

Summary of policy changes and recommendations to improve stormwater management

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Current Situation

- Flooding from new development continues to occur.
 - Fees in lieu of eliminate detention on site.
 - Calculations have errors.
- Flood plains are still negatively impacted by new projects and management practices.
- Every monitored stream and river in San Antonio still has impaired water quality segments.
- Tax payers continue to pay for flooding issues caused by the above.

Regional detention within Huebner Creek at Bandera



Goals of recommended changes:

1. *Prevent additional flooding from new development and incentivize more sustainable stormwater management measures.*
2. *Increase implementation of guidelines set forth in the Master Plan Policies (1997), the Comprehensive Master Plan Framework (2010), SA2020 (2011), SA Tomorrow Comprehensive Plan (2016) for water and air quality and other stated environmental goals.*
3. *Remove all segments of San Antonio's streams and rivers from the State's list of impaired water bodies while meeting and exceeding the City's MS4 permit requirements.*
4. *Insure that taxpayers are not picking up any portion of the bill for new development's stormwater requirements.*

The Preserve at Castle Hills by Meritage Homes in District 9

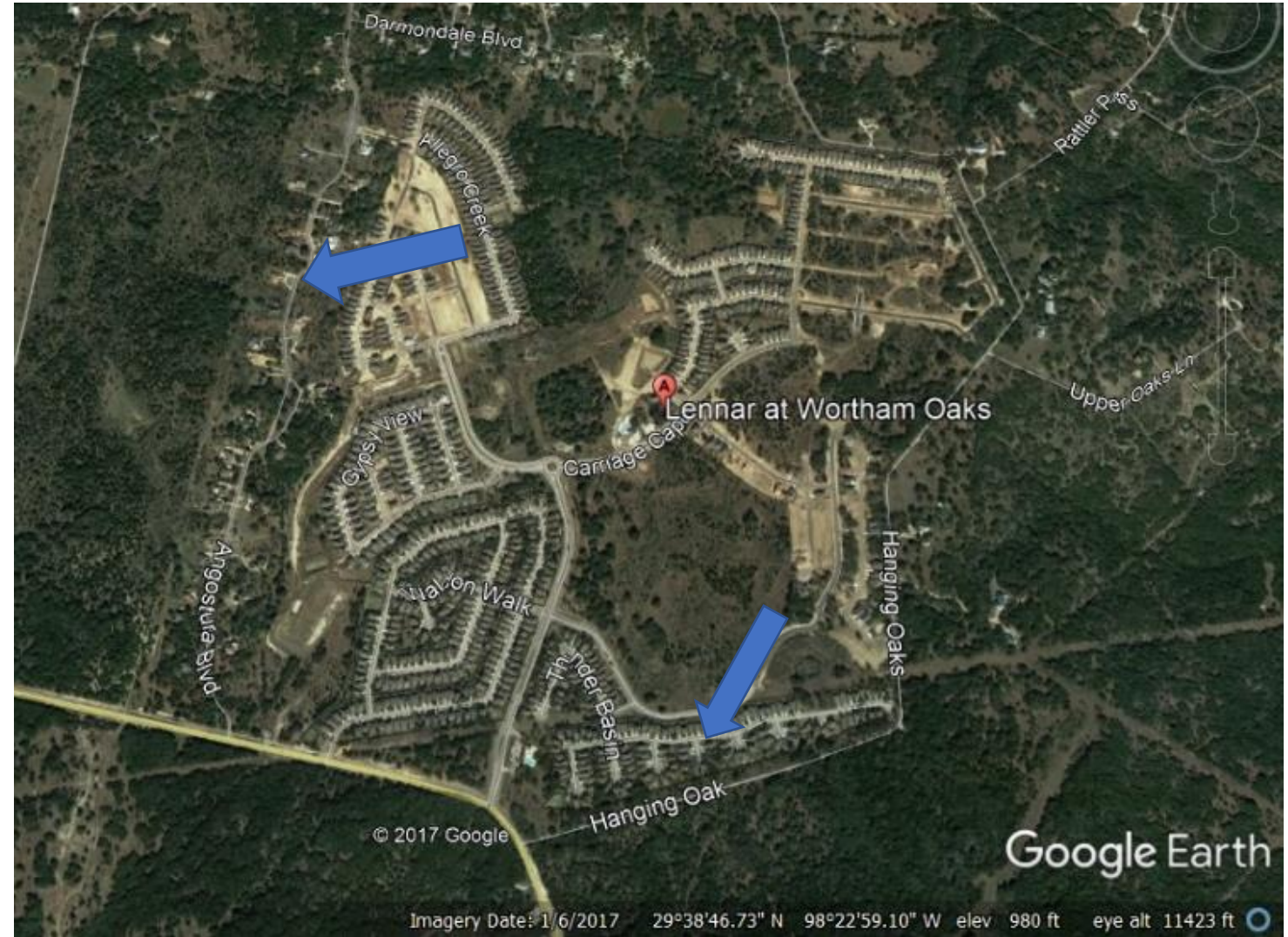


1. Flooding incidences continue to occur directly downstream from new development built under current rules.



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Wortham Oaks developed by Gordon Hartman in the ETJ and built out by a variety of builders.



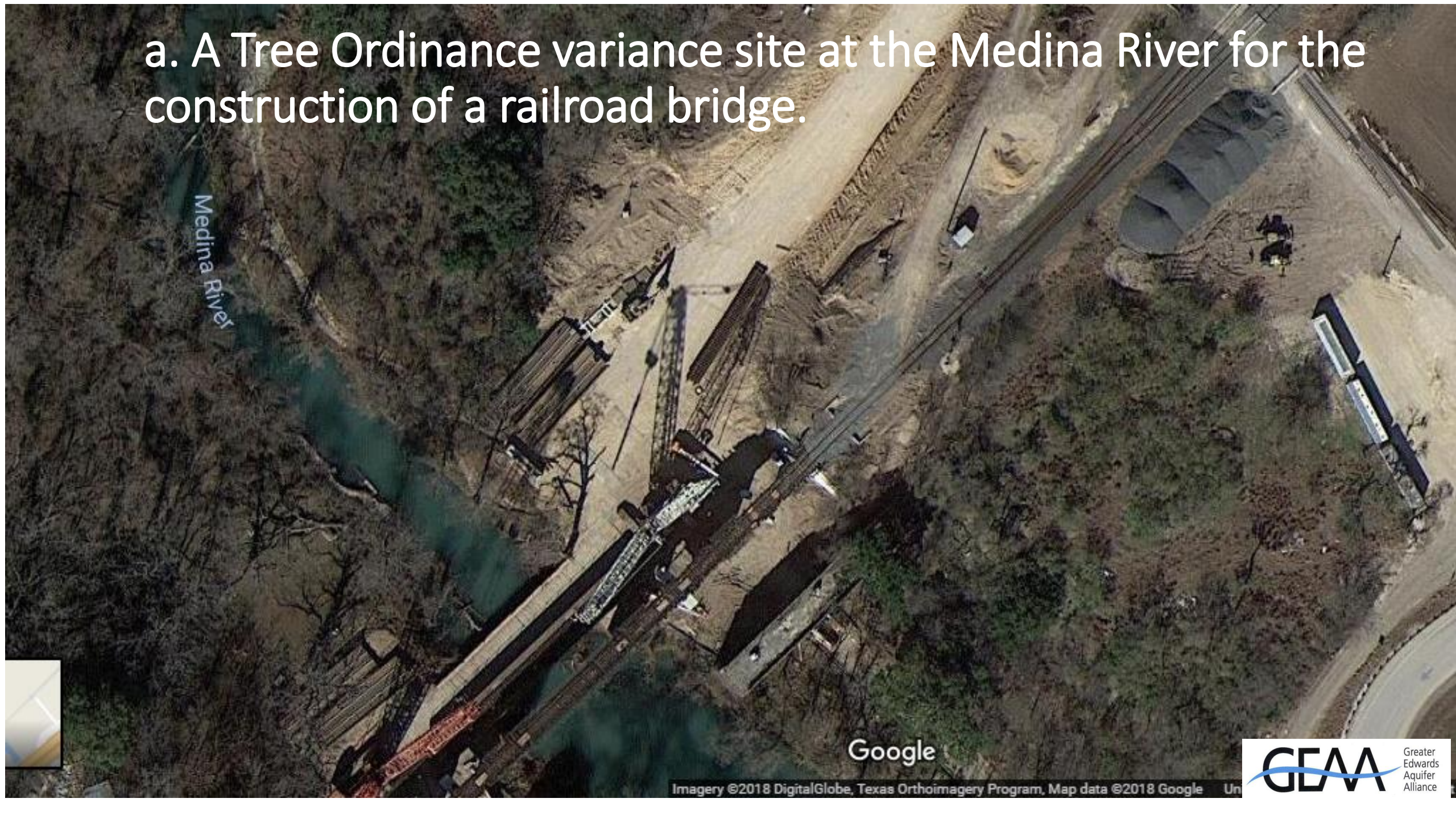
2. Floodplains maintained in a “natural” state has been cited as a goal in city planning documents since 1997.

When kept in a natural state, flood plains provide flood control and water and air quality benefits, but current practices do not reflect this goal.

a. Variances to the Tree Preservation ordinance where trees in the floodplain are protected: significant trees at 80% and heritage trees at 100% preservation.

- By ordinance, variances to the Tree Preservation ordinance must go before the Planning Commission.
- In 2017, ten variances were requested and approved on a site basis to allow removal of trees in the floodplain.
- There are no records available for other administrative variances given that may have impacted floodplains and their stormwater.

a. A Tree Ordinance variance site at the Medina River for the construction of a railroad bridge.



Google

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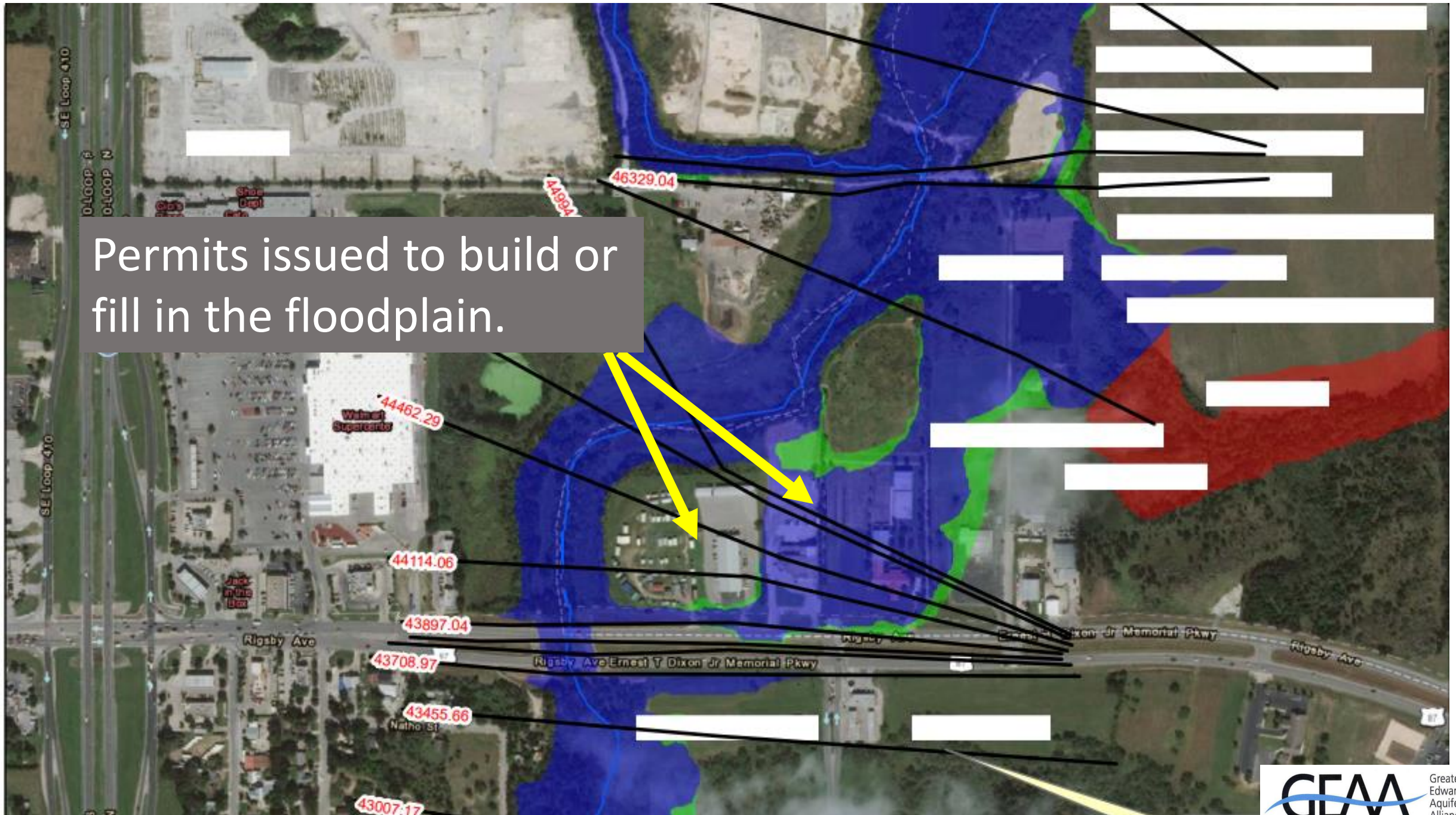
Floodplains maintained in a “natural” state continued

b. Floodplain development permits are allowed in the current code;

- 1) In fiscal year 2017, 389 floodplain development permits were issued.
- 2) Justification is based again on calculations that indicate no impact to flows while there may be severe ecological impact.

Current code does not enable staff to review for water quality and or ecological impact.

Permits issued to build or fill in the floodplain.

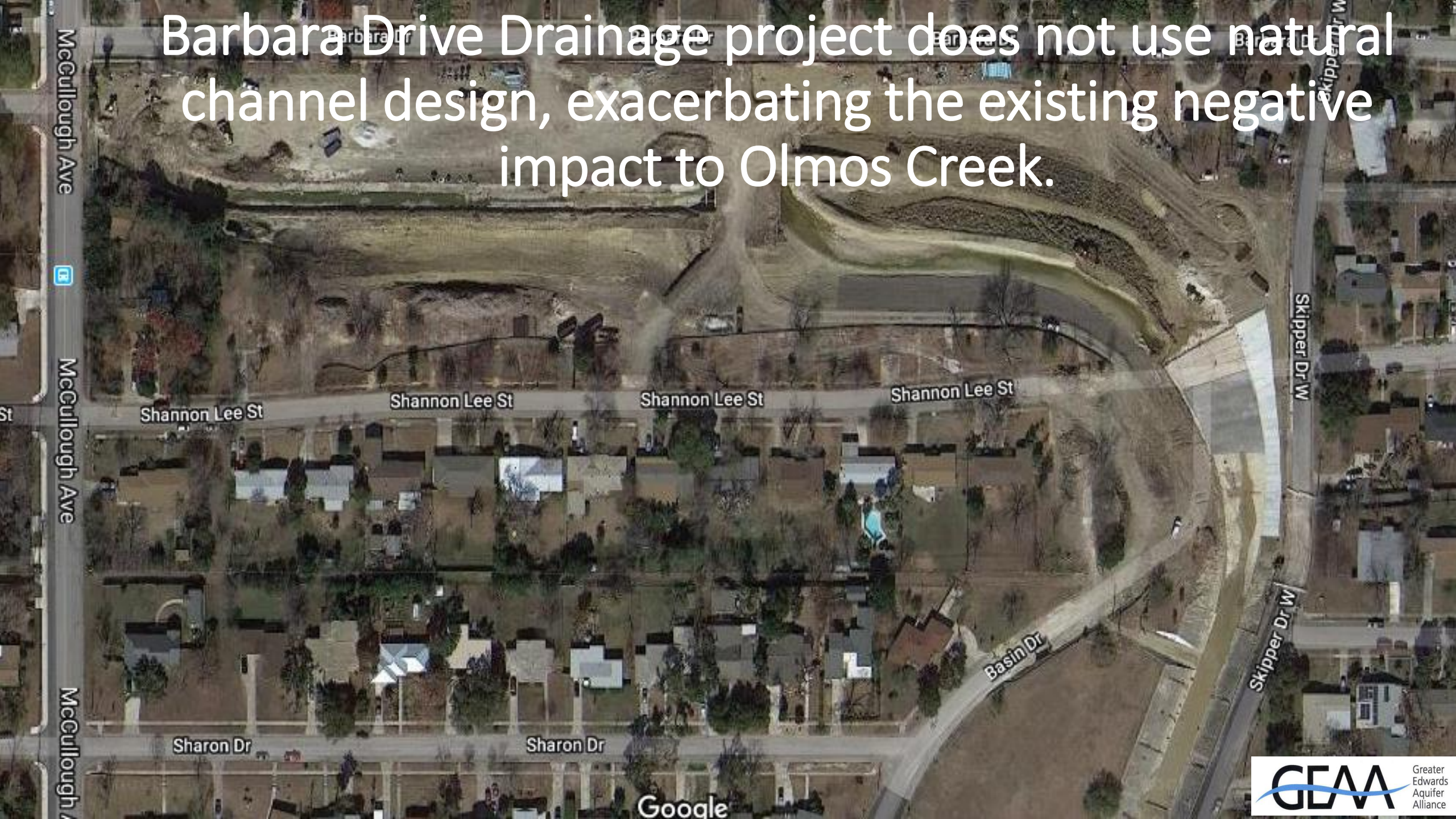


Floodplains maintained in a “natural” state continued

c. Flood control strategies continue to be developed and implemented using concrete, tree removal and floodplain manipulation.

- 1) Typically water quality remediation and litter exclusion is not included.
- 2) Even today, the tree survey is not considered until the project is near design completion. The City relies on the ordinance’s exemption for trees in floodplains.
- 3) These practices often results in:
 - a) Greater loss of tree canopy and its associated benefits to reduce stormwater runoff and improve water and air quality,
 - b) Increased cost for unnecessary mitigation that will be required by the Corps of Engineers.

Barbara Drive Drainage project does not use natural channel design, exacerbating the existing negative impact to Olmos Creek.





These 2 concrete channeled streams will drain directly into the "natural" flood plain of Olmos creek

Olmos Creek debris removal operation uses a Hydro-ax.

Debris/Vegetation removal along Olmos Creek is scheduled for every 4 years increasing:

- Emissions,
- Downstream flooding,
- Erosion due to loss of stream bank stabilization,
- Loss of flood event resiliency,
- Loss of stormwater filtration of pollutants,
- Loss of CO² sequestering capability in the vegetation and the soils,
- Loss of biodiversity and terrestrial and aquatic habitat,
- Loss of forest regeneration.







Brackenridge park and Olmos baseball field



Maintenance practices within urban parks reduce ecological benefits to promote air quality:

- *Creating cooler air temperatures from shade and transpiration,*
- *Removing more GHGs,*
- *Providing long term carbon storage by vegetation and soils.*

Mowing in floodplains



Restoration and best management maintenances practices are required to re-create healthy streams and wetlands.

d. Taxpayers' dollars are being used to assist in bringing floodplain property out of the floodplain for development.

- Beitel creek is rerouted so part of the flood plain can be “reclaimed” to make a parking lot.
- This private enterprise was folded into the 2017 Beitel Creek bond project where the City will contribute up to 2.5 million and allow tree removal without mitigation.



4. Taxpayers continue to pick up storm water costs for development as indicated by the above and by the cap placed on Stormwater utility fees shown.

- By capping fees, those facilities with the greatest amount of impervious cover are not paying their share of what is needed to maintain current infrastructure and to assist the city in meeting its clean water goals and federal MS4 permit requirements.

<u>TOP 10 ACCOUNTS¹</u>	<u>REVISED</u>	<u>PREVIOUS</u>
Port SA	\$19,600	\$61,200
FL Sam Houston	\$13,600	\$77,100
AT&T Center (County)	\$4,100	\$10,000
Sea World	\$4,000	\$12,300
Toyota	\$3,900	\$24,000
Port SA	\$3,700	\$11,300
Southwest Research	\$3,600	\$14,900
SA Airport (City)	\$3,400	\$8,400
Lackland AFB	\$2,800	\$13,100
SA Airport (City)	\$1,800	\$4,600

¹Entities may have multiple accounts in addition to those listed

5. Effective stormwater management requires action by all municipal, county, regional and state departments.

- a. While LID has been discussed by the city since 2007, it was only adopted on a voluntary basis in the last UDC revisions of 2015. To date, there have been less than a handful of private and public projects that have incorporated some LID aspects.
- b. The FILO fee option is currently more economically feasible for private properties and the process is well defined to reduce review time therefore there is little incentive to utilize LID. There may also be conflicting interpretation regarding the implementation thus, increasing review times also resulting in a disincentive to utilize the option.
- c. While the City is moving to include some water quality practices, it is still not the norm and education is lacking.
- d. Ecological impact assessments for City projects do not include quantifiable impact to air and water quality and ecosystem services.

Top Recommendations

1. Require on-site detention with a water quality component for private and public projects.
2. Develop stormwater discharge requirements that consider ecological impact not just conveyance capacity.
3. Develop a policy that approval for variances impacting stormwater and water quality is the exception not the rule.
4. Create and fund a new staff position for a fluvial geomorphologist/ecologist to have review over pertinent private and public projects while promoting the use of LID, natural channel design and constructed wetlands.

Top Recommendations

5. Consider compensation for flood plain property owners that choose to maximize ecological services instead of development.
6. Direct staff to modify maintenance practices especially along streams, etc. to reduce use of equipment while promoting ecosystem services.
7. Require new City Council persons to receive a briefing on these aspects of flood control and maintenance practices.
8. Insure that taxpayers are not picking up costs for commercial developments through bond issues, property taxes, Stormwater Utility fees, etc.

The Ira Lee Flood Control Project
emptying into Salado Creek

**Thank you for your interest,
consideration and feedback
on these issues!**