New Mexico DEPARTMENT OF TRANSPORTATION
MOBILITY FOR EVERYONE

U.S. Department of Transportation
Federal Highway Administration

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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

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GREAT SEAL OF THE ZUNI TRIBE

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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

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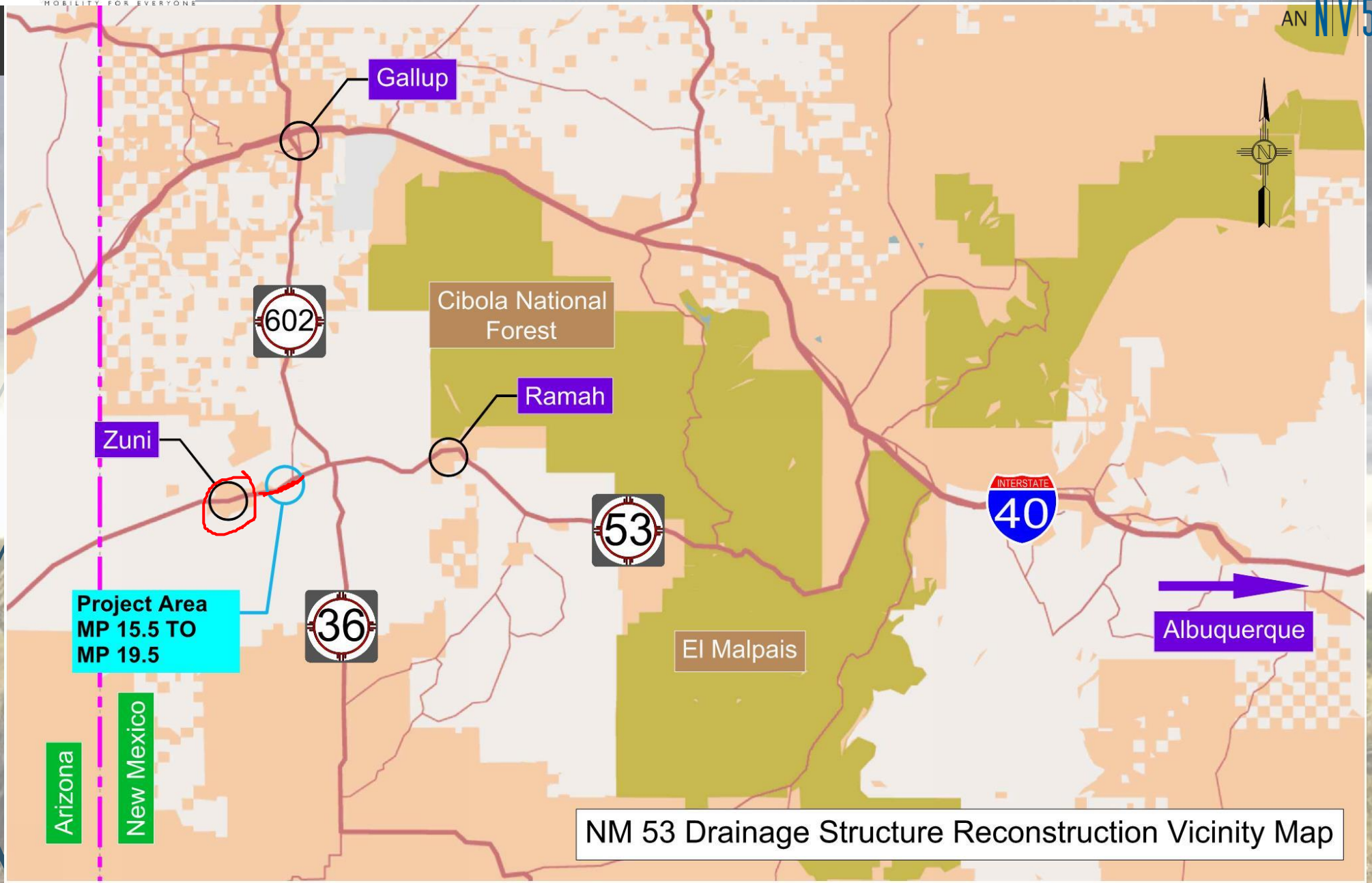
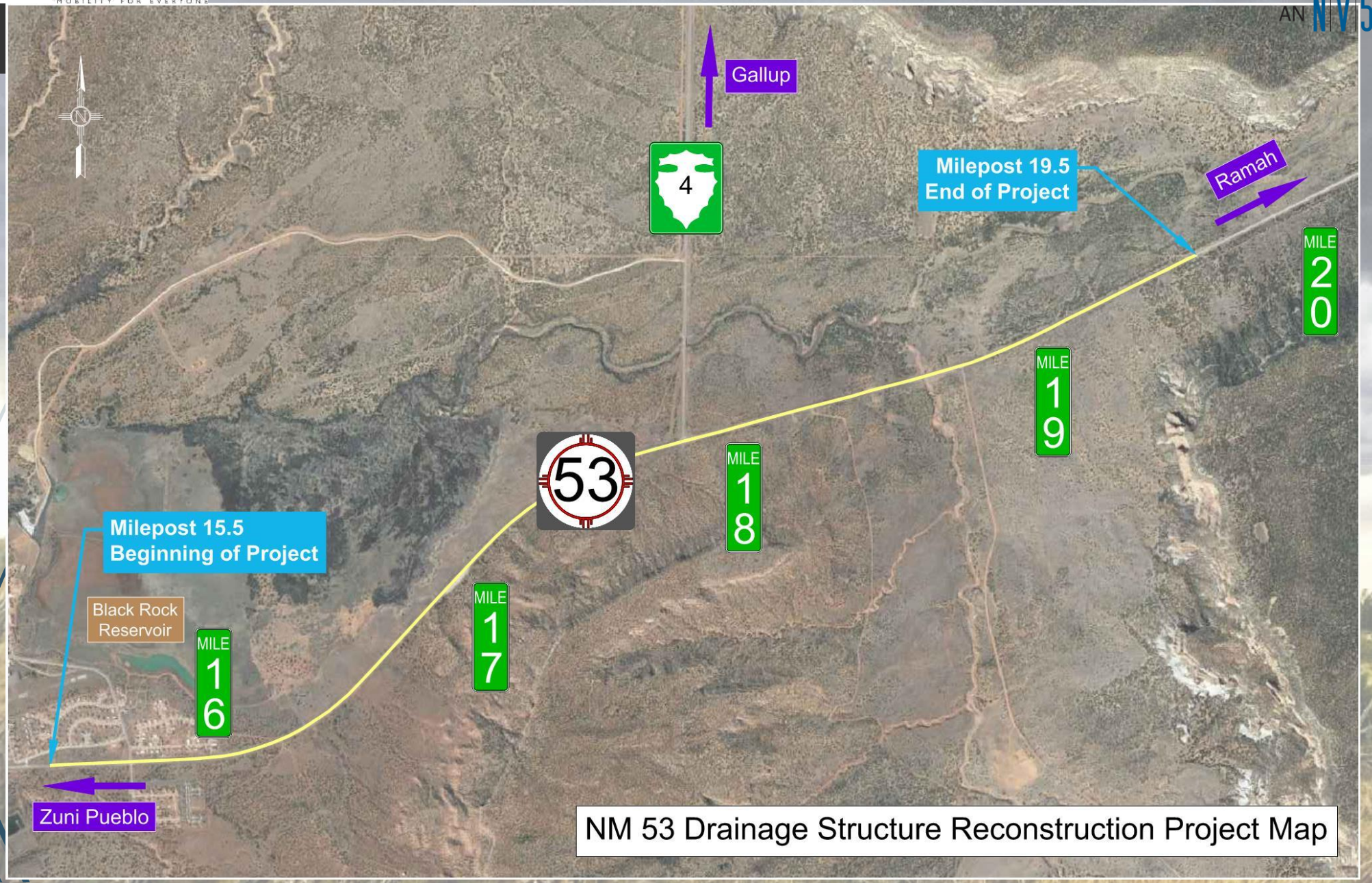
Project Introduction

- 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



Project Limits



Project Issues

- 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

Purpose & Need

- 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

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Proposed Improvements

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).*

Gallup

Clean Existing Culverts

Milepost 19.5
End of Project

Ramah

MILE 20

MILE 19

MILE 18

Downstream Riprap Placement

Drainage Structure 5

Drainage Structure 3 and Sediment Basin

MILE 17

Drainage Structure 4 and Sediment Basin

Drainage Structure 2 and Sediment Basin

Drainage Structure 1 and Sediment Basin

Sediment Basin and Channel Installation

Concrete Box Culvert Placement

Milepost 15.5
Beginning of Project

Zuni Pueblo

MILE 16

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

NM 53 ROW Comparisons (TCP'S)				
POND NO.	STRUCTURE NO.	STATION	MILEPOST	PROPOSED TCP NEEDS (AC.)
A	1	295+81.74	16.62	5.3
B	2	302+61.86	16.75	3.3
C	3	318+90.92	17.05	5.6
D	4	337+64.51	17.41	4.2
N/A	5	399+22.98	18.58	4.2

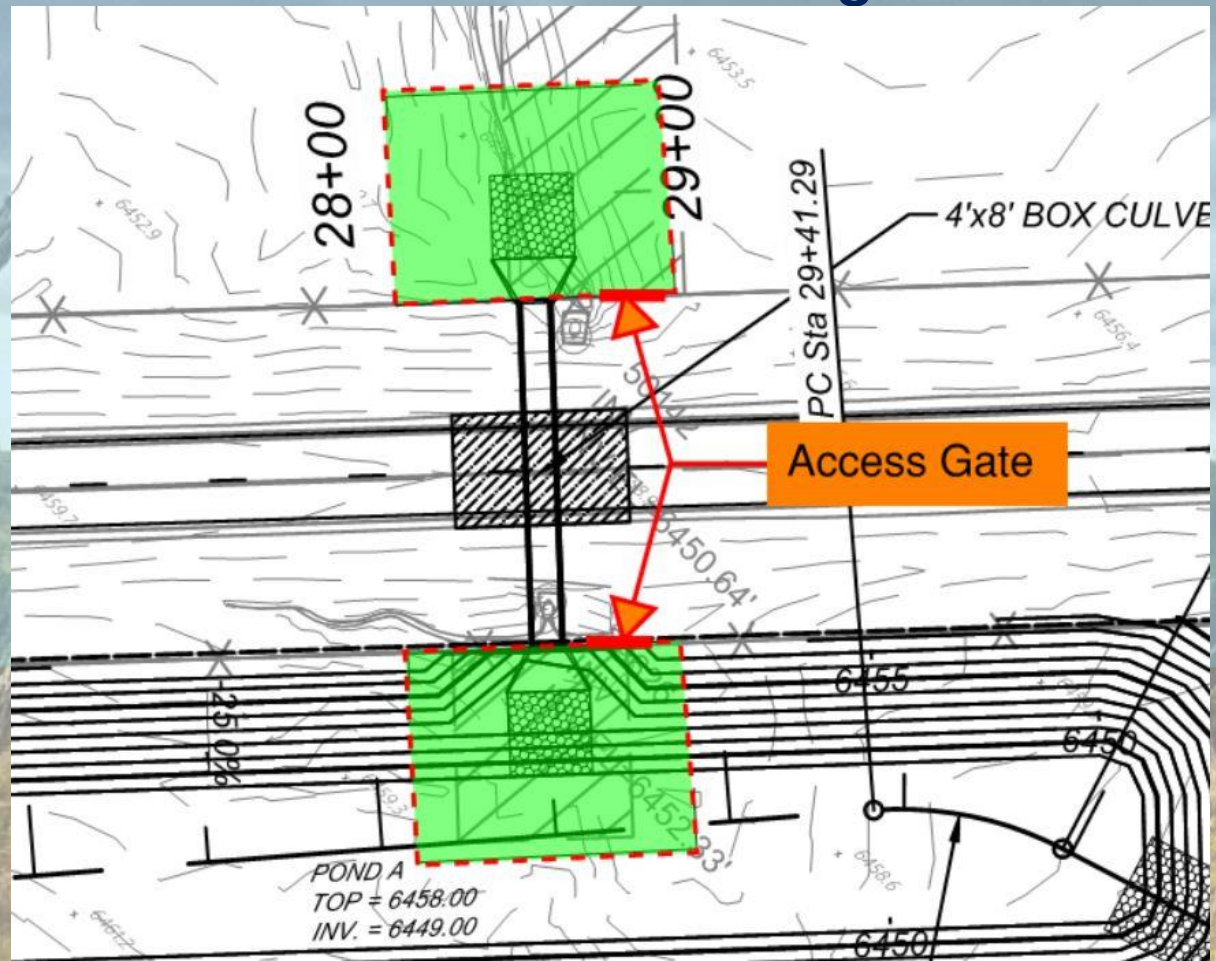
Proposed Right-of-way Needs

Construction Maintenance Easements

NM 53 ROW Comparisons (CME'S)				
POND NO.	STRUCTURE NO.	STATION	MILEPOST	PROPOSED CME (AC.)
A	1	295+81.74	16.62	0.2
B	2	302+61.86	16.75	0.2
C	3	318+90.92	17.05	0.2
D	4	337+64.51	17.41	0.2
N/A	5	399+22.98	18.58	1.0

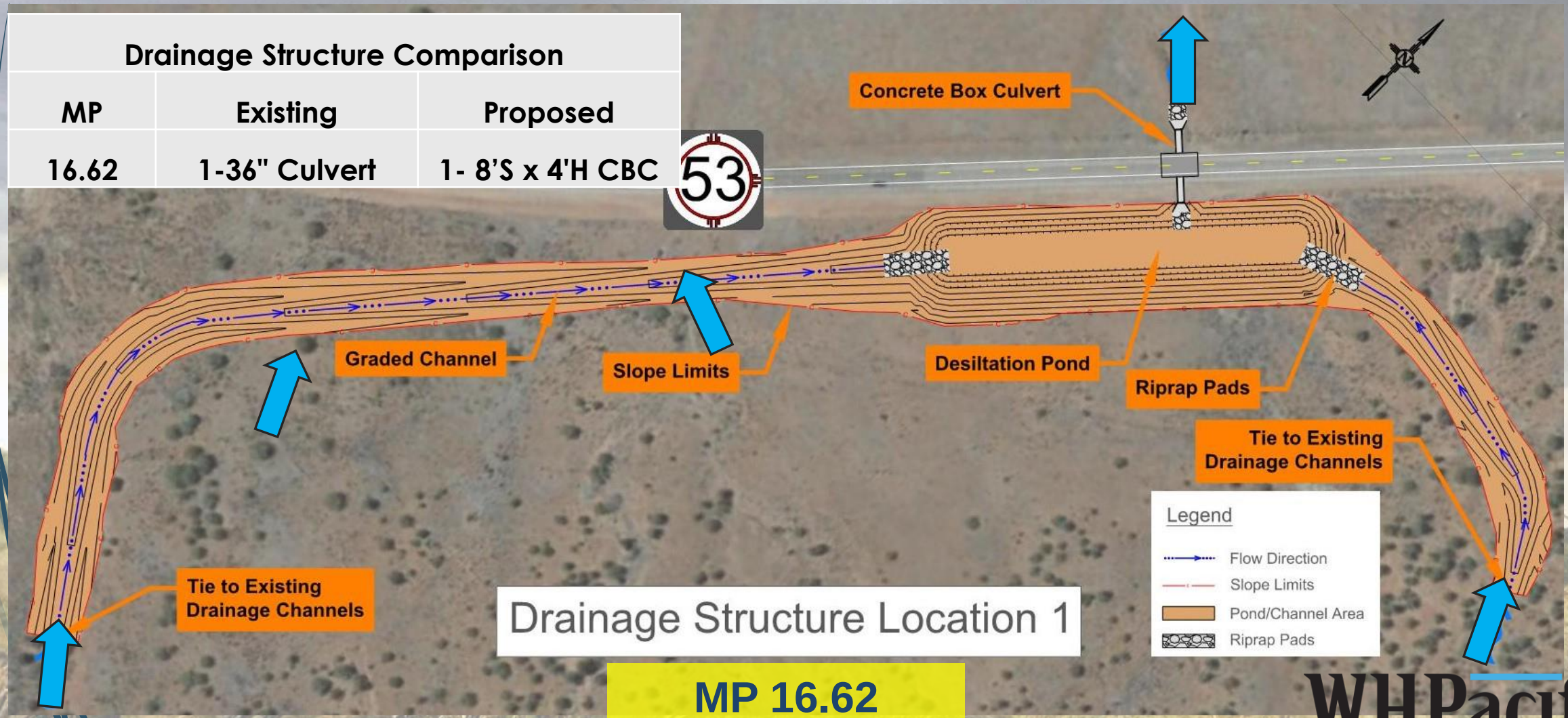
Proposed Improvements: Access for Maintenance

- Zuni Pueblo's responsibility to maintain pond and channels.
- NMDOT will maintain crossing structures.



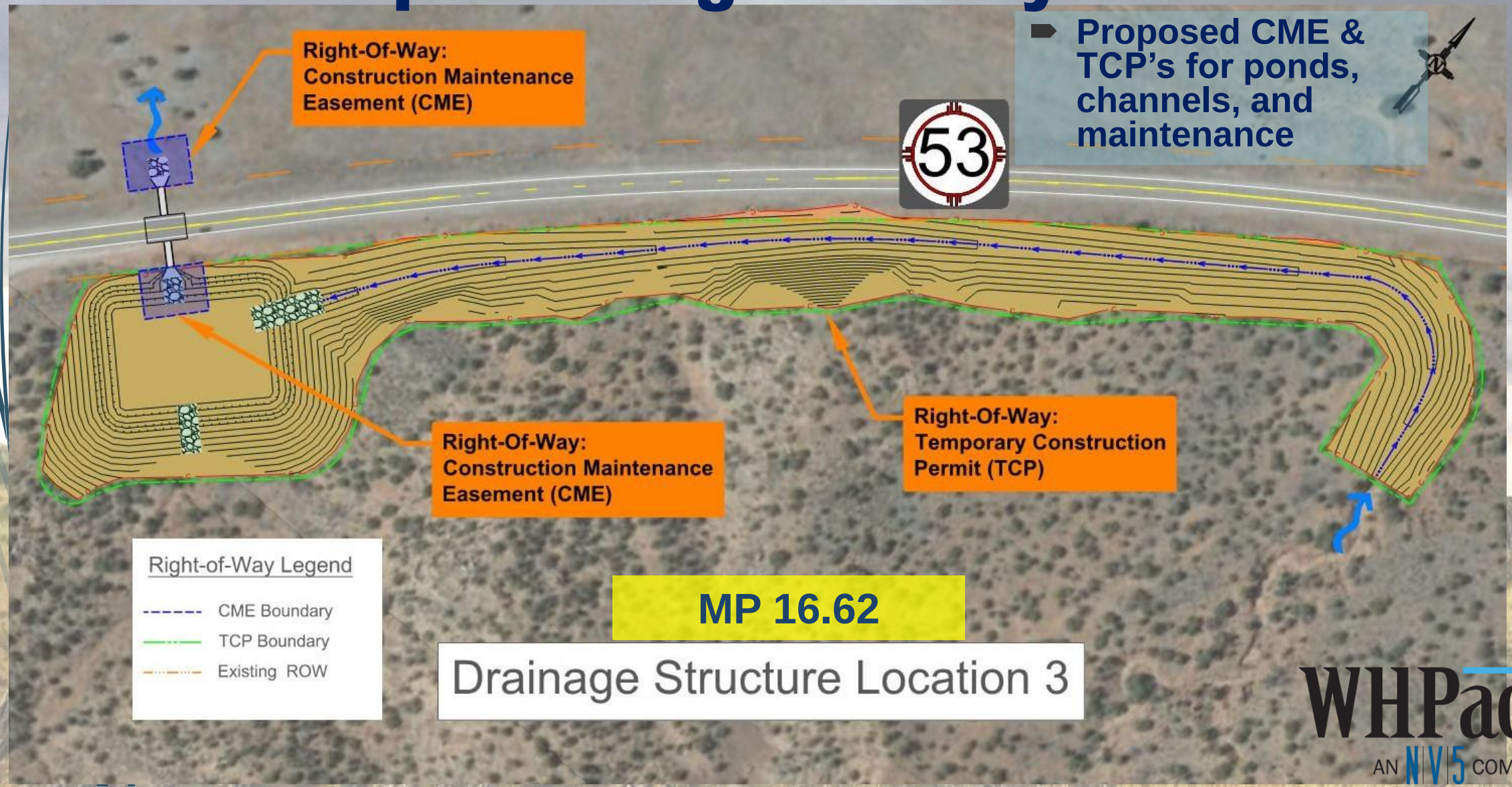
Proposed Improvements: Channel & Pond Construction

Drainage Structure Comparison		
MP	Existing	Proposed
16.62	1-36" Culvert	1- 8'S x 4'H CBC

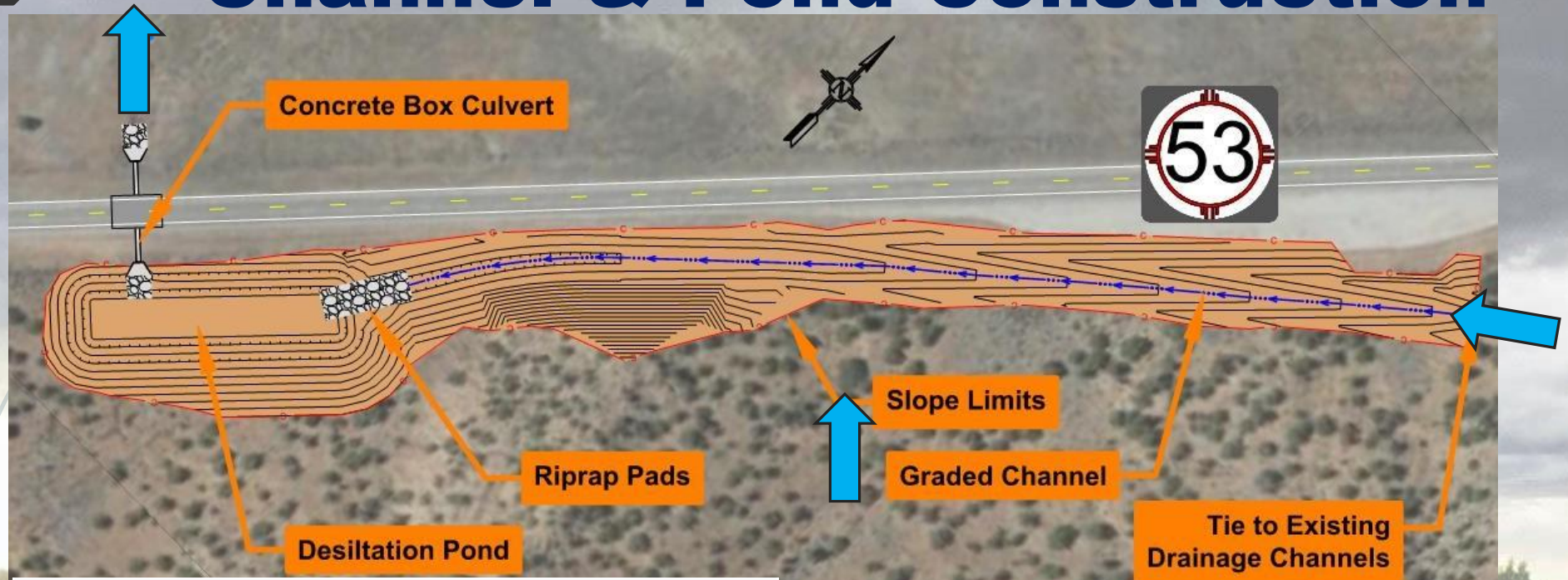


Proposed Improvements:
Proposed Right-of-way Needs

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



Proposed Improvements: Channel & Pond Construction

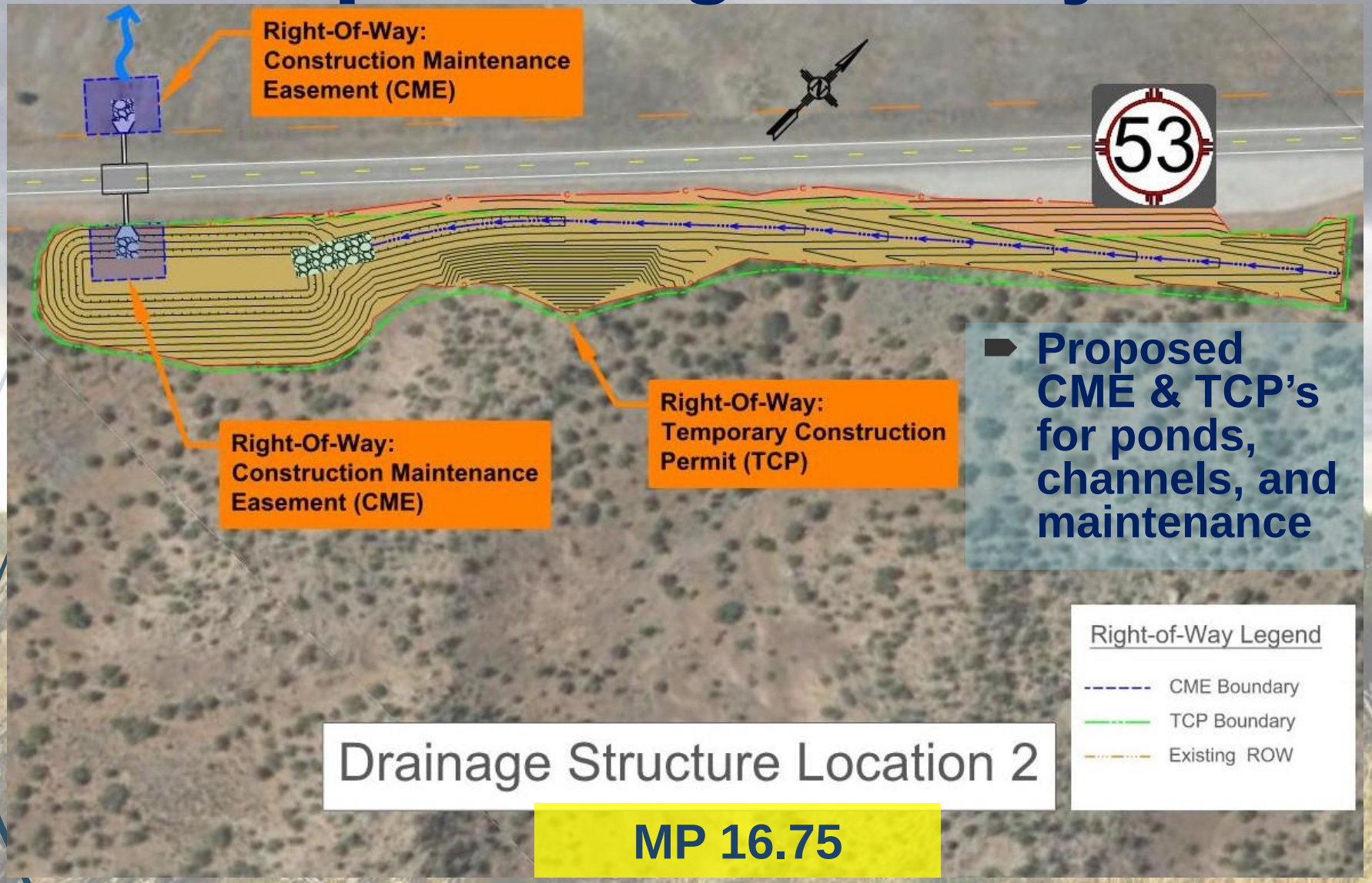


Drainage Structure Comparison		
MP	Existing	Proposed
16.75	1-30" Culvert	1- 4'S x 4'H CBC

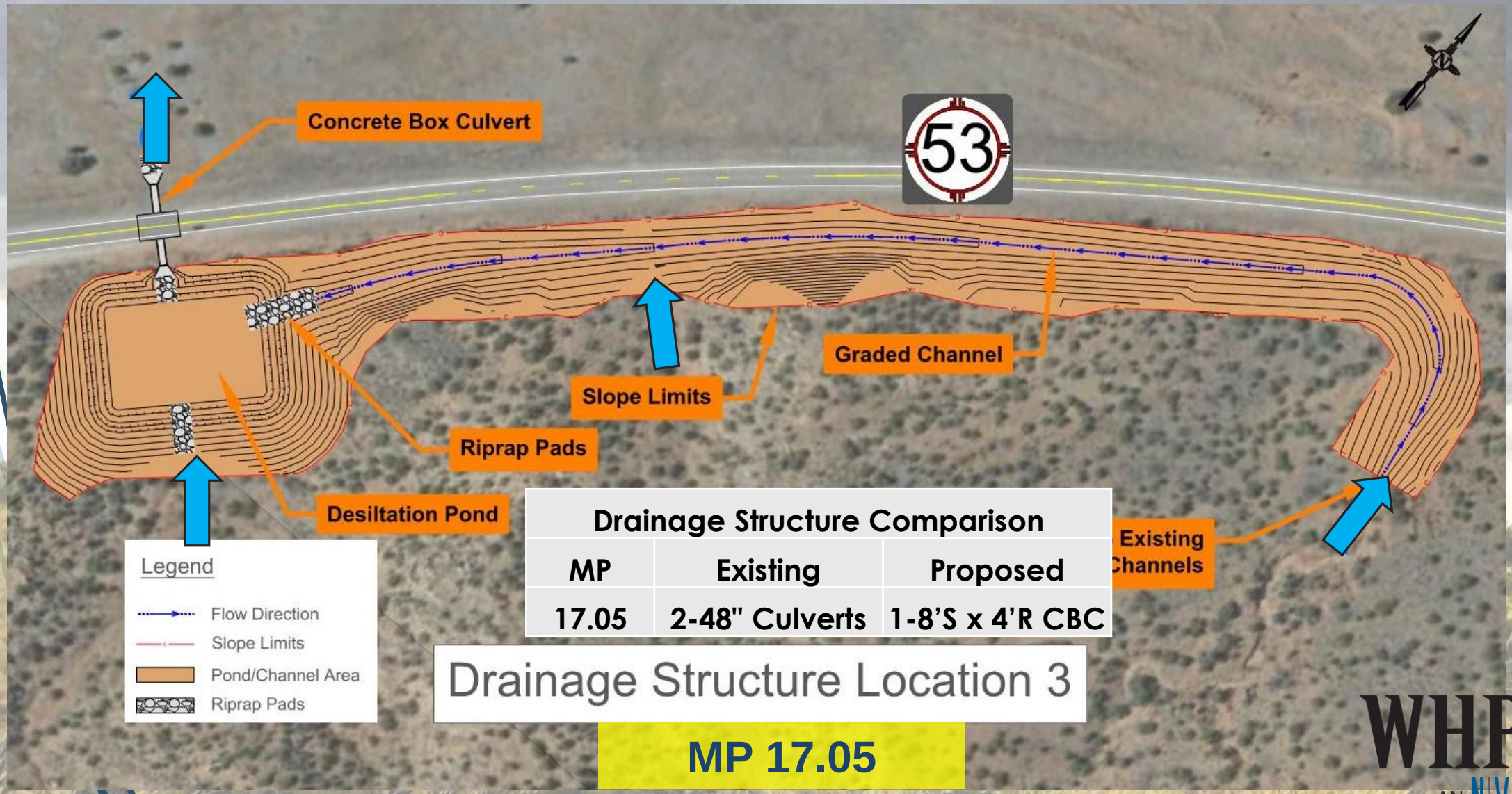
Drainage Structure Location 2

MP 16.75

Proposed Improvements: Proposed Right-of-way Needs



Proposed Improvements: Channel & Pond Construction

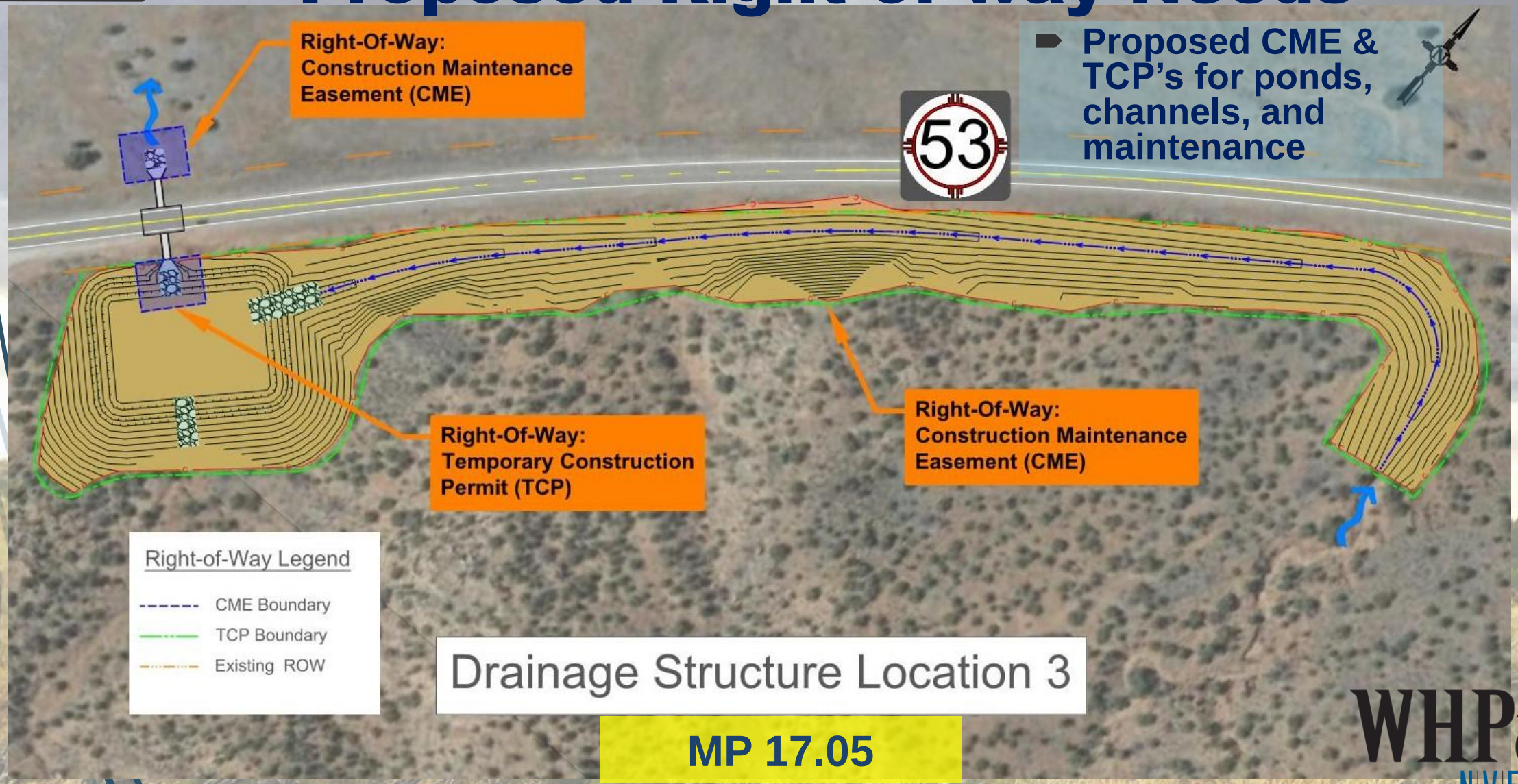


Drainage Structure Comparison		
MP	Existing	Proposed
17.05	2-48" Culverts	1-8'S x 4'R CBC

Drainage Structure Location 3

MP 17.05

Proposed Improvements:
Proposed Right-of-way Needs



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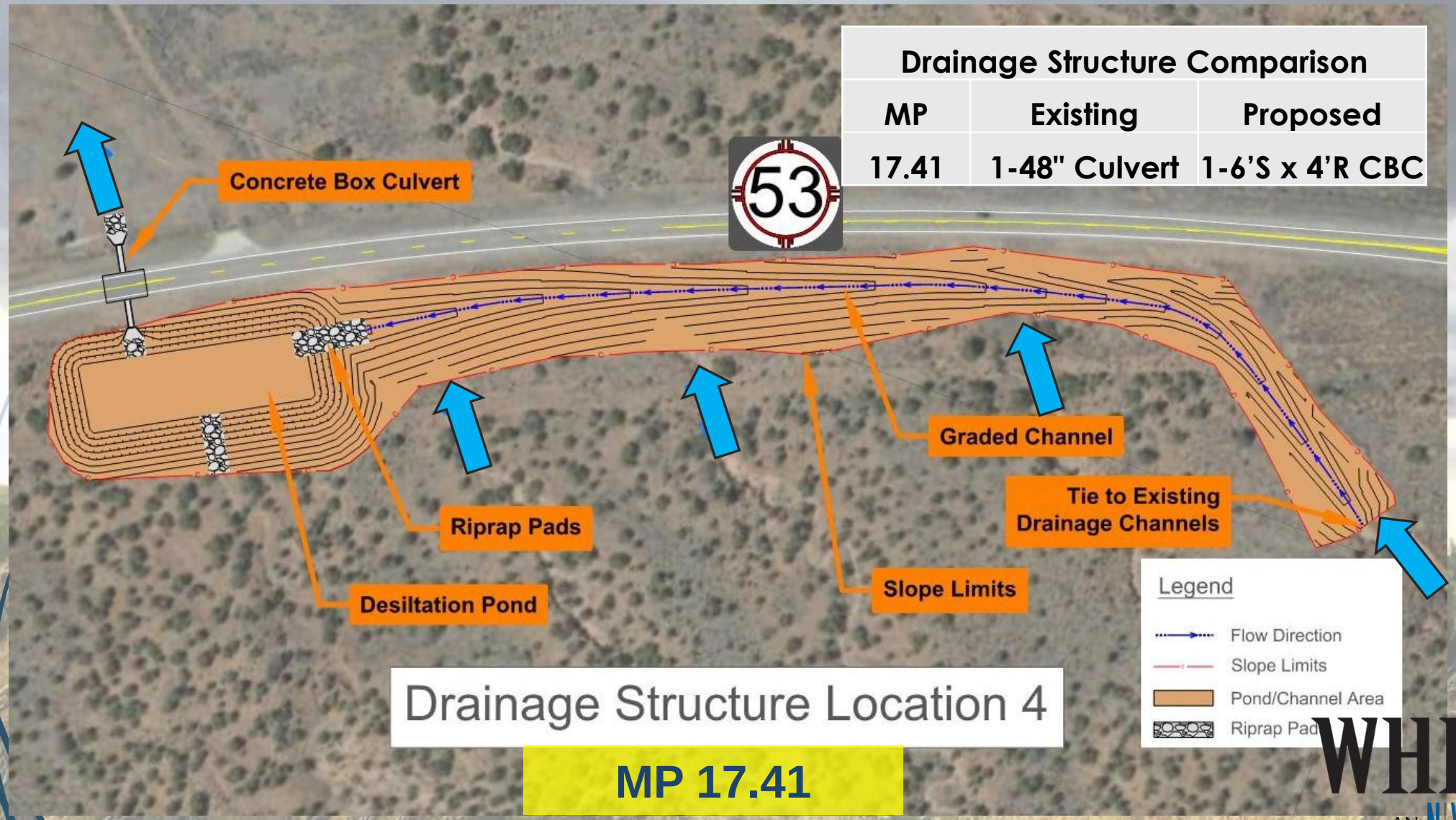
Proposed Improvements: Channel & Pond Construction



Drainage Structure Comparison		
MP	Existing	Proposed
17.41	1-48" Culvert	1-6'S x 4'R CBC

Drainage Structure Location 4

MP 17.41

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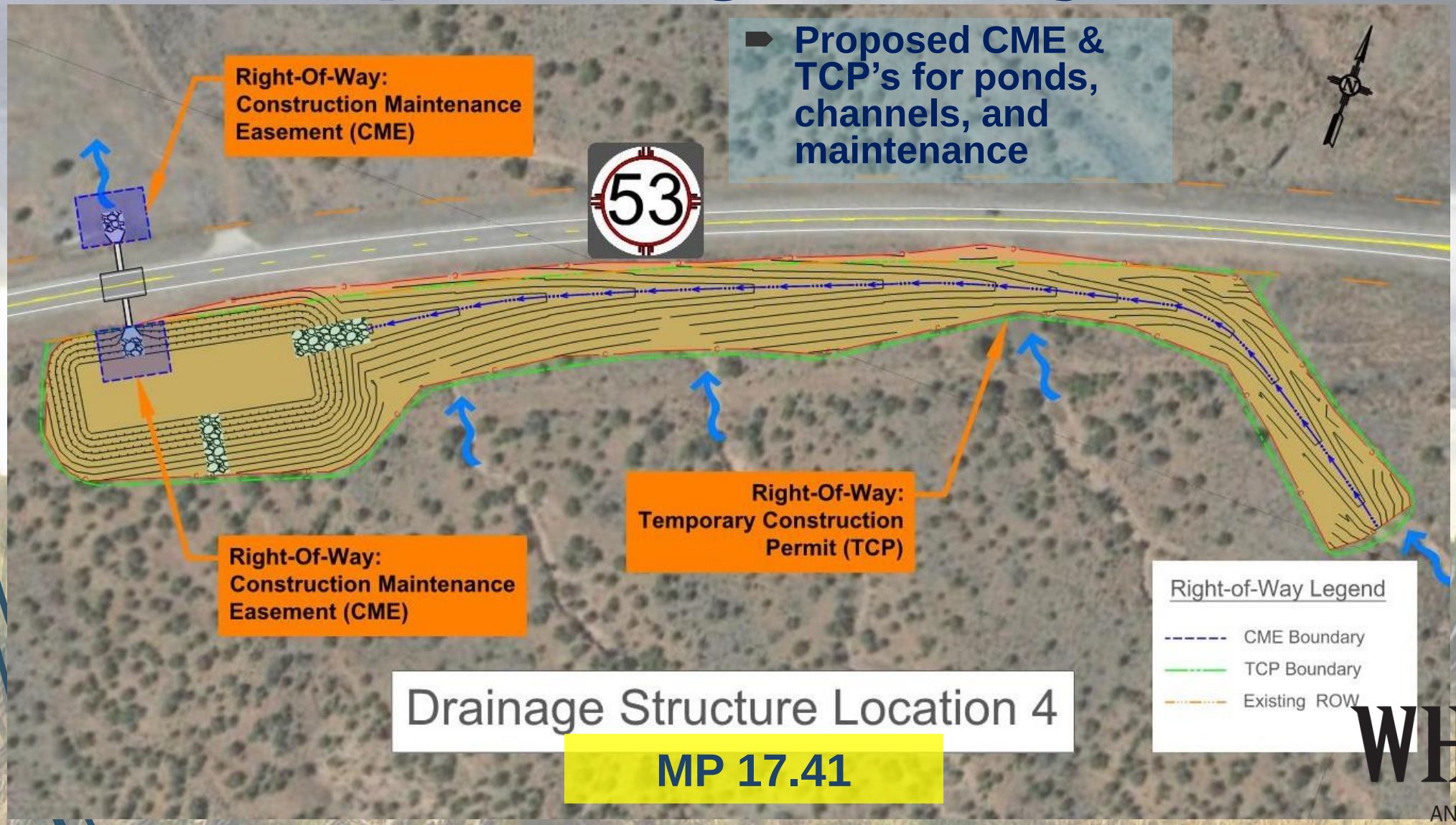
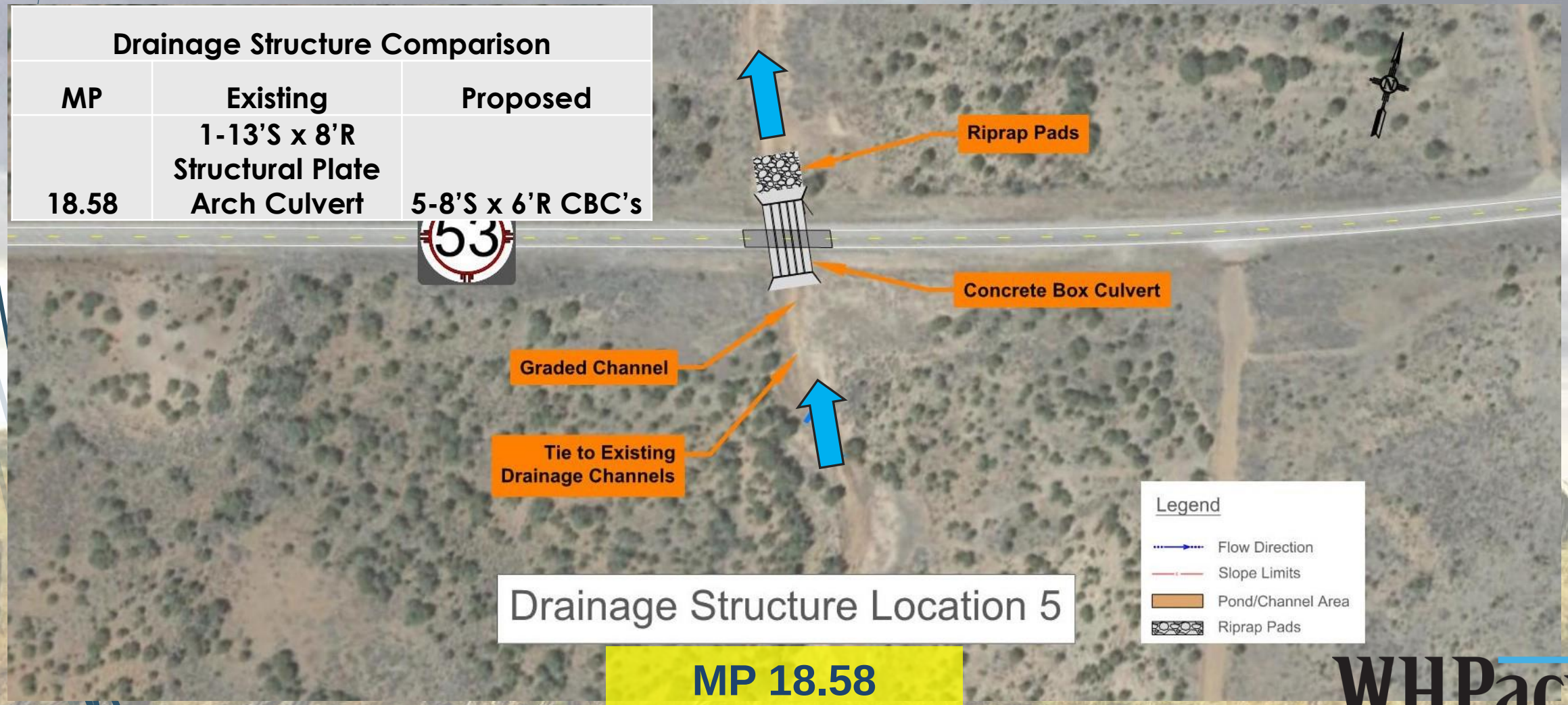
Proposed Improvements: Proposed Right-of-way Needs

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



Proposed Improvements: Channel & Pond Construction

Drainage Structure Comparison		
MP	Existing	Proposed
18.58	1-13'S x 8'R Structural Plate Arch Culvert	5-8'S x 6'R CBC's



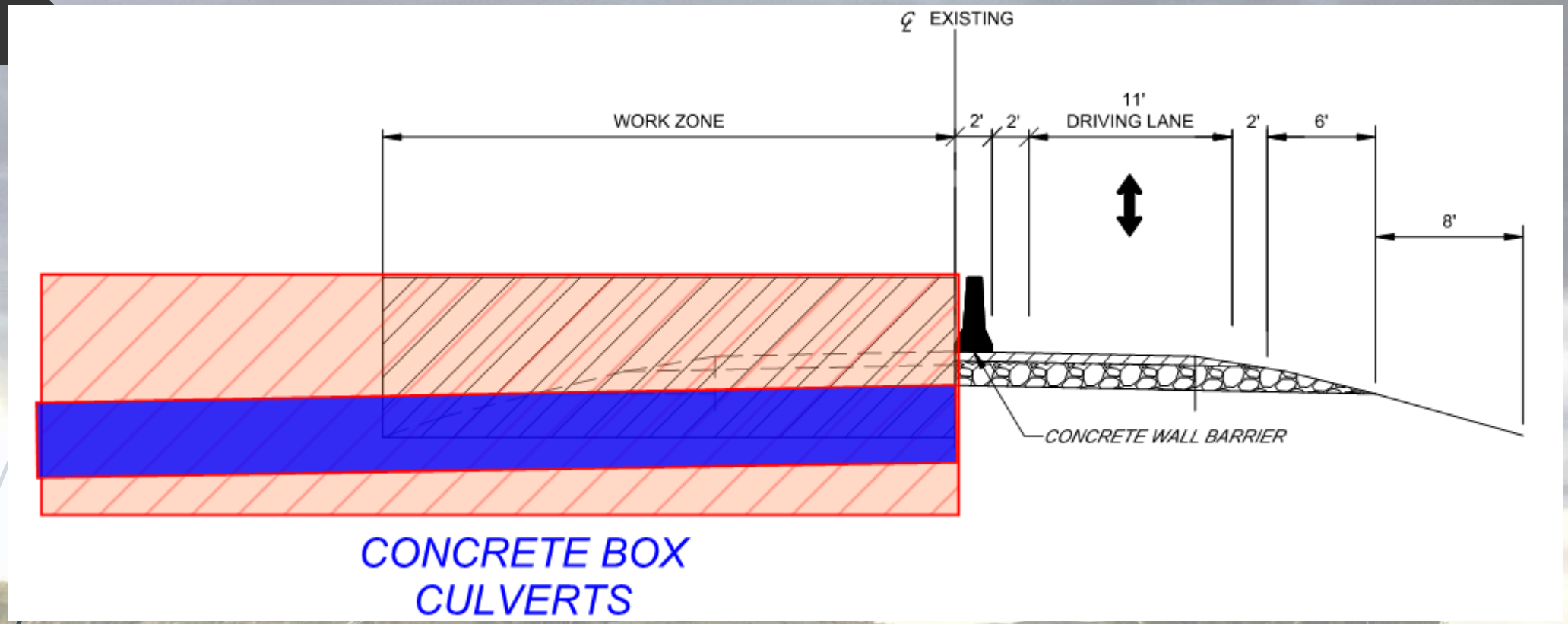
Proposed Improvements: Proposed Right-of-way Needs

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

Proposed Improvements: Proposed Right-of-way Needs

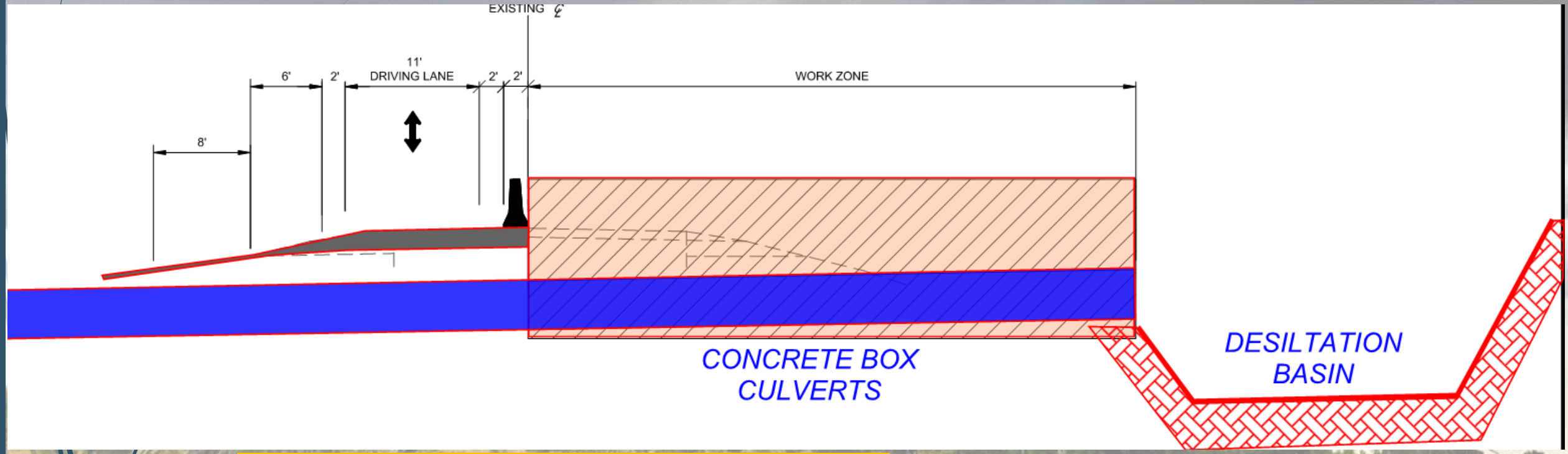
- Proposed CME & TCP's for ponds, channels, and maintenance

Construction



Phase I:
Build Concrete Box Culvert Structures on North side of NM 53

Construction



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