

# APWA 5600 Design Criteria New Stormwater Manual



Stormwater design criteria defines standards and requirements for managing stormwater runoff. Our current standards are based on decades old methodologies that have resulted in failing and inefficient infrastructure systems across the region. The Mid-America Regional Council, in partnership with the Kansas City Chapter of the American Public Works Association, is working on a new stormwater manual that is based on the latest data and best practices available. The overarching goal of this modern approach is to provide for more resilient and cost-effective infrastructure.

## Adopting new design criteria moves our region to a modern method of managing stormwater.

This new manual presents a layered approach to stormwater management in order to conserve our limited natural resources, use rain close to where it falls, improve the function of expensive stormwater storage, and provide multiple paths to move water downstream. When these layers work together, construction and long-term maintenance costs can be reduced.

### Layers of Stormwater Management:



**Preserve** valuable natural areas or **restore** spaces to a more natural condition.



Permanently store (**retain**) the small amounts of rainfall we see most frequently on-site to meet water quality regulations and sustain vegetation.



Temporarily store (**detain**) larger amounts of rainfall to reduce flooding and protect streams.



Provide **conveyance** routes, both in pipes and above ground, that reduce flood risk both at the site and downstream.



**Maintain** both above and below ground infrastructure to keep it working for the site and community long-term.



### Benefits of the new manual include:

- > Reduces need for new, larger infrastructure in the future by building right-sized infrastructure today
- > Supports both new development and redevelopment by tailoring requirements to different project types
- > Improves efficiency in the development process, which benefits both applicants and review staff
- > Reduces risk of flooding to private property and damage to public infrastructure
- > Protects public health and safety by improving the quality of our streams and storing rain where it falls
- > Helps local jurisdictions meet increasing regulatory requirements from federal and state agencies



## Current Manual vs. New Design Criteria

Some of the most important differences between the current design criteria and the new design criteria include:



### Rainfall

1960's methods **vs.** today's data driven approaches



### Applicability

Same requirements for all projects **vs.** requirements vary by type of project



### Implementation

Addressing water quality and flood reduction separately **vs.** designing dual-purpose, multi-benefit infrastructure



### Guidance

Ambiguous and subjective requirements **vs.** clear requirements and processes

## Better design criteria will increase the longevity of our infrastructure and create more cost-effective site designs.

The new manual will include requirements to capture and control real rainfall amounts, slowing down how quickly stormwater reaches downstream systems. By managing more of the stormwater runoff, we are protecting our streams and in turn the infrastructure built near them that are at risk of exposure - such as sanitary sewers. This extends the life of our existing infrastructure and avoids more costly repairs and replacements, saving money for our communities.

## Changing our approach to stormwater management will help protect public health, safety, and welfare.

To slow down the stormwater, the new design criteria will result in "right-sized" infrastructure by sizing improvements based on today's rainfall data, instead of outdated data. This approach not only avoids costs from downstream damage, but also improves public safety and reduces flood risk.

## The new manual will be easier for both local government staff and developers to use.

The new manual will be clearer, easier to understand, and less subjective than the current standards, leading to reduced review times by public staff and more certain outcomes for developers. It will include graphics and examples to show designers how to integrate stormwater improvements into their site for optimal function and benefit, rather than placing it in the corner to be left uncared for.



## Project Timeline

- > Summer 2023 to Spring 2024 - Broad stakeholder engagement & framework development
- > Spring 2024 - Content development
- > Summer 2024 - Technical stakeholder engagement to refine standards
- > Fall/Winter 2024 - Manual development
- > Spring 2025 - Final manual presented for adoption to APWA, then ready for adoption by local governments