Stantec

South Hillsborough Pipeline (Segment B)

Segment B Route Study Report – FINAL

Tampa Bay Water CIP NO. 01610,
SWFWMD Project No. Q241

Joint Project Agreement No. 2022-005

TAMPA BAY WATER
Supplying Water To The Region

Southwest Florida Water Management District

Hillsborough County Florida
EST. 1834
SM

August 1st, 2022

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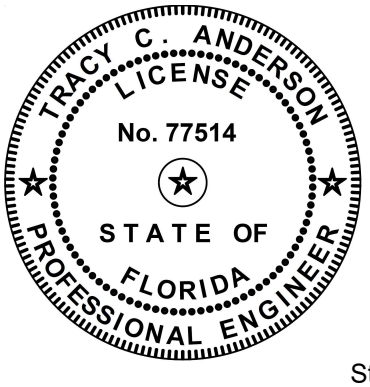

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Acronyms / Abbreviations

AACE	Advancement of Cost Engineering International
AADT	Average Annual Daily Traffic
ANSI	American National Standards Institute
B&V	Black and Veatch
CDD	Community Development District
CIP	Capital Improvement Plan
DRI	Development of Regional Impact
DSUR	Development Status of Unavoidable Right-of-Way
ELAPP	Environmental Lands Acquisition and Protection Program
EPA	Environmental Protection Agency
FDEP	Florida Department of Environmental Protection
FDOH	Florida Department of Health
FDOT	Florida Department of Transportation
FGDL	Florida Geographic Data Library
FL	Functional Loss
FLAA	Florida Acquisition & Appraisal Inc.
GC	General Contractor
GIS	Geographic Information System
HC	Hillsborough County
HOA	Homeowner's Association
IPM	Integrated Program Manager
kV	Kilovolts
LF	Linear Feet
LTMWP	Long Term Water Management Plan
NRCS	Natural Resources Conservation Services
NWI	National Wetlands Inventory
MG	Million Gallons
MGD	Million Gallons per Day
MOT	Maintenance of Traffic
O&M	Operations and Maintenance
OPCC	Opinion of Probable Construction Cost
PI	Public Inconvenience
POC	Point of Connection
PSI	Pounds per Square Inch
PUE	Permanent Utility Easement

R	Sub-Criteria Score
RCRA	Resource Conversation and Recovery Act
ROW	Right-of-Way
S	Weighted Score
SF	Sub-Criteria
SHP	South Hillsborough Pipeline
SS	Sanitary Sewer
SW	Sub-Criteria Percentage
SWFWMD	Southwest Florida Water Management District
TBW	Tampa Bay Water
TCE	Temporary Construction Easement
TECO	Tampa Electric Company
TES	Total Evaluated Score
UMAM	Uniform Mitigation Assessment Method
USDA	United States Department of Agriculture
V	Volts
W	Weighting Factor
WCS	Weighted Composite Score

Report Summary

Background

New Tampa Bay Water conveyance infrastructure is needed to provide for increasing demand of potable water in Hillsborough County's South-Central service area. This infrastructure will connect Tampa Bay Water's existing High Service Pump Station located at the Regional Facilities Site with Hillsborough County's Lithia Water Treatment Facility, and then south to a new southern Hillsborough County point of connection (POC) in the Balm / Riverview area.

Tampa Bay Water divided this transmission main into two segments: Segment A, from Regional Facilities Site to Lithia Water Treatment Facility, and Segment B from Lithia Water Treatment Facility to a new Hillsborough County point of connection in the Balm / Riverview area. Wade Trim was the selected consultant for Segment A design and construction, and Stantec was the selected consultant for Segment B design and construction. This study documents the process of evaluating Segment B routes and the subsequent integration of Segment A for final evaluation of a single, consolidated route.

Data Collection

Stantec identified, aggregated, and reviewed existing and relevant project related studies, reports, investigations, and exhibits. Afterwards, Stantec submitted a data request to Tampa Bay Water, Hillsborough County, Southwest Florida Water Management District, and other relevant entities (**Section 2.0**). An 811 Sunshine design ticket was created for the project area to obtain private utility information as well. The above information was largely captured using a Geographic Information System (GIS) platform: the GIS data was then incorporated into Stantec's ArcGIS Enterprise platform.

Route Development Process and Evaluation Criteria

Twenty routes were initially selected to cover north / south corridor options between Lithia Water Treatment Facility POC and the future southern Hillsborough County POC. These initial twenty routes were first refined to eight routes in Screening Level 1 via a subjective desktop analysis (**Section 3.1.1**). Then, the eight routes were shortlisted to five routes in Screening Level 2 (**Section 3.1.2**); this process was more objective and quantitative, using preliminary data such as total pipeline length, number of anticipated trenchless crossings, total wetlands impact, number of parcels requiring acquisition and average annual daily traffic.

In conjunction with the Screening Level 1 and 2 work referenced above, development and refinement of the non-cost route evaluation criteria was also underway. These non-cost evaluation criteria formed the basis by which each route would be evaluated. Stantec and Wade Trim solicited agreement on the evaluation criteria, and incorporated feedback from, both the integrated program manager and Tampa Bay Water. This included a criteria weighting factor workshop which established the relative importance and weighting of each evaluation criteria (**Section 4.1** and **Table 4-2**).

Subsequently, Stantec and Wade Trim generated sub-criteria and sub-criteria weighting factors. Sub-criteria provided more discreetly definable and measurable evaluation characteristics; the sub-criteria weighting factors were set by each engineer for their respective Segment. This allowed each engineer to consider the importance or criticality of each sub-criteria in relation to their Segment (**Section 4.2**).

Using the evaluation criteria, weighting factors, sub-criteria, and sub-criteria percentages, Stantec assessed and compared data from each route. An evaluation metric (**Section 4.3**) determined how routes scored within a particular sub-criteria: routes received a 1, 5 or 10 for each sub-criteria (**Section 4.4**). Scores for each sub-criteria are then multiplied by sub-criteria percentages, and then multiplied by the overall evaluation criteria weighting factor. This total resulted in a Non-Cost Score for each route (**Table 4-49**).

Opinion of Probable Construction Cost

Stantec developed an Opinion of Probable Construction Cost (OPCC) for each route, inclusive of engineering, design, construction, and contingency costs (**Section 5.0** and **Table 5-2**). These OPCC's are Class 5 estimates defined by the Association for the Advancement of Cost Engineering International (AACE).

Non-Cost Score / Cost Score Integration and Route Consolidation Process

Segment B is only one portion of the overall South Hillsborough Pipeline – ultimately, this project required a combination and connection of Segment A, Segment B, and any additional infrastructure required to connect the two. Simply selecting the top ranked Segment A and Segment B, without evaluating connection of the two as a Consolidated Route, would be neglecting significant additional project impacts and costs. Also, adding the Non-Cost Score directly to the Cost Score presented problems: the values are incompatible, one reported in dollars (cost) and the other (non-cost) is unit-less. The Engineers developed a data normalization process to integrate the Non-Cost and Cost Scores for each system of Segment A and B, resulting in Consolidated Route Scores (**Section 6.3**).

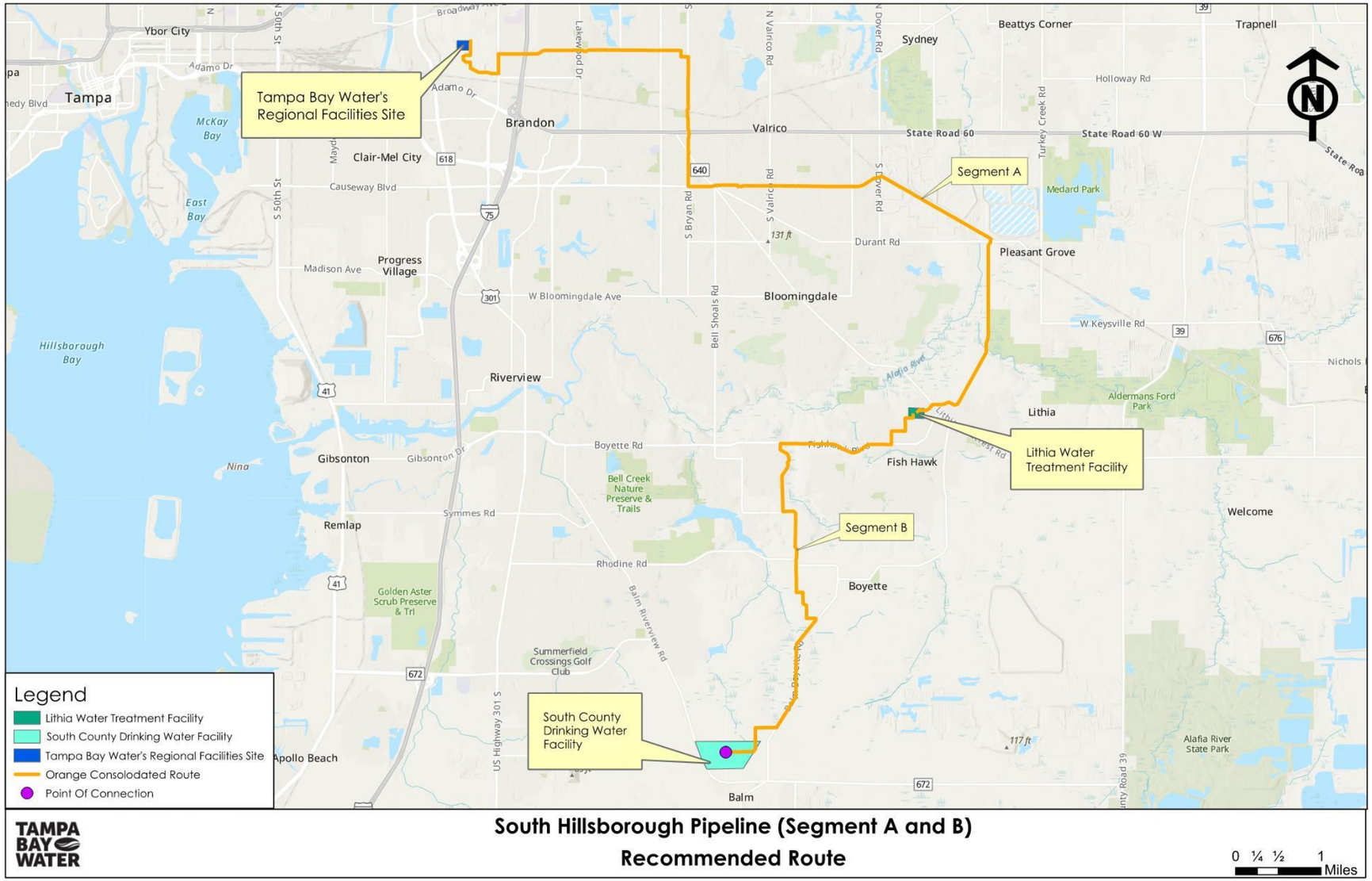
Recommended Consolidated Route

It is recommended that Tampa Bay Water proceed with design and construction of the recommended consolidated route as shown on **Figure 1-1.** The recommended consolidated route (Orange Route) includes a combination of Segment A5 Route and Segment B-1 Route. The Orange Route OPCC is $443,000,000. The recommended consolidated route has the highest non-cost criteria score of all Segment A and Segment B pairings. It is also the second most cost-effective alternative.

Table 1-1: Recommended Consolidated Route, Segmented Cost, and Length (Executive Summary)

Segment	Length (mi)	OPCC (rounded to nearest million)
A (A5)	18.2	$312,000,000
B (B-1 plus connector piece)	10.2	$131,000,000
Recommended Consolidated Route Total	28.4	$443,000,000

Figure 1-1 Recommended Consolidated Route (Report Summary)



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1.0 INTRODUCTION

1.1 PURPOSE OF DOCUMENT

The purpose of this document is to identify and recommend a route for Tampa Bay Water's South Hillsborough Pipeline. The Tampa Bay region is growing at a record rate, and Tampa Bay Water as the water supply authority is empowered by the Interlocal Agreement that created Tampa Bay Water to design, acquire, construct, operate and maintain water supply facilities in the locations and at the times necessary to insure that an adequate supply of quality water will be available for all customers served by the member governments; thus the authority is working on expanding its system to ensure adequate supply of drinking water to the Tampa Bay region. The South Hillsborough Pipeline is part of Tampa Bay Water's approved 2018 Long Term Master Water Plan and their approved 2019 Capital Improvements Plan. It is also included in Hillsborough County's Comprehensive Plan and their current Capital Improvements Plan.

The pipeline in this study is required to serve the growing demand for potable water in southern Hillsborough County associated with existing and anticipated residential and commercial development. This study identifies potential alternative pipeline routes in the project area, and then reviews existing utility information, property ownership and types, available rights-of-way and potential easements, environmental features, safety, proposed development and construction in the project area, costs, and other factors. This data is then formatted into route evaluation criteria, which are then comparatively analyzed to select the recommended route.

The pipeline is an approximate 66-inch diameter water main which requires a significant construction width for efficient, effective construction and future maintenance to provide safe, reliable potable water transmission from the Regional Facilities Site to the Hillsborough County designated points of connection. The routes identified and described herein, do not yet establish a detailed physical location of the pipeline within the route right-of-way or within proposed easements. The specific physical location of the pipeline will be determined during the subsequent Basis of Design Report and final design stages, during which additional data will be collected and analyzed on the selected route including survey, subsurface utility engineering, geotechnical investigations, and other site conditions. These subsequent steps will refine and define the physical location of the pipeline and may result in minor adjustments to the selected route.

1.2 PROJECT OVERVIEW

Tampa Bay Water is a wholesale drinking water supplier. It supplies water to more than 2.5 million customers through its member governments: Hillsborough County, Pasco County, Pinellas County, and the cities of New Port Richey, St. Petersburg and Tampa. Tampa Bay Water was created by interlocal agreement among the member governments.

The South Hillsborough Pipeline project intends to 1) address hydraulic constraints which currently hinder Tampa Bay Water's ability to deliver additional quantities of existing alternative water supplies to south

Hillsborough County and 2) allow for delivery of future alternative water supplies from the regional system to south Hillsborough County as Tampa Bay Water expands existing facilities to meet regional demands over the 2040 planning horizon.

The pipeline is approximately 25 to 28 miles in total, with pipeline design split into two segments: Segment A from the Regional Facilities Site to Lithia Water Treatment Facility, to be completed by Wade Trim, and Segment B from Lithia Water Treatment Facility to a new southern Hillsborough County point of connection (POC) in the Balm/Riverview area, to be completed by Stantec. Accordingly, Stantec and Wade Trim will coordinate and collaborate to identify suitable tie-in locations between Segments A and B. Black and Veatch (B&V) is serving as the Integrated Program Manager (IPM) for the project.

The scope of this document is limited to identifying and evaluating potential alternative routes for Segment B. Segment A alternative route study will be completed and documented in a separate route study by Wade Trim.

1.3 APPROACH

Route selection was a multi-step process, based on both non-cost and cost evaluations. The Engineering Teams began by developing and finalizing the route evaluation criteria. The next step was to establish and assign weighting factors to each evaluation criteria. With input from Tampa Bay Water staff and key stakeholders, weighting factors were developed and assigned to each non-cost evaluation criteria. For more information on the importance, or “weighting”, of each criteria, see **Section 4.1**.

Next, Stantec developed 20 route alternatives. Using the evaluation criteria developed in collaboration with Tampa Bay Water and other project stakeholders, 8 members of Stantec’s team independently evaluated each route alternative. The intent of the initial route development process (**Section 3.0**) was to identify a shortlist of 5 Segment B routes to be evaluated in greater detail.

Upon completion of our initial screening and shortlisting of the 5 routes, the process of evaluating each route was subject to a more rigorous, objective, and quantitative analysis. Central to this effort was development of sub-criteria: these sub-criteria provided more discreetly definable and measurable evaluation characteristics. For each sub-criteria, every route received a score to quantify the relative impact. These scores were subsequently multiplied by the sub-criteria weighting factors, and then the overall criteria weighting factors (determined from Tampa Bay Water workshops). Summing these values across each criteria generated the route’s Non-Cost Score.

For each shortlisted route, a Cost Score, derived from an Opinion of Probable Cost (OPCC), was also produced. In addition to pipeline installation costs, these Association of Advancement in Cost Estimating (AACE) level 5 estimates also featured: startup and commissioning, contractor markups and indirect costs, contingencies, property costs, and engineering services during construction.

The South Hillsborough Pipeline requires a fully integrated, comprehensive, and systematic water conveyance solution. Depending on Segment A & B shortlisted routes, there was significant variability in construction cost to connect the terminal ends of each pipeline segment to achieve an integrated system.

This infrastructure used to connect each segment was referred to as the “connector piece”. This consideration is discussed in **Section 6.0,** which describes the process of evaluating cost and non-cost criteria and combining Segment A and Segment B into a single consolidated segment.

2.0 DATA COLLECTION

To produce this document, Stantec identified, collected, and reviewed available and relevant project related studies, reports, investigations, exhibits, and other information.

2.1 DATA REQUEST TO TAMPA BAY WATER, HILLSBOROUGH COUNTY, AND OTHER RELEVANT ENTITIES

The list below represents the initial data request submitted to Tampa Bay Water. Subsequent data requests for additional information from utility infrastructure owners were also submitted and are summarized in **Section 2.2**.

2.1.1 GIS Data

- Tampa Bay Water Existing Pipelines
- Tampa Bay Water Existing Properties and Easements
- Hillsborough County Property Assessor parcel data shapefile (current)
- Hillsborough County Properties and Easements shapefile (current)
- Hillsborough County Planning and Zoning shapefiles (current)
- Hillsborough County Zoning Districts
- Adopted Community Planning Areas
- Adopted Community Planning Areas with Overlay Districts
- Community Development Districts (CDDs)
- Development of Regional Impact (DRI) Projects
- Hillsborough County Historic Landmarks
- Designated Brownfield Areas
- Hillsborough County Imagine 2040 shapefiles
- Long Range Transportation Plan

- Hillsborough County Areawide Vision Map
- Hillsborough County Department of Transportation roadways shapefile (current)
- Hillsborough County 2045 Transportation Master Plan shapefiles
- Hillsborough County stormwater infrastructure (current)
- Hillsborough County Stormwater Master Plan shapefiles
- Hillsborough County Parks and Recreation Department infrastructure shapefiles (current)
- Hillsborough County Parks and Recreation Department Master Plan shapefiles
- Hillsborough County existing public utility infrastructure
- Potable water, reclaimed water, raw water, sanitary sewer (gravity and force mains), sanitary sewer lift stations
- Hillsborough County Proposed CIP Projects
- Roadway corridors, intersection improvements, and resurfacing projects
- Public utilities (Potable water, reclaimed water, raw water, sanitary sewer (gravity and force mains), sanitary sewer lift stations projects
- Stormwater and Water Quality Improvement projects
- Parks projects
- Hillsborough County Comprehensive Plan shapefiles
- Southwest Florida Water Management District: District owned lands
- Southwest Florida Water Management District: CIP projects
- Southwest Florida Water Management District: Topographic Data

2.1.2 Guidelines and Standards

- Tampa Bay Water Property Requirement and Acquisition Guidelines
- Most Recent Tampa Bay Water Technical Standards (current)
- Hillsborough County Transportation Technical Manual 2021

2.1.3 Misc. Data

- Hillsborough County AADT Volumes for County and Local Roads
- Screenshots of TECO Peoples Gas facilities were provided via email, and in a general meeting with Stantec and Wade Trim. No KMZ, Shape Files, or other GIS data was provided beyond the information shared via email.

2.2 DATA FROM EXTERNAL SOURCES

Below is a list of data amalgamated from sources outside Hillsborough County, Tampa Bay Water, and Southwest Florida Water Management District (SWFWMD).

- Aerial photography
    - Obtained from Hillsborough County's 2020 Aerials Geographic Information System (GIS) layer.
- Average Annual Daily Traffic (AADT) volumes
    - Obtained from the Plan Hillsborough website: https://planhillsborough.org/traffic-counts/
- Future roadway construction projects
    - Obtained from major roadway authorities such as Florida Department of Transportation (FDOT) via the open data website: https://www.fdot.gov/agencyresources/mapsanddata.shtm.
- Proximity to schools, hospitals, fire stations, public parks, historic places
    - Obtained from Internet Sources such as Google Maps or Florida Department of Environmental Protection (FDEP) MAP Direct
    - These factors will affect route safety during construction as well as public inconvenience.
- Hazardous waste or contaminated sites databases
    - Obtained by using Florida Department of Environmental Protection database (MAP DIRECT)
- Wetland data, Existing Hydrological Studies, and Ecologic Studies
    - Obtained from U.S. Fish and Wildlife Service. (MAP DIRECT)
- Parcel data for property acquisitions for permanent easements
    - Obtained using Hillsborough County's property appraiser's website

- United States Department of Agriculture soil conservation service general soil map 1986
    - Data will be used to determine presence of corrosive soils
- Various Hillsborough County GIS data that was not included in the original data request
    - State conservation lands and parcels preserved under the Environmental Lands Acquisition and Protection Program (ELAPP)
    - Hillsborough County Water Resources: potable, reclaimed, and wastewater data
    - Future Land Use
    - Hillsborough County Corridor Preservation Plan
    - Zoning
    - Existing Land Use
    - Community Planning Areas
    - Corridor Preservation Plan
    - Pending Zoning Change applications (points and polygons)
- Florida Department of Environmental Protection
    - Contaminated Groundwater areas

Various capital and master planning documents were also collected and reviewed to provide additional insight into future capital improvements planned within south Hillsborough County area in the coming years. These included the following documents:

- 2045 Long Range Transportation Plan
- 1995 Hillsborough Greenways Master plan
- Parks and Recreation Master Plan

An 811 Sunshine design ticket was created for the project area to obtain private utility information. Information on numerous fiber, communication, gas, power, and other utility infrastructure was obtained and incorporated into our GIS mapping platform for the project. Private utilities have been contacted throughout the route study phase of the project to ensure the most comprehensive and up to date information is being used to identify and locate utilities.

Two separate Public Opinion Surveys were also obtained for use in the route study phase of work. The first is the Hillsborough County Pipeline Survey 2019 (**Appendix H – Public Outreach**), this outlines prio

rities for consideration during the route study. The second survey is a 2021 Public Opinion Survey conducted by Tampa Bay Water which gives a more general public opinion of Tampa Bay Water. This data will also be considered and used to guide various decisions throughout the project as well as the best methods to communicate information to the public.

2.2.1 External Data Management

To properly manage the data required for the route study, multiple tools listed below were used for data management.

- Integrated Program Manager (Black and Veatch) SharePoint site
    - As Stantec and Wade Trim received data, it was uploaded to the Integrated Program Manager SharePoint site for use by both Segment A and Segment B.
- Masterworks Data Inventory Log
    - Within the data management program Masterworks, a data tracking excel sheet will be continuously updated as data is received. This Excel sheet serves as an index, allowing both Engineers to quickly identify and add sources of relevant data.
- Direct Masterworks Upload
    - Data provided by Tampa Bay Water will be uploaded directly to Masterworks, where it can be accessed by both Segment A and Segment B. This data will also be recorded in the data tracker log.

2.2.1.1 Masterworks Management

Masterworks is a project and data management platform that provides Stantec, Tampa Bay Water, Black & Veatch (B&V), and Wade Trim access the most updated data in one central location.

Masterworks will be used in the route study phase to organize data and increase collaboration between Segment A and Segment B. Masterworks also organizes relevant project documents such as each project's risk register, invoices, meeting minutes, and other project documents.

2.3 PROJECT DATABASE

The GIS data was incorporated into Stantec's ArcGIS Enterprise platform, and this project database was utilized to share live updates during coordination meetings and to solicit input from stakeholders.

Information from the GIS geodatabase was used to complete the initial route screening as well as generate data used to evaluate and rank the five shortlisted Segment B routes. By using GIS to analyze each route, Stantec was able to generate quantitative data to compare, score, and rank each route based within the non-cost evaluation criteria.

3.0 ROUTE DEVELOPMENT PROCESS

3.1 DEVELOPMENT OF ROUTES

Stantec developed 20 potential route alternatives –**Figure 3-1–** which generally have four points of potential connection with Segment A, designated as: west, central, Lithia, and east. The route number, approximate length, and beginning point is tabulated below in **Table 3-1**.

The initial 20 routes were selected to cover most of the potential north / south routes across the Segment B study area which could facilitate a connection to Segment A, Lithia Water Treatment Facility POC, and the future southern Hillsborough County POC in the Balm – Riverview area.

The purpose of route screening is to eliminate routes with fatal flaws and quickly aggregate a shortlist of routes for more detailed consideration and evaluation. Route screening was broken into two phases: Screening Level 1 and Screening Level 2. Screening Level 1 reduced the initial 20 routes to 8 routes, and Screening Level 2 reduced the 8 routes to 5 shortlisted routes for full non-cost and cost evaluation.

3.1.1 Development of Routes – Screening Level 1

Screening Level 1 was more subjective; this effort was based on a desktop level review conducted by 8 Stantec team members and preliminary route length. At the time, outside of route length, there was no other qualitative data available to compare the routes. The desktop review of the 20 routes considered the following preliminary evaluation criteria:

- Public inconvenience
- Safety
- Trenchless crossings
- Geotechnical considerations
- Permitting and implementation
- Right-of-Way (ROW) / easement availability
- Operations and Maintenance (O&M) accessibility
- Environmental and historical impacts
- Long range planning
- Special construction requirements

Tampa Bay Water indicated their preference for routes with lands available for acquisition of a dedicated Permanent Utility Easement (PUE) for the pipeline. This was taken into consideration by each of our team members in completion of the Screening Level 1 effort.

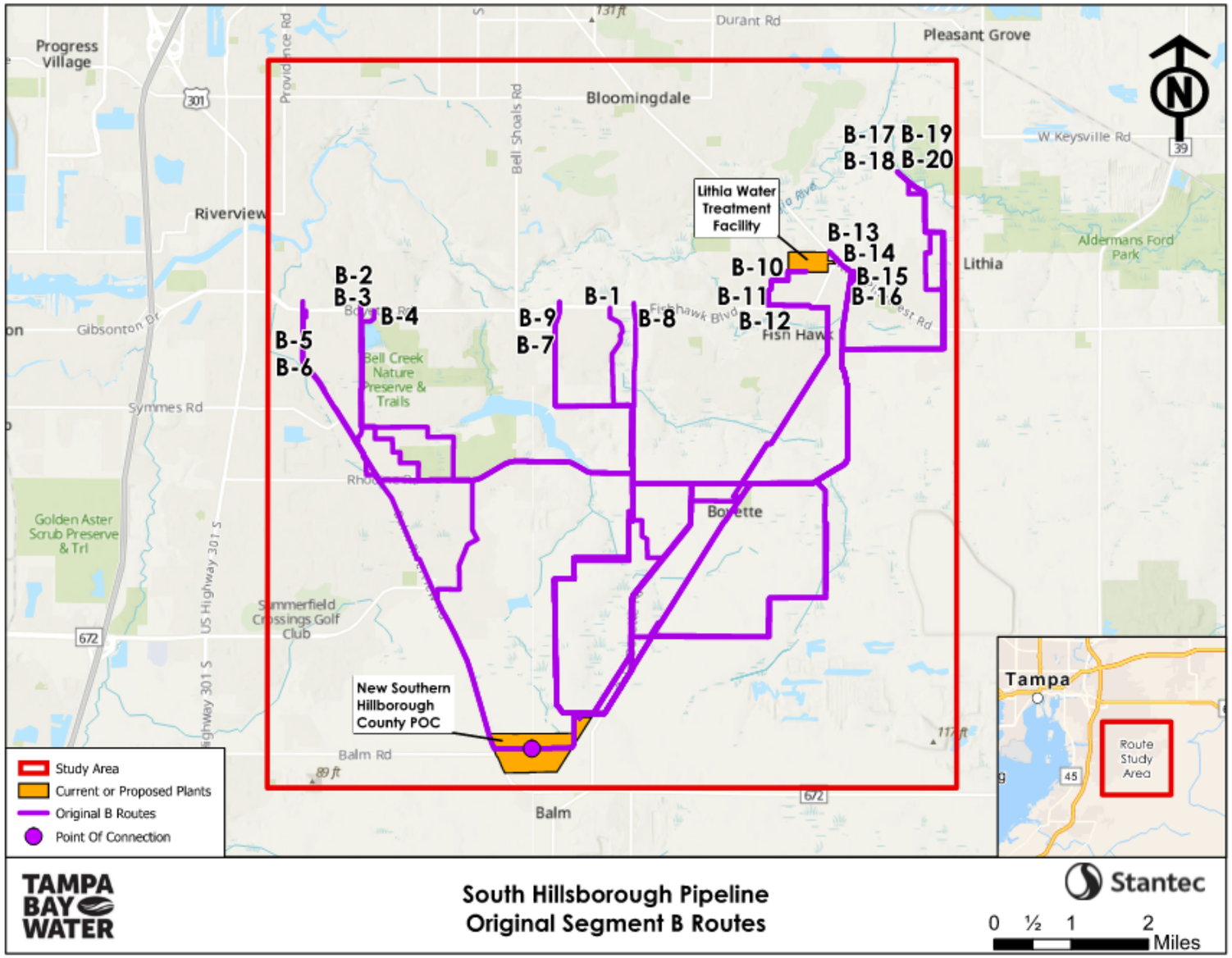
Eight (8) members of Stantec's team used the preliminary evaluation criteria to narrow down the alternatives from 20 to 8. These team members come from multiple backgrounds (project managers, environmental permitting, design leads, pipeline engineers, etc.), thus providing a rounded and informed perspective on which to base Segment B's considerations. No individual's scoring carried more weight than another's. Each member generated a ranked list, 1 through 20, for every route evaluated.

For the raw results from each reviewer, please see **Appendix A - Route Screening Level 1**.

Table 3-1: Raw Ranking of 20 Proposed Screening Routes

Rank	Route Name / Number	Point of Connection	Pipeline Length
1	B-1	Central	35,074
2	B-8	Central	35,597
3	B-9	Central	40,949
4	B-7	Central	40,425
5	B-20	East	62,165
6	B-18	East	59,081
7	B-15	Lithia	43,541
8	B-13	Lithia	52,991
9	B-19	East	56,596
10	B-16	East	49,126
11	B-14	Lithia	45,388
12	B-17	East	78,702
13	B-10	Lithia	53,037
14	B-11	Lithia	45,433
15	B-5	West	38,345
16	B-4	West	45,927
17	B-12	Lithia	44,142
18	B-2	West	54,083
19	B-3	West	54,653
20	B-6	West	55,029

Figure 3-1: 20 Original Segment B Routes



There were routes where individual reviewers differed in opinion. One example is Route 1 – a few reviewers ranked this favorably, while others did not. Internal roundtable discussions were held afterwards to understand each reviewer's position and discuss routes which featured especially high deviation in scoring. However, these discussions did not influence nor retroactively change each reviewer's scoring.

Although pipeline length was the only quantitative aspect evaluated, it did not determine overall rank. This is seen, for example, with routes 11 and 12 scoring 14th and 17th, despite both being within the top 8 for shortest length.

Included in **Table 3-2** are the selected 8 routes resulting from Screening Level 1. After meeting with Wade Trim and B&V, the Engineering Team agreed to select the top two results from each beginning point: west, central, Lithia, and east. This was done to consider all terminal ends to the Segment A alternatives. Otherwise, B-4 and B-5 would have been eliminated prior to a more objective screening approach. This eliminated central connection routes B-7 and B-9 in favor of west connection routes B-4 and B-5.

Table 3-2: Selected 8 Routes from Level 1 Screening

Route Name / Number	Point of Connection	Pipeline Length
B-1	Central	35,074
B-4	West	45,927
B-5	West	38,345
B-8	Central	35,597
B-13	Lithia	52,991
B-15	Lithia	43,541
B-18	East	59,081
B-20	East	62,165

3.1.2 Development of Routes – Screening Level 2

The next step was to reduce the 8 routes to 5 routes. Stantec referred to this internally as Screening Level 2.

The list of reviewer perspectives included the following:

- Utilities
- Environmental
- Public safety and construction / worker safety

- Public impact (Dialogue – PR)
- Geotechnical (Arehna Geotechnical)
- Land acquisition (Florida Land Acquisition & Appraisal)
- Project engineer
- Project director

The value in having a varied team was that each reviewer considered the data (**Table 3-3**) from the perspective of their project role. Compared to Screening Level 1, a more data-driven approach was taken to reduce the 8 routes to 5 (**Figure 3-2**). The team used data available at the time to discern between the routes. This included:

- Pipeline length (feet)
- Length in private parcels (feet)
- Length in public parcels (feet)
- Length in right-of-way (feet)
- Number of private ownership parcels requiring Permanent Utility Easement
- Average Annual Daily Traffic [AADT] (maximum)
    - This data represented the maximum AADT recorded along the alignment, not the total AADT impact.
- Number of trenchless crossings (for roadways equal to or greater than 3 lanes)
- Approximate length of trenchless crossings (feet)
    - As a sum of the total riverine and roadway crossings.
- Wetlands impacts (feet)
    - Derived from the GIS project viewer. Measured as the amount of the alignment within wetlands; the National Wetlands Inventory (NWI) layer was used as the data source.
- Length parallel to transportation preservation corridor (feet)
    - Measured as how much of the alignment is within or parallel to roadway corridors that will be expanded in the future.

The data for each of the 8 routes is tabulated below in **Table 3-3.**

Figure 3-2: Screening Level 2, 8 Routes for Consideration

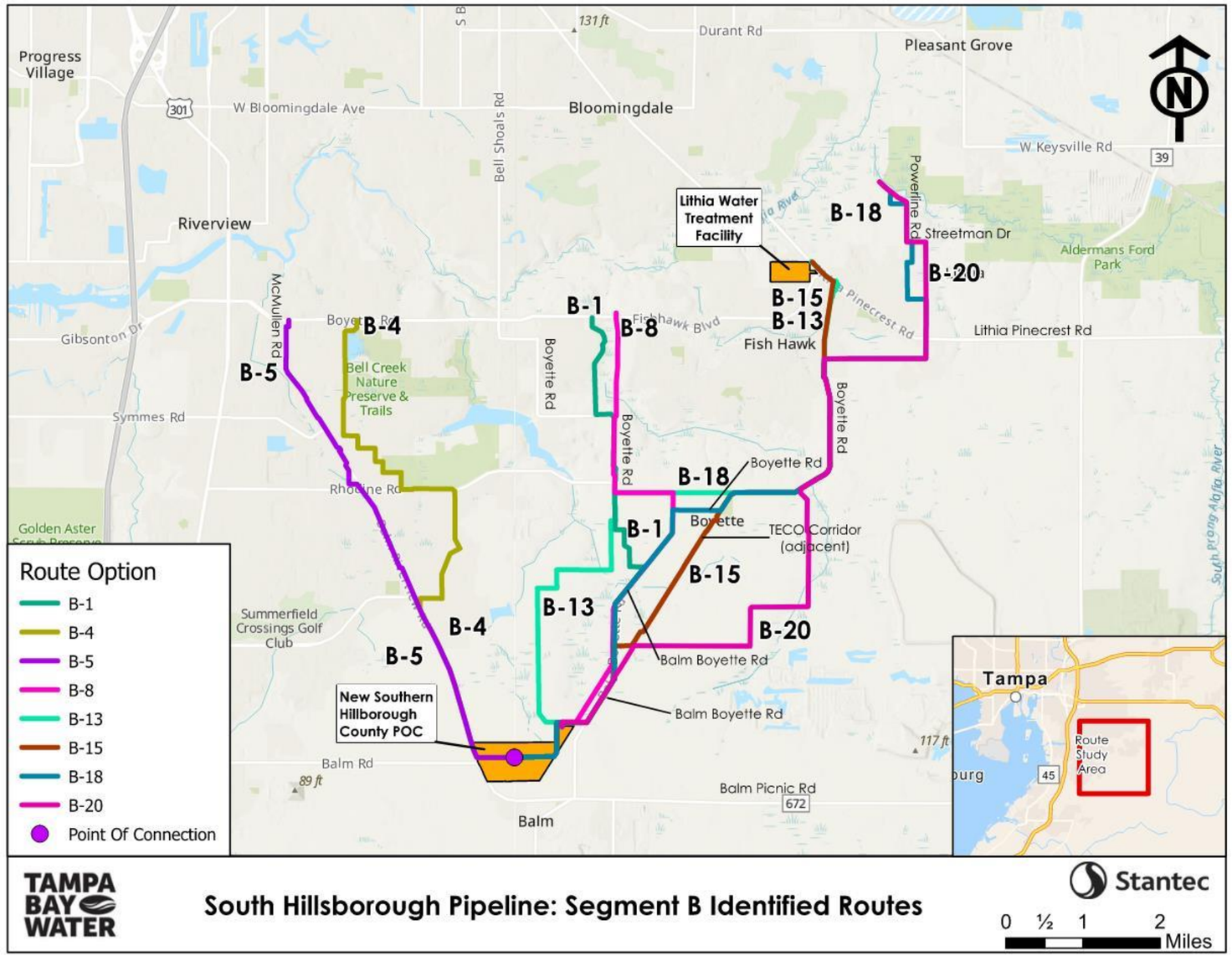


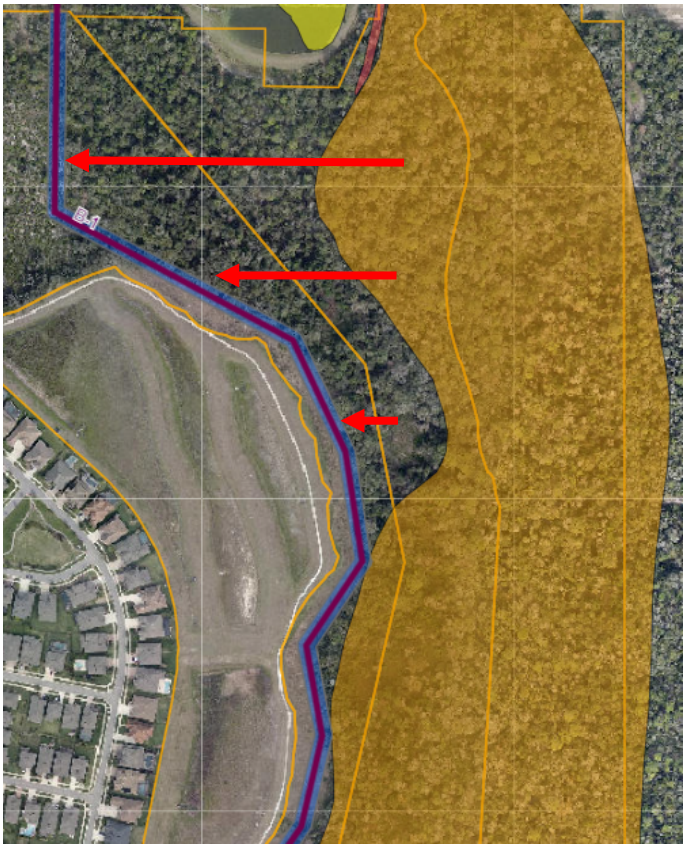
Table 3-3: Screening Level 2 Route Data[1]

Route Option	Length in Feet (feet)	Linear Feet in Private Parcels (feet)	Linear Feet in Public Parcels (feet)	Linear Feet in ROW (feet)	Private Parcels Requiring Acquisition	Max AADT Across Alignment	Number of Anticipated Trenchless Crossings	Length of Trenchless Crossings (feet)	Wetlands Impact (feet)	Length Parallel to Conservation Corridor (feet)
B-1	35,076	6,174	27,496	1,406	8	20,500	1	76	3,576	3,800
B-4	46,033	6,929	23,094	16,009	33	29,200	7	735	3,898	10,350
B-5	40,180	17,358	15,578	7,243	71	15,100	7	965	4,860	27,150
B-8	35,307	13,656	20,174	1,478	22	20,500	1	77	2,110	0
B-13	53,474	18,130	34,394	950	41	13,700	4	399	4,861	6,300
B-15	43,788	18,735	24,053	1,000	52	13,700	7	627	4,298	2,500
B-18	59,353	34,959	23,656	737	68	13,700	3	217	3,457	0
B-20	62,761	32,122	29,845	794	54	13,700	4	294	6,199	0
Average	*46,996*	*18,508*	*24,786*	*3,702*	*44*	*17,513*	*4*	*424*	*4,157*	*6,263*
Median	*44,910*	*17,744*	*23,854*	*1,203*	*47*	*14,400*	*4*	*347*	*4,098*	*3,150*

[1] This data is representative of the routes at the time of Screening Level 2. Routes were slightly refined and adjusted as the route evaluation process progressed; thus, some of the data presented here may be different than that presented in Section 4.

Between Screening Level 1 and Level 2, minor adjustments were incorporated into each of the eight routes as additional data was acquired and available to evaluate. An example of this is the northern reach of B1 and B8 – these portions of the alignments were adjusted west, just outside the wetland boundary (**Figure 3-3**). This more accurately reflects the intention of alignments B1 and B8 to be located outside of the wetland.

Figure 3-3: Adjustment to B-1, B-8 Outside Wetlands



The Screening Level 2 route rankings for each reviewer are provided in **Appendix B - Route Screening Level 2**. **Table 3-4** below provides the average ranking across the 8 reviewers.

Table 3-4: Screening Level 2 Results

Route Number	Avg Rank	Std Dev.	Connection
B-1	1.88	1.053	Central
B-8	2.50	1.500	Central
B-4	4.00	2.179	West
B-15	4.63	1.111	East
B-13	5.13	1.536	East
B-5	5.63	2.395	West
B-18	5.88	0.927	Lithia
B-20	6.00	2.291	Lithia

Like Screening Level 1, Stantec determined that it was preferrable to carry forward at least one route from each of the potential connection points: west, central, Lithia, and east. Simply taking the top five ranking results would a) eliminate all Lithia connection point routes and b) provide little differentiation between certain alignments (like B-1 and B-8). Additionally, it would exclude B-5[2], the western most route, another mile west of B-4. **Table 3-5** includes the Segment B routes considered for route evaluation; these are also illustrated on **Figure 3-4. Figure 3-5** through **Figure 3-9** display, independently, each Segment B route following Screening Level 2.

Each figure includes preliminary key considerations. These key considerations were not meant as an exhaustive list for each route, but rather a snapshot of the Engineering Team's early insights collected from Screening Level 2.

Table 3-5: Selected Segments for Route Evaluation

Route Number	Connection
B-1	Central
B-4	West
B-5	West
B-15	East
B-18	Lithia

[2] At the time of Screening Level 1, the preliminary B-5 alignment was largely within the roadway right-of-way. This led to an unfavorable ranking compared to the other alignments. This alignment was later adjusted to be mostly within private parcels along Balm Riverview Road. This modification made B-5 a more desirable alignment alternative.

Figure 3-4: Segment B Short-Listed Routes

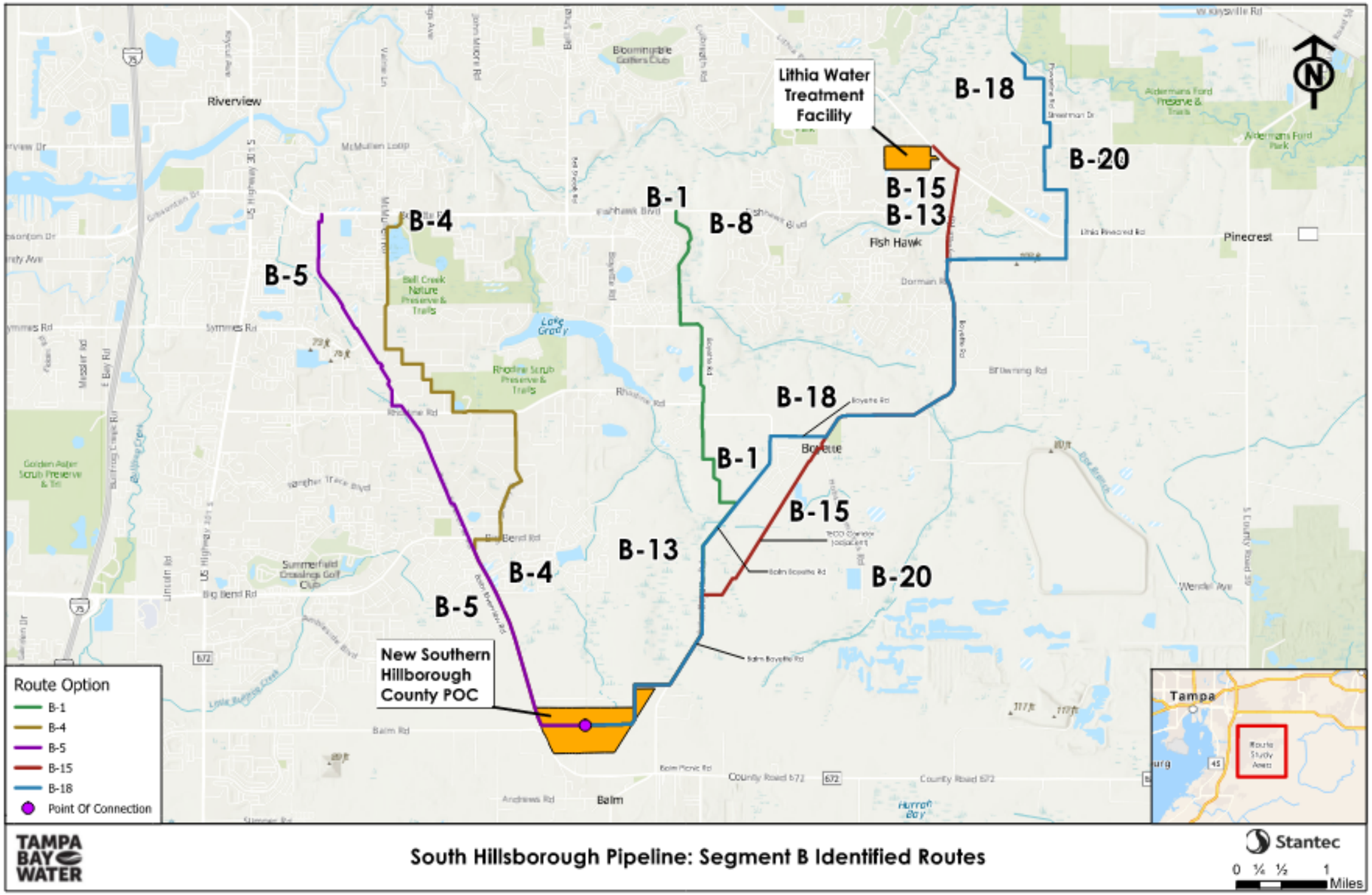


Figure 3-5: Key Considerations (Route B-1)

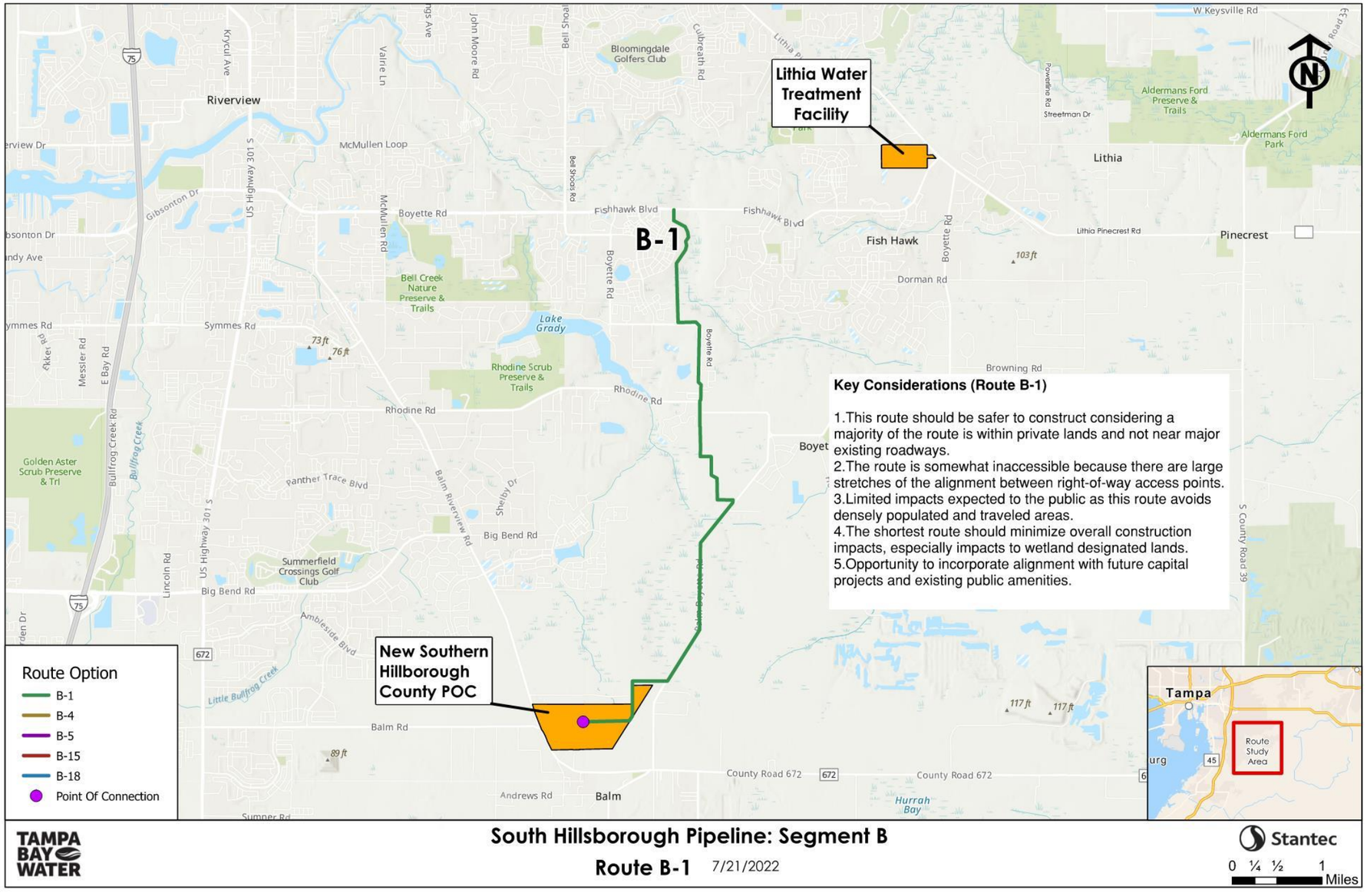


Figure 3-6: Key Considerations (Route B-4)

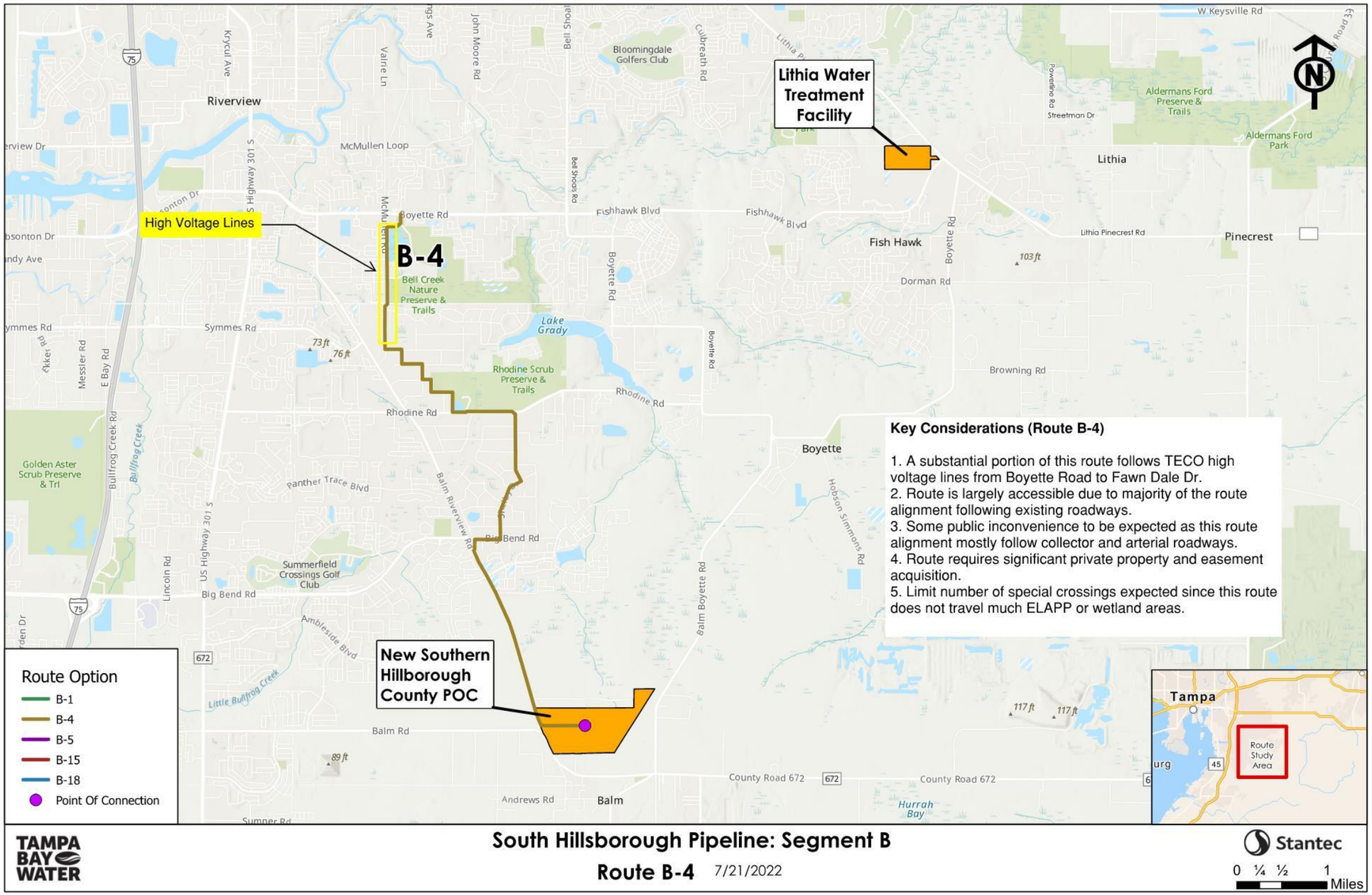


Figure 3-7: Key Considerations (Route B-5)

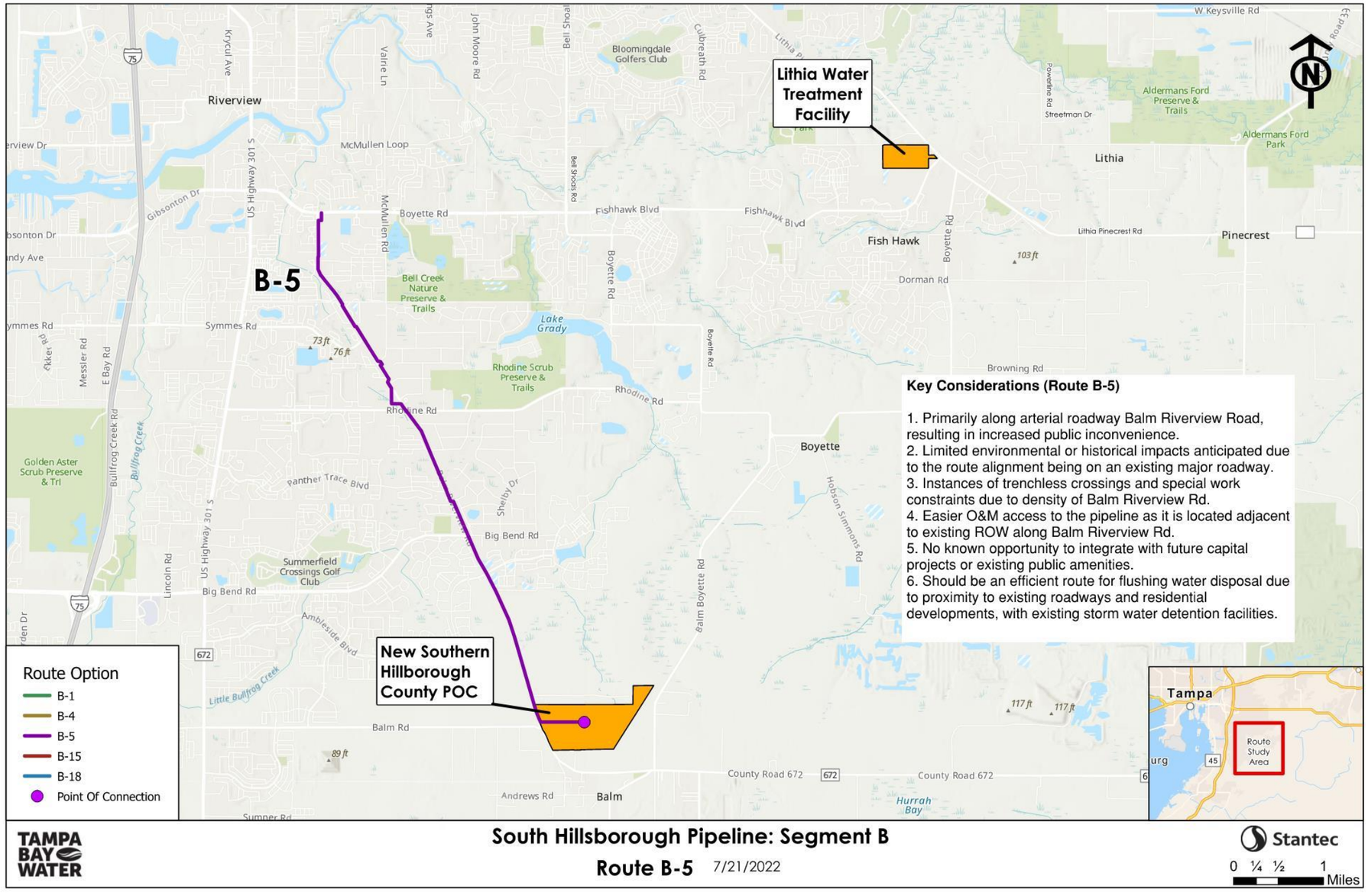


Figure 3-8: Key Considerations (Route B-15)

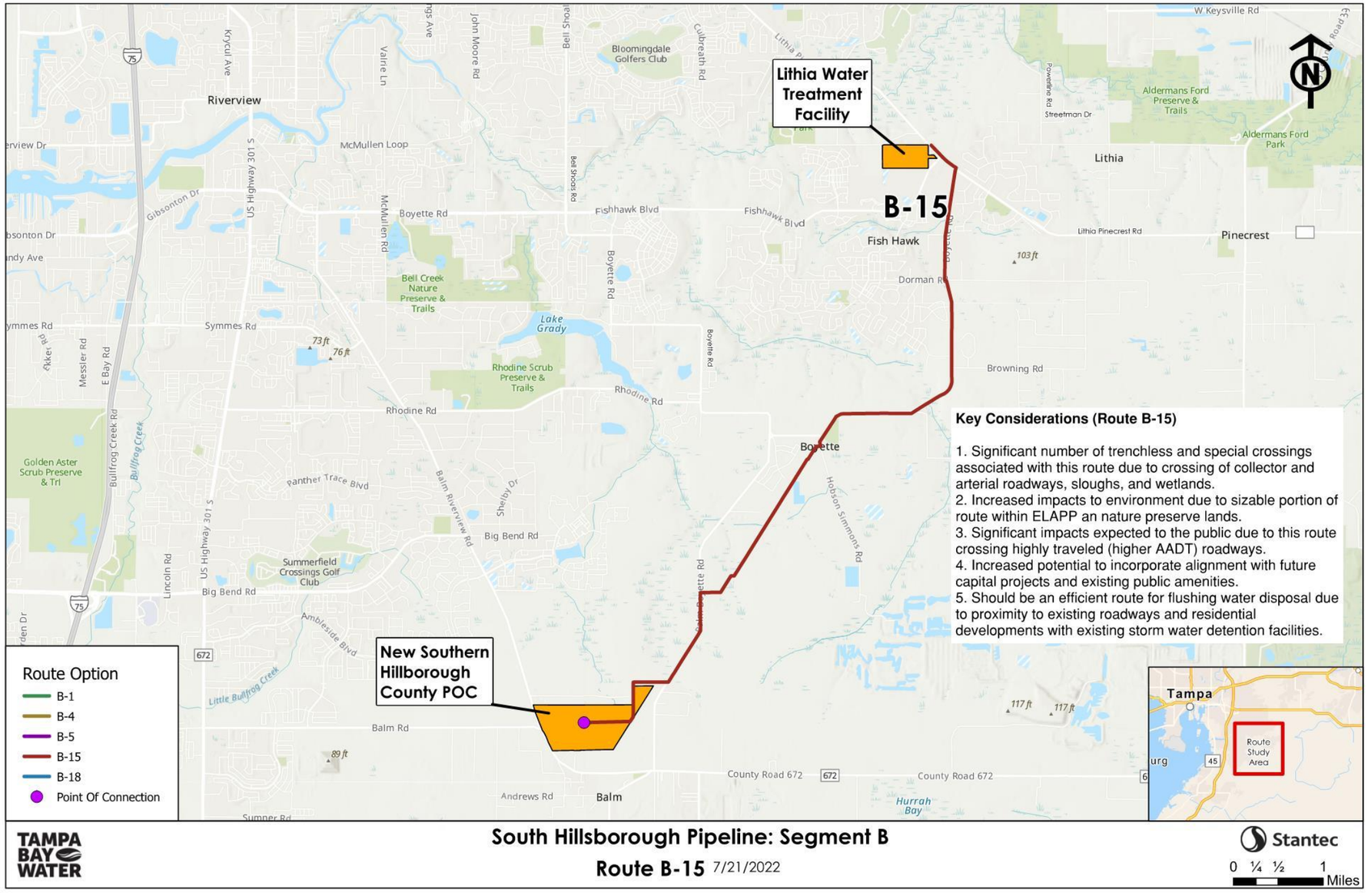
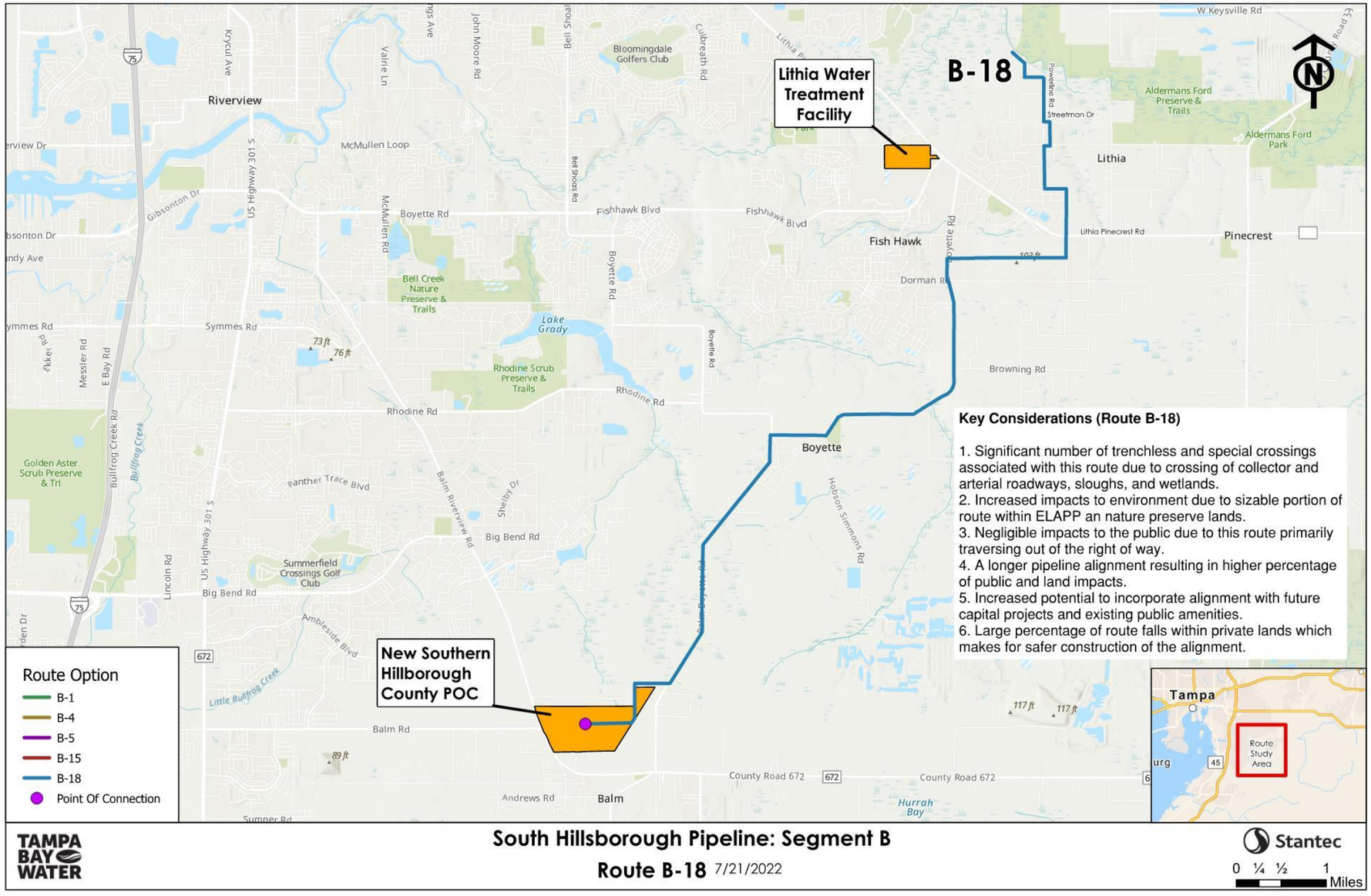


Figure 3-9: Key Considerations (Route B-18)



3.1.3 Field Reconnaissance

Field reconnaissance reviews of shortlisted routes B-1, B-4, B-15, and B-18 took place during the first two weeks of April 2022. Field reviews were conducted prior to the inclusion of B-5 as a short-listed route, except for B-5 environmental field review.

The purpose of the field reviews was to verify assumptions made during the desktop review, as well as evaluate current conditions of the routes. The findings outlined in this section constitute high-level observations and summaries for each review. Full field reviews for each of the criteria listed below can be found in **Appendix C - Field Reconnaissance**.

3.1.3.1 General Observations & Considerations

The purpose of the general field review was to use engineering judgement and determine if any items identified in the field were not being properly considered in the route evaluation and ranking exercise. Specific criteria being reviewed in this field review varied, but considerations included: areas of unique surface restoration, public inconvenience, special work constraints, and trenchless crossings, amongst others.

Near the start of route B-4, wetlands were identified on the south side of Boyette Road. Tampa Electric Company (TECO) power lines were also located at the southeast corner of Boyette/McMullen intersection. If the route cannot be aligned as shown east of the intersection, then the B-4 route can instead run through the intersection and across the 7/11 and Chevron gas stations.

For B-18, a new development was identified along Lithia Pinecrest Road. Additionally, a natural gas line identified at the alignment's intersection with Lithia Pinecrest Road, and new roadway paved within a newly developed community are both potential public inconvenience risks. See **Figure 3-10** below for an image of the potential natural gas line near Lithia Pinecrest Road.

One key observation made involved routes B-15 and B-18, between Dorman Road and Browning Road. It was identified that the houses between Dorman Road and Browning Road are close to the road and alignment. The limited space between homes and the conceptual alignment of the proposed routes may result in construction constraints, such as potential impact to property owner's fences and need for Temporary Construction Easement (TCE). Future Operations and Maintenance (O&M) should be considered; even with an easement on the property, the fence is near the pipeline alignment and may create future O&M issues.

Figure 3-10: Potential Natural Gas Line near Lithia Pinecrest Road on B-18

3.1.3.2 Safety & Public Inconvenience

A field review focusing on safety & public inconvenience was conducted. Criteria reviewed were contractor safety, driver and pedestrian safety, public safety/emergency facilities, and public inconvenience. While contractor safety was evaluated in this field review, constructability, and public inconvenience were also evaluated in the general observations and considerations field review.

One of the most common safety criteria observed was the presence of powerlines along all routes. On all potential routes, contractors will need to consider proximity of powerlines to the work zone as construction progresses. Large overhead electric transmission lines were observed along Balm Boyette Road for routes B-1, B-15, and B-18. The large overhead electric transmission lines are within a TECO Power corridor crossed by these three routes. Working near TECO Power overhead electric lines causes a risk of safety and public inconvenience.

McMullen Road on Route B-4 was observed to be a potential safety issue (**Figure 3-11**). McMullen Road's narrow shoulder, combined with high volume of traffic and moderate speeds, has the potential to create a safety issue for both contractor and the public. This portion of route B-4 also has the potential to create public inconvenience and public safety issues with any temporary road or lane closures. Powerlines were also noted on both sides of McMullen Road, adding to the potential for safety and public inconvenience issues during construction.

Figure 3-11: McMullen Road Along Route B-4

Routes B-1 and B-18 cross Swiss Bridge Drive, which is the only ingress / egress for the Homes by WestBay at Hawkstone neighborhood. If this is still the only access at the time of construction, this will likely cause a public inconvenience for all residents of this neighborhood. See **Figure 3-12** below.

Figure 3-12: Swiss Bridge Drive & Balm Boyette Road

Route B-15 has the potential for safety and public inconvenience issues near the Boyette Road & Lithia Pinecrest Road intersection. B-15 crosses near this major intersection, which will disrupt traffic and cause both safety and public inconvenience risks.

3.1.3.3 Utilities

A field review focusing on potential utility conflicts was conducted. Various criteria were considered, including identifying utilities information not previously received and/or incorporated into the GIS/aerial mapping. Additional utility investigation will be conducted with final route selection.

Along route B-4, an ammonia marker that was not identified in the desktop review was found east of Doneymoor Drive & Boyette Road. This field observation was later used to obtain GIS data that could be incorporated into Stantec's route study.

Along route B-1, a TECO Peoples Gas line was identified with gas markers, see **Figure 3-13.** Natural gas markers were observed following Boyette Road as it turns east at Boyette Road & Trails End Lane, resulting in a potential utility conflict with the B-1 route. These gas markers were especially valuable to identify the gas line location, as the specific side of the road and location were not available at a desktop level. Gas markers were also field verified along Boyette Road to be on the east side, which could conflict with routes B-15 and B-18. Both B-15 and B-18 are proposed to run along the east side of Boyette Road.

Figure 3-13: Gas Marker Along Boyette Road

3.1.3.4 Environmental

A field review focusing on environmental considerations was conducted. This review took place on two days between April 8, 2022, and April 13, 2022. At this review stage, the B-5 alignment was included in the field review. Environmental criteria included as part of this field review encompassed: wetland and/or tributary impacts, wetland type, and quality of the wetlands that would be impacted. While public conservation lands, sensitive habitats, and known wetland/environmental conservation easements were reviewed and considered in the desktop ranking effort, these were not the focus of this field review.

The number and quality of publicly accessible wetland impact areas were noted and documented for length. The quality of the wetlands and surface waters were documented and scored using the state of Florida's Uniform Mitigation Assessment Method (UMAM), which quantifies the relative value of a wetland using community structure (desirability of plant species and/or presence of nuisance/exotic species), location and landscape (how well the surrounding environment can support the functions of the wetland being impacted), and water environment (the degree to which the hydrology is appropriate for the wetland or other surface water being evaluated.

In the UMAM scoring process, each criteria is assigned a score from 1 to 10, with 10 being the most desirable score indicating the highest quality wetland characteristics. Approximate mitigation credit requirements were estimated using this information, combined with mapped lengths of 60-foot-wide

corridors to determine acreages. Approximate dollar values of potential mitigation requirements for each route were estimated using current credit prices for mitigation banks in the Alafia River Basin. For areas not publicly accessible, National Wetlands Inventory (NWI) mapping was used to estimate length of wetland impacts. These were included in the evaluation table developed following the site visit using an assumed 'average' quality score of 7 out of 10.

4.0 NON-COST EVALUATION RESULTS

This section features excerpts from the previously completed Technical Memorandum:

Tampa Bay Water – Pipeline Route Non-Cost Evaluation Criteria Memorandum. April 2022. See **Appendix D - Weighting Criteria Technical Memorandum** for reference.

4.1 EVALUATION CRITERIA AND WEIGHTING METHODOLOGY

Non-Cost Route Evaluation Criteria

Stantec and Wade Trim began efforts by reviewing the previous reports to establish baseline evaluation criteria. Tampa Bay Water expressed their approval of evaluation criteria developed in Arcadis' *South Hillsborough County Pipeline Route Study*, published in August 2020. This served as the baseline for developing final evaluation criteria.

Stantec and Wade Trim solicited agreement on the evaluation criteria and incorporated feedback from the IPM. The confirmed evaluation criteria and considerations are tabulated below in **Table 4-1**.

Table 4-1: Finalized Non-Cost Criteria and Considerations

Non-Cost Evaluation Criteria	Considerations
Pipeline Segment Length	Duration of construction; date of initial operation Number of pipe joints and potential latent defects (e.g., future leaks) Number of appurtenances requiring O&M Pipeline segment hydraulics Duration of public inconvenience
Public Inconvenience	Complaints; community relations Potential impacts to business operations and profits Increased public transportation and business commuting time Reduced quality of life (e.g., loss of use, impacts during construction) Availability of detours Proximity to schools, hospitals, urgent/long term care, and churches
Safety	Accessibility for emergency vehicles Construction equipment, vehicles, obstacles in road, and proximity to heavy truck traffic Proximity of construction to petroleum pipelines and high voltage overhead powerlines Safety of public during construction (bike lane, sidewalk impacts) Construction worker safety (trench depth, proximity to roadway)
Special Crossings / Construction Requirements	Consequence of failures Accessibility for future maintenance Unique restoration (landscape, hardscape) Complicated maintenance of traffic plans Complexity of construction Construction window limitations (reduced work hours, nightwork, daily commute/weekend/special event restrictions) Special trenchless requirements (casing, settlement monitoring, ground stabilization Special construction requirements (dust control, clearing, restoration)

SOUTH HILLSBOROUGH PIPELINE (SEGMENT B)

Non-Cost Evaluation Criteria	Considerations
Geotechnical Considerations	Dewatering, construction duration and difficulty, groundwater contamination Corrosion potential Potential for unforeseen conditions (soils, groundwater, objects) Trench zone requirements and stability
Permitting/Implementation	Work restrictions and construction sequencing Agency review/approval durations and project schedule impacts Special interest group protest Public hearing/notification requirements Additional approvals required for conservation easements Compliance with multiple agencies permitting processes/requirements Potential for impact on procurement/construction schedule
ROW / Easement Availability	Property owner sensitivity to loss of use (business/personal) Property features impacting construction (topography, fences, wall, building, roadways, vegetation/landscaping) Easement desirability and location within property (proximity to public, ease of access, property owner impact) Defined property acquisition process Amount and type of property acquisitions Potential opportunity for coordination, with future trails/greenway, utilities, fire breaks, and maintenance Potential for future relocation of Tampa Bay Water pipeline Construction constraints Agency encroachment requirements and cooperation Existing utility density/congestion & relocation Potential for buffer between incompatible land uses
Operation and Maintenance Accessibility	O&M convenience (level of effort) and effectiveness Access for future maintenance activities Facilitates access for emergency repairs Facilitates ease of pipeline commissioning
Environmental & Historical Impacts	Long term mitigation responsibility and monitoring requirements Additional land acquisition beyond pipeline easement

Non-Cost Evaluation Criteria	Considerations
	Construction constraints and schedule impacts Construction complexity, mitigation requirements, and accessibility Climate interactions and risk Public perception Acquisition of mitigation credits Impacts to established and proposed wildlife corridors Disturbed lands verses undisturbed and preserve lands
Long-Range Planning	Integration with future capital projects Co-location in existing Tampa Bay Water utility easements/corridors Consistency with existing and proposed land use planning and zoning Opportunity to Coordinate with future Public Amenities and / or Access to Public Amenities Future road/intersection enhancements

Non-Cost Evaluation Criteria Weighting Factors

This routing evaluation uses criteria weighting factors, following similar strategies from past completed route analyses. The main benefit to using weighting factors is to allow the stakeholder team to provide objective input, quantifying which evaluation criteria are more impactful than others. For example, long range planning could have less route selection importance than safety, but greater importance than geotechnical considerations.

To identify the relative importance of each evaluation criteria, project team stakeholders participated in a Weighting Criteria Workshop, facilitated by the IPM using an interactive comparison web-tool. The methodology used in the workshop, pairwise comparison, evaluates the importance of individual evaluation criteria. A pairwise comparison effectively “compares” each evaluation criteria against another, with the user deciding which evaluation criteria is more important. See **Table 4-2** which documents the results of the pairwise comparison process. Highlighted in the **Table 4-2** far right column are the resulting weighting factors entered into the scoring matrix. (The scoring matrix is expanded on in **Section 4.5**).

Table 4-2: Pairwise Comparison and Evaluation Criteria Weighting Factor

Evaluation Criteria	Pairwise Count per Person & Rank Matrix (Rank higher = better)																		Weighting Factor (Average Rank)
	Person 1		Person 2		Person 3		Person 4		Person 5		Person 6		Person 7		Person 8		Public Opinion Survey		
	Count	Rank	Count	Rank	Count	Rank	Count	Rank	Count	Rank	Count	Rank	Count	Rank	Count	Rank		Rank	
Pipeline Segment Length	3	5	2	2	5	7	2	4	6	8	6	8	2	3	2	3		2	4.67
Public Inconvenience	1	1	4	6	5	7	2	4	2	2	3	5	3	5	4	5		10	5.00
Safety	9	10	9	10	9	10	9	10	9	10	8	10	9	10	9	10		8	9.78
Environmental & Historical	6	8	3	3	8	9	7	9	6	8	2	2	8	9	7	9		9	7.33
Special Crossings / Construction Requirements	7	9	4	6	2	3	2	4	7	9	4	6	6	7	1	2		7*	5.89
Permitting/Implementation	3	5	4	6	4	5	6	7	3	4	3	5	2	3	4	5		1	4.56
Operation and Maintenance Accessibility	6	8	5	8	3	4	4	5	3	4	8	10	7	8	6	7		4	6.44
ROW/Easement Availability	5	6	8	9	7	8	7	9	4	5	6	8	3	5	7	9		5	7.11
Geotechnical Considerations	3	5	1	1	0	1	6	7	5	6	3	5	0	1	0	1		3	3.33
Long-Range Planning	2	2	5	8	2	2	0	1	0	1	2	2	5	6	5	6		7*	3.89

* The 2019 Public Opinion Survey (online), found in **Appendix H – Public Outreach,** yielded equivalent ranking for both Special Crossings / Construction Requirements and Long-Range Planning. Thus, these were both assigned a rank of 7. Consequently, the next rank, 6, was skipped, and right of way (ROW) / Easement Availability was assigned a rank of 5.

4.2 SUB-CRITERIA

The non-cost evaluation criteria encompass a substantial breadth of information and detail. Because these evaluation criteria are so broad, it is difficult to interpret how the evaluation criteria would be used as discreet criteria to evaluate and compare route alternatives. Thus, Stantec and Wade Trim created sub-criteria to provide more discreetly definable and measurable evaluation characteristics. Provided below are the sub-criteria used in the route evaluation. **Section 4.4** describes what the sub-criteria are measuring and why they are used in the route comparison.

Like the ten primary evaluation criteria, a "weighting factor" was also assigned to each sub-criteria. However, unlike the evaluation criteria, the sub-criteria weighting factors were represented as a percentage. This percentage represented the relative importance of each sub-criteria within the specific evaluation criteria. The sum of the sub-criteria percentages within a given evaluation criteria is equal to 100%.

Stantec and Wade Trim were responsible for assigning the sub-criteria weighting percentages for Segment B and Segment A, respectively. This allowed each engineer to consider the importance or criticality of each sub-criteria in relation to the evaluation of their respective pipeline segment. *E.g., the sub-criteria weighting factor for Environmental Permits could be 20% for Segment A and 50% for Segment B.*

Below are listed each evaluation criteria (underlined), sub-criteria (*italicized)*, and sub-criteria weighting percentage [in brackets].

Evaluation Criteria: Pipeline Length (feet)

Sub-criteria: Length of Pipeline (feet) [60%]

Sub-criteria: Pipeline segment Head Loss (feet) [40%]

Evaluation Criteria: Public Inconvenience

Sub-criteria: Public Inconvenience [100%]

Evaluation Criteria: Safety

Sub-criteria: Trench Depth [30%]

Sub-criteria: Contractor / Pedestrian / Local Driver Safety [40%]

Sub-criteria: Proximity to Natural Gas / Petroleum Lines [25%]

Sub-criteria: Proximity to High Voltage OHE [5%]

Evaluation Criteria: Environmental & Historical Impacts

Sub-criteria: Wetlands Impacts [25%]

Sub-criteria: Wetlands Classification [35%]

Sub-criteria: Archaeological / Historical Impacts [10%]

Sub-criteria: Habitat / Biological Impacts [25%]

Sub-criteria: Contaminated Groundwater / Biohazards [5%]

Evaluation Criteria: Special Crossings / Construction Requirements

Sub-criteria: Number of Trenchless Crossings [50%]

Sub-criteria: Total Length of Crossings [30%]

Sub-criteria: Number of Special Trenchless Construction Instances [10%]

Sub-criteria: Special Work Constraints [5%]

Sub-criteria: Unique Restoration [5%]

Evaluation Criteria: Permitting / Implementation

Sub-criteria: Environmental Permits [55%]

Sub-criteria: Number of Permits Required [35%]

Sub-criteria: Municipal Permits [10%]

Sub-criteria: Right-Of-Way Permits [0%]

Evaluation Criteria: Operation and Maintenance Accessibility

Sub-criteria: Pipeline Accessibility [80%]

Sub-criteria: Disinfection / Flushing Water Disposal [20%]

Evaluation Criteria: ROW / Easement Availability

Sub-criteria: Percentage of Route within Private Lands [35%]

Sub-criteria: Number of Parcels Requiring Easement Acquisition [20%]

Sub-criteria: Percentage of Route within Public Lands [20%]

Sub-criteria: Number of Parcels Requiring Compensation for Loss of Use [5%]

Sub-criteria: Complexity of Acquisition [10%]

Sub-criteria: Development Status of Unavoidable ROW [5%]

Sub-criteria: Jurisdictional Agency Requirements and Cooperation [0%]

Sub-criteria: Major Existing Utility Relocation [5%]

Evaluation Criteria: Geotechnical Considerations

Sub-criteria: Groundwater Table [70%]

Sub-criteria: Soil Corrosivity [20%]

Sub-criteria: Depth of Shaft (Depth to Rock) [10%]

Evaluation Criteria: Long-Range Planning

Sub-criteria: Integration with Future Capital Projects and Land Use Planning [65%]

Sub-criteria: Integrated with Future Tampa Bay Water Projects [0%]

Sub-criteria: Opportunity to Coordinate with future Public Amenities and / or Access to Public Amenities [35%]

4.3 EVALUATION METRICS

An evaluation metric was defined as follows:

> *An evaluation metric is a numerical limit for how each sub-criteria will be evaluated, based on the sub-criteria data collected. Metrics generally use comparative relationships (> , < , =) to distinguish between a score of low (1), medium (5) or high (10). Low is representative of an undesirable score, while high is representative of a desirable score.*

Metrics were set for each sub-criteria using representative data collected for the short-listed routes evaluated. Wherever possible, strictly quantitative data was leveraged using available geospatial data; other inputs, such as anticipated duration of permitting, were derived through relevant experience on similar past projects. In limited locations, engineering assumptions were made to generate metrics. These assumptions are stated and recorded for relevant sub-criteria in **Section 4.4**.

Where practical, Stantec used the 25th percentile and 75th percentile of each sub-criteria's collected data to establish lower and upper metric limits so that the 5 routes distributed in scoring low (1), medium (5), and high (10). This methodology was used to provide a consistent and unbiased scoring approach across sub-criteria, as opposed to subjectively determining metric limits. The caveat to this approach was when there was limited data differentiation, or when data was aggregated at the extremes. This led to routes scoring the same across a sub-criteria, or only having two different scores (either 1 and 5 or 5 and 10) instead of 1, 5 and 10. Two examples are presented below.

An example of data aggregated at the extremes was Archaeological / Historical: routes B-1, B-15 and B-18 recorded 8, 9, and 10 instances of impacts, while routes B-4 and B-5 recorded 0 and 1 impact. In this case, routes B-4 and B-5 scored a full 10 points for the sub-criteria, while the remaining three routes scored the minimum 1 point.

An example of limited data variation was the sub-criteria Depth of Shaft (depth to rock). Route B-1's average limestone depth was 45 feet, while routes B-4, B-5, B-15 and B-18 featured average limestone depth between 54 to 59 feet. In this case, a score of either 5 or 10 was preferred to breaking scores up across 1, 5 and 10. Interpreting the data, there is not a significant difference between 54 feet and 59 feet – therefore those four routes should receive the same score. Using a percentile approach would disproportionately affect the scoring results compared to the relative proximity of the depth to shaft data.

In **Section 4.4** below, this 25th percentile and 75th percentile approach to setting evaluation metrics is abbreviated as: *25/75 percentile method.*

4.4 ROUTE COMPARISON

This section highlights key differences between routes for each sub-criteria. Under every sub-criteria, a short description is included to explain a) why that particular sub-criteria is important to route selection and b) what was measured within the sub-criteria and c) how the sub-criteria were scored relative to other Segment B routes. To review the results more comprehensively, and see how each route scored, see the summary on **Table 4-49** or **Appendix E - Scoring Matrix**.

Criteria: Pipeline Length

Sub-criteria: Length of Pipeline

Construction length is one of the drivers of overall schedule impact; longer routes mean increased duration of construction and therefore longer impact to the community. Construction length is measured as the total length of pipe for each proposed route option. The 25/75 percentile method was used to set scoring metric limits.

Table 4-3: Pipeline Segment Length

Route Option	Length in Feet
B-1	37,803
B-4	41,793
B-5	34,839
B-15	47,036
B-18	63,517

Table 4-4: Pipeline Segment Length – Scoring Metric Limits

Percentile	Length (Feet)
low	37,803
25%	41,400
average	44,997
75%	54,257
high	63,517

Route B-18 scored the worst as it is the longest route by nearly 10,000 feet. Route B-1 and B-5 scored the highest since these routes were the shortest and most direct. Route B-4 and B-15 scored average; both are between the shortest length route (B-5) and longest length route (B-18).

Sub-criteria: Pipeline Segment Head Loss

Pipeline hydraulics affect the overall operation of the system. This will drive pump selection, pipeline pressure class (pipe wall thickness), and pressure ratings of appurtenances and fittings.

The pipeline segment head loss was calculated using the Hazen-Williams equation. Assumptions included pipe material (steel), resulting in a friction coefficient C value of 145, pipe diameter of 66-inch, and a maximum flow of 60 mgd. The friction head loss was calculated to be 0.51 feet per 1,000 feet of pipe. The 0.51 feet of head loss per thousand feet was multiplied by each route's construction length to determine total friction head loss. Google Earth Pro was used to generate an elevation profile for each route. The static head of each route was determined by finding the difference between the maximum elevation of the pipe and the starting elevation of the pipe. The static head and friction head were added together to determine the overall head loss for each pipe alignment. The 25/75 percentile method determined the evaluation metric limits.

Table 4-5: Pipeline Head Loss

Route Option	Length in Feet	Hf (head loss per 1,000 feet)	Friction Loss (feet)	Static Head	Total Head Loss (feet)
B-1	37,803	0.51	19.39	72.00	91.39
B-4	41,793	0.51	21.44	59.00	80.44
B-5	34,839	0.51	17.87	66.00	83.87
B-15	47,036	0.51	24.13	40.00	64.13
B-18	63,517	0.51	32.58	90.00	122.58

Table 4-6: Pipeline Head Loss – Scoring Metric Limits

Percentile	Head loss (feet)
low	64.13
25%	76.30
average	88.48
75%	105.53
high	122.58

The length of pipe is also a variable when considering the head loss within the pipe. Route B-18 was found to have the highest total head loss amongst the 5 routes. Route B-1, B-4, and B-5 were found to have a similar total head loss, all relatively close to the “average” head loss across the 5 routes. Route B-15 had the lowest total head loss of the 5 routes. Although one might expect the results of head loss to be like the results of construction length, the discrepancies can be attributed to the static head loss of each route. By considering both frictional head loss and static head loss, the results vary from the construction length sub-criteria. This is seen in review of route B-15; this route has the second longest construction length, and therefore, the second highest friction loss. However, the change in elevation of this route (static head) was only 40 feet, which is much lower compared to the remaining 4 routes. As a result, route B-15 had the lowest total head loss.

Criteria: Public Inconvenience

Sub-criteria: Public Inconvenience (sum of Average Annual Daily Traffic)

PI measures how construction will impact the public. This sub-criteria captures impacts to the general public in the form of lane closure and loss of use to public amenities including schools, hospitals / urgent care, churches, fire stations, and other locations of public service importance. Public Inconvenience was measured by using a unitless equation to quantify a “PI” score. Each instance of PI in a route alignment was determined by multiplying together the AADT, the # of through lanes, the length along the route segment, and a sensitivity factor (SF). The sensitivity factor baseline is 1. The sensitivity factor is considered a 1.5 for work within 0.5 miles of a small-

scale non-essential business or religious establishments. The sensitivity factor is considered a 2.0 for work within 0.5 miles of a school, hospital, public service facility, recreational facility, or large businesses employing 50+ people. The product of these four factors (AADT, # of lanes, length, sensitivity factor) is summed for each instance across a route alignment. The metric was generally set by the 25/75 percentile method – the notable deviation was that route B-15 scored as poorly as route B-5.

Table 4-7: Public Inconvenience

Route	PI
B-1	269.46
B-4	791.79
B-5	1,779.29
B-15	1,163.40
B-18	298.33

Table 4-8: Public Inconvenience – Scoring Metric Limits

Percentile	PI
low	269.46
25%	564.96
average	860.45
75%	1,319.87
high	1,779.29

The equation generated a result of 1779.3 for B-5, scoring it as the highest rate of PI. This outcome makes sense as route B-5 mainly follows along Balm Riverview – a highly traveled roadway. Route B-15 also had a high amount of PI due to crossing Fishhawk Boulevard at the beginning of the route. This crossing may interrupt some businesses and business complexes in the vicinity. Route B-1 and B-18 had a low public inconvenience impact because 1) a majority of these two routes traverse comparatively less traveled existing roadways and 2) they have little impact to businesses or places of public gathering. Route B-4 had a moderate impact to the public because the beginning of the route follows a major existing roadway. However, the remainder of B-4 generated minimal PI scores.

Criteria: Safety

Sub-criteria: Trench Depth

The pipeline will be installed at 5-feet of cover, unless conflicts (such as utilities) require it to be installed deeper. For 66-inch pipe, this equates to a minimum of +/- 12 feet of trench depth. There will be locations where the pipeline must avoid existing utilities, diving to 10 feet or 15 feet cover, totaling 15 to 20 feet trench depths. These depths are dangerous not only for construction workers, but also pedestrians / public. Additional safety measures must be undertaken at greater trench depths.

The number of crossings with anticipated utility conflicts were quantified to represent the number of deep trench locations. The 25/75 percentile method determined the evaluation metric limits.

Table 4-9: Safety - Trench Depth

Infrastructure Type / Route	B-1	B-4	B-5	B-15	B-18	Totals
Stormwater Drain Pipes (all sizes)	1	10	13	0	2	**26**
TBW Pressurized Water Mains > 12"	1	0	0	1	1	**3**
HC Pressurized Water Mains > 12"	5	20	15	1	5	**46**
HC Waste Force Mains > 12"	5	1	3	0	2	**11**
HC Waste Laterals (all sizes)	0	1	1	0	0	**2**
Totals:	**12**	**32**	**32**	**2**	**10**	**88**

Table 4-10: Trench Depth – Scoring Metric Limits

Percentile	# Of Crossings
low	2
25%	10
average	18
75%	25
high	32

Route B-4 and B-5 both had the same number of crossings (32) and scored the lowest for this sub-criteria. Both Route B-4 and B-5 traverse major existing roadways and residential neighborhoods with existing large utilities that must be avoided. B-1 and B-18 traversed mostly rural and lightly developed areas with several crossings of existing underground infrastructure (10 and 12, respectively) needing to be avoided. Because the limit is set at 10 instances, B-15 shares

with B-18 in scoring the best for this sub-criteria. Route B-15 has two (2) known instances of utility crossings requiring a deeper 66-inch pipe trench, and also scores the best within this sub-criteria

Sub-Criteria: Contractor / Pedestrian / Local Driver Safety

Potential safety issues in construction zones may be because of reduced size and number of lanes, added obstacles, higher speeds, poor lighting, and poor construction housekeeping. Notably, the greater the volume of cars traveling through construction zones, the higher possibility for accidents and safety incidents. This sub-criteria uses Average Annual Daily Traffic (AADT) to quantify potential safety risk.

The overall AADT across each route option was recorded from FDOT's level of service data. The AADT for each roadway along each route option were added together to find the total AADT of the route. Roadways within neighborhoods that did not have level of service data was estimated to have a 100 AADT. The 25/75 percentile method determined the evaluation metric limits.

Table 4-11: Contractor, Pedestrian, and Local Driver Safety

Option	AADT
B-1	5,100
B-4	21,900
B-5	20,400
B-15	27,719
B-18	20,800

Table 4-12: Contractor, Pedestrian, and Local Driver Safety – Scoring Metric Limits

Percentile	AADT
Low	5,100
25%	12,141.9
average	19,183.8
75%	23,451.4
High	27,719

Route B-1 is the clear outlier and scored as the "safest" route; this route mainly follows a rural roadway with a very low AADT. Route B-4, B-5, and B-18 shared very similar overall AADT (between 20,400 and 22,000), and therefore scored the same for this subcriteria. These 3 routes

either intersected or traversed highly traveled roadways for at least some portion of the pipe alignment; B-4 approximately 1.5 miles, B-5 approximately 2 miles, and B-18 crosses heavily traveled Lithia Pinecrest Road. Route B-15 scored the lowest; the largest impact for route B-15 is where the route runs parallel to, and then crosses, Fishhawk Boulevard. These scores generally match with the PI sub-criteria scores, as AADT factors heavily into the PI equation; however, B-5 relatively scores higher on contractor, pedestrian, and local driver safety, while B-18 scores lower. This can be attributed to B-18's extended length – longer alignments mean more opportunities to increase the total AADT.

Sub-Criteria: Proximity to Natural Gas / Petroleum Lines

Hitting and or rupturing a natural gas line / petroleum line can cause significant public danger: explosions, fire, or through leaking natural gas wafting. Additionally, many gas pipelines utilize impressed current cathodic protection and additional design/construction requirements are needed when crossing/paralleling these facilities. Proximity of these facilities to the pipeline alignment will require additional coordination and supervision from the natural gas / petroleum representatives and must adhere to their clearance standards and specification requirements.

Stantec's primary concern is when the gas line runs parallel to a proposed pipeline route. TECO Peoples Gas provided a general overview map (PDF) of their pipelines but did not provide GIS level data. Accordingly, Stantec totaled (lineal feet) proposed pipeline alignment which fell approximately within 50 feet of the gas line. The routes which did not parallel a gas corridor scored a 10, while the routes that did scored a 1.

Table 4-13: Gas Proximity

	B-1	B-4	B-5	B-15	B-18
LF of pipe within 50 feet of gas line	none	none	none	14,887	18,937

Route B-1, B-4, and B-5 had no instances of the pipe alignment running parallel within 50 feet of a gas line. Therefore, these 3 routes scored the highest for this sub-criteria. Route B-15 and B-18 had a substantial amount of linear footage that ran parallel within 50 feet of an existing gas line on Boyette Road. This was field verified during reconnaissance to be on the east side of Boyette Road. Accordingly, these 2 routes scored the lowest.

Sub-Criteria: Proximity to High Voltage OHE

Common overhead powerline contact incidents involve operators and nearby workers around cranes, dump trucks, drill rigs, and other high-reaching mobile equipment, all of which will be present on the construction site. Like the natural gas and petroleum lines, the best indicator for safe work practices will be alignments further away from these high-voltage, overhead lines.

Proximity to high-voltage lines was measured as the length of pipe alignment within 50 feet of a high voltage line (> 43kV). The locations of the high voltage electric lines were provided by TECO Power. The 25/75 percentile method determined the evaluation metric limits.

Table 4-14: High Voltage Lines

Route	LF Within 50 feet of High Voltage Lines
B-1	475
B-4	2,975
B-5	1,950
B-15	2,125
B-18	565

Table 4-15: High Voltage Lines - Scoring Metric Limits

Percentile	LF Within 50 feet of High Voltage Lines
low	475
25%	1,047
average	1,618
75%	2,297
high	2,975

Route B-1 and B-18 both scored high on this sub-criteria because each alignment had minimal linear footage of pipe being constructed within 50 feet of a high voltage electric line. Route B-5 and B-15 scored moderate due to an ample amount of pipeline being constructed within 50 feet of high voltage electric lines (along Balm Riverview Road and the TECO Power corridor, respectively). Route B-4 has a substantial amount of pipeline that follows or is adjacent to existing high voltage electrical lines due to the route traversing developed Homeowner's Association (HOA) communities and residential neighborhoods. With nearly 3,000 linear feet (LF) paralleling high voltage lines, Route B-4 scores the lowest.

Criteria: Environmental and Historical Impacts

Sub-Criteria: Wetlands Impacts

Physical Impacts: The physical impact is the disturbance and loss of wetlands. With the disturbance of wetlands, there may be long-term mitigation responsibility, monitoring requirements and possibly acquisition of mitigation credits. Pipeline construction can produce erosion and sedimentation issues (impacting water quality), altering the direction of sheet flow

across the land. Wetland impacts are anticipated to be either temporary or permanent. Temporary impacts are anticipated for marsh and scrub/shrub wetlands and would likely require monitoring to ensure the wetland revegetates with appropriate species consistent with the surrounding non-impacted wetland. However, forested wetland impacts are expected to result in permanent impacts, either through fill or through conversion to marsh wetlands, either of which would require mitigation.

Perceived Impacts: Wetland impacts will be a concern for environmentally conscious residents, and could be used by those adverse to the pipeline to drive sentiment toward one route over another or against construction of the pipeline overall.

The wetlands impact was evaluated by calculating total acreage of PUE and TCE across NWI characterized wetlands. This was generated using publicly available GIS data. The 25/75 percentile method determined the evaluation metric limits.

Table 4-16: Wetland Impacts

Row Labels	Sum of Acres	Sum of Square Feet
B-1	2.23	99200.3
B-4	3.7	160005.4
B-5	3.6	158425.4
B-15	3.9	169093.1
B-18	3.3	144554.3

Table 4-17: Wetland Impacts – Scoring Metric Limits

Percentile	Acres
low	2.3
25%	2.9
average	3.4
75%	3.7
high	3.9

Route B-1 scores the highest for wetland impacts since this route has the lowest total acreage of wetlands impacted, recording an acre less than the next closest route, B-18. Route B-15 scored the lowest since this route impacted the largest area of wetlands. Routes B-4, B-5, and B-18 scored moderately for this sub-criteria since the total acreage for each route was close to the “average” acreage impacted across all 5 routes.

Sub-Criteria: Wetlands Classification

While the wetland impact sub-criteria measures the total area of impact, wetlands classification quantifies the type of wetland impacted. Some of the construction impacts to herbaceous wetlands may be temporary and can be restored following construction, some permanent impacts may occur, which will require mitigation. Currently, herbaceous wetland credits are only available for state required mitigation in this basin, which would result in the need to purchase additional credits outside of the Alafia basin to satisfy federal mitigation requirements, increasing mitigation costs. In addition, the conversion of forested wetlands to herbaceous marshes to maintain the pipeline will most likely result in the need to purchase costly forested mitigation credits.

UMAM stands for Uniform Mitigation Assessment Method. Florida Department of Environmental Protection established UMAM to determine the amount of mitigation needed to offset adverse impacts to wetlands and other surface waters. Each route's UMAM generates a functional loss (FL), which is what Stantec used to quantify the impact to different types of wetlands.

Table 4-18: Functional Loss (calculated by UMAM)

Route	FL
B-1	1.31
B-4	0.38
B-5	0.40
B-15	1.41
B-18	1.32

Table 4-19: Functional Loss - Scoring Metric Limits

Percentile	Functional Loss
low	0.38
25%	0.67
average	0.96
75%	1.18
high	1.41

The FL for routes B-4 and B-5 were low compared to B-1, B-15, and B-18. The functional loss was low for these two routes as they generally follow major existing roadways and do not interfere with large areas of wetlands. Route B-1, B-15, and B-18 scored low due to the higher functional loss score across the 3 routes. These routes have larger sections of the pipeline that interfere with rural, forested areas with more opportunity to impact wetlands. Between routes B-4

and B-5, B-4 had more wetland impacts by number (7), but fewer impacts to forested areas. Therefore, impacts might be less obvious to the public and could potentially be only temporary impacts not requiring mitigation for pipeline installation: most areas were marshes with low-growing vegetation. In contrast, route B-5 has at least one relatively long stretch (approximately 1,300 feet) of forested wetlands that would need to be cut down to accommodate installation of a pipeline. Not only is forested mitigation more expensive than marsh or shrub wetland mitigation, but public perception will likely be more negative towards options that require the cutting of trees and maintaining the areas with low-growing vegetation.

Included below are preliminary calculations completed by Stantec's environmental mitigation team. These are early estimates and should not be used as actual costs for mitigation credits.

Overall, Route B-4 had the lowest acre impact at an estimated 2.84 acres with a total estimated mitigation credit need of 0.38 units, for an estimated cost of $84,760 at today's bank prices. Route B-5 was close to Route B-4, with an estimated 2.93 acres of wetland impact and 0.40 estimated credits needed for mitigation, totaling approximately $99,403 in mitigation costs. Routes B-1, B-15, and B-18 scored worse with respect to environmental impacts, with an estimated 6.90, 8.51 and 8.20 acres of wetland impacts each, respectively. The corresponding mitigation costs for B-1, B-14 and B-15 were estimated to be $314,347, 347,883, and $324,201, respectively.

Sub-Criteria: Archaeological / Historical Impacts

Alignments through documented or identified archaeological or historical sites will introduce additional construction complexity / longevity, permitting requirements, and accessibility limitations. Despite proper mitigation approaches, if archaeological artifacts are un-earthed during construction, this may delay construction activities.

The archaeological, and historical impacts were determined by quantifying the number of conflicts within 100 feet on either side of the pipe alignment. The site locations were found using FGDL (Florida Geographic Data Library) and Hillsborough County Historic Resource office. The 25/75 percentile method determined the evaluation metric limits.

Table 4-20: Historical, and Archeological Impacts

Route	Conflicts within 100 feet of either side of pipe centerline
B-1	8
B-4	0
B-5	1
B-15	9
B-18	10

Table 4-21: Archeological Impacts – Scoring Metric Limits

Percentile	Conflicts
low	0
25%	3
average	6
75%	8
high	10

Routes B-4 and B-5 had minimal to zero impact to recorded historical, and archaeological sites. These 2 routes scored the highest since the impacts are negligible. Routes B-1, B-15, and B-18 had substantial impacts to historical, and archaeological and, therefore, scored the lowest.

Sub-Criteria: Habitat / Biological Impacts

Physical Impacts: Pipeline construction inherently compromises the physical, but also the biological and habitat composition of the land. Construction noise and elimination of habitat can drive species away from the area, affecting reproduction and mating habits, having sustained impacts years beyond construction completion. There are a variety of species listed as threatened or endangered found within Hillsborough County, and many of these may be adversely impacted by habitat loss associated with pipeline construction when native habitats are eliminated for pipeline maintenance.

Perceived Impacts: Habitat and biological impacts will be a concern for environmentally conscious residents, and could be used by those adverse to the pipeline to drive sentiment toward one route over another or against construction of the pipeline overall.

Habitat and biological impacts were calculated by acreage of nature preserve, park, and reserve land impacted by each pipe alignment. The data was gathered using publicly available

Hillsborough County parcel data. The 25/75 percentile method determined the evaluation metric limits.

Table 4-22: Habitat and Biological Impacts

Route	Sum of Sq Feet	Sum of Acres
B-1	1,111,781.0	25.5
B-4	691,591.3	15.9
B-5	272,080.0	6.2
B-15	1,349,515.9	31.0
B-18	1,374,973.1	31.6

Table 4-23: Habitat and Biological Impacts – Scoring Metric Limits

Percentile	Sum of Sq Feet	Sum of Acres
low	272,080.0	6.2
25%	616,034.2	14.1
average	959,988.3	22.0
75%	1,167,480.7	26.8
high	1,374,973.1	31.6

Route B-5 was the major outlier for this sub-criteria. Route B-5 primarily traverses a major existing roadway (Balm Riverview Road), so, the habitat and biological impacts are minimal and scores the highest. Route B-1 and B-4 scored moderate due to an ample portion of the route causing habitat and biological impacts. Route B-15 and B-18 span a large portion of nature preserve, park, and reserve land, potentially causing habitat and biological impacts. Therefore, these 2 routes scored the lowest of the five.

Sub-Criteria: Contaminated Groundwater / Biohazards

This evaluates potential impacts to the alignment from underground storage tank releases, solid waste sites, dry cleaning solvent release sites, superfund sites, and resource conservation and recovery act (RCRA) sites. Alignment through or near these areas will introduce additional construction complexity, permitting requirements, and accessibility limitations.

The groundwater and biohazards were quantified by the number of contamination sites within 500 feet of a route alignment. The contamination sites include petroleum discharge, toxic release, superfund sites, dry cleaning solvent cleanup sites, RCRA facilities, brownfield sites, and contaminated groundwater sites. The data was gathered from the Environmental Protection Agency (EPA) and FDEP websites and resources. The 25/75 percentile method determined the evaluation metric limits.

Table 4-24: Contaminated Groundwater and Biohazards

Num of Sites within 500 feet / Route:	B-1	B-4	B-5	B-15	B-18
FDEP Petroleum Discharge Sites	0	0	3	2	1
EPA Toxic Release Inventory	0	0	0	0	0
EPA Superfund Sites	0	0	0	0	0
FDEP Dry Cleaning Solvent Cleanup Sites	0	0	0	0	0
EPA RCRA Facilities	0	0	1	1	0
FEDP Brownfield Site	0	0	0	0	0
FDEP Contaminated Groundwater Sites	0	0	4	3	1
Total:	**0**	**0**	**8**	**6**	**2**

Table 4-25: Contaminated Groundwater and Biohazards – Scoring Metric Limits

Percentile	# Of Sites
low	0
25%	1.5
average	3
75%	5.5
high	8

Route B-1 and B-4 had no contaminated groundwater or biohazard sites within 500 feet of the route and thus scored the highest. Route B-18 has limited contaminated groundwater or biohazards sites within 500 feet of the route. Route B-5 and B-15 had substantial contaminated groundwater and biohazard sites within 500 feet of the routes, resulting in the lowest scores for these routes.

Criteria: Special Crossings / Construction Requirements

Sub-Criteria: Number of Trenchless Crossings

Trenchless crossings inherently increase the risk associated with the project, and the consequences of trenchless construction failure are typically more schedule and resource intensive than open cut construction. Microtunneling will be the primary method for trenchless construction, and microtunneling requires the construction of access shafts, both drilling and receiving. These shafts are typically deep (20-40 feet), requiring the installation of piles or other shoring equipment, dewatering, and are time and resource intensive to construct. More trenchless crossings equate to increased mobilization of trenchless equipment. Like shaft construction, mobilizing large microtunneling equipment across the project area is time and resource intensive.

Stantec assessed each route to determine expected locations of trenchless crossings. All instances of trenchless crossings were added together to generate the total number of trenchless crossings per route option. The 25/75 percentile method determined the evaluation metric limits.

Table 4-26: Number of Trenchless Crossings

Route Option	Type	Length (Feet)	Quantity
B-1	River/Creek	200	2
B-1	River/Creek	200	
B-4	River/Creek	300	1
B-5	N/A	0	0
B-15	Road	250	5
B-15	River/Creek	300	
B-15	River/Creek	200	
B-15	River/Creek	200	
B-15	Utility	325	
B-18	River/Creek	300	5
B-18	River/Creek	200	
B-18	River/Creek	200	
B-18	River/Creek	200	
B-18	Utility	250	

Route B-4 and B-5 contained minimal instances that would require a trenchless crossing. While these 2 routes do follow some major existing roadways, Stantec feels that some of the crossings can be accomplished via open cut. For example, there is a roadway crossing of Balm Riverview Road which may be completed via open cut, using the roadway shoulder to create a temporary lane. Route B-15 and B-18 contain a multitude of trenchless crossings for each route. These two routes traverse rural, wooded areas featuring rivers, creeks, and sloughs throughout - these features require greater need for trenchless crossings. Route B-1 has some instances of trenchless crossings, but not as impactful as route B-15 and B-18.

Sub-Criteria: Total Length of Crossings

The longer a trenchless crossing is, the more probability for unplanned events that impact schedule (i.e., risk). Longer drives also increase the possibility of hitting unknown conditions (different rock formations, variable water table), unplanned equipment failure, spills of drilling fluid, etc.

Stantec assessed each route to determine expected lengths for each trenchless crossing. These lengths were then totaled across each route. The 25/75 percentile method determined the evaluation metric limits.

Table 4-27: Length of Trenchless Crossings

Route	Sum of Length Feet
B-1	400
B-4	300
B-5	0
B-15	1,275
B-18	1,150

Table 4-28: Trenchless Crossings – Scoring Metric Limits

Percentile	Length
low	0
25%	313
average	625
75%	950
high	1,275

Route B-15 and B-18 have the most linear footage of trenchless crossings, while route B-1 requires a moderate length of trenchless crossings. Route B-4 requires a slightly shorter total length of trenchless crossings compared to route B-1. Route B-5 contains no anticipated trenchless crossings along the route and, therefore, scored the highest.

Sub-Criteria: Number of Special Trenchless Construction Instances

Special trenchless and construction techniques will be driven by the geotechnical conditions and recommendations in the geotechnical baseline report. These special construction techniques include construction of casings, requirements of settlement monitoring and / or ground stabilization, and ground improvement.

The special crossing metric was determined by quantifying the instances that the pipeline alignment crosses a river or creek, a petroleum line, a gas line, a railroad, or a highway. Note that a special crossing does not automatically constitute a trenchless crossing. The 25/75 percentile method determined the evaluation metric limits.

Table 4-29: Special Crossings

Route Option	Number of River/Creek Crossings	Petroleum Crossing	Gas Crossing	Railroad Crossing	Highway Crossings	Total
B-1	1	1	2	0	0	**4**
B-4	5	0	0	0	0	**5**
B-5	3	0	0	0	0	**3**
B-15	6	1	2	0	0	**9**
B-18	3	0	2	0	0	**5**

Table 4-30: Number of Special Crossings – Scoring Metric Limits

Percentile	# Of Special Crossings
low	3
25%	4
average	5
75%	7
high	9

Route B-1 and B-5 had minimal instances of special crossings and scored the highest for this sub-criteria. Route B-4 and B-18 had the same amount of special crossing locations, which was slightly more than the amount required from B-1 and B-5. As a result, B-4 and B-18 scored moderate since the amount of special crossing was much less than that of B-15, but more than B-1 and B-5. B-15 required significantly more special crossing locations than the other 4 routes and scored the lowest to reflect the major difference.

Sub-Criteria: Special Work Constraints

This measures the percentage of construction in roadway requiring special maintenance of traffic (MOT) / impacts. This includes nightwork, lane shifts, special event restrictions, or reduced work hours. Any of these special work constraints or construction window limitations will impact the overall schedule.

Stantec drove each alignment and identified locations requiring special MOT and or construction / restoration requirements. The 25/75 percentile method determined the evaluation metric limits.

Table 4-31: Special Work Constraints

Route	# Of Special Work Constraints Instances
B-1	1
B-4	2
B-5	7
B-15	1
B-18	3

Table 4-32: Special Work Constraints – Scoring Metric Limits

Percentile	# Of Special Work Constraints Instances
low	1
25%	2
average	3
75%	5
high	7

Route B-1, B-4, and B-15 scored most favorably with limited instances requiring special work constraints. Route B-1 runs within the ROW for a long distance which will cause a special work constraint. Route B-4 crosses HOA entryways which causes multiple special work constraint instances. Route B-15 had one instance of crossing a TECO Peoples Gas gas line which would result in a special work constraint. Route B-18 had slightly more instances than B-1, B-4, and B-15 due to crossing TECO Peoples Gas natural gas lines and crossing an intersection with a large AADT and scored moderate as a result. Route B-5 had substantially more instances needing a special work constraint, most likely due to this route crossing a significant amount of HOA entryways that will require resident access during construction.

Sub-Criteria: Unique Restoration

Unique restoration will generally be located within private parcels that feature landscaping, hardscaping, or other special feature restoration. This is reserved for locations beyond typical surface restoration such as sod planting or pavement patch back – these can be as elaborate as masonry wall construction or new fountain installations. These locations will be more schedule and resource intensive than typical surface restoration.

There are no instances of unique restoration across all 5 route options. Therefore, all routes scored maximum points for this sub-criteria.

Criteria: Permitting / Implementation

Sub-Criteria: Environmental Permits

The environmental permits are expected to be the longest duration of the three permitting categories and have the most significant effect on schedule critical path.

These permits could affect how, when, what, and where construction is to be completed (work restrictions, construction sequencing). This could look like:

- Specifying particular construction techniques (depending on the location of the alignment)
- Specifying certain times of the year for construction (to limit impacts to local flora and fauna)
- Specifying certain locations where construction is not allowed
- Specifying mitigation credits and or offsets to be negotiated in conjunction with / for conditional approval of the environmental permit.

A 404 permit is anticipated for this project. Recently, the State of Florida has taken over responsibility for these permits on behalf of the Federal government / Army Corps of Engineers, and the approval process is now taking considerably longer than before.

Stantec's team of scientists and engineers reviewed the routes to determine the extent of the permitting process. There was no major differentiator for the environmental permits and the level of effort for the permitting process was identical for every route (greater than 8 months), so all routes scored a value of 1.

Sub-Criteria: Number of Permits Required

Some routes may require additional permits in comparison to others. This sub-criteria accounts for the time and effort associated with additional permits.

Stantec's permitting expert reviewed the routes to determine how the permitting process differentiated between routes. There was no discernable difference in total number of permits needed, so all the routes scored maximum points.

Sub-Criteria: Municipal Permits

These permits are necessary but expected to be a minor impact compared to the longevity and complexity of the environmental permits. They can have schedule impacts but will not affect the critical path like environmental permits. Permits are anticipated to include at a minimum, a utility permit for construction of utilities within FDOT ROW, FDEP / Florida Department of Health (FDOH) permit for construction of public water system components, and a Hillsborough County permit for maintenance of traffic.

Working within County or State right-of-way may require special surface restoration, long-term maintenance (such as regular mowing), offset requirements or restrictions to above-ground appurtenances, specific times for construction (reduced hours, night construction), limitations to construction techniques (requirements for trenchless if traffic impact is too great).

Stantec's permitting expert reviewed the routes to determine how the permitting process differentiated between routes. There was no discernable difference in total number of permits needed, so all the routes scored maximum points.

Sub-Criteria: Right-Of-Way Permits

Stantec's permitting expert reviewed the routes to determine how the permitting process differentiated between routes. After evaluating, there was no discernable difference in total number of permits needed between the 5 routes.

Criteria: Operation and Maintenance Accessibility

Sub-Criteria: Pipeline Accessibility

Ease of access to the pipeline determines a few key maintenance features:

- How quickly and effectively Tampa Bay Water staff can access the pipe for emergency repairs.
- Pipeline segments and appurtenances which are easy to access require less time and effort of maintenance staff.
- Commissioning is quicker and less resource intensive when the pipeline is more easily accessible.
    - Pipeline Accessibility was measured as the routes' lineal footage greater than 0.25 mile from public right-of-way access. The 25/75 percentile method determined the evaluation metric limits.

Table 4-33: Pipeline Accessibility

Route Option	Feet Not Accessible Within 0.25 mile of ROW	Total LF in Route Option	Percent Not Accessible
B-1	16,683	37,803	44.13
B-4	1,843	41,784	4.41
B-5	522	34,842	1.50
B-15	14,676	47,036	31.20
B-18	18,608	63,517	29.30

Table 4-34: Pipeline Accessibility– Scoring Metric Limits

Percentile	LF Not Accessible	% Not Accessible
low	522	1.50
25%	5,494	11.80
average	10,466	22.11
75%	14,537	33.12
high	18,608	44.13

Route B-4 and B-5 both traverse existing roadways, which allows for easier maintenance accessibility. Route B-1 traverses private lands that result in a large percentage of the pipeline as inaccessible. Both Route B-15 and B-18 have portions of the pipe alignment that travel through private lands that render sections of the alignment as inaccessible. The percentage of pipeline that is inaccessible for both B-15 and B-18 is significantly lower than Route B-1.

Sub-Criteria: Disinfection/Flushing Water Disposal

The average alignment length between routes B-1, B-4, B-15, and B-18 is approx. 46,000 LF. This corresponds to a total flushing water volume of over 20 MG. During testing and future maintenance that requires drainage, this chlorinated water will need to be properly disposed of. Coordination will be required with necessary state, local, or other regulatory agencies to determine any special provisions.

The flushing metric was determined by quantifying the linear footage of the pipe alignment that falls within 0.5-mile radius of existing, accessible, retention ponds. The sum of the lengths within a 0.5 mile of a retention pond were then divided by the total length of the route alignment to calculate a percentage. The 25/75 percentile method determined the evaluation metric limits.

Table 4-35: Disinfection/Flushing Water Disposal

	B-1	B-4	B-5	B-15	B-18
Overall Length (LF)	35,076	46,033	40,180	43,788	59,353
Total length within 0.5 mile	**10,385**	**18,400**	**19,575**	**23,600**	**20,885**
% Of route within 0.5 mile	**30%**	**40%**	**49%**	**54%**	**35%**

Table 4-36: Disinfection/Flushing Water Disposal – Scoring Metric Limits

Percentile	Percent within 0.5 mile
low	30%
25%	36%
average	41%
75%	48%
high	54%

Route B-5 and B-15 both have a large percentage of the pipeline within 0.5 mile of a retention basin that can potentially be used for flushing disposal. Route B-1 and B-18 had a much lower percentage within 0.5 mile of a retention basin causing these 2 routes to score the lowest. Route B-4 has close to the "average" percentage of the route within 0.5 mile of a retention basin and, therefore, scores moderately.

Criteria: ROW/ Easement Availability

Sub-Criteria: Percentage of Route Within Private Lands

Tampa Bay Water's primary preference is to have a dedicated PUE for the pipeline. Routes with higher percentages of pipe within private lands offer Tampa Bay Water the opportunity to purchase the easement, or land, outright. This is preferred as it means that Tampa Bay Water will own the land in perpetuity and will not be forced to relocate the pipe in the future.

The percentage of the route length within private land parcels was quantified using publicly available Hillsborough County parcel data. Any private parcels that alignments traveled through were included in this total. The 25/75 percentile method determined the evaluation metric limits.

Table 4-37: Right of Way/Easement Availability

Route Option	Percent in Private Parcels	Percent in Public Parcels	Percent in ROW	# Of Private Parcels Requiring Acquisition	# Of Public Parcels Requiring Acquisition	Total # of Parcels Requiring Acquisition
B-1	52%	36%	4%	22	6	28
B-4	43%	39%	13%	104	7	111
B-5	61%	25%	9%	95	5	100
B-15	54%	39%	1%	61	9	70
B-18	62%	31%	2%	71	11	82

Table 4-38: Right of Way/Easement Availability – Scoring Metric Limits

Percentile	Percent in Private Parcels	Percent in Public Parcels	Percent in ROW	Private Parcels Requiring Acquisition	# Of Public Parcels Requiring Acquisition	Total # of Parcels Requiring Acquisition
low	43%	25%	1%	22	5	28
25%	49%	29%	3%	46	6	53
average	54%	34%	6%	70	7	78
75%	58%	37%	10%	87	9	95
high	62%	39%	13%	104	11	111

Route B-5 and Route B-18 both scored the highest: both have over 60% of the route within private lands, making the acquisition process significantly easier. Route B-1 and B-15 scored moderately since the percentage of these routes were both close to the “average” percentage across all 5 routes. Route B-4 scored the lowest since the percentage of the route within private lands was substantially lower, potentially adding difficulty to the acquisition process.

Sub-Criteria: Number of Parcels Requiring Easement Acquisition

- A high number of parcel acquisitions for a route equates to:
- A longer total acquisition process / schedule
- A higher possibility for acquisition(s) to move towards condemnation or have property owners particularly sensitive to loss of use.

The number of parcels requiring easement acquisition was quantified using publicly available Hillsborough County parcel data. This measured the total number of parcels identified for acquisition. The 25/75 percentile method determined the evaluation metric limits.

Referencing **Table 4-37 and Table 4-38:**

Route B-1 has significantly less parcels requiring acquisition than any of the other 4 routes and, therefore, receives the highest score. Not only is this the shortest route, but it also traverses through larger sized parcels in rural areas; it takes less parcels for the pipeline to run from beginning to end. Route B-4 and B-5 require the largest number of parcels for acquisition. These routes traverse more densely populated areas with smaller, more numerous, parcels of land. Route B-15 and B-18 require significantly more parcel acquisitions than Route B-1, but still less than B-4 and B-5. So, Route B-15 and B-18 scored moderate.

Sub-Criteria: Percentage of Route within Public Lands

This sub-criteria refers to lands which are publicly owned but are not within established ROW. Examples would be lands designated as wetlands or habitats, or lands designated under the

Environmental Lands Acquisition and Protection Program (ELAPP). In addition to negotiation of purchase price (like private parcels), these lands may also require special permitting and mitigation once the land is purchased. While installation in public land is preferred to pipeline installation within roadways or existing public ROW, it is not favorable to acquisition within private parcels. This is because of negative impacts to environmentally protected lands and the likelihood of a lengthy review process by the protecting agency that may result in outright denial rather than in approval of the proposed mitigation.

The percentage of the route length within public land parcels was quantified using publicly available Hillsborough County parcel data. Any land that a pipe alignment traveled through, (owned by a public entity, such as Hillsborough County), was included in this total. The 25/75 percentile method determined the evaluation metric limits.

Referencing **Table 4-37 and Table 4-38:**

Route B-5 only contains 25% of the alignment within public parcels, making the easement acquisition process for this route easiest. Route B-4 and B-15 scored low because both routes contained nearly 40% of the alignment within public lands, making the easement acquisition process significantly more difficult. Route B-1 and B-18 scored moderately because both routes have close to the “average” percent of the route within public lands.

Sub-Criteria: Number of Parcels Requiring Compensation for Loss of Use

This sub-criteria measures the number of homeowners and private parcels significantly impacted by the pipeline alignment, where the alignment will most likely result in loss of use or condemnation of the property.

Stantec identified the total number of parcels which may require a full loss of the home / property. This listing is preliminary for comparison purposes only and impacts causing loss of use will be avoided to the extent possible. The 25/75 percentile method determined the evaluation metric limits.

Table 4-39: Potential Loss of Use Parcels

Route	B-1	B-4	B-5	B-15	B-18
# Of Parcels, Potential Loss of Use	0	7	7	5	0

Route B-1 and B-18 did not require any compensation for loss of use and, as a result, scored highest. Route B-4 and B-5 required substantial compensation for loss of use due to the route traversing throughout residential neighborhoods (Tropical Acres South and Shadow Run neighborhood). Due to the number of homes that need to be compensated for, these 2 routes scored the lowest. Route B-15 requires compensation to a few homes, mostly at the beginning of the route (just south of Fishhawk Boulevard) due to the limited width available between the homes and the edge of the ROW. Route B-15 scored moderately since the relative impacts are not as substantial as routes B-4 and B-5.

Sub-Criteria: Complexity of Acquisition

The intention of this sub-criteria is to consider the impact of negotiating potential business impacts. Typically, legal advisors are involved, and this process can be time and resource intensive. This measures the number of commercial / industrial parcels most likely to petition business impacts. This also accounts for locations of pending developments.

The complexity of acquisition was measured by quantifying the number of parcels that are used for business and impacted by a pipeline alignment. The metric was not set using the 25/75 percentile method and were instead determined using the engineer's best judgement. A low score occurs when a route has greater than 2 businesses impacted. A high score occurs when a route affects no businesses. A medium score occurs if a route has one business affected.

Table 4-40: Complexity of Acquisition

Route	Total Count (# of Locations)
B-1	3
B-4	0
B-5	5
B-15	1
B-18	1

Route B-4 scores the best in this category with no anticipated business impacts. Route B-1, B-5, and B-18 potentially impact a few businesses throughout their respective alignments and therefore score the lowest. Route B-15 only has one anticipated business impact along the route alignment.

Sub-Criteria: Development Status of Unavoidable ROW (DSUR)

This sub-criteria quantifies the future risk of Tampa Bay Water forced to relocate its facility. Objectively, there are some locations where installation poses more risk e.g., within the roadway ROW. An independent, unitless equation was developed to score this risk.

- Development Status of Unavoidable Right-of-Way (DSUR) = length x AADT x sensitivity factor, where the sensitivity factor is generated by probability of roadway expansion, probability of stormwater utility construction, and probability of water or sanitary sewer expansion.

The “DSUR” score is the product of the length of the unavoidable right-of-way, the AADT of the roadway, and a sensitivity factor. The sensitivity factor takes into consideration the potential for future roadway development, stormwater expansion, and water and sanitary sewer expansion. The sensitivity factor is determined at the engineer's discretion and is scored as follows. 1.00 when the probability of an expansion/development of the features within the unavoidable right-of-

way is unlikely. 1.50 when the probability is seen as moderate. 2.00 when the probability is seen as likely. The “DSUR” score was the totaled across each individual route option

The sensitivity factor used in the DSUR equation is a product of the individually weighted sensitivity factors (roadway development, stormwater expansion, and water or SS expansion) for a given instance of an unavoidable ROW – thus, some locations, such as Rhodine Road on B-4, may have a sensitivity factor greater than 2. Continuing with the example of Rhodine Road on B-4, it was determined that the sensitivity factor for roadway development was 2.0, stormwater expansion was 2.0, and water or sanitary sewer (SS) expansion was 1.5 - the product of those three sensitivity factors is 6.0. The 25/75 percentile method determined the evaluation metric limits.

Table 4-41: Development Status of Unavoidable Right-of-Way

B-1				
Location	Length (mi)	AADT	SF	DSUR
Boyette Road	0.13	5,100.00	1.00	663.00
			TOTAL	663.00
B-4				
Location	Length (mi)	AADT	SF	DSUR
Adeline Drive	0.17	100.00	1.50	25.50
Rose Lane	0.18	100.00	1.50	27.00
Rhodine Road	0.16	6,100.00	6.00	5,856.00
Shelby Road	0.32	150.00	1.50	72.00
			TOTAL	5,980.50
B-5				
Location	Length (mi)	AADT	SF	DSUR
Balm Riverview Road	0.29	15,100.00	2.00	8,665.34
Balm Riverview Road	0.09	15,100.00	3.00	4,077.00
			TOTAL	12,742.34
B-15				
Location	Length (mi)	AADT	SF	DSUR
None	none	0.00	0.00	0.00
			TOTAL	0.00
B-18				
Location	Length (mi)	AADT	SF	DSUR
None	0.00	0.00	0.00	0.00
			TOTAL	0.00

Table 4-42: DSUR Scoring Metric Limits

Percentile	DSUR
low	0.0
25%	1,616.5
average	3,231.0
75%	7,986.7
high	12,742.3

Route B-1, B-15, and B-18 had minimal to no length of pipe interfering with an unavoidable right-of-way. As a result, these 3 routes scored the highest. Route B-4 had some moderate interference with unavoidable rights-of-way. Route B-4 moves through heavily traveled roadways resulting in more opportunity to interfere with an unavoidable right of way. Route B-5 largely interferes with unavoidable right of ways for much of the same reason as B-4. B-5 traverses heavily traveled and densely populated roadways, causing the route to score the lowest.

Sub-Criteria: Jurisdictional Agency Requirements and Cooperation

After evaluating the jurisdictional agency requirements, there was no difference between any of the five Segment B routes.

Sub-Criteria: Major Existing Utility Relocation

Major utility relocation on this project is considered as > 16” waterline, > 12” sewer force main, any gravity relocation (sewer, storm, raw water), or > 6” natural gas. The size and type of these facilities will require prior design, permit, and approval, and cannot be simply field modified. Additionally, depending on the type of facility, the general contractor (GC) may need to hire a subcontractor to complete the utility relocation.

Routes with dense utility congestion will slow construction production rates – the pipeline alignment will require extraneous deflections and fittings to avoid utility conflicts.

Data was provided by Tampa Bay Water, FDOT, and Hillsborough County as well as field reconnaissance to quantify the number of instances that a pipeline route intersects with a > 16” water main, >12” force main, any gravity lines, and > 6” gas lines. The 25/75 percentile method determined the evaluation metric limits.

Table 4-43: Existing Utility Relocations

	B-1	B-4	B-5	B-15	B-18
Count	15	32	33	7	16

Table 4-44: Existing Utility Relocations – Scoring Metric Limits

Percentile	Count
low	7
25%	14
average	21
75%	27
high	33

Since route B-4 and B-5 alignments mostly follow major existing roadways amongst developed HOA's and residential neighborhoods, it is more likely to cross existing underground utilities. Conversely, route B-1 and route B-18 travel less densely populated areas, registering nearly half the anticipated relocations of B-4 and B-5. Route B-15 has minimal instances that require a utility relocation. Although this route shares a similar path to B-1 and B-18, a large portion of B-15 follows a TECO power easement with little to no underground utilities interfering with the alignment and is therefore most favorable.

Criteria: Geotechnical Considerations

Sub-Criteria: Groundwater Table

Groundwater table depth will influence both construction and long-term maintenance of the pipeline. If high groundwater table is present and pervasive, dewatering via wellpoints will be required. Wellpoints actively lower and control groundwater levels in excavations to establish dry and stable working conditions. They also require time to set up, demand oversight and on-going maintenance, and occupy valuable working space near the active trench.

The presence of a high groundwater table / increased moisture magnifies the corrosive properties (chlorides, sulfates) within the soil.

Nearly 90% of every route features groundwater within 7 feet of existing grade; thus, there was negligible difference between the routes, and all received a low score.

Table 4-45: Geotechnical Considerations – Route Option

Route Option	% Water Table > 7 feet Depth	% High Corrosivity	Average Limestone Depth (feet)
B-1	9%	47%	45
B-4	0%	69%	56
B-5	10%	71%	59
B-15	2%	70%	55
B-18	11%	51%	54

Table 4-46: Geotechnical Considerations – Scoring Metric Limits

Percentile	% Corrosivity
low	47%
25%	55%
average	62%
75%	66%
high	71%

Arehna reviewed the routes and made a professional decision what depth groundwater table would be ideal for construction. Routes that have groundwater less than 7 feet below existing grade score low. Routes that have groundwater greater than 12 feet score high. Routes that have groundwater between 7 feet and 12 feet score medium.

The scoring metrics and route weighting scores were determined using the engineer's best judgement for this metric. Every route scored low for this criteria since the water table in the project area is within a few feet of existing grade for approx. 90% of every route.

Sub-Criteria: Soil Corrosivity

Soil corrosivity is a key factor in determining how the soil/ground environment will impact the integrity of the pipe material and performance over time. Without proper mitigation, highly corrosive soils can destroy pipes within a matter of years / decades, significantly reducing the useful life of the asset. Routes encompassed with corrosive soils will require special mitigation, including, but not limited to protective coating of the pipeline and cathodic protection via an impressed current system or galvanic (sacrificial) anodes. In addition to increased construction schedule, these protection methods can require additional easement for facilities (rectifiers), as well as continued maintenance and monitoring upon installation.

Arehna utilized USDA/NRCS Soil Survey Data to determine the percentage of high corrosivity across each route. The 25/75 percentile method determined the evaluation metric limits.

Reference **Table 4-45**: % of High Corrosivity.

Based on the USDA/NRCS Soil Survey Data, Route B-4, B-5, and B-15 scored the lowest for soil corrosivity. Each of these 3 routes had around 70% of the route with highly corrosive soils. Route B-1 and B-18 scored highly since around 50% or less of these routes were within highly corrosive soils.

Sub-Criteria: Depth of Shaft (Depth to Rock)

Depth of shaft is in reference to the tunneling shafts for the microtunneling machine. Trenchless (shaft) depth will be driven by the depth of feature being crossed, like a large utility, a wide river, or a highly trafficked intersection. Geotechnical complications can arise when the trenchless crossing hits limestone, competent rock, or other restrictive soil conditions. Routes which consist of shallow rock will be scored less favorably compared to routes with deep or no rock conditions.

Reference **Table 4-45** : Average Limestone Depth

The scoring metrics and route weighting scores were determined using the engineer's best judgement for this metric. Route B-4, B-5, B-15, and B-18 scored highest because the average depth to rock for each route was greater than 50 feet. Route B-1 was the only outlier and scored moderately since the average depth to rock for this route was less than 50 feet.

Criteria: Long-Range Planning

Sub-Criteria: Integration with Future Capital Projects and Land Use Planning

It’s important to capture how this pipeline may be impacted by future development. For example, is the pipeline within an existing roadway corridor preservation plan? If so, there is then risk associated with the pipeline potentially being forced to move, or reduction of Tampa Bay Water’s preferred minimum PUE. Another consideration: does the pipeline cut through what is being zoned for future commercial or residential development? This can make permitting more difficult, and result in more restrictive future O&M access. Other considerations are for non-Tampa Bay Water projects: does the pipeline route provide opportunities to other waterline projects (like Hillsborough County) to use an adjacent alignment?

Stantec quantified the linear footage of pipeline that falls within proposed future capital projects (mostly roadway expansions) and future residential locations (platted lands zoned to be developed). Thus, the more total lineal feet, the more substantial the future risk of pipeline relocation. The locations for future CIP projects were not provided by Hillsborough County at this time. The 25/75 percentile method determined the evaluation metric limits.

Table 4-47: Long Range Planning

Route	B-1	B-4	B-5	B-15	B-18
LF within proposed future capital projects or platted lands zoned for development	9,515	14,150	33,210	10,250	12,950

Table 4-48: Long Range Length Scoring Metric Limits

Percentile	Length
low	9,515
25%	12,765
average	16,015
75%	24,612
high	33,210

Route B-1 and B-15 scored the highest since these 2 routes had minimal length of the pipeline that shared an alignment with future capital projects. Route B-4 and B-18 had an ample length of pipe that shared an alignment location with roadways potentially expanding (Balm Riverview Road, Boyette Road). Route B-5 had the lowest score, as B-5 mostly follows major existing roadways (Balm Riverview) that can be expanded in the future.

Sub-Criteria: Integrated with Future Tampa Bay Water Projects

The intent of this sub-criteria is to identify how well this project can integrate with future Tampa Bay Water pipeline projects. At the time of publication, this data is not available to Wade Trim or Stantec, and thus, this will not be considered as a part of the analysis.

The 2023 LTMWP and future planning of project needs across the region are not included at this phase of the route evaluation process.

Sub-Criteria: Opportunity to Coordinate with future Public Amenities and / or Access to Public Amenities

Based on visual inspection, Route B-15 and B-18 provide some opportunity for coordination with future public amenities (Cross County Greenway). Large portions of both B-15 and B-18 cross and run parallel to existing bike trail at some locations along the route alignment. Route B-1 has a shorter section of the alignment that runs parallel to the bike trail, so this route has less opportunity for coordination with future public amenities improvements. Route B-4 and B-5 have little opportunity to coordinated with future public amenities.

4.5 NON-COST CRITERIA SCORING MATRIX

The above sections describe the key components to the scoring matrix: evaluation criteria, sub-criteria, evaluation metrics, and the raw data evaluated.

The steps below outline how the scoring matrix is used see **Appendix E - Scoring Matrix**.

1. Non-shaded cells are fixed and require no input.
2. Enter in the results of the pairwise comparison for the criteria weighting factor (W).
3. Engineer determines and enter the sub-criteria percentage (SW).
4. Input the sub-criteria score, (R), for each sub-criteria. This will be a 1, 5 or 10 based on the metrics established by Stantec or Wade Trim for Pipeline Segment B and A, respectively.
5. The weighted score, (S), automatically calculates, as the product of sub-criteria score (R) and (SW), for each sub-criteria.
6. The weighted composite score, (WCS), is the sum of each sub-criteria's score (S).
7. The total evaluated score, (TES), is the sum of all WCS for a given pipeline route is automatically calculated. Maximum TES is 580. The highest score is representative of the recommended Segment B *non-cost* route alternative.

4.5.1 Non-Cost Evaluation Results

The Non-Cost Evaluation result, including weighting criteria, sub-criteria percentages, and scores of every sub-criteria is found within **Appendix E - Scoring Matrix**. This route evaluation is a comparative effort; each Segment B route is only being scored relative to the other four Segment B routes. This simply means that the top Segment B route outscored the other Segment B routes with regard to the above presented sub-criteria. **Appendix E** - Scoring Matrix allows the reader to compare Segment B routes, understanding how each route faired within certain sub-criteria. The entire matrix is too large to include within the body of the report, instead, **Table 4-49** below summarizes the application and output of the processes described within all of **Section 4.0.** Sub-criteria in **Table 4-49** are grouped under the 10 overall criteria of Safety, Geotechnical Considerations, Long-Range Planning, etc. as shown in **Section 4.0.**

The non-cost evaluation yields three Segment B routes which score over 300.The top three routes and their points (in parenthesis) are B-1 (353.6), B-5 (344.9), and B-4 (319.1).

Route B-1 scores the highest (353.6), due in part to a high score within safety. Safety's weighting factor is worth nearly 17% of the overall score, and B-1 scores almost 30 points higher within safety than any other route. B-1 also scored high within pipeline length and public inconvenience. Combining these two criteria scores, B-1 safety and public inconvenience again outscored the next highest route by about 30 points. This is B-1's greatest relative advantage; it is a short route that largely stays away from highly traveled, public roadways. Because of its alignment away from public ROW access, this affects ease of

access for O&M staff – staff will have to traverse some distance from public ROW to access the pipeline, unlike B-5 where they can simply pull off from roadway ROW onto pipeline ROW. Thus, B-1 is deducted points on O&M accessibility: B-1 scores almost 60 points less than B-5 for that category.

Route B-5 scores the second highest, with 344.9 points. In some ways, Route B-5 can be described as the inverse of B-1. It generally follows Balm Riverview Road which is primarily built out with commercial and residential development; thus, it has relatively limited habitat / biological impacts. There are no trenchless crossings anticipated for this route because 1) it does not have any major riverine crossings and 2) there is additional space within the shoulder of Balm Riverview Road, potentially allowing pipeline roadway crossings to be installed via open cut. It has the highest relative score for O&M accessibility, outscoring both B-15 and B-18 by over 40 points; but this does have drawbacks. Construction and future accessibility are less safe within a busy roadway corridor and Tampa Bay Water introduces risk if Balm Riverview Road expands its ROW and requires the pipeline to be relocated.

B-4 falls 25 points after B-5, and in some ways can be considered the “residential” option of B-5. It too is aligned within the western portion of the project area, but unlike B-5, mostly stays clear of Balm Riverview Road. Depending on the criteria category, it tends to score between B-5 and B-1: this is true for criteria including pipeline length, public inconvenience, safety, environmental & historical, O&M accessibility, and long-range planning. Accordingly, there is not a single criteria category where it scores the top amongst the five Segment B routes.

Routes B-18 (267.5 total points) and B-15 (238.1 total points) score fourth and fifth, both over 80 points less than the top ranked route. B-15 and B-18 are at a disadvantage because of their lengths –simply put, the longer the alignment, the more opportunity for impacts. This is compounded by the fact that B-15 and B-18 largely feature through undeveloped, wetland parcels; this results in an increased number of anticipated trenchless crossings and a higher anticipated habitat and biological impact.

Table 4-49: Scoring Matrix Summary

RATING: INPUT FROM THE CRITERIA SCORING GUIDE 1 = LOW 5 = MEDIUM 10 = HIGH W = CRITERIA WEIGHTING FACTOR SW = SUB-CRITERIA WEIGHTING PERCENTAGE R = SUB-CRITERIA SCORE S = WEIGHTED SCORE: (R x SW) WCS = WEIGHTED COMPOSITE SCORE: (SUM (S x W)) TES = TOTAL EVALUATED SCORE: (SUM (WCS))		Pipeline Length	Public Inconvenience	Safety	Environmental & Historical Impacts	Special Crossings / Construction Req's.	Permitting / Implementation	Operation and Maintenance Accessibility	ROW / Easement Availability	Geotechnical Considerations	Long-Range Planning	
		WEIGHTED COMPOSITE SCORE (WCS)	WEIGHTED COMPOSITE SCORE (WCS)	WEIGHTED COMPOSITE SCORE (WCS)	WEIGHTED COMPOSITE SCORE (WCS)	WEIGHTED COMPOSITE SCORE (WCS)	WEIGHTED COMPOSITE SCORE (WCS)	WEIGHTED COMPOSITE SCORE (WCS)	WEIGHTED COMPOSITE SCORE (WCS)	WEIGHTED COMPOSITE SCORE (WCS)	WEIGHTED COMPOSITE SCORE (WCS)	***TOTAL EVALUATED SCORE (MAX AVAIL. PTS 580)***
Weighting Criteria Factor	W	*4.67*	*5.00*	*9.78*	*7.33*	*5.89*	*3.33*	*6.44*	*7.11*	*4.56*	*3.89*	
Route B-1	S	**37.36**	**50.00**	**83.13**	**34.45**	**35.34**	**16.82**	**6.44**	**43.37**	**14.59**	**32.09**	**353.6**
Route B-4	S	**23.35**	**25.00**	**47.43**	**54.98**	**55.96**	**16.82**	**57.96**	**14.93**	**8.66**	**14.00**	**319.1**
Route B-5	S	**37.36**	**5.00**	**49.39**	**60.84**	**56.25**	**16.82**	**64.40**	**42.30**	**8.66**	**3.89**	**344.9**
Route B-15	S	**32.69**	**5.00**	**38.14**	**7.33**	**11.19**	**16.82**	**38.64**	**33.42**	**8.66**	**38.90**	**230.8**
Route B-18	S	**4.67**	**50.00**	**56.24**	**16.13**	**12.07**	**16.82**	**27.05**	**48.70**	**16.87**	**26.26**	**274.8**

5.0 COST EVALUATION BASIS AND RESULTS

5.1 FRAMEWORK OF ESTIMATE

An Engineer's Opinion of Probable Constriction Cost (OPCC) was developed for each of the evaluated routes: B-1, B-4, B-5, B-15, and B-18. The OPCC is a Class 5 estimate of construction cost as defined by Association for the Advancement of Cost Engineering International (AACE). A Class 5 estimate was appropriate, as this route evaluation is at the concept screening level. For reference, a Class 4 estimate will be developed with the Basis of Design Report for the final recommended alignment.

The cost estimates presented in this study are intended to be inclusive of costs required to implement the project. Engineering planning, design, construction cost and contingencies were included in the overall estimates.

The goal of the cost estimation framework is to provide a consistent and traceable approach for estimating capital project costs to defined possible variances between cost estimates at the current level of definition and final project budgets. The approach will also improve communication and understanding between stakeholders.

5.1.1 Cost Estimate Classification

The cost estimation approach uses a classification system to categorize cost estimate classes. These classes represent different phases of planning and design and, therefore, different methods of cost estimation and levels of accuracy. This framework complements the generic approach developed by the Association of Advancement in Cost Estimating (AACE) International.

Table 5-1 provides descriptions of the proposed estimate classes and their end usage or deliverables. If the AACE methodology is further used through subsequent phases of the project, the Class can be updated to reflect the higher level of confidence in the estimate and the additional effort used to develop the estimate.

The associated risk and uncertainty of a project cost estimate is minimized with the addition of a contingency. Contingencies are allowances for risks that are known or anticipated at early stages of the project definition. That is, they represent probable events that are "known unknowns" and, experience has shown, are likely to occur. Further, contingencies cannot be attributed to specific items in the base cost estimate but need to be considered in addition to the base cost. Project contingency does not cover major changes in scope, which would require a re-assessment and re-costing of a project.

See the cost estimate classification table below from AACE.

Table 5-1: AACE Costing Matrix

Estimate Class	Level of Project Definition Expressed as % of complete definition	American National Standards Institute (ANSI) Classification	End Usage Typical purpose of estimate	Expected Accuracy Range Typical variation in low and high ranges[3]
Class 5	0% to 2%	Order of Magnitude	Conceptual Screening	L: -20% to -50% H: +30% to +100%
Class 4	1% to 15%	Order of Magnitude	Feasibility Study	L: -15% to -30% H: +20% to +50%
Class 3	10% to 40%	Budgetary	Budgeting	L: -10% to -20% H: +10% to +30%
Class 2	30% to 70%	Definitive	Bidding, Project Control, Change Management	L: -5% to -15% H: +5% to +20%
Class 1	50% to 100%	Definitive	Bidding, Project Control, Change Management	L: -3% to -10% H: +3% to +15%

Only the level of project definition determines the estimate class.

5.2 GENERAL NOTES, ASSUMPTIONS & EXCLUSIONS

The following is a list of general notes, assumptions, and exclusions associated with the OPCC.

1. These OPCCs are based on preliminary information. The final drawings, specifications, and other contract documents were not available at time of the cost estimate's development.
2. The cost estimating team has not performed detailed site investigations. The estimates are based on available GIS data and aerial photos.
3. These OPCCs are not based on quoted costs for materials or equipment except as noted.
4. The contingency amounts are intended to cover variations in the unit prices or costs. They are not intended to cover missing or new scope items.
5. It is assumed that this project is a desirable local project and market conditions will be competitive at the time of tender, and it is expected to attract competition and reasonable offers (≥3 bidders/trade).
6. The work is assumed to be progressed by segment phase but continuous to not require interim demobilizations and mobilizations.
7. Undefined environmental mitigations/landscaping and slope stability items are excluded.
8. Unknown permitting, agency, or homeowners' associations mitigation items are excluded.
9. Work areas assumed to be available from 7:00 AM to 7:00 PM, Monday through Friday, without constraint to the contractor.
10. Present day pricing is based on Q2 2022. Historical pricing information has been escalated at 4%/year.
11. It is assumed that the contracting strategy will be conventional design-bid-build with no owner material procurement.

[3] The state of process technology and availability of applicable reference cost data affect the range markedly. The +/- value represents typical percentage variation of actual costs from the cost estimate after application of contingency (typically at a 50% level of confidence) for given scope.

12. It is assumed that all necessary easements will be available at the time of construction.
13. These OPCCs are classified as a Class 5 cost estimate per AACE guidelines. Stated accuracy range = -20% to -50% on the low side and +30% to +100% on the high side.
14. Any opinions of probable construction costs (OPCC) prepared by Stantec, including evaluations of the Client's project budget, and/or funding, represent Stantec's best judgment as a design professional familiar with the Construction industry. Unless and to the extent otherwise indicated by Stantec, such opinions or evaluations are based on upon current market rates for labor, material and equipment. The Client acknowledges that Stantec has no control over the costs of said labor, materials, or equipment, construction contractor's methods of determining bid prices, competitive bidding environments, unidentified field conditions, market conditions, hyper-inflationary or deflationary price cycles, or any other factors that may affect the OPCC, the project budget or negotiating conditions at the time of project execution. Client further acknowledges that the OPCC is a "snapshot" in time and that the reliability of the OPCC will degrade over time. Accordingly, Stantec does not warrant or represent that construction bids or negotiated prices will not vary from the Client's project budget or Stantec's good faith OPCC.

5.2.1 Descriptions of Items

5.2.1.1 Item 1: Transmission Main Open Cut

These items shall be for 66" carbon steel pipe installed by open cut methods.

Work and materials included in these items shall include:

- Traffic control
- Erosion control
- Clearing and grubbing
- Temporary site access
- Excavating/trenching
- Trench boxes
- Dewatering
- Off-site disposal of spoils
- Imported bedding
- 66" diameter, 0.3125" wall carbon steel pipe and fittings with polyurethane coating and lining
- Jointing of pipe by welding
- Cathodic protection
- Isolation valves (66" butterfly valves with flanged ends)
- Combination air valve assemblies
- Blow-off valves
- Surface restoration

Descriptions of the open cut item options:

1. Rural/Cross County/Easement Construction – Few or No Utilities and No Wetlands Impacts: This item is for transmission main constructed within Permanent Utility Easement in agricultural and undeveloped/unimproved areas and having no impacts to wetlands.

2. Rural/Cross County/Easement Construction – Few or No Utilities with Wetlands Impacts: This item is for transmission main constructed within Permanent Utility Easement in agricultural and undeveloped/unimproved areas and having impacts to wetlands.
3. Residential/Collector Streets and/or Average Utility Congestion: This item is for transmission main constructed in residential areas or along collector streets, either within right of way or Permanent Utility Easement, with utilities that are typical for a residential neighborhood (e.g., 8" and smaller water and wastewater mains, low-voltage (<1000V) electric lines, 4" and smaller communications lines).
4. Urban Arterial/Major Highway, Dense Utility Corridor – Outside Limits of Pavement: This item is for transmission main constructed outside limits of pavement along urban arterials or major highways or in areas with significant utility congestion, either within right of way or within Permanent Utility Easement.
5. Urban Arterial/Major Highway, Dense Utility Corridor – Within Limits of Pavement: This item is for transmission main constructed within limits of pavement along urban arterials or major highways or in areas with significant utility congestion, either within right of way or within Permanent Utility Easement.

5.2.1.2 Item 2: Special Crossings

These items shall be for 66" carbon steel pipe installed within 78" carbon steel casing pipe installed by microtunneling.

Work and materials included in these items shall include:

- Excavation of jacking and receiving shafts
- Steel sheeting
- Whaler and bracing for sheeting
- Dewatering
- Off-site disposal of soils
- Concrete and controlled low strength material
- 78" diameter carbon steel casing pipe, installed via microtunneling
- 66" diameter, 0.3125" wall carbon steel pipe and fittings with polyurethane coating and lining
- Jointing of pipe by welding

Descriptions of special crossing item options:

1. Trenchless Crossings, Shallow Shaft: This item is for trenchless crossings by microtunneling with jacking and receiving shafts less than 50 feet deep.
2. Trenchless Crossings, Deep Shaft: This item is for trenchless crossings by microtunneling with jacking and receiving shafts greater than 50 feet deep.

5.2.1.3 Item 3: Startup, Commissioning and Testing

This item is for all work associated with startup, commissioning, and testing of the transmission main.

Work and materials included in these items shall include:

- Supplying and disposing of water used for testing, flushing, and other activities

- Hydrostatic/pressure testing
- Disinfection and bacteriological testing
- Flushing
- Demonstrating valve operations

Descriptions of the items included are:

1. All Required Startup, Commissioning, and Testing: This item is for all costs associated with startup, commissioning, and testing the raw water main as required for substantial completion.

5.2.1.4 Item 4: Contractor Markups and Indirect Costs

This item is for costs associated with overhead, profit, and markup for the contractor and subcontractors and other indirect costs associated with project management typically associated with Division 00 – Procurement and Contracting Requirements and Division 01 – General Requirements of the contract documents.

Descriptions of the items included are:

1. Contractor Markup and Indirect Costs: This item is for costs associated bonds and insurance; complying with the general requirements of the contract (including but not limited to project management and coordination; quality assurance and quality control; site security; site supervision; field survey; temporary facilities and controls; submittals, deliveries, storage, and handling for products, materials, and equipment; mobilization and demobilization; and construction closeout); overhead, markup, and profits for contractor and subcontractors; and direct costs paid by the contractor and subcontractors for permit fees.

5.2.1.5 Item 5. Contingencies

These items are amounts added to the base cost estimate to cover uncertainty for items, conditions, or events that likely to occur but are not precisely known.

Descriptions of the items included are:

1. Scope Contingency: This item is for changes in scope such as materials, sizes, capacities, and locations of the transmission main and appurtenances.
2. Market Conditions: This item is for price fluctuations (other than general escalation) due to market conditions.
3. Escalation to Mid-Point of Construction in 2027: This item is for price increases due to general escalation.

5.2.1.6 Item 6. Property Costs

This item is for costs associated with land acquisition for Permanent Utility Easement. The cost for this item has been estimated by Florida Acquisition & Appraisal Inc. (FLAA).

Descriptions of the items included are:

1. Permanent Utility Easement: This item is for the costs for Permanent Utility Easement acquisition including costs paid to property owners for acquiring Permanent Utility Easement ; legal and administrative fees associated with land acquisition for Permanent Utility Easement; appraisals and other property acquisition fees such as survey, legal descriptions, title searches, closing costs, and real estate commissions; costs paid to property owners for inability to use premises or property due to the work of this project; and costs paid to businesses for loss of use due to the work of this project.

5.2.1.7 Item 7. Engineering and Professional Services

This item is for costs associated with engineering services during design, bidding, and construction. The costs for these items are to be by paid by the owner.

Descriptions of the items included are:

1. Engineering Design: This item is for costs of services to complete construction documents for Segment B.
2. Procurement: This item is for costs associated with bidding services.
3. Engineering Services during Construction: This item is for costs for services to be provided by the engineer during construction. This shall include project management and coordination; reviewing submittals; responding to requests for information; review and preparation of field change directives and change orders; and construction inspection.

5.3 ROUTE OPCC'S

Below is the summary OPCC for Segment B shortlisted routes. Individual route OPCC tables are found in **Appendix F - OPCC Full Estimates**.

Table 5-2: Summary OPCC Costs

COST ESTIMATE SUMMARY – 2025 COSTS						
ITEM NO.	ITEM DESCRIPTION	ROUTE B-1 TOTAL COST	ROUTE B-4 TOTAL COST	ROUTE B-5 TOTAL COST	ROUTE B-15 TOTAL COST	ROUTE B-18 TOTAL COST
1.	**TRANSMISSION MAIN BY OPEN CUT**					
a.	Rural/Cross County/Easement Construction – Few or No Utilities and No Wetlands Impacts	$ 40,898,000	$ 28,166,710	$ 16,523,650	$ 32,060,600	$ 31,500,040
b.	Rural/Cross County/Easement Construction – Few or No Utilities with Wetlands Impacts	$ 5,435,520	$ 5,924,960	$ 7,387,200	$ 6,532,960	$ 5,254,640
c.	Residential/Collector Streets and/or Average Utility Congestion	$ 3,450,000	$ 1,518,000	$ 1,518,000	$ 18,492,000	$ 43,784,640
d.	Urban Arterial/Major Highway, Dense Utility Corridor – Outside Limits of Pavement	$ -	$ 30,715,480	$ 30,900,900	$ 3,971,200	$ 2,394,400
e.	Urban Arterial/Major Highway, Dense Utility Corridor – Within Limits of Pavement	$ -	$ -	$ 2,265,000	$ -	$ -
	SUBTOTAL FOR TRANSMISSION MAIN BY OPEN CUT	**$ 49,783,520.00**	**$ 66,325,150.00**	**$ 58,594,750.00**	**$ 61,056,760.00**	**$ 82,933,720.00**
2.	**SPECIAL CROSSINGS**					
a.	Trenchless Crossings, Shallow Shaft	$ 2,920,000	$ 2,190,000	$ -	$ 6,935,000	$ 3,650,000
b.	Trenchless Crossings, Deep Shaft	$ -	$ -	$ -	$ -	$ -
	SUBTOTAL FOR TRENCHLESS CROSSINGS	**$ 2,920,000**	**$ 2,190,000**	**$ -**	**$ 6,935,000**	**$ 3,650,000**
3.	**STARTUP, COMMISSIONING, AND TESTING**					
a.	All Required Startup, Commissioning, and Testing	$ 1,317,600	$ 1,712,900	$ 1,464,900	$ 1,699,800	$ 2,164,600
	SUBTOTAL FOR STARTUP, COMMISSIONING, AND TESTING	**$ 1,317,600**	**$ 1,712,900**	**$ 1,464,900**	**$ 1,699,800**	**$ 2,164,600**
4.	**CONTRACTOR MARKUPS AND INDIRECT COSTS**					
a.	Contractor Markup and Indirect Costs	$ 6,752,600	$ 8,778,500	$ 7,507,500	$ 8,711,400	$ 11,093,500
	SUBTOTAL FOR CONTRACTOR MARKUPS AND INDIRECT COSTS	**$ 6,752,600**	**$ 8,778,500**	**$ 7,507,500**	**$ 8,711,400**	**$ 11,093,500**
5.	**CONTINGENCIES**					
a.	Scope Contingency	$ 12,154,700	$ 15,801,300	$ 13,513,400	$ 15,680,600	$ 19,968,400
b.	Market Conditions	$ 6,077,400	$ 7,900,700	$ 6,756,700	$ 7,840,300	$ 9,984,200
c.	Escalation to Mid-Point of Construction in 2027	$ 4,959,100	$ 6,446,900	$ 5,513,500	$ 6,397,700	$ 8,147,100
	SUBTOTAL FOR CONTRACTOR CONTINGENCIES	**$ 23,191,200**	**$ 30,148,900**	**$ 25,783,600**	**$ 29,918,600**	**$ 38,099,700**
6.	**PROPERTY COSTS**					
a.	Permanent Utility Easement	$ 3,025,939	$ 11,853,636	$ 21,933,669	$ 14,917,959	$ 14,310,210
	SUBTOTAL FOR PROPERTY COSTS	**$ 3,025,939**	**$ 11,853,636**	**$ 21,933,669**	**$ 14,917,959**	**$ 14,310,210**
7.	**ENGINEERING AND PROFESSIONAL SERVICES**					
a.	Engineering Design, Procurement, and Engineering Services During Construction	$ 17,398,200	$ 24,201,800	$ 23,056,900	$ 24,647,900	$ 30,450,300
	SUBTOTAL FOR ENGINEERING AND PROFESSIONAL SERVICES	**$ 17,398,200**	**$ 24,201,800**	**$ 23,056,900**	**$ 24,647,900**	**$ 30,450,300**
	TOTAL COST	**$ 104,389,059**	**$ 145,210,886**	**$ 138,341,319**	**$ 147,887,419**	**$ 182,702,030**
	CLASS 5 LOW RANGE (-50%)	$ 52,194,530	$ 72,605,443	$ 69,170,660	$ 73,943,709	$ 91,351,015
	CLASS 5 HIGH RANGE (+100%)	$ 208,778,119	$ 290,421,771	$ 276,682,638	$ 295,774,837	$ 365,404,061

6.0 INTEGRATION OF NON-COST AND COST EVALUATION FOR CONSOLIDATED ROUTES

Segments A & B have been evaluated as independent, standalone routes in previous chapters. Review of the Segment A routes confirms that all Segment A routes end at Lithia Water Treatment Facility. Review of the Segment B routes shows Segment B routes connecting to Segment A routes at various points along Fishhawk Boulevard (B-5, B-4, B-1), at Lithia Water Treatment Facility (B-15), and east of Lithia Water Treatment Facility near Powerline Rd. This approach was intentionally taken so that Segment B did not duplicate efforts and review overlapping sections of Segment A routes.

This presents a challenge: the Engineers cannot simply select a Segment A route and Segment B route – there may be a gap between where Segment A ends, and Segment B begins. The definition of a consolidated route is Segment A, plus Segment B, plus any additional pipeline infrastructure required to connect Segment A and Segment B together. This additional connecting pipeline infrastructure is referred to as the “connector piece”; the connection points, length, and assumed diameter of the connector piece(s) are dependent upon which Segment A and Segment B routes are selected (**Section 6.2.4**). Take the following two route combinations for example: A3/B-5, and A5/B-18. A3 ends at Lithia Water Treatment Facility, while B-5 starts at Fishhawk Boulevard and Balm Riverview Road – for this combination of Segment A route and Segment B route, there is 38,000-feet of additional pipeline infrastructure required to physically connect these segments together and complete a consolidated South Hillsborough Pipeline system. Combining routes A5 and B-18 requires a connector piece as well, but this is much shorter at 8,850-feet.

As discussed above, a complete, consolidated South Hillsborough Pipeline requires the combination of one Segment A route, one Segment B route, and a connection to the Lithia Water Treatment Facility. To meet this requirement, some Segment A/Segment B route combinations require a connector piece of additional pipeline infrastructure to physically connect the selected Segment A/Segment B route combination to the Lithia Water Treatment Facility. Each of the Segment A/Segment B route combinations which require a connector piece to join Segment A and Segment B to the Lithia Water Treatment Facility were studied and evaluated for alternative alignments, safety, environmental impacts, and integration with long range planning, along with additional non-cost evaluation criteria with Segment A route study. For all Segment A options, a single east/west route along the Boyette/Fish Hawk Road corridor was identified and selected as the optimal route for connection to the Lithia Water Treatment Facility. For each possible combination of Segment A/Segment B routes and to complete the connection to the Lithia Water Treatment Facility, the route of the connector piece along Boyette/Fish Hawk Road was incorporated directly from the previously studied and evaluated section of routes A1, A2, and A4.

The additional cost of the connector piece infrastructure is accounted for when evaluating each consolidated system route combination. This section describes the process for integrating the Non-Cost Scores from Segments A and B, as well as the Cost Scores for Segments A, B, and any connector piece. See **Figure 6-1** showing these independent shortlisted Segment A and B routes.

6.1 BACKGROUND

For the South Hillsborough Pipeline route study, Stantec and Wade Trim have incorporated cost into the final route evaluation and selection process. This reflects the results of Tampa Bay Water's 2019 Public Opinion Survey and 2021 Regional Public Opinion Survey (**Appendix H – Public Outreach**) in which the public ranked cost as the third-most important criteria, only behind Public Inconvenience and Environmental Impact / Wetlands Impact.

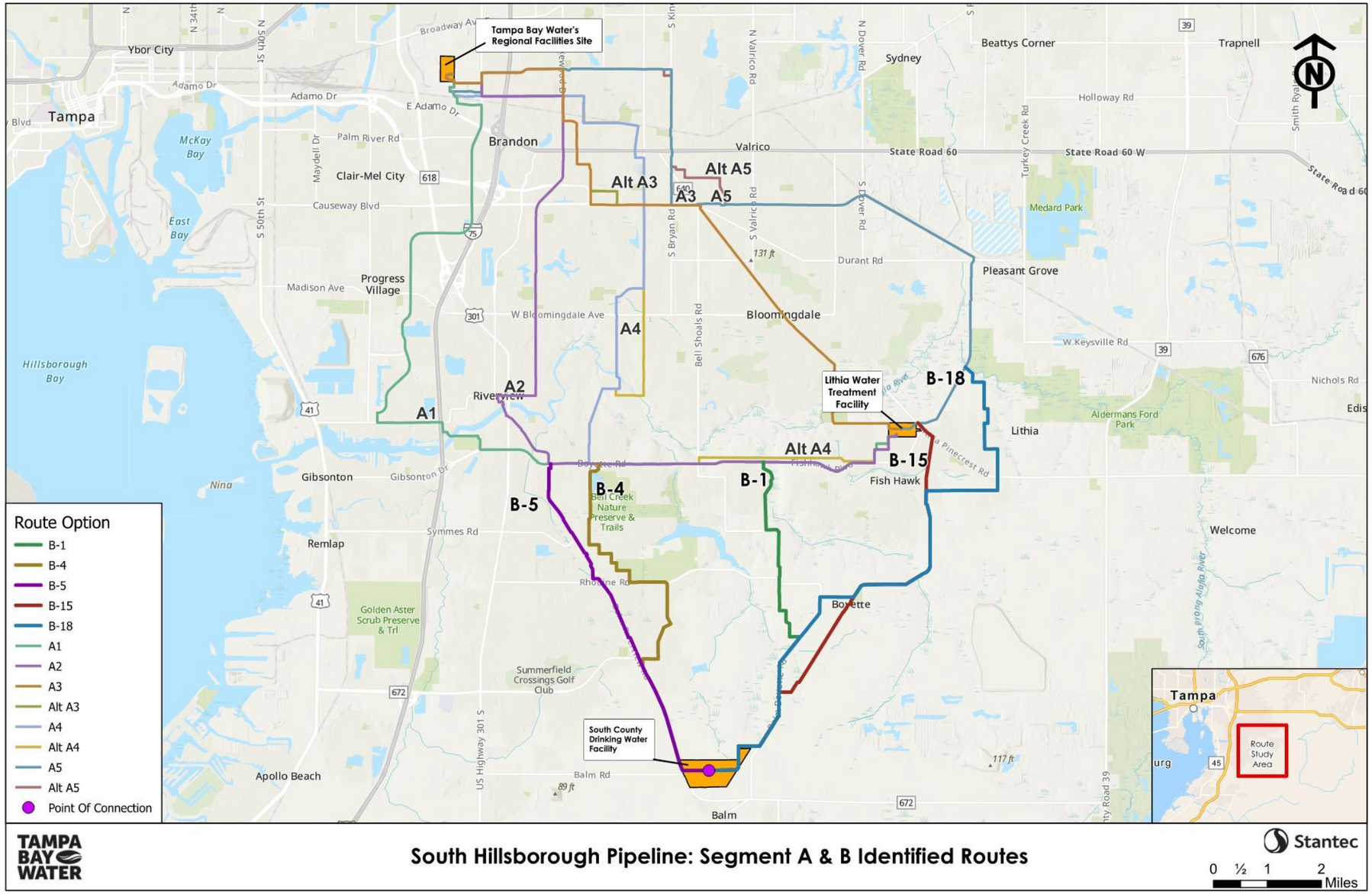
To develop a consolidated route, the following was considered

Segments A and B are portions of the overall South Hillsborough Pipeline – ultimately, this project will require a combination and connection of Segment A, Segment B, and any additional infrastructure required to connect the two, allowing 65 MGD to be delivered to Lithia Water Treatment Facility POC. Then, this system continues from the Lithia Water Treatment Facility POC to deliver 60 MGD at 30 psi to the southern Hillsborough County POC. Thus, selecting the top ranked Segment A and Segment B, without evaluating connection of the two, would be overlooking significant additional project impacts and costs; this must be captured within the total project cost and consolidated route recommendation.

The Non-Cost Score and OPCC cannot be simply added together and then ranked, as the values are incompatible, one reported in dollars (cost) and the other (non-cost) is unit-less.

The below section describes the process to address these considerations and provides an approach to recommending a consolidated route.

Figure 6-1: Segment A & B Routes



6.2 INTEGRATION OF NON-COST AND COST

The integration of non-cost and cost for consolidated routes can be simplified into the following 7 steps, given that Segment A and Segment B route evaluations (Non-Cost Score and OPCC) are complete:

1. Establish the weighting percentage between non-cost and cost.
2. Normalize and weight the Non-Cost Scores, based on percentage established in Step 1.
3. Create a route matrix with the 25 different route combinations and sum the Non-Cost Scores for each consolidated route.
4. Identify how Segments A & B will be connected.
5. Total the non-weighted and non-normalized consolidated route cost.
6. Normalize and weight the Cost Scores.
7. Add the normalized and weighted Non-Cost and Cost Scores for each Segment A / Segment B consolidated route. Rank the routes based on consolidated route score.

6.2.1 Step 1: Establish the Weighting Percentage Between Non-Cost and Cost

Project stakeholders concur that incorporating the consideration of cost as a function of the route selection is required; additionally, they concur that the non-cost criteria should influence route selection more than cost. Setting weighting percentages allows the stakeholders and Engineers to appropriately account for the relative importance of cost and non-cost criteria contributing to the total final consolidated route score. Accordingly, the weighting percentages have been established as 25% cost and 75% non-cost.

6.2.2 Step 2: Normalize and Weight the Non-Cost Scores, Based on Percentage Established in Step 1

As noted in **Section 6.1** – the consolidated route Cost and Non-Cost Score cannot simply be combined for a total score. The Non-Cost Score is not significant at a 1:1 ratio because the values are incompatible, one reported in dollars (cost) and the other (non-cost) is unitless.

Stantec and Wade Trim used a numerical methodology for combining the raw Non-Cost Score and Cost Score so that each contributes proportionally to the final route score. In data processing, this methodology is referred to as scaling, and is a method used to normalize the range of independent variables or features of data. The Non-Cost Scores are scaled so that the best route is awarded a value of 10, and each remaining route is scaled relative to this maximum value. Only Segment A routes are scaled with Segment A routes, and likewise for Segment B routes. The key to this approach is retaining a similar distribution amongst the Segment A and Segment B Non-Cost Scores, respectively.

Only the Non-Cost Score is normalized and weighted (multiplied by 75%) through Step 2, because the consolidated route cost is dependent on which A & B routes are selected. The consolidated route cost is normalized and weighted later in Step 5.

6.2.3 Step 3: Create a Route Matrix and Sum the Normalized and Weighted Non-Cost Scores for Each Consolidated Route

There are 5 shortlisted routes for both Segment A and Segment B. This results in a total of 25 unique route combinations for evaluation, as presented below in **Table 6-1.**

Table 6-1: Route Matrix and Route Combinations

Segment A / Segment B	A1	A2	A3	A4	A5
B-1	A1 / B-1	A2 / B-1	A3 / B-1	A4 / B-1	A5 / B-1
B-4	A1 / B-4	A2 / B-4	A3 / B-4	A4 / B-4	A5 / B-4
B-5	A1 / B-5	A2 / B-5	A3 / B-5	A4 / B-5	A5 / B-5
B-15	A1 / B-15	A2 / B-15	A3 / B-15	A4 / B-15	A5 / B-15
B-18	A1 / B-18	A2 / B-18	A3 / B-18	A4 / B-18	A5 / B-18

See below Equation 1, where *n,w* represents normalized, weighted values, and WP_{nc} represents the non-cost weighting percentage. The *Consolidated Non-Cost Score*$_{n,w}$ is representative for a single route combination, for example, A2 / B-18.

$$Equation\ 1:$$

$$Consolidated\ Noncost\ Score_{n,w} = (Pipeline\ A\ noncost_n + Pipeline\ B\ noncost_n) * WP_{nc}$$

6.2.4 Step 4: How Segments A & B Will be Connected

Combining Segments A and B may require additional infrastructure, referred to as the “connector piece”, that extends to the Lithia Water Treatment Facility POC. The connector piece may be included in either Segment A or B, as deemed appropriate during the design phase, regardless of which segment the connector was initially studied under. There are three options for how Segment A and B routes can be connected. Each of which is provided with an example below.

Connector Piece: Potential additional 66-inch pipe required.

- These combinations of routes, shown with a plus symbol “ + “ in **Table 6-2,** will all require various lengths of 66-inch pipeline to close the gap identified between Segments A and B, as identified previously in **Section 6.1**.
- Example: A5 / B-1. This particular route combination will require a connector pipe; an additional +/- 17,500 LF of 66-inch pipe to extend Route B-1 to Lithia Water Treatment Facility.

Connector piece: Potential reduction of 66-inch pipe to 42-inch pipe[4].

- These combinations of segments, shown with a minus symbol "– " in **Table 6-2,** provide the opportunity to downsize a portion of the Consolidated Route from 66-inch to 42-inch pipe. These routes could take advantage of a connection between Segments A and B which is en-route to the Lithia Water Treatment Facility.
- Example: A1 / B-5. The A1 route connects to B-5 at Balm Riverview Road. The remainder of the A1 route to Lithia Water Treatment Facility may be downsized from a 66-inch pipeline to a 42-inch pipeline to meet the delivery requirements. This cost savings of downsizing approximately 38,000 feet is recognized and incorporated to appropriately compare consolidated routes.

No addition or reduction (no change).

- These combinations of routes, presented as a zero "0" in **Table 6-2**, both end at Lithia Water Treatment Facility (Segment A) and leave directly from Lithia Water Treatment Facility (Segment B). Note that this is exclusive to combinations of routes which include B-15. Example: A2 / B-15. This is because every B-15 route begins at the Lithia Water Treatment Facility.

The connector piece lengths associated with each route combination are presented below in **Table 6-2.**

Table 6-2: Connector Options & Length (LF)*

Segment A / Segment B	A1	A2	A3	A4	A5
B-1	- 17,500	- 17,500	+ 17,500	- 17,500	+ 17,500
B-4	- 34,000	- 34,000	+ 34,000	- 34,000	+ 34,000
B-5	- 38,000	- 38,000	+ 38,000	+ 3,800**	+ 38,000
B-15	0	0	0	0	0
B-18	+ 8,850	+ 8,850	+ 8,850	+ 8,850	- 8,850

* + symbol indicates additional 66-inch pipe length, - symbol indicates potential downsizing length, 0 represents no connector required between combined Segment A and Segment B as presented in this route study.

**The connection of routes A4 and B-5 is unique. It requires additional 66-inch as well as a reduction of some 66-inch to 42-inch pipe. Specifically, 3,800 LF of 66-inch (between Balm Riverview and McMullen) and a cost savings of 34,000 LF downsized from 66-inch to 42-inch.

[4] The BODR will include a hydraulic evaluation to determine feasibility of downsizing the 66-inch line. The final recommended pipeline diameter will be determined after approval of the recommended route alignment. A 42-inch pipe was chosen strictly for the purpose of evaluating potential cost savings.

6.2.5 Step 5: Total the Non-Weighted & Non-Normalized Consolidated Route Cost

Each consolidated route cost is the sum of the OPCC for Segment A, the OPCC for Segment B, and the connector cost. Note: this value in Equation 2 is not yet normalized or weighted.

$$Equation\ 2:$$

$$Nonweighted\ \&\ Nonnormalized\ Consolidated\ Route\ Cost = OPCC_A + OPCC_B + Connector\ Cost$$

The OPCC's for Segments A & B are presented in both reports' **Section 5.0.** The connector cost is calculated from the lengths presented in **Table 6-2.** The connector cost shown in **Table 6-3** has been generated as such:

- Where additional 66-inch pipe is required, the length is multiplied by the 66-inch pipe unit price; this is an additional cost.
- Where 66-inch pipe is replaced with 42-inch pipe, the length is multiplied by the difference in unit prices (66-inch minus 42-inch); this is identified as a cost savings to the project.
- For **Table 6-3**, estimated costs of $1,510 / LF for 66-inch pipe and $1,225 / LF for 42-inch pipe were used.
- Where no cost is shown, there is no connector cost.

The importance of these steps is to illustrate how different route combinations yield varying cost implications for each route. Selecting A3 or A5 with B-5 is projected to have +/- $50M in cost impact (AACE Level 5). Thus, the OPCC's for each route cannot simply be added together for a total consolidated route cost; this connector cost must be considered for a total consolidated route cost.

Table 6-3: Connector Cost*

	A1	A2	A3	A4	A5
B-1	- $4,987,500	- $4,987,500	+ $26,425,000	- $4,987,500	+ $26,425,000
B-4	- $9,690,000	- $9,690,000	+ $51,340,000	- $9,690,000	+ $51,340,000
B-5	- $10,830,000	- $10,830,000	+ $57,380,000	- $3,952,000	+ $57,380,000
B-15	$0	$0	$0	$0	$0
B-18	+ $13,363,500	+ $13,363,500	+ $13,363,500	+ $13,363,500	- $2,522,250

* + symbol indicates additional cost, - symbol indicates potential savings, 0 represents no cost change.

6.2.6 Step 6: Normalize and Weight the Cost Score

Using a similar approach to Step 2: the consolidated route cost is normalized so the least expensive route is awarded a value of 10, and each remaining route is scaled relative to this minimum value. Again, key to this approach is retaining a similar distribution to the original data. See Equation 3, where *n,w* represents normalized, weighted values, and WP_c represents the cost weighting percentage.

$$Equation\ 3:$$

$$Consolidated\ Cost\ Score_{n,w} = [(OPCC_A + OPCC_B + Connector\ Cost)_n] * WP_c$$

6.2.7 Step 7: Add the Normalized and Weighted Non-Cost and Cost Scores for Each Segment A / Segment B Consolidated Route and Rank the Routes

The last step is to add the normalized and weighted Non-Cost and Cost Scores for each consolidated route. See below Equation 4, where *n,w* represents normalized, weighted values; this equation will generate 25 different consolidated route scores.

$$Equation\ 4:$$

$$Consolidated\ Route\ Score = Consolidated\ Noncost\ Score_{n,w} + Consolidated\ Cost\ Score_{n,w}$$

These 25 routes can then be ranked and shortlisted for recommended route selection. For all the above steps, the spreadsheet used to complete the calculations is automated, allowing us to adjust variables, such as the weighting factors, and conduct a sensitivity analysis of how changes to these values would impact the results.

6.3 RESULTS OF CONSOLIDATED ROUTE EVALUATION

6.3.1 Preliminary Consolidated Route Workshop

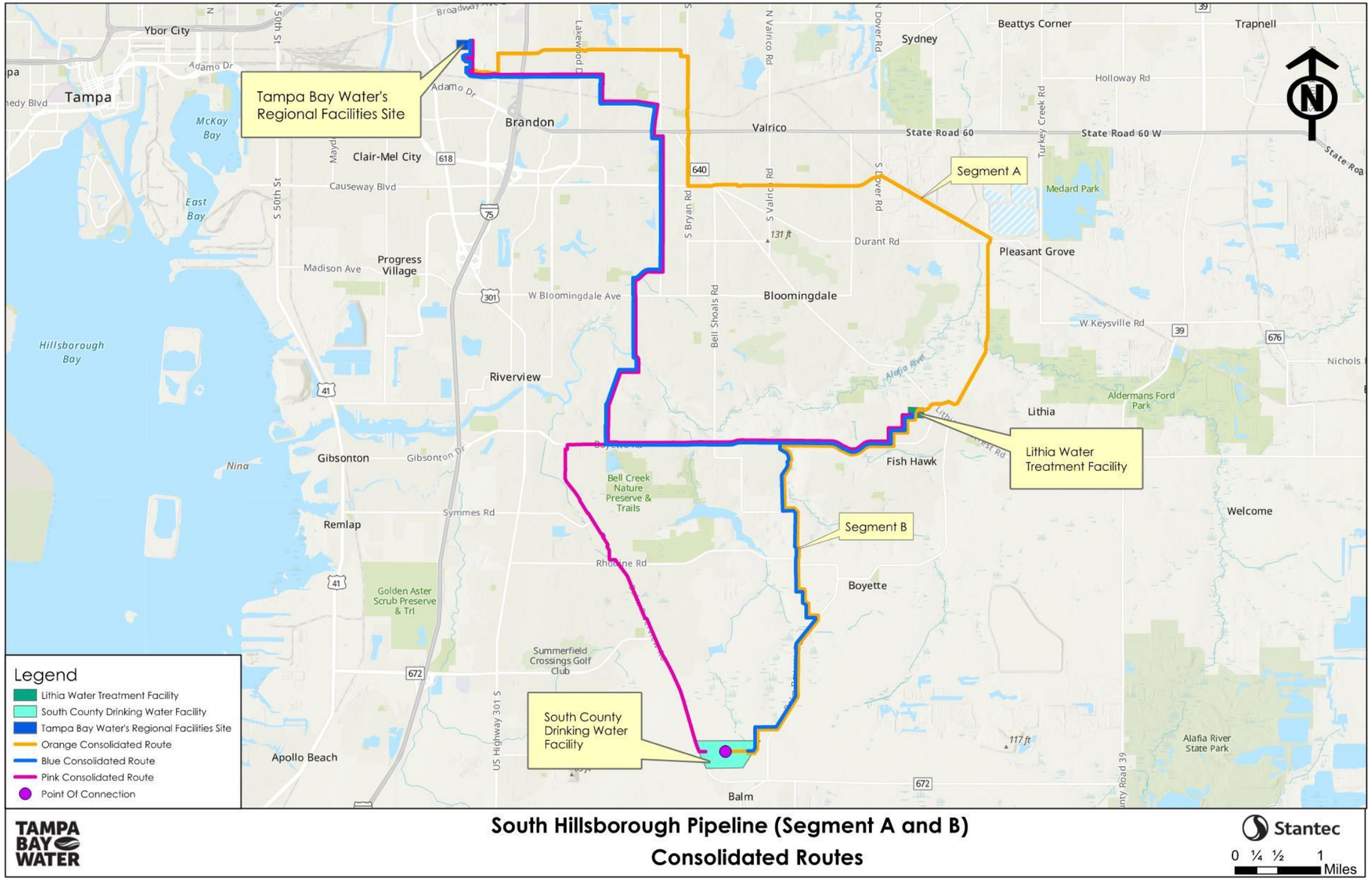
A workshop was held with Tampa Bay Water staff and the IPM on May 25th, 2022. The intent of the workshop was to illustrate the pipeline consolidation process and to present the Engineer's recommended top three consolidated routes for Board consideration.

The process described in **Section 6.2** was followed and integrated both non-cost and cost criteria, recommending the top three consolidated routes to the Board (**Figure 6-2)**.

The routes shown in **Figure 6-2** are a combination of A4 and B-5, A4 and B-1, and A5 and B-1. These were presented as "Pink", "Blue" and "Orange" routes, respectively. The team intentionally removed the numbers and names associated with the routes so as not to influence public opinion. The consolidated route map was then included in subsequent public outreach efforts, held in June and July 2022, to solicit feedback from residents in the project area through an online survey, neighborhood presentations, meet

ings with business associations and a telephone town hall meeting. This information is further discussed in **Section 6.4.1** and **Appendix H – Public Outreach.**

Figure 6-2: Segment A & B Shortlisted Consolidated Routes



6.3.2 Final Consolidated Route Results

Following the steps of **Section 6.2**, this section outlines the results of Stantec and Wade Trim's consolidated route study. Interpretation of results and recommendation of the consolidated route is found in the subsequent S**ection 6.4.**

Discussions with Tampa Bay Water and stakeholders determined non-cost to be a more critical selection factor than cost. This is reflected in the weighting percentages below.

Table 6-4: Weighting Percentage for Cost and Non-Cost

Weighting Criteria	Percentage
Cost	25%
Non-Cost	75%

Stantec and Wade Trim conducted a sensitivity analysis to understand how adjusting the weighting percentages modifies the route scoring outcome. The recommended route did not change until the weighting percentages approached nearly a 50 / 50 split. The Engineers also explored further decreasing the cost and increasing the non-cost weighting percentage; this also had little effect on the outcome.

The next step was to normalize and weight the Non-Cost Scores, using the weighting factor of 75%. The below tables are organized separately by Segment A and Segment B. Segment A and B Non-Cost Scores were normalized by only considering the respective segment data.

Table 6-5: Segment A Non-Cost Score Normalization and Weighting

Route #	Non-Cost Score (Scoring Matrix)	Normalized Non-Cost Score	Normalized Non-Cost Score (Weighted)
A5 (Cross Country)	377.4	10.0	750.0
A4 (Parsons-Kings)	352.3	9.3	700.2

Table 6-6: Segment B Non-Cost Score Normalization and Weighting

Route #	Non-Cost Score (Scoring Matrix)	Normalized Non-Cost Score	Normalized Non-Cost Score (Weighted)
B-1 (Boyette)	353.6	10.0	750.0
B-5 (Balm-Riverview)	344.9	9.8	731.5

As Segment A5 was the highest scoring route, it receives a value of 10, with each following route receiving a relative deduction. The normalized Non-Cost Scores were then multiplied by 75, giving A5 a highest possible score of 750. This same process was repeated within the Segment B dataset.

Table 6-7 is the sum of results from **Table 6-5** and **Table 6-6** for the shortlisted consolidated route options. For example, the Blue Route (A4 / B-1) score is the rounded sum of 700.2 + 750 = 1,450.2.

Table 6-7: Route Matrix of Consolidated Routes – Normalized and Weighted Non-Cost Scores

Route	Scores
Orange (A5 / B-1)	1,500.0
Blue (A4 / B-1)	1,450.2
Pink (A4 / B-5)	1,431.7

The highest possible total Non-Cost Score for a route would be 1,500 points, representing 750 points from both Segment A and Segment B; that was the case for the Orange Route (A5 / B-1).

With all the consolidated route combinations identified, the Engineering Team then determined how the two segments would be connected, and the associated cost impacts, either an increase or decrease, of creating a combined, consolidated system route. This included either A) additional 66-inch diameter pipe required, B) reduction of 66-inch diameter pipe to 42-inch diameter pipe[5]**. Table 6-2** directly produced the costs shown in **Table 6-8**; the unit costs used were $1,510 per linear feet of 66-inch diameter pipe and $1,225 per linear feet for 42-inch diameter pipe.

In the case of the Pink Route (**Figure 6-3**), there is a segment of additional 66-inch diameter connector required between Balm-Riverview Road and McMullen Road along Fishhawk Boulevard. Once Segment B-5 intersects with Segment A4 near the intersection of McMullen Road and Fishhawk Boulevard, the remaining portion of route between this point and the Lithia Water Treatment Facility along Fishhawk Boulevard can potentially be downsized from a 66-inch diameter pipe to a 42-inch diameter pipe. The resultant between the additional of 3,800 feet of 66-inch diameter pipe and the downsizing of 34,000 feet of pipe to a 42-inch diameter pipe was recognized a potential savings of - $3,952,000 to the project for this specific route.

For the Blue Route (**Figure 6-4)**, Segment A4 connects with Segment B-1 at Boyette Road, thus the remaining portion of the route between this point and the Lithia Water Treatment Facility along Fishhawk Boulevard and proposed easements could be downsized from a 66-inch diameter to a 42-inch diameter pipe. This was recognized as a potential savings of - $4,987,500 to the project for this specific route.

[5] For the purposes of this report / phase of the project, these assumptions and potential pipe sizes were used for cost estimating. They may not reflect the final size of the pipe once the recommended route is further analyzed during final design.

Figure 6-3: Segment A4 / B-5 Connector (Pink Route)

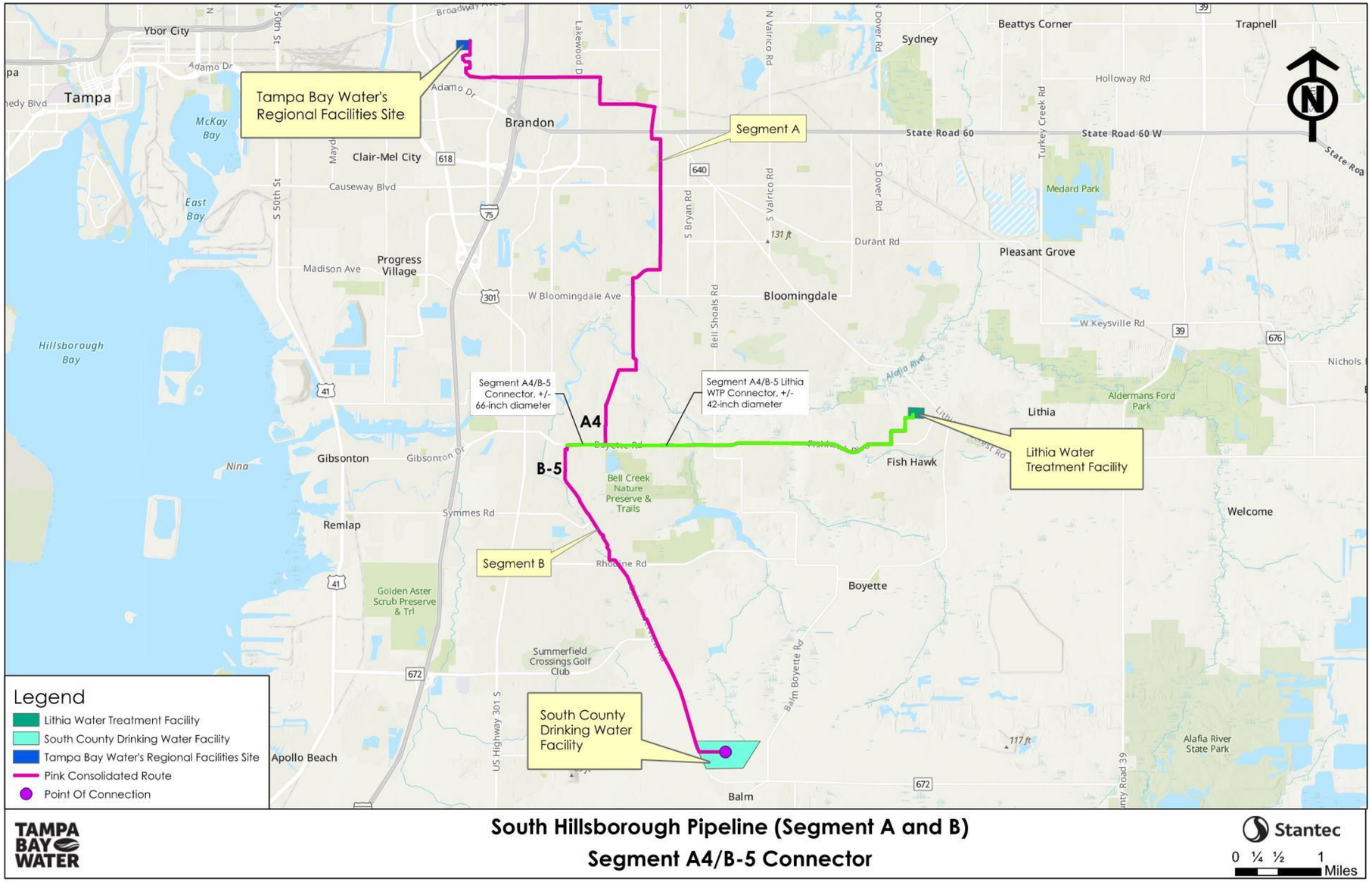


Figure 6-4: Segment A4 / B-1 Connector (Blue Route)

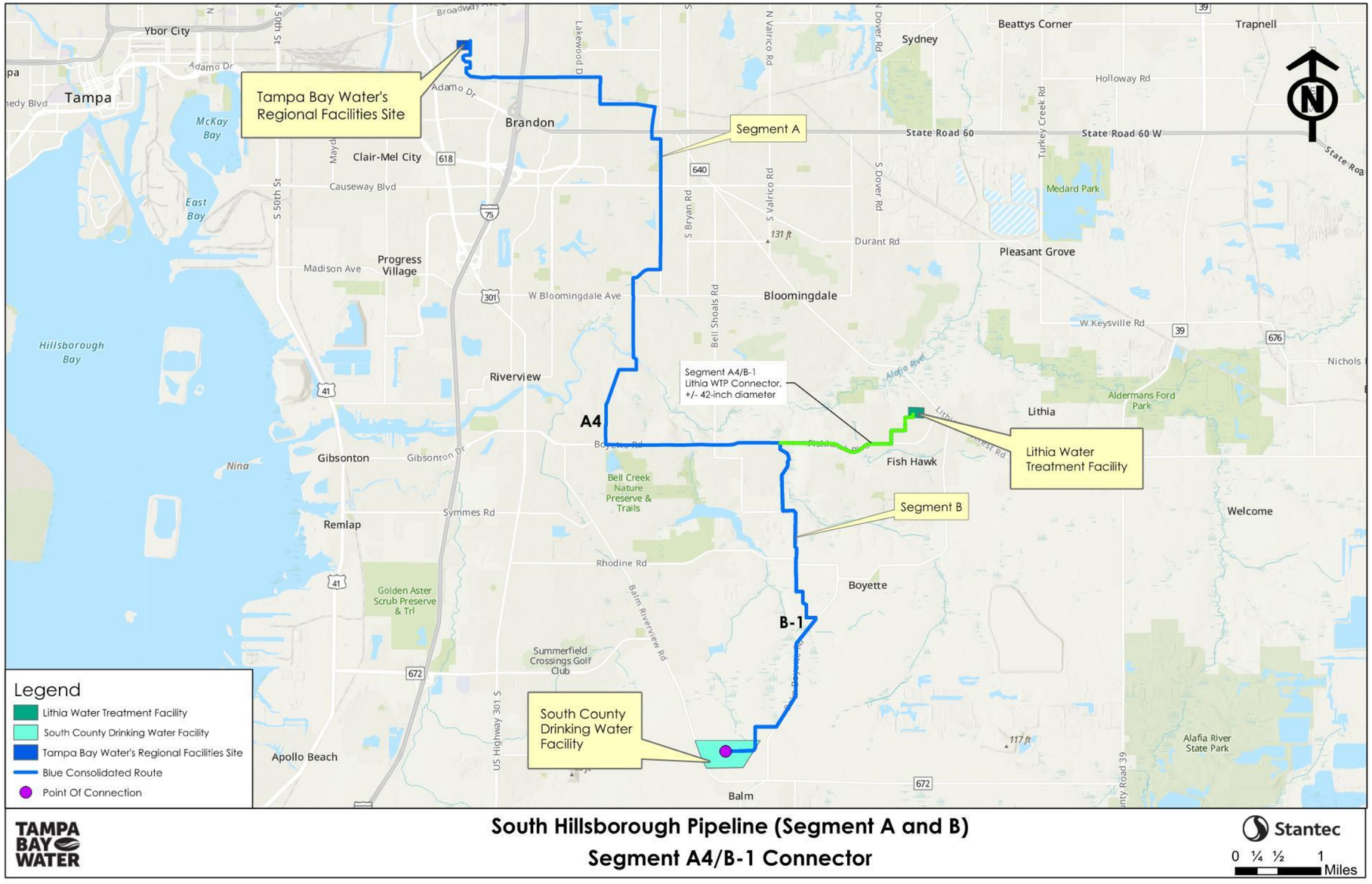
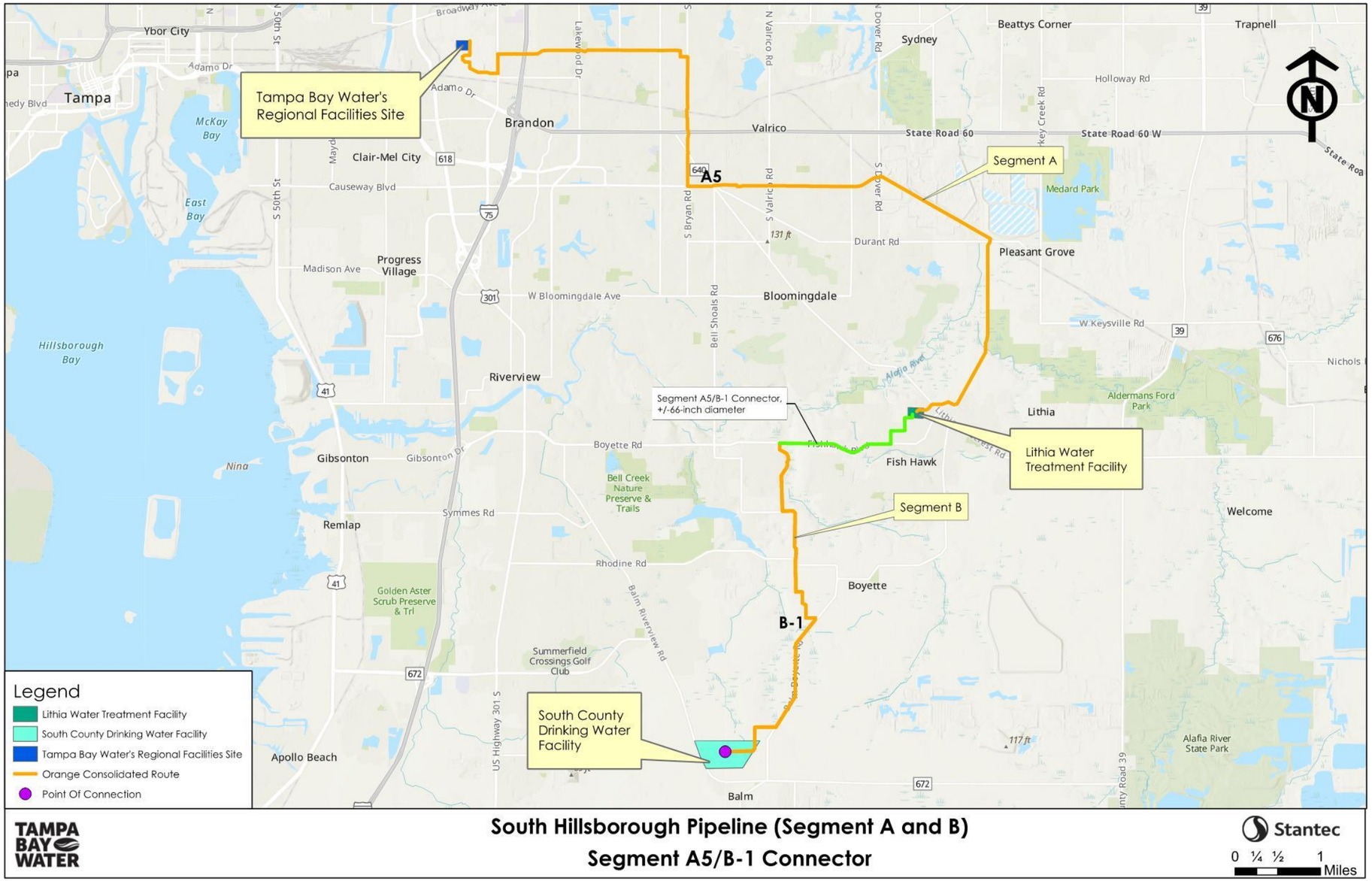


Figure 6-5: Segment A5 / B-1 Connector (Orange Route)



For the Orange Route (**Figure 6-5)**, Segments A5 and B-1 do not meet prior to Lithia Water Treatment Facility, thus the connector segment required is an additional 17,500 feet of 66-inch diameter pipe between Boyette Road and Fishhawk Boulevard, that extends along Fishhawk Boulevard and proposed easements to the Lithia Water Treatment Facility. This was recognized as an additional cost of + $26,425,000 to the project for this specific route.

Table 6-8: Connector Costs for Consolidated Routes

Route Connector Segment	Connector Cost*
Pink (A4 /B-5)	- $3,952,000
Blue (A4 / B-1)	- $4,987,500
Orange (A5 / B-1)	+ $26,425,000

* '+' symbol indicates additional cost, '- 'symbol indicates potential savings,

The Consolidated Cost Score is the sum of OPCC Segment A, OPCC Segment B, and the Connector Cost. The total route cost must be summed prior to normalizing and weighting it.

Table 6-9: Segment A OPCC

Route #	OPCC
A4	$319,455,000
A5	$311,749,000

Table 6-10: Segment B OPCC

Route #	OPCC
B-1	$ 104,390,000
B-5	$ 138,340,000

For **Table 6-11,** each route is the sum of the three previous tables. For example, Pink Route Consolidated Cost is the sum of the costs of the Pink Route Connector Segment, A4 Segment and B-5 Segment. - $3,952,000 + $319,455,000 + $138,340,000 = $453,843,000.

Table 6-11: Consolidated Routes Costs

Consolidated Route	Cost*
Blue (A4 / B-1)	$418,857,500
Orange (A5 / B-1)	$442,564,000
Pink (A4 /B-5)	$453,843,000

*Costs shown in **Table 6-11** were prepared in accordance with AACE Class 5 construction cost estimate and rounded to the nearest million dollar; escalated to midpoint of construction; and includes engineering design and bidding services; startup, commissioning, and testing; contractor markup and indirect costs; contingencies; property acquisition costs; engineering services during construction.

The total consolidated Cost Score was then normalized and weighted. This uses the same scaling approach as normalizing and weighting the Non-Cost Score – e.g., the top score received a 10, and the remaining routes were scaled proportionately. The normalized consolidated route cost is then multiplied by a cost weighting percentage of 25.

Table 6-12: Consolidated Routes Normalized and Weighted Cost Scores

Route	Scores
Blue (A4 / B-1)	250.0
Orange (A5 / B-1)	236.6
Pink (A4 /B-5)	230.7

The lowest cost route, Blue Route (A4 / B-1), was normalized to a maximum value of 10, and then multiplied by 25, resulting in the highest Cost Score of 250 points.

With both the Non-Cost and Cost Score normalized, the results were added for each shortlisted consolidated route. A ranked table, **Table 6-14**, shows the data for the three consolidated routes presented to the board in June 2022.

Table 6-13: Total Consolidated Routes Ranking and Summary Table

Rank	Consolidated Route	Non-Cost Score**	Cost Score***	Consolidated Score****	Total Cost*
1	Orange (A5 / B-1)	1500.0	236.6	1736.6	$443,000,000
2	Blue (A4 / B-1)	1450.2	250.0	1700.2	$419,000,000
3	Pink (A4 / B-5)	1431.7	230.7	1662.4	$454,000,000

*Costs shown in **Table 6-13** were prepared in accordance with AACE Class 5 construction cost estimate and rounded to the nearest million dollar; escalated to midpoint of construction; and includes engineering desi

gn and bidding services; startup, commissioning, and testing; contractor markup and indirect costs; contingencies; property acquisition costs; engineering services during construction.

Reference **Table 6-7

***Reference **Table 6-12**

****Consolidated Score = Non-Cost Score$_{n,w}$ + Consolidated Cost Score$_{n,w}$

6.3.2.1 Hydraulics of Consolidated System

The preliminary hydraulic evaluation of the three consolidated routes focused on evaluating the head and pressure required to deliver a total of 65 mgd to Hillsborough County's two points of connection via 66-inch pipeline diameter size, per the Memorandum of Understanding (**Appendix I - Hillsborough County and Tampa Bay Water Memorandum of Understanding**). Segment A must convey up to 65 mgd to the Lithia Water Treatment Facility, and Segment B must convey up to 60 mgd to the southern Hillsborough County POC. The following scenarios were evaluated:

- 45 mgd to Lithia Water Treatment Facility POC and 20 mgd to new southern Hillsborough County POC. (Segment A conveying a total of 65 mgd).
- 5 mgd to Lithia Water Treatment Facility POC and 60 mgd to new southern Hillsborough County POC

The results for the two flow delivery scenarios and each of the three consolidated routes are listed in the table below. The delivery pressure at the proposed new South Hillsborough Pipeline Point of Connection location was maintained at 30 psi.

Table 6-14: Head and Pressure Required to Deliver a Maximum of 65 mgd via 66-inch Diameter Pipe for the Consolidated Pipe Routes

Segment A	Segment B	Figure Color	HSPS HGL Elevation (feet)*	HSPS Pressure Required (psi)*	Lithia POC Delivery (mgd)	Lithia POC Delivery Pressure (psi)	South Hillsborough Pipeline (SHP) POC (mgd)	South Hillsborough Pipeline (SHP) POC Delivery Pressure (psi)
A4	B-5	Pink	253	96	45	50	20	30
			275	106	5	65	60	30
A4	B-1	Blue	266	101	45	53	20	30
			285	110	5	63	60	30
A5	B-1	Orange	277	106	45	56	20	30
			304	**118**	5	67	60	30

* Underlined values indicate the lowest head required, while **bolded values** indicate the highest head.

Based on preliminary data, the hydraulic grade line (HGL) required to deliver these maximum flows via 66-inch diameter pipelines ranged from 253 feet to 304 feet, with corresponding pressure required of 96 to 118 pounds per square inch (PSI). The lowest HGL requirement was for the A4 / B-5 route (Pink Route), and the highest HGL requirement was for the A5 / B-1 route (Orange).

This hydraulic evaluation does not consider pipe sizing optimization and the potential hydraulic requirements for a downsized pipe segment (to a 42-inch diameter pipe) for the Pink Route and Blue Route as previously discussed in the **Section 6.2**. It also does not take into consideration potential alternative water supplies and operational strategies currently being evaluated by Tampa Bay Water's Integrated Program Manager.

A detailed hydraulic evaluation will be performed for the recommended route at the Basis of Design Report and 30% design stage. The pipeline alignment along the proposed route and other design elements must be defined before confirming final recommended pipeline diameters and operating pressures.

6.4 RECOMMENDED CONSOLIDATED ROUTE

Based on the total consolidated scores included in **Section 6.3**, the Orange Route ranks as the recommended consolidated route. However, public engagement input and potential route risks are also important considerations for the final, recommended route selection. The top two routes (A5 / B-1 and A4 / B-1) are only separated by 34.4 points – public engagement input and potential route risks were used to supplement the quantitative findings (Non-Cost Score and Cost Score) presented in **Section 6.3**.

6.4.1 Public Engagement Input

Tampa Bay Water conducted an online survey from June 14, 2022, through July 8, 2022[6]. Public Engagement supported the Orange route as the recommended consolidated route.

The purpose of the survey was to describe the three shortlisted route options (Pink, Blue, Orange) to respondents, discuss evaluation criteria, and determine if members of the community had knowledge that

[6] Tampa Bay Water began public engagement for the South Hillsborough Pipeline in 2019 when the utility began studying possible corridors for the new large-diameter transmission main. Previous surveys, methods of contacting the public, and specific information communicated can be consulted in **Appendix H – Public Outreach**.

design engineers should take into consideration in final evaluation. A review of the approximately 970 open-ended responses show the following trends:

Respondent input in 2022 echoes the priorities voiced by respondents in to the 2019 survey. This was adequately addressed in the weighting criteria process, and through incorporation of cost into the consolidated route evaluation. Top cited concerns in the open-ended comments include:

- Environmental impacts
- Public inconvenience/traffic impacts
- Cost

- Overall, respondents expressed concern for construction in environmentally sensitive areas and a desire to avoid impacting the Alafia River ecosystem.
- Traffic concerns are high for all routes; residents voiced concerns for children traveling to and from all schools near all routes as well as exacerbating current traffic situations overall, including near all schools.
- There is more support for the Orange route than the Pink and Blue routes. Many respondents cite their preference for this route as it has less perceived disruption to the Alafia River and will cause fewer traffic impacts. However, residents residing in Fish Hawk and nearby communities expressed concern for traffic impacts to nearby communities and schools.
- Concerns for the Pink and Blue routes centered on potential impacts to the Alafia River, traffic impacts and impacts to private property, particularly among those who reside on small residential roads who would be impacted by construction. There was also concern that residents might have to be displaced by these routes.

These opinions were further solidified with feedback received during subsequent live town hall and zoom meetings – constituents favored the Orange route.

6.4.2 Preliminary Route Risk Assessment

Additional reasoning for selection of the Orange Route as the recommended consolidated route is the lower project development risks when compared to the other shortlisted routes. Cost evaluations at the route screening level inherently have a high degree of uncertainty; this reflects the potential for unknown / undefined conditions. Examples of currently unknown or undefined conditions include:

- Additional third-party utilities not reported during data collection
- Abandoned utilities along the routes which have not been recorded or captured in the record drawings or GIS data obtained
- Third-party utility lines which are constructed between when the route study is completed and when the project construction begins
- New intersection improvements or roadway improvements that affect the anticipated construction technique along segments of the route
- Differing potential impacts to commercial properties than estimated for the route study

The possibility of encountering the above-mentioned undefined conditions is lower in rural/undeveloped areas (Orange Route) than in urban areas (such as those generally associated with the Pink / Blue Route). In addition, when they are encountered, the cost to resolve undefined conditions is also typically lower in rural/undeveloped areas than in urban areas.

Accordingly, this results in reduced risks for the recommended consolidated route, as it features predominantly segments along rural/undeveloped areas. Other evaluated consolidated routes, Pink Route and Blue Route, could be expected to have higher risks, as they are aligned along more urban corridors including Parson Avenue, Kings Avenue, Balm-Riverview Road and Fishhawk Boulevard.

6.4.3 Recommended Consolidated Route Selection

The recommended consolidated route has an overall length of approximately 28.4 miles of 66-inch diameter water transmission main. It includes approximately 18.2 miles along Segment A5 between Tampa Bay Water's Regional Facilities Site and the Lithia Water Treatment Facility POC, and approximately 10.2 miles along Segment B-1 between the Lithia Water Treatment Facility POC and the new southern Hillsborough County POC. The recommended consolidated route has the highest non-cost criteria score of all Segment A and Segment B pairings (1,500 points out of 1,500 total possible). It is also the second most cost-effective alternative with an OPCC of $443,000,000 (scoring 236.6 points out of 250 total possible). Given the risk considerations, the Public Engagement results, and the consolidated route score, it is recommended that Tampa Bay Water proceed with design and construction of the Orange Route as shown on **Figure 6-6**.

Figure 6-6: Recommended Consolidated Route

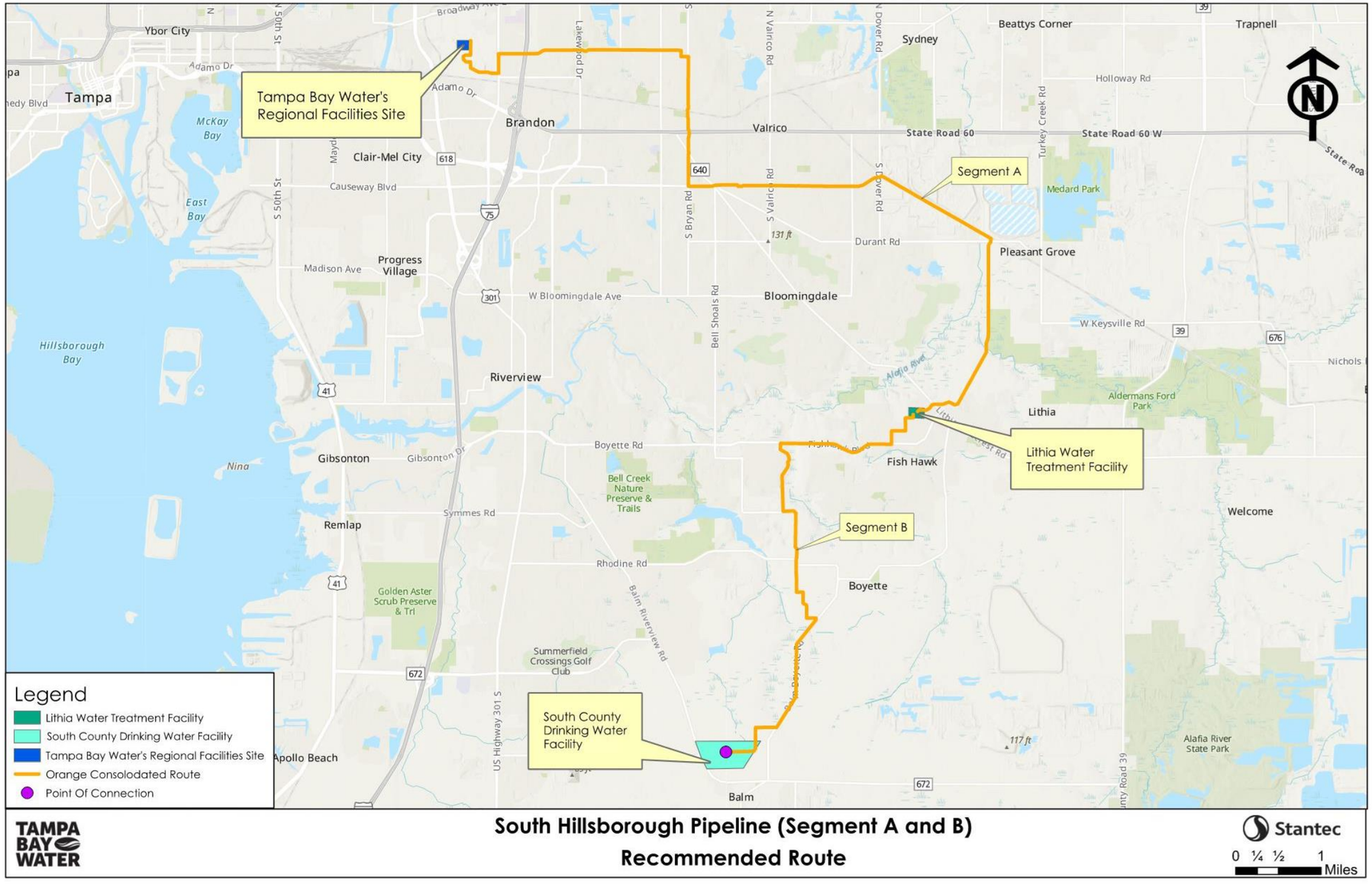


Table 6-15: Recommended Consolidated Route, Segmented Cost, and Length

Segment	Length (mi)	OPCC (rounded to nearest million)
A (A5)	18.2	$312,000,000
B (B-1 plus connector piece)	10.2	$131,000,000
Recommended Consolidated Route Total	28.4	$443,000,000

Costs shown in **Table 6-15** were prepared in accordance with AACE Class 5 construction cost estimate and rounded to the nearest million dollar; escalated to midpoint of construction; and includes engineering design and bidding services; startup, commissioning, and testing; contractor markup and indirect costs; contingencies; property acquisition costs; engineering services during construction.

The recommended consolidated route meets the five factors of reasonable necessity that Tampa Bay Water uses to substantiate land acquisition. Listed below are key descriptors of how each were addressed and met in this evaluation:

- **Alternative Alignments –** Numerous alternative alignments were considered, and the recommended route scored higher than all other routes evaluated against the set of criteria established.
- **Cost –** The recommended route has the second lowest cost of the shortlisted consolidated routes. Factoring in cost uncertainty related to the urban corridor of the lowest cost option, the recommended route is a cost-effective option with lower risk of cost uncertainty.
- **Safety –** The recommended route is considered one of the safer options as it has less pedestrians and vehicle traffic compared to other routes evaluated.
- **Environmental Impacts –** The environmental impacts on the recommended route are able to be mitigated through avoidance, monitoring and restoration, and acquisition of mitigation credits.
- **Long Range Planning –** The South Hillsborough Pipeline is included in Tampa Bay Water's approved 2018 Long Term Master Water Plan and their approved 2019 Capital Improvements Plan. The South Hillsborough Pipeline is also included in Hillsborough County's Comprehensive Plan and their current Capital Improvements Plan. The recommended route for the South Hillsborough Pipeline will provide service to meet the growing demand for potable water in Southern Hillsborough County associated with the extensive current and future residential and associated commercial development of the area.

7.0 REFERENCES

Tampa Bay Water Route Study. JMT. August 21, 2020.

South Hillsborough County Pipeline Route Study. Arcadis. August 2020.

AACE International Recommended Practice No. 18R-97; Cost Estimate Classification System – As Applied in Engineering, Procurement, and Construction for the Process Industries. February 2, 2005.

APPENDICES

APPENDIX A - ROUTE SCREENING LEVEL 1

Stantec

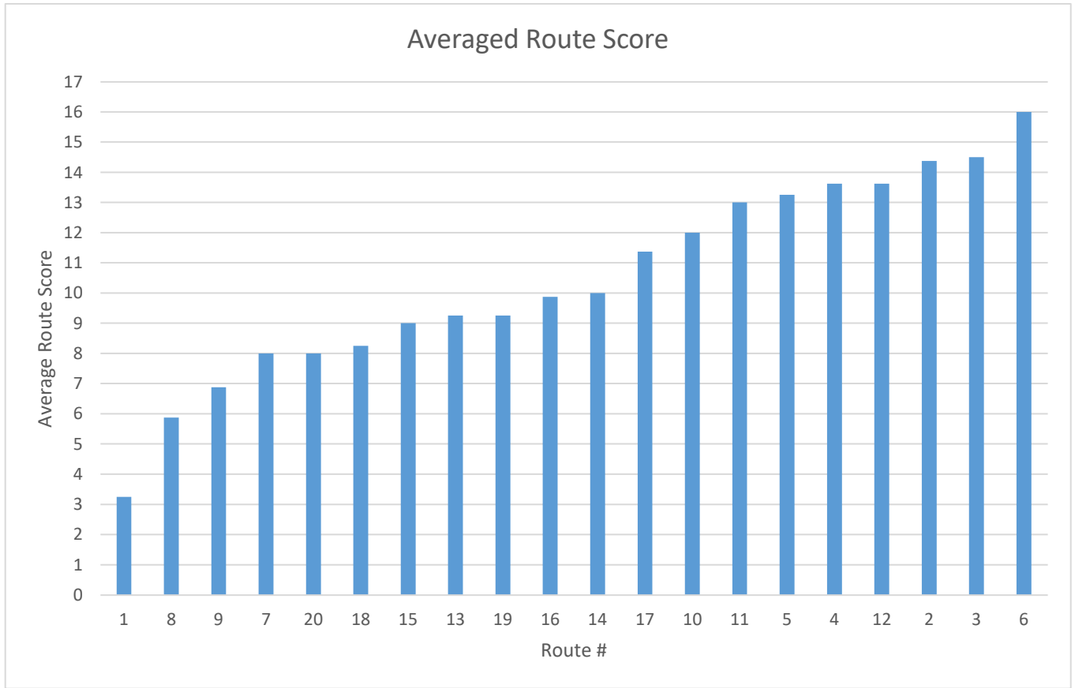
South Hillsborough Pipeline - Segment B
Appendix A - Route Screening Level 1

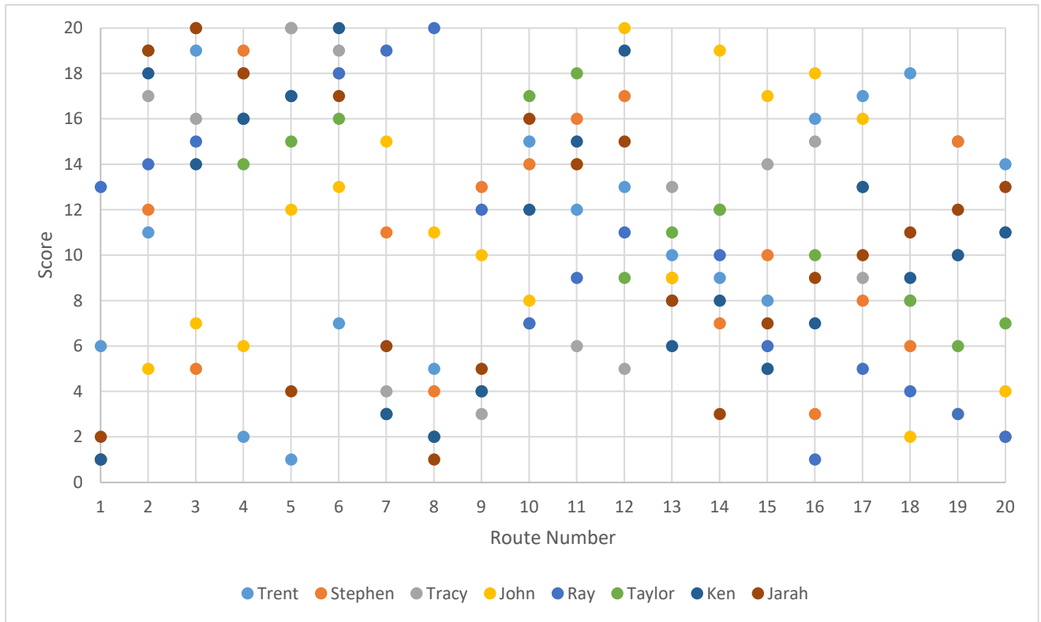
Date 12/21/2021
Title Development of Corridors - Screening Level 1

				Raw Scoring								Average Scoring	
Rank	Route Name / Number	Point of Connection West, Central, Lithia, East	Route Length (Approx. GIS)	Person 1 Trent	Person 2 Stephen	Person 3 Tracy	Person 4 Jarah	Person 5 John	Person 6 Ray	Person 7 Taylor	Person 8 Ken	(Sum of all persons scores per route)	Std Dev.
1	1	Central	35,074	6	1	1	2	1	13	1	1	3.25	4.30
2	8	Central	35,597	5	4	2	1	11	20	2	2	5.88	6.53
3	9	Central	40,949	4	13	3	5	10	12	4	4	6.88	4.09
4	7	Central	40,425	3	11	4	6	15	19	3	3	8.00	6.26
5	20	East	62,165	14	2	11	13	4	2	7	11	8.00	4.90
6	18	East	59,081	18	6	8	11	2	4	8	9	8.25	4.86
7	15	Lithia	43,541	8	10	14	7	17	6	5	5	9.00	4.41
8	13	Lithia	52,991	10	9	13	8	9	8	11	6	9.25	2.12
9	19	East	56,596	15	15	10	12	3	3	6	10	9.25	4.83
10	16	East	49,126	16	3	15	9	18	1	10	7	9.88	6.15
11	14	Lithia	45,388	9	7	12	3	19	10	12	8	10.00	4.66
12	17	East	78,702	17	8	9	10	16	5	13	13	11.38	4.10
13	10	Lithia	53,037	15	14	7	16	8	7	17	12	12.00	4.14
14	11	Lithia	45,433	12	16	6	14	14	9	18	15	13.00	3.89
15	5	West	38,345	1	20	20	4	12	17	15	17	13.25	7.17
16	4	West	45,927	2	19	18	18	6	16	14	16	13.63	6.23
17	12	Lithia	44,142	13	17	5	15	20	11	9	19	13.63	5.15
18	2	West	54,083	11	12	17	19	5	14	19	18	14.38	4.90
19	3	West	54,653	19	5	16	20	7	15	20	14	14.50	5.73
20	6	West	55,029	7	18	19	17	13	18	16	20	16.00	4.21

South Hillsborough Pipeline - Segment B
Appendix A - Route Screening Level 1

Date 12/21/2021
Title Development of Corridors - Screening Level 1 Data Visualization





APPENDIX B - ROUTE SCREENING LEVEL 2

Stantec

South Hillsborough Pipeline - Segment B
Appendix B - Route Screening Level 2

Date: 2/14/2022

Below is the averaged scores between the 9 reviewers (see REVIEWERS below).

Route Number	Route Location	Avg Rank	Std Dev.	**Final Rank**		
Route 1	Central	1.88	1.053	**1**		
Route 4	West	4.00	2.179	**3**		
Route 5	West	5.63	2.395	**6**		
Route 8	Central	2.50	1.500	**2**		
Route 13	Lithia	5.13	1.536	**5**		
Route 15	Lithia	4.63	1.111	**4**		
Route 18	East	5.88	0.927	**7**		
Route 20	East	6.00	2.291	**8**		

Selected routes 1, 4, 15, 18 to maintain 4 connection points.

REVIEWERS

Utilities	Stephen MacEachern
Environmental	Ray Dennis, Jennifer Bunty
Safety	John Spalding (public and construction / worker safety)
Public Impact	Michelle Robinson (subconsultant: Dialogue)
Geotech	Kevin Hill (subconsultant: Arehna)
Land Acquisition	David Montalvo (subconsultant: FLAA)
Project Eng.	Taylor Ahrensdorf
Project Director	Ken Broome

Stantec

South Hillsborough Pipeline - Segment B
Appendix B - Route Screening Level 2

Date: 2/10/2022
Discpline: Public Engagement
Reviewer(s): Michelle Robinson

Route Number	Ranking	Final commentary?
Route 1	1	Shortest, fewest private parcels affected, few utility easemments required; though outside the service area, it doesn't affect as many private parcels as other routes
Route 4	2	Second fewest private parcels; impacts those who benefit; need to manage construction impacts by Rodgers Middle either by scheduling or construction technique
Route 5	4	Moderate traffic impacts, but many private parcels and wetlands
Route 8	3	Affects more private parcels than route 1, but has least wetland impacts
Route 13	6	Too many wetland impacts and too long
Route 15	5	
Route 18	7	Too long, too many private parcels outside service area affected, too many wetlands impacted
Route 20	8	Too long, too many private parcels outside service area affected

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South Hillsborough Pipeline - Segment B
Appendix B - Route Screening Level 2

Date: 2/8/2022
Discpline: Project Director
Reviewer(s): Ken Broome

Route Number	Ranking	Final commentary?
Route 1	1	
Route 4	4	
Route 5	8	
Route 8	2	
Route 13	3	
Route 15	6	
Route 18	5	
Route 20	7	

Stantec

South Hillsborough Pipeline - Segment B
Appendix B - Route Screening Level 2

Date: 2/11/2022
Discpline: Geotechnical
Reviewer(s): Kevin M. Hill, PE

Route Number	Ranking	Final commentary?
Route 1	4	
Route 4	2	
Route 5	1	
Route 8	3	
Route 13	6	
Route 15	5	
Route 18	7	
Route 20	8	

All corridors will need dewatering along nearly the entire route.
Not a lot of differences in these routes from a geotechnical perspective.

Stantec

South Hillsborough Pipeline - Segment B
Appendix B - Route Screening Level 2

Date: 2/10/2022
Discpline: Project Engineer
Reviewer(s): Taylor Ahrensdorf

Route Number	Ranking	Final commentary?
Route 1	2	More ELAPP lands than route 8, but less private parcel impact.
Route 4	8	Highest amount of LF in public ROW. Dealbreaker for TBW.
Route 5	7	Expansion of Balm Riverview yields consequences for this route
Route 8	1	Toss up between route 8 and route 1 for top spot.
Route 13	4	Highest percentage of route within public parcels (easy PUE take)
Route 15	3	Allows for building a trail along same alignment.
Route 18	5	High amount of private parcel acquisition (tough PUE take)
Route 20	6	Longest route; nearly 1.8 times as long as routes 1 or 8.

Stantec

South Hillsborough Pipeline - Segment B
Appendix B - Route Screening Level 2

Date: 2/10/2022
Discipline: Environmental
Reviewer(s): Ray Dennis and Jennifer Brunty

Route Number	Ranking	Final commentary?
Route 1	3	Limited wetland impacts but has significant section of pipeline route going through undisturbed forested area within FNAI managed Hills. Co. ELAPP lands.
Route 4	2	Although there are 8 wetland impact areas, only 2 are not associated with trenchless crossings. Additionally, route through the FNAI managed Hills. Co. ELAPP lands uses existing roads and existing dirt roads/access trails.
Route 5	4	At beginning of Route, there is an wetland area (PFO/PSS) that is associated with a conservation easement that has been dedicated to the FDEP. Impacts to this area will require additional permitting coordination. Relatively short pipeline route (3rd shortest of the 8 routes) that only runs through a portion of an FNAI managed Hills. Co. ELAPP land (Balm-Boyette Scrub) that is adjacent to an existing roadway. Also, wetland impact areas are mostly linear crossings next to existing roadways.
Route 8	1	Relatively direct route. Only 4 wetland impacts associated with linear feature crossings that will likely use trenchless crossings. Relatively narrow areas of forested sloughs will be impacted and there is forested mitigation available. Has crossing of Fish Hawk Creek Preserve and area of FNAI managed Hills. Co. ELAPP lands that is potentially scrub habitat. Impact areas within the ELAPP lands are adjacent to existing roadways, use existing access roads, and/or may be able to be managed to minimize impact to scrub habitat.
Route 13	7	Third longest route. Has 8 wetland impact areas including relatively large area impacts to PFO slough systems. Wetland impacts also include a wetland system associated with Bell Creek that has PFO and PEM habitats. PEM mitigation options are limited for federal mitigation credits currently and foreseeable future. Impacts also include large sections of FNAI managed Hills. Co. ELAPP land (Balm-Boyette Scrub and Triple Creek Ranch) that are not adjacent to existing roadways.

Stantec

South Hillsborough Pipeline - Segment B
Appendix B - Route Screening Level 2

Date: 2/10/2022
Discipline: Environmental
Reviewer(s): Ray Dennis and Jennifer Brunty

Route 15	6	Average length route but not direct. Eleven individual wetland impacts including a relatively large area impact to a PFO slough system. Wetland impacts also include a 3 freshwater marshes, one of which is associated with a FDEP CE that may be a mitigation area. This will require additional permitting coordination. PEM mitigation options are limited for federal mitigation credits currently and foreseeable future. Impacts also include large sections of FNAI managed Hills. Co. ELAPP land (Boy Scout Property, Alafia River Corridor, Fish Hawk Creek Preserve, and Balm-Boyette Scrub) that are adjacent to existing roadways and power line easements.
Route 18	5	Second longest route that is not direct compared to other routes. Nine wet individual wetland impacts including relatively large area impacts to PFO wetland and a slough system associated with Doe Branch. Wetland impacts also include a wetland characterized by herbaceous habitat. PEM mitigation options are limited for federal mitigation credits currently and foreseeable future. Impacts also include sections of FNAI managed Hills. Co. ELAPP land including the Boy Scout Property (associated with a CE dedicated to Hillsborough County), Alafia River Corridor, Fish Hawk Creek Preserve, Triple Creek Ranch, and Balm-Boyette Scrub. However, these areas are adjacent to existing roadways and a powerline easement. There is a CE that has been dedicated to Hillsborough County associated with the Boy Scout Property that may require additional permitting coordination due to potential site restrictions.
Route 20	8	Longest most indirect route. Twelve individual wetland impacts including relatively large area impacts to PFO slough systems. Wetland impacts also include a 3 freshwater marshes. PEM mitigation options are limited for federal mitigation credits currently and foreseeable future. Impacts also include large sections of FNAI managed Hills. Co. ELAPP land (Balm-Boyette Scrub, Fish Hawk Creek Preserve, and Alafia River Corridor) that are not adjacent to existing roadways.

Stantec

South Hillsborough Pipeline - Segment B
Appendix B - Route Screening Level 2

Date: 2/18/2022
Discpline: Right of Way
Reviewer(s): Jack Curatelli, SR/WA | Ron Tegenkamp, MAI | David Montalvo

Route Number	Ranking	Final commentary?
Route 1	1	Least private impacts
Route 4	3	Lowest potential private parcel cost. Most Public+RW impacts.
Route 5	8	Most expensive in all cases.
Route 8	2	Lowest cost w/ public+RW. Lowest total public+r/w impacts
Route 13	5	Fourth lowest private property cost. Lithia plant connection.
Route 15	4	Lithia plant connection.
Route 18	7	Second most expensive in all cases. Most private impact size.
Route 20	6	Third most expensive in all cases with longest pipe length.

*Ranked based on estimated land cost.

***Public-owned properties (including right of way) have been included in the cost estimation.** In the event that certain public properties are conveyed at no-cost there may be significant effect on some routes.

*Public and right of way considered together as public-owned properties and evaluated at a reduced potential cost.

Stantec

South Hillsborough Pipeline - Segment B
Appendix B - Route Screening Level 2

Date: 2/18/2022
Discpline: Safety
Reviewer(s): John Spalding

Route Number	Ranking	Final commentary?
Route 1	1	
Route 4	7	
Route 5	5	
Route 8	2	
Route 13	3	
Route 15	5	
Route 18	6	
Route 20	4	

Stantec

South Hillsborough Pipeline - Segment B
Appendix B - Route Screening Level 2

Date: 2/14/2022
Discpline: Utilities
Reviewer(s): Stephen MacEachern

Route Number	Ranking	Final commentary?
Route 1	2	Low number of utility conflicts with cleaner crossing of Bell Creek (Vs. 8)
Route 4	4	High number of utility conflicts
Route 5	8	High number of utility conflicts and several installations adjacent to SW ponds
Route 8	6	Low number of utility conflicts.
Route 13	7	
Route 15	3	Low number of utility conflicts
Route 18	5	Low number of utility conflicts
Route 20	1	Fewest utility conflicts

APPENDIX C - FIELD RECONNAISSANCE

OBSERVATION REPORT

Project: Route: Discipline Represented: General	Field Representative(s): Tracy and Anthony

General Observations & Considerations

- *Things to be looking out for:*
  - *Areas of unique surface restoration*
    - *Property features impacting construction (walls, fences, landscaping, etc).*
    - *Topography? Steep grades?*
  - *Public inconvenience*
    - *Confirming that there are no missing items from the PI score.*
    - *Think about availability of detours along highly trafficked areas. Readily available?*
    - *Check the list Anthony had created regarding schools, hospitals, urgent cares, churches and other significant community gathering places. Do our sensitivity factors selected make sense?*
  - *Think about the special work constraints metric. (LF of anticipated conflict between route and businesses parcel and arterial roadway crossings). Does this make sense? Measurable? How?*
    - *This includes reduced work hours, nightwork, special event restrictions, lane shifts).*
  - *Trenchless crossings – are there areas we didn't previously identify that should be a trenchless crossing?*
  - *Consequences of failure – how impactful / dangerous to public?*
  - *Commissioning and disinfection / flushing water disposal. Is our current metric reasonable? Discharging 20-30 MG – what kind of facility can take this volume? Ponds - do they a) have the freeboard and b) can they accept the super-chlorinated water?*
  - *Accessibility of the pipeline (for future O&M)?*
  - *Opportunities to expand public amenities with these alignments?*

Alignment conflicts (noted / observed), fatal flaws, and a recommended revision)

- *Photos relevant to text described underneath this header shall be included in this observation report and properly referred to by a Figure name and number.*
- *B-4*
  - *Observed ammonia pipe at entrance to HOA community*

- *Possibility of rerouting across Gas stations at McMullen Rd.*
  - *Wetlands located on South side of Boyette Rd*
  - *TECO electrical located at southeast corner of Boyette/McMullen intersection*




- *Temporary water pipe found at church parcel*
- *No issues at Triple Creek CDD*
- *B-4 route runs south past TECO parcel*

- *B-18*
  - *Houses between Dorman Rd and Browning Rd are close to road and alignment*
  - *Runs through a slough along Boyette Rd*
  - *New development along Lithia Pinecrest Rd*
    - *Gas Line located at alignment intersection w/ Lithia Pinecrest Rd*
    - *New roadway paved within new development community*




  - *Runs through slough at Thompson Rd*
- *B-15*
  - *Runs through slough along Boyette Rd*
  - *Houses between Dorman Rd and Browning Rd are close to road and alignment*
  - *Intersection of Boyette Rd and Lithia Pinecrest Rd*
    - *Buried fiber on North and South side of crossing*


- *Ammonia pipe on North side of crossing*


- *Contact Hillsborough County about Lithia Pinecrest / Fish Hawk improvements*

- *B-1*
  - *Possibility to change alignment to avoid crossing over Fish Hawk Creek*
    - *Redirect alignment to cross Fish Hawk Blvd prior to crossing river, then follow the road East along the North side*




South Hillsborough Pipeline - Segment B
Appendix C – Field Reconnaissance

OBSERVATION REPORT

Project: Route: Discipline Represented: Safety & Public Inconvenience	Field Representative(s): John & Trent

Weather	Sunny	**Project #**	01610 & 01616
Temp.	Min 66°, Max 72°	**Report #**	Field Report No. XX
Work Begin	9:30 AM	**Date:**	Friday, April 8, 2022

General Observations & Considerations:

- Contractor Safety
  - Overhead Electric Transmission Mains
  - Proximity to Roadways and Traffic Volumes
  - Trench Depth
- Driver and Pedestrian Safety
  - Major Intersections (four lanes or greater in any direction)
  - Bus Stops
  - Subdivision Entrances
  - Busy Sidewalks
  - Large Gathering Areas
- Public Safety/Emergency Facilities
  - Fire Stations
  - Hospitals
  - Immediate Care Facilities
- Public Inconvenience
  - Schools
  - Churches
  - Long-term Care Facilities
  - Playgrounds
  - Recreational Facilities
  - Groceries/Shopping Centers

Identified notable conflicts:

B-4:

- McMullen Road:
    - This road was observed to be a two-lane road with a high volume of traffic (AADT = 9,900) and moderate speeds (speed limit = 45 mph). Route B-4 is on the roadway's shoulder for approximately 1.4 miles between Fawn Dale Drive and a point approximately 0.1 mile south of Boyette Road.
    - Because of the narrow road shoulder and high volume of traffic, hazards to contractors operating in a right of way next to the road would be present. Maintenance of traffic may be a greater than normal effort to ensure contractor safety.
    - Powerlines were observed on both side of McMullen Rd, adding more potential safety hazards to both the contractor and the public. Equipment operating next to the road will have to be aware of both the fast-moving, busy road, and the powerlines near the road's edge.

- Tropical Acres Neighborhood (Fawn Dale Drive, Adeline Drive, Baytree Drive, Ross Land, Gordan Drive, Greenland Drive, Shelby Drive, and Big Bend Road):
    - These are two-lane, residential streets with lots that typically around 0.5 acre. The alignment generally passes through residential front yards. This will cause public inconvenience to residents during construction. It may also pose a hazard drivers and pedestrians during construction, though vehicle and pedestrian counts appear to be low.

- At Balm Riverview Road and Big Bend Road:
    - The alignment crosses the parcel that a church is site at (Firm Foundation Christian Fellowship). The church appears to be small and has a single church service on Sunday mornings and a single service on Wednesday evenings. This will cause a public inconvenience to church members during construction.
    - Summerfield Elementary School is on the northwest corner of this intersection. This is opposite the location of the alignment, which southwest of the intersection. The alignment is located far enough from the roadway at the intersection that it avoids the marked school zone.

- Along Balm Riverview Road:

    - This road was observed to be a two-lane road with a moderate volume of fast-moving traffic (AADT = 5,300, speed limit = 55 mph). Route B-4 is on the roadway's shoulder for approximately 2.1 miles between the potential south campus property and Big Bend Road. The traffic speed and volume poses a safety hazard for the contractor and drivers during construction and for maintenance workers after construction.
    - The alignment crosses Talavera Woods Trail, which is the only entrance/exit for the Talavera neighborhood. This will cause public inconvenience for residents and may hinder access for emergency vehicles during construction.
    - The alignment crosses Triple Creek Boulevard, which is the main entrance/exit to the Triple Creek neighborhood. This is one of only two entrances/exits for the neighborhood. The secondary entrance/exist is on Big Bend Road, which is a two-lane residential road. This will cause public inconvenience for residents and may hinder access for emergency vehicles during construction during construction.

B-1:

- At Balm Boyette Rd & Swiss Bridge Dr:

    - The alignment crosses Swiss Bridge Dr, which is the only entrance/exit for the Homes by WestBay at Hawkstone (Key Largo II) neighborhood. This will cause public inconvenience for residents and may hinder access for emergency vehicles during construction.

- Balm Boyette Rd:

    - Large overhead electric transmission lines were observed along Balm Boyette Rd. These lines were within a TECO corridor. Although there appears to be enough space to maneuver equipment in this area, the safety and public inconvenience implications are significant due to the size of the transmission lines. Because of this unlikely yet significant risk, this is considered a safety & public inconvenience issue.

B-15:

- Boyette Rd & Lithia Pinecrest Rd

    - The alignment crosses a major intersection at Boyette Rd & Lithia Pinecrest. Along with contractor safety, the size of this intersection will almost certainly cause a public inconvenience during construction.

- Boyette Rd & New Royette Rd

    - The alignment moves south along Boyette Rd before it creates a perpendicular intersection with New Royette Rd. New Royette Rd is used as a walking trail, and the interruption of this road will cause a public inconvenience.

    - New Royette Rd is located within a TECO utility corridor and therefore the alignment will also be moving through a corridor with a large amount of overhead transmission lines. This causes a safety issue for the contractor, traffic on this road, and any pedestrians using New Royette Rd during construction.

- Balm Boyette Rd:

    - Large overhead electric transmission lines were observed along Balm Boyette Rd. These lines were within a TECO corridor. Although there appears to be enough space to maneuver equipment in this area, the safety and public inconvenience implications are significant due to the size of the transmission lines. Because of this unlikely yet significant risk, this is considered a safety & public inconvenience issue. This conflict was noted previously under alignment B-1.

B-18:

- Fish Hawk Creek Nature Preserve (South Entrance)

    - The alignment crosses the south entrance for Fish Hawk Creek Nature Preserve, which is the only nearby entrance to the preserve. The conflict of this entrance with construction will cause a public inconvenience, especially with resident of the nearby subdivision, Homes by WestBay at Hawkstone.

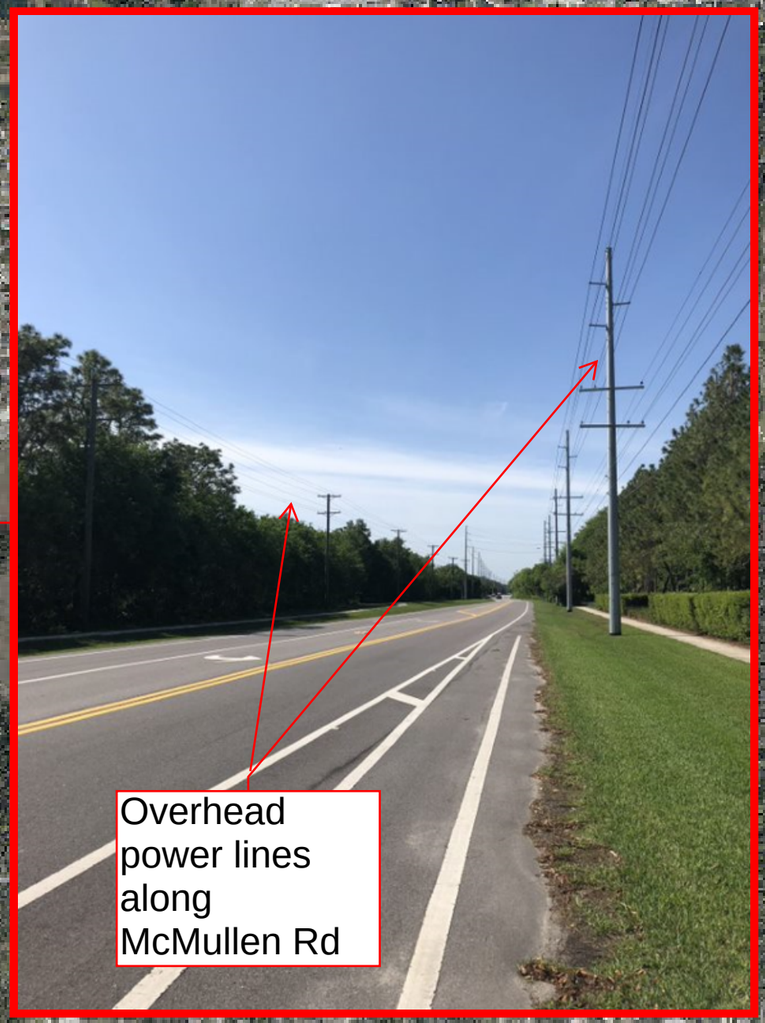
- At Balm Boyette Rd & Swiss Bridge Dr:

    - The alignment crosses Swiss Bridge Dr, which is the only entrance/exit for the Homes by WestBay at Hawkstone neighborhood. This will cause public inconvenience for residents and may hinder access for emergency vehicles during construction. This conflict was noted previously under alignment B-1.

- Balm Boyette Rd:

    - Large overhead electric transmission lines were observed along Balm Boyette Rd. These lines were within a TECO corridor. Although there appears to be enough space to maneuver equipment in this area, the safety and public inconvenience implications are significant due to the size of the transmission lines. Because of this unlikely yet significant risk, this is considered a safety & public inconvenience issue. This conflict was noted previously under alignments B-1 and B-15.

B-4:



B-4

McMullen Rd

B-4:

Summerfield Elementary School

Firm Foundation Christian Fellowship

B-4

Balm Riverview Rd & Big Bend Rd

B-4:

Talavera
Woods Trail
Entrance

Along Balm Riverview Road

B-1:

B-1

At Balm Boyette Rd & Swiss Bridge Dr

B-1:

B-1

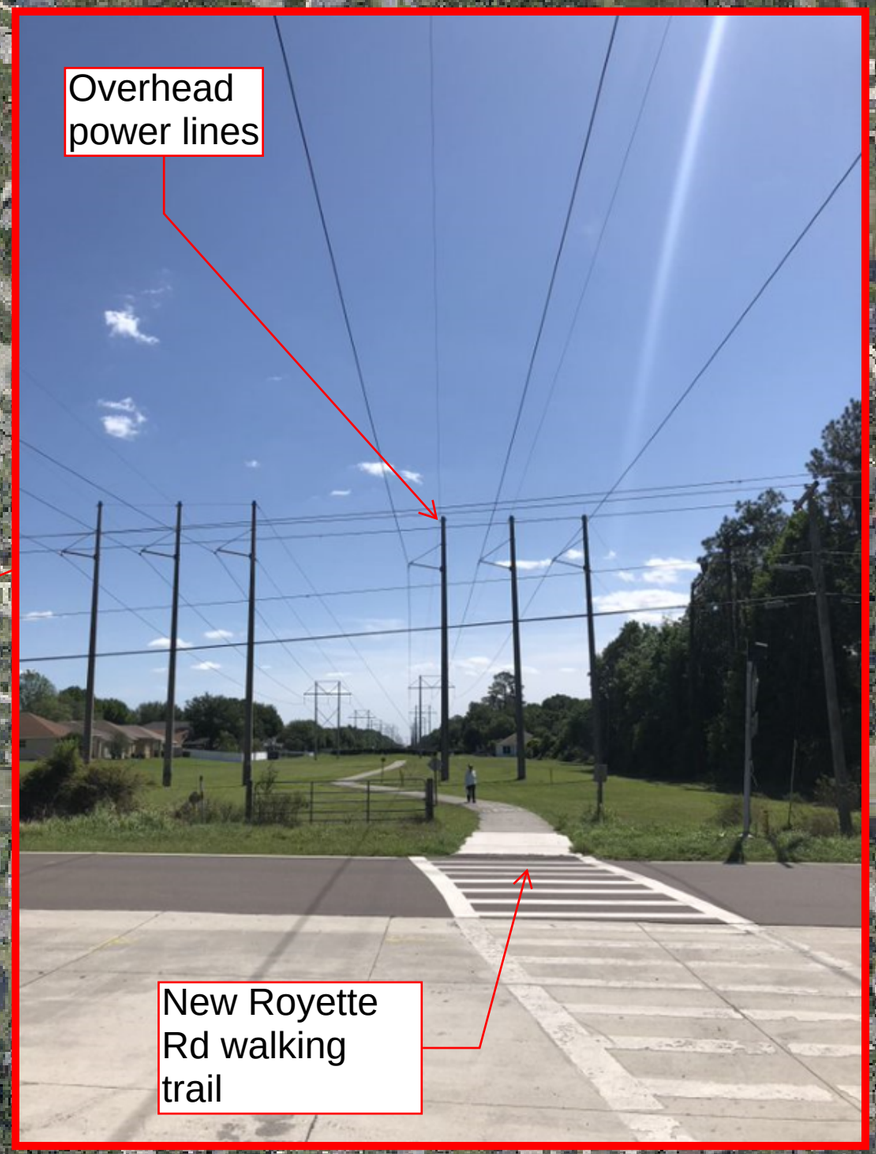
Balm Boyette Rd

B-15:

Boyette Rd & Lithia Pinecrest Rd

B-15:

B-15



Boyette Rd & New Royette Rd

B-15:

B-15

Balm Boyette Rd

B-18:

B-18

Fish Hawk Creek Nature Preserve (South Entrance)

B-18:

Balm Boyette Rd & Swiss Bridge Dr

B-18:

Balm Boyette Rd

OBSERVATION REPORT

Project: Route: Discipline Represented: Utilities	Field Representative(s): Stephen & Trent

Weather	Sunny	**Project #**	01610 & 01616
Temp.	Min 61°, Max 86°	**Report #**	Field Report No. XX
Work Begin	9:00 AM	**Date:**	Monday, April 11, 2022

Identified notable conflicts:

B-4:

- Riverglen Neighborhood Park
  - Within the utility easement for overhead power lines on the north side of Riverglen Neighborhood Park, a Kinder Morgan Petroleum Pipeline was confirmed. This was previously identified in a desktop study as a 16" line running from Tampa to Orlando.
  - Large valves in Riverglen Neighborhood Park confirmed the presence of a Tampa Bay Water 72" pressurized water main.

- Along Boyette Rd which turns into Fishhawk Blvd, large TECO gas lines along the road
  - Preliminary discussions with TECO indicate that TECO gas lines run along both the north and south sides of Boyette Rd/Fishhawk Blvd, intersecting B-4's crossing of Boyette Rd. These lines have been described as "4" or greater". The TECO line was confirmed on the north side of Boyette Rd with a gas marker.

- Doneymoor Dr & Boyette Rd
  - An ammonia marker that was not identified in a desktop review was found approximately 100' east of Doneymoor Dr & Boyette Rd on the north side of Boyette Rd.

- Middle of Rhodine Rd between Sykes Rd & Greenland Dr
  - A fiber optic cable marker was identified on the north side of Rhodine Rd.

- Balm Riverview Rd & Triple Creek Blvd
  - Centered in the intersection of Balm Riverview Rd & Triple Creek Blvd, there is an approximately 0.5-mile ft stretch of road that was flooded and appears to be consistently flooded based on site conditions. Dewatering and open trenching may be a significant effort in this portion of B-4.

South Hillsborough Pipeline - Segment B
Appendix C – Field Reconnaissance

B-1:

- Approximately 0.5-mile E of Hometown Ln & Fishhawk Blvd
    - Within the utility easement for overhead power lines on the north side of Fishhawk Blvd, a Kinder Morgan Petroleum Pipeline was confirmed. This was previously identified in a desktop study as a 16" line running from Tampa to Orlando.

- Boyette Rd & Trails End Ln
    - As Boyette Rd turns east at Trails End Ln, route B-1 continues south along Trails End Ln. A TECO line was identified with gas markers to be following Boyette Rd as it turns east, causing a perpendicular conflict with our route.
    - A Tampa Bay Water 84" Pressurized Water Main follows the route of the previously identified TECO line along Boyette Rd, causing a perpendicular conflict with our route.

B-15:

- Boyette Rd & New Royette Rd
    - As route B-15 moves south along Boyette Rd, it intersects with the utility corridor at New Royette Rd. In this utility corridor, two TECO gas lines were identified as perpendicular to B-15.
    - The previously identified Kinder Morgan petroleum and Ethanol Pipeline intersected route B-15.

- Boyette Rd (East-West Portion)
    - Potential gas conflict along Boyette Rd from New Royette Rd & Boyette Rd until Boyette Rd levels out (our route moves out of the right of way which is where TECO lines appear to be). Preliminary map from TECO shows gas lines in the area, field verified to be on the east side of Boyette Rd, the same side as our route

B-18:

- Approximately 630 ft West of Hwy 640 & Cattle Baron Ct
    - B-18 crosses Lithia Pinecrest Rd between a TECO facility to the east and a group of trees to the west. On the north side of Lithia Pinecrest Rd, an 18" high pressure gas line was identified exiting the TECO facility and moving west towards Fishhawk Blvd.

- Boyette Rd (East/West Portion)
    - Potential gas conflict along Boyette Rd from approximately ¼-mile north of Dorman Rd & Boyette Rd until Boyette Rd levels out (the route moves out of the right of way which is where TECO lines appear to be). Preliminary map from TECO shows gas lines in the area, field verified to be on the east side of Boyette Rd, the same side as our route

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South Hillsborough Pipeline - Segment B
Appendix C – Field Reconnaissance

B-4:

Field verified Tampa Bay Water 72" Pressurized Water Main

TECO Gas Line (Assumed 18" HP Line identified near potential route B-18)

Field verified Kinder Morgan 16" Petroleum/Ethanol Line

Doneymoor Dr & Boyette Rd

B-4:

B-4

Middle of Rhodine Rd between Sykes Rd & Greenland Dr

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South Hillsborough Pipeline - Segment B
Appendix C – Field Reconnaissance

B-1:

Field verified TECO line

B-1

Field verified Tampa Bay Water 72" Pressurized Water Main

Boyette Rd & Trails End Ln

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South Hillsborough Pipeline - Segment B
Appendix C – Field Reconnaissance

B-15:

Field verified Kinder Morgan 16" Petroleum/Ethanol Line

Field verified TECO lines

B-15

Boyette Rd & New Royette Rd

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South Hillsborough Pipeline - Segment B
Appendix C – Field Reconnaissance

B-18:

TECO People's GAS Facility

Field verified 18" HP TECO Gas Line

B-18

Approximately 630 ft West of Hwy 640 & Cattle Baron Ct

APPENDIX D - WEIGHTING CRITERIA TECHNICAL MEMORANDUM

Memo

To:	Tampa Bay Water	From:	Tracy Anderson, P.E., Stantec Freddy Betancourt, P.E., Wade Trim
Project/File:	Southern Hillsborough County Pipeline Project# 01610 / 01616	Date:	May 5, 2022

Reference: Pipeline Route Non-Cost Evaluation Criteria and Weighting Factor Development

1 Purpose

The purpose of this memorandum is to document the methodology used in developing the non-cost evaluation criteria and weighting factors. This technical memorandum solely focuses on non-cost evaluation criteria.

2 Methodology

Prior studies were completed by JMT and Arcadis for Southern Hillsborough County pipeline routes throughout this Tampa Bay Water project area. Each report produced detailed route selection processes, which included identification and development of evaluation criteria. Tampa Bay Water requested that the Engineers (Wade Trim and Stantec) review the previous evaluation criteria work completed and adopt a similar weighting approach for this Project.

The Engineers proposed the following route evaluation methodology, which is expanded upon in subsequent sections:

1. Review the previous reports to establish baseline evaluation criteria.
2. Substantiate project evaluation criteria and associated considerations.
    a. Consolidate evaluation criteria and considerations from previous studies.
    b. Solicit agreement and adjust evaluation criteria based on feedback from the Engineers.
    c. Present the proposed criteria and considerations to the Integrated Program Manager (IPM), Black and Veatch (B&V), who prepared a comparison to the previous studies.
    d. Present the evaluation criteria and considerations to Tampa Bay Water for concurrence.

3. Develop criteria weighting factors.
    a. Complete via a pairwise comparison.
        i. Eight (8) project team stakeholders representing key disciplines and perspectives as well as incorporation of public survey input.

3 Review of Previous Reports

Three previous reports referenced in developing the baseline evaluation criteria:

- *Tampa Bay Water Route Study.* JMT. August 21st, 2020.
- *South Hillsborough County Pipeline Route Study, Final.* Arcadis. October 10th, 2020.
- *Brandon / South-Central Connection. Alternative Route Investigation Technical Memorandum. Montgomery Watson – Greeley & Hansen. July 2000.*

4 Development of Evaluation Criteria

Tampa Bay Water expressed their approval of previous consultant's work in developing evaluation criteria. This served as the baseline for developing final evaluation criteria by the Engineers. Tampa Bay Water stipulated that the criteria below, which support Tampa Bay Water's most recent real estate acquisition guidelines, shall be considered as part of the evaluation:

- Cost
- Safety
- Environmental impacts
- Long range planning

Safety, environmental impacts, and long-range planning are all included as evaluation criteria; however, cost is not. While important, cost is considered separately as part of the overall route evaluation (see the final route evaluation report for more detail).

Staying consistent with past evaluations, Tampa Bay Water and the IPM concurred with the finalized evaluation criteria proposed by the Engineers. These are listed below and are also provided in a tabulated format, with respective considerations, in **Table 1**.

- Pipeline Segment Length
- Public Inconvenience (PI)
- Safety
- Special Crossings / Construction Requirements
- Geotechnical Considerations
- Permitting/Implementation
- ROW/Easement Availability
- Operation and Maintenance Accessibility
- Environmental & Historical Impacts
- Long-Range Planning

5 Considerations for Evaluation Criteria

After confirming the evaluation criteria, the next step was identifying and confirming the considerations. The considerations were established by the Engineers and the IPM to a) further define the evaluation criteria and b) provide background to Tampa Bay Water and project team stakeholders for ranking exercises (see **Section 6)**.

Below is the final table of evaluation criteria and considerations.

Table 1: Finalized Criteria and Considerations

Non-Cost Evaluation Criteria	Considerations
Pipeline Segment Length	Duration of construction; date of initial operation Number of pipe joints and potential latent defects (e.g. future leaks) Number of appurtenances requiring O&M Pipeline segment hydraulics Duration of public inconvenience
Public Inconvenience	Complaints; community relations Impacts to business operations and profits Increased public transportation and business commuting time Reduced quality of life (e.g. loss of use, impacts during construction) Availability of detours Proximity to schools, hospitals, urgent/long term care, and churches
Safety	Accessibility for emergency vehicles Construction equipment, vehicles, obstacles in road, and proximity to heavy truck traffic Proximity of construction to petroleum pipelines and high voltage overhead powerlines Safety of public during construction (bike lane, sidewalk impacts) Construction worker safety (trench depth, proximity to roadway)
Special Crossings / Construction Requirements	Consequence of failures Accessibility for future maintenance Unique restoration (landscape, hardscape) Complicated maintenance of traffic plans Complexity of construction Construction window limitations (reduced work hours, nightwork, daily commute/weekend/special event restrictions) Special trenchless requirements (casing, settlement monitoring, ground stabilization Special construction requirements (dust control, clearing, restoration)
Geotechnical Considerations	Dewatering, construction duration and difficulty, groundwater contamination Corrosion potential Potential for unforeseen conditions (soils, groundwater, objects) Trench zone requirements and stability

Permitting/Implementation	Work restrictions and construction sequencing Agency review/approval durations and project schedule impacts Special interest group protest Public hearing/notification requirements Additional approvals required for conservation easements Compliance with multiple agencies permitting processes/requirements Potential for impact on procurement/construction schedule
ROW / Easement Availability	Property owner sensitivity to loss of use (business/personal) Property features impacting construction (topography, fences, wall, building, roadways, vegetation/landscaping) Easement desirability and location within property (proximity to public, ease of access, property owner impact) Defined property acquisition process Amount and type of property acquisitions Potential for shared use (trails/greenway, utilities, fire breaks, maintenance) Potential for future relocation of Tampa Bay Water pipeline Construction constraints Agency encroachment requirements and cooperation Existing utility density/congestion & relocation Potential for buffer between incompatible land uses
Operation and Maintenance Accessibility	O&M convenience (level of effort) and effectiveness Access for future maintenance activities Facilitates access for emergency repairs Facilitates ease of pipeline commissioning
Environmental & Historical Impacts	Long term mitigation responsibility and monitoring requirements Additional land acquisition beyond pipeline easement Construction constraints and schedule impacts Construction complexity, mitigation requirements, and accessibility Climate interactions and risk Public perception Acquisition of mitigation credits Impacts to established and proposed wildlife corridors Disturbed lands verses undisturbed and preserve lands
Long-Range Planning	Integration with future capital projects Co-location in existing Tampa Bay Water utility easements/corridors Consistency with existing and proposed land use planning and zoning Opportunities to expand public amenities (multi-use trail, linear park, public access) Future road/intersection enhancements

6 Criteria Weighting Factor

The main benefit to using weighting factors is it allows the project team stakeholders to provide subjective input, quantifying which evaluation criteria are more impactful to route evaluation. For example, long range planning could have less route selection importance than safety, but greater importance than geotechnical considerations.

To identify the relative importance of each evaluation criteria, project team stakeholders participated in a Weighting Criteria Workshop, facilitated by the IPM using an interactive comparison web-tool. The methodology used in the Workshop, pairwise comparison, evaluates the importance of individual evaluation criteria. A pairwise comparison effectively "compares" each evaluation criteria against another, with the user deciding which evaluation criteria is more important. See **Table 2** for a visual representation of the pairwise comparison process. The web system used to facilitate this pairwise comparison then summed how many times each evaluation criteria was selected – resulting in a "count" for that particular evaluation criteria. The evaluation criteria with the largest count then has the greatest weighting factor.

The group was reminded: these evaluation criteria are "non-cost"; the cost element of each route will be evaluated separately.

Eight (8) project team stakeholders participated in the criteria weighting workshop on February 24, 2022; the participants and their representative organization / group is listed below.

1. Tampa Bay Water (one from each group below)
    a. Construction, Engineering & Property
    b. Operations and Maintenance
    c. Environment
    d. Finance
    e. Public Affairs
2. Wade Trim: Pipeline A Engineering
3. Stantec: Pipeline B Engineering
4. Hillsborough County

The count results from all eight (8) project team stakeholders (in no particular order) are presented in **Table 3**. For incorporation of the Public Opinion Survey results, see **Section 6.1.**

Table 2: Weight Criteria Pairwise Comparison

	1. Pipeline Segment Length	2. Public Inconvenience	3. Safety	4. Special Crossings / Construction Requirements	5. Geotechnical Considerations	6. Permitting / Implementation	7. ROW / Easement Availability	8. Operation & Maintenance Accessibility	9. Environmental & Historical Impacts	10. Long-Range Planning
1. Pipeline Segment Length		1 vs. 2	1 vs. 3	1 vs. 4	1 vs. 5	1 vs. 6	1 vs. 7	1 vs. 8	1 vs. 9	1 vs. 10
2. Public Inconvenience			2 vs. 3	2 vs. 4	2 vs. 5	2 vs. 6	2 vs. 7	2 vs. 8	2 vs. 9	2 vs. 10
3. Safety				3 vs. 4	3 vs. 5	3 vs. 6	3 vs. 7	3 vs. 8	3 vs. 9	3 vs. 10
4. Special Crossings / Construction Requirements					4 vs. 5	4 vs. 6	4 vs. 7	4 vs. 8	4 vs. 9	4 vs. 10
5. Geotechnical Considerations						5 vs. 6	5 vs. 7	5 vs. 8	5 vs. 9	5 vs. 10
6. Permitting / Implementation							6 vs. 7	6 vs. 8	6 vs. 9	6 vs. 10
7. ROW / Easement Availability								7 vs. 8	7 vs. 9	7 vs. 10
8. Operation & Maintenance Accessibility									8 vs. 9	8 vs. 10
9. Environmental & Historical Impacts										9 vs. 10
10. Long-Range Planning										

Table 3: Pairwise Comparison Results

	Count per Person							
Criteria	**Person 1**	**Person 2**	**Person 3**	**Person 4**	**Person 5**	**Person 6**	**Person 7**	**Person 8**
Pipeline Segment Length	3	2	5	2	6	6	2	2
Public Inconvenience	1	4	5	2	2	3	3	4
Safety	9	9	9	9	9	8	9	9
Environmental & Historical	6	3	8	7	6	2	8	7
Special Crossings / Construction Requirements	7	4	2	2	7	4	6	1
Permitting/Implementation	3	4	4	6	3	3	2	4
Operation and Maintenance Accessibility	6	5	3	4	3	8	7	6
ROW/Easement Availability	5	8	7	7	4	6	3	7
Geotechnical Considerations	3	1	0	6	5	3	0	0
Long-Range Planning	2	5	2	0	0	2	5	5

The pairwise comparison results reflect a few clear trends. First, Safety is by far the most important evaluation criteria for all project team stakeholders, as it scored nearly perfect. The next two most important evaluation criteria are Environmental and Historical, followed by ROW / Easement Availability

6.1 Incorporation of Public Opinion Survey Results

Table 4 expands on the results shown in **Table 3**. It incorporates the results of the Public Opinion Survey as another pairwise comparison participant (see **Attachment A – Tampa Bay Water Public Opinion Survey**). This survey was completed in 2019, directing residents to do the following with the above evaluation criteria:

> "*We want to know which evaluation criteria are most important to you. Your input will be used by the project team as we evaluate possible routes. Please select your top three criteria from the following options."*

Because the Public Opinion Survey exercise was completed by rank, and not by pairwise comparison, it is not possible to simply calculate an average using "count" from a pairwise comparison and "rank" from the Public Opinion Survey results. This is because a "count" is a different numerical representation than a "rank".

Therefore, the Engineers converted each project team stakeholder count value to a rank. The rank ranges from 1 to 10, including "count" ties (subsequent rank / ranks skipped). 10 being the highest rank and most

preferred and 1 being the least preferred. Matching the ranking approach for both allows the data to be averaged together. The ranking results from the pairwise comparison and Public Opinion Survey results were then averaged to obtain the evaluation criteria weighting factor.

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Table 4: Generating Evaluation Criteria Weighting Factors

	Pairwise Count per Person & Rank Matrix (Rank higher = better)																		
Evaluation Criteria	**Person 1**		**Person 2**		**Person 3**		**Person 4**		**Person 5**		**Person 6**		**Person 7**		**Person 8**		**Public Opinion Survey**		**Weighting Factor (Average Rank)**
	Count	**Rank**	**Count**	**Rank**	**Count**	**Rank**	**Count**	**Rank**	**Count**	**Rank**	**Count**	**Rank**	**Count**	**Rank**	**Count**	**Rank**		**Rank**	
Pipeline Segment Length	3	5	2	2	5	7	2	4	6	8	6	8	2	3	2	3		2	4.67
Public Inconvenience	1	1	4	6	5	7	2	4	2	2	3	5	3	5	4	5		10	5.00
Safety	9	10	9	10	9	10	9	10	9	10	8	10	9	10	9	10		8	9.78
Environmental & Historical	6	8	3	3	8	9	7	9	6	8	2	2	8	9	7	9		9	7.33
Special Crossings / Construction Requirements	7	9	4	6	2	3	2	4	7	9	4	6	6	7	1	2		7*	5.89
Permitting/Implementation	3	5	4	6	4	5	6	7	3	4	3	5	2	3	4	5		1	4.56
Operation and Maintenance Accessibility	6	8	5	8	3	4	4	5	3	4	8	10	7	8	6	7		4	6.44
ROW/Easement Availability	5	6	8	9	7	8	7	9	4	5	6	8	3	5	7	9		5	7.11
Geotechnical Considerations	3	5	1	1	0	1	6	7	5	6	3	5	0	1	0	1		3	3.33
Long-Range Planning	2	2	5	8	2	2	0	1	0	1	2	2	5	6	5	6		7*	3.89

* The Public Opinion survey yielded equivalent ranking for both Special Crossings / Construction Requirements and Long-Range Planning. Thus, these were both assigned a rank of 7. Consequently, the next rank, 6, was skipped, and ROW / Easement Availability was assigned a rank of 5.

The weighting factors, categorized from highest to lowest, are organized in **Table 5.**

Table 5: Evaluation Criteria Weighting Factors - Summary

Evaluation Criteria	Evaluation Criteria Weighting Factor
Safety	9.78
Environmental & Historical	7.33
ROW/Easement Availability	7.11
Operation and Maintenance Accessibility	6.44
Special Crossings / Construction Requirements	5.89
Public Inconvenience	5.00
Pipeline Segment Length	4.67
Permitting/Implementation	4.56
Long-Range Planning	3.89
Geotechnical Considerations	3.33

The evaluation criteria and weighting factors developed in this memo will be used in the subsequent route evaluation of the Southern Hillsborough County pipeline.

Regards,

STANTEC CONSULTING SERVICES INC. & WADE TRIM

This memo is digitally signed and sealed by:

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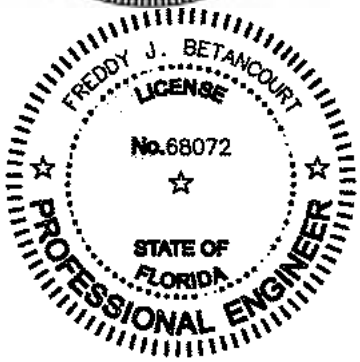

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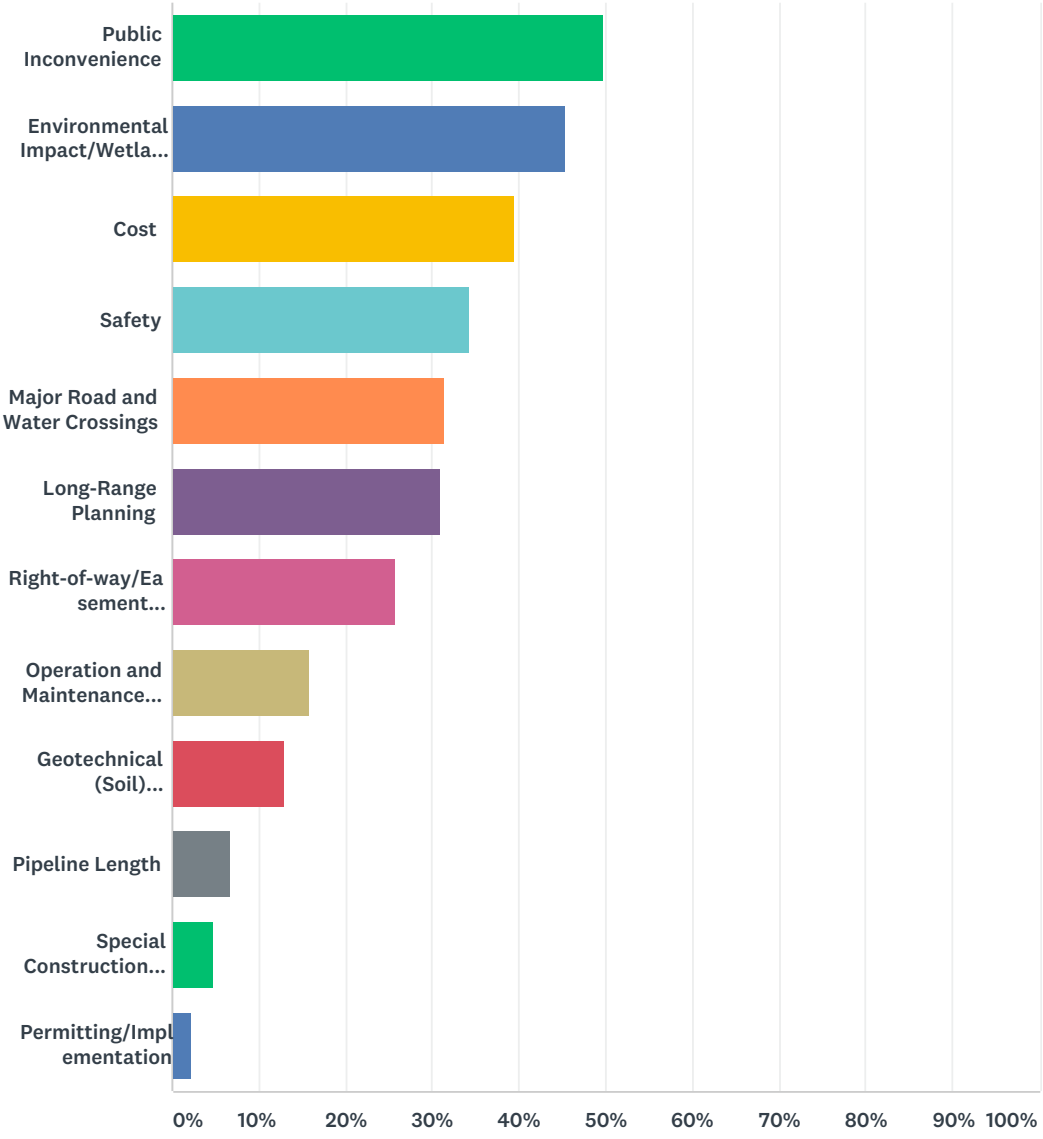
Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies

Attachment A – Tampa Bay Water Public Opinion Survey

Q1 We want to know which evaluation criteria are most important to you. Your input will be used by the project team as we evaluate possible routes.Please select your top three criteria from the following options.

Answered: 675 Skipped: 0



ANSWER CHOICES	RESPONSES	
Public Inconvenience	49.78%	336
Environmental Impact/Wetlands Mitigation	45.48%	307
Cost	39.56%	267
Safety	34.37%	232
Major Road and Water Crossings	31.41%	212
Long-Range Planning	30.96%	209

Right-of-way/Easement Availability	25.63%	173
Operation and Maintenance Accessibility	16.00%	108
Geotechnical (Soil) Considerations	12.89%	87
Pipeline Length	6.67%	45
Special Construction Requirements	4.89%	33
Permitting/Implementation	2.37%	16
Total Respondents: 675		

APPENDIX E - SCORING MATRIX

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South Hillsborough Pipeline - Segment B
Appendix E - Scoring Matrix

Print Date: 7/21/2022

EVALUATOR(S): Taylor Ahrensdorf, Tracy Anderson, Anthony Trant

EVALUATION FACTORS

RATING: INPUT FROM THE CRITERIA SCORING GUIDE
1 = LOW
5 = MEDIUM
10 = HIGH

W = CRITERIA WEIGHTING FACTOR
SW = SUB-CRITERIA WEIGHTING PERCENTAGE
R = SUB-CRITERIA SCORE
S = WEIGHTED SCORE: (R x SW)
WCS = WEIGHTED COMPOSITE SCORE: (SUM (S x W))
TES = TOTAL EVALUATED SCORE: (SUM (WCS))

		Pipeline Length			Public Inconvenience		Safety				
		Length of Pipeline	Pipeline Segment Head Loss	WEIGHTED COMPOSITE SCORE (WCS)	Public Inconvenience (sum of Average Annual Daily Traffic)	WEIGHTED COMPOSITE SCORE (WCS)	Trench Depth	Contractor / Pedestrian / Local Driver Safety	Proximity to Natural Gas / Petroleum Lines	Proximity to High Voltage OHE	WEIGHTED COMPOSITE SCORE (WCS)
CRITERIA WEIGHTING FACTOR	W	*4.67*			*5.00*		*9.78*				
SUB-CRITERIA WEIGHT	SW	*60%*	*40%*		*100%*		*30%*	*40%*	*25%*	*5%*	
Route B-1	R	10	5		10		5	10	10	10	
	S	6	2	**37.36**	10	**50.00**	1.5	4	2.5	0.5	**83.13**
Route B-4	R	5	5		5		1	5	10	1	
	S	3	2	**23.35**	5	**25.00**	0.3	2	2.5	0.05	**47.43**
Route B-5	R	10	5		1		1	5	10	5	
	S	6	2	**37.36**	1	**5.00**	0.3	2	2.5	0.25	**49.39**
Route B-15	R	5	10		1		10	1	1	5	
	S	3	4	**32.69**	1	**5.00**	3	0.4	0.25	0.25	**38.14**
Route B-18	R	1	1		10		10	5	1	10	
	S	0.6	0.4	**4.67**	10	**50.00**	3	2	0.25	0.5	**56.24**

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South Hillsborough Pipeline - Segment B
Appendix E - Scoring Matrix

Print Date: 7/21/2022

EVALUATOR(S): Taylor Ahrensdorf, Tracy Anderson, Anthony Trant

EVALUATION FACTORS

	Environmental & Historical Impacts						Special Crossings / Construction Requirements					
RATING: INPUT FROM THE CRITERIA SCORING GUIDE **1 = LOW** **5 = MEDIUM** **10 = HIGH** **W = CRITERIA WEIGHTING FACTOR** **SW = SUB-CRITERIA WEIGHTING PERCENTAGE** **R = SUB-CRITERIA SCORE** **S = WEIGHTED SCORE: (R x SW)** **WCS = WEIGHTED COMPOSITE SCORE: (SUM (S x W))** **TES = TOTAL EVALUATED SCORE: (SUM (WCS))**	Wetlands Impacts	Wetlands Classification	Archaeological / Historical Impacts	Habitat / Biological Impacts	Contaminated Groundwater / Biohazards	WEIGHTED COMPOSITE SCORE (WCS)	Number of Trenchless Crossings	Total Length of Crossings	Number of Special Trenchless Construction Instances	Special Work Constraints	Unique Restoration	WEIGHTED COMPOSITE SCORE (WCS)
CRITERIA WEIGHTING FACTOR	*7.33*						*5.89*					
SUB-CRITERIA WEIGHT	*25%*	*35%*	*10%*	*25%*	*5%*		*50%*	*30%*	*10%*	*5%*	*5%*	
Route B-1	10	1	1	5	10		5	5	10	10	10	
	2.5	0.35	0.1	1.25	0.5	**34.45**	2.5	1.5	1	0.5	0.5	**35.34**
Route B-4	5	10	10	5	10		10	10	5	10	10	
	1.25	3.5	1	1.25	0.5	**54.98**	5	3	0.5	0.5	0.5	**55.96**
Route B-5	5	10	10	10	1		10	10	10	1	10	
	1.25	3.5	1	2.5	0.05	**60.84**	5	3	1	0.05	0.5	**56.25**
Route B-15	1	1	1	1	1		1	1	1	10	10	
	0.25	0.35	0.1	0.25	0.05	**7.33**	0.5	0.3	0.1	0.5	0.5	**11.19**
Route B-18	5	1	1	1	5		1	1	5	5	10	
	1.25	0.35	0.1	0.25	0.25	**16.13**	0.5	0.3	0.5	0.25	0.5	**12.07**

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South Hillsborough Pipeline - Segment B
Appendix E - Scoring Matrix

Print Date: 7/21/2022

EVALUATOR(S): Taylor Ahrensdorf, Tracy Anderson, Anthony Trant

EVALUATION FACTORS

	Permitting / Implementation					Operation and Maintenance Accessibility		
RATING: INPUT FROM THE CRITERIA SCORING GUIDE **1 = LOW** **5 = MEDIUM** **10 = HIGH** **W = CRITERIA WEIGHTING FACTOR** **SW = SUB-CRITERIA WEIGHTING PERCENTAGE** **R = SUB-CRITERIA SCORE** **S = WEIGHTED SCORE: (R x SW)** **WCS = WEIGHTED COMPOSITE SCORE: (SUM (S x W))** **TES = TOTAL EVALUATED SCORE: (SUM (WCS))**	Environmental Permits	Number of Permits Required	Municipal Permits	Right-of-Way Permits	WEIGHTED COMPOSITE SCORE (WCS)	Pipeline Accessibility	Disinfection / Flushing Water Disposal	WEIGHTED COMPOSITE SCORE (WCS)
CRITERIA WEIGHTING FACTOR	*3.33*					*6.44*		
SUB-CRITERIA WEIGHT	*55%*	*35%*	*10%*	*0%*		*80%*	*20%*	
Route B-1	1	10	10	10		1	1	
	0.55	3.5	1	0	**16.82**	0.8	0.2	**6.44**
Route B-4	1	10	10	10		10	5	
	0.55	3.5	1	0	**16.82**	8	1	**57.96**
Route B-5	1	10	10	10		10	10	
	0.55	3.5	1	0	**16.82**	8	2	**64.40**
Route B-15	1	10	10	10		5	10	
	0.55	3.5	1	0	**16.82**	4	2	**38.64**
Route B-18	1	10	10	10		5	1	
	0.55	3.5	1	0	**16.82**	4	0.2	**27.05**

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South Hillsborough Pipeline - Segment B
Appendix E - Scoring Matrix

Print Date: 7/21/2022

EVALUATOR(S): Taylor Ahrensdorf, Tracy Anderson, Anthony Trant

EVALUATION FACTORS

	ROW / Easement Availability									Geotechnical Considerations			
RATING: INPUT FROM THE CRITERIA SCORING GUIDE **1 = LOW** **5 = MEDIUM** **10 = HIGH** **W = CRITERIA WEIGHTING FACTOR** **SW = SUB-CRITERIA WEIGHTING PERCENTAGE** **R = SUB-CRITERIA SCORE** **S = WEIGHTED SCORE: (R x SW)** **WCS = WEIGHTED COMPOSITE SCORE: (SUM (S x W))** **TES = TOTAL EVALUATED SCORE: (SUM (WCS))**	Percentage of Route within Private Lands	Number of Parcels Requiring Easement Acquisition	Percentage of Route within Public Lands	Number of Parcels Requiring Compensation for Loss of Use	Complexity of Acquisition	Development Status of Unavoidable RiOW (DSUR)	Jurisdictional Agency Requirements and Cooperation	Major Exiting Utility Relocation	WEIGHTED COMPOSITE SCORE (WCS)	Groundwater Table	Soil Corrosivity	Depth of Shaft (Depth to Rock)	WEIGHTED COMPOSITE SCORE (WCS)
CRITERIA WEIGHTING FACTOR	*7.11*									*4.56*			
SUB-CRITERIA WEIGHT	*35%*	*20%*	*20%*	*5%*	*10%*	*5%*	*0%*	*5%*		*70%*	*20%*	*10%*	
Route B-1	5	10	5	10	1	10	0	5		1	10	5	
	1.75	2	1	0.5	0.1	0.5	0	0.25	**43.37**	0.7	2	0.5	**14.59**
Route B-4	1	1	1	1	10	5	0	1		1	1	10	
	0.35	0.2	0.2	0.05	1	0.25	0	0.05	**14.93**	0.7	0.2	1	**8.66**
Route B-5	10	1	10	1	1	1	0	1		1	1	10	
	3.5	0.2	2	0.05	0.1	0.05	0	0.05	**42.30**	0.7	0.2	1	**8.66**
Route B-15	5	5	1	5	5	10	0	10		1	1	10	
	1.75	1	0.2	0.25	0.5	0.5	0	0.5	**33.42**	0.7	0.2	1	**8.66**
Route B-18	10	5	5	10	1	10	0	5		1	10	10	
	3.5	1	1	0.5	0.1	0.5	0	0.25	**48.70**	0.7	2	1	**16.87**

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South Hillsborough Pipeline - Segment B
Appendix E - Scoring Matrix

Print Date: 7/21/2022

EVALUATOR(S): Taylor Ahrensdorf, Tracy Anderson, Anthony Trant

EVALUATION FACTORS

	Long-Range Planning				
RATING: INPUT FROM THE CRITERIA SCORING GUIDE **1 = LOW** **5 = MEDIUM** **10 = HIGH** **W = CRITERIA WEIGHTING FACTOR** **SW = SUB-CRITERIA WEIGHTING PERCENTAGE** **R = SUB-CRITERIA SCORE** **S = WEIGHTED SCORE: (R x SW)** **WCS = WEIGHTED COMPOSITE SCORE: (SUM (S x W))** **TES = TOTAL EVALUATED SCORE: (SUM (WCS))**	Integration With Future Capital Projects and Land Use Planning	Integrated With Future Tampa Bay Water Projects	Opportunity to Coordinate with future Public Amenities and / or Access to Public Amenities	WEIGHTED COMPOSITE SCORE (CS)	***TOTAL EVALUATED SCORE (TES) (MAX AVAIL. PTS 580)***
CRITERIA WEIGHTING FACTOR	*3.89*				*580*
SUB-CRITERIA WEIGHT	*65%*	*0%*	*35%*		
Route B-1	10	0	5		**353.6**
	6.5	0	1.75	**32.09**	
Route B-4	5	0	1		**319.1**
	3.25	0	0.35	**14.00**	
Route B-5	1	0	1		**344.9**
	0.65	0	0.35	**3.89**	
Route B-15	10	0	10		**230.8**
	6.5	0	3.5	**38.90**	
Route B-18	5	0	10		**274.8**
	3.25	0	3.5	**26.26**	

APPENDIX F - OPCC FULL ESTIMATES

Southern Hillsborough Pipeline - Segment B
Appendix F - OPCC Full Estimates

COST ESTIMATE SUMMARY – 2025 COSTS

ITEM NO.	ITEM DESCRIPTION	ROUTE B-1 TOTAL COST	ROUTE B-4 TOTAL COST	ROUTE B-5 TOTAL COST	ROUTE B-15 TOTAL COST	ROUTE B-18 TOTAL COST
1.	**TRANSMISSION MAIN BY OPEN CUT**					
a.	Rural/Cross County/Easement Construction – Few or No Utilities and No Wetlands Impacts	$ 40,898,000	$ 28,166,710	$ 16,523,650	$ 32,060,600	$ 31,500,040
b.	Rural/Cross County/Easement Construction – Few or No Utilities with Wetlands Impacts	$ 5,435,520	$ 5,924,960	$ 7,387,200	$ 6,532,960	$ 5,254,640
c.	Residential/Collector Streets and/or Average Utility Congestion	$ 3,450,000	$ 1,518,000	$ 1,518,000	$ 18,492,000	$ 43,784,640
d.	Urban Arterial/Major Highway, Dense Utility Corridor – Outside Limits of Pavement	$ -	$ 30,715,480	$ 30,900,900	$ 3,971,200	$ 2,394,400
e.	Urban Arterial/Major Highway, Dense Utility Corridor – Within Limits of Pavement	$ -	$ -	$ 2,265,000	$ -	$ -
	SUBTOTAL FOR TRANSMISSION MAIN BY OPEN CUT	**$ 49,783,520.00**	**$ 66,325,150.00**	**$ 58,594,750.00**	**$ 61,056,760.00**	**$ 82,933,720.00**
2.	**SPECIAL CROSSINGS**					
a.	Trenchless Crossings, Shallow Shaft	$ 2,920,000	$ 2,190,000	$ -	$ 6,935,000	$ 3,650,000
b.	Trenchless Crossings, Deep Shaft	$ -	$ -	$ -	$ -	$ -
	SUBTOTAL FOR TRENCHLESS CROSSINGS	**$ 2,920,000**	**$ 2,190,000**	**$ -**	**$ 6,935,000**	**$ 3,650,000**
3.	**STARTUP, COMMISSIONING, AND TESTING**					
a.	All Required Startup, Commissioning, and Testing	$ 1,317,600	$ 1,712,900	$ 1,464,900	$ 1,699,800	$ 2,164,600
	SUBTOTAL FOR STARTUP, COMMISSIONING, AND TESTING	**$ 1,317,600**	**$ 1,712,900**	**$ 1,464,900**	**$ 1,699,800**	**$ 2,164,600**
4.	**CONTRACTOR MARKUPS AND INDIRECT COSTS**					
a.	Contractor Markup and Indirect Costs	$ 6,752,600	$ 8,778,500	$ 7,507,500	$ 8,711,400	$ 11,093,500
	SUBTOTAL FOR CONTRACTOR MARKUPS AND INDIRECT COSTS	**$ 6,752,600**	**$ 8,778,500**	**$ 7,507,500**	**$ 8,711,400**	**$ 11,093,500**
5.	**CONTINGENCIES**					
a.	Scope Contingency	$ 12,154,700	$ 15,801,300	$ 13,513,400	$ 15,680,600	$ 19,968,400
b.	Market Conditions	$ 6,077,400	$ 7,900,700	$ 6,756,700	$ 7,840,300	$ 9,984,200
c.	Escalation to Mid-Point of Construction in 2027	$ 4,959,100	$ 6,446,900	$ 5,513,500	$ 6,397,700	$ 8,147,100
	SUBTOTAL FOR CONTRACTOR CONTINGENCIES	**$ 23,191,200**	**$ 30,148,900**	**$ 25,783,600**	**$ 29,918,600**	**$ 38,099,700**
6.	**PROPERTY COSTS**					
a.	Permanent Utility Easement	$ 3,025,939	$ 11,853,636	$ 21,933,669	$ 14,917,959	$ 14,310,210
	SUBTOTAL FOR PROPERTY COSTS	**$ 3,025,939**	**$ 11,853,636**	**$ 21,933,669**	**$ 14,917,959**	**$ 14,310,210**
7.	**ENGINEERING AND PROFESSIONAL SERVICES**					
a.	Engineering Design, Procurement, and Engineering Services During Construction	$ 17,398,200	$ 24,201,800	$ 23,056,900	$ 24,647,900	$ 30,450,300
	SUBTOTAL FOR ENGINEERING AND PROFESSIONAL SERVICES	**$ 17,398,200**	**$ 24,201,800**	**$ 23,056,900**	**$ 24,647,900**	**$ 30,450,300**
	TOTAL COST	**$ 104,389,059**	**$ 145,210,886**	**$ 138,341,319**	**$ 147,887,419**	**$ 182,702,030**
	CLASS 5 LOW RANGE (-50%)	$ 52,194,530	$ 72,605,443	$ 69,170,660	$ 73,943,709	$ 91,351,015
	CLASS 5 HIGH RANGE (+100%)	$ 208,778,119	$ 290,421,771	$ 276,682,638	$ 295,774,837	$ 365,404,061

Southern Hillsborough Pipeline - Segment B
Appendix F - OPCC Full Estimates

ROUTE B-1

ITEM NO.	ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	2025 COST UNIT COST	2025 COST TOTAL COST
1.	**TRANSMISSION MAIN BY OPEN CUT**				
a.	Rural/Cross County/Easement Construction – Few or No Utilities and No Wetlands Impacts	LF	28,600	$ 1,430	$ 40,898,000
b.	Rural/Cross County/Easement Construction – Few or No Utilities with Wetlands Impacts	LF	3,576	$ 1,520	$ 5,435,520
c.	Residential/Collector Streets and/or Average Utility Congestion	LF	2,500	$ 1,380	$ 3,450,000
d.	Urban Arterial/Major Highway, Dense Utility Corridor – Outside Limits of Pavement	LF	0	$ 1,460	$ -
e.	Urban Arterial/Major Highway, Dense Utility Corridor – Within Limits of Pavement	LF	0	$ 1,510	$ -
	SUBTOTAL FOR TRANSMISSION MAIN BY OPEN CUT				**$ 49,783,520**
2.	**SPECIAL CROSSINGS**				
a.	Trenchless Crossings, Shallow Shaft	LF	400	7,300	$ 2,920,000
b.	Trenchless Crossings, Deep Shaft	LF	0	8,800	$ -
	SUBTOTAL FOR TRENCHLESS CROSSINGS				**$ 2,920,000**
3.	**STARTUP, COMMISSIONING, AND TESTING**				
a.	All Required Startup, Commissioning, and Testing	%	2.5%	---	$ 1,317,600
	SUBTOTAL FOR STARTUP, COMMISSIONING, AND TESTING				**$ 1,317,600**
4.	**CONTRACTOR MARKUPS AND INDIRECT COSTS**				
a.	Contractor Markup and Indirect Costs	%	12.5%	---	$ 6,752,600
	SUBTOTAL FOR CONTRACTOR MARKUPS AND INDIRECT COSTS				**$ 6,752,600**
5.	**CONTINGENCIES**				
a.	Scope Contingency	%	20%	---	$ 12,154,700
b.	Market Conditions	%	10%	---	$ 6,077,400
c.	Escalation to Mid-Point of Construction in 2027	%/YR	4%	---	$ 4,959,100
	SUBTOTAL FOR CONTRACTOR CONTINGENCIES				**$ 23,191,200**
6.	**PROPERTY COSTS**				
a.	Permanent Utility Easement Costs	LS			$ 3,025,939
	SUBTOTAL FOR PROPERTY COSTS				**$ 3,025,939**
7.	**ENGINEERING AND PROFESSIONAL SERVICES**				
a.	Engineering Design, Procurement, and Engineering Services During Construction	%	20.0%	---	$ 17,398,200
	SUBTOTAL FOR ENGINEERING AND PROFESSIONAL SERVICES				**$ 17,398,200**

TOTAL COST	**$ 104,389,059**
CLASS 5 LOW RANGE (-50%)	$ 52,194,530
CLASS 5 HIGH RANGE (+100%)	$ 208,778,119

Southern Hillsborough Pipeline - Segment B
Appendix F - OPCC Full Estimates

ROUTE B-4

ITEM NO.	ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	2025 COST UNIT COST	2025 COST TOTAL COST
1.	**TRANSMISSION MAIN BY OPEN CUT**				
a.	Rural/Cross County/Easement Construction – Few or No Utilities and No Wetlands Impacts	LF	19,697	$ 1,430	$ 28,166,710
b.	Rural/Cross County/Easement Construction – Few or No Utilities with Wetlands Impacts	LF	3,898	$ 1,520	$ 5,924,960
c.	Residential/Collector Streets and/or Average Utility Congestion	LF	1,100	$ 1,380	$ 1,518,000
d.	Urban Arterial/Major Highway, Dense Utility Corridor – Outside Limits of Pavement	LF	21,038	$ 1,460	$ 30,715,480
e.	Urban Arterial/Major Highway, Dense Utility Corridor – Within Limits of Pavement	LF	0	$ 1,510	$ -
	SUBTOTAL FOR TRANSMISSION MAIN BY OPEN CUT				**$ 66,325,150**
2.	**SPECIAL CROSSINGS**				
a.	Trenchless Crossings, Shallow Shaft	LF	300	7,300	$ 2,190,000
b.	Trenchless Crossings, Deep Shaft	LF	0	8,800	$ -
	SUBTOTAL FOR TRENCHLESS CROSSINGS				**$ 2,190,000**
3.	**STARTUP, COMMISSIONING, AND TESTING**				
a.	All Required Startup, Commissioning, and Testing	%	2.5%	---	$ 1,712,900
	SUBTOTAL FOR STARTUP, COMMISSIONING, AND TESTING				**$ 1,712,900**
4.	**CONTRACTOR MARKUPS AND INDIRECT COSTS**				
a.	Contractor Markup and Indirect Costs	%	12.5%	---	$ 8,778,500
	SUBTOTAL FOR CONTRACTOR MARKUPS AND INDIRECT COSTS				**$ 8,778,500**
5.	**CONTINGENCIES**				
a.	Scope Contingency	%	20%	---	$ 15,801,300
b.	Market Conditions	%	10%	---	$ 7,900,700
c.	Escalation to Mid-Point of Construction in 2027	%/YR	4%	---	$ 6,446,900
	SUBTOTAL FOR CONTRACTOR CONTINGENCIES				**$ 30,148,900**
6.	**PROPERTY COSTS**				
a.	Permanent Utility Easement Costs	LS			$ 11,853,636
	SUBTOTAL FOR PROPERTY COSTS				**$ 11,853,636**
7.	**ENGINEERING AND PROFESSIONAL SERVICES**				
a.	Engineering Design, Procurement, and Engineering Services During Construction	%	20.0%	---	$ 24,201,800
	SUBTOTAL FOR ENGINEERING AND PROFESSIONAL SERVICES				**$ 24,201,800**

TOTAL COST	**$ 145,210,886**
CLASS 5 LOW RANGE (-50%)	$ 72,605,443
CLASS 5 HIGH RANGE (+100%)	$ 290,421,771

Southern Hillsborough Pipeline - Segment B
Appendix F - OPCC Full Estimates

ROUTE B-5

ITEM NO.	ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	2025 COST UNIT COST	2025 COST TOTAL COST
1.	**TRANSMISSION MAIN BY OPEN CUT**				
a.	Rural/Cross County/Easement Construction – Few or No Utilities and No Wetlands Impacts	LF	11,555	$ 1,430	$ 16,523,650
b.	Rural/Cross County/Easement Construction – Few or No Utilities with Wetlands Impacts	LF	4,860	$ 1,520	$ 7,387,200
c.	Residential/Collector Streets and/or Average Utility Congestion	LF	1,100	$ 1,380	$ 1,518,000
d.	Urban Arterial/Major Highway, Dense Utility Corridor – Outside Limits of Pavement	LF	21,165	$ 1,460	$ 30,900,900
e.	Urban Arterial/Major Highway, Dense Utility Corridor – Within Limits of Pavement	LF	1,500	$ 1,510	$ 2,265,000
	SUBTOTAL FOR TRANSMISSION MAIN BY OPEN CUT				**$ 58,594,750**
2.	**SPECIAL CROSSINGS**				
a.	Trenchless Crossings, Shallow Shaft	LF	0	7,300	$ -
b.	Trenchless Crossings, Deep Shaft	LF	0	8,800	$ -
	SUBTOTAL FOR TRENCHLESS CROSSINGS				**$ -**
3.	**STARTUP, COMMISSIONING, AND TESTING**				
a.	All Required Startup, Commissioning, and Testing	%	2.5%	---	$ 1,464,900
	SUBTOTAL FOR STARTUP, COMMISSIONING, AND TESTING				**$ 1,464,900**
4.	**CONTRACTOR MARKUPS AND INDIRECT COSTS**				
a.	Contractor Markup and Indirect Costs	%	12.5%	---	$ 7,507,500
	SUBTOTAL FOR CONTRACTOR MARKUPS AND INDIRECT COSTS				**$ 7,507,500**
5.	**CONTINGENCIES**				
a.	Scope Contingency	%	20%	---	$ 13,513,400
b.	Market Conditions	%	10%	---	$ 6,756,700
c.	Escalation to Mid-Point of Construction in 2027	%/YR	4%	---	$ 5,513,500
	SUBTOTAL FOR CONTRACTOR CONTINGENCIES				**$ 25,783,600**
6.	**PROPERTY COSTS**				
a.	Permanent Utility Easement Costs	LS			$ 21,933,669
	SUBTOTAL FOR PROPERTY COSTS				**$ 21,933,669**
7.	**ENGINEERING AND PROFESSIONAL SERVICES**				
a.	Engineering Design, Procurement, and Engineering Services During Construction	%	20.0%	---	$ 23,056,900
	SUBTOTAL FOR ENGINEERING AND PROFESSIONAL SERVICES				**$ 23,056,900**

TOTAL COST	**$ 138,341,319**
CLASS 5 LOW RANGE (-50%)	$ 69,170,660
CLASS 5 HIGH RANGE (+100%)	$ 276,682,638

Southern Hillsborough Pipeline - Segment B
Appendix F - OPCC Full Estimates

ROUTE B-15

ITEM NO.	ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	2025 COST UNIT COST	2025 COST TOTAL COST
1.	**TRANSMISSION MAIN BY OPEN CUT**				
a.	Rural/Cross County/Easement Construction – Few or No Utilities and No Wetlands Impacts	LF	22,420	$ 1,430	$ 32,060,600
b.	Rural/Cross County/Easement Construction – Few or No Utilities with Wetlands Impacts	LF	4,298	$ 1,520	$ 6,532,960
c.	Residential/Collector Streets and/or Average Utility Congestion	LF	13,400	$ 1,380	$ 18,492,000
d.	Urban Arterial/Major Highway, Dense Utility Corridor – Outside Limits of Pavement	LF	2,720	$ 1,460	$ 3,971,200
e.	Urban Arterial/Major Highway, Dense Utility Corridor – Within Limits of Pavement	LF	0	$ 1,510	$ -
	SUBTOTAL FOR TRANSMISSION MAIN BY OPEN CUT				**$ 61,056,760**
2.	**SPECIAL CROSSINGS**				
a.	Trenchless Crossings, Shallow Shaft	LF	950	7,300	$ 6,935,000
b.	Trenchless Crossings, Deep Shaft	LF	0	8,800	$ -
	SUBTOTAL FOR TRENCHLESS CROSSINGS				**$ 6,935,000**
3.	**STARTUP, COMMISSIONING, AND TESTING**				
a.	All Required Startup, Commissioning, and Testing	%	2.5%	---	$ 1,699,800
	SUBTOTAL FOR STARTUP, COMMISSIONING, AND TESTING				**$ 1,699,800**
4.	**CONTRACTOR MARKUPS AND INDIRECT COSTS**				
a.	Contractor Markup and Indirect Costs	%	12.5%	---	$ 8,711,400
	SUBTOTAL FOR CONTRACTOR MARKUPS AND INDIRECT COSTS				**$ 8,711,400**
5.	**CONTINGENCIES**				
a.	Scope Contingency	%	20%	---	$ 15,680,600
b.	Market Conditions	%	10%	---	$ 7,840,300
c.	Escalation to Mid-Point of Construction in 2027	%/YR	4%	---	$ 6,397,700
	SUBTOTAL FOR CONTRACTOR CONTINGENCIES				**$ 29,918,600**
6.	**PROPERTY COSTS**				
a.	Permanent Utility Easement Costs	LS			$ 14,917,959
	SUBTOTAL FOR PROPERTY COSTS				**$ 14,917,959**
7.	**ENGINEERING AND PROFESSIONAL SERVICES**				
a.	Engineering Design, Procurement, and Engineering Services During Construction	%	20.0%	---	$ 24,647,900
	SUBTOTAL FOR ENGINEERING AND PROFESSIONAL SERVICES				**$ 24,647,900**

TOTAL COST	**$ 147,887,419**
CLASS 5 LOW RANGE (-50%)	$ 73,943,709
CLASS 5 HIGH RANGE (+100%)	$ 295,774,837

Southern Hillsborough Pipeline - Segment B
Appendix F - OPCC Full Estimates

ROUTE B-18

ITEM NO.	ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	2025 COST UNIT COST	2025 COST TOTAL COST
1.	**TRANSMISSION MAIN BY OPEN CUT**				
a.	Rural/Cross County/Easement Construction – Few or No Utilities and No Wetlands Impacts	LF	22,028	$ 1,430	$ 31,500,040
b.	Rural/Cross County/Easement Construction – Few or No Utilities with Wetlands Impacts	LF	3,457	$ 1,520	$ 5,254,640
c.	Residential/Collector Streets and/or Average Utility Congestion	LF	31,728	$ 1,380	$ 43,784,640
d.	Urban Arterial/Major Highway, Dense Utility Corridor – Outside Limits of Pavement	LF	1,640	$ 1,460	$ 2,394,400
e.	Urban Arterial/Major Highway, Dense Utility Corridor – Within Limits of Pavement	LF	0	$ 1,510	$ -
	SUBTOTAL FOR TRANSMISSION MAIN BY OPEN CUT				**$ 82,933,720**
2.	**SPECIAL CROSSINGS**				
a.	Trenchless Crossings, Shallow Shaft	LF	500	7,300	$ 3,650,000
b.	Trenchless Crossings, Deep Shaft	LF	0	8,800	$ -
	SUBTOTAL FOR TRENCHLESS CROSSINGS				**$ 3,650,000**
3.	**STARTUP, COMMISSIONING, AND TESTING**				
a.	All Required Startup, Commissioning, and Testing	%	2.5%	---	$ 2,164,600
	SUBTOTAL FOR STARTUP, COMMISSIONING, AND TESTING				**$ 2,164,600**
4.	**CONTRACTOR MARKUPS AND INDIRECT COSTS**				
a.	Contractor Markup and Indirect Costs	%	12.5%	---	$ 11,093,500
	SUBTOTAL FOR CONTRACTOR MARKUPS AND INDIRECT COSTS				**$ 11,093,500**
5.	**CONTINGENCIES**				
a.	Scope Contingency	%	20%	---	$ 19,968,400
b.	Market Conditions	%	10%	---	$ 9,984,200
c.	Escalation to Mid-Point of Construction in 2027	%/YR	4%	---	$ 8,147,100
	SUBTOTAL FOR CONTRACTOR CONTINGENCIES				**$ 38,099,700**
6.	**PROPERTY COSTS**				
a.	Permanent Utility Easement Costs	LS			$ 14,310,210
	SUBTOTAL FOR PROPERTY COSTS				**$ 14,310,210**
7.	**ENGINEERING AND PROFESSIONAL SERVICES**				
a.	Engineering Design, Procurement, and Engineering Services During Construction	%	20.0%	---	$ 30,450,300
	SUBTOTAL FOR ENGINEERING AND PROFESSIONAL SERVICES				**$ 30,450,300**

TOTAL COST	**$ 182,702,030**
CLASS 5 LOW RANGE (-50%)	$ 91,351,015
CLASS 5 HIGH RANGE (+100%)	$ 365,404,061

APPENDIX G - CONSOLIDATED ROUTE RANKING

Southern Hillsborough County
Consolidated Route Ranking

Below is the list of consolidated routes. All values shown are weighted and normalized.

Consolidated Route	Non-Cost Score	Cost Score	Consolidated Score	Total Cost
A5 & B-1	1500.0	236.6	1736.6	$ 443,000,000
A4 & B-1	1450.2	250.0	1700.2	$ 419,000,000
A5 & B-5	1481.5	206.3	1687.9	$ 507,000,000
A3 & B-1	1441.9	236.5	1678.4	$ 443,000,000
A4 & B-5	1431.8	230.7	1662.5	$ 454,000,000
A5 & B-4	1426.8	206.0	1632.8	$ 508,000,000
A3 & B-5	1423.4	206.3	1629.7	$ 508,000,000
A2 & B-1	1397.6	212.2	1609.7	$ 430,000,000
A2 & B-5	1379.1	228.8	1607.9	$ 458,000,000
A4 & B-4	1377.0	230.2	1607.2	$ 455,000,000
A3 & B-4	1368.7	205.9	1574.6	$ 509,000,000
A2 & B-4	1324.4	224.8	1549.2	$ 466,000,000
A5 & B-18	1332.9	212.9	1545.7	$ 492,000,000
A1 & B-1	1303.6	228.9	1532.6	$ 457,000,000
A1 & B-5	1285.2	215.7	1500.9	$ 486,000,000
A4 & B-18	1283.1	203.1	1486.2	$ 516,000,000
A3 & B-18	1274.7	206.1	1480.8	$ 508,000,000
A5 & B-15	1239.5	227.8	1467.4	$ 460,000,000
A1 & B-4	1230.5	212.2	1442.6	$ 494,000,000
A2 & B-18	1230.4	199.0	1429.4	$ 526,000,000
A4 & B-15	1189.8	224.1	1413.8	$ 467,000,000
A3 & B-15	1181.4	227.7	1409.1	$ 460,000,000
A2 & B-15	1137.1	219.0	1356.1	$ 478,000,000
A1 & B-18	1136.5	189.0	1325.5	$ 554,000,000
A1 & B-15	1043.2	207.0	1250.2	$ 506,000,000

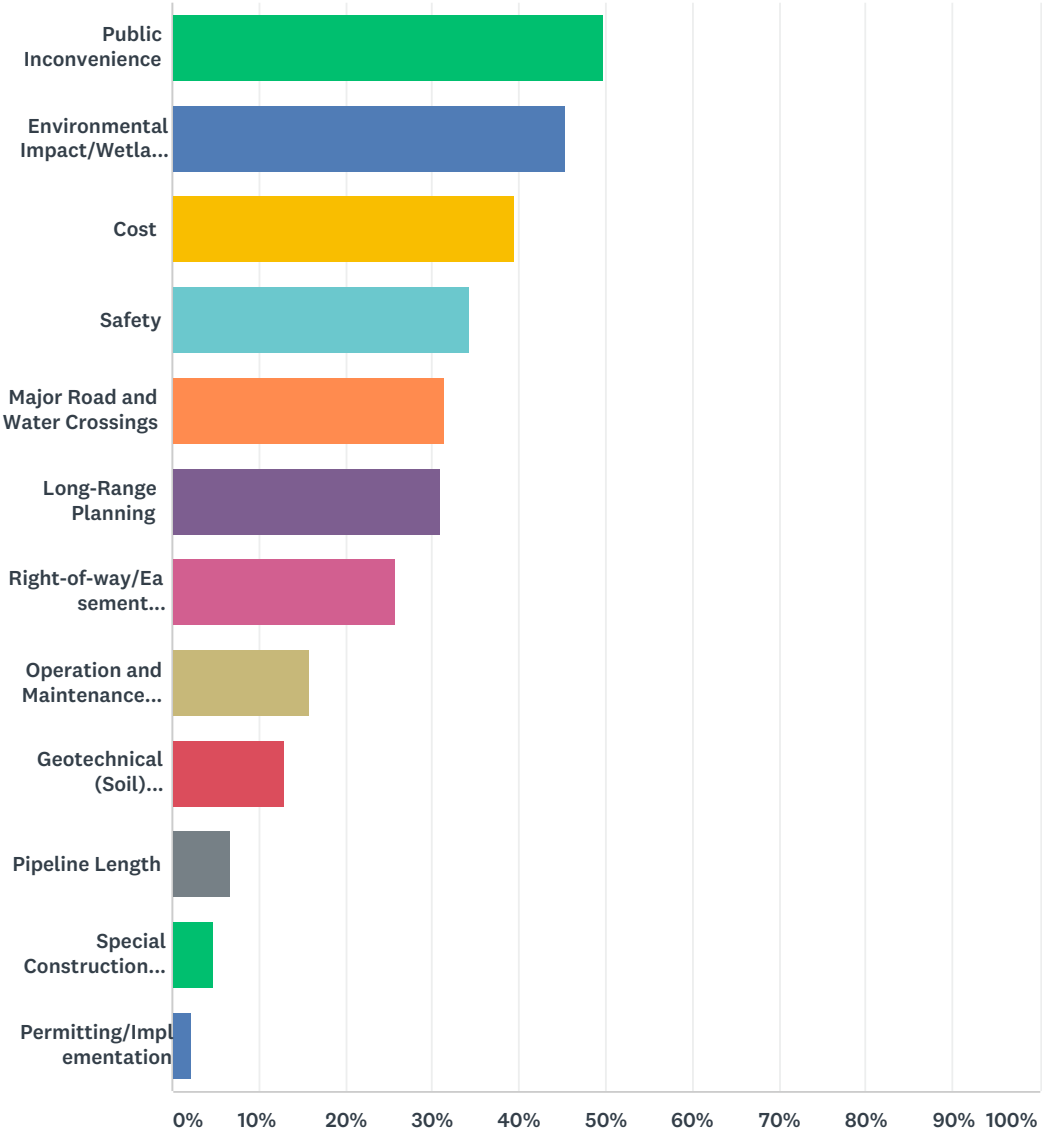
APPENDIX H – PUBLIC OUTREACH

TAMPA BAY WATER
Supplying Water To The Region

South Hillsborough Pipeline 2019 Online Public Opinion Survey Results

Q1 We want to know which evaluation criteria are most important to you. Your input will be used by the project team as we evaluate possible routes.Please select your top three criteria from the following options.

Answered: 675 Skipped: 0



ANSWER CHOICES	RESPONSES	
Public Inconvenience	49.78%	336
Environmental Impact/Wetlands Mitigation	45.48%	307
Cost	39.56%	267
Safety	34.37%	232
Major Road and Water Crossings	31.41%	212
Long-Range Planning	30.96%	209

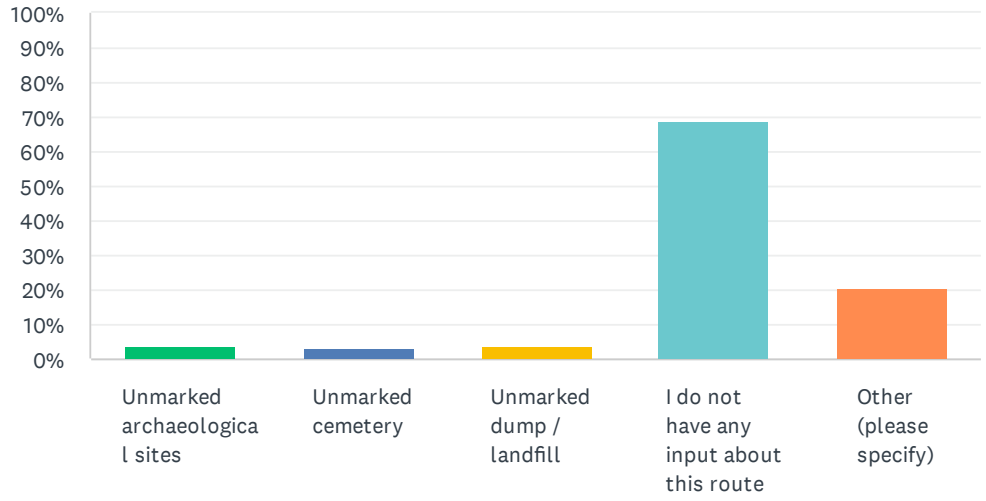
Right-of-way/Easement Availability	25.63%	173
Operation and Maintenance Accessibility	16.00%	108
Geotechnical (Soil) Considerations	12.89%	87
Pipeline Length	6.67%	45
Special Construction Requirements	4.89%	33
Permitting/Implementation	2.37%	16
Total Respondents: 675		

TAMPA BAY WATER
Supplying Water To The Region

South Hillsborough Pipeline 2022 Online Public Opinion Survey Results

Q1 Is there anything else about this route that we should take into consideration during selection, design and construction?

Answered: 1,210 Skipped: 0



ANSWER CHOICES	RESPONSES	
Unmarked archaeological sites	3.55%	43
Unmarked cemetery	3.31%	40
Unmarked dump / landfill	3.55%	43
I do not have any input about this route	68.93%	834
Other (please specify)	20.66%	250
TOTAL		1,210

#	OTHER (PLEASE SPECIFY)	DATE
1	This would be a route to avoid additional. Disturbance to the River.	7/7/2022 11:52 PM
2	Make developers pay for it	7/7/2022 11:44 PM
3	This is the best route to avoid disruption of traffic. Traffic is already terrible so to avoid making it worse this would be best route.	7/7/2022 11:08 PM
4	This route seems to cause more traffic difficulties as well as going through a nature preserve	7/7/2022 9:55 PM
5	This is the best route as it will not affect the Alafia River, the pink and blue routes will go through the river you all left off this map	7/7/2022 9:46 PM
6	My favorite route. Too much daily traffic and congestion on the other routes that construction would congest more	7/7/2022 9:36 PM
7	Massive interruption in residential area. Also this is a high traffic area that will be impacted for the duration of the project	7/7/2022 8:21 PM
8	This appears to be the best route	7/7/2022 7:58 PM
9	It runs through the alafia river	7/7/2022 6:34 PM
10	Good route	7/7/2022 2:57 PM

11	Cost/personal property	7/7/2022 11:19 AM
12	Both unmarked archeological and cemetery sites.	7/7/2022 10:20 AM
13	The orange route would do less damage to the echo system. I would prefer to keep the route as far away from the river as possible.	7/7/2022 9:31 AM
14	No issues with this	7/7/2022 8:56 AM
15	best possible route	7/7/2022 8:52 AM
16	This route is less urbanized and less congested and more rural, but there are smaller right of ways.	7/7/2022 7:47 AM
17	Please do not interfere with the Cutri’s swim Academy along the Alafia loop route	7/7/2022 5:56 AM
18	There are too many people here!! You have ruined our tropical paradise & making it a city!!	7/6/2022 11:38 PM
19	Should be closer to US Hwy 41	7/6/2022 10:57 PM
20	Train crossings, new developments in the region, already make traffic congested. Construction is bound to make things even more congested. How long will this process take? Will their be alternative routes to lessen the impact on already congested roads?	7/6/2022 10:51 PM
21	After turning onto east lumsden,could the route not follow lithia pinecrest? It would be a more direct route to the lithis plant then follow the route planned from the lithia plant to the new one	7/6/2022 10:43 PM
22	Do u need more pumps	7/6/2022 8:44 PM
23	by far the least disruptive - few people along the route	7/6/2022 8:10 PM
24	RXR right of way currently has gas line running down it but i'm sure your aware of that.	7/6/2022 8:02 PM
25	Best option for public inconvenience	7/6/2022 2:48 PM
26	This property is needed in the community it has taught and prevented hundreds of kids in the community to swim	7/6/2022 9:13 AM
27	Traffic on these roads is horrendous. This area has been over populated for many years and continues to grow. FishHawk Blvd., Boyette, Balm Riverview are roads that are already impossible to travel and commute to North or South of 75. This construction would make these roads impossible to travel on. There is minimum alternatives to the interstate. Do not feel this project is of importance at this time. Strong consideration of making these roads more suitable for commuters prior to considering a project such as this one.	7/5/2022 11:02 PM
28	I live in one of the lowest houses between Fishhawk Blvd and the Alafia. What is done to limit flooding if the pipeline breaks	7/5/2022 10:38 PM
29	Traffic issues for construction...	7/5/2022 9:19 PM
30	Demographics	7/5/2022 8:59 PM
31	This would be my 1st choice.	7/5/2022 7:53 PM
32	Traffic on Fishhawk Blvd	7/5/2022 7:51 PM
33	Choose orange route,	7/5/2022 7:32 PM
34	Less impact on major roads	7/5/2022 3:55 PM
35	This is the best route and the only one that should be considered.	7/5/2022 2:16 PM
36	Seems to have least impact on public roads	7/5/2022 1:48 PM
37	Conservation areas	7/5/2022 1:24 PM
38	all the above, plus do something about hard water	7/5/2022 12:54 PM
39	Include bike lanes for cyclists when repaving/replacing the road.	7/5/2022 12:52 PM
40	Seems as though this route would impede traffic the least	7/5/2022 12:29 PM
41	I think this would be the best route for less traffic interruptions	7/5/2022 12:16 PM

42	This option affects the least amount of people	7/5/2022 12:14 PM
43	Will additional services such as underground placement of communication and power lines be facilitated to improve those capabilities to the areas affected by the construction?	7/5/2022 11:23 AM
44	Existing utilities	7/5/2022 8:41 AM
45	Durant Road is a major route leading to Nelson Elementary and to Durant High. If this pipeline is placed during the school year, will Durant Road need to close? This would cause inconvenience to a thousand or more students, staff, and parents going to these schools. If going thus route, please plan any closing of Durant for a non-school time period.	7/5/2022 7:27 AM
46	It is the route with the least population, therefore growth potential.	7/5/2022 7:17 AM
47	Least disruptive	7/5/2022 3:52 AM
48	Best route	7/5/2022 12:03 AM
49	I worry about crossing Hwy. 60 and the traffic delays or detours.	7/4/2022 11:13 PM
50	Peoples property	7/4/2022 6:52 PM
51	Kings is a pretty busy road. How will construction affect traffic.	7/4/2022 6:15 PM
52	depending fraffic flow, i know dilervery drivers depend on this road,once cut off , the amount of redirect is unsettling	7/4/2022 5:46 PM
53	This is my favorite route	7/4/2022 4:58 PM
54	Windhorst serves as a pretty heavily used backroad to bypass 60. There are also a ton of subdivisions with sole access on windhorst so construction would be extremely impactful outside of the typical notification areas and methods hillsborough county utilizes.	7/4/2022 2:15 PM
55	Preferred route	7/4/2022 12:04 PM
56	There are only 3 roads in and out of Fishhawk and this will be a major traffic concern	7/4/2022 11:19 AM
57	Farm land, with cattle	7/4/2022 10:43 AM
58	A lot of traffic goes down Lumsden. You would be redirecting a lit of traffic or closing down lanes making traffic impossible for all the new developments that popped up past there in the last 3 years.	7/4/2022 9:43 AM
59	This option has less traffic interuption	7/4/2022 9:35 AM
60	This route has the least impact on traffic and populated areas.	7/4/2022 9:35 AM
61	Shortest rt should be used.	7/4/2022 8:22 AM
62	There multiple schools directly on this route, with children walking. Will they be given bus transportation ? There is no way these children can safely walk through this twice a day.	7/4/2022 5:15 AM
63	No good	7/3/2022 10:52 PM
64	I Approve this route.	7/3/2022 7:39 PM
65	I recommend this route	7/3/2022 5:41 PM
66	This is the best route out of the 3.	7/3/2022 4:58 PM
67	Majorly noise disruptive and a traffic nightmare for this residential area. ily populated area along	7/3/2022 12:27 PM
68	This would impact the least amount of people	7/3/2022 12:26 PM
69	Boyette & Balm Boyette is very lightly traveled, together with linking up & sharing the CSX RR easement. (A). Will accelerate completion, reduce time, reduce public inconvenience, reduce project cost overruns, due that it will transit a remote, area devoid of vehicular traffic. (B). Plus the added advantage of placing the orange line in a virtually unpopulated area making it available for future water needs for any future residential development eastward from Balm Boyette Road..	7/3/2022 12:14 PM
70	This orange route is preferred as not to interfere with my business and residence on Mcmullen.	7/3/2022 10:08 AM

71	Recommend route	7/3/2022 9:15 AM
72	Rain water drain avoid obstruction that may provoke future flooding.	7/3/2022 8:19 AM
73	Appears this would be easier since it is shorter length and more remote.	7/3/2022 7:50 AM
74	Breeding sites for protected reptiles and birds. Any other planned road projects. Accessibility for maintenence. Risk of leaks causing flooding. Risk of train movement causing fracture.	7/2/2022 12:51 PM
75	How long will this project take to be completed.	7/2/2022 11:22 AM
76	6 million an 4 years of construction at the intersection of litigation pinecreast and lumsden 4 years and just completed do not take this route it’s a major intersection that is working !	7/2/2022 11:04 AM
77	This appears to be the less invasive to the largest # of people. This route route will impact a more rural community and wildlife. Is this better or worse?	7/2/2022 9:30 AM
78	Least disruptive	7/2/2022 7:48 AM
79	traffic issues	7/2/2022 7:29 AM
80	further disrupting traffic on Lithia Pinecrest Rd which already a traffic nightmare.	7/1/2022 8:10 PM
81	It should follow Lithia Pinecrest road. Save millions and the road will have to be widend soon anyway.	7/1/2022 3:39 PM
82	of the options, this is best option, due to less impact than other options	7/1/2022 3:17 PM
83	Too far outside the service area	7/1/2022 11:37 AM
84	This route seems the best because it impacts less homes/neighborhoods.	7/1/2022 11:19 AM
85	It doesn't need to happen at all , go down to ft. Lonesome where no one lives	7/1/2022 10:41 AM
86	I think the section along Lumsden is not a good option because this road is already very busy. Is only one lane each direction and I feel traffic would be significantly impacted during construction	7/1/2022 8:27 AM
87	Cost?	7/1/2022 7:13 AM
88	Displacing families	7/1/2022 6:54 AM
89	best choice	6/30/2022 7:49 AM
90	Protect our natural beauty and wildlife. We have way to much population growth and we are continuing losing nature.	6/29/2022 9:04 PM
91	Wildlife	6/29/2022 8:32 PM
92	This is the better choice. There will be no disrupting of rivers/springs or wildlife. Less traffic this way	6/29/2022 12:08 PM
93	Least impact	6/29/2022 10:05 AM
94	Straight through an older neighborhood	6/28/2022 7:43 PM
95	There is a stream crossing under Windhorst Rd located .04 miles west of Parsons. It feeds ponds and lakes north & south of Windhorst. That cannot be blocked.	6/28/2022 4:22 PM
96	This would be my preferred route.	6/28/2022 11:30 AM
97	Traffic on Lumsden. Pipeline construction and issues may seriously affect traffic patterns	6/28/2022 10:21 AM
98	I select this route	6/27/2022 4:26 PM
99	Number of daily vehicle trips for this route	6/27/2022 12:09 PM
100	What insight do you expect to receive that would supercede that of engineers and the professionals responsible for planning the project?	6/27/2022 11:23 AM
101	Y’all have taken too much of our water already and ran our wells dry and gave us cheap water pumps and sulfur water! Get your water from some undeveloped land, far away from us. Stop letting too many people move into areas that don’t have enough water for them!!	6/27/2022 9:41 AM

102	The government should not be I. The water business	6/27/2022 9:16 AM
103	Destroying beautiful trees along Woodbury or Wildhorse, very sad.	6/27/2022 8:46 AM
104	This is the only viable route with regard to route diversity - it is the only route that does not have two routes on one path.	6/27/2022 8:36 AM
105	It's already a small road	6/27/2022 8:11 AM
106	Lithia Springs water level too low?	6/27/2022 7:44 AM
107	Cost: longer option. Traffic interruptions along Lumsden	6/27/2022 6:18 AM
108	Why not more direct via Lithia Pinecrest?	6/26/2022 12:17 PM
109	Brandon area is supposedly known for sink holes, per the various Insurance companies. How will the vibrations from digging affect our homes and area?	6/26/2022 11:49 AM
110	This would promote development sprawl in the rural area and does not appear to coordinate with other infrastructure improvements in the area such as a long Bell Shoals and Lithia Road	6/26/2022 11:40 AM
111	I don't want this on my street, Windhorst	6/26/2022 9:54 AM
112	This seems to be in less dense population areas.	6/26/2022 9:25 AM
113	Too much traffic on Lumsden	6/26/2022 8:58 AM
114	No	6/26/2022 8:55 AM
115	Impact on the agricultural community and displacement of any migrant worker housing	6/26/2022 6:06 AM
116	Why must this go through two treatment facilities? Why not build another facility down in that area? Going along fishhook blvd will be a logistical nightmare to the already overburdened roads used by thousands of commuters and students attempting to go too the schools on that road. This is only main road we have in community. Please do not solve he problem this way!	6/25/2022 4:14 PM
117	This is my preferred route. Would have less impact on Brandon traffic.	6/25/2022 11:08 AM
118	Lots of deer crossings.	6/25/2022 9:29 AM
119	Horrible traffic for residents in fishhawk with no alternate route	6/25/2022 7:54 AM
120	Will this affect water pressure in my neighborhood of Brooker Reserve? We have low pressure as it is. Thank you.	6/25/2022 6:58 AM
121	This is the best route	6/24/2022 11:26 PM
122	Construction along FishHawk bl should take into consideration the already heavy traffic near Newsome high school and Randall Middle School. This area is backed up for several miles every school day during the morning and afternoon hours. Accommodations would have to be made for students delayed by construction and commuters caught in even more congested bottleneck in the area.	6/24/2022 1:14 PM
123	This seems to be the most direct route	6/24/2022 12:50 PM
124	Building on such high population areas & traffic flow on already failed roads(ie. Lithia Pinecrest Rd.)	6/24/2022 12:33 PM
125	Stop building anything. Let people build houses elsewhere for a while	6/24/2022 12:24 PM
126	Traffic is already horrible in the Riverview area.	6/24/2022 12:03 PM
127	the 3 options should be available to compare w/o forcing any selections.	6/24/2022 12:02 PM
128	Large amount of impacted school traffic	6/24/2022 11:37 AM
129	This route seems to be more natural in terms of elevation and flow as Lumsden is higher and would then go to the Csx rr and turn downhill...also going along the csx route would be less disruption to neighborhoods...	6/24/2022 10:47 AM
130	Traffic patterns and flow	6/23/2022 6:10 PM
131	Best route- Less impact on residents	6/23/2022 6:09 PM

132	Only interested if there is to be no need to for destruction of ANY wildlife habitat -- including trees.	6/23/2022 12:28 PM
133	Dealing with the railroad as well as extra time, money and work using this route.	6/23/2022 12:11 PM
134	Best route to have least amount of impact to roads	6/23/2022 11:50 AM
135	Traffic	6/23/2022 11:40 AM
136	I don't see how this route is going to address increase density in the balm area. I can see redundancy with other plants but we don't experience water shortages here in the Windhorst/Kingsway area.	6/23/2022 11:24 AM
137	Nervous that additional water will not come over to Southpoint	6/23/2022 10:28 AM
138	Heavily traveled traffic	6/23/2022 9:39 AM
139	How does this impact already stressed and delayed school routes for Randall and Newsome? How will this impact the nature trails in the River Hills community?	6/23/2022 8:07 AM
140	Residential Proximity, Ammonia Pipeline	6/22/2022 10:39 PM
141	Potential disruption to protected gopher tortoises in Fishhawk Preserve along the creek between Fishhawk and Fishhawk West	6/22/2022 4:15 PM
142	Fishhawk and other areas along this route are part of the ELAPP and disturbance to mating as well as protected species will be impacted. There is also the issue of F rated congested roadways. This work cannot be done during school travel hours or high travel hours because it is barely passable at this time.	6/22/2022 3:49 PM
143	We live about 1 mile south of where the new station will be located - at 13322 Balm Gardens Lane - which is off of Balm-Wimauma Road. Our water comes from a well on our property. We are extremely concerned that our well could be dried up as a result of this new addition to the water system.	6/22/2022 3:27 PM
144	Better route	6/22/2022 2:51 PM
145	Does this line go through conservation area of FH West (gopher tortoise protected area)?	6/22/2022 2:31 PM
146	Nature preserve gopher tortoise	6/22/2022 1:42 PM
147	why can't you come down I-75, less impact to the rural roads and wildlife.	6/22/2022 1:00 PM
148	Not wanted here	6/22/2022 12:56 PM
149	Too long of route high er cost and inconveniece	6/22/2022 12:08 PM
150	The residents whom live at the enclave	6/22/2022 11:29 AM
151	It’s a protective nature preserve. What is going to done about the preserve and creek that run along the path?	6/22/2022 11:27 AM
152	Have any of you driven on the roads along any of these routes especially during rush hour traffic!!? If you have you might have noticed the total lack of alternate routes if a major road is even temporarily blocked. This is due to poor planning of course but it has become more than dangerous driving conditions. Think seriously about how you will manage this drastic impact on an already ridiculous traffic problem in the areas you are considering. This concern won’t make a difference I’m sure that is why we are in this mess to begin with.	6/22/2022 10:58 AM
153	why not run it where the power lines have right of way thru Fishhawk Ranch	6/22/2022 10:25 AM
154	How disruptive this will be to current infrastructure and everyday lives	6/22/2022 10:16 AM
155	Traffic- stop building	6/22/2022 9:53 AM
156	Cutting through a nature preserve. What about the animals that live there?	6/22/2022 7:21 AM
157	Wildlife	6/22/2022 7:00 AM
158	Traffic	6/22/2022 6:04 AM
159	Traffic impact on a single lane road. 3’-7’ water main means going deep enough, cleaning once installed, pressure tests, access manholes, lots of work and lots of impact. So mitigation of	6/21/2022 10:59 PM

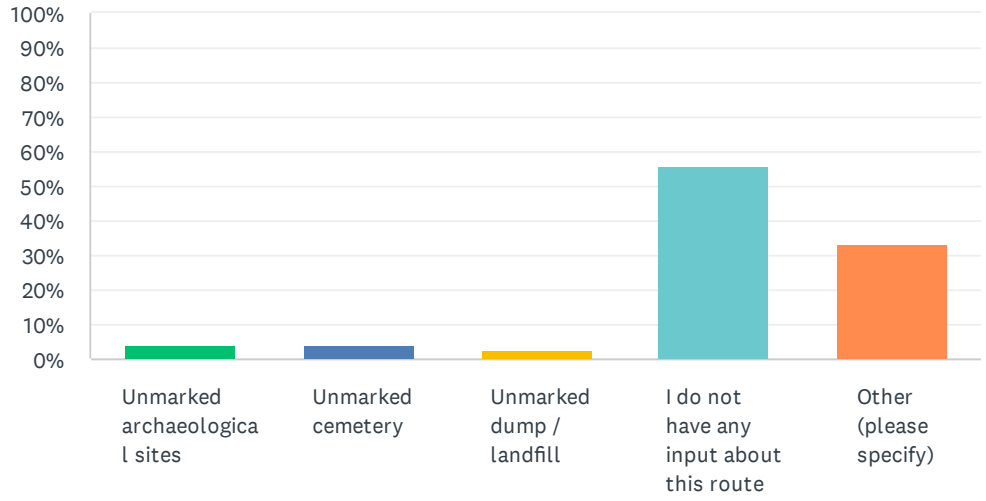
	that impact would be noce, perhaps show what the idea is for construction.	
160	the CSX railroad runs through a wooded area that contains a Superfund site (SYDNEY MINE SLUDGE PONDS BRANDON, FL)	6/21/2022 10:46 PM
161	This proposed route will pass through natural reserve areas which are the habits of endangered and threatened species. This route will also negatively impact the community of FishHawk West.	6/21/2022 10:44 PM
162	Severe traffic in this area, limited infrastructure and alternative routes, biologically fragile preserve in this area	6/21/2022 10:03 PM
163	This is the best route!	6/21/2022 9:49 PM
164	The description and the map do not appear to show the same thing. Putting it down boyette will interrupt rush hour traffic for four schools that is already unbearable and ill-suited to the road infrastructure in place.	6/21/2022 9:26 PM
165	I prefer this route	6/21/2022 8:29 PM
166	I don't want county water	6/21/2022 7:14 PM
167	Location of the pipeline in reference to all housing in the close vicinity.	6/21/2022 6:45 PM
168	Stop building	6/21/2022 4:50 PM
169	Seems better option.	6/21/2022 3:16 PM
170	Is it cutting thru Fishhawk West neighbourhood or behind it	6/21/2022 1:30 PM
171	STOP BUILDING APARTMRENTS AND HOMES!! NO ROOM HERE!!!!	6/21/2022 1:20 PM
172	Destroying nature in the area.	6/21/2022 1:07 PM
173	Unless there is a serious reason for this design, the path seems a bit circuitous and inefficient.	6/21/2022 12:54 PM
174	This route does not have as much traffic	6/21/2022 12:38 PM
175	This is my preferred route	6/21/2022 12:28 PM
176	Traffic/home interruption. Already huge traffic issues in FH	6/21/2022 11:46 AM
177	Traffic is already terrible	6/21/2022 10:11 AM
178	This looks to be very indirect and wasteful route	6/21/2022 10:10 AM
179	I prefer the orange route	6/21/2022 10:07 AM
180	Creosote can be corrosive to metals, potentially reducing lifetime of the pipe	6/21/2022 8:59 AM
181	Curious why it's not run along Lithia Pinecrest in conjuction with long promised road widening?a	6/20/2022 11:42 PM
182	Riverview is already overly congested with the new apartments, neighborhoods and hospital going in the process of being built.	6/20/2022 7:33 PM
183	Seems like the most logical route to use.	6/20/2022 5:57 PM
184	This route would be least intrusive to traffic in Riverview which is already extremely congested	6/20/2022 5:41 PM
185	Nature Preserve & Scrub preserve exist along this route	6/20/2022 5:20 PM
186	Traffic and lack of alternate routes	6/20/2022 1:38 PM
187	This looks like an ideal route!	6/20/2022 12:42 PM
188	Narrow roadways. Lack of shoulder space to detour commercial and business traffic. Proximity to railroad route.	6/20/2022 10:56 AM
189	Use this route for least customer inconvenience	6/20/2022 10:42 AM
190	There is tremendous traffic along this route already.	6/20/2022 10:32 AM
191	to many cars and homes	6/20/2022 9:21 AM
192	I think best route.	6/20/2022 9:16 AM

193	Environmental land	6/19/2022 3:54 PM
194	Traffic delays	6/19/2022 12:14 PM
195	This seems to be the longest route and don't like that it runs under the 75	6/19/2022 11:26 AM
196	There very few alternatives for roads in this area especially involving Lunar an and the railroad crossing for students going to Durant high school. Poor road planning has created a potential crisis if an emergency arises as there are many areas where we only have one road to use to evacuate.	6/19/2022 9:30 AM
197	Looks to be the best route	6/19/2022 7:47 AM
198	Team Orange route!!!	6/18/2022 8:58 PM
199	ORANGE ROUTE	6/18/2022 5:47 PM
200	Peoples homes	6/18/2022 4:25 PM
201	This is obviously the best route option if trying to save the ecosystem of the area and not disrupt communities	6/18/2022 3:18 PM
202	This would be the best route.	6/18/2022 2:26 PM
203	Impact on Alafia River Community	6/18/2022 2:12 PM
204	Stop the building, over loaded now.	6/18/2022 2:01 PM
205	People will have to be evacuated.	6/18/2022 1:42 PM
206	Preferred route	6/18/2022 1:26 PM
207	Peoples homes	6/18/2022 12:22 PM
208	Don't send this down residential roads. It will disrupt our community for years with construction.	6/18/2022 12:11 PM
209	I prefer orange route	6/18/2022 11:50 AM
210	This seems to have the least impact on homeowners and communities as this follows main through fairs	6/18/2022 9:22 AM
211	this seems to be the least disruptive route	6/18/2022 9:06 AM
212	Less impact to my house	6/18/2022 8:46 AM
213	Avoids river crossing	6/18/2022 8:39 AM
214	Quality of life on Alafia Ridge Loop,	6/18/2022 8:34 AM
215	Does not go through the area by the River where it floods. Don’t want pipes that may cause contamination should there be problems with the large pipes.	6/18/2022 8:06 AM
216	Ideal route	6/18/2022 7:35 AM
217	You would be adding construction where middle school children walk and bike to school and possibly cause hazards for accidents.because there are no sidewalks in the area of your path to avoid.	6/18/2022 7:22 AM
218	Congestion on Fishhawk Blvd mornings	6/18/2022 7:20 AM
219	We live on the easement at the end of lumsden Road and there is a nature preserve on that easement between Mulrennan road and dover road. We would hate to see it disturbed	6/17/2022 7:31 PM
220	Will a sewer drainage system be added to windhorst rd? As the road currently floods sidewalks and is not as pedestrian friendly as it could be	6/17/2022 5:15 PM
221	Is not in middle of highest Brandon populaion but will be for future growth.	6/17/2022 11:45 AM
222	Can’t it just parallel I-75 then east thru Wimauma	6/17/2022 11:03 AM
223	Do your job correctly with consideration to all factors.	6/17/2022 10:20 AM

224	It may not be the shortest route but, It seems to be the least intrusive.	6/17/2022 10:15 AM
225	Lower population density than other options.	6/17/2022 9:38 AM
226	Huge amount of traffic on lumsden especially when hwy 60 has issues	6/17/2022 8:26 AM
227	Because this route is farther east it impacts less traffic which is good. I also like that is uses the rail line ... again less impact on traffic as there us already so much construction in this area.	6/17/2022 8:11 AM
228	E Lumsden already has existing traffic issues, especially along the proposed route.	6/17/2022 7:48 AM
229	All unmarked sites	6/17/2022 7:24 AM
230	traffic interference on lithia pinecrest road	6/17/2022 7:05 AM
231	should go down lithia Pinecrest, shorter and no railroad to deal with.	6/17/2022 6:47 AM
232	This route appears like it will cause less disruption during construction	6/17/2022 5:17 AM
233	Protected Nature Preserve	6/16/2022 2:54 PM
234	Wildhorse rd is 2 lane with alot of traffic. Multiple school crossing and 3 schools in the general area.	6/16/2022 1:43 PM
235	good route	6/16/2022 1:42 PM
236	East Lumsden is a major artery for rush hour traffic.	6/16/2022 12:42 PM
237	I do not like this route. Way too disruptive.	6/16/2022 12:15 PM
238	less populated route, cheaper to build	6/16/2022 12:05 PM
239	We just spent 18 months redesigning Lumsden/Lithia intersection and now it is going to be torn up again? Go straight down lithia Pinecrest and widen it to 4 lanes while your at it.	6/16/2022 11:43 AM
240	the housing developers should pick up all costs	6/16/2022 11:08 AM
241	N/a	6/16/2022 9:00 AM
242	Disruption to Triple Creek nature preserve	6/16/2022 8:11 AM
243	Narrow ROW on Lumsden from Valrico to Mulrennan. Lumsden ends at Mulrennan, would need to acquire ROW or an easement.	6/16/2022 7:41 AM
244	This is the best route	6/15/2022 5:39 PM
245	Our roads are very congested. The Orange Route would have less impact on the more congested areas.	6/15/2022 12:41 PM
246	Great route as it’s along railroad right of way	6/15/2022 10:25 AM
247	test	6/15/2022 9:10 AM
248	I think having that going I-75 will make for more difficult inspections and maintenance operations. I don't think this will work.	6/15/2022 9:09 AM
249	It seems that this may be the best route as the density is less than the other two. In addition, there is land that may not be as expensive for acquisition as through more dense areas.	6/15/2022 9:03 AM
250	seems a less direct route, but may be the least impact on traffic and costs	6/15/2022 8:12 AM

Q2 Is there anything else about this route that we should take into consideration during selection, design and construction?

Answered: 1,131 Skipped: 79



ANSWER CHOICES	RESPONSES	
Unmarked archaeological sites	4.24%	48
Unmarked cemetery	4.24%	48
Unmarked dump / landfill	2.48%	28
I do not have any input about this route	55.70%	630
Other (please specify)	33.33%	377
TOTAL		1,131

#	OTHER (PLEASE SPECIFY)	DATE
1	Disruption to the Alafia River	7/8/2022 1:56 PM
2	This would cause disturbance to the river and it's echo system	7/7/2022 11:53 PM
3	An already busy with traffic and businesses. Congestion would just make matters worse.	7/7/2022 11:08 PM
4	How much of my driveway am I going to lose and will I lose access for my vehicles to enter my property while this is happening? Will people currently on well water have the ability to tie into city water as this is taking place?	7/7/2022 10:40 PM
5	Routes with most schools on it digging up roads that are highly traveled	7/7/2022 10:06 PM
6	This route is not a good option, loving on alafia Ridge Loop I can tell you it will destroy our community and will affect the alafia river	7/7/2022 9:47 PM
7	Choose orange	7/7/2022 9:37 PM
8	Worse route possible. More pipe, more time, a lot more traffic to deal with.	7/7/2022 9:07 PM
9	Tons of homes and neighborhoods affected by this route	7/7/2022 8:53 PM
10	Alafia river	7/7/2022 8:38 PM

11	These are a lot of the paths people take to avoid 301 traffic. This will cause congestion	7/7/2022 8:23 PM
12	most disruptive to traffic	7/7/2022 8:06 PM
13	The path doesn't seem optimal.	7/7/2022 7:39 PM
14	It runs through the alafia river	7/7/2022 6:34 PM
15	Traffic inconvenience	7/7/2022 6:11 PM
16	This route does not show the alafia river and how it would be impacted by the pipeline which seems misleading. Neighborhoods and homes are located along this exact route. I have concerns about where this pipeline would lay and if homes along the river will be disturbed. Additionally there is much wildlife that reside within these areas and they are increasingly losing their habitat due to the very development this pipeline would support. Residents will have pushback if the pink or blue routes proceed. These communities are established and have been so for decades, proposing major longterm construction would be a major inconvenience and concern us all about environmental impacts. Our river is sacred to us and our community does not want to see it disturbed. This land has been here for centuries and once was cared for by the Tocobaga tribe. Please do not disturb the land and potential remains of these peoples and the wildlife that now resides here. Thank you.	7/7/2022 5:55 PM
17	Not environmentally safe	7/7/2022 5:18 PM
18	The Alafia River is not shown!	7/7/2022 2:56 PM
19	Doubles back on itself, 5 miles more pipeline	7/7/2022 2:40 PM
20	The impact that this construction would have to traffic on Balm Riverview would cause major delays to an already heavy traffic area.	7/7/2022 12:47 PM
21	This map is geographically inaccurate as the Alafia river continues further inland and this pipeline would directly impact our waterways. This river houses lots of wildlife that has already been affected by the increased development in our area. This route would directly impact not only our neighborhood and increase traffic, construction, and inconvenience as well as have long lasting impacts on our wildlife and community. I am strongly opposed to this route and believe it would disturb our quiet neighborhood that is one of the few remaining safe places for wildlife in Riverview.	7/7/2022 11:45 AM
22	Most cost effective, keeps more construction by major roadways away from private property/neighborhoods	7/7/2022 11:20 AM
23	Would appear to be the shortest most economic route	7/7/2022 11:11 AM
24	Both unmarked archeological and cemetery sites.	7/7/2022 10:21 AM
25	I think there is already to much disturbance int he area with all the new construction. It would be best for the river and its echo system to stay clear. I am in favor for orange route.	7/7/2022 9:33 AM
26	Boyette, Fish Hawk, and Balm-Riverview have too much morning and evening traffic.	7/7/2022 9:28 AM
27	The river	7/7/2022 9:12 AM
28	The Alafia River is not appropriately shown on this map. This route goes directly through it and protected wetlands.	7/7/2022 8:57 AM
29	This route goes right through the Alafia river which is not shown properly on this map. It threatens the river, wetlands and more	7/7/2022 8:53 AM
30	Appears to run through a much busier traffic area than orange route.	7/7/2022 7:49 AM
31	The pink route goes thru highly congested and urbanized area and will cause large disruptions to the general public	7/7/2022 7:48 AM
32	This route may impact the Cutri swim Academy survival school for toddlers	7/7/2022 5:58 AM
33	There are too many people here!! Florida is a tropical state, not a city!!	7/6/2022 11:38 PM
34	Business properties in the pathway	7/6/2022 11:10 PM
35	What kind of Bullshit is this??? The Developers want us to pay for all their new developments! You will notice the water is headed for all the new high-end homes far East of where it is	7/6/2022 11:07 PM

	needed!... Where it is needed is down US Hwy 41... We have no water pressure in Apollo Beach... So, let's follow the money and find out who's being paid-off to come up with these routes!	
36	Seems redundant to have the route double back on boyette road. Could the pink route remain the same for the first part until it reaches the lithia plant then follow what would be the orange route?	7/6/2022 10:45 PM
37	How does the pipeline get from South Kings Ave. to Alafia Ridge Loop, there is a river in between them, the Alafia River, I see no mention of that little detail	7/6/2022 10:38 PM
38	Lots of traffic on this route	7/6/2022 9:39 PM
39	disruptive to many people	7/6/2022 8:11 PM
40	Goes through my friends home	7/6/2022 6:42 PM
41	Very heavy traffic	7/6/2022 4:55 PM
42	Balm Riverview Rd does not currently handle the volume of traffic that it has today. If the pipeline construction means taking Balm Riverview Rd down to 1 lane, it will have a major impact on our business.	7/6/2022 3:03 PM
43	Too much disruption to already congested areas	7/6/2022 2:48 PM
44	Location	7/6/2022 2:41 PM
45	Residents property disturbed	7/6/2022 11:10 AM
46	These roads are highly traveled. Mainly 2 lane roads. The Community cannot handle these roads being closed for extended periods	7/5/2022 11:08 PM
47	Same remarks as previous route presented	7/5/2022 11:03 PM
48	I live in one of the lowest houses between Fishhawk Blvd and the Alafia. What is done to limit flooding if the pipeline breaks	7/5/2022 10:38 PM
49	Neighborhood destruction	7/5/2022 10:24 PM
50	Really high traffic all roads residential	7/5/2022 10:23 PM
51	Higher traffic area	7/5/2022 10:18 PM
52	Traffic and debris	7/5/2022 8:57 PM
53	Traffic on Boyette is already extremely busy. Balm Riverview Rd or Orange Route isn't as busy as Boyette Rd route along with orange route taking less miles to construct. .	7/5/2022 8:52 PM
54	Cost	7/5/2022 8:13 PM
55	2nd choice	7/5/2022 7:53 PM
56	Traffic on Fishhawk Blvd	7/5/2022 7:52 PM
57	Do not go thru residential property	7/5/2022 7:33 PM
58	One lane roads, traffic will be severely disrupted during construction	7/5/2022 6:57 PM
59	This route would disrupt our quiet neighborhood. I prefer the rout to go by the railroad tracks as we have alot of wildlife in our neighborhood	7/5/2022 6:27 PM
60	30.4 not cost efficient	7/5/2022 4:29 PM
61	Have you been on John Moore/Parsons during rush hour?? Ronele Drive is a neighborhood that doesn't need this inconvenience	7/5/2022 3:56 PM
62	Terrible option.	7/5/2022 2:16 PM
63	Conservation areas	7/5/2022 1:24 PM
64	all the above, plus do something about the hard water	7/5/2022 12:55 PM
65	This route looks like a traffic nightmare while building	7/5/2022 12:17 PM

66	Go down Providence	7/5/2022 11:17 AM
67	The affected section of Boyette Rd went through major redesign and construction less than 15 yrs ago. Likely the green route would benefit more from potential coincident road improvements.	7/5/2022 10:46 AM
68	Should avoid S Kings Ave high traffic at rush hour. Straight down John Moore Is a straight shot.	7/5/2022 7:20 AM
69	Heavy traffic	7/5/2022 6:25 AM
70	Too long	7/5/2022 3:52 AM
71	Too much traffic for this route	7/5/2022 1:48 AM
72	Traffic and day to day complications with a high trafficed area.	7/5/2022 12:06 AM
73	Both maps show Lithia Pinecrest ending at Lumsden. I goes to Hwy. 60!	7/4/2022 11:15 PM
74	Traffic	7/4/2022 10:37 PM
75	Seems more disjointed	7/4/2022 10:07 PM
76	This seems to be the most direct route	7/4/2022 9:53 PM
77	Too much traffic	7/4/2022 9:31 PM
78	Peoples personal property	7/4/2022 6:53 PM
79	Homes of loved ones	7/4/2022 5:37 PM
80	Amount traveling vehicles in these roads.	7/4/2022 5:35 PM
81	Disturbing homes and businesses	7/4/2022 5:31 PM
82	Close to a lot of housing	7/4/2022 5:19 PM
83	Seems this would create congestion around a number of medical offices along Parsons and Robertson Avenues.	7/4/2022 1:28 PM
84	Crosses alafia	7/4/2022 1:00 PM
85	This route makes more sense.	7/4/2022 12:45 PM
86	Too much interference with housing	7/4/2022 12:05 PM
87	There are only three roads in and out of Fishhawk and this will cause major traffic issues in the community	7/4/2022 11:20 AM
88	Avoid Parsons becsuse it is lined with Grandfather oaks and is congested becaUse of Brandon Hospital and medical offices. I like the rest of this route.	7/4/2022 10:26 AM
89	We can shut supply to one without affecting supply to other.	7/4/2022 10:09 AM
90	How does the pipeline bridge the Alafia?	7/4/2022 9:37 AM
91	Seems to affect more residential areas	7/4/2022 7:54 AM
92	What will the effect be on traffic? Currently this road is heavily traveled and thus will be a hardship to those who use it. Have there been utilization studies performed pertaining to how this will effect the commuters?	7/4/2022 7:01 AM
93	I don’t approved this route. Too much traffic will be disrupted.	7/3/2022 7:40 PM
94	Longer route, right through middle of town, more interruptions	7/3/2022 5:46 PM
95	Major roadways that will effect traffic	7/3/2022 3:07 PM
96	Wildlife	7/3/2022 12:45 PM
97	Balm Riverview Road is already heavily used, and would need to be widened to accomodate heavy construction machinery as well as for future maintenance. Traffic volume will still remain unimproved. as the terminus is at a chokepoint @ Fish Hawk Blvd, and the BalmRiverview link to hwy 301. Better to eventually widen Balm Road for future traffic flows to Hwy 301. Light rail	7/3/2022 12:31 PM

	to metro Tampa, via Balm, Hwy 41, Crosstown will probably be an unavoidable end result, re traffic solution.	
98	Again, majorly disruptive.	7/3/2022 12:28 PM
99	This route will be the better option as many established homes have been. Without drinking water for years. This would be great for those home and the ones in the area.	7/3/2022 12:05 PM
100	Homes	7/3/2022 10:11 AM
101	This route will negatively impact traffic to my business let alone my residents in a NEGATIVE way.	7/3/2022 10:09 AM
102	Cuts through residential properties. Unacceptable	7/3/2022 9:52 AM
103	Disruptive to homes	7/3/2022 9:14 AM
104	To many homes in the areas	7/3/2022 9:14 AM
105	Too long	7/3/2022 8:31 AM
106	This route is longer. It seems to impact more residents during construction.	7/3/2022 8:17 AM
107	This appears to be the most congested route as it looks to impact more traffic and intersections throughout the area.	7/3/2022 7:52 AM
108	Preservation of older homes and trees	7/2/2022 1:31 PM
109	Parson Road is hospital access. It is already highly congested. construction on this route could put emergency patients at risk of delays.	7/2/2022 12:53 PM
110	This longer route will cost more and with all the homes there, not a good choice.	7/2/2022 11:24 AM
111	There is already alot of congestion of traffic to 75 due to population. There are at minimum 5 -7 schools that would be affected. Can you say nightmare?	7/2/2022 9:30 AM
112	This route will make traffic on Boyette/Fish hawk Blvd a nightmare. Considering the amount of current homes plus new construction AND all the schools in that road. This is the worst possible route.	7/2/2022 9:22 AM
113	Traffic	7/2/2022 9:20 AM
114	Highly disruptive (S Kings) and impacts to aged local nature	7/2/2022 7:50 AM
115	Doesn’t seem the best route because of going both east and west. Also it’s a longer route meaning potentially more cost	7/2/2022 7:23 AM
116	There are farms and parks that would be affected by this route.	7/2/2022 7:06 AM
117	Appears to have a double run that is not direct. Wasteful.	7/1/2022 3:40 PM
118	this crosses the alafia river and will have a significant impact on river wildlife including manatee and dolphins. the public inconvenience of this route is high.	7/1/2022 3:18 PM
119	Impacts too many homes and we'll established neighborhoods. Goes over a main part of the Alafia River and that is a huge concern. I do not like this option.	7/1/2022 11:20 AM
120	Doesn't need to happen go down to Ft. Lonesome where no one lives	7/1/2022 10:42 AM
121	Worst choice. Construction would block Riverview High School and a lot of single entrance only neighborhoods.	7/1/2022 10:08 AM
122	This is a very laden route and will cause a lot of backup in traffic and job completion.	7/1/2022 9:39 AM
123	Balm Riverview will be a mess a commute with added construction.	7/1/2022 7:26 AM
124	Cost?	7/1/2022 7:13 AM
125	Displacing families	7/1/2022 6:55 AM
126	Traffic	6/30/2022 10:50 AM
127	Public inconvenience	6/30/2022 10:16 AM

128	Longest route, least inconvenience to traffic patterns. Will most likely incur higher costs	6/30/2022 9:35 AM
129	Balm Riverview Rd is already too congested. This is the only route to some homes.	6/30/2022 9:24 AM
130	Other existing wells on this route	6/30/2022 7:53 AM
131	Already overcrowded residential areas on Balm Riverview	6/30/2022 7:50 AM
132	Traffic on fishhawk Blvd would be unbearable.	6/30/2022 7:40 AM
133	Putting it on this route will mess up our road was more than they are right now	6/30/2022 7:32 AM
134	Crowded streets	6/30/2022 7:09 AM
135	Too much traffic in this area alread. Road closures would push more traffic on 301	6/30/2022 7:05 AM
136	Traffic flow impact on heavily traveled roads	6/30/2022 5:11 AM
137	Consider negative impact of nature	6/29/2022 9:05 PM
138	Wildlife	6/29/2022 8:33 PM
139	Busier roads which means more traffic. Brandon regional hospital is in this route. And crossing over the Alafia River causes disruption to the wildlife and river	6/29/2022 12:11 PM
140	Too many impacted traffic will be awful.	6/29/2022 10:06 AM
141	Route guts old Brandon and construction would cause much disruption in an already congested area.	6/29/2022 7:55 AM
142	There are only two entrances to Triple Creek Community. One entry at the east end of Big Bend Rd and another main entry on Balm Riverview Rd. Both area cannot be under construction at the same time.	6/29/2022 7:00 AM
143	Traffic issues	6/29/2022 6:37 AM
144	IMPACTS ON TRAFFIC FOR THE DURATION OF THE PROJECT	6/29/2022 5:29 AM
145	Why isn’t the river fully marked out.. This goes over the Alafia river and in the middle of everything	6/29/2022 12:03 AM
146	Too many houses	6/28/2022 7:43 PM
147	This route seems more intrusive into people's neighborhoods than the orange route. I also don't know how you plan to cross the river with it and how that might impact people and wildlife	6/28/2022 7:20 PM
148	The traffic is already extreme down Balm Riverview rd and Boyette due to a lack of connecting roads that lead to Fishhawk, plus the charter schools also back traffic up tremendously. This would further cause more backups.	6/28/2022 12:07 PM
149	Too much disruption for residents.	6/28/2022 12:01 PM
150	Disruption to access Newsome Highschool/Randall middle school	6/28/2022 11:20 AM
151	John Moore Rd in one in both directions any construction will make it very inconvenient for the residents living on and off John Moore.	6/28/2022 10:05 AM
152	This is 5 miles longer and traffic on fh bvld will be worse for years	6/28/2022 6:38 AM
153	Disruptive to more conjested area, businesses, and landmarks	6/28/2022 6:14 AM
154	Wetlands environmental land damage	6/27/2022 6:17 PM
155	Balm riverview is a 2 lane road. I don't think putting construction in this already congested area is smart.	6/27/2022 4:27 PM
156	Number of daily vehicle trips for this route	6/27/2022 12:09 PM
157	The government should not be in the water business	6/27/2022 9:17 AM
158	Destroying beautiful trees along Woodberry	6/27/2022 8:49 AM
159	People's homes and beauty being damaged!	6/27/2022 8:48 AM

160	There is no diversity in this route - an incident along Fishhawk Blvd would impact both the ingress and egress to the Lithia Water Treatment Plant.	6/27/2022 8:41 AM
161	Traffic congestion delays	6/27/2022 8:23 AM
162	Cost: longest option	6/27/2022 6:18 AM
163	5 miles longer than orange route	6/27/2022 6:00 AM
164	Too much congestion already without more construction delays	6/26/2022 11:27 PM
165	This will have a negative effect to the wildlife on the alafia and disrupt the ecosystem	6/26/2022 6:31 PM
166	disturbs natural wildlife habitat	6/26/2022 1:25 PM
167	Densely populated residential area. I believe the first option is much better for construction and far less disruptive to a larger percentage of residents.	6/26/2022 1:20 PM
168	The least amount of money & pipe makes the most sense /	6/26/2022 12:27 PM
169	Is there any worries of sink holes caused by leaking water from the pipeline which would lead to possible sink holes?	6/26/2022 11:51 AM
170	The provision of alternate routes at the time of construction	6/26/2022 11:41 AM
171	Seems like this involves a lot more populated areas than the orange route	6/26/2022 10:19 AM
172	Better than Windhorst	6/26/2022 9:55 AM
173	Major intersection involved	6/26/2022 9:00 AM
174	Interrupting traffic	6/26/2022 8:33 AM
175	My	6/26/2022 12:35 AM
176	Heavily traffic along this route	6/25/2022 7:10 PM
177	Why must this go through two treatment facilities? Why not build another facility down in that area? Going along fishhook blvd will be a logistical nightmare to the already overburdened roads used by thousands of commuters and students attempting to go too the schools on that road. This is only main road we have in community. Please do not solve he problem this way!Why must this go through two treatment facilities? Why not build another facility down in that area? Going along fishhook blvd will be a logistical nightmare to the already overburdened roads used by thousands of commuters and students attempting to go too the schools on that road. This is only main road we have in community. Please do not solve he problem this way!	6/25/2022 4:14 PM
178	Goes through too much public property	6/25/2022 11:08 AM
179	Too impacting to local traffic	6/25/2022 9:48 AM
180	Lots of animals and deer crossing.	6/25/2022 9:30 AM
181	Environmental impact and wildlife disturbance	6/25/2022 8:43 AM
182	Seems to impact many homeowners and businesses.	6/25/2022 8:36 AM
183	Is this going to affect the alafia river in any way?	6/25/2022 8:16 AM
184	It will create horrible traffic back ups on Fishhawk Blvd	6/25/2022 7:12 AM
185	Will this affect water pressure in my neighborhood of Brooker Reserve? We have low pressure as it is. Thank you.	6/25/2022 7:01 AM
186	This route requires too m u ch construction in heavily populated areas	6/24/2022 11:27 PM
187	Would be interested in mitigation strategies for traffic disruption	6/24/2022 1:15 PM
188	Seems to me it is less populated & therefor most ideal	6/24/2022 1:06 PM
189	This route seems to be the most inconvenient of the three	6/24/2022 12:51 PM
190	Stop building anything. Hillsborough is to crowded.	6/24/2022 12:24 PM
191	The county will do what it wants, and I doubt listens to anyone's comments.	6/24/2022 12:04 PM

192	the 3 options should be available to compare w/o forcing any page selections. The entire thing seems pointless as there's no voting option at the end.	6/24/2022 12:03 PM
193	I like this one best	6/24/2022 11:53 AM
194	Too much traffic along that way	6/24/2022 11:38 AM
195	This route seems very convoluted with many opportunities for trouble down the road after construction is finished..also it comes very near to the Alafia conservation area and watershed	6/24/2022 10:51 AM
196	seems more direct to needed areas	6/24/2022 10:37 AM
197	Two many major roads will be affected with this route.	6/24/2022 9:22 AM
198	As residents along this route, We don’t want this route you have to cross Alafia River	6/23/2022 6:13 PM
199	Traffic patterns and flow	6/23/2022 6:11 PM
200	There are 100+ year oak trees along Woodbury lemonade all through out these old brandon neighborhoods. DO NOT TEAR THEM DOWN BECAUSE YOU HAD POOR PLANNING for the south county population growth	6/23/2022 1:38 PM
201	I would only be interested in this route if there would be NO wildlife habitat destruction -- to include the removal of trees!	6/23/2022 12:31 PM
202	FishHawk Ranch residents are very vocal	6/23/2022 12:29 PM
203	These have become major roads the disruption will cause more traffic on overcrowded 301 and 75 traffic on overcrowdwe	6/23/2022 12:15 PM
204	To much disruption to drivers.	6/23/2022 12:10 PM
205	Traffic down fishhawk	6/23/2022 11:41 AM
206	The water restrictions were I live is causing our lawns in South Pointe to yellow or kill our lawns	6/23/2022 10:29 AM
207	How far from Sumner High School from this?	6/23/2022 9:37 AM
208	Again, school traffic??	6/23/2022 8:09 AM
209	narrowed road too congested along fishhawk. don't use this route	6/23/2022 7:31 AM
210	I don’t think this is a good route	6/23/2022 6:25 AM
211	Fishhawk is intertwinded with the ELAPP and Lithis Springs is there as well. We also have F rated roadways so this work cannot be done during high travel hours because our roadways are barely passable August through June.	6/22/2022 3:51 PM
212	We live just south of the southern end of this route - 1 mile south, off of Balm-Wimauma Road - 13322 Balm Gardens Lane. Our water comes from a well on our property. We are extremely concerned about the possibility of our well running dry as a result of this new station being installed approximately 2 (mol) miles from our home.	6/22/2022 3:27 PM
213	Too much traffic road.	6/22/2022 2:51 PM
214	Benefit of the pink route is that it appears to a conservation area in FH West (gopher tortoise protected area)	6/22/2022 2:32 PM
215	Nature preserve gopher tortoise land	6/22/2022 1:43 PM
216	can the work be done at night, so it doesn't clog the roads during the day?	6/22/2022 1:04 PM
217	Better route	6/22/2022 12:57 PM
218	Wildlife conerns	6/22/2022 12:40 PM
219	Traffic disaster	6/22/2022 12:20 PM
220	Heavily traveled!	6/22/2022 12:09 PM
221	Good Route	6/22/2022 11:16 AM
222	Wildlife corridor	6/22/2022 11:14 AM

223	See previous comment	6/22/2022 10:58 AM
224	Alafia Ridge can not handle that kind of construction. The road is not even wide enough to be marked with lines. Vehicles have to hug the outer edges when oncoming traffic is presented and somebody thinks you can run 36 inch pipe underground safely. The safety issue alone is a nightmare aside from the logistics of allowing residents to their homes. The road cannot handle this. The orange route needs to be the answer.	6/22/2022 10:50 AM
225	Too much construction in a coingested area	6/22/2022 10:44 AM
226	Ridiculous planning will disrupt infrastructure and everyday lives in an unprecedented scope	6/22/2022 10:17 AM
227	The amount of inconvenience to roads and people	6/22/2022 10:06 AM
228	Traffic-stop building	6/22/2022 9:53 AM
229	This is my vote.	6/22/2022 9:08 AM
230	concerns for wetlands/springs/river/wildlife	6/22/2022 8:47 AM
231	Crossing Alafia river & high populated areas	6/22/2022 8:25 AM
232	Gopher tortoises live all along Alafia Ridge Road and Alafia ridge loop. If it is illegal for property owners to construct over their nests then it damn sure should be illegal for imminent domain to go through them, too! DO NOT allow blue route to go through.	6/22/2022 8:06 AM
233	This would destroy my friends property	6/22/2022 7:32 AM
234	Traffic	6/22/2022 6:05 AM
235	This route seems best to increase water pressure to my area which at times trickles out of showerhead	6/22/2022 5:42 AM
236	Impact to families	6/22/2022 5:35 AM
237	Brandon high school traffic	6/22/2022 5:25 AM
238	Wildlife concerns	6/22/2022 4:44 AM
239	Concerns about wildlife	6/22/2022 4:26 AM
240	Same comment as before	6/21/2022 10:59 PM
241	Busy streets and residential housing	6/21/2022 10:56 PM
242	this is the best option	6/21/2022 10:54 PM
243	This is the preferred route as it takes advantage of existing infrastructure, and has minimal impact on the remaining ecosystems in and around FishHawk.	6/21/2022 10:47 PM
244	concern for wildlife	6/21/2022 10:05 PM
245	Severe traffic in this area	6/21/2022 10:05 PM
246	This is the worst route!	6/21/2022 9:53 PM
247	I do not want this route. It goes through my neighborhood.	6/21/2022 8:30 PM
248	I don't want county water	6/21/2022 7:15 PM
249	Prefer this route.	6/21/2022 6:46 PM
250	Environmental, river, wetlands	6/21/2022 6:24 PM
251	Impact to existing homeowners	6/21/2022 5:26 PM
252	I live by that route and that would significantly affect traffic routes	6/21/2022 5:17 PM
253	construction disruptive to major traffic flows	6/21/2022 4:26 PM
254	concerns for wetlands/springs/river/wildlife	6/21/2022 4:22 PM
255	Limona Road is an extremely busy road with fatalities and used a lot by the sheriff and fire department. It is also a historical area with a cemetery and a preserve	6/21/2022 4:01 PM

256	Environmental impact around the Alafia River basin and surrounding wetlands.	6/21/2022 3:56 PM
257	Traffic problems. Narrow right of way down Parsons/John Moore	6/21/2022 3:51 PM
258	River wildlife will be negatively impacted	6/21/2022 3:29 PM
259	Many concerns, Alafia River, wetlands etc. The over building allowed has already put stress on wildlife in our county and would disrupt protected gopher turtle nests on the banks on the river. Please stay away from wetlands.	6/21/2022 3:19 PM
260	impact to natural waterways and wildlife habitats	6/21/2022 2:37 PM
261	This will disturb an quite existing neighborhood not a good option.	6/21/2022 2:13 PM
262	damage to springs/wetlands/riverlife	6/21/2022 2:00 PM
263	Is this above or below ground	6/21/2022 1:24 PM
264	STOP THE F**** CONNSTRUCTION AND DEVELOPMENT ALREADY!! WE'RE JAMMED FULL!! STOP IT!!	6/21/2022 1:20 PM
265	This route is not thru nature. Best route.	6/21/2022 1:07 PM
266	Better than the Orange, but unless there is a reason to have the leg along Balm Riverview, I don't see why you would go south at that point.	6/21/2022 12:56 PM
267	Traffic	6/21/2022 12:49 PM
268	This route gets a lot of traffic and already has construction going on. Additional construction would cause lots of backups and delays	6/21/2022 12:39 PM
269	This is another preferred route	6/21/2022 12:28 PM
270	Impact of crossing Alafia river	6/21/2022 12:14 PM
271	It seems from the map that this route would inconvenience more people	6/21/2022 11:16 AM
272	This is the best route	6/21/2022 10:11 AM
273	This looks to be the most direct route	6/21/2022 10:10 AM
274	Will affect traffic on Rhodine greatly	6/21/2022 10:07 AM
275	Balm Riverview rod is under heavy increased traffic already. Also as a residential road residents suffer by increased traffic, road construction etc. Adding a pipeline to this route would be a disaster.	6/21/2022 9:22 AM
276	Schools	6/21/2022 8:45 AM
277	This route would be horridly detrimental to traffic flow while under construction.	6/21/2022 7:19 AM
278	Traffic disruption	6/21/2022 5:59 AM
279	Too much disruption to traffic	6/21/2022 4:52 AM
280	Fittings are expensive requires more elbows and laterals than orange route	6/20/2022 11:44 PM
281	There is already too much congestion on these roads; shouldn’t take this route	6/20/2022 5:57 PM
282	Very intrusive to highly congested area	6/20/2022 5:43 PM
283	High traffic areas may take longer to complete	6/20/2022 4:41 PM
284	Please do not use this route, Orange route is most preferred	6/20/2022 2:43 PM
285	Traffic and lack of alternate routes	6/20/2022 1:39 PM
286	Significant traffic	6/20/2022 12:55 PM
287	Increased traffic on a road that is already incredibly busy (Woodberry)	6/20/2022 12:49 PM
288	Against this route. Not ideal whatsoever!	6/20/2022 12:43 PM
289	To many houses affected on small roads	6/20/2022 12:27 PM

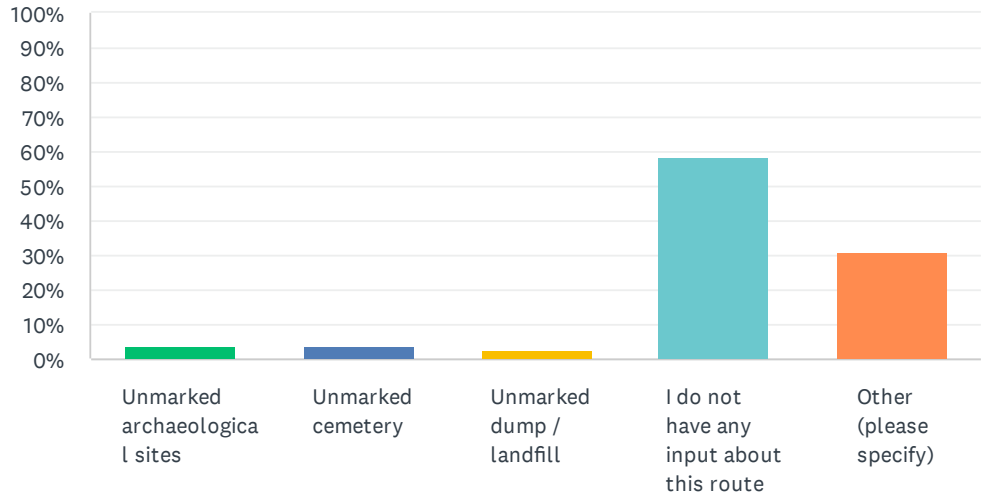
290	I prefer this route	6/20/2022 11:49 AM
291	Do not use this route. Too much interruption for neighborhoods	6/20/2022 10:42 AM
292	There is already terrible traffic along this route.	6/20/2022 10:33 AM
293	Extremely high traffic route especially during school hours. Many schools on this route	6/20/2022 9:23 AM
294	What impact will this have on the people living passed South Kings to Alafia Ridge Loop and their homes in that area, and also the Alafia River? All of that land back there I believe is Floodland is that going to have an impact on your schedule finish time?	6/20/2022 8:28 AM
295	traffic is very heavy on these roads - it will be worse if lanes get closed	6/20/2022 8:25 AM
296	What are impacts to crossing g the Alafia river?	6/20/2022 8:00 AM
297	there is too much traffic and will be too disruptive to install	6/19/2022 11:48 PM
298	Fishhawk Blvd is extraordinarily crowded and this would be highly disruptive for everyone living nearby.	6/19/2022 4:12 PM
299	88[88]and a	6/19/2022 4:11 PM
300	Ideal route	6/19/2022 3:54 PM
301	would congest already restricted traffic and disrupt Neiborhood property that already has minimal safety resources such as sidewalks.	6/19/2022 3:02 PM
302	Any construction that disrupts traffic on Boyette and fishhawk Blvd will have significant impacts as there are no alternative routes to 301/75 for residents of Lithia.	6/19/2022 1:14 PM
303	Traffic delays	6/19/2022 12:15 PM
304	This route would require major construction on Balm, which is a two lane road and already majorly congested. Putting the pipeline on this road would seemingly be disasterous for traffic as there are no good alternative routes.	6/19/2022 11:40 AM
305	Doesn't make sense with how long the route is	6/19/2022 11:28 AM
306	seems a waste to split it in 2 directions	6/19/2022 11:22 AM
307	This is a terrible route for traffic and residential neighborhood disruption. I am opposed to this route.	6/19/2022 10:47 AM
308	The traffic on this route is bad enough. Construction will only make a problem worse.	6/19/2022 10:39 AM
309	This route appears to be the worst of the three	6/19/2022 7:48 AM
310	Homes and businesses strongly affected	6/18/2022 4:52 PM
311	Homes	6/18/2022 4:26 PM
312	This goes through homeowners property and residences	6/18/2022 2:18 PM
313	What about the river? Just running it through the Alafia?	6/18/2022 1:48 PM
314	Traffic nightmare will be caused by this route at multiple locations.	6/18/2022 1:18 PM
315	Disruption of residents	6/18/2022 1:11 PM
316	This goes through a neighbor’s property.	6/18/2022 12:26 PM
317	Peoples homes	6/18/2022 12:22 PM
318	This goes right through a neighborhood	6/18/2022 12:21 PM
319	This route would pass by a cemetery and several schools including Brandon High School. It would provide an enormous strain on traffic getting to and from school not to mention bring unwanted noise and upheaval to a residential area that is literally lined with homes. Victoria is a parking lot when Brandon High is starting/getting out. Victoria is the ONLY street to access Brandon High. Woodberry is a street that has very heavy traffic flow in the mornings and evenings and this project would cause a heavy strain on it. Additionally, there are some houses that are extremely close to Woodberry as well as along Limona and Victoria. Where	6/18/2022 12:11 PM

	would the piping be buried - their backyards? Their front yards? This route needs to be removed from Woodberry and a different route that does not pass by residential streets, schools, and school bus stops selected. How about going straight south on Falkenburg? You have to cross 60 somewhere, do it there. Please do not bring this years-long construction to all residential areas. I do not want my quiet community disturbed with many years of construction. Going south on Falkenburg seems like a better route since there's hardly any residential areas along that way. Please find another way that does not include residential areas. The community does not want this along our streets. It seems like a project for major roads, not neighborhood type streets that are one lane each way. Choose roads with multiple lanes to follow so traffic can keep going. Using one lane roads will certainly clog traffic in the mornings and evenings causing busses to run late.	
320	Major impact to homes, families and the alafia river in this route	6/18/2022 12:04 PM
321	Does this go through the Alafia River? Damage to water life and environment??	6/18/2022 11:11 AM
322	I do not want a pipeline through my neighborhood or river	6/18/2022 10:27 AM
323	Heavily traveled main road in riverview	6/18/2022 10:00 AM
324	This area floods	6/18/2022 9:45 AM
325	This crosses the alafia where there is no bridges and goes through smaller communities , heavy disruption the these smaller neighborhoods	6/18/2022 9:24 AM
326	Seems more disruptive to homes and traffic	6/18/2022 9:07 AM
327	My home is in path	6/18/2022 9:06 AM
328	longer, cost more, Impacts schools, my house,	6/18/2022 8:51 AM
329	Goes through private property.	6/18/2022 8:46 AM
330	Goes through private property	6/18/2022 8:42 AM
331	Crosses the Alafia River which is not shown on the map or noted in the description.	6/18/2022 8:42 AM
332	Passing through the Alafia River should not happen. Too many potential issues.	6/18/2022 8:39 AM
333	Not a good choice	6/18/2022 8:09 AM
334	Goes right through an area that floods. Don’t want large pipes that could have problems that would become contaminated due to that area floods	6/18/2022 8:08 AM
335	The river and lots of protected wet lands in the area	6/18/2022 8:06 AM
336	Impact on the animals around the Alafia river	6/18/2022 8:01 AM
337	Alafia ridge loop is prone to flooding	6/18/2022 8:01 AM
338	No	6/18/2022 7:58 AM
339	What about the river? Is it going under or above, like a bridge?	6/18/2022 7:37 AM
340	How would you avoid the Alafia river and wildlife in that area?	6/18/2022 7:23 AM
341	Congestion on Lithia pinecrest	6/18/2022 7:21 AM
342	This route is already too congested with traffic. Not a good idea	6/18/2022 6:48 AM
343	Restoration of the entrance to Triple Creek Community. The entrance off Big Bend need to be made safer due to the increased traffic.	6/17/2022 10:07 PM
344	I live on Alafia Ridge Loop. Will this impact myproperty?	6/17/2022 5:08 PM
345	This route causes extreme inconvenience to many people and properties. Alafia Ridge loop neighborhood has only one way in and out. Extremely difficult only families living here.	6/17/2022 5:00 PM
346	construction along this route would be more disruptive since it is more populated	6/17/2022 1:43 PM
347	Through high population centers.	6/17/2022 11:46 AM
348	This is the most disrupting route, but closer to new growth- should be acceptable	6/17/2022 11:04 AM

349	Inconvenience	6/17/2022 10:20 AM
350	Route is longer,more disruptive and probably more costly.	6/17/2022 10:18 AM
351	The route backtracks over itself	6/17/2022 10:06 AM
352	There would be significant traffic disruption	6/17/2022 10:01 AM
353	Heavy traffic demands that already have major issues for residents.	6/17/2022 9:38 AM
354	This is longer and more expensive?	6/17/2022 9:20 AM
355	Seems kinda long and constructed on busy roads	6/17/2022 8:50 AM
356	This route to me should be #1 instead of orange. Even though it is longer it seems to have less impact overall.	6/17/2022 8:28 AM
357	Route too traversed due to population.	6/17/2022 8:01 AM
358	All Unmarked sites	6/17/2022 7:24 AM
359	There are multiple Doctors offices, oncology radiation centers, and radiology centers that would affect patient care in this area. Traffic in this area is already overly congested.	6/17/2022 6:53 AM
360	Seems like the one with the most traffic interruptions.	6/16/2022 1:26 PM
361	Traffic impact	6/16/2022 12:28 PM
362	costlier route, more built up	6/16/2022 12:05 PM
363	Heavy traffic	6/16/2022 11:38 AM
364	Boyette is already a hot dumpster fire of mess. All this area is traffice bottlenecked.	6/16/2022 11:25 AM
365	the housing developers should pick up all costs	6/16/2022 11:08 AM
366	Busy streets	6/16/2022 10:02 AM
367	Residential existing dwellings proximity & and road access.	6/16/2022 8:16 AM
368	Extreme congestion through hospital area south of 60. Boyette is a newer, major arterial that will be very expensive and disruptive construction.	6/16/2022 7:44 AM
369	Doesn't specify how this pipeline gets past the river. Are you digging under it?	6/16/2022 6:46 AM
370	Major hospital that will have decreased access during construction	6/16/2022 6:28 AM
371	Runs through smalle neighborhoods and close to lakes	6/15/2022 5:39 PM
372	Too congested roadways on this route.	6/15/2022 12:41 PM
373	Very disruptive	6/15/2022 10:26 AM
374	test	6/15/2022 9:10 AM
375	It looks like there is significant backtracking adding an additional five miles to the run. That doesn't make sense. This is also a more dense area that will require expensive land acquisition.	6/15/2022 9:03 AM
376	seems more direct/efficient route but will have a lot of impact on traffic and costs	6/15/2022 8:14 AM
377	Traffic is already a challenge.	6/14/2022 6:17 PM

Q3 Is there anything else about this route that we should take into consideration during selection, design and construction?

Answered: 1,097 Skipped: 113



ANSWER CHOICES	RESPONSES	
Unmarked archaeological sites	3.74%	41
Unmarked cemetery	3.74%	41
Unmarked dump / landfill	2.64%	29
I do not have any input about this route	58.61%	643
Other (please specify)	31.27%	343
TOTAL		1,097

#	OTHER (PLEASE SPECIFY)	DATE
1	Major traffic issues	7/8/2022 1:35 PM
2	This would cause disturbance to the river and it natural echo system	7/7/2022 11:54 PM
3	Terrible route as right through busy area of business and heavy traffic area. Best to avoid this and river	7/7/2022 11:08 PM
4	Pick the route that is the least disruptive to schools and commutes to Them	7/7/2022 10:07 PM
5	Probably the best route.	7/7/2022 9:58 PM
6	This option is not a good option, loving on alafia Ridge Loop I can tell you it will destroy our community and affect the alafia river	7/7/2022 9:47 PM
7	N	7/7/2022 9:38 PM
8	Terrible route idea. Tremendous amount of traffic through this area, school zones, apt complexes, childrens parks, tons of businesses hurt by the road closures. Bad idea.	7/7/2022 9:11 PM
9	Alafia river	7/7/2022 8:38 PM
10	Probably the least residential interference of all options. Why not dig along the side of I75 to Balm Rd and then east on Balm Rd to the new water treatment plant	7/7/2022 8:25 PM

11	most disruptive to traffic	7/7/2022 8:06 PM
12	Seems like the most logical route by looks only.	7/7/2022 7:45 PM
13	It runs through the alafia river	7/7/2022 6:34 PM
14	Traffic inconvenience	7/7/2022 6:11 PM
15	As mentioned previously this map is inaccurate and misleading. There are established communities within this route that would be severely impacted by these routes. We have a two lane road that would be majorly disturbed my long term construction and we just had areas repaved that would be possibly damaged in the process, thus wasting taxpayer money. This area is home to many wildlife, including numerous gopher tortoises that are actively reproducing that could be disturbed and killed by construction. We owe it to Florida wildlife and endangered species to protect them from further impacts of development.	7/7/2022 5:58 PM
16	The River!!!	7/7/2022 5:57 PM
17	Not environmentally safe	7/7/2022 5:18 PM
18	Unmarked River!	7/7/2022 2:56 PM
19	Yet again this map is in no way accurate or representative of the geography of the Alafia river and misleads individuals looking at proposed pipeline routes who may not be intimately familiar with the river. Our neighborhood has become one of the last safe places for wildlife in Riverview due to the continued development. This proposed pipeline would not only continue to increase the inconvenience, traffic, and construction for Valrie lane residents while also creating impacts for our community and wildlife for decades to come. This water will be used to help support development in our area, while disturbing close knit communities that have been here for 50 years. Please consider the orange route for this pipeline or other alternatives as there will be strong pushback from the community if the blue or pink routes are chosen as we deeply care about our community, environment, and wildlife and this pipeline would cut directly through our home neighborhood. These are current concerns and do not even begin to cover unmarked archaelogical sites or cemeteries that may exist in our area as this area was the native home of the Tocobaga tribe, a fishing and hunting tribe that commonly built mounds within their villages. I hope you will take the history of area, formerly known as Little Peru into account and respect residents wishes.	7/7/2022 11:53 AM
20	Complete blockage of low traffic roads, more construction near private property, increased maintenance, increased building cost	7/7/2022 11:22 AM
21	Both unmarked archeological and cemetery sites.	7/7/2022 10:22 AM
22	Again I don't agree with the placement any where near the river. I AM IN favor of Orange route. The River has been impacted enough with the growing area. Let's leave this area alone.	7/7/2022 9:35 AM
23	Boyette Rd and Fish Hawk Blvd have too much morning and evening traffic.	7/7/2022 9:29 AM
24	The river	7/7/2022 9:12 AM
25	The Alafia River is not appropriately shown on this map. This route goes directly through it and protected wetlands. Expect big pushback from the long time residents surrounding the river should this route be chosen	7/7/2022 8:58 AM
26	This map does not accurately depict the Alafia river which the blue route goes right through. We should not be disturbing the river more than we need to. Expect huge protests from the Alafia neighborhood should this route be chosen	7/7/2022 8:55 AM
27	This route appears to run through an area of busier traffic than the orange route.	7/7/2022 7:50 AM
28	This route maybe shorter, but congestion and development in the area is much greater than the orange route	7/7/2022 7:48 AM
29	This seems like the most direct route. Can you get the pipes laid along Boyette before they finish the current road construction to save time and money?	7/7/2022 7:08 AM
30	This route may impact the Cutri swim Academy survival school for toddlers	7/7/2022 5:58 AM
31	There are too many people here!! Florida is not meant to be a city!!	7/6/2022 11:38 PM

32	Business properties in this route	7/6/2022 11:10 PM
33	What kind of Bullshit is this??? The Developers want us to pay for all their new developments! You will notice the water is headed for all the new high-end homes far East of where it is needed!... Where it is needed is down US Hwy 41... We have no water pressure in Apollo Beach... So, let's follow the money and find out who's being paid-off to come up with these routes!	7/6/2022 11:07 PM
34	S. Kings Ave. and Alafia Ridge Loop do not join there is a river between the two, how does the pipe get across the Alafia River?	7/6/2022 10:40 PM
35	Parsons is heavily traveled and near the hospital	7/6/2022 9:41 PM
36	very disruptive to me personally, so is my last choice	7/6/2022 8:11 PM
37	Goes through my friends home	7/6/2022 6:42 PM
38	Location	7/6/2022 2:41 PM
39	Residence property disturb	7/6/2022 11:10 AM
40	Same response as the previous 2 routes presented	7/5/2022 11:03 PM
41	I live in one of the lowest houses between Fishhawk Blvd and the Alafia. What is done to limit flooding if the pipeline breaks	7/5/2022 10:38 PM
42	Neighborhood destruction	7/5/2022 10:24 PM
43	Three schools on Boyette	7/5/2022 10:24 PM
44	Higher traffic area	7/5/2022 10:18 PM
45	Night work	7/5/2022 8:57 PM
46	Blue route is also a busier route again being on Boyette. Less traffic on the orange route. Close to the same amount of miles so close to the same amount of supplies.	7/5/2022 8:55 PM
47	3rd choice	7/5/2022 7:54 PM
48	Traffic on Fishhawk Blvd	7/5/2022 7:52 PM
49	Do no go thru residential areas	7/5/2022 7:33 PM
50	Same as pink route, no room for construction especially on Parsons	7/5/2022 6:58 PM
51	Best route	7/5/2022 6:28 PM
52	This seems to be the most cost effective length wise	7/5/2022 6:18 PM
53	Which route will have the least impact while under construction	7/5/2022 5:54 PM
54	23.01 not cost efficient	7/5/2022 4:29 PM
55	This area is too congested in the morning for local traffic. Ronele Drive is a residential neighborhood that you'd be disrupting.	7/5/2022 3:58 PM
56	Terrible route.	7/5/2022 2:17 PM
57	Conservation areas	7/5/2022 1:25 PM
58	all the above, plus do something about the hard water	7/5/2022 12:55 PM
59	Have to cross Alafia river a lot of history, very BAD for the environment!	7/5/2022 12:20 PM
60	Slightly better than pink, but barely	7/5/2022 12:17 PM
61	Will additional services such as underground placement of communication and power lines be facilitated to improve those capabilities to the areas affected by the construction?	7/5/2022 11:24 AM
62	Go down Providence	7/5/2022 11:18 AM
63	See previous note regarding Boyette Rd.	7/5/2022 10:46 AM
64	Beautiful trees lining those roads. Old huge oaks	7/5/2022 8:47 AM

65	Impacts to many high traffic roads. S Kings Ave, Boyette Rd.	7/5/2022 7:22 AM
66	Heavy traffic	7/5/2022 6:25 AM
67	Shortest,but highly disruptive	7/5/2022 3:52 AM
68	Also too much traffic on this route	7/5/2022 1:48 AM
69	Traffic and day to day complications with a high trafficed area	7/5/2022 12:07 AM
70	Traffic and construction on bell shoals and boyette	7/4/2022 10:38 PM
71	Most straight forward	7/4/2022 10:08 PM
72	Best route	7/4/2022 9:52 PM
73	Too much traffic	7/4/2022 9:32 PM
74	Peoples property	7/4/2022 6:53 PM
75	Amount of traveling vehicles	7/4/2022 5:35 PM
76	Disturbing homes and businesses	7/4/2022 5:32 PM
77	Again, seems this would create much congestion around medical offices on Parsons and Robertson Avenues.	7/4/2022 1:29 PM
78	Crosses alafia	7/4/2022 1:00 PM
79	This route does not make sense because of all of the twists and turns on Boyette.	7/4/2022 12:47 PM
80	Too much interference with housing	7/4/2022 12:06 PM
81	There are only 3 roads in and out of Fishhawk and this will cause major traffic concerns in the area.	7/4/2022 11:21 AM
82	Once again avoid Parsons ...why not follow 301 then connect to Balm and the rest of the route...	7/4/2022 10:30 AM
83	Shortest rt available	7/4/2022 8:23 AM
84	Potential disruption to higher density population areas	7/4/2022 7:54 AM
85	School kids safety	7/4/2022 5:18 AM
86	No good	7/3/2022 10:53 PM
87	I don’t approve this route. Too much traffic will be disrupted	7/3/2022 7:41 PM
88	Cuts through key properties	7/3/2022 5:49 PM
89	Major roadways effecting traffic	7/3/2022 3:08 PM
90	Blue route will require more construction time, greater inconvenience and does not solve the eventual dual need of addressing the eventual eastward residential development of the Balm area..	7/3/2022 12:34 PM
91	This route will have serious impact on peoples personal property affecting their livelihood	7/3/2022 12:29 PM
92	To me, this is the most direct route.	7/3/2022 12:29 PM
93	Homes	7/3/2022 10:11 AM
94	Cuts through residential properties. Unacceptable.	7/3/2022 9:52 AM
95	Too many residential homes in this path that would be disrupted	7/3/2022 9:15 AM
96	Disruptive to homes	7/3/2022 9:14 AM
97	This is shortest route seems more practical	7/3/2022 8:33 AM
98	Excellent	7/3/2022 8:20 AM
99	This appears to be the same as the link route however will have the same affect running through very congested areas and intersections.	7/3/2022 7:52 AM

100	High traffic	7/2/2022 1:31 PM
101	Same as previous. Parsons is access route to hospital. Construction along this area could result in delays to patients trying to get emergency care. Already a heavily congested route with few alternatives.	7/2/2022 12:55 PM
102	This is the shortest route so it's #1 choice.	7/2/2022 11:25 AM
103	This route route will impact a more residential and anything down FishHawk Blvd doesn't make much sense due how it affects the traffic and schools.	7/2/2022 9:33 AM
104	This route will make the traffic in the area chaos. With the current amount of homes and new construction AND schools in the Boyette Rd / Fish hawk Blvd area. This is not ideal.	7/2/2022 9:25 AM
105	Traffic	7/2/2022 9:20 AM
106	Highly disruptive (S Kings) and impacts to aged local nature	7/2/2022 7:50 AM
107	Not the most direct route.	7/1/2022 3:40 PM
108	this crosses the alafia river and will have a significant impact on river wildlife including manatee and dolphins. the public inconvenience of this route is high.	7/1/2022 3:19 PM
109	This option impacts too many established neighborhoods, roadways, and the Alafia River. I don't like this option.	7/1/2022 11:22 AM
110	This is a very laden route and will cause a lot of backup in traffic and job completion.	7/1/2022 9:40 AM
111	It seems like this makes the most sense, most direct, shortest route	7/1/2022 8:29 AM
112	Cost?	7/1/2022 7:13 AM
113	Displacing families	7/1/2022 6:55 AM
114	I’m my opinion this is the best route	6/30/2022 10:51 AM
115	Public inconvenience	6/30/2022 10:16 AM
116	Shortest distance,, higher traffic volume. Incur high cost, shorter disruption to full installation a factor.	6/30/2022 9:39 AM
117	Traffic with big bend construction already underway	6/30/2022 9:14 AM
118	Too much traffic on this route. Future road way work	6/30/2022 7:54 AM
119	Traffic on fishhawk Blvd would be unbearable	6/30/2022 7:40 AM
120	Crowded streets and schools	6/30/2022 7:10 AM
121	Blue route is the shortest, it will impact traffic on congested roads	6/30/2022 5:14 AM
122	Protect the future of nature for future generations	6/29/2022 9:06 PM
123	Wildlife	6/29/2022 8:33 PM
124	Concerned about the crossing of the Alafia River due to disrupting wildlife/spring/river. More traffic on Parsons avenue plus brandon regional hospital is there	6/29/2022 12:15 PM
125	Traffic impact again and too many people around this area.	6/29/2022 10:07 AM
126	blue looks best, shortest distance also	6/29/2022 9:59 AM
127	Causes to much disruption to traffic.	6/29/2022 7:57 AM
128	Traffic	6/29/2022 7:27 AM
129	Alafia river ? Why didn’t you run water before all of the new houses and appts?	6/29/2022 12:04 AM
130	Too many houses	6/28/2022 7:44 PM
131	Again, seems more intrusive into people's yards than the orange route and not sure the impact going over/under the river will have on people's use of it and wildlife	6/28/2022 7:21 PM
132	The traffic is already extreme down Balm Riverview rd and Boyette due to a lack of connecting	6/28/2022 12:09 PM

	roads that lead to Fishhawk, plus the charter schools also back traffic up tremendously. This will cause further conjestion.	
133	Too much disruption for residents	6/28/2022 12:01 PM
134	Disruption to access Newsome Highschool Randall middle school and other schools	6/28/2022 11:21 AM
135	Many of the streets along this route are single lanes and construction will make already congested areas worse.	6/28/2022 10:07 AM
136	Similar to pink, goes through more conjested areas, landmarks, and businesses	6/28/2022 6:15 AM
137	Wetland and environmental lands damage	6/27/2022 6:17 PM
138	Choose this route	6/27/2022 4:27 PM
139	Number of daily vehicle trips for this route	6/27/2022 12:09 PM
140	Destroying beautiful trees along Woodberry	6/27/2022 8:51 AM
141	People's homes,sanity and beauty being damaged!	6/27/2022 8:49 AM
142	There is no diversity in this route - an incident along Fishhawk Blvd would impact both the ingress and egress to the Lithia Water Treatment Plant.	6/27/2022 8:41 AM
143	Traffic congestion	6/27/2022 8:24 AM
144	This seems to be the most direct route.	6/27/2022 6:19 AM
145	Terrible idea	6/26/2022 11:28 PM
146	This will have a negative affect on the ecosystem and wildlife on and around the alafia river	6/26/2022 6:32 PM
147	Disturbs natural wildlife habitat	6/26/2022 1:25 PM
148	Densely populated residential area. Very disruptive to existing residence - far less than the first route.	6/26/2022 1:20 PM
149	Is it possible to see a summary cost estimate showing the major cost elements that differentiate the routes?	6/26/2022 12:30 PM
150	The least expensive and most efficient is the most prudent	6/26/2022 12:29 PM
151	Water leakage leading upto possible sink holes.	6/26/2022 11:51 AM
152	Identify alternative routes during construction and the impact on schools	6/26/2022 11:41 AM
153	As the shortest route, seems the most desirable, barring any extenuating circumstances	6/26/2022 10:20 AM
154	Better than Windhorst	6/26/2022 9:56 AM
155	Shortest route should mean less cost and faster implementation, if cost is less and benefit the same go with this one	6/26/2022 8:48 AM
156	Interrupting traffic	6/26/2022 8:34 AM
157	The impact on the agricultural community and any of its workers including housing displacement of migrant workers	6/26/2022 6:09 AM
158	Heavy traffic	6/25/2022 7:11 PM
159	It is the shortage length.	6/25/2022 12:31 PM
160	Goes through too much public property	6/25/2022 11:08 AM
161	Animals and deer crossing.	6/25/2022 9:31 AM
162	Environmental impact and wildlife disturbance	6/25/2022 8:44 AM
163	Same as #2...	6/25/2022 8:37 AM
164	lots of traffic in that area	6/25/2022 7:25 AM
165	Will this affect water pressurevin my neighborhood of Brooker Reserve? We have low pressure as it is. Thank you.	6/25/2022 7:02 AM

166	This route is ok but orange is better because t g e construction is in less populated areas	6/24/2022 11:29 PM
167	Construction disruption along already inadequate road infrastructure is concerning.	6/24/2022 1:17 PM
168	This route is better than the pink	6/24/2022 12:51 PM
169	Don't build anything. I'm tired of our county taxes being so high to pay for all this garbage	6/24/2022 12:25 PM
170	Put it through the commissioner's neighborhood.	6/24/2022 12:04 PM
171	the 3 options should be available to compare w/o forcing any page selections.	6/24/2022 12:03 PM
172	Unmarked cemetery and landfills	6/24/2022 11:37 AM
173	This route also is not as direct as the pink route taking turns that in the future may cause issues if leaks or repairs are needed. Also comes very close to the Alafia conservation area and may impact trees	6/24/2022 10:54 AM
174	seems more direct to needed areas	6/24/2022 10:37 AM
175	Two many major roads will be affected with this route.	6/24/2022 9:23 AM
176	As residents we don’t want this route-would need to cross river	6/23/2022 6:13 PM
177	Traffic patterns and flow	6/23/2022 6:11 PM
178	The 100+ year old oak trees along this route. Don't tear them down!	6/23/2022 1:39 PM
179	I only support this route if there would be NO destruction of wildlife habitat -- to include the removal of trees.	6/23/2022 12:33 PM
180	This looks most direct and cost affective	6/23/2022 12:16 PM
181	To much disruption to drivers.	6/23/2022 12:11 PM
182	Traffic down fishhawk	6/23/2022 11:41 AM
183	Nervous that the new route will not supply water over to Southpoint	6/23/2022 10:29 AM
184	Schools will be disrupted	6/23/2022 10:16 AM
185	Effects the most residents. No.	6/23/2022 8:10 AM
186	too congested narrow road along fish hawk..don't use this route	6/23/2022 7:32 AM
187	Don’t like this route	6/23/2022 6:25 AM
188	Residential proximity	6/22/2022 10:39 PM
189	Potential disruption to protected species and habitat in the Fishhawk preserve between Fishhawk Ranch and Fishhawk West	6/22/2022 4:16 PM
190	Fishhawk is intertwinded with the ELAPP and Lithis Springs is there as well. We also have F rated roadways so this work cannot be done during high travel hours because our roadways are barely passable August through June	6/22/2022 3:51 PM
191	We live just south of the southern end of this route - 1 mile south, off of Balm-Wimauma Road - 13322 Balm Gardens Lane. Our water comes from a well on our property. We are extremely concerned about the possibility of our well running dry as a result of this new station being installed approximately 2 (mol) miles from our home.	6/22/2022 3:27 PM
192	Traffic road avoid	6/22/2022 2:51 PM
193	Concerns about the Blue line are the proximity to the Triple Creek Nature preserve and impact on the local wildlife	6/22/2022 2:34 PM
194	Nature preserve gopher tortoise land	6/22/2022 1:43 PM
195	same questions as 1 and 2	6/22/2022 1:05 PM
196	BEST ROUTE	6/22/2022 12:57 PM
197	Wildlife concers	6/22/2022 12:40 PM

198	Traffic disaster	6/22/2022 12:21 PM
199	It is right at our neighborhood, the enclave. This will be a huge disturbance to the people whom live here.	6/22/2022 11:31 AM
200	What about the protected nature preserve and creek that run along this path?	6/22/2022 11:28 AM
201	OK Route	6/22/2022 11:16 AM
202	Wildlife corridor	6/22/2022 11:15 AM
203	See previous comment	6/22/2022 10:58 AM
204	Alafia Ridge cannot handle that type of construction. The road isn't marked with lines because it is so narrow and you want to add burying a 36inch to 72 inch pipe to accommodate. The safety of my family is more important than developers getting their water supply for another subdivision. If it has to be done, the orange route needs to be the way	6/22/2022 10:53 AM
205	Too much construction in a coingested area	6/22/2022 10:44 AM
206	Avoid current infrastructure and roads. Period. We don't need and don't want more construction	6/22/2022 10:17 AM
207	Traffic - stop building	6/22/2022 9:54 AM
208	This route seems to impact the most traffic and residential areas	6/22/2022 9:14 AM
209	concerns for wetlands/springs/river/wildlife	6/22/2022 8:48 AM
210	Crossing Alafia river & highly populated areas	6/22/2022 8:25 AM
211	Heavy traffic area	6/22/2022 8:18 AM
212	Gopher tortoises live on the proposed blue line on Alafia Ridge	6/22/2022 8:06 AM
213	This would destroy my friends property at the end of alafia ridge loop	6/22/2022 7:32 AM
214	Nature preserve. What will happen to the animals?	6/22/2022 7:23 AM
215	Impact to familes	6/22/2022 5:36 AM
216	Brandon high school traffic	6/22/2022 5:27 AM
217	Wildlife concerns	6/22/2022 4:44 AM
218	Concern about wildlife	6/22/2022 4:26 AM
219	Same comment as before	6/21/2022 11:00 PM
220	Busy streets and residential housing	6/21/2022 10:56 PM
221	this is a horrible route	6/21/2022 10:54 PM
222	This proposed route will pass through natural reserve areas which are the habits of endangered and threatened species. This route will also negatively impact the community of FishHawk West.	6/21/2022 10:47 PM
223	concern for wildlife	6/21/2022 10:06 PM
224	Severe traffic in this area, limited infrastructure and alternative routes, biologically fragile preserve in this area	6/21/2022 10:05 PM
225	This is horrible!	6/21/2022 9:53 PM
226	This route will disrupt rush hour traffic for four schools that already is intolerable due to overcrowding and ill- suited road infrastructure	6/21/2022 9:28 PM
227	I dont want county water	6/21/2022 7:15 PM
228	Location of the pipeline in reference to all housing in the close vicinity.	6/21/2022 6:46 PM
229	Environmental, river, wetlands	6/21/2022 6:25 PM
230	Impact to current homeowners	6/21/2022 5:27 PM
231	I live by that route and that would significantly affect traffic routes	6/21/2022 5:17 PM

232	construction disruptive to major traffic	6/21/2022 4:27 PM
233	concerns for wetlands/springs/river/wildlife	6/21/2022 4:22 PM
234	Limona is A very busy road has had three fatalities on it it issues a lot by the sheriffs office and the fire department to get to the other areas in the neighborhood. It is also historical area with a historical Cemetery.	6/21/2022 4:01 PM
235	Environmental impact around the Alafia River basin and surrounding wetlands.	6/21/2022 3:56 PM
236	Traffic problems during construction. Narrow right of way on Parsons/John Moore.	6/21/2022 3:52 PM
237	River wildlife will be negatively impacted	6/21/2022 3:29 PM
238	impact to natural waterways, residential impact	6/21/2022 2:37 PM
239	Bell creek	6/21/2022 2:28 PM
240	damage to springs/wetlands/riverlife	6/21/2022 2:00 PM
241	Passes by too many houses	6/21/2022 1:24 PM
242	ENOUGH BUILDING!!! ENOUGH! TOO MANY PEOPLE HERE!!!!!	6/21/2022 1:21 PM
243	Route is thru nature. Don't	6/21/2022 1:08 PM
244	This appears to be the best and most efficient. It should also be the least cost in terms of time, material and manpower. That is unless the Orange routes is less obstructive to the local commerce and then that because a consideration worth bearing in mind.	6/21/2022 12:59 PM
245	Boyette is already a mess and additional construction would cause even more delays for drivers	6/21/2022 12:40 PM
246	Many residents live along this route and it would damage the environment along the river. Please reconsider and know this is the least preferred route.	6/21/2022 12:29 PM
247	Impact of crossing Alafia river	6/21/2022 12:15 PM
248	This appears to be the best and shortest route.	6/21/2022 9:22 AM
249	Shortest, safest route!	6/21/2022 9:00 AM
250	Schools	6/21/2022 8:45 AM
251	Too much disruption to traffic	6/21/2022 4:52 AM
252	Home construction and traffic back-ups	6/20/2022 7:05 PM
253	There is already too much congestion in these mosaic) running through portions of this area too	6/20/2022 5:59 PM
254	Very intrusive in a highly congested area	6/20/2022 5:44 PM
255	Nature Preserve & Scrub Preserve exist along this route	6/20/2022 5:23 PM
256	High traffic area and have already had road construction for over two years.	6/20/2022 4:42 PM
257	Please do not use this route, Orange route is most preferred	6/20/2022 2:43 PM
258	Traffic and lack of alternate routes	6/20/2022 1:39 PM
259	Doesn't seem to have as much traffic as the other two routes	6/20/2022 12:55 PM
260	Increased traffic on a road that already has a lot of traffic (Woodberry)	6/20/2022 12:50 PM
261	Against this route 100%!	6/20/2022 12:44 PM
262	To many homes affected	6/20/2022 12:28 PM
263	Best	6/20/2022 11:31 AM
264	Most direct (shortest) route. Less commercial and business traffic.	6/20/2022 10:58 AM
265	Do not use this route. Too much interruption for neighborhoods	6/20/2022 10:43 AM

266	None	6/20/2022 10:33 AM
267	take this one	6/20/2022 9:21 AM
268	seems a more direct route would be better	6/20/2022 8:26 AM
269	Alafia river impacts?	6/20/2022 8:01 AM
270	Same thing as with pink. The Fishhawk Blvd is very congested and is the only route to for some to get to the high school. This would be disruptive to everyone near this.	6/19/2022 4:13 PM
271	Environmental impact	6/19/2022 3:55 PM
272	would congest already restricted traffic and disrupt Neiborhood property that already has minimal safety resources such as sidewalks.	6/19/2022 3:02 PM
273	Traffic impact to residents of Lithia who use Boyette and fishhawk Blvd will be significant as thus is the only viable road to Tampa.	6/19/2022 1:16 PM
274	Traffic delays	6/19/2022 12:15 PM
275	This route through the heart of Brandon, Riverview and Fishhawk will compound the inconvenienced, expense and frustration created by the counties planning incompetence	6/19/2022 11:33 AM
276	This route wins my vote! The most practical and makes sense	6/19/2022 11:29 AM
277	Seems most cost effective, ie shortest	6/19/2022 11:23 AM
278	This is a terrible route for traffic and residential neighborhood disruption. I am opposed to this route.	6/19/2022 10:47 AM
279	Wetland preservation	6/19/2022 9:33 AM
280	The area several nature preserve areas around there. I'd go with the orange route	6/19/2022 7:49 AM
281	A buisness will be destroyed and affect other areas as well	6/18/2022 4:52 PM
282	It's going thru people back yard	6/18/2022 4:48 PM
283	Homes and nature	6/18/2022 4:26 PM
284	This route for me makes the most sense.	6/18/2022 3:22 PM
285	Same problem. Pick the orange route	6/18/2022 1:49 PM
286	Traffic issues on major thoroughfares.	6/18/2022 1:18 PM
287	Disruption of residents	6/18/2022 1:12 PM
288	This route goes through a neighbor’s property.	6/18/2022 12:27 PM
289	Peoples homes	6/18/2022 12:22 PM
290	Goes right through our neighborhood	6/18/2022 12:21 PM
291	This route would pass by a cemetery and several schools including Brandon High School. It would provide an enormous strain on traffic getting to and from school not to mention bring unwanted noise and upheaval to a residential area that is literally lined with homes. Victoria is a parking lot when Brandon High is starting/getting out. Victoria is the ONLY street to access Brandon High. Woodberry is a street that has very heavy traffic flow in the mornings and evenings and this project would cause a heavy strain on it. Additionally, there are some houses that are extremely close to Woodberry as well as along Limona and Victoria. Where would the piping be buried - their backyards? Their front yards? This route needs to be removed from Woodberry and a different route that does not pass by residential streets, schools, and school bus stops selected. How about going straight south on Falkenburg? You have to cross 60 somewhere, do it there. Please do not bring this years-long construction to all residential areas. I do not want my quiet community disturbed with many years of construction. Going south on Falkenburg seems like a better route since there's hardly any residential areas along that way. Please find another way that does not include residential areas. The community does not want this along our streets. It seems like a project for major roads, not neighborhood type streets that are one lane each way. Choose roads with multiple lanes to	6/18/2022 12:11 PM

	follow so traffic can keep going. Using one lane roads will certainly clog traffic in the mornings and evenings causing busses to run late.	
292	Major impact on homes, families and Alafia River with this route	6/18/2022 12:05 PM
293	Does this go through the Alafia River? Damage to water life and environment?	6/18/2022 11:12 AM
294	This area on Alafia ridge loop floods	6/18/2022 9:46 AM
295	Again crosses alafia with no bridges so impacts the river and heavy disruption the small communities. Land loss for homeowners with immanent domain is horrible when there are other routes available.	6/18/2022 9:25 AM
296	My home is in path	6/18/2022 9:06 AM
297	Impacts schools, destroys my neighborhood,	6/18/2022 8:55 AM
298	Goes through private property.	6/18/2022 8:46 AM
299	Goes through private property	6/18/2022 8:43 AM
300	The Alafia River is not shown to be crossed on the map.	6/18/2022 8:43 AM
301	Passing through the Alafia River. Too many potential issues with this route.	6/18/2022 8:39 AM
302	Age/Condition of existing pipeline.	6/18/2022 8:23 AM
303	Goes right through an area than floods on a regular basis. If a problem arises with the large pipes than drinking would become contaminated	6/18/2022 8:10 AM
304	Not a good choice	6/18/2022 8:09 AM
305	The river and protect wetlands	6/18/2022 8:06 AM
306	Impact in environment and wildlife in the Alafia river	6/18/2022 8:02 AM
307	Alafia ridge loop is prone to flooding	6/18/2022 8:02 AM
308	No	6/18/2022 7:58 AM
309	What about the river? Will it go under or above?	6/18/2022 7:38 AM
310	This seems like the most logical route.	6/18/2022 7:24 AM
311	Congestion on Lithia pinecrest	6/18/2022 7:21 AM
312	While it is a little shorter route the Orange route seems better. There is not as much traffic and construction on the Orange route.	6/18/2022 6:50 AM
313	Extremely difficult and inconvenient for people living in Alafia Ridge loop neighborhoods. Only one way in and out of this neighborhood.	6/17/2022 5:01 PM
314	goes through more populated area	6/17/2022 1:45 PM
315	This seems like the best route	6/17/2022 11:49 AM
316	Through high populion centers.	6/17/2022 11:47 AM
317	Why affect older communities? Stick to paralleling I-75	6/17/2022 11:05 AM
318	Inconvenience	6/17/2022 10:20 AM
319	Looks the same ad the PINK route????	6/17/2022 10:19 AM
320	Schools on FishHawk Boulevard would be significantly disrupted.	6/17/2022 10:03 AM
321	Seems to go through some busy roads	6/17/2022 8:51 AM
322	Seems like best route	6/17/2022 8:41 AM
323	Not sure why this one would not be #1..	6/17/2022 8:30 AM
324	Route too traversed due to population	6/17/2022 8:01 AM
325	This route makes the most sense, first because it's shorter (less costly), and also leaves the	6/17/2022 7:50 AM

	railroad out of the equation	
326	All Unmarked sites	6/17/2022 7:25 AM
327	There are multiple Doctors offices, oncology radiation centers, and radiology centers that would affect patient care in this area. Traffic in this area is already overly congested. Nearby hospital would also be affected, delaying patient care to reroute.The smartest route would be faulkenburg then down down hwy 301 where there is more open space to work, less driveways and sidewalks to tear up and replace and fewer road closures.	6/17/2022 6:58 AM
328	Triple Creek Protected Nature Preserve	6/16/2022 2:55 PM
329	Major road	6/16/2022 1:29 PM
330	Some traffic interruption	6/16/2022 1:26 PM
331	Traffic impact	6/16/2022 12:29 PM
332	the housing developers should pick up all costs	6/16/2022 11:08 AM
333	Bridge at Bell creek	6/16/2022 8:19 AM
334	Extreme congestion in the hospital area south of 60. N/S Boyette is expensive construction on a major arterial street.	6/16/2022 7:46 AM
335	Where does the pipeline to when it hits the river?	6/16/2022 6:47 AM
336	Major hospital that will have deceased access during construction	6/16/2022 6:28 AM
337	Runs through small neighborhoods and close to lakes	6/15/2022 5:40 PM
338	Too congested roadways on this route. This impacts safety for the workers and safety for the drivers.	6/15/2022 12:42 PM
339	Crosses the river where there is rich history.	6/15/2022 10:27 AM
340	test	6/15/2022 9:11 AM
341	This seems to be the shortest run. It goes through less density areas than the pink route and also has less backtracking.	6/15/2022 9:03 AM
342	shortest route and seems more efficient	6/15/2022 8:16 AM
343	Traffic	6/14/2022 6:17 PM

Q4 What is the zip code of your home?

Answered: 1,030 Skipped: 180

#	RESPONSES	DATE
1	33579	7/8/2022 2:20 PM
2	33569	7/8/2022 2:00 PM
3	33547	7/8/2022 1:36 PM
4	33569	7/7/2022 11:55 PM
5	33598	7/7/2022 11:40 PM
6	33569	7/7/2022 11:14 PM
7	33569	7/7/2022 11:08 PM
8	33569	7/7/2022 10:42 PM
9	33511	7/7/2022 10:39 PM
10	33569	7/7/2022 10:08 PM
11	33596	7/7/2022 9:59 PM
12	33569	7/7/2022 9:48 PM
13	33579	7/7/2022 9:38 PM
14	33578	7/7/2022 9:38 PM
15	33511	7/7/2022 9:12 PM
16	33547	7/7/2022 9:11 PM
17	33569	7/7/2022 8:53 PM
18	33570	7/7/2022 8:45 PM
19	33569	7/7/2022 8:39 PM
20	33584	7/7/2022 8:25 PM
21	33511	7/7/2022 8:07 PM
22	33679	7/7/2022 8:00 PM
23	33511	7/7/2022 7:55 PM
24	33598	7/7/2022 7:48 PM
25	33578	7/7/2022 7:48 PM
26	335669	7/7/2022 7:25 PM
27	33598	7/7/2022 6:35 PM
28	33511	7/7/2022 6:11 PM
29	33596	7/7/2022 6:05 PM
30	33569	7/7/2022 5:59 PM
31	33569	7/7/2022 5:59 PM
32	33578	7/7/2022 5:19 PM
33	33594	7/7/2022 4:54 PM

34	33594	7/7/2022 4:06 PM
35	33584	7/7/2022 3:38 PM
36	33579	7/7/2022 2:58 PM
37	33569	7/7/2022 2:56 PM
38	33511	7/7/2022 2:41 PM
39	33578	7/7/2022 2:21 PM
40	33569	7/7/2022 1:58 PM
41	33617	7/7/2022 1:01 PM
42	33579	7/7/2022 12:57 PM
43	33579	7/7/2022 12:49 PM
44	33569	7/7/2022 11:53 AM
45	33534	7/7/2022 11:23 AM
46	33510	7/7/2022 11:12 AM
47	33547	7/7/2022 11:00 AM
48	33579	7/7/2022 10:46 AM
49	33572	7/7/2022 10:23 AM
50	33547	7/7/2022 10:22 AM
51	33579	7/7/2022 10:08 AM
52	33569	7/7/2022 9:36 AM
53	33569	7/7/2022 9:30 AM
54	33578	7/7/2022 9:17 AM
55	33579	7/7/2022 9:17 AM
56	33569	7/7/2022 9:12 AM
57	33598	7/7/2022 9:11 AM
58	33579	7/7/2022 9:11 AM
59	33572	7/7/2022 9:10 AM
60	33511	7/7/2022 9:03 AM
61	33534	7/7/2022 9:02 AM
62	33511	7/7/2022 9:01 AM
63	33569	7/7/2022 8:58 AM
64	33569	7/7/2022 8:55 AM
65	33578	7/7/2022 8:43 AM
66	33549	7/7/2022 8:40 AM
67	33596	7/7/2022 8:04 AM
68	33596	7/7/2022 7:51 AM
69	33510	7/7/2022 7:48 AM
70	33547	7/7/2022 7:09 AM
71	33579	7/7/2022 6:26 AM

72	33579	7/7/2022 6:16 AM
73	33594	7/7/2022 6:00 AM
74	33598	7/7/2022 1:26 AM
75	33534	7/6/2022 11:39 PM
76	33579	7/6/2022 11:16 PM
77	33578	7/6/2022 11:12 PM
78	33572	7/6/2022 11:08 PM
79	33534	7/6/2022 10:53 PM
80	33579	7/6/2022 10:47 PM
81	33578	7/6/2022 10:46 PM
82	33569	7/6/2022 10:41 PM
83	33579	7/6/2022 10:26 PM
84	33547	7/6/2022 10:15 PM
85	33594	7/6/2022 10:02 PM
86	33511	7/6/2022 9:57 PM
87	33511	7/6/2022 9:41 PM
88	33596	7/6/2022 9:26 PM
89	33534	7/6/2022 9:13 PM
90	33510	7/6/2022 8:23 PM
91	33547	7/6/2022 8:12 PM
92	33527	7/6/2022 8:06 PM
93	33510	7/6/2022 7:49 PM
94	33578	7/6/2022 6:43 PM
95	33579	7/6/2022 6:37 PM
96	33510	7/6/2022 6:28 PM
97	33569	7/6/2022 6:07 PM
98	33547	7/6/2022 5:44 PM
99	33579	7/6/2022 5:35 PM
100	33569	7/6/2022 5:34 PM
101	33547	7/6/2022 5:20 PM
102	33547	7/6/2022 5:12 PM
103	33570	7/6/2022 3:54 PM
104	33596	7/6/2022 3:51 PM
105	33579	7/6/2022 3:21 PM
106	33579	7/6/2022 3:04 PM
107	33511	7/6/2022 2:48 PM
108	33511	7/6/2022 2:41 PM
109	33578	7/6/2022 2:32 PM

110	33578	7/6/2022 2:04 PM
111	33619	7/6/2022 1:13 PM
112	33511	7/6/2022 12:54 PM
113	33579	7/6/2022 12:43 PM
114	33510	7/6/2022 12:02 PM
115	33511	7/6/2022 11:57 AM
116	33569	7/6/2022 11:53 AM
117	33579	7/6/2022 11:40 AM
118	33567	7/6/2022 11:13 AM
119	33596	7/6/2022 10:48 AM
120	33569	7/6/2022 10:01 AM
121	33596	7/6/2022 10:00 AM
122	33578	7/6/2022 9:50 AM
123	33569	7/6/2022 9:50 AM
124	33569	7/6/2022 9:33 AM
125	33578	7/6/2022 9:14 AM
126	33578	7/6/2022 7:31 AM
127	33578	7/6/2022 7:04 AM
128	33512	7/6/2022 6:47 AM
129	33511	7/6/2022 6:35 AM
130	33510	7/6/2022 6:03 AM
131	33578	7/6/2022 1:26 AM
132	33579	7/6/2022 12:42 AM
133	33547	7/6/2022 12:20 AM
134	33596	7/6/2022 12:14 AM
135	33579	7/5/2022 11:38 PM
136	33547	7/5/2022 11:26 PM
137	33596	7/5/2022 11:08 PM
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142	33511	7/5/2022 10:25 PM
143	33596	7/5/2022 10:25 PM
144	33511	7/5/2022 10:19 PM
145	33594	7/5/2022 9:35 PM
146	33596	7/5/2022 9:29 PM
147	33569	7/5/2022 9:17 PM

148	33594	7/5/2022 9:03 PM
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152	33596	7/5/2022 8:23 PM
153	33510	7/5/2022 8:14 PM
154	33569	7/5/2022 8:06 PM
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165	33598	7/5/2022 6:11 PM
166	33579	7/5/2022 5:55 PM
167	33534	7/5/2022 5:26 PM
168	33547	7/5/2022 5:24 PM
169	33579	7/5/2022 4:50 PM
170	33584	7/5/2022 4:48 PM
171	33547	7/5/2022 4:39 PM
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178	33594	7/5/2022 3:29 PM
179	33534	7/5/2022 3:26 PM
180	33573	7/5/2022 3:19 PM
181	33596	7/5/2022 2:48 PM
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220	33534	7/4/2022 10:17 PM
221	33511	7/4/2022 10:17 PM
222	33594	7/4/2022 10:09 PM
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245	33578	7/4/2022 2:20 PM
246	33510	7/4/2022 2:20 PM
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252	33579	7/4/2022 12:13 PM
253	33569	7/4/2022 12:06 PM
254	33594	7/4/2022 12:02 PM
255	33569	7/4/2022 11:40 AM
256	33619	7/4/2022 11:39 AM
257	33511	7/4/2022 11:25 AM
258	33547	7/4/2022 11:22 AM
259	33569	7/4/2022 11:19 AM
260	33579	7/4/2022 10:45 AM
261	33511	7/4/2022 10:34 AM

262	33594	7/4/2022 10:31 AM
263	33569	7/4/2022 10:11 AM
264	33578	7/4/2022 10:09 AM
265	33547	7/4/2022 10:03 AM
266	33594	7/4/2022 9:44 AM
267	33579	7/4/2022 9:39 AM
268	33579	7/4/2022 9:39 AM
269	33569	7/4/2022 9:38 AM
270	33579	7/4/2022 9:30 AM
271	33579	7/4/2022 9:23 AM
272	33578	7/4/2022 8:56 AM
273	33534	7/4/2022 8:55 AM
274	33511	7/4/2022 8:51 AM
275	33511	7/4/2022 8:47 AM
276	33534	7/4/2022 8:44 AM
277	33578	7/4/2022 8:43 AM
278	33569	7/4/2022 8:37 AM
279	33579	7/4/2022 8:28 AM
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283	33534	7/4/2022 7:54 AM
284	33594	7/4/2022 7:32 AM
285	33547	7/4/2022 7:29 AM
286	33579	7/4/2022 7:02 AM
287	33578	7/4/2022 6:33 AM
288	33594	7/4/2022 5:19 AM
289	33579	7/4/2022 5:18 AM
290	33511	7/4/2022 4:49 AM
291	33534	7/4/2022 4:21 AM
292	33569	7/3/2022 10:54 PM
293	33511	7/3/2022 7:42 PM
294	33527	7/3/2022 5:49 PM
295	33594	7/3/2022 5:43 PM
296	33510	7/3/2022 5:43 PM
297	33511	7/3/2022 5:01 PM
298	33596	7/3/2022 4:19 PM
299	33578	7/3/2022 3:08 PM

300	33594	7/3/2022 2:52 PM
301	33527	7/3/2022 2:06 PM
302	33579	7/3/2022 12:40 PM
303	33569	7/3/2022 12:34 PM
304	33547	7/3/2022 12:29 PM
305	33547	7/3/2022 12:29 PM
306	33510	7/3/2022 12:29 PM
307	33579	7/3/2022 12:10 PM
308	33569	7/3/2022 12:07 PM
309	33579	7/3/2022 11:48 AM
310	33578	7/3/2022 11:43 AM
311	33569	7/3/2022 11:36 AM
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313	33578	7/3/2022 10:11 AM
314	33547	7/3/2022 9:53 AM
315	33596	7/3/2022 9:17 AM
316	33584	7/3/2022 9:15 AM
317	33567	7/3/2022 9:15 AM
318	33511	7/3/2022 8:34 AM
319	33579	7/3/2022 8:21 AM
320	33579	7/3/2022 8:20 AM
321	33578	7/3/2022 8:09 AM
322	33511	7/3/2022 7:53 AM
323	33579	7/3/2022 7:26 AM
324	33510	7/3/2022 7:12 AM
325	33569	7/3/2022 3:38 AM
326	33578	7/3/2022 3:30 AM
327	33547	7/2/2022 5:29 PM
328	33510	7/2/2022 3:20 PM
329	33578	7/2/2022 1:31 PM
330	33579	7/2/2022 1:08 PM
331	33527	7/2/2022 12:56 PM
332	33578	7/2/2022 12:27 PM
333	33547	7/2/2022 11:30 AM
334	33594	7/2/2022 11:26 AM
335	33596	7/2/2022 11:06 AM
336	33527	7/2/2022 10:29 AM
337	33547	7/2/2022 10:27 AM

338	33579	7/2/2022 9:43 AM
339	33569	7/2/2022 9:34 AM
340	33527	7/2/2022 9:30 AM
341	33534	7/2/2022 9:25 AM
342	33569	7/2/2022 9:25 AM
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344	33510	7/2/2022 8:22 AM
345	33511	7/2/2022 7:51 AM
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350	33598	7/2/2022 7:25 AM
351	33573	7/2/2022 7:07 AM
352	33596	7/2/2022 6:51 AM
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360	33569	7/1/2022 11:22 AM
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362	33512	7/1/2022 10:46 AM
363	33569	7/1/2022 10:09 AM
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369	33579	7/1/2022 8:14 AM
370	33579	7/1/2022 7:56 AM
371	33598	7/1/2022 7:38 AM
372	33579	7/1/2022 7:27 AM
373	33596	7/1/2022 7:14 AM
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375	33579	7/1/2022 6:54 AM

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383	33569	6/30/2022 9:40 AM
384	33579	6/30/2022 9:25 AM
385	33569	6/30/2022 8:50 AM
386	33511	6/30/2022 7:54 AM
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393	33619	6/30/2022 5:46 AM
394	33547	6/30/2022 5:17 AM
395	33569	6/29/2022 9:06 PM
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397	33579	6/29/2022 3:18 PM
398	33579	6/29/2022 2:03 PM
399	33569	6/29/2022 12:16 PM
400	33579	6/29/2022 11:53 AM
401	33579	6/29/2022 11:32 AM
402	33511	6/29/2022 11:30 AM
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405	33511	6/29/2022 10:00 AM
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407	33570	6/29/2022 8:56 AM
408	33624	6/29/2022 7:58 AM
409	33579	6/29/2022 7:54 AM
410	33569	6/29/2022 7:39 AM
411	33569	6/29/2022 7:27 AM
412	33578	6/29/2022 7:26 AM
413	33579	6/29/2022 7:26 AM

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415	33579	6/29/2022 7:01 AM
416	33569	6/29/2022 6:38 AM
417	33547	6/29/2022 6:28 AM
418	33579	6/29/2022 5:00 AM
419	33578	6/29/2022 12:06 AM
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421	33578	6/28/2022 7:22 PM
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439	33534	6/28/2022 9:01 AM
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446	33596	6/28/2022 6:16 AM
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455	33569	6/27/2022 10:22 AM
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457	33547	6/27/2022 8:55 AM
458	33510	6/27/2022 8:51 AM
459	33511	6/27/2022 8:49 AM
460	33547	6/27/2022 8:42 AM
461	33578	6/27/2022 8:37 AM
462	33579	6/27/2022 8:27 AM
463	33578	6/27/2022 8:24 AM
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465	33579	6/27/2022 7:59 AM
466	33511	6/27/2022 7:53 AM
467	33579	6/27/2022 7:48 AM
468	33569	6/27/2022 7:46 AM
469	33579	6/27/2022 7:31 AM
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471	33594	6/27/2022 6:02 AM
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475	33511	6/26/2022 1:21 PM
476	33578	6/26/2022 12:36 PM
477	33578	6/26/2022 12:30 PM
478	33579-9368	6/26/2022 12:30 PM
479	33510	6/26/2022 12:27 PM
480	33511	6/26/2022 12:05 PM
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482	33596	6/26/2022 11:42 AM
483	33569	6/26/2022 11:26 AM
484	33596	6/26/2022 11:00 AM
485	33511	6/26/2022 10:42 AM
486	33594	6/26/2022 10:29 AM
487	33579	6/26/2022 10:21 AM
488	33579	6/26/2022 10:20 AM
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490	33594	6/26/2022 9:28 AM
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495	33534	6/26/2022 8:08 AM
496	33511	6/26/2022 7:47 AM
497	33596	6/26/2022 7:47 AM
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509	33594	6/25/2022 12:32 PM
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511	33510	6/25/2022 11:03 AM
512	33596	6/25/2022 9:49 AM
513	33569	6/25/2022 9:36 AM
514	33569	6/25/2022 9:32 AM
515	33569	6/25/2022 8:52 AM
516	^{3}3569	6/25/2022 8:44 AM
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522	33547	6/25/2022 7:25 AM
523	33510	6/25/2022 6:15 AM
524	33511	6/24/2022 11:29 PM
525	33547	6/24/2022 8:20 PM
526	33569	6/24/2022 5:05 PM
527	33547	6/24/2022 4:16 PM

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529	33547	6/24/2022 1:18 PM
530	33547	6/24/2022 1:07 PM
531	33579	6/24/2022 12:52 PM
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533	33612	6/24/2022 12:26 PM
534	33567	6/24/2022 12:26 PM
535	33579	6/24/2022 12:22 PM
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537	33598	6/24/2022 12:03 PM
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542	33510	6/24/2022 11:11 AM
543	33594	6/24/2022 10:58 AM
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545	33579	6/24/2022 10:38 AM
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549	33596	6/24/2022 8:47 AM
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552	33547	6/24/2022 7:27 AM
553	33547	6/24/2022 7:09 AM
554	33594	6/24/2022 6:38 AM
555	33511	6/24/2022 6:09 AM
556	33569	6/23/2022 6:14 PM
557	33579	6/23/2022 6:12 PM
558	33547	6/23/2022 6:05 PM
559	33579	6/23/2022 1:39 PM
560	33579	6/23/2022 1:34 PM
561	33579	6/23/2022 1:17 PM
562	33527	6/23/2022 12:57 PM
563	33619	6/23/2022 12:34 PM
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566	33573	6/23/2022 12:17 PM
567	33547	6/23/2022 12:11 PM
568	33579	6/23/2022 11:50 AM
569	33547	6/23/2022 11:41 AM
570	33510	6/23/2022 11:25 AM
571	33579	6/23/2022 11:25 AM
572	33511	6/23/2022 10:48 AM
573	33578	6/23/2022 10:30 AM
574	33510	6/23/2022 10:17 AM
575	33594	6/23/2022 9:42 AM
576	33579	6/23/2022 9:39 AM
577	33578	6/23/2022 9:32 AM
578	33579	6/23/2022 9:16 AM
579	33547	6/23/2022 9:03 AM
580	33596	6/23/2022 8:11 AM
581	33579	6/23/2022 8:07 AM
582	33511	6/23/2022 7:33 AM
583	33511	6/23/2022 7:31 AM
584	33567	6/23/2022 6:41 AM
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586	33596	6/23/2022 6:23 AM
587	33596	6/23/2022 6:05 AM
588	33563	6/23/2022 5:05 AM
589	33579	6/23/2022 5:01 AM
590	33569	6/23/2022 4:46 AM
591	33579	6/23/2022 12:03 AM
592	33569	6/22/2022 10:40 PM
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597	33547	6/22/2022 8:13 PM
598	33547	6/22/2022 7:55 PM
599	33567	6/22/2022 6:17 PM
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609	33547	6/22/2022 1:44 PM
610	33534	6/22/2022 1:16 PM
611	33598	6/22/2022 1:06 PM
612	33510	6/22/2022 12:58 PM
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615	33595	6/22/2022 12:21 PM
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634	33547	6/22/2022 9:14 AM
635	33596	6/22/2022 9:09 AM
636	33569	6/22/2022 9:08 AM
637	33596	6/22/2022 9:08 AM
638	33579	6/22/2022 9:07 AM
639	33547	6/22/2022 9:02 AM
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641	33569	6/22/2022 8:48 AM

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646	33547	6/22/2022 8:18 AM
647	33569	6/22/2022 8:14 AM
648	33527	6/22/2022 8:08 AM
649	33569	6/22/2022 8:07 AM
650	33594	6/22/2022 8:05 AM
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656	33547	6/22/2022 7:09 AM
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675	33594	6/21/2022 10:54 PM
676	33547	6/21/2022 10:48 PM
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683	33569	6/21/2022 8:21 PM
684	33547	6/21/2022 7:25 PM
685	33511	6/21/2022 7:21 PM
686	33567	6/21/2022 7:15 PM
687	33569	6/21/2022 6:47 PM
688	33569	6/21/2022 6:26 PM
689	33578	6/21/2022 5:27 PM
690	33510	6/21/2022 5:19 PM
691	33547	6/21/2022 4:50 PM
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693	33569	6/21/2022 4:23 PM
694	33510 on Limona road	6/21/2022 4:02 PM
695	33569	6/21/2022 3:56 PM
696	33511	6/21/2022 3:53 PM
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699	33596	6/21/2022 2:38 PM
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701	33569	6/21/2022 2:14 PM
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709	33511	6/21/2022 1:23 PM
710	33511	6/21/2022 1:21 PM
711	33527	6/21/2022 1:09 PM
712	33547	6/21/2022 1:08 PM
713	33510	6/21/2022 1:06 PM
714	33511	6/21/2022 1:02 PM
715	My property is on Woodberry - 33510	6/21/2022 1:00 PM
716	33579	6/21/2022 12:54 PM
717	33569	6/21/2022 12:51 PM

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720	33569	6/21/2022 12:37 PM
721	33569	6/21/2022 12:30 PM
722	33579	6/21/2022 12:25 PM
723	33510	6/21/2022 12:24 PM
724	33569	6/21/2022 12:16 PM
725	33547	6/21/2022 12:15 PM
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727	33547	6/21/2022 11:51 AM
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729	33510	6/21/2022 11:17 AM
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734	33579	6/21/2022 10:08 AM
735	33547	6/21/2022 10:03 AM
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737	33569	6/21/2022 9:23 AM
738	33578	6/21/2022 9:01 AM
739	335699	6/21/2022 8:46 AM
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742	33579	6/21/2022 7:56 AM
743	33579	6/21/2022 7:35 AM
744	33579	6/21/2022 7:34 AM
745	33579	6/21/2022 7:20 AM
746	33594	6/21/2022 7:15 AM
747	33511	6/21/2022 6:00 AM
748	33579	6/21/2022 5:58 AM
749	33596	6/21/2022 5:41 AM
750	33596	6/21/2022 5:35 AM
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752	33547	6/21/2022 4:47 AM
753	33584	6/20/2022 11:46 PM
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758	33569	6/20/2022 6:23 PM
759	33569	6/20/2022 5:59 PM
760	33569	6/20/2022 5:46 PM
761	33579	6/20/2022 5:25 PM
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763	33594	6/20/2022 2:43 PM
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765	33547	6/20/2022 1:39 PM
766	33594	6/20/2022 1:02 PM
767	33547	6/20/2022 1:00 PM
768	33578	6/20/2022 12:56 PM
769	33584	6/20/2022 12:56 PM
770	33510	6/20/2022 12:50 PM
771	33511	6/20/2022 12:48 PM
772	33510	6/20/2022 12:44 PM
773	33569	6/20/2022 12:41 PM
774	33569	6/20/2022 12:28 PM
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777	33579	6/20/2022 11:32 AM
778	33579	6/20/2022 11:10 AM
779	33579	6/20/2022 11:05 AM
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784	33547	6/20/2022 10:31 AM
785	33569	6/20/2022 10:14 AM
786	33579	6/20/2022 10:13 AM
787	33547	6/20/2022 10:07 AM
788	33527	6/20/2022 9:58 AM
789	33569	6/20/2022 9:24 AM
790	33594	6/20/2022 9:22 AM
791	33511	6/20/2022 9:21 AM
792	33579	6/20/2022 9:15 AM
793	33547	6/20/2022 8:49 AM

794	33569	6/20/2022 8:38 AM
795	33598	6/20/2022 8:36 AM
796	33569	6/20/2022 8:27 AM
797	33596	6/20/2022 8:25 AM
798	33569	6/20/2022 8:01 AM
799	33579	6/20/2022 7:54 AM
800	33572	6/20/2022 7:46 AM
801	33579	6/20/2022 7:38 AM
802	33547	6/20/2022 5:58 AM
803	33579	6/19/2022 11:49 PM
804	33579	6/19/2022 4:48 PM
805	33547	6/19/2022 4:14 PM
806	33579	6/19/2022 4:12 PM
807	33579	6/19/2022 3:56 PM
808	33569	6/19/2022 3:03 PM
809	33594	6/19/2022 1:22 PM
810	33547	6/19/2022 1:17 PM
811	33569	6/19/2022 12:37 PM
812	33569	6/19/2022 12:16 PM
813	33547-5900	6/19/2022 12:00 PM
814	33547	6/19/2022 11:50 AM
815	33579	6/19/2022 11:40 AM
816	33547	6/19/2022 11:34 AM
817	33578	6/19/2022 11:30 AM
818	33569	6/19/2022 11:23 AM
819	33510	6/19/2022 11:03 AM
820	33510	6/19/2022 10:47 AM
821	33579	6/19/2022 10:40 AM
822	33547	6/19/2022 10:33 AM
823	33572	6/19/2022 10:24 AM
824	33579	6/19/2022 10:03 AM
825	33573	6/19/2022 10:03 AM
826	33579	6/19/2022 9:41 AM
827	33572	6/19/2022 9:40 AM
828	33527	6/19/2022 9:35 AM
829	33569	6/19/2022 9:34 AM
830	33511	6/19/2022 9:20 AM
831	33619	6/19/2022 9:20 AM

832	33547	6/19/2022 9:09 AM
833	33511	6/19/2022 8:07 AM
834	33547	6/19/2022 7:53 AM
835	33569	6/19/2022 7:50 AM
836	33579	6/19/2022 7:38 AM
837	33579	6/19/2022 7:36 AM
838	33596	6/19/2022 7:33 AM
839	33579	6/19/2022 7:22 AM
840	33547	6/19/2022 7:13 AM
841	33578	6/19/2022 6:58 AM
842	33594	6/19/2022 6:47 AM
843	33598	6/19/2022 6:34 AM
844	33569	6/19/2022 1:34 AM
845	33563	6/18/2022 8:58 PM
846	33568	6/18/2022 5:24 PM
847	33569	6/18/2022 4:57 PM
848	33569	6/18/2022 4:49 PM
849	34234	6/18/2022 4:27 PM
850	33510	6/18/2022 4:07 PM
851	33510	6/18/2022 3:23 PM
852	33596	6/18/2022 3:19 PM
853	33594	6/18/2022 2:42 PM
854	33596	6/18/2022 2:28 PM
855	33594	6/18/2022 1:52 PM
856	33596	6/18/2022 1:49 PM
857	33566	6/18/2022 1:36 PM
858	33569	6/18/2022 1:27 PM
859	33596	6/18/2022 1:19 PM
860	33596	6/18/2022 1:12 PM
861	33579	6/18/2022 12:56 PM
862	33619	6/18/2022 12:28 PM
863	33596	6/18/2022 12:25 PM
864	33510	6/18/2022 12:22 PM
865	33569	6/18/2022 12:22 PM
866	33534	6/18/2022 12:20 PM
867	33510	6/18/2022 12:11 PM
868	33579	6/18/2022 12:06 PM
869	33578	6/18/2022 12:05 PM

870	33566	6/18/2022 11:55 AM
871	33573	6/18/2022 11:53 AM
872	33569	6/18/2022 11:52 AM
873	33594	6/18/2022 11:47 AM
874	33578	6/18/2022 11:44 AM
875	33569	6/18/2022 11:41 AM
876	33511	6/18/2022 11:25 AM
877	33569	6/18/2022 11:12 AM
878	33678	6/18/2022 11:08 AM
879	33694	6/18/2022 11:03 AM
880	33578	6/18/2022 10:56 AM
881	33511	6/18/2022 10:49 AM
882	33578	6/18/2022 10:33 AM
883	33569	6/18/2022 10:24 AM
884	33594	6/18/2022 10:19 AM
885	33510	6/18/2022 10:08 AM
886	33579	6/18/2022 10:02 AM
887	33569	6/18/2022 9:46 AM
888	33569	6/18/2022 9:26 AM
889	33569	6/18/2022 9:26 AM
890	33569	6/18/2022 9:19 AM
891	33594	6/18/2022 9:18 AM
892	33569	6/18/2022 9:15 AM
893	33596	6/18/2022 9:08 AM
894	33569	6/18/2022 9:06 AM
895	33569	6/18/2022 8:56 AM
896	33569	6/18/2022 8:47 AM
897	33569	6/18/2022 8:44 AM
898	33569	6/18/2022 8:43 AM
899	33569	6/18/2022 8:40 AM
900	33579	6/18/2022 8:39 AM
901	33569	6/18/2022 8:36 AM
902	33547	6/18/2022 8:26 AM
903	33569	6/18/2022 8:26 AM
904	33579	6/18/2022 8:24 AM
905	33510	6/18/2022 8:20 AM
906	33578	6/18/2022 8:17 AM
907	33569	6/18/2022 8:11 AM

908	33669	6/18/2022 8:10 AM
909	33569	6/18/2022 8:07 AM
910	33569	6/18/2022 8:05 AM
911	33569	6/18/2022 8:03 AM
912	33569	6/18/2022 8:02 AM
913	33569	6/18/2022 7:58 AM
914	33569	6/18/2022 7:39 AM
915	33527	6/18/2022 7:25 AM
916	33547	6/18/2022 7:22 AM
917	33619	6/18/2022 7:04 AM
918	33569	6/18/2022 6:51 AM
919	33527	6/18/2022 6:44 AM
920	33584	6/18/2022 6:41 AM
921	33511	6/18/2022 6:41 AM
922	33594	6/18/2022 12:06 AM
923	33579	6/17/2022 10:30 PM
924	33579	6/17/2022 10:07 PM
925	33594	6/17/2022 7:33 PM
926	33579	6/17/2022 5:40 PM
927	33510	6/17/2022 5:16 PM
928	33569	6/17/2022 5:09 PM
929	33569	6/17/2022 5:02 PM
930	33569	6/17/2022 3:30 PM
931	33569	6/17/2022 1:45 PM
932	33547	6/17/2022 1:25 PM
933	33569	6/17/2022 11:50 AM
934	33510	6/17/2022 11:48 AM
935	33511	6/17/2022 11:43 AM
936	33573-5878	6/17/2022 11:34 AM
937	33578	6/17/2022 11:13 AM
938	33547	6/17/2022 11:06 AM
939	33511	6/17/2022 10:39 AM
940	33569	6/17/2022 10:21 AM
941	33579	6/17/2022 10:20 AM
942	33596	6/17/2022 10:16 AM
943	33578	6/17/2022 10:08 AM
944	33547	6/17/2022 10:05 AM
945	33547	6/17/2022 10:04 AM

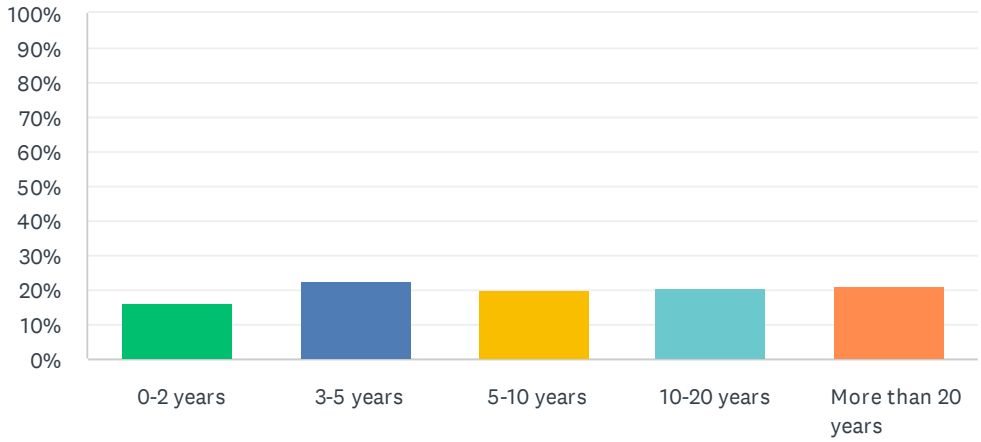
946	33573	6/17/2022 9:54 AM
947	33579	6/17/2022 9:39 AM
948	33596	6/17/2022 9:22 AM
949	33594	6/17/2022 9:08 AM
950	33547	6/17/2022 9:07 AM
951	33511	6/17/2022 8:52 AM
952	33596	6/17/2022 8:48 AM
953	33534	6/17/2022 8:42 AM
954	33647	6/17/2022 8:36 AM
955	33594	6/17/2022 8:30 AM
956	33547	6/17/2022 8:21 AM
957	33594	6/17/2022 8:18 AM
958	33594	6/17/2022 8:13 AM
959	33578	6/17/2022 8:12 AM
960	33579	6/17/2022 8:01 AM
961	33511	6/17/2022 7:51 AM
962	33594	6/17/2022 7:50 AM
963	33578	6/17/2022 7:27 AM
964	33547	6/17/2022 7:26 AM
965	33596	6/17/2022 7:07 AM
966	33511	6/17/2022 6:58 AM
967	33534	6/17/2022 6:50 AM
968	33578	6/17/2022 6:42 AM
969	33579	6/17/2022 6:37 AM
970	33579	6/17/2022 6:22 AM
971	33596	6/17/2022 6:16 AM
972	33569	6/17/2022 6:11 AM
973	33510	6/17/2022 6:04 AM
974	33578	6/17/2022 5:52 AM
975	33511	6/17/2022 5:20 AM
976	33579	6/17/2022 1:34 AM
977	33579	6/16/2022 8:51 PM
978	33579	6/16/2022 6:34 PM
979	33579	6/16/2022 3:13 PM
980	33579	6/16/2022 2:56 PM
981	33527	6/16/2022 2:32 PM
982	33594	6/16/2022 2:15 PM
983	33510	6/16/2022 1:44 PM

984	33579	6/16/2022 1:35 PM
985	33596	6/16/2022 1:29 PM
986	33579	6/16/2022 1:27 PM
987	33511	6/16/2022 1:25 PM
988	33579	6/16/2022 1:16 PM
989	33578	6/16/2022 12:56 PM
990	33542	6/16/2022 12:36 PM
991	33534	6/16/2022 12:31 PM
992	33579	6/16/2022 12:29 PM
993	33572	6/16/2022 12:21 PM
994	33579	6/16/2022 12:20 PM
995	33594	6/16/2022 12:17 PM
996	33569	6/16/2022 11:52 AM
997	33579	6/16/2022 11:39 AM
998	33569	6/16/2022 11:26 AM
999	33579	6/16/2022 11:18 AM
1000	33573	6/16/2022 11:09 AM
1001	33566	6/16/2022 10:56 AM
1002	33579	6/16/2022 10:23 AM
1003	33511	6/16/2022 10:14 AM
1004	33619	6/16/2022 10:03 AM
1005	33569	6/16/2022 9:38 AM
1006	33578u	6/16/2022 9:14 AM
1007	33511	6/16/2022 9:08 AM
1008	33579	6/16/2022 9:06 AM
1009	33569	6/16/2022 9:01 AM
1010	33510	6/16/2022 8:49 AM
1011	33596	6/16/2022 8:49 AM
1012	33598	6/16/2022 8:24 AM
1013	33569	6/16/2022 8:20 AM
1014	33572	6/16/2022 8:01 AM
1015	33579	6/16/2022 7:51 AM
1016	33594	6/16/2022 7:47 AM
1017	33569	6/16/2022 6:47 AM
1018	33594	6/16/2022 6:29 AM
1019	33603	6/16/2022 5:59 AM
1020	33579	6/15/2022 8:16 PM
1021	33510	6/15/2022 5:40 PM

1022	33596	6/15/2022 12:43 PM
1023	33598	6/15/2022 10:54 AM
1024	33596	6/15/2022 10:39 AM
1025	33511	6/15/2022 10:27 AM
1026	test	6/15/2022 9:11 AM
1027	33619	6/15/2022 9:10 AM
1028	33598	6/15/2022 9:05 AM
1029	33596	6/15/2022 8:18 AM
1030	33569	6/14/2022 6:18 PM

Q5 How long have you lived at this address?

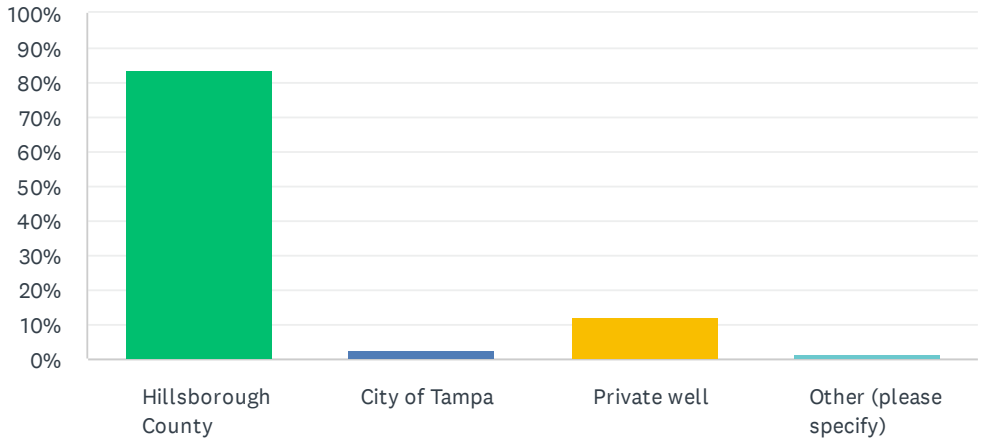
Answered: 1,030 Skipped: 180



ANSWER CHOICES	RESPONSES	
0-2 years	16.12%	166
3-5 years	22.82%	235
5-10 years	19.81%	204
10-20 years	20.29%	209
More than 20 years	20.97%	216
TOTAL		1,030

Q6 From where do you receive your drinking water?

Answered: 1,030 Skipped: 180



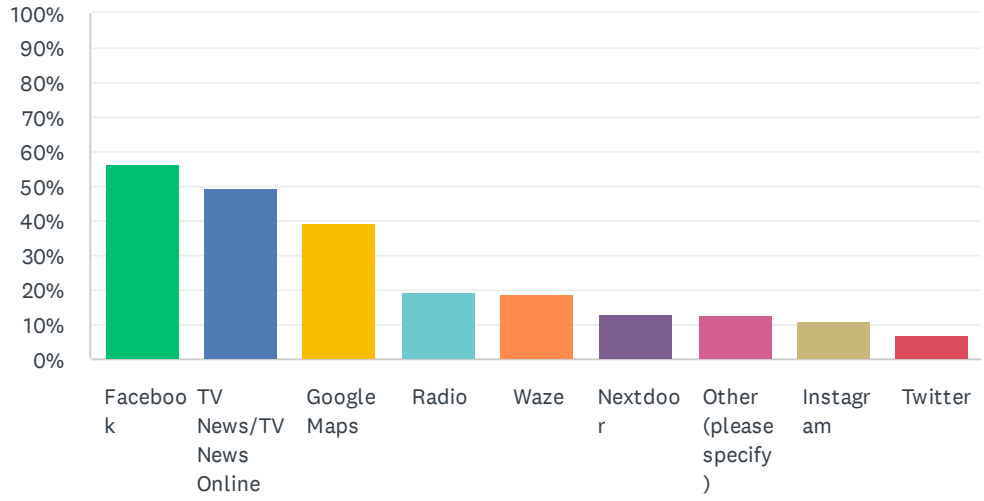
ANSWER CHOICES	RESPONSES	
Hillsborough County	83.59%	861
City of Tampa	2.52%	26
Private well	12.23%	126
Other (please specify)	1.65%	17
TOTAL		1,030

#	OTHER (PLEASE SPECIFY)	DATE
1	Bottles	7/6/2022 11:16 PM
2	I have no idea	7/6/2022 6:03 AM
3	Buy bottled	7/4/2022 7:32 AM
4	Bottle water	7/3/2022 12:07 PM
5	please build a second reservoir - get the land now	7/3/2022 11:36 AM
6	Alafia spring pumping station	6/29/2022 12:06 AM
7	Store	6/28/2022 5:26 AM
8	Well also	6/25/2022 9:32 AM
9	Who knows.	6/24/2022 12:05 PM
10	.	6/22/2022 6:08 AM
11	Bottled water	6/21/2022 9:54 PM
12	Not sure	6/19/2022 9:40 AM
13	City of Plant City	6/18/2022 8:58 PM
14	Formerly Tampa, my whole family is in Tampa Apollo beach area	6/18/2022 4:27 PM
15	Plant City	6/18/2022 11:55 AM
16	Water bottles	6/17/2022 8:42 AM

17	Zephyrhills	6/16/2022 12:36 PM

Q7 From which sources do you prefer to hear about traffic impacts and road closures:

Answered: 1,030 Skipped: 180



ANSWER CHOICES	RESPONSES	
Facebook	56.12%	578
TV News/TV News Online	49.32%	508
Google Maps	39.51%	407
Radio	19.51%	201
Waze	18.74%	193
Nextdoor	13.11%	135
Other (please specify)	12.62%	130
Instagram	10.87%	112
Twitter	6.70%	69
Total Respondents: 1,030		

#	OTHER (PLEASE SPECIFY)	DATE
1	Emails	7/7/2022 11:08 PM
2	From the source/water company needs to send out notices	7/7/2022 8:00 PM
3	From the company that charges us money. They can send updates with invoice.	7/7/2022 7:48 PM
4	Nightly news on TV	7/7/2022 7:25 PM
5	Would love to see a Hillsborough county web site I could checkout.	7/7/2022 3:38 PM
6	Email	7/7/2022 2:58 PM
7	Newspaper	7/7/2022 2:41 PM
8	beanssssfamily@gmail.com	7/7/2022 11:23 AM

9	Email	7/7/2022 9:30 AM
10	Tik tok	7/7/2022 9:01 AM
11	Text	7/7/2022 8:58 AM
12	email or text	7/7/2022 8:55 AM
13	I would rather NOT have to deal with this issue!	7/6/2022 11:39 PM
14	Traffic	7/6/2022 3:51 PM
15	dorisdarga@gmail.com	7/6/2022 3:04 PM
16	text/email	7/6/2022 11:40 AM
17	Signage	7/6/2022 10:48 AM
18	Text	7/5/2022 5:55 PM
19	email or text messages	7/5/2022 4:39 PM
20	Tamp Bay Times	7/5/2022 1:56 PM
21	Apple maps	7/5/2022 10:51 AM
22	Bay News 9 or email/postcard	7/5/2022 7:31 AM
23	Email	7/4/2022 11:18 PM
24	newspaper	7/4/2022 10:17 PM
25	MSN.com	7/4/2022 9:55 PM
26	Hillsborough County	7/4/2022 5:36 PM
27	Apple Maps	7/4/2022 5:32 PM
28	Apple Maps	7/4/2022 2:24 PM
29	We have never received any notice of closures from Hillsborough county. Please expand the notification areas and methods for road closures. A VMS a day or two before the closure and only a couple hundred feet before the closure is not enough.	7/4/2022 2:20 PM
30	Email	7/4/2022 1:01 PM
31	Combined 50/50 Facebook and TV News/TV News Online	7/4/2022 8:55 AM
32	Email	7/4/2022 7:32 AM
33	Direct message	7/3/2022 10:54 PM
34	Direct text	7/3/2022 5:49 PM
35	Possible YouTube dedicated channel, e.g. continuous loop feed, covering Tampa Hillsborough traffic advisorys, project progress, detours due to Fatal Accident investigations.	7/3/2022 12:40 PM
36	Na	7/3/2022 12:29 PM
37	NA	7/3/2022 12:29 PM
38	Also on News	7/3/2022 8:34 AM
39	Mail/email	7/3/2022 8:20 AM
40	text from county	7/2/2022 5:29 PM
41	Smartnews	7/2/2022 7:36 AM
42	LP	7/2/2022 6:51 AM
43	Email	7/1/2022 10:38 PM
44	Don't really care because the planning in this county is horrible. There is no 50 year plan - only a 50 minute plan.	7/1/2022 3:42 PM

45	Email	7/1/2022 7:14 AM
46	Written notices	6/30/2022 7:54 AM
47	Newspaper	6/30/2022 7:10 AM
48	Text messages	6/29/2022 3:18 PM
49	CDD meetings and road signage	6/29/2022 7:01 AM
50	None , no traffic advisory is preferable	6/29/2022 12:06 AM
51	Sign up for texts	6/28/2022 12:26 PM
52	County web sites	6/28/2022 12:13 PM
53	Text messages to registered numbers	6/28/2022 8:52 AM
54	Newspaper	6/27/2022 6:18 PM
55	websites of tampabay water and hillsborough county	6/27/2022 12:11 PM
56	email from the utility I use causing the disruption.	6/26/2022 1:21 PM
57	County noticing and website	6/26/2022 11:42 AM
58	Email/Text opt-in messaging	6/26/2022 10:21 AM
59	Driving daily to work	6/26/2022 8:35 AM
60	Newspaper - local & regional	6/26/2022 7:47 AM
61	Text. Email	6/26/2022 6:10 AM
62	Road postings for future closures	6/25/2022 12:32 PM
63	Mail	6/25/2022 7:58 AM
64	If on route, by mail.	6/25/2022 6:15 AM
65	Text	6/24/2022 4:16 PM
66	Newspaper	6/24/2022 1:54 PM
67	text messages or alerts sent directly to my phone	6/24/2022 1:07 PM
68	Posted signs forecasting/announcing road closures, minimum week in advance	6/24/2022 12:22 PM
69	Tampa Bay Times	6/24/2022 11:53 AM
70	Email	6/24/2022 7:55 AM
71	Text	6/23/2022 12:34 PM
72	email	6/23/2022 12:17 PM
73	Email	6/23/2022 5:01 AM
74	text hillsborough	6/22/2022 3:51 PM
75	Text messages	6/22/2022 2:34 PM
76	Mailing	6/22/2022 12:58 PM
77	Neighborhood pages	6/22/2022 11:31 AM
78	How about no road closures and disruptions?	6/22/2022 10:18 AM
79	Email. I am a Realtor, so ALL areas of interst	6/22/2022 8:32 AM
80	Email or text	6/22/2022 8:19 AM
81	Friend	6/22/2022 7:33 AM
82	News	6/22/2022 6:08 AM

83	Not sure	6/21/2022 11:00 PM
84	Several	6/21/2022 7:15 PM
85	Local HOA Boards	6/21/2022 6:47 PM
86	Letter	6/21/2022 6:26 PM
87	Apple maps	6/21/2022 5:27 PM
88	Mail	6/21/2022 4:02 PM
89	My own research since can’t trust some sources.	6/21/2022 3:20 PM
90	Email	6/21/2022 1:23 PM
91	Signs on the roads that are impacted	6/21/2022 5:41 AM
92	Phone txt	6/21/2022 5:35 AM
93	County notifications via email	6/20/2022 5:46 PM
94	Mail	6/20/2022 5:25 PM
95	Email	6/20/2022 12:50 PM
96	TB Times	6/20/2022 11:55 AM
97	Mailings	6/20/2022 10:51 AM
98	Text	6/20/2022 9:21 AM
99	Text	6/20/2022 8:36 AM
100	mailing	6/20/2022 8:27 AM
101	Road signs	6/19/2022 12:16 PM
102	Email	6/19/2022 10:03 AM
103	Public meetings	6/19/2022 9:35 AM
104	text	6/19/2022 7:36 AM
105	M	6/18/2022 1:36 PM
106	Email notifications	6/18/2022 12:11 PM
107	Word of mouth	6/18/2022 12:05 PM
108	Google	6/18/2022 10:49 AM
109	If it impacts my home or communities it needs to be mailed to everyone in the area.	6/18/2022 9:26 AM
110	Mail	6/18/2022 8:47 AM
111	Direct Mail	6/18/2022 8:40 AM
112	Text	6/18/2022 8:36 AM
113	Lighted signs stating changes	6/18/2022 7:25 AM
114	Communication to the CDD	6/17/2022 10:07 PM
115	Home mail flyers	6/17/2022 5:16 PM
116	The more places the better.	6/17/2022 11:50 AM
117	email	6/17/2022 11:48 AM
118	email	6/17/2022 11:34 AM
119	None of the above.	6/17/2022 10:21 AM
120	direct email, mailing	6/17/2022 9:08 AM

121	Mail works	6/17/2022 7:50 AM
122	All the above	6/17/2022 7:26 AM
123	Hillsborough county websites	6/17/2022 6:42 AM
124	hillsborough county website	6/17/2022 6:16 AM
125	Direct text	6/17/2022 6:04 AM
126	Road signs	6/16/2022 2:15 PM
127	Email from Hillsborough county	6/15/2022 5:40 PM
128	test	6/15/2022 9:11 AM
129	newspapers (paper and online)	6/15/2022 8:18 AM
130	e-mail	6/14/2022 6:18 PM

TAMPA BAY WATER
Supplying Water To The Region

South Hillsborough Pipeline Public Engagement Briefing Summaries

Date & Time: June 14, 2022 | 7 p.m.

Host Organization: Bloomingdale Neighborhood Association

Point of Contact (Name, Phone, Email): Suzy Watts, president; 813-681-2051; bloomingdale.homeowners@gmail.com

Location: 3509 Bell Shoals Road, Valrico

Presenter: Justin Fox

Additional Staff/Consultants in Attendance: Nita Naik, Wade Trim; Michelle Robinson, Dialogue Public Relations

Audience Size: 7 people in attendance

Equipment Used: fact sheet and map handouts

Audience Sentiment/Opinions Expressed:
Suzy Watts, president of the Bloomingdale Neighborhood Association, welcomed everyone to the meeting and introduced Justin Fox of Tampa Bay Water. Mr. Fox introduced Michelle Robinson and Nita Naik. He then presented a brief overview of Tampa Bay Water. He said the Hillsborough County is rapidly developing and that the community needs new water. Mr. Fox discussed the need for the South Hillsborough Pipeline, the August board meeting decision point, and the construction schedule. He then encouraged the neighborhood association to visit the website and provide feedback on the three routes under consideration. He asked Ms. Robinson to elaborate. Ms. Robinson discussed the input received in 2019, the current survey and the July 12 telephone town hall meeting. She asked the group to disseminate information to their membership, so that we can gather as much input as possible. Jane Owen, editor of the Bloomingdale Gazette said she could share something on the group's social media channel. Ms. Robinson said she would send some artwork for their use.

A discussion followed. Following is a brief summary of questions asked and answers provided.

Are any of the lines shown on the map handout existing water lines?
No. We do have existing lines in the area, but what is shown on the map are new routes.

Where does the water come from?
The water will come from Tampa Bay Water's Regional Surface Water Treatment Plant and High Service Pump Station. The water is a mix of treated surface water, desalinated seawater and some groundwater.

Is reclaimed water part of the mix?
Not at this time. There was a project that involved using reclaimed water for aquifer recharge, but it has been removed from consideration at this time. Reclaimed water as a source will be considered in Tampa Bay Water's next long-term Master Water Plan.

Are you planning for future growth with these pipelines?
Yes. These pipelines are intended to meet demand over the next 50 years or more.

How big will the holes be to install these pipelines?
It depends on the location, but in general, the trenches will be large as the pipe itself will be up to 6-feet in diameter. In some areas, we will consider using trenchless construction methods to minimize impacts to roadways, intersections, waterways and other environmental features.

Will you be buying easements or using eminent domain?
Yes. In some areas, we may be able to negotiate with Hillsborough County for easements, in others we will negotiate with private property owners. If those negotiations are unsuccessful, we may have to exercise eminent domain to secure easements needed for this important water supply project.

How is the project being paid for?
The project is being paid for by Tampa Bay Water, Hillsborough County and it has received co-funding from the Southwest Florida Water Management District. The portion of the pipeline that goes from Lithia to the County's new facility in the Balm area will be built by Tampa Bay Water but funded by Hillsborough County. Tampa Bay Water will issue bonds to pay for the pipeline.

Is the orange route cheaper since it is less populated?
All the pipelines have comparable costs. The orange route is longer than the other two, so any savings associated with that route are diminished by the additional length.

Will Bloomingdale hook into the new line? Or see any benefit?
Tampa Bay Water provides water to its customers only, so in this case, Hillsborough County. Bloomingdale may see some pressure benefits once some additional projects are brought online. However, one big benefit for the community is the redundant line to Lithia. Having a second pipeline to the Lithia Water Treatment Plant provides a backup, in the event the other pipeline needs maintenance or repair.

Why aren't there any lines going down I-75?
The federal government has strict regulations for co-locating near interstates. In short, it isn't allowed, and the available land is reserved for future interstate expansion.

Where is the desal plant and is it cost prohibitive?
The Tampa Bay Seawater Desalination Plant is located in Apollo Beach near the Big Bend Power Plant. It is Tampa Bay Water's most expensive source, but it does provide a drought-proof supply.

General comments:

- I'm glad you all are planning for the future.
- The blue and pink routes, the ones more in the center, go through very dense areas. Construction may not be safe for workers or the public.
- Traffic in this area is awful. Tearing up this middle section of the map looks like it would be painful for everyone.
- We can live with overcrowded streets, but we can't live without water. This project is needed.
- I'm surprised it has taken so long to move this project forward.

As the discussion drew to a close, the neighborhood association thanked the project team for driving to Bloomingdale to share the project information. Tampa Bay Water thanked the group for their time and said they would keep in touch.

Follow-up Required:
On June 21, Robin Bizjack sent a short article promoting the route survey and route map JPG file to Jane Owen, editor, for inclusion in the Bloomingdale Gazette.

Date & Time: June 15, 2022 | 7 p.m.

Host Organization: Shadow Run Homeowners Association

Point of Contact (Name, Phone, Email): Angela Parker, community association manager, 813-936-4130; aparker@greenacre.com

Location: Room 137 of the Riverview Public Library (9951 Balm Riverview Rd, Riverview, FL 33569)

Presenter: Justin Fox

Additional Staff/Consultants in Attendance: Jarah Parke, Stantec; Robin Bizjack, Dialogue Public Relations

Audience Size: 8 in person; unknown online

Equipment Used: fact sheet and map handouts

Audience Sentiment/Opinions Expressed:
Angela Parker, the community association manager for Shadow Run, welcomed us as we arrived, and Lee Alexander, Shadow Run HOA president, introduced Justin Fox of Tampa Bay Water at the beginning of the meeting. Mr. Fox introduced Jarah Parke and Robin Bizjack. He then presented a brief overview of Tampa Bay Water. He said the Hillsborough County is rapidly developing and that the community needs new water. Mr. Fox discussed the need for the South Hillsborough Pipeline, the August board meeting decision point, and the construction schedule while referencing the map handout and fact sheet (which were shared ahead of time with the board in addition to hard copies at the meeting). Ms. Bizjack then encouraged the neighborhood association to visit the website and provide feedback on the three routes under consideration and encouraged residents to register for the telephone town hall regarding new water projects.

This neighborhood is located in between the two proposed routes for the southern section of the pipeline; most of the people in the community are on wells. Following is a brief summary of questions asked and answers provided:

Is this for City/County water and not affecting wells?
No. This is a new pipeline for regional water and won't affect local wells.

It sounds like you are planning way into the future, which is great. Can you get other entities on board to start planning roads in advance as well?
Tampa Bay Water does not have any influence in the planning cycles of Florida Department of Transportation or Hillsborough County transportation projects. However, the project team is coordinating closely with the County to minimize repeated construction on the same road and to find opportunities to coordinate projects.

General comments:

- Most of the community is on wells.
- Knowing how this will impact traffic is important.

As the discussion drew to a close, the neighborhood association thanked the project team for sharing information about the routes and taking a proactive approach. Seven of the eight people in attendance signed up for the email list. Tampa Bay Water thanked the group for their time and said they would keep in touch.

Follow-up Required: Ms. Bizjack emailed the property management Thursday morning with a short message to share with residents that included the project website URL.

Date & Time: June 16, 2022 |6 p.m.

Host Organization: Southfork Community Development District Board

Point of Contact (Name, Phone, Email): Rick Reidt, district manager for Meritus Communities/Inframark; 813-955-0050; rick.reidt@inframark.com

Location: Southfork Lakes Clubhouse, 11404 Carlton Fields Drive, Riverview FL 33579

Presenter: Justin Fox

Additional Staff/Consultants in Attendance: Eliana Lara, Tampa Bay Water; Jarah Parke, Stantec; Michelle Robinson, Dialogue Public Relations

Audience Size: Four people in attendance

Equipment Used: fact sheet and map handout

Audience Sentiment/Opinions Expressed:
Rick Reidt, district manager for Meritus Communities, advised those in attendance that the meeting would be rescheduled due to lack of a quorum. The rescheduled meeting would be July 7. Tampa Bay Water's project team noted that our public opinion survey closes on July 8 and asked if they could share information with those present, so it could be passed along to Southfork residents.

Justin Fox presented a brief overview of Tampa Bay Water. He said the Hillsborough County is rapidly developing and that the community needs new water. Mr. Reidt asked about pressure problems experienced at Southfork III. Mr. Fox explained that Tampa Bay Water is responsible for the wholesale system and for supplying the water that the County needs. The County is making improvements in the retail side to handle pressure and distribution concerns. Mr. Fox discussed the need for the South Hillsborough Pipeline, the August board meeting decision point and the construction schedule.

A discussion followed. Following is a brief summary of questions asked and answers provided.

Is there is a benefit to one route over another?
All three routes are closely ranked. Consulting engineers are finalizing the recommendation, which will be based on numerous criteria including permittability, public inconvenience, safety and more.

A board member expressed concern about congestion on Balm Road.
Mr. Fox explained that Tampa Bay Water's routes do not include construction along Balm Road. One route is being considered that would affect Balm Riverview Road, south of Big Bend Road.

Why didn't you consider going along I-75?
The federal government has strict regulations for co-locating near interstates. In short, it isn't allowed, and the available land is reserved for future interstate expansion.

Will construction affect the west side of I-75?
Construction will affect the west side of I-75 in one place: in northern part of the new pipeline route, near the Tampa Bay Regional Surface Water Treatment Plant.

As the meeting drew to a close, Michelle Robinson asked the group to share information with their residents as the project team would appreciate any input. She shared the project web address and said residents can take the survey from there and sign up for the July 12 telephone town hall meeting.

The group said they would share the information on their Town Square app and thanked the group for their time.

Follow-up Required: None

Date & Time: June 26, 2022 | 12:30 p.m.

Host Organization: Brandon Rotary Club

Point of Contact (Name, Phone, Email): Liz Brewer, Club Admin Chair; 813-689-6889; Liz@AngelFoundationFL.com

Location: Zoom

Presenter: Justin Fox

Additional Staff/Consultants in Attendance: Brandon Moore, Nita Naik, Warren Hogg

Audience Size: approximately 40 attendees

Equipment Used:
Zoom, Power Point

Audience Sentiment/Opinions Expressed:

Colors of pipeline coincide with transportation in Chicago.

Security on these pipelines? Justin described how the pipelines were buried infrastructure and were secured by virtue of not being visible and protected by being located outside of other utility lines.

Cyber-attacks related to what happened on Oldsmar. Just hit the messages be distributed after the Oldsmar attack.

What's the difference between SWFWMD and Tampa Bay Water? Justin described the difference.

Follow-up Required:

None.

Date & Time: June 28, 2022 | 6:30 p.m.

Host Organization: Fish Hawk Ranch HOA

Point of Contact (Name, Phone, Email): Eric Dailey, CDD president; Sandra Fuentes, HOA general manager; scheduled through Deanna; 813-578-8844; fhrtalon@gmail.com

Location: Osprey Clubhouse, 5721 Osprey Ridge Drive, Lithia, FL 33547

Presenter: Justin Fox

Additional Staff/Consultants in Attendance: Brandon Moore, Warren Hogg, Ken Broome, Nita Naik

Audience Size: 7 board members, 6 residents

Equipment Used: Printed maps and fact sheet
[Laptop, Projector, Screen, Speakers, Easel & Poster]

Audience Sentiment/Opinions Expressed: Overall the board thanked us for informing them. They had the following questions – Justin answered all of them:

- Will there be a pump station? – No pump station, this is only a transmission main from plant in Brandon to Lithia Plant, and from Lithia Plant to new County connection point.
- Are you working with County to widen the road at the same time? – When possible, we work with the County on projects so impacts to residents are minimized.
- Impacts to entrance and road closures? – There will be road closures and we will ensure residents have access to entrances.
- Any reason to pick one route over the other? – There are engineering preferences, but we have evaluation and criteria for ranking the pipelines routes, including public input.
- Will construction take 3 years? The entire pipeline will take three years to complete, but the impacts to this area will be much shorter.
- It starts at the top and goes to Lithia? – We plan to construct the pipeline in that sequence.

Follow-up Required: No follow up required. Robin Bizjack provided information for the individual Facebook groups.

APPENDIX I - HILLSBOROUGH COUNTY AND TAMPA BAY WATER MEMORANDUM OF UNDERSTANDING

Memorandum of Understanding Regarding Implementation of A Southern Hillsborough County Supply Pipeline Project Between Tampa Bay Water and Hillsborough County

This **MEMORANDUM OF UNDERSTANDING** is entered into this **20th** day of **August**, 2020 between **Hillsborough County**, a political subdivision of the State of Florida and **Tampa Bay Water**, a special district of the State of Florida, hereinafter collectively referred to as "Parties").

WHEREAS, the State of Florida and Southern Hillsborough County are projected to experience significant growth over the next 20 years; and

WHEREAS, although sufficient permitted capacity in the Tampa Bay Water regional system exists as a whole, the existing delivery locations that serve southern Hillsborough County do not have sufficient capacity to meet the County's long-term demand projections; and

WHEREAS, Tampa Bay Water is constructing a new pipeline project to increase the capacity of delivery to the Lithia Point of Connection to meet this growing demand, and

WHEREAS, the County has requested Tampa Bay Water develop a new Point of Connection for the benefit of Hillsborough County to meet this growing demand and provide the county with operational flexibility; and

WHEREAS, developing a new delivery pipeline system that includes increased delivery to the Lithia Point of Connection and to a new Point of Connection identified by the County from the regional system (Pipeline Project), is an effective solution to meet long-term demands of the

County in its south central service area and will allow for both Tampa Bay Water and the County to have additional system flexibility to provide mitigation in the event of temporary infrastructure outages; and

WHEREAS, this Memorandum of Understanding includes an Action Plan with cooperative steps to be taken by Tampa Bay Water and Hillsborough County for completing the Pipeline Project in a manner that will provide for a solution to meet both objectives in a reasonable cost-effective manner; and

WHEREAS, the Parties acknowledge and agree that this Memorandum of Understanding expresses the Parties' intent to work together cooperatively and in good faith on the Pipeline Project, including cooperation on public outreach activities such as public meeting notices, announcements and signage, determining the feasibility of, and developing, the Pipeline Project; and the Parties acknowledge and agree that this Memorandum of Understanding is not legally binding on either Party, and does not amend or alter the terms of the Amended and Restated Interlocal Agreement of the Master Water Supply Contract, or the Parties' respective rights and obligations thereunder.

NOW THEREFORE, in accordance with the above, Hillsborough County and Tampa Bay Water express their intent and understanding with regard to the following:

Section 1. Findings - The foregoing Whereas clauses are adopted by the Parties as findings that support this Memorandum of Understanding.

Section 2. Intent of the Agreement- The Parties acknowledge and agree that this Memorandum of Understanding expresses the Parties' intent to work together cooperatively and in good faith on the Pipeline Project, including cooperation on public outreach activities such as

public meeting notices, announcements and signage, determining the feasibility of, and developing, the Pipeline Project; and the Parties acknowledge and agree that this Memorandum of Understanding is not legally binding on either Party, and does not amend or alter the terms of the Amended and Restated Interlocal Agreement of the Master Water Supply Contract, or the Parties' respective rights and obligations thereunder.

Section 3. Pipeline Action Plan - Tampa Bay Water and Hillsborough County express their intent to work together cooperatively and make their best efforts to complete the Pipeline Action Plan identified in the attached Table 1 by the dates identified therein. The completion dates identified in the Action Plan may need to be adjusted by the Parties depending on the rate of growth and demand for water in southern Hillsborough County and other contingencies such as but not limited to temporary Points of Connection. The Parties' intend to cooperate with each other in efforts, such as but not limited to, public outreach, permitting and property acquisition for the Pipeline Project. It is the intent of the Parties that the maximum day capacity of the Pipeline Project be able to provide a total of 65 MGD in order to have available supply capacity that exceeds projected demand for at least the next 30 years. While the following quantities would not be provided simultaneously in a manner to exceed 65 MGD, it is intended that the pipeline to the Lithia Point of Connection will have a capacity of 45 MGD at a delivery pressure of 30 pounds per square inch, and the pipeline to the new Point of Connection will have a capacity of 60 MGD at a delivery pressure of 30 pounds per square inch. The new Point of Connection will be established by Hillsborough County as identified in the Action Plan.

Section 4. Pipeline Capital Cost – It is the intent of the Parties that Tampa Bay Water will construct, operate and maintain the Pipeline Project to both the Lithia Point of Connection and the New Point of Connection at the location established by Hillsborough County as identified

in the Action Plan. It is the intent of the Parties that Tampa Bay Water will pay the capital cost of the pipeline segment that delivers water from the High Service Pump Station to the Lithia Point of Connection, hereinafter referred to as Pipeline A. It is the intent of the Parties that County will pay the capital cost of the pipeline segment that branches off from Pipeline A and delivers water to the new Point of Connection, hereinafter referred to as Pipeline B.

Section 5. Minimum Flow – The parties recognize the County's South Central service area will be supplied through three Points of Connection upon completion of the Pipeline Project, and agree to use best efforts to operate all Points of Connection in conjunction to minimize water age for water delivered to each Point of Connection.

Section 6. Outside Funding - Hillsborough County and Tampa Bay Water express their intent to work together to pursue outside funding opportunities, including funding from the State Legislature, and co-funding from the Southwest Florida Water Management District as a means of reducing pipeline capital costs.

Section 7. Cooperation - The Parties acknowledge the Pipeline Project will be routed through rapidly urbanizing, and urbanized areas of the County and that time is of the essence in completing the Pipeline Project and that active coordination between the Parties will save the County time and costs. In recognition of this, it is the intent of the Parties that the County will provide an ombudsman for the Pipeline Project who will be responsible for close coordination with Tampa Bay Water's project manager on property acquisition and public outreach issues.

Section 8. Status Reports - The status of the Southern Hillsborough County Supply Improvements will be reported at each regular meeting of the Tampa Bay Water Board of Directors until the improvements are operational.

IN WITNESS WHEREOF, Hillsborough County and Tampa Bay Water have caused this Memorandum of Understanding to be executed and delivered on the day and year first written above.

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HILLSBOROUGH COUNTY, FLORIDA

ATTEST:

PAT FRANK

CLERK OF THE CIRCUIT COURT

Deputy Clerk

(SEAL)

Chairman, Board of County Commissioners

Date: **August 20, 2020**

APPROVED AS TO FORM

Office of the County Attorney

BOARD OF COUNTY COMMISSIONERS
HILLSBOROUGH COUNTY FLORIDA
DOCUMENT NO. **20-0879**

ATTEST:

Matt Jordan, Secretary

TAMPA BAY WATER, A REGIONAL WATER SUPPLY AUTHORITY

By: Dave Eggers, Chairman

Date: 9-8-20

(SEAL)

APPROVED AS TO FORM:

General Counsel

Table 1: Action Plan

	Tasks	Responsible Party	Completion Date
1	Request new Point of Connection	Hillsborough County	October 2020
2	Submit SWFWMD Co Funding Request(s)	Tampa Bay Water	October 2020
3	Identify final location for new Point of Connection and any temporary Point of Connection, minimum flow rate and operating pressures	Hillsborough County	December 2020
4	Finalize funding agreement for County share of Pipeline Project	Tampa Bay Water and Hillsborough County	Step 3 plus four months
5	Select design engineer(s)	Tampa Bay Water	Step 3 plus eight months
6	Complete design permitting and property acquisition	Tampa Bay Water	Step 5 plus 42 months
7	Bidding and Construction Completion of Regional Pipeline	Tampa Bay Water	Step 6 plus 36 months

Attachment 1

Basis for Calculation of Pipeline Project Shared Costs

1. Capital Cost for Pipeline A connecting High Service Pump Station to Lithia WTP = A
2. Capital Cost for Pipeline B connecting Pipeline A to new Point of Connection = B
3. Capital Cost for work if requested by County for other County-owned pipeline segments = C
4. Capital Cost Share Formula:
    a. Tampa Bay Water share = A
    b. Hillsborough County Share = B+C