project Alternative”).

The Matrix has eight columns, with headings like “maintenance”, “construction cost”, and “expected lifespan”. As explained in a footnote in the matrix, in each column, the best choice is to be given 3 points and the worst choice given 1 point.

This is an <u>unweighted</u> trade: each category is given the same weight. Thus, for “total lifetime cost of inspection” with values ranging from $11k to $58k, the $47k savings is worth 3 points. In comparison, the overall construction costs vary from $960k to $1.64M: the nearly $700k savings is ~14 times larger but is still only worth 3 points.

An unweighted trade matrix can be a valuable engineering tool, and, as a former aerospace engineer, I’ve used them on occasion myself. They can even be used as a decision tool, when used within its limits: it’s good for enumerating the various topics to be considered, and it can guide the decision process if the score is overwhelmingly in favor of one option. However, in the case here where the scoring could range from 8 to 24 points, the options were scored as follows:

- Restored with wood deck: 15 points
- Restored with concrete deck: 17 points
- New prefab steel bridge: 19 points.

That is hardly an overwhelming advantage for the steel bridge: it’s practically a statistical tie.

But that’s not the full story: to make the prefab bridge come out on top in the trade matrix, points were “shaved” or “padded” in a couple places – the trade was “rigged”:

- Column 4 – cost: prefab is most expensive at $1.64M and is properly given only 1 point; the wood-deck option is in the middle at $1.09M and is given 2 points; but the restored with concrete deck option is the least expensive at $0.96M (over a $100k cheaper than the 2nd-place wood-deck option), but it was still only given 2 points. Shaved!
- Column 6 – lifespan: the prefab bridge will last 75 years (without any maintenance?!): give it 3 points; the wood-decked trestle should last 25-40 years: give it 1 point; and the concrete-decked trestle should last 30-50 years (5-10 more than the wood-decked), but it is still only given 1 point. Shaved!
- Column 7 – neighborhood aesthetics. The restored trestle is properly given 3 points for retaining its historic appearance, but the prefab bridge is given 2 points because it “could be made pleasing”. Padded!
- And in columns 5 and 8, the prefab bridge was ranked at the bottom but still given 2 points: Padded!

If the trade matrix had been fairly scored, it would have come out 19 for the restored trestle with concrete decking, and 16 for the prefab bridge.

While this is still basically a statistical tie in an unweighted trade, **it is not appropriate for the Executive Summary to claim that the trade matrix provides the justification for the demolition of our historic trestle.**

Miscellaneous Questions

Some of the following are questions and comments that had previously been asked, either for the December 2013 Initial Study and Mitigated Negative Declaration (IS/MND) or for the November 2014 DEIR Scoping Meeting, for which I have not been able to find a response; others are from specific passages in the current DEIR and/or appendices.

Overhead power lines

PG&E has a high-voltage power crossing over the trestle:

- What precautions will be taken to avoid accidental electrocution when using cranes to remove the existing trestle?
- What precautions will be needed to avoid electrocution when using cranes to install the pre-fabricated single-span steel truss directly beneath these high-voltage power lines?
- Has PG&E been consulted regarding the proposed actions?

Work Lane

DEIR Appendix (PDF page 18): In order to remove the trestle and prepare for the prefab steel bridge, "[a] work lane, approximately 20 feet wide, would be established along the upstream side of the bridge running parallel to the full length of the bridge."

The trestle is 210' long. There will need to be an access to this work lane: I would estimate another 100' to get from the end of the railroad grade down the bank to the trestle: 310' linear total. Area = length times width = 310' $\times$ 20' = 6,200 sq.ft., or roughly a seventh of an acre – about the area of a typical residential lot.

- What are the mitigation plans for restoring this work lane back to its natural state?
- Will the heavy equipment compress the soil and affect its future suitability to support native vegetation?
- What is the proposed mitigation ratio? (If the project mitigation ratio is 3:1, this would require the restoration of roughly half an acre; if the mitigation ratio is 10:1, the required mitigation area is nearly an acre and a half)
- Will the mitigation be on-site or elsewhere?
- What are the plans for assuring that the mitigation is successful?
- Will the City or its contactors be responsible for repairing or replacing the mitigations if they should not succeed the first time?

If the mitigation is on-site, just replanting of the impacted area, what would be planted? The area would be immediately adjacent to the prefab steel bridge, so any plantings could create a fire hazard.

The prefab steel bridge

- Has the City already purchased and received the replacement bridge?
- If "yes", why was it purchased before the adoption of the EIR?
- Can the bridge be used elsewhere? (It appears to be just the right length for the Coyote Creek Trail at Singleton, just south of Capitol Expressway: the trail presently crosses over a low-flow culvert-bridge that I've heard has to be removed.)

"Disrepair"

DEIR §3.1.1 (PDF p. 31): "The trestle is currently in disrepair, and access is blocked by locked gates maintained by the City." That is like saying "the car has a flat tire and the doors are locked" – it is straightforward to make the repairs, and you have the key. (Again, this seems like a pretty prejudicial way of phrasing it…)

View of the trestle

DEIR §3.1.1 (PDF p. 31): "The trestle structure is not easily viewed from Coe Avenue or Lonus Street because its surface is at a similar grade as the adjacent creek banks. People that currently walk down into the creek channel are able to view the structure, but there are no formal paths into the creek, and the City does not post signs or convey permission to access the site on public lands. Adjacent homeowners and businesses have fences along the creek bank, so it does not appear that they can view the structure."

It's true that the trestle is "not easily viewed" from Coe (see left side of Fig. 8 below). However, the DEIR doesn't discuss the view from the future extension of the Los Gatos Creek Trail, which is shown in DEIR Fig. 4-1, on page 92 in the PDF.

Fig. 8

The right side of Fig. 8 shows the view of the trestle from the future trail from downtown San José. The 1920's trestle would give a fitting welcome to the 1920's-era community of Willow Glen, a community whose very existence as an independent town in the 1920's is due to the impact of the railroad. Would a new pre-fabricated steel-truss bridge be more representative of the character of the Willow Glen district?

Trestles

- What is the height of the tallest still-standing "pile-and-cap" wooden trestle in California? Is it in good condition? Can it be readily incorporated into a regional trail?
- How many wooden train trestles were built in San José?
- How many wooden train trestles remain in San José?
  - (1) The Willow Glen Trestle,
  - (2) its "sibling" over the Coyote Creek (which would "bookend" the Three Creeks Trail and connect it to the Five Wounds Trail)
  - (3) their "poor cousin" across the Silver Creek (Fig. 7 above)

    - (4) part of the bridge in use by CalTrain over the Los Gatos Creek near San Carlos St. (which is scheduled to be replaced with steel and/or concrete in the near future)
    - any others? (There had been one over the Guadalupe near Coleman, but it was replaced a few years ago…)
- How many of the remaining train trestles are presently incorporated into San José's bicycle/pedestrian trail system?
- How many of the remaining train trestles could at some time in the foreseeable future be incorporated into the bicycle/pedestrian trail system?
- Where currently is the trail-accessible wooden trestle that is closest to downtown San José?

The Willow Glen Trestle

- Would a restored trestle across the creek make the Los Gatos Creek Trail attractive to visitors and tourists?
- Given the date of construction and availability of local resources, is it likely that some or much of the trestle structure is old-growth redwood?
- Do the "as-built" plans for the trestle exist?
- How deep are the piles driven into the ground?
- What number of piles have been replaced?
- What number of piles have been added to the original configuration? Is the current design significantly different or basically the same as the original configuration?
- How many of the braces and sashes are original? What type of wood are they? Are they locally harvested and milled old-growth wood?
- How many of the cap beams are original? What type of wood are they? Are they locally harvested and milled old-growth wood?
- How much of the stringers are original? What type of wood are they? Are they locally harvested and milled old-growth wood? (Just the stringers alone contain over 20,000 board-feet of lumber: what would be the present value of that quantity of wood? Would it even be possible now to acquire that much old-growth redwood?)
- Are the ties original or have they been replaced over the years?
- Is there a significant difference, historically, between options "Restore 2012" and "Restore 2004"? Do the ties add significantly to the historic authenticity of the trestle substructure?
- What is the current state of the wood in the trestle? Is it severely rotted or infested with termites?

Prefab Steel Truss Bridge

- Is the prefab steel bridge "single-point-failure" tolerant? Rephrased: would the truss collapse if an individual structural member or joint were to fail? (It has happened just a few years ago, when the modern I-35W freeway bridge in Minneapolis collapsed due to a single-point-failure: a gusset rusted out due to bird-droppings collecting on a single critical joint.)
- If the truss structure doesn't fail completely, what is the margin-of-safety for when any individual structural member were to be compromised, such as by overheating or by rust?
- What are the inspection and maintenance plans to assure that there is not a build-up of debris at junctions that could promote rust or corrosion? Can that be checked by the single inspector walking across the bridge, or does it require inspection from underneath? Is that included in the cost trade?
- What are the plans for maintenance and repair should a joint become compromised?

- What is the design margin on the structural elements?
- Will the bridge be inspected periodically to assure that structural elements have not become too thin due to rust and corrosion?
- What is the realistic anticipated useful lifetime of the steel truss bridge if it is not routinely maintained?
- What is the anticipated useful lifetime of the steel truss bridge if it is given optimal routine maintenance? Is that maintenance scheduled and included in the budget?
- Can the truss be repaired if individual structural members become compromised? How much would it cost? Are these repair costs budgeted? How long would the bridge be out-of-service and closed to the public?

Review of the Draft EIR

Besides discussing specific topics (the first part of this set of comments) and unanswered questions from the IS/MND and Scoping process (the middle part), let me also make a few additional comments directed to the DEIR itself:

Chapter 1: Introduction

This is a very short chapter: just a quick overview. The only important point is footnote 2 on page 1-1, which links to Appendix G and all the prior analyses of the trestle.

Chapter 2: Project Description

This chapter gives the "pretty picture" diagrams that have been presented at the various public meetings – the ones where the public was only allowed to discuss options for the replacement bridge, but never whether we wanted to replace the bridge.

Page 2-1, §2.1 (PDF 18): "The pedestrian bridge would include design elements that recall the former operators and the trestle structure, including two large emblems inset in the pavement representing the Western Pacific and Southern Pacific Railroads…" As someone pointed out, "if it is historic enough to warrant emblems and design elements, isn't important enough to keep?"

Chapter 3: Environmental Setting, Impacts, and Mitigation

This is the meat of the DEIR. It provides the analyses that show that the "Project Alternative" – the prefab steel bridge – is viable. The analysis is fairly complete, but, as noted above, it does not discuss how the steel bridge would survive a brush fire, although it does state that there will be neither streambed maintenance nor a fire-sprinkler system (§3.13.3, PDF p. 90), and that "trees removed during construction would be replanted and allowed to regrow right up to the new bridge." (§3.1.3, p. 3-3, PDF p. 33).

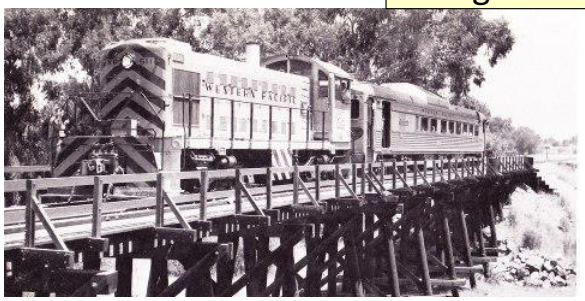
DEIR Section 3.3.1.5, "Ecological Toxicity" (PDF p. 48) refers to Appendix D, the "Ecological Toxicology Report". The §3.3.1.5 in the DEIR is a nearly 3-page discussion that borrows heavily on in the material in the Appendix, *except that it omits the conclusion*: "leaving the pilings of the Three Creeks Bridge in place will not pose a risk to terrestrial or aquatic receptors. Conversely, if removal is contemplated, this same knowledge clearly indicates that pile removal projects must deploy best management practices (BMPs) to avoid or mitigate the possibility of temporarily increasing PAH levels in soils or sediment as a consequence of the physical disturbance of pilings." (DEIR Appendices, PDF p. 166).

Chapter 6: Alternatives

This discusses the Retrofit Alternative. It relies heavily on the Engineering Report of 2012, which is included as Appendix G.

In the DEIR, Figure 6-1 shows a rendering of a possible retrofit: the drawing is devoid of all soul. Fortunately, as noted on p. 6-1 (PDF p. 97), *"If bridge retrofit is selected as the preferred alternative, then additional refinements could be made."* Figure 9 (below) shows what the Willow Glen Trestle looked like in 1955. Next to it is a pedestrian bridge recently built in Uvas Canyon County Park: sturdy, environmentally responsible, and quite reminiscent of the trestle in 1955. Hopefully, the trestle will be saved, and the community can consider a variety of such design options.

Fig. 9



WG Trestle in 1955

in Uvas Canyon Co. Park, 2015

Summary:

Figure 10 summarizes the comments and findings given in this letter.

	Trestle -- "Retrofit"	Prefab Bridge – "Project"
Construction cost	$959,000	$1,637,000
Est. Maintenance	$4,000 / year	not budgeted
Est. Inspection	$2,000 / year	$500 / year
Construction time	5 months	7 months
Estimated Life	30 – 50 years (more if well-maintained?)	75 years (w/o maintenance?)
Flooding	not a problem	not a problem
Creosote	not a problem if left alone	a concern if disturbed
Fire	not a problem: redwood, sprinklers, alarms and maintenance	no precautions are provided, and steel loses strength at brushfire temperatures
History	significant to the community of Willow Glen; SJ Hist. Landmarks Cmsn. is set to evaluate the trestle for City Landmark Status	"While this does not salvage the trestle, aesthetics could be made pleasing. Staining the concrete deck to resemble the old track could be done. Also, railroad themed signs could be incorporated at the approaches."

Fig. 10

TABLE ES-2
Summary Comparison of Alternatives

Category	Proposed Project	Retrofit Alternative	No Project
Biological Resources	Construction would disrupt instream and riparian habitat. Extensive controls would be used to minimize disruption. Long-term benefits would occur, as creek would no longer be obstructed by piles.	Disruption during construction, and minimization measures, would be the same. Long-term habitat loss would occur from 25-foot maintenance buffers, and benefits of clear-span bridge would not occur. Disruption would occur during periodic maintenance.	Disruption would occur during periodic maintenance.
Cultural Resources	The existing trestle does not meet the criteria for designation as a historical resource; therefore, there would be no impact.	Impacts would be the same as for the proposed project.	Impacts would be the same as for the proposed project.
Hydrology and Water Quality	Long-term benefits would occur, as creek would no longer be obstructed by piles.	Benefits of clear-span bridge would not occur.	No change would occur from existing conditions.
Land Use	The project would be consistent with all relevant plans and policies.	The project would be consistent with plans and policies regarding bicycle and pedestrian trails, but not with plans and policies for fiscally sustainable infrastructure and urban/wildland fire hazards and would require short-term closures.	The project would not be consistent with plans and policies.
Transportation and Traffic	The project would be consistent with all relevant plans and policies.	The project would be consistent with plans and policies regarding bicycle and pedestrian trails, but would require short-term closures.	The project would not be consistent with plans and policies.

the steel bridge should have fire-buffer as well;
the creek is not "obstructed" by the trestle;
it is best to leave pilings undisturbed.

DEIR failed to properly evaluate
the local historic significance

as in point 1:
the creek is not "obstructed" by the trestle;
it is best to leave pilings undisturbed.

the creek channel should be periodically cleared
of debris that snags in the vicinity,
regardless of bridge – trestle or prefab steel

the traffic impacts?!
a 4-block detour on a bike-path for repairs once
every five years, or after arson fires?

Fig. 11

Figure 11 reprints Table ES-2 from the Executive Summary in the Draft EIR, pointing out the errors and exaggerations in the various categories. If written fairly, the Executive Summary should conclude that there is not a single reason to find the prefab steel bridge Project Alternative is preferable, and there are several reasons to find the Retrofit Alternative is "environmentally superior".

In closing,

- The Draft Environmental Impact Report is fatally flawed. It needs to be corrected and recirculated for additional public review.
- The determination of historic significance has to wait until the San José Historic Landmarks Commission has considered and decided on the trestle's local significance.
- The "Retrofit Alternative" is the "environmentally superior" alternative, and the DEIR should recognize that.

The Willow Glen Trestle is an important part of our local history, and it can readily be repaired, restored, and adapted to become a prized part of our regional trail network.

Why should we waste a half million dollars or more of our money just to destroy it?

I have the feeling that that there may be some more points that I should make, but I've run out of time, and I'm sure that you're running out of patience! I thank you for the opportunity to give comment on the DEIR, and thank you in advance for reviewing these comments and answering the questions. I look forward to reviewing a much-improved version shortly!

Thank you,

~Larry Ames, Friends of the Willow Glen Trestle, Larry@WGTrestle.org