Final Report: South Valley Street Tree and Green Stormwater Infrastructure Pilot Project

Urban Waters Small Grant Community Forestry Grant Program

Provided by Bernalillo County Natural Resource Services to Ciudad Soil and Water Conservation District
January 7, 2026

I. Project Phase Overview

The South Valley Street Tree and Green Stormwater Infrastructure (GSI) Pilot Project will install trees and plants in basins that capture stormwater on residential streets impacted by nuisance flooding in Albuquerque's South Valley. This report details the work completed for the project funded by the Urban Waters Small Grant Community Forestry Grant Program. This project phase included two tasks:

1. Site identification and analysis
    a. Review existing Bernalillo County GIS data and materials
    b. Define site selection criteria and identify potential project sites
    c. Analysis, mapping, and diagrams of potential project sites
    d. Recommendation of four primary sites for draft conceptual design
    e. Three project team meetings to discuss drafts and present final site selection and analysis

2. Draft conceptual design
    a. Draft conceptual designs for four sites (precedents, diagrams, and renderings)
    b. Three project team meetings to discuss drafts and present draft conceptual designs
    c. One meeting with Bernalillo County Engineering, Roads Maintenance, Storm Drainage Maintenance, and Transportation Planning staff to present and solicit input on draft conceptual designs

The work was completed by Bernalillo County Natural Resource Services with the support of two consultants, Pland Collaborative and Aguas Landscape Architecture, between August 15, 2025, and December 15, 2025, in accordance with the attached project schedule.

II. Site Identification and Analysis (Task 1)

Task 1, Site Identification and Analysis, focused on "where" and "why" nuisance flooding occurs on residential streets in the South Valley and whether GSI offers a feasible solution to nuisance flooding at specific sites.

A. Site Identification Criteria and Process

The project team developed the following criteria to identify potential sites for the pilot project:

1. Residential streets in the unincorporated South Valley with nuisance flooding, as identified by the following work completed prior to grant period:
    a. Feedback from South Valley residents through public engagement consisting of 11 public meetings and community events, a public input survey, and a project website (bernco.gov/southvalleygsi)
    b. Sites in or adjacent to FEMA flood hazard zones or identified as priority areas by Bernalillo County storm drainage maintenance staff
    c. Site visits following storm events
2. Sites that do not have and are not slated for stormwater infrastructure (i.e. storm sewer or infiltrators)
3. Sites with high social vulnerability indices per the Climate and Economic Justice Screening Tool
4. Sites with higher social connectivity (i.e. within close proximity to community assets like schools, parks, community centers, and acequias)

B. Site Analysis

Using the site selection criteria, the project team identified four priority sites and three alternative sites for the project. Consultants then completed site analyses for each site that included mapping the nuisance flooding areas, the width of the right-of-way, constraints in the right-of-way, opportunities for connectivity to existing amenities, existing tree canopy, and the social vulnerability index for the neighborhood (see Figure 1 for an example Site Conditions and Opportunities map for Nashville Ave; see the Task 1 Final Report, pages 8-21, for the site analyses for all sites). Site analysis documentation included photos of existing conditions for each site.

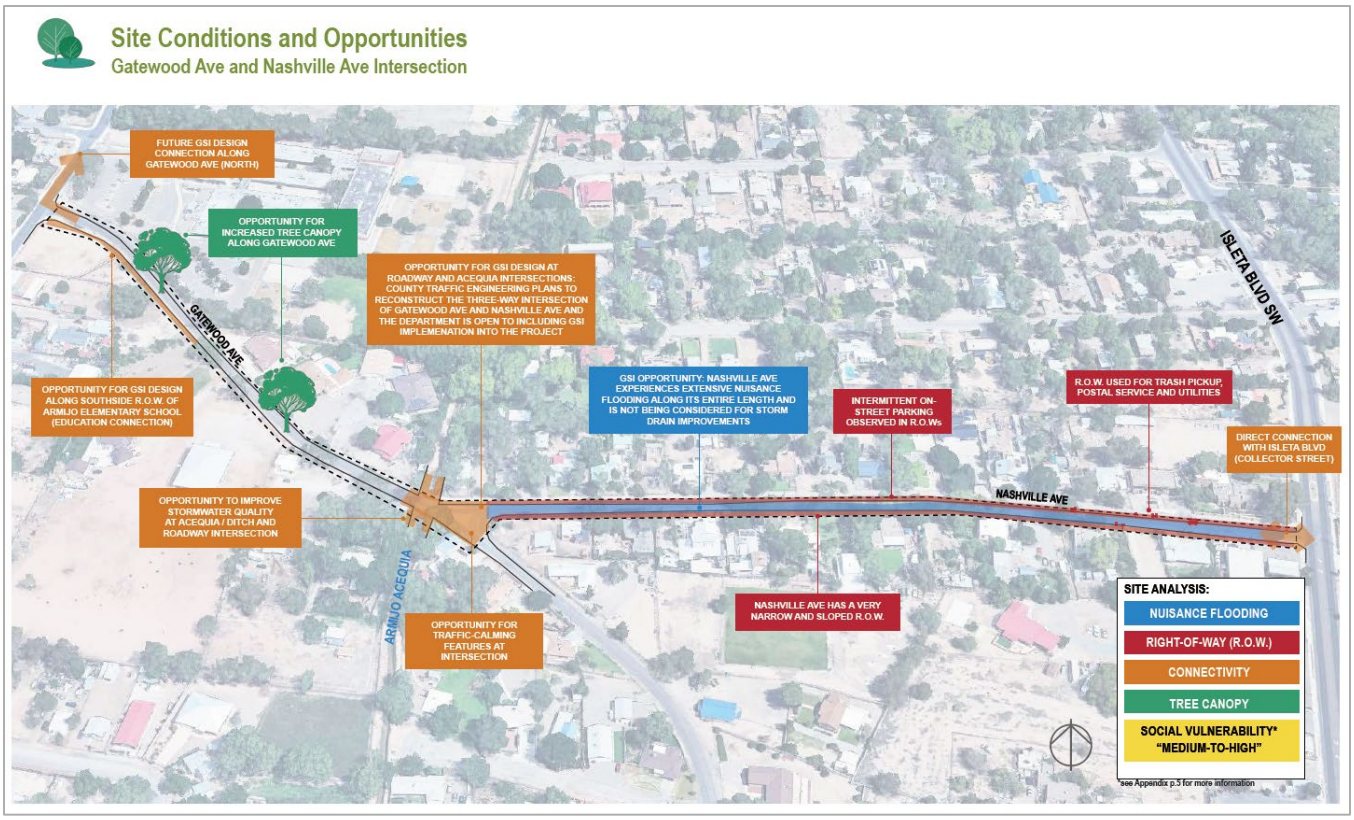

Figure 1: Example Site Conditions and Opportunities map for Nashville Ave

The project team ranked the sites in accordance with prioritization criteria that reflected the information collected in the site analyses. Based on this ranking, the project team selected six priority sites for draft conceptual design (Figure 2).

The scope for the Urban Waters Small Grant Community Forestry Grant called for identification of four potential project sites. Therefore, the project team used the grant funding to complete draft conceptual designs for four sites. It will complete conceptual designs for two additional sites with an alternative source of funding in the next phase of the project.

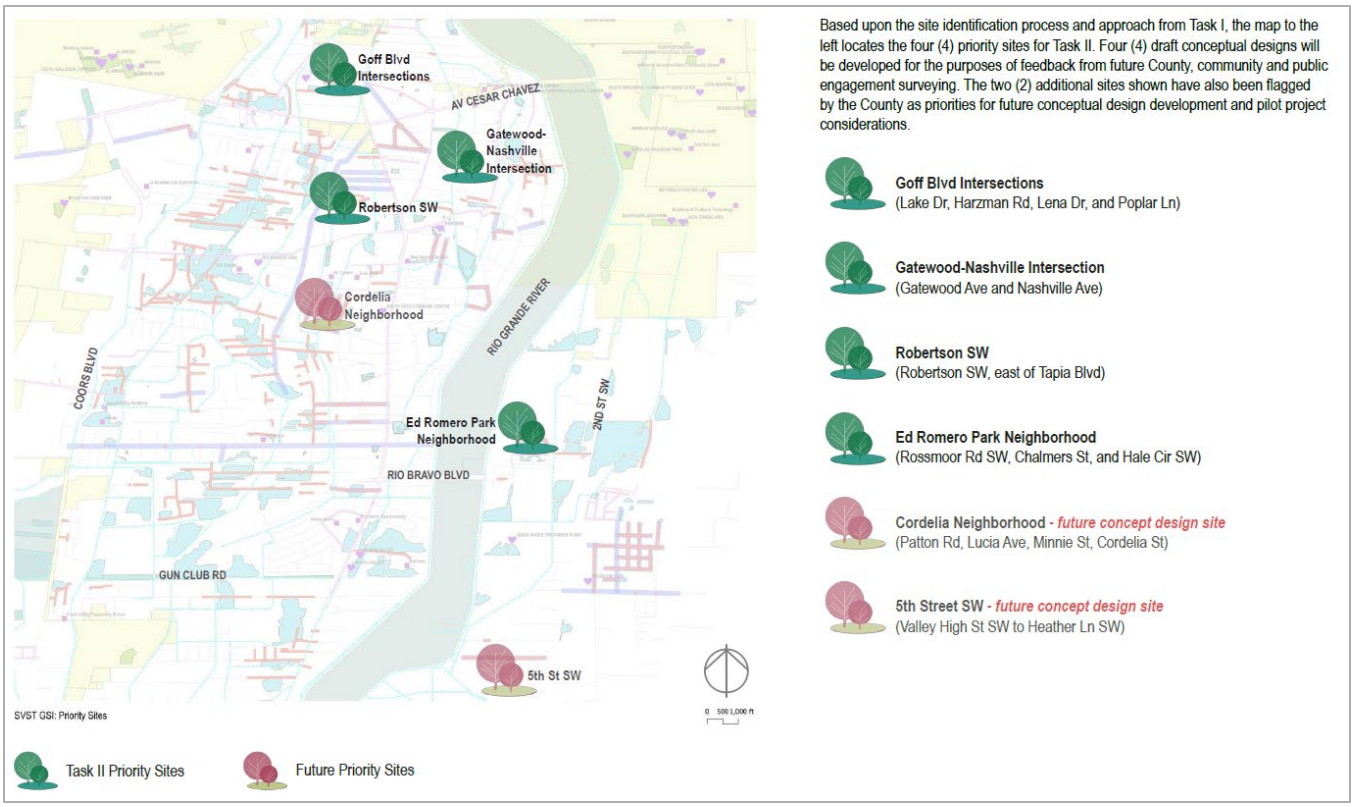

Figure 2: Priority Sites for South Valley Street Tree & GSI Pilot Project

III. Draft Conceptual Design (Task 2)

Task 2, Draft Conceptual Design, explored "how" GSI can be implemented at the priority project sites with consideration of general and site-specific conditions.

A. Design Toolkit Approach

Across all priority project sites, the consultants identified common existing conditions characteristic of the residential neighborhoods in the South Valley:

- Predominantly paved asphalt roads without curb and gutter
- Limited or absent sidewalks
- Gravel shoulders along both sides of the roadway
- Shoulders serving multiple uses - resident parking, mail delivery, trash pickup, and occasional play (e.g., basketball hoops)
- Strong community interest in traffic calming (expressed verbally or seen on DIY signage)
- Frequent nuisance flooding at or near intersections and along roadway edges
- A mix of narrow and wide right-of-way conditions, within the same neighborhood
- Varying residential lot sizes influencing the frequency of driveways and gates, within the same neighborhood

- Walking patterns that shift between the roadway and shoulder, depending on available space, off-street parking, and traffic volume

The patterns identified across the sites created an opportunity to develop GSI concepts that can be adapted to different right-of-way widths, drainage patterns, and community priorities. For the draft conceptual designs, consultants used a "design toolkit" approach (see pages 4-6 of the Task 2 Final Report) that provides GSI strategies *with broad applicability across all sites* that are *grounded in the real conditions of one representative site*:

1. GSI at an Intersection - Goff & Lena
2. Narrow ROW GSI - Nashville Ave
3. Wide ROW GSI - Robertson
4. GSI + Narrowing Roadway at Speed Hump - Ed Romero Park

B. Conceptual Designs for Four Priority Sites

For each of the four priority sites, the consultants developed draft conceptual designs for use in the neighborhood engagement phase of the project. The draft conceptual designs considered site constraints, opportunities for water harvesting, anticipated maintenance needs, and potential impacts to local residents-focusing on existing uses, traffic circulation, and safety.

The draft conceptual designs include a map of neighborhood-scale GSI opportunities, a site analysis, plan and section views of conceptual designs, and perspective renderings for each site (see Figures 3-6 for examples for Nashville Ave and the Task 2 Final Report, pages 8-24, for the conceptual designs for all sites). The consultants also developed a GSI "design palette" showing precedent examples of rockwork, constructed and naturalistic GSI features, paths and walking areas, and signs and vehicular warnings for use in solicitation of public input during neighborhood engagement.

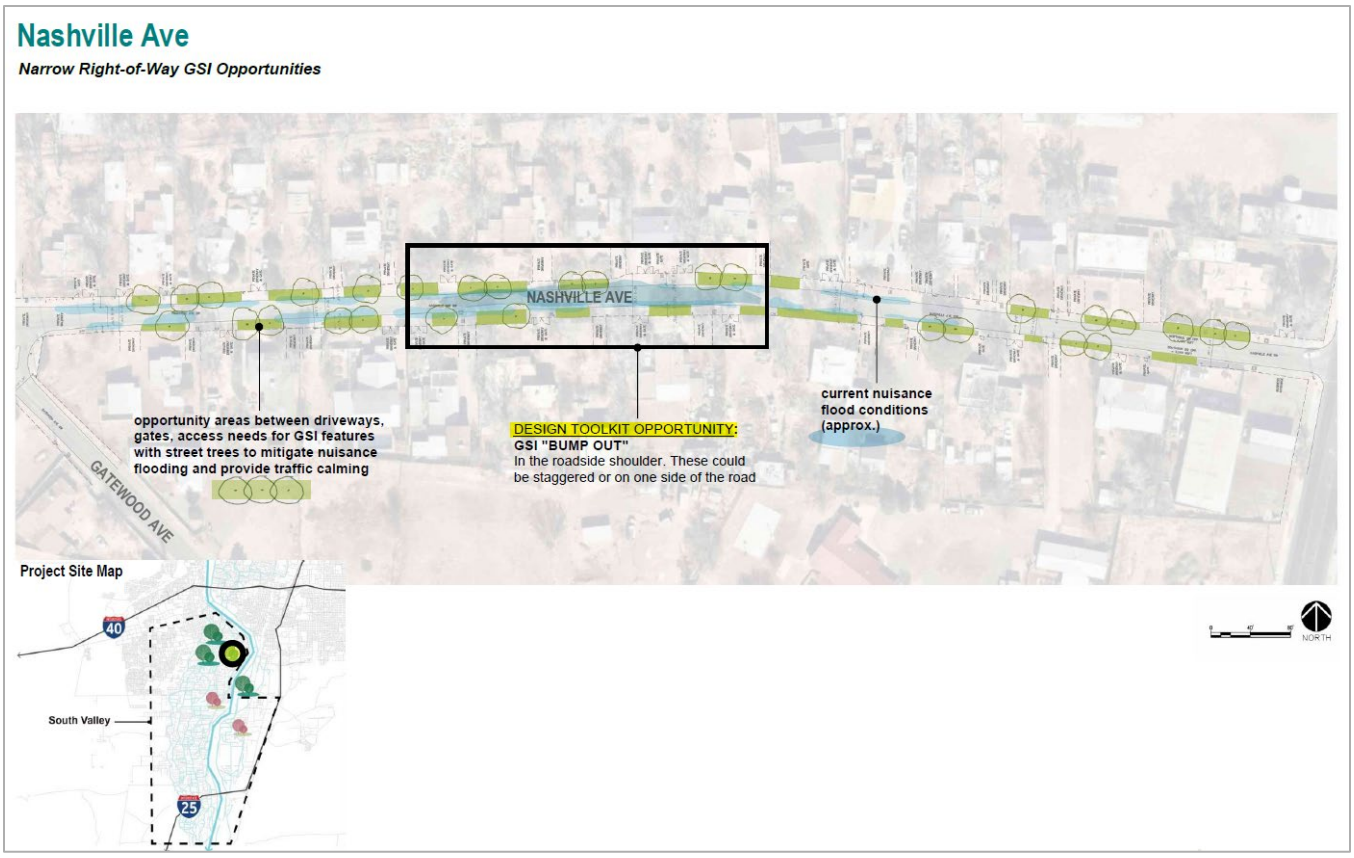

Figure 3: Example GSI Opportunities for Nashville Ave

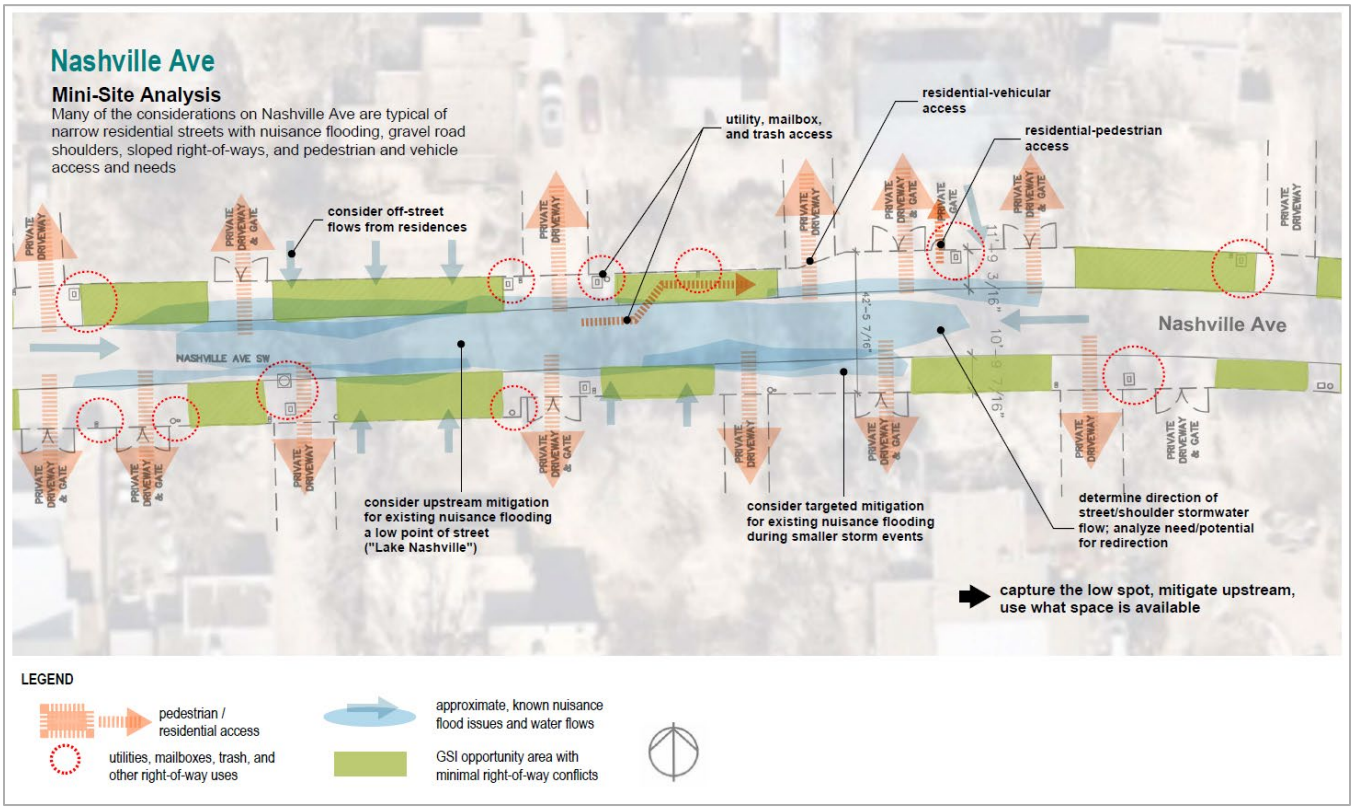

Figure 4: Example Mini Site Analysis for Nashville Ave

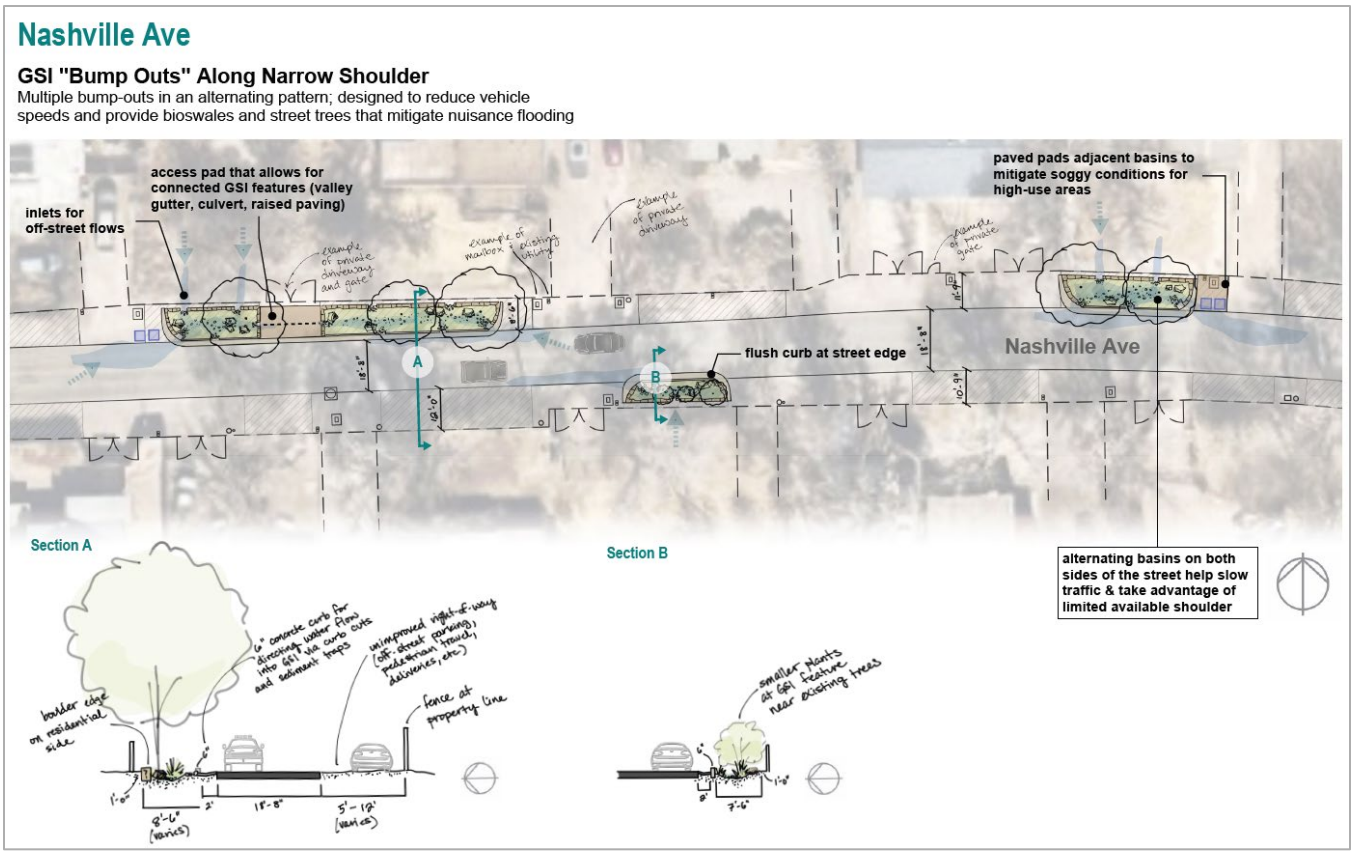

Figure 5: Example Plan and Section Views of Conceptual Design for Nashville Ave

Figure 6: Example Conceptual Perspective Rendering of Nashville Ave

C. Tiered Design Options

To inform implementation of the draft conceptual designs, the consultants provided recommendations about which elements of the GSI strategies can be installed by contractors vs. neighborhood volunteers. They created definitions of "minor" and "major" GSI to capture differences in cost, scale, and construction complexity:

1. Minor GSI
    - Generally limited in scope, constructed within the existing road shoulder, and designed to minimize disruption to traffic and neighborhood circulation
    - Minor GSI installations typically involve:
        - Smaller-scale basins or infiltration areas
        - Minimal hardscape construction (e.g., no new curbs or pavement removal)
        - Low or no impact to traffic flow
        - Opportunities for modest plantings or low rockwork

2. Major GSI
    - Larger interventions that may alter roadway geometry, modify traffic patterns, or require more substantial built elements
    - Major GSI installations often include:
        - Street narrowing or curb realignment
        - Speed humps, chicanes, or other traffic calming elements
        - New or expanded concrete curbs, aprons, or edge treatments
        - Removal and replacement of pavement to create larger GSI footprints
        - New traffic control or informational signage
        - More significant grading, rockwork, or planting areas
        - Utility adjustments (minor valve or lid relocations)
        - Maintenance or emergency access paths

Elements of GSI features that are recommended to be installed by a licensed contractor experienced in right-of-way construction include:

- Concrete, rockwork, or comparable durable edging installed at the road edge to protect existing pavement, safeguard new GSI features, and reinforce their permanence and intentional design
- Precision earthwork to manage the controlled inflow, capture, and outflow of stormwater
- Significant rockwork installations, including large boulders, cobble, or gravel
- Tree and shrub plantings larger than 15 gallon or 1" caliper

- Signage installations, including traffic and interpretive signs

Community volunteers can participate in GSI installation and stewardship, including planting, light earthwork, placement of small rock materials, and ongoing minor maintenance activities in conjunction with County staff.

IV. Summary of Work and Next Steps

The Urban Waters Small Grant Community Forestry Grant Program funded Tasks 1 and 2, the first steps in bringing the South Valley Street Tree and GSI Pilot Project from an idea into reality. The project team developed and implemented a credible approach to site selection, conducted comprehensive site analyses, and created draft conceptual designs for the project. The draft conceptual designs use a "design tool kit" approach that allows the designs to be broadly applicable to South Valley residential streets, while also addressing site specific conditions in selected neighborhoods. The grant funding facilitated planning that provided a solid foundation for neighborhood engagement and finalization of conceptual designs. The next steps for the project include:

1. Draft conceptual designs for two additional priority sites
2. Neighborhood engagement for six priority sites
3. Final conceptual designs that take into consideration public and Bernalillo County staff input
4. Applying for grant funding for final design and construction

Attachments

- Project schedule
- Task 1 Final Report
- Task 2 Final Report