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Comments on the Arroyo Seco Canyon Project DEIR

In the early 1980s, my girlfriend and I would go on long drives in the country, to the San Gabriel Mountains, or Central California. She told me that I had an unusual quirk during those drives: each time the road crossed a stream, I would pull off and step out to watch the water for a while. She, having grown up in Alabama where streams are everywhere, didn't understand my preoccupation. But I, raised in Southern California, knew how rare and significant it was to find a living stream.

That rare, significant, and valuable habitat is what is at stake in the Arroyo Seco Canyon Project.

The proposed Project will do a lot of environmental damage, and will not deliver the advertised benefits. The **environmental damage is readily apparent** because the Project will dry up the lower portion of the canyon stream, and the Hahamongna Basin, for most of the year, as described in these excerpts from section 4.5, and from Appendix F, of the draft EIR:

"The existing diversion system allows PWP to divert low flows and, thus, the City captures nearly all of the low flows during the dry season (summer to mid-fall), which is typically 0 to 3 cfs (USGS 2020b), and a portion of flows when stream flows are higher, typically around 25 to 30 cfs."

"The proposed new diversion structure would capture all flows during small storm events and dry weather flows in the Arroyo Seco, and up to PWP's surface water rights during large storm events."

So it is the intent of the proposed Project to reduce stream flow to zero in dry periods. This is quite damaging, ecologically, compared to the historical flow patterns that existed before PWP built its first diversion structure.And it's against the law, too – specifically, section 5397 of the California Fish and Wildlife Code: "The owner of any dam shall allow sufficient water at all times to pass through a fishway, or in the absence of a fishway, allow sufficient water to pass over, around or through the dam, to keep in good condition any fish that may be planted or exist below the dam." PWP has violated this law many times since it first built diversion facilities and the new Project must *not* continue to violate it.

"MM BIO-6 A team of qualified specialists in hydrology and plant and wildlife biology will monitor the Arroyo Seco stream and associated riparian habitat from the intake structure (i.e. diversion point) downstream to Devil's Gate Dam. The extent of the riparian habitat, including aquatic habitat, will be defined based on field observations during the initial site visit. Monitoring will begin with an initial baseline assessment to be conducted within six months prior to start of increased diversions. Thereafter, monitoring shall continue quarterly for a duration of five years. Data will be gathered at fixed points along the stream, and general descriptive notes and photos will be taken of the entire stretch. Data will include surface flow

measurements; subsurface hydrology; surface water extent mapping; vegetation mapping; a vegetation health assessment; active channel location mapping; and a plant and wildlife habitat suitability assessment (including protocol surveys if warranted and necessary to determine presence or absence of species). Data from four quarterly visits will be compiled in an annual report.

Alternatively, if the City chooses not to take corrective measures, the City may mitigate for any loss of vegetation at a minimum 1:1 replacement ratio. The City shall only be required to mitigate for those impacts attributable to the City's increased diversions. Replacement vegetation shall be in kind; shall be equal to or greater than biological value prior to diversion; and shall be located within the Arroyo Seco watershed."

How do you mitigate a 50- or 100-year-old white alder or sycamore that has died from lack of water? It's either prohibitively expensive or impossible to purchase such a tree. And planting a young tree in the same spot where a mature tree just died from lack of water is a pointless waste of money, in addition to being useless for *current* generations of visitors, who will be dead when and if that tree matures.

That leaves one conclusion: the Arroyo downstream of the diversion facility will become a degraded, dry habitat with much less biological diversity and much less recreational appeal. The EIR does not reach this conclusion, but it needs to admit it.

The Arroyo just north of Hahamongna, presently an attractive and interesting walk, will lose a huge part of its recreational potential. The Project will severely degrade the present recreational value of the Arroyo, and discriminates against disabled or poorly abled people who can experience the stream today, but not in the future if the Project is built. Elderly or disabled people won't be able to manage the half-mile uphill walk to the diversion facility in order to catch their first glimpse of a live stream. The draft EIR does not adequately discuss this huge recreational impact, or this discrimination, or how it can be mitigated.

The biological impact is just as large. With the loss of "wet feet" because of reduced flow, the current plant population near the stream will die, leaving an ugly fire hazard instead of an attractive, lush habitat. About half a mile of the Arroyo will suffer this degradation.

The **inability to deliver the promised benefits** is most concisely described in this quote from the Philip Williams & Associates study in 2000:

> The accumulation of fine sediment particles in the percolation ponds tends to reduce percolation rates over time. Measures are taken to prevent this, such as not diverting water to the ponds during high sediment transport flood events. Furthermore the ponds are excavated approximately annually to remove fine sediments and restore hydraulic conductivity of the soils. However, despite these efforts at minimizing fine sediment accumulation, the hydraulic conductivity of the ponds remains orders of magnitude lower than in other nearby areas of the basin (Converse Consultants West, 1995).

In other words, PWP will build more spreading basins, tearing up habitat to do so, to supplement the basins that don't work very well. And, in a few years, those new spreading basins will also not work very well. Meanwhile, the Hahamongna Basin itself, orders of magnitude more effective at percolating groundwater, is not utilized.

I have presented an accurate, but unhappy, portrait of the Arroyo under the conditions described in the Draft EIR. I also want to present an alternative or two.

The enormous recreational and biological benefits of the Arroyo Seco stream are destroyed by the Project as envisioned in the draft EIR. But those benefits can be preserved, and even amplified, if the stream is permitted to run its full course through the canyon and into the Hahamongna basin. The farther that the stream runs, the greater the benefits. This argues for letting the stream run all the way to the base of Devil's Gate Dam. This would provide the patrons of Hahamongna Watershed Park an almost unmatched opportunity to interact with a live stream, which is an exceedingly rare opportunity in Southern California. In a project that is full of negative recreational impacts, this alternative is a *positive* recreational environmental impact.

PWP will protest that this alternative would cause them to lose groundwater pumping credits, because the 75-year-old Raymond Basin Settlement requires that water be diverted into spreading ponds to earn credits - water in a streambed does not count. I want the stream to be preserved and for PWP to earn their pumping credits, too. So I propose that PWP pump water from the pool at the base of Devil's Gate Dam to the spreading ponds near the north end of the hahamongna Basin. The pumping activity is measurable and will qualify for credits. And the pool will persist for long periods if the Arroyo Seco stream flows all the way to the dam.

In their comments on the Initial Study, PWP dismissed the “leave the water in the stream” alternative and did not even present that alternative in the Draft EIR. But PWP's reasons for dismissing that alternative are flimsy. For example, in their rejection of “leave the water in the stream,” in section 6.3.1 of the draft EIR, PWP says:

The Flood Hazard, Sediment Management, and Water Feature Analyses, Hahamongna Watershed Park, prepared by Phillip Williams & Associates (PWA) is referenced several times in the comment letter. As stated in that report, leaving the flows in the “natural stream” would require a “significant adjustment to the adjudication of water rights for the City of Pasadena,” and “should be understood that any recommended significant changes to the way the City uses this water right and gains groundwater credit may necessitate a re-negotiation of the City’s original adjudicated agreement, which could be a lengthy and difficult process” (PWA 2000).

But that is intellectually dishonest. PWP is cherry-picking a single quote from one section of the PWA study, Another section of the study concludes that percolation within the streambed **is** a feasible alternative to spreading ponds. Here is that section in its entirety. (highlighting is mine).

1. The Arroyo Seco Spreading Grounds may not be the most efficient or cost-effective way to recharge groundwater in the Hahamongna Watershed Park area. Hydraulic conductivity rates in the ponds have been found to be much lower than in other areas of the park. This is likely due to siltation and maintenance compaction. Furthermore, significant leakage from one of the ponds was discovered during a site visit, allowing ponded water to flow back into the Arroyo Seco channel without percolating.

J. It was found that increased groundwater recharge might be achieved in the Hahamongna Watershed Park if natural flows are restored to the Arroyo Seco channel and if ponding was allowed to occur regularly adjacent to the dam. Relative to the existing spreading grounds, a larger ponding area could be achieved with ponding at the dam and regular reservoir capacity excavation would maintain high hydraulic conductivities. Furthermore, natural flows in the Arroyo Seco channel could percolate most, if not all, of the low-flows currently diverted to the spreading grounds.

k. Restoring natural flows to the Arroyo Seco channel through the Hahamongna Watershed Park and obtaining groundwater percolation credit for these flows and ponded water at the dam would require a significant adjustment to the adjudication of water rights for the City of Pasadena. Furthermore, runoff inflow and outflow from the park would have to be estimated more precisely to accurately quantify groundwater percolation credit.

…end of section. There is some work to be done in order to use the natural stream for percolation. Let's look at the cons, and then the pros.

Cons:

The City would need to petition the court to reopen the Raymond Basin Judgement. Of course, it wouldn't be the first time. After the Judgement was entered in 1944, it was revised in both 1955 and in 2009. So renegotiation is not excessively difficult, as PWP's refusal of this alternative would seem to indicate. Considering the many negative impacts of the Project, both ecological and recreational, renegotiation is a relatively modest price to pay to avoid those impacts.

PWP would need to construct a new gauging station, at the top of the Hahamongna Basin, and would need to conduct percolation tests at various locations in the basin, in order to justify its percolation claims and receive groundwater pumping credits. Those tasks are well within PWP's abilities.

Pros:

A live stream within Hahamongna would be a fabulous recreational bonus, giving Hahamongna Watershed Park a feature that would be the envy of other communities.

Concerns about fish migration (and Fish and Game Code section 5397) would largely disappear if the stream is not diverted.

Hahamongna Watershed Park would remain intact rather than being carved up for additional spreading basins.

The percolation rate would easily absorb the City's 25 cfs allotment, and much more. Even aside from the groundwater pumping credits that are important to PWP, the natural stream would replenish the Raymond Basin in general and would delay or prevent future restrictions on use of groundwater.

The half-mile of riparian habitat from the original diversion structure to Hahamongna would thrive instead of gradually dying out from lack of water. This is a huge, positive ecological impact – and another positive recreational impact.

Many costs that are described in the draft EIR would simply go away. The cost of the new diversion structure; the cost of spreading basin construction; the annual rehabilitation of spreading basins; sediment removal… those aren't required if the flows remain in the natural stream. In the case of sediment removal, using the natural stream moves sediment to an area where the County Flood Control District takes responsibility for removing it.

Plan B

What if renegotiation of the Raymond Basin Judgement proves more difficult than anticipated, and PWP must continue to divert water to gain groundwater pumping credits? I suggest that PWP construct a pumping facility at or near the pool adjacent to Devil's Gate Dam, and pump 25 cfs to the other end of Hahamongna, to the spreading basins there. Such a diversion can be easily quantified and verified, thus ensuring groundwater pumping credits. And it's consistent with the pump-back goal described in the Hahamongna Watershed Park Master Plan.

Plan C

In the event that PWP can demonstrate that the Raymond Basin Judgement can't be amended to credit Pasadena with flows that percolate into the streambed, and that pumping from the dam pool to the spreading ponds is not a reasonable alternative, I also propose an alternative that they have already rejected: locating the diversion facility much farther downstream in the canyon, even in the north end of the Hahamongna basin itself, near the JPL bridge. The advantages of this approach are the biological and recreational benefits of having a live, nearly

year-round stream in about half a mile of canyon bottom that would otherwise be greatly harmed by PWP diversions. This is also the section of canyon bottom that is the most accessible to disabled or poorly-abled persons, and is more immediately accessible to the general public than the distant canyon bottom above the diversion structure.

PWP rejected this second alternative on several grounds in their responses to initial study comments. Let's take a look at those responses.

"Impacts related to the recreational setting would be substantial due to the creation of a new structure within the Arroyo Seco at a location that would be much more visible to recreational users than the proposed replacement of the existing structure in Area 2."

The draft EIR is comparing the visual impact of a diversion structure to the impact of half a mile of dead habitat in the canyon immediately upstream of the proposed structure. There's no comparison. Additionally, the diversion structure would be located a stone's throw, literally, from several spreading ponds, which already present visual "impacts" of their own. And the diversion structure that the draft EIR proposes to build, on the site of the current one, would have substantial visual impacts in a relatively unspoiled section of the canyon, in contrast to the somewhat “spoiled” north end of the Hahamongna basin. The draft EIR considers only the visual impact of the diversion structure itself, not the impacts of the additional spreading basins and the degraded streamside habitat.

"Although this alternative would satisfy the proposed Project Objectives, this alternative does not avoid any significant environmental impacts of the proposed Project"

What, you mean, like the death of half a mile of prime riparian habitat? The alternative avoids it. The draft EIR ensures it.

"A new dam at this location would also have the potential to disturb the downstream alluvial and sediment transport dynamics because the facility would retain sediment behind its fixed crest. The accumulation of sediment would have to be routinely addressed in order to maintain the intended diversion capacity, presumably by removing the sediment from the streambed, thereby altering the natural morphology of the stream."

Altering the natural morphology of the stream? Compared to *removing every single ounce of water from it* for much of the year, as the draft EIR proposes? And sediment removal would be a relatively straightforward process, given the site's proximity to paved, well-engineered roads.

"Additionally, creation of a new dam structure that would span the width of the

Arroyo Seco would involve a more complex set of regulatory permitting requirements, not only for the construction but for the routine maintenance that would be required for operation of the project."

This is undoubtedly true. And, based upon the ease with which the Los Angeles County Flood Control District recently secured permits for a much more invasive project within that same basin, not a dealbreaker.