

# Capital Improvement Projects Overview

FY 2021-2025



# Capital Improvement Projects Overview

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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 \$563 million in capital improvement projects. This will ensure we are well prepared to meet the electric, water, and wastewater needs of our customers for decades to come. While there are 122 capital improvement projects in progress and/or being planned, the following pages provide a high-level overview of NBU's key projects.



# ELECTRIC – CAPITAL IMPROVEMENT PROJECTS

## Top Five Financial Investments, High-Level Overview

### System Extensions – \$20.2M

These annual expenditures provide service to accommodate system growth. In FY 2021, NBU estimates electric meter connections to increase by 2.2 percent. It is estimated that three miles of distribution overhead primary will be added and 22 miles of underground distribution will be added. Specific System Extensions include those within Veramendi, Vintage Oaks, Solms Landing, and many other developments.



### Electric Aging Infrastructure and Pole Replacements – \$19.1M

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.



### Kohlenberg Substation and Transmission – \$10.6M

New Braunfels Utilities has identified the need for additional transmission and distribution feeder capacity along FM 1101, near Kohlenberg Road. Growth within the region includes that of Heatherfield subdivision, the Government Land Office (GLO) property, and adjacent industrial load. The substation would require a 3.2 mile transmission extension by NBU, and a backside transmission extension by LCRA TSC in order to provide looped redundancy. The substation would be master-planned for two power transformers and up to six distribution feeders.



### Sheriff's Posse T1/T2 and Sheriff's Posse Feeders 13 – \$6.6M

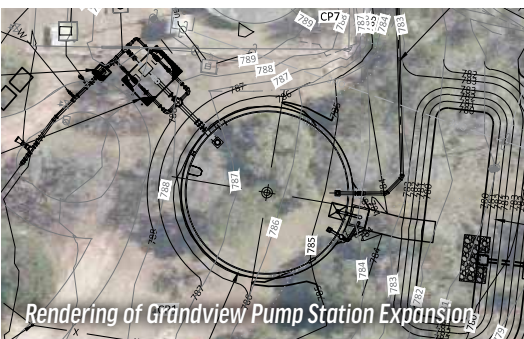
To serve anticipated growth along the southeast side of the IH-35 corridor from FM 1103 to Schmidt Road, NBU is planning to upgrade and replace two legacy and underrated substation power transformers (PWTs). The existing PWTs are rated 12/16/20MVA and are insufficient to serve increased growth. Both PWTs are to be replaced with 20/26.6/33.3MVA capacity. In addition, the substation 138kV side will be upgraded to a high-reliability ring bus, which effectively eliminates any single point of failure within the substation. The substation is also master-planned for a third PWT in the future. New Braunfels Utilities also plans to extend one new distribution feeder to serve several expanding and newly proposed residential developments, including Morningside Trails and Morningside Hills.



### E.C. Mornhinweg T2 and Feeders 21 and 22 – \$5.7M

To serve new commercial and industrial growth along the northwest side of the IH-35 corridor from FM 1103 to Loop 337, NBU is planning to add a second Power Transformer at the E.C. Mornhinweg Substation. The substation 138kV side will be upgraded to a ring bus. Two new feeders are to be immediately extended from E.C. Mornhinweg, one to the east and one to the west, in order to serve new growth and provide increased distribution reliability and switching capacity to the region.





## WATER – CAPITAL IMPROVEMENT PROJECTS

### Top Five Financial Investments, High-Level Overview

#### Surface Water Treatment Plant Expansion - Water Supply Facilities – \$38.8M

The current Surface Water Treatment Plant (SWTP) has a design capacity of 8.0 MGD. This project will double the plant size for a total capacity of 16.0 MGD. This plant expansion will allow NBU to treat all its Canyon Reservoir water and will increase NBU's ability to divert and treat a greater amount of its run-of-river rights. This project is necessary to meet peak demand and to serve future growth in the community.

#### Avery Park 30-Inch Water Main – \$15.8M

Improvements include replacing portions of the existing 8/10/12-inch water lines along Highway 46 from Interstate 35 to Weltner Road, and the existing eight-inch line along Weltner Road from Highway 46 to the existing Avery elevated storage tank (EST). The project was initially proposed as a 20-inch water main; however, it has been upsized during design to primarily a 30-inch water main in an effort to accommodate the proposed Weltner Pump Station. Project completion will provide increased transmission capacity to Avery EST and additional capacity to serve future growth in the eastern portion of the Downtown Pressure Zone (PZ). The project will ensure NBU has the capacity to serve the Downtown PZ with the new water supplies from Seguin and Guadalupe-Blanco River Authority (GBRA).

#### 3.0 MG Bretzke EST and 24-inch Bretzke Waterline – \$11.9M

This project installs a 3.0 MG ground storage tank near the intersection of Bretzke Lane and FM 306 serving the Downtown PZ as elevated storage and will include a new 24-inch line from the site of the proposed tank to the future 30-inch SWTP Discharge Line along Gruene Road. Projects include replacing the existing 12-inch line along Hunter Road, and decommissioning the existing Bretzke Phase 1 ground storage tank. These improvements will provide additional elevated storage capacity and improve operations in the Downtown PZ. In the first phase of the project, Bretzke was converted from the Kohlenberg PZ to an independent PZ with a higher hydraulic grade, which increases pressure.

#### Weltner Road Ground Storage Tank and Pump Station – \$10.8M

Project objectives include building the first of two phases of a pump station with ground storage facilities scheduled to receive and integrate new water supplies into the east side of the NBU water system. New Braunfels Utilities has currently identified 10,000 acre-feet of water supply that will be delivered to this pump station by 2023 with the first portions of that water coming on as early as fall 2020. Phase 1 of this pump station includes a 1.5 million gallon ground storage tank to receive the entire 10,000 acre-feet of water supply, a 10 MGD pump station, and the purchase of a site capable of expanding to a 20 MGD facility.

#### Grandview Pump Station Expansion – \$6.4M

The expansion of this station will provide necessary pumping capacity from Well #4 and additional storage capacity during peak demand due to the postponement of the Trinity Expansion. The project includes replacement of the existing 0.2 MG ground storage tank with a new 1.20 MG ground storage tank. Pump station improvements at the Grandview Pump Station site, and pump upgrades at Well #4 to a capacity of 4,000 Gallons Per Minute (gpm).



# WASTEWATER – CAPITAL IMPROVEMENT PROJECTS

## Top Five Financial Investments, High-Level Overview

### Gruene Wastewater Treatment Plant Relocation and Expansion – \$58.1M

This project will expand the capacity of the Gruene Wastewater Treatment Plant and relocate the plant out of the floodplain. Phase 1 will be constructed within the scope of this project and will have a capacity of 2.5 MGD. The project will include odor control, sewer transfer pipe from the existing plant to the new plant, abandonment of the existing plant, abandonment of a lift station, and construction of a sewer transfer pipe from Blieders Creek.



### North and South Kuehler Rehabilitation – \$46.3M

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 Motor Control Centers (MCC) in the sludge pump buildings, replacing the MCC 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.



### McKenzie Water Reclamation Facility Expansion – \$43.6M

This project includes expansion of the Biological Nutrient Removal (BNR) treatment process from 2.5 MGD to 5 MGD, including: construction of 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 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. This project will provide additional treatment capacity for future growth in the McKenzie basin.



### McKenzie 33-Inch Interceptor Upgrade – \$35.0M

A new 30-inch interceptor replacing the northern portion of the existing 21 and 24-inch interceptors conveying flow to the McKenzie Water Reclamation Facility. This project will provide additional capacity to serve new growth.



### North Kuehler 30, 33, and 42-Inch Interceptor Upgrade – \$31.6M

A new 30-inch and 33-inch diameter sewer line will be constructed to replace an existing 21-inch and 27-inch sewer line in the North Kuehler-7 and North Kuehler-9 drainage basins. Two aerial crossings will be rehabilitated to carry a larger pipe and a siphon that will be constructed to cross the Guadalupe River. The existing interceptors are near capacity during peak wet weather flows. The project will provide additional capacity for growth in the North Kuehler basin.



# PLANNING FOR THE FUTURE

New Braunfels Utilities is investing in 122 capital improvement projects. The following highlighted projects represent those that are currently in design or in progress for FY 2021-2025.

GRUENE WASTEWATER TREATMENT PLANT RELOCATION AND EXPANSION - \$58.1M

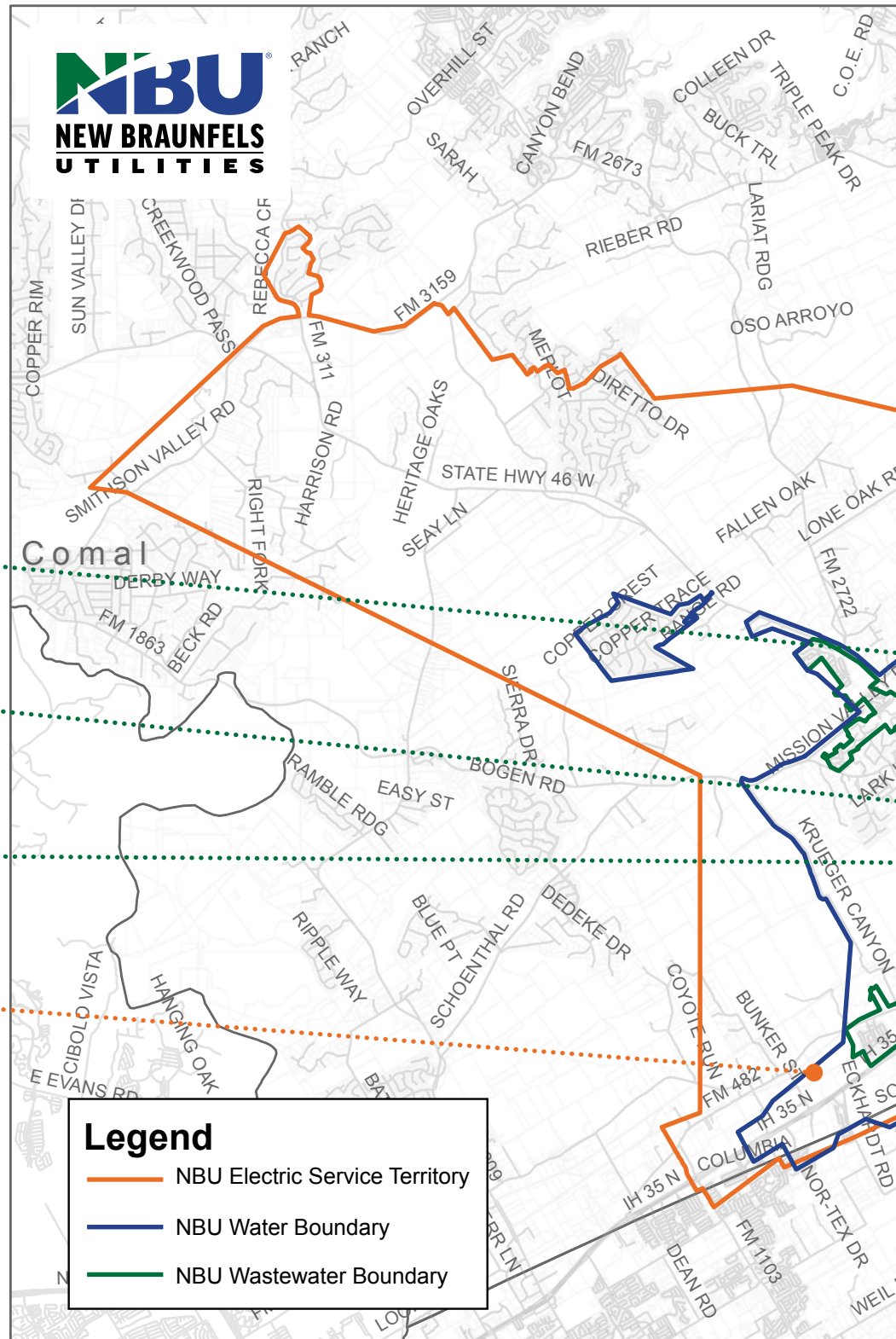
NORTH KUEHLER 30, 33, AND 42-INCH INTERCEPTOR UPGRADE - \$31.6M

NORTH AND SOUTH KUEHLER REHABILITATION - \$46.3M

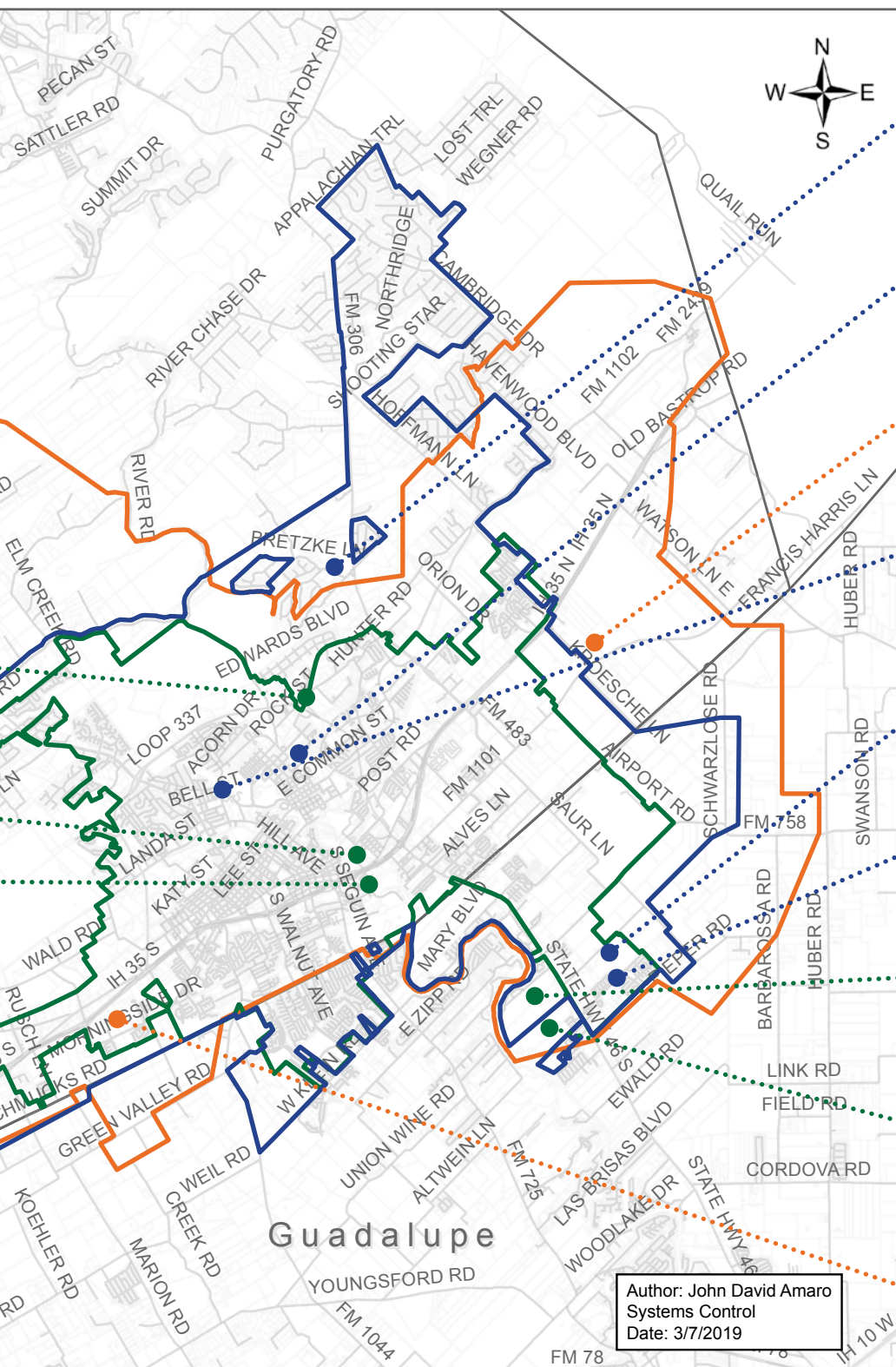
E.C. MORNHINWEG T2 AND FEEDERS 21 AND 22 - \$5.7M

SYSTEM EXTENSIONS - \$20.2M

ELECTRIC AGING INFRASTRUCTURE AND POLE REPLACEMENTS - \$19.1M







3.0 MG BRETZKE EST AND  
24-INCH BRETZKE  
WATERLINE - \$11.9M

SURFACE WATER TREATMENT  
PLANT EXPANSION - \$38.8M

KOHLBERG SUBSTATION AND  
TRANSMISSION - \$10.6M

GRANDVIEW PUMP STATION  
EXPANSION - \$6.4M

WELTNER ROAD GROUND  
STORAGE TANK AND  
PUMP STATION - \$10.8M

AVERY PARK  
30-INCH MAIN - \$15.8M

MCKENZIE 33-INCH  
INTERCEPTOR  
UPGRADE - \$35.0M

MCKENZIE WATER RECLAMATION  
FACILITY EXPANSION - \$43.6M

SHERIFF'S POSSE  
T1/T2 AND SHERIFF'S POSSE  
FEEDERS 13 - \$6.6M





For more information visit,  
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