

Flood Protection Notes from the FB MUD 140 Special Meeting 1/30/2018

No major decisions were made at the meeting. This was primarily a meeting for the board members to discuss ideas for flood protection and discuss various means for financing projects.

Under Texas law, MUD boards are not allowed to have meetings in private and so the board members have to have formal public meetings even to have a brainstorming session.

Members of the public were invited. The board's plan is to make formal recommendations and vote on them at the next regular board meeting.

There are a total of \$2.3M if projects under consideration. If all completed would bring Rivers Edge to just above the 100 year floodplain. Note that this is not sufficient to qualify for FEMA recertification out of the flood zone. There are a separate set of initiatives being pursued by the LID22.com group to investigate a higher approximate 500 year protection level. However all of the initiatives discussed would directly contribute as part of the future levee system if it is to be created.

There is an additional \$650k of “contingencies” under consideration – tiger dams pumps and temporary barriers to provide protection until the permanent installations are done.

Rio Vista Berm:

The Rio Vista Berm is expected to be completed within about a week. Cost of the Rio Vista Berm has been \$110k + \$5k engineering cost.

DRS Berm:

The Rio Vista Berm will not be effective in protecting Rivers Edge until repairs are made to another section of the berm at the end of DRS which collapsed into the river bank after Harvey. See attached photos for a satellite photo of the collapsed bank and a graphic of the proposed replacement berm. Because Harvey eroded the bank significantly, the berm cannot be directly replaced where it collapsed (green line) because it would likely collapse into the river again. A replacement berm is proposed to be built along the yellow line. To make that stable, the pond to the left of the yellow line will have to be filled in with dirt. The dirt is being offered for free by the construction site of the new surface water treatment facility but the hauling, compacting and engineering costs of filling in the pond and erecting the new berm are expensive. The estimated total cost for this project is \$1.3M of which \$283k is engineering cost. The design is currently with the city and county for comment/approval and will be sent out for bids if/when approved.

Rio Vista Outfall into Jones Creek

Rio Vista street drainage outfalls into Jones Creek. See attached photo. When the river is high it backs up into Jones Creek and up through the Rio Vista Storm Drains into the Rio Vista Streets, eventually finding its way onto DRS and Rivers Edge. This can be prevented by adding a flap gate to the outfall. Approximate cost \$120k

Pecan Grove Outfall into Jones Creek.

Pecan Grove has a storm ditch and pump station across from the Chevron Gas Station which flows under FM359 and into Jones Creek. When the river is high it backflows through Jones Creek and this ditch onto FM359 from where it flows south and eventually into Rivers Edge. A sluice gate could be added and the Pecan Grove output diverted into the TxDOT drainage culverts under FM359 which would no longer be overwhelmed with the Brazos backflow and carry the outflow down to the oxbow. Estimated Cost \$89k

South Boundary:

The lake system exits through a culvert under the railroad and under US90A into the oxbow and from there into the river. When the river is high it backflows into RE using that route. A berm along the south boundary and a gated culvert is needed. Estimated Cost is \$627k. Tiger Dams and an inflatable plug could be deployed in an emergency until this is done.

Tiger Dams/Aqua Dams:

It is possible to purchase in advance the equipment necessary to erect tiger dams should the river come up again before all projects are complete. This would allow RE to be protected to approximately the 100 year level (around 86 feet) About 85 tubes would be needed. Pumps and sandbags are needed in addition to the tubes and successful implementation requires expertise. Purchasing the equipment in advance and storing locally in a storage locker would ensure availability and speed of deployment of the equipment if/when necessary. Approximate cost to protect the north boundary is \$500k. Approximate cost for equipment to plug the south boundary would be an additional \$150k

Financing

There were a number of financing options and ideas discussed:

- Using operating reserve – currently at approx. \$2.3M would bring our operating reserve down to approx. \$150k (or one month reserve) It may take a couple of years to build reserved back up. Upside would be fast deployment of protections.
- Downside of drawing down reserves would be hit to BBB+ credit rating and increase in future borrowing cost. Hard floor at 3 months in reserve and soft floor at 6 months in reserve.
- Spreading projects over 2 or 3 years and relying on Tiger dams etc would be less financially risky.
- Asking DRS residents to pitch in might help a little but there is no one organization that represents residents and no guarantee that they will contribute.
- Asking Rio Vista to contribute (especially to Rio Vista portions)
- Issuing new bonds (would require a tax increase above current \$1.25/\$100 property value. A 19 cent hike would raise \$2.5M, a 14c cent hike could raise \$1.5M, with a payoff date in 2035 (same as existing MUD 140 bonds)
- A “revenue note” payable from the surplus in sewer and surface water funds
- A one-year “tax anticipation note” drawn from the maintenance budget.
- An unsecured “bond anticipation note”
- An increase in utility water rates
- Tiger Dams if unused could be resold once permanent infrastructure is in place.
- Future tax revenues are uncertain at the moment because of reappraisal of flooded homes. Expectation is for 20-30% of loss of value (and hence tax) from homes that flooded.
- Spread bonds out beyond 2035 – would save about 1 or 2 cents tax

No decisions were taken. Plan is to discuss and vote on a package/plan at next MUD meeting.



Collapsed Bank at West end of DRS



Old Berm (Double Dotted Green Line) and proposed New Berm (Double Yellow Line) at west end of DRS.
Single yellow line shows pond which would be filled in.



Pecan Grove Pump Station/outfall under FM359 into Jones Creek near Chevron Gas Station



Rio Vista Street Storm Drain System Outfall into Jones Creek