

A photograph of a construction site for a capital improvement project. In the foreground, a large, light-colored pipe is being installed in a deep trench. A worker in a yellow safety vest and white hard hat stands to the left. In the background, a yellow excavator is working on a dirt path, and another worker is visible near a large black pipe. The site is surrounded by trees and vegetation.

Capital Improvement Projects Overview

Electric, Water, and Wastewater Services

FY 2023-2027

Capital Improvement Projects Overview

Electric, Water, and Wastewater Services

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INTRODUCTION

New Braunfels Utilities (NBU) has an aggressive capital improvement projects plan to build and enhance necessary infrastructure over the next five years to meet the needs of a growing community. As New Braunfels and the NBU service territory continue to experience unprecedented growth, NBU has committed to more than \$871 million in capital improvement projects. These improvements will ensure we are well prepared to meet the electric, water, and wastewater needs of our customers for decades to come. While there are 153 capital improvement projects in progress or being planned, the following pages provide a high-level overview of NBU's projects.



MISSION

Strengthening our community by providing resilient essential services

VISION

Be a trusted community partner dedicated to excellence in service

CORE VALUES

Safety, Team, Integrity, Culture, and Stewardship

ELECTRIC – CAPITAL IMPROVEMENT PROJECTS

Electric Statistics Fiscal Year 2022

Megawatt-hours Sold (in Thousands)	1,765
Active Electric Meters	50,753
Residential Electric Meters	44,764
Miles of Overhead Distribution	625.3 miles
Miles of Underground Distribution	408.6 miles
Number of Substations	11
System Average Interruption Duration Index (SAIDI)	62.8 minutes
Customer Average Interruption Duration Index (CAIDI)	105.5 minutes
Coincident Peak Demand	336.4 MW
Non-Coincident Peak Demand	388.6 MW

ELECTRIC – CAPITAL IMPROVEMENT PROJECTS



- System Extensions - Electric
- Distribution Transformers
- Aging Electric Infrastructure, Distribution
- Electric Meters
- Hueco Springs Substation
- E.C. Mornhinweg T2 and Feeders
- Comal14 Kentucky Road Feeder
- Henne23 IH-35 Stolte Feeder
- Henne11 Conrads Road Feeder
- EC23 FM 482 Feeder
- Fiber Optic Extensions
- Transmission Access and Wildlife Protection
- Electric Technology Upgrades
- Aging Electric Infrastructure, Substation
- Freiheit Breaker Additions and Control House
- System Equipment Additions
- Three-Phase Extensions
- Distribution Feeder Breaker Addition and Replacement
- Comal T3 Replacement and Feeder C033
- Freiheit24 Kowald Lane Feeder
- Kohlenberg Road Substation
- HW14 to FM 3009 Extension Phase 2
- Sheriff's Posse to Marion, T-340 Upgrade
- HW23 Fallen Oak Feeder
- TxDOT Road Widening
- Industrial Substation Power Transformer Unit Replacement (TXI T1)
- GPI Substation Improvements
- Residential Overhead to Underground Electric Conversion

Top Five Financial Investments, High-Level Overview

System Extensions / Meters / Transformers – \$67.2M

These annual expenditures provide general on-site service and extensions to accommodate system growth. Between FY 2023 and FY 2027, NBU estimates electric meter connections to increase by a total of 30.9 percent, ultimately exceeding 66,000 meters. It is estimated that ten miles of distribution overhead primary will be added and 150 miles of underground distribution will be added. Specific system extensions include those within Veramendi, Solms Landing, Mayfair, and many other developments.



System Extensions/Meters/Transformers

Aging Electric Infrastructure, Distribution and Substation – \$16.8M

This pair of ongoing projects consists of replacing aging infrastructure within the system. Utility poles, overhead wire, pad-mounted equipment, and underground cable are included and bring NBU infrastructure up to current standards upon completion. In particular, newer and technologically superior materials are anticipated to have a greater lifespan and duty cycle. For example, new underground cable is designed for a minimum 40-year service life. Critical utility poles are designed for a minimum 80-year service life. The NBU Infrastructure replacement program has expanded to include substation equipment as well, including replacement of substation switches, breakers, battery banks, and other critical equipment. Previously, substation equipment was replaced as needed only through Operation and Maintenance.



Pad-Mounted Equipment

Kohlenberg Substation and Feeders – \$12.3M

New Braunfels Utilities has identified the need for additional transformer and distribution feeder capacity along FM 1101, near Kohlenberg Road. Growth within the region includes that of Creekside Terrace subdivision, the Mayfair Project, and adjacent industrial load including Continental Automotive Systems. The substation requires a 3.2 mile transmission extension, and a backside transmission extension at a later time in order to provide looped redundancy. Two power transformers and six distribution feeders are proposed to be constructed and energized initially, in essence building straight to the master plan.



Additional Transformation and Distribution Feeder Capacity

Hueco Springs Substation and Feeders – \$7.5M

To serve the anticipated growth of the Veramendi development, NBU has identified the need to construct an additional distribution substation along River Road, at Edwards Boulevard. The proposed substation site is adjacent to an existing Lower Colorado River Authority Transmission Services Corporation (LCRA TSC) looped transmission line, and will not require lengthy transmission extension. The substation is master planned for two power transformers and up to six distribution feeders. It will also create several switching ties to other adjacent substations for system resiliency. The substation land site is procured.



Site of proposed substation along River Road, at Edwards Boulevard

E.C. Mornhinweg T2 and Feeders 21 and 22 – \$4.8M

To serve new commercial and industrial growth along the northwest side of the IH-35 corridor from FM 1103 to Loop 337, NBU is adding a second power transformer at the E.C. Mornhinweg Substation. The substation 138kV side will be upgraded to a ring bus. Three new feeders are to be immediately extended from E.C. Mornhinweg. One feeder is extended North to serve the load growth of Cemex Quarry, the largest distribution customer of NBU. The second feeder will extend straight to IH-35, to split load from and relieve existing circuit EC12. The third feeder will extend along FM 482, to split load from and relieve the existing circuit, EC12. The expanded substation and additional feeders will also help serve five specific projects within the City of Schertz.



Installation of T2 Feeders

WATER – CAPITAL IMPROVEMENT PROJECTS

Water Statistics Fiscal Year 2022

Gallons of Water Sold (in Millions)	3,761
Number of Water Meters	50,326
Raw Water Supply	37,819 acre feet
Miles of Water Main	582 miles
Peak Annual Usage	4.9 billion gallons in FY22
Treatment Capacity	8 MGD surface / 25.02 MGD wells / 1.8 MGD purchased
Storage Capacity	26.1 million gallons



WATER – CAPITAL IMPROVEMENT PROJECTS



- Landa Pump Station Phase 2 / Well 5
- 30/24-Inch SWTP Discharge Line (Downtown)
- FM 306 Pump Station and Discharge Pipeline
- Water Meters
- Trinity Expansion Well Field
- Trinity Expansion Treatment Plant
- Goodwin Lane Water Main
- Well 4 to Grandview Pump Station and Discharge Line Upgrades
- Castell Avenue Rehabilitation City of New Braunfels-Water
- Conrads Elevated Storage Tank
- Aging Infrastructure Water
- GBRA Interconnect Metering Station
- Aquifer Storage and Recovery Project
- Mission/Westpointe Connection Waterlines
- Klein Road Reconstruction Phase 2
- Western Downtown to Morningside Pressure Zone Conversion
- City Widening Street Projects-Water
- Senate Bill 3 EPP Generators
- I-35 Water Line (Downtown)
- FM 1044 Elevated Storage Tank
- System Extensions-Water
- Wood Meadows Water Line River Crossing
- Tank Decommission
- Garden Street Bridge Water Line
- Technology Upgrades-Water
- Goodwin/Conrads Adjustments City of New Braunfels-Water
- 1.0 MG Solms Ground Storage Tank and Flow Control Valve
- SWTP Expansion - Water Supply Facilities
- Water Tank Rehabilitations
- Hwy 46 Water Line (Mission) Phase 2
- Downtown to Loop Pressure Zone Conversion
- Central Downtown to Morningside Pressure Zone Conversion
- Rio to Keuhler River Crossing
- Asbestos-Cement Pipe Replacement - Solms
- Infrastructure Replacement Package 3
- Infrastructure Replacement Package 1
- FM 1101 Discharge Line
- FM 1101 Pump Station and Ground Storage Tank
- Downtown to Kerlick Pressure Zone Conversion
- Downtown to Kohlenberg Pressure Zone Conversion
- Asbestos-Cement Pipe Replacement - Balcones Phase 2
- Infrastructure Replacement Package 2
- Altgelt Elevated Storage Tank
- River Chase Elevated Storage Tank
- County Line Pump Station Expansion
- Bretzke to Hoffman Discharge Line
- County Line Pump Station Discharge Line
- Bretzke Pump Station for Hoffman Pressure Zone
- Downtown to Walnut Pressure Reducing Valve - Pressure Zone Conversion Phase 2
- Downtown to Morningside Pressure Zone Conversion

Top Five Financial Investments, High-Level Overview

Trinity Expansion - Water Supply Facilities - \$35.4M

This project will increase the production and treatment capacity of NBU's Trinity Wellfield and Trinity Water Treatment Plant. It includes the drilling of four new Trinity Aquifer production wells, an expansion of the existing Treatment Plant from 3.75 to 7.5 million gallons per day (MGD), a new 1.5 million-gallon (MG) ground storage tank, and an upgrade to the existing pump station. This project is needed to serve current customers as well as future growth.

Goodwin Lane Water Main - \$12.7M

This project replaces approximately 12,000 linear feet of existing 12-inch water main with 24-inch water main, from the intersection of Goodwin Lane and Pebble Creek Run to the Country Hills Pump Station off of Hoffman Lane, routed along Goodwin Lane, Conrads Lane, FM 1102, and Hoffman Lane. This project will occur prior to the City of New Braunfels' Goodwin Conrads Lane Project. The project will increase reliability, serve future growth in the Kohlenberg Pressure Zone, and increase transmission capacity to the Country Hills Pump Station. The additional transmission capacity will also enable more efficient operation of Country Hills Pump Station that feeds the Kohlenberg Pressure Zone.

Landa Pump Station Phase 2 / Well 5 - \$11.9M

This is a multifaceted project with various infrastructure enhancements. It includes the construction of approximately 110 linear feet of 12-inch ductile iron pipe at the Texas Tank Site, the installation of one 8-inch pressure reducing valve and vault at Moonglow Avenue and Fredericksburg Road, Well #5 pump and discharge line improvements, rehabilitation of the Landa Ground Storage Tank, and the construction of two bulk chemical storage tanks at Landa Park. Additional improvements include the erection of one prefabricated building with plumbing, electrical, and chemical equipment at Landa Park, the installation of two 1.25 MGD horizontal split case pumps, the installation of three 5 MGD horizontal split case pumps, stormwater pollution prevention, site paving at Landa Park (site entrance, access road, cart path), and the relocation and replacement of all electrical items at Landa Park.

FM 1044 Elevated Storage Tank - \$13.3M

This project will include a new 2.0 MG elevated storage tank near the intersection of FM 1044 and Old Marion Road, and approximately 1,500 linear feet of 24-inch water main to connect to the existing 18-inch water main within Old Marion Road. This is needed to maintain compliance with the Texas Commission of Environmental Quality for elevated storage in NBU's Morningside Pressure Zone.

Water Meters - \$12.1M

The purpose of this project is to replace water meters that have reached the end of their useful life. This project replaces NBU's existing water meters system-wide and will allow the replacement of all meters every seven to ten years.



Trinity Water Treatment Plant



Goodwin Lane Water Main



Landa Pump Station Phase 2



FM 1044 Elevated Storage Tank (Photo by Mikala Compton)



Water Meter

WASTEWATER – CAPITAL IMPROVEMENT PROJECTS

Wastewater Statistics Fiscal Year 2022

Number of Accounts	33,554
Miles of Sewer Main	458.73
Number of Wastewater Treatment Plants	4
Treatment Capacity	12.3 MGD
Total Reuse Water Output	33.0 MGD

WASTEWATER – CAPITAL IMPROVEMENT PROJECTS



- Castell Avenue Rehabilitation
City of New Braunfels-Wastewater
- McKenzie Interceptor Upgrade
- I-35 Interceptor Upgrade
- McKenzie Water Reclamation Facility Expansion
- Aging Infrastructure-Wastewater
- Manhole Rehabilitation
- Kuehler Water Reclamation Facility Clarifier Rehabilitation
- Gruene Wastewater and Inverted Siphon Improvements - Odor Control
- Gruene Water Reclamation Facility Collector Apartment Complex Relocate
- Technology Upgrades-Wastewater
- South Kuehler Interceptor Phase 1
- Schmidt I-35 N Sewer Main Replacement
- Sewer Infrastructure Replacement Package 2
- Gruene Road Sewer Main Rehabilitation/Relocation
- Kuehler Water Reclamation Facility Rehabilitation
- North Kuehler Manhole Rehabilitation - Segment 3
- Saengerhalle North Interceptor
- Kuehler Water Reclamation Facility Access Road - Courtyard Drive
- Dove Crossing Lift Station
- System Extensions-Wastewater
- Saengerhalle Lift Station Expansion and Force Main
- Gruene Water Reclamation Facility Spoils and Materials Yard
- Goodwin/Conrads Adjustments
City of New Braunfels-Wastewater
- Solms Lift Station Expansion
- Gruene Water Reclamation Facility Expansion
- North Kuehler Interceptor - Segment 3
- Sewer Infrastructure Replacement Package 1
- Gruene Lift Station Improvements
- Sewer Rehabilitation Package 1
- Infrastructure Replacement Package 3
- Infrastructure Replacement Package 2
- Infrastructure Replacement Package 1
- Solms Lift Station and Force Main
- South Kuehler Interceptor Phase 3

Top Five Financial Investments, High-Level Overview

McKenzie Water Reclamation Facility Expansion - \$77.4M

This project includes expansion of the plant's treatment capacity from 2.5 Million Gallons per Day (MGD) to 5 MGD, including: construction of a new flow splitter box, expansion of headworks facilities, construction of new biological treatment basins, construction of new secondary clarifiers, expansion of tertiary filters, expansion of Ultraviolet (UV) disinfection equipment, expansion of aerobic digestions, expansion of solids dewatering system, and construction of new electrical equipment, site piping, and miscellaneous site civil improvements. The project will increase treatment capacity to serve current and future growth in the area.

Gruene Water Reclamation Facility Expansion - \$59.7M

This project includes expansion of the Plant's treatment capacity from 2.5 MGD to 5 MGD including: construction of a new flow splitter box, expansion of the headworks facilities, construction of new biological treatment basins, construction of new secondary clarifiers, expansion of tertiary filters, expansion of ultra violet disinfection equipment, expansion of aerobic digestions, expansion of solids dewatering system, and construction of new electrical equipment, site piping, and miscellaneous site civil improvements. This project will increase treatment capacity to serve current and future growth in the area.

North and South Kuehler Rehabilitation - \$45.5M

The project includes replacing existing aeration equipment, walkways, and gates in all aerations basins except the new basins at South Kuehler, replacing the existing clarifiers including the addition of a submerged effluent launder system at South Kuehler, replacing all existing blowers at North and South Kuehler, replacing the existing Microcrystalline cellulose (MCC) in the sludge pump buildings, replacing the MCCs in the admin building at South Kuehler, rehabilitation of the existing buried Return Activated Sludge (RAS) piping at South Kuehler, replacing the existing drain return pumps at North Kuehler, addition of a new digester blower at North Kuehler, replacing the existing screening and grit treatment structures at both plants with a new common headworks with screens, aerated grit chambers, lift station, and elevated flow split structure, and constructing a new access road from FM-725 and a private vehicular traffic bridge across the North tributary. This project is needed to upgrade equipment that has reached the end of its service life in order to maintain adequate treatment processes, reduce maintenance activities, increase safety, and increase reliability.

McKenzie Interceptor Upgrade - \$48.6M

This project includes approximately 35,000 feet of new 30-inch wastewater main that will replace existing 21-inch and 24-inch interceptors conveying flow to the McKenzie Water Reclamation Facility. The existing lines are near their maximum capacity and must be replaced. This project will increase transmission capacity to serve current and future growth in the area.

I-35 Interceptor Upgrade - \$11.9M

This project includes approximately 7,500 linear feet of new 36, 30, 15, 12, and 8-inch diameter wastewater main that will replace existing interceptors conveying flow to the Rio Lift Station. The existing lines are near their end of life and must be replaced. The project will increase transmission capacity to serve current and future growth in the area.



PLANNING FOR THE FUTURE

New Braunfels Utilities is investing \$871 million in capital improvement projects. The following highlighted projects represent those that are currently in design or in progress for FY 2023-2027.

TRINITY EXPANSION - WATER SUPPLY FACILITIES - \$35.4M

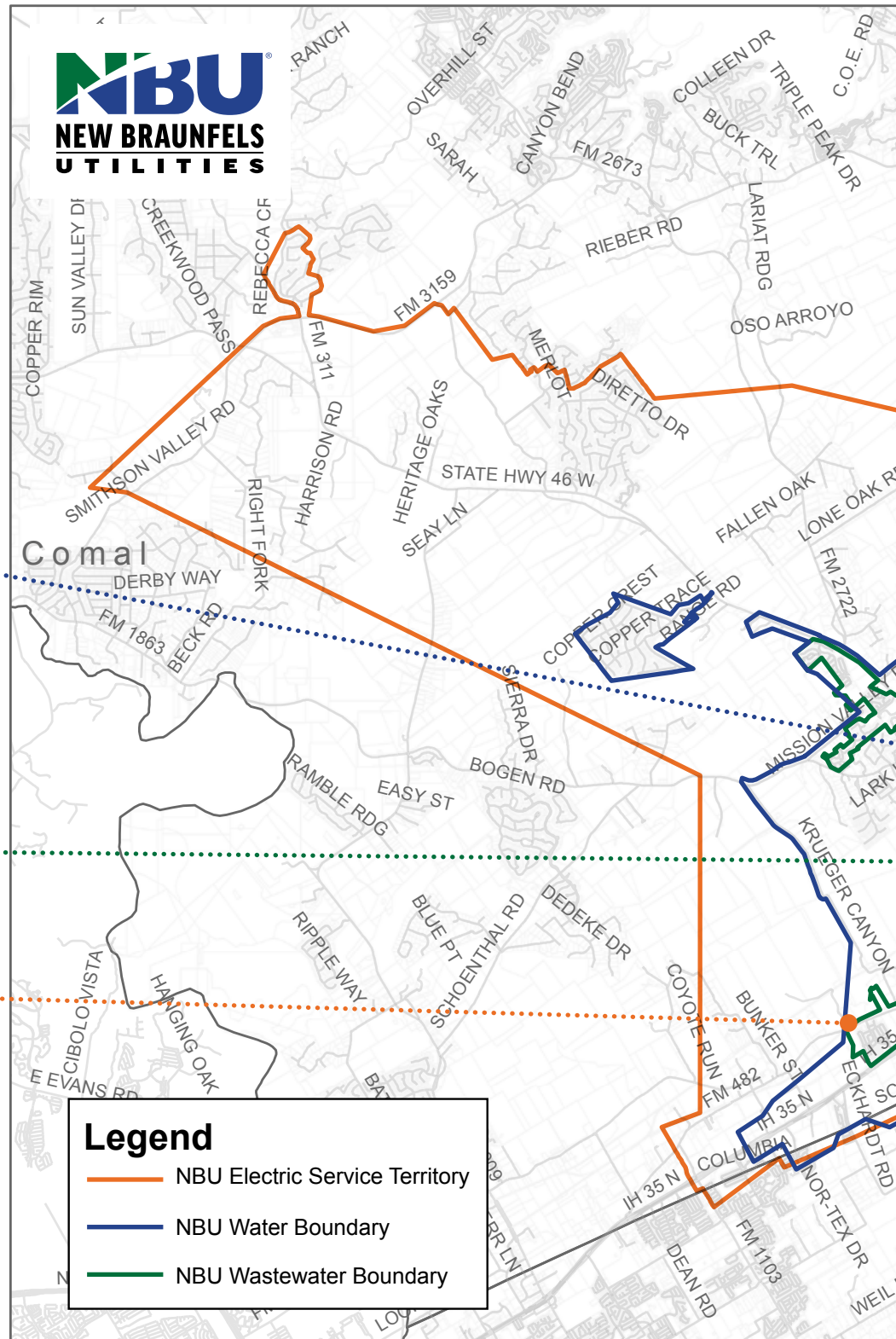
I-35 INTERCEPTOR UPGRADE - \$11.9M

NORTH AND SOUTH KUEHLER REHABILITATION - \$45.5M

E.C. MORNHINWEG T2 AND FEEDERS- \$4.8M

SYSTEM EXTENSIONS / METERS / TRANSFORMERS - \$67.2M

ELECTRIC AGING INFRASTRUCTURE, DISTRIBUTION AND SUBSTATION - \$16.8M





For more information visit,
nbutexas.com/planning-for-the-future-of-new-braunfels.

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