Memorandum

Buckman Direct Diversion

Date: November 26, 2025

To: Buckman Direct Diversion Board

Via: Brad Prada, BDD Facilities Manager

From: Kyle Harwood, BDD Board Counsel

Subject: Memorandum of Understanding between the U.S. Department of Energy, Office of Environmental Management, Los Alamos Field Office and the Buckman Direct Diversion Board Regarding Notification of Streamflow and Water Quality Monitoring in Los Alamos and Pueblo Canyons

Item and Issue:

The BDD Board staff, consultants and counsel recommend the attached final draft of the 2025-208 Memorandum of Understanding with LANL's EM-LA (Environmental Management-Los Alamos).

This recommended MOU **does not** include funding for Rio Grande water quality sampling as previous MOUs have done, however BDD Board staff, consultants and counsel will continue to work with LANL on securing funding.

In summary, this agreement …

1. … will addresses calendar years 2026, 2027 and 2028, with an effective date before the end of the calendar year 2025.
2. … will modify the E110.7 gage, located near the confluence of the Los Alamos/Pueblo canyon and the Rio Grande, such that the camera (with night functionality) shall be pointed upstream so that LA/P Canyon flows can be determined even when the Rio Grande may be in flood stage. The approval of Pueblo de San Ildefonso will be required for this new camera alignment.
3. … includes clarifications to the map exhibit.
4. … includes changes to the description of reporting by LANL EM-LA to NMED of LA/Pueblo canyon environmental monitoring and the reporting to the Intellus database.
5. … includes other minor edits recommended by the parties

LANL staff and counsel have indicated they approve of this MOU and will execute the same upon approval by the BDD Board.

Recommendation

BDD Board staff, consultants and counsel recommend approval by the Board of the attached MOU with direction to the Board chair to execute the agreement.

MEMORANDUM OF UNDERSTANDING BETWEEN THE U.S. DEPARTMENT OF ENERGY, OFFICE OF ENVIRONMENTAL MANAGEMENT, LOS ALAMOS FIELD OFFICE AND THE BUCKMAN DIRECT DIVERSION BOARD REGARDING NOTIFICATION OF STREAMFLOW AND WATER QUALITY MONITORING IN LOS ALAMOS AND PUEBLO CANYONS

A. Parties

This Memorandum of Understanding (MOU) is between the U.S. Department of Energy, Office of Environmental Management, Los Alamos Field Office (EM-LA) and the Buckman Direct Diversion Board (BDD Board).

B. Background

The Buckman Direct Diversion (BDD) is designed to divert water from the Rio Grande for use by the City and County of Santa Fe water utilities in the Santa Fe area, and to provide a source for the water supply systems of Santa Fe County, the City of Santa Fe, and the Club at Las Campanas. The diverted water is San Juan-Chama Project water (a U.S. Bureau of Reclamation inter-basin water transfer project) and native New Mexico state waters regulated by the State of New Mexico.

The BDD point of diversion is on the east bank of the Rio Grande in northern New Mexico, near the historic Buckman townsite. The point of diversion is approximately 15 miles northwest of the City of Santa Fe and about three miles downstream from the confluence of the Rio Grande and Los Alamos Canyon (where Route 502 crosses the Rio Grande at Otowi Bridge).

The Los Alamos National Laboratory (LANL) is owned by the U.S. Department of Energy (DOE) National Nuclear Security Administration. LANL is located on the Pajarito Plateau above the Los Alamos/Pueblo Canyon watershed. The Los Alamos/Pueblo Canyon stream system infrequently flows to the Rio Grande just below the Otowi Bridge and upstream of the BDD point of diversion. The Los Alamos/Pueblo Canyon watershed contains sediment with contamination from historic releases from LANL, which may be transported downcanyon due to rain events. This sediment may be transported to the Rio Grande upgradient of the BDD point of diversion. EM-LA has implemented measures (including infrastructure installation) to reduce the transport of contaminated sediment. Notification of streamflow from the Los Alamos/Pueblo Canyon watershed to the Rio Grande to support BDD operations is a mutual goal of the Parties.

The New Mexico legislature encouraged the BDD Board and DOE to memorialize their agreement to certain activities relating to the mitigation and monitoring of LANL-origin water quality contaminants. On May 13, 2010, the BDD Board and DOE executed the first Memorandum of Understanding. On January 12, 2015, the BDD Board and DOE executed a second Memorandum of Understanding. On November 20, 2017, the BDD Board and DOE executed a third Memorandum of Understanding, which the BDD Board and DOE extended until December 1, 2021. The BDD Board and DOE extended the 2017 Memorandum of Understanding a second time until February 9, 2022. On February 8, 2022, EM-LA and the BDD Board executed a fourth Memorandum of Understanding. The fourth Memorandum of Understanding expired on December 10, 2024.

C. Objectives

This MOU establishes roles and responsibilities for notification between EM-LA (by EM-LA or through its contractor) and the BDD Board regarding streamflow in Los Alamos and Pueblo

Canyons and water quality sampling by the BDD staff at the BDD intake for BDD operations.

The primary objectives of this MOU are as follows:

1. Enable BDD staff to make decisions regarding facility operations based on notifications from the Early Notification System (ENS);
2. Support water quality monitoring at the BDD intake; and
3. Share certain data and documents detailed below in Sections E.4 and F regarding BDD operations.

Maps of the ENS and BDD are set forth in **Attachment A**.

D. Authorities

The Parties represent that they have the authority to enter into this MOU pursuant to the following authorities.

1. EM-LA is authorized to enter into this MOU pursuant to the Atomic Energy Act, as amended (Title 42 U.S.C. § 2011, et seq.).
2. The BDD Board is authorized to enter into this MOU pursuant to the March 7, 2005, Joint Powers Agreement between Santa Fe County and the City of Santa Fe and associated state, county, and municipal laws.

E. Agreement Principles

E.1 Agreements with Pueblo de San Ildefonso

The Parties recognize that EM-LA must comply with the 2014 Memorandum of Agreement between EM-LA, the U.S. Department of Energy, National Nuclear Security Administration, Los Alamos Field Office, and Pueblo de San Ildefonso (Pueblo), as amended in 2015, and associated Protocols. EM-LA will engage with the Pueblo, as necessary, regarding the use of information gathered pursuant to this MOU.

The Parties further recognize that the BDD Board must comply with the 2014 Memorandum of Agreement between the BDD Board and the Pueblo. The BDD Board and BDD staff will engage with the Pueblo, as necessary, regarding access to and use of information gathered pursuant to this MOU.

E.2 Los Alamos / Pueblo Canyons Early Notification System

The ENS will provide real-time streamflow data or visual verification of streamflow to the BDD at the following gaging stations to enable BDD staff to make decisions regarding BDD operations, including temporarily ceasing diversion of water from the Rio Grande. EM-LA (through its contractor) will operate and maintain the early notification system equipment at these stations. The ENS consists of the following:

1. **Gaging Station E050.1** in Los Alamos Canyon above the Pueblo Canyon confluence;
2. **Gaging Station E060.1** in Pueblo Canyon above the Los Alamos Canyon confluence;
3. **Gaging Station E099** in Guaje Canyon on Pueblo property above the Los Alamos Canyon confluence.
4. **Gaging Station E110.7** in Los Alamos Canyon on Pueblo property above the Rio Grande confluence.

Data transmission to the BDD from Gaging Stations E099 and E110.7 is dependent upon the BDD Board or staff, as appropriate, obtaining an access permit from the Pueblo to receive the data.

ENS Gaging Station E050.1 is equipped with streamflow measurement capabilities; streamflow verification capabilities—radar, encoder, and pressure bubbler; real-time conveyance of streamflow data (telemetry); and a camera for visual verification of streamflow. Streamflow is measured within a concrete trapezoidal supercritical-flow flume design. The system is capable of a low-flow discharge measurement of 5 cfs.

ENS Gaging Station E060.1 is equipped with streamflow measurement capabilities; streamflow verification capabilities—radar, encoder, and pressure bubbler; real-time conveyance of streamflow data (telemetry); and a camera for visual verification of streamflow. Streamflow is measured within a concrete trapezoidal supercritical-flow flume design. The system is capable of a low-flow discharge measurement of 5 cfs.

ENS Gaging Station E099 is equipped with streamflow measurement capabilities; streamflow verification capabilities—radar; and real-time conveyance of streamflow data (telemetry).

ENS Gaging Station E110.7 is equipped with streamflow verification capabilities—radar; real-time conveyance of flow/no-flow data (telemetry); and a camera for visual verification of streamflow. The Parties acknowledge that Pueblo permission will be required for either: (1) re-orienting the camera currently at E110.7 to point upstream of the confluence of Los Alamos Canyon and the Rio Grande; or (2) installing a different camera at E110.7 to point upstream of the confluence of Los Alamos Canyon and the Rio Grande. The Parties agree to cooperate and jointly attend all discussions and meetings with the Pueblo to obtain such permission. If a different camera is installed at E110.7 to point upstream, then EM-LA may remove the camera that is currently located at E110.7.

Descriptions of the ENS Gaging Stations are set forth in the chart contained in **Attachment B**.

Should force majeure destroy or render inoperable some or all of the identified ENS stations, or if operational costs become excessive for some or all of the identified stations, EM-LA may utilize alternative cost-effective techniques to provide the BDD staff with equivalent streamflow data to meet the objective of the ENS.

E.3 Rio Grande at BDD Intake Sampling Program

The purpose of the BDD Intake Sampling Program is to provide both base-flow and event-based sampling of the Rio Grande at the BDD Intake when triggered by notification of streamflow in Los Alamos and/or Pueblo Canyons (or as determined by the BDD Board for the purpose of water quality sampling of the Rio Grande) to decide whether to cease diversion from the Rio Grande. The BDD staff will evaluate the BDD Intake Sampling Program results and determine the operational parameters or criteria on whether or when to cease diverting waters from the Rio Grande.

E.4 Document Sharing

EM-LA will copy the BDD Board on EM-LA's submission to the New Mexico

Environment Department (NMED) of the annual Monitoring Report and Monitoring Plan for Los Alamos/Pueblo Watershed Sediment Transport Mitigation Project. EM-LA will also copy the BDD Board on correspondence from EM-LA to NMED regarding this submission.

The BDD Board will provide EM-LA with: (1) the results of all sampling and analysis conducted as part of the BDD Intake Sampling Program; and (2) an annual report of all instances in which the BDD received streamflow notifications from the ENS over the previous year (ENS Diversion Report), with such report to be provided to EM-LA at the Annual Review under Section H.

The ENS Diversion Report will specify, at a minimum: (1) which ENS notifications resulted in cessation of diversions from the Rio Grande; (2) when such diversion cessations occurred; and (3) the duration of each such diversion cessation.

F. BDD Project Data Sharing

EM-LA (or its contractor) will provide real-time streamflow data and visual verification data from the ENS gaging stations to the BDD, as specified in Section E.2. The BDD Board will ensure analytical results from the BDD Intake Sampling Program are made available to EM-LA staff (and its contractor) in an Electronic Data Deliverable (EDD) format for EM-LA (or its contractor) to upload to the Intellus database.

Stormwater quality data obtained at Gaging Stations E050.1 and E060.1 will be made available to the BDD Board via the Intellus database and will be included in the annual report specified in Section E.4.

The BDD Board will rely on NMED's stormwater sampling station at E110 for purposes of evaluating water quality in lower Los Alamos Canyon.

G. Coordination

EM-LA and the BDD Board will coordinate and engage with the Pueblo, as necessary, on issues related to this MOU in which the Pueblo has an interest.

Coordination between the Parties will be to the mutual benefit of both Parties and will include data sharing (as above), technical assistance, and data and analysis reviews. Both Parties should allow at least one week for a response when requesting technical assistance or data, and for analysis reviews.

H. Annual Review

BDD staff (and BDD's contractors) and EM-LA staff (and EM-LA's contractor) will meet annually to review: (1) the ENS, including the ENS Diversion Report; (2) BDD operations and sampling programs, including BDD Intake Sampling Program results under Section E.3 for the prior year; and (3) EM-LA's Los Alamos/Pueblo Watershed Sediment Transport Mitigation Project.

I. Contacts

Notices, correspondence, and communications arising under this MOU will be provided to the representatives listed below. Any such notice, correspondence, or communication is deemed to have been given if mailed (return receipt requested), hand-delivered, or emailed as follows:

- **EM-LA**
  Brian Harcek
  Director, Office of Quality and Regulatory Compliance
  U.S. Department of Energy, Office of Environmental Management, Los Alamos Field Office
  1200 Trinity Drive, Suite 400
  Los Alamos, NM 87544
  Email: brian.harcek@em.doe.gov

  With copy to:
  John Evans
  EM-LA Counsel
  U.S. Department of Energy, Office of Environmental Management, Los Alamos Field Office
  1200 Trinity Drive, Suite 400
  Los Alamos, NM 87544
  Email: john.h.evans@em.doe.gov

- **BDD Board**
  Bradley Prada
  BDD Facilities Manager
  Buckman Direct Diversion
  341 Caja De Rio Road
  Santa Fe, NM 87506
  Email: bxprada@santafenm.gov

  With copy to:
  BDD Board Counsel
  Nancy Long
  Long, Komer & Associates
  P.O. Box 5098
  Santa Fe, NM 87502
  Email: nancy@longkomer.com

J. Period of Agreement, Modification, or Termination

This MOU is effective upon the signature of both Parties and expires on December 10, 2028. The Parties may modify this MOU by written amendment. Either Party may unilaterally terminate this MOU before the expiration date, provided the Party seeking termination gives written notice to the other Party's representative at least 90 days before the termination date.

K. Dispute Resolution

If the Parties disagree over any issue related to this MOU, representatives of the Parties will present their position in writing to the points of contact for the other Party. If the Parties fail to resolve their differences within 30 days, the BDD Facilities Manager and the EM-LA Manager will prepare a written description of the dispute. The BDD Board Chair and the EM-LA Manager, along with appropriate staff, will then meet in an effort to resolve the dispute.

L. Other Provisions

1. Nothing in this MOU is intended to conflict with requirements of the Parties or applicable laws.

Any such conflicting terms are invalid, but the remainder of this MOU remains in effect. If a term is deemed invalid, the Parties will take appropriate action, including amendment or termination. The activities described in this MOU are consistent with, and will be carried out subject to, all known policies, regulations, and applicable laws that pertain to the Parties.

2. This MOU in no way restricts the Parties from participating in any activity with other public or private agencies, organizations, or individuals.
3. Activities described in this MOU are subject to the availability of appropriated funds.
4. This MOU is not: (a) a financial obligation that serves as a basis for expenditures; or (b) a fiscal nor a funds obligation document. Nothing in this MOU authorizes or is intended to obligate the Parties to expend, exchange, or reimburse funds, services, or supplies, or transfer or receive anything of value. No provision in this MOU will be interpreted to require obligation or payment of funds in violation of the Anti-Deficiency Act, 31 U.S.C. § 1341.
5. This MOU is not legally enforceable and will not be construed to create any legal obligation on the part of either Party. This MOU will not be construed to provide a private right, or cause of action, for or by any person or entity.

M. Signatures

Each of EM-LA and the BDD Board has caused this MOU to be executed and delivered by its duly authorized representatives as of the date below.

EM-LA

_____ _____

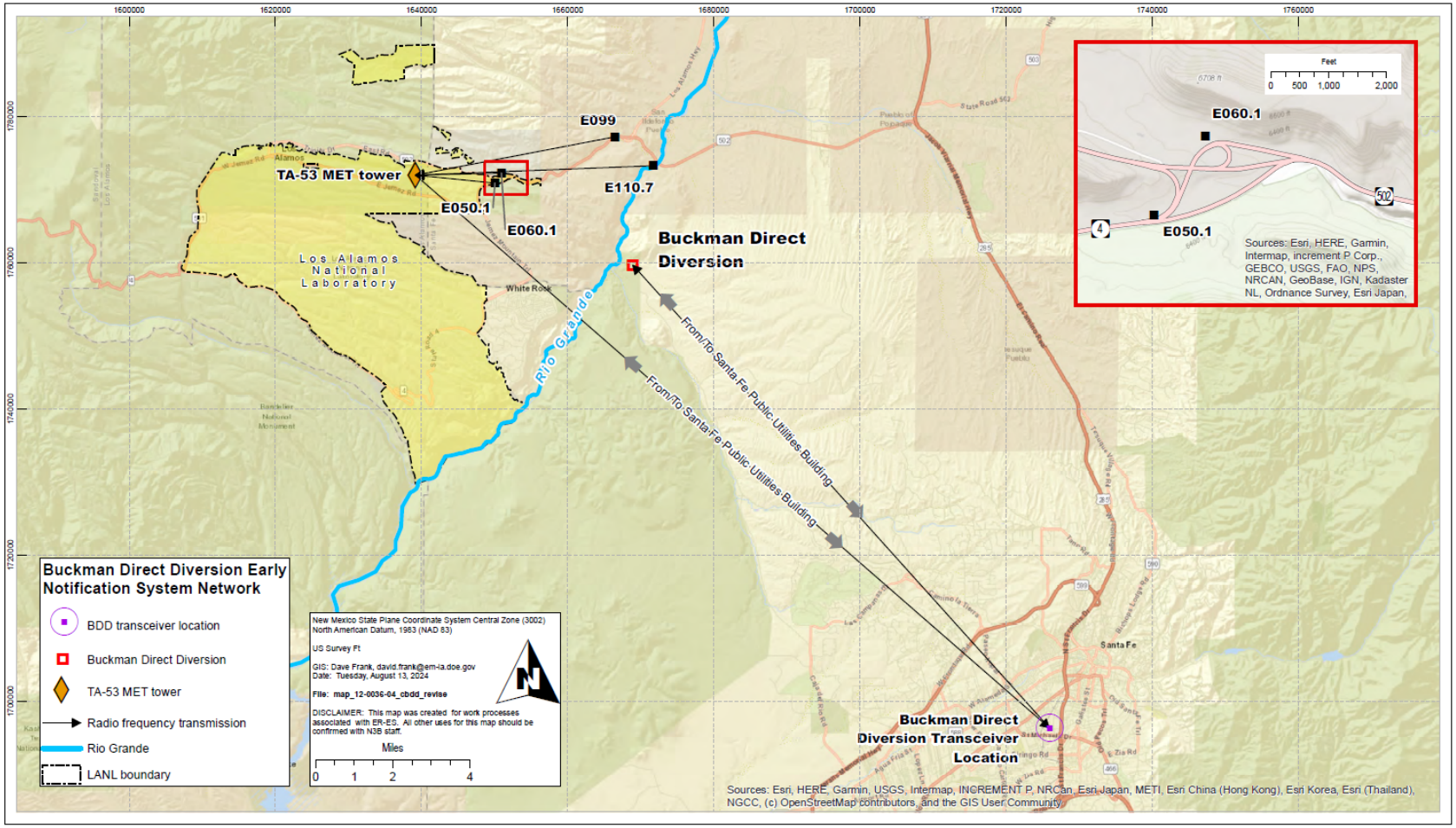
Jessica Kunkle, Manager — Date
Environmental Management, Los Alamos Field Office

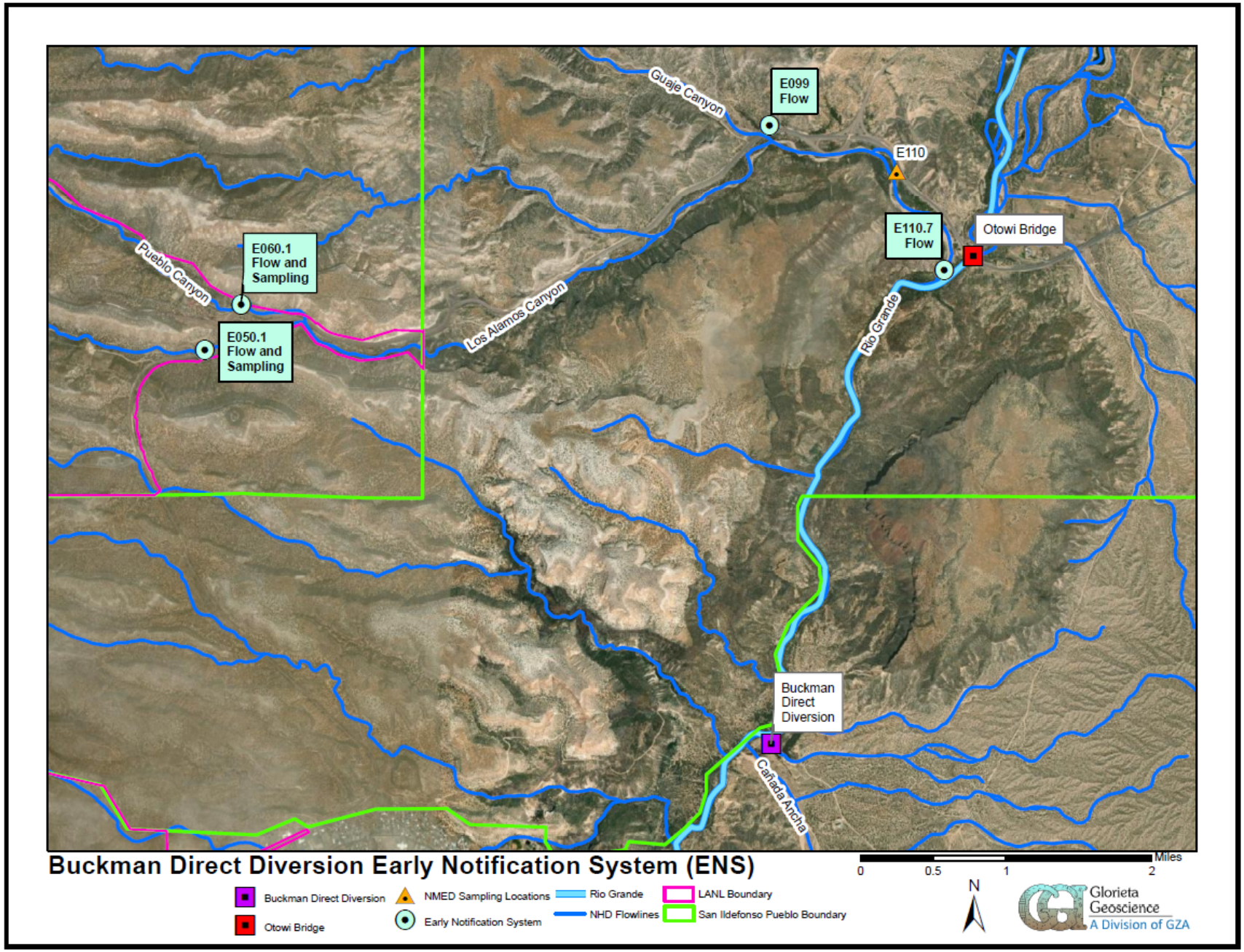
BDD Board

_____ _____

Justin Greene, BDD Board Chair — Date

Attachment A: Maps of ENS and BDD




Guaje Canyon
E099 Flow
E110
E110.7 Flow
Otowi Bridge
Rio Grande
Pueblo Canyon
E060.1 Flow and Sampling
E050.1 Flow and Sampling
Los Alamos Canyon
Buckman Direct Diversion
Canada Ancha
Buckman Direct Diversion Early Notification System (ENS)
Buckman Direct Diversion
Otowi Bridge
NMED Sampling Locations
Early Notification System
Rio Grande
NHD Flowlines
LANL Boundary
San Ildefonso Pueblo Boundary
0
0.5
1
2
Miles
N
Glorieta Geoscience
A Division of GZA

Attachment B: ENS Gaging Station Descriptions

	Streamflow Measurement (Rating curve developed)	**Radar** (Verify streamflow)	**Encoder** (Verify streamflow)	**Pressure Bubbler** (Verify streamflow)	**Telemetry** (Real-time conveyance of streamflow data)	**Camera** (Visual verification of streamflow)
E050.1	✓*	✓	✓	✓	✓	✓
E060.1	✓*	✓	✓	✓	✓	✓
E099	✓	✓			✓	
E110.7		✓			✓	✓**

*Streamflow is measured within a concrete trapezoidal supercritical-flow flume design. The system is capable of a low-flow discharge measurement of 5 cfs.
** If the Parties receive permission from the Pueblo (as discussed in Section E.2), the E110.7 camera will point upstream of the confluence of Los Alamos Canyon and the Rio Grande.