

**CITY OF LUCAS  
CAPITAL IMPROVEMENT PLAN  
From 2020 To 2025**



**Adopted: September 19, 2019**

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## **Introduction**

The Capital Improvement Plan (CIP) for the City of Lucas is a valuable part of the community planning process. The CIP links local infrastructure investments with comprehensive plan goals, land use ordinances, and economic development efforts. The CIP bridges the gap between planning and spending as well as between the visions of the comprehensive plan and the fiscal realities of improving and expanding community facilities. The purpose of the CIP policy is to create a fair and consistent process outlining procedures for proposing, evaluating, and adopting capital projects creating long-term benefits.

The CIP is a five-year planning document adopted by the City Council for capital improvements related City roadways and drainage systems as well as for the water system infrastructure and facilities. The CIP is not to be confused with the Capital Improvement Budget. The Capital Improvement Budget is prepared each year in conjunction with the annual Operating Budget. It generally includes only those projects from the first year of the CIP funded during the current year and will address additional capital needs that are not included in the CIP, such as equipment and vehicles as recommended by the Vehicle and Equipment Committee.

A capital project is defined as having a minimum cost of \$5,000 resulting in 1) the creation of a new fixed asset or 2) enhancement of an existing fixed asset.

Typically, the life expectancy of a capital project is 20 years, but it depends on the classification of the asset. Examples of capital projects include construction or expansion of public buildings, the acquisition of land for public use, planning, water system improvements, sewer mains as defined in the wastewater plan, engineering costs, and street and drainage construction. Example of an enhancement to a fixed asset would be reconstruction or reconditioning of streets.

## **Goals**

The following goals help to ensure consistence in establishing CIP:

1. Preserving public health, welfare, and safety - providing the basic services that ensure public health, welfare, and safety is the fundamental responsibility of local government.
2. Anticipating the demands of growth - when related to the comprehensive plan, the capital improvement planning process works to anticipate investments in community facilities and infrastructure which are needed to serve or shape the pattern of growth and development.
3. Supporting economic development - having sound fiscal health, high-quality facilities, and services are attractive to business and potential residents. New corporate investment and reinvestment in a community may be influenced by improvements that enhance the quality of life for their labor force. Private decisions that bring jobs to an area and new taxes to a community are based not only on availability of water and sewer but also upon the quality of schools, public safety, recreational opportunities, and many other services. The City of Lucas has identified two areas for commercial development that are located on its peripheral boundaries to complement the high quality of life and not hinder or negatively impact the quality of life.

4. Developing a fair distribution of capital costs - the CIP process allows for public discussion of the preferred means of distributing capital costs over time. Funding strategies to consider include:
  - a. Annually, the City earmarks funds in the unrestricted fund balance to save for future projects.
  - b. Issuance of debt that is paid by both existing and future users of the facility.
  - c. User fees may be deemed more appropriate than property taxes.
  - d. Federal or state funds may also be available to help finance specific projects.

The CIP process can promote discussion of funding strategies.

5. Avoiding undue tax increases - capital improvement planning is a means of avoiding the unpleasant surprise of expensive projects generating large property tax increases. While cost impacts cannot always be precisely determined in advance, the CIP fosters discussion of the distribution of the tax burden of new capital expenditures over time. A corollary benefit of fiscal stability and sound community facility planning can result in an improved bond rating.

## **Development Process**

The CIP outlines the major utility infrastructure, streets and drainage, facilities, parks, and other improvements needed to serve the citizens, meet growth related needs, and comply with state and federal regulations.

Preparation - the City Secretary coordinates the annual update and adoption of the five-year CIP. The City Manager will lead the review and prioritization of capital projects for City Council consideration. The Finance Director, City Engineer, Development Services Director, and the City Manager shall prioritize and rank projects according to the criteria listed in the project criteria section. The CIP includes all costs associated with the design, rights-of-way acquisition, and construction of a project, as well as the estimated operating and maintenance costs, which impacts future operating budgets. The following guidelines will be utilized in developing the CIP:

1. Solicit citizen participation in formulating the identification and prioritization of the CIP.
2. Identify capital improvements through system models, repair and maintenance records, and growth demands.
3. Prioritize CIP projects based on input from City staff from all areas related to each project, and its effect on operations.

The CIP will be submitted to City Council for review, revision, and approval. It will be reviewed and revised annually to include updated information.

**Control** - all capital project expenditures must be appropriated in the capital budget. The Finance Director and City Manager must certify the availability of resources before any capital project contract is presented to the City Council for approval.

**Financing Programs** - recognizing that long-term debt is usually a more expensive financing method, alternative financing sources will be explored before debt is issued. When debt is issued, it will be used to acquire major assets with expected longevity which equal or exceed the average length of the debt issue. Impact fees, assessments, pro-rata charges, or other fees may be used to fund capital projects. The City Council may also evaluate the use of unrestricted general fund reserves to facilitate funding.

**Reporting** - periodic financial reports will be prepared to enable the Department Directors to manage their capital budgets and to enable the Finance Department to monitor and control the budget as authorized. Capital project status reports will be presented to City Council.

### **Capital Improvement Plan (CIP) 2020-2025**

Departments will include as part of their project proposal:

1. A Project Summary providing an overview and justification of the project.
2. A Fiscal Overview that includes estimated cost estimates and funding strategies that proposes funding options must be identified including:
  - a. Operating Revenues
  - b. Reserves and/or Debt
  - c. Grants
  - d. Partnerships with Other Organizations
  - e. Impact Fees
  - f. Developer Funded

Expense estimates must be identified in the section for design, site acquisition, construction, estimated annual maintenance and operating cost impact based on the current estimated cost and values. To help manage cash flows, the financial plan must be complete to ascertain the impact on multiple fiscal years.

3. A Project Description section will provide additional project detail such as estimated linear feet, square feet or other applicable measurement, language that explains the overall need for the project as well as the benefit to the community.
4. Proposed Schedule identifying major milestones such as the design, bid, and construction phases.
5. Identification of the Project Manager.

Additional information may be requested by the City Manager and/or the members of the City Council.

## **Project Criteria**

The evaluation of proposed capital projects will be in accordance with the following criteria:

1. **Public Health, Safety, and Welfare** - projects improving the public health, safety, and welfare of the community will be rated with highest priority. Projects must demonstrate the benefit provided to the community and possible risks from not completing the project. Compliance with state and federal mandates fall under this category.
2. **Quality of Life** - projects enhancing the quality of life enjoyed by citizens, such as equestrian and hiking trails throughout the City, will receive a high priority.
3. **Funding** - funding availability considerations are included when ranking projects. Grants and funding partnerships are considered first followed by operating revenues, fund balance, and debt. Debt may be issued to fund capital projects after alternative funding sources are exhausted.
4. **Economic Development** - projects enhancing and promoting the establishment of commercial business with the best use for a parcel of land that is zoned commercial will be given the highest priority.

## **CIP Amendment**

Amendments to the CIP effecting the current fiscal year must be recommended by the City Manager and approved by the City Council through a budget amendment. Amendments will be considered according to project scoring criteria as previously identified. Higher priority will be given to projects necessary for the public health, safety, and funding availability.

Any plan must be based upon an estimate of certain characteristics. These characteristics may change and vary from time to time and when they do, the CIP should be updated. It may require that certain proposed improvements be implemented immediately or even delayed. Further, this plan is meant to be flexible. It is to be used as a tool to help establish a course of action.

## **CIP Project Prioritization**

Using the criteria identified in the Project Criteria section of this document will assist staff and ultimately the elected officials in rating each project to facilitate prioritization. There are various rating schemes available for establishing capital improvements priorities. The following set of standards are used as the evaluation method for the City:

- **High** - essential capital improvements are projects needed to promote and/or protect the public welfare and safety. Projects classified under this category are projects of the highest priority.
- **Routine** - necessary capital improvements are projects which are needed for the convenience and conservation of endangered resources, or for the completion of partially

completed projects. Projects of this type include improvements which are considered necessary for a progressive growing community and for problems that do not negatively impact public welfare.

- **Low** - desirable capital improvements are projects which protect property, replace obsolete facilities, reduce operating costs and add to the attractiveness of the community. Projects of this type are not considered high priority and may be delayed or removed from the CIP as funding changes. Conversely, these types of projects can be brought forth when budget surpluses or additional funding sources are identified.
- **Deferrable** - these capital improvements are projects of the lowest priority. These projects can be postponed or eliminated from the CIP because of cost, timing, or need.

### Impact Fees

Chapter 395 of the Texas Local Government Code describes the procedures Texas cities must follow in order to create and implement impact fees. Senate Bill 243 (SB 243) amended Chapter 395 in September 2001 to define an Impact Fee as “a charge or assessment imposed by a political subdivision against new development in order to generate revenue for funding or recouping the cost of roadway improvements or facility expansion necessitated by and attributable to the new development.”

The City retained BW2 Engineers, Inc. and Capex Consulting Group, LLC. To assist the City with the details of the impact fee calculation methodology in accordance with Chapter 395, the applicable Land Use Assumptions, development of the CIP, and the application of the Land Use Equivalency Table.

The last City of Lucas Roadway and Water Impact Fee update was approved by the City Council on November 1, 2018 when it adopted Ordinance 2018-11-00886 amending the Code of Ordinances by amending Chapter 10 titled “Subdivision Regulations” by updating and adopting the revised Capital Improvement Plan and Lane Use Assumptions; by amending Article 10.02 titled “Impact Fees” by amending Section 10.02.006 titled “Calculation” by renaming Section 10.02.006 Calculations of Impact Fees” by replacing Subsection (a) of Section 10.02.006 in its entirety with a new Subsection (a) setting forth “road impact fees by land use” and adding a new Subsection (b) setting forth “water impact fees by meter size” and renumbering the remaining sections of Article 10.02.006; by amending Appendix “C” titled “Fee Schedule” by renaming Article 10.000 tiled “Road Impact Fees by Land Use” and by adding a chart setting forth road impact fees by land use; by renaming Article 11.000 titled “Water Impact Fees by Meter Size” and by adding a chart setting forth water impact fees by meter size.

The following updated impact fees are in effect:

- **Road Service Unit of \$1,188.21 per vehicle mile**  
(For example, to calculate the impact fee for a single-family home, take the service unit of \$1,188.21 x 4.24 per development unit equaling an impact fee of \$5,038.01)

- **Water Service Unit of \$3,473.00**

(For example, to calculate the impact fee for a one-inch water meter take the service unit of \$3,473.00 x 1.4 the AWWA meter ratio equaling an impact fee of \$4,862.20

Chapter 395 mandates that impact fees be reviewed and updated at least every five (5) years. Therefore, the City of Lucas will need to review and update its current impact fees by November 1, 2023.



## Roadway and Trail Project CIP At-A-Glance

The following table is a quick reference guide that summarizes the CIP Roadway and Trail Projects. It indicates the fiscal year in which the project is scheduled to begin, a project number for identification purposes, the recommended priority of implementation, the preliminary estimated costs for improvements, and the anticipated funding sources.

| STARTING IN FISCAL YEAR | PROJECT NO. | PRIORITY        | PROJECT   | ESTIMATED COST                                   | FUNDING SOURCE   |
|-------------------------|-------------|-----------------|---|--|--|
| 2016-2017               | 1           | Complete        | Winningkoff Road Reverse Curve  | \$737,330<br>Actual                              | Impact Fees and Certificate of Obligation  |
|                         | 2           | Complete        | Stinson Road/ W. Lucas Road Intersection Improvements                 | \$533,366<br>Actual                              | Certificates of Obligation, Reginal Toll Revenue, Collin County Bond, City of Lucas General Fund |
|                         | 3           | Complete        | W. Lucas Road Widening  | \$1,517,154<br>Actual<br>(Including maintenance) | Regional Toll Revenue, City of Lucas General Fund, and Collin County Bond, Impact Fees           |
| 2016-2017               | 4           | Complete        | Street Maintenance  | \$159,403<br>Actual                              | City of Lucas General Fund   |
| <b>2016-2017 TOTAL:</b> |             |                 |   | <b>\$2,947,253</b>                               |  |
| 2017-2018               | 5           | Design Complete | Country Club Road/Estates Parkway Intersection Improvements           | \$350,000  | Certificate of Obligation  |
|                         | 6           | Design Complete | Winningkoff Road Middle Section from the Reverse Curve to Snider Lane | \$2,051,675                                      | Certificate of Obligation, Reserves, Impact Fees   |
|                         | 7           | Complete        | White Rock Trail  | \$371,446  | General Fund   |
|                         | 8           | Complete        | E. Winningkoff Road Trailhead   | \$240,000  | \$120,000 General Fund; \$120,000  |

| STARTING<br>IN FISCAL<br>YEAR | PROJECT<br>NO. | PRIORITY | PROJECT  | ESTIMATED<br>COST   | FUNDING<br>SOURCE   |
|-------------------------------|----------------|----------|--|---------------------|---|
|                               |                |          |  |                     | Collin County<br>Park Board<br>Grant                      |
|                               | 9              | Complete | Street<br>Maintenance  | \$864,431           | City of Lucas<br>General Fund                             |
| <b>2017-2018 TOTAL:</b>       |                |          |  | <b>\$3,877,552</b>  |   |
| 2018-2019                     | 10             | High     | Stinson Road<br>Southern<br>Section from<br>Parker Road to<br>Bristol Park                 | \$3,164,519         | Certificate of<br>Obligation,<br>Reserves,<br>Impact Fees |
|                               | 11             | High     | Blondy Jhune<br>Road<br>Reconstruction<br>from Western<br>Bridge to<br>Winningkoff<br>Road | \$3,263,173         | Certificate of<br>Obligation,<br>Reserves,<br>Impact Fees |
|                               | 12             | High     | Parker Road left<br>turn to<br>Cimarron Trail  | \$200,000           | Unrestricted<br>General Fund<br>Reserves                  |
|                               | 13             | Low      | Northeast<br>Equestrian and<br>Pedestrian Trails   | No estimate         | To Be<br>Determined                                       |
|                               | 14             | Routine  | Street<br>Maintenance  | \$750,000           | City of Lucas<br>General Fund                             |
|                               | 15             | High     | West Lucas<br>Road 4-Lane<br>Divided   | \$12,550,000        | 80% 2018<br>Collin County<br>Road funds;<br>20% Local     |
| <b>2018-2019 TOTAL:</b>       |                |          |  | <b>\$19,927,692</b> |   |
| 2019-2020                     | 16             | High     | Stinson Road<br>Northern<br>Section from<br>Bentwater Drive<br>to the Reverse<br>Curve     | \$2,000,000         | To Be<br>Determined                                       |
|                               | 17             | Routine  | Streets<br>Maintenance   | \$750,000           | City of Lucas<br>General Fund                             |
| <b>2019-2020 TOTAL:</b>       |                |          |  | <b>\$2,750,000</b>  |   |

| STARTING<br>IN FISCAL<br>YEAR | PROJECT<br>NO. | PRIORITY | PROJECT  | ESTIMATED<br>COST   | FUNDING<br>SOURCE                            |
|-------------------------------|----------------|----------|--|---------------------|--|
| 2020-2021                     | 18             | High     | Winningkoff<br>Road Southern<br>Section from E.<br>Lucas Road to<br>the Reverse<br>Curve | \$2,000,000         | To Be<br>Determined                          |
|                               | 19             | Routine  | Street<br>Maintenance  | \$750,000           | City of Lucas<br>General Fund                |
|                               | 20             | Low      | Exercise and<br>Leisure Loop   | \$2,747,064         | TxDOT Grant                                  |
|                               | 21             | Low      | Southwest<br>Multipurpose<br>Trails  | No Estimate         | To Be<br>Determined                          |
|                               | 22             | High     | Bridge design<br>for Stinson Road<br>Bridge  | \$820,000           | 2019<br>Certificates of<br>Obligation        |
|                               | 23             | High     | Bridge design<br>for Snider Lane<br>Bridge   | \$820,000           | 2019<br>Certificates of<br>Obligation        |
|                               | 24             | High     | Stinson Road<br>from Bristol<br>Park to<br>Bentwater Drive<br>Construction               | \$4,510,000         | 2019<br>Certificates of<br>Obligation        |
|                               | 25             | High     | Bait Shop<br>Intersection<br>West/East<br>Lucas Road                                     | \$800,000           | TxDOT, 2019<br>Certificates of<br>Obligation |
| <b>2020-2021 TOTAL:</b>       |                |          |  | <b>\$12,447,064</b> |  |
| 2021-2026                     | 26             | Routine  | Street<br>Maintenance<br>(\$750,000 per<br>year)   | \$3,750,000         | City of Lucas<br>General Fund                |
| <b>2021-2026 TOTAL:</b>       |                |          |  | <b>\$3,750,000</b>  |  |
| 2026-2031                     | 27             | Routine  | Street<br>Maintenance<br>(\$750,000 per<br>year)   | \$3,750,000         | City of Lucas<br>General Fund                |

| STARTING<br>IN FISCAL<br>YEAR | PROJECT<br>NO. | PRIORITY | PROJECT | ESTIMATED<br>COST  | FUNDING<br>SOURCE |
|-------------------------------|----------------|----------|---------|--------------------|-------------------|
| <b>2026-2031 TOTAL:</b>       |                |          |         | <b>\$3,750,000</b> |                   |

| WINNINGKOFF ROAD REVERSE CURVE   |             |   |                |          |  |  |  |
|--|-------------|---|----------------|----------|--|--|--|
| PROJECT SUMMARY  |             |   |                |          |  |  |  |
| Starting in Fiscal Year  | Project No. | Category                                  | Project Status | Priority |  |  |  |
| 2016-2017  | 1           | Roadway                                   | Complete       | High     |  |  |  |
| FISCAL OVERVIEW  |             |   |                |          |  |  |  |
| Cost   |             | Source of Funding                         |                |          |  |  |  |
| \$144,645 Design Contract<br>\$502,410 Construction Contract<br><u>\$100,480 Contingency</u><br>\$747,535 Total Budget<br>\$740,601 Actual   |             | Impact Fees and Certificate of Obligation |                |          |  |  |  |
| PROJECT DESCRIPTION  |             |   |                |          |  |  |  |
| Replace existing asphalt pavement with concrete pavement. The eastern curve will be designed to accommodate a school bus and an auto passing in opposite directions. The western curve will be replaced with a three-way stop sign controlled intersection at Forestview Drive. The project length is approximately 0.5 miles. |             |   |                |          |  |  |  |
| PROJECT SCHEDULE   |             |   |                |          |  |  |  |
| Project Begin Year   |             | Project End Year                          |                |          |  |  |  |
| 2017   |             | 2018 - <b>Complete</b>                    |                |          |  |  |  |
| PROJECT MANAGER: City Engineer   |             |   |                |          |  |  |  |



| STINSON ROAD/WEST LUCAS ROAD INTERSECTION IMPROVEMENTS  |             |   |                |          |
|---|-------------|---|----------------|----------|
| PROJECT SUMMARY   |             |   |                |          |
| Starting in Fiscal Year   | Project No. | Category  | Project Status | Priority |
| 2016-2017   | 2           | Roadway   | Complete       | High     |
| FISCAL OVERVIEW   |             |   |                |          |
| Cost  |             | Source of Funding   |                |          |
| \$91,130 Design Contract<br>\$391,572 Construction Contract<br><u>\$97,000 Contingency</u><br>\$579,702 Total Budget<br>\$533,366 Actual  |             | Certificates of Obligation, Regional Toll Revenue, Impact Fees, Reserves. |                |          |
| PROJECT DESCRIPTION   |             |   |                |          |
| Provide for two northbound Stinson Road lanes on approach to W. Lucas Road: one left turn and one right turn. Improve drainage along the W. Lucas Road. The addition of a fourth leg to Country Club Road/W. Lucas Road intersection was added to design of this project in early 2018. |             |   |                |          |
| PROJECT SCHEDULE  |             |   |                |          |
| Project Begin Year  |             | Project End Year  |                |          |
| 2017  |             | 2018 - <b>Complete</b>  |                |          |
| PROJECT MANAGER: City Engineer  |             |   |                |          |





| W. LUCAS ROAD WIDENING   |             |  |                |          |
|--|-------------|--|----------------|----------|
| PROJECT SUMMARY  |             |  |                |          |
| Starting in Fiscal Year  | Project No. | Category   | Project Status | Priority |
| 2016-2017  | 3           | Roadway  | Complete       | High     |
| FISCAL OVERVIEW  |             |  |                |          |
| Cost of Capacity Improvements  |             | Source of Funding  |                |          |
| \$79,250 Design Contract   |             | \$1,200,000 in Regional Toll Revenue, \$244,414 in Collin County Bonds, and \$72,740 from Impact Fees/Reserves |                |          |
| \$1,172,780 Construction Contract  |             |  |                |          |
| \$293,195 Contingency  |             |  |                |          |
| \$1,545,225 Total Budget   |             |  |                |          |
| \$1,517,154 Actual   |             |  |                |          |
| PROJECT DESCRIPTION  |             |  |                |          |
| Widen W. Lucas Road from Willow Springs School to Angel Parkway by adding a center and left turn lane. The project length is approximately 1.5 miles. *During the construction of the three lanes, numerous areas of the existing roadway required full depth repairs. |             |  |                |          |
| PROJECT SCHEDULE   |             |  |                |          |
| Project Begin Year   |             | Project End Year   |                |          |
| 2017   |             | 2018 - Complete  |                |          |
| PROJECT MANAGER: City Engineer   |             |  |                |          |



| STREET MAINTENANCE  |             |          |                            |          |
|---|-------------|----------|----------------------------|----------|
| PROJECT SUMMARY   |             |          |                            |          |
| Starting in Fiscal Year   | Project No. | Category | Project Status             | Priority |
| 2016-2017   | 4           | Roadway  | Complete                   | Routine  |
| FISCAL OVERVIEW   |             |          |                            |          |
| Cost  |             |          | Source of Funding          |          |
| \$750,000 Total Budget  |             |          | City of Lucas General Fund |          |
| \$159,403 Actual*   |             |          |                            |          |
| PROJECT DESCRIPTION   |             |          |                            |          |
| Each year, roads require proper maintenance to provide reliable mobility at minimal cost.                             |             |          |                            |          |
| Project List:   |             |          |                            |          |
| 1. Daytona Avenue/CR 391  |             |          |                            |          |
| 2. Horseman Drive   |             |          |                            |          |
| 3. Skyview Drive  |             |          |                            |          |
| 4. Edgefield Lane Turnaround  |             |          |                            |          |
| *Most of the funds budgeted for FY 2016-2017 were allocated to FY 2017-2018 to accommodate the contractor's schedule. |             |          |                            |          |
| PROJECT SCHEDULE  |             |          |                            |          |
| Project Begin Year  |             |          | Project End Year           |          |
| 2017  |             |          | 2017 - Complete            |          |
| PROJECT MANAGER: City Engineer  |             |          |                            |          |





## COUNTRY CLUB ROAD/ESTATES PARKWAY INTERSECTION IMPROVEMENTS

### PROJECT SUMMARY

| Starting in Fiscal Year | Project No. | Category | Project Status | Priority |
|-------------------------|-------------|----------|----------------|----------|
| 2017-2018               | 5           | Roadway  | Design         | High     |

### FISCAL OVERVIEW

| Cost   | Source of Funding         |
|--|---------------------------|
| \$82,700 Design<br><u>\$267,300 for Construction</u><br>\$350,000 Total Budget<br>\$350,000 March 2017 Estimate<br><br>Expenditures: FY 17/18: \$55,303<br>Expenditures: FY 18/19: 1,443 | Certificate of Obligation |

### PROJECT DESCRIPTION

Add a right turn lane from eastbound Estates Parkway to southbound Country Club Road. Add a left turn lane from northbound Country Club Road to westbound Estates Parkway. TxDOT may add funding to this project to improve drainage near the intersection.

### PROJECT SCHEDULE

| Project Begin Year | Project End Year |
|--------------------|------------------|
| 2017               | 2020             |

**PROJECT MANAGER:** City Engineer



**WINNINGKOFF ROAD MIDDLE SECTION  
FROM THE REVERSE CURVE TO SNIDER LANE**

**PROJECT SUMMARY**

| Starting in Fiscal Year | Project No. | Category | Project Status   | Priority |
|-------------------------|-------------|----------|------------------|----------|
| 2017-2018               | 6           | Roadway  | Pre-construction | High     |

**FISCAL OVERVIEW**

| Cost  | Source of Funding                                |
|---|--|
| \$215,850 Design Contract<br>\$1,615,177 for Construction<br>\$139,890 Project Management<br>\$ 80,758 Contingency<br>\$1,911,785 Total Budget<br><br>Expenditures FY 17/18: \$106,867<br>Expenditures FY 18/19: \$28,413 | Certificate of Obligation, Reserves, Impact Fees |

**PROJECT DESCRIPTION**

Reconstruct 0.5 miles of Winningkoff Road with concrete pavement and improve drainage.

**PROJECT SCHEDULE**

| Project Begin Year | Project End Year |
|--------------------|------------------|
| 2017               | 2020             |

**PROJECT MANAGER:** City Engineer



| WHITE ROCK TRAIL   |             |                            |                |          |
|--|-------------|----------------------------|----------------|----------|
| PROJECT SUMMARY  |             |                            |                |          |
| Starting in Fiscal Year  | Project No. | Category                   | Project Status | Priority |
| 2017-2018  | 7           | Roadway                    | Complete       | High     |
| FISCAL OVERVIEW  |             |                            |                |          |
| Cost   |             | Source of Funding          |                |          |
| \$243,455 Construction Contract<br>\$ 79,300 Settlement<br><u>\$48,691 Contingency</u><br>\$371,446 Total Budget<br>\$306,968 Actual |             | City of Lucas General Fund |                |          |
| PROJECT DESCRIPTION  |             |                            |                |          |
| Southern 1,300 feet of White Rock Trail  |             |                            |                |          |
| PROJECT SCHEDULE   |             |                            |                |          |
| Project Begin Year   |             | Project End Year           |                |          |
| 2017   |             | 2018 – Complete            |                |          |
| PROJECT MANAGER: City Engineer   |             |                            |                |          |

| TRAILHEAD ON E. WINNINGKOFF ROAD   |             |   |                |          |
|--|-------------|---|----------------|----------|
| PROJECT SUMMARY  |             |   |                |          |
| Starting in Fiscal Year  | Project No. | Category  | Project Status | Priority |
| 2017-2018  | 8           | Trail   | Complete       | Routine  |
| FISCAL OVERVIEW  |             |   |                |          |
| Cost   |             | Source of Funding   |                |          |
| \$240,000 Estimate   |             | \$120,000 City of Lucas General Fund and \$120,000 Collin |                |          |
| \$240,000 Actual   |             | County Park Board Grant                                   |                |          |
| PROJECT DESCRIPTION  |             |   |                |          |
| Trailhead on E. Winningkoff Road was constructed during Fiscal Year 2017-2018. The Trailhead provides parking, a corral, restroom facilities, and other amenities. Additional work, such as marking the trail and maintenance was also completed in Fiscal Year 2017-2018. |             |   |                |          |
| PROJECT SCHEDULE   |             |   |                |          |
| Project Begin Year   |             | Project End Year  |                |          |
| 2017   |             | 2018 - <b>Complete</b>                                    |                |          |
| <b>PROJECT MANAGER:</b> Development Services Director  |             |   |                |          |

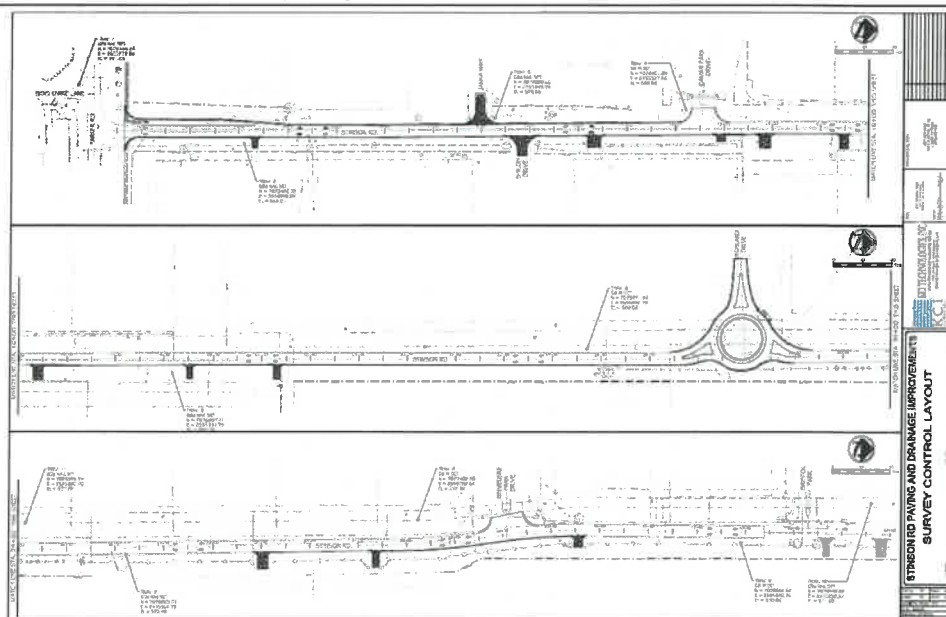




| STREET MAINTENANCE  |             |                            |                |          |
|---|-------------|----------------------------|----------------|----------|
| PROJECT SUMMARY   |             |                            |                |          |
| Starting in Fiscal Year   | Project No. | Category                   | Project Status | Priority |
| 2017-2018   | 9           | Roadway                    | Complete       | Routine  |
| FISCAL OVERVIEW   |             |                            |                |          |
| Cost  |             | Source of Funding          |                |          |
| \$882,335 Total Budget  |             | City of Lucas General Fund |                |          |
| \$864,431 Actual  |             |                            |                |          |
| PROJECT DESCRIPTION   |             |                            |                |          |
| Each year, roads require proper maintenance to provide reliable mobility at minimal cost. |             |                            |                |          |
| Project List:   |             |                            |                |          |
| 1. Blondy Jhune Road  |             |                            |                |          |
| 2. Stinson Road   |             |                            |                |          |
| 3. Lewis Lane   |             |                            |                |          |
| 4. Rock Ridge Road  |             |                            |                |          |
| 5. White Rock Trail   |             |                            |                |          |
| PROJECT SCHEDULE  |             |                            |                |          |
| Project Begin Year  |             | Project End Year           |                |          |
| 2017  |             | 2018 - <b>Complete</b>     |                |          |
| PROJECT MANAGER: City Engineer  |             |                            |                |          |



| STINSON ROAD SOUTHERN SECTION<br>FROM PARKER ROAD TO BRISTOL PARK   |             |   |                |          |
|---|-------------|---|----------------|----------|
| PROJECT SUMMARY   |             |   |                |          |
| Starting in Fiscal Year   | Project No. | Category  | Project Status | Priority |
| 2017-2018   | 10          | Roadway   | Construction   | High     |
| FISCAL OVERVIEW   |             |   |                |          |
| Cost  |             | Source of Funding                                 |                |          |
| \$272,223 Design Contract<br>\$2,554,724 Construction<br>\$209,836 Project Management<br><u>\$127,736 Contingency</u><br>\$3,164,519 Total Budget<br><br>Expenditures: FY 17/18: \$168,222<br>Expenditures: FY 17/18: \$1,303,573 |             | Certificates of Obligation, Reserves, Impact Fees |                |          |
| PROJECT DESCRIPTION   |             |   |                |          |
| This concrete project extends from Parker Road to Bristol Park, and it is about a mile long. It does not include the Muddy Creek Bridge. A straight, flat two-lane roadway is planned to have a roundabout at Highland Drive.     |             |   |                |          |
| PROJECT SCHEDULE  |             |   |                |          |
| Project Begin Year  |             | Project End Year                                  |                |          |
| 2017  |             | 2019  |                |          |
| PROJECT MANAGER: City Engineer  |             |   |                |          |



**BLONDY JHUNE ROAD MIDDLE AND EASTERN SECTIONS  
FROM THE WESTERN BRIDGE TO WINNINGKOFF ROAD**

**PROJECT SUMMARY**

| Starting in Fiscal Year | Project No. | Category | Project Status | Priority |
|-------------------------|-------------|----------|----------------|----------|
| 2017-2018               | 11          | Roadway  | Construction   | High     |

**FISCAL OVERVIEW**

| Cost   | Source of Funding                                 |
|--|---|
| \$247,791 Design Contracts<br>\$2,605,335 Construction<br>\$279,780 Project Management<br><u>\$130,267 Contingency</u><br>\$3,263,173 Total Budget<br><br>Expenditures: FY 14/15: \$47,076<br>Expenditures: FY 15/16: \$39,224<br>Expenditures: FY 17/18: \$104,500<br>Expenditures: FY 18/19: \$1,290,586 | Certificates of Obligation, Reserves, Impact Fees |

**PROJECT DESCRIPTION**

Replace existing asphalt roadway with a two-lane concrete roadway from the western bridge to Winningkoff Road. The project length is about a mile long and has two different pavement cross sections to accommodate minimizing the impact to the tree canopy. Preliminary design work began in FY 14/15.

**PROJECT SCHEDULE**

| Project Begin Year | Project End Year |
|--------------------|------------------|
| 2017               | 2020             |

**PROJECT MANAGER:** City Engineer



| PARKER ROAD LEFT TURN LANE TO<br>CIMARRON TRAIL   |                |                                    |                |          |
|---|----------------|------------------------------------|----------------|----------|
| <b>PROJECT SUMMARY</b>  |                |                                    |                |          |
| Starting in<br>Fiscal Year  | Project<br>No. | Category                           | Project Status | Priority |
| 2018-2019   | 12             | Roadway                            | Construction   | High     |
| <b>FISCAL OVERVIEW</b>  |                |                                    |                |          |
| Cost  |                | Source of Funding                  |                |          |
| \$46,306 Design<br>\$102,694 Construction<br>\$34,000 Contingency<br><u>\$17,000 TxDOT (approved CC 2/7/19)</u><br>\$200,000 Total Budget |                | Unrestricted General Fund Reserves |                |          |
| <b>PROJECT DESCRIPTION</b>  |                |                                    |                |          |
| Left turn lane being provided by TxDOT  |                |                                    |                |          |
| <b>PROJECT SCHEDULE</b>   |                |                                    |                |          |
| Project Begin Year  |                | Project End Year                   |                |          |
| 2019  |                | 2019                               |                |          |
| <b>PROJECT MANAGER:</b> TxDOT   |                |                                    |                |          |



| NORTHEAST EQUESTRIAN AND PEDESTRIAN TRAILS   |             |          |                   |          |
|--|-------------|----------|-------------------|----------|
| PROJECT SUMMARY  |             |          |                   |          |
| Starting in Fiscal Year  | Project No. | Category | Project Status    | Priority |
| 2018-2019  | 13          | Trail    | Planning          | Low      |
| FISCAL OVERVIEW  |             |          |                   |          |
| Cost   |             |          | Source of Funding |          |
| \$\$\$   |             |          | To Be Determined  |          |
| PROJECT DESCRIPTION  |             |          |                   |          |
| Obtain easements and construct equestrian and pedestrian trails radiating from the E. Winningkoff Trailhead to the west and south. These trails would generally follow Blondy Jhune Road, E. Winningkoff Road, Welborn Lane, and White Rock Creek (from Winningkoff Road to Snider Lane) The purpose is to link to other trails such as the Trinity Trail, and keep equestrian trails separate from multipurpose trails. |             |          |                   |          |
| PROJECT SCHEDULE   |             |          |                   |          |
| Project Begin Year   |             |          | Project End Year  |          |
| 2019   |             |          | 2026              |          |
| PROJECT MANAGER: Development Services Director   |             |          |                   |          |



| STREET MAINTENANCE  |             |          |                            |          |
|---|-------------|----------|----------------------------|----------|
| PROJECT SUMMARY   |             |          |                            |          |
| Starting in Fiscal Year   | Project No. | Category | Project Status             | Priority |
| 2018-2019   | 14          | Roadway  | Planning                   | Routine  |
| FISCAL OVERVIEW   |             |          |                            |          |
| Cost  |             |          | Source of Funding          |          |
| \$750,000   |             |          | City of Lucas General Fund |          |
| PROJECT DESCRIPTION   |             |          |                            |          |
| Each year, roads require proper maintenance to provide reliable mobility at minimal cost. |             |          |                            |          |
| PROJECT SCHEDULE  |             |          |                            |          |
| Project Begin Year  |             |          | Project End Year           |          |
| 2018  |             |          | 2019                       |          |
| PROJECT MANAGER: City Engineer  |             |          |                            |          |

| WEST LUCAS ROAD<br>4 - LANE DIVIDED                       |             |   |                |          |
|---|-------------|---|----------------|----------|
| PROJECT SUMMARY   |             |   |                |          |
| Starting in Fiscal Year                                   | Project No. | Category  | Project Status | Priority |
| 2020/2021   | 15          | Roadway   | Planning       | High     |
| FISCAL OVERVIEW   |             |   |                |          |
| Cost  |             | Source of Funding   |                |          |
| \$12,550,000 (estimate)                                   |             | Possible Funding Sources:<br>TxDOT<br>Collin County<br>2019 Certificates of Obligation (\$420,783 approved) |                |          |
| PROJECT DESCRIPTION                                       |             |   |                |          |
| Country Club Road to Angel Parkway 4-lane divided roadway |             |   |                |          |
| PROJECT SCHEDULE  |             |   |                |          |
| Project Begin Year  |             | Project End Year  |                |          |
| 2020  |             | TBD   |                |          |
| PROJECT MANAGER: City Engineer                            |             |   |                |          |

**STINSON ROAD NORTHERN SECTION  
FROM BENTWATER DRIVE TO THE REVERSE CURVE**

**PROJECT SUMMARY**

| Starting in Fiscal Year | Project No. | Category | Project Status | Priority |
|-------------------------|-------------|----------|----------------|----------|
| 2020-2021               | 16          | Roadway  | Planning       | High     |

**FISCAL OVERVIEW**

| Cost                             | Source of Funding |
|----------------------------------|-------------------|
| \$2,000,000 August 2018 Estimate | To Be Determined  |

**PROJECT DESCRIPTION**

Replace existing asphalt roadway with a concrete, two-lane roadway from Bentwater Drive to the reverse curve at 405 Stinson Road. It does not include the Muddy Creek Bridge and is about 0.66 miles in length. This is a straight and flat roadway with no four-way intersections.

**PROJECT SCHEDULE**

| Project Begin Year | Project End Year |
|--------------------|------------------|
| 2020               | TBD              |

**PROJECT MANAGER:** City Engineer

| STREET MAINTENANCE  |             |          |                            |          |
|---|-------------|----------|----------------------------|----------|
| PROJECT SUMMARY   |             |          |                            |          |
| Starting in Fiscal Year   | Project No. | Category | Project Status             | Priority |
| 2019-2020   | 17          | Roadway  | Planning                   | Routine  |
| FISCAL OVERVIEW   |             |          |                            |          |
| Cost  |             |          | Source of Funding          |          |
| \$750,000   |             |          | City of Lucas General Fund |          |
| PROJECT DESCRIPTION   |             |          |                            |          |
| Each year, roads require proper maintenance to provide reliable mobility at minimal cost. |             |          |                            |          |
| PROJECT SCHEDULE  |             |          |                            |          |
| Project Begin Year  |             |          | Project End Year           |          |
| 2019  |             |          | 2020                       |          |
| PROJECT MANAGER: City Engineer  |             |          |                            |          |

**WINNINGKOFF ROAD SOUTHERN SECTION  
FROM EAST LUCAS ROAD TO THE REVERSE CURVE**

**PROJECT SUMMARY**

| Starting in Fiscal Year | Project No. | Category | Project Status | Priority |
|-------------------------|-------------|----------|----------------|----------|
| 2020-2021               | 18          | Roadway  | Planning       | High     |

**FISCAL OVERVIEW**

| Cost                             | Source of Funding   |
|----------------------------------|---|
| \$2,000,000 August 2018 Estimate | A: 2019 Certificates of Obligation (\$1,000,000)<br>B: To Be Determined |

**PROJECT DESCRIPTION**

- A. Replace existing asphalt roadway with a concrete, two-lane roadway from East Lucas Road, south of Rollingwood, and a new culvert.
- B. Replace roadway south of Rollingwood to Reverse Curve will also be replaced.

**PROJECT SCHEDULE**

| Project Begin Year | Project End Year |
|--------------------|------------------|
| 2020               | TBD              |

**PROJECT MANAGER:** City Engineer

| STREET MAINTENANCE  |             |          |                            |          |
|---|-------------|----------|----------------------------|----------|
| PROJECT SUMMARY   |             |          |                            |          |
| Starting in Fiscal Year   | Project No. | Category | Project Status             | Priority |
| 2020-2021   | 19          | Roadway  | Planning                   | Routine  |
| FISCAL OVERVIEW   |             |          |                            |          |
| Cost  |             |          | Source of Funding          |          |
| \$750,000   |             |          | City of Lucas General Fund |          |
| PROJECT DESCRIPTION   |             |          |                            |          |
| Each year, roads require proper maintenance to provide reliable mobility at minimal cost. |             |          |                            |          |
| PROJECT SCHEDULE  |             |          |                            |          |
| Project Begin Year  |             |          | Project End Year           |          |
| 2020  |             |          | 2021                       |          |
| PROJECT MANAGER: City Engineer  |             |          |                            |          |

| LUCAS COMMUNITY TRAIL   |             |   |                |          |
|---|-------------|---|----------------|----------|
| PROJECT SUMMARY   |             |   |                |          |
| Starting in Fiscal Year   | Project No. | Category  | Project Status | Priority |
| 2019-2020   | 20          | Trail   | Planning       | Low      |
| FISCAL OVERVIEW   |             |   |                |          |
| Cost  |             | Source of Funding                                       |                |          |
| \$2,747,064   |             | TxDOT grant; Collin County Open Space grant; TPWD grant |                |          |
| PROJECT DESCRIPTION   |             |   |                |          |
| Construct a five-mile loop starting a City Hall and proceeding south along Country Club Road, west along W. Lucas Road, north along future Ingram Lane, east along Estates Parkway, and south along Country Club Road ending at City Hall. The purpose of the loop is to provide a separate facility away from the vehicular traffic. The width of the loop pavement should be between seven and 14 feet depending on location and a desire to create a two-way facility. The loop may be constructed from crushed granite and/or concrete. |             |   |                |          |
| PROJECT SCHEDULE  |             |   |                |          |
| Project Begin Year  |             | Project End Year  |                |          |
| 2020  |             | TBD   |                |          |
| PROJECT MANAGER: Development Services Director  |             |   |                |          |



## SOUTHEAST MULTIPURPOSE TRAILS

### PROJECT SUMMARY

| Starting in Fiscal Year | Project No. | Category | Project Status | Priority |
|-------------------------|-------------|----------|----------------|----------|
| 2020-2021               | 21          | Trail    | Planning       | Low      |

### FISCAL OVERVIEW

| Cost   | Source of Funding |
|--------|-------------------|
| \$\$\$ | To Be Determined  |

### PROJECT DESCRIPTION

Obtain easements and construct multipurpose trails south of W. Lucas Road and west of Southview Drive. These trails would connect with the Lucas Community Trail along W. Lucas Road at Willow Springs School and the TP&L Powerlines in the southern part of the City. A trailhead may be included as part of this project.

### PROJECT SCHEDULE

| Project Begin Year | Project End Year |
|--------------------|------------------|
| 2021               | TBD              |

**PROJECT MANAGER:** Development Services Director

| BRIDGE DESIGN FOR STINSON ROAD BRIDGE               |             |          |                                 |          |
|---|-------------|----------|---------------------------------|----------|
| PROJECT SUMMARY                                     |             |          |                                 |          |
| Starting in Fiscal Year                             | Project No. | Category | Project Status                  | Priority |
| 2020-2021   | 22          | Roadway  | Planning                        | High     |
| FISCAL OVERVIEW                                     |             |          |                                 |          |
| Cost  |             |          | Source of Funding               |          |
| \$820,000   |             |          | 2019 Certificates of Obligation |          |
| PROJECT DESCRIPTION                                 |             |          |                                 |          |
| Design work for Stinson Road Bridge at Muddy Creek. |             |          |                                 |          |
| PROJECT SCHEDULE                                    |             |          |                                 |          |
| Project Begin Year                                  |             |          | Project End Year                |          |
| 2020  |             |          | TBD                             |          |
| PROJECT MANAGER: City Engineer                      |             |          |                                 |          |

## BRIDGE DESIGN FOR SNIDER LANE BRIDGE

### PROJECT SUMMARY

| Starting in Fiscal Year | Project No. | Category | Project Status | Priority |
|-------------------------|-------------|----------|----------------|----------|
| 2020-2021               | 23          | Roadway  | Planning       | High     |

### FISCAL OVERVIEW

| Cost      | Source of Funding               |
|-----------|---------------------------------|
| \$820,000 | 2019 Certificates of Obligation |

### PROJECT DESCRIPTION

Design work for Snider Lane Bridge at White Rock Creek.

### PROJECT SCHEDULE

| Project Begin Year | Project End Year |
|--------------------|------------------|
| 2020               | TBD              |

**PROJECT MANAGER:** City Engineer

| STINSON ROAD FROM BRISTOL PARK TO BENTWATER DRIVE<br>CONSTRUCTION                           |             |  |                |          |
|---|-------------|--|----------------|----------|
| PROJECT SUMMARY   |             |  |                |          |
| Starting in Fiscal Year   | Project No. | Category   | Project Status | Priority |
| 2020-2021   | 24          | Roadway  | Planning       | High     |
| FISCAL OVERVIEW   |             |  |                |          |
| Cost  |             | Source of Funding  |                |          |
| \$4,100,000 Construction<br><u>\$410,000 Project Management</u><br>\$4,510,000 Total Budget |             | 2019 Certificates of Obligation approved in the amount of \$3,690,000. |                |          |
| PROJECT DESCRIPTION   |             |  |                |          |
| Replace Stinson Road bridge/culvert from Bristol Park to Bentwater Drive                    |             |  |                |          |
| PROJECT SCHEDULE  |             |  |                |          |
| Project Begin Year  |             | Project End Year   |                |          |
| 2020  |             | TBD  |                |          |
| PROJECT MANAGER: City Engineer  |             |  |                |          |
|   |             |  |                |          |

| BAIT SHOP INTERSECTION<br>WEST/EAST LUCAS ROAD                             |             |                                 |                |          |
|--|-------------|---------------------------------|----------------|----------|
| <b>PROJECT SUMMARY</b>   |             |                                 |                |          |
| Starting in Fiscal Year  | Project No. | Category                        | Project Status | Priority |
| 2020-2021  | 25          | Roadway                         | Planning       | High     |
| <b>FISCAL OVERVIEW</b>   |             |                                 |                |          |
| Cost   |             | Source of Funding               |                |          |
| \$800,000 Construction   |             | 2019 Certificates of Obligation |                |          |
| \$800,000 Total Budget   |             | 20% of \$4,000,000 TxDOT budget |                |          |
| <b>PROJECT DESCRIPTION</b>   |             |                                 |                |          |
| FM 1378/FM 3286 intersection improvements (Lucas Road and Southview Drive) |             |                                 |                |          |
| <b>PROJECT SCHEDULE</b>  |             |                                 |                |          |
| Project Begin Year   |             | Project End Year                |                |          |
| 2020   |             | TBD                             |                |          |
| <b>PROJECT MANAGER:</b> TxDOT/City Engineer                                |             |                                 |                |          |
|  |             |                                 |                |          |

| STREET MAINTENANCE  |             |                            |                |          |
|---|-------------|----------------------------|----------------|----------|
| PROJECT SUMMARY   |             |                            |                |          |
| Starting in Fiscal Year   | Project No. | Category                   | Project Status | Priority |
| 2021-2022   | 26          | Roadway                    | Planning       | Routine  |
| FISCAL OVERVIEW   |             |                            |                |          |
| Cost  |             | Source of Funding          |                |          |
| \$3,750,000   |             | City of Lucas General Fund |                |          |
| PROJECT DESCRIPTION   |             |                            |                |          |
| Each year, roads require proper maintenance to provide reliable mobility at minimal cost. |             |                            |                |          |
| FY 2021-2022 \$750,000  |             |                            |                |          |
| FY 2022-2023 \$750,000  |             |                            |                |          |
| FY 2023-2024 \$750,000  |             |                            |                |          |
| FY 2024-2025 \$750,000  |             |                            |                |          |
| FY 2025-2026 \$750,000  |             |                            |                |          |
| PROJECT SCHEDULE  |             |                            |                |          |
| Project Begin Year  |             | Project End Year           |                |          |
| 2021  |             | 2026                       |                |          |
| PROJECT MANAGER: City Engineer  |             |                            |                |          |

| STREET MAINTENANCE  |             |                            |                |          |
|---|-------------|----------------------------|----------------|----------|
| PROJECT SUMMARY   |             |                            |                |          |
| Starting in Fiscal Year   | Project No. | Category                   | Project Status | Priority |
| 2026-2027   | 27          | Roadway                    | Planning       | Routine  |
| FISCAL OVERVIEW   |             |                            |                |          |
| Cost  |             | Source of Funding          |                |          |
| \$3,750,000   |             | City of Lucas General Fund |                |          |
| PROJECT DESCRIPTION   |             |                            |                |          |
| Each year, roads require proper maintenance to provide reliable mobility at minimal cost. |             |                            |                |          |
| FY 2026-2027 \$750,000  |             |                            |                |          |
| FY 2027-2028 \$750,000  |             |                            |                |          |
| FY 2028-2029 \$750,000  |             |                            |                |          |
| FY 2029-2030 \$750,000  |             |                            |                |          |
| FY 2030-2031 \$750,000  |             |                            |                |          |
| PROJECT SCHEDULE  |             |                            |                |          |
| Project Begin Year  |             | Project End Year           |                |          |
| 2026  |             | 2031                       |                |          |
| PROJECT MANAGER: City Engineer  |             |                            |                |          |

## Water System Projects CIP At-A-Glance

The following table is a quick reference guide that summarizes the CIP Water System Projects. It indicates the fiscal year in which the project is scheduled to begin, a project number for identification purposes, the recommended priority of implementation, the preliminary estimated costs for improvements, and the anticipated funding sources.

| STARTING<br>IN FISCAL<br>YEAR  | PRIORITY<br>NO. | PROJECT   | ESTIMATED<br>COST               | FUNDING<br>SOURCE  |
|--|-----------------|---|---------------------------------|--|
| <i>These numbers were estimated and generated by BW2 Engineers in September 2016. The costs associated with rights-of-way, easements, property acquisition, permitting, mitigation, construction testing, and inspection are not included in the following information estimated and generated by BW2 Engineers.</i> |                 |   |                                 |  |
| 2016-2017  | 1               | Parker Road 12-Inch Waterline Phase 1 – Section 1 from Stinson Road to Enchanted Way  | \$354,575<br>(\$310,989 Actual) | Capital Improvements Water Fund  |
|  | 2               | Parker Road Six-Inch Waterline Phase 2 from Shepherds Creek Drive to Santa Fe Trail   | \$548,653<br>(\$467,775 Actual) | Capital Improvements Water Fund  |
|  | 3               | North Pump Station Improvements:<br>A) Add 500,000 Gallon Water Tower<br>B) Wiltshire Court Eight-Inch Waterline Connection<br>C) Replace Existing Pump Station<br>D) System Pressure Reducing Valves | \$3,032,186                     | Capital Improvements Water Fund  |
|  | 4               | Automatic Flushing Valves (AFVs) for Non-Looped Waterlines -- The location of these AFVs will be installed where looping of the waterlines is not practical.  | \$107,086                       | Capital Improvements Water Fund  |
|  | 5               | Meter Replacement   | \$633,923                       | Capital Improvements Water Fund  |
| <b>2016-2017 and 2017-2018 TOTAL</b>   |                 |   | <b>\$4,551,959</b>              |  |
| 2018-2019  | 6               | Waterline Looping   | \$1,200,000                     | \$200,000 from 2019 Certificates of Obligation, Remainder To Be Determined |
|  | 7               | Parker Road Eight-Inch Waterline Phase 3 from Santa Fe Trail to Stinson Road  | \$-0-                           | TxDOT  |
|  | 8               | Rollingwood Circle/Choice Lane/Lakeview Drive Six-Inch Waterline -- This project will improve water quality and fire protection to 97 homes.  | \$432,165                       | 2019 Certificates of Obligation  |



| STARTING<br>IN FISCAL<br>YEAR  | PRIORITY<br>NO. | PROJECT   | ESTIMATED<br>COST           | FUNDING<br>SOURCE               |
|--|-----------------|---|-----------------------------|---------------------------------|
| <i>These numbers were estimated and generated by BW2 Engineers in September 2016. The costs associated with rights-of-way, easements, property acquisition, permitting, mitigation, construction testing, and inspection are not included in the following information estimated and generated by BW2 Engineers.</i> |                 |   |                             |                                 |
|  | 9               | A) Edgefield Lane/W. Lucas Road Six-Inch Waterline<br>B) Cedar Bend Trail/E. Lucas Road Six-Inch Waterline -- These two projects will improve water quality and fire protection to 32 homes.                                    | \$113,530                   | 2019 Certificates of Obligation |
|  | 10              | Graham Lane and Rock Ridge Court Eight-Inch Waterline Loop from Country Club Road to Rock Ridge Road  | \$571,775                   | 2019 Certificates of Obligation |
| <b>2018-2019 TOTAL</b>   |                 |   | <b>\$2,317,470 Estimate</b> |                                 |
|  | 11              | Snider Lane Eight-Inch Waterline from Shady Lane to Sterling Brown Lane -- This project is a requirement of the Lakeview Downs subdivision. Fire hydrants to be added and will improve water quality on the east side of Lucas. | \$594,549                   | Impact Fees                     |
|  | 12              | Glencove Circle and Crestview Circle Six-Inch Extensions to Brockdale Park Road Eight-Inch Loops -- This project will improve water quality and fire protection to 15 homes and add fire hydrants to the area.                  | \$224,255                   | To Be Determined                |
| 2019-2020  | 13              | Hickory Hill Street Eight-Inch Waterline from Stinson Road to Brookhaven Drive -- This project will improve water quality and fire protection and add fire hydrants to 12 homes.  | \$226,383                   | To Be Determined                |
|  | 14              | Manor Lane Eight-Inch Waterline -- This will replace an undersized four-inch line, add fire hydrants, and improve the water looping between Estelle Lane and Winningkoff Road.  | \$313,951                   | To Be Determined                |
|  | 15              | A) Rock Ridge Road 12-Inch Waterline from Estates Parkway to Fairbrook Circle and B) Fairbrook Circle Eight-Inch Waterline -- This will replace existing six-inch waterlines and bring Fairbrook                                | \$491,953                   | To be Determined                |

| STARTING<br>IN FISCAL<br>YEAR  | PRIORITY<br>NO. | PROJECT   | ESTIMATED<br>COST           | FUNDING<br>SOURCE |
|--|-----------------|---|-----------------------------|-------------------|
| <i>These numbers were estimated and generated by BW2 Engineers in September 2016. The costs associated with rights-of-way, easements, property acquisition, permitting, mitigation, construction testing, and inspection are not included in the following information estimated and generated by BW2 Engineers.</i> |                 |   |                             |                   |
|  |                 | Circle into the Lucas Waterworks System.  |                             |                   |
|  | 16              | Repaint McGarity 200,000-Gallon Ground Storage Tank   | \$150,150                   | To Be Determined  |
|  | 17              | Enchanted Way/Brookhaven Drive Eight-Inch Waterline -- This project will improve water quality and fire protection to 23 homes.                         | \$203,262                   | To Be Determined  |
|  | 18              | Rock Ridge Road/Lovejoy High School Eight-Inch Waterline Loop -- This project improves the looping on the west side of the city and at the high school. | \$56,773                    | To Be Determined  |
| <b>2019-2020 TOTAL</b>   |                 |   | <b>\$2,261,276 Estimate</b> |                   |
| 2020-2026  | 19              | McGarity 950,000 Gallon Ground Storage Tank   | \$1,279,093                 | To Be Determined  |
|  | 20              | A) Shiloh Drive/Toole Drive Six-Inch Waterline Replacement<br>B) Braeburn Way Eight-Inch Waterline Loop   | \$190,546                   | To Be Determined  |
|  | 21              | Fairbrook Circle/Graham Lane Eight-Inch Waterline Loop  | \$256,453                   | To Be Determined  |
|  | 22              | Lewis Lane Eight-Inch Waterline from Shepherds Creek Drive to Green Acres Lane  | \$300,113                   | To Be Determined  |
|  | 23              | Angel Parkway 12-Inch Waterline from McGarity Lane to Estates Parkway   | \$425,539                   | To Be Determined  |
|  | 24              | Ingram Lane Six- and 12-Inch Waterlines from McGarity Lane to W. Lucas Road   | \$836,217                   | To Be Determined  |
|  | 25              | Estates Road Eight-Inch Waterline   | \$232,014                   | To Be Determined  |
|  | 26              | Chisholm Trail/Caman Park Drive and Turnberry Lane/Highland Drive Eight-Inch Waterline Loops  | \$322,203                   | To Be Determined  |
|  | 27              | Stinson Road/Enchanted Way Eight-Inch Waterline   | \$142,278                   | To Be Determined  |
|  | 28              | Stinson Road/E. Lucas Road Eight-Inch Waterline   | \$147,827                   | To Be Determined  |
|  | 29              | Rock Creek Estates Six-Inch Waterline   | \$175,610                   | To Be Determined  |
|  | 30              | Stinson Road 12-Inch Waterline Connector  | \$39,189                    | To Be Determined  |

| STARTING<br>IN FISCAL<br>YEAR  | PRIORITY<br>NO. | PROJECT  | ESTIMATED<br>COST               | FUNDING<br>SOURCE |
|--|-----------------|--|---------------------------------|-------------------|
| <i>These numbers were estimated and generated by BW2 Engineers in September 2016. The costs associated with rights-of-way, easements, property acquisition, permitting, mitigation, construction testing, and inspection are not included in the following information estimated and generated by BW2 Engineers.</i> |                 |  |                                 |                   |
|  | 31              | 31. Repaint North Pump Station<br>750,000 Gallon Ground Storage<br>Tank  | \$409,303                       | To Be Determined  |
|  | 32              | 32. Repaint McGarity 350,000<br>Ground Storage Tank  | \$228,690                       |                   |
|  | 33              | 33. A) Parker Road 12-Inch<br>Waterline Phase 1 - Section 2<br>B) Parker Road/Brookhaven Drive<br>Eight-Inch Waterline | \$835,239                       | To Be Determined  |
|  |                 | <b>2020-2026 TOTAL</b>   | <b>\$5,820,314<br/>Estimate</b> |                   |
| 2026-2031  | 34              | Replace McGarity 500,000 Gallon<br>Water Tower   | \$1,372,140                     | To Be Determined  |
|  | 35              | Rock Ridge Road 12-Inch<br>Waterline from Exchange Parkway<br>to Fairbrook Circle                                      | \$224,712                       | To Be Determined  |
|  | 36              | Lakeview Downs/Trinity Park<br>Six-Inch Waterlines and Eight-<br>Inch Loop   | \$1,135,688                     | To Be Determined  |
|  | 37              | Forest Grove Road/Horseman<br>Drive/Orr Road Six- and Eight-<br>Inch Waterlines  | \$867,422                       | To Be Determined  |
|  | 38              | Orr Road (North) Eight-Inch<br>Waterline   | \$426,327                       | To Be Determined  |
|  | 39              | PR 5252 Six-Inch Waterline<br>Replacement  | \$93,486                        |                   |
|  | 40              | Repaint North Pump Station<br>500,000 Gallon Ground Storage<br>Tank  | \$297,124                       |                   |
|  |                 | <b>2026-2031 TOTAL</b>   | <b>\$4,416,899<br/>Estimate</b> |                   |

# PARKER ROAD 12-INCH WATERLINE PHASE 1 – SECTION 1

## PROJECT SUMMARY

| Starting in Fiscal Year | Engineering Priority No. | Category | Project Status  |
|-------------------------|--------------------------|----------|-----------------|
| 2016-2017               | 1                        | Water    | <b>Complete</b> |

## FISCAL OVERVIEW

| Cost   | Source of Funding              |
|--|--------------------------------|
| \$62,900 Design<br>\$244,796 Contract<br>\$36,879 Contingency<br><u>\$10,000 Adjustment FY 16/17</u><br>\$354,575 Total Budget<br>\$332,265 Actual | Capital Improvement Water Fund |

## PROJECT DESCRIPTION

This project is needed to improve infrastructure and to accommodate the TxDOT Parker Road widening requiring Lucas to abandon an existing six-inch waterline along Parker Road.

## PROJECT SCHEDULE

| Project Begin Year | Project Completion Year |
|--------------------|-------------------------|
| 2016               | 2018 - <b>Complete</b>  |

**PROJECT MANAGER:** City Engineer

## PROJECT DETAILS

| Description  | Estimated Quantity | Unit Cost   | Cost             |
|--|--------------------|-------------|------------------|
| Mobilization, Bonds, Insurance                           | 1                  | \$11,500.00 | \$11,500         |
| Traffic Control/ Construction Signing                    | 1                  | \$3,000.00  | \$3,000          |
| Erosion Control  | 1                  | \$5,000.00  | \$5,000          |
| Trench Safety  | 2,115              | \$1.50      | \$3,173          |
| Furnish & install 12" PVC, including Class "B" embedment | 2,100              | \$60.00     | \$126,000        |
| Furnish & install 12" PVC, by bore and jacking           | 25                 | \$320.00    | \$8,000          |
| Furnish & install 8" PVC, including Class "B" embedment  | 15                 | \$42.00     | \$630            |
| Furnish & install 8" PVC, by bore and jacking            | 25                 | \$280.00    | \$7,000          |
| Furnish & install 12" Bend                               | 1                  | \$8,000.00  | \$8,000          |
| Furnish & install 8" Bend                                | 1                  | \$800.00    | \$800            |
| Furnish & install 12" Tee                                | 4                  | \$1,200.00  | \$4,800          |
| Furnish & install 12" Valve                              | 5                  | \$1,500.00  | \$7,500          |
| Furnish & install 8" Valve                               | 1                  | \$500.00    | \$500            |
| Furnish & install 12"x8" Reducer                         | 1                  | \$1,200.00  | \$1,200          |
| Furnish & install Fire Hydrant, lead and 6" valve        | 3                  | \$4,000.00  | \$12,000         |
| Connections to Existing Water Lines                      | 1                  | \$8,000.00  | \$8,000          |
| Cut and Plug Existing Water Lines                        | 1                  | \$2,000.00  | \$2,000          |
| Remove Existing Fire Hydrant and Return to City          | 2                  | \$500.00    | \$1,000          |
| Furnish & install Water Service Connection               | 16                 | \$1,500.00  | \$24,000         |
| Block Sod  | 500                | \$7.00      | \$3,500          |
| Seeding  | 3,000              | \$1.25      | \$3,750          |
| Construction Contingency (10%)                           | 1                  | \$25,342    | \$25,342         |
| Engineering/Surveying Services (10%)                     | 1                  | \$25,342    | \$25,342         |
| <b>Total:</b>  |                    |             | <b>\$292,037</b> |

## PARKER ROAD SIX-INCH WATER LINE PHASE 2

### PROJECT SUMMARY

| Fiscal Year | Engineering Priority No. | Category | Project Status  |
|-------------|--------------------------|----------|-----------------|
| 2016-2017   | 2                        | Water    | <b>Complete</b> |

### FISCAL OVERVIEW

| Estimated Cost                   | Source of Funding  |
|----------------------------------|--|
| \$ 41,150 Design                 | Capital Improvement Water Fund and Certificate of Obligation |
| \$ 447,218 Construction Contract |  |
| <del>\$ 60,285 Contingency</del> |  |
| \$ 548,653 Total Budget          |  |
| \$ 467,775 Actual                |  |

### PROJECT DESCRIPTION

This project is needed to improve infrastructure and to accommodate the TxDOT Parker Road widening requiring Lucas to abandon an existing six-inch waterline along Parker Road. The scope of this project was change. \*The original alignment was along Lewis Lane between Shepherds Creek Drive and Parker Road and then along Parker Road from Lewis Lane to Santa Fe Trail. The constructed alignment is from Lewis Lane and McCreary Drive via new and existing easements and the TxDOT right-of-way. A six-inch waterline was bored most of the length of the project to avoid removing trees and reducing the impacts to property owners.

### PROJECT SCHEDULE

| Project Begin Year | Project Completion Year |
|--------------------|-------------------------|
| 2016               | 2018 - <b>Complete</b>  |

**PROJECT MANAGER:** City Engineer

### PROJECT DETAILS

| Description  | Estimated Quantity | Unit Cost     | Cost             |
|--|--------------------|---------------|------------------|
| Mobilization, Bonds, Insurance   | 1                  | \$12,850.00   | \$12,850         |
| Traffic Control/ Construction Signing  | 1                  | \$2,000.00    | \$2,000          |
| Erosion Control  | 1                  | \$4,000.00    | \$4,000          |
| Trench Safety  | 3,500              | \$1.50        | \$5,250          |
| Furnish & install 8" PVC, including Class "B" embedment                                  | 3,500              | \$42.00       | \$147,000        |
| Furnish & install 8" PVC, by bore and jacking  | 80                 | \$280.00      | \$22,400         |
| Furnish & install 8" PVC, by wet bore  | 100                | \$90.00       | \$9,000          |
| Furnish & install 8" PVC Creek Crossing, by bore and jacking                             | 50                 | \$330.00      | \$16,500         |
| Furnish & install 8" Bend  | 1                  | \$4,050.00    | \$4,050          |
| Furnish & install 8" Valve   | 4                  | \$500.00      | \$2,000          |
| Furnish & install Fire Hydrant, including lead and 6" valve                              | 4                  | \$4,000.00    | \$16,000         |
| Connections to Existing Water Lines  | 1                  | \$4,000.00    | \$4,000          |
| Block Sod  | 2,500              | \$7.00        | \$17,500         |
| Furnish and Place Grass Seed, Including all Fertilization and Watering Until Established | 5,500              | \$1.25        | \$6,875          |
| Construction Contingency (10%)   | 1                  | \$28,290      | \$28,290         |
| Engineering/Surveying Services (10%)   | 1                  | \$28,290      | \$28,290         |
|  |                    | <b>Total:</b> | <b>\$326,004</b> |



## NORTH PUMP STATION IMPROVEMENTS

### PROJECT SUMMARY

| Fiscal Year | Engineering Priority No. | Category | Project Status   |
|-------------|--------------------------|----------|------------------|
| 2016-2017   | 3                        | Water    | Pre-Construction |

### FISCAL OVERVIEW

| Estimated Cost   | Source of Funding   |
|--|---|
| \$ 185,000 Design<br>\$ 2,777,240 for Construction<br>\$ (100,000) Scada project<br><u>\$ 69,946 Project Management</u><br>\$ 2,862,240 Total Budget | Capital Improvement Water Fund and 2017 Certificate of Obligation |
| Expenditures for FY 16/17: \$38,875  |   |
| Expenditures for FY 17/18: \$73,245  |   |

### PROJECT DESCRIPTION

- A) Provide new elevated storage tank. This will allow for the elimination of the lower pressure plane.
- B) This will allow the ground storage at the North Pump Station to be filled by the upper pressure plane eliminating water service to seven homes.
- C) Replace Existing Pump Station
- D) System Pressure Reducing Valves
- E) Update SCADA hardware and software

### PROJECT SCHEDULE

| Project Begin Year | Project Completion Year |
|--------------------|-------------------------|
| 2016               | 2021                    |

**PROJECT MANAGER:** City Engineer

### PROJECT DETAILS

|  | Estimated Quantity | Unit Cost      | Cost        |
|--|--------------------|----------------|-------------|
| <b>A) Add 500,000 Gallon Water Tower</b>   |                    |                |             |
| Mobilization, Bonds, Insurance   | 1                  | \$60,000.00    | \$60,000    |
| Traffic Control/ Construction Signing  | 1                  | \$1,000.00     | \$1,000     |
| Erosion Control  | 1                  | \$4,000.00     | \$4,000     |
| Furnish & install 500,000 Gallon Elevated Storage Tank                                   | 1                  | \$1,100,000.00 | \$1,100,000 |
| Furnish & install Yard Piping/Valving  | 1                  | \$20,000.00    | \$20,000    |
| Furnish & install Electrical   | 1                  | \$45,000.00    | \$45,000    |
| Furnish & install Tank Piping/Valving  | 1                  | \$20,000.00    | \$20,000    |
| Site Work  | 1                  | \$5,000.00     | \$5,000     |
| Furnish and Place Grass Seed, Including all Fertilization and Watering Until Established | 4,000              | \$1.25         | \$5,000     |
| Construction Contingency (10%)   | 1                  | \$118,440      | \$118,440   |
| Engineering/Surveying/Geotechnical Services (8%)   | 1                  | \$118,440      | \$118,440   |
| <b>B) Wiltshire Court Connection</b>   |                    |                |             |
| Mobilization, Bonds, Insurance   | 1                  | \$3,850.00     | \$3,850     |

|  |               |              |                    |
|--|---------------|--------------|--------------------|
| Traffic Control/ Construction Signing  | 1             | \$500.00     | \$500              |
| Erosion Control  | 1             | \$2,550.00   | \$2,550            |
| Trench Safety  | 975           | \$1.50       | \$1,463            |
| Furnish & install 8" PVC, including Class "B" embedment  | 975           | \$42.00      | \$40,950           |
| Furnish & install 8" PVC, by wet bore  | 120           | \$90.00      | \$10,800           |
| Furnish & install 8" Bend  | 1             | \$4,300.00   | \$4,300            |
| Furnish & install 8" Valve   | 2             | \$500.00     | \$1,000            |
| Furnish & install Fire Hydrant, including lead and 6" valve  | 1             | \$4,000.00   | \$4,000            |
| Connections to Existing Water Lines  | 1             | \$5,000.00   | \$5,000            |
| Block Sod  | 700           | \$7.00       | \$4,900            |
| Furnish and Place Grass Seed, Including all Fertilization and Watering Until Established   | 1,500         | \$1.25       | \$1,875            |
| Construction Contingency (10%)   | 1             | \$8,525      | \$8,525            |
| Engineering/Surveying Services (10%)   | 1             | \$8,525      | \$8,525            |
| <b>C) Replace Existing Pump Station</b>  |               |              |                    |
| Mobilization, Bonds, Insurance   | 1             | \$17,000.00  | \$17,000           |
| Erosion Control  | 1             | \$3,000.00   | \$3,000            |
| Furnish & install Pumps  | 3             | \$20,000.00  | \$60,000           |
| Furnish & construct Pump Building  | 1             | \$120,000.00 | \$120,000          |
| Furnish & install Pipes and Valves   | 1             | \$50,000.00  | \$50,000           |
| Furnish & install Electrical   | 1             | \$100,000.00 | \$100,000          |
| Site Work  | 1             | \$5,000.00   | \$5,000            |
| Furnish and Place Grass Seed, Including all Fertilization and Watering Until Established   | 2,000         | \$1.25       | \$2,500            |
| Construction Contingency (10%)   | 1             | \$37,537     | \$37,537           |
| Engineering/Surveying/Geotechnical Services (10%)  | 1             | \$37,537     | \$37,537           |
| <b>D) System Pressure Reducing Valves</b>  |               |              |                    |
| Furnish separate cost of product and cost to Install Residential Pressure Reducing Valve   | 1,200         | \$200.00     | \$240,000          |
| <b>E) Update SCADA</b>   |               |              |                    |
|  | 1             | \$100,000.00 | \$100,000          |
|  | <b>Total:</b> |              | <b>\$2,367,692</b> |
| <i>These numbers were estimated and generated by BW2 Engineers in September 2016. The costs associated with rights-of-way, easements, property acquisition, permitting, mitigation, construction testing, and inspection are not included in the following information estimated and generated by BW2 Engineers.</i> |               |              |                    |



## AUTOMATIC FLUSHING VALVES FOR NON-LOOPED WATERLINES

### PROJECT SUMMARY

| Fiscal Year | Engineering<br>Priority No. | Category | Project Status |
|-------------|-----------------------------|----------|----------------|
| 2016-2017   | 4                           | Water    | Complete       |

### FISCAL OVERVIEW

| Estimated Cost                                | Source of Funding              |
|---|--------------------------------|
| \$ 400,000 Estimate<br>\$ 107,086 Actual Cost | Capital Improvement Water Fund |

### PROJECT DESCRIPTION

The location of these AFVs will be installed where looping of the waterlines is not practical. The scope of this project was changed. Temporary AFVs were installed and the looping of waterlines was moved to other projects.

### PROJECT SCHEDULE

| Project Begin Year | Project Completion Year |
|--------------------|-------------------------|
| 2016               | 2018 - <b>Complete</b>  |

**PROJECT MANAGER:** Public Works Supervisor

### PROJECT DETAILS

| Description   | Estimated<br>Quantity | Unit Cost     | Cost                          |
|---|-----------------------|---------------|-------------------------------|
| Furnish separate cost of product and cost to Install Automatic Flushing Valve | 25                    | \$4,000.00    | \$60,000                      |
| Install looped water lines at locations to be determined                      |                       |               | <b>\$340,000</b>              |
|   |                       | <b>Total:</b> | <b>\$400,000</b>              |
|   |                       |               | <b>Actual Cost: \$107,086</b> |

## NEPTUNE METERS REPLACEMENT

### PROJECT SUMMARY

| Fiscal Year | Engineering Priority No. | Category | Project Status |
|-------------|--------------------------|----------|----------------|
| 2017-2018   | 5                        | Water    | Complete       |

### FISCAL OVERVIEW

| Estimated Cost         | Source of Funding              |
|------------------------|--------------------------------|
| \$ 629,860 Contract    | Capital Improvement Water Fund |
| \$ 633,923 Actual Cost |                                |

### PROJECT DESCRIPTION

Replace all existing RG3 meters and registers with Neptune equipment. The scope of this project was changed from an Advanced Metering Infrastructure (AMI) project to an Automatic Meter Reading (AMR) project.

### PROJECT SCHEDULE

| Project Begin Year | Project Completion Year |
|--------------------|-------------------------|
| 2017               | 2019 – Complete         |

### PROJECT DETAILS:

| Description | Estimated Quantity | Unit Cost     | Cost             |
|-------------|--------------------|---------------|------------------|
| Meters      |                    |               | \$633,923        |
|             |                    | <b>Total:</b> | <b>\$633,923</b> |

## WATERLINE LOOPING

### PROJECT SUMMARY

| Fiscal Year | Engineering Priority No. | Category | Project Status |
|-------------|--------------------------|----------|----------------|
| 2016-2017   | 6                        | Water    | Planning       |

### FISCAL OVERVIEW

| Estimated Cost | Source of Funding   |
|----------------|---|
| \$1,200,000    | \$200,000 2019 Certificates of Obligation, To be determined |

### PROJECT DESCRIPTION

Loop waterlines to enhance the water system quality and fire protection.

### PROJECT SCHEDULE

| Project Begin Year | Project Completion Year |
|--------------------|-------------------------|
| 2017               | 2022                    |

### PROJECT DETAILS:

| Description   | Estimated Quantity | Unit Cost     | Cost               |
|---|--------------------|---------------|--------------------|
| Install waterline loops at locations to be determined |                    |               | <b>\$1,200,000</b> |
|   |                    | <b>Total:</b> | <b>\$1,200,000</b> |

*These numbers were estimated and generated by BW2 Engineers in September 2016. The costs associated with rights-of-way, easements, property acquisition, permitting, mitigation, construction testing, and inspection are not included in the following information estimated and generated by BW2 Engineers.*

**PARKER ROAD EIGHT-INCH WATERLINE PHASE 3  
(FROM SANTA FE TRAIL TO STINSON ROAD)**

**PROJECT SUMMARY**

| Fiscal Year | Engineering<br>Priority No. | Category | Project Status |
|-------------|-----------------------------|----------|----------------|
| 2017-2018   | 7                           | Water    | Complete       |

**FISCAL OVERVIEW**

| Estimated Cost | Source of Funding          |
|----------------|----------------------------|
| \$-0-          | TxDOT Funding of \$238,000 |

**PROJECT DESCRIPTION**

This project is needed to accommodate the TxDOT Parker Road widening requiring Lucas to abandon an existing six-inch waterline along Parker Road between McCreary Road and Stinson Road. Staff worked closely with TxDOT to obtain funding from TxDOT for this project.

**PROJECT SCHEDULE**

| Project Begin Year | Project Completion Year |
|--------------------|-------------------------|
| 2018               | 2019 – Complete         |

**PROJECT MANAGER:** City Engineer

**PROJECT DETAILS**

| Description | Estimated<br>Quantity | Unit Cost | Cost         |
|-------------|-----------------------|-----------|--------------|
|             | <b>Total:</b>         |           | <b>\$-0-</b> |

## ROLLINGWOOD CIRCLE/CHOICE LANE/LAKEVIEW DRIVE SIX-INCH WATERLINE LOOP

### PROJECT SUMMARY

| Fiscal Year | Engineering<br>Priority No. | Category | Project  |
|-------------|-----------------------------|----------|----------|
| 2018-2019   | 8                           | Water    | Planning |

### FISCAL OVERVIEW

| Estimated Cost                    | Source of Funding               |
|-----------------------------------|---------------------------------|
| \$432,165 September 2016 Estimate | 2019 Certificates of Obligation |

### PROJECT DESCRIPTION

This project will improve water quality and fire protection for 97 homes.

### PROJECT SCHEDULE

| Project Begin Year | Project Completion Year |
|--------------------|-------------------------|
| 2019               | 2021                    |

**PROJECT MANGER:** City Engineer

### PROJECT DETAILS

| Description  | Estimated<br>Quantity | Unit Cost   | Cost             |
|--|-----------------------|-------------|------------------|
| Mobilization, Bonds and Insurance                            | 1                     | \$17,250.00 | \$17,250         |
| All Traffic Control, Barricading and Signing Measures        | 1                     | \$7,500.00  | \$7,500          |
| Temporary erosion control                                    | 1                     | \$8,500.00  | \$8,500          |
| Cut and Plug Existing 2" Water Line                          | 3                     | \$450.00    | \$1,350          |
| Cut and Plug Existing 8" Water Line                          | 1                     | \$500.00    | \$500            |
| Furnish and Install Trench Safety system                     | 4550                  | \$1.75      | \$7,963          |
| Cut Out and Remove Existing 8" Water Line as needed          | 1                     | \$2,250.00  | \$2,250          |
| Cut Out and Remove Existing Reducer and 2" Water Line        | 3                     | \$1,500.00  | \$4,500          |
| Connect to Existing 6" Water Line                            | 1                     | \$500.00    | \$500            |
| Furnish and Install 6" 11.25 Degree Bend                     | 4                     | \$675.00    | \$2,700          |
| Furnish and Install 6" 90 Degree Bend                        | 7                     | \$650.00    | \$4,550          |
| Furnish and Install 6"x6" Tee                                | 1                     | \$1,000.00  | \$1,000          |
| Furnish and Install 6" Gate Valve                            | 4                     | \$1,500.00  | \$6,000          |
| Furnish and Install Fire Hydrant, Valve and Riser            | 4                     | \$3,750.00  | \$15,000         |
| Furnish and Install 6" waterline w/Class "B" Embedment       | 4550                  | \$ 45.00    | \$204,750        |
| Furnish & Install 6" DR-18 w/14" Steel by Boring and Jacking | 180                   | \$ 275.00   | \$49,500         |
| Furnish and Install Long Service Water Line                  | 1                     | \$ 1,250.00 | \$1,250          |
| Furnish and Install Short Service Water Line                 | 8                     | \$ 800.00   | \$6,400          |
| Furnish and Install Service Line Over 250 LF                 | 2                     | \$ 5,000.00 | \$10,000         |
| Furnish and Place Block Sodding                              | 1150                  | \$ 7.00     | \$8,050          |
| Furnish and Place Grass Seed                                 | 2500                  | \$ 1.25     | \$3,125          |
| Construction Contingency (10%)                               | 1                     | \$36,263.75 | \$36,264         |
| Engineering/Surveying/Geotechnical Services (10%)            | 1                     | \$36,263.75 | \$36,264         |
| <b>Total:</b>  |                       |             | <b>\$432,165</b> |

*These numbers were estimated and generated by BW2 Engineers in September 2016. The costs associated with rights-of-way, easements, property acquisition, permitting, mitigation, construction testing, and inspection are not included in the following information estimated and generated by BW2 Engineers.*

**EDGEFIELD LANE/W. LUCAS ROAD SIX-INCH WATERLINE LOOP  
CEDAR BEND TRAIL/E. LUCAS ROAD SIX-INCH WATERLINE LOOP**

**PROJECT SUMMARY**

| Fiscal Year | Engineering Priority No. | Category | Project Status |
|-------------|--------------------------|----------|----------------|
| 2018-2019   | 9                        | Water    | Planning       |

**FISCAL OVERVIEW**

| Estimated Cost                    | Source of Funding               |
|-----------------------------------|---------------------------------|
| \$113,530 September 2016 Estimate | 2019 Certificates of Obligation |

**PROJECT DESCRIPTION**

This project will improve water quality and fire protection to 32 homes.

**PROJECT SCHEDULE**

| Project Begin Year | Project Completion Year |
|--------------------|-------------------------|
| 2019               | 2021                    |

**PROJECT MANAGER:** City Engineer

**PROJECT DETAILS**

| Description   | Estimated Quantity | Unit Cost  | Cost     |
|---|--------------------|------------|----------|
| <b>A) Edgefield Lane/West Lucas Road Six-Inch Waterline Loop</b>                            |                    |            |          |
| Mobilization, Bonds and Insurance   | 1                  | \$3,150.00 | \$3,150  |
| All Traffic Control, Barricading and Signing Measures                                       | 1                  | \$2,000.00 | \$2,000  |
| Temporary erosion control including operational control of SW3P                             | 1                  | \$4,000.00 | \$4,000  |
| Cut and Plug Existing 2" Water Line   | 1                  | \$450.00   | \$450    |
| Furnish and Install Trench Safety system, design and implementation                         | 535                | \$1.75     | \$936    |
| Cut Out and Remove Existing 12" Water Line as needed, Furnish and Install 12"x6" Tee        | 2                  | \$2,750.00 | \$5,500  |
| Cut Out and Remove Existing 6" Water Line as needed, Furnish and Install 6"x6" Tee          | 1                  | \$1,850.00 | \$1,850  |
| Connect to Existing 6" Water Line   | 1                  | \$500.00   | \$500    |
| Furnish and Install 6" Gate Valve   | 2                  | \$1,500.00 | \$3,000  |
| Furnish and Install Fire Hydrant, Including 6" Gate Valve and Riser                         | 1                  | \$3,750.00 | \$3,750  |
| Furnish and Install 6" AWWA C900 DR-18 w/Class "B" Embedment                                | 535                | \$45.00    | \$24,075 |
| Furnish and Install 6" AWWA C900 DR-18 w/14" Steel Casing by Boring and Jacking             | 50                 | \$275.00   | \$13,750 |
| Furnish and Install Long Service Water Line   | 2                  | \$1,250.00 | \$2,500  |
| Furnish and Place Block Sodding, including all Fertilization and Watering Until Established | 100                | \$7.00     | \$700    |
| Furnish and Place Grass Seed, including all Fertilization and Watering Until Established    | 280                | \$1.25     | \$350    |



|   |                            |             |           |
|---|----------------------------|-------------|-----------|
|   | Edgefield Subtotal:        |             | \$66,511  |
| B) Cedar Bend Trail/E. Lucas Road Six-inch Waterline Loop   |                            |             |           |
| Mobilization, Bonds and Insurance   | 1                          | \$1,350.00  | \$1,350   |
| All Traffic Control, Barricading and Signing Measures   | 1                          | \$ 5,000.00 | \$5,000   |
| Temporary erosion control including operational control of SW3P   | 1                          | \$ 1,000.00 | \$1,000   |
| Furnish and Install Trench Safety system, design and implementation   | 105                        | \$ 1.75     | \$184     |
| Cut Out and Remove Existing 12" Water Line as needed, Furnish and Install 12"x6" Tee  | 1                          | \$ 2,750.00 | \$2,750   |
| Connect to Existing 6" Water Line   | 1                          | \$ 500.00   | \$500     |
| Furnish and Install 6" Gate Valve   | 1                          | \$ 1,500.00 | \$1,500   |
| Furnish and Install 6" AWWA C900 DR-18 w/Class "B" Embedment  | 105                        | \$ 45.00    | \$4,725   |
| Furnish and Install 6" AWWA C900 DR-18 w/14" Steel Casing by Boring and Jacking   | 40                         | \$ 275.00   | \$11,000  |
| Furnish and Place Grass Seed, Including all Fertilization and Watering Until Established  | 70                         | \$1.25      | \$88      |
|   | Cedar Bend Trail Subtotal: |             | \$28,096  |
|   | Project Subtotal:          |             | \$94,608  |
| Construction Contingency (10%)  | 1                          | \$9,461.00  | \$9,461   |
| Engineering/Surveying/Geotechnical Services (10%)   | 1                          | \$9,461.00  | \$9,461   |
|   | Total:                     |             | \$113,530 |
| These numbers were estimated and generated by BW2 Engineers in September 2016. The costs associated with rights-of-way, easements, property acquisition, permitting, mitigation, construction testing, and inspection are not included in the following information estimated and generated by BW2 Engineers. |                            |             |           |

# GRAHAM LANE AND ROCK RIDGE COURT EIGHT-INCH WATERLINE LOOP FROM COUNTRY CLUB ROAD TO ROCK RIDGE ROAD

## PROJECT SUMMARY

| Fiscal Year | Engineering<br>Priority No. | Category | Project Status |
|-------------|-----------------------------|----------|----------------|
| 2018-2019   | 10                          | Water    | Planning       |

## FISCAL OVERVIEW

| Estimated Cost                    | Source of Funding               |
|-----------------------------------|---------------------------------|
| \$571,775 September 2016 Estimate | 2019 Certificates of Obligation |

## PROJECT DESCRIPTION

This project will improve water quality and fire protection to 30 homes.

## PROJECT SCHEDULE

| Project Begin Year | Project Completion Year |
|--------------------|-------------------------|
| 2019               | 2021                    |

**PROJECT MANAGER: City Engineer**

## PROJECT DETAILS

| Description  | Estimated<br>Quantity | Unit Cost   | Cost      |
|--|-----------------------|-------------|-----------|
| Mobilization, Bonds, Insurance   | 1                     | \$22,500.00 | \$22,500  |
| Traffic Control/ Construction Signing  | 1                     | \$2,000.00  | \$2,000   |
| Erosion Control  | 1                     | \$13,000.00 | \$13,000  |
| Trench Safety  | 5,230                 | \$1.50      | \$7,845   |
| Furnish & install 6" PVC, including Class "B" embedment                                  | 3,115                 | \$35.00     | \$109,025 |
| Furnish & install 6" PVC, by bore and jacking  | 80                    | \$260.00    | \$20,800  |
| Furnish & install 6" PVC, by wet bore  | 185                   | \$75.00     | \$13,875  |
| Furnish & install 8" PVC, including Class "B" embedment                                  | 2,115                 | \$42.00     | \$88,830  |
| Furnish & install 8" PVC, by bore and jacking  | 90                    | \$280.00    | \$25,200  |
| Furnish & install 8" PVC, by wet bore  | 100                   | \$90.00     | \$9,000   |
| Furnish & install 6" Bend  | 1                     | \$2,250.00  | \$2,250   |
| Furnish & install 8" Bend  | 1                     | \$1,085.00  | \$1,085   |
| Furnish & install 6" Valve   | 1                     | \$400.00    | \$400     |
| Furnish & install 8" Valve   | 4                     | \$500.00    | \$2,000   |
| Furnish & install 8"x6" reducer  | 1                     | \$700.00    | \$700     |
| Connections to Existing Water Lines  | 1                     | \$10,000.00 | \$10,000  |
| Furnish & install Fire Hydrant, including lead and 6" valve                              | 9                     | \$4,000.00  | \$36,000  |
| Cut and Plug Existing Water Lines  | 1                     | \$4,500.00  | \$4,500   |
| Remove Existing Fire Hydrant and Return to City  | 2                     | \$500.00    | \$1,000   |
| Furnish & install Water Service Connection   | 28                    | \$1,500.00  | \$42,000  |
| Block Sod  | 8,000                 | \$7.00      | \$56,000  |
| Furnish and Place Grass Seed, Including all Fertilization and Watering Until Established | 3,625                 | \$1.25      | \$4,531   |
| Construction Contingency (10%)   | 1                     | \$49,617    | \$49,617  |

|  |   |               |                  |
|--|---|---------------|------------------|
| Engineering/Surveying Services (10%)   | 1 | \$49,617      | \$49,617         |
|  |   | <b>Total:</b> | <b>\$571,775</b> |
| <i>These numbers were estimated and generated by BW2 Engineers in September 2016. The costs associated with rights-of-way, easements, property acquisition, permitting, mitigation, construction testing, and inspection are not included in the following information estimated and generated by BW2 Engineers.</i> |   |               |                  |

## SNIDER LANE EIGHT-INCH WATERLINE

### PROJECT SUMMARY

| Fiscal Year | Engineering Priority No. | Category | Project Status |
|-------------|--------------------------|----------|----------------|
| 2018-2019   | 11                       | Water    | Complete       |

### FISCAL OVERVIEW

| Cost  | Source of Funding |
|---|-------------------|
| \$594,549 September 2016 Estimate<br>Actual costs paid by developer | Impact Fees       |

### PROJECT DESCRIPTION

This project is a requirement of the Lakeview Downs subdivision, add fire hydrants, and will improve water quality on the east side of Lucas.

### PROJECT SCHEDULE

| Project Begin Year | Project Completion Year |
|--------------------|-------------------------|
| 2017               | 2018 - Complete         |

**PROJECT MANAGER:** City Engineer

### PROJECT DETAILS

| Description  | Estimated Quantity | Unit Cost   | Cost             |
|--|--------------------|-------------|------------------|
| Mobilization, Bonds, Insurance                               | 1                  | \$23,500.00 | \$23,500         |
| Traffic Control/ Construction Signing                        | 1                  | \$6,500.00  | \$6,500          |
| Erosion Control  | 1                  | \$15,000.00 | \$15,000         |
| Trench Safety  | 6,075              | \$1.50      | \$9,113          |
| Furnish & install 8" PVC, including Class "B" embedment      | 6,075              | \$42.00     | \$255,150        |
| Furnish & install 8" PVC, by bore and jacking                | 80                 | \$280.00    | \$22,400         |
| Furnish & install 8" PVC Creek Crossing, by bore and jacking | 50                 | \$330.00    | \$16,500         |
| Furnish & install 8" PVC, by wet bore                        | 270                | \$90.00     | \$24,300         |
| Furnish & install 8" Bend                                    | 1                  | \$3,150.00  | \$3,150          |
| Furnish & install 8" Tee                                     | 1                  | \$900.00    | \$900            |
| Furnish & install 8" Valve                                   | 7                  | \$500.00    | \$3,500          |
| Furnish & install Fire Hydrant, including lead and 6" valve  | 13                 | \$4,000.00  | \$52,000         |
| Connections to Existing Water Lines                          | 1                  | \$4,000.00  | \$4,000          |
| Cut and Plug Existing Water Lines                            | 1                  | \$2,225.00  | \$2,225          |
| Furnish & install Water Service Connection                   | 20                 | \$1,500.00  | \$30,000         |
| Remove Existing Fire Hydrant and Return to City              | 1                  | \$500.00    | \$500            |
| Block Sod  | 1,000              | \$7.00      | \$7,000          |
| Seeding  | 12,500             | \$1.25      | \$15,625         |
| Construction Contingency (10%)                               | 1                  | \$51,593    | \$51,593         |
| Engineering/Surveying Services (10%)                         | 1                  | \$51,593    | \$51,593         |
| <b>Total:</b>  |                    |             | <b>\$594,549</b> |

## GLENCOVE CIRCLE AND CRESTVIEW CIRCLE SIX-INCH EXTENSIONS TO BROCKDALE PARK ROAD EIGHT-INCH WATERLINE LOOPS

### PROJECT SUMMARY

| Fiscal Year | Engineering<br>Priority No. | Category | Project Status |
|-------------|-----------------------------|----------|----------------|
| 2018-2019   | 12                          | Water    | Planning       |

### FISCAL OVERVIEW

| Estimated Cost                    | Source of Funding |
|-----------------------------------|-------------------|
| \$224,255 September 2016 Estimate | To Be Determined  |

### PROJECT DESCRIPTION

This project will improve water quality and fire protection to 15 homes and add fire hydrants to the area.

### PROJECT SCHEDULE

| Project Begin Year | Project Completion Year |
|--------------------|-------------------------|
| 2018               | 2019                    |

**PROJECT MANAGER:** City Engineer

### PROJECT DETAILS

| Description  | Estimated<br>Quantity | Unit Cost  | Cost             |
|--|-----------------------|------------|------------------|
| Mobilization, Bonds, Insurance   | 1                     | \$9,000.00 | \$9,000          |
| Traffic Control/ Construction Signing  | 1                     | \$1,000.00 | \$1,000          |
| Erosion Control  | 1                     | \$5,100.00 | \$5,100          |
| Trench Safety  | 1,965                 | \$1.50     | \$2,948          |
| Furnish & install 6" PVC, including Class "B" embedment                                  | 1,965                 | \$35.00    | \$68,775         |
| Furnish & install 6" PVC, by bore and jacking  | 40                    | \$260.00   | \$10,400         |
| Furnish & install 6" PVC, by wet bore  | 180                   | \$75.00    | \$13,500         |
| Furnish & install 6" Bend  | 1                     | \$2,500.00 | \$2,500          |
| Furnish & install 6" Valve   | 2                     | \$400.00   | \$800            |
| Furnish & install Fire Hydrant, including lead and 6" valve                              | 4                     | \$4,000.00 | \$16,000         |
| Connections to Existing Water Lines  | 1                     | \$7,750.00 | \$7,750          |
| Cut and Plug Existing Water Lines  | 1                     | \$4,000.00 | \$4,000          |
| Furnish & install Water Service Connection   | 14                    | \$1,500.00 | \$21,000         |
| Block Sod  | 3,000                 | \$7.00     | \$21,000         |
| Furnish and Place Grass Seed, Including all Fertilization and Watering Until Established | 1,375                 | \$1.25     | \$1,719          |
| Construction Contingency (10%)   | 1                     | \$19,382   | \$19,382         |
| Engineering/Surveying Services (10%)   | 1                     | \$19,382   | \$19,382         |
| <b>Total:</b>  |                       |            | <b>\$224,255</b> |

*These numbers were estimated and generated by BW2 Engineers in September 2016. The costs associated with rights-of-way, easements, property acquisition, permitting, mitigation, construction testing, and inspection are not included in the following information estimated and generated by BW2 Engineers.*

## HICKORY HILL STREET EIGHT-INCH WATERLINE FROM STINSON ROAD TO BROOKHAVEN DRIVE

### PROJECT SUMMARY

| Fiscal Year | Engineering Priority No. | Category | Project Status |
|-------------|--------------------------|----------|----------------|
| 2019-2020   | 13                       | Water    | Planning       |

### FISCAL OVERVIEW

| Estimated Cost                    | Source of Funding |
|-----------------------------------|-------------------|
| \$226,383 September 2016 Estimate | To Be Determined  |

### PROJECT DESCRIPTION

This project will improve water quality and fire protection to 12 homes.

### PROJECT SCHEDULE

| Project Begin Year | Project Completion Year |
|--------------------|-------------------------|
| 2019               | 2020                    |

**PROJECT MANAGER:** City Engineer

### PROJECT DETAILS

| Description  | Estimated Quantity | Unit Cost  | Cost             |
|--|--------------------|------------|------------------|
| Mobilization, Bonds, Insurance   | 1                  | \$9,000.00 | \$9,000          |
| Traffic Control/ Construction Signing  | 1                  | \$1,000.00 | \$1,000          |
| Erosion Control  | 1                  | \$5,300.00 | \$5,300          |
| Trench Safety  | 2,120              | \$1.50     | \$3,180          |
| Furnish & install 8" PVC, including Class "B" embedment                                  | 2,120              | \$42.00    | \$89,040         |
| Furnish & install 8" PVC, by bore and jacking  | 40                 | \$280.00   | \$11,200         |
| Furnish & install 8" PVC, by wet bore  | 100                | \$90.00    | \$9,000          |
| Furnish & install 8" Bend  | 1                  | \$1,500.00 | \$1,500          |
| Furnish & install 8" Valve   | 3                  | \$500.00   | \$1,500          |
| Connections to Existing Water Lines  | 1                  | \$5,000.00 | \$5,000          |
| Furnish & install Fire Hydrant, including lead and 6" valve                              | 2                  | \$4,000.00 | \$8,000          |
| Cut and Plug Existing Water Lines  | 1                  | \$1,800.00 | \$1,800          |
| Furnish & install Water Service Connection   | 12                 | \$1,500.00 | \$18,000         |
| Remove Existing Fire Hydrant and Return to City  | 2                  | \$500.00   | \$1,000          |
| Block Sod  | 3,015              | \$7.00     | \$21,105         |
| Furnish and Place Grass Seed, Including all Fertilization and Watering Until Established | 1,175              | \$1.25     | \$1,469          |
| Construction Contingency (10%)   | 1                  | \$19,645   | \$19,645         |
| Engineering/Surveying Services (10%)   | 1                  | \$19,645   | \$19,645         |
| <b>Total:</b>  |                    |            | <b>\$226,383</b> |

*These numbers were estimated and generated by BW2 Engineers in September 2016. The costs associated with rights-of-way, easements, property acquisition, permitting, mitigation, construction testing, and inspection are not included in the following information estimated and generated by BW2 Engineers.*



## MANOR LANE EIGHT-INCH WATERLINE

### PROJECT SUMMARY

| Fiscal Year | Engineering Priority No. | Category | Project Status |
|-------------|--------------------------|----------|----------------|
| 2019-2020   | 14                       | Water    | Planning       |

### FISCAL OVERVIEW

| Estimated Cost                    | Source of Funding |
|-----------------------------------|-------------------|
| \$313,951 September 2016 Estimate | To Be Determined  |

### PROJECT DESCRIPTION

This will eliminate an undersized four-inch line, add fire hydrants, and improve the water looping between Estelle Lane and Winningkoff Road.

### PROJECT SCHEDULE

| Project Begin Year | Project Completion Year |
|--------------------|-------------------------|
| 2019               | 2020                    |

**PROJECT MANAGER:** City Engineer

### PROJECT DETAILS

| Description  | Estimated Quantity | Unit Cost   | Cost             |
|--|--------------------|-------------|------------------|
| Mobilization, Bonds, Insurance   | 1                  | \$12,500.00 | \$12,500         |
| Traffic Control/ Construction Signing  | 1                  | \$3,150.00  | \$3,150          |
| Erosion Control  | 1                  | \$7,500.00  | \$7,500          |
| Trench Safety  | 3,010              | \$1.50      | \$4,515          |
| Furnish & install 8" PVC, including Class "B" embedment                                  | 3,010              | \$42.00     | \$126,420        |
| Furnish & install 8" PVC, by bore and jacking  | 40                 | \$280.00    | \$11,200         |
| Furnish & install 8" PVC, by wet bore  | 115                | \$90.00     | \$10,350         |
| Furnish & install 8" Bend  | 1                  | \$1,500.00  | \$1,500          |
| Furnish & install 8" Valve   | 3                  | \$500.00    | \$1,500          |
| Connections to Existing Water Lines  | 1                  | \$6,250.00  | \$6,250          |
| Furnish & install Fire Hydrant, including lead and 6" valve                              | 6                  | \$4,000.00  | \$24,000         |
| Cut and Plug Existing Water Lines  | 1                  | \$2,000.00  | \$2,000          |
| Furnish & install Water Service Connection   | 6                  | \$1,500.00  | \$9,000          |
| Remove Existing Fire Hydrant and Return to City  | 5                  | \$500.00    | \$2,500          |
| Block Sod  | 5,025              | \$7.00      | \$35,175         |
| Furnish and Place Grass Seed, Including all Fertilization and Watering Until Established | 1,675              | \$1.25      | \$2,094          |
| Construction Contingency (10%)   | 1                  | \$27,148    | \$27,148         |
| Engineering/Surveying Services (10%)   | 1                  | \$27,148    | \$27,148         |
| <b>Total:</b>  |                    |             | <b>\$313,951</b> |

*These numbers were estimated and generated by BW2 Engineers in September 2016. The costs associated with rights-of-way, easements, property acquisition, permitting, mitigation, construction testing, and inspection are not included in the following information estimated and generated by BW2 Engineers.*



## ROCK RIDGE ROAD 12-INCH WATERLINE FROM ESTATES PARKWAY TO FAIRBROOK CIRCLE AND FAIRBROOK CIRCLE EIGHT-INCH WATERLINE

### PROJECT SUMMARY

| Fiscal Year | Engineering Priority No. | Category | Project Status |
|-------------|--------------------------|----------|----------------|
| 2019-2020   | 15                       | Water    | Planning       |

### FISCAL OVERVIEW

| Estimated Cost                    | Source of Funding |
|-----------------------------------|-------------------|
| \$491,953 September 2016 Estimate | To Be Determined  |

### PROJECT DESCRIPTION

This project will improve water quality and fire protection to 23 homes.

### PROJECT SCHEDULE

| Project Begin Year | Project Completion Year |
|--------------------|-------------------------|
| 2019               | 2020                    |

**PROJECT MANAGER:** City Engineer

### PROJECT DETAILS

| Description   | Estimated Quantity | Unit Cost     | Cost             |
|---|--------------------|---------------|------------------|
| Mobilization, Bonds, Insurance                              | 1                  | \$19,500.00   | \$19,500         |
| Traffic Control/ Construction Signing                       | 1                  | \$5,000.00    | \$5,000          |
| Erosion Control   | 1                  | \$10,400.00   | \$10,400         |
| Trench Safety   | 4,165              | \$1.50        | \$6,248          |
| Furnish & install 8" PVC, including Class "B" embedment     | 925                | \$42.00       | \$38,850         |
| Furnish & install 8" PVC, by wet bore                       | 100                | \$90.00       | \$9,000          |
| Furnish & install 12" PVC, including Class "B" embedment    | 3,240              | \$60.00       | \$194,400        |
| Furnish & install 12" PVC, by bore and jacking              | 40                 | \$320.00      | \$12,800         |
| Furnish & install 12" PVC, by wet bore                      | 120                | \$130.00      | \$15,600         |
| Furnish & install 12" Bend                                  | 1                  | \$3,000.00    | \$3,000          |
| Furnish & install 12" Tee                                   | 1                  | \$1,250.00    | \$1,250          |
| Furnish & install 8" Valve                                  | 5                  | \$500.00      | \$2,500          |
| Furnish & install 12" Valve                                 | 1                  | \$1,500.00    | \$1,500          |
| Furnish & install Fire Hydrant, including lead and 6" valve | 9                  | \$4,000.00    | \$36,000         |
| Connections to Existing Water Lines                         | 1                  | \$5,000.00    | \$5,000          |
| Cut and Plug Existing Water Lines                           | 1                  | \$2,250.00    | \$2,250          |
| Furnish & install Water Service Connection                  | 14                 | \$1,500.00    | \$21,000         |
| Remove Existing Fire Hydrant and Return to City             | 6                  | \$500.00      | \$3,000          |
| Block Sod   | 1,325              | \$7.00        | \$9,275          |
| Seeding   | 8,000              | \$1.25        | \$10,000         |
| Construction Contingency (10%)                              | 1                  | \$42,690      | \$42,690         |
| Engineering/Surveying Services (10%)                        | 1                  | \$42,690      | \$42,690         |
|   |                    | <b>Total:</b> | <b>\$491,953</b> |

*These numbers were estimated and generated by BW2 Engineers in September 2016. The costs associated with rights-of-way, easements, property acquisition, permitting, mitigation, construction testing, and inspection are not included in the following information estimated and generated by BW2 Engineers.*

## REPAINT MCGARITY 200,000-GALLON GROUND STORAGE TANK

### PROJECT SUMMARY

| Fiscal Year | Engineering<br>Priority No. | Category | Project Status |
|-------------|-----------------------------|----------|----------------|
| 2019-2020   | 16                          | Water    | Planning       |

### FISCAL OVERVIEW

| Estimated Cost                    | Source of Funding |
|-----------------------------------|-------------------|
| \$150,150 September 2016 Estimate | To Be Determined  |

### PROJECT DESCRIPTION

Repaint 200,000-gallon ground storage tank at McGarity Pump Station

### PROJECT SCHEDULE

| Project Begin Year | Project Completion Year |
|--------------------|-------------------------|
| 2019               | 2020                    |

**PROJECT MANAGER:** City Engineer

### PROJECT DETAILS

| Description   | Estimated<br>Quantity | Unit Cost    | Cost             |
|---|-----------------------|--------------|------------------|
| Mobilization, Bonds, Insurance                      | 1                     | \$8,000.00   | \$8,000          |
| Repaint existing 200,000-gallon ground storage tank | 1                     | \$120,000.00 | \$120,000        |
| Disinfect Tank                                      | 1                     | \$2,000.00   | \$2,000          |
| Construction Contingency (10%)                      | 1                     | \$13,430.00  | \$13,430         |
| Engineering/Surveying Services (5%)                 | 1                     | \$6,730      | \$6,730          |
| <b>Total:</b>                                       |                       |              | <b>\$150,150</b> |

*These numbers were estimated and generated by BW2 Engineers in September 2016. The costs associated with rights-of-way, easements, property acquisition, permitting, mitigation, construction testing, and inspection are not included in the following information estimated and generated by BW2 Engineers.*

## ENCHANTED WAY/BROOKHAVEN DRIVE EIGHT-INCH WATERLINE

### PROJECT SUMMARY

| Fiscal Year | Engineering Priority No. | Category | Project Status |
|-------------|--------------------------|----------|----------------|
| 2019-2020   | 17                       | Water    | Planning       |

### FISCAL OVERVIEW

| Estimated Cost                    | Source of Funding |
|-----------------------------------|-------------------|
| \$203,262 September 2016 Estimate | To Be Determined  |

### PROJECT DESCRIPTION

This project will improve water quality and fire protection to 23 homes.

### PROJECT SCHEDULE

| Project Begin Year | Project Completion Year |
|--------------------|-------------------------|
| 2019               | 2020                    |

**PROJECT MANAGER:** City Engineer

### PROJECT DETAILS

| Description  | Estimated Quantity | Unit Cost  | Cost             |
|--|--------------------|------------|------------------|
| Mobilization, Bonds, Insurance   | 1                  | \$8,000.00 | \$8,000          |
| Traffic Control/ Construction Signing  | 1                  | \$500.00   | \$500            |
| Erosion Control  | 1                  | \$1,400.00 | \$1,400          |
| Trench Safety  | 3,235              | \$1.50     | \$4,853          |
| Furnish & install 8" PVC, including Class "B" embedment                                  | 3,235              | \$42.00    | \$135,870        |
| Furnish & install Fire Hydrant, including lead and 6" valve                              | 1                  | \$4,000.00 | \$4,000          |
| Connections to Existing Water Lines  | 1                  | \$3,500.00 | \$3,500          |
| Block Sod  | 150                | \$7.00     | \$1,050          |
| Furnish and Place Grass Seed, Including all Fertilization and Watering Until Established | 7,050              | \$1.25     | \$8,813          |
| Construction Contingency (10%)   | 1                  | \$17,638   | \$17,638         |
| Engineering/Surveying Services (10%)   | 1                  | \$17,638   | \$17,638         |
| <b>Total:</b>  |                    |            | <b>\$203,262</b> |

*These numbers were estimated and generated by BW2 Engineers in September 2016. The costs associated with rights-of-way, easements, property acquisition, permitting, mitigation, construction testing, and inspection are not included in the following information estimated and generated by BW2 Engineers.*

## ROCK RIDGE ROAD/LOVEJOY HIGH SCHOOL EIGHT-INCH WATER LINE

### PROJECT SUMMARY

| Fiscal Year | Engineering Priority No. | Category | Project Status |
|-------------|--------------------------|----------|----------------|
| 2019-2020   | 18                       | Water    | Planning       |

### FISCAL OVERVIEW

| Estimated Cost                   | Source of Funding |
|----------------------------------|-------------------|
| \$56,773 September 2016 Estimate | To Be Determined  |

### PROJECT DESCRIPTION

This project improves the looping on the west side of the city and improves water quality and fire protection at the high school.

### PROJECT SCHEDULE

| Project Begin Year | Project Completion Year |
|--------------------|-------------------------|
| 2019               | 2020                    |

**PROJECT MANAGER:** City Engineer

### PROJECT DETAILS

| Description  | Estimated Quantity | Unit Cost     | Cost            |
|--|--------------------|---------------|-----------------|
| Mobilization, Bonds, Insurance   | 1                  | \$2,250.00    | \$2,250         |
| Traffic Control/ Construction Signing  | 1                  | \$1,000.00    | \$1,000         |
| Erosion Control  | 1                  | \$1,800.00    | \$1,800         |
| Trench Safety  | 770                | \$1.50        | \$1,155         |
| Furnish & install 8" PVC, including Class "B" embedment                                  | 770                | \$42.00       | \$32,340        |
| Furnish & install 8" Bend  | 1                  | \$750.00      | \$750           |
| Connections to Existing Water Lines  | 1                  | \$5,500.00    | \$5,500         |
| Furnish and Place Grass Seed, Including all Fertilization and Watering Until Established | 1,700              | \$1.25        | \$2,125         |
| Construction Contingency (10%)   | 1                  | \$4,927       | \$4,927         |
| Engineering/Surveying Services (10%)   | 1                  | \$4,927       | \$4,927         |
|  |                    | <b>Total:</b> | <b>\$56,773</b> |

*These numbers were estimated and generated by BW2 Engineers in September 2016. The costs associated with rights-of-way, easements, property acquisition, permitting, mitigation, construction testing, and inspection are not included in the following information estimated and generated by BW2 Engineers.*