NM 53 Drainage Improvements
CN 6101091
October 26th, 2020
Project Team

- **NMDOT**
  - Munaf Alaloosi, PE, Project Development Engineer
  - Burke Lokey, Drainage Design Bureau Chief
  - Steven Gisler, Environmental Scientist
  - Lisa Vega, District 6 Assistant District Engineer
  - Arif Kazmi, District 6 Assistant District Engineer
  - Delane Baros, District 6 Public Information Officer

- **Zuni Pueblo**
  - Royce Gchachu, Program Manager

- **WHPacific**
  - Andrew Gallegos, PE, Project Manager
  - Sheila Johnson, PE, Drainage PM
  - Kevin Rucker, Roadway/Drainage Design
Presentation Outline

- Project Introduction
  - Project Location & Limits
- Project Issues
- Purpose and Need
- Project Coordination
- Proposed Improvements
  - Drainage Evaluation
  - Improvements
- Environmental Impacts
- Next Steps
- Project Schedule
- How to Contact Us
The project intent is to reconstruct existing drainage facilities such that frequently recurring sediment deposition resulting from storm events is manageable and doesn't result in road closure for extended periods.

Project will also provide new signing and striping based on conditions of existing striping and signs.

Project will not raise the height of the road at this time due to budgetary constraints but improvements to the drainage structures and drainage channels will meet the current drainage criteria and keep roadways from flooding.
Project Location

NM 53 Drainage Structure Reconstruction Vicinity Map
Project Limits

NM 53 Drainage Structure Reconstruction Project Map
Flooding has resulted in numerous road closures and dangerous driving conditions over the years.

Mud flows cut the community off from important emergency services and resource, which is a safety and economic issue for the community.

Plugged Drainage Structures and Silted Channels do not allow the storm flow to adequately cross the road to downstream arroyos.

There are a lack of Access for Maintenance Crews in general.
Project Issues
The primary Purpose of the project is to construct new storm runoff conveyance ditches and sediment retention basins upstream of the highway, and to upgrade the existing drainage structures to meet current drainage criteria for design storm flow.

Provide Access for maintenance for Zuni Pueblo and NMDOT crews.

The project will also replace signing and striping based on condition of existing signs and striping.
Project Coordination with Zuni Pueblo

- April 26th, 2016 – NMDOT Field Visit to NM 53
- October 4th, 2017 – Letter from Zuni Pueblo
- October 19th, 2017 – Project Coordination Meeting
- June 27th, 2018 – Project Coordination Meeting
- October 23rd, 2018 – Project Coordination Meeting
- July 3rd, 2019 – Project Coordination Meeting
- August 21st, 2019 – Project Coordination Meeting
- December 10th, 2019 – Project Coordination Meeting
- Future Meetings – TBD
Proposed Improvements:

Drainage Structures

1. Clean existing culvert pipe at MP 18.29 and abandon in place or fill/plug all other existing culvert pipes
2. Replace 20 existing culverts with 5 concrete box culverts.
3. Install sediment basins (ponds) and channels.
4. Improve downstream erosion control (Riprap).

Downstream Riprap Placement

Drainage Structure 1 and Sediment Basin

Drainage Structure 2 and Sediment Basin

Milepost 15.5
Beginning of Project

Zuni Pueblo

Clean Existing Culverts

Drainage Structure 3 and Sediment Basin

Milepost 19.5
End of Project

Drainage Structure 4 and Sediment Basin

Concrete Box Culvert Placement

Sediment Basin and Channel Installation

NM 53 Drainage Structure Reconstruction Project
CME’s vs. TCP’s

- Temporary Construction Permits (TCP’s)
  - The area that is needed to perform work will be abandoned after construction and revert back to the pueblo.

- Construction Maintenance Easements (CME’s)
  - The area designated for NMDOT to perform routine maintenance on drainage structures will remain the property of the pueblo.
### Proposed Right-of-way Needs

#### Temporary Construction Permits

<table>
<thead>
<tr>
<th>POND NO.</th>
<th>STRUCTURE NO.</th>
<th>STATION</th>
<th>MILEPOST</th>
<th>PROPOSED TCP NEEDS (AC.)</th>
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<td>D</td>
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<td>5</td>
<td>399+22.98</td>
<td>18.58</td>
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**Proposed Right-of-way Needs**

**Construction Maintenance Easements**

<table>
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<tr>
<th>POND NO.</th>
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<td>5</td>
<td>399+22.98</td>
<td>18.58</td>
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</table>
Proposed Improvements: Access for Maintenance

- Zuni Pueblo’s responsibility to maintain pond and channels.
- NMDOT will maintain crossing structures.
Proposed Improvements: Channel & Pond Construction

Drainage Structure Comparison

<table>
<thead>
<tr>
<th>MP</th>
<th>Existing</th>
<th>Proposed</th>
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</thead>
<tbody>
<tr>
<td>16.62</td>
<td>1-36&quot; Culvert</td>
<td>1- 8’S x 4’H CBC</td>
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Concrete Box Culvert
Graded Channel
Slope Limits
Desiltation Pond
Riprap Pads
Tie to Existing Drainage Channels

Drainage Structure Location 1

MP 16.62
Proposed Improvements: Proposed Right-of-way Needs

Right-Of-Way: Construction Maintenance Easement (CME)

Proposed CME & TCP’s for ponds, channels, and maintenance

Right-Of-Way: Temporary Construction Permit (TCP)

Right-of-Way Legend
- CME Boundary
- TCP Boundary
- Existing ROW

MP 16.62

Drainage Structure Location 3
Proposed Improvements: Channel & Pond Construction

Drainage Structure Comparison

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<td>16.75</td>
<td>1-30&quot; Culvert</td>
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Legend
- Flow Direction
- Slope Limits
- Pond/Channel Area
- Riprap Pads
Proposed Improvements: Proposed Right-of-way Needs

Right-Of-Way: Construction Maintenance Easement (CME)
Right-Of-Way: Temporary Construction Permit (TCP)

Proposed CME & TCP’s for ponds, channels, and maintenance

Drainage Structure Location 2
MP 16.75
Proposed Improvements:
Channel & Pond Construction

Drainage Structure Comparison

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<th>Existing</th>
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<tbody>
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<td>17.05</td>
<td>2-48&quot; Culverts</td>
<td>1-8’S x 4’R CBC</td>
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Drainage Structure Location 3

MP 17.05
Proposed Improvements: Proposed Right-of-way Needs

- Proposed CME & TCP’s for ponds, channels, and maintenance

Right-Of-Way: Construction Maintenance Easement (CME)

Right-Of-Way: Temporary Construction Permit (TCP)

Right-of-Way Legend:
- CME Boundary
- TCP Boundary
- Existing ROW

Drainage Structure Location 3

MP 17.05
Proposed Improvements:
Channel & Pond Construction

Drainage Structure Comparison

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<td>17.41</td>
<td>1-48” Culvert</td>
<td>1-6’S x 4’R CBC</td>
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Legend
- Flow Direction
- Slope Limits
- Pond/Channel Area
- Riprap Pad

Drainage Structure Location 4
MP 17.41
Proposed Improvements: Proposed Right-of-way Needs

- Proposed CME & TCP’s for ponds, channels, and maintenance

Right-Of-Way: Construction Maintenance Easement (CME)

Right-Of-Way: Temporary Construction Permit (TCP)

Drainage Structure Location 4

MP 17.41
Proposed Improvements: Channel & Pond Construction

### Drainage Structure Comparison

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<th>MP</th>
<th>Existing</th>
<th>Proposed</th>
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</thead>
<tbody>
<tr>
<td>18.58</td>
<td>1-13’S x 8’R Structural Plate Arch Culvert</td>
<td>5-8’S x 6’R CBC’s</td>
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</tbody>
</table>

Legend:
- **Flow Direction**
- **Slope Limits**
- **Pond/Channel Area**
- **Riprap Pads**
Proposed Improvements:
Proposed Right-of-way Needs

- Proposed CME & TCP’s for ponds, channels, and maintenance

Right-of-Way: Construction Maintenance Easement (CME)

Drainage Structure Location 5
MP 18.58
Proposed Improvements:
Proposed Right-of-way Needs

Right-Of-Way: Construction Maintenance Easement (CME)

Drainage Structure Location 5
MP 18.58

Proposed CME & TCP’s for ponds, channels, and maintenance
Construction

Phase I:
Build Concrete Box Culvert Structures on North side of NM 53
Phase II: Build Concrete Box Culvert Structures and Basin/Channels on South side of NM 53
Environmental Impacts

**Environmental Surveys and reporting**

- Parametrix (hired by Zuni Pueblo) to perform Biological surveys and reporting and Zuni Cultural Resource Enterprises (Also hired by Zuni Pueblo) to perform Cultural Resources Surveys and determine findings

- No areas identified with sensitive Biological Resources (plants, animals, or noxious weeds)

- The project team will attempt to avoid impacting sensitive cultural resource sites as much as possible.
  - 10 sites recorded in the past have been found again
  - 2 new sites have been identified
  - Some sites may have unavoidable impacts. NMDOT ED will work with Pueblo and Archeologist to determine course of action prior to const.

- Temporary environmental impact anticipated from the considerable land clearing required for construction.
  - Will minimize the footprint as much as possible, will revegetate the disturbed ground with native seeding using used for this region.

- Monitoring will be required near sensitive cultural sites during construction.
Next Steps

- Continued Coordination with Zuni Pueblo
- Utility Owner Meetings
- Complete Environmental Evaluation
- Finalize Plans in Summer 2021
- Construction Spring 2022
- Project Funding - $4,092,750.00
Project Schedule

- NM 53 Final Project Schedule
  - 60% Design Plans (fall 2020)
  - ROW Acquisition (Spring/Summer 2021)
  - Final Design Plans in Summer 2021
  - Project Letting in Fall 2021
  - Construction Begins in Spring 2022
How to Contact us

- Please submit comments and questions within 30 Days to Project Team
- Email the project team with comments/questions:
  - Andrew Gallegos, PE (WHPacific Project Manager)
    - agallegos@whpacific.com
    - Phone: 505.348.5277
    - Address: 6501 Americas Pkwy NE, Ste 400, Albuquerque, NM 87110
  - Munaf Alaloosi, PE (NMDOT Project Development Engineer)
    - MunafM.Alaloosi@state.nm.us
    - Phone: 505.228.8872
  - Zuni Pueblo
    - Royce Gchachu
    - Phone: 505.782.7116
    - Royce.gchachu@ashiwi.org