



# Stormwater Recommendations for the **UNIFIED DEVELOPMENT CODE**

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# San Antonio's City Planning Documents reflect community goals

1997 Master Plan, 2011 Comprehensive Plan, SA Tomorrow, Climate Action and Adaption Plan, SA Parks System Plan:

- Clean water in our creeks and rivers,
- Floodplains kept in a “natural” state,
- Mitigation of urban heat island,
- Access to parks,
- Neighborhood cohesion,
- **Reduce flooding hazards by “updating codes as a preventative measure” (SA Tomorrow),**
- **Adopt a low impact development standard requiring 100% of onsite stormwater management (SA Tomorrow).**



# Greater Edwards Aquifer Alliance (GEAA)

- Has had representation or comments for every plan.
- Continues to advocate on environmental issues with an emphasis on clean water in our creeks and rivers and protecting the Edwards Aquifer.
- In the past few years phone calls to the GEAA office on neighborhood/residents flooding issues has increased.
- To address the flooding complaints GEAA initiated a Stormwater Task Force that included stormwater engineers, Planning Commission member, residents, Trinity Univ. interns and staff from Environmental Texas.

# The task force began investigating by:

- Interviewing resident with complaints and their Council members.
- Using Open Records requests to determine if and how projects met the UDC requirements.
- Talking with other stormwater engineers and consultants to obtain professional perspective of why the current rules appear to be inadequate to protect private properties and creeks and rivers.
- Meeting with City staff to understand their limitations.

# Task Force determined:

- Flooding from new development continues to occur under current rules.
- Floodplains continue to be degraded from too much polluted stormwater flowing too fast into our creeks and rivers.
- Taxpayers continue to pay more than their share to remedy these issues through fees, taxes and bonds.

*Construction for regional detention within Huebner Creek at Bandera Rd*



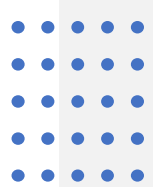
# Also determined was managing stormwater is a complex issue involving:

Policies developed on how to manage stormwater to prevent loss of property and life while allowing for economic growth.

Fees such as the Stormwater Utility fee based on the amount of runoff from a site.

UDC which regulates how stormwater is to be managed for new development and its implementation.

Floodplain and green space management practices.



## Focusing on sites where UDC amendments could help

- Following are some of the examples discovered from the investigations.
- And while additional UDC amendments could have prevented or improved these cases, often the underlying issue is economic development no matter what the long-term effect or costs may be.
- There seems to be an attitude, “no problem”, we will float another bond or collect enough taxes to fix it in the future.
- But we all know that doing it right the first time is the most economical approach.

# The Preserve at Castle Hills by Meritage Homes in District 9



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

This issue is in litigation by a Castle Hill resident.



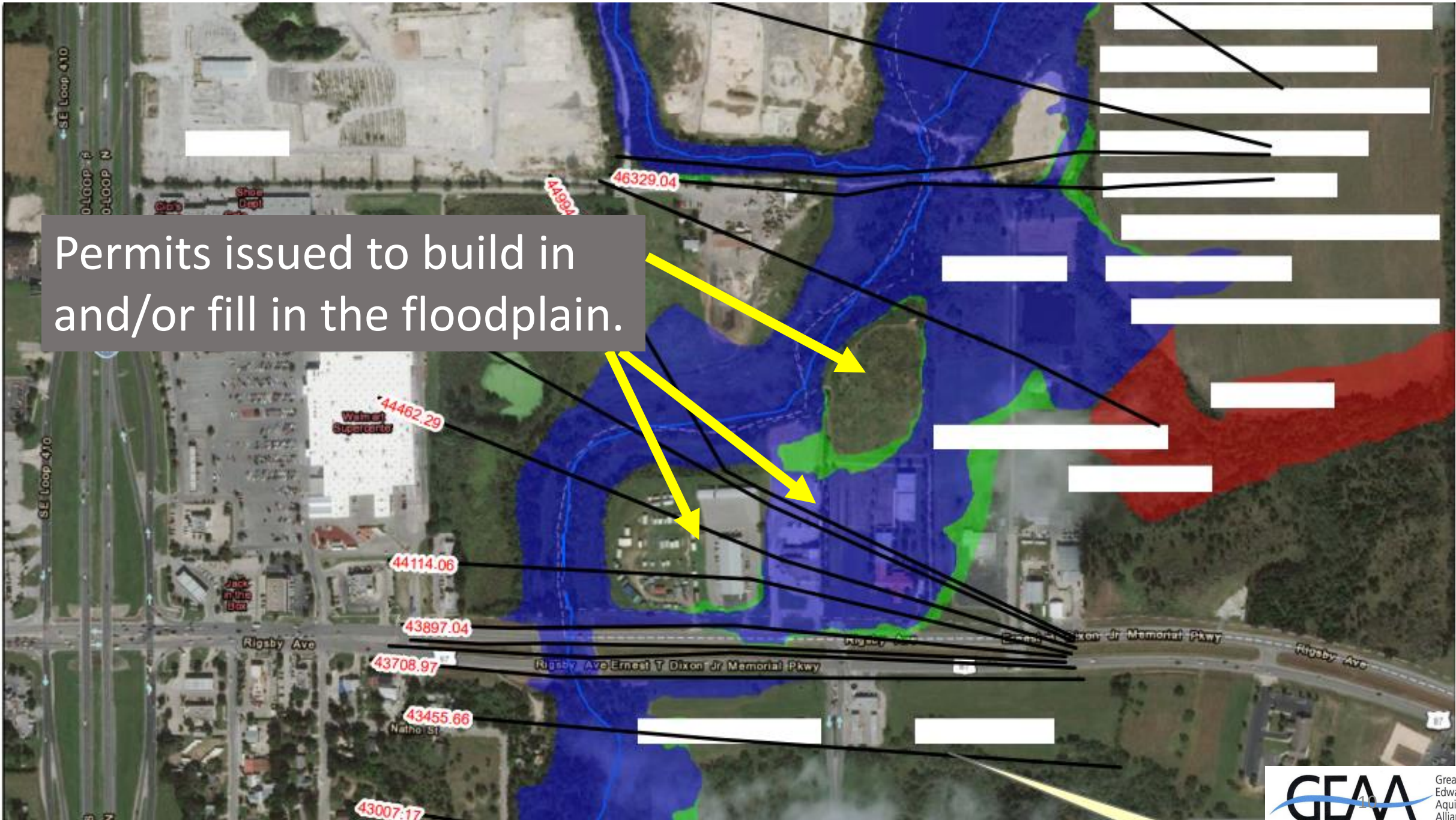


# Examples of floodplain encroachment to meet stormwater requirements

- Beitel creek was rerouted and the floodplain filled so the developer could build an office building.
- Funding was partially paid by the \$5,000,000 2017 Beitel Creek bond project through a development agreement.
- The City contributed up to \$2.5 million and allowed tree removal without mitigation resulting in loss of floodplain and its ability to mitigate downstream flooding.



Permits issued to build in and/or fill in the floodplain.





## Huebner Creek South of Hollyhock

- Developer was allowed to build 6 homes encroaching floodplain. ○
- Result: 12 homes above were flooded. ○
- Taxpayers pay for flood control project to remedy this issue.
- **In fiscal year 2017, 389 floodplain development permits were issued.**

The “no problem” we’ll fix it in the future depends not only on bonds, taxes but also the Fee-In-Lieu-Of option within the UDC for Stormwater

- This UDC option is available if a project’s runoff impact is “negligible”.
- This option eliminates the need for detention on site and a fee is paid.
- The FILO is then used to build huge detention facilities or other flood control projects.
- The problem:
  - Destroys neighborhood cohesion
  - Does not provide protection for trees, water quality or floodplains.



# Results of flood control projects results in other city goals not being met

- This “improved” Channel empties directly into the Salado Creek floodplain with no protection for water quality or floodplain integrity.
- Floodplains cannot be kept in a natural state with this amount polluted stormwater entering at such high velocities.



# Other codes are often involved such as the Tree Preservation ordinance



- The Tree Preservation requirements help provide needed protection.
- In 2017, ten variances were requested and given to allow additional removal of trees in the floodplain.

## Drainage from In-fill (IDZ) development

- Currently there are no drainage requirements for IDZ developments less than 10,000 sq ft.
- But drainage is not to run onto abutting properties
- Unfortunately, there is no verification before closing the permit.

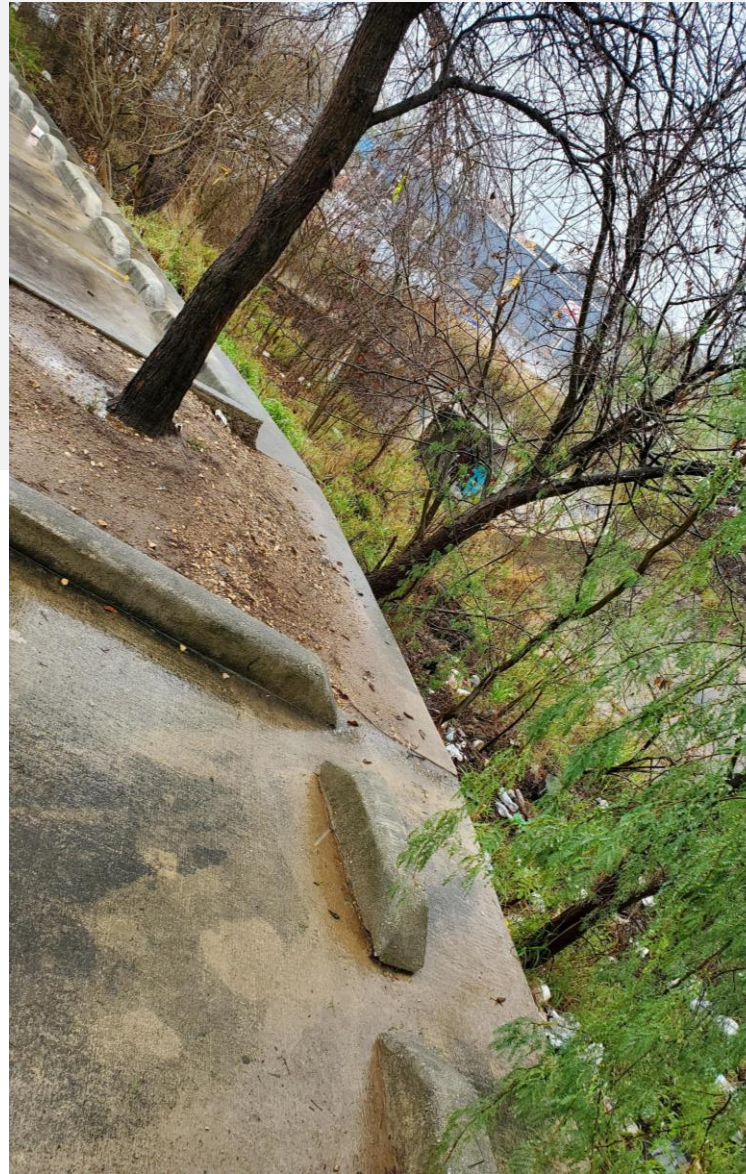


Runoff from new townhome development



And because there are not water quality requirements, The UDC continues to allow polluted stormwater runoff.

- Every major creek and the SA River have areas of water that do not meet Federal standards and are not safe for contact.
- Here are 2 of the many examples of runoff flowing into the SA River.

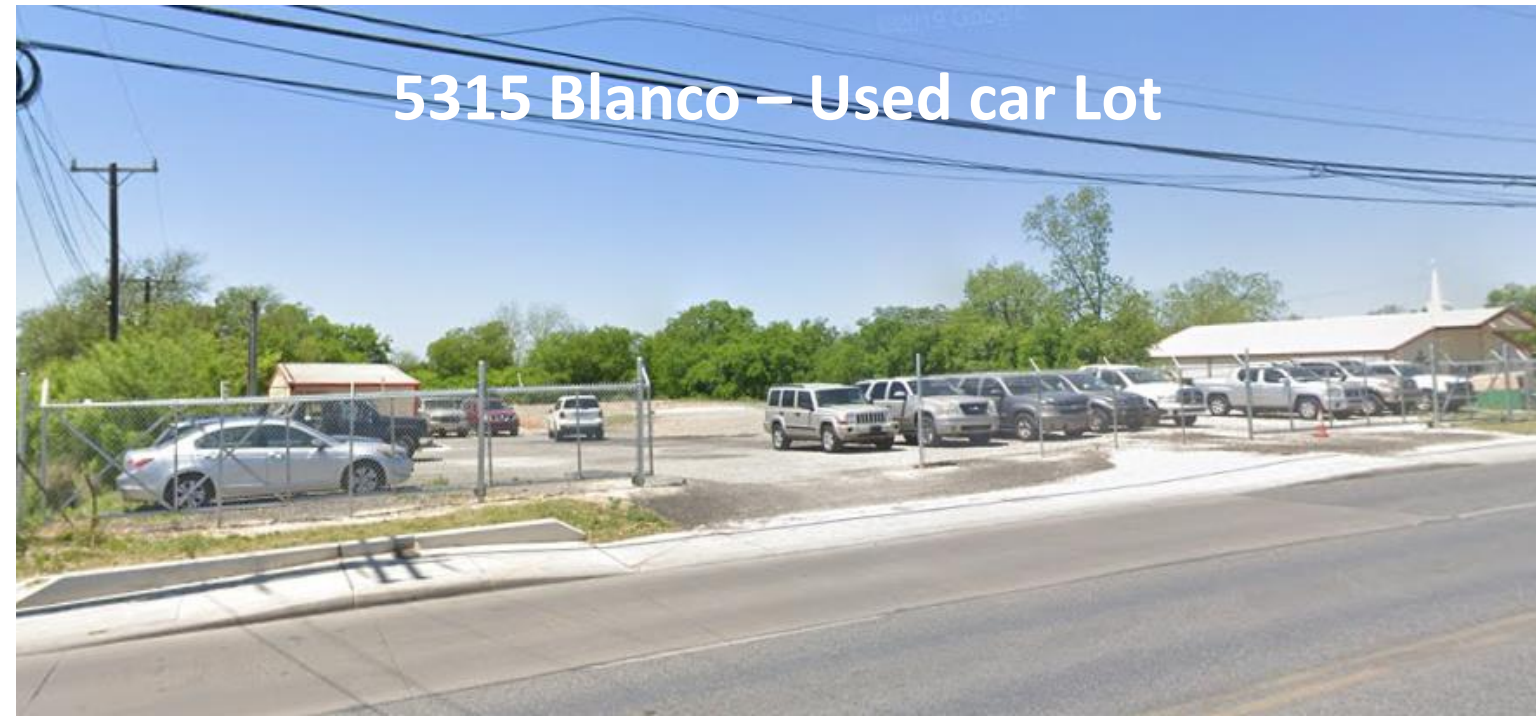




- Staff at the intake for permits often eliminate requirements.
- Variances should be the exception, not the rule.
- There is not a mechanism to document other administrative waivers or variances that may impact floodplains and their stormwater. One needs to be created and used.
- There is a mechanism in place to challenge the way codes are being interpreted and requires a legal interpretation by the City Attorney's office.

We not only need to change UDC rules, but also ensure that they are implemented.

## 5315 Blanco – Used car Lot



## Implementing the UDC

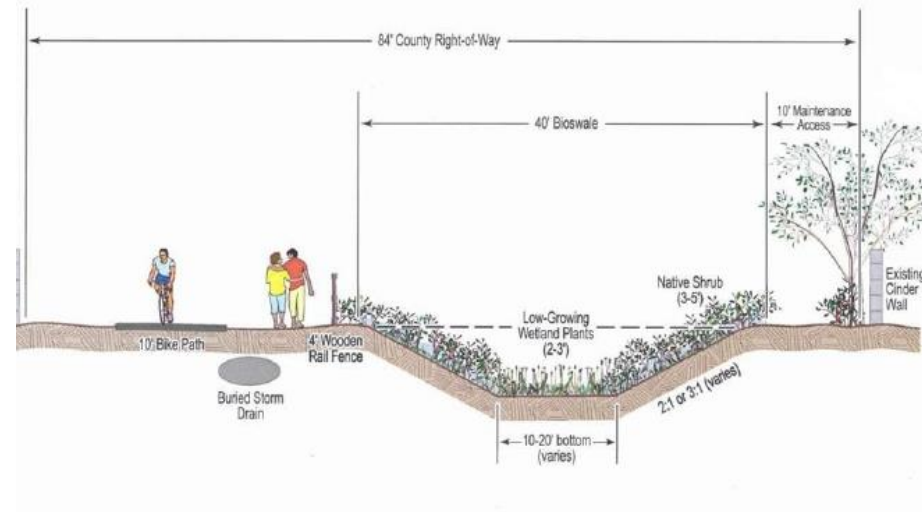
- This field was a prairie that was used as a staging area for the Blanco Rd street improvement project.
- The change of use to a used car lot should have triggered UDC requirements such as Trees, Landscape and Stormwater, but none were required.

## GREEN INFRASTRUCTURE RAIN GARDEN RENDERING



From these investigations, the Task Force made UDC amendment recommendations:

- Create a new clean water provision under the UDC section for protecting natural resources.
- Amend the following codes:
  1. Stormwater Management
  2. Floodplain
  3. Parks and Open Space
  4. Landscape



# How to address these Issues through UDC Amendments.

- The UDC is not the only tool needed to make necessary changes, but ...
  - It sets the rules for new development,
  - Improved rules can prevent future issues, reduce financial burden on taxpayers and create more sustainable/livable communities.
- Working with our partners, 5 major changes have been identified that can improve stormwater management.



# UDC: Stormwater Recommendations

## 1. Water Quality :

- Require on-site detention with a water quality component to treat the first 1.5” of stormwater. IDZ (<10,000 sq ft) would require a water quality component only.

## 2. Stormwater Management:

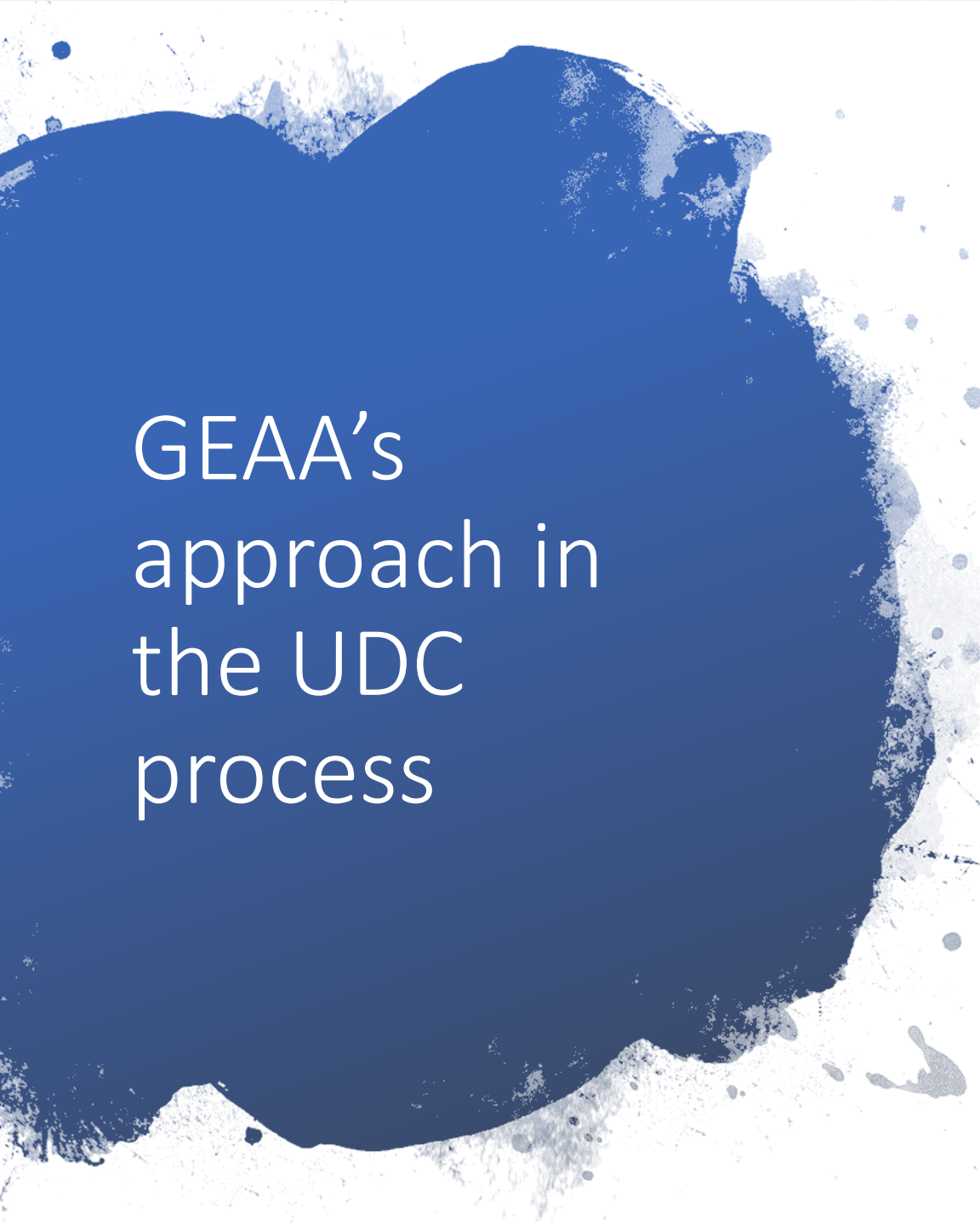
- Add an additional requirement for the final inspection, no stormwater runs onto abutting properties.
- Make FILO the exception not the rule.



# UDC: Stormwater Recommendations


3. Stop giving permits to fill in or build in the floodplain and ensure discharges do not negatively impact them.
4. Ensure that a minimum of 50% of property set aside to meet the Parks and Open Space requirements remains pervious to allow for infiltration and to direct stormwater.
5. Ensure that required landscape areas are depressed below grade to capture some stormwater runoff.





## GEAA's approach in the UDC process

- Educate neighborhood residents and Council members through:
  - Articles and white papers
  - Presentations
  - Meetings
- Utilize folks that have a personal interest in a specific topic to assist in developing the political will.
  - Speaking to Council members
  - Writing editorials and other media articles
  - Speak at citizens to be heard
- Coordinate efforts with other agencies and organizations.

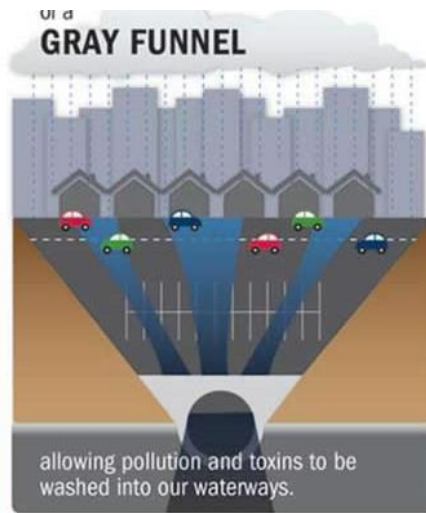
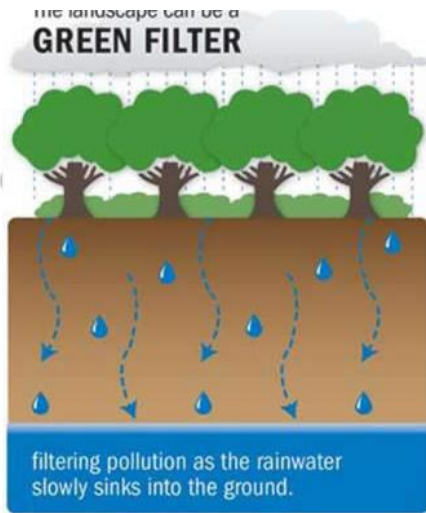


The UDC is just one tool to create communities where we want to live and play and where there is ....

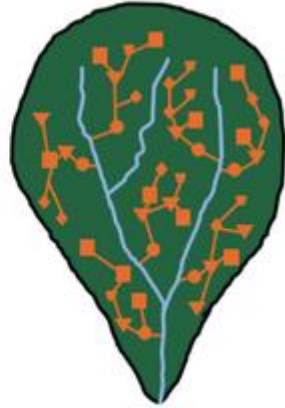
- Clean and plentiful drinking water and clean water in streams and rivers.
- Clean air that meets federal standards and does not create health issues.
- A quality of life providing safety especially from flooding disasters and resiliency if one should occur.







Conventional infrastructure with centralized stormwater facilities



Green infrastructure with distributed stormwater facilities

From these community goals, a new vision emerges using “Green Infrastructure” which is...

- One that other communities around the world and in the U.S. are adopting.
- It begins by moving away from the 1950’s model of managing stormwater by collecting it at one point in the watershed – Gray Funnel.
- The alternative is to distribute stormwater collection at dispersed points.
- This will require looking at our green spaces in a different way.

The recommended amendments and our creekways can form the basis of the new paradigm.

*Benefits:*

- Reduce: Flooding, greenhouse gases, water use, summer temperatures, urban heat island, energy use, carbon emissions from concrete production and maintenance equipment.
- Improve: **water quality**, human health, aesthetics, recreational opportunities, alternative transportation options, biodiversity and wildlife habitat.





Thank you for your  
interest, consideration,  
feedback and support  
on these  
recommendations!

The Ira Lee Flood Control Project  
emptying into Salado Creek

