GREEN ASSET MANAGEMENT WORKSHOP

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EPA Region 6

WORKSHOP AGENDA

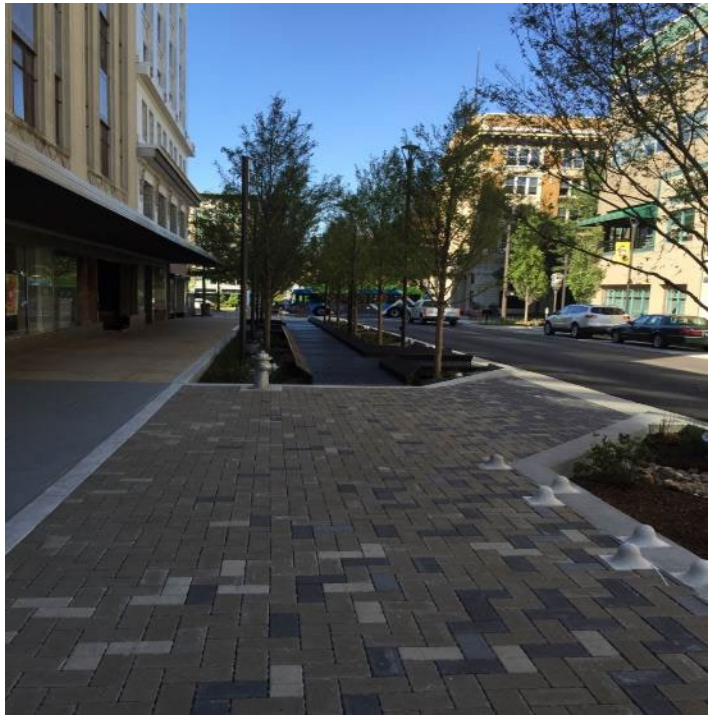
- Introduction to Green Asset Management – EPA
- Incorporating Green and Natural Assets into Asset Management – SWEFC
- Integrated Transportation and Stormwater Infrastructure (TSI) – NCTCOG
- Integrated Stormwater Management (iSWM) – NCTCOG
- Lunch break
- Implementing Green Asset Management for the City of Denton– City of Denton, TX A&M Agrilife, USACE
- Green Asset Management: Long Term Funding Plan – EPA

INTRODUCTION TO GREEN ASSET MANAGEMENT

- Intro to Green Infrastructure (GI)
- Examples of GI Assets
- Intro to Asset Management
- 5 Core Concepts
- Intro to Green Asset Management (GAM)
- Description of Denton GAM project
- Partners, funding, timeline, etc.
- Today's workshop

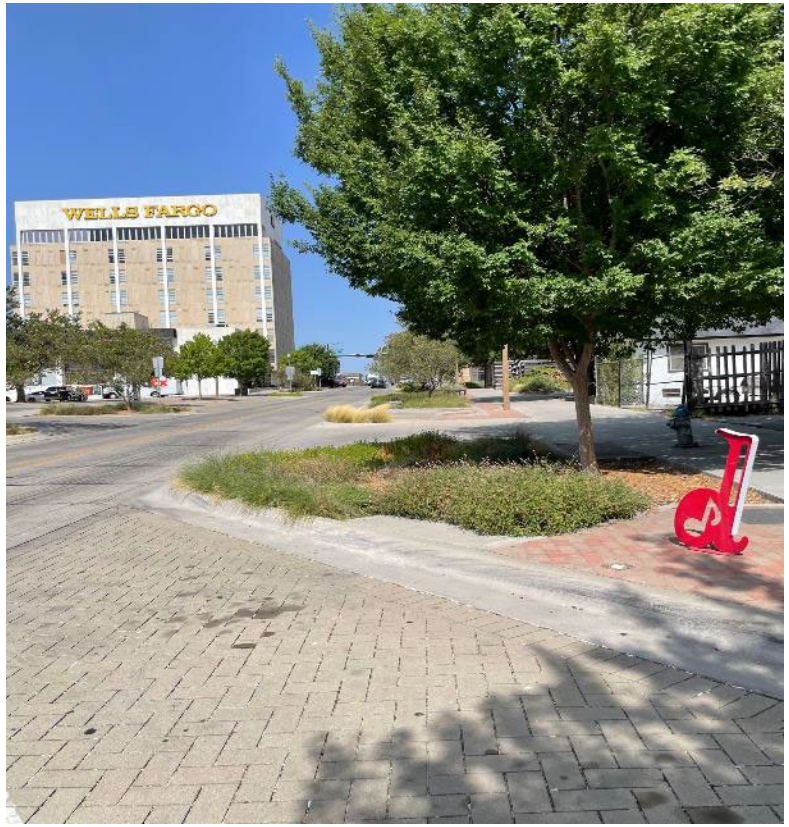
INTRODUCTION

- Green Infrastructure (GI) refers to natural or engineered systems that mimic natural processes
- Complements traditional gray infrastructure
- Range from simple to highly engineered
- Benefits:
  - Reduce stormwater runoff volume
  - Enhance infiltration of stormwater into groundwater
  - Reduce flood impacts
  - Reduce pollutant impacts
  - Erosion prevention
  - Increase biodiversity and ecological function
  - Improved aesthetics



COMMON GREEN INFRASTRUCTURE PRACTICES

- Rain Gardens
- Bioswales
- Bioretention Basins
- Constructed Wetlands
- Green Beltways and Paths
- Porous/Permeable Pavement



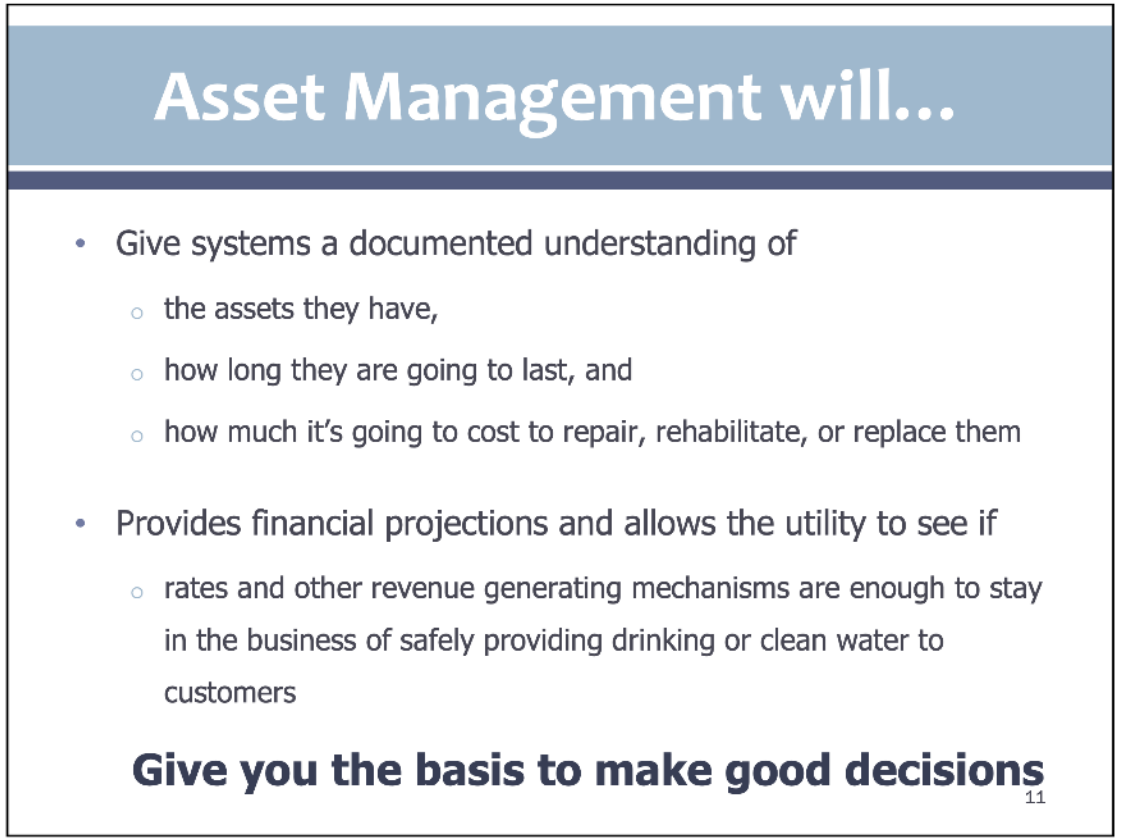
COMMON GREEN INFRASTRUCTURE PRACTICES

- Stormwater Planters
- Infiltration trench
- Cisterns & rain barrels
- Tree boxes
- Green Roofs

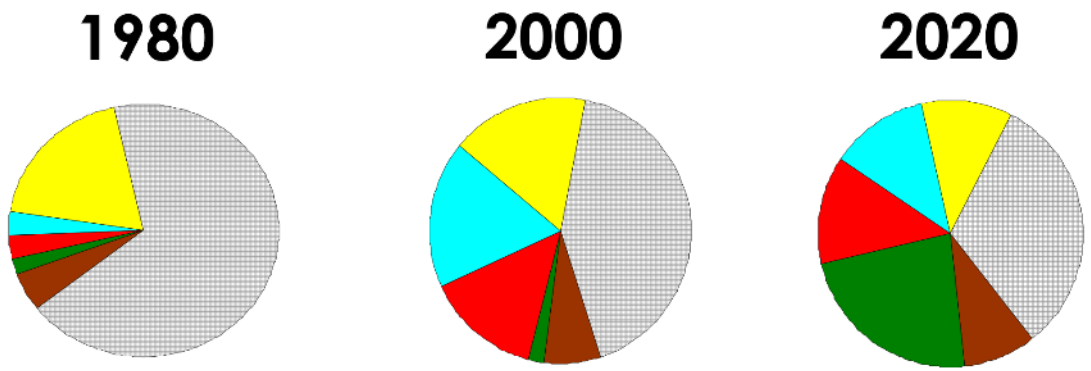
INTRODUCTION TO ASSET MANAGEMENT

Asset Management Definition

- *"A process for maintaining a desired level of customer service at the best appropriate cost."*
- Systematic approach to manage assets from planning, acquisition, operation, maintenance, and replacement/disposal.
- Assets can be physical, financial, or intangible (infrastructure, buildings, equipment, or information technology systems).
- EPA asset management reference guide:
  - https://www.epa.gov/sites/default/files/2020-06/documents/reference_guide_for_asset_management_tools_2020.pdf



Asset Condition Over Time



This example is drawn from w/w pipes, but the same general patterns applies to all urban systems

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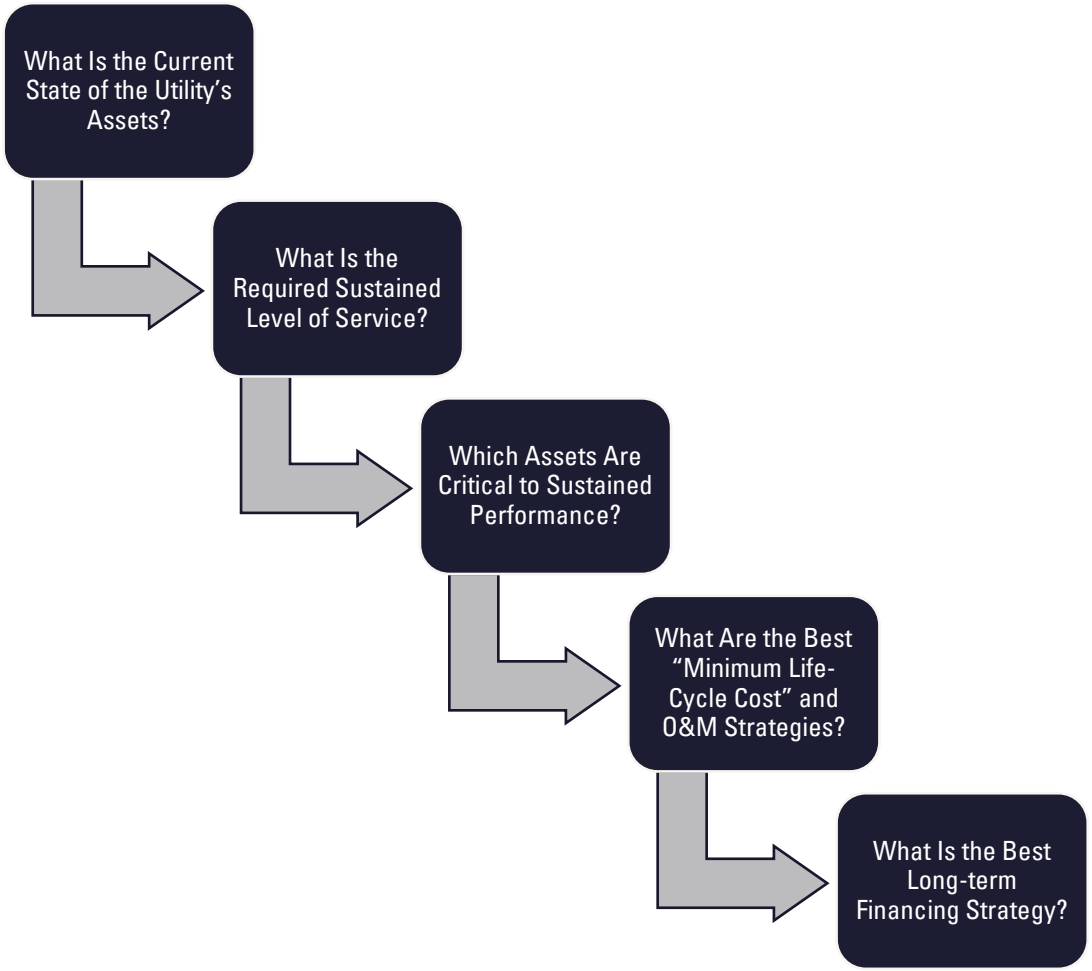
FIVE CORE QUESTIONS FOR ASSET MANAGEMENT



- These questions provide a framework for asset management
- The five core questions build upon themselves
- Reduces overall costs via planning
- Prolongs asset life via efficient and focused operation and maintenance
- Budget focused on critical assets
- Rapid response to emergencies/unplanned failure

WHAT IS GREEN ASSET MANAGEMENT?

Green Asset Management Definition

- Green Asset Management is a framework for maintaining a desired level of service at the best appropriate cost for natural or engineered systems that mimic natural processes to manage water quality

- Ensures that GI assets will function properly while achieving their objectives at a reasonable cost

WHAT IS GREEN ASSET MANAGEMENT?

- Green Asset Management allows GI assets to provide benefits over their entire lifecycle
- Maximizes the return on investment in GI, improves water quality, and reduces stormwater and flood impacts
- This approach can improve the health and resilience of natural systems while also reducing the impacts of nonpoint source pollution on water quality

WHY IS GREEN ASSET MANAGEMENT IMPORTANT?

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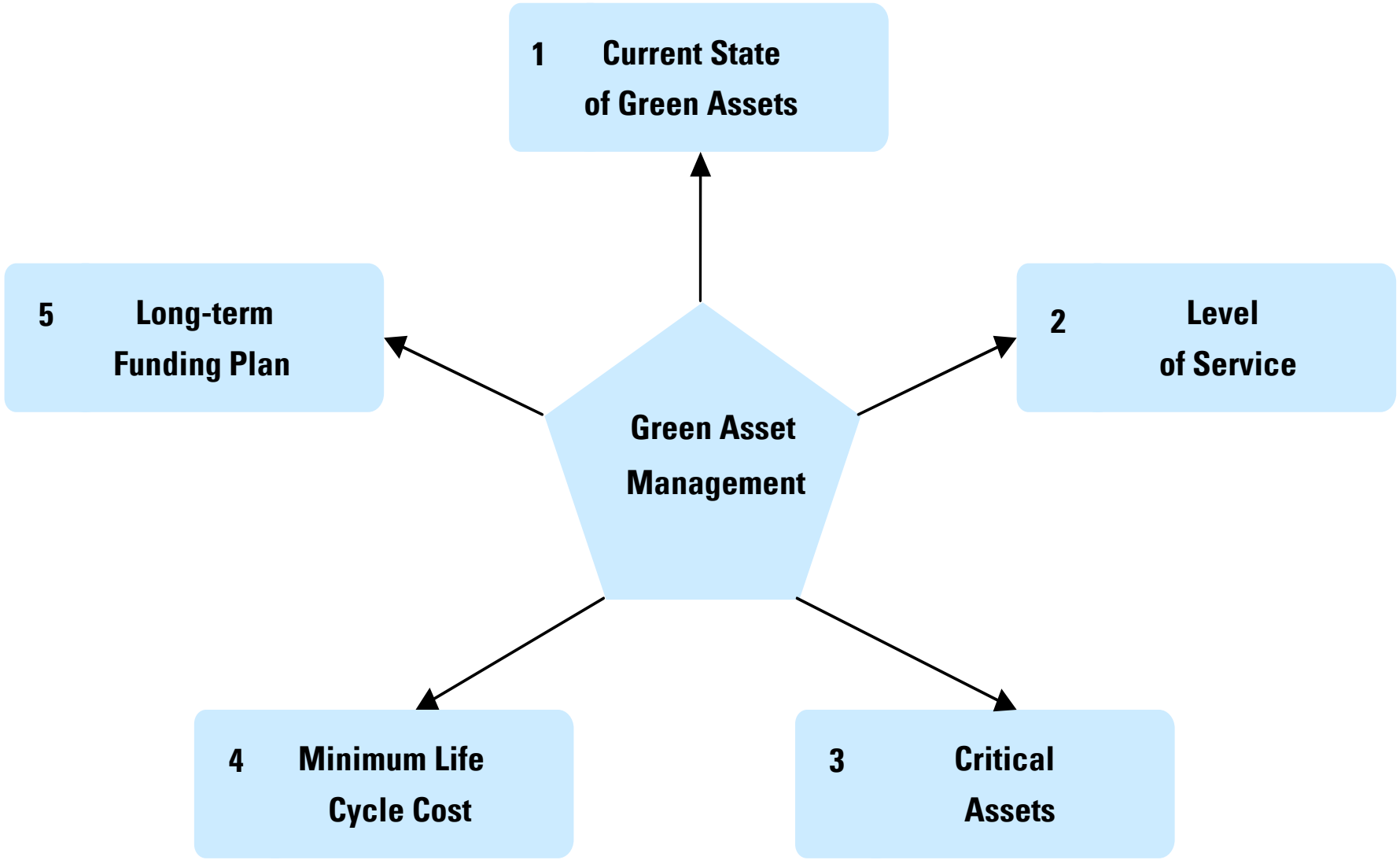
The Five Core Components of Green Asset Management



THE FIVE CORE COMPONENTS OF GREEN ASSET MANAGEMENT

Current State of Green Assets	Level of Service	Critical Assets	Minimum Life Cycle Cost	Long-term Funding Plan
A description of the physical state of green asset BMPs. This should include current conditions and physical impacts to the green asset BMP.	Level of service to measure performance based on stakeholder expectations. Can be measured through quality, quantity, reliability, responsiveness, environmental acceptability, or cost.	Prioritize resources to the most critical assets. Identify consequences of critical asset failure and impact to environment/community. Allows for proactive inspections and rehabilitation before failure.	Achieving the minimum operation cost throughout the asset's lifecycle. Includes planning, design, construction, acquisition, O&M, repair, and disposal costs.	Develop a sustainable, long term funding plan to achieve the desired level of service. Ensures necessary resources to complete the other core component processes.

DENTON CO. GREEN ASSET MANAGEMENT PROJECT

Inventory Green Infrastructure BMPs, address operation and maintenance, flood reduction potential, train municipal staff

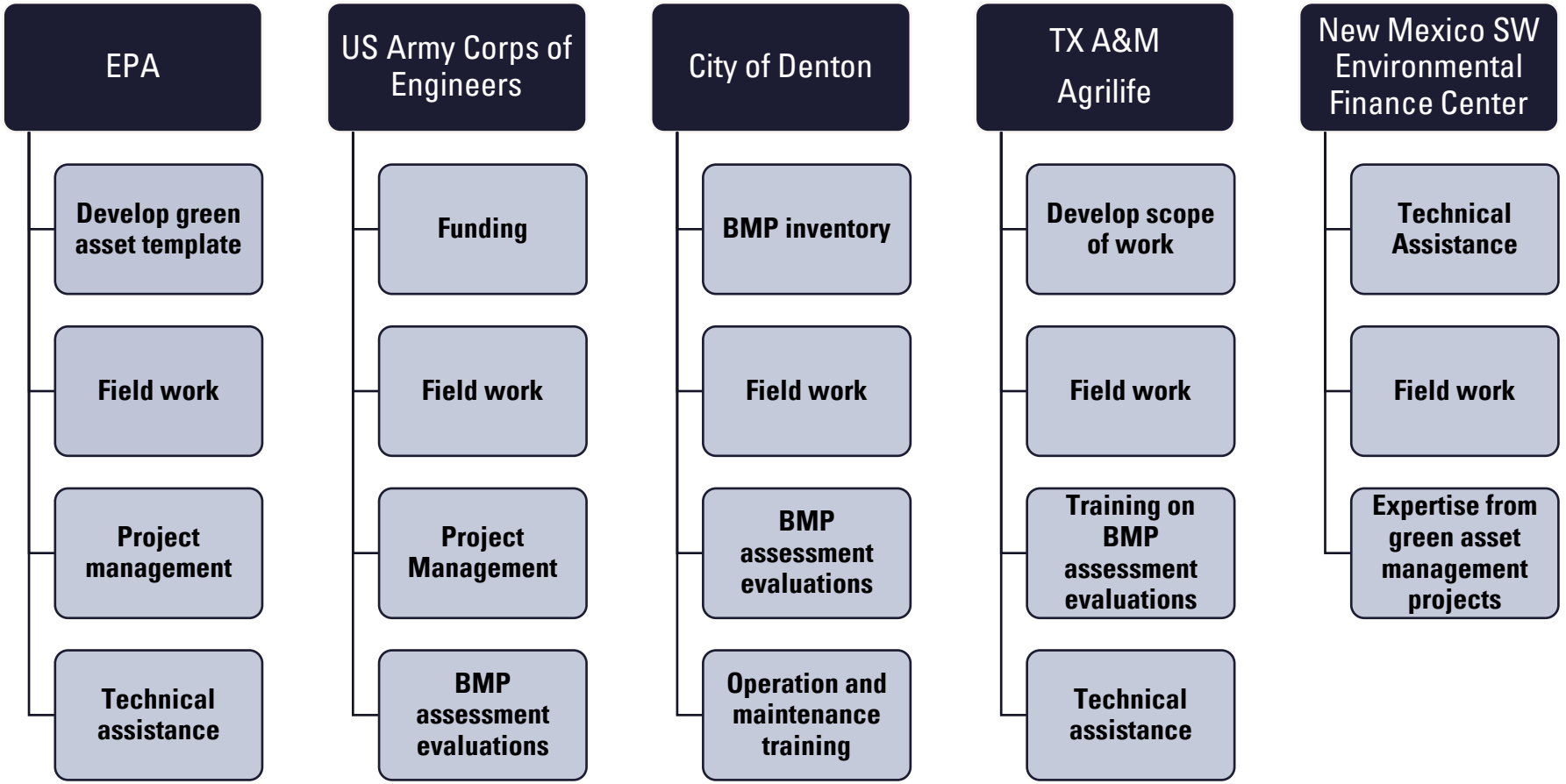
USACE Silver Jackets program approved $100k of funding in July 2021. In-kind contributions from other project partners

Approximately 1.5 year project duration (Sept 2021 – June 2023)

Several entities participating:

- EPA R6, EPA ORD, USACE/Fort Worth and ERDC, TX A&M Agrilife, City of Denton, New Mexico Southwest Environmental Finance Center

DENTON PROJECT PARTNERS AND ROLES

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Dr. Brian Fontenot, EPA R6


Lynde Dodd, USACE

Green Asset Management Template document complete

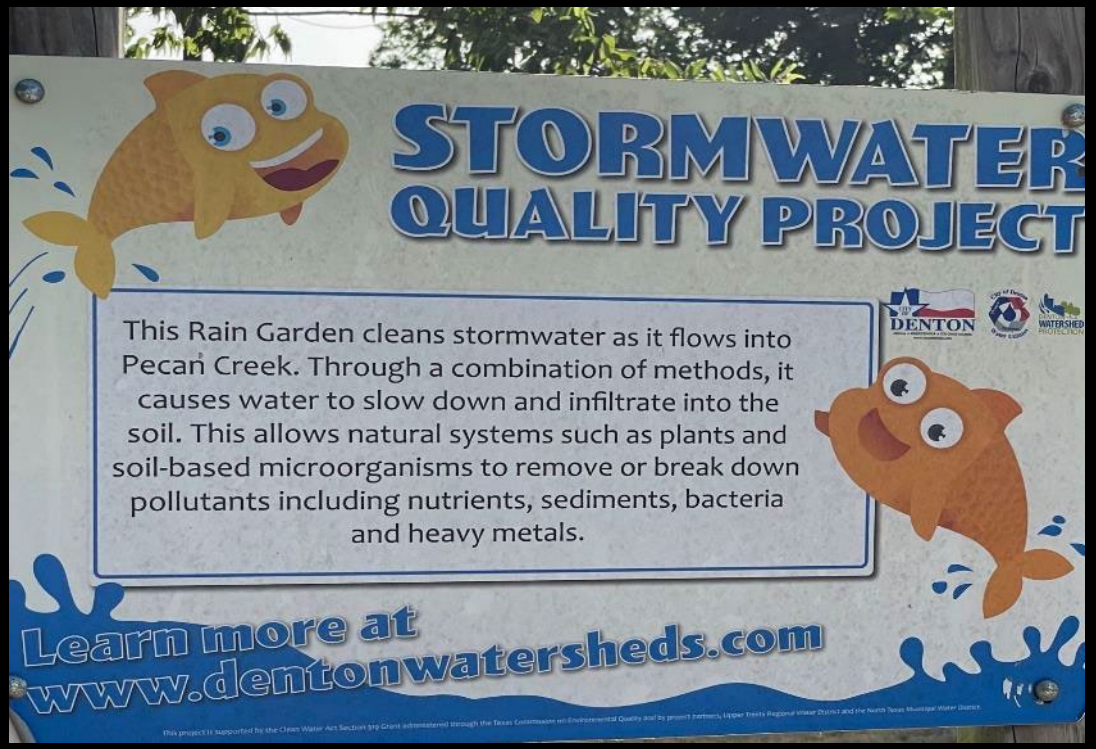
GI BMP assessment forms created by City of Denton, TAMU, and USACE finalized and customized to City of Denton GI assets

City of Denton, TAMU, and USACE working together to refine and finalize operation and maintenance protocol

City of Denton finalizing computerized inventory and asset management database

TODAY'S WORKSHOP

- Presentations from Denton Co. Green Asset Management Project partners
  - Lessons learned from this and other GAM projects
  - Ideas to improve the process
  - Real world examples of GAM
- NCTCOG presentations
  - Transportation and Stormwater Infrastructure (TSI) project identifying effective locations for implementing GI
  - iSWM™ Program for Construction and Development



THANK YOU

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