



# PARADISE IRRIGATION DISTRICT

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*"Paradise Irrigation District (PID) is dedicated to the business of producing and delivering a safe, dependable supply of quality water in an efficient, cost effective manner with service that meets or exceeds the expectation of our customers."*

*Please consider how this agenda item relates to our mission.*

TO: Board of Directors

FROM: Neil Essila, Assistant Engineer

DATE: March 15, 2018

RE: Dam-Break Inundation Study Proposals  
03/21/2018 Board of Directors Meeting

Under provisions contained in SB 92, which became effective July 1, 2017, owners of dams with a hazard classification of 'significant' or higher must prepare emergency action plans (EAPs) for review and approval by the Governor's Office of Emergency Services (Cal OES). Owners of dams with classifications of 'extremely high hazard', 'high hazard', and 'significant hazard' must submit EAPs by January 1, 2018, January 1, 2019, and January 1, 2021, respectively.

EAPs submitted for review are further required to contain revised dam-break inundation maps that must first be submitted for review and approval by DWR Division of Safety of Dams. Paradise Irrigation District will need to have revised inundation maps prepared for Paradise Dam (classified extremely high hazard) and Magalia Dam (classified high hazard).

A Request for Proposals was sent out to four companies requesting assistance with the preparation of inundation studies and maps for PID's two dams. Three responses were received. Each of the proposing consultants has experience in conducting inundation studies. The proposals bore many similarities. In each proposal the analysis would be conducted using HEC-RAS to develop a 2 dimensional unsteady-flow model. However, there were differences in certain elements of the proposals.

The table below lists the proposing firms and their not-to exceed proposed costs. Staff recommends selection of Domenichelli and Associates (D&A) to conduct the inundation studies and mapping for PID. Inundation studies rely on topographic mapping to develop the hydraulic model. D&A proposes use of a higher resolution topographic base map and includes in their proposal a LIDAR (Light Detection and Ranging) drone survey for an area where this higher resolution mapping is not currently available. The other proposals would use existing mapping only.

The D&A proposal also has a significantly shorter proposed timeframe for completion. Since PID is already past the deadline for submitting an EAP for Paradise Dam, a prompt project delivery schedule is desirable. While not the lowest cost proposal, the

D&A study appears to provide value through quality and timeliness that more than offsets the modest additional cost.

**Dam-Break Inundation Study Proposals for Paradise and Magalia Dams**

(Costs reflect preparation of studies and maps for both dams.)

Company	Domenichelli & Assoc.	Genterra Consultants	West Consultants
Timeline	10 weeks	26 weeks	16-20 weeks
Not-to Exceed Cost	\$59,906	\$138,959	\$58,804

The following form of motion is requested:

*"I move to accept the proposal for professional engineering services from Domenichelli and Associates, Inc. for inundation mapping services for the Paradise and Magalia Reservoirs, for a not-to-exceed amount of \$59,906 and direct the Interim District Manager to execute the professional services agreement following review by legal counsel", or provide direction to staff for negotiating changes to the proposal."*