

The City Council of the City of Seabrook met in regular session on Tuesday, May 17, 2022 at 5:00 p.m. in Seabrook City Hall, 1700 First Street, Seabrook, Texas, to discuss, consider and if appropriate, take action on the items listed below.

THOSE PRESENT WERE:

THOM KOLUPSKI

ED KLEIN

ROB HEFNER

JEFF LARSON

MICHAEL GIANGROSSO

BUDDY HAMMANN

JOE MACHOL

GAYLE COOK

STEVE WEATHERED

ROBIN LENIO

MAYOR

COUNCIL PLACE NO. 1

COUNCIL PLACE NO. 2

COUNCIL PLACE NO. 3

COUNCIL PLACE NO. 4

MAYOR PRO TEM

COUNCIL PLACE NO. 5

COUNCIL PLACE NO. 6

CITY MANAGER

CITY ATTORNEY

CITY SECRETARY

Mayor Kolupski called the meeting to order at 5:00 p.m. and led the audience in the United States and Texas Pledges of Allegiance.

ELECTION

1.1 Consider and take all appropriate action on proposed Resolution 2022-17, "Canvass of the City of Seabrook General Election held on May 7, 2022".

A RESOLUTION AND ORDER CANVASSING THE RETURNS AND DECLARING THE RESULTS OF THE CITY OFFICERS' REGULAR ELECTION HELD ON MAY 7, 2022

Motion was made and seconded to approve Resolution 2022-17, "Canvass of the City of Seabrook General Election"

MOTION CARRIED BY UNANIMOUS CONSENT

1.2 Consider and take all appropriate action on first and final reading of Ordinance 2022-11, "Ordering of Runoff Election to be held on June 11, 2022".

AN ORDINANCE CALLING AND ESTABLISHING PROCEDURES FOR THE RUN OFF CITY OFFICERS' ELECTION FOR COUNCIL POSITION 1 TO BE HELD ON JUNE 11, 2022; AND MAKING OTHER PROVISIONS RELATED TO THIS ELECTION.

Motion was made and seconded to approve Ordinance 2022-11, "Ordering of Runoff Election to be held on June 11, 2022"

MOTION CARRIED BY UNANIMOUS CONSENT

1.3 Presentation honoring outgoing Councilmember Jeff Larson for his hard work, loyalty, and contributions to the City Council and the City of Seabrook. *Thom Kolupski, Mayor presented*

1.4 Administer the Oaths of Office, present Certificates of Election, and hear remarks by Newly Elected Council Members. *Robin Lenio, City Secretary administered the oaths.*

A brief intermission took place.

PRESENTATIONS

2.1 Presentation of a Proclamation to recognize May 15-21, 2022 as National Police Week. *Thom Kolupski, Mayor presented the Proclamation.*

2.2 Presentation of a Proclamation to recognize May 15-21, 2022 as National EMS Week. *Thom Kolupski, Mayor presented the Proclamation.*

2.3 Presentation of a Proclamation to recognize May 15-21, 2022 as National Public Works Week. *Thom Kolupski, Mayor presented the Proclamation.*

3. PUBLIC COMMENTS AND ANNOUNCEMENTS

Public comments were made by:

Robert Paske of 2561 Loganberry thanking Councilmembers for attending CenterPoint meeting.

Dr. Sandra Harrison of 2522 Loganberry who discussed CenterPoint project meeting.

Ms. Cervantes of 2534 Loganberry who discussed CenterPoint project meeting.

Kiley Wilson of who discussed CenterPoint project meeting.

Valerie Norton of 2610 Loganberry who discussed the CenterPoint project.

3.1 Mayor, City Council and/or members of the City staff may make announcements about City/Community events.

Councilmember Larson announced several upcoming events:

- Memorial Day Event – May 30 – Bay Area Veteran’s Memorial – 9:00am
- Runoff Election – June 11 – Seabrook City Hall – 7:00am-7:00pm (see website for Early Voting)
- Texas Outlaw Challenge – June 22-26

4. SPECIFIC PUBLIC HEARING

4.1 Conduct a Public Hearing on a Request for a Conditional Use Permit to establish an “Axe Throwing Venue” at 1002 N. Meyer Avenue Suite A., as per the Seabrook City Code, Appendix A, Comprehensive Zoning, Article 4, “Special Use Regulations,” Section 4.11, “Conditional use permit criteria and procedures”.

Mayor Kolupski opened the Public Hearing.

Sean Landis, Deputy City Manager, explained Attachment E.

Having no speakers come forward, the Mayor closed the Public Hearing.

5. BID AWARDS

5.1 Consider and take all appropriate action on a Bid Award to Cobb Fendley for Proposal (RFP) # 2022-08 for the Engineering Services for Projects under the American Rescue Protection Act (ARPA) funding and authorize the City Manager to negotiate, approve and sign a contract.

Motion was made by Councilmember Klein and seconded by Councilmember Machol to approve a Bid Award to Cobb Fendley for Proposal (RFP) # 2022-08 for the Engineering Services for Projects under the American Rescue Protection Act (ARPA) funding and authorize the City Manager to negotiate, approve and sign a contract.

MOTION CARRIED BY UNANIMOUS CONSENT

5.2 Consider and take all appropriate action on a Bid Award to Brown Reynolds Watford Architects ("BRW") Request for Qualifications (RFQ) #2022-06 for Feasibility Study, Needs Assessment, Architectural Design for New Emergency Medical Services & Operations Center in an amount not to exceed \$51,800 for Scope of Work and \$4,500 for Optional Basic Services, if needed for a total not to exceed of \$56,300 and authorize the City Manager to negotiate, approve and sign a contract.

Motion was made by Councilmember Klein and seconded by Councilmember Giangrosso to approve a Bid Award to Brown Reynolds Watford Architects ("BRW") Request for Qualifications (RFQ) #2022-06 for Feasibility Study, Needs Assessment, Architectural Design for New Emergency Medical Services & Operations Center in an amount not to exceed \$51,800 for Scope of Work and \$4,500 for Optional Basic Services, if needed for a total not to exceed of \$56,300 and authorize the City Manager to negotiate, approve and sign a contract.

MOTION CARRIED BY UNANIMOUS CONSENT

5.3 Consider and take all appropriate action on Bid Award to Statewide Services for Waterway Outfall Replacement Project; RFP 2022-04 for the amount of \$118,607.50 and authorize the City Manager to enter into a contract.

Motion was made by Councilmember Klein and seconded by Councilmember Giangrosso to approve a Bid Award to Statewide Services for Waterway Outfall Replacement Project; RFP 2022-04 for the amount of \$118,607.50 and authorize the City Manager to enter into a contract.

MOTION CARRIED BY UNANIMOUS CONSENT

5.4 Consider and take all appropriate action on a Bid Award to Celerity Engineering for the Request for Qualifications (RFQ) #2022-09 for Pine Gully Pier Engineering Services and authorize the City Manager to negotiate an agreement for services.

Motion was made by Mayor Pro Tem Hammann and seconded by Councilmember Hefner to approve a Bid Award to Celerity Engineering for the Request for Qualifications (RFQ) #2022-09

for Pine Gully Pier Engineering Services and authorize the City Manager to negotiate an agreement for services.

MOTION CARRIED BY UNANIMOUS CONSENT

6. NEW BUSINESS

6.1 Consider and take all appropriate action on first reading of Ordinance 2022-10, "Issue of Conditional Use Permit to allow for a "Axe Throwing Venue" at 1002 N. Meyer Avenue, Suite A, in the (OS) Old Seabrook Zoning District.

AN ORDINANCE AMENDING THE CODE OF THE CITY OF SEABROOK, APPENDIX A, COMPREHENSIVE ZONING, ARTICLE 13, "TEMPORARY AND NONTEXT CHANGES," SECTION 13.03, "CONDITIONAL USE PERMITS GRANTED", BY ADDING A NEW PARAGRAPH TWENTY EIGHT (28), GRANTING A CONDITIONAL USE PERMIT ALLOWING A "AXE THROWING VENUE" AT 1002 NORTH MEYER AVENUE, SUITE A., WITHIN THE OS (OLD SEABROOK DISTRICT) OF THE CITY; PROVIDING A PENALTY IN AN AMOUNT NOT TO EXCEED \$2,000 FOR VIOLATION OF ANY PROVISIONS HEREOF BY INCLUSION INTO THE CODE; REPEALING ALL ORDINANCES OR PARTS OF ORDINANCES INCONSISTENT OR IN CONFLICT HERewith; AND PROVIDING FOR SEVERABILITY

Motion was made by Councilmember Machol and seconded by Mayor Pro Tem Hammann to approve first reading of Ordinance 2022-10, "Issue of Conditional Use Permit to allow for a "Axe Throwing Venue" at 1002 N. Meyer Avenue, Suite A, in the (OS) Old Seabrook Zoning District.

MOTION CARRIED BY UNANIMOUS CONSENT

6.2 Consider and take all appropriate action on the approval of Work Authorization 2021-03 for Grant Management services under the Agreement for Grant Management and Project Management for Hazard Mitigation Grant Program (HMGP) Projects with Ardurra Group, LLC for grant submission of Pine Gully Pier and Seabrook Fire Station Generator in an amount not to exceed \$18,800.00 and authorize the City Manager to execute required documents.

Gayle Cook, City Manager, explained that the City was notified of this funding opportunity through HMGP with a 90/10 local match and the grant administrator is recommending that the City apply. If this is awarded, then CIP money can be used for the City's match.

Motion was made by Councilmember Klein and seconded by Councilmember Giangrosso to approve a Work Authorization 2021-03 for Grant Management services under the Agreement for Grant Management and Project Management for Hazard Mitigation Grant Program (HMGP) Projects with Ardurra Group, LLC for grant submission of Pine Gully Pier and Seabrook Fire Station Generator in an amount not to exceed \$18,800.00 and authorize the City Manager to execute required documents.

MOTION CARRIED BY UNANIMOUS CONSENT

6.3 Consider and take all appropriate action on a Joinder Agreement and Amendment #5 to the Interlocal Agreement between the Harris County Sheriff's Office and the Harris Center for Mental Health and IDD Clinician and Officer Remote Evaluation Program (CORE) to add the City of Seabrook Police Department to allow Seabrook officers to access mental health clinicians while in the field, through video technology, to perform assessments for persons believed to be in an emergency mental health crisis.

This item was removed from the agenda during the meeting.

7. OLD BUSINESS

7.1 Remove from the table and Consider and take all appropriate action on first reading of Ordinance 2022-09, "Amending Impact Fees for New Construction and Adoption of a Land Use Assumptions Map"

AN ORDINANCE AMENDING THE CODE OF THE CITY OF SEABROOK, CHAPTER 85, "TAXATION AND FINANCE", ARTICLE V, "FINANCE", DIVISION 2, "IMPACT FEES", SECTIONS 85-156 - 85-158, BY AMENDING AND UPDATING IMPACT FEES IN ACCORDANCE WITH STATE LAW; MAKING FINDINGS OF FACT; PROVIDING A PENALTY FOR VIOLATION; REPEALING ALL ORDINANCES OR PARTS OF ORDINANCES INCONSISTENT OR IN CONFLICT HERewith; CONTAINING A SEVERABILITY CLAUSE; PROVIDING FOR PUBLICATION AND EFFECTIVE DATE

Ms. Cook presented items shown in Attachment F.

Motion was made by Mayor Pro Tem Hammann and seconded by Councilmember Tollett to approve on first reading Ordinance 2022-09, "Amending Impact Fees for New Construction and Adoption of a Land Use Assumptions Map" with the maximum fees of \$2,910 for water and \$2,813 for wastewater.

MOTION CARRIED BY UNANIMOUS CONSENT

8. ROUTINE BUSINESS

8.1 City Manager update and report to City Council on various items that require no action, including SH 146 Expansion Projects, Red Bluff Expansion Project, Gulf Coast Protection District, CenterPoint Substation and Industrial Area, City of Seabrook CIP Projects, and any City of Seabrook Grant Administration.

Ms. Cook presented items shown in Attachment G.

8.2 Establish future meeting dates and agenda items.

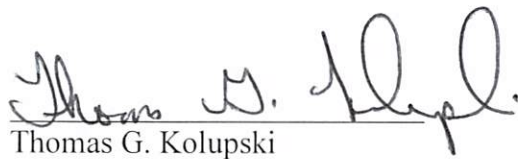
Regular City Council meetings will be held on Tuesdays, June 7 and June 21 at 6:00pm at City Hall.

A Hurricane Preparedness Workshop will be held on Saturday, June 25 from 9:30am – 12:00pm (noon) at the Public Works Facility.

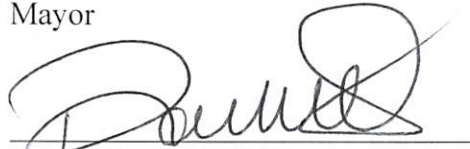
Future agenda items were discussed.

Upon motion duly made and seconded, Mayor Kolupski adjourned the meeting at 7:30pm.

Approved this 5th day of December, 2023.



Thomas G. Kolupski
Mayor



Rachel Lewis, TRMC
City Secretary



Planning & Zoning Commission OFFICIAL REPORT

The Planning and Zoning Commission of the City of Seabrook met on April 21, 2022 to hold a meeting to consider:

Request for a Conditional Use Permit to establish an "Axe Throwing Venue" at 1002 N. Meyer Avenue Suite A., as per the Seabrook City Code, Appendix A, Comprehensive Zoning, Article 4, "Special Use Regulations", Section 4.11, "Conditional use permit criteria and procedures".

THE PLANNING & ZONING COMMISSION MADE THE FOLLOWING RECOMMENDATION:

APPROVAL ☐ APPROVAL WITH AMENDMENTS/CONDITIONS (SEE BELOW) ☒ DENIAL ☐
by a concurring vote of a majority of members of the Planning and Zoning Commission present at the meeting on April 21, 2022, as designated below and as certified by the signature of the Chairman.
This document is not valid unless signed by the Chairman/Presiding Commissioner.

One staff member to be TABC licensed.

<u>VOTE:</u>	<u>AYE</u>	<u>NAY</u>	<u>ABSTAINED</u>	<u>ABSENT</u>	<u>INITIAL</u>
Darrell Picha	✓				DP
Rosebud Caradec	✓				RC
Rhonda Thompson	✓				RT
Scott Reynolds	✓				SR
Guy Rodgers	✓				GR
Gary Renola	✓				GTR

Gary T. Renola
Gary T. Renola, Chairman
Planning & Zoning Commission

ATTEST:

Pat Patel
Pat Patel
Administrative Assistant

**CITY OF SEABROOK
WATER AND WASTEWATER
CAPITAL IMPROVEMENTS PLAN AND IMPACT FEE DETERMINATION
2021-2030**



November 2021

Prepared by:



TBPELS Engineering Firm No. 274 | Survey Firm No. 100467

Broadband | Construction Management | Geographic Information Systems | Hydraulics & Hydrology | Land & Site Development |
Municipal Engineering | Pipeline Design | Right-of-Way Acquisition | Structural Engineering | Subsurface Utility Engineering |
Surveying | Telecommunications | Traffic Engineering | Transportation | Utility Coordination & Design

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ACRONYMS AND ABBREVIATIONS

ABBREVIATION OR ACRONYM	NAME
ADD	Average Daily Demand
ADF	Average Daily Flow
CIP	Capital Improvements Plan
EDU	Equivalent Dwelling Unit
GPD	Gallons per Day
GPED	Gallons per Equivalent Dwelling
GPM	Gallons per Minute
H-GAC	Houston-Galveston Area Council
MDD	Maximum Daily Flow
MGD	Million Gallons per Day
SH 146	State Highway 146
TCEQ	Texas Commission on Environmental Quality
TWDB	Texas Water Development Board
WWTP	Wastewater Treatment Plant

1 EXECUTIVE SUMMARY

Cobb, Fendley & Associates, Inc. (CobbFendley) has been contracted by the City of Seabrook to prepare a 10-year CIP for Water and Sanitary Sewer and to perform a study to determine a maximum allowable impact fee for each. The previous impact fee report dated December 2015 had a maximum impact fee of \$2,966 for water and \$2,887 for wastewater.

The Capital Improvements Plan and Impact Fee Study were conducted in compliance with Local Government Code, Title 12, Planning and Development, Chapter 395, et seq, Financing Capital Improvements in Municipalities, Counties and Certain Other Local Governments and its Successors. Under the Government Code requirements, the City is required to adopt an ordinance, order, or resolution approving land use assumptions and CIP prior to considering adoption of an impact fee.

The maximum impact fee determination was made using the Chapter 395 prescription for use of funds collected. Existing capital improvements that are still being paid off and new facilities that will be required by new development for the study period were identified and tabulated. The CIP identified through this study total \$7,191,166.80 for water and \$5,549,847.70 for wastewater. The estimated construction costs for proposed improvements include basic items plus appurtenances, as well as allowances for contingencies. The costs assume that the improvements will be constructed within existing roadway rights-of-way and do not include allowances for legal costs. The probable costs are based on current-year dollars and average unit costs. The maximum impact fee for water is \$2,910 per EDU and the maximum impact fee for wastewater is \$2,813 per EDU.

An EDU is used to relate developments of different sizes to single-family home dwellings as the base standard. City records indicate that the average single-family home uses approximately 305 gallons per day of water, therefore defining a water system EDU as 305 GPD. A wastewater system EDU was defined by proportioning the water and wastewater consumption. In this fashion, a wastewater system EDU was defined as 222 GPD.

A. OBJECTIVES

The objectives of this study are to identify the probable growth of the City through 2030, to determine the capital improvements that will be needed to provide service to this growth, and to calculate the maximum allowable impact fees which may be assessed to new development to defray the cost of the required water and sanitary sewer improvements needed to support the added demand.

The study was developed as follows:

- Population and land use projections: Projections were derived from historical growth statistics and anticipated growth. These projections formed the basis for which service demands were derived. Sources used in making population and land use projections include the 2010 Census, 2020 Census, the H-GAC, the TWDB, the TCEQ and information provided by the City.
- The existing and anticipated demand for water and sanitary sewer were developed from consumption records and anticipated growth within the City. A water and sanitary sewer CIP for 2030 was developed to serve the projected land uses and resulting

utility demands. This CIP will become the basis for the City's maximum impact fee determination.

- Water System Capital Improvement Projects are based on the water distribution model and master plan developed by CobbFendley.
- Wastewater System Capital Improvement Projects are based on the wastewater master plan developed by CobbFendley.
- The maximum impact fee was determined in compliance with Local Government Code, Title 12, Planning and Development, Chapter 395, et seq, Financing Capital Improvements in Municipalities, Counties, and Certain Other Local Governments and Its Successors.

B. PROJECT PRIORITIES

CobbFendley developed a list of project priorities with input from City staff. Projects are separated into categories of water or wastewater and are identified in the tables below.

Table 1-1: Water Project Priorities

CIP #	PROJECT DESCRIPTION	COST
W1	Shipyards Water Service Phase 1	\$ 465,487.20
W2	Shipyards Water Service Phase 2	\$ 481,204.80
W3	SH146 Bore to Old SH146	\$ 518,913.60
W4	Old SH146 12" Interconnect	\$ 60,000.00
W5	Nasa Road 8" Interconnect	\$ 60,000.00
W6	Taylor Lake Water Line Crossing	\$ 1,413,300.00
W7	Red Bluff Water Line Improvements	\$ 701,220.00
W8	Pine Gully Area Water Line Improvements	\$ 1,455,213.60
W9	Sea Channel Drive Water Line Improvements	\$ 329,556.00
W10	South SH 146 Water Line Improvements	\$ 242,640.00
W11	East Nasa Parkway Water Line Improvements	\$ 249,128.40
W12	Willow Dell Drive Water Line Improvements	\$ 275,826.00
W13	Shady Lake Drive Water Line Improvements	\$ 258,270.00
W14	Islander Way Water Line Improvements	\$ 141,714.00
W15	Commercial Road Water Project	\$ 319,279.20
W16	Starboard Utility Project	\$ 219,414.00

Table 1-2: Wastewater Project Priorities

CIP #	PROJECT DESCRIPTION	COST
WW1	E. Meyer Pipe Burst	\$ 1,397,799.70
WW2	Shipyards Sewer Service Phase 1	\$ 86,400.00
WW3	Shipyards Sewer Service Phase 2	\$ 470,400.00
WW4	Lift Station No. 5 Force Main Improvements	\$ 1,562,832.00
WW5	Red Bluff Sanitary Sewer Extension	\$ 432,000.00
WW6	Lakeside Drive Sanitary Sewer Relocation	\$ 241,800.00
WW7	Commercial Road Wastewater Line	\$ 750,090.00
WW8	Starboard Utility Project	\$ 608,520.00

2 POPULATION PROJECTIONS

Census reports show that Seabrook's growth rate has been steady in recent years. Between 2000 and 2010, the city grew at an annual rate of 2.4 percent from 9,443 to 11,952. Between 2010-2019, the City grew at an annual rate of 2.0 percent from 11,952 to 14,149. According to City data, the City has a population of 13,927 in 2021 with a reported average of 2.54 persons per EDU. Between 2010 and 2020, the City's annual growth rate averaged 1.7% indicating a downturn.

A number of public authorities have produced population estimates and projections for Texas communities. Discussed below are the projections by the H-GAC and TWDB.

H-GAC projections are based on the relocation of people into Harris County, transportation forecasts, government and real estate information, land use criteria and census tract information. H-GAC provides information on a per-City basis. The H-GAC forecasted annual growth in this zone is shown below:

Table 2-1: H-GAC Forecast of Average Population Growth

H-GAC Projections	2020-2025	2025-2030	2030-2035	2035-2040
	4.78%	6.40%	2.42%	0.00%

TWDB has also developed projections for municipalities as part of the statewide water-planning program. TWDB projections are based upon historical population and anticipated number of water permits. TWDB forecasted annual growth for the City is shown below:

Table 2-2: TWDB Forecast of Average Population Growth

TWDB Projections	2020 to 2030	2030 to 2040	2040 to 2050	2050 to 2060
	2.66%	1.79%	2.83%	1.79%

Continuing development interest in the Seabrook area, especially along SH-146, provides positive speculation that the City will grow at a greater rate than in recent years. Using the average population growth forecasted by TWDB and H-GAC, CobbFendley recommends using the average of these two projections to estimate the population in 2030. From this methodology, a population of approximately 14,733 people is calculated for the year 2030, a 4.1% increase from 2020.

Figure 2-1 is the visual summary of projections, denoting past growth (as provided by the Census), and the future projections by the aforementioned government-affiliated organizations.

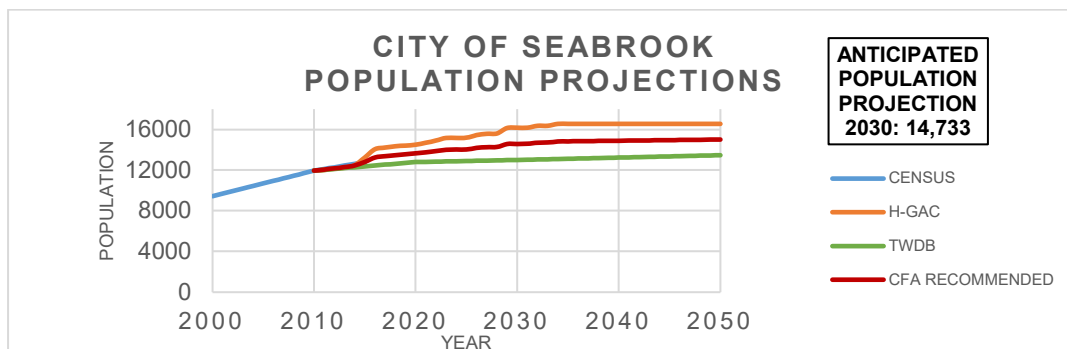


Figure 2-1: Population Projections

3 LAND USE PROJECTIONS

The City of Seabrook has established current and future land uses as well as zoning classifications. The land use categories are as follows:

- Single-Family Residential
- Multi-Family Residential
- Mixed Use
- Commercial
- Industrial

Exhibit 3-1 shows the current land use of the City. Growth will be stimulated in all land use categories. Single-Family Residential development includes a development south of Red Bluff Road and west of the Fire Training Grounds east of SH 146. Commercial development includes a 50 acre site at Lakeside and East Repsdorph, a hotel at East Repsdorph and NASA Road 1, and approximately 130 acres located south of Red Bluff Road and east of SH 146. Lastly, Industrial development includes a low water-use development of approximately 475 acres east of SH 146 and north of Red Bluff Road. Additionally during the time of this study, an apartment complex has been recently constructed consisting of approximately 400 units located east of SH 146 and south of Red Bluff Road. The majority of proposed developments are currently reflected on the City's land use map. Exhibit 3-2 contains the recommendations to modify the City's land use map in lieu of the anticipated development.

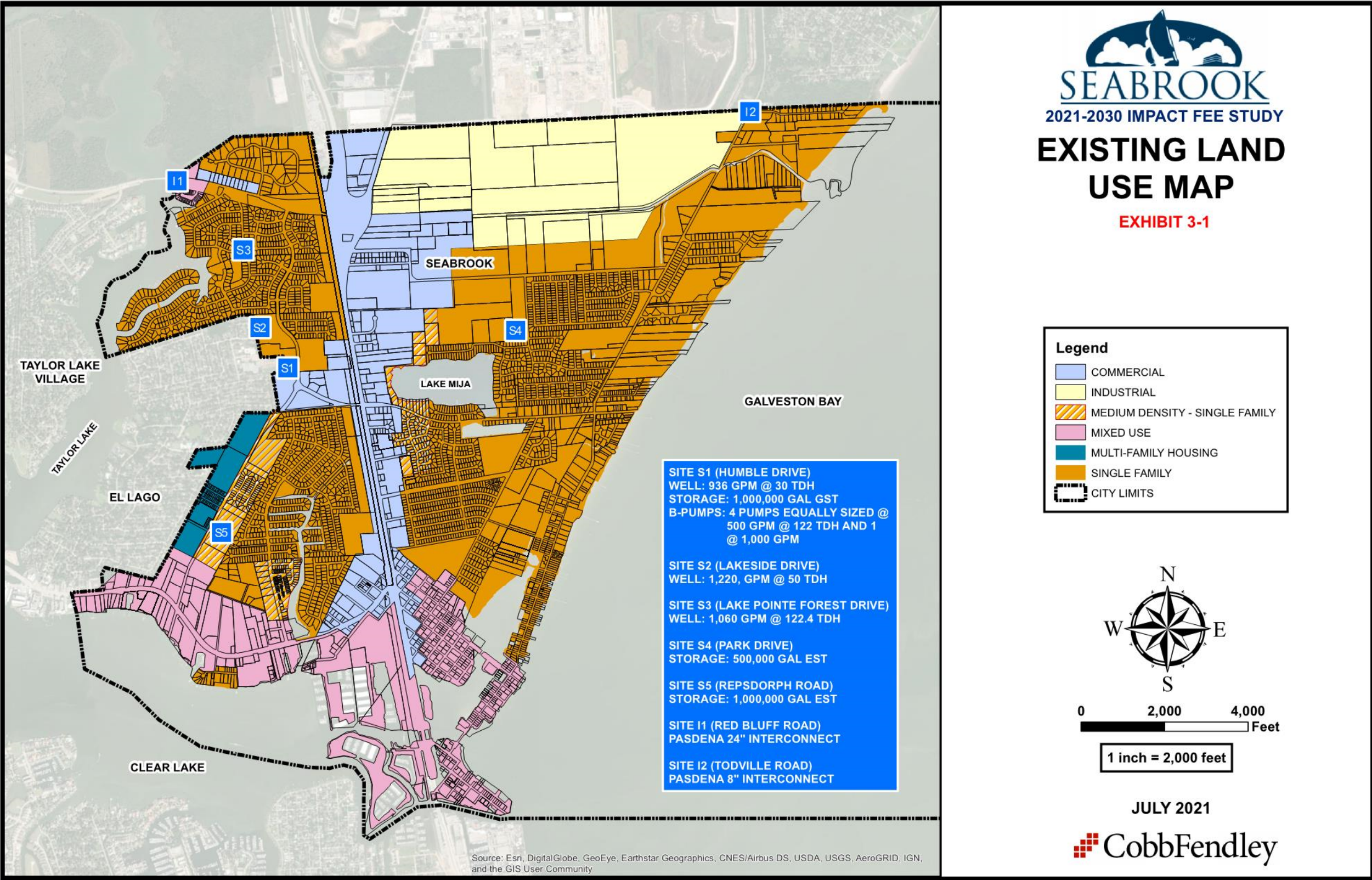


Exhibit 3-1: Existing Land Use Map

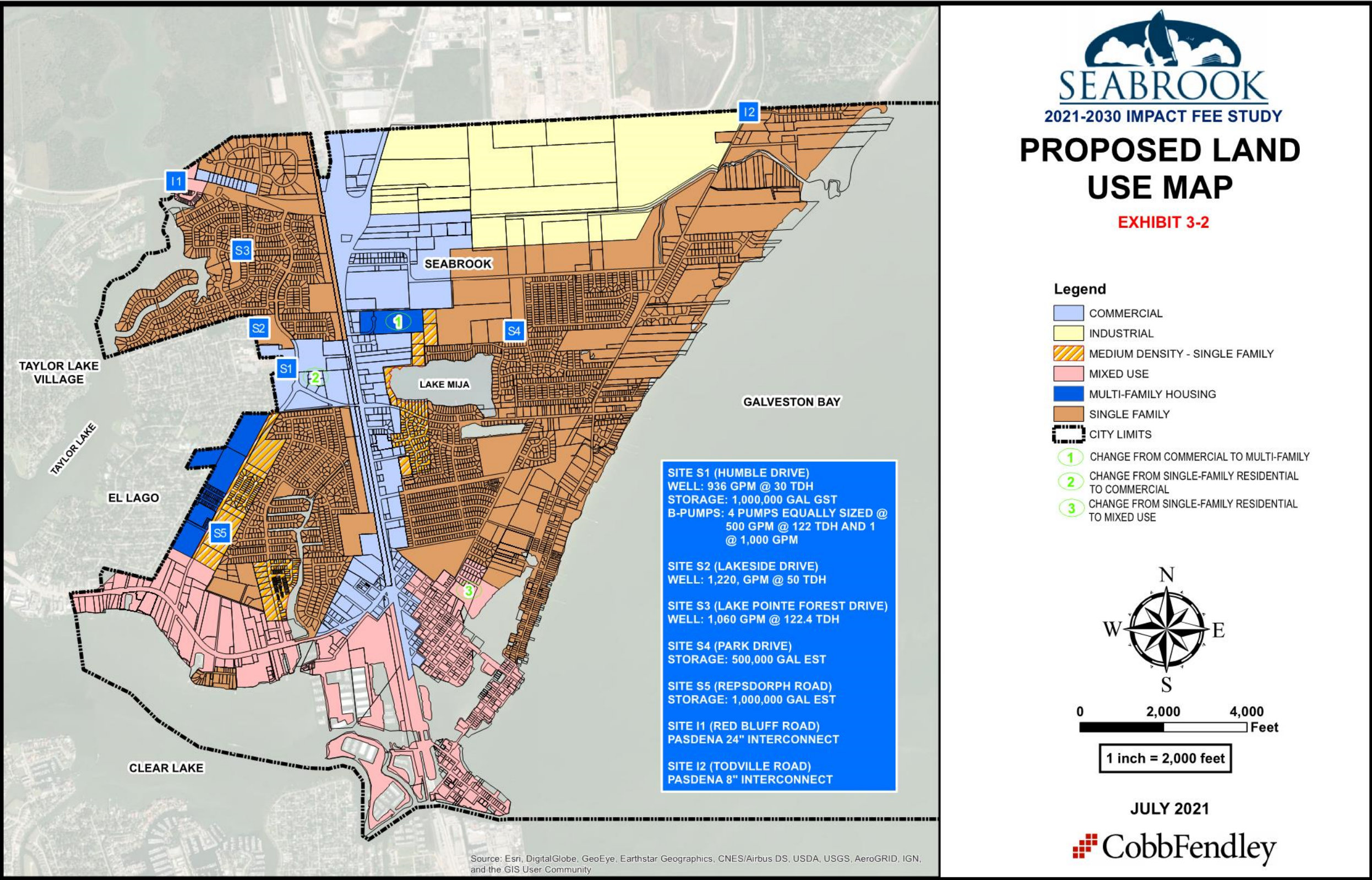


Exhibit 3-2: Proposed Land Use Map

4 WATER MASTER PLAN

A. GENERAL

The City of Seabrook provides water service mainly to residential, commercial and multi-family customers with the exception of a few small industrial customers. The City of Seabrook purchases water from the City of Pasadena and also sells water to Harris County Water Control and Improvement District (WCID) 50, located in the City of El Lago.

B. EXISTING WATER SYSTEM

The City's infrastructure consist of water lines ranging in size from 2-inch to 24-inch, two elevated storage tanks, one ground storage tank, three water wells and one booster pump station. Seabrook's existing water system utilizes PVC, asbestos cement, ductile iron and steel pipe materials.

Storage Capacity:

The City owns one 500,000-gallon elevated storage tank located on Park Drive, one 1 MG elevated storage tank located at Repsdorph, and one 1 MG ground storage tank located at the water plant on Lakeside Drive.

Water Supply:

The City owns one water well on Humble Drive, one on Lakeside Drive, and one on East Red Bluff Road. The total well capacity the City owns is 4.63 MGD.

As mentioned above, Seabrook purchases water from the City of Pasadena. Water is received from the City of Pasadena at two locations: via a 24-inch line along Red Bluff Road in the northwest part of Seabrook and via an 8-inch line along Todville Road in the northeast part of the City. The agreement between Seabrook and Pasadena, signed in 1988, states that Pasadena will supply 3 million gallons of potable water per day at 65 psi. Currently, Seabrook uses a pressure-reducing valve at the Red Bluff taking point to reduce the system pressure to approximately 53 psi in order to prevent elevated storage tanks from overflowing. Seabrook and the City of Pasadena have updated their agreement for additional water beyond the 1988 agreement for 2 million gallons per day. The new 2020 and current agreed amount is a total maximum of 5 million gallons of potable water per day but has a provision for allowing purchase of water in excess of the maximum, provided Pasadena gives written consent. The City currently sells 0.5 MGD to Harris County WCID 50, located in El Lago, Texas.

a. City of Seabrook Alternative Capacity Requirement 2014

On August 23, 2019, the City of Seabrook requested an alternative capacity requirement (ACR) as specified in Title 30 of the Texas Administrative Code 30 TAC §290.45(g) which states public water systems may request approval to meet alternative capacity requirements in lieu of minimum capacity requirements 30 TAC §290.45(f)(4) and 30 TAC §290.45(b)(1)(D)(ii). After supplying documentation in support of an alternative capacity request, the City was authorized to uphold a Minimum Authorized Total Production

(Purchased + Groundwater + Surface Water)¹ of 0.38 gpm per connection and a Total Storage Capacity² of 126 gallons per connection.

Booster Pump Capacity:

The City owns one booster pump station on Lakeside Drive that contains four 500 gpm booster pumps and one 1,000 gpm booster pump. The booster pumps are utilized when the Water Wells No. 1 and 2 are in use. Water Well No. 3 pumps directly into the distribution system, so the well pump is deemed a service pump with a capacity of 1,200 gpm. The main source of system pressure are the two water purchase connections from the City of Pasadena. TCEQ has allowed the City to account for 3,472 gpm of pump capacity from the pressurized purchase water connections. The total service pump capacity of the water system is 6,340 gallons per minute.

C. POPULATION, SERVICE CONNECTIONS, AND EQUIVALENT DWELLING UNITS

Water purchased, well production, and sold water data was provided by the City of Seabrook between January 2018 and December 2020. Billing data was provided by the City of Seabrook between January 2018 and June 2019. From this data, we were able to tabulate the number of water service connections, their associated land use, and their consumption. Table 4-1 represents the numbers of connections per land use. Between 2020 and 2030, there is expected to be a population increase of approximately 4.1%. For estimating purposes, the number of connections for multi-family and single-family residential will reflect the anticipated growth rate. Furthermore, it is estimated that the number of commercial connections will receive a precipitous increase. Table 4-1 represents the numbers of connections per land use.

Table 4-1: Population, Service Connection Information

YEAR	POPULATION	COMMERCIAL	RESIDENTIAL	MULTIFAMILY	TOTAL
2015	12,792	324	3,510	2,402	6,236
2020	14,149	500	3,623	2,430	6,553
2025	14,441	676	3,773	2,530	6,979
2030	14,733	852	3,928	2,635	7,415

1: Commercial includes Commercial, Mixed Use, and Industrial Connections

For purposes of this study, water and sanitary sewer are defined for a common measurement of capacity and demand; that unit of measurement is an EDU. An EDU is used to relate developments of different sizes to single-family home dwellings as the base standard. From the water billing data (as described above), water consumption data was aggregated per land use and divided by their number of connections. Using single-family residential as the base standard, one water system EDU is equal to 305 gpd. Commercial and Multi-Family consumption are 685 GPED and 206 GPED, respectively.

¹ Minimum Authorized Total Production Rate refers to 30 TAC §290.45(g)(2)

² Total Storage Capacity refers to 30 TAC §290.45(b)(1)(D)(ii)

Chapter 395 prescribes use of terminology Service Unit in the calculation of the Impact Fee. EDU and Service Unit are congruent and will be used interchangeably for the purposes of this study. Table 4-2 shows water consumption of EDUs per Land Use.

Table 4-2: Seabrook Water Consumption Billing Data

YEAR	POPULATION	COMMERCIAL	RESIDENTIAL	MULTIFAMILY	TOTAL
2015	12,792	729	3,510	1,633	5,872
2020	14,149	1,125	3,623	1,652	6,400
2025	14,441	1,521	3,773	1,721	7,014
2030	14,733	1,917	3,928	1,792	7,637
1: One Water System EDU = 305 gpd					

D. HISTORICAL WATER DEMAND

TCEQ recommends using historic data when available but gives acceptable calculations in the absence of historic data. While we have historic data present, the tables in this section were created to illustrate that the City's historical water use is much lower than the state average.

Water purchased, well production, and sold water data was provided by the City of Seabrook between January 2018 and December 2020. Their average daily demand, maximum daily demand and peak hourly demand is shown in Table 4-3.

Table 4-3: Historic Water Demand

	DEMAND	UNIT
Average Daily	1,780,947	Gallons/Day
Maximum Daily	2,817,012	Gallons/Day
Peak Hourly	146,719	Gallons/Day
NOTE		
1: Max day occurred on May 17, 2018		

Per TCEQ 290.38 (41), the maximum daily demand can be estimated to be 2.4 times the average daily demand. This comparison (shown in Table 4-4) shows that the City's historical maximum daily demand is less than the TCEQ calculated maximum daily demand. For this analysis, the historic value will be used.

Table 4-4: Maximum Daily Demand

	MAXIMUM DAILY DEMAND	UNIT
Historic Value	2,817,012	Gallons/Day
TCEQ 2.4 X AVD	4,274,273	Gallons/Day

Per TCEQ 290.38 (56), the peak hourly demand can be estimated to be 1.25 times the maximum daily demand. This comparison shows that the City's peak hourly demand is lower than the estimated TCEQ calculation method. For this analysis, the historic value will be used.

Table 4-5: Peak Hourly Demand

	PEAK HOURLY DEMAND	UNIT
Historic Value	117,376	Gallons/Hour
TCEQ1.25 X Max. Daily	146,719	Gallons/Hour

Table 4-6 utilizes the population projection of 14,733 people as explained in Section 2 and the EDU equivalencies established in this section to project the water demand for 2030.

Table 4-6: Required Water Demand

	REQUIRED DEMAND	UNIT
2020 Average Daily	1,780,947	Gallons/Day
2020 Maximum Daily	2,817,012	Gallons/Day
2020 Peak Hourly	117,376	Gallons/Hour
2020 Peak Hourly	1,956	Gallons/Min
2030 Average Daily	2,323,750	Gallons/Day
2030 Maximum Daily	3,361,366	Gallons/Day
2030 Peak Hourly	175,071	Gallons/Hour
2030 Peak Hourly	2,918	Gallons/Min

The following subsection will evaluate if the City's anticipated demand by 2030 will warrant any additional water supply.

E. REQUIRED WATER SUPPLY

The City of Seabrook has two sources of water: purchased water from the City of Pasadena and groundwater. There are two locations where water is metered and purchased from the City of Pasadena. The contracted water supply from Pasadena is listed in Table 4-7.

Table 4-7: Purchased Water Capacity

LOCATION	PURCHASED CAPACITY (MGD)
Red Bluff Road	4.5
Todville Road	0.5
TOTAL	5.0

In addition, Table 4-8 shows the existing well and purchased water capacity in the City of Seabrook.

Table 4-8: Existing Well and Purchased Water Capacity

NAME	LOCATION	TYPE	CAPACITY (MGD)
Well No.1	Lakside Drive	Groundwater	1.35
Well No.2	2501 Humble Drive	Groundwater	1.76
Well No.3	2613 Red Bluff	Groundwater	1.72
City of Pasadena	Red Bluff, Todville	Groundwater	5.00
TOTAL			9.83

Calculating existing and future required water production figures is accomplished by multiplying the connections times 0.38 gpm per connection, as approved in the ACR.

Table 4-9: Water Supply Summary

TYPE	EXISTING (MGD)	TCEQ REQUIREMENTS 2020 (MGD)	TCEQ REQUIREMENTS 2030 (MGD)
Production Capacity	9.83	3.59	4.06

It is evident that the City will not need any additional water supply by the end of this study period.

F. REQUIRED STORAGE

Per TCEQ Chapter 290.45 (b) (2) (E), the City must have a total minimum water storage capacity of 200 gallons per connection. However, with the approval of the ACR the City must maintain a storage capacity of 126 gallons per connection. In 2020, the City billed 6,755 connections. Using these 6,775 connections, the City is required to have 853,650 gallons of total storage. The City currently has 2.5 MG of combined ground and elevated storage and therefore is in compliance.

The population and projection of 7,415 connections indicate that the City will require 934,290 gallons of total storage by the year 2030. The current storage capacity of 2.5 MG will meet the future storage requirements.

Per Chapter 290.45 (b) (2) (G), the City must have a total minimum elevated water storage capacity of 100 gallons per connection. Using the total 6,775 connections, the City is required to have 677,500 gallons of elevated storage. The City currently has 1.5 MG of elevated storage and therefore is in compliance and exceeds 200 gallons per connection of elevated storage.

The population and build out projections and number of connections projected in 2030 indicates that the City will require 741,500 gallons of elevated storage capacity. The City will not require any additional elevated storage by 2030.

Table 4-10 is a summary of information presented in this subsection.

Table 4-10: Storage Capacity Summary

TYPE	EXISTING	TCEQ REQUIREMENTS 2020	TCEQ REQUIREMENTS 2030
Ground	1,000,000	---	---
Elevated	1,500,000	677,500	741,500
TOTAL	2,500,000	853,650	934,290

G. REQUIRED BOOSTER PUMPS

The City currently has one pump station located at Water Plant No. 1 on Lakeside Drive. However, due to the nature of the City's pressurized water supply from Pasadena, TCEQ has allowed 2,083 gpm of the supply to be accounted for in the booster pump capacity. The City also configured Water Well No. 3 to deliver pressurized water directly into the distribution system, thus constituting additional booster pump capacity. The existing configuration of service pump capacities are shown in the table below.

Table 4-11: Existing Booster Pump Capacity

PUMPS NUMBERS	HORSEPOWER	CAPACITY (GPM)
#1	40	500
#2	40	500
#3	40	500
#4	40	500
#5	40	1,000
Pasadena Water	N/A	3,472
Well #3		1,200
TOTAL CAPACITY		7,672
FIRM CAPACITY		4,200

Per TCEQ Chapter 290.45 (b) (2) (F), the system must have service pump capacity that provides each pump station or pressure plane with 2 or more pumps that have a total capacity of 2.0 gpm per connection or that have a total capacity of at least 1,000 gpm and the ability to meet peak hourly demands with the largest pump out of service, whichever is less. TCEQ rules allow for an alternative calculation of 0.6 gpm per connection for systems that provide elevated storage capacity of 200 gallons per connection. Currently, Seabrook provides 221 gallons per connection of elevated storage capacity. Seabrook will be able to provide 202 gallons per connection in the future 2030 projections.

Table 4-12: Booster Pump Requirements

	PUMP CAPACITY	OPTION 1 (2.0 GPM PER CONN.)	OPTION 2 (1,000 GPM & PEAK HOURLY)	OPTION 3 (0.6 GPM PER CONN.)
2020	Total	13,550		4,065
	Total with largest pump out		252,000	
2030	Total	14,830		4,449
	Total with largest pump out		252,000	
2018 PEAK HOUR DEMAND: 146,719 GPH				
2030 PEAK HOUR DEMAND PROJECTION: 201,000 GPH				

The peak hourly demand for 2020 is determined by historical water use. Peak hourly demand for year 2030 is calculated by multiplying the number of EDUs by 305 GPED and doubled. The City's current service pump capacity meets the needs in year 2030 with Option 2 or Option 3 calculation methods.

H. WATER MODELING

Bentley ® WaterCAD v8.1 was used in the computation and modeling of the City of Seabrook's water supply and distribution network. The software, whose calculation algorithm is based on the hydraulic gradient method, allows the hydraulic network analysis of water by determining the pressure, flow rates and head losses at various points in the system. An existing water supply network was developed in ArcGIS by CobbFendley. This GIS layout contained the topological, material, size and elevation information of the supply network and was imported into AutoCAD then converted to a .DXF file. This .DXF file was imported into WaterCAD and used as an underlay to create the network in its entirety. In a similar fashion, the Land Use categories were also imported into WaterCAD.

Water consumption data was provided by the City of Seabrook per land use. When the distribution line layout was completed, a distinction between which nodes applied to what land use was determined and the water consumption data per land use was divided by its respective number of nodes.

The existing water system includes two elevated storage tanks, one ground storage tank, three water wells, and six pumps. The two water supply points purchased from the City of Pasadena were defined as tanks. Elevations, pressures, and capacities were assigned to the infrastructure, where appropriate. Fire flows were analyzed for 2,500 GPM.

Six scenarios were evaluated at different demand requirements. One premise of the evaluations was to observe that customers were receiving sufficient water pressure equal to or greater than 35 psi. The scenarios are as follows:

- | | |
|---|---|
| 1. Scenario One: Existing conditions at ADD | 4. Scenario Four Proposed conditions at ADD |
| 2. Scenario Two: Existing conditions at Max Day | 5. Scenario Five: Proposed conditions at Max Day |
| 3. Scenario Three: Existing conditions, max day at fire flow. | 6. Scenario Six: Proposed conditions, max day at fire flow. |

7. An "EMERGENCY" scenario was modeled and presents as followed: Proposed conditions, max day at fire flow with 24" interconnect out of service and proposed 8" and 12" interconnects in service.

a. Existing Model Scenarios

While the pressures were verified to be over 35 psi for the ADD and MDD analysis, the fire flow analysis concluded that there were several points in the system unable to supply water at 2,500 GPM. The areas whose fire flow were insufficient were primarily comprised of a similar geography: borders of the City Limits, dead-end streets or cul-de-sacs.

b. Proposed Model Scenarios

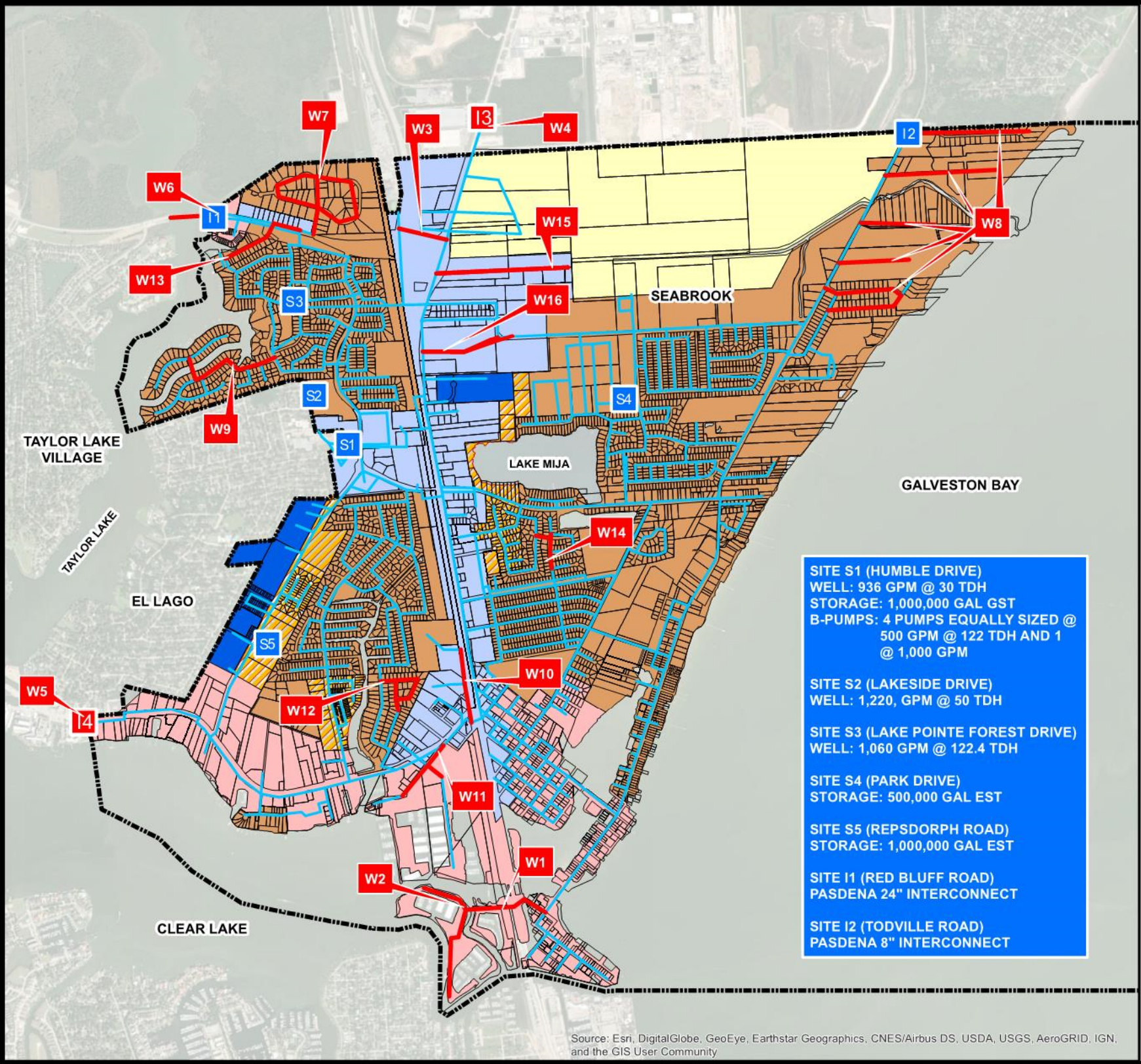
This model included the anticipated development that was discussed in Section 3. Waterlines and tanks were drawn as necessary to reflect the proposed conditions. Demands were also increased to simulate 2030 EDU projections. Additionally, from the

2015-2025 CIP, there are projects that were not completed in that time interval that are re-proposed in this CIP iteration and water model. The re-proposed projects are W1 – W8 on the new 2021-2030 CIP.

c. Discussion

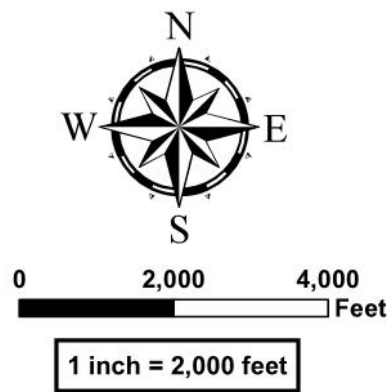
The model indicates that the proposed improvements will provide adequate pressure for future daily demands. We also can observe that the system pressure of Seabrook is within compliance to state laws during the course of this study period. Several projects are proposed to alleviate the lack of available fire flow in specific areas of the City.

Exhibit 4-1 summarizes our findings from this subsection. Exhibit 4-2 and Exhibit 4-3 visualize the pressure contour analysis for Scenario One and Scenario Two. Exhibit 4-4 shows Scenario Three. Exhibit 4-5, Exhibit 4-6 and Exhibit 4-7 detail the proposed Scenarios. Exhibit 4-8 details the proposed “EMERGENCY” scenario.



SEABROOK
2021-2030 IMPACT FEE STUDY
WATER CIP MAP
EXHIBIT 4-1

- Legend**
- PROPOSED PIPE NETWORK
 - PROPOSED 12" INTERCONNECT
 - PROPOSED 8" INTERCONNECT
 - PIPE NETWORK
 - CITY LIMITS



JULY 2021
CobbFendley

Exhibit 4-1: Water CIP Map

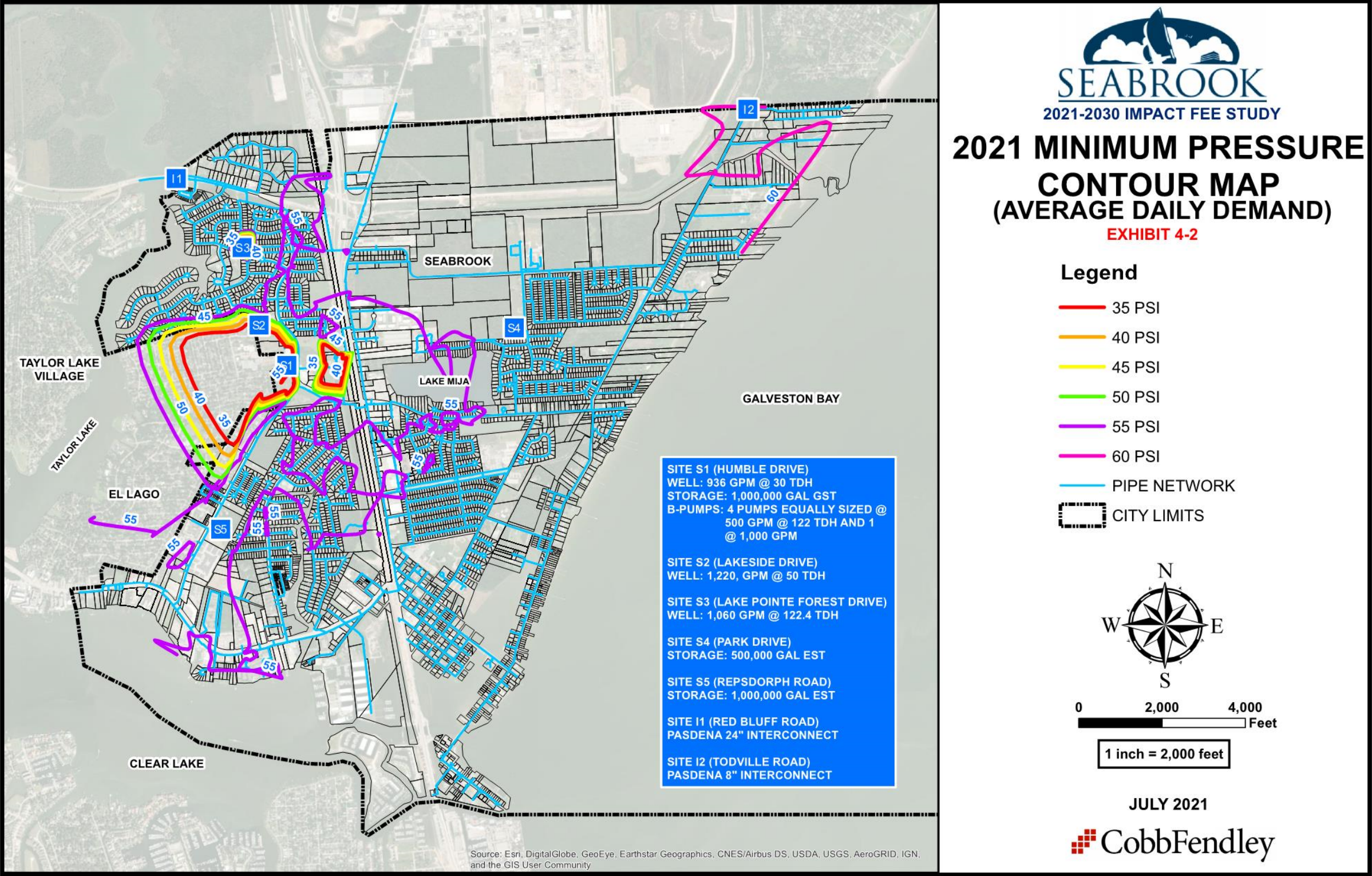


Exhibit 4-2: Minimum Value Pressure Contours at ADD (2021)

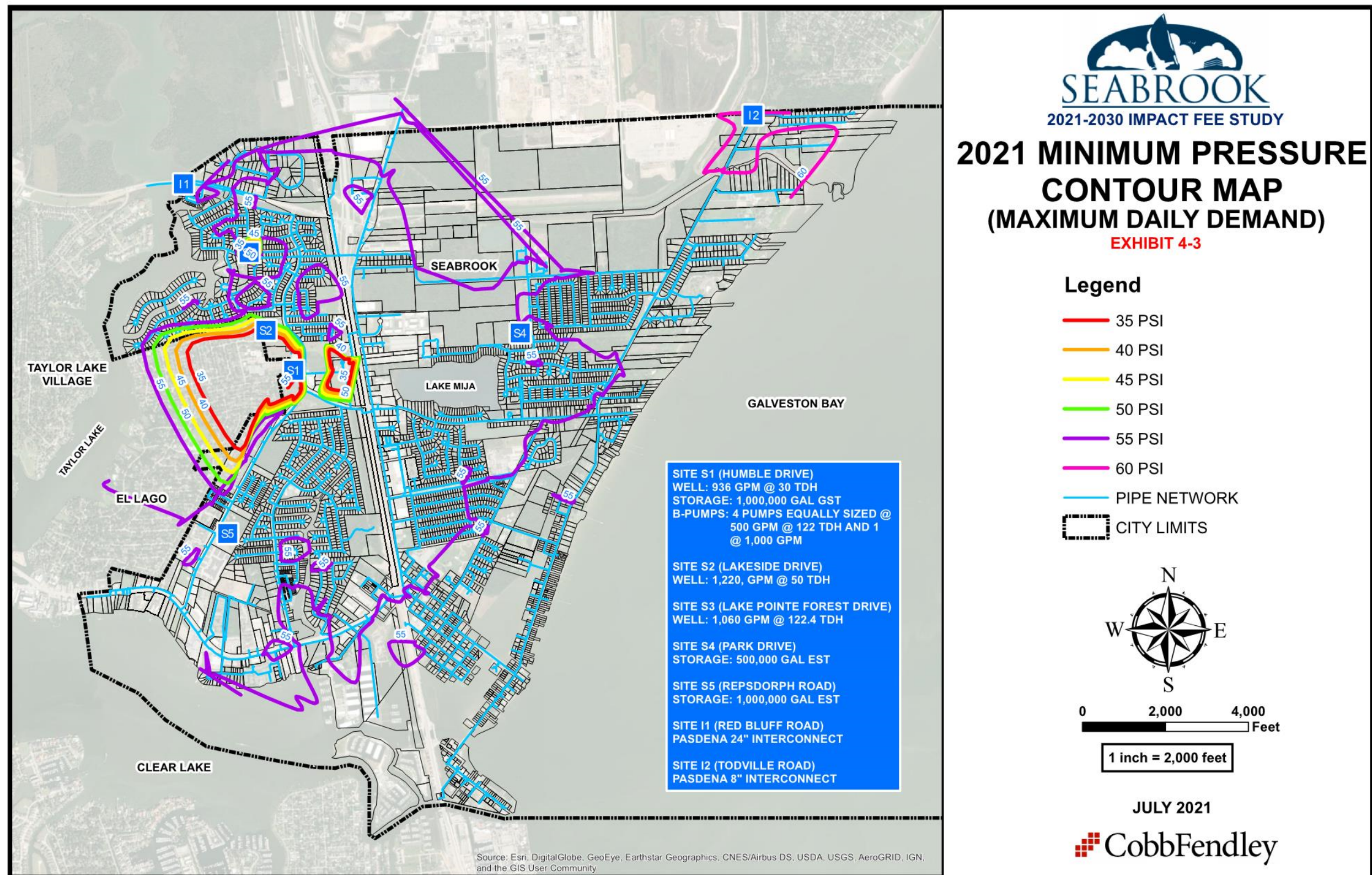


Exhibit 4-3: Minimum Pressure Contours at MDD (2021)

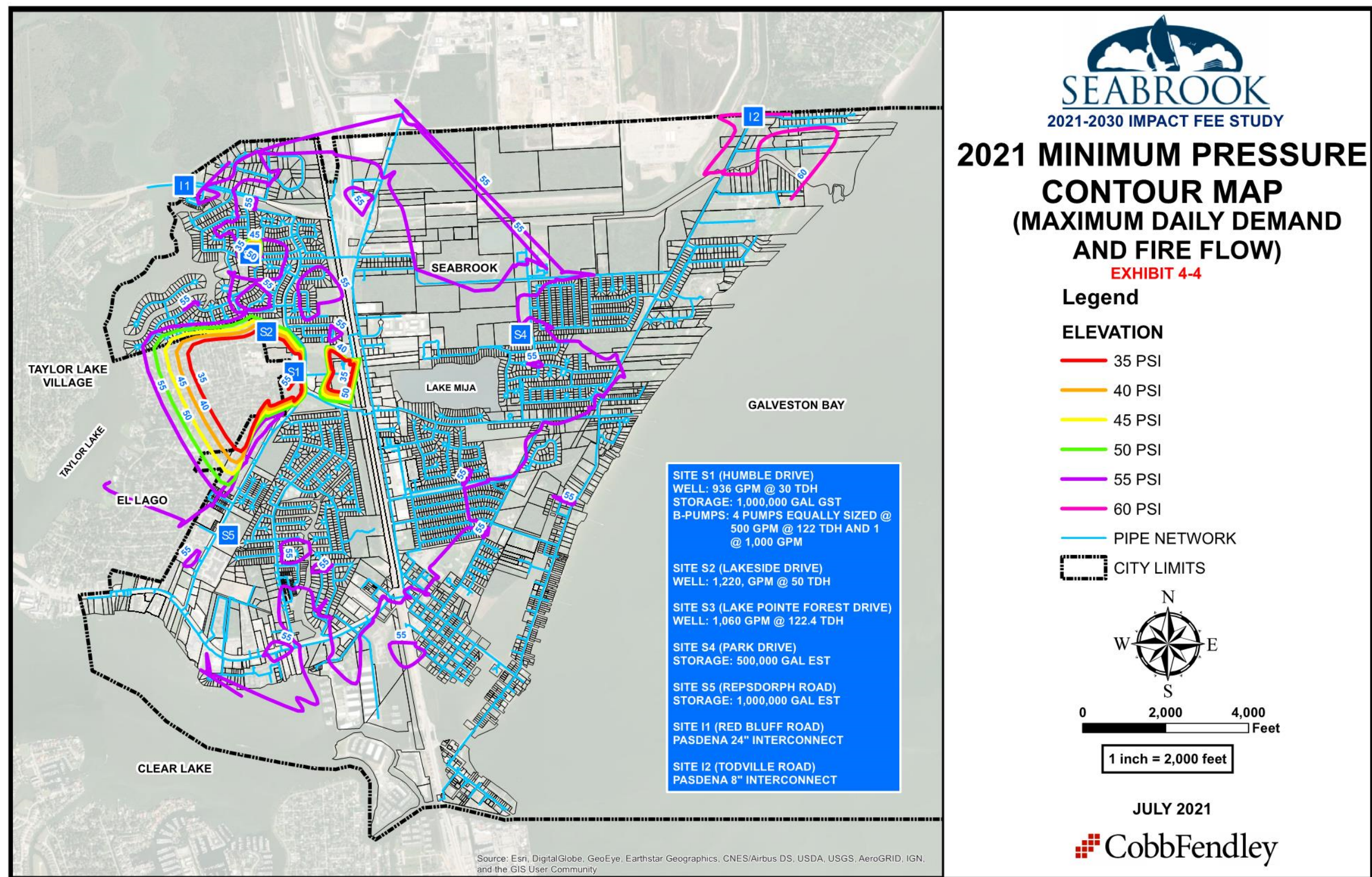


Exhibit 4-4: Fire Flow Analysis (2021)

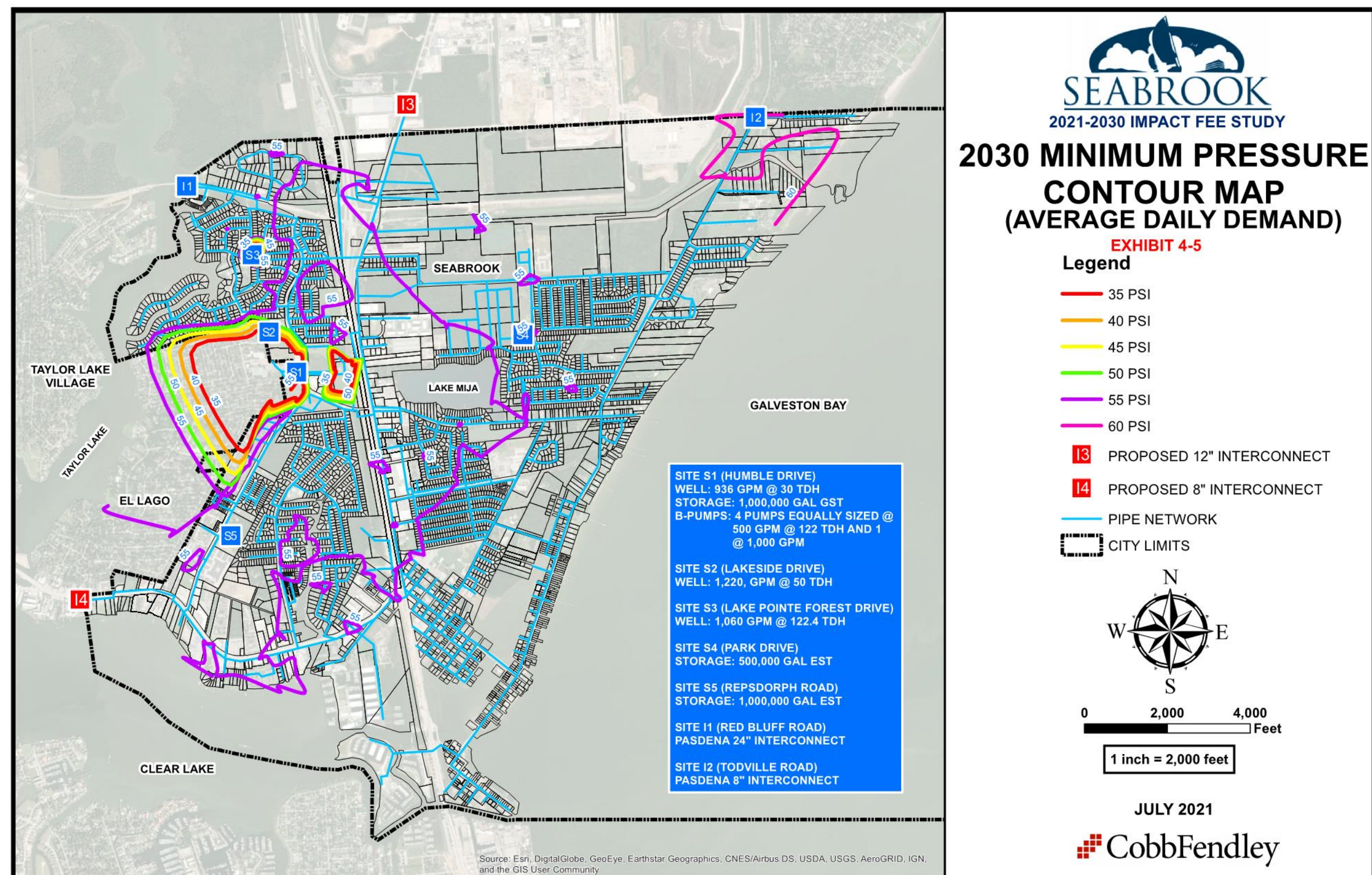


Exhibit 4-5: Minimum Pressure Contours at ADD (2030)

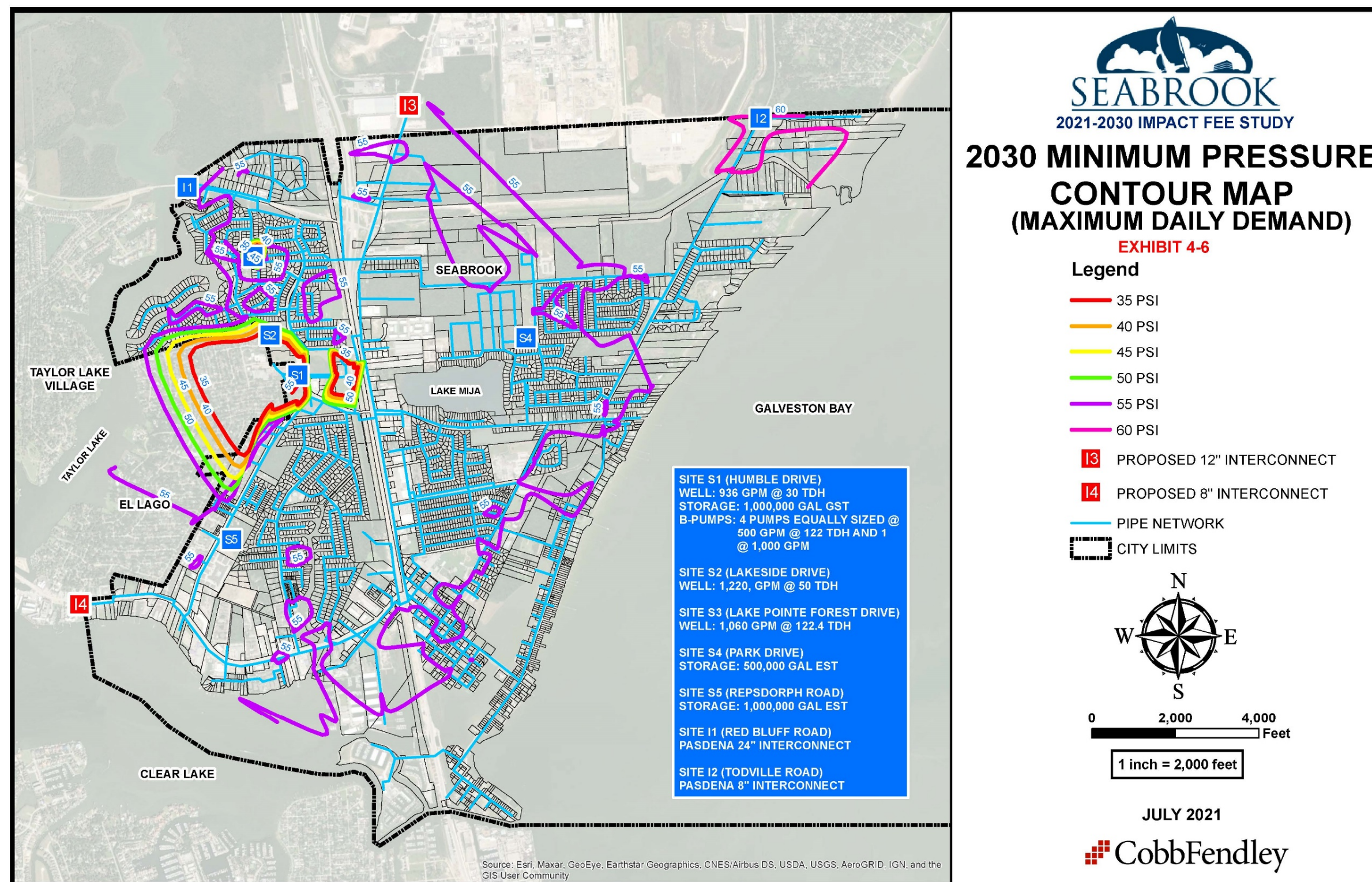


Exhibit 4-6: Minimum Pressure Contour Map at MDD (2030)

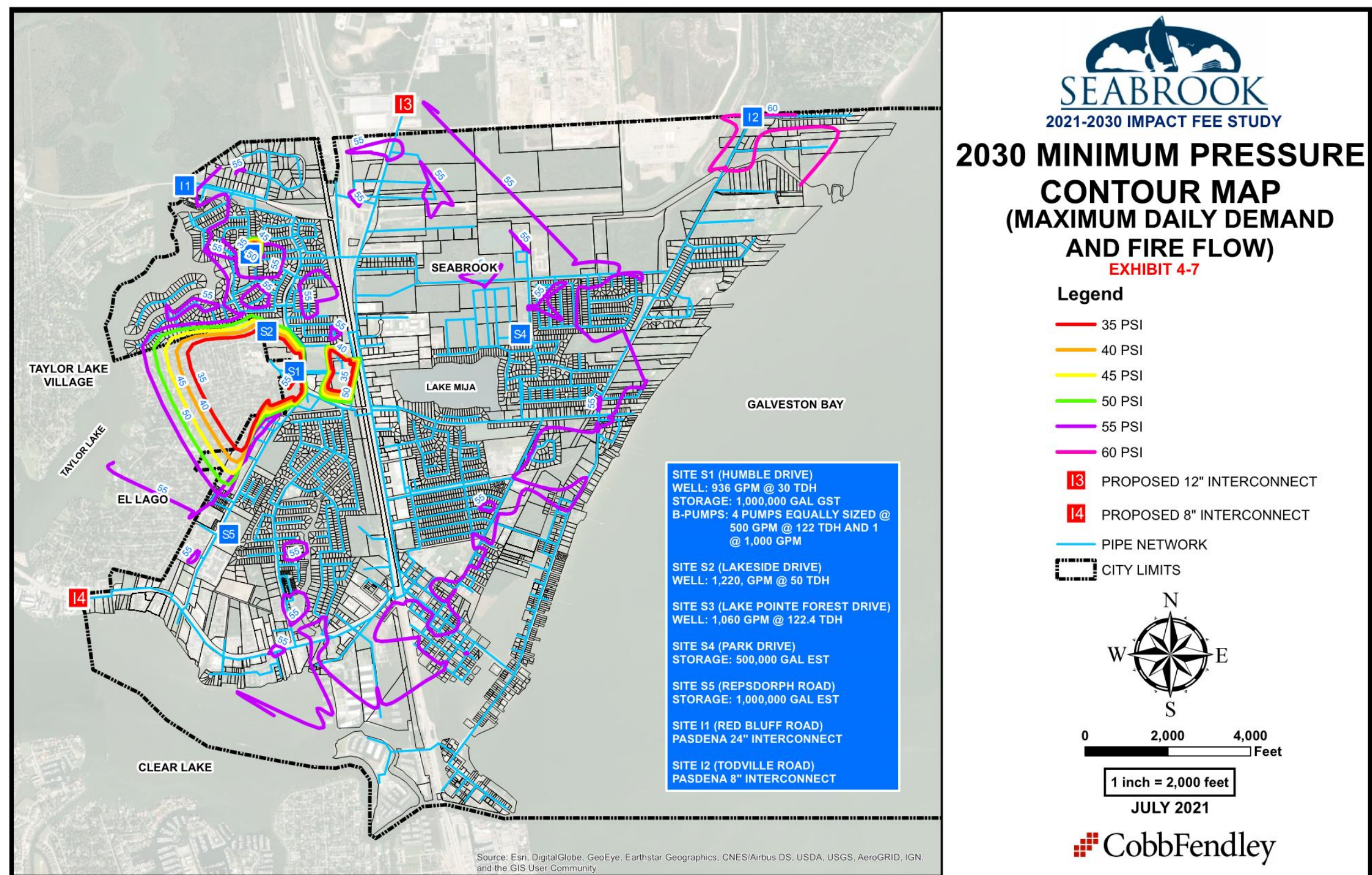


Exhibit 4-7: Fire Flow Analysis (2030)

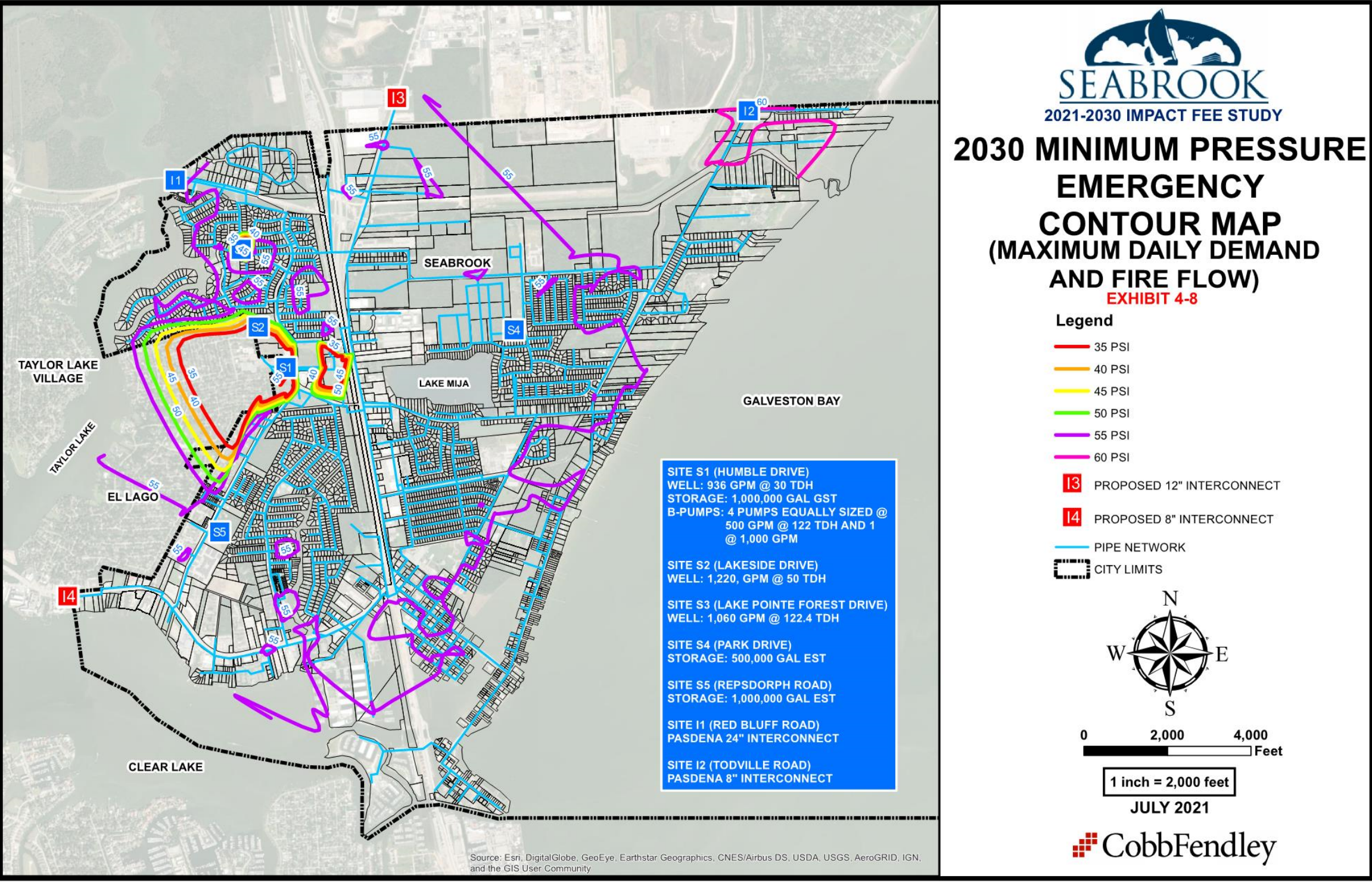


Exhibit 4-8: Emergency Scenario

I. RECOMMENDATIONS TO ACHIEVE COMPLIANCE

Table 4-13 is a summary of the current and 2030 compliance status of the City's water system with TCEQ regulation.

Table 4-13: TCEQ Compliance Status

DESCRIPTION	2020	2030
Total Storage Capacity	✓	✓
Elevated Storage Capacity	✓	✓
Booster Pump Capacity	✓	✓
Purchased Water Contract	✓	✓
Total Water Production Capacity	✓	✓

The City's water supply and distribution network is in compliance for 2020 and 2030.

J. PROPOSED IMPROVEMENTS 2030

Table 4-14 identifies the projects proposed from 2015 and their status. Seven of the ten projects that were not completed from 2015 to 2025 will be re-visited in this iteration of the CIP.

Table 4-14 Proposed Water CIP Projects from 2015-2025

2015-2025 CIP #	DESCRIPTION	STATUS
W1	Todville Road 12-Inch Water Line	Completed
W2	Shipyards Water Service Phase 1	Proposed 2020-2030 CIP as W1
W3	Shipyards Water Service Phase 2	Proposed 2020-2030 CIP as W2
W4	Humble Drive Water Plant Relocation	Completed
W5	Taylor Lake Water Line Crossing	Proposed 2020-2030 CIP as W6
W6	Old Seabrook Water Line Improvements	Proposed 2020-2030 CIP as W4
W7	State Highway 146 Water Line Improvements	Completed
W8	Lakeside Drive Booster Pumps	Completed
W9	Red Bluff 12-Inch Water Line	Proposed 2020-2030 CIP as W7
W10	Pine Gully Waterline Replacement	Proposed 2020-2030 CIP as W8

CobbFendley evaluated the water system to determine if the current infrastructure was adequate to service existing areas now and in future areas by 2030. For instance, the water models were an important tool in this analysis to understand the network as a whole. Seabrook's northwest and northeast single-family residential dwellings were underserved to provide 2,500 gpm fire flows. By upsizing this the infrastructure to these dwellings, these areas will be in compliance.

The proposed projects are designed with capacity for the calculated 2030 flows. Treatment costs for water were not factored into this study or in the projection of capital improvement costs.

**WATER AND WASTEWATER CAPITAL
IMPROVEMENTS PLAN AND IMPACT FEE STUDY
2021-2030**



PROPOSED CAPITAL IMPROVEMENTS PROJECTS							
PROJECT TITLE: Shipyards Water Service Phase 1							
PROJECT LOCATION/LIMITS: Service Area 17							
CIP NUMBERS: W1							
FACILITY TYPE: WATER							
PROJECT DESCRIPTION AND JUSTIFICATION:							
The Shipyards (Jennings Island) is a very poorly served area with much of it still on water wells. This project would provide City water services to the area and provide for future development in the area.							
PROJECT COST ESTIMATES:							
COST BY FISCAL YEAR							
PROJECT COST	FY21	FY22	FY23	FY24	FY25	FY26+	TOTAL
ENGINEERING/PLANNING		\$ 93,097					\$ 93,097.44
LAND/EASEMENTS ACQ.			\$ 55,858				\$ 55,858.46
CONSTRUCTION			\$ 465,487				\$ 465,487.20
TOTAL COST	\$ -	\$ 93,097	\$ 521,346	\$ -	\$ -	\$ -	\$ 614,443.10
OPINION OF PROBABLE CONSTRUCTION COST ESTIMATE:							
DESCRIPTION	QUANTITY	UNIT	UNIT PRICE		TOTAL COST		
12-INCH PVC WATER LINE	1703	LF	\$ 65.00		\$ 110,695.00		
12-INCH BORE & JACKED (20" CASING)	600	LF	\$ 320.00		\$ 192,000.00		
12-INCH GATE VALVES	3	EA	\$ 1,500.00		\$ 4,200.00		
FIRE HYDRANT ASSEMBLIES	5	EA	\$ 4,000.00		\$ 18,000.00		
WATER SERVICES	17	EA	\$ 1,200.00		\$ 20,436.00		
DEWATERING	1703	LF	\$ 25.00		\$ 42,575.00		
PROJECT CONTINGENCIES (20%)						\$	77,581.20
CONSTRUCTION TOTAL						\$	465,487.20
COMMENTS/SPECIAL PROJECT NOTES:							



CIP W 1: Shipyards Water Service Phase 1

**WATER AND WASTEWATER CAPITAL
IMPROVEMENTS PLAN AND IMPACT FEE STUDY
2021-2030**



PROPOSED CAPITAL IMPROVEMENTS PROJECTS							
PROJECT TITLE: Shipyards Water Service Phase 2							
PROJECT LOCATION/LIMITS: Service Area 17							
CIP NUMBERS: W2							
FACILITY TYPE: WATER							
PROJECT DESCRIPTION AND JUSTIFICATION:							
The Shipyards (Jennings Island) is a very poorly served area with much of it still on water wells. This project would provide City water services to the area and provide for future development in the area.							
PROJECT COST ESTIMATES:							
COST BY FISCAL YEAR							
PROJECT COST	FY21	FY22	FY23	FY24	FY25	FY26+	TOTAL
ENGINEERING/PLANNING			\$96,241				\$ 96,240.96
LAND/EASEMENTS ACQ.				\$ 57,744.58			\$ 57,744.58
CONSTRUCTION				\$ 481,204.80			\$ 481,204.80
TOTAL COST	\$ -	\$ -	\$ 96,240.96	\$ 538,949.38	\$ -	\$ -	\$ 635,190.34
OPINION OF PROBABLE CONSTRUCTION COST ESTIMATE:							
DESCRIPTION	QUANTITY	UNIT	UNIT PRICE		TOTAL COST		
12-INCH PVC WATER LINE	2827	LF	\$ 65.00		\$ 183,755.00		
12-INCH BORE & JACKED (20" CASING)	250	LF	\$ 320.00		\$ 80,000.00		
12-INCH GATE VALVES	4	EA	\$ 1,500.00		\$ 5,850.00		
FIRE HYDRANT ASSEMBLIES	7	EA	\$ 4,000.00		\$ 26,800.00		
WATER SERVICES	28	EA	\$ 1,200.00		\$ 33,924.00		
DEWATERING	2827	LF	\$ 25.00		\$ 70,675.00		
PROJECT CONTINGENCIES (20%)					\$ 80,200.80		
CONSTRUCTION TOTAL					\$ 481,204.80		
COMMENTS/SPECIAL PROJECT NOTES:							



CIP W 2: Shipyards Water Service Phase 2

**WATER AND WASTEWATER CAPITAL
IMPROVEMENTS PLAN AND IMPACT FEE STUDY
2021-2030**



PROPOSED CAPITAL IMPROVEMENTS PROJECTS							
PROJECT TITLE: SH146 Bore to Old SH146							
PROJECT LOCATION/LIMITS: Service Area 15							
CIP NUMBERS: W3							
FACILITY TYPE: WATER							
PROJECT DESCRIPTION AND JUSTIFICATION:							
This line connects the new and old SH 146 to provide a desired water loop. Helps with water allocation in the water system.							
PROJECT COST ESTIMATES:							
COST BY FISCAL YEAR							
PROJECT COST	FY21	FY22	FY23	FY24	FY25	FY26+	TOTAL
ENGINEERING/PLANNING			\$ 103,782.72				\$ 103,782.72
LAND/EASEMENTS ACQ.				\$ 62,269.63			\$ 62,269.63
CONSTRUCTION				\$ 518,913.60			\$ 518,913.60
TOTAL COST	\$ -	\$ -	\$ 103,782.72	\$ 581,183.23	\$ -	\$ -	\$ 684,965.95
OPINION OF PROBABLE CONSTRUCTION COST ESTIMATE:							
DESCRIPTION	QUANTITY	UNIT	UNIT PRICE			TOTAL COST	
12-INCH PVC WATER LINE	974	LF	\$ 65.00			\$ 63,310.00	
12-INCH BORE & JACKED (20" CASING)	994	LF	\$ 320.00			\$ 318,080.00	
12-INCH GATE VALVES	2	EA	\$ 1,500.00			\$ 3,000.00	
FIRE HYDRANT ASSEMBLIES	3	EA	\$ 4,000.00			\$ 12,000.00	
WATER SERVICES	10	EA	\$ 1,200.00			\$ 11,688.00	
DEWATERING	974	LF	\$ 25.00			\$ 24,350.00	
PROJECT CONTINGENCIES (20%)						\$ 86,485.60	
CONSTRUCTION TOTAL						\$ 518,913.60	
COMMENTS/SPECIAL PROJECT NOTES:							



CIP W 3: SH146 Bore to Old SH146

**WATER AND WASTEWATER CAPITAL
IMPROVEMENTS PLAN AND IMPACT FEE STUDY
2021-2030**



PROPOSED CAPITAL IMPROVEMENTS PROJECTS							
PROJECT TITLE: Old SH146 12" Interconnect							
PROJECT LOCATION/LIMITS: Service Area 15							
CIP NUMBERS: W4							
FACILITY TYPE: WATER							
PROJECT DESCRIPTION AND JUSTIFICATION:							
This project is to construct a 12" Interconnect with the City of Pasadena. The interconnect will be used incase of an emergency or as an alternative source of water as needed.							
PROJECT COST ESTIMATES:							
COST BY FISCAL YEAR							
PROJECT COST	FY21	FY22	FY23	FY24	FY25	FY26+	TOTAL
ENGINEERING/PLANNING			\$ 12,000.00				\$ 12,000.00
LAND/EASEMENTS ACQ.				\$ 7,200.00			\$ 7,200.00
CONSTRUCTION				\$ 60,000.00			\$ 60,000.00
TOTAL COST	\$ -	\$ -	\$ 12,000.00	\$ 67,200.00	\$ -	\$ -	\$ 79,200.00
OPINION OF PROBABLE CONSTRUCTION COST ESTIMATE:							
DESCRIPTION	QUANTITY	UNIT	UNIT PRICE		TOTAL COST		
12" Interconnect	1	LS	\$ 40,000.00		\$ 40,000.00		
Contract	1	LS	\$ 10,000.00		\$ 10,000.00		
Project Contingencies (20%)					\$ 10,000.00		
Construction Total					\$ 60,000.00		
COMMENTS/SPECIAL PROJECT NOTES:							



CIP W 4: Old SH 146 12" Interconnect

**WATER AND WASTEWATER CAPITAL
IMPROVEMENTS PLAN AND IMPACT FEE STUDY
2021-2030**



PROPOSED CAPITAL IMPROVEMENTS PROJECTS							
PROJECT TITLE: Nasa Road 8" Interconnect							
PROJECT LOCATION/LIMITS: Service Area 12							
CIP NUMBERS: W5							
FACILITY TYPE: WATER							
PROJECT DESCRIPTION AND JUSTIFICATION:							
This project is to construct a 8" Interconnect with the City of Pasadena. The interconnect will be used incase of an emergency or as an alternative source of water as needed.							
PROJECT COST ESTIMATES:							
COST BY FISCAL YEAR							
PROJECT COST	FY21	FY22	FY23	FY24	FY25	FY26+	TOTAL
ENGINEERING/PLANNING			\$ 12,000.00				\$ 12,000.00
LAND/EASEMENTS ACQ.				\$ 7,200.00			\$ 7,200.00
CONSTRUCTION				\$ 60,000.00			\$ 60,000.00
TOTAL COST	\$ -	\$ -	\$ 12,000.00	\$ 67,200.00	\$ -	\$ -	\$ 79,200.00
OPINION OF PROBABLE CONSTRUCTION COST ESTIMATE:							
DESCRIPTION	QUANTITY	UNIT	UNIT PRICE			TOTAL COST	
12" Interconnect	1	LS	\$ 40,000.00			\$ 40,000.00	
Contract	1	LS	\$ 10,000.00			\$ 10,000.00	
PROJECT CONTINGENCIES (20%)						\$ 10,000.00	
CONSTRUCTION TOTAL						\$ 60,000.00	
COMMENTS/SPECIAL PROJECT NOTES:							

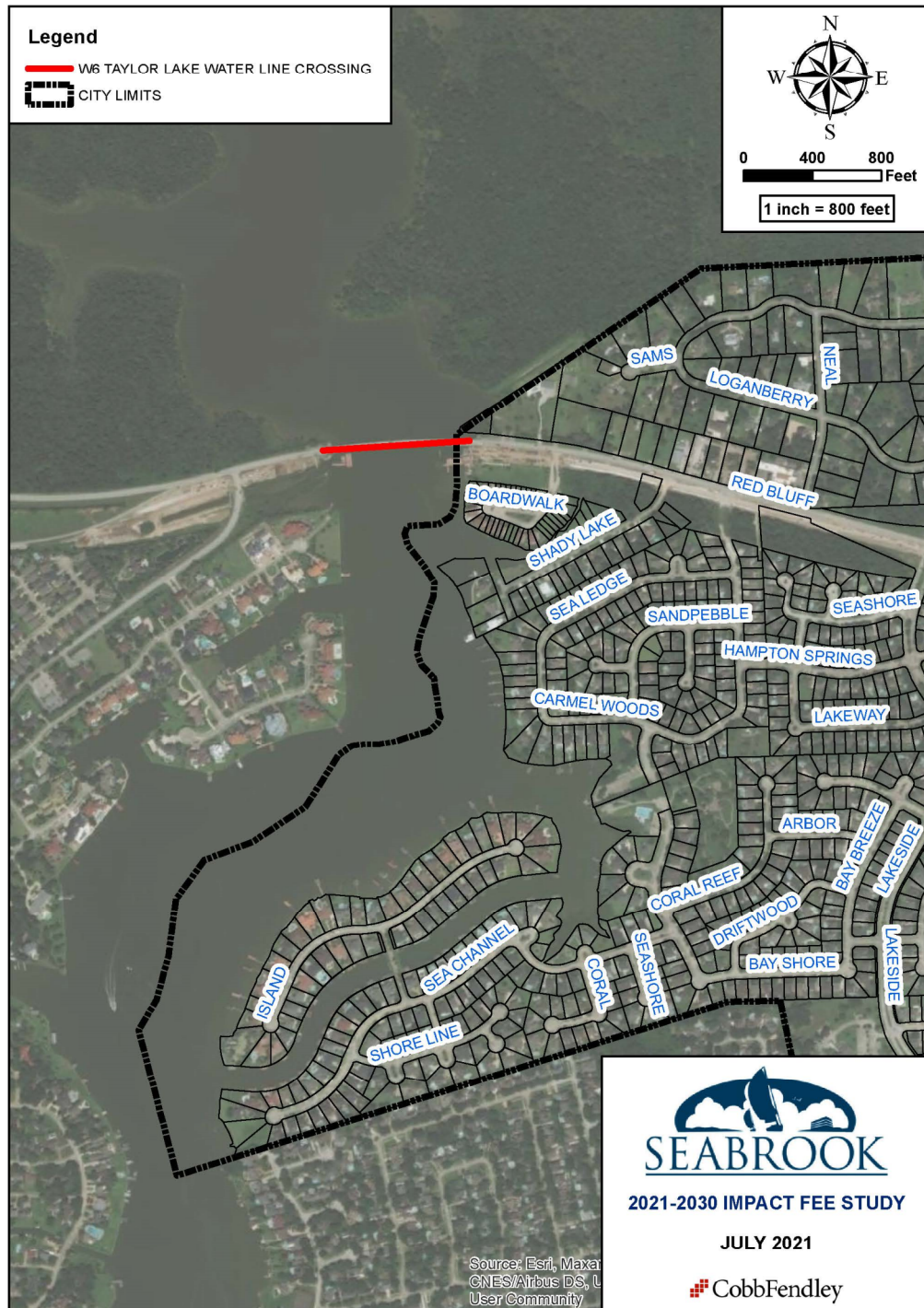


CIP W 5: Nasa Road 8" Interconnect

**WATER AND WASTEWATER CAPITAL
IMPROVEMENTS PLAN AND IMPACT FEE STUDY
2021-2030**



PROPOSED CAPITAL IMPROVEMENTS PROJECTS							
PROJECT TITLE: Taylor Lake Water Line Crossing							
PROJECT LOCATION/LIMITS: Service Area 16							
CIP NUMBERS: W6							
FACILITY TYPE: WATER							
PROJECT DESCRIPTION AND JUSTIFICATION:							
The line segment is owned by the City of Pasadena and should be properly maintained by Pasadena, but due to it's current condition, it has been poorly maintained. The line was originally installed by the City of Seabrook but traded to the City of Pasadena years ago as part of a service arrangement with Pasadena. The line is of critical importance to the city of Seabrook, but no importance to Pasadena and is therefore not well maintained.							
PROJECT COST ESTIMATES:							
COST BY FISCAL YEAR							
PROJECT COST	FY21	FY22	FY23	FY24	FY25	FY26+	TOTAL
ENGINEERING/PLANNING				\$ 282,660.00			\$ 282,660.00
LAND/EASEMENTS ACQ.					\$ 169,596.00		\$ 169,596.00
CONSTRUCTION					\$ 1,413,300.00		\$ 1,413,300.00
TOTAL COST	\$ -	\$ -	\$221,820	\$ 282,660.00	\$ 1,582,896.00	\$ -	\$ 2,087,376.00
OPINION OF PROBABLE CONSTRUCTION COST ESTIMATE:							
DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL COST			
24-INCH PVC WATER LINE	850	LF	\$ 250.00	\$ 212,500.00			
32-INCH HDPE DIRECTIONAL DRILLED	1700	LF	\$ 550.00	\$ 935,000.00			
24-VALVES	2	EA	4500	\$ 9,000.00			
DEWATERING	850	LF	\$ 25.00	\$ 21,250.00			
				PROJECT CONTINGENCIES (20%)		\$ 235,550.00	
				CONSTRUCTION TOTAL		\$ 1,413,300.00	
COMMENTS/SPECIAL PROJECT NOTES:							
The aerial crossing attached to the Taylor Lake Bridge suffers from corrosion and the lack of maintaince subjects the City of Seabrook to the likelihood of perforations and service downtime. This project would replace the existing aerial crossing with an underground, directional drilled HPDE line that would not be subject to corrosion or storm damage.							

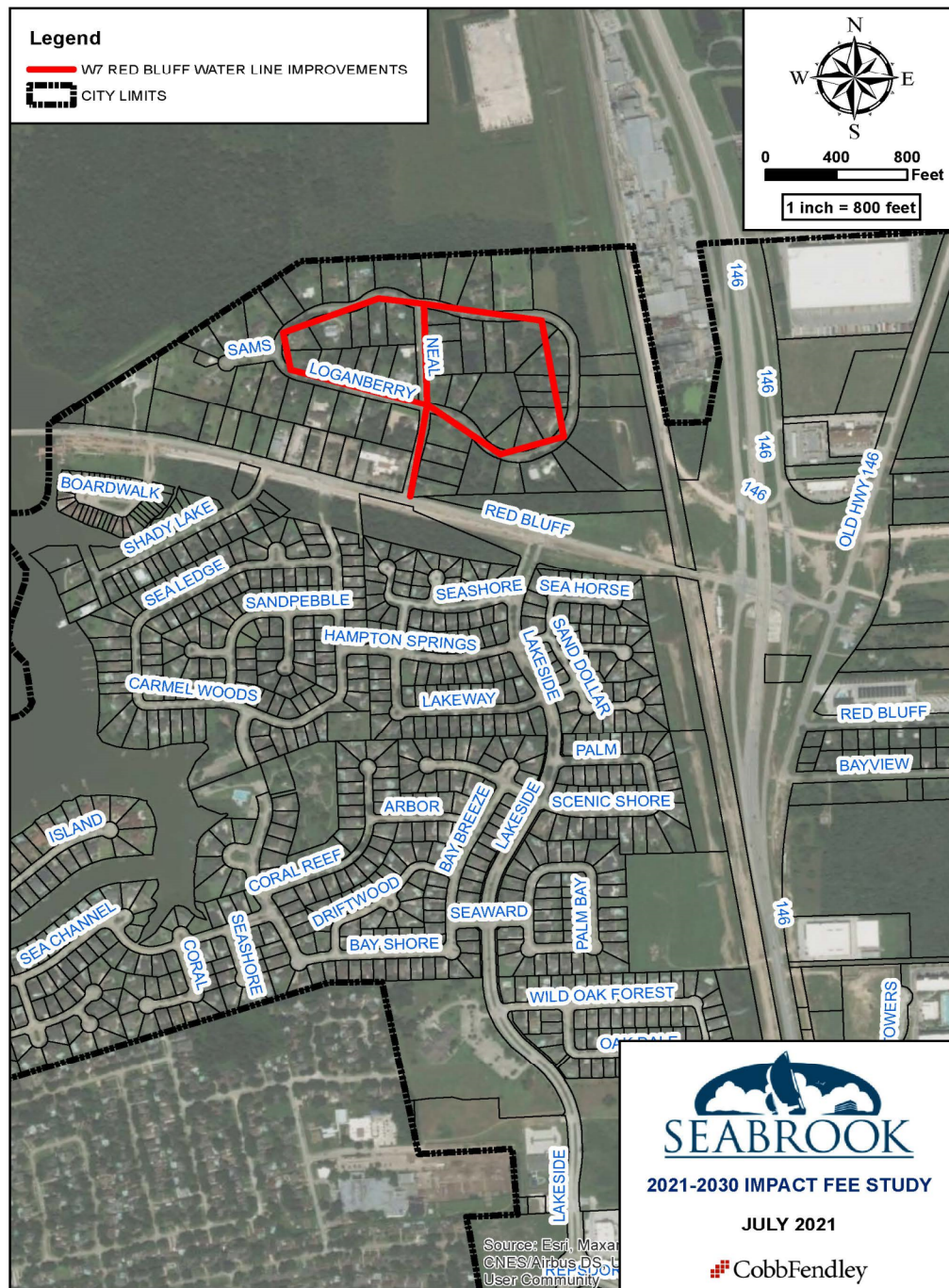


CIP W 6: Taylor Lake Water Line Crossing

**WATER AND WASTEWATER CAPITAL
IMPROVEMENTS PLAN AND IMPACT FEE STUDY
2021-2030**



PROPOSED CAPITAL IMPROVEMENTS PROJECTS							
PROJECT TITLE: Red Bluff Water Line Improvements							
PROJECT LOCATION/LIMITS: Service Area 16							
CIP NUMBERS: W7							
FACILITY TYPE: WATER							
PROJECT DESCRIPTION AND JUSTIFICATION:							
The City currently has a 6-inch waterline in this location now. The water modeling suggests that this area is underserved in its capacity to supply fire flow at 2500 gpm. Two things contribute to this insufficiency: a waterline arrangement that limits supply efficiency and an aged 6" waterline that limits capacity. By upsizing to an 8 inch diameter pipe for these problem areas, this area will be in compliance to supply fire flow at 2500 gpm.							
PROJECT COST ESTIMATES:							
COST BY FISCAL YEAR							
PROJECT COST	FY21	FY22	FY23	FY24	FY25	FY26+	TOTAL
ENGINEERING/PLANNING					\$ 140,244.00		\$ 140,244.00
LAND/EASEMENTS ACQ.						\$ 84,146.40	\$ 84,146.40
CONSTRUCTION						\$ 701,220.00	\$ 701,220.00
TOTAL COST	\$ -	\$ -	\$ -	\$ -	\$ 140,244.00	\$ 785,366.40	\$ 925,610.40
OPINION OF PROBABLE CONSTRUCTION COST ESTIMATE:							
DESCRIPTION	QUANTITY	UNIT	UNIT PRICE			TOTAL COST	
8-INCH PVC WATER LINE	5260	LF	\$ 48.00			\$ 252,480.00	
8-INCH BORE & JACKED (20" CASING)	90	LF	\$ 320.00			\$ 28,800.00	
8-INCH GATE VALVES	6	EA	\$ 1,500.00			\$ 9,450.00	
FIRE HYDRANT ASSEMBLIES	12	EA	\$ 4,000.00			\$ 46,400.00	
WATER SERVICES	53	EA	\$ 1,200.00			\$ 63,120.00	
PLUG AND ABANDON 6" WATER LINE	5260	LF	\$ 10.00			\$ 52,600.00	
DEWATERING	5260	LF	\$ 25.00			\$ 131,500.00	
PROJECT CONTINGENCIES (20%)						\$ 116,870.00	
CONSTRUCTION TOTAL						\$ 701,220.00	
COMMENTS/SPECIAL PROJECT NOTES:							

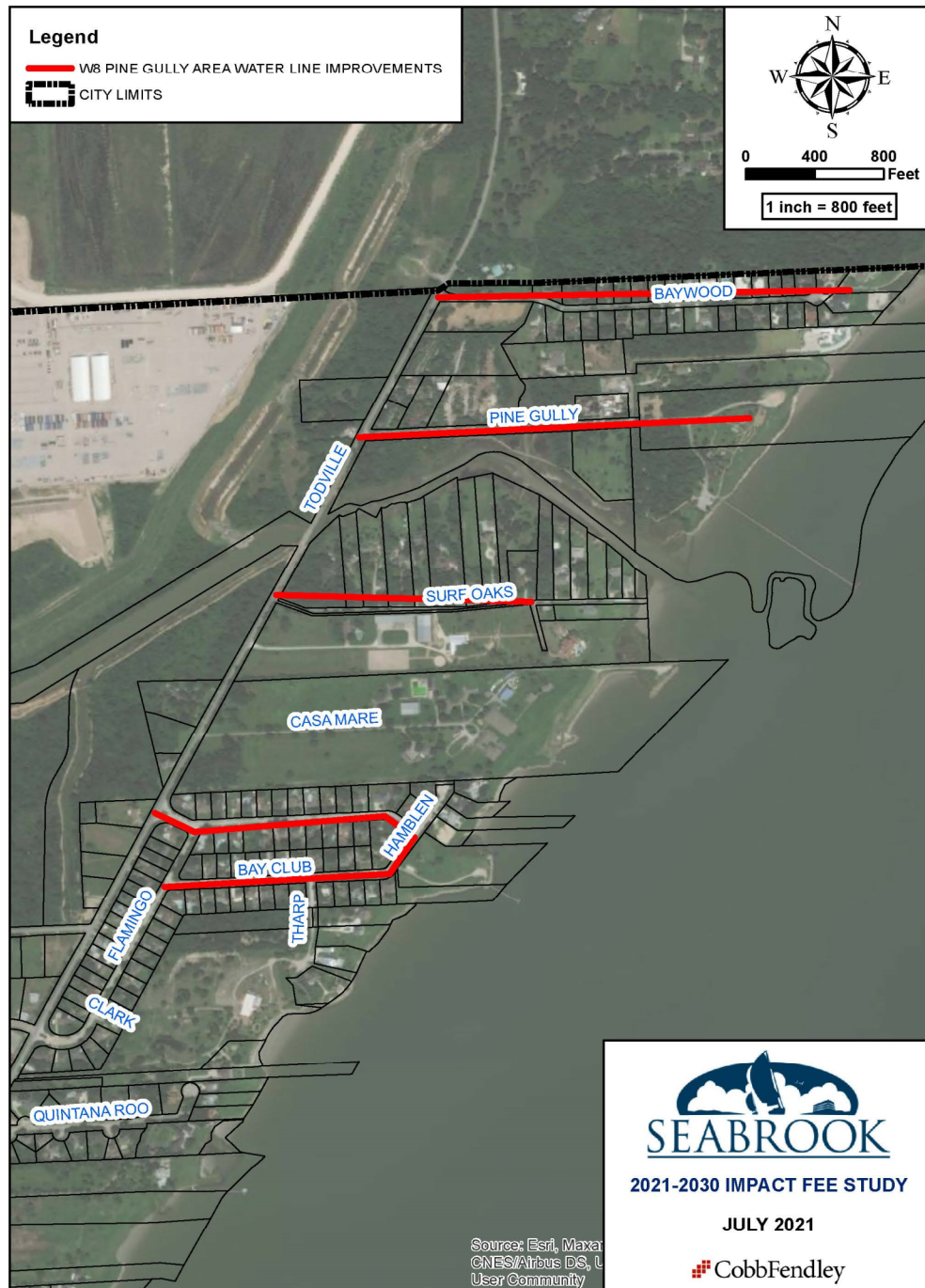


CIP W 7: Red Bluff Water Line Improvements

**WATER AND WASTEWATER CAPITAL
IMPROVEMENTS PLAN AND IMPACT FEE STUDY
2021-2030**



PROPOSED CAPITAL IMPROVEMENTS PROJECTS							
PROJECT TITLE: Pine Gully Area Water Line Improvements							
PROJECT LOCATION/LIMITS: Service Area 1							
CIP NUMBERS: W8							
FACILITY TYPE: WATER							
PROJECT DESCRIPTION AND JUSTIFICATION:							
The City currently has a 6-inch waterline in this location now. The water modeling suggests that this area is underserved in its capacity to supply fire flow at 2500 gpm. Two things contribute to this insufficiency: a waterline arrangement that limits supply efficiency and an aged 6" waterline that limits capacity. By upsizing to an 8 inch and 10 inch diameter pipes for these problem areas, this area will be in compliance to supply fire flow at 2500 gpm.							
PROJECT COST ESTIMATES:							
COST BY FISCAL YEAR							
PROJECT COST	FY21	FY22	FY23	FY24	FY25	FY26+	TOTAL
ENGINEERING/PLANNING					\$ 291,042.72		\$ 291,042.72
LAND/EASEMENTS ACQ.						\$ 174,625.63	\$ 174,625.63
CONSTRUCTION						\$ 1,455,213.60	\$ 1,455,213.60
TOTAL COST	\$ -	\$ -	\$ -	\$ -	\$ 291,042.72	\$ 1,629,839.23	\$ 1,920,881.95
OPINION OF PROBABLE CONSTRUCTION COST ESTIMATE:							
DESCRIPTION	QUANTITY	UNIT	UNIT PRICE		TOTAL COST		
8-INCH PVC WATER LINE	2888	LF	\$ 48.00		\$ 138,624.00		
8-INCH BORE & JACKED (20" CASING)	90	LF	\$ 320.00		\$ 28,800.00		
8-INCH GATE VALVES	4	EA	\$ 1,500.00		\$ 5,850.00		
10-INCH PVC WATER LINE	7772	LF	\$ 56.00		\$ 435,232.00		
10-INCH BORE & JACKED (20" CASING)	1	LF	\$ 320.00		\$ 352.00		
10-INCH GATE VALVES	9	EA	\$ 1,500.00		\$ 13,200.00		
FIRE HYDRANT ASSEMBLIES	22	EA	\$ 4,000.00		\$ 89,600.00		
WATER SERVICES	107	EA	\$ 1,200.00		\$ 127,920.00		
DEWATERING	10660	LF	\$ 25.00		\$ 266,500.00		
PLUG AND ABANDON 6" WATER LINE	10660	LF	\$ 10.00		\$ 106,600.00		
					PROJECT CONTINGENCIES (20%) \$ 242,535.60		
					CONSTRUCTION TOTAL \$ 1,455,213.60		
COMMENTS/SPECIAL PROJECT NOTES:							

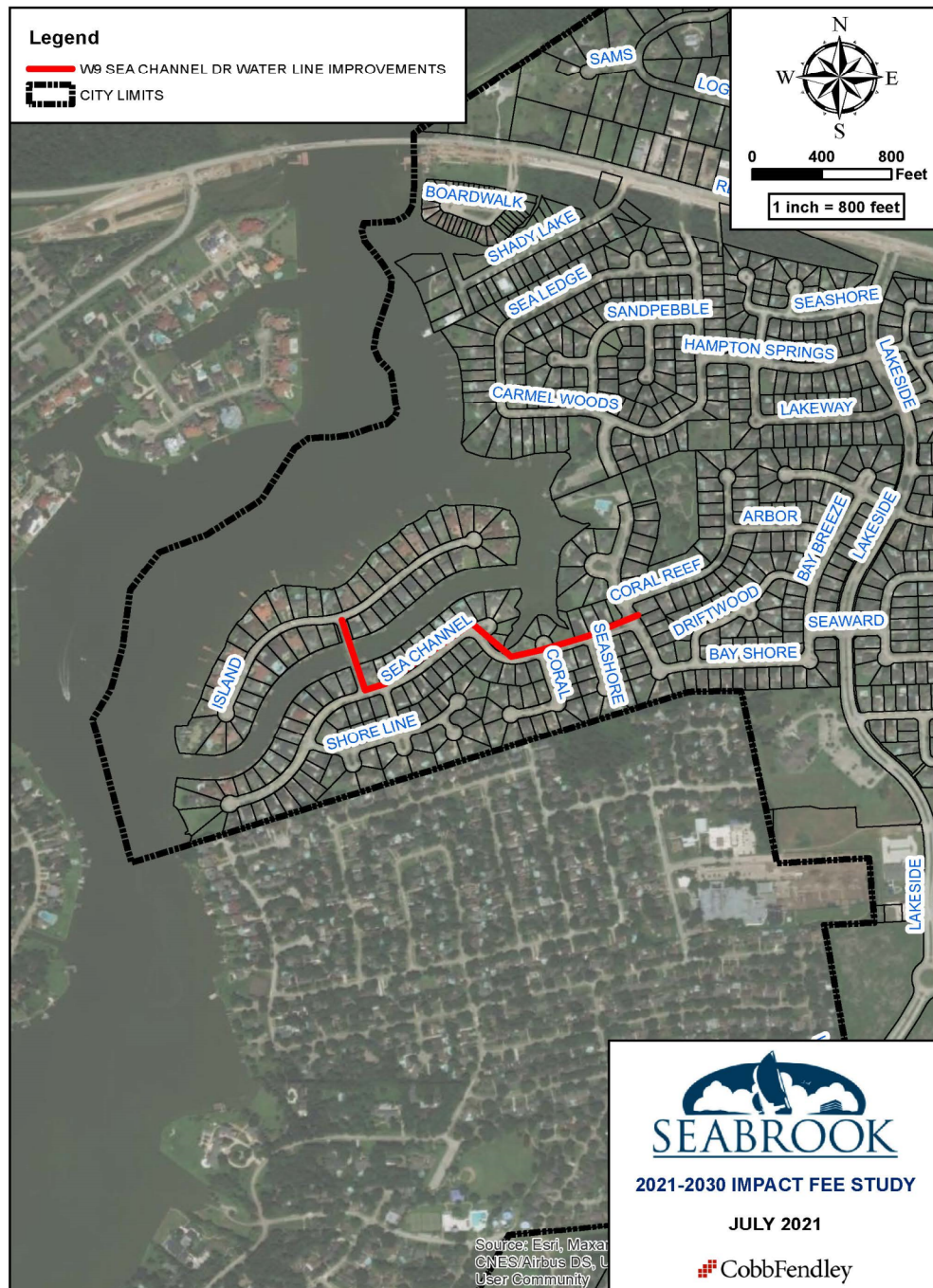


CIP W 8: Pine Gully Area Water Line Improvements

**WATER AND WASTEWATER CAPITAL
IMPROVEMENTS PLAN AND IMPACT FEE STUDY
2021-2030**



PROPOSED CAPITAL IMPROVEMENTS PROJECTS							
PROJECT TITLE: Sea Channel Drive Water Line Improvements							
PROJECT LOCATION/LIMITS: Service Area 16							
CIP NUMBERS: W9							
FACILITY TYPE: WATER							
PROJECT DESCRIPTION AND JUSTIFICATION:							
The City currently has a 8-inch waterline in this location now. The water modeling suggests that this area is underserved in its capacity to supply fire flow at 2500 gpm. Two things contribute to this insufficiency: a waterline arrangement that limits supply efficiency and an aged 8" waterline that limits capacity. By upsizing to a 12 inch diameter pipe for these problem areas, this area will be in compliance to supply fire flow at 2500 gpm.							
PROJECT COST ESTIMATES:							
COST BY FISCAL YEAR							
PROJECT COST	FY21	FY22	FY23	FY24	FY25	FY26+	TOTAL
ENGINEERING/PLANNING						\$ 65,911.20	\$ 65,911.20
LAND/EASEMENTS ACQ.						\$ 39,546.72	\$ 39,546.72
CONSTRUCTION						\$ 329,556.00	\$ 329,556.00
TOTAL COST	\$ -	\$ -		\$ -	\$ -	\$ 435,013.92	\$ 435,013.92
OPINION OF PROBABLE CONSTRUCTION COST ESTIMATE:							
DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL COST			
12-INCH PVC WATER LINE	2240	LF	\$ 65.00	\$ 145,600.00			
12-INCH BORE & JACKED (20" CASING)	60	LF	\$ 320.00	\$ 19,200.00			
12-INCH GATE VALVES	3	EA	\$ 1,500.00	\$ 4,950.00			
FIRE HYDRANT ASSEMBLIES	6	EA	\$ 4,000.00	\$ 22,000.00			
WATER SERVICES	22	EA	\$ 1,200.00	\$ 26,880.00			
DEWATERING	2240	LF	\$ 25.00	\$ 56,000.00			
PROJECT CONTINGENCIES (20%)						\$	54,926.00
CONSTRUCTION TOTAL						\$	329,556.00
COMMENTS/SPECIAL PROJECT NOTES:							



CIP W 9: Sea Channel Drive Water Line Improvements

**WATER AND WASTEWATER CAPITAL
IMPROVEMENTS PLAN AND IMPACT FEE STUDY
2021-2030**



PROPOSED CAPITAL IMPROVEMENTS PROJECTS							
PROJECT TITLE: South SH 146 Water Line Improvements							
PROJECT LOCATION/LIMITS: Service Area 11							
CIP NUMBERS: W10							
FACILITY TYPE: WATER							
PROJECT DESCRIPTION AND JUSTIFICATION:							
The City currently has a 8-inch waterline in this location now. The water modeling suggests that this area is underserved in its capacity to supply fire flow at 2500 gpm. Two things contribute to this insufficiency: a waterline arrangement that limits supply efficiency and an aged 8" waterline that limits capacity. By upsizing to an 12 inch diameter pipe for these problem areas, this area will be in compliance to supply fire flow at 2500 gpm.							
PROJECT COST ESTIMATES:							
COST BY FISCAL YEAR							
PROJECT COST	FY21	FY22	FY23	FY24	FY25	FY26+	TOTAL
ENGINEERING/PLANNING						\$ 48,528.00	\$ 48,528.00
LAND/EASEMENTS ACQ.						\$ 29,116.80	\$ 29,116.80
CONSTRUCTION						\$ 242,640.00	\$ 242,640.00
TOTAL COST	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 320,284.80	\$ 320,284.80
OPINION OF PROBABLE CONSTRUCTION COST ESTIMATE:							
DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL COST			
12-INCH PVC WATER LINE	1475	LF	\$ 65.00	\$ 95,875.00			
12-INCH BORE & JACKED (20" CASING)	100	LF	\$ 320.00	\$ 32,000.00			
12-INCH GATE VALVES	3	EA	\$ 1,500.00	\$ 3,750.00			
FIRE HYDRANT ASSEMBLIES	4	EA	\$ 4,000.00	\$ 16,000.00			
WATER SERVICES	15	EA	\$ 1,200.00	\$ 17,700.00			
DEWATERING	1475	LF	\$ 25.00	\$ 36,875.00			
PROJECT CONTINGENCIES (20%)						\$	40,440.00
CONSTRUCTION TOTAL						\$	242,640.00
COMMENTS/SPECIAL PROJECT NOTES:							



CIP W 10: South SH 146 Water Line Improvements

**WATER AND WASTEWATER CAPITAL
IMPROVEMENTS PLAN AND IMPACT FEE STUDY
2021-2030**



PROPOSED CAPITAL IMPROVEMENTS PROJECTS							
PROJECT TITLE: East Nasa Parkway Water Line Improvements							
PROJECT LOCATION/LIMITS: Service Area 11							
CIP NUMBERS: W11							
FACILITY TYPE: WATER							
PROJECT DESCRIPTION AND JUSTIFICATION:							
The City currently has a 8-inch waterline in this location now. The water modeling suggests that this area is underserved in its capacity to supply fire flow at 2500 gpm. Two things contribute to this insufficiency: a waterline arrangement that limits supply efficiency and an aged 8" waterline that limits capacity. By upsizing to a 10 inch and 12 inch diameter pipes for these problem areas, this area will be in compliance to supply fire flow at 2500 gpm.							
PROJECT COST ESTIMATES:							
COST BY FISCAL YEAR							
PROJECT COST	FY21	FY22	FY23	FY24	FY25	FY26+	TOTAL
ENGINEERING/PLANNING						\$ 49,825.68	\$ 49,825.68
LAND/EASEMENTS ACQ.						\$ 29,895.41	\$ 29,895.41
CONSTRUCTION						\$ 249,128.40	\$ 249,128.40
TOTAL COST	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 328,849.49	\$ 328,849.49
OPINION OF PROBABLE CONSTRUCTION COST ESTIMATE:							
DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL COST			
12-INCH PVC WATER LINE	501	LF	\$ 65.00	\$ 32,565.00			
12-INCH BORE & JACKED (20" CASING)	100	LF	\$ 320.00	\$ 32,000.00			
12-INCH GATE VALVES	2	EA	\$ 1,500.00	\$ 2,400.00			
10-INCH PVC WATER LINE	785	LF	\$ 56.00	\$ 43,960.00			
10-INCH BORE & JACKED (20" CASING)	100	LF	\$ 320.00	\$ 32,000.00			
10-INCH GATE VALVES	2	EA	\$ 1,500.00	\$ 2,700.00			
FIRE HYDRANT ASSEMBLIES	4	EA	\$ 4,000.00	\$ 14,400.00			
WATER SERVICES	13	EA	\$ 1,200.00	\$ 15,432.00			
DEWATERING	1286	LF	\$ 25.00	\$ 32,150.00			
PROJECT CONTINGENCIES (20%)						\$	41,521.40
CONSTRUCTION TOTAL						\$	249,128.40
COMMENTS/SPECIAL PROJECT NOTES:							



CIP W 11: East Nasa Parkway Water Line Improvements

**WATER AND WASTEWATER CAPITAL
IMPROVEMENTS PLAN AND IMPACT FEE STUDY
2021-2030**



PROPOSED CAPITAL IMPROVEMENTS PROJECTS							
PROJECT TITLE: Willow Dell Drive Water Line Improvements							
PROJECT LOCATION/LIMITS: Service Area 11							
CIP NUMBERS: W12							
FACILITY TYPE: WATER							
PROJECT DESCRIPTION AND JUSTIFICATION:							
The City currently has a 6-inch waterline in this location now. The water modeling suggests that this area is underserved in its capacity to supply fire flow at 2500 gpm. Two things contribute to this insufficiency: a waterline arrangement that limits supply efficiency and an aged 6" waterline that limits capacity. By upsizing to an 8 inch diameter pipe for these problem areas, this area will be in compliance to supply fire flow at 2500 gpm.							
PROJECT COST ESTIMATES:							
COST BY FISCAL YEAR							
PROJECT COST	FY21	FY22	FY23	FY24	FY25	FY26+	TOTAL
ENGINEERING/PLANNING						\$ 55,165.20	\$ 55,165.20
LAND/EASEMENTS ACQ.						\$ 33,099.12	\$ 33,099.12
CONSTRUCTION						\$ 275,826.00	\$ 275,826.00
TOTAL COST	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 364,090.32	\$ 364,090.32
OPINION OF PROBABLE CONSTRUCTION COST ESTIMATE:							
DESCRIPTION	QUANTITY	UNIT	UNIT PRICE			TOTAL COST	
8-INCH PVC WATER LINE	2033	LF	\$	48.00		\$	97,584.00
8-INCH BORE & JACKED (20" CASING)	100	LF	\$	320.00		\$	32,000.00
8-INCH GATE VALVES	3	EA	\$	1,500.00		\$	4,650.00
FIRE HYDRANT ASSEMBLIES	5	EA	\$	4,000.00		\$	20,400.00
WATER SERVICES	20	EA	\$	1,200.00		\$	24,396.00
DEWATERING	2033	LF	\$	25.00		\$	50,825.00
PROJECT CONTINGENCIES (20%)						\$	45,971.00
CONSTRUCTION TOTAL						\$	275,826.00
COMMENTS/SPECIAL PROJECT NOTES:							

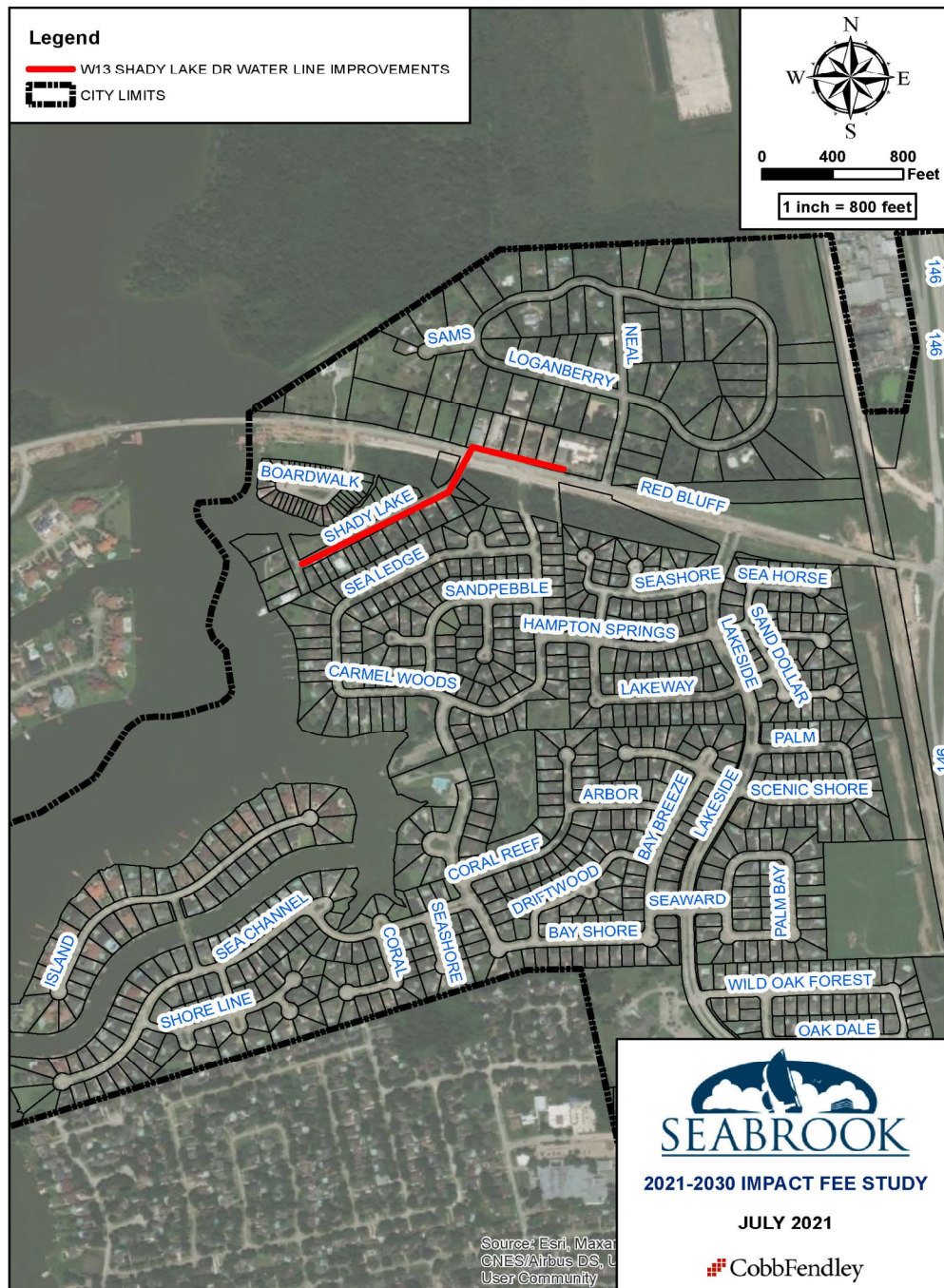


CIP W 12: Willow Dell Drive Water Line Improvements

**WATER AND WASTEWATER CAPITAL
IMPROVEMENTS PLAN AND IMPACT FEE STUDY
2021-2030**



PROPOSED CAPITAL IMPROVEMENTS PROJECTS							
PROJECT TITLE: Shady Lake Drive Water Line Improvements							
PROJECT LOCATION/LIMITS: Service Area 16							
CIP NUMBERS: W13							
FACILITY TYPE: WATER							
PROJECT DESCRIPTION AND JUSTIFICATION:							
The City currently has a 4-inch and 6-inch waterline in this location now. The water modeling suggests that this area is underserved in its capacity to supply fire flow at 2500 gpm. Two things contribute to this insufficiency: a waterline arrangement that limits supply efficiency and an aged 4" and 6" waterline that limits capacity. By upsizing to an 6 inch and 8 inch diameter pipes for these problem areas, this area will be in compliance to supply fire flow at 2500 gpm.							
PROJECT COST ESTIMATES:							
COST BY FISCAL YEAR							
PROJECT COST	FY21	FY22	FY23	FY24	FY25	FY26+	TOTAL
ENGINEERING/PLANNING						\$ 51,654.00	\$ 51,654.00
LAND/EASEMENTS ACQ.						\$ 30,992.40	\$ 30,992.40
CONSTRUCTION						\$ 258,270.00	\$ 258,270.00
TOTAL COST	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 340,916.40	\$ 340,916.40
OPINION OF PROBABLE CONSTRUCTION COST ESTIMATE:							
DESCRIPTION	QUANTITY	UNIT	UNIT PRICE			TOTAL COST	
12-INCH PVC WATER LINE	532	LF	\$	65.00	\$	34,580.00	
12-INCH BORE & JACKED (20" CASING)	50	LF	\$	320.00	\$	16,000.00	
12-INCH GATE VALVES	2	EA	\$	1,500.00	\$	2,400.00	
8-INCH PVC WATER LINE	1053	LF	\$	48.00	\$	50,544.00	
8-INCH BORE & JACKED (20" CASING)	50	LF	\$	320.00	\$	16,000.00	
8-INCH GATE VALVES	2	EA	\$	1,500.00	\$	3,150.00	
6-INCH PVC WATER LINE	178	LF	\$	40.00	\$	7,120.00	
6-INCH BORE & JACKED (20" CASING)	0	LF	\$	320.00	\$	-	
6-INCH GATE VALVES	1	EA	\$	1,500.00	\$	1,800.00	
FIRE HYDRANT ASSEMBLIES	5	EA	\$	4,000.00	\$	18,400.00	
WATER SERVICES	18	EA	\$	1,200.00	\$	21,156.00	
DEWATERING	1763	LF	\$	25.00	\$	44,075.00	
PROJECT CONTINGENCIES (20%)						\$	43,045.00
CONSTRUCTION TOTAL						\$	258,270.00
COMMENTS/SPECIAL PROJECT NOTES:							

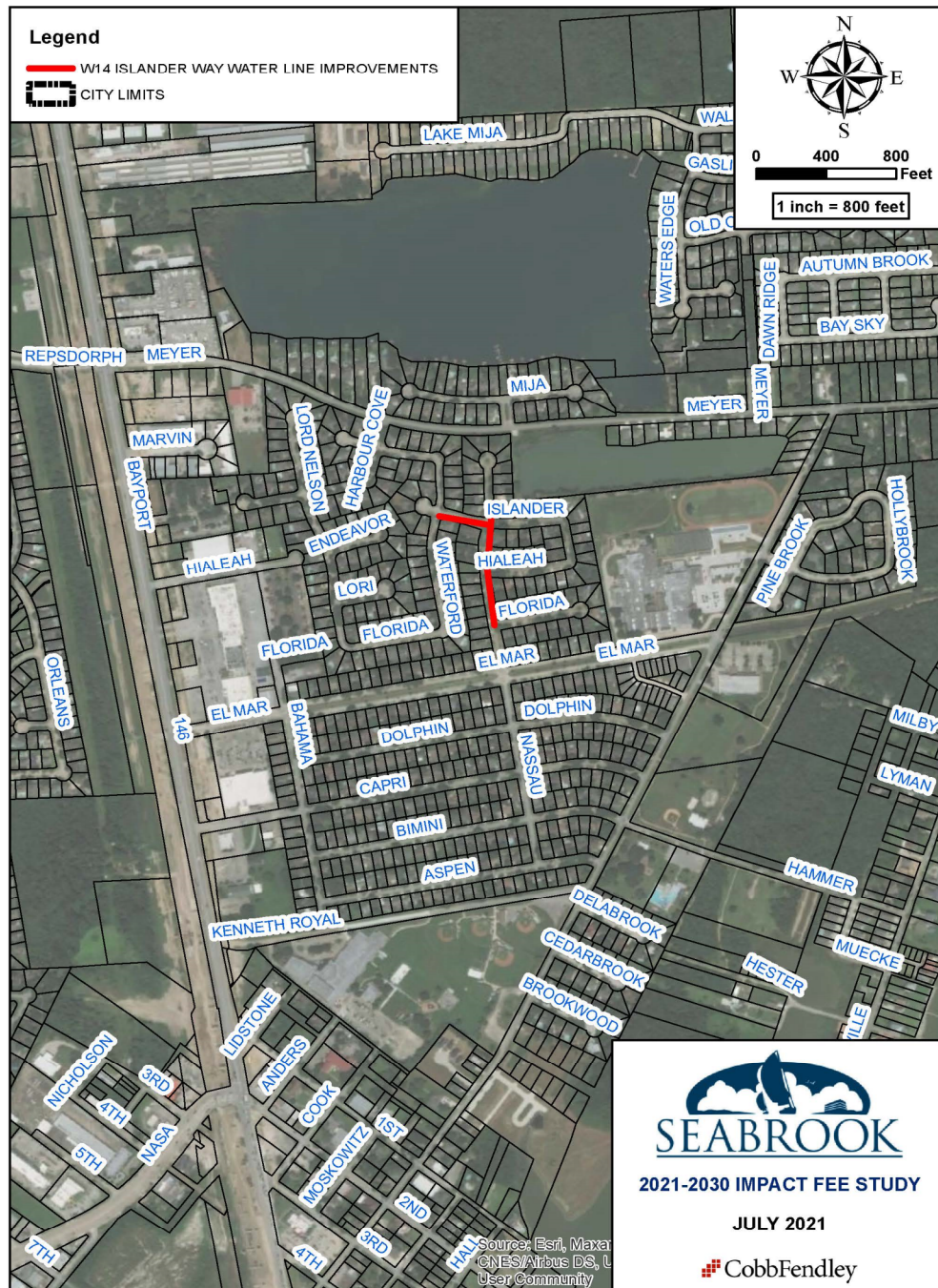


CIP W 13: Shady Lake Drive Water Line Improvements

**WATER AND WASTEWATER CAPITAL
IMPROVEMENTS PLAN AND IMPACT FEE STUDY
2021-2030**



PROPOSED CAPITAL IMPROVEMENTS PROJECTS							
PROJECT TITLE: Islander Way Water Line Improvements							
PROJECT LOCATION/LIMITS: Service Area 7							
CIP NUMBERS: W14							
FACILITY TYPE: WATER							
PROJECT DESCRIPTION AND JUSTIFICATION:							
The City currently has a 6-inch waterline in this location now. The water modeling suggests that this area is underserved in its capacity to supply fire flow at 2500 gpm. Two things contribute to this insufficiency: a waterline arrangement that limits supply efficiency and an aged 6" waterline that limits capacity. By upsizing to an 8 inch diameter pipe for these problem areas, this area will be in compliance to supply fire flow at 2500 gpm.							
PROJECT COST ESTIMATES:							
COST BY FISCAL YEAR							
PROJECT COST	FY21	FY22	FY23	FY24	FY25	FY26+	TOTAL
ENGINEERING/PLANNING						\$ 28,342.80	\$ 28,342.80
LAND/EASEMENTS ACQ.						\$ 17,005.68	\$ 17,005.68
CONSTRUCTION						\$ 141,714.00	\$ 141,714.00
TOTAL COST	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 187,062.48	\$ 187,062.48
OPINION OF PROBABLE CONSTRUCTION COST ESTIMATE:							
DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL COST			
8-INCH PVC WATER LINE	987	LF	\$ 48.00	\$ 47,376.00			
8-INCH BORE & JACKED (20" CASING)	60	LF	\$ 320.00	\$ 19,200.00			
8-INCH GATE VALVES	2	EA	\$ 1,500.00	\$ 3,000.00			
FIRE HYDRANT ASSEMBLIES	3	EA	\$ 4,000.00	\$ 12,000.00			
WATER SERVICES	10	EA	\$ 1,200.00	\$ 11,844.00			
DEWATERING	987	LF	\$ 25.00	\$ 24,675.00			
PROJECT CONTINGENCIES (20%)						\$	23,619.00
CONSTRUCTION TOTAL						\$	141,714.00
COMMENTS/SPECIAL PROJECT NOTES:							

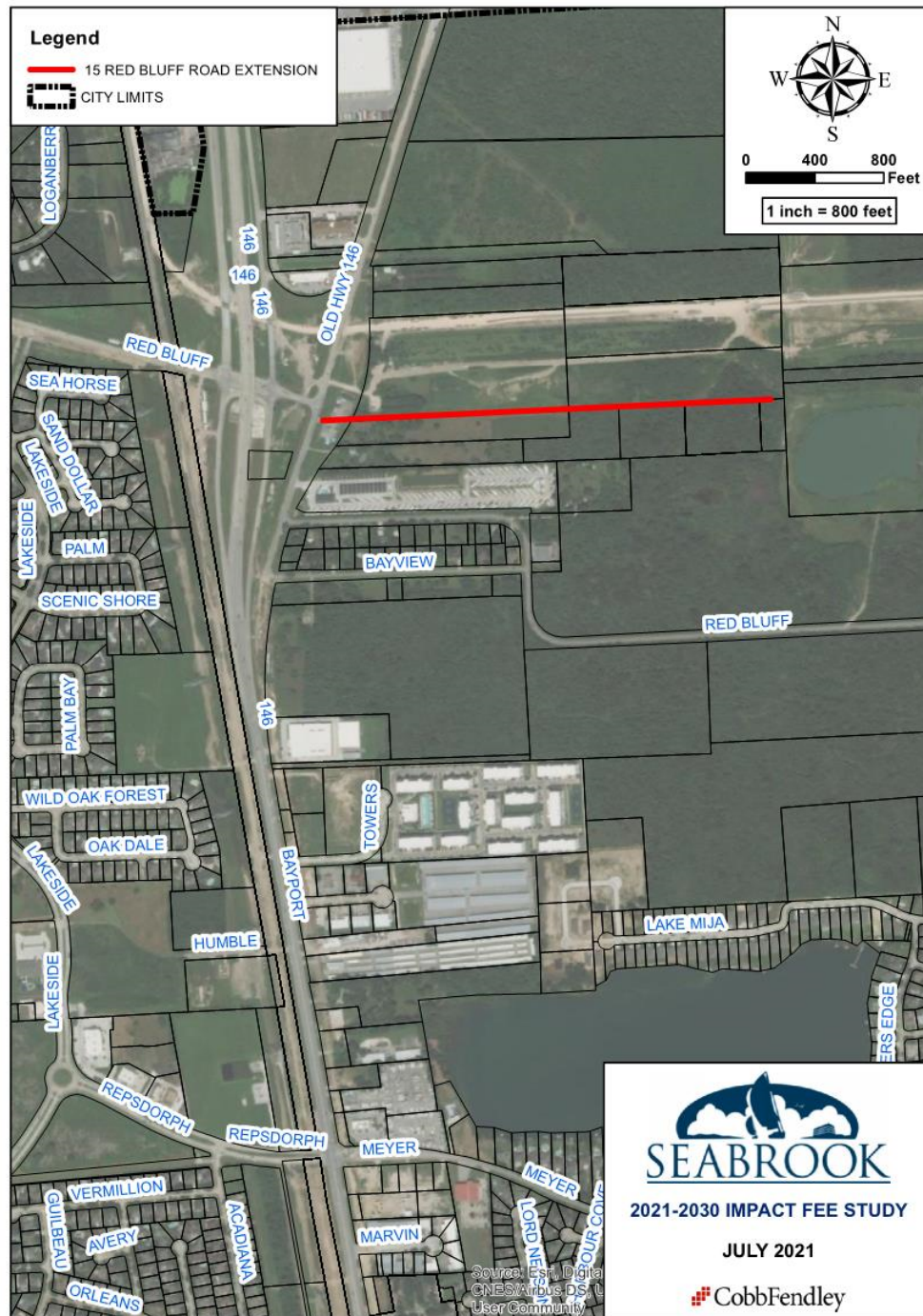


CIP W 14 Islander Way Water Line Improvements

**WATER AND WASTEWATER CAPITAL
IMPROVEMENTS PLAN AND IMPACT FEE STUDY
2021-2030**



PROPOSED CAPITAL IMPROVEMENTS PROJECTS							
PROJECT TITLE: Commercial Road Water Project							
PROJECT LOCATION/LIMITS: Service Area 15							
CIP NUMBERS: W15							
FACILITY TYPE: WATER							
PROJECT DESCRIPTION AND JUSTIFICATION:							
2,692 LF of 8" water line is planned to be constructed to serve future commercial developments.							
PROJECT COST ESTIMATES:							
COST BY FISCAL YEAR							
PROJECT COST	FY21	FY22	FY23	FY24	FY25	FY26+	TOTAL
ENGINEERING/PLANNING					\$ 63,855.84		\$ 63,855.84
LAND/EASEMENTS ACQ.							\$ -
CONSTRUCTION						\$ 319,279.20	\$ 319,279.20
TOTAL COST	\$ -	\$ -	\$ -	\$ -	\$ 63,855.84	\$ 319,279.20	\$ 383,135.04
OPINION OF PROBABLE CONSTRUCTION COST ESTIMATE:							
DESCRIPTION	QUANTITY	UNIT	UNIT PRICE			TOTAL COST	
8-INCH PVC WATER LINE	2692	LF	\$ 48.00			\$ 129,216.00	
8-INCH BORE & JACKED (20" CASING)	60	LF	\$ 320.00			\$ 19,200.00	
8-INCH GATE VALVES	4	EA	\$ 1,500.00			\$ 5,550.00	
FIRE HYDRANT ASSEMBLIES	6	EA	\$ 4,000.00			\$ 25,600.00	
WATER SERVICES	16	EA	\$ 1,200.00			\$ 19,200.00	
DEWATERING	2692	LF	\$ 25.00			\$ 67,300.00	
PROJECT CONTINGENCIES (20%)						\$	53,213.20
CONSTRUCTION TOTAL						\$	319,279.20
COMMENTS/SPECIAL PROJECT NOTES:							

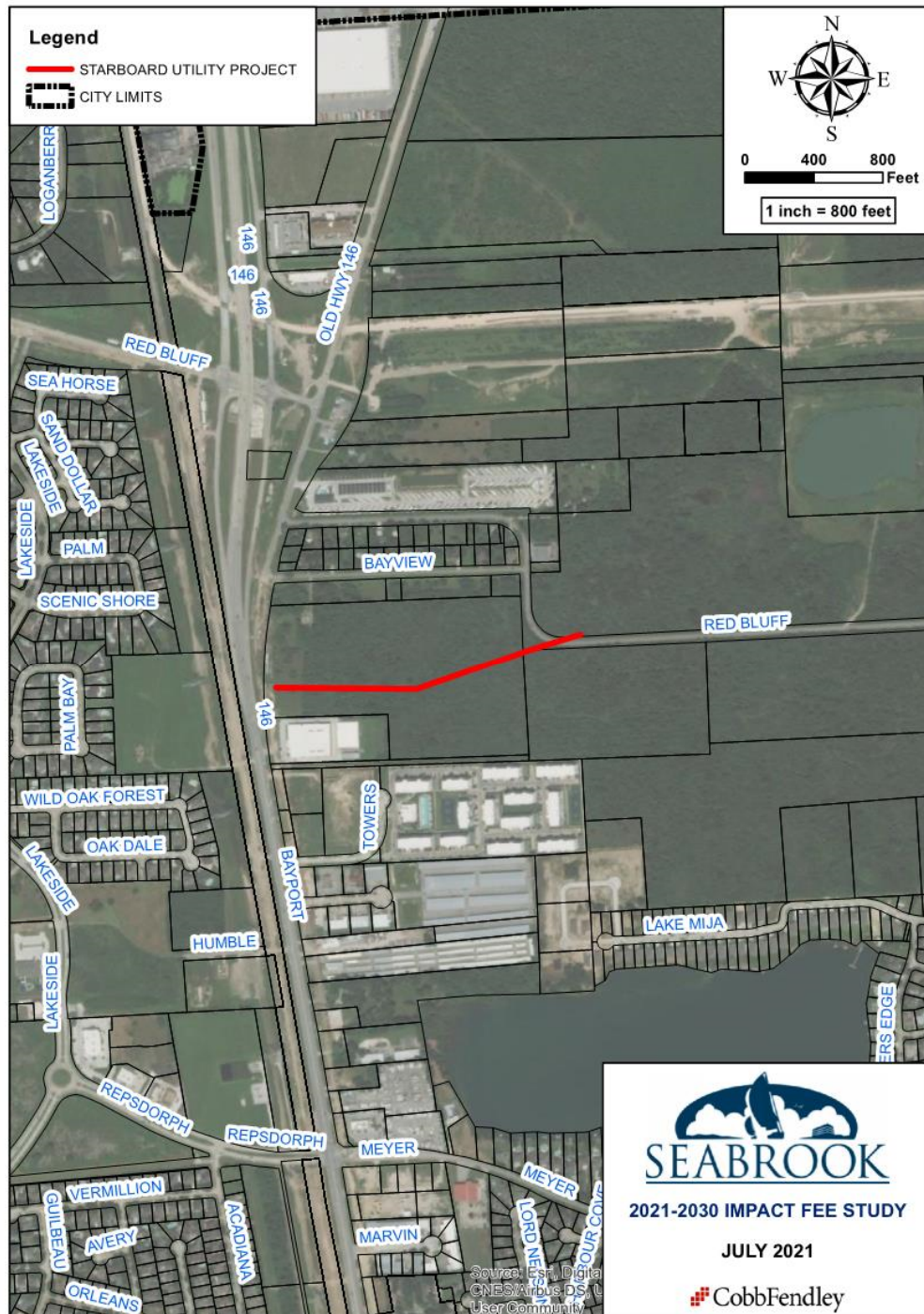


CIP W 15 Commercial Road Water Project

**WATER AND WASTEWATER CAPITAL
IMPROVEMENTS PLAN AND IMPACT FEE STUDY
2021-2030**



PROPOSED CAPITAL IMPROVEMENTS PROJECTS							
PROJECT TITLE: Starboard Utility Project							
PROJECT LOCATION/LIMITS: Service Area 15							
CIP NUMBERS: W16							
FACILITY TYPE: WATER							
PROJECT DESCRIPTION AND JUSTIFICATION:							
1,815 LF of 8" water line is planned to be constructed to serve future commercial developments.							
PROJECT COST ESTIMATES:							
COST BY FISCAL YEAR							
PROJECT COST	FY21	FY22	FY23	FY24	FY25	FY26+	TOTAL
ENGINEERING/PLANNING					\$ 43,882.80		\$ 43,882.80
LAND/EASEMENTS ACQ.							\$ -
CONSTRUCTION						\$ 219,414.00	\$ 219,414.00
TOTAL COST	\$ -	\$ -	\$ -	\$ -	\$ 43,882.80	\$ 219,414.00	\$ 263,296.80
OPINION OF PROBABLE CONSTRUCTION COST ESTIMATE:							
DESCRIPTION	QUANTITY	UNIT	UNIT PRICE			TOTAL COST	
8-INCH PVC WATER LINE	1815	LF	\$ 48.00			\$ 87,120.00	
8-INCH BORE & JACKED (20" CASING)	60	LF	\$ 320.00			\$ 19,200.00	
8-INCH GATE VALVES	3	EA	\$ 1,500.00			\$ 4,350.00	
FIRE HYDRANT ASSEMBLIES	4	EA	\$ 4,000.00			\$ 14,800.00	
WATER SERVICES	10	EA	\$ 1,200.00			\$ 12,000.00	
DEWATERING	1815	LF	\$ 25.00			\$ 45,375.00	
PROJECT CONTINGENCIES (20%)						\$ 36,569.00	
CONSTRUCTION TOTAL						\$ 219,414.00	
COMMENTS/SPECIAL PROJECT NOTES:							



CIP W 16 Starboard Utility Project

K. OPINION OF PROBABLE COST

The opinions of probable costs presented here are preliminary; final costs may vary. These costs include a 20% contingency factor and do not include an allowance for design fees. The costs do not include allowances for legal or financing costs. These costs are addressed in the impact fee calculation. The probable costs are based on current-year dollars and average unit costs. The cost of the 10-year water system CIP is estimated to be \$7,191,166.80. A project cost breakdown is shown in Table 4-15.

Table 4-15: Probable Water Improvement Construction Costs

CIP #	PROJECT DESCRIPTION	COST
W1	Shipyards Water Service Phase 1	\$ 465,487.20
W2	Shipyards Water Service Phase 2	\$ 481,204.80
W3	SH146 Bore to Old SH146	\$ 518,913.60
W4	Old SH146 12" Interconnect	\$ 60,000.00
W5	Nasa Road 8" Interconnect	\$ 60,000.00
W6	Taylor Lake Water Line Crossing	\$ 1,413,300.00
W7	Red Bluff Water Line Improvements	\$ 701,220.00
W8	Pine Gully Area Water Line Improvements	\$ 1,455,213.60
W9	Sea Channel Drive Water Line Improvements	\$ 329,556.00
W10	South SH 146 Water Line Improvements	\$ 242,640.00
W11	East Nasa Parkway Water Line Improvements	\$ 249,128.40
W12	Willow Dell Drive Water Line Improvements	\$ 275,826.00
W13	Shady Lake Drive Water Line Improvements	\$ 258,270.00
W14	Islander Way Water Line Improvements	\$ 141,714.00
W15	Commercial Road Water Project	\$ 319,279.20
W16	Starboard Utility Project	\$ 219,414.00
TOTAL		\$ 7,191,166.80

5 WASTEWATER MASTER PLAN

A. GENERAL

The Seabrook wastewater collection system is made up of a network of gravity lines and lift stations with force mains all flowing to the City's current Main Street Wastewater Treatment Plant (MSWWTP) on the southeast side of town. The surface topography of Seabrook generally falls to the southeast. The City is currently under design of a new wastewater treatment plant (WWTP) on the North Side of the City. The new Pine Gully Wastewater Treatment Plant (PGWWTP) will be the City's only WWTP in service once it is constructed. The MSWWTP will be modified to be a lift station that will pump majority of the City's sewer to the new Pine Gully WWTP.

Based on information obtained from the City of Seabrook and projected land use data, the existing wastewater system was evaluated for current and projected 2030 conditions. It was through this analysis that candidate projects for improving the wastewater collection system were identified for inclusion in this study.

B. EXISTING SANITARY SEWER SYSTEM

The City's current MSWWTP is permitted for an average daily flow of 2.5 MGD. It is a complete mix plant with three aeration basins, two clarifiers, and an aerobic digester. The proposed PGWWTP will be permitted for an average flow of 2.5 MGD and a peaking hourly flow of 10.0 MGD. It will be a complete mix plant with 3 aeration basins, 2 clarifiers, and 3 digesters. Average daily demand for wastewater per month was provided by the City of Seabrook for 2017, 2018, and 2019. The average daily demand recorded for this period of time was approximately 1.35 MGD.

The City currently operates twenty two lift stations. Several of these lift stations serve fairly small areas, often a single street. Six of the twenty lift stations were identified as critical to the operation of the wastewater system under current and projected demands. These lift stations and their firm capacities are shown in Table 5-1. See APPENDIX A for the Lift station Service Area Map.

Table 5-1: Critical Lift Stations

LIFT STATION #	EXISTING PUMPS
	FIRM CAPACITY ¹ (GPM)
4	400
8	2000
11	932
14	400
19	1010
20	750

No formal lift station capacity evaluation was performed under existing or projected flows. The City has reported having no overflows at any of its lift stations. This non-reporting suggests that the lift stations are sufficient. Increased flows for the 2030 study period will not impact the lift stations' infrastructure. The exception to this rule is Lift Station 20. Lift Station 20 was constructed in 2007 and will undergo an increase in flow as there are commercial and residential developments anticipated in its service area. Lift Station 20 will be modified to handle the increased flows. The MSWWTP will be modified into a lift station that will convey

flow North towards a new proposed Lift Station (Lift Station 24). The new Lift Station 24 will be constructed to convey flow West towards the new PGWWTP. Exhibit 1 is a layout of the city's wastewater system including the WWTP and lift stations.

C. EXISTING REQUIREMENTS

A comparison of water and wastewater demand provides an understanding of the City's household demand versus irrigation demand. First, we assume that the number and land use type of water connections equals the number of sanitary sewer connections. Second, we can ratio the wastewater consumption to the water consumption and calculate the wastewater GPED. While we could analyze the sanitary sewer network using physical data to determine sanitary sewer capacity and slopes, the scope is not included in this project. However, with the aforementioned assumptions, an evaluation of the system and its constraints can be determined.

Table 5-2 shows the comparison of wastewater demand and water demand:

Table 5-2: Wastewater-to-Water Demand Comparison

DESCRIPTION	QUANTITY
WASTEWATER ADD (GAL)	1,295,167
WATER ADD (GAL)	1,780,947
WASTEWATER-TO-WATER RATIO (%)	73%

This table shows that the average household in Seabrook produces an average of 73% of wastewater flow based on the potable water usage. This allows us to calculate the wastewater GPED, as shown in Table 5-3.

Table 5-3: Population and EDU Information

YEAR	POPULATION	WASTEWATER EDUs PER LAND USE			
		COMMERCIAL	RESIDENTIAL	MULTIFAMILY	TOTAL
2015	12,792	729	3510	1633	5872
2020	14,149	1125	3623	1652	6400
2025	14,441	1521	3773	1721	7014
2030	14,733	1917	3928	1792	7637
NOTES					
1: One Wasterwater EDU = 222 gpd					

The City's historical wastewater use indicates that one EDU produces 222 gpd of wastewater. With an anticipated ADF of 1.70 MGD, the wastewater treatment plant will be within its permitted capacity in 2030.

D. PROPOSED IMPROVEMENTS 2030

One purpose of this section is to acknowledge the previous report (Entitled "City of Seabrook Water and Wastewater Capital Improvements Plan and Impact Fee Determination 2015 to 2025"), assess its findings and progress, and build upon that assessment to further the 2021-2030 Capital Improvements Program. Table 5-4 identifies the projects proposed from 2015 and their status. Five of the six projects that were not completed between 2015 to 2025 will be re-visited in this CIP.

Table 5-4: Proposed Wastewater CIP Projects from 2015-2025

2015-2025 CIP #	PROJECT DESCRIPTION	STATUS
WW1	East Meyer Pipe Bursting	Proposed in 2020-2030 CIP as WW1
WW2	Shipyards Sewer Service Phase 1	Proposed in 2020-2030 CIP as WW2
WW3	Shipyards Sewer Service Phase 2	Proposed in 2020-2030 CIP as WW3
WW4	Todville Sewer Line Replacement	Completed
WW5	Wastewater Treatment Plant Upgrades Phase 1	Completed
WW6	Wastewater Treatment Plant Upgrades Phase 2	Completed
WW7	Red Bluff Sanitary Sewer Extension	Proposed in 2020-2030 CIP as WW5
WW8	State Highway 146 Sanitary Sewer Improvements	Completed
WW9	Lakeside Drive Sanitary Sewer Relocation	Proposed in 2020-2030 CIP as WW6

Remaining projects were determined from land use and density projections for the study period. We have also relied on petitions from citizens and public officials to justify the improvements of certain wastewater lines. Exhibit 5-1 identifies wastewater projects proposed in this CIP. The tables and exhibits following Exhibit 5-1 quantify and describe the proposed projects.

Treatment costs for sewer were not factored in this study or in the projection of capital improvement costs. In 2030, it is anticipated that the City will be treating an average of 1.70 MGD of wastewater each day and will therefore be in compliance with its permitted capacity

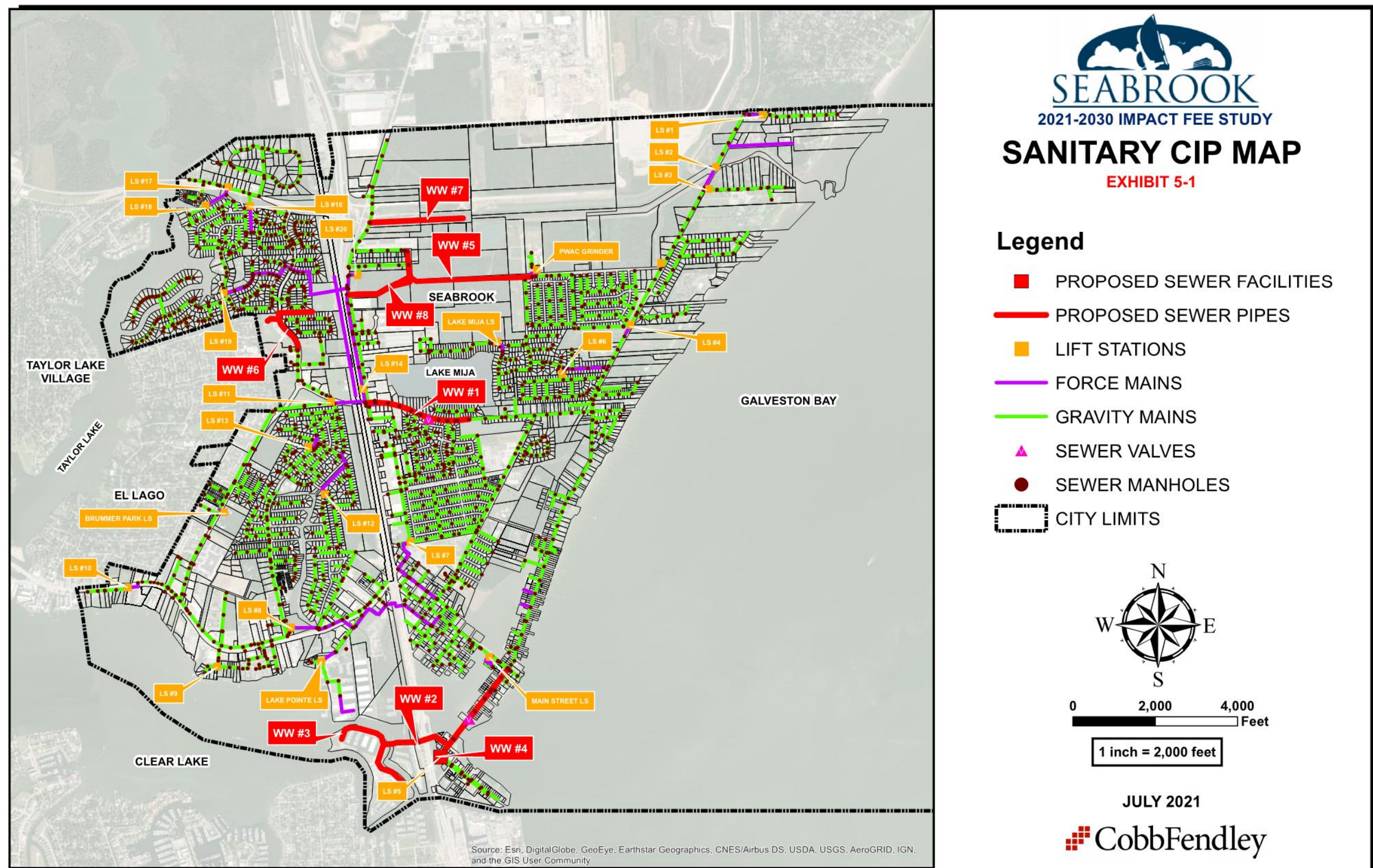


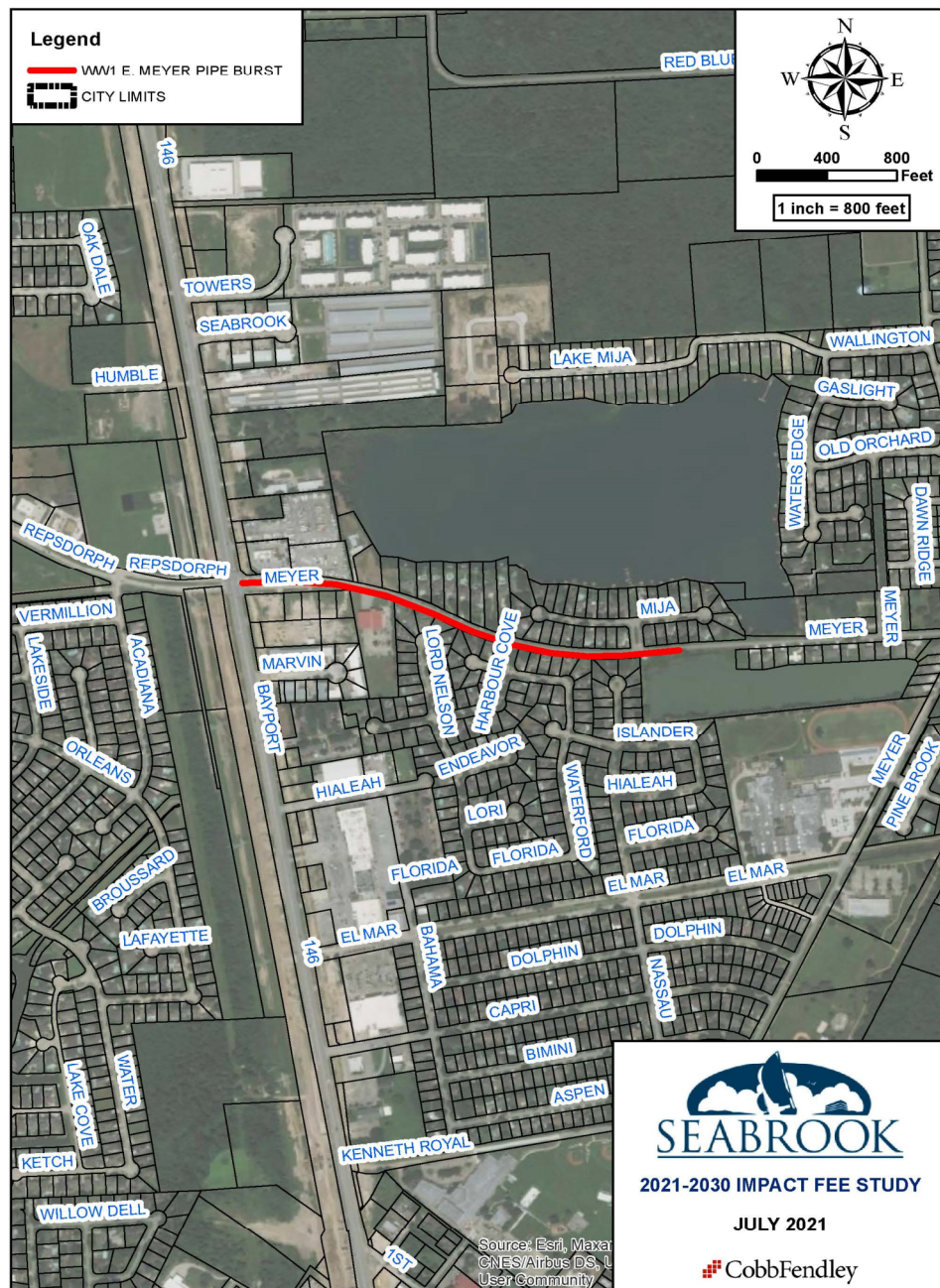
Exhibit 5-1: Sanitary CIP Map

**WATER AND WASTEWATER CAPITAL
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2021-2030**



PROPOSED CAPITAL IMPROVEMENTS PROJECTS							
PROJECT TITLE: E. Meyer Pipe Burst							
PROJECT LOCATION/LIMITS: Service Area 5							
CIP NUMBERS: WW1							
FACILITY TYPE: WASTEWATER							
PROJECT DESCRIPTION AND JUSTIFICATION:							
The E. Meyer sewer carries all of the City's wastewater from a large area west of SH146. The service area is everything west of SH146 except for Lake Cove and the NASA 1 corridor. The area immediately adjacent to SH146 on the east side from Meyer to the northern City Limits is also connected to this line. The project will provide some additional needed capacity.							
PROJECT COST ESTIMATES:							
COST BY FISCAL YEAR							
PROJECT COST	FY21	FY22	FY23	FY24	FY25	FY26+	TOTAL
ENGINEERING/PLANNING	\$ 50,000	\$ 100,000					\$ 150,000
LAND/EASEMENTS ACQ.							\$ -
CONSTRUCTION		\$ 1,397,800					\$ 1,397,800
TOTAL COST	\$ 50,000	\$ 1,497,800	\$ -	\$ -	\$ -	\$ -	\$ 1,547,800
OPINION OF PROBABLE CONSTRUCTION COST ESTIMATE:							
DESCRIPTION	QUANTITY	UNIT	UNIT PRICE			TOTAL COST	
MOBILIZATION	1	LS	\$ 98,577.00			\$ 98,577.00	
REMOVE AND REPLACE PAVEMENT	1150	SY	\$ 60.00			\$ 69,000.00	
12-INCH FORCE MAIN	900	LF	\$ 80.00			\$ 72,000.00	
INSTALL 26-INCH HDPE BY METHOD OF PIPE BURSTING	3400	LF	\$ 250.00			\$ 850,000.00	
REHAB EXISTING SANITARY MANHOLE	14	EA	\$ 4,000.00			\$ 56,000.00	
RECONNECT 12-INCH SANITARY SEWER TO MANHOLE	1	EA	\$ 1,000.00			\$ 1,000.00	
RECONNECT 8-INCH SANITARY SEWER TO MANHOLE	3	EA	\$ 750.00			\$ 2,250.00	
RECONNECT 6-INCH SANITARY SEWER TO MANHOLE	20	EA	\$ 1,250.00			\$ 25,000.00	
BYPASS PUMPING	1	LS	\$ 30,000.00			\$ 30,000.00	
EROSION/SEDIMENT CONTROL	1	LS	\$ 1,500.00			\$ 1,500.00	
REINFORCED FILTER FABRIC FENCE	1700	LF	\$ 2.00			\$ 3,400.00	
HYDRO-MULCH SEEDING FOR EROSION CONTROL	2	AC	\$ 2,500.00			\$ 5,000.00	
TRAFFIC CONTROL	1	LS	\$ 30,000.00			\$ 30,000.00	
REMOVE & DISPOSE OFFSITE SANITARY SEWER MANHOLES	3	EA	\$ 750.00			\$ 2,250.00	
4-FOOT DIAMETER PRECAST MANHOLE	3	EA	\$ 8,000.00			\$ 24,000.00	
MANHOLE BASE FOR WET SAND CONSTRUCTION	1	EA	\$ 750.00			\$ 750.00	
PROJECT CONTINGENCIES (10%)						\$ 127,072.70	
CONSTRUCTION TOTAL						\$ 1,397,799.70	
COMMENTS/SPECIAL PROJECT NOTES:							
The project's need is dictated by the development remaining between Lakeside Drive and SH146, north of Repsdorph. The current line is near full capacity, so this project is needed to support further development west of SH146.							

**WATER AND WASTEWATER CAPITAL
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2021-2030**



CIP WW 1: E. Meyer Pipe Burst:

**WATER AND WASTEWATER CAPITAL
IMPROVEMENTS PLAN AND IMPACT FEE STUDY
2021-2030**



PROPOSED CAPITAL IMPROVEMENTS PROJECTS							
PROJECT TITLE: Shipyards Sewer Service Phase 1							
PROJECT LOCATION/LIMITS: Service Area 17							
CIP NUMBERS: WW2							
FACILITY TYPE: WASTEWATER							
PROJECT DESCRIPTION AND JUSTIFICATION:							
This project would provide the means to provide sewer service to the Shipyards area.							
PROJECT COST ESTIMATES:							
COST BY FISCAL YEAR							
PROJECT COST	FY21	FY22	FY23	FY24	FY25	FY26+	TOTAL
ENGINEERING/PLANNING			\$ 195,000				\$ 195,000
LAND/EASEMENTS ACQ.			\$ 75,000				\$ 75,000
CONSTRUCTION			\$ 86,400				\$ 86,400
TOTAL COST	\$ -	\$ -	\$ 356,400	\$ -	\$ -	\$ -	\$ 356,400
OPINION OF PROBABLE CONSTRUCTION COST ESTIMATE:							
DESCRIPTION	QUANTITY	UNIT	UNIT PRICE		TOTAL COST		
8-INCH SANITARY SEWER PIPE	800	LF	\$ 55.00		\$ 44,000.00		
MANHOLES	2	EA	\$ 4,000.00		\$ 8,000.00		
DEWATERING	800	LF	\$ 25.00		\$ 20,000.00		
PROJECT CONTINGENCIES (20%)						\$ 14,400.00	
CONSTRUCTION TOTAL						\$ 86,400.00	
COMMENTS/SPECIAL PROJECT NOTES:							



**WATER AND WASTEWATER CAPITAL
IMPROVEMENTS PLAN AND IMPACT FEE STUDY
2021-2030**



PROPOSED CAPITAL IMPROVEMENTS PROJECTS							
PROJECT TITLE: Shipyards Sewer Service Phase 2							
PROJECT LOCATION/LIMITS: Service Area 17							
CIP NUMBERS: WW3							
FACILITY TYPE: WASTEWATER							
PROJECT DESCRIPTION AND JUSTIFICATION:							
This would provide adequate public sewers with the Shipyards area.							
PROJECT COST ESTIMATES:							
COST BY FISCAL YEAR							
PROJECT COST	FY21	FY22	FY23	FY24	FY25	FY26+	TOTAL
ENGINEERING/PLANNING						\$ 95,000	\$ 95,000
LAND/EASEMENTS ACQ.							\$ -
CONSTRUCTION						\$ 470,400	\$ 470,400
TOTAL COST	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 565,400	\$ 565,400
OPINION OF PROBABLE CONSTRUCTION COST ESTIMATE:							
DESCRIPTION	QUANTITY	UNIT	UNIT PRICE			TOTAL COST	
8-INCH SANITARY SEWER PIPE	3900	LF	\$ 55.00			\$ 214,500.00	
MANHOLES	20	EA	\$ 4,000.00			\$ 80,000.00	
DEWATERING	3900	LF	\$ 25.00			\$ 97,500.00	
PROJECT CONTINGENCIES (20%)						\$ 78,400.00	
CONSTRUCTION TOTAL						\$ 470,400.00	
COMMENTS/SPECIAL PROJECT NOTES:							
Project is dependent on WW2 being completed or under construction.							



CIP WW 3: Shipyards Sewer Service Phase 2

**WATER AND WASTEWATER CAPITAL
IMPROVEMENTS PLAN AND IMPACT FEE STUDY
2021-2030**



PROPOSED CAPITAL IMPROVEMENTS PROJECTS							
PROJECT TITLE:		Lift Station No. 5 Force Main Improvements					
PROJECT LOCATION/LIMITS:		Service Area 17 and 6a					
CIP NUMBERS:		WW4					
FACILITY TYPE:		WASTEWATER					
PROJECT DESCRIPTION AND JUSTIFICATION:							
This lift station will convey flow from Service Area 17 and 6a to the proposed Main Street Lift Station.							
PROJECT COST ESTIMATES:							
COST BY FISCAL YEAR							
PROJECT COST	FY21	FY22	FY23	FY24	FY25	FY26+	TOTAL
ENGINEERING/PLANNING		\$ 312,566					\$ 312,566
LAND/EASEMENTS ACQ.		\$ 187,540					\$ 187,540
CONSTRUCTION		\$ 1,562,832					\$ 1,562,832
TOTAL COST	\$ -	\$ 2,062,938	\$ -	\$ -	\$ -	\$ -	\$ 2,062,938
OPINION OF PROBABLE CONSTRUCTION COST ESTIMATE:							
DESCRIPTION	QUANTITY	UNIT	UNIT PRICE		TOTAL COST		
Bypass Pumping, Complete in Place, the sum of	1	LS	\$ 50,000.00		\$ 50,000.00		
Wetwell, Complete in Place, the sum of	1	EA	\$ 425,000.00		\$ 425,000.00		
Dewatering for Wetwell Installation, Complete in Place,	1	EA	\$ 80,000.00		\$ 80,000.00		
Piping within Lift Station, Complete in Place, the sum of	1	LS	\$ 50,000.00		\$ 50,000.00		
48"x36" Flood Tight Hatch Doors, Complete in Place, the	3	EA	\$ 8,000.00		\$ 24,000.00		
84"x48" Flood Tight Hatch Door, Complete in Place, the sum	1	EA	\$ 10,000.00		\$ 10,000.00		
Pumps, 45 HP, Complete in Place, the sum of	3	EA	\$ 80,000.00		\$ 240,000.00		
Furnish and Install 12" Electromagnetic Flow Meter,	1	EA	\$ 20,000.00		\$ 20,000.00		
1-1/2" Water Service Connection, Including up to 300' of	1	EA	\$ 6,000.00		\$ 6,000.00		
Electrical, Includes Auxiliary Control Panel Mounted on	1	EA	\$ 100,000.00		\$ 100,000.00		
Electrical Service by Electrical Provider	1	EA	\$ 15,000.00		\$ 15,000.00		
Telephone Service by Telephone Service Provider	1	EA	\$ 10,000.00		\$ 10,000.00		
Elevated Platform (Steel) with 24" Diameter Reinforced	1	EA	\$ 100,000.00		\$ 100,000.00		
10" Gravel (Limestone), Complete in Place, the sum of	33	SY	\$ 20.00		\$ 660.00		
Chain Link Fence, Including Access Gate, without PVC	255	LF	\$ 50.00		\$ 12,750.00		
6" Concrete Removable Protective Bollards, Complete in	4	EA	\$ 500.00		\$ 2,000.00		
4" HMAC Asphaltic Concrete Surface, Including 10" Gravel	4	SY	\$ 75.00		\$ 300.00		
6" Reinforced Concrete Pavement, Including 6" Lime	290	SY	\$ 85.00		\$ 24,650.00		
4" DR18 PVC C900 Force Main (By Directional Drill), Including all Surface Restoration and Dewatering, Complete in Place, the sum of	3300	LF	\$ 40.00		\$ 132,000.00		
PROJECT CONTINGENCIES (20%)						\$	260,472.00
CONSTRUCTION TOTAL						\$	1,562,832.00
COMMENTS/SPECIAL PROJECT NOTES:							

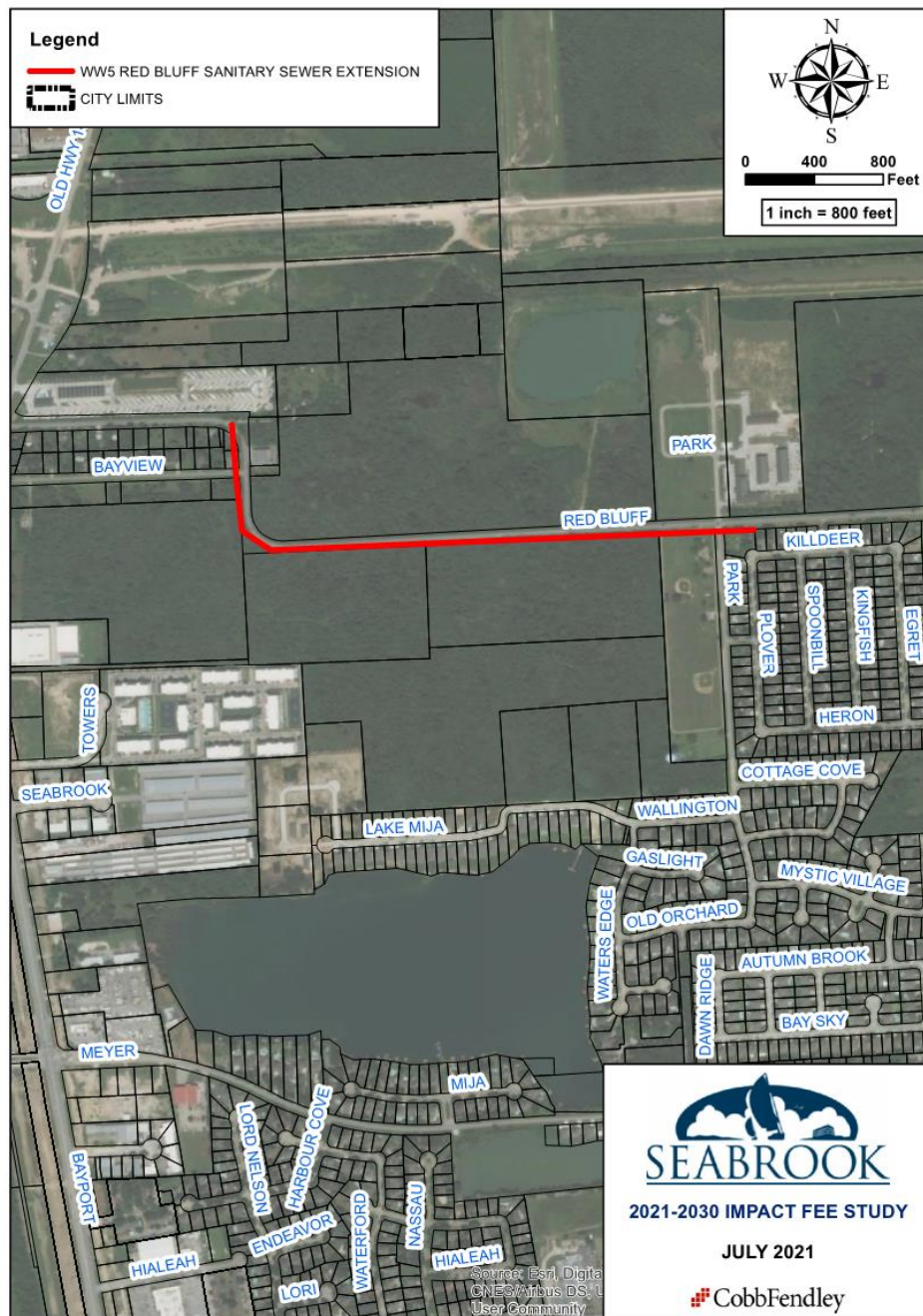


CIP WW 4: Lift Station No.5 Force Main Improvements

**WATER AND WASTEWATER CAPITAL
IMPROVEMENTS PLAN AND IMPACT FEE STUDY
2021-2030**



PROPOSED CAPITAL IMPROVEMENTS PROJECTS							
PROJECT TITLE: Red Bluff Sanitary Sewer Extension							
PROJECT LOCATION/LIMITS: Service Area 15							
CIP NUMBERS: WW5							
FACILITY TYPE: WASTEWATER							
PROJECT DESCRIPTION AND JUSTIFICATION:							
This project would extend the gravity sanitary sewer line at Bayview Drive along Red Bluff to Park Drive to provide for future expansion in the area.							
PROJECT COST ESTIMATES:							
COST BY FISCAL YEAR							
PROJECT COST	FY21	FY22	FY23	FY24	FY25	FY26+	TOTAL
ENGINEERING/PLANNING			\$ 86,400				\$ 86,400
LAND/EASEMENTS ACQ.							\$ -
CONSTRUCTION			\$ 432,000				\$ 432,000
TOTAL COST	\$ -	\$ -	\$ 518,400	\$ -	\$ -	\$ -	\$ 518,400
OPINION OF PROBABLE CONSTRUCTION COST ESTIMATE:							
DESCRIPTION	QUANTITY	UNIT	UNIT PRICE			TOTAL COST	
12-INCH SANITARY SEWER PIPE	3200	LF	\$ 75.00			\$ 240,000.00	
MANHOLES	10	EA	\$ 4,000.00			\$ 40,000.00	
DEWATERING	3200	LF	\$ 25.00			\$ 80,000.00	
PROJECT CONTINGENCIES (20%)						\$ 72,000.00	
CONSTRUCTION TOTAL						\$ 432,000.00	
COMMENTS/SPECIAL PROJECT NOTES:							



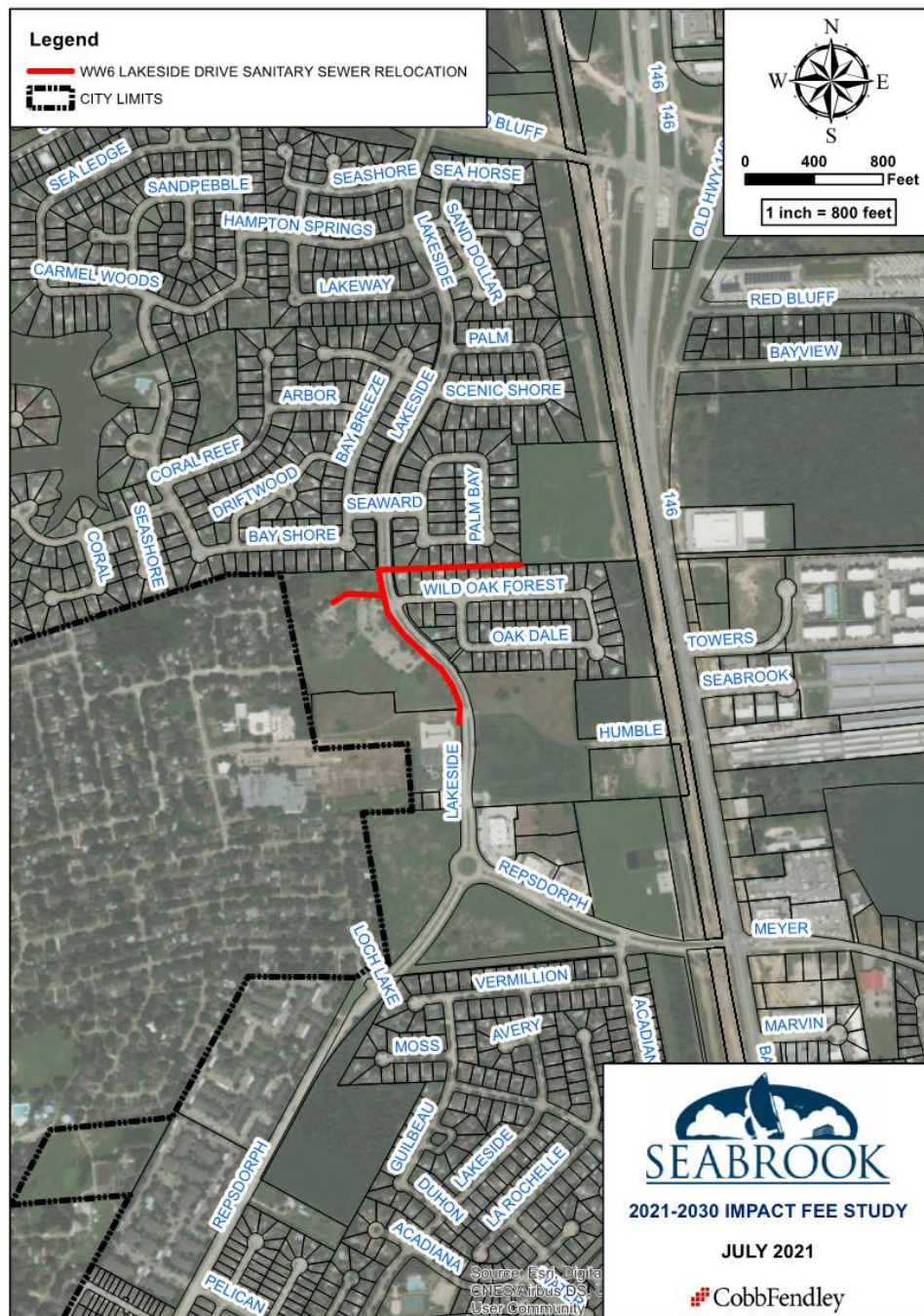
CIP WW 5: Red Bluff Sanitary Sewer Extension

**WATER AND WASTEWATER CAPITAL
IMPROVEMENTS PLAN AND IMPACT FEE STUDY
2021-2030**



PROPOSED CAPITAL IMPROVEMENTS PROJECTS							
PROJECT TITLE:		Lakeside Drive Sanitary Sewer Relocation					
PROJECT LOCATION/LIMITS:		Service Area 14					
CIP NUMBERS:		WW6					
FACILITY TYPE:		WASTEWATER					
PROJECT DESCRIPTION AND JUSTIFICATION:							
This project is to reroute an existing sanitary sewer gravity line that restricts future economic development in the area due to its current alignment.							
PROJECT COST ESTIMATES:							
COST BY FISCAL YEAR							
PROJECT COST	FY21	FY22	FY23	FY24	FY25	FY26+	TOTAL
ENGINEERING/PLANNING	\$ 48,360						\$ 48,360
LAND/EASEMENTS ACQ.							\$ -
CONSTRUCTION		\$ 241,800					\$ 241,800
TOTAL COST	\$ 48,360	\$ 241,800	\$ -	\$ -	\$ -	\$ -	\$ 290,160
OPINION OF PROBABLE CONSTRUCTION COST ESTIMATE:							
DESCRIPTION	QUANTITY	UNIT	UNIT PRICE			TOTAL COST	
MOBILIZATION	1	LS	\$ 15,000.00			\$ 15,000.00	
4 1/2" CONCRETE SIDEWALK	2360	SF	\$ 8.00			\$ 18,880.00	
TPDES REQUIREMENTS	1	LS	\$ 2,150.00			\$ 2,150.00	
SODDING	644	SY	\$ 5.00			\$ 3,220.00	
10-INCH SANITARYSEWER BY OPEN CUT CONSTRUCTION	1400	LF	\$ 65.00			\$ 91,000.00	
10-INCH SANITARYSEWER W STL CASING, BORE & JACK	155	LF	\$ 250.00			\$ 38,750.00	
SANITARY SEWER MANHOLES (48" DIAMETER) ALL DEPTHS	7	EA	\$ 4,000.00			\$ 28,000.00	
CONNECT TO EXISTING MANHOLES	3	EA	\$ 1,500.00			\$ 4,500.00	
PROJECT CONTINGENCIES (20%)						\$ 40,300.00	
CONSTRUCTION TOTAL						\$ 241,800.00	
COMMENTS/SPECIAL PROJECT NOTES:							

**WATER AND WASTEWATER CAPITAL
IMPROVEMENTS PLAN AND IMPACT FEE STUDY
2021-2030**



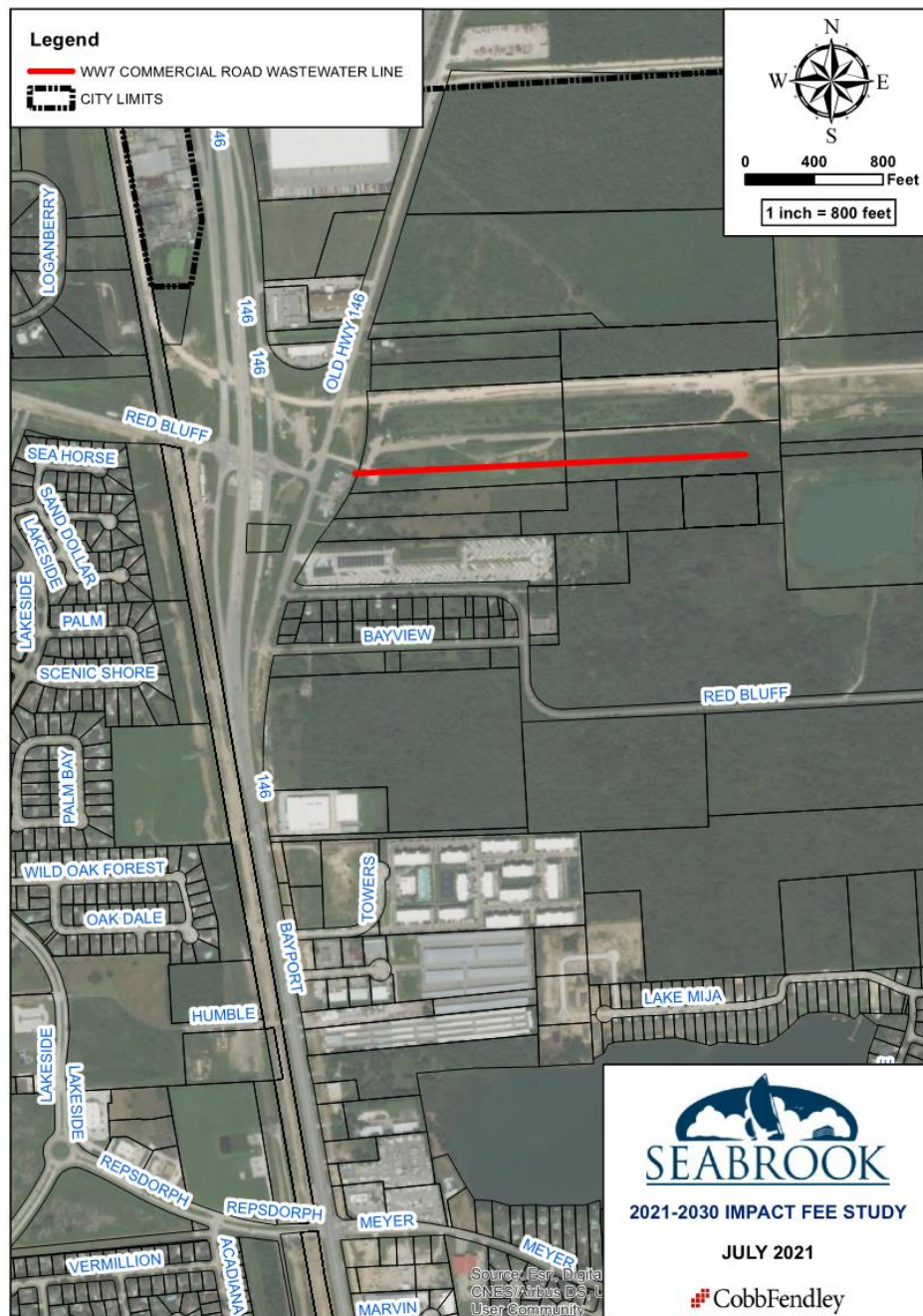
CIP WW 6: Lakeside Drive Sanitary Sewer Relocation

**WATER AND WASTEWATER CAPITAL
IMPROVEMENTS PLAN AND IMPACT FEE STUDY
2021-2030**



PROPOSED CAPITAL IMPROVEMENTS PROJECTS							
PROJECT TITLE:		Commercial Road Wastewater Line					
PROJECT LOCATION/LIMITS:		Service Area 15					
CIP NUMBERS:		WW7					
FACILITY TYPE:		WASTEWATER					
PROJECT DESCRIPTION AND JUSTIFICATION:							
The proposed 2,098 LF 12" sanitary sewer will serve the future commercial development in this area.							
PROJECT COST ESTIMATES:							
COST BY FISCAL YEAR							
PROJECT COST	FY21	FY22	FY23	FY24	FY25	FY26+	TOTAL
ENGINEERING/PLANNING					\$ 97,512		\$ 97,512
LAND/EASEMENTS ACQ.							\$ -
CONSTRUCTION						\$ 750,090	\$ 750,090
TOTAL COST	\$ -	\$ -	\$ -	\$ -	\$ 97,512	\$ 750,090	\$ 847,602
OPINION OF PROBABLE CONSTRUCTION COST ESTIMATE:							
DESCRIPTION	QUANTITY	UNIT	UNIT PRICE		TOTAL COST		
MOBILIZATION	1	LS	\$ 54,552.00		\$ 54,552.00		
12-INCH SANITARY SEWER PIPE	2098	LF	\$ 240.00		\$ 503,520.00		
MANHOLES	7	EA	\$ 6,000.00		\$ 42,000.00		
PROJECT CONTINGENCIES (25%)					\$ 150,018.00		
CONSTRUCTION TOTAL					\$ 750,090.00		
COMMENTS/SPECIAL PROJECT NOTES:							

**WATER AND WASTEWATER CAPITAL
IMPROVEMENTS PLAN AND IMPACT FEE STUDY
2021-2030**



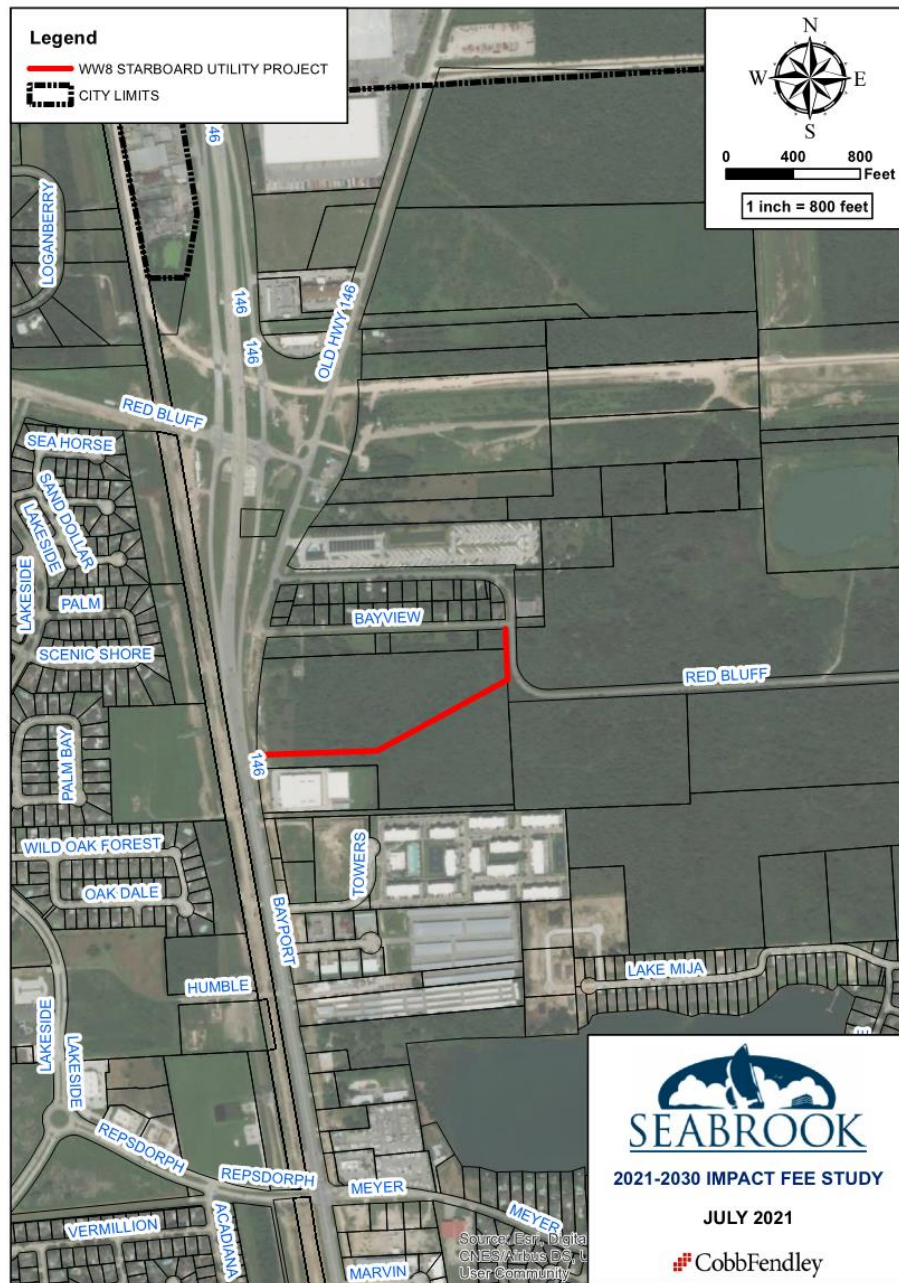
CIP WW 7: Commercial Road Wastewater Line

**WATER AND WASTEWATER CAPITAL
IMPROVEMENTS PLAN AND IMPACT FEE STUDY
2021-2030**



PROPOSED CAPITAL IMPROVEMENTS PROJECTS							
PROJECT TITLE:		Starboard Utility Project					
PROJECT LOCATION/LIMITS:		Service Area 15					
CIP NUMBERS:		WW8					
FACILITY TYPE:		WASTEWATER					
PROJECT DESCRIPTION AND JUSTIFICATION:							
The proposed 1,619 LF 12" sanitary sewer will serve the future commercial development in this area.							
PROJECT COST ESTIMATES:							
COST BY FISCAL YEAR							
PROJECT COST	FY21	FY22	FY23	FY24	FY25	FY26+	TOTAL
ENGINEERING/PLANNING					\$ 79,108		\$ 79,108
LAND/EASEMENTS ACQ.							\$ -
CONSTRUCTION						\$ 608,520	\$ 608,520
TOTAL COST	\$ -	\$ -	\$ -	\$ -	\$ 79,108	\$ 608,520	\$ 687,628
OPINION OF PROBABLE CONSTRUCTION COST ESTIMATE:							
DESCRIPTION	QUANTITY	UNIT	UNIT PRICE		TOTAL COST		
MOBILIZATION	1	LS	\$ 44,256.00		\$ 44,256.00		
12-INCH SANITARY SEWER PIPE	1619	LF	\$ 240.00		\$ 388,560.00		
MANHOLES	9	EA	\$ 6,000.00		\$ 54,000.00		
PROJECT CONTINGENCIES (20%)					\$ 121,704.00		
CONSTRUCTION TOTAL					\$ 608,520.00		
COMMENTS/SPECIAL PROJECT NOTES:							

**WATER AND WASTEWATER CAPITAL
IMPROVEMENTS PLAN AND IMPACT FEE STUDY
2021-2030**



CIP WW 8: Commercial Road Wastewater Line

E. OPINION OF PROBABLE COST

The cost estimates presented here are preliminary and final costs may vary. These costs include a contingency factor of 20% percent. The costs do not include allowances for legal or financing costs. The probable costs are based on current-year dollars and average unit costs. The cost of the 10-year wastewater system is estimated to be \$5,549,841.70. A project cost breakdown is shown in Table 5-5.

Table 5-5: Probable Wastewater Improvement Construction Costs

CIP #	PROJECT DESCRIPTION	COST
WW1	E. Meyer Pipe Burst	\$ 1,397,799.70
WW2	Shipyards Sewer Service Phase 1	\$ 86,400.00
WW3	Shipyards Sewer Service Phase 2	\$ 470,400.00
WW4	Lift Station No. 5 Force Main Improvements	\$ 1,562,832.00
WW5	Red Bluff Sanitary Sewer Extension	\$ 432,000.00
WW6	Lakeside Drive Sanitary Sewer Relocation	\$ 241,800.00
WW7	Commercial Road Wastewater Line	\$ 750,090.00
WW8	Starboard Utility Project	\$ 608,520.00
TOTAL		\$ 5,549,841.70

6 MAXIMUM IMPACT FEE DETERMINATION

A. BASIS FOR IMPACT FEE COMPLIANCE

The maximum impact fee determination has been prepared as set forth in Local Government Code, Title 12, Planning and Development, Chapter 395, et seq., Financing Capital Improvements Required by New Development in Municipalities, Counties, and Certain Other Local Governments, and Its Successors

B. TECHNICAL BASIS FOR IMPACT FEE CALCULATIONS

a. Technical Basis for Impact Fee Calculations

The CIP must contain specific enumeration of the following:

- A description of the existing capital improvements within the service area and improvements necessary to meet requirements to serve existing demand.
- An analysis of capacity, necessitated by new development within the service area commitments and level of current usage.
- A description of capital improvements or facility expansions and their costs necessitated by new development in the service area based on approved land use assumptions.
- A table establishing the quantity of use of a service unit for each category of capital improvement and an equivalency establishing the ratio of a service unit to various types of land use.
- The number of projected service units necessitated by new development within the service area based on approved land use assumptions.
- The projected demand for capital improvements required for new service units projected over a period not to exceed 10 years.
- A plan for awarding a credit for the portion of ad valorem tax and utility service revenues generated by new development during the program period, or a credit equal to 50 percent of the total projected cost of implementing the CIP.

b. Service Area Definitions

The service area designation defines the area of growth, allows an estimate of service demand arising from the growth within the area, and permits the development of a CIP to meet service needs. The law provides that, in lieu of adopting land use assumptions for each service area, a political subdivision may adopt system-wide land use assumptions for the purpose of imposing impact fees. A political subdivision is not required to adopt additional land use assumptions for smaller service areas for water supply, treatment and distribution, or wastewater collection and treatment facilities. The Seabrook city limits is defined as the service area, and is used for the derivation of the maximum impact fees for water and sanitary sewer facilities.

c. Land Use Assumptions

Population projections in Section 2 and 3 show projected growth in relation to recent projections made with H-GAC and TWDB. These projections are also directly related to the Land Use Assumptions as shown on Exhibit 3-1. The City of Seabrook is currently 67% developed, as indicated in Table 6-1.

Table 6-1: City of Seabrook Percent Developed

YEAR	UNDEVELOPED AREA (AC)	DEVELOPED AREA (AC)	DEVELOPED AREA (%)	TOTAL LAND AREA (AC)
2015	1,421	2297	62%	3,718
2020	1,232	2486	67%	
2025	1043	2675	72%	
2030	854	2864	77%	

a. Water and Wastewater Usage and Measurement

The City water and sanitary sewer projections were based on current usage and population forecasts. These requirements are expressed in terms of average daily and peak hourly flow. Also considered were pumping capacity, pumping requirements, existing storage capacity, TCEQ requirements, existing line sizes and lift station capacities.

EDU equivalencies for various meter type and sizes are presented below. This EDU equivalency system is recommended for use in assessing impact fees.

Table 6-2: EDU Equivalencies for Various Types and Sizes of Water Meter

METER TYPE	METER SIZE	CONTINUOUS DUTY MAXIMUM RATE (GPM)	RATIO TO 5/8-INCH METER	WATER ¹ IMPACT FEE ASSESSED	WASTEWATER ² IMPACT FEE ASSESSED
Simple	5/8"x3/4"	10	1	\$2,910.00	\$2,813.00
Simple	3/4"	15	1.5	4,365.00	4,219.50
Simple	1"	25	2.5	7,275.00	7,032.50
Simple	1 1/2"	50	5	14,550.00	14,065.00
Simple	2"	80	8	23,280.00	22,504.00
Compound	2"	80	8	23,280.00	22,504.00
Turbine	2"	100	10	29,100.00	28,130.00
Compound	3"	160	16	46,560.00	45,008.00
Turbine	3"	240	24	69,840.00	67,512.00
Compound	4"	250	25	72,750.00	70,325.00
Turbine	4"	420	42	122,220.00	118,146.00
Compound	6"	500	50	145,500.00	140,650.00
Turbine	6"	920	92	267,720.00	258,796.00
Compound	8"	800	80	232,800.00	225,040.00
Turbine	8"	1600	160	465,600.00	450,080.00
Compound	10"	1150	115	334,650.00	323,495.00
Turbine	10"	2500	250	727,500.00	703,250.00
Turbine	12"	3300	330	960,300.00	928,290.00
NOTES					
1: \$2,910 per EDU					
2: \$2,813 per EDU					

This report presents fees on an EDU basis, which is defined as consumption by a typical single-family household with a 5/8-inch water meter. As discussed in Section 4, a water EDU was determined to be 305 gpd (average consumption). For wastewater, actual flows were compared to water use and a wastewater EDU was determined to be about 73 percent of water consumption—an equivalent 222 gpd is used.

b. Projected Water and Wastewater Demands

Demand for the service area within the next 10 years (2020-2030) was determined using the City of Seabrook's Land Use Assumptions in conjunction with regional population forecasts and the estimated demand for new developments categorized by the commercial land use type. As required by Section 395.014 of the Local Government code, projected demands for capital improvements required by new service units are projected over a 10-year period in this study. These calculations have been utilized in calculating both the facility sizes and applicable impact fee relative to the projects.

C. IMPACT FEE DETERMINATION METHODOLOGY

a. Components of Capital Cost of Service

For purposes of this study, water and sanitary sewer costs are defined for a common measurement of capacity and demand; that service unit of measurement is an EDU. Each service unit has a capital cost associated with the comprehensive group of facilities required to provide service (transmission, pumping, storage, etc.). This value is the Construction Cost of Service.

If a facility is funded through bonding, however, two additional costs are incurred for each service unit of demand for consideration in impact fee calculations: bonding costs and interest costs. Bonding costs or the costs related to selling bonds are statistically small (6% has been estimated for this study). On the other hand, interest costs can effectively double the cost of bonds, depending on the current interest rate and term of the bonds. For this study, an interest rate of 5% was utilized for these calculations.

D. METHODS FOR RECOVERING COSTS OF SERVICE

Generally speaking, costs can be financed through either the public sector or the private sector. Financing through the public sector is primarily accomplished by bonding projects and recovering costs through utility rates for water and sewer projects. Financing through the private sector occurs when a developer or builder contributes assets (either facilities or cash), and passes along this cost (including carrying and financing costs) to the ultimate user of the development. An impact fee is one mechanism for private financing.

As aforementioned, the CIP must include a plan for awarding credit either for tax and utility revenues generated by new customers, or for 50% of the total cost of implementing the CIP. For the purposes of this study, the 50% credit was used.

E. DERIVATION

The projects eligible for impact fee consideration are shown in Table 6-3 and Table 6-4.

**WATER AND WASTEWATER CAPITAL
IMPROVEMENTS PLAN AND IMPACT FEE STUDY
2021-2030**



Table 6-3: Pro rata Cost of Water Projects

CIP ID	IMPROVEMENTS	EDU DESIGN CAPACITY	EDU GROWTH REQUIREMENT	COST	IMPACT FEE ALLOCATION	COST PER EDU
TOTAL PLANT FACILITIES						
W1	Shipyards Water Service Phase 1	135	135	\$ 614,443.10	\$ 614,443.10	\$ 496.72
W2	Shipyards Water Service Phase 2	135	135	\$ 635,190.34	\$ 635,190.34	\$ 513.49
W3	SH146 Bore to Old SH146	7637	1237	\$ 635,190.34	\$ 102,884.70	\$ 83.17
W4	Old SH146 12" Interconnect	7637	1237	\$ 79,200.00	\$ 12,828.39	\$ 10.37
W5	Nasa Road 8" Interconnect	7637	1237	\$ 79,200.00	\$ 12,828.39	\$ 10.37
W6	Taylor Lake Water Line Crossing	7637	1237	\$ 2,087,376.00	\$ 338,101.89	\$ 273.32
W7	Red Bluff Water Line Improvements	508	50	\$ 925,610.40	\$ 91,103.39	\$ 73.65
W8	Pine Gully Area Water Line Improvements	300	120	\$ 1,920,881.95	\$ 768,352.78	\$ 621.14
W9	Sea Channel Drive Water Line Improvements	100	50	\$ 435,013.92	\$ 217,506.96	\$ 175.83
W10	South SH 146 Water Line Improvements	136	68	\$ 320,284.80	\$ 160,142.40	\$ 129.46
W11	East Nasa Parkway Water Line Improvements	136	68	\$ 328,849.49	\$ 164,424.74	\$ 132.92
W12	Willow Dell Drive Water Line Improvements	40	20	\$ 364,090.32	\$ 182,045.16	\$ 147.17
W13	Shady Lake Drive Water Line Improvements	86	43	\$ 340,916.40	\$ 170,458.20	\$ 137.80
W14	Islander Way Water Line Improvements	70	35	\$ 187,062.48	\$ 93,531.24	\$ 75.61
W15	Commercial Road Water Project	20	20	\$ 383,135.04	\$ 383,135.04	\$ 309.73
W16	Starboard Utility Project	20	20	\$ 263,296.80	\$ 263,296.80	\$ 212.85
TOTAL DISTRIBUTION LINES				\$ 9,599,741.38	\$ 4,210,273.51	\$ 3,403.62
GRAND TOTAL				\$ 9,599,741.38	\$ 4,210,273.51	\$ 3,403.62
NOTES						
1: "EDU Design Capacity" is the projected total number of Water EDUs by 2030						
2: "EDU Growth Requirement" is the total increase in Water EDUs from 2020-2030						
3: "Cost Per EDU" is calculated based on the total growth of 1,237 EDUs over a 10-year period						

Table 6-4: Pro rata Cost of Wastewater Projects

	IMPROVEMENTS	EDU DESIGN CAPACITY	EDU GROWTH REQUIREMENT	COST	IMPACT FEE ALLOCATION	COST PER EDU
TOTAL PLANT FACILITIES						
WW1	E. Meyer Pipe Burst	7637	568	\$ 1,547,799.70	\$ 115,117.22	\$ 93.06
WW2	Shipyards Sewer Service Phase 1	135	135	\$ 356,400.00	\$ 356,400.00	\$ 288.12
WW3	Shipyards Sewer Service Phase 2	135	135	\$ 565,400.00	\$ 565,400.00	\$ 457.07
WW4	Lift Station No. 5 Force Main Improvements	232	191	\$ 2,062,938.24	\$ 1,698,367.26	\$ 1,372.97
WW5	Red Bluff Sanitary Sewer Extension	600	150	\$ 518,400.00	\$ 129,600.00	\$ 104.77
WW6	Lakeside Drive Sanitary Sewer Relocation	2127	260	\$ 290,160.00	\$ 35,400.34	\$ 28.62
WW7	Commercial Road Wastewater Line	30	30	\$ 847,601.70	\$ 847,601.70	\$ 685.21
WW8	Starboard Utility Project	30	14	\$ 687,627.60	\$ 320,892.88	\$ 259.41
TOTAL DISTRIBUTION LINES				\$ 6,876,327.24	\$ 4,068,779.40	\$ 3,289.23
GRAND TOTAL				\$ 6,876,327.24	\$ 4,068,779.40	\$ 3,289.23
NOTES						
1: "EDU Design Capacity" is the projected total number of Wastewater EDUs by 2030						
2: "EDU Growth Requirement" is the total increase in Wastewater EDUs from 2020-2030						
3: "Cost Per EDU" is calculated based on the total growth of 1,237 EDUs over a 10-year period						

These tables show CIP projects that have been determined to be required during the study period. For the existing facilities, their design capacity was evaluated against existing demands and projected growth to determine the pro rata value for growth during the study period. The impact fee allocations for water and wastewater facilities are found on Table 6-3 and Table 6-4. Many of the proposed CIP projects have capacities in excess of the growth requirement for this study period. In this manner, only the value (cost) of the facility capacities needed to support growth during the study period is considered in the impact fee determination.

Table 6-5 and Table 6-6 summarize the costs to be considered in the calculation of the impact fee as well as the cost for the impact fee study. Total cost of indebtedness, including bond cost and interest is shown in Table 6-7 as debt service.

Table 6-5: Calculation of Construction Cost per EDU for Water Supply and Distribution

DESCRIPTION	FACILITY	TOTAL COST	COST PER EDU
PROPOSED CIP (TEN YEARS)	PLANT FACILITIES	\$ -	\$ -
	TRUNK LINES	\$ 9,599,741.38	\$ 3,403.62
	SUBTOTAL PROPOSED CIP	\$ 9,599,741.38	\$ 3,403.62
MISCELLANEOUS	10-YEAR WATER CIP AND IMPACT FEE STUDY	\$ 20,000.00	\$ 16
TOTAL			\$ 3,420

Table 6-6: Calculation of Construction Cost per EDU for Wastewater Collection and Treatment

DESCRIPTION	FACILITY	TOTAL COST	COST PER EDU
PROPOSED CIP (TEN YEARS)	PLANT FACILITIES	\$ -	\$ -
	TRUNK LINES	\$ 6,876,327.24	\$ 3,289.23
	SUBTOTAL PROPOSED CIP	\$ 6,876,327.24	\$ 3,289.23
MISCELLANEOUS	10-YEAR WATER CIP AND IMPACT FEE STUDY	\$ 20,000.00	\$ 16
TOTAL			\$ 3,305

Table 6-7: Debt Service of Proposed CIP per EDU

UTILITY	PRINCIPAL COST	BOND AMOUNT	INTEREST	DEBT SERVICE
WATER	\$ 3,420	\$ 3,642.07	\$2,161.38	\$5,803.45
WASTEWATER	\$ 3,305	\$ 3,520.25	\$2,089.09	\$5,609.34
NOTE				
1: Bonds at 5% and 20 year term, semi-annual payment. Soft costs estimated at 6.5%				

F. MAXIMUM IMPACT FEE CALCULATION

Table 6-8 shows the derivation of the maximum fees for water and wastewater. The existing facility costs, debt service costs for the proposed CIP, and the study costs are shown in Table 6-8. There is also a 50% tax credit for the CIP and the study shown. The total is the maximum allowable impact fee per Local Government Code, Title 12, Chapter 395. The maximum water impact fee is \$2,910.00 and the maximum wastewater impact fee is \$2,813; a total of \$5,723.00.

Table 6-8: Derivation of Maximum Water and Wastewater Impact Fee

UTILITY	DEBT SERVICE PROPOSED CIP	CIP & IMPACT FEE STUDY	50% CREDIT FOR CIP AND STUDY	MAXIMUM IMPACT FEE PER EDU
WATER	\$ 5,803	\$ 16	(\$2,909.81)	\$2,910.00
WASTEWATER	\$ 5,609	\$ 16	(\$2,812.75)	\$2,813.00
TOTAL MAXIMUM IMPACT FEE				\$5,723.00
NOTE				
1: Per Local Government Code Section 395.014.7.B, a credit equal to 50% of the total projected cost implementing the CIP may be awarded.				

The previous impact fee report dated December 2015 had a maximum impact fee of \$2,996 for water and a \$2,887 for wastewater; a total of \$5,853. The difference between the past and present impact fees is partly due to the positive speculation regarding development in the City of Seabrook and also to the 4.1% population growth that is anticipated by 2030. However, it's imperative to consider the quantifiable differences between report periods. Table 6-9 serves as a tool to compare and contrast the most relevant aspects of an impact fee calculation.

Table 6-9: Report Period Project Summaries

REPORT PERIOD	WATER PROJECTS	WASTEWATER PROJECTS	WATER PROJECTS COST	WASTEWATER PROJECTS COST	WATER IMPACT FEES	WASTEWATER IMPACT FEES	TOTAL EDUs IMPACTED
2015-2025	12	9	\$ 13,027,578.00	\$ 10,888,239.00	\$2,966.00	\$2,887.00	1274
2020-2030	16	8	\$ 9,599,741.38	\$ 6,876,327.24	\$2,910.00	\$2,813.00	1237
% DIFFERENCE	25%	-11%	-26%	-37%	-2%	-3%	-3%
NOTE							
1: Per Local Government Code Section 395.014.7.B, a credit equal to 50% of the total projected cost implementing the CIP may be awarded.							

It can be observed that while there are a comparable number of projects and EDUs impacted across report periods, the decrease in water and wastewater project costs is the main catalyst to the impact fees.

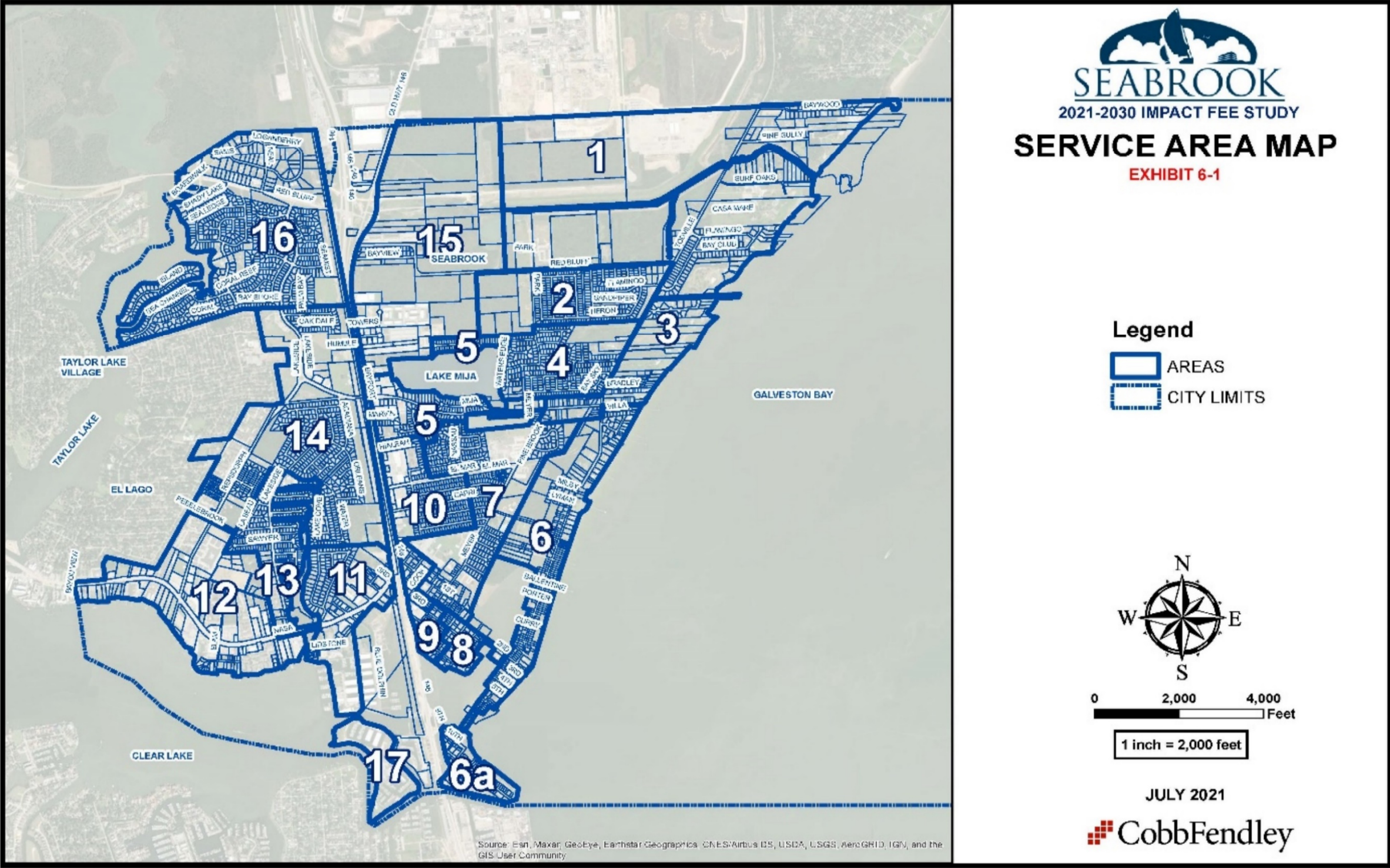
7 CONCLUSION

The scope of this report was to provide the City of Seabrook with capital improvement planning and maximum allowable Impact Fees for Water and Wastewater. The City of Seabrook has completed the approval process as outlined in Chapter 395 of the Local Government Code and adopted impact fees as outlined in Exhibit 7-1.

Table 7-1: Adopted Impact Fees by Water Meter Size

METER TYPE	METER SIZE	CONTINUOUS DUTY MAXIMUM RATE (GPM)	RATIO TO 5/8-INCH METER	WATER ¹ IMPACT FEE ASSESSED	WASTEWATER ² IMPACT FEE ASSESSED
Simple	5/8"x3/4"	10	1	\$2,910.00	\$2,813.00
Simple	3/4"	15	1.5	4,365.00	4,219.50
Simple	1"	25	2.5	7,275.00	7,032.50
Simple	1 1/2"	50	5	14,550.00	14,065.00
Simple	2"	80	8	23,280.00	22,504.00
Compound	2"	80	8	23,280.00	22,504.00
Turbine	2"	100	10	29,100.00	28,130.00
Compound	3"	160	16	46,560.00	45,008.00
Turbine	3"	240	24	69,840.00	67,512.00
Compound	4"	250	25	72,750.00	70,325.00
Turbine	4"	420	42	122,220.00	118,146.00
Compound	6"	500	50	145,500.00	140,650.00
Turbine	6"	920	92	267,720.00	258,796.00
Compound	8"	800	80	232,800.00	225,040.00
Turbine	8"	1600	160	465,600.00	450,080.00
Compound	10"	1150	115	334,650.00	323,495.00
Turbine	10"	2500	250	727,500.00	703,250.00
Turbine	12"	3300	330	960,300.00	928,290.00
NOTES					
1: \$2,910 per EDU					
2: \$2,813 per EDU					

APPENDIX A



Appendix A: Service Area

Time to Update

CITY COUNCIL UPDATE

May 17, 2022



SH 146 SEABROOK / KEMAH December 2023

- **Phase 3 -**
 - **Construct Main Lanes**
 - **Construct NB Entrance/Exit Ramps**
 - **Construct SB Entrance/Exit Ramps**
- **Phase 2**
 - **Widening Arterial Bridge and Express**

Upcoming:
Kemah Traffic Shift to the west

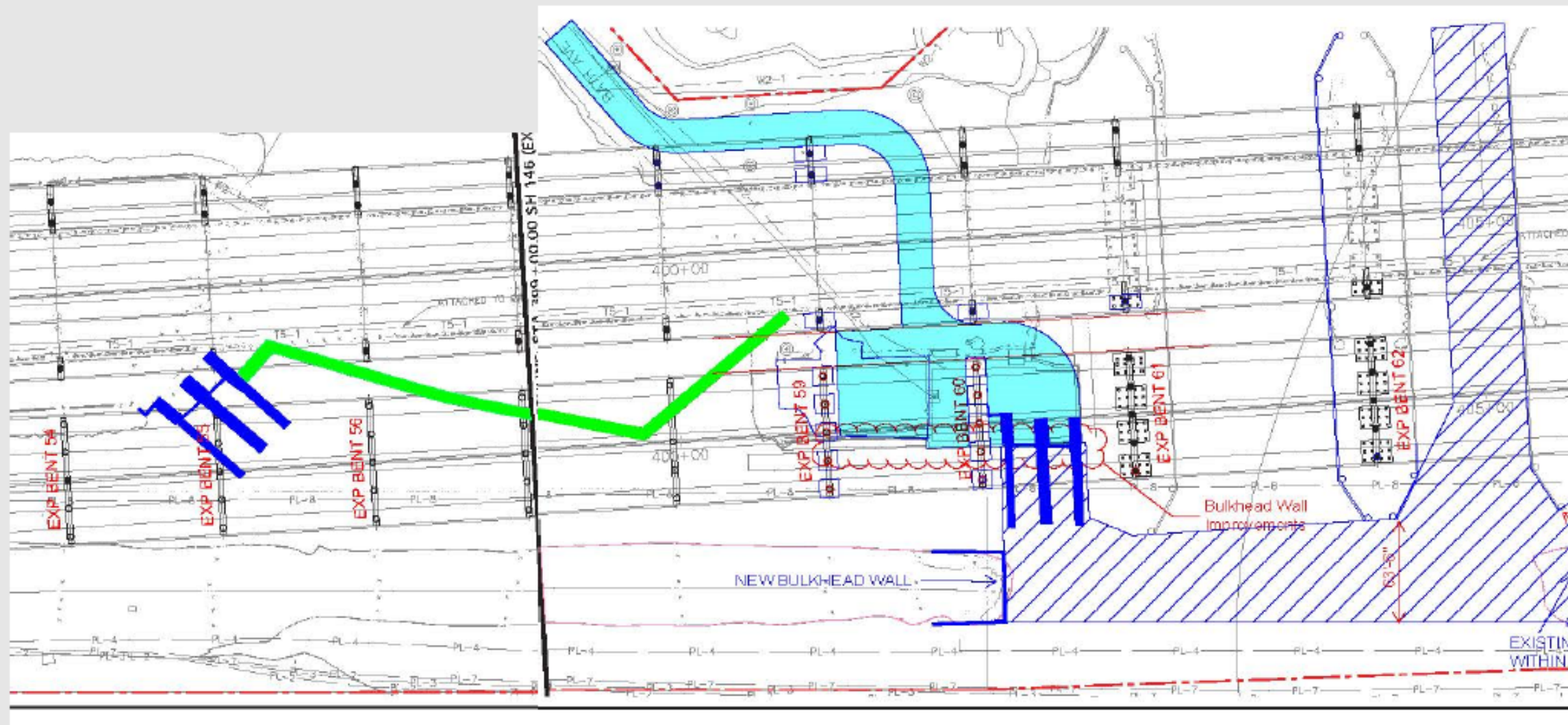
Channel Closures:
Interim channel closures needed to
construct north/south fender system.
Awaiting revised fender details to complete
installation.





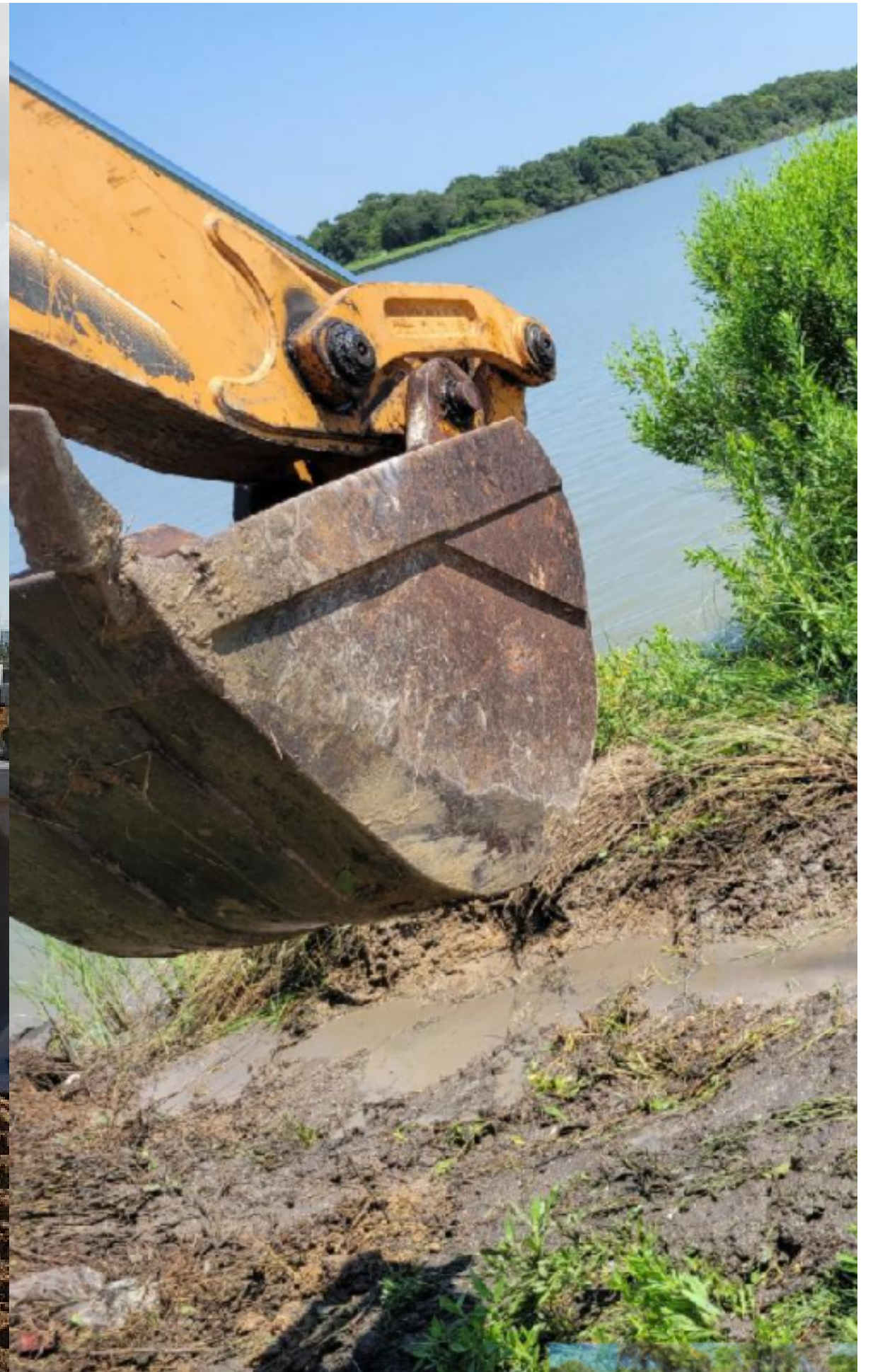
CIP# FAC29 BOAT RAMP

- City is awaiting TxDOT Consultant meeting on Kick Off for Preliminary Design



Seabrook Boat Ramp Relocation

- Proposed Seabrook Boat Ramps are located at former Outrigger's restaurant parcel
- Proposed work requires new roadway access from Bath Avenue



CAPITAL PROJECTS UPDATE

<https://www.seabrooktx.gov/DocumentCenter/View/12951/final-FINAL-w-EXHIBITS-CIP-TOTAL-FY22-MEETING-20210917?bidId=>

CIP# P1

BERM TRAIL

- 50% Complete
- 1.7 miles hike and bike trail system
- 2 Low Crossing Bridges
- End of trail termination just before Old SH 146



WW9 - Wastewater Plant Alcott Inc. (dba TCH)

Estimated Completion Winter 2023

Lift Stations and Force Main Utilities

- **Installation of force main along Red Bluff from Bayview to park complete**
- **Installation of force main along Park Rd complete**
- **Installation of force main along North Meyer ongoing, will work around CCISD schedule**
- **Robinson Park lift station dewatering ongoing**
- **Robinson Park lift station driveway installed**
- **Robinson Park lift station seal slab complete**
- **Robinson Park lift station bottom slab pour complete**



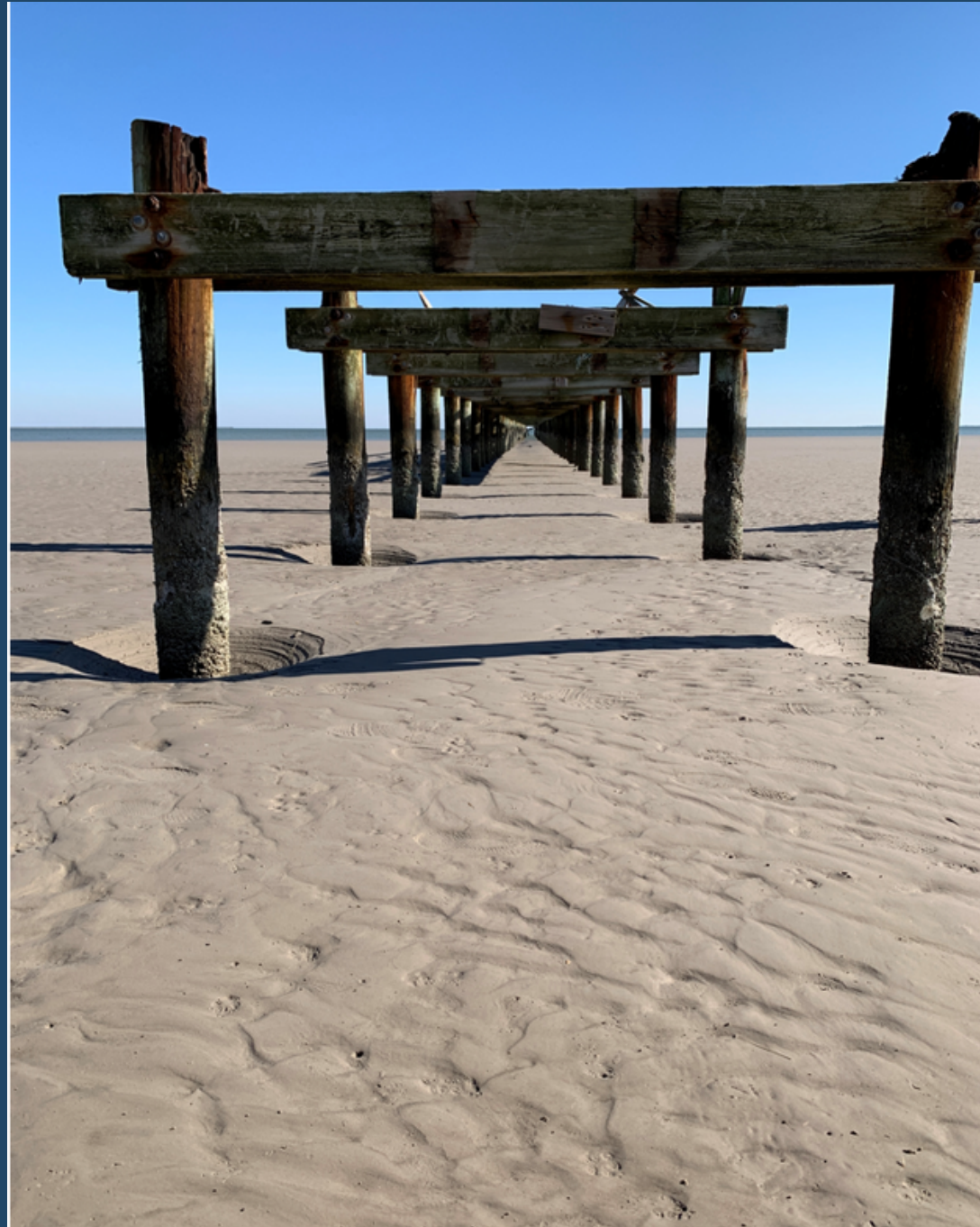
Lift Station near Robinson Park



WW9 - Wastewater Plant CSA Construction 17% Complete

Held monthly progress meeting 05/17

- **Aeration / Digester seal slab complete**
- **Aeration / Digester under slab seal drain piping complete**
- **Aeration / Digester slab concrete complete**
- **Aeration / Digester walls formed and poured**
- **Begin excavation of clarifiers**
- **Electrical service completed and in place**
- **Upcoming electrical / plumbing inspections of Office**



Pine Gully Pier

- **Rebuild to mitigate future storms**
- **Bid Award on 5/17/22 Agenda**
- **Design Contract on 6/7/22 Agenda**
- **HMGP Grant Application Pending**

CIP# D11 AND D12

- **In Progress**
- **Baybrook has a 60" storm sewer on Red bluff roadside ditch adding storm sewer outfalls and modifying the outfalls along Heron**
- **Seascape includes replacing existing cross culvert with 3 larger culverts under Red Bluff and adding inlets**

Website: <https://www.hcfcd.org/Activity/Capital-Improvement-Program/Subdivision-Drainage-Projects/E-07-Subdivision-Drainage-Project>



Grants Pending or In the Works

W5 - Taylor Lake
Waterline
W19 - NASA Rd
Waterline

ARPA Funding

WW19 PW
Generators

FAC 22 City Hall
Generator

FAC24
Community
House Generator

P12 Wildlife Park
Entrance

Friendship Park -
Playground
Replacement

Port of Houston

P9 Taylor Lake
Kayak Launch

**Harris County 50/50
Grant**

CENTERPOINT SUBSTATION

LOGANBERRY SITE



Community Meeting
May 12, 2022

Completed

**Need and Site Selection
Design and Safety
Environmental**



Other Sites

**Centerpoint will be investing
viability of other sites shared
at community meeting**



Possible Future
Community Meeting

**Centerpoint reported that
their leadership team would
evaluate if a future community
meeting would be held after
real estate evaluations**

Thank You

QUESTIONS
