Meeting Objective

Discuss potential options to address issues with structural stormwater controls identified by stakeholders and staff.

Meeting Agenda

- **Introductions** [5 min.]
- **Staff Presentation** [30 min.]
  - Summary of Stakeholder Feedback
  - Wet Ponds
  - Non-Degradation Controls (Barton Springs Zone)
  - Subsurface Ponds
  - Trigger for Water Quality Controls
- **Small-Group Breakout Sessions** [65 min.]
  - Discuss advantages and disadvantages of proposed policy options
- **Full Group Wrap-Up** [20 min.]
  - Summary of discussion

Summary of Stakeholder Feedback

- **Use more innovative approaches**
  - Mimic predevelopment hydrology
  - Smaller, distributed controls
  - Operation & maintenance need further study
- **Facilitate innovation and flexibility**
  - Eliminate barriers to implementation
  - Reduce permitting obstacles
  - Provide tools/methodology for easier review
- **Allow additional/improved options**
  - Rainwater harvesting, porous pavement
  - Stacking of flood and water quality

Wet Ponds: Advantages

- **Can be community/aesthetic amenity**
- **Only control option serving > 50 acres**
- **Aquatic habitat/wetland mitigation**
- **Can "stack" flood control function on top of water quality function**
- **Cost effective retrofit for existing, untreated development**

Wet Ponds: Disadvantages

- Makeup water / water conservation issues
- Liner problems (leaks, shrink/swell, karst)
- High maintenance costs
  - Difficult access (e.g., submerged trash)
  - Specialized work, complexity
  - High sediment removal costs
  - High vegetation management needs
- High dam inspection & maintenance
- Bedload transport interruption & biological damage
- Public safety concerns (e.g., swimming, fishing)
- Headwaters hydrology not controlled, upstream creeks not protected

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High maintenance costs (vegetation)

Wet Ponds: Other Disadvantages

- Bedload transport interruption & biological damage
- Public safety concerns (e.g., swimming, fishing)
- High dam inspection & maintenance
- Headwaters hydrology not controlled: upstream creeks not protected

Wet Ponds: Policy Options

- Change minimum drainage area to 64 acres
  - Would always be located within Critical Water Quality Zone and thus require a variance
  - Land use commission vs. administrative
- Disallow wet ponds over the recharge zone
- Require money for future maintenance

Non-Degradation Controls (BSZ): Maintenance/reliability concerns

1. Retention-Irrigation Systems
   - Pump malfunctions
   - Irrigation spray head blockage & breakage
   - Prefer a more passive design (e.g., gravity, not pumped)
2. Vegetative Filter Strips (VFS)
   - SOS-sizing requirements pose special challenges
   - Difficult to construct properly: level spreader, vegetated area
   - Tend to erode and concentrate flows over time
   - Better if flows controlled prior to entry into VFS

Non-Degradation Controls (BSZ): Retention-Irrigation Systems

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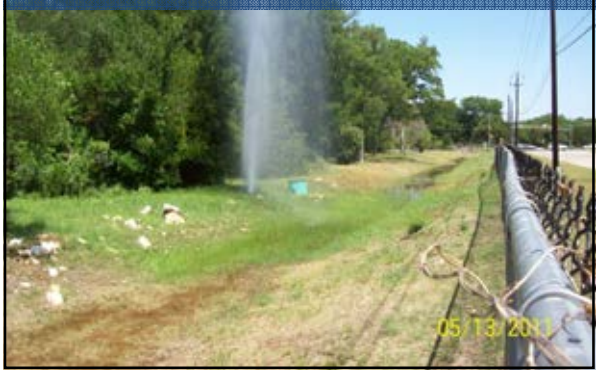
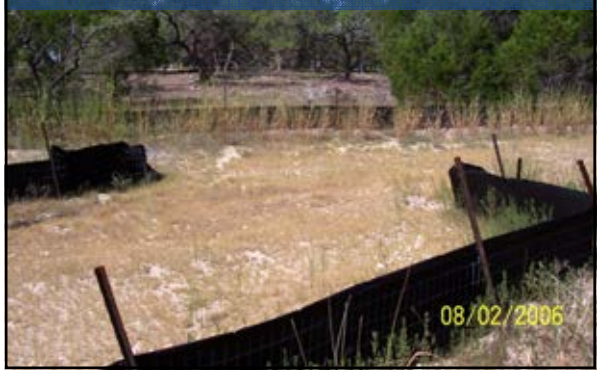


Non-Degradation Controls (BSZ): Vegetative Filter Strips



Non-Degradation Controls (BSZ): Vegetative Filter Strips

Non-Degradation Controls (BSZ): Policy Options

- **Alternatives to retention-irrigation & vegetative filter strips:**
  - **Small-scale, distributed infiltration practices, e.g., rain gardens**
  - **Modified vegetative filter strips with up-front retention**
  - **Other?**

Subsurface Ponds
"Out of sight, out of mind"

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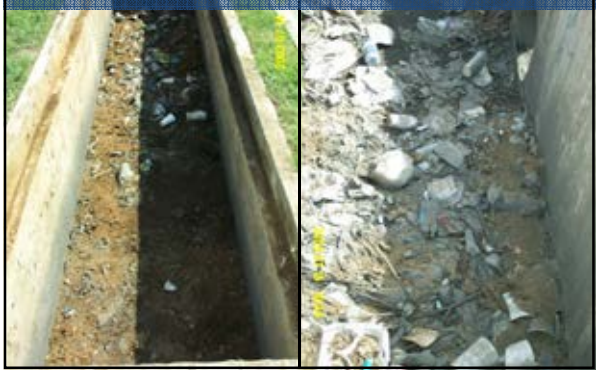
Subsurface Ponds
Specialized inspection (confined space entry)



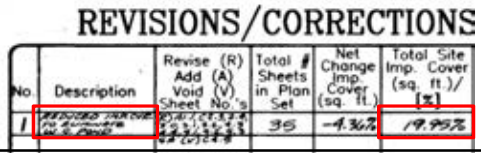
Subsurface Ponds
Maintenance difficult/requires special equipment

Subsurface Ponds: Policy Options

- **Develop design criteria**
  - **e.g., standards for access, dimensions**
- **Educate design community of alternatives**
  - **Small footprint innovative controls**
- **Inspection options**
  - **Require third-party inspections**
  - **City charges an annual fee and inspects as part of the operating permit program**

Trigger for Water Quality Controls

- **Current Code requires water quality controls for sites with more than 20% impervious cover**
  - **All development triggers controls within the Barton Springs Zone**
  - **5,000 ft² trigger within Urban watersheds**



REVISIONS/CORRECTIONS

No.	Description	Revise (R) Add (A) Void (V) Sheet No.'s	Total # Sheets in Plan Set	Net Change Imp. Cover (sq. ft.)	Total Site Imp. Cover (sq. ft.)/ [%]
1	[illegible]	[illegible]	35	-4.36%	19.95%

Trigger for Water Quality Controls

Trigger for Water Quality Controls: Policy Options

- **Require controls for 5,000 ft² impervious cover (instead of 20%)**
  - **Current standard for Urban watersheds**
  - **Multiple "innovative control" options helpful for these sites (e.g., vegetative filter strip)**

Breakout Groups

- **Discuss advantages and disadvantages of proposed policy options for:**
  - **Wet Ponds**
  - **Subsurface Ponds**
  - **Non-Degradation Controls**
  - **Trigger for Water Quality Controls**

Adoption Schedule

Stakeholder Meetings	Sep 2011 – April 2012 (Meetings approx. every two weeks)
1. Creek Protection	Sep 9, 23, Oct 7
2. Floodplain Protection	Oct 21, Nov 18, Dec 2
3. Development Patterns & Greenways	Dec 16, Jan 6, 20
4. Improved Stormwater Controls	Feb 3, 17, Mar 2
5. Mitigation Options (DDZ) + Rule Simplification & Flexibility	Mar/Apr
6. Staff develops Draft Ordinance	Apr/Jun
7. Stakeholder Feedback on Draft Ordinance	Jul/Aug
Boards & Commissions	Sep – Oct 2012
City Council	Nov/Dec 2012
Travis County Commissioner's Court	Winter 2012/13

Contact Information

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www.austintexas.gov/page/watershed-protection-ordinance-0