

***Optimum Locations for the Benefits of Green  
Infrastructure (GI) on the NMDOT Transportation  
System  
May 2025***

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Appendix A. Implementation Plan

## **1.0 PURPOSE & NEED**

This study was initiated to assist the New Mexico Department of Transportation (NMDOT) in identifying, evaluating, and prioritizing locations across the state where green infrastructure (GI) can be strategically implemented to address pressing roadway maintenance challenges and growing climate-related vulnerabilities. As New Mexico experiences increasing variability in precipitation patterns—ranging from prolonged droughts to intense, short-duration storm events—transportation infrastructure is facing greater risks from flooding, erosion, sedimentation, and vegetation overgrowth or undergrowth. Climate change could also accelerate the emergence of new exotic plant species or create more favorable conditions for exotic species that are already established within the state. These issues result in repeated maintenance interventions, increased costs, and disruptions to roadway performance and safety.

Green infrastructure offers an effective, nature-based approach to enhance roadway resilience while providing co-benefits for water quality, habitat connectivity, and long-term cost savings. Unlike conventional "gray" infrastructure, GI techniques such as bioswales, vegetated sponges, sediment basins, and check dams are designed to mimic natural hydrologic processes. When implemented appropriately, GI can reduce surface runoff, stabilize soils, manage sediment, and decrease the frequency and severity of drainage-related failures. These functions are especially important in New Mexico's arid and semi-arid landscapes, where high-intensity rainfall events can rapidly overwhelm traditional drainage systems and accelerate degradation of roadside features.

This work addresses NMDOT's growing need to integrate GI into the early stages of project planning and design, particularly within the agency's right-of-way (ROW). Proactive identification of high-opportunity GI locations allows NMDOT to align infrastructure investments with environmental performance, maintenance reduction, and regulatory compliance. Incorporating GI into roadway engineering can:

- Improve the function and lifespan of existing culverts and drainage structures by decreasing sedimentation and peak flows;
- Improve the function and lifespan of roadways by reducing prolonged ponding on roadways and ROWs which can cause fracturing and subsidence of roadway bed materials and surfaces;
- Minimize shoulder and slope failures caused by uncontrolled runoff and poor soil stabilization;
- Support compliance with stormwater management regulations and pollutant discharge permits;
- Enhance roadside safety by reducing ponding and overland flow onto travel lanes;
- Support a diverse complex of native plant species, including rare plants and wetlands;

- Provide habitat for pollinators and wildlife, particularly in areas of ecological sensitivity.

The purpose of this study is to develop a transparent, data-driven framework for evaluating GI suitability across a diverse set of candidate sites. By combining stakeholder input, field-based site assessments, and GIS-driven spatial analysis, the study identifies and evaluates 65 potential locations across New Mexico. Each site is ranked based on two primary criteria: the severity of existing maintenance needs and the opportunity to improve environmental function through GI implementation.

The results provide NMDOT’s Environmental Bureau, Research Bureau, and district maintenance teams with actionable information to guide decision-making, promote early coordination of GI in project development, and allocate resources toward nature-based solutions with the greatest return on investment. Ultimately, this work supports NMDOT’s broader goals of enhancing infrastructure resilience, minimizing long-term maintenance burdens, and integrating sustainable practices into the transportation system.

## **2.0 BACKGROUND**

Green Infrastructure (GI) represents a sustainable approach to managing water resources and enhancing ecological resilience using natural and engineered systems. Unlike traditional grey infrastructure, which relies on pipes, culverts, and concrete channels, GI integrates vegetation, soils, and other natural elements to manage stormwater, reduce runoff, and mitigate erosion. Examples of GI include bioswales, constructed wetlands, and vegetated detention basins, to name a few. By leveraging natural processes, GI provides multiple co-benefits, including improved water quality, enhanced biodiversity, and increased environmental resilience (NMDOT, 2024). Additionally, GI can help to reduce the frequency and severity of maintenance interventions by decreasing sediment buildup, mitigating roadside erosion, and preventing infrastructure damage caused by unmanaged stormwater. These benefits may help alleviate the long-term burden on NMDOT maintenance staff, leading to lower operational costs and more efficient resource allocation.

Transportation infrastructure, particularly roadway networks, significantly interacts with the surrounding environment. Roads and highways alter natural hydrology by increasing impervious surfaces, which accelerates stormwater runoff and contributes to flooding, erosion, and sediment transport. Further hydraulic alterations occur when roadway engineering causes topographic manipulation and disrupts natural flowpaths, causing a negative impact on transportation facilities and regional hydrology alike (Figure 1). Additionally, roadway infrastructure is often a source of pollutants, including heavy metals, oils, microplastics, and de-icing chemicals, which can degrade nearby water bodies (NMDOT, 2024). Implementing GI along

roadways offers a practical and sustainable solution to these challenges by improving water infiltration, stabilizing soil, and reducing pollutant loads in stormwater runoff (FRCOG, 2017). Furthermore, GI can enhance roadside aesthetics, mitigate urban heat island effects, and improve habitat connectivity, aligning with broader sustainability goals.

To support targeted GI implementation across the state, this study identifies and prioritizes roadway maintenance problem areas where nature-based interventions may offer the greatest benefit. NMDOT maintenance and engineering staff across all six districts contributed to the process by reporting problem areas through surveys, interviews, and map-based workshops. These reports highlight common challenges such as erosion, flooding, sedimentation, and drainage failures (Figure 1). GSA staff then assessed each location using a standardized protocol to document site conditions, infrastructure vulnerabilities, and opportunities for GI-based solutions.

A statewide GIS overlay analysis complements the fieldwork by incorporating spatial datasets related to erosion risk, flood susceptibility, hydrology, habitat value, and conservation opportunity. The dual-axis prioritization framework produces two key scores: a maintenance score based on observed field conditions and NMDOT maintenance and engineering staff perspectives, plus, an environmental score derived from ecologically-themed geospatial data. These scores inform a ranked list of top-priority sites where GI can address urgent maintenance needs while producing long-term environmental benefits. The site summaries included in the implementation plan (Appendix A) support flexible implementation, allowing NMDOT staff to align GI investments with evolving district priorities, infrastructure needs, and funding opportunities.



*Figure 1 – An example of a maintenance problem area, where ponding and erosion are evident.*

### **3.0 METHODS**

To identify, assess, and prioritize potential sites for GI implementation, this project employed a multi-phase methodology that combines stakeholder input, field data collection, and geospatial analysis. The process began with direct engagement of NMDOT maintenance and engineering staff across all six districts to gather insights on recurring maintenance challenges and potential locations for GI interventions. Field teams then visited each reported location to document site conditions using a standardized assessment protocol. The resulting data formed the foundation for a GIS overlay analysis, which evaluated both maintenance needs and environmental opportunity through a structured scoring framework. By integrating staff knowledge, on-the-ground observations, and spatial datasets, this approach enables a consistent, statewide method for identifying GI opportunities that align with NMDOT priorities.

#### **3.1 Survey & Interview**

To identify maintenance problem areas throughout the state, an in-person presentation and survey was conducted with available NMDOT maintenance and engineering staff at each district office. The presentation consisted of a brief slideshow introducing GI at a conceptual level along with its application to roadway infrastructure. Specific GI features from the previously published

NMDOT GSI Maintenance Field Guide (NMDOT, 2024) were then introduced, followed by the survey portion of the meeting (Figure 2).



Figure 2 – Stormwater Harvesting Basins, and example of a GI feature from the NMDOT GSI Maintenance Field Guide, (NMDOT, 2024).

Survey questions were tailored to collect information about the primary recurring maintenance issues in each district, the perceived suitability of specific GI features, the perceived benefits of GI, and which criteria would be most useful in selecting locations for GI improvements.

The presentation and survey were both conducted through the cloud-based Mentimeter application, an interactive presentation and audience engagement tool with real-time polls, quizzes, word clouds, questions and answers that audience members can respond to using their smartphones. The survey responses are anonymized and automatically aggregated by Mentimeter after each survey session. Using Microsoft Excel, survey results were aggregated by district, as well as state-wide. These responses informed the site assessment, GIS overlay, and scoring portions of this project to ideally serve to conceptually steer NMDOT's implementation of future GI projects to be consistent with staff sentiments.

**Mentimeter Survey Questions:**

1. What group do you work in?
  - a. Maintenance
  - b. Administrative
  - c. Engineering
  - d. Research Bureau
  - e. Environment Bureau
  - f. Other
2. How much do you think GI can help solve these issues? (Rank each answer out of 100%).
  - a. Ponding on Road
  - b. Ponding in ROW
  - c. Flooding onto DOT property
  - d. Erosion Damage to Road
  - e. Erosion in ROW
  - f. Flooding Arroyos/Streams
  - g. Sedimentation
  - h. Wildlife Collisions
3. How much would each environment benefit from GI? (Rank each answer out of 100%).
  - a. Urban Areas
  - b. Wildland-Urban Interface
  - c. Rural Areas
4. How useful would these GI projects be in your area? (Rank each answer from 0 – 5).
  - a. Check dams
  - b. Overflows/outfalls/culverts
  - c. Curb treatments
  - d. Wetland improvement
  - e. Bioswales/basins
  - f. Soil sponges
  - g. Mulching & planting
  - h. Zuni bowls
5. Which criteria are most important for prioritizing GI project locations? (Rank each answer from 0 – 5).
  - a. Maintenance problem areas
  - b. Erosion risk
  - c. Wetland locations
  - d. Wildlife habitat
  - e. Pollinator habitat
  - f. Flood zones
  - g. Safety (clear zones & sight lines)
6. What outcomes would you like to see from GI projects?
  - a. Short-form, open answer.

In addition to the presentation and survey, NMDOT staff were interviewed to record specific locations of recurring maintenance issues (or “problem areas”) on each district. Respondents reported problem areas using several different methods: in-person mapping on printed maps, tabular reporting of problem areas using the roadway and closest milepost, and web mapping of problem locations through an Esri Survey123 mapping app built for the task. The problem area

mapping exercise was conducted at the end of each survey session. However, follow-up was conducted with each district over email in the months following each meeting which yielded additional locations.

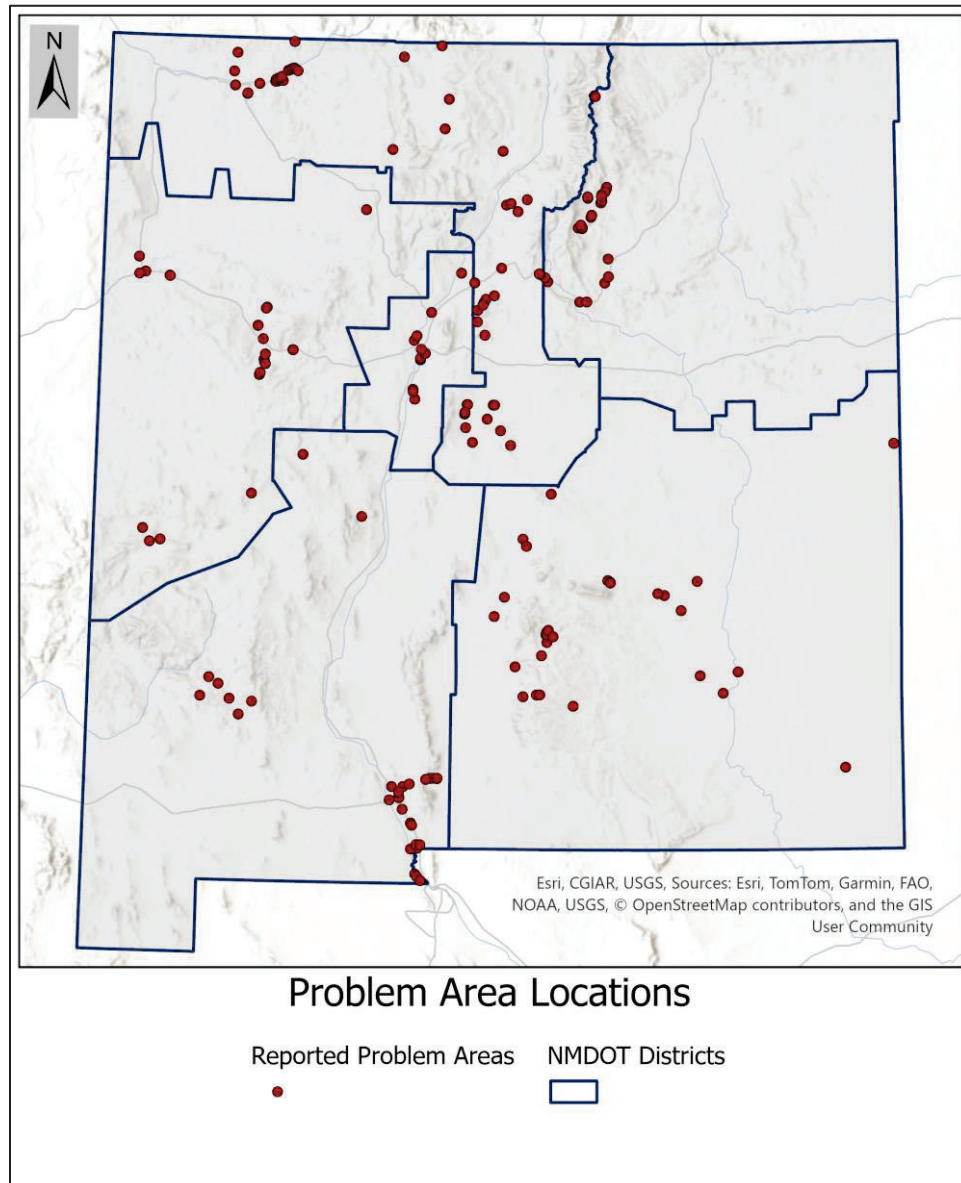


Figure 3 - All problem areas compiled through interviews with NMDOT staff.

### 3.2 Field Site Assessments

After compiling all locations reported by NMDOT staff, field site assessments were conducted at every identified problem area for a total of 170 site assessments across the state (Figure 3). The compiled points, along with basic NMDOT infrastructure (roadways, mileposts, and districts) were added to a web map in the Esri Field Maps application for navigation to each site. A

customized survey form in the Fulcrum survey app was then used to perform each site assessment in a consistent manner. Attributes important to describing the scope, scale, and type of issue were collected at each point, including maintenance issue(s), location and orientation relative to the roadway and right-of-way (ROW), size of the issue, and whether it extended outside of the ROW. In addition, recommended GI interventions to address the issues on site were recorded. General notes with more in-depth descriptions were collected as necessary. Combined, the attributes indicate both the severity of each maintenance issue, as well as an estimate of the scale of intervention NMDOT would need to undertake to address the issue.

Site photos were collected on the ground at each point location and, wherever possible and safe, drone photos of site conditions were collected (Figure 4). The photos serve to document site conditions at the time of survey but also help illustrate the true scope and scale of each problem area to complement the site assessments.

**Survey Attributes from Fulcrum survey form:**

- Observer
- Date
- Roadway
- Maintenance Issue(s)
  - Ponding
  - Flooding (if Flooding is selected, then type is recorded: Arroyo/stream, Across roadway, Along ROW)
  - Erosion (if Erosion is selected, the Type is recorded: Sheet, Rill, Gully)
  - Sedimentation
  - Wildlife Crossing
  - Other (specify)
- Causing damage to roadway? (Yes or No)
- Location (Roadway, ROW)
  - Extends out of ROW? (if ROW is selected: Yes, No)
- Side of Road (Compass direction)
  - Orientation/Direction (Away from roadway, Towards roadway, Across roadway, Alongside roadway)
- Size:
  - Areal classes (<1,000 sqft, 1,000-10,000 sqft, >10,000 sqft)
  - Linear classes: (~100 yds, ~1/4 mi – 1/2 mi, ~1 mi)
- Isolated Issue? (Yes or No)
- Existing Interventions? (Yes or No; if Yes, then Intervention type is selected: Curb treatment, Drain grate, Culvert/outfall, Earth work, Straw wattle)
- Recommended Interventions (Curb treatment, Culvert, Bioswale, Large basin, Check dams, Zuni bowl, Soil sponges, Mulching, Wildlife crossing/fence improvement, Other (specify))
- Revegetation Recommended? (Yes, No)
- Notes
- Photos



*Figure 4 - An example of the utility of drone photography in site characterization.*

Deliverables from the field site assessments include a geodatabase of all assessments performed, which include the point locations, all attributes collected at each location, as well as site scoring metrics. Furthermore, deliverables include an image catalog with each image labeled by both site and observation IDs, as well as the photo source (whether taken from the ground or from a drone) to allow NMDOT staff to tie each image to each point location.

### **3.3 GIS Based Environmental Scoring Analysis**

To assess site conditions and prioritize GI improvements, both maintenance-related and environmental scores were calculated for each field assessment. These scores were then aggregated at the site level using geospatial tools in ArcGIS Pro, Google Earth Engine, and Python.

The analysis began with the problem area locations surveyed by GSA staff, with each field site assessment referred to as an "observation." In total, 170 observations were completed, however 15 were removed from further analysis due to minimal evidence of the reported problem being observable at the time of the assessment. The resulting 155 observations were then grouped into 65 unique sites based on the associated roadway, as well as regional-level spatial proximity (Figure 5). As a result, the number of observations per site varied depending on the density and clustering of problem areas.

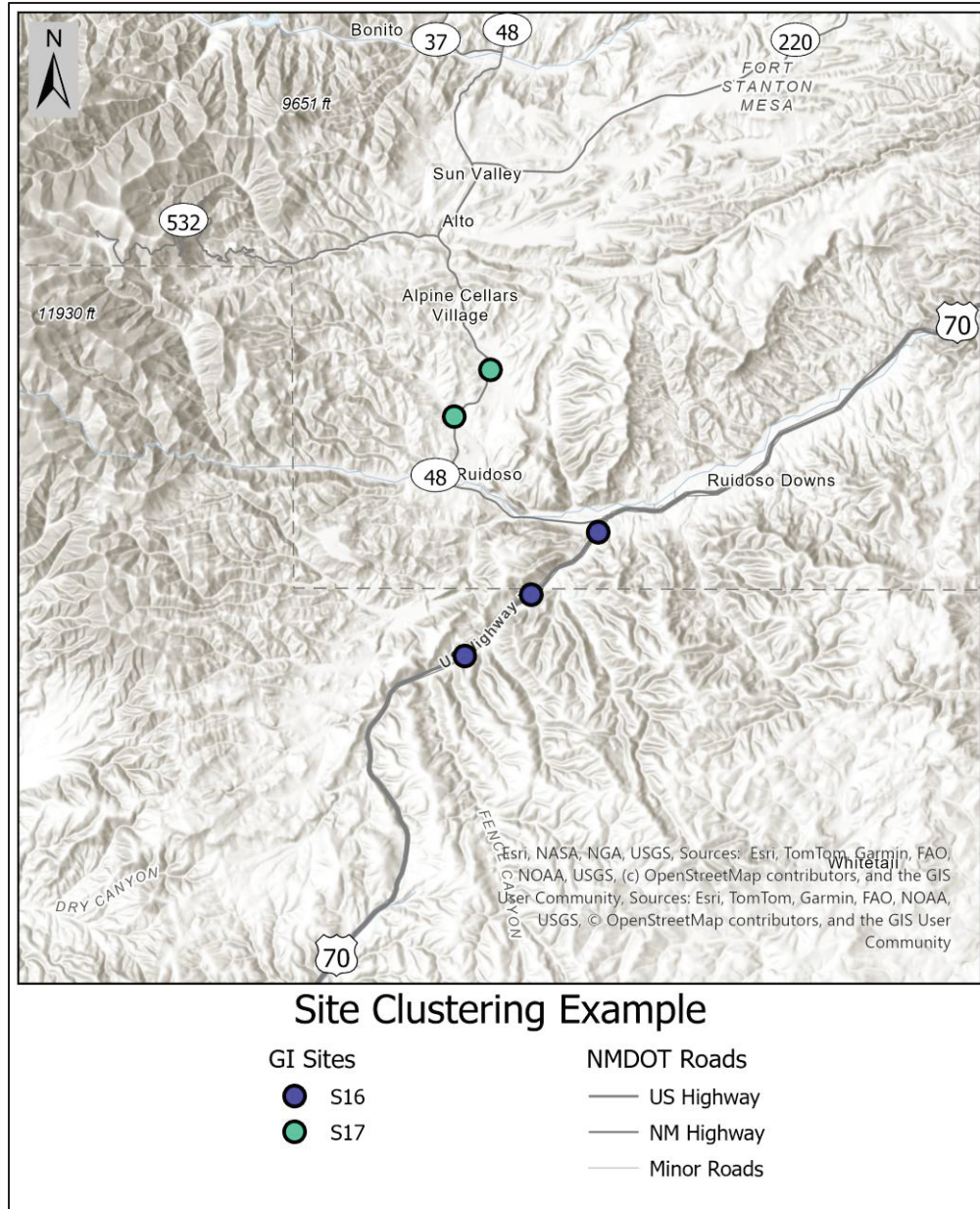


Figure 5 - An example of site clustering based on roadway and spatial proximity. Sites 16 and 17 are in and near Ruidoso, NM.

Each observation was also assigned a locality classification - either urban, rural, or wildland-urban interface (WUI) - based on a spatial overlay with a custom shapefile. This shapefile was developed using the 2020 US Census Urban Areas dataset and the 2020 Wildland-Urban Interface dataset published by the U.S. Forest Service (US Census Bureau, 2020; US Forest Service, 2023). Knowing the locality of each observation is useful to help understand which environments are most prone to the type of long-term maintenance issues that GI seeks to address. Additionally, it may help

NMDOT prioritize site installation and maintenance across a range of population types and densities.

**Maintenance Score** – Each observation point was assigned a maintenance score based on six contributing attributes from the field site assessments (Table 1).

*Table 1 - Themes, ranges, and criteria for determining the Maintenance Score at each observation point.*

Scoring Theme	Score Range	Scoring Criteria
Maintenance Issues	1 – 5	Count of unique maintenance issue types observed
Roadway Damage	0 or 1	No damage – 0 Damage – 1
Size of Issue	1 - 3	<1,000 sqft or ~100 yds – 1 1,000-10,000 sqft or ~1/4 mi – 1/2 mi – 2 >10,000 sqft or ~1 mi – 3
Revegetation Recommended	0 or 1	Recommended – 1 Not recommended – 0
Number of Recommendations	1 – 6	Count of unique GI interventions recommended
Extends out of ROW	0 or 1	Whether issue extends out of ROW Yes – 0 No – 1

These components were summed to generate a single maintenance score per observation. Final maintenance scores range from 4 – 13, with a theoretical maximum of 17. Site-level maintenance scores were then calculated by averaging the observation-level scores by site.

The intention of the Maintenance Score is to indicate the relative severity of maintenance needs at each observation, with a higher score indicating a greater maintenance need. The “Extends out of ROW” attribute was calculated to reflect the increased complexity of planning a project outside of NMDOT’s right-of-way, hence why an issue extending outside of the ROW scores a 0.

**Environmental Score** – To evaluate the ecological opportunity and environmental vulnerability of each site, the project developed six environmental scoring themes: Erosion Risk, Flood Risk, Hydrology, Wildlife, Pollinator Habitat, and Conservation Areas (Table 2). Each theme was informed by multiple spatial datasets, standardized to a 0–1 scale, and selected to represent meaningful dimensions of GI benefit. These themes collectively provide a spatially explicit understanding of where green infrastructure can deliver the greatest co-benefits beyond basic drainage or erosion control. A higher score within each theme reflects either elevated environmental risk — such as flood or erosion susceptibility — or increased ecological value, such

as proximity to conservation lands or wildlife corridors. In both cases, a higher score signals greater potential for GI interventions to support long-term resilience, habitat enhancement, and broader environmental outcomes.

*Table 2 - Themes, components, ranges, and data sources for determining the Environmental Score GIS overlay.*

<b>Scoring Theme</b>	<b>Component</b>	<b>Score Range</b>	<b>Source</b>
Erosion Risk	Soil Erosivity	Continuous, 0-1	NMFAP, 2020
	EVI	Continuous, 0-1	Landsat-8/9 (via Google Earth Engine), 2024
Flood Risk	Flood Risk Model	Continuous, 0-1	NMFAP, 2020
	Burned Watersheds	Continuous, 0-1	USFS, 2025; USGS WBD, 2020
Hydrology	MS4 Areas	Binary, 0 or 1	US Census Bureau, 2020
	Priority Watersheds	Binary, 0 or 1	NMFAP, 2020
	303(d) Impaired Waters & Connected HUC12 Sub-watersheds	Binary, 0 or 1	NMED, 2024; USGS WBD, 2020
	Wetlands & Water Features	Binary, 0 or 1	USGS NHD, 2020
Wildlife	Wildlife Corridors	Continuous, 0-1	NMFAP, 2020
	Habitat Connectivity Priority Areas	Classified, 0, 0.5, or 1	NMFAP, 2020
	Species of Concern	Classified, 1 – 6	NMCHAT, 2024
	Species of Economic & Recreational Interest	Classified, 1 – 6	NMCHAT, 2024
Pollinator Habitat	Pollinator-relevant Plant Species Records	Continuous, 0-1	SEINet, 2024; iNaturalist (via GBIF), 2024
	Important Plant Areas	Binary, 0 or 1	NMEMNRD, 2024
	Imperiled Pollinator Habitat	Binary, 0 or 1	NMDOT, 2024
Conservation Areas	Land Protection Designations	Binary, 0 or 1	USGS GAP, 2020
	Conservation Opportunity Areas	Binary, 0 or 1	NMFAP, 2020
	NMCHAT Overall Score	Classified, 1 – 6	NMCHAT, 2024

**Erosion Risk** reflects the site’s susceptibility to soil loss following disturbance, particularly in areas with sparse vegetation. This score combines a modeled soil erosivity model—originally

developed for the 2020 New Mexico Forest Action Plan (NMFAP)—with vegetation data to account for ground cover. To adjust for vegetative protection, the model uses the 2024 annual mean Enhanced Vegetation Index (EVI) derived from Landsat-8 and Landsat-9 imagery. The final score is calculated using the formula:

$$\text{Adjusted Erosivity} = \text{Erosivity} - (\text{EVI} \times 0.5)$$

This formula reduces the apparent risk in well-vegetated areas while highlighting bare or degraded landscapes. The result is normalized to a 0–1 scale, with negative values set to 0, based on the assumption that erosivity cannot fall below zero.

**Flood Risk** captures both modeled flood potential and the influence of recent wildfires on runoff and watershed function. The base layer comes from the 2020 NMFAP flood risk model. To account for post-fire hydrologic changes, the analysis incorporates burn perimeters from 2020 through 2025, identifying HUC10 watersheds intersecting these perimeters. For each watershed, the proportion of burned area was calculated, rasterized, and weighted at 50% influence in combination with the original model. The resulting composite flood score is normalized from 0 to 1, with higher values indicating increased runoff potential and susceptibility to flooding.

**Hydrology** emphasizes proximity to sensitive water features and impaired waterways. It integrates four binary layers: Municipal Separate Storm Sewer System (MS4) areas, priority watersheds designated in the NMFAP, HUC12 sub-watersheds intersecting 303(d) impaired waters, and buffered features from the National Hydrography Dataset (NHD), including streams, washes, and inundation areas. Each of these binary datasets assigns a value of 1 to areas of hydrologic concern. The layers are summed to reflect cumulative importance, then normalized to a 0–1 scale. Higher scores represent areas with increased hydrologic value or vulnerability, where GI may support water quality and restoration goals.

**Wildlife** represents ecological connectivity and species habitat potential. It combines four components: mapped wildlife corridors from the NMFAP; landscape connectivity modeled using Omniscape (a circuit theory-based approach), reclassified into values of 1 (critically important), 0.5 (high importance), or 0 (not important); and two raster datasets from the NM Crucial Habitat Assessment Tool (NMCHAT) showing priority scores for both Species of Concern and Species of Economic or Recreational Importance. These components are each normalized and then summed to produce a composite wildlife score, which is subsequently normalized again to a 0–1 scale. This ensures the final score reflects both species richness and habitat connectivity.

**Pollinator Habitat** focuses on areas that support native pollinators, including both local and migratory species. The score includes two normalized kernel density datasets (which reflect density of pollinator plants) derived from herbarium records (sourced from SEINet and

iNaturalist) of high pollinator-value flower genera, calculated at two spatial scales (5-mile and 50-mile search radii) to represent species with different travel ranges. In addition to these continuous layers, the score incorporates binary rasters for Important Plant Areas (IPAs), which were enhanced using sensitive species observations from TetraTech, and polygons representing imperiled pollinator habitat provided by NMDOT (TetraTech, 2024). These data are combined, summed, and normalized to generate a final score ranging from 0 to 1, with higher values indicating locations that have a higher pollinator value.

**Conservation Areas** captures proximity to protected and prioritized conservation lands. This score integrates buffered land protection designations—such as Wilderness Areas, National Monuments, Areas of Critical Environmental Concern (ACECs), and other special management zones—with Conservation Opportunity Areas from the NMFAP and the NMCHAT overall habitat score. These datasets reflect a mix of binary and continuous values. After combining and summing them, the output is normalized to a 0–1 scale. Sites with high conservation scores are those embedded within or adjacent to existing protected lands or statewide conservation priorities, suggesting strong alignment between GI implementation and broader environmental goals.

Together, these environmental scores enable a nuanced, multi-criteria evaluation of each site’s potential to deliver ecological benefit through green infrastructure. When paired with field-based maintenance scoring, they allow NMDOT to identify locations where GI can achieve both operational and environmental outcomes.

All 6 component rasters were then summed into a final Environmental Score raster, which was scaled up by a factor of 3 to better match the weighting of the Maintenance Score, then used to determine the observation-level environmental scores. Prior to ranking, all environmental score rasters were zonally averaged to a state-wide hexagonal grid with 1 square mile cells. This hexagonal geometry was adapted from the NMCHAT framework and used to summarize environmental scoring layers within the localized area of each observation. After spatially joining the observation points with the scoring overlay, the observation-level scores were then averaged by site to produce a final site-level score. The theoretical maximum environmental score is 18, however after zonal averaging, the observed scores ranged from 2.16 – 12.22, which is relatively consistent with the range of observed maintenance scores.

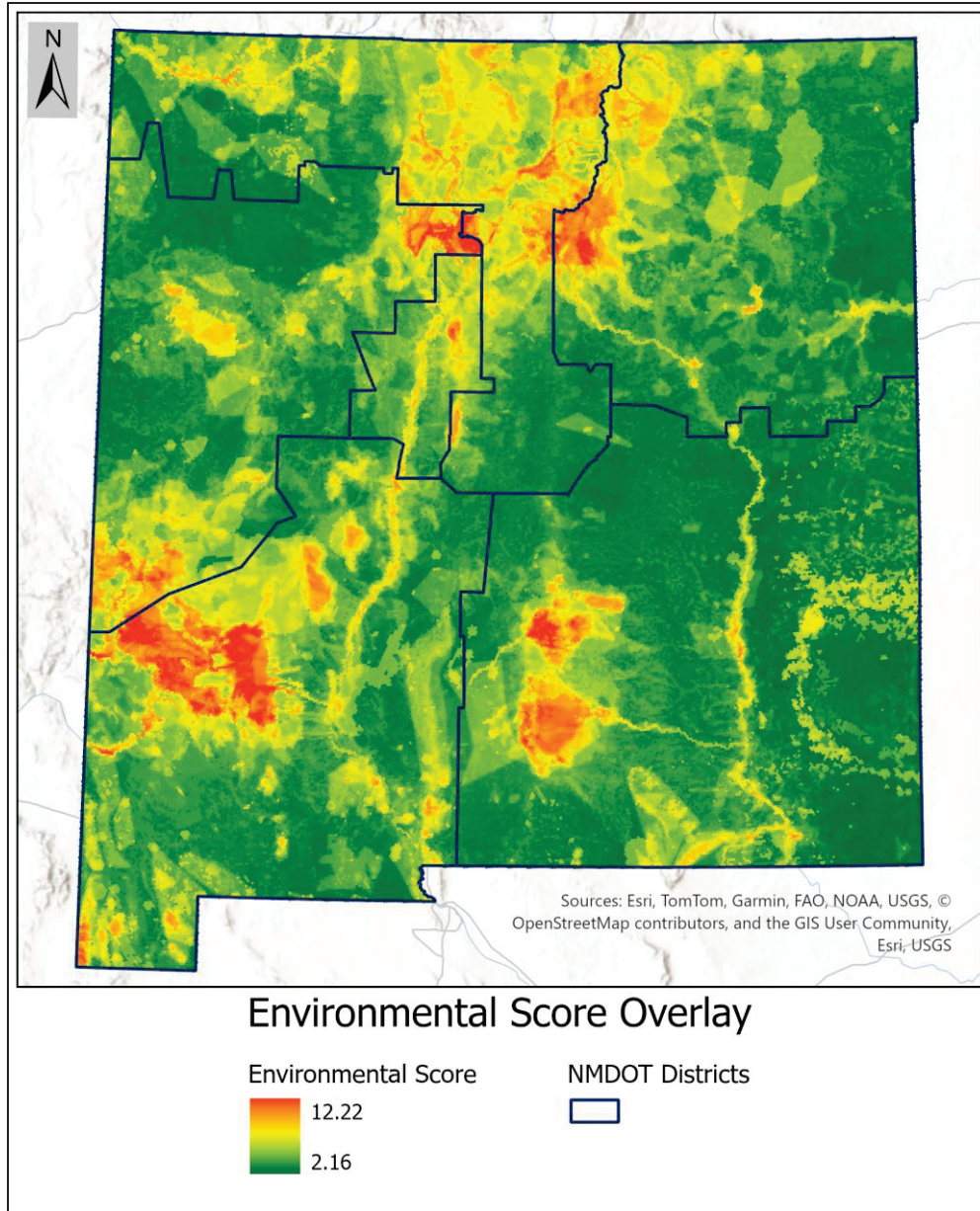


Figure 6 - The final environmental score overlay after combining all components and zonally averaging to 1 sq-mi hexagons.

**Overall Score and Ranking** – An overall score was computed for each observation by summing the maintenance and environmental scores. This was then averaged at the site level. Each of the three site-level scores (maintenance, environmental, and overall) were then ranked from highest to lowest across all 65 sites. Ties were assigned the same rank, and subsequent ranks skipped accordingly (e.g., 1, 2, 2, 4).

## 4.0 RESULTS & DISCUSSION

### 4.1 Maintenance Priority Areas Scoring

A total of 170 problem areas were surveyed across the state, with 155 areas being selected for final analysis, representing localized observations of persistent maintenance issues that GI can help to alleviate. These observations were grouped into 65 distinct sites based on shared roadway segments and spatial proximity, allowing for a broader-level evaluation and prioritization. Districts varied substantially in the number of sites surveyed, with District 3 reporting the least (likely due to its small footprint), while District 5 had the greatest number – potentially due to the wide environmental variability across the district (Figure 7).

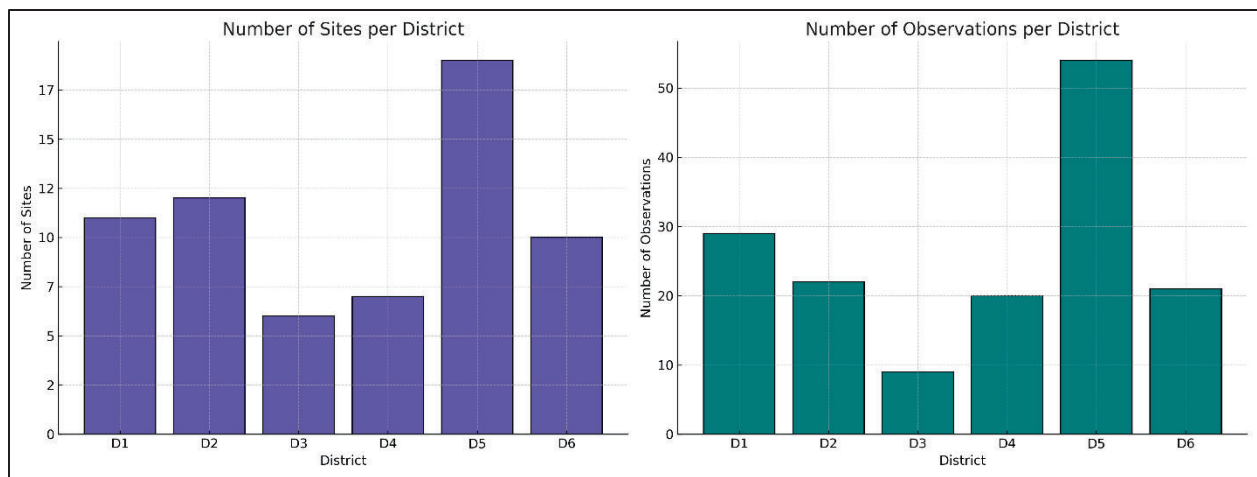


Figure 7 - The number of observations and sites per NMDOT district.

The most common issues observed across the state were erosion, flooding, and ponding issues (Figure 8). Erosion appeared to be a particularly pervasive issue, both in rural and semi-urban areas, and often linked to inadequate vegetation cover or poorly managed water flow. The prevalence of both erosion and flooding issues was particularly noticeable in Districts 2 and 4, where severe wildfires have burned within the past few years. Drainage and culvert issues were also frequently reported, especially in areas where stormwater infrastructure appears to be undersized or obstructed.

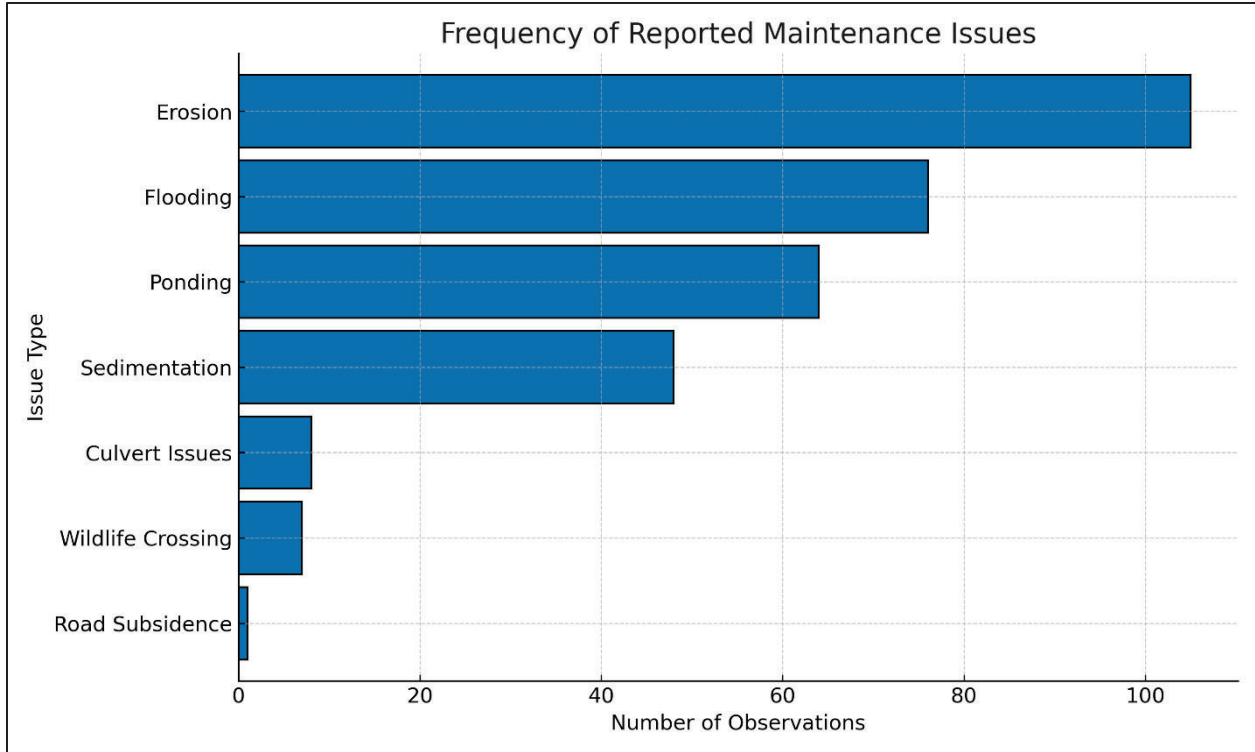


Figure 8 - The frequency of observed maintenance issues during all field site assessments.

When aggregated by district, patterns began to emerge. For instance, erosion constituted a disproportionately large share of the reported issues in Districts 4 and 5, suggesting a need for increased slope stabilization or revegetation strategies in those regions. Similarly, District 3, encompassing the Albuquerque metro area, saw a high concentration of drainage concerns like erosion and ponding, reflecting a more urbanized infrastructure context with limited space for water to infiltrate. Districts 1, 2, and 6 displayed a more even distribution of issues between erosion, flooding, and ponding. Sedimentation was a bigger concern for Districts 5 and 6, indicating widespread erosive geology in the west-central and northwestern regions of the state. A district-by-district heatmap analysis confirmed these differences, highlighting both shared and localized maintenance priorities (Figure 9).

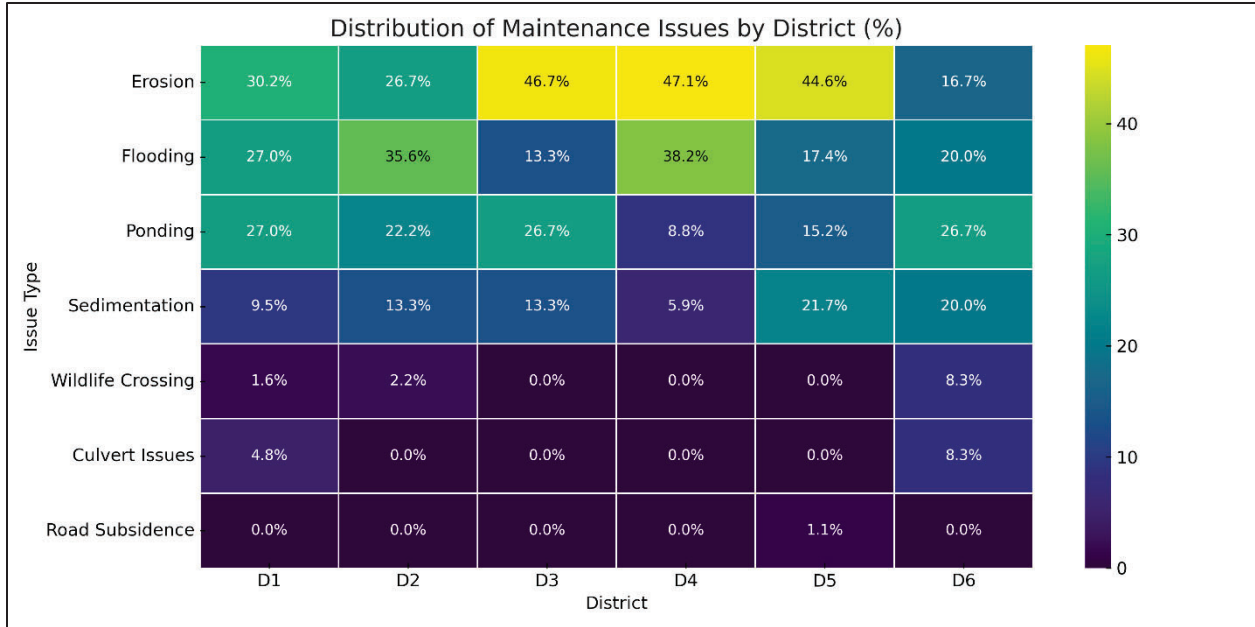


Figure 9 - The frequency of maintenance issues observed per district. Averaged relative to the number of observations per district.

District-level breakdowns further revealed some alignment between perceived priorities (as gathered through district staff interviews) and the observed scoring. For example, Districts 1 and 5 emphasized erosion and sediment control in their survey responses — a concern that was mirrored in the high prevalence of those issues and corresponding scores in their regions. However, in other cases, the alignment was less direct, suggesting potential gaps in awareness or data that could be addressed through improved monitoring and communication.

Wildlife crossings were observed infrequently, however they did appear more often in the more rural districts (Figure 10). While in many ways separate from the more prioritized issues surrounding erosion and flooding, wildlife crossings do have a direct impact on both driver safety and regional ecosystem resilience for wildlife species and as a result merit more granular study — particularly as communities continue to encroach into the WUI and rural parts of the state.



Figure 10 - An example of a wildlife crossing observed in a rural area in District 6.

Environmental and maintenance scores were used to evaluate the severity of issues and the broader ecological context at each site. Maintenance scores were driven by the number and severity of field-documented issues, while environmental scores incorporated risk and opportunity factors such as flood susceptibility, habitat connectivity, and erosion potential.

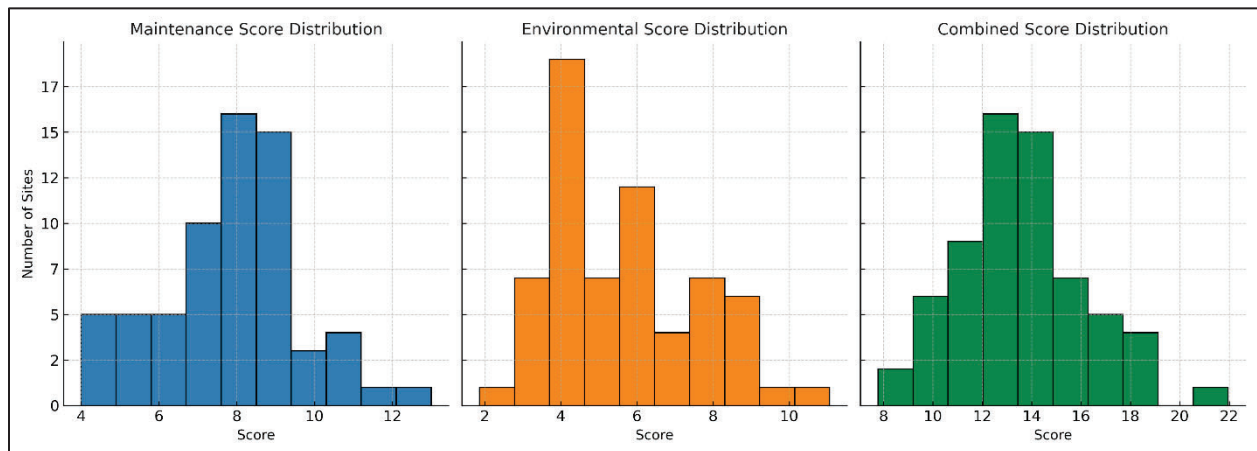


Figure 11 - The distribution of all scoring metrics across sites.

The distribution of these scores revealed meaningful distinctions (Figure 11). Sites with high maintenance scores often clustered in areas with repeated infrastructure failures — for instance, in districts where erosion and culvert blockages were widespread. On the other hand, high environmental scores were frequently observed in the near critical habitats, water bodies, or areas with high erosion potential. Interestingly, when looking at the maintenance and environmental scores in concert, some of the highest-priority sites were not those with the most issues, but rather those where maintenance needs and environmental opportunity converged — typically in wildland-urban interface zones or adjacent to impaired waterways.

Despite the variation in scoring across districts, there was consistency in both the overall average scores as well as the relative weight of maintenance and environmental scores when aggregated at the district level (Figure 12). This suggests that maintenance issues were weighted appropriately in this analysis, consistent with what survey respondents sought to see. Additionally, it implies that GI interventions would be beneficial across any of NMDOT’s districts throughout the state.

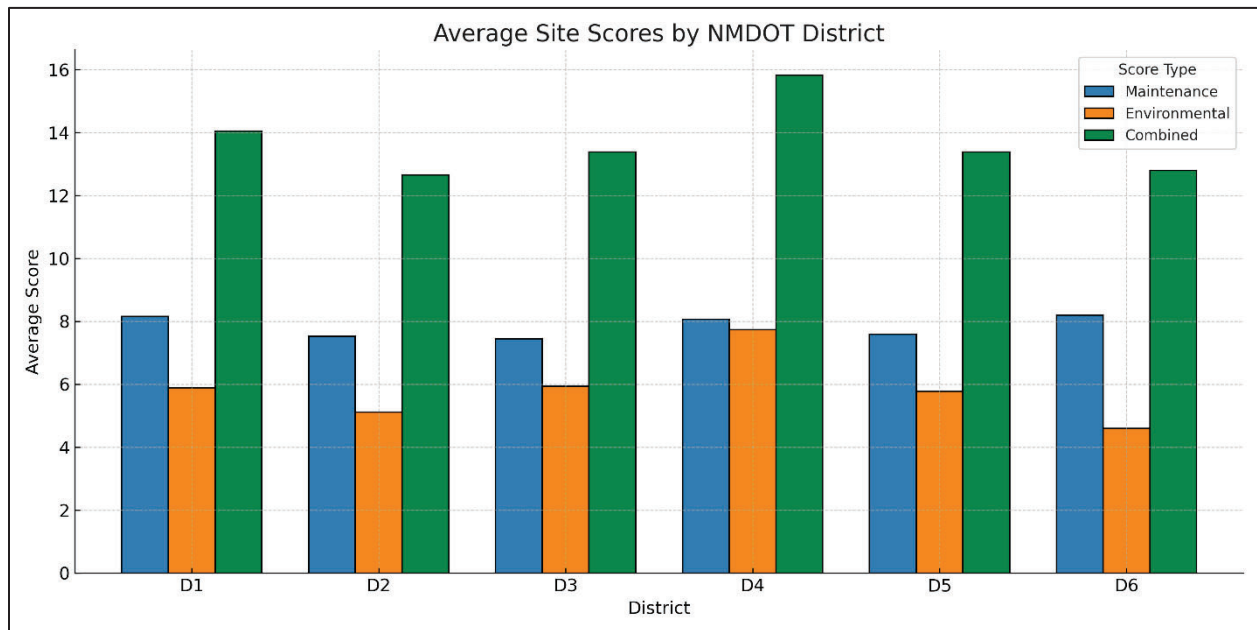


Figure 12 - The distribution of all scoring metrics aggregated by NMDOT district.

There was slight variation in scores across locality, however the averages were mostly consistent regardless of where the sites are located (Figure 13). This implies that GI interventions would likely be equally beneficial across any locality. Advantages to targeting the urban environment may include greater public awareness of NMDOT’s efforts towards environmental stewardship, thereby increasing public buy-in for GI. Conversely, targeting rural and WUI areas (where environmental scores trend higher) may be slightly more beneficial for regional-level ecological

resilience. Further, the reduced amount of NMDOT infrastructure in rural areas as compared to urban ones means that addressing problem areas in rural communities will have a proportionately greater impact on the quality of road transportation for local communities.

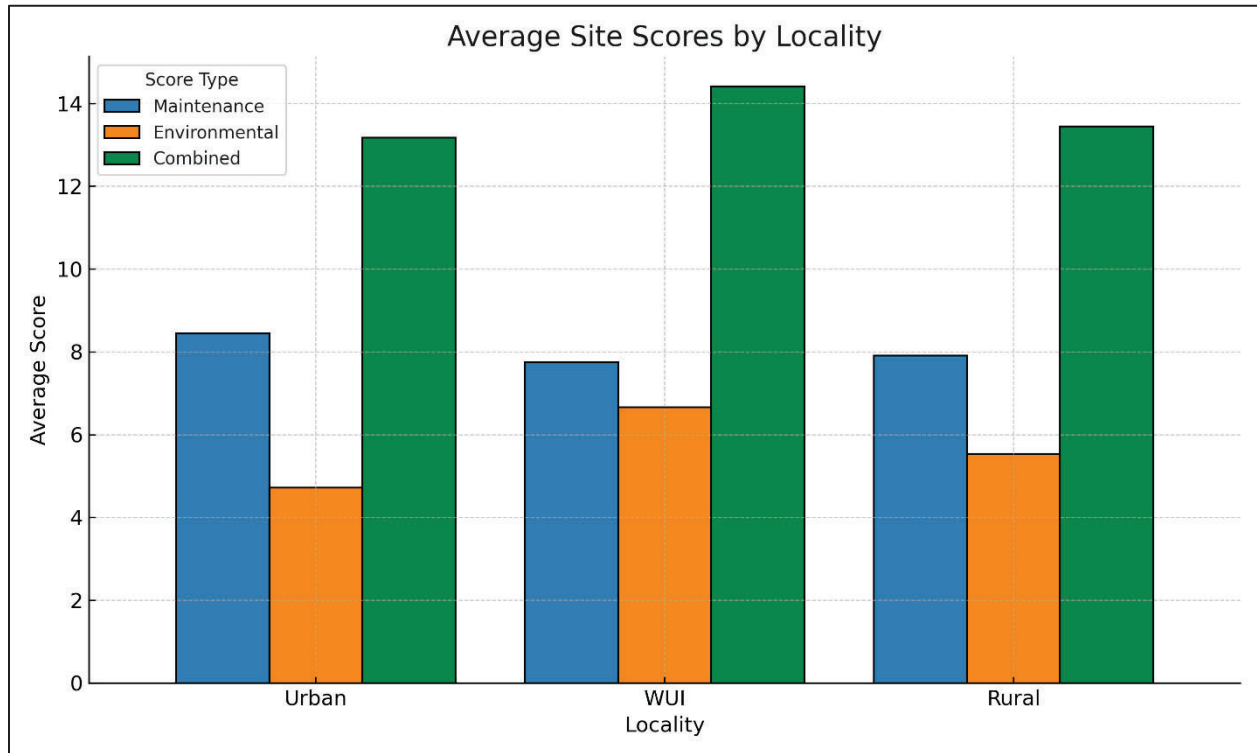


Figure 13 - The distribution of all scoring metrics aggregated by site locality.

Correlation analysis showed that maintenance and environmental scores were not strongly related, underscoring the need to consider both dimensions independently. A site with chronic road damage might not always have strong environmental justification for GI investment — and vice versa. This reinforces the value of the combined score approach, which elevates sites that are not only problematic but also offer meaningful environmental return on investment. In addition, the combined score approach offers NMDOT flexibility in prioritization as they move from the planning stages into implementation of GI across the state; different funding opportunities often come with different priorities, and the ability to adapt to new funding schemes is beneficial for long-term success in GI implementation.

## 4.2 Site Ranking

The final site rankings, based on combined maintenance and environmental scores, highlight locations where GI interventions offer the greatest overall benefit (Table 3). The highest-scoring sites — S48, S11, S16, S34, and S49 — stand out due to the convergence of severe and recurring maintenance needs with elevated environmental opportunity. These sites are typically

characterized by issues such as arroyo incision, culvert failure, or persistent ponding, in combination with ecological indicators like proximity to critical habitat corridors, impaired watersheds, or post-fire flood risk zones.

For example, Site S48, the highest-ranked site overall, displayed severe post-fire flooding and erosion, and is situated in an area flagged for both habitat connectivity and flood vulnerability. Similarly, Site S11 exhibits substantial maintenance concerns within an environmentally sensitive context, suggesting strong potential for GI to provide both functional and ecological benefits. In contrast, lower-ranked sites tend to feature either fewer observed issues or are locations with limited environmental co-benefits.

*Table 3 - All sites listed by rank, as determined by the combined score.*

<b>Site Rank</b>	<b>Site ID</b>	<b>Roadway</b>	<b>District</b>	<b>Maint. Score</b>	<b>Enviro. Score</b>	<b>Combined Score</b>
1	S48	NM276	District 4	13.00	8.96	21.96
2	S11	NM152	District 1	8.00	11.06	19.06
3	S16	US70	District 2	10.30	8.41	18.74
4	S34	NM45	District 3	12.00	6.19	18.19
5	S49	NM94	District 4	9.00	8.95	17.95
6	S65	NM17	District 5	11.00	6.32	17.32
7	S22	NM12	District 6	9.00	7.83	16.83
8	S38	US550	District 3	9.00	7.72	16.72
9	S17	NM48	District 2	7.70	8.99	16.65
10	S46	NM518	District 4	8.30	8.13	16.47
11	S53	NM434	District 4	8.70	7.15	15.86
12	S55	NM111	District 5	8.00	7.81	15.81
13	S56	US84	District 5	8.00	7.65	15.65
14	S9	NM35	District 1	7.00	8.48	15.48
15	S40	NM16	District 5	9.50	5.91	15.41
16	S3	NM478	District 1	10.00	5.25	15.25
17	S60	NM539	District 5	11.00	4.00	15.00
18	S59	NM511	District 5	8.40	6.45	14.87
19	S33	I40	District 6	10.50	4.36	14.86
20	S62	NM173	District 5	9.00	5.81	14.81
21	S52	NM76	District 5	7.20	7.14	14.39
22	S44	NM22	District 3	7.00	7.34	14.34
23	S2	NM28	District 1	10.00	4.16	14.16
24	S12	NM15	District 1	4.00	10.13	14.13
25	S21	NM32	District 6	8.00	6.06	14.06
26	S35	NM344	District 5	9.00	5.02	14.02
27	S61	NM516	District 5	5.00	8.67	13.67
28	S63	US64/84	District 5	8.00	5.67	13.67
29	S39	I25	District 4	8.20	5.40	13.65

Site Rank	Site ID	Roadway	District	Maint. Score	Enviro. Score	Combined Score
30	S43	NM50	District 5	8.00	5.49	13.49
31	S19	NM246	District 2	9.30	4.15	13.48
32	S7	US70	District 1	9.00	4.46	13.46
33	S37	NM14	District 5	7.00	6.37	13.37
34	S57	US64 & US550	District 5	7.20	6.20	13.33
35	S6	I25	District 1	8.20	4.93	13.18
36	S31	NM117	District 6	8.80	4.30	13.13
37	S5	FR1035 & FR1037	District 1	8.50	4.62	13.12
38	S4	NM404	District 1	7.00	5.97	12.97
39	S25	NM169	District 1	9.00	3.85	12.85
40	S36	NM605	District 6	8.70	4.03	12.70
41	S51	NM503	District 5	7.00	5.66	12.66
42	S47	NM105	District 4	4.30	8.27	12.60
43	S13	NM2	District 2	8.00	4.39	12.39
44	S14	NM13	District 2	9.00	3.38	12.38
45	S58	NM38	District 4	5.00	7.29	12.29
46	S10	US82	District 2	4.00	8.21	12.21
47	S8	NM176	District 2	9.00	3.10	12.10
48	S24	US60	District 1 & 6	8.00	4.04	12.04
49	S42	NM118	District 6	8.00	4.00	12.00
50	S27	NM77	District 2	8.00	3.84	11.84
51	S30	NM47	District 3	6.00	5.76	11.76
52	S32	I25	District 3	6.70	4.81	11.47
53	S15	NM249	District 2	6.00	5.32	11.32
54	S50	NM197	District 6	7.50	3.64	11.14
55	S45	US491	District 6	8.00	3.12	11.12
56	S1	NM273	District 1	9.00	1.87	10.87
57	S18	US54	District 2	6.50	4.25	10.75
58	S20	US285	District 2	7.00	3.51	10.51
59	S41	I40	District 6	5.50	4.59	10.09
60	S64	NM574	District 5	5.00	4.55	9.55
61	S28	NM542	District 5	6.00	3.54	9.54
62	S23	NM55	District 2 & 5	5.50	3.94	9.44
63	S26	NM42	District 5	6.00	3.33	9.33
64	S54	NM112	District 5	4.00	4.27	8.27
65	S29	NM263	District 3	4.00	3.78	7.78

High scoring sites are well distributed throughout the state, with many clustering in the more mountainous regions – where environmental scores tend to be higher – though some urban sites, and sites in erosion-prone areas, also rank highly (Figure 14).

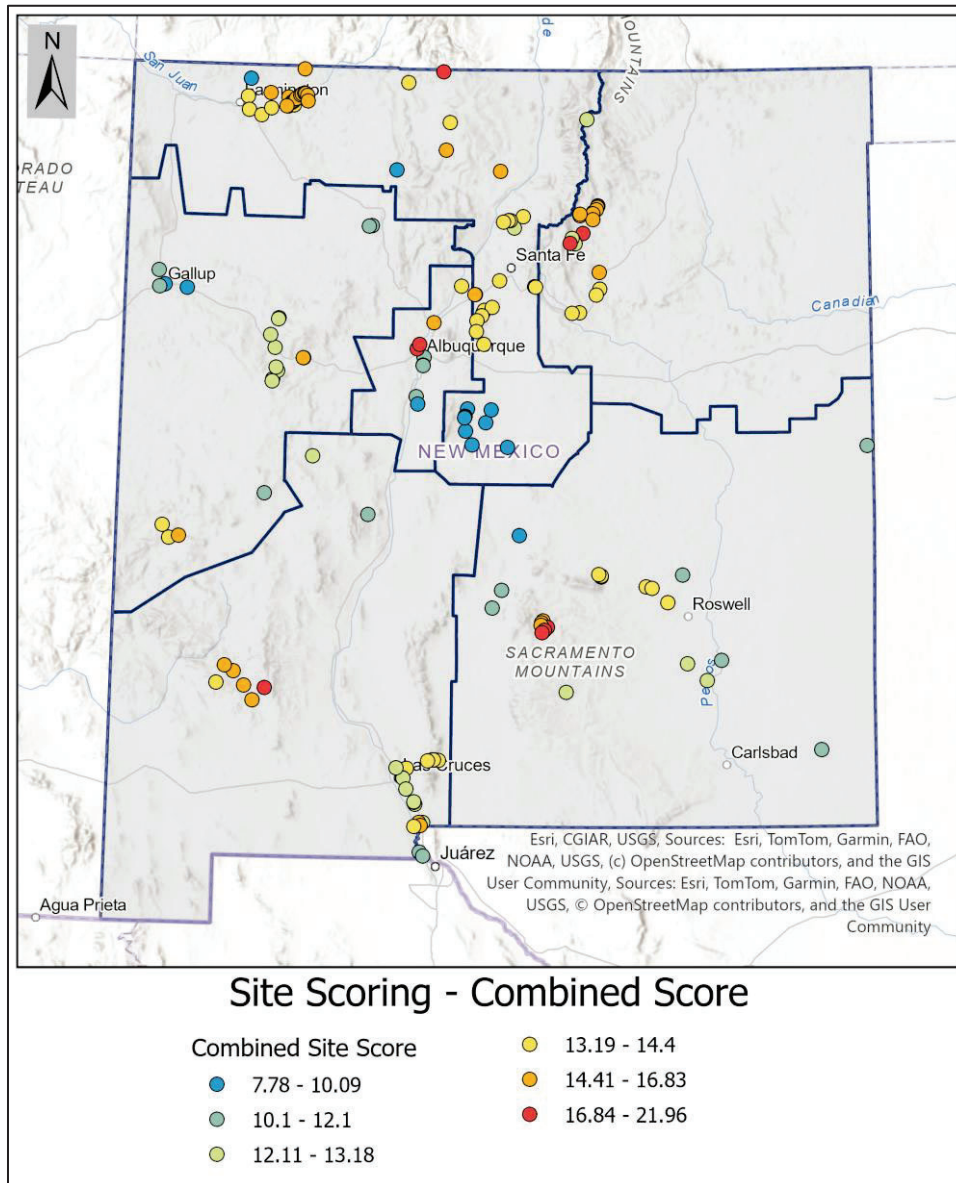


Figure 14 - The distribution of all sites, symbolized by combined score.

The combined score ultimately highlights the sites where the greatest maintenance need and environmental uplift converge. The combined scoring framework enables NMDOT to prioritize sites where GI investments can produce meaningful improvements in infrastructure performance while also supporting long-term resilience, water quality, and ecological health.

### 4.3 Survey Insights

A total of 35 NMDOT staff responded to the live survey through Mentimeter during the 6 presentation and survey sessions across all NMDOT districts. Of those respondents, the majority – 60% – worked in maintenance, with engineering making up the second-largest portion of respondents at 26% (Figure 15). This composition was ideal for the purpose of this project, as maintenance staff are the most likely to know the overall site conditions in their respective districts, due to their familiarity with roadways and problem areas within the district. Additionally, engineering staff have a nuanced understanding of engineering challenges associated with current roadway infrastructure, which is useful to help judge the applicability and feasibility of GI infrastructure in their districts.

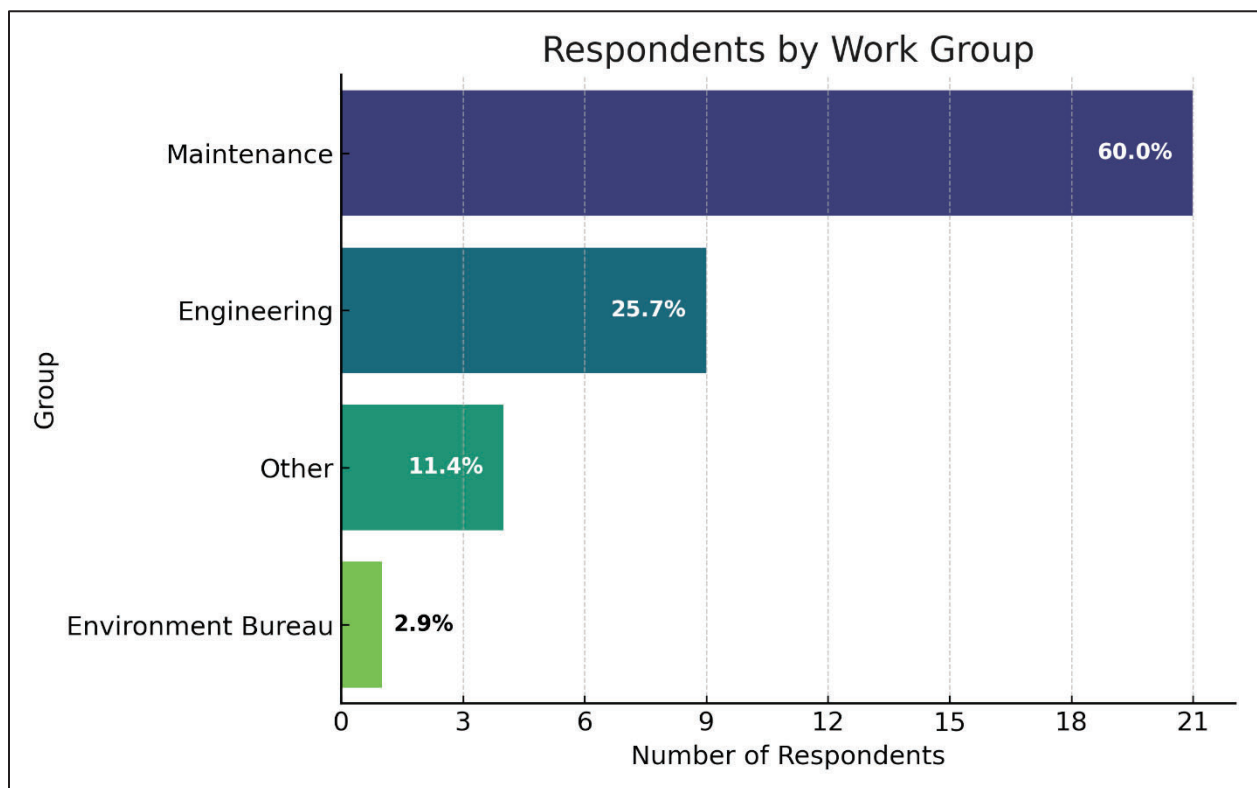


Figure 15 - The percentage of total survey respondents by work group.

Perspectives about the usefulness of GI varied across districts, reflecting the unique challenges that each region faces (Figure 16); Districts 1 & 3 for example see GI as being useful for addressing ponding, and issue that is prevalent both in urban areas with limited infiltration, and areas with extremely dry, compacted soils. Conversely, Districts 2 & 5 highlight erosion as being a concern, which reflects the erosive geology in the southeastern and northwestern portions of the state. The overarching theme across all districts was an emphasis on ponding, flooding, and erosion issues. This is perhaps in part due to the primary focus of GI in previous NMDOT publications,

where a focus on stormwater management is apparent. It may also reflect the reality of which issues NMDOT faces most often along the state’s road infrastructure.

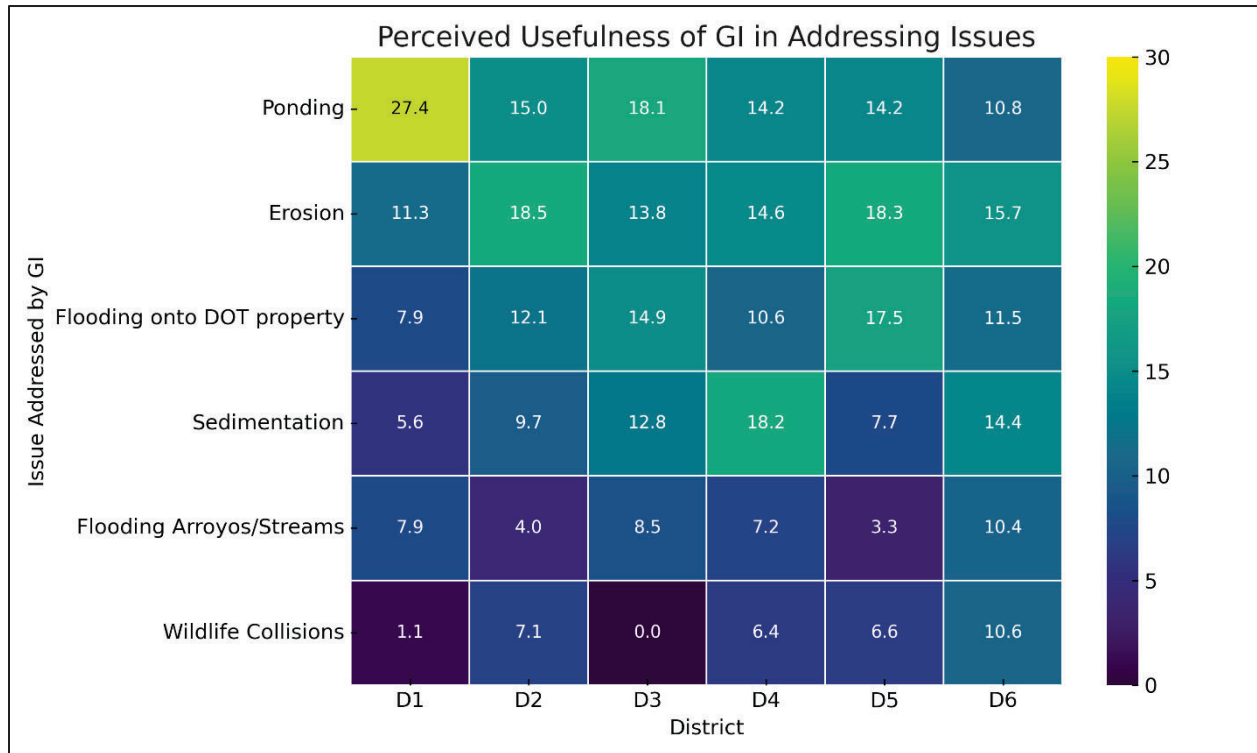


Figure 16 - The perceived usefulness of GI in addressing maintenance issues aggregated by district.

This focus on issues around erosion, flooding, and ponding was also reflected in the perceived efficacy of specific GI features (Figure 17). Features that channel water off or under the roadway and ROW, as well as features that increase water holding and infiltration ability in the ROW, consistently ranked the highest across districts. This is consistent with the sentiments expressed by NMDOT staff across most survey questions and is consistent with the frequency of issues observed during field site assessments. This indicates that these issues are the most prevalent issues affecting roadway infrastructure in New Mexico. As most GI interventions are designed to address these exact issues, it strengthens the case for NMDOT’s adoption of green infrastructure as a means of increasing infrastructure resilience.

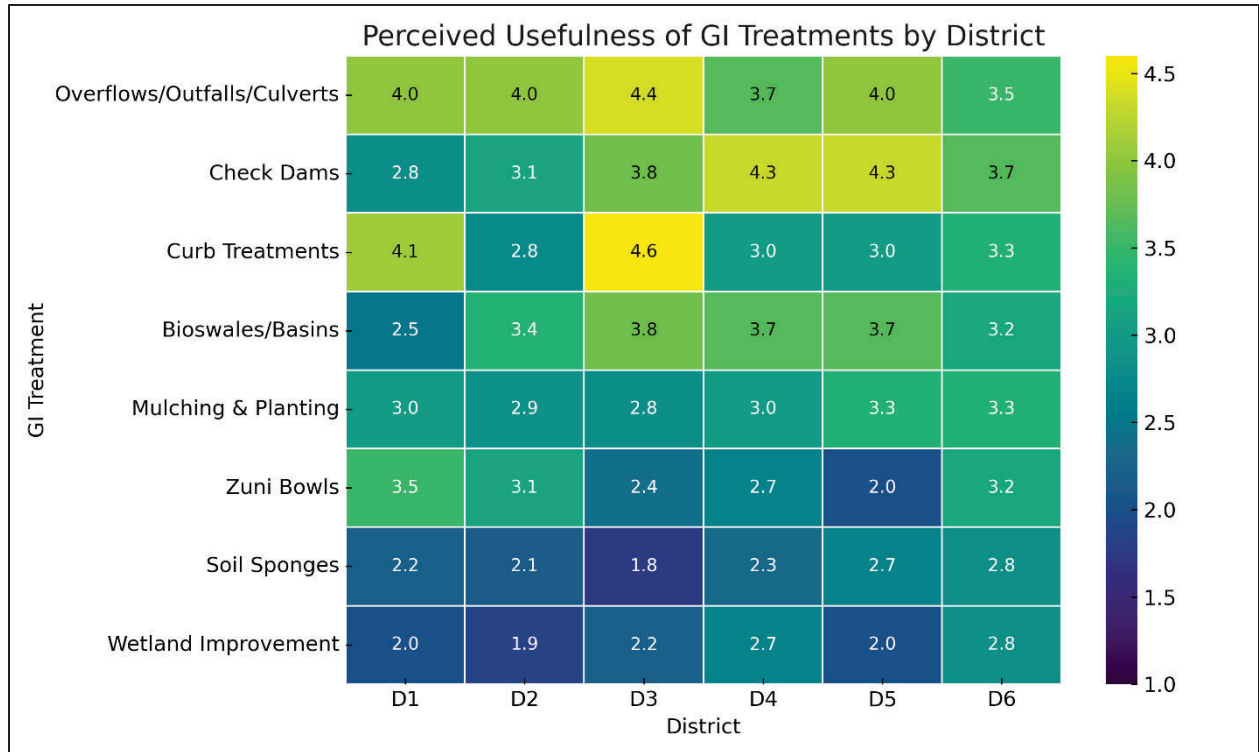


Figure 17 - The perceived applicability of specific GI treatments by district.

When considering which locality – urban areas, the wildland-urban interface, or rural areas – might benefit the most from GI improvements, there was also variability across districts (Figure 18). When aggregated however, the split was nearly even between urban and rural areas, with the WUI consistently being ranked the lowest. This may be due in part to some ambiguity about exactly what constitutes the WUI, or the opinion may stem from personal experience regarding which localities in New Mexico experience the greatest number of issues that GI can help address.

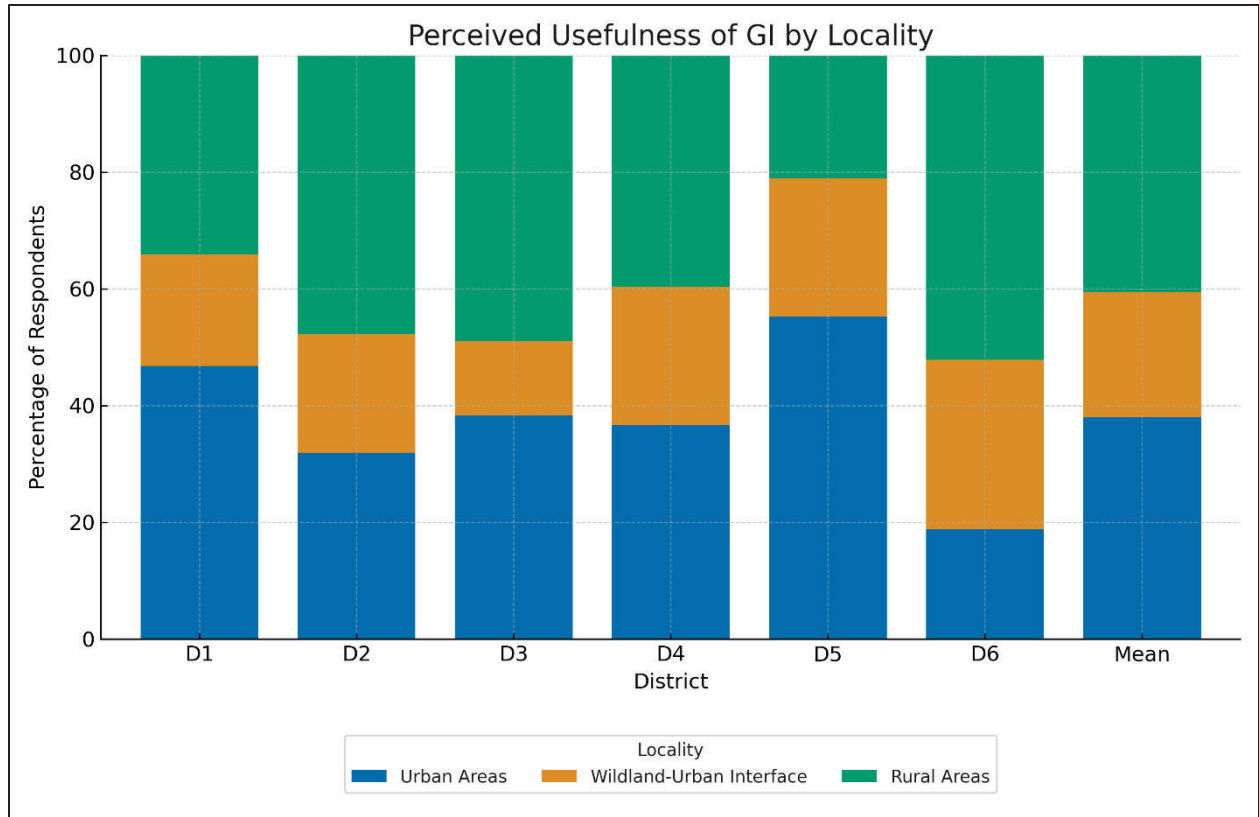


Figure 18 - The perceived benefit each locality might reap from GI interventions.

When considering which data may be most useful in prioritizing and siting GI improvements, there was consistency with previous answers; erosion and flood risk scored the highest overall, with an emphasis on siting these features at known recurring problem areas (Figure 19). In addition, a large emphasis was placed on siting GI in areas where there are safety issues on the roadway and ROW. Discussion during the survey sessions also indicated that maintaining safety – particularly maintaining sight lines and clear zones – after installing GI was also a concern. In other words, stabilizing maintenance issues with GI should be done in a way that maintains or increases safety for travelers.

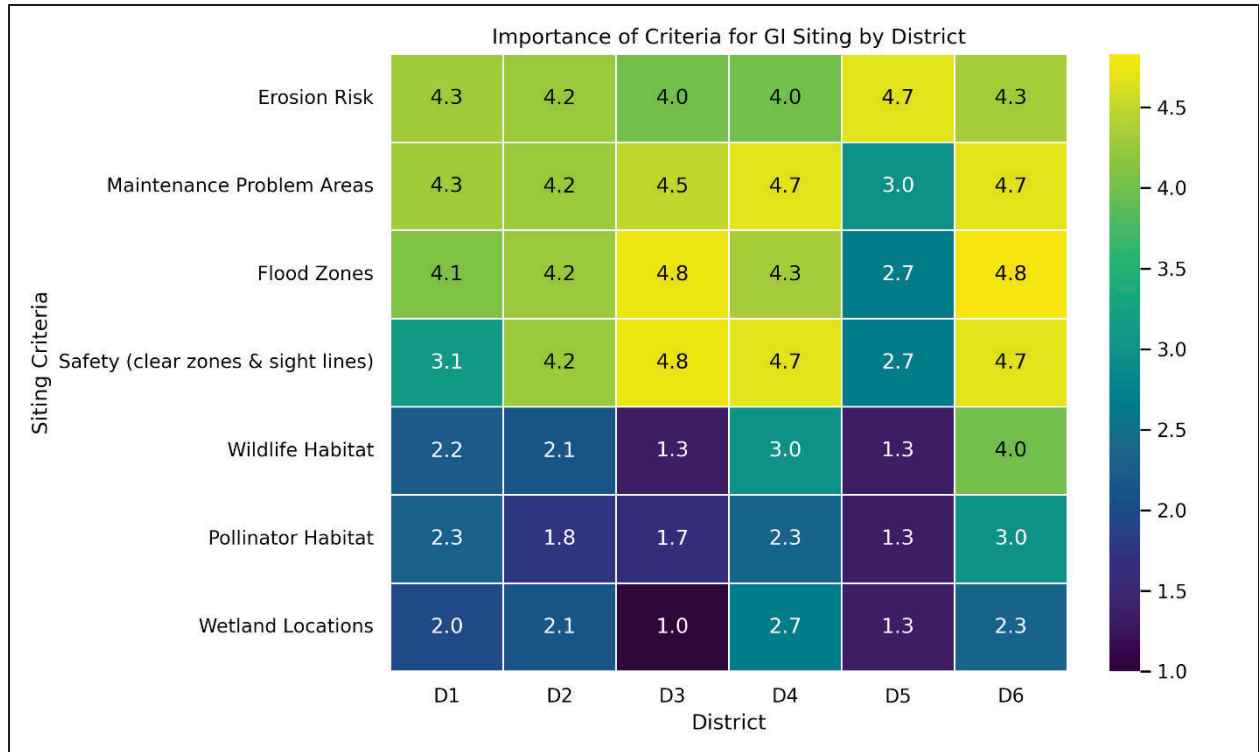


Figure 19 - The perceived importance of various criteria in determining which sites might benefit the most from GI interventions.

Lastly, some common themes stood out when respondents were asked an open-ended question about what outcomes they would like to see arise from GI implementation in their districts (Figure 20). The biggest common thread in responses was a clear desire to see long-term solutions, specifically reduced maintenance and greater cost efficiency. This long-term focus aligns perfectly with the intended benefits of GI, as does the reduction in overall maintenance and cost. Similar to other questions, a focus on erosion and flooding was also apparent in many responses. Interestingly, some respondents also viewed GI as a means to improve roadway aesthetics. However this sentiment took a back seat to the larger focus on more tangible roadway infrastructure improvements.

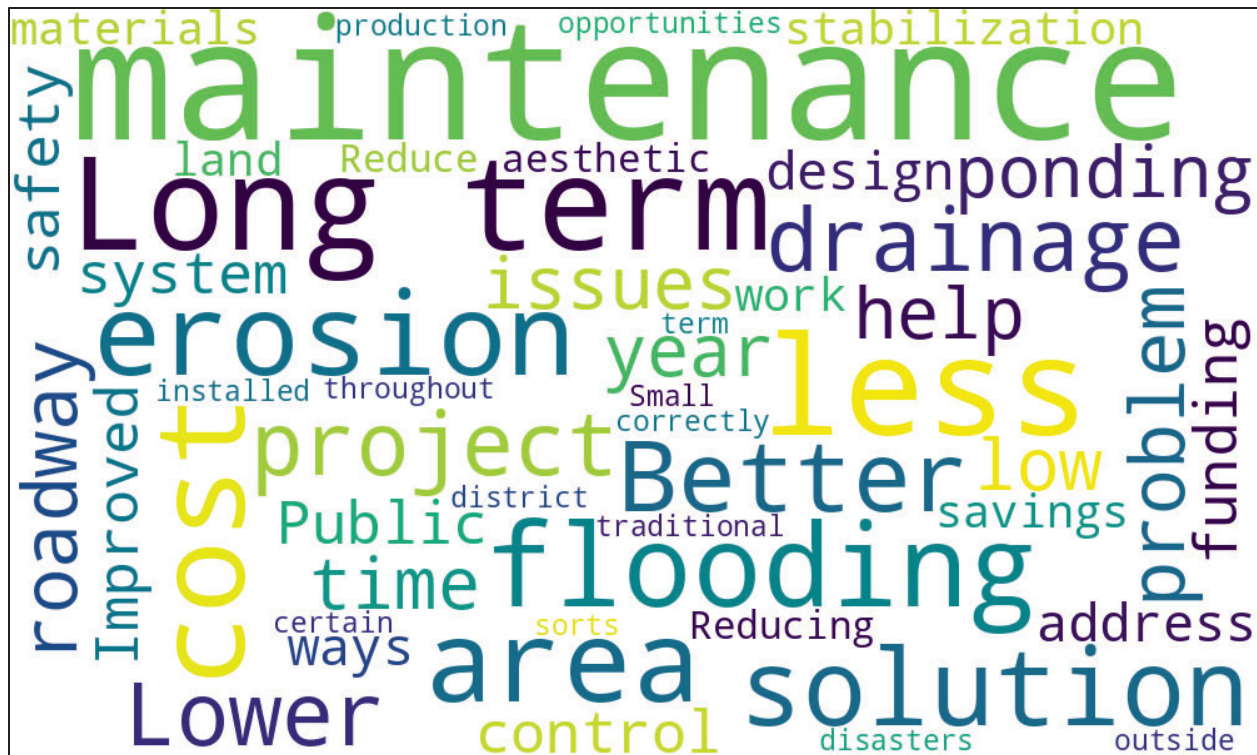


Figure 20 - A word cloud generated from the short-form, open responses to the survey question: "What outcomes would you like to see from GI projects?"

Overall, the survey process proved fruitful on several fronts. It guided the field assessments and GIS overlay scoring on a conceptual level, as well as a very tangible level by providing exact locations of nearly 200 recurring problem areas on NMDOT's transportation infrastructure. It also yielded useful analysis of general sentiments around the applicability of GI along New Mexico's roadways – information that can help guide NMDOT to implement GI in a way that is consistent with both the larger agency mission as well as bottom-up concerns. Perhaps most importantly, the survey and problem area mapping exercises highlighted the importance of including field staff in high-level planning exercises at an early stage. As the people with the greatest on-the-ground experience, maintenance and engineering staff have a unique and nuanced understanding of the issues faced by NMDOT's infrastructure. Their contributions are invaluable in ensuring that the adoption of new techniques like GI are successful through the entire implementation process.

## 5.0 CONCLUSION

This study illustrates the effectiveness of a structured, data-driven framework for identifying and prioritizing GI opportunities across New Mexico's state-maintained transportation network. By integrating geospatial analysis, field-based site assessments, and direct input from NMDOT staff,

the project offers a robust and grounded understanding of where GI can be most effectively deployed to mitigate recurrent maintenance issues and enhance environmental performance.

The findings confirm a strong correspondence between staff-identified problem areas — particularly those related to erosion, surface ponding, and stormwater-induced flooding— and the conditions observed during field investigations. These recurring issues reflect systemic vulnerabilities within the transportation system, particularly in areas with limited vegetation cover, undersized or poorly maintained drainage infrastructure, and rapidly concentrated surface flows. GI practices that facilitate infiltration, detain runoff, or stabilize disturbed soils were consistently identified as promising solutions with high applicability across a range of site conditions.

The assessment process documented nearly 200 high-priority locations in collaboration with NMDOT staff, providing precise geospatial references for areas where GI could address recurring issues. These data points were derived from a combination of GIS-based overlays and qualitative site evaluations, enabling the creation of a tiered implementation strategy grounded in empirical observation and agency experience.

A central outcome of this work is the development of a dual-axis prioritization framework that allows NMDOT to evaluate potential GI investments based on both maintenance urgency and environmental opportunity. This combined scoring approach reveals that while the two factors are not strongly correlated, their integration is critical to identifying sites where GI can deliver both functional and ecological benefits. High-scoring sites represent strategic opportunities for cost-effective interventions that not only reduce operational burdens but also support NMDOT's long-term goals of infrastructure resilience, water quality protection, and habitat enhancement. This framework also allows NMDOT to align projects with funding sources and other prioritization considerations. Sufficient detail is provided for each project in the Implementation Plan (Appendix A) submitted with this report, to ensure that NMDOT can evaluate and reprioritize sites through a different lens than the scoring process developed and utilized in this study.

Statewide, erosion emerged as the most frequently observed issue, often linked to steep topography, insufficient vegetation, and unmanaged overland flow. Drainage limitations, particularly undersized or blocked culverts, were also widespread and typically associated with localized flooding and sediment accumulation. These challenges were especially pronounced in Districts 4 and 5, where varied topography and land cover types contribute to complex runoff dynamics. The high incidence of erosion in these districts suggests a need for increased investment in slope stabilization, revegetation, and distributed runoff management practices. Although less common, the identification of wildlife crossings—primarily in rural and low-traffic areas—underscores the potential for GI to contribute to broader ecological connectivity and public safety. The consideration of such features within the environmental scoring system allows

for a more comprehensive assessment of ecosystem benefits tied to infrastructure improvements.

As climate variability, population pressures, and ecological considerations increasingly influence transportation planning in New Mexico, GI presents a viable and scalable strategy for adaptation. The methodology and results presented here establish a replicable foundation for future planning and project development, ensuring that GI implementation is both data-informed and context-sensitive. This work positions NMDOT to make proactive, evidence-based decisions that align infrastructure investments with sustainability, performance, and resilience goals at both the project and district levels.

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## 7.0 APPENDICES

### Appendix A: Implementation Plan

This Implementation Plan provides a structured and field-informed foundation for prioritizing Green Infrastructure (GI) investments across New Mexico’s state-managed roadway system. Developed through close engagement with NMDOT District maintenance and engineering staff, the 65 site summaries included here reflect both persistent on-the-ground maintenance challenges and broader environmental risk factors that can be addressed through GI solutions.

The work began by identifying and mapping recurrent problem areas reported by District staff—such as erosion, sediment buildup, ponding, and drainage failures—across all six NMDOT Districts. These locations were surveyed in the field to validate reported conditions and assess additional factors that may not be visible remotely. Observations captured a wide range of issue types, including culvert blockages, shoulder degradation, slope instability, and flood-driven erosion. Each field visit helped to contextualize not just the problem itself, but the surrounding constraints, land use, and hydrologic conditions that influence long-term performance.

To support implementation planning, each site was evaluated using a dual scoring system: a Maintenance Score and an Environmental Score. The Maintenance Score captures the severity, complexity, and potential roadway impact of observed issues. The Environmental Score integrates spatial data on flood risk, erosion potential, hydrology, conservation value, and habitat connectivity—factors that inform ecological return on investment and long-term site resilience.

Importantly, this dual scoring framework allows NMDOT to weigh maintenance urgency against ecological opportunity, providing a nuanced and adaptable approach to site prioritization. Sites with high combined scores reflect both critical maintenance need and the potential for broader environmental co-benefits. This approach supports scalable implementation: high-priority sites can be advanced immediately, while others remain available for future investment as funding becomes available or district priorities evolve.

Each site summary offers a concise, visually accessible record of field conditions, GIS-derived scoring, and recommended interventions. By aligning local observations with statewide planning objectives, these summaries are designed to be durable planning tools—supporting not only immediate project development, but also long-term strategic investment in a more resilient, cost-effective transportation network.

This document is not a fixed roadmap, but a flexible resource that empowers NMDOT staff to select, refine, and implement GI projects according to district-level priorities, evolving needs, and available resources. The individual site summaries included in this document serve as both a planning reference and a design catalyst. Each summary outlines key issues, recommended interventions, and representative imagery, offering NMDOT staff the ability to compare, contrast, and advance GI projects

based on localized needs and statewide goals. Together, these assessments support a scalable, data-informed path toward resilient, cost-effective infrastructure across New Mexico.

## Implementation Plan Site Summary Key:

### Site Metadata:

- All information regarding site location, including district(s), roadway(s), the mileposts that bound the entire site, and the number of observations across the site.

### Site Summary:

- A short narrative summary of site conditions based on field site assessments conducted by GSA staff in Spring 2025.
- A high-level overview of recommended interventions to increase site resilience with GI.

### Observation Details:

- All observations made across the entire site, with latitude/longitude and locality information.
- “Outside ROW?” indicates whether the observed maintenance issues extend out of the right-of-way or not.
- Total Maintenance Score and Environmental Score for each observation.

### Maintenance Issues:

- The specific maintenance issues aggregated from all observations across the entire site.
- A count of the number of observations within the site where each issue was found.
  - Does not necessarily reflect the total number of said issues across the entire site.

### Recommended Interventions:

- The specific recommended GI interventions aggregated from all observations across the entire site.
- A count of the number of interventions within the site where each recommendation was made.
  - Does not necessarily reflect the total number of said recommendations to fully address the issues.

### Site-wide Average Scores:

- All components of the Maintenance Score and Environmental Score.
- Averaged across all observations within a given site – *reflects site-wide scoring*.
- The ranking of each site for both scoring metrics, when compared to all 65 sites.
  - *Note that scores & rankings are tied for some sites – particularly for Maintenance Score.*

### Representative Photos:

- Two of the most representative site photos to illustrate the major issue(s) at each site.
- All additional imagery will be delivered separately.

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S1	District 1	NM273	MM2.7 – MM5.0	2

### Site Summary

This site, assessed at two observation points, exhibits significant erosion driven by inadequate drainage infrastructure and lack of flow control measures. Comprehensive erosion control and drainage improvements are needed to stabilize this area and prevent continued degradation. Severe surface erosion at this site is likely due to insufficient culvert capacity and absence of energy dissipation structures. Existing basin may be undersized to effectively capture runoff. Additionally, fencing is broken or missing, though no immediate wildlife presence was observed.

### Recommendations:

- Install additional culverts or enlarge existing drainage basins to manage runoff volume.
- Construct Zuni bowls
- Consider light revegetation to stabilize gravel and reduce surface material transport, though not immediately necessary.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S1_Ob1	31.802479	-106.583065	Yes	Urban	10	0.764077
S1_Ob2	31.827784	-106.608822	Yes	Rural	8	2.984042

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Erosion	2

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Culvert/outfall	2
Large basin	2
Wildlife crossing/Fence improvement	2
Zuni bowl	2
Earth work	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	1	Erosion Risk	0.92
Damage to Roadway	0	Flood Risk	1.47
Size	2.5	Hydrology	1.08
Reveg. Recommended	1	Conservation Area	0.56
# of Recommendations	4.5	Wildlife	0.24
Within ROW	0	Pollinator	0.93
<b>Total Maintenance Score</b>	9	<b>Total Environmental Score</b>	1.87
<b>Maint. Site Ranking</b>	11/65	<b>Enviro. Site Ranking</b>	64/65
<b>Overall Site Score</b>	10.87		
<b>Overall Site Ranking</b>	56/65		

## Representative Site Photos



Observation ID: S1\_Ob1



Observation ID: S1\_Ob2

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S2	District 1	NM28	MM6.3	1

### Site Summary

At this site, drainage beneath the roadway is obstructed by tumbleweeds, leading to minor rill formation and ponding due to slope-driven flow accumulation. Targeted drainage improvements and strategic vegetation could mitigate ponding, reduce erosion, and enhance long-term site resilience. At this site, clogged drainage structures reduce flow capacity and contribute to surface water buildup while water flows toward and alongside the roadway, increasing the risk of surface degradation. Minor rill erosion is developing, indicating early-stage surface instability.

Recommendations:

- Perform earthwork between the levee road and main roadway to construct a functional ditch and redirect flow.
- Implement bioswales, curb treatments, and culvert/outfall improvements to manage and convey runoff.
- Establish vegetation on levee slopes and along the road to enhance stability and provide erosion resistance, particularly if site conditions degrade further.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S2_Ob1	31.997878	-106.655419	Yes	Rural	10	4.16

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Erosion	1
Ponding	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	1
Culvert/outfall	1
Curb treatment	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	2	Erosion Risk	1.02
Damage to Roadway	1	Flood Risk	1.44
Size	3	Hydrology	0
Reveg. Recommended	1	Conservation Area	0.16
# of Recommendations	3	Wildlife	0.17
Within ROW	0	Pollinator	1.36
<b>Total Maintenance Score</b>	<b>10</b>	<b>Total Environmental Score</b>	<b>4.16</b>
<b>Maint. Site Ranking</b>	<b>7/65</b>	<b>Enviro. Site Ranking</b>	<b>48/65</b>
<b>Overall Site Score</b>		<b>14.16</b>	
<b>Overall Site Ranking</b>		<b>23/65</b>	

Representative Site Photos



Observation ID: S2\_Ob1



Observation ID: S2\_Ob1

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S3	District 1	NM478	MM0 – MM1.6	2

### Site Summary

This site includes two observation points with minor erosion and drainage concerns, primarily related to gravel displacement and limited drainage infrastructure. It is well-suited for minor drainage improvements and low-maintenance green infrastructure enhancements. The road sits at a local low point, making it prone to runoff accumulation. A small swale exists but is undersized and ineffective at managing flow. Gravel movement along a side road appears to result from surface flows, potentially compounded by road use. Existing culvert requires maintenance; additional culverts may be needed on the railroad side to improve drainage.

### Recommendations:

- Maintain and potentially expand culvert capacity to enhance flow conveyance across the site.
- Improve and deepen bioswales to better manage runoff direction and volume.
- Consider light revegetation to stabilize gravel and reduce surface material transport, though not immediately necessary.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S3_Ob1	32.00358	-106.607141	No	Urban	9	5.85
S3_Ob2	32.02513	-106.615776	No	WUI	11	4.66

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Erosion	2
Flooding	1
Ponding	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	2
Culvert/outfall	1
Curb treatment	1
Earth work	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	2	Erosion Risk	1.01
Damage to Roadway	1	Flood Risk	1.56
Size	2.5	Hydrology	0.14
Reveg. Recommended	0.5	Conservation Area	0.65
# of Recommendations	2	Wildlife	0.58
Within ROW	1	Pollinator	1.37
<b>Total Maintenance Score</b>	<b>10</b>	<b>Total Environmental Score</b>	<b>5.25</b>
<b>Maint. Site Ranking</b>	<b>7/65</b>	<b>Enviro. Site Ranking</b>	<b>35/65</b>
<b>Overall Site Score</b>	<b>15.25</b>		
<b>Overall Site Ranking</b>	<b>16/65</b>		

Representative Site Photos



Observation ID: S3\_Ob1



Observation ID: S3\_Ob3

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S4	District 1	NM404	MM0 – MM1.6	1

### Site Summary

This site exhibits signs of insufficient drainage capacity and erosion along the roadway and adjacent slopes. The existing ditch appears undersized for anticipated runoff volumes and lacks sufficient depth on both sides of the road. Key Issues include sheet and rill erosion observed on and near the roadway, runoff flows across, alongside, and away from the roadway, indicating poorly directed surface drainage, and minor slope instability; revegetation could assist with stabilization but is not immediately critical. Improving drainage geometry and incorporating green infrastructure will help manage runoff and mitigate ongoing surface erosion.

Key recommendations:

- Deepen and reshape roadside ditches to improve flow capacity and prevent overflow.
- Implement a bioswale and curb treatment to direct and filter runoff.
- Consider limited revegetation and earthwork on slopes to reduce erosion and enhance drainage efficiency.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S4_Ob1	32.024028	-106.587718	No	Rural	7	5.97

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Erosion	1
Ponding	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	1
Curb treatment	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	2	Erosion Risk	1.03
Damage to Roadway	1	Flood Risk	1.56
Size	2.5	Hydrology	0.13
Reveg. Recommended	0.5	Conservation Area	0.97
# of Recommendations	3	Wildlife	0.86
Within ROW	1	Pollinator	1.41
<b>Total Maintenance Score</b>	10	<b>Total Environmental Score</b>	5.97
<b>Maint. Site Ranking</b>	7/65	<b>Enviro. Site Ranking</b>	38/65
<b>Overall Site Score</b>		12.97	
<b>Overall Site Ranking</b>		35/65	

## Representative Site Photos



Observation ID: S4\_Ob1



Observation ID: S4\_Ob1

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S5	District 1	FR105/FR1037	MM3.4 – MM11/MM2.5	4

### Site Summary

Across four observation points along the frontage roads, recurring drainage and erosion concerns were documented, largely due to underperforming culverts and inadequate swale function. Routine drainage maintenance combined with targeted green infrastructure improvements will enhance system performance and reduce sediment-related roadway impacts. Key Issues observed include blocked culverts with sediment, tumbleweeds, and trash which reduce drainage capacity and contribute to roadway erosion and flood-related sand deposition. Swales are present but require maintenance and potential reshaping to effectively manage flow into culvert inlets. Localized erosion and exposed subgrade materials (e.g., metal netting) were observed, particularly in areas lacking sufficient vegetative cover.

### Recommendations:

- Maintain existing culverts to ensure proper flow conveyance and prevent blockages.
- Install or enhance bioswales at culvert inlets to slow runoff, promote infiltration, and filter sediment.
- Conduct limited earthwork and revegetation in erosion-prone or exposed areas.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S5_Ob1	32.145457	-106.650186	No	Rural	10	4.95
S5_Ob2	32.158272	-106.65936	Yes	Rural	7	4.77
S5_Ob3	32.158841	-106.658465	Yes	WUI	8	4.77
S5_Ob4	32.244416	-106.721237	Yes	WUI	9	3.99

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Erosion	3
Flooding	3
Ponding	4

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	4
Culvert/outfall	4
Curb treatment	1
Earth work	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	2.5	Erosion Risk	1.04
Damage to Roadway	0.5	Flood Risk	1.5
Size	2.5	Hydrology	0.05
Reveg. Recommended	0.25	Conservation Area	0.37
# of Recommendations	2.5	Wildlife	0.34
Within ROW	0.25	Pollinator	1.31
<b>Total Maintenance Score</b>	<b>8.5</b>	<b>Total Environmental Score</b>	<b>4.62</b>
<b>Maint. Site Ranking</b>	<b>27/65</b>	<b>Enviro. Site Ranking</b>	<b>37/65</b>
<b>Overall Site Score</b>	<b>13.12</b>		
<b>Overall Site Ranking</b>	<b>35/65</b>		

## Representative Site Photos



Observation ID: S5\_Ob2



Observation ID: S5\_Ob2

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S6	District 1	I25	MM3.4 – MM9	4

### Site Summary

Generally functional drainage infrastructure with targeted deficiencies are contributing to localized erosion and sedimentation issues. Existing swales, basins, and culverts are in place and partially effective, though culvert clearing and debris removal (e.g., tumbleweeds, trash) are needed to restore full function. Sheet and rill erosion is occurring in several locations, despite riprap protections; check dams could further mitigate erosion in these areas. One arroyo crossing lacks a culvert, leading to sediment deposition and road surface scouring. A new culvert installation is advised. A gully is forming within the right-of-way, indicating inadequate drainage and requiring stabilization. Targeted improvements to drainage connectivity and erosion control will enhance the site's stormwater management and reduce risk to infrastructure.

### Recommendations:

- Install a culvert at the arroyo crossing and stabilize the ROW gully.
- Clean out and maintain existing culverts and drainage basins, ensuring inlets and outlets are unobstructed.
- Add check dams and consider light revegetation in erosion-prone zones.
- Evaluate and add additional drain inlets where ponding persists.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S6_Ob1	32.314951	-106.745926	No	Urban	11	4.99
S6_Ob2	32.315039	-106.745699	N/A	Urban	6	4.99
S6_Ob3	32.316741	-106.747569	Yes	Urban	8	4.99
S6_Ob4	32.381462	-106.799687	No	Urban	8	4.74

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Erosion	3
Flooding	2
Ponding	4

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	1
Check dams	1
Culvert/outfall	4
Large basin	3

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	2.25	Erosion Risk	1.03
Damage to Roadway	0	Flood Risk	1.45
Size	2.75	Hydrology	0.92
Reveg. Recommended	0.25	Conservation Area	0.36
# of Recommendations	2.25	Wildlife	0.45
Within ROW	0.75	Pollinator	0.71
<b>Total Maintenance Score</b>	<b>8.2</b>	<b>Total Environmental Score</b>	<b>4.93</b>
<b>Maint. Site Ranking</b>	<b>27/65</b>	<b>Enviro. Site Ranking</b>	<b>37/65</b>
<b>Overall Site Score</b>	<b>13.18</b>		
<b>Overall Site Ranking</b>	<b>35/65</b>		

## Representative Site Photos



Observation ID: S6\_Ob1



Observation ID: S6\_Ob3

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S7	District 1	US70	MM152.8 – MM170	7

### Site Summary

This site, covering seven observation points near Mile Marker 157, exhibits minor to moderate erosion, sedimentation, and drainage issues. Rill erosion and runoff channels form along slopes and the highway, despite some existing riprap, basins, and culverts. Sediment buildup in large drainage structures is reducing flow capacity. Ponding and localized flooding are likely driven by road slope, arroyo spillover, and limited drainage. Steep, unvegetated slopes remain erosion-prone. While nearby construction (e.g., the Maverik site) includes some drainage infrastructure, highway runoff continues to pose a challenge.

Recommendations:

- Maintain existing culverts and basins; expand basin capacity in medians and low-lying areas.
- Install small bioswales in ROW spaces to intercept highway runoff and promote infiltration.
- Construct check dams and Zuni bowls in channels to slow flow, trap sediment, and reduce erosion.
- Stabilize steep slopes and basin walls through targeted revegetation.
- Assess the need for wildlife fencing in areas lacking barriers and showing signs of animal activity.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S7_Ob1	32.37219	-106.741968	No	Urban	9	4.74
S7_Ob2	32.382087	-106.718313	No	Rural	9	4.29
S7_Ob3	32.430764	-106.553922	Yes	Rural	8	4.82
S7_Ob4	32.435124	-106.470578	Yes	Rural	10	3.74
S7_Ob5	32.437129	-106.520841	Yes	Rural	13	4.72
S7_Ob6	32.437192	-106.510457	Yes	Rural	5	4.37
S7_Ob7	32.43785	-106.4966	No	Rural	9	4.53

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Erosion	5
Flooding	4
Ponding	4
Sedimentation	3

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	4
Check dams	1
Culvert/outfall	5
Curb treatment	1
Large basin	3
Wildlife crossing/fence improvement	1
Zuni bowl	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	2.57	Erosion Risk	1.08
Damage to Roadway	0.29	Flood Risk	1.48
Size	2.86	Hydrology	0.15
Reveg. Recommended	0.43	Conservation Area	0.37
# of Recommendations	2.43	Wildlife	0.67
Within ROW	0.43	Pollinator	0.72
<b>Total Maintenance Score</b>	<b>9</b>	<b>Total Environmental Score</b>	<b>4.46</b>
<b>Maint. Site Ranking</b>	<b>11/65</b>	<b>Enviro. Site Ranking</b>	<b>42/65</b>
<b>Overall Site Score</b>	<b>13.46</b>		
<b>Overall Site Ranking</b>	<b>32/65</b>		

Representative Site Photos



Observation ID: S7\_Ob6



Observation ID: S7\_Ob3

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S8	District 2	NM176	MM14.9	1

### Site Summary

This site, evaluated at one observation point, experiences ponding along the roadway between Mile Markers 10 and 20, as reported by NMDOT staff. However, these drainage issues were difficult to observe during the field assessment, likely due to dry conditions at the time of the visit. While stormwater appears to accumulate within the right-of-way, it is not currently causing visible damage to the roadway. Flooding and ponding are likely the result of inadequate drainage and slope-driven flow accumulation. Drainage improvements, including new retention features and flow path modifications, are recommended. Vegetation establishment is also advised to support infiltration and reduce surface runoff impacts over time.

### Recommendations:

- Construct a large basin to capture and detain runoff.
- Install bioswales to slow flow and improve water quality.
- Implement revegetation in and around drainage features to enhance infiltration and erosion resistance.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S8_Ob1	32.508075	-103.486688	No	Rural	9	3.1

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Flooding	1
Ponding	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	1
Large basin	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	2	Erosion Risk	1.03
Damage to Roadway	0	Flood Risk	1.44
Size	3	Hydrology	0.11
Reveg. Recommended	1	Conservation Area	0.16
# of Recommendations	2	Wildlife	0.31
Within ROW	1	Pollinator	0.04
<b>Total Maintenance Score</b>	9	<b>Total Environmental Score</b>	3.1
<b>Maint. Site Ranking</b>	11/65	<b>Enviro. Site Ranking</b>	63/65
<b>Overall Site Score</b>	12.1		
<b>Overall Site Ranking</b>	47/65		

## Representative Site Photos



Observation ID: S8\_Ob1



Observation ID: S8\_Ob1

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S9	District 1	NM35	MM1 – MM23.3	4

### Site Summary

This site, assessed at four observation points, displays underdeveloped and inconsistently maintained drainage features, along with emerging erosion concerns. The area is constrained by adjacent private property and proximity to an airport, limiting access and potential interventions. This site presents an opportunity for low-impact drainage improvements that enhance runoff management while considering access and operational constraints. Shallow roadside depressions are present at the site but have limited function. A culvert appears to have been displaced or damaged, with its post still present but misaligned. Previous earthwork resulted in uneven topography, creating ineffective flow paths and contributing to ponding or misdirected runoff. A gully is forming on the south side of the road and may pose future risk to the roadway if left unaddressed. Culverts may be partially blocked, contributing to drainage inefficiency. Fencing is damaged, though wildlife impacts appear minimal.

### Recommendations:

- Perform earthwork to regrade existing depressions into functional bioswales.
- Replace or realign the damaged culvert and clear all existing drainage structures.
- Reshape or remove ineffective mounds and depressions from prior grading to improve hydrologic connectivity.
- Monitor and stabilize the developing gully to prevent future roadway encroachment.
- Fence repair is optional but not critical at this time.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S9_Ob1	32.810658	-107.933129	No	WUI	5	7.58
S9_Ob2	32.906847	-108.003575	No	Rural	9	9.04
S9_Ob3	32.997463	-108.087648	No	Rural	7	7.97
S9_Ob4	33.037051	-108.157104	Yes	Rural	7	9.33

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Culvert damage	2
Erosion	1
Flooding	2
Ponding	1
Sedimentation	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	3
Culvert/outfall	2
Earth work	3
Wildlife crossing/fence improvement	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	1.75	Erosion Risk	1.36
Damage to Roadway	0	Flood Risk	1.52
Size	2.25	Hydrology	1.31
Reveg. Recommended	0	Conservation Area	2.4
# of Recommendations	2.25	Wildlife	1.32
Within ROW	0.75	Pollinator	0.58
<b>Total Maintenance Score</b>	<b>7</b>	<b>Total Environmental Score</b>	<b>8.48</b>
<b>Maint. Site Ranking</b>	<b>44/65</b>	<b>Enviro. Site Ranking</b>	<b>7/65</b>
<b>Overall Site Score</b>	<b>15.48</b>		
<b>Overall Site Ranking</b>	<b>14/65</b>		

Representative Site Photos



Observation ID: S9\_Ob4



Observation ID: S9\_Ob3

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S10	District 2	US82	MM35	1

### Site Summary

This site, observed at a single point, is characterized by signs of wildlife movement across the roadway, including one faint and one well-defined game trail on either side of the road. No roadway damage was observed, and the site lies outside the right-of-way. While no immediate erosion or drainage concerns were noted, the presence of wildlife crossings suggests a need for safety and habitat connectivity improvements. Enhancing fencing and evaluating options for safe crossing infrastructure may help reduce wildlife-vehicle conflicts at this location.

Recommendations:

- Improve or install wildlife fencing to guide animals toward safer crossing areas.
- Evaluate feasibility of designated wildlife crossings or underpasses to support habitat connectivity.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S10_Ob1	32.892121	-105.477845	Yes	WUI	4	8.21

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Wildlife crossing	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Wildlife crossing/fence improvement	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	1	Erosion Risk	1.46
Damage to Roadway	0	Flood Risk	1.49
Size	2	Hydrology	1.45
Reveg. Recommended	0	Conservation Area	0.97
# of Recommendations	1	Wildlife	1.24
Within ROW	0	Pollinator	1.6
<b>Total Maintenance Score</b>	4	<b>Total Environmental Score</b>	8.21
<b>Maint. Site Ranking</b>	62/65	<b>Enviro. Site Ranking</b>	10/65
<b>Overall Site Score</b>		12.21	
<b>Overall Site Ranking</b>		46/65	

Representative Site Photos



Observation ID: S10\_Ob1



Observation ID: S10\_Ob1

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S11	District 2	NM152	MM25.5	1

### Site Summary

Runoff from adjacent mountainous terrain currently collects in a small, insufficient depression, with a culvert present but not easily visible. The site shows signs of gully formation, indicating concentrated flow and limited capacity to manage runoff. Improved drainage design and erosion control measures are needed to protect roadway infrastructure and reduce ongoing surface degradation. Issues include insufficient collection and conveyance infrastructure, leading to erosion and gullying, plus, water flows across, toward, and away from the roadway, suggesting poor flow control and redirection.

Recommendations:

- Expand and reshape ditches and drainage channels to accommodate mountain runoff.
- Install or upgrade bioswales and culvert outfalls to manage and distribute flows more effectively.
- Perform targeted earthwork to stabilize gullies and redirect flow paths.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S11_Ob1	32.892637	-107.838122	No	Rural	8	11.06

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Erosion	1
Flooding	1
Ponding	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	1
Culvert/outfall	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	3	Erosion Risk	1.84
Damage to Roadway	0	Flood Risk	1.44
Size	2	Hydrology	1.5
Reveg. Recommended	0	Conservation Area	2.86
# of Recommendations	2	Wildlife	1.18
Within ROW	1	Pollinator	2.24
<b>Total Maintenance Score</b>	<b>8</b>	<b>Total Environmental Score</b>	<b>11.06</b>
<b>Maint. Site Ranking</b>	<b>8/65</b>	<b>Enviro. Site Ranking</b>	<b>1/65</b>
<b>Overall Site Score</b>	<b>19.06</b>		
<b>Overall Site Ranking</b>	<b>2/65</b>		

Representative Site Photos



Observation ID: S11\_Ob1



Observation ID: S11\_Ob1

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S12	District 1	NM15	MM12.4	1

### Site Summary

The existing culvert at this location is partially obstructed, with approximately 20% infill due to sediment deposition. Additionally, rockfall from the adjacent slope presents a potential hazard and may exacerbate sediment loading or obstruct flow paths. No erosion, flooding, or roadway damage was observed during the assessment, and the issue appears to be localized and manageable. The observation falls outside of the right-of-way, and no revegetation is currently recommended. Addressing the sediment buildup would help restore proper flow conveyance and prevent future drainage issues.

Recommendations:

- Clean out the existing culvert to restore flow capacity.
- Monitor for recurring sediment accumulation that may indicate upstream runoff issues.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S12_Ob1	32.920309	-108.218729	Yes	Rural	4	10.13

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Culvert damage	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Culvert/outfall	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	1	Erosion Risk	1.74
Damage to Roadway	0	Flood Risk	1.53
Size	2	Hydrology	1.51
Reveg. Recommended	0	Conservation Area	2.7
# of Recommendations	1	Wildlife	1.22
Within ROW	0	Pollinator	1.44
<b>Total Maintenance Score</b>	4	<b>Total Environmental Score</b>	10.13
<b>Maint. Site Ranking</b>	62/65	<b>Enviro. Site Ranking</b>	2/65
<b>Overall Site Score</b>	14.13		
<b>Overall Site Ranking</b>	24/65		

Representative Site Photos



Observation ID: S12\_Ob1



Observation ID: S12\_Ob1

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S13	District 2	NM2	MM6.5	1

### Site Summary

This site, observed at a single point, has a history of ponding and roadway overtopping reported between Mile Markers 6 and 7. While active flow was not observed during the field visit, physical evidence of ponding was present and supports the drainage concerns raised by NMDOT staff. The site lies outside of the right-of-way and does not currently show signs of roadway damage. Flooding and ponding are likely due to inadequate drainage infrastructure and surface flow accumulation. Targeted drainage improvements and vegetation establishment are recommended to reduce flow velocity and promote infiltration.

Recommendations:

- Construct a large basin to retain and manage runoff.
- Install bioswales to intercept and filter stormwater.
- Implement revegetation to enhance infiltration and reduce erosion risk.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S13_Ob1	32.971419	-104.376315	Yes	Rural	8	4.39

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Flooding	1
Ponding	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	1
Large basin	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	2	Erosion Risk	1.03
Damage to Roadway	0	Flood Risk	1.52
Size	3	Hydrology	0.86
Reveg. Recommended	1	Conservation Area	0.37
# of Recommendations	2	Wildlife	0.51
Within ROW	0	Pollinator	0.08
<b>Total Maintenance Score</b>	8	<b>Total Environmental Score</b>	4.39
<b>Maint. Site Ranking</b>	29/65	<b>Enviro. Site Ranking</b>	43/65
<b>Overall Site Score</b>	12.39		
<b>Overall Site Ranking</b>	43/65		

Representative Site Photos



Observation ID: S13\_Ob1



Observation ID: S13\_Ob1

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S14	District 2	NM13	MM30.9	1

### Site Summary

This site, assessed at a single observation point, has a history of roadway flooding reported between Mile Markers 28 and 35. While no active flooding was observed during the site visit, physical evidence of water flow and sediment accumulation was noted. The flooding appears to be driven by overland flow during storm events, with runoff concentrating along the slope. The site lies outside the right-of-way and shows signs of roadway damage, reinforcing the need for improved drainage control. While green infrastructure can help reduce some localized impacts, the scale of the issue may exceed what GI alone can address. A combination of structural and vegetative interventions is recommended to manage runoff, reduce flood risk, and stabilize exposed areas.

### Recommendations:

- Construct a large basin to manage runoff volume and reduce peak flows.
- Install bioswales to intercept and slow surface flow.
- Implement revegetation to stabilize soils and promote infiltration.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S14_Ob1	33.080904	-104.527839	Yes	Rural	9	3.38

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Flooding	1
Ponding	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	1
Large basin	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	2	Erosion Risk	1.03
Damage to Roadway	1	Flood Risk	1.55
Size	3	Hydrology	0.0
Reveg. Recommended	1	Conservation Area	0.06
# of Recommendations	2	Wildlife	0.65
Within ROW	0	Pollinator	0.09
<b>Total Maintenance Score</b>	9	<b>Total Environmental Score</b>	3.38
<b>Maint. Site Ranking</b>	11/65	<b>Enviro. Site Ranking</b>	60/65
<b>Overall Site Score</b>	12.38		
<b>Overall Site Ranking</b>	44/65		

Representative Site Photos



Observation ID: S14\_Ob1



Observation ID: S14\_Ob1

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S15	District 2	NM249	MM5.5	1

### Site Summary

This site, observed at a single point, involves ponding within the right-of-way, reportedly sourced from an apparent drainage outfall or spillway above the road. While no active flow or roadway damage was observed at the time of the visit, the site shows signs of recurring water accumulation. These conditions suggest insufficient conveyance or retention capacity for upstream runoff. The observation lies outside the right-of-way, and green infrastructure could be used to help manage stormwater more effectively at this location.

Recommendations:

- Construct a large basin to detain and manage incoming runoff.
- Install bioswales to slow flow and increase infiltration.
- Implement revegetation to stabilize the site and improve moisture retention.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S15_Ob1	33.103394	-104.264161	Yes	Rural	6	5.32

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Flooding	1
Ponding	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	1
Large basin	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	2	Erosion Risk	1.03
Damage to Roadway	0	Flood Risk	1.46
Size	1	Hydrology	0.53
Reveg. Recommended	1	Conservation Area	0.97
# of Recommendations	2	Wildlife	1.27
Within ROW	0	Pollinator	0.06
<b>Total Maintenance Score</b>	6	<b>Total Environmental Score</b>	5.32
<b>Maint. Site Ranking</b>	52/65	<b>Enviro. Site Ranking</b>	34/65
<b>Overall Site Score</b>	11.32		
<b>Overall Site Ranking</b>	53/65		

Representative Site Photos



Observation ID: S15\_Ob1



Observation ID: S15\_Ob1

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S16	District 2	US70	MM257.4 – MM260.8	3

### Site Summary

This site includes three observation points documenting ongoing erosion, flooding, and sedimentation concerns. Evidence suggests that erosion has worsened over time, particularly near a powerline road and adjacent to previously identified problem points. These issues were especially severe following a wildfire in the summer, when vegetation loss and exposed soils likely amplified runoff and surface degradation. Runoff appears to originate from upslope and concentrate along informal flow paths, contributing to rill formation and sediment transport. No roadway damage was observed during the assessment, and most issues are located outside the right-of-way. Some maintenance work is currently underway, however GI would likely be beneficial for long term site stability.

### Recommendations:

- Install check dams and bioswales to slow runoff and capture sediment.
- Construct a large basin to retain stormwater and manage peak flows.
- Apply mulch and revegetate eroded areas to stabilize slopes and reduce future degradation.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S16_Ob1	33.286862	-105.671406	Yes	Rural	10	8.54
S16_Ob2	33.303332	-105.65038	Yes	Rural	10	7.86
S16_Ob3	33.320102	-105.629314	Yes	WUI	11	8.83

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Erosion	2
Flooding	3
Ponding	2
Sedimentation	2

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	3
Check dams	3
Large basin	2
Mulching	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	3	Erosion Risk	1.59
Damage to Roadway	0	Flood Risk	1.73
Size	3	Hydrology	1.5
Reveg. Recommended	1	Conservation Area	0.57
# of Recommendations	3	Wildlife	1.01
Within ROW	0.33	Pollinator	2.0
<b>Total Maintenance Score</b>	10.3	<b>Total Environmental Score</b>	8.41
<b>Maint. Site Ranking</b>	6/65	<b>Enviro. Site Ranking</b>	8/65
<b>Overall Site Score</b>	18.74		
<b>Overall Site Ranking</b>	3/65		

## Representative Site Photos



Observation ID: S16\_Ob3



Observation ID: S16\_Ob1

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S17	District 2	NM48	MM3.5 – MM5.9	3

### Site Summary

This site includes three observation points located within the Ruidoso village area. The site shows signs of significant flooding and erosion, much of which became severe following a wildfire in the summer. One canyon likely accounts for multiple observation points due to its size and the concentration of flow. Debris accumulation and sediment transport is apparent from post-fire flooding. While no lasting damage to the roadway was observed, the site lies outside the right-of-way and has experienced channel incision, overland flow, and slope degradation. Field notes also indicate some uncertainty regarding the original extent of reported problem areas, highlighting the need for follow-up assessment to clarify drainage patterns and prioritize interventions.

### Recommendations:

- Install check dams and Zuni bowls to slow runoff and reduce sediment transport.
- Apply mulch to stabilize bare soil and prevent erosion.
- Implement revegetation in disturbed areas to support long-term slope stability and infiltration.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S17_Ob1	33.335071	-105.680763	Yes	WUI	8	9.83
S17_Ob2	33.350803	-105.675168	Yes	Rural	6	8.55
S17_Ob3	33.363345	-105.663818	Yes	WUI	9	8.57

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Erosion	2
Flooding	3
Sedimentation	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Check dams	2
Mulching	3
Zuni bowl	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	2	Erosion Risk	1.27
Damage to Roadway	0	Flood Risk	2.1
Size	2.67	Hydrology	1.52
Reveg. Recommended	1	Conservation Area	0.57
# of Recommendations	2	Wildlife	1.08
Within ROW	0	Pollinator	2.45
<b>Total Maintenance Score</b>	<b>7.7</b>	<b>Total Environmental Score</b>	<b>8.99</b>
<b>Maint. Site Ranking</b>	<b>40/65</b>	<b>Enviro. Site Ranking</b>	<b>3/65</b>
<b>Overall Site Score</b>	<b>16.65</b>		
<b>Overall Site Ranking</b>	<b>9/65</b>		

Representative Site Photos



Observation ID: S17\_Ob1



Observation ID: S17\_Ob1

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S18	District 2	US54	MM105.2 – MM114.7	2

### Site Summary

This site includes two observation points along an arroyo crossing, each showing signs of erosion-related concerns. A gully is actively headcutting approximately 25 feet downstream of a culvert, while a second nearby crossing appears less severe but similarly affected by concentrated flows. Both locations are impacted by ongoing erosion, though no damage to the roadway was observed. One observation falls within the right-of-way, while the other lies just outside. The proximity to existing culverts suggests that improved energy dissipation and flow management could help reduce further degradation. Vegetative stabilization is recommended to enhance soil retention and mitigate future headcutting.

Recommendations:

- Install Zuni bowls to control erosion and dissipate flow energy.
- Construct bioswales in appropriate areas to manage runoff and promote infiltration.
- Apply mulch and revegetate disturbed areas to stabilize slopes and reduce headcut advance.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S18_Ob1	33.444726	-106.064708	Yes	Rural	6	3.91
S18_Ob2	33.564649	-105.990586	No	Rural	7	4.59

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Erosion	2

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	1
Mulching	1
Zuni bowl	2

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	1	Erosion Risk	1.03
Damage to Roadway	0	Flood Risk	1.46
Size	2	Hydrology	0.41
Reveg. Recommended	1	Conservation Area	0.36
# of Recommendations	2	Wildlife	0.69
Within ROW	0.5	Pollinator	0.29
<b>Total Maintenance Score</b>	6.5	<b>Total Environmental Score</b>	4.25
<b>Maint. Site Ranking</b>	51/65	<b>Enviro. Site Ranking</b>	47/65
<b>Overall Site Score</b>	10.75		
<b>Overall Site Ranking</b>	57/65		

Representative Site Photos



Observation ID: S18\_Ob1



Observation ID: S18\_Ob2

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S19	District 2	NM246	MM14.6 – MM70	6

### Site Summary

This site includes six observation points and exhibits widespread hydrologic and erosion issues requiring both structural upgrades and green infrastructure. Challenges include prolonged ponding in the right-of-way from blocked drainage and limited culvert capacity, sediment buildup obstructing flow to arroyos, localized flooding, gully formation, and headcutting. Stabilization measures like asphalt and riprap are beginning to fail due to undermining, elevation mismatches, and lack of continuity below culverts. Coordinated intervention is needed to restore drainage function and reduce further roadway and arroyo degradation.

### Recommendations:

- Install check dams and apply mulch in the ROW to reduce sediment transport and flow velocity.
- Regrade arroyo to restore flow paths and eliminate barriers created by old infrastructure.
- Increase culvert capacity and raise road elevation where overtopping occurs.
- Add Zuni bowls or concrete aprons below culverts to manage outflow energy.
- Explore diversion structures to redirect runoff and protect existing stabilization.
- Work with upstream landowners to control sediment and reopen flow routes.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S19_Ob1	33.485208	-104.683284	Yes	Rural	9	3.93
S19_Ob2	33.578701	-104.806975	Yes	Rural	12	3.49
S19_Ob3	33.590515	-104.855348	Yes	Rural	7	3.09
S19_Ob4	33.65588	-105.206659	No	Rural	10	5.1
S19_Ob5	33.660211	-105.207188	Yes	Rural	8	5.1
S19_Ob6	33.671225	-105.225741	Yes	Rural	10	4.18

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Erosion	4
Flooding	5
Ponding	3
Sedimentation	3

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	5
Check dams	3
Culvert/outfall	5
Curb treatment	3
Zuni bowl	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	2.5	Erosion Risk	1.09
Damage to Roadway	0.5	Flood Risk	1.52
Size	2.83	Hydrology	0.06
Reveg. Recommended	0.5	Conservation Area	0.33
# of Recommendations	2.83	Wildlife	0.57
Within ROW	0.17	Pollinator	0.57
<b>Total Maintenance Score</b>	<b>9.3</b>	<b>Total Environmental Score</b>	<b>4.15</b>
<b>Maint. Site Ranking</b>	<b>10/65</b>	<b>Enviro. Site Ranking</b>	<b>49/65</b>
<b>Overall Site Score</b>	<b>13.48</b>		
<b>Overall Site Ranking</b>	<b>31/65</b>		

## Representative Site Photos



Observation ID: S19\_Ob3



Observation ID: S19\_Ob1

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S20	District 2	US285	MM129	1

### Site Summary

This site, evaluated at a single observation point, was reported to experience flooding across the roadway. While active flooding was not observed at the time of the field assessment, the area showed signs of poor drainage and potential for ponding within the right-of-way. The issue does not appear to be currently damaging the roadway, but long-term accumulation of flow could undermine surface stability if left unaddressed. Green infrastructure improvements are recommended to intercept runoff and promote infiltration.

Recommendations:

- Install bioswales to manage and slow surface runoff.
- Implement revegetation within the ROW to support infiltration and erosion control.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S20_Ob1	33.667709	-104.563817	N/A	Rural	7	3.51

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Flooding	1
Ponding	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	2	Erosion Risk	1.04
Damage to Roadway	0	Flood Risk	1.55
Size	2	Hydrology	0.04
Reveg. Recommended	1	Conservation Area	0.36
# of Recommendations	1	Wildlife	0.48
Within ROW	1	Pollinator	0.04
<b>Total Maintenance Score</b>	<b>7</b>	<b>Total Environmental Score</b>	<b>3.51</b>
<b>Maint. Site Ranking</b>	<b>44/65</b>	<b>Enviro. Site Ranking</b>	<b>59/65</b>
<b>Overall Site Score</b>	<b>10.51</b>		
<b>Overall Site Ranking</b>	<b>58/65</b>		

Representative Site Photos



Observation ID: S20\_Ob1



Observation ID: S20\_Ob1

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S21	District 6	US32	MM2.3 – MM9.3	2

### Site Summary

This site includes two observation points and presents a mix of sedimentation, erosion, and drainage capacity concerns. One culvert is approximately 50% obstructed by sediment, significantly reducing its ability to convey flow. Adjacent slopes are extremely steep and composed of semi-loose rock, increasing long-term erosion risks, particularly toward a stream channel below. A small gully on the west side also contributes to the drainage burden. Within the right-of-way, sedimentation and surface flow accumulation are visible. Wildlife activity is present and observable, with evidence of deer crossings and signs of skunk movement across the roadway. Targeted drainage improvements and erosion control measures are needed to restore site function and prevent continued degradation.

### Recommendations:

- Clean and maintain the obstructed culvert to restore hydraulic capacity.
- Install bioswales or deepen roadside ditches to improve runoff conveyance and reduce slope erosion.
- Conduct limited earthwork and revegetation to improve slope stability.
- Evaluate potential for wildlife fencing or signage in areas with observed animal movement.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S21_Ob1	33.86528	-108.627182	Yes	Rural	7	6.01
S21_Ob2	33.946301	-108.680762	No	Rural	9	6.11

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Erosion	1
Ponding	1
Sedimentation	2
Wildlife crossing	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	1
Culvert/outfall	1
Earth work	1
Wildlife crossing/fence improvement	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	2.5	Erosion Risk	1.5
Damage to Roadway	0.5	Flood Risk	1.45
Size	2	Hydrology	0.84
Reveg. Recommended	0.5	Conservation Area	1.22
# of Recommendations	2	Wildlife	0.98
Within ROW	0.5	Pollinator	0.08
<b>Total Maintenance Score</b>	<b>8</b>	<b>Total Environmental Score</b>	<b>6.06</b>
<b>Maint. Site Ranking</b>	<b>29/65</b>	<b>Enviro. Site Ranking</b>	<b>25/65</b>
<b>Overall Site Score</b>		<b>14.06</b>	
<b>Overall Site Ranking</b>		<b>25/65</b>	

Representative Site Photos



Observation ID: S21\_Ob2



Observation ID: S21\_Ob2

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S22	District 6	NM12	MM25.2	1

### Site Summary

This site, observed at a single point, features a culvert with moderate sediment accumulation and vegetation encroachment at the inlet, both of which may restrict flow during storm events. A roadside ditch is present, and installation of a bioswale could improve drainage function and help reduce sediment transport. The most notable concern at this location is significant wildlife activity—especially deer—evidenced by extensive tracks and scat, suggesting the area serves as a frequent crossing zone. Existing fencing is in poor condition and may no longer be effective in guiding or deterring wildlife. Fencing upgrades that account for wildlife movement are recommended to reduce the risk of vehicle collisions and improve overall corridor safety.

### Recommendations:

- Clean sediment and vegetation from the culvert inlet to restore flow capacity.
- Install a bioswale along the roadside ditch to enhance stormwater management.
- Repair or replace fencing with wildlife-friendly designs to support safe crossings and reduce conflict.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S22_Ob1	33.879123	-108.549205	No	WUI	9	7.83

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Erosion	1
Ponding	1
Wildlife crossing	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	1
Culvert/outfall	1
Wildlife crossing/fence improvement	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	3	Erosion Risk	1.29
Damage to Roadway	0	Flood Risk	1.42
Size	2	Hydrology	1.5
Reveg. Recommended	0	Conservation Area	2.11
# of Recommendations	3	Wildlife	1.43
Within ROW	1	Pollinator	0.08
<b>Total Maintenance Score</b>	9	<b>Total Environmental Score</b>	7.83
<b>Maint. Site Ranking</b>	11/65	<b>Enviro. Site Ranking</b>	12/65
<b>Overall Site Score</b>	16.83		
<b>Overall Site Ranking</b>	7/65		

Representative Site Photos



Observation ID: S22\_Ob1



Observation ID: S22\_Ob1

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S23	District 2 & 5	NM55	MM3.3 – MM95.3	8

### Site Summary

This site shows minimal overall erosion, but several localized problem areas require attention. Soil collapse above culverts is apparent. Surface flow paths are visible near milepost 3 and the Beal Street intersection, where berms are only partially effective. Rill formation within the west right-of-way is developing into a headcut that could eventually undercut the roadway, and several minor gullies near the Manzano community remain uncontrolled. A larger gully, previously patched with asphalt, is again headcutting near a culvert inlet. Two isolated areas of ponding are also causing minor asphalt degradation. The site is well-suited for early-stage green infrastructure to stabilize and manage runoff.

### Recommendations:

- Install bioswales to direct runoff and reduce erosion.
- Use check dams and wattles to stabilize rills and gullies.
- Reseed and resurface collapsed areas above culverts.
- Add shallow retention features or soil sponges to address ponding.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S23_Ob1	33.925418	-105.85654	No	Rural	5	3.27
S23_Ob2	34.522117	-106.240808	Yes	Rural	6	3.63
S23_Ob3	34.612165	-106.292267	Yes	Rural	7	4.08
S23_Ob4	34.697193	-106.300808	No	Rural	6	3.59
S23_Ob5	34.704376	-106.29877	Yes	Rural	5	4.20
S23_Ob6	34.707267	-106.298369	Yes	Rural	4	4.20
S23_Ob7	34.7541	-106.087969	No	Rural	5	3.9
S23_Ob8	34.756182	-106.280112	No	WUI	6	4.67

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Erosion	5
Flooding	1
Ponding	2

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	7
Check dams	2
Culvert/outfall	1
Large basin	1
Mulching	1
Soil sponges	1
Zuni bowl	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	1	Erosion Risk	1.04
Damage to Roadway	0.38	Flood Risk	1.52
Size	1.25	Hydrology	0.37
Reveg. Recommended	0.62	Conservation Area	0.19
# of Recommendations	1.75	Wildlife	0.53
Within ROW	0.5	Pollinator	0.29
<b>Total Maintenance Score</b>	<b>5.5</b>	<b>Total Environmental Score</b>	<b>3.94</b>
<b>Maint. Site Ranking</b>	<b>56/65</b>	<b>Enviro. Site Ranking</b>	<b>53/65</b>
<b>Overall Site Score</b>	<b>9.44</b>		
<b>Overall Site Ranking</b>	<b>62/65</b>		

Representative Site Photos



Observation ID: S23\_Ob1



Observation ID: S23\_Ob3

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S24	District 1 & 6	US60	MM74.3 – MM126	2

### Site Summary

This site appears largely stable, with previous earthwork having addressed most drainage concerns effectively for the time being. Minor sediment removal is recommended at the culvert inlet and outlet, as well as around the arroyo crossing, to maintain flow capacity. A natural bioswale in the area is functioning well, and fencing remains mostly intact aside from minor flood-related damage. While vegetation is partially blocking the culvert entrance, it does not currently impede flow.

Recommendations:

- Remove sediment and vegetation from culvert inlets and outlets.
- Monitor fencing and repair minor flood-related damage as needed.
- Consider a downstream bioswale to improve flow dispersion.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S24_Ob1	34.051423	-107.057373	Yes	Rural	8	4.08
S24_Ob2	34.178404	-107.880619	Yes	Rural	8	4.0

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Culvert damage	1
Erosion	1
Flooding	2
Sedimentation	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	1
Check dams	1
Culvert/outfall	2
Earth work	1
Wildlife crossing/fence improvement	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	2.5	Erosion Risk	1.15
Damage to Roadway	0	Flood Risk	1.45
Size	2.5	Hydrology	0.38
Reveg. Recommended	0	Conservation Area	0.26
# of Recommendations	3	Wildlife	0.64
Within ROW	0	Pollinator	0.17
<b>Total Maintenance Score</b>	<b>8</b>	<b>Total Environmental Score</b>	<b>4.04</b>
<b>Maint. Site Ranking</b>	<b>29/65</b>	<b>Enviro. Site Ranking</b>	<b>50/65</b>
<b>Overall Site Score</b>	<b>12.04</b>		
<b>Overall Site Ranking</b>	<b>48/65</b>		

Representative Site Photos



Observation ID: S24\_Ob1



Observation ID: S24\_Ob2

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S25	District 1	NM169	MM30.1	1

### Site Summary

This site includes a large arroyo beneath the roadway and is generally stable, though minor issues remain. Fencing surrounds much of the arroyo area and is largely intact, but could benefit from reinforcement to guide wildlife crossings and reduce damage during flooding. Some sediment accumulation is visible at culvert inlets and outlets, and vegetation is beginning to encroach near the culvert entrance. These factors do not currently appear to restrict flow but may do so over time without maintenance.

Recommendations:

- Remove sediment and vegetation from culvert inlets and outlets.
- Reinforce fencing to improve durability and support wildlife movement.
- Monitor the arroyo crossing and culvert area to ensure continued flow capacity.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S25_Ob1	34.429032	-107.505119	Yes	Rural	9	1.09

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Flooding	1
Sedimentation	1
Wildlife crossing	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Culvert/outfall	1
Wildlife crossing/fence improvement	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	3	Erosion Risk	1.09
Damage to Roadway	0	Flood Risk	1.51
Size	3	Hydrology	0.14
Reveg. Recommended	1	Conservation Area	0.36
# of Recommendations	2	Wildlife	0.63
Within ROW	0	Pollinator	0.11
<b>Total Maintenance Score</b>	9	<b>Total Environmental Score</b>	3.85
<b>Maint. Site Ranking</b>	11/65	<b>Enviro. Site Ranking</b>	54/65
<b>Overall Site Score</b>	12.85		
<b>Overall Site Ranking</b>	39/65		

Representative Site Photos



Observation ID: S25\_Ob1



Observation ID: S25\_Ob1

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S26	District 5	NM42	MM27.9	1

### Site Summary

This site, observed at a single location, includes a small, shallow basin roughly 3 feet deep, likely intended to manage localized runoff. While the feature is not immediately visible, it appears to provide some benefit in reducing ponding within the right-of-way. No damage to the roadway was observed, and drainage concerns at this site are relatively minor. However, small-scale green infrastructure improvements could enhance infiltration and reduce long-term surface water accumulation.

Recommendations:

- Install bioswales to help direct and filter surface runoff.
- Consider soil sponges or shallow depressions to improve infiltration in ponding-prone areas.
- Monitor basin performance over time to ensure continued function.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S26_Ob1	34.50551	-105.954646	No	Rural	6	3.33

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Ponding	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	1
Soil sponges	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	1	Erosion Risk	1.03
Damage to Roadway	0	Flood Risk	1.54
Size	2	Hydrology	0.0
Reveg. Recommended	0	Conservation Area	0.16
# of Recommendations	2	Wildlife	0.53
Within ROW	1	Pollinator	0.07
<b>Total Maintenance Score</b>	6	<b>Total Environmental Score</b>	3.33
<b>Maint. Site Ranking</b>	52/65	<b>Enviro. Site Ranking</b>	61/65
<b>Overall Site Score</b>	9.33		
<b>Overall Site Ranking</b>	63/65		

Representative Site Photos



Observation ID: S26\_Ob1



Observation ID: S26\_Ob1

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S27	District 2	NM77	MM9.1	1

### Site Summary

This site includes a large gully extending along and across the right-of-way, contributing to ongoing erosion and active roadway damage. The gully appears to channel surface runoff during storm events, with no effective flow control measures currently in place. The severity of erosion and proximity to infrastructure indicate an urgent need for stabilization and improved runoff management.

Recommendations:

- Install check dams to slow flow and reduce gully advancement.
- Construct bioswales to intercept runoff and direct flow away from the roadway.
- Implement revegetation to stabilize eroded slopes and support long-term site recovery.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S27_Ob1	34.507401	-103.090633	Yes	Rural	8	3.84

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Erosion	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	1
Check dams	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	1	Erosion Risk	1.03
Damage to Roadway	1	Flood Risk	1.5
Size	3	Hydrology	0.06
Reveg. Recommended	1	Conservation Area	0.16
# of Recommendations	2	Wildlife	1.07
Within ROW	0	Pollinator	0.02
<b>Total Maintenance Score</b>	8	<b>Total Environmental Score</b>	3.84
<b>Maint. Site Ranking</b>	29/65	<b>Enviro. Site Ranking</b>	55/65
<b>Overall Site Score</b>		11.84	
<b>Overall Site Ranking</b>		50/65	

Representative Site Photos



Observation ID: S27\_Ob1



Observation ID: S27\_Ob1

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S28	District 5	NM542	MM11.1	1

### Site Summary

This site, assessed at a single observation point, includes a subtle low-lying area that appears to be contributing to surface ponding during storm events. While the issue is not highly visible under dry conditions, the topography and flow patterns suggest potential drainage limitations near the culvert. No roadway damage was observed, and the site is located just outside the right-of-way. Minor improvements could enhance drainage and reduce localized flooding.

Recommendations:

- Install or enhance bioswales to capture and redirect surface runoff.
- Maintain and improve culvert inlets/outlets to support better flow conveyance.
- Implement revegetation to improve infiltration and prevent surface degradation.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S28_Ob1	34.66715	-106.131377	Yes	Rural	6	3.54

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Ponding	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	1
Culvert/outfall	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	1	Erosion Risk	1.03
Damage to Roadway	0	Flood Risk	1.51
Size	2	Hydrology	0.3
Reveg. Recommended	1	Conservation Area	0.16
# of Recommendations	2	Wildlife	0.31
Within ROW	0	Pollinator	0.22
<b>Total Maintenance Score</b>	6	<b>Total Environmental Score</b>	3.54
<b>Maint. Site Ranking</b>	52/65	<b>Enviro. Site Ranking</b>	58/65
<b>Overall Site Score</b>	9.54		
<b>Overall Site Ranking</b>	61/65		

Representative Site Photos



Observation ID: S28\_Ob1



Observation ID: S28\_Ob1

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S29	District 3	NM263	MM2.7	1

### Site Summary

This site, observed at a single location, has a history of reported ponding on the roadway, although no active ponding was observed during the field visit. The area lies within the right-of-way and does not currently show signs of roadway damage. The issue appears to be minor but recurring, likely due to inadequate drainage capacity or surface grading. Simple green infrastructure could help manage runoff more effectively and prevent future accumulation.

Recommendations:

- Install a bioswale to intercept and redirect surface runoff.
- Monitor the site during wet conditions to assess drainage performance and confirm effectiveness of improvements.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S29_Ob1	34.785251	-106.676374	N/A	WUI	4	3.78

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Ponding	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	1	Erosion Risk	1.04
Damage to Roadway	0	Flood Risk	1.53
Size	1	Hydrology	0.3
Reveg. Recommended	0	Conservation Area	0.16
# of Recommendations	1	Wildlife	0.27
Within ROW	1	Pollinator	0.48
<b>Total Maintenance Score</b>	4	<b>Total Environmental Score</b>	3.78
<b>Maint. Site Ranking</b>	62/65	<b>Enviro. Site Ranking</b>	56/65
<b>Overall Site Score</b>	7.78		
<b>Overall Site Ranking</b>	65/65		

Representative Site Photos



Observation ID: S29\_Ob1



Observation ID: S29\_Ob1

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S30	District 3	NM47	MM32.3	1

### Site Summary

This site shows minimal visible damage, though a slight depression off the shoulder may be contributing to minor ponding or erosion during storm events. The drainage issue was not clearly evident at the time of the visit but may become more apparent under wet conditions. The observation extends outside the right-of-way, and no roadway damage was observed. Modest infrastructure improvements could help manage runoff and prevent future issues.

Recommendations:

- Install a bioswale to capture and filter runoff from the shoulder.
- Improve culvert inlets/outlets to enhance drainage capacity.
- Consider curb treatments to redirect surface flow away from vulnerable areas.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S30_Ob1	34.832579	-106.69074	Yes	WUI	6	5.76

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Erosion	1
Ponding	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	1
Culvert/outfall	1
Curb treatment	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	2	Erosion Risk	1.03
Damage to Roadway	0	Flood Risk	1.53
Size	1	Hydrology	0.77
Reveg. Recommended	0	Conservation Area	0.97
# of Recommendations	3	Wildlife	0.93
Within ROW	0	Pollinator	0.53
<b>Total Maintenance Score</b>	6	<b>Total Environmental Score</b>	5.76
<b>Maint. Site Ranking</b>	52/65	<b>Enviro. Site Ranking</b>	29/65
<b>Overall Site Score</b>	11.76		
<b>Overall Site Ranking</b>	51/65		

Representative Site Photos



Observation ID: S30\_Ob1



Observation ID: S30\_Ob1

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S31	District 6	NM117	MM43.2 – MM61	6

### Site Summary

This site lies along a drainage corridor with multiple culverts in need of maintenance. One damaged culvert is functioning below capacity, while another—recently installed—is already half-filled due to bi-directional flow. Ponding and minor flooding are present, with surface water contributing to overflow near a protruding pipe. Fencing across the site is degraded, allowing for frequent wildlife crossings; improvements and designated passage features are advised. The San Jose drainage feature exceeds the capacity of the existing culvert and bridge. While rock gabions have been installed to redirect overtopping, long-term solutions may require raising the bridge or constructing off-ROW retention basins in coordination with adjacent landowners.

### Recommendations:

- Maintain and repair existing culverts to restore capacity.
- Install bioswales, basins, and Zuni bowls to manage runoff and reduce flooding.
- Repair fencing and explore wildlife-friendly crossing solutions.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S31_Ob1	34.917243	-107.846017	Yes	Rural	10	4.48
S31_Ob2	34.917847	-107.845659	Yes	Rural	5	4.48
S31_Ob3	34.930674	-107.841535	Yes	Rural	10	5.33
S31_Ob4	34.984014	-107.804895	Yes	Rural	11	3.83
S31_Ob5	35.009401	-107.814822	No	Rural	9	4.22
S31_Ob6	35.138608	-107.826483	Yes	WUI	8	3.46

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Culvert damage	4
Erosion	2
Flooding	4
Ponding	6
Sedimentation	3
Wildlife crossing	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	5
Check dams	2
Culvert/outfall	4
Large basin	2
Wildlife crossing/fence improvement	2
Zuni bowl	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	3.5	Erosion Risk	1.12
Damage to Roadway	0.33	Flood Risk	1.53
Size	2	Hydrology	0.03
Reveg. Recommended	0.17	Conservation Area	0.75
# of Recommendations	2.67	Wildlife	0.67
Within ROW	0.17	Pollinator	0.19
<b>Total Maintenance Score</b>	<b>8.8</b>	<b>Total Environmental Score</b>	<b>4.3</b>
<b>Maint. Site Ranking</b>	<b>21/65</b>	<b>Enviro. Site Ranking</b>	<b>45/65</b>
<b>Overall Site Score</b>	<b>13.13</b>		
<b>Overall Site Ranking</b>	<b>36/65</b>		

Representative Site Photos



Observation ID: S31\_Ob4



Observation ID: S31\_Ob1

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S32	District 3	I25	MM221.6 – MM225.4	3

### Site Summary

This site is comprised of three erosion issues along I25 in the Albuquerque Metro. The northern-most problem area (Observation 3) has recently been regraded by heavy machinery, however without more stable intervention, will likely continue to spill sediment onto the frontage road. The southern two problem areas are comprised of a series of small culverts experiencing undercutting erosion, as well as one large culvert displaying impressive evidence of erosion, likely from monsoonal precipitation. Though these culverts leave the ROW, onto land owned by the Department of Defense, they will need long-term stabilization and added capacity for large flow events to avoid eventually undercutting the roadway. Illegal dumping is also a major issue at the site, both on and outside the ROW. Addressing erosion and litter issues will prove beneficial to the south diversion channel, closely followed by the Rio Grande, just downstream.

### Recommendations:

- Install check dams and Zuni bowls to slow flow and reduce channel erosion.
- Construct a large basin to retain monsoonal runoff and reduce downstream sediment transport.
- Stabilize hillslopes with bioswales and mulch to reduce surface erosion.
- Coordinate with DOD land managers to stabilize culverts and increase capacity for large flow events.
- Conduct regular cleanups and install signage or barriers to discourage illegal dumping.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S32_Ob1	34.917243	-107.846017	Yes	Urban	7	1.03
S32_Ob2	34.917847	-107.845659	Yes	Urban	5	1.03
S32_Ob3	34.930674	-107.841535	No	Urban	8	1.03

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Erosion	3
Sedimentation	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	2
Check dams	1
Large basin	1
Mulching	1
Zuni bowl	2

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	1.33	Erosion Risk	1.03
Damage to Roadway	0	Flood Risk	1.44
Size	2.33	Hydrology	0.78
Reveg. Recommended	0.33	Conservation Area	0.37
# of Recommendations	2.33	Wildlife	0.37
Within ROW	0.33	Pollinator	0.83
<b>Total Maintenance Score</b>	<b>6.7</b>	<b>Total Environmental Score</b>	<b>4.81</b>
<b>Maint. Site Ranking</b>	<b>50/65</b>	<b>Enviro. Site Ranking</b>	<b>38/65</b>
<b>Overall Site Score</b>	<b>11.47</b>		
<b>Overall Site Ranking</b>	<b>52/65</b>		

## Representative Site Photos



Observation ID: S32\_Ob1



Observation ID: S32\_Ob2

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S33	District 6	I40	MM99.7 – MM99.9	2

### Site Summary

This site includes two observation points documenting significant erosion, sedimentation, and roadway damage linked to undersized or poorly functioning culverts. At one location, asphalt is actively eroding where it meets a concrete headwall, and downstream channels are unstable. At the second location, the culvert may require full redesign, potentially including road elevation changes to better manage flow. Both sites experience flooding, ponding, and sediment accumulation, indicating that existing infrastructure is inadequate for stormwater volumes. Additional earthwork and flow control measures are needed to prevent continued degradation and protect adjacent roadways.

### Recommendations:

- Redesign or upgrade culverts to improve capacity and align with flow paths.
- Install large basins and bioswales to intercept runoff and reduce erosion.
- Construct check dams and perform earthwork to stabilize channels.
- Address sedimentation issues at the headwall to prevent continued roadway erosion.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S33_Ob1	35.07481	-107.597495	No	Rural	11	4.36
S33_Ob2	35.07495	-107.600084	Yes	Rural	10	4.36

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Erosion	1
Flooding	2
Ponding	1
Sedimentation	2

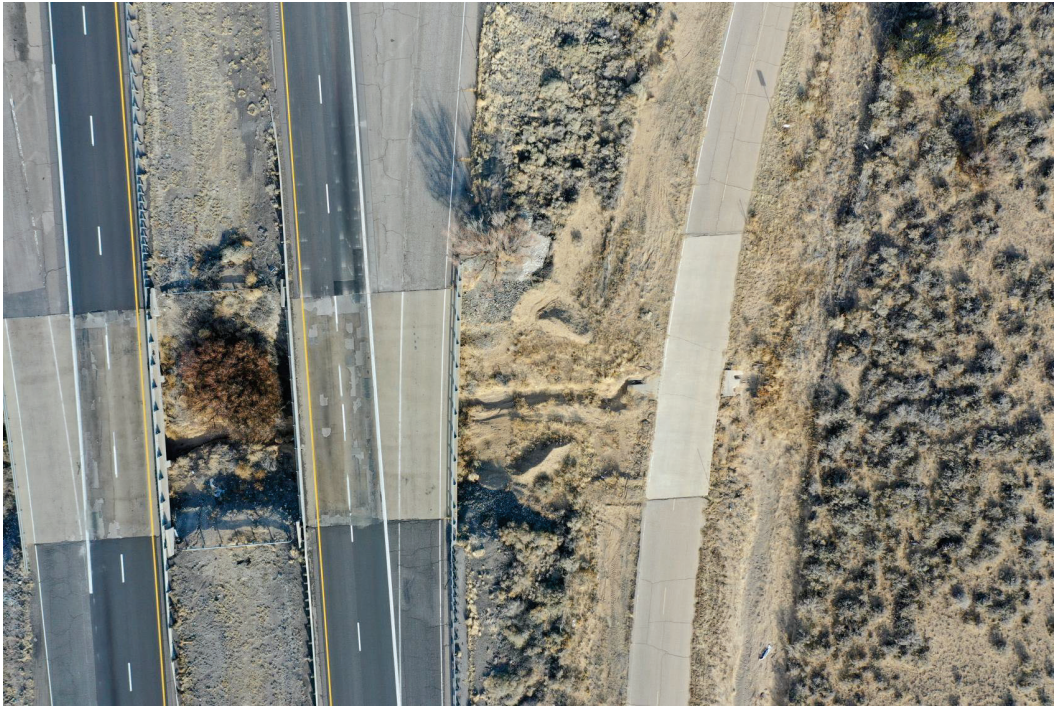
### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	2
Check dams	1
Culvert/outfall	2
Earth work	1
Large basin	2

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	3	Erosion Risk	1.03
Damage to Roadway	1	Flood Risk	1.46
Size	2	Hydrology	0.8
Reveg. Recommended	0	Conservation Area	0.37
# of Recommendations	4	Wildlife	0.61
Within ROW	0.5	Pollinator	0.09
<b>Total Maintenance Score</b>	10.5	<b>Total Environmental Score</b>	4.36
<b>Maint. Site Ranking</b>	5/65	<b>Enviro. Site Ranking</b>	44/65
<b>Overall Site Score</b>	14.86		
<b>Overall Site Ranking</b>	19/65		

Representative Site Photos



Observation ID: S33\_Ob1



Observation ID: S33\_Ob1

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S34	District 3	NM45	MM17.8 – MM20.3	2

### Site Summary

This site includes two erosion-prone areas along Coors Blvd (NM45) in the Albuquerque Metro. The northern problem area, near the Coors and Paseo del Norte (NM423) interchange, features a sloped, mostly unvegetated right-of-way with concrete and bare soil. Sheet flow from the slope is transporting sediment onto the frontage road, and culverts beneath the slope are heavily plugged. Two large basins are present nearby, and integrating GI into these existing features could help mitigate erosion and ponding. The southern problem area consists of a steep, minimally vegetated slope between Coors and a small ditch. Rills are forming along the slope, and storm events have washed sediment onto the sidewalk and roadway. Stabilizing both areas will help protect infrastructure and reduce sediment transport into roadways.

Recommendations:

- Clean and maintain culverts to restore capacity.
- Integrate GI features (e.g., bioswales, soil sponges) into existing basins.
- Stabilize slopes with vegetation and erosion control practices.
- Install check dams or shallow terraces to reduce rill formation and sediment movement.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S34_Ob1	35.148176	-106.688373	No	WUI	11	7.12
S34_Ob2	35.180042	-106.667947	Yes	Urban	13	5.26

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Erosion	2
Flooding	2
Ponding	1
Sedimentation	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	2
Check dams	1
Culvert/outfall	1
Curb treatment	1
Large basin	1
Mulching	2
Soil sponges	2

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	3	Erosion Risk	1.03
Damage to Roadway	0	Flood Risk	1.54
Size	2.5	Hydrology	1.52
Reveg. Recommended	1	Conservation Area	0.57
# of Recommendations	5	Wildlife	0.67
Within ROW	0.5	Pollinator	0.85
<b>Total Maintenance Score</b>	<b>12</b>	<b>Total Environmental Score</b>	<b>6.19</b>
<b>Maint. Site Ranking</b>	<b>2/65</b>	<b>Enviro. Site Ranking</b>	<b>24/65</b>
<b>Overall Site Score</b>	<b>18.19</b>		
<b>Overall Site Ranking</b>	<b>4/65</b>		

Representative Site Photos



Observation ID: S34\_Ob1



Observation ID: S34\_Ob2

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S35	District 5	NM344	MM10.4	1

### Site Summary

Site 35 is comprised of a single point along a remote stretch of NM344 where it intersects with Sandoval Rd. (CR22) just outside of Cedar Grove. The issue appears to stem from water flowing down the ROW of Sandoval Rd. before spilling into the intersection with NM344 and flowing across the road. There is apparent sedimentation on both sides of the state highway from these flow events. The current intervention for this issue appears to be earth work to help drain water off of the roadway.

Recommendations:

- Install bioswales and soil sponges at the NM344/Sandoval Rd. intersection to manage runoff and increase infiltration.
- Add a culvert to channel flow beneath NM344 and reduce surface water crossing.
- Construct check dams along the Sandoval Rd. ROW to slow and distribute upstream runoff.
- Maintain earthwork features to ensure continued drainage away from the road surface.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S35_Ob1	35.148176	-106.688373	Yes	Rural	9	5.02

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Erosion	1
Flooding	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	1
Check dams	1
Culvert/outfall	1
Mulching	1
Soil sponges	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	2	Erosion Risk	1.03
Damage to Roadway	0	Flood Risk	1.49
Size	2	Hydrology	0.78
Reveg. Recommended	0	Conservation Area	0.16
# of Recommendations	5	Wildlife	0.86
Within ROW	0	Pollinator	0.71
<b>Total Maintenance Score</b>	9	<b>Total Environmental Score</b>	5.02
<b>Maint. Site Ranking</b>	11/65	<b>Enviro. Site Ranking</b>	36/65
<b>Overall Site Score</b>	14.02		
<b>Overall Site Ranking</b>	26/65		

Representative Site Photos



Observation ID: S35\_Ob1



Observation ID: S35\_Ob1

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S36	District 6	NM605	MM3.1 – MM12.1	3

### Site Summary

Site 36 consists of three problem areas along NM605 north of Milan. Observation 1, the southernmost point, shows signs of flood-driven erosion and sedimentation that cross the roadway during large flow events. The runoff originates from a network of braided flow paths extending beyond the ROW, limiting opportunities for upstream intervention. Observations 2 and 3, located farther north, are affected by a small arroyo that drains onto and across the highway, depositing sediment along the roadside. At Observation 3, a headcut in the ROW is advancing toward a utility pipeline, posing a risk to infrastructure. These areas would benefit from improved drainage and stabilization measures to manage flow, reduce sediment transport, and protect adjacent assets.

### Recommendations:

- Install culverts to convey flow beneath the roadway.
- Stabilize arroyo-ROW interfaces using bioswales and erosion control structures.
- Construct check dams in upstream arroyo segments to slow runoff and reduce sediment movement.
- Install a Zuni bowl at Observation 3 to halt headcut progression and protect the utility pipeline.
- Monitor and maintain sediment-prone areas to ensure drainage structures remain functional.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S36_Ob1	35.220773	-107.866707	Yes	WUI	6	3.35
S36_Ob2	35.327629	-107.80854	Yes	Rural	11	4.14
S36_Ob3	35.334139	-107.802247	Yes	Rural	9	4.62

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Erosion	1
Flooding	2
Ponding	2
Sedimentation	3
Wildlife crossing	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	3
Check dams	2
Culvert/outfall	2
Zuni bowl	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	3.33	Erosion Risk	1.05
Damage to Roadway	0.67	Flood Risk	1.51
Size	1.67	Hydrology	0.56
Reveg. Recommended	0.33	Conservation Area	0.23
# of Recommendations	2.67	Wildlife	0.58
Within ROW	0	Pollinator	0.1
<b>Total Maintenance Score</b>	<b>8.7</b>	<b>Total Environmental Score</b>	<b>4.03</b>
<b>Maint. Site Ranking</b>	<b>22/65</b>	<b>Enviro. Site Ranking</b>	<b>51/65</b>
<b>Overall Site Score</b>	<b>12.7</b>		
<b>Overall Site Ranking</b>	<b>40/65</b>		

## Representative Site Photos



Observation ID: S36\_Ob1



Observation ID: S36\_Ob3

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S37	District 5	NM14	MM17.4 – MM46.5	7

### Site Summary

Site 37 includes several erosion-prone areas along NM14, primarily between Golden and Los Cerrillos, with one outlier near the NM14/I25 interchange in Santa Fe. The region's erosive geology, road cuts, and hillsides contribute to widespread surface degradation, with varying severity across observations. Located in the highlands east of the Sandia Mountains, the site's elevation and hydrologic sensitivity contribute to a higher environmental priority. Enhancing water retention and conveyance capacity through green infrastructure would help stabilize the corridor and benefit the many small communities and travelers that rely on this route.

### Recommendations:

- Install culverts at multiple points to improve drainage and reduce roadway erosion.
- Construct bioswales, check dams, and Zuni bowls where needed to manage flow and control sediment.
- Apply mulching and soil sponges to stabilize slopes and improve infiltration.
- Implement curb treatments where runoff enters paved surfaces to reduce edge erosion.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S37_Ob1	35.26936	-106.213647	No	Rural	6	5.37
S37_Ob2	35.340875	-106.211522	Yes	Rural	6	5.26
S37_Ob3	35.372281	-106.174456	Yes	Rural	5	7.24
S37_Ob4	35.388608	-106.165473	Yes	Rural	10	7.00
S37_Ob5	35.409354	-106.151588	Yes	WUI	5	6.51
S37_Ob6	35.429767	-106.091109	Yes	WUI	8	7.13
S37_Ob7	35.604672	-106.034603	No	Rural	9	6.08

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Erosion	6
Sedimentation	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	4
Check dams	3
Culvert/outfall	5
Curb treatment	1
Mulching	4
Soil sponges	1
Zuni bowl	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	1	Erosion Risk	1.18
Damage to Roadway	0.29	Flood Risk	1.43
Size	2.14	Hydrology	1.25
Reveg. Recommended	0.43	Conservation Area	0.45
# of Recommendations	2.86	Wildlife	0.77
Within ROW	0.29	Pollinator	1.29
<b>Total Maintenance Score</b>	<b>7</b>	<b>Total Environmental Score</b>	<b>6.37</b>
<b>Maint. Site Ranking</b>	<b>44/65</b>	<b>Enviro. Site Ranking</b>	<b>21/65</b>
<b>Overall Site Score</b>	<b>13.37</b>		
<b>Overall Site Ranking</b>	<b>33/65</b>		

Representative Site Photos



Observation ID: S37\_Ob4



Observation ID: S37\_Ob7

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S38	District 3	US550	MM1.7	1

### Site Summary

This site lies along the sloped right-of-way of US550 in Bernalillo, where an erosive hillslope emerges as the roadway transitions into a bridge over the Rio Grande. The issue is located on the southwestern side of the crossing and may eventually begin to undercut the curb if left untreated. Due to the site's proximity to the river, stabilizing this erosion with green infrastructure would yield direct benefits to water quality during future storm events. Downslope of the issue lies a large, undeveloped lot with visible illegal dumping and unclear ownership status, which may complicate future management.

### Recommendations:

- Construct a large basin to retain runoff and reduce erosive force.
- Install check dams and bioswales to slow flow and promote infiltration.
- Apply mulching to stabilize exposed soil and support vegetation growth.
- Monitor erosion near the curb to prevent undercutting and structural damage.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S38_Ob1	35.322223	-106.558972	Yes	WUI	9	7.72

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Erosion	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	1
Check dams	1
Large basin	1
Mulching	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	1	Erosion Risk	1.03
Damage to Roadway	0	Flood Risk	1.46
Size	3	Hydrology	1.57
Reveg. Recommended	1	Conservation Area	0.97
# of Recommendations	4	Wildlife	1.83
Within ROW	0	Pollinator	0.86
<b>Total Maintenance Score</b>	9	<b>Total Environmental Score</b>	7.72
<b>Maint. Site Ranking</b>	11/65	<b>Enviro. Site Ranking</b>	19/65
<b>Overall Site Score</b>	16.72		
<b>Overall Site Ranking</b>	8/65		

Representative Site Photos



Observation ID: S38\_Ob1



Observation ID: S38\_Ob1

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S39	District 4	I25	MM323.2 – MM342.9	4

### Site Summary

Site 39 includes two general areas of concern. In the northern portion, a bridge crosses a stream channel that was nearly overtopped during post-fire flooding, as evidenced by nearby spoil piles from dredging. A short distance south, the highway median between northbound and southbound lanes follows a long downhill gradient and is developing rills, indicating active runoff and sediment movement despite the presence of some check dams. Farther south, a steep hillslope adjacent to the roadway is forming rills and a gully that drain toward a nearby arroyo. At the southern end of the site, a system of culverts under I25—previously described as repaired—continues to experience erosion on adjacent slopes, highlighting the need for additional flow management.

### Recommendations:

- Enhance wetland areas near the bridge with swales and check dams to reduce peak flows.
- Install additional check dams, bioswales, and soil sponges in the highway median to slow runoff and improve infiltration.
- Stabilize hillslopes using revegetation, swales, mulching, and erosion control structures.
- Add culverts where needed and manage flow with downstream bioswales and check dams to reduce erosion near I25.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S39_Ob1	35.39576	-105.444877	Yes	Rural	9	5.41
S39_Ob2	35.396812	-105.388466	Yes	Rural	8	5.42
S39_Ob3	35.515118	-105.253629	No	Rural	8	4.16
S39_Ob4	35.554238	-105.225216	Yes	Rural	8	6.62

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Erosion	3
Flooding	1
Sedimentation	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	4
Check dams	4
Culvert/outfall	1
Large basin	2
Mulching	1
Soil sponges	1
Wetland improvement	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	1.25	Erosion Risk	1.08
Damage to Roadway	0	Flood Risk	1.55
Size	2.75	Hydrology	1.14
Reveg. Recommended	0.5	Conservation Area	0.47
# of Recommendations	3.5	Wildlife	0.88
Within ROW	0.25	Pollinator	0.28
<b>Total Maintenance Score</b>	<b>8.2</b>	<b>Total Environmental Score</b>	<b>5.4</b>
<b>Maint. Site Ranking</b>	<b>27/65</b>	<b>Enviro. Site Ranking</b>	<b>33/65</b>
<b>Overall Site Score</b>	<b>13.65</b>		
<b>Overall Site Ranking</b>	<b>29/65</b>		

Representative Site Photos



Observation ID: S39\_Ob2



Observation ID: S39\_Ob1

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S40	District 5	NM16	MM8.3 – MM8.7	2

### Site Summary

At Site 40, runoff issues are affecting the I25 northbound exit ramp area. Along the ramp, water visibly flows off the asphalt, eroding the adjacent shoulder and forming rills. Downhill, sheet flow crosses the road and enters a culvert that passes under I25, which may be undersized or inadequately protected. Rock mulch has been placed near the culvert inlet to slow erosion, but more comprehensive stabilization is needed to protect the roadway margin and manage runoff effectively.

### Recommendations:

- Construct bioswales and check dams along the roadside to reduce flow velocity and manage runoff.
- Evaluate and, if needed, upgrade the culvert to accommodate flow and prevent road degradation.
- Build a large basin to retain stormwater and reduce peak discharge.
- Implement revegetation or armoring along the shoulder to improve slope stability.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S40_Ob1	35.512623	-106.231958	Yes	Rural	9	5.83
S40_Ob2	35.514194	-106.226634	Yes	Rural	10	5.99

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Erosion	2
Flooding	2

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	2
Check dams	2
Culvert/outfall	1
Large basin	2
Wetland improvement	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	2	Erosion Risk	1.15
Damage to Roadway	0	Flood Risk	1.51
Size	3	Hydrology	0.87
Reveg. Recommended	0.5	Conservation Area	0.36
# of Recommendations	4	Wildlife	1.09
Within ROW	0	Pollinator	0.93
<b>Total Maintenance Score</b>	9.5	<b>Total Environmental Score</b>	5.91
<b>Maint. Site Ranking</b>	9/65	<b>Enviro. Site Ranking</b>	27/65
<b>Overall Site Score</b>	15.41		
<b>Overall Site Ranking</b>	15/65		

Representative Site Photos



Observation ID: S40\_Ob1



Observation ID: S40\_Ob2

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S41	District 6	I40	MM22.7 – MM33	2

### Site Summary

Site 41 includes two observation points along a developed corridor where drainage and erosion issues are affecting both roadside infrastructure and adjacent properties. One location features a culvert so overgrown and sediment-filled that it was nearly unidentifiable, with visible ponding and sedimentation suggesting poor conveyance and potential blockage. The second location includes rill formation progressing toward gully development, likely caused by runoff from nearby developed areas. While no roadway damage was observed, both points require improvements to manage flow and prevent further degradation.

Recommendations:

- Replace or reconstruct the compromised culvert to restore drainage function.
- Apply mulching and revegetation to stabilize rill-prone areas and reduce erosion.
- Maintain sediment-prone zones and monitor for future ponding.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S41_Ob1	35.514025	-108.549468	Yes	Rural	5	5.08
S41_Ob2	35.532245	-108.727584	No	WUI	6	4.11

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Erosion	1
Ponding	1
Sedimentation	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Culvert/outfall	1
Mulching	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	1.5	Erosion Risk	1.03
Damage to Roadway	0	Flood Risk	1.55
Size	2	Hydrology	0.76
Reveg. Recommended	0.5	Conservation Area	0.26
# of Recommendations	1	Wildlife	0.39
Within ROW	0.5	Pollinator	0.54
<b>Total Maintenance Score</b>	<b>5.5</b>	<b>Total Environmental Score</b>	<b>4.59</b>
<b>Maint. Site Ranking</b>	<b>56/65</b>	<b>Enviro. Site Ranking</b>	<b>40/65</b>
<b>Overall Site Score</b>	<b>10.09</b>		
<b>Overall Site Ranking</b>	<b>59/65</b>		

Representative Site Photos



Observation ID: S41\_Ob1



Observation ID: S41\_Ob2

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S42	District 6	NM118	MM20	1

### Site Summary

This site consists of a single observation point where sedimentation has altered the grade, keeping water within the right-of-way and resulting in persistent ponding. Over time, a wetland-like area has begun to form, evidenced by standing water and the presence of water birds. While no roadway damage is currently visible, the impaired drainage suggests growing potential for surface degradation. The observation extends outside the ROW, and inflow from a nearby arroyo may be contributing to the issue.

Recommendations:

- Install a bioswale to direct runoff and alleviate ponding.
- Construct a large basin to retain water and improve drainage capacity.
- Implement soil sponges and revegetation to support infiltration and stabilize the site.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S42_Ob1	35.518337	-108.77389	Yes	WUI	8	4.0

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Ponding	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	1
Large basin	1
Soil sponges	

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	1	Erosion Risk	1.05
Damage to Roadway	0	Flood Risk	1.62
Size	3	Hydrology	0.75
Reveg. Recommended	1	Conservation Area	0.16
# of Recommendations	3	Wildlife	0.32
Within ROW	0	Pollinator	0.1
<b>Total Maintenance Score</b>	8	<b>Total Environmental Score</b>	4.0
<b>Maint. Site Ranking</b>	29/65	<b>Enviro. Site Ranking</b>	52/65
<b>Overall Site Score</b>	12.0		
<b>Overall Site Ranking</b>	49/65		

Representative Site Photos



Observation ID: S42\_Ob1



Observation ID: S42\_Ob1

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S43	District 5	NM50	MM1.5 – MM1.9	2

### Site Summary

At Site 43, stormwater movement is affecting NM50 in two locations near Pecos. In the eastern problem area, water flows down the side of CR63A and enters a culvert at the base of a hill; however, runoff patterns suggest the need for additional flow control or redirection to prevent shoulder and slope erosion. Just west of this point, the roadway dips into a shallow depression where the right-of-way also retains water. This area is fed by a small drainage with a mostly plugged culvert. Bioswales may help temporarily retain runoff and reduce flow concentration before it reaches the culvert. A combination of flow dispersion, shallow detention, and culvert enhancement is recommended.

Recommendations:

- Install bioswales in both locations to slow runoff and promote infiltration.
- Clean and maintain existing culverts to restore conveyance capacity.
- Regrade shallow depressions to improve drainage and reduce standing water.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S43_Ob1	35.566109	-105.742608	Yes	Rural	10	5.7
S43_Ob1	35.56934	-105.749321	Yes	Rural	6	5.28

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Erosion	1
Flooding	2
Ponding	2
Sedimentation	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	2
Check dams	1
Soil sponges	2

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	3	Erosion Risk	1.16
Damage to Roadway	0	Flood Risk	1.36
Size	2	Hydrology	1.51
Reveg. Recommended	0.5	Conservation Area	0.26
# of Recommendations	2.5	Wildlife	0.56
Within ROW	0	Pollinator	0.64
<b>Total Maintenance Score</b>	<b>8</b>	<b>Total Environmental Score</b>	<b>5.49</b>
<b>Maint. Site Ranking</b>	<b>29/65</b>	<b>Enviro. Site Ranking</b>	<b>32/65</b>
<b>Overall Site Score</b>	<b>13.49</b>		
<b>Overall Site Ranking</b>	<b>30/65</b>		

Representative Site Photos



Observation ID: S43\_Ob1



Observation ID: S43\_Ob2

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S44	District 3	NM22	MM7.8	1

### Site Summary

At Site 44, the roadway is level with the adjacent right-of-way, allowing runoff to flow directly from the pavement into a flat, unvegetated area. The ROW is very narrow in this location, with residential properties situated immediately alongside the highway, leaving limited space for intervention. The area does not retain or infiltrate moisture effectively, leading to potential issues with standing water and concentrated runoff. Existing signage is present to warn drivers of water in the roadway, suggesting that this is a recurring issue. In addition, irrigation infrastructure is located nearby, which may influence localized hydrology and complicate drainage patterns. Introducing green infrastructure features within the constrained space may help slow flow and improve infiltration while avoiding conflicts with nearby utilities.

Recommendations:

- Install a bioswale to intercept and slow runoff along the road edge.
- Incorporate soil sponges to improve infiltration in the limited ROW area.
- Evaluate and, if appropriate, implement curb treatments to reduce direct flow onto the shoulder.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S44_Ob1	35.568034	-106.338624	Yes	WUI	7	5.7

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Ponding	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	1
Curb treatment	1
Soil sponges	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	1	Erosion Risk	1.07
Damage to Roadway	0	Flood Risk	1.47
Size	3	Hydrology	1.63
Reveg. Recommended	0	Conservation Area	0.97
# of Recommendations	3	Wildlife	1.27
Within ROW	0	Pollinator	0.93
<b>Total Maintenance Score</b>	7	<b>Total Environmental Score</b>	7.34
<b>Maint. Site Ranking</b>	44/65	<b>Enviro. Site Ranking</b>	15/65
<b>Overall Site Score</b>	14.34		
<b>Overall Site Ranking</b>	22/65		

Representative Site Photos



Observation ID: S44\_Ob1



Observation ID: S44\_Ob1

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S45	District 6	US491	MM7.1	1

### Site Summary

Site 45 includes a single observation point where a culvert is nearly blocked, contributing to ponding and poor drainage performance within the right-of-way. Water appears to pool near the roadway during storm events, and without intervention, localized flooding or erosion could occur. No roadway damage was observed, but sediment accumulation and inadequate conveyance suggest a need for maintenance and added flow control to manage stormwater more effectively.

Recommendations:

- Clear and maintain the existing culvert to restore flow capacity.
- Install check dams and a bioswale to manage surface runoff and reduce erosion.
- Construct a large basin to retain stormwater and limit ponding during heavy rainfall.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S45_Ob1	35.624189	-108.780344	Yes	Rural	8	3.12

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Ponding	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	1
Check dams	1
Culvert/outfall	1
Large basin	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	1	Erosion Risk	1.03
Damage to Roadway	0	Flood Risk	1.61
Size	3	Hydrology	0.02
Reveg. Recommended	0	Conservation Area	0.16
# of Recommendations	4	Wildlife	0.21
Within ROW	0	Pollinator	0.08
<b>Total Maintenance Score</b>	8	<b>Total Environmental Score</b>	3.12
<b>Maint. Site Ranking</b>	29/65	<b>Enviro. Site Ranking</b>	62/65
<b>Overall Site Score</b>	11.12		
<b>Overall Site Ranking</b>	55/65		

Representative Site Photos



Observation ID: S45\_Ob1



Observation ID: S45\_Ob1

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S46	District 4	NM518	MM4.2 – MM35.9	3

### Site Summary

Site 46 includes several distinct problem areas related to runoff and slope instability. In the northern portion of the site, a large section of right-of-way is experiencing post-fire flooding in the village of Holman. While some drainage infrastructure is present, flow paths appear unregulated, and vegetation is sparse or degraded in areas, contributing to surface erosion and poor infiltration. Just south of this area, ponding occurs frequently within the ROW, and the topography suggests that water flows across the road surface during large storm events, posing a risk to road safety. Further south along the roadway that forms the dam for Lake Storrie, an eroding hillside shows signs of slope instability, with modest vegetative cover proving insufficient to control rill formation.

### Recommendations:

- Stabilize slopes with revegetation, mulching, and erosion control measures.
- Construct swales to redirect and slow stormwater runoff.
- Improve or expand drainage infrastructure to prevent overtopping and roadway damage.
- Monitor post-fire flood-prone areas for further erosion and sediment buildup.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S46_Ob1	35.66452	-105.228009	No	WUI	6	7.13
S46_Ob2	36.039774	-105.384206	Yes	WUI	8	8.61
S46_Ob3	36.048031	-105.385426	No	WUI	11	8.66

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Erosion	3
Flooding	2
Ponding	2

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	3
Culvert/outfall	1
Mulching	3
Soil sponges	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	2.33	Erosion Risk	1.26
Damage to Roadway	0.67	Flood Risk	2.12
Size	1.67	Hydrology	1.44
Reveg. Recommended	0.33	Conservation Area	0.97
# of Recommendations	2.67	Wildlife	1.39
Within ROW	0.67	Pollinator	0.95
<b>Total Maintenance Score</b>	<b>8.3</b>	<b>Total Environmental Score</b>	<b>8.13</b>
<b>Maint. Site Ranking</b>	<b>26/65</b>	<b>Enviro. Site Ranking</b>	<b>11/65</b>
<b>Overall Site Score</b>	<b>16.47</b>		
<b>Overall Site Ranking</b>	<b>10/65</b>		

Representative Site Photos



Observation ID: S46\_Ob1



Observation ID: S46\_Ob2

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S47	District 4	NM105	MM5 – MM7.8	3

### Site Summary

Site 47 consists of three stream crossings along the same general corridor, all of which appear vulnerable to overtopping during high-flow events. At each location, streams pass beneath the roadway through culverts that may be undersized or poorly aligned with natural flow paths. Observations indicate that water regularly overtops the road surface, suggesting that the existing conveyance capacity is insufficient. This area lies near the Hermits Peak/Calf Canyon Fire burn scar, and elevated runoff from the burned watershed is likely contributing to higher peak flows that exceed culvert design limits.

### Recommendations:

- Retrofit or upsize culverts to improve flow capacity.
- Realign culvert inlets to better match natural channel geometry.
- Monitor post-fire runoff impacts and evaluate long-term hydraulic performance of all stream crossings.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S47_Ob1	35.854093	-105.426743	Yes	Rural	5	7.25
S47_Ob2	35.873205	-105.436173	Yes	Rural	4	8.81
S47_Ob3	35.888327	-105.447487	Yes	Rural	4	8.75

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Flooding	3

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Culvert/outfall	3

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	1	Erosion Risk	1.37
Damage to Roadway	1	Flood Risk	2.32
Size	1.33	Hydrology	0.77
Reveg. Recommended	0	Conservation Area	0.77
# of Recommendations	1	Wildlife	1.67
Within ROW	0	Pollinator	1.36
<b>Total Maintenance Score</b>	4.3	<b>Total Environmental Score</b>	8.27
<b>Maint. Site Ranking</b>	61/65	<b>Enviro. Site Ranking</b>	9/65
<b>Overall Site Score</b>	12.6		
<b>Overall Site Ranking</b>	42/65		

Representative Site Photos



Observation ID: S47\_Ob2



Observation ID: S47\_Ob3

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S48	District 4	NM276	MM5	1

### Site Summary

Site 48 encompasses several miles of roadway with extensive damage from post-fire flooding. Located within the Hermits Peak/Calf Canyon Fire burn scar, the corridor shows signs of widespread erosion, debris deposition, and repeated overtopping, indicating that stormwater volumes have consistently exceeded the capacity of existing drainage infrastructure. The scale of the damage points to a systemic issue driven by the altered hydrology of the burned watershed. A corridor-scale response is recommended to improve resiliency, but a true long-term solution will likely require a large, landscape-scale watershed restoration effort beyond the scope of NMDOT alone.

### Recommendations:

- Re-evaluate culvert sizing and spacing along the corridor.
- Stabilize slopes using revegetation, armoring, or erosion control materials.
- Install energy dissipation structures and armored inlets where appropriate.
- Explore distributed green infrastructure to manage stormwater volume and reduce debris transport.
- Coordinate with watershed-scale restoration efforts to support long-term recovery.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S48_Ob1	35.855892	-105.463265	Yes	Rural	13	8.96

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Erosion	1
Flooding	1
Sedimentation	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	1
Check dams	1
Culvert/outfall	1
Large basin	1
Mulching	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	3	Erosion Risk	1.63
Damage to Roadway	1	Flood Risk	2.24
Size	3	Hydrology	0.75
Reveg. Recommended	1	Conservation Area	0.97
# of Recommendations	5	Wildlife	1.98
Within ROW	0	Pollinator	1.39
<b>Total Maintenance Score</b>	<b>13</b>	<b>Total Environmental Score</b>	<b>8.96</b>
<b>Maint. Site Ranking</b>	<b>1/65</b>	<b>Enviro. Site Ranking</b>	<b>4/65</b>
<b>Overall Site Score</b>	<b>21.96</b>		
<b>Overall Site Ranking</b>	<b>1/65</b>		

Representative Site Photos



Observation ID: S48\_Ob1



Observation ID: S48\_Ob1

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S49	District 4	NM94	MM14.3	1

### Site Summary

Site 49 features a stream crossing where high flows are causing damage to the roadway and adjacent infrastructure. In addition to flows overtopping or bypassing the culvert, water is also running parallel to the roadway for a stretch, leading to incision and bank erosion along the road shoulder. These conditions suggest that both concentrated and distributed runoff are contributing to hydrologic stress in the area, likely exacerbated by increased flows from nearby burned terrain. Modest interventions may be effective in reducing further degradation.

### Recommendations:

- Stabilize streambanks along the road shoulder using erosion control measures.
- Evaluate the potential for culvert realignment or modification to improve flow conveyance.
- Install bioswales or check structures to reduce incision along areas where runoff travels beside the road.
- Monitor post-fire runoff impacts and maintain drainage infrastructure as needed.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S49_Ob1	35.922617	-105.360341	Yes	WUI	9	8.95

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Erosion	1
Flooding	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	1
Check dams	1
Culvert/outfall	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	2	Erosion Risk	1.25
Damage to Roadway	1	Flood Risk	2.39
Size	3	Hydrology	1.55
Reveg. Recommended	0	Conservation Area	0.97
# of Recommendations	3	Wildlife	1.5
Within ROW	0	Pollinator	1.29
<b>Total Maintenance Score</b>	9	<b>Total Environmental Score</b>	8.95
<b>Maint. Site Ranking</b>	11/65	<b>Enviro. Site Ranking</b>	5/65
<b>Overall Site Score</b>	17.95		
<b>Overall Site Ranking</b>	5/65		

Representative Site Photos



Observation ID: S49\_Ob1



Observation ID: S49\_Ob1

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S50	District 6	NM197	MM8.1 – MM9.5	2

### Site Summary:

Two erosion-prone areas were identified along NM197 during site assessments. The region is characterized by highly erodible surface soils and frequent gully formation. At one location, new culverts and a concrete apron were recently installed at the culvert outlet, and arroyo sidewalls were reinforced with rock; however, additional stabilization is needed at both the inlet and outlet. At the second location, arroyo incision is encroaching into the right-of-way, causing erosion, flooding, and sediment deposition. Both locations are well-suited for green infrastructure aimed at reducing flow velocity and managing sediment.

### Recommendations:

- Install large basins to retain runoff and reduce peak discharge.
- Construct Zuni bowls to control incision and dissipate energy.
- Stabilize culvert inlets and outlets to prevent continued erosion.
- Implement revegetation to reinforce slopes and support infiltration.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S50_Ob1	35.953698	-107.094481	Yes	Rural	8	3.62
S50_Ob2	35.95669	-107.07124	Yes	Rural	7	3.66

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Erosion	2
Flooding	2
Ponding	2
Sedimentation	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Large basin	2
Zuni bowl	2

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	3.5	Erosion Risk	1.03
Damage to Roadway	0	Flood Risk	1.47
Size	1	Hydrology	0.08
Reveg. Recommended	1	Conservation Area	0.36
# of Recommendations	2	Wildlife	0.48
Within ROW	0	Pollinator	0.21
<b>Total Maintenance Score</b>	7.5	<b>Total Environmental Score</b>	3.64
<b>Maint. Site Ranking</b>	41/65	<b>Enviro. Site Ranking</b>	57/65
<b>Overall Site Score</b>	11.14		
<b>Overall Site Ranking</b>	54/65		

Representative Site Photos



Observation ID: S50\_Ob1



Observation ID: S50\_Ob2

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S51	District 5	NM503	MM8.9	1

### Site Summary:

A large arroyo intersects the roadway at this location with no existing culvert infrastructure. Evidence suggests periodic ponding and sediment deposition on the road surface and within the right-of-way due to insufficient drainage conveyance. A culvert installation is recommended to improve hydrologic connectivity and reduce surface water accumulation. Erosion and flooding are actively affecting the site, and adjacent arroyo flow remains unmanaged.

### Recommendations:

- Install a culvert and outfall to convey flow beneath the roadway.
- Construct a large basin to manage runoff volume and capture sediment.
- Add a bioswale to intercept and filter surface water before it reaches the road.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S51_Ob1	35.953706	-105.915723	Yes	Rural	7	5.66

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Flooding	1
Sedimentation	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	1
Culvert/outfall	1
Large basin	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	2	Erosion Risk	1.18
Damage to Roadway	1	Flood Risk	1.39
Size	1	Hydrology	1.21
Reveg. Recommended	0	Conservation Area	0.36
# of Recommendations	3	Wildlife	0.77
Within ROW	0	Pollinator	0.74
<b>Total Maintenance Score</b>	7	<b>Total Environmental Score</b>	5.66
<b>Maint. Site Ranking</b>	44/65	<b>Enviro. Site Ranking</b>	31/65
<b>Overall Site Score</b>	12.66		
<b>Overall Site Ranking</b>	41/65		

## Representative Site Photos



Observation ID: S51\_Ob1



Observation ID: S51\_Ob1

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S52	District 5	NM76	MM3.7 – MM14.1	4

### Site Summary

This roadway segment exhibits recurring drainage and sedimentation issues due to concentrated runoff from surrounding slopes. Surface water primarily sheds from steep hillslopes to the west and northwest, with additional contributions from east-facing slopes in certain areas. Multiple low-lying sections along the roadway experience prolonged ponding, likely due to inadequate drainage infrastructure and sediment accumulation. An arroyo crossing from the northwest contributes to sediment deposition and water ponding at one location, while gully formation has initiated along the east side of the road, exacerbated by runoff flowing parallel to the roadway within the right-of-way.

### Recommendations:

- Install culverts at key drainage crossings to improve conveyance and reduce roadway ponding.
- Construct sediment basins at arroyo mouths and low-lying areas to trap sediment and regulate flow.
- Incorporate green infrastructure such as bioswales along the ROW to intercept, slow, and filter runoff.
- Monitor areas of gully formation and consider stabilization measures to prevent further incision and road encroachment.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S52_Ob1	35.992973	-106.005477	Yes	WUI	7	7.8
S52_Ob2	36.003823	-105.949294	Yes	WUI	8	6.32
S52_Ob3	36.004434	-105.966121	Yes	WUI	8	6.75
S52_Ob4	36.029244	-105.845076	No	Rural	6	7.68

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Erosion	1
Flooding	2
Ponding	3
Sedimentation	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	4
Check dams	3
Culvert/outfall	1
Large basin	3

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	1.75	Erosion Risk	1.21
Damage to Roadway	0	Flood Risk	1.46
Size	2.5	Hydrology	1.64
Reveg. Recommended	0	Conservation Area	0.83
# of Recommendations	2.75	Wildlife	1.22
Within ROW	0.25	Pollinator	0.77
<b>Total Maintenance Score</b>	<b>7.2</b>	<b>Total Environmental Score</b>	<b>7.14</b>
<b>Maint. Site Ranking</b>	<b>42/65</b>	<b>Enviro. Site Ranking</b>	<b>18/65</b>
<b>Overall Site Score</b>	<b>14.39</b>		
<b>Overall Site Ranking</b>	<b>21/65</b>		

Representative Site Photos



Observation ID: S52\_Ob2



Observation ID: S52\_Ob4

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S53	District 4	NM434	MM4.1 – MM11.4	7

### Site Summary

This site is comprised of several problem areas along NM434 where post-fire erosion and flooding from the 2022 Calf Canyon/Hermits Peak Fire have affected the roadway. Each observation covers a relatively large area of apparent flooding and erosion, much of which extends beyond the right-of-way. While green infrastructure along the roadside would support long-term roadway stability, fully addressing the root causes of these issues will require broader upland watershed restoration outside NMDOT jurisdiction.

### Recommendations:

- Install bioswales along the ROW to manage runoff and reduce erosion.
- Construct check dams and culvert outfalls to control concentrated flow.
- Apply mulching and soil sponges to stabilize burned and erodible surfaces.
- Evaluate the feasibility of large basins in areas with higher flow volumes.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S53_Ob1	36.013237	-105.282253	No	Rural	9	7.81
S53_Ob2	36.051195	-105.279794	Yes	Rural	8	7.83
S53_Ob3	36.0619	-105.277219	Yes	WUI	11	7.32
S53_Ob4	36.077778	-105.254585	Yes	Rural	10	7.01
S53_Ob5	36.092875	-105.245864	Yes	Rural	7	6.69
S53_Ob6	36.099938	-105.24326	Yes	Rural	7	6.69
S53_Ob7	36.104709	-105.242441	Yes	Rural	9	6.69

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Erosion	7
Flooding	5
Ponding	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	7
Check dams	3
Culvert/outfall	5
Large basin	1
Mulching	6
Soil sponges	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	1.86	Erosion Risk	1.21
Damage to Roadway	0.43	Flood Risk	2.14
Size	1.86	Hydrology	0.87
Reveg. Recommended	1	Conservation Area	0.97
# of Recommendations	3.43	Wildlife	1.34
Within ROW	0.14	Pollinator	0.61
<b>Total Maintenance Score</b>	<b>6.7</b>	<b>Total Environmental Score</b>	<b>7.15</b>
<b>Maint. Site Ranking</b>	<b>22/65</b>	<b>Enviro. Site Ranking</b>	<b>17/65</b>
<b>Overall Site Score</b>	<b>15.86</b>		
<b>Overall Site Ranking</b>	<b>11/65</b>		

Representative Site Photos



Observation ID: S53\_Ob5



Observation ID: S53\_Ob1

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S54	District 5	NM112	MM6.9	1

### Site Summary

A large arroyo crosses and bends toward the roadway at this location, with signs of overtopping during high-magnitude flow events. Existing gabion baskets have been installed but appear insufficient to manage peak flows. Given the scale and intensity of runoff, structural interventions will be necessary to protect the roadway and ensure long-term public safety. Green infrastructure alone is unlikely to provide adequate protection.

Recommendations:

- Conduct a hydrologic and hydraulic assessment to evaluate flow capacity and overtopping risk.
- Develop an engineered solution that may include channel realignment, culvert upgrades, or reinforced spillways.
- Coordinate with adjacent landowners if off-ROW improvements are required for long-term stabilization.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S54_Ob1	36.326601	-106.876964	Yes	Rural	4	4.27

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Erosion	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bridge redesign	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	1	Erosion Risk	1.1
Damage to Roadway	0	Flood Risk	1.57
Size	1	Hydrology	0.13
Reveg. Recommended	0	Conservation Area	0.36
# of Recommendations	2	Wildlife	0.91
Within ROW	0	Pollinator	0.19
<b>Total Maintenance Score</b>	4	<b>Total Environmental Score</b>	4.27
<b>Maint. Site Ranking</b>	62/65	<b>Enviro. Site Ranking</b>	46/65
<b>Overall Site Score</b>	8.27		
<b>Overall Site Ranking</b>	64/65		

## Representative Site Photos



Observation ID: S54\_Ob1



Observation ID: S54\_Ob1

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S55	District 5	NM111	MM0.3	1

### Site Summary

At Site 55, an arroyo crosses the roadway and has deposited large amounts of sediment on and around the road surface, indicating significant flow during past storm events. The sediment piles suggest that existing drainage capacity is insufficient to handle peak discharge, and without intervention, future events may result in flooding or further roadway damage. Targeted infrastructure and green infrastructure improvements are recommended to manage runoff and sediment transport.

Recommendations:

- Install a culvert and outfall to convey arroyo flow beneath the roadway.
- Construct a large basin to retain runoff and capture sediment.
- Add check dams and bioswales to reduce flow velocity and promote infiltration.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S55_Ob1	36.327255	-106.033809	Yes	Rural	8	7.81

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Flooding	1
Sedimentation	1

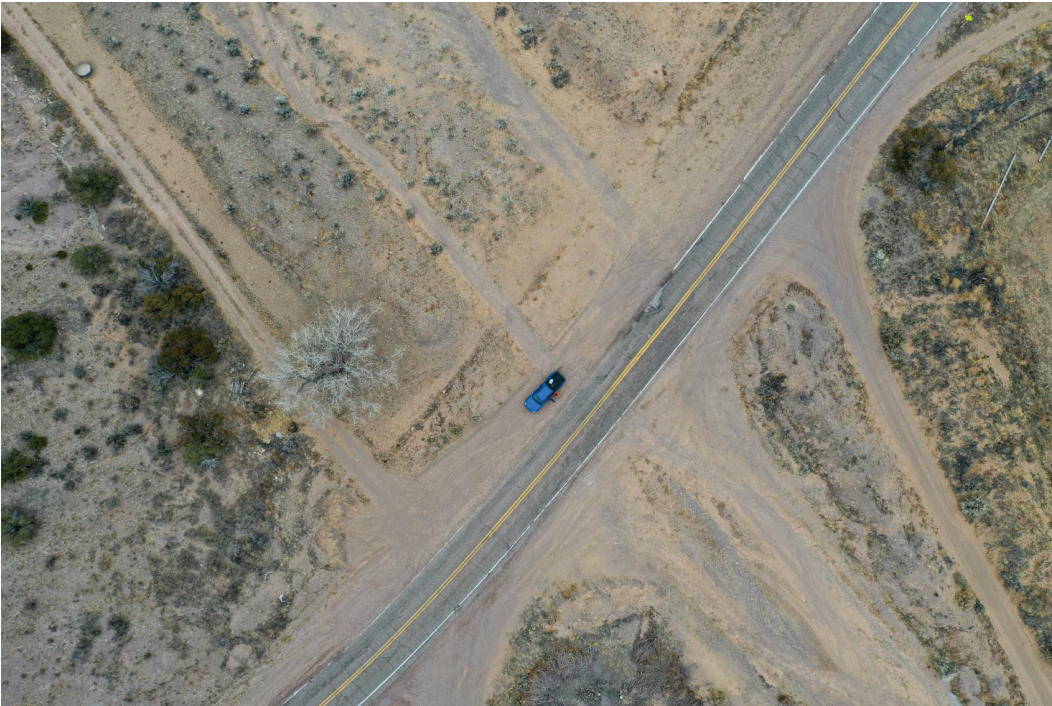
### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	1
Check dams	1
Culvert/outfall	1
Large basin	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	2	Erosion Risk	1.24
Damage to Roadway	1	Flood Risk	1.44
Size	1	Hydrology	1.66
Reveg. Recommended	0	Conservation Area	1.98
# of Recommendations	4	Wildlife	1.1
Within ROW	0	Pollinator	0.4
<b>Total Maintenance Score</b>	8	<b>Total Environmental Score</b>	7.81
<b>Maint. Site Ranking</b>	29/65	<b>Enviro. Site Ranking</b>	13/65
<b>Overall Site Score</b>		15.81	
<b>Overall Site Ranking</b>		12/65	

Representative Site Photos



Observation ID: S55\_Ob1



Observation ID: S55\_Ob1

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S56	District 5	US84	MM237.3	1

### Site Summary

Active gully erosion is occurring within an arroyo on the east side of the highway, exacerbated by slow drainage and runoff accumulation from the adjacent roadway. The combined flow from the arroyo and road surface shedding is contributing to severe soil loss and channel incision. Evidence suggests that fill material is currently being imported to the site, possibly for stabilization or grade restoration. This location presents a strong opportunity for a multi-tiered erosion control strategy to prevent continued degradation and support long-term stability.

### Recommendations:

- Implement erosion control structures, including check dams, Zuni bowls, and strategically placed rock armoring, to reduce flow velocity and minimize further incision.
- Construct bioswales to intercept and disperse road runoff before it enters the arroyo.
- Integrate green infrastructure solutions to promote infiltration and stabilize disturbed areas.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S56_Ob1	36.461265	-106.479104	Yes	Rural	8	7.65

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Erosion	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	1
Check dams	1
Mulching (rock)	1
Zuni bowl	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	1	Erosion Risk	1.11
Damage to Roadway	0	Flood Risk	1.55
Size	2	Hydrology	1.51
Reveg. Recommended	1	Conservation Area	0.97
# of Recommendations	4	Wildlife	1.3
Within ROW	0	Pollinator	1.2
<b>Total Maintenance Score</b>	8	<b>Total Environmental Score</b>	7.65
<b>Maint. Site Ranking</b>	29/65	<b>Enviro. Site Ranking</b>	14/65
<b>Overall Site Score</b>	15.65		
<b>Overall Site Ranking</b>	13/65		

## Representative Site Photos



Observation ID: S56\_Ob1



Observation ID: S56\_Ob1

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S57	District 5	US64/US550	MM57.7 – MM183.1/MM148.6	6

### Site Summary

Multiple issues were observed along this segment of highway, including subsidence, surface saturation, hillslope erosion, and arroyo encroachment into the right-of-way. District 5 maintenance and engineering staff noted that portions of the highway are sinking, which was supported by field observations showing saturated conditions adjacent to the roadway. Steep, bare hillslopes exhibit rilling and sediment mobilization, while active arroyo incision threatens to undermine the roadway in multiple locations.

### Recommendations:

- Construct excavated treatment wetlands and large basins to manage excess subsurface moisture.
- Install bioswales within the ROW to intercept surface runoff and reduce erosion.
- Apply mulching and revegetation on steep slopes to stabilize soils and minimize rill formation.
- Implement rock armoring and Zuni bowls to protect roadway infrastructure where arroyos are actively eroding the ROW.
- Consider channel realignment where feasible to redirect arroyo flow away from critical road segments.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S57_Ob1	36.64551	-106.449388	No	Rural	10	6.42
S57_Ob2	36.702664	-108.096574	No	Rural	6	5.77
S57_Ob3	36.716962	-107.912619	No	Rural	9	7.54
S57_Ob4	36.733462	-107.774566	Yes	Rural	5	5.06
S57_Ob5	36.739264	-107.72763	Yes	Rural	5	5.61
S57_Ob6	36.666954	-107.992759	No	Rural	8	5.91

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Erosion	5
Ponding	1
Roadway subsidence	1
Sedimentation	3

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	4
Large basin	1
Mulching	4
Wetland improvement/creation	1
Zuni bowl	2

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	1.7	Erosion Risk	1.16
Damage to Roadway	0.2	Flood Risk	1.46
Size	2	Hydrology	0.8
Reveg. Recommended	0.5	Conservation Area	0.7
# of Recommendations	2.2	Wildlife	0.93
Within ROW	0.67	Pollinator	1.02
<b>Total Maintenance Score</b>	<b>7.2</b>	<b>Total Environmental Score</b>	<b>6.2</b>
<b>Maint. Site Ranking</b>	<b>29/65</b>	<b>Enviro. Site Ranking</b>	<b>23/65</b>
<b>Overall Site Score</b>	<b>13.33</b>		
<b>Overall Site Ranking</b>	<b>34/65</b>		

Representative Site Photos



Observation ID: S57\_Ob3



Observation ID: S57\_Ob5

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S58	District 4	NM38	MM18.9	1

### Site Summary

Site 58 shows minor rill erosion along the right-of-way, likely driven by surface runoff during storm events. While currently limited in scope, the erosion may worsen over time without intervention. A nearby stream lies just downslope of the site and should be carefully considered during any drainage improvements to avoid unintended hydrologic impacts.

Recommendations:

- Install a culvert and outfall to reduce concentrated surface runoff.
- Construct bioswales within the ROW to slow flow and enhance infiltration.
- Evaluate potential impacts to the nearby stream during design and implementation.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S58_Ob1	36.673532	-105.332158	Yes	Rural	10	7.29

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Erosion	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	1
Culvert/outfall	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	1	Erosion Risk	1.8
Damage to Roadway	0	Flood Risk	1.32
Size	2	Hydrology	1.5
Reveg. Recommended	0	Conservation Area	0.97
# of Recommendations	2	Wildlife	1.37
Within ROW	0	Pollinator	0.33
<b>Total Maintenance Score</b>	5	<b>Total Environmental Score</b>	7.29
<b>Maint. Site Ranking</b>	58/65	<b>Enviro. Site Ranking</b>	16/65
<b>Overall Site Score</b>	12.29		
<b>Overall Site Ranking</b>	45/65		

Representative Site Photos



Observation ID: S58\_Ob1



Observation ID: S58\_Ob1

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S59	District 5	NM511	MM0.1 – MM28.3	12

### Site Summary

This site spans multiple observation points and shows extensive erosion, sediment transport, and runoff impacts caused by steep slopes and arroyo crossings. Sediment buildup, gully formation, and localized roadway settling indicate inadequate drainage and recurring stormwater stress. A targeted set of interventions is needed to reduce maintenance and improve long-term roadway resilience.

### Recommendations:

- Install bioswales and outfalls to manage runoff and reduce sediment delivery.
- Build check dams, basins, and Zuni bowls to stabilize gullies and slow flow.
- Apply mulch and revegetation to control erosion on exposed slopes.
- Upgrade or add culverts where existing drainage is insufficient.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S59_Ob1	36.733055	-107.78717	Yes	Rural	8	5.34
S59_Ob2	36.755744	-107.749304	No	WUI	8	6.95
S59_Ob3	36.757873	-107.745046	Yes	WUI	5	7.51
S59_Ob4	36.763689	-107.738161	No	Rural	8	7.51
S59_Ob5	36.771111	-107.724075	Yes	Rural	7	7.29
S59_Ob6	36.782904	-107.713558	Yes	Rural	8	7.25
S59_Ob7	36.803555	-107.619699	No	Rural	12	6.85
S59_Ob8	36.806929	-107.678332	No	Rural	10	5.61
S59_Ob9	36.811389	-107.667482	No	WUI	9	6.47
S59_Ob10	36.816414	-107.639162	No	Rural	10	5.89
S59_Ob11	36.818946	-107.647171	Yes	Rural	7	5.89
S59_Ob12	36.980358	-107.646568	No	Rural	9	4.84

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Erosion	12
Flooding	4
Ponding	2
Sedimentation	11

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	9
Check dams	9
Culvert/outfall	8
Large basin	8
Mulching	2
Zuni bowl	2

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	2.42	Erosion Risk	1.3
Damage to Roadway	0.42	Flood Risk	1.38
Size	1.75	Hydrology	0.8
Reveg. Recommended	0.08	Conservation Area	0.91
# of Recommendations	3.17	Wildlife	1.28
Within ROW	0.58	Pollinator	0.78
<b>Total Maintenance Score</b>	<b>8.4</b>	<b>Total Environmental Score</b>	<b>6.45</b>
<b>Maint. Site Ranking</b>	<b>25/65</b>	<b>Enviro. Site Ranking</b>	<b>20/65</b>
<b>Overall Site Score</b>	<b>4.87</b>		
<b>Overall Site Ranking</b>	<b>18/65</b>		

Representative Site Photos



Observation ID: S59\_Ob2



Observation ID: S59\_Ob12

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S60	District 5	NM539	MM1.8	1

### Site Summary

Site 60 includes a single arroyo crossing where no culvert infrastructure is present. Sediment deposits on the road surface and evidence of surface runoff indicate that flow frequently overtops the roadway. Without intervention, continued erosion and debris accumulation may affect road safety and drainage performance. Green and structural infrastructure improvements are recommended to manage flow and reduce sediment transport.

Recommendations:

- Install a culvert and outfall to convey arroyo flow beneath the roadway.
- Construct check dams upstream to slow runoff and reduce sediment delivery.
- Add a bioswale within the ROW to manage surface flow and promote infiltration.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S60_Ob1	36.767883	-107.618385	No	Rural	11	4.0

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Erosion	1
Flooding	1
Sedimentation	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	1
Check dams	1
Culvert/outfall	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	3	Erosion Risk	1.17
Damage to Roadway	1	Flood Risk	1.44
Size	3	Hydrology	0.2
Reveg. Recommended	0	Conservation Area	0.36
# of Recommendations	3	Wildlife	0.65
Within ROW	1	Pollinator	0.18
<b>Total Maintenance Score</b>	<b>11</b>	<b>Total Environmental Score</b>	<b>4.0</b>
<b>Maint. Site Ranking</b>	<b>3/65</b>	<b>Enviro. Site Ranking</b>	<b>52/65</b>
<b>Overall Site Score</b>	<b>15.0</b>		
<b>Overall Site Ranking</b>	<b>17/65</b>		

Representative Site Photos



Observation ID: S60\_Ob1



Observation ID: S60\_Ob1

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S61	District 5	NM516	MM6.8	1

### Site Summary

Site 61 includes a deep roadcut along the southeast side of the highway, where steep slopes and loose material present a risk of erosion and potential slope failure. While no immediate roadway damage was observed, the steep terrain and lack of stabilization suggest a need for preventative measures to maintain long-term slope stability and protect infrastructure.

Recommendations:

- Install rock stabilization measures to secure steep slopes.
- Construct a Zuni bowl to dissipate flow energy and reduce erosion at the slope base.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S61_Ob1	36.789359	-108.104479	No	WUI	5	8.67

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Erosion	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Mulching (rock)	1
Zuni bowl	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	1	Erosion Risk	1.1
Damage to Roadway	0	Flood Risk	1.45
Size	1	Hydrology	1.27
Reveg. Recommended	1	Conservation Area	1.98
# of Recommendations	2	Wildlife	1.68
Within ROW	0	Pollinator	1.2
<b>Total Maintenance Score</b>	5	<b>Total Environmental Score</b>	8.67
<b>Maint. Site Ranking</b>	58/65	<b>Enviro. Site Ranking</b>	6/65
<b>Overall Site Score</b>		13.67	
<b>Overall Site Ranking</b>		27/65	

Representative Site Photos



Observation ID: S61\_Ob1



Observation ID: S61\_Ob1

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S62	District 5	NM173	MM3.6 – MM12.7	2

### Site Summary

Recent utility work has left soils within the right-of-way highly disturbed and exposed, significantly increasing vulnerability to erosion. An arroyo crosses the roadway at this site, with concentrated flow overtopping the road and causing substantial erosion on the downstream side. The erosion poses a direct threat to roadway integrity and may soon expose buried utilities.

Recommendations:

- Install a Zuni bowl at the outlet where flow discharges from the roadway to dissipate energy and prevent further channel incision.
- Construct bioswales and reseed all disturbed areas to promote rapid vegetation establishment and reduce soil loss.
- Monitor the arroyo crossing closely and consider reinforcement measures to protect both the roadway and underground infrastructure.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S62_Ob1	36.791218	-107.774607	No	Rural	10	5.26
S62_Ob2	36.816924	-107.923214	No	Rural	8	6.36

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Erosion	2

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	2
Check dams	2
Culvert/outfall	1
Large basin	2
Zuni bowl	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	1	Erosion Risk	1.04
Damage to Roadway	0	Flood Risk	1.44
Size	2	Hydrology	0.75
Reveg. Recommended	1	Conservation Area	0.67
# of Recommendations	4	Wildlife	0.74
Within ROW	1	Pollinator	1.17
<b>Total Maintenance Score</b>	<b>9</b>	<b>Total Environmental Score</b>	<b>5.81</b>
<b>Maint. Site Ranking</b>	<b>11/65</b>	<b>Enviro. Site Ranking</b>	<b>28/65</b>
<b>Overall Site Score</b>	<b>14.81</b>		
<b>Overall Site Ranking</b>	<b>20/65</b>		

Representative Site Photos



Observation ID: S62\_Ob2



Observation ID: S62\_Ob1

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S63	District 5	US64/84	MM148.5	1

### Site Summary

This site features a natural wetland area with prolonged ponding near the intersection of US 84 and US 64. South of US 84, gully erosion is actively occurring within the right-of-way west of the intersection. Additional segments exhibit both standing water and surface erosion. This site presents potential for multifunctional green infrastructure to enhance hydrologic function and reduce maintenance needs.

Recommendations:

- Develop a green infrastructure complex that integrates constructed wetlands, bioswales, and erosion control features to manage ponding, reduce flow velocity, and stabilize eroding areas.
- Prioritize gully stabilization on the south side through vegetative reinforcement, check structures, and grade control.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S63_Ob1	36.905402	-106.794242	No	Rural	8	5.67

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Erosion	1
Ponding	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	1
Check dams	1
Large basin	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	2	Erosion Risk	1.16
Damage to Roadway	0	Flood Risk	1.57
Size	2	Hydrology	0.82
Reveg. Recommended	0	Conservation Area	0.36
# of Recommendations	3	Wildlife	0.7
Within ROW	1	Pollinator	1.05
<b>Total Maintenance Score</b>	8	<b>Total Environmental Score</b>	5.67
<b>Maint. Site Ranking</b>	29/65	<b>Enviro. Site Ranking</b>	30/65
<b>Overall Site Score</b>	13.67		
<b>Overall Site Ranking</b>	27/65		

## Representative Site Photos



Observation ID: S63\_Ob1



Observation ID: S63\_Ob1

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S64	District 5	NM574	MM6.3	1

### Site Summary

An arroyo is actively incising through the right-of-way along NM574, posing a threat to the adjacent roadway. Continued erosion may compromise infrastructure if left unaddressed. Rilling is also beginning to form on nearby slopes, signaling early-stage surface instability. Stabilization is critical to protect the roadway and reduce further erosion.

Recommendations:

- Implement rock stabilization along eroding channel margins.
- Construct a Zuni bowl at the outlet or key transition points to dissipate energy and control incision.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S64_Ob1	36.907971	-108.085031	Yes	Rural	5	4.55

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Erosion	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Mulching (rock)	1
Zuni bowl	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	1	Erosion Risk	1.05
Damage to Roadway	1	Flood Risk	1.48
Size	1	Hydrology	0.01
Reveg. Recommended	0	Conservation Area	0.36
# of Recommendations	2	Wildlife	0.48
Within ROW	0	Pollinator	1.16
<b>Total Maintenance Score</b>	5	<b>Total Environmental Score</b>	4.55
<b>Maint. Site Ranking</b>	58/65	<b>Enviro. Site Ranking</b>	41/65
<b>Overall Site Score</b>	9.55		
<b>Overall Site Ranking</b>	60/65		

Representative Site Photos



Observation ID: S64\_Ob1



Observation ID: S64\_Ob1

## NMDOT Green Infrastructure Site Summary

Site ID	NMDOT District	Roadway	Mile Marker Range	Total Observations
S65	District 5	NM17	MM8.4	1

### Site Summary

Along a one-mile-long segment of NM17, water ponds persistently on the west side, likely saturating the base coarse and contributing to roadway settlement and cracking. Multiple small drainages descend from hills to the west, concentrating flow toward the road. Field observations confirm extensive cracking, including areas of recent repair.

### Recommendations:

- Install drainage basins to intercept and detain runoff from the west-facing slopes.
- Improve subsurface drainage infrastructure beneath the roadway to reduce base coarse saturation and prevent further settling.
- Conduct geotechnical assessment to evaluate subsurface conditions and guide stabilization design.
- Drainage improvements are critical to protecting roadway integrity and minimizing future maintenance needs.

### Observation Details

Observation ID	Latitude	Longitude	Outside ROW?	Locality	Maint. Score	Env. Score
S65_Ob1	36.979765	-106.510476	No	Rural	11	4.55

### Maintenance Issues

Maintenance Issue	# of Observations Across Site
Erosion	1
Flooding	1
Ponding	1

### Recommended Interventions

Recommended Intervention	# of Recommendations Across Site
Bioswale	1
Check dams	1
Large basin	1

### Site-wide Average Scores

Maintenance Score		Environmental Score	
# of Maintenance Issues	3	Erosion Risk	1.26
Damage to Roadway	1	Flood Risk	1.48
Size	3	Hydrology	1.5
Reveg. Recommended	0	Conservation Area	0.97
# of Recommendations	3	Wildlife	1.03
Within ROW	1	Pollinator	0.08
<b>Total Maintenance Score</b>	<b>11</b>	<b>Total Environmental Score</b>	<b>6.32</b>
<b>Maint. Site Ranking</b>	<b>3/65</b>	<b>Enviro. Site Ranking</b>	<b>22/65</b>
<b>Overall Site Score</b>	<b>17.32</b>		
<b>Overall Site Ranking</b>	<b>6/65</b>		

Representative Site Photos



Observation ID: S65\_Ob1



Observation ID: S65\_Ob1