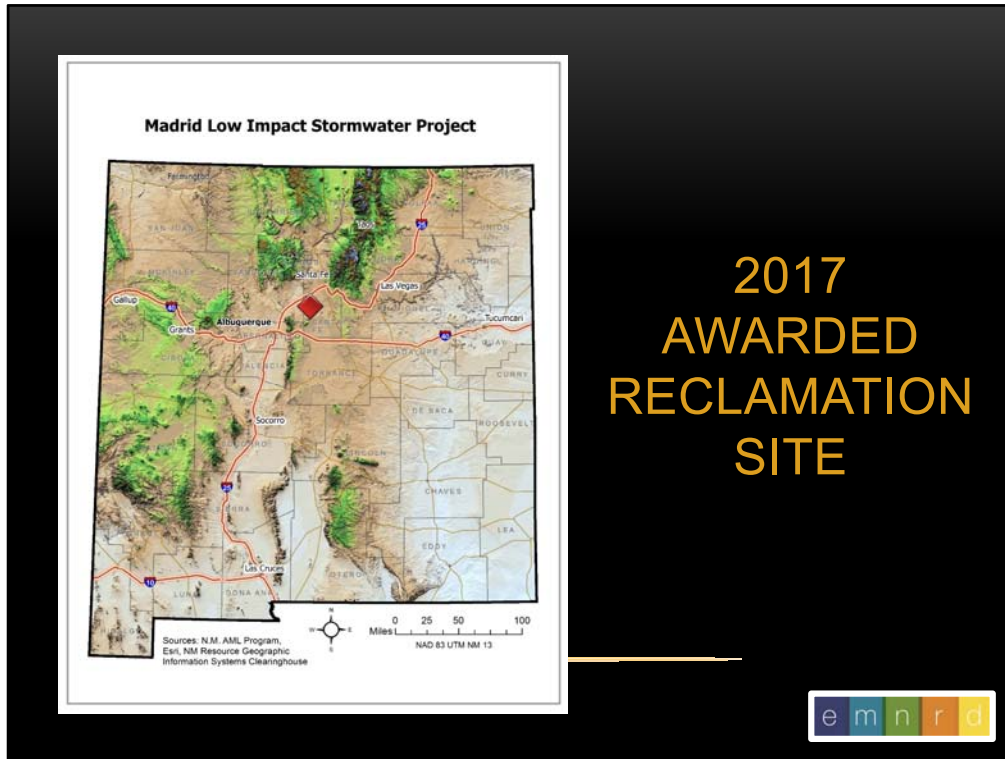




Good afternoon and thank you for being here.

This is the 22nd year that the Mining and Minerals Division of the Energy, Minerals and Natural Resources Department has presented the Excellence in Reclamation Award at the New Mexico Mining Association's annual conference.

We thank the Mining Association for again hosting the presentation of these awards. And we also offer our appreciation of your dedication to protecting our environment, to providing education about the importance of our state's minerals, and for establishing life-saving mine safety procedures.



After considering the nominations submitted, the criteria by which operations are judged, and the Mining and Minerals Division’s own knowledge of outstanding reclamation, one project was chosen for recognition this year for its noteworthy reclamation accomplishments.

The 2017 Excellence in Reclamation Award is presented to Rangeland Hands, Inc., and its subcontractor, Riverbend Engineering, LLC, for their work in Madrid on the Low Impact Stormwater Project, where they designed and applied state-of-the-art, innovative reclamation techniques to mitigate historic mining-related impacts to people and the environment.



Fourth of July parade in Madrid with power plant and breaker in background, ca. 1930



Coal mining in the Madrid area started as early as 1835, when small amounts were produced to fuel hardrock and gold mines at the nearby communities of Cerrillos and Dolores and a smelter at San Pedro. After the railroad reached New Mexico in 1880, increased demand for coal opened the Cerrillos Coal Field to industrial mass production in the 1890s. In 1896, Colorado Fuel and Iron, part of the Rockefeller conglomerate, bought out the local coal company operating in Madrid. In 1906, ownership again changed hands to the locally owned Albuquerque and Cerrillos Coal Company with production peaking in 1928 at 87,148 tons of anthracite and 97,562 tons of bituminous coal, with 725 miners employed in the mines. In 1947, after serving as mine manager for many years, Oscar Huber assumed sole ownership of the mines and town.

Madrid's proud history includes its status as the oldest producing coal mine west of the Mississippi; production of both bituminous and anthracite coal from the same bedding planes; the first lighted baseball field west of the Mississippi, home of the Madrid Miners, a Double-A Minor League team; and brightly lit Christmas displays that are said to have been Walt Disney's inspiration for Disneyland.



Jones Tipple for bituminous coal in Madrid, ca. 1930



In 1954, the mine operator shipped its last load of coal to its final customer, Los Alamos National Laboratory. The coal had been under exclusive contract during and after World War II, providing the fuel for the Manhattan Project and other nuclear defense activities. With only a handful of residents staying on, most of the industrial, commercial, and residential structures and buildings in the town were left uninhabited and unmaintained, weathering in the wind, sun, and rain.

After the demise of coal mining in 1954, Joe Huber, Oscar's son and owner of the town site and associated mineral rights, attempted for a couple of decades to sell the entire town site as an industrial center. When the few potential deals fell through, he decided in 1975 to sell the remaining 150 standing buildings at bargain prices to those willing to renovate the derelict miner's shacks and other structures.

Within six weeks the entire town was sold or rented, primarily drawing people interested in exploring and establishing alternatives to life in mainstream America. With remarkable vigor and perseverance, the new counterculture settlers refurbished many buildings as residences and shops, rebuilding the town over the subsequent decades.



Madrid, Santa Fe County

Today the town boasts over 40 shops, restaurants and galleries and a privately-owned coal mining museum in former mining company buildings, with an antique steam locomotive, antique cars and trucks and old mining equipment. Tourists from around the United States and the world visit the town and enjoy its shops, galleries, weekend festivals and revived lighted Christmas displays.

In the 1970s, much of the town site and mining areas was placed on the National Register of Historic Places. As such, it was critical from a regulatory standpoint that development of the desired community improvements retain the industrial nature of the landscape. This meant that the Abandoned Mine Land Program had to find means of stabilizing erosion on the gob piles while minimally altering their appearance.



Community design workshop, December 2012



Starting in the early 1980s, the New Mexico Abandoned Mine Land Program worked extensively in Madrid closing numerous dangerous mine portals and shafts; removing hazardous structures, and safeguarding others; and reclaiming two gob piles that were delivering significant amounts of storm runoff and sediment that repeatedly clogged the town's rudimentary drainage infrastructure.

AML undertook a coordinated series of community open houses, presentations, design workshops, and one-on-one meetings with residents, business and land owners, local civic organizations, County and State entities, and other stakeholders for their input on what the Program could fund to address coal mining related problems.

Public comment indicated a high level of interest in maximizing stormwater harvesting for beneficial reuse, or low impact development, as an integral part of stormwater improvements in an extremely water-limited environment where precipitation averages 12 inches per year and many residents haul in potable water.

However, and somewhat paradoxically, it was also important to many residents that Madrid's historic landscape retain its industrial character, particularly the highly visible gob piles in and above the town. These remnants of an industrial past both connect the townspeople to local history and define the town as a unique place.



Deeply eroded gob pile above Museum and Icehouse Road. Precast barriers were placed along the driveway above the gob pile to divert runoff to the upper drop inlet



In June 2012, AML entered into a design-construct contract with Rangeland Hands, Inc., to develop, analyze, and build context-sensitive low impact stormwater alternatives. Rangeland and their subcontractors evaluated methods for erosion and sediment control and stormwater harvesting on and near the gob piles, and alternatives for improving the stormwater infrastructure that carries flows from the gob piles through the town to the primary arroyo bisecting the community. AML and Rangeland conducted additional public meetings and design workshops for further community input on the more detailed alternatives being developed.



Coal debris damage to historical Museum building below eroded gob pile



Before any of these alternatives could be implemented, a slow-moving cold front stalled over Colorado in September 2013, leading to extreme flooding that made national news. Fingers of that storm reached southward into New Mexico, one of which hovered over Madrid for several days. During heavy rains on the evening of September 15, saturated mine wastes in one of the east-slope gob piles suddenly broke loose, washing water-laden debris into a couple of the Old Coal Town Museum buildings, up against the old steam locomotive, and onto State Road 14.



The arrows on this slide indicate the newly blown-out gob pile above the Museum.



This shows the debris flow from a gob blowout across the driveway and onto Museum property.



Here you can see the gob blowout debris build-up against a steam locomotive at the Museum.



Within two weeks, NMDOT mobilized to clear a clogged culvert and drop inlet along State Road 14 near the area of the blowout, and Rangeland began construction of immediate measures to protect public health, safety, and property. Measures included installing temporary protective Jersey barriers below the blown-out gob pile and above the Museum; installing other Jersey barriers at the head of a gob pile being deeply eroded by drainage off a nearby driveway; grading and installation of base course at driveways eroded by runoff from the gob piles; and rock lining of roadside ditches along portions of the driveways most impacted.

Because AML had received State Historic Preservation Office clearances for this area in previous work and, given the need for an accelerated response, the Office concurred with the initial and subsequent construction phases following review of a proposed cultural resources monitoring plan.



Working in tight quarters to construct a rock bypass channel
July 2014



AML and Rangeland then planned and executed more permanent measures. In June 2014, Rangeland remobilized equipment and crews to the site to construct rock channels on the hillside to divert stormwater around or to carry it safely across the gob piles above the Museum. An adit that had reopened in the area was backfilled. And, additional compost and mulch applications, and planting and seeding of native species further stabilized the gob piles.



Hand-built step-pool rock channel at edge of larger gob pile
July 2014



Rangeland constructed two types of innovative low rock barriers on the larger of two gob piles, both of which slow and infiltrate precipitation to aid in vegetation establishment and growth while armoring the surface against erosion. The low rock barriers and rock channels were designed in place and installed by experienced operators and crews.



Constructing a machine-built, step-pool rock bypass channel around blown-out gob pile
July 2014



Steeper rock channels were constructed as step-pool structures, which dissipate a portion of the water's kinetic energy at each drop.



This is a rock media luna on the larger gob pile to collect sheet flow, slow and infiltrate it, and direct it toward a rock mulch rundown below



Archaeological excavation underway during construction
July 2014



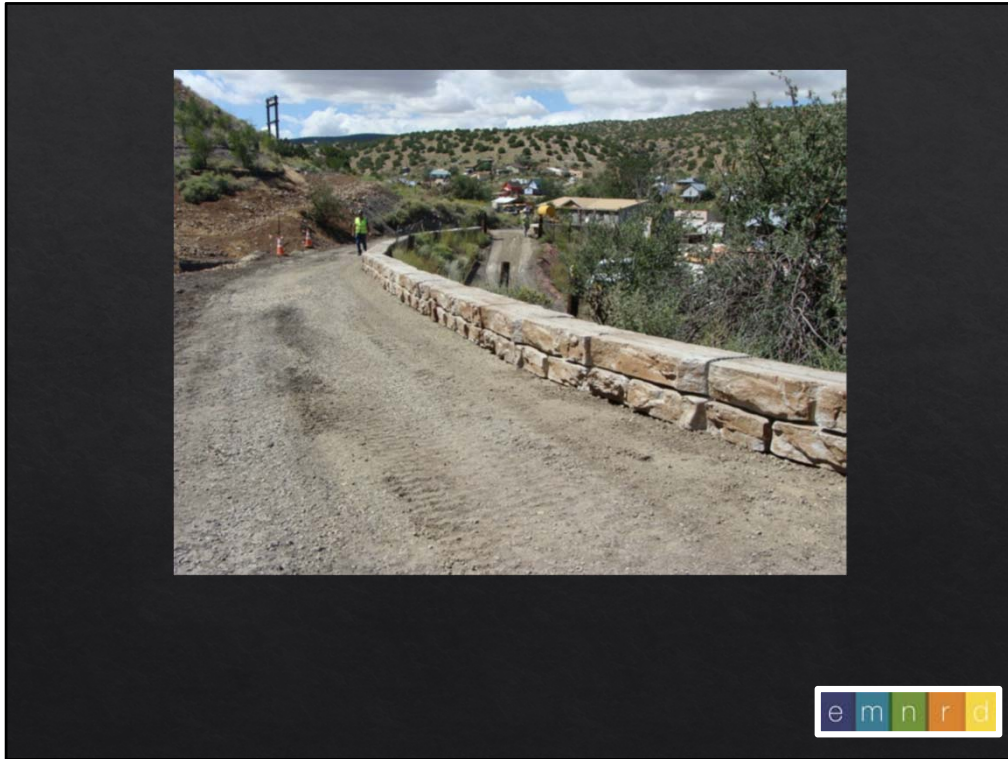
During construction of improvements to drainage and gob stabilization on the hillslope, archaeologists monitored all activities. While constructing a rock channel to direct flows to an existing upper drop inlet, a rock structure dating back to the mining era was uncovered, so construction was temporarily halted in the immediate area, and the site excavated and recorded.



By mid-September, the work to stabilize the hillslope above the Museum was complete and attention shifted to improving stormwater conveyance from the hillslope to the arroyo. A dilapidated mining-era drop inlet collected stormflows from the hillside and gob piles and carried them underneath a couple of the Museum buildings and the Mine Shaft Tavern in a derelict four-foot square concrete box culvert to a more recently constructed NMDOT drop inlet in front of the Tavern. Examination of the box culvert indicated that it was severely clogged with mining debris.



After cleaning, the box culvert was sliplined with a continuous, 36-inch diameter, smooth barrel steel pipe. A 24-inch diameter pipe in front of the Tavern was replaced with a 36-inch pipe connected to the NMDOT drop inlet which was reconstructed using the existing drop inlet as the outside formwork for the new concrete structure.



And precast architectural blocks for stormwater control replaced temporary Jersey barriers.



August 2015



One year after construction, vegetation had taken hold at a rock diversion channel on the left and smaller reclaimed gob pile on right.



The contract with Rangeland included any needed maintenance on their work within the four-year contract period. In 2016, AML determined that the dry stack rock wall built at the top of the larger gob pile to divert storm drainage around it needed to be raised. Sediment buildup from a small unreclaimed gob pile above it threatened to overtop the wall. This work was completed in May and has been the only maintenance work needed to date.



The completed step-pool rock bypass channel in August 2016. Note planted and seeded vegetation in and around the channel. The large light colored rock was covered with smaller tan rock to better blend channels into the surroundings.



This shows a view of the larger reclaimed gob pile in August 2016, which was initially reshaped and reclaimed in 1999 and additionally stabilized in 2014.

Although significantly more work needs to be done to protect the residents of Madrid from the adverse effects of stormwater and sediment runoff from historical gob piles, this project made significant strides to mitigate the potential for further stormwater and erosional debris damage in one of the most densely built-up areas in the town of Madrid.

2017 EXCELLENCE IN RECLAMATION AWARD
IS PRESENTED TO:

Rangeland Hands, Inc., Santa Fe, NM
and
Riverbend Engineering, LLC, Albuquerque, NM

For the design and application of state-of-the-art, innovative
reclamation techniques in the Madrid Low Impact Stormwater Project
that mitigated historic mining-related impacts to people and the
environment in Madrid, New Mexico



It is my privilege to recognize the organization responsible for helping design this excellent work, and to present the 2017 Excellence in Reclamation Award to Rangeland Hands, Inc., of Santa Fe, and to Riverbend Engineering, LLC, of Albuquerque, for the design and application of state-of-the-art, innovative reclamation techniques in the Madrid Low Impact Stormwater Project that mitigated historic mining-related impacts to people and the environment in Madrid, New Mexico.

Not only has this project received MMD's reclamation award, but it just recently was awarded the Office of Surface Mining Reclamation and Enforcement's 2017 Abandoned Mine Land Reclamation Western Region Award.

Accepting the award today is Steve Carson, Vice President of Rangeland Hands, Inc., and Chris Philips, P.E., Owner and Senior Scientist of Riverbend Engineering.

Congratulations to you both. Please say a few words, if you'd like.