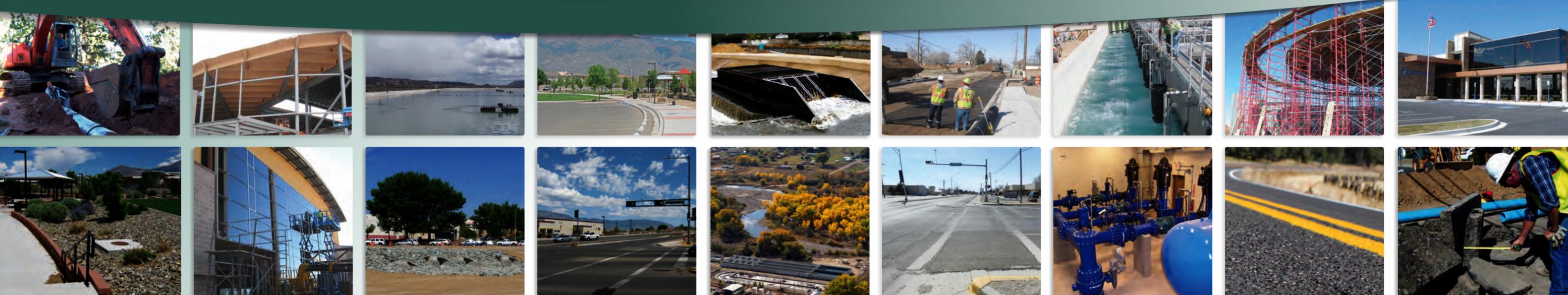




# *Smith Engineering Company*

*Solutions for Today... Vision for Tomorrow*





# *Solutions for Today Vision for Tomorrow*

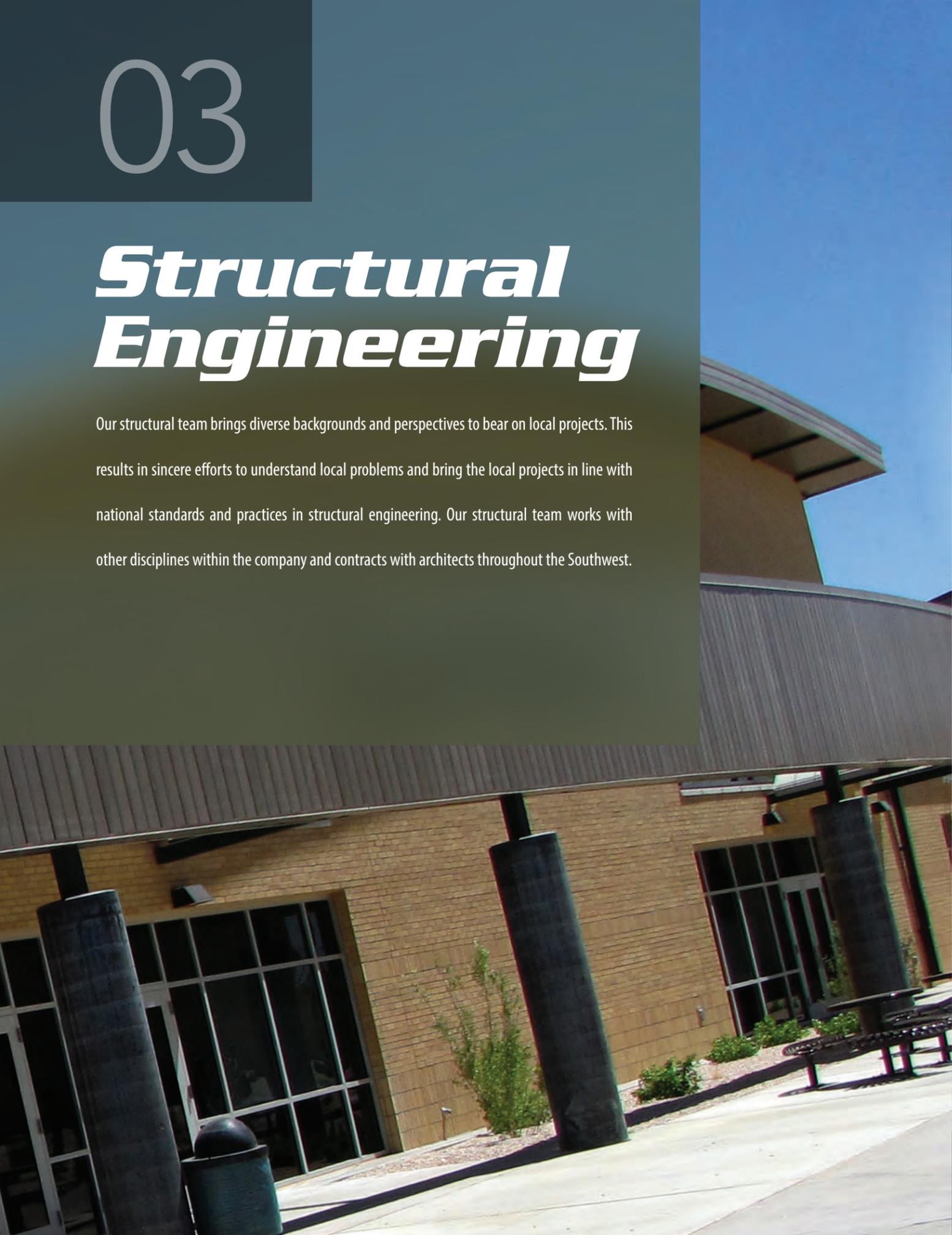
Smith Engineering Company (Smith) is a regional engineering consulting firm with offices in Albuquerque, Roswell and Las Cruces, NM; as well as Midland, Texas. Founded in 1989, Smith has achieved significant growth over the years and continues to offer some of the top engineering talent in the Southwest. We do this by staying true to our core values and approach each project that clients entrust to us as an opportunity to exceed their expectations.

25 Years +  
10,000 +  
Projects

03	05	07	09	11	13	15
Structural Engineering	Water & Wastewater Engineering	Site Engineering	Flood Control & Drainage Engineering	Transportation Engineering	Construction & Surveying Services	Locations

## Structural Engineering

Our structural team brings diverse backgrounds and perspectives to bear on local projects. This results in sincere efforts to understand local problems and bring the local projects in line with national standards and practices in structural engineering. Our structural team works with other disciplines within the company and contracts with architects throughout the Southwest.



### Chapel and Commons Church City of Midland, TX

A historic Catholic church sought to add a gathering space and a small multi-purpose chapel to a fifty year old sanctuary. The challenges of this addition included building a vestibule to serve as a fire separation between the new and existing buildings and to showcase and protect the existing stained glass windows. Smith engineered a 43-foot by 43-foot column-free chapel space with a pyramid shaped roof and a soaring clear curtain wall to provide light into the sanctuary to achieve our client's objective. A 19-foot cantilevering portecochere was added and the commons was designed to forge a link between the two worship spaces.

### Monte Vista Elementary School City of Las Cruces, NM

This 75,000 sf elementary school was built to support the growing population of Las Cruces, NM. The building was designed with four classroom wings, each with a central bathroom allowing for a self-contained and secure wing for each grade level. Construction consisted of steel frames in the classrooms and administrative areas, and load-bearing concrete masonry in the gymnasium and cafeteria.



### New Freshman Academy & Alternate High School City of Hobbs, NM

This \$20 million, 119,000 sf education building consisted of classrooms, a gymnasium with locker rooms, computer labs, film studio, technology lab, and a kitchen. The classrooms were designed around a central courtyard, and construction consisted of composite concrete floor slabs over composite steel beams bearing on a perimeter concrete block wall. The gymnasium was enclosed by 120-ft long bowstring roof trusses.

### SouthWest Bank® 98th & Quaker City of Lubbock, TX

Greeting customers in this bank was a grand two-story atrium space covered by a barrel vault roof and bankers' offices lining each side with a unique mansard roof system. The facility incorporated a secured vault, four lane covered drive-through, and easily accessible walk-up teller and lender desks. Construction consisted of steel roof joists and beams on steel columns bearing on concrete spread footings.



### Multipurpose Facility | City of Hobbs, NM:

Smith provided structural engineering services for a 48,000 sf Multi-Purpose Facility for Hobbs High School. This facility includes indoor playing field, weight rooms and an elevated running track.

# Water & Wastewater Engineering

Smith's water and wastewater team is made up of senior and junior civil engineers specializing in water and wastewater public works engineering and environmental engineering. When compared to the overall field of civil engineering, water and wastewater engineering includes unique aspects such as chemistry, microbiology, regulatory compliance, and equipment applications and controls. This focus allows the water and wastewater team to hone and apply its knowledge and skills toward cost-effective solutions to water and wastewater problems.

## Water Storage Tank | City of Deming, NM

The City of Deming hired Smith to evaluate its water system and recommend improvements. Of main concern was the community's fire protection capacities and its ability to serve growing areas of the town. Smith modeled the system with WaterCAD/WaterGEMS to predict system performance and evaluate the system's ability to meet water storage, flow, and pressure requirements. Smith designed and observed construction of new water storage tanks and various main water improvements.



## Wastewater Treatment Plant (WWTP) City of Aztec, NM

Smith worked with the City of Aztec to identify the best technology to meet the new standards. To keep operations simple and increase capacity to 1.5 MGD, an extended aeration regime and an advanced nutrient removal system were selected. The plant was recognized in 2010 as the "NM Project of the Year" by the American Public Works Association and for its "Engineering Excellence in NM" by the American Council of Engineering Companies.



## The Club at Las Campanas - Buckman Direct Diversion Booster Station & Transmission Line City of Santa Fe, NM

Smith engineered a raw water Booster Pump Station at the Buckman Direct Diversion facility and a transmission pipeline extending to a lake at the Las Campanas Golf Course. The station has 2 - 250 HP duty pumps running at 2,000 GPM and 1 back-up pump. The station includes instrumentation, controls, and SCADA. The pipeline consists of 4.8 miles of 12-inch ductile iron pipe aligned across undeveloped BLM property. Smith provided a broad range of services including hydraulic analysis, permitting of arroyo crossings and right-of-way with the BLM, cathodic protection against soil corrosion, and construction management.

## Wastewater Treatment Plant (WWTP) Navajo Tribal Utility Authority Window Rock, AZ

Smith identified and detailed improvements required to enable the WWTP to comply with its current NPDES permit in a PER (Preliminary Engineering Report). We followed up with full design services for the new treatment plant. The NTUA bid the upgrades in two phases to include electrical and headworks improvements. Design included a new sequencing extended aeration plant, solids handling facility, and a new office building with a lab. The NTUA has secured United States Department of Agriculture (USDA) Rural Development (RD) funding for construction.

# Site Engineering

Smith has provided land planning and site engineering for some of the most recognizable brand names in the Southwest such as Target, Wal-Mart, Red Lobster, Fairfield Inn, Wendy's, and Tractor Supply Company. Smith has also teamed with visionary architects and developers to create residential areas, large and small, to accommodate the public demand for housing. Residential projects have ranged from 5 to 400 acres, from the sprawling Campbell Ranch development in Albuquerque to modest-sized home tracts outside Durango, Colorado. Smith's site engineering team has helped pave the way — quite literally — to a more comfortable lifestyle throughout the Southwest.



## Valero® Gas Station Corner Store City of Las Cruces, NM

Smith provided civil engineering services for the demolition and new construction of the 4,713 sf Valero® Gas Station #1289. The one-acre site was re-graded for the new building and gas pump locations. The site incorporated an underground stormwater retention system with a 72-in diameter CMP designed for a capacity of 5,025 cubic feet of runoff.

## North Domingo Baca Park City of Albuquerque, NM

The 38-acre park includes parking areas, landscaping, a plaza area, and skate park. Smith's design for the park included off site improvements for drive curb cuts, connections to existing water lines, and sidewalks. Other efforts included grading, drainage design, horizontal and vertical layout of the park, and new storm drain and water systems.



## Holiday Inn® City of Roswell, NM

Smith provided civil engineering services for a new four-story, full service hotel with dining and meeting facilities. This included grading and drainage plans, entrance roadway plans, site utilities and site layout plans. Smith worked with NMDOT and the City of Roswell on the entrance roadway extension off of North Main St. Smith also provided materials testing and construction surveying services during the construction phase.

## New Mexico State University Barnes & Noble® Bookstore City of Las Cruces, NM

Smith partnered with Antunovich Architects to design the NMSU-Barnes and Noble® Bookstore qualifying for a LEED Silver standard. Smith provided civil engineering services and prepared the construction plans for the necessary site improvements. In order to meet the University's storm water management program, Smith designed a retention pond with approximately 6,000 cubic feet of storage to capture roughly 70% of the site's storm water runoff. Sub-surface HDPE storm drains were utilized to convey roof drainage to the retention pond allowing the captured water to infiltrate. This process was worth one credit under LEED's Storm Water Design Quality Control standards.



# Flood Control & Drainage Engineering

Smith's flood control and drainage team is recognized throughout the Southwest for Drainage Management Plans and flood control structures. Many communities in our region have experienced significant floods that left behind widespread and expensive damage to urban areas. With over 100 years of combined experience, Smith was able to assist these communities with repairs and improvements to their flood control and storm drainage systems.



## Louisiana-Lomas Ave. Storm Drain City of Albuquerque, NM

The Louisiana-Lomas Storm Drain project involved a very complex analysis of an existing storm drain and detention basin system to accommodate added runoff volume during the 100-year event. The effort included modeling the existing storm drain/detention basin located on the New Mexico State Fairgrounds in Albuquerque to determine required increased pipe sizes and to determine the impact on the existing detention basin to alleviate flooding.

## Washington St. All-Weather Crossing City of Albuquerque, NM

This project included a 70' span, two-lane vehicle crossing (HS-25 loading) with sidewalks on each side. The structure crosses the Domingo Baca Arroyo and incorporates a modified baffle apron drop structure under the bridge. This hydraulic structure was designed using a super-critical velocity baffle apron modeled at the UNM Hydraulics Laboratory. This bridge includes a foundation of auger-cast piles and uses pre-cast hollow core slabs as the deck components which reduced cost and decreased construction time.

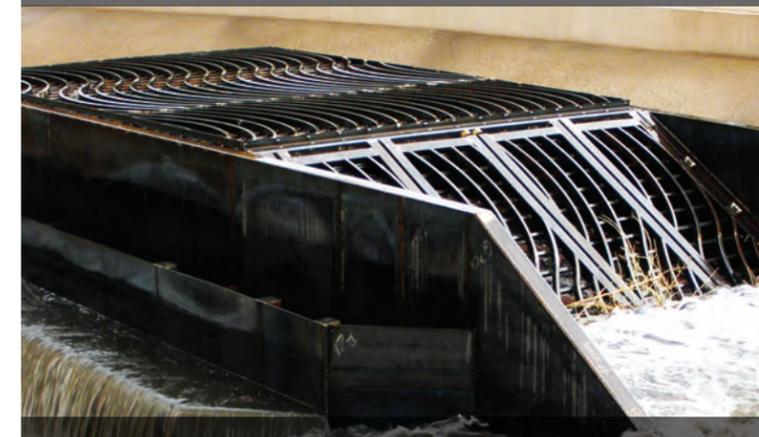
## Sagebrush Dip Section Replacement City of Albuquerque, NM

Smith prepared the design for this \$707,000 project consisting of removing the existing roadway dip section in Sagebrush Trail, constructing a bridge structure over the arroyo utilizing pre-stressed reinforced concrete beams/girders and reinforced concrete abutments, and reconstructing roadway approaches to the new bridge. In addition, landscaping, waterlines, and sanitary sewer lines were replaced.



## Menaul Detention Basin City of Albuquerque, NM

Smith provided the design for a storm drain system in the area of Menaul Blvd and I-25. This project required re-grading, design and construction of a new earthen dam to increase basin capacity to 68 acre feet. Our scope of work also included coordination with the State Engineer's office and affected agencies.



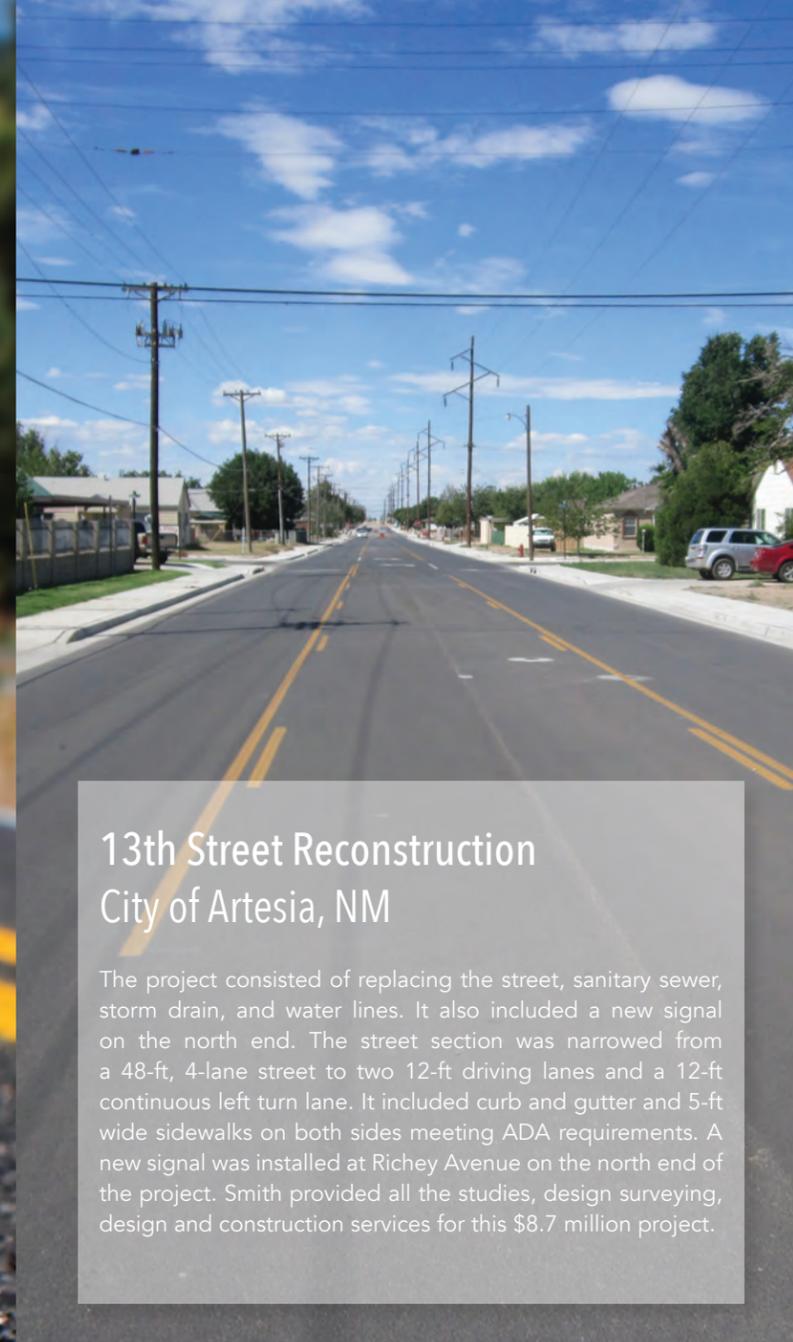
## Hahn Arroyo: Phase I (AMAFCA) City of Albuquerque, NM

Smith teamed with AMAFCA to develop plans for the rehabilitation of the Hahn Arroyo. Rather than designing a conventional floodway, Smith conceptualized a sustainable approach to the design for the arroyo. This included using recycled concrete for seating, harvesting water from the channel for irrigation, cleaning storm waste before it reached the Rio Grande, and creating an urban park for the enjoyment of the public.



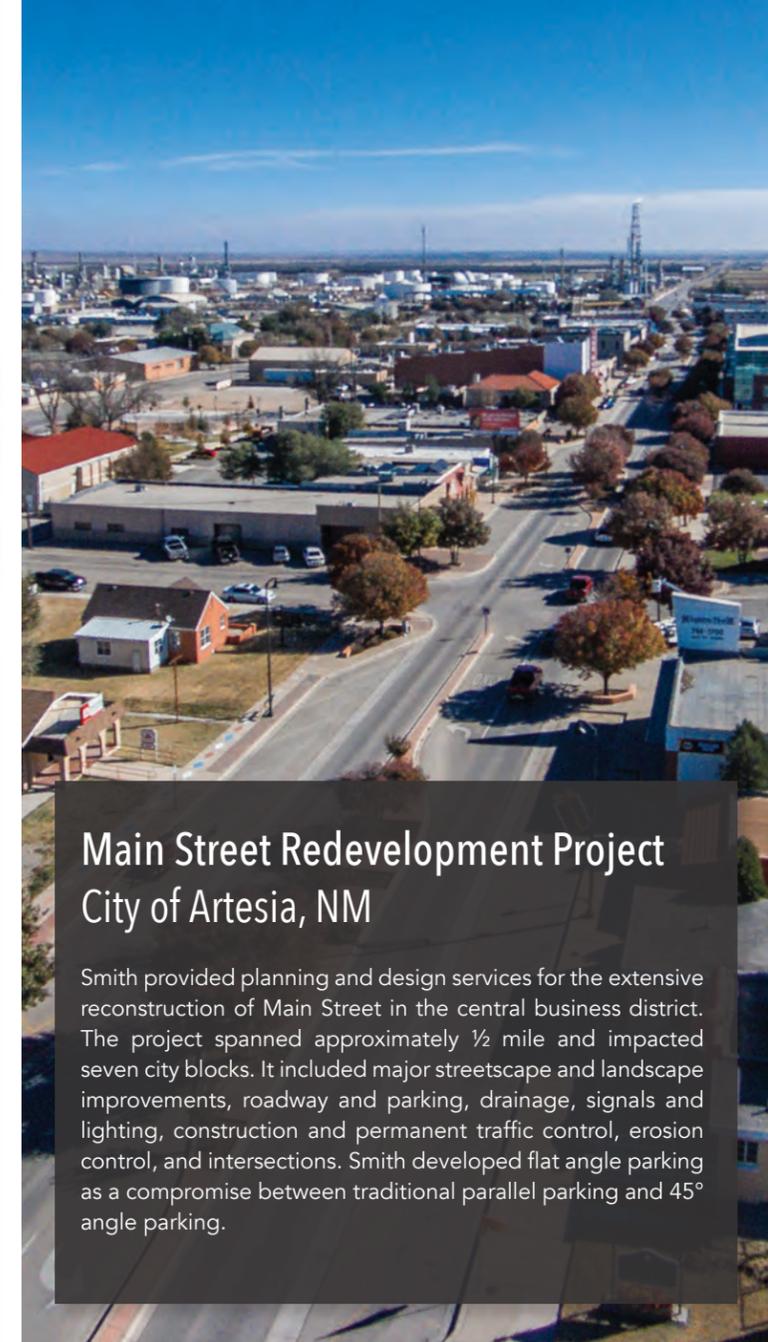
## *Transportation Engineering*

Smith's transportation team is widely recognized for their expertise in design of municipal, county and state roadways and bridges. The services our team provides include alignment studies, traffic analysis, drainage studies, intersection analysis, signal warrant analysis, surveying and right-of-way mapping, public involvement programs, agency coordination, preliminary and final design plan preparation, construction cost estimating and bidding services in support of the project. We routinely coordinate with sub-consultants to provide geotechnical, environmental, aerial photogrammetry, landscape design and Subsurface Utility Engineering (SUE) services. Through targeted and effective teaming, our Smith's transportation team is able to provide our clients with a full service approach to any transportation project.



### 13th Street Reconstruction City of Artesia, NM

The project consisted of replacing the street, sanitary sewer, storm drain, and water lines. It also included a new signal on the north end. The street section was narrowed from a 48-ft, 4-lane street to two 12-ft driving lanes and a 12-ft continuous left turn lane. It included curb and gutter and 5-ft wide sidewalks on both sides meeting ADA requirements. A new signal was installed at Richey Avenue on the north end of the project. Smith provided all the studies, design surveying, design and construction services for this \$8.7 million project.



### Main Street Redevelopment Project City of Artesia, NM

Smith provided planning and design services for the extensive reconstruction of Main Street in the central business district. The project spanned approximately 1/2 mile and impacted seven city blocks. It included major streetscape and landscape improvements, roadway and parking, drainage, signals and lighting, construction and permanent traffic control, erosion control, and intersections. Smith developed flat angle parking as a compromise between traditional parallel parking and 45° angle parking.



### Northern Blvd Widening | City of Rio Rancho, NM

The project consisted of the widening of approximately 11,000 ft of major arterial roadway from an existing 2-lane facility to four lanes with median and turn bays. The project included removal of existing 2-lane roadway and replacement with a new 4-lane divided road, a signalized intersection, signing and striping, lighting, bike lanes, storm drain systems and utility relocation.

## Construction & Land Surveying Services

Smith's construction phase services team provides Construction Management and observation and materials testing to our clients throughout the Southwest. Smith's construction observation technicians are equipped with field computers and digital cameras to relay real-time reporting to our Clients. Smith also operates a fully-equipped materials testing laboratory in our Roswell office. Smith's technicians are trained and certified to provide observation and testing services for soils, Portland cement concrete and asphaltic concrete to assure quality materials are being used and placed properly. In addition to standard testing services, Smith can provide inspection services for structural steel including bolted connections and welded inspection. At any level of involvement Smith serves as an important liaison between the Client and the contractor.

Our land surveying team provides boundary, pipeline and topographic surveys throughout New Mexico and the Permian Basin in support of the projects we design, as well as staking and location surveys for projects under construction.

We are equipped with state-of-the-art surveying equipment and software allowing for a seamless transfer of field information into drawings and designs for our Clients.



### Village Proper Water Main Replacement Pueblo of Isleta, NM

Smith provided design and full-time construction phase services for the Pueblo of Isleta Water Main Replacement, which included replacing approximately 16,000 lf of existing waterline with new PVC waterline and new water services.

### Back Basin Road Village of Angel Fire,

Smith provided the design and CM services for the reconstruction and drainage improvements for 5.2 miles of road in mountainous terrain with several switchbacks that made for intricate geometric considerations. Reconstruction included new aggregate base course over prepared subgrade.

### Artesia Wastewater Treatment Plant CM City of Artesia, NM

Smith provided Construction Management and testing services on the new \$12M WWTP for the City of Artesia. This effort included a full time on-site construction observer that also provided materials testing for the project. Smith personnel performed special inspections on the project including bolt torque testing, visual weld inspection and leak testing.

### Utility Relocation Under the I-25 on Ramp for the Paseo del Norte / I-25 Interchange City of Albuquerque | Bernalillo County Water Utility Authority

Smith provided Construction Management and observation services for this fast-track utility relocation project for the PDN/I-25 project. The project included cut and cover and boring for a new 36-inch waterline and 18-inch sanitary sewer line. Efforts included field observation (standard as well as off-hour field time), pressure testing for the waterline, air testing of the sanitary sewer and coordination of materials testing.

### Buckman Direct Diversion 2A 1.5 Megawatt Solar Project City of Santa Fe, NM

Smith provided Construction Management and inspection services for the solar project that consists of approximately 6,622 photovoltaic (PV) panels mounted on a fixed ground mount. The system is designed with four 500kW inverters. These inverters will provide maximum uptime and performance for this type of system. The array will be interconnected as two 1MW net metered systems as the maximum system size eligible for REC payments is 1MW. Each system will be interconnected to the existing 12,470 volt, three-phase system at BS2A. Two 15kV circuits will extend from two 1000 kVA pad mounted step-up transformers located near the inverters in the array field.



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# Where You'll Find Us



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Las Cruces, NM 88001

**Roswell Office**  
575.622.8866  
401 N. Pennsylvania  
Roswell, NM 88201

Technology and company-wide training have made it possible to effectively operate in our separate locations across New Mexico and Texas as one comprehensive and cohesive firm and allows us to leverage our depth of staffing and combined expertise to provide quality projects. By utilizing our computer system network and video conference capabilities, Smith has succeeded in maintaining a truly integrated approach to projects large and small.

**Permian Basin Office**  
432.682.9400  
4305 N. Garfield, Suite 226  
Midland, TX 79705



Albuquerque  
New Mexico



Las Cruces  
New Mexico



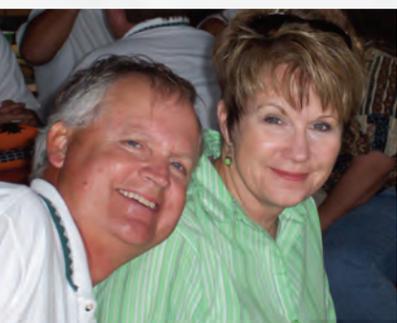
Roswell  
New Mexico



Permian Basin  
Texas



# We Are SMITH



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