

Grandview Reserve Project

<https://epcdevplanreview.com/Public/ProjectDetails/160266>

Testimony on:

Potential Downstream & Floodplain Impacts to Adjacent Property Due to Master Development Drainage Plan for East Fork and East Fork Tributary of the Gieck Ranch Drainage Basin

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Owners of Adjacent Parcel Number: [4227000016](#)

General Statement

In late May 2019, we were contacted by JR Engineering regarding the Grandview Reserve Project. JR Engineering was doing initial planning on this project (since then revised dramatically in scope with the current proposal). The drainage plans directly affect our approximately 128 acre property south of the Grandview Reserve Project across Highway 24 through the Black Squirrel Creek drainage tributaries known as the East Fork (EF) and the East Fork Tributary (EFT) in the Gieck Ranch Drainage Basin. The East Fork Tributary is also referred to as the East Fork Tributary 1 (EFT1) in some documents.

JR Engineering contacted us to explain the planned changes and we discussed our concerns about the plan, including potential impacts to our drainages, wetlands and floodplains. We were provided with several of the planning documents (some to be referenced here) and were asked for permission to access our land for further ecosystem and hydrology investigations after JR heard our reactions to the plans.

Briefly, we had two major concerns with the initial drainage plans. First, the original Grandview drainage plans would have resulted in large increases in runoff entering our property through the EF under the Hwy 24 bridge. The runoff entering our property through the EF was calculated to increase by over 36% for 100 year peak flows and by nearly 34% for 5 year peak flows. Changes to flow volumes and their potential impacts in addition to the increased velocities were not provided.

Our second concern was with the impact to the vegetation on our property due to the capture and diversion of existing flow from the EFT onto our property – because of the proposed grading along the EFT on the Grandview property and channelization along the Rock Island Trail to divert flow from the EFT to the EF on the Grandview property. The purpose of these modifications was to reshape the 100-year floodplain to accommodate the proposed lots in that area for the Grandview development. The EF is a jurisdictional wetland, and while there are wetlands on the EFT (which joins the EF near the southeast portion of our property) we are not aware of a formal determination of its status as jurisdictional or non-jurisdictional.

JR Engineering was arranging for an evaluation that we were later informed did not occur as they were removed from the project, and the currently proposed development plan was substituted. We did not agree that this plan was appropriate due to negative impacts to the EF channel through our property. We would have not objected to the floodplain revisions if we could have had more information about the impacts to the vegetation in the area surrounding the EFT channel on our property.

The current MDDP reports maximum predevelopment and post-development ET outfalls to our property in the table shown in Figure 1 below (as Outfall 4). We are pleased to see lower than historical 'outfall' values for the EF, the major and potentially most vulnerable drainage channel on our property. However, we still have questions and concerns related to this plan. These are essentially the same as for the 2019 MDDP. For the current proposal, peak outflow velocities are reduced but we are cautioned that the EF will be subjected to increased volumes that will likely disturb the drainage channel and require mitigation. There is no summary provided to characterize the anticipated increased volumes under various scenarios.

We are assuming 'outfall' is synonymous with 'offsite flow' in this instance; if so, the predevelopment values shown in Figure 1 are quite different than what is reported in other documents for the EF (see Figure 2 below). Additionally, there is no reported offsite flow from the EFT. This appears to be explained by the statement in the 2020 Master Development Drainage Plan (page 11, PDF page 14):

The East Fork tributary (EFT) crosses the north property line and are conveyed through the site via a natural channel. The channel has been mapped as a Zone A floodplain per the existing FIRM panel. *There is no existing crossing for this section of the drainage channel below Highway 24 and instead the flows are conveyed to the north east towards the East Fork Upper (EF).* **Emphasis added.**

This lack of runoff to our parcel from the EFT raises the same concern for the impact on existing vegetation in the western part of our parcel containing the EFT channel that we outlined earlier in regard to the 2019 MDDP.

The above comment in the 2020 MDDP contradicts previous studies; we cannot concur that this is the currently existing condition as claimed here. If all of the runoff from the East Fork Tributary joined and exited the Grandview property through the East Fork, the offsite runoff for the East Fork Tributary would be zero and the East Fork Q5 and Q100 values would be the sum of what is shown in the table in Figure 2.

We were told by Mike Bramlett of JR Engineering in 2019, during development of the original Grandview Reserve drainage plans, that with the *proposed* upstream grading in the EFT drainage and the *proposed* channelization along the southern border of Grandview Reserve along the Rock Island Trail, there would be a *diversion* of runoff water into the EF that would increase the flow as it entered our property via the EF under the Hwy 24 bridge. The diverted flow associated with those proposed changes is consistent with the outflow values in the table (shown in Figure 2) for EFT from the 4 Way Ranch LOMR, March 2004. This would have made the outflow from the EF into our property either Q5 = 241 cfs and Q100 = 841cfs or Q5 = 245 cfs and Q100 = 808 cfs (shown on Map Sheet 1 of 7 or Map Sheet 6 of 7 (respectively) from the Grandview Reserve Preliminary Grading Plan dated 1/25/2019). See Figure 3 (includes link to map sheets). We felt that this was unsatisfactory as it would contribute significantly to the potential for destabilization of the EF channel through our property as noted earlier.

The tradeoff for redirecting flow from the drainage along the area adjacent to EFT on the Grandview site was for the purpose of shrinking the size of the 100-year floodplain zone in that part of the development. This design, including the aforementioned grading, channelization, and the removal of the culverts under Hwy 24 created changes that were reflected in the proposed LOMR for the floodplain along the EFT on both

properties (shown in Figure 4). Currently, there is indeed evidence of water conveyance through the Hwy 24 culverts between the EFT channel on the Grandview property (that is “indistinct” near Hwy 24) and the EF on our property. South of Hwy 24, there is a reappearance of the EFT channel and a change in vegetation type is evident in an area of seasonally standing surface water that drains to the EFT channel on our property. The following description from the earlier JR Engineering Preliminary Drainage Plan discusses this:

The third drainageway, EFT1, crosses the north property line approximately 1,500 east of the northwest corner of site. Flows are conveyed in natural channel to an existing stock pond, where some ponding occurs before discharging over the pond spillway. The drainageway between the existing stock pond and Highway 24 becomes very wide and undefined. Per the FIRM panel, flows in this drainageway cross the Rock Island trail and Highway 24 and continue southeast where they merge with EF approximately a half mile southeast of the site. This natural channel has no jurisdictional wetlands and the is [sic] within a Zone A floodplain. The reach below the confluence of EFT1 and EF was studied as part of the Elbert Road Site Letter of Map Revisions (LOMR) was prepared by Kiowa Engineering and approved by FEMA in 2006. *The intent for this corridor is to better define the south half of the drainageway with a wide shallow channel that contains the flows within the Tract and redirect the flows along the Rock Island trail to merge with the EF at the Grandview Reserve east property line.* Three roadway culvert crossings are also proposed within this reach. Each culvert crossing will require grading both upstream and downstream to accommodate the culvert. For this report a 100 year peak flow of 217 cfs is used at the downstream boundary. The chosen downstream boundary flow of 217 cfs is consistent with the Gieck Ranch DBPS hydrology analysis. EFT1 and EF have merged into one channel in the Elbert Road Site LOMR. **Emphasis added.**

It is evident that new revisions to the floodplains will be required for the currently proposed development. We assume this will involve a similar strategy to what JR Engineering proposed for the EFT floodplain. The current MDDP seems to assume the 2019 proposed changes to the EFT are already *the current condition*. Is this an oversight, an incorrect assumption, or are you proposing a diversion connection/channel that isn’t shown on the current MDDP?

OUTFALL	Predevelopment		Postdevelopment*	
	5 year	100 year	5 year	100 year
1	13.03	66.80	5.43	53.95
2	26.96	317.41	34.45	256.11
3	30.00	154.35	2.52	160.7
4	100.05	523.77	35.27	478.86

*Values to be refined with Preliminary and Final Drainage Reports for each filing

Figure 1. Outfall 4 corresponds to EF.

Revised Offsite Flow Summary		
Tributary	5 Year Peak Runoff (cfs)	100 Year Peak Runoff (cfs)
Main Stem**	67	413
Main Stem Tributary 2**	59	280
East Fork Tributary*	61	217
East Fork*	180	595

*Flows from Gieck Ranch DBPS, Oct 2010

**Flows from 4 Way Ranch LOMR, Mar 2004

Figure 2. See page 9 (PDF page 12) of current MDDP. Gieck Ranch DBPS offsite Flow Summaries common to all project data discussed below for which there is general agreement. See MDDP page 9 (PDF page 12).

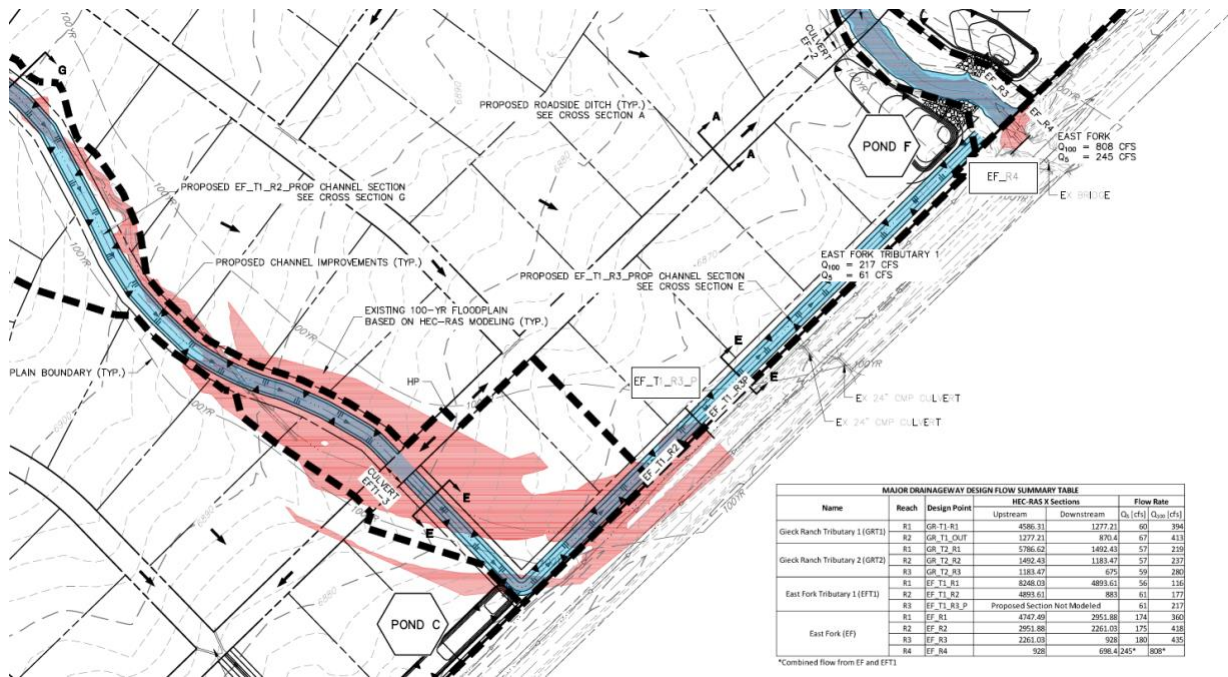


Figure 3. Detail from MASTER DEVELOPMENT DRAINAGE PLAN and PRELIMINARY DRAINAGE REPORT for Grandview Reserve Preliminary Plan January 23, 2019. PDF page 219. <https://epcdevplanstorage.blob.core.windows.net/project/4b0bd02d-cc25-4544-abde-712dfe1eb2b5/3f60b6c7-3876-48ff-8c37-a9cd0a5d026c.pdf>. The Summary Table in the above image shows the proposed connection to divert flow from the EFT to the EF along the Rock Island Trail.

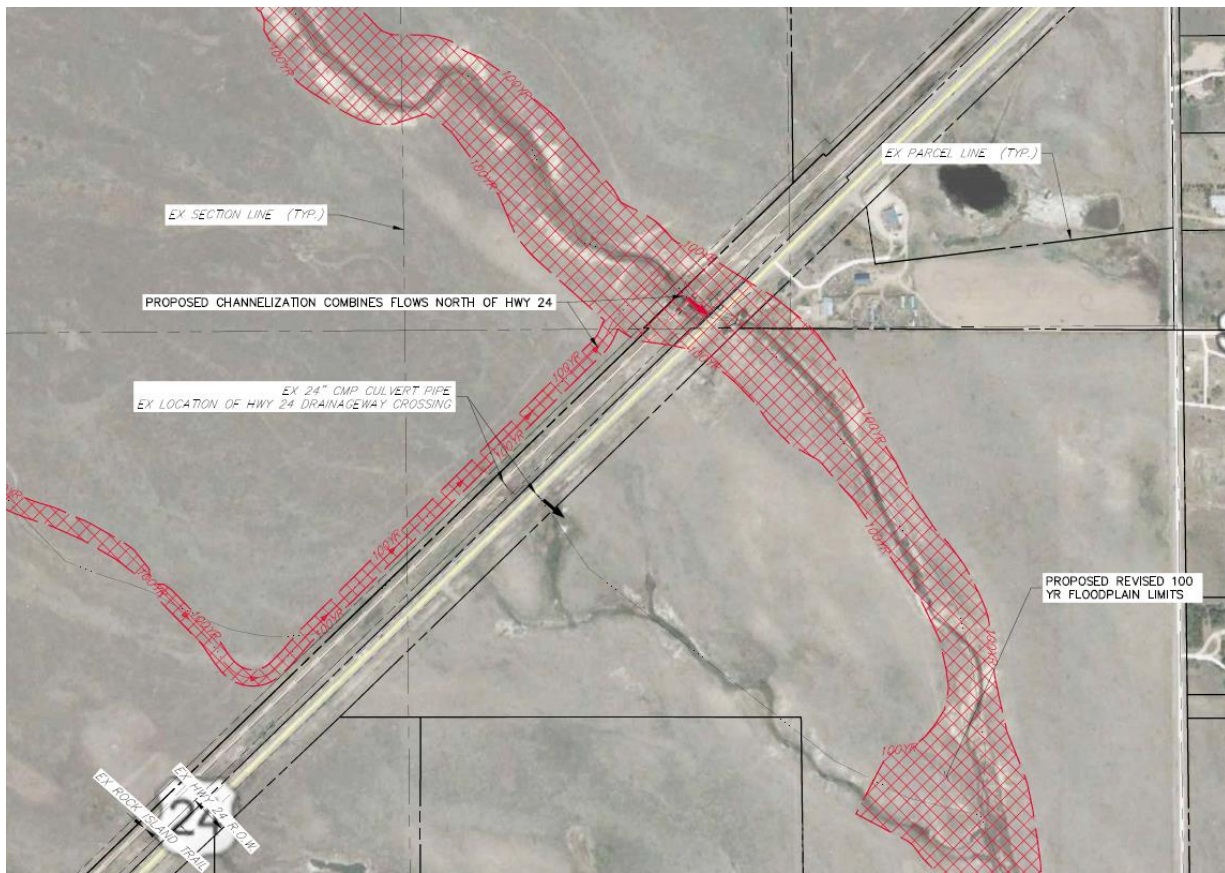


Figure 4. Details of existing (upper) and proposed (lower) EFT and EF floodplains. From the file 2019-05-20 – *Adjacent Property Impacts Exhibit-24x36 Title Landscape.pdf*. This document is sent as an attachment to this letter. We are not aware if it appears in the original public planning documents submitted in 2019.