

# CITY MANAGER REPORT



January 4, 2021 | Stefen Wynn, M.P.A. | City Manager



# Capital Improvement Projects

## FY-2021 Project Construction

### 01

#### **Park Improvements:**

*Update on Demolition  
& Construction*

#### **Park Improvements:**

2021 will see lots of construction activity around the City, the park being included in major improvements scheduled for completion in the new year. The new Senior Activity Center will also be completed and a number of Wastewater Collection Systems and Treatment will begin receiving improvements.

Demolition is ahead of schedule, with the demolition of the courts remaining. Coast-to-Coast (the court contractor) requested that the demolition of the courts doesn't happen until the week that ACON completes the site work and Coast-to-Coast completes the asphalt.

Gruhn-May wasn't able to get to the gravity sanitary sewer line along Bay Street, but plans to get to it at the first of the year. This line is absolutely necessary and must be installed regardless of any potential changes to the Park Master Plan.

#### **REVISED Construction Timeline:**

~~10/12/2020 — RFI Jarboe 01 Sent to Staff, Engineer and Architect~~

~~10/16/2020 — RFI Jarboe 01 Responses Received~~

~~10/19/2020 — Council Workshop with RFI Jarboe 01 discussion & additional information received by Council from resident, Final Details to be discussed in Parks and Land Use Committee~~

~~10/26/2020 — CM rescheduled demolition to begin after security fencing is installed around the site~~

~~11/3/2020 — Security Fencing Installation begins around Park Improvements~~

~~11/9/2020 — Parks & Land Use Committee Meeting to discuss Final Details~~

~~11/16/2020 — Demo begins on ball courts by City Staff~~

12/7/2020 PW's begins transplanting trees around the park

**1/08/2021 Date Revised.** PW's Completes transplanting trees around the park

**1/04/2021 Date Revised.** Gruhn May begins Gravity Line from manhole on 5<sup>th</sup> St. to the Liftstation at Jarboe Park.

1/04/2021 ACON begins mobilizing on site; ~~fencing is erected throughout construction areas around the park (Completed)~~

**1/05/2021 Ghiotto Surveying to layout Park Improvements**

1/04/2021 Site Work Begins for Tennis, Pickleball and Basketball Courts. Coast to Coast Recreation Mobilizes onsite.

1/14/2021 Court construction begins with Coast to Coast Recreation

1/04/2021 Site Work Begins on Pathway and Bridge Placement, pathway lighting conduit also installed

1/4/2021 Pathway Construction Begins; Curb installation as path is completed

3/31/2021 Proposed Major Construction Completion

5/7/2021 Punchlist Complete and Final Completion

### 02

#### **Construction Timeline:**

*Revised Construction  
Timeline and Schedule*



# Capital Improvement Projects

## *FY-2021 Project Construction*

### Park Improvements

The last few weeks, City Hall has received many inquiries into the improvements at the park. Many callers have been curious about the playground, and most wanted to ensure that a new playground would be installed in the old playground's place.

03

#### **Park Improvements:**

*Playground  
Improvements*

Please see below color renderings of the new playgrounds programmed for Jarboe Park. These renderings are provided by Kompan, the city's playground contractor.



Jarboe Playground



# Capital Improvement Projects

## FY-2021 Project Construction Cont.

04

### Senior Activity Center:

Construction in Early 2021

## Senior Activity Center

The Senior Activity Center is closer to being constructed. Sections of the Center have been pre-fabricated and are awaiting delivery to the site. The City enlisted the help of Jackson Geotechnical Engineering to evaluate the ground at the location of the new building.

The report came back in the City's favor and no additional compaction will be required. Jeff Jackson stated in an email to staff that, "There is not a problem getting 3,000 psf for the proposed structure. In summary, the foundations should be excavated to the bearing depth and the upper one foot compacted and tested." **See Attachment A** for the complete geotechnical report.

Since the building is serving as a Community Center, I directed staff to run it through the normal permitting procedures. The City received a state release, but after review, the City requested that an update be made to drawings that were submitted by the contractor. After the edit to classify the area as an assembly room instead of offices was completed, the drawings were resubmitted to the state and were ultimately approved.

Public Works staff will work the first of the year to clear some of the brush in front of the building location. Once preparations are completed, the contractor will pour concrete and set the modules at the new site. From building arrival to contractor completion, it may take up to two weeks. Finish work, performed by Public Works Staff, will likely take three to four weeks after the contractor finishes.



05

## WWTP Testing:

Allan Kelly and crew have worked diligently to ensure that the WWTP's effluent meets the conditions of the City's NPDES permit for toxicity. Earlier this year, the City experienced a phenomenon that caused a die-off of the "bugs" within the plant. This phenomenon was experienced by multiple communities throughout Florida. Because of this event, Allan and crew tightened down on monitoring and worked hard to keep the plant in compliance with FDEP.

Detailed final toxicity results can be found on page (4) of **Attachment B**.

Allan and crew continue to keep the City in compliance and will be ready for the next round of testing in (6) months.

### WWTP Testing:

Final Toxicity Test for 2020



# Capital Improvement Projects

## *FY-2021 Project Construction Cont.*

### 06

#### **J. Collins Engineering Report:**

*FY-21 Wastewater  
Collection and  
Treatment Facility Plan*

### **J. Collins Engineering Report**

Early in FY-20, the City engaged the services of J. Collins Engineering through a competitive, qualifications-based process. The firm has worked on plan with the City's former Engineer, David Bolam and successfully submitted a list of capital improvements to the state for inclusion in the Clean Water State Revolving Loan Fund.

The report culminates the Study that was completed to determine what improvements will need to be designed in order to keep the plant in compliance with FDEP requirements and to update existing facilities. The plan will need to be formally adopted by the Council at the first meeting in June.

#### Timeline to Adoption of the Plan:

- 4/07/2021 DPW & Consultant Complete a Final Plan
  - 4/29/2021 Clerk posts first public notice in the newspaper
  - 5/17/2021 Plan is discussed at May Workshop
  - 5/20/2021 Clerk posts second public notice in the newspaper
  - 1/04/2021 Draft of the NB WW Facilities Plan is available to the public
  - 6/07/2021 Public Hearing/Dedicated Revenue Hearing & Adoption
  - 8/11/2021 **Meeting of FDEP CW-SRF Project Priority List for 2021**
- *CONB Facilities Plan needs to be adopted, Minutes from the 6/07/2021 meeting completed and returned to FDEP by 6/23/2021 in order to be fully considered for consideration by the SRF.*

A copy of this plan can be found as **Attachment C**. Further, this plan requires that an Appendix E be included, which has already been presented to the Council and to the DEP's State Revolving Fund: Capital Financing Plan, and it is included as **Attachment D**.

Once the study is adopted, and inclusion in the FDEP state revolving fund is approved, the City will begin an RFQ process to select an Engineer to design the improvements. It is important to note that an RFQ process selects a firm solely on their qualifications and allows the City to negotiate a fair price with that firm. Should the city and the firm fail to arrive at a mutually satisfactory price, the City can move to the next most qualified firm.

# Vision, Comprehensive Plan & Land Development Code

## Vision & Comprehensive Plan Updates:

01

### Vision & Comprehensive Plan Updates:

*Workshops and Important Dates!*



**NEPTUNE BEACH**  
COMMUNITY VISION PLAN

SCAN ME



JOIN US FOR THE UPCOMING LAND DEVELOPMENT WORKSHOPS!

### December Workshops

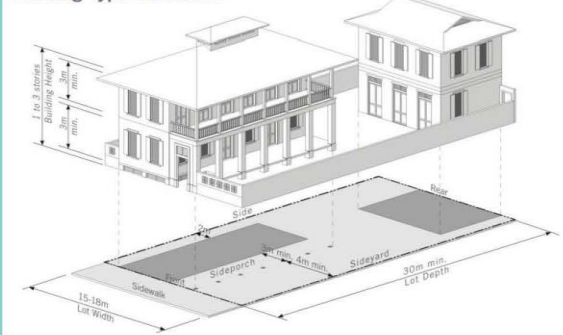
**DEC 2, 6 - 6:45 PM: Intro to Comprehensive Plans & Land Development Regulations** Zoom Webinar with Q&A  
Register Online (link below)

**DEC 8, 6 - 7 PM: Residential Density Hands-On Workshop**  
Zoom Meeting  
Register Online (link below)

**DEC 9, 6 - 6:45 PM: How to Get Predictable Development Outcomes**  
Zoom Webinar with Q&A  
Register Online (link below)

**DEC 10, 6 - 7:30 PM: Community Resilience Planning: Vulnerability Assessment Presentation and Workshop #1**  
Hybrid In-Person & Virtual Workshop  
City Hall or Register Online

Building Type Standards



### January Workshops

**JAN 7, 6 - 7 PM: Establishing a Code Framework**  
Zoom Webinar with Q&A  
Register Online (link below)

**JAN 12 & 13, 6 - 8 PM: City Council & CDB Code Framework Workshop; Visual Participation & Predictability**  
Hybrid In-Person & Virtual Workshop  
City Hall or Register Online

**JAN 14, 6 - 6:45 PM: Measuring Building Height**  
Zoom Webinar with Q&A  
Register Online (link below)

**JAN 19, 6 - 6:45 PM: Site Design Standards & Parking**  
Zoom Webinar with Q&A  
Register Online (link below)

**JAN 21, 6 - 6:45 PM: Architectural Guidelines**  
Zoom Webinar with Q&A  
Register Online (link below)

**JAN 26, 6 - 7:30 PM: Community Resilience Planning: Vulnerability Assessment Workshop #2**  
Hybrid In-Person & Virtual Workshop  
City Hall or Register Online

**JAN 27, 6 - 7:30 PM: City Council Special Meeting to consider adoption of the Vision Plan**  
Hybrid In-Person & Virtual Meeting  
City Hall or Register Online

Register at [www.neptunebeachvisionplan.com/events](http://www.neptunebeachvisionplan.com/events)



# Vision, Comprehensive Plan & Land Development Code

## 02

### **DEO Grant Requirements**

*DKP submitted the 1<sup>st</sup>  
Deliverable*

### **DEO Grant Requirements:**

Thanks to Colin's dogged determination and attention to detail, the City received a Florida Department of Economic Opportunity Grant to fund a portion of the Comprehensive Plan and Land Development Code updates. The grant agreement is for Community Planning and Technical Assistance.

The agreement is effective between 7/1/2020 and 6/30/2021, and the city was awarded \$50,570. The grant is conditioned upon the City, and the consultant meeting a number of deliverable deadlines.

The first deliverable was due on 12/31/2020 and requires the following:

Needs Assessment and Comprehensive Plan Framework; Subcontract or Notice.

1. *Copies of Agenda and notice for the Kick-off Meeting*
2. *Summary of the Kick-off meeting*
3. *Existing Comprehensive Plan Assessment Memo*
4. *Comprehensive Plan Update Annotated Outline/Framework*
5. *Copy of a Subcontract or amendment to a subcontract entered into by the Grantee*

The second deliverable is due on April, 15, 2021; with the third deliverable being due on 5/30/2021.

A copy of the DEO Grant Agreement is included as **Attachment E**.

A copy of deliverable #1 as submitted by Dover Kohl and Partners is included as **Attachment F**.



# Senior Center Request for Additional CDBG Funds

*Funds were unused in 2020 due to COVID-19*



November 30, 2020

Benita Dawson, Human Services Planner I  
Housing & Community Development Division  
City of Jacksonville  
214 North Hogan Street, 7th Floor  
Jacksonville, FL 32202

Dear Ms. Dawson:

Hoping you had a nice Thanksgiving and stayed safe and well.

In response to your email requesting a brief summary of the scope of work the City of Neptune Beach will be needing to complete the site of the new Senior Activity Center. We respectfully request approval/appropriation of the unused 2019-2020 \$12,918 funding for site preparation, designing the parking lot, and landscaping. The above-mentioned scope of work is anticipated to be completed by February 2021. The approval of this request will be greatly appreciated.

Thank you in advance for the Department's consideration.

Stay well and safe.

*Leslie B. Lyne*

Leslie B. Lyne, Project Manager  
Neptune Beach Senior Activity Center



# **JACKSON GEOTECHNICAL ENGINEERING, LLC**

*Consulting Geotechnical Engineers*

## **REPORT OF GEOTECHNICAL EXPLORATION NEPTUNE BEACH SENIOR CENTER NEPTUNE BEACH, FLORIDA JGE PROJECT NO. 20-081.1**

### **Prepared for:**

City of Neptune Beach, Florida  
2010 Forest Avenue  
Neptune Beach, Florida 32266

### **Prepared by:**

Jackson Geotechnical Engineering  
164 Plaza Del Rio Drive  
St. Augustine, Florida 32084  
Phone: 904-252-2292

December 16, 2020

# JACKSON GEOTECHNICAL ENGINEERING, LLC

*Consulting Geotechnical Engineers*

December 16, 2020

Ms. Megan George  
Deputy Public Works Director  
City of Neptune Beach, Florida  
2010 Forest Avenue  
Neptune Beach, Florida 32266

Report of Geotechnical Exploration and Engineering Services  
Neptune Beach Senior Center  
Neptune Beach, Florida  
JGE Project No. 20-081.1

Dear Ms. George:

As requested, Jackson Geotechnical Engineering has completed a geotechnical exploration for the subject project. The exploration was performed to evaluate the general subsurface conditions within the proposed building and road extension areas, and to provide guidelines to facilitate foundation support, earthwork preparation, and paving design.

We appreciate this opportunity to be of service as your geotechnical consultant on this phase of the project. Please contact us if you have any questions, or if we may be of any further service.

Sincerely:  
Jackson Geotechnical Engineering, LLC.

Jeff S. Jackson, P.E.  
Licensed, Florida 51979



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## 1.0 PROJECT INFORMATION

### 1.1 Site Location and Description

The site for the subject project is located at the northwest quadrant of the intersection of Forest Avenue and Strickland Road, in Neptune Beach, Florida. The site is cleared, with a few scattered trees located throughout the area. Based on visual observation, the site appears to be relatively level. Existing structures on adjacent parcels to the north and northwest are located in relatively close proximity to the subject site.

### 1.2 Project Description

Project information has been provided to us in discussions with you. Additionally, we have been provided with a copy of the building design plans prepared by Diamond Builders, Inc., dated October 26, 2020.

We understand a modular building will be constructed at the subject site. The proposed building will be supported off grade by masonry piers. The piers will bear on shallow spread footings having a diameter of 3 to 3.5 feet. It is assumed that maximum pier loads will not exceed 30 kips.

Forest Avenue will be extended in a westerly direction. The roadway construction will consist of flexible asphaltic concrete underlain by base course and stabilized subgrade.

## 2.0 FIELD EXPLORATION

In order to explore the subsurface conditions within the area of the proposed building, 3 Standard Penetration Test (SPT) borings (B-1 through B-3) were conducted to a depth of 15 feet each below existing grade. One auger boring (A-1) was performed within the area of the proposed roadway extension. The SPT and auger borings were conducted in accordance with ASTM D 1586 and ASTM D 1452, respectively. The locations of the borings, and the subsurface conditions encountered at each boring location, are presented in Appendix A on the Boring Location Plan and Subsurface Profiles, respectively.

## 3.0 LABORATORY TESTING

Soil samples recovered during the field exploration were visually classified in accordance with ASTM D 2488. The results of the classification testing are presented on the Subsurface Profiles in Appendix A.

## 4.0 GENERAL SUBSURFACE CONDITIONS

### 4.1 General Soil Profile

The boring locations and general subsurface conditions that were encountered are presented on the Boring Location Plan and Subsurface Profiles. When reviewing these records, it should be understood the soil conditions may change significantly between the boring locations. The following discussion summarizes the soil conditions encountered.



In general, the SPT borings (B-1 through B-3) encountered very loose to medium dense fine sand (SP) and fine sand with clay (SP-SC) throughout the 15-foot exploration depths. As an exception, a layer of loose clayey fine sand (SC) was encountered at the location of Boring B-3 between the approximate depths of 7.5 and 10 feet. Three to four inches of topsoil was present at the boring locations.

The auger boring (A-1) encountered fine sand throughout its 6-foot exploration depth. Four inches of topsoil was encountered at this location.

## 4.2 Groundwater Level

The groundwater level was measured at the boring locations, subsequent to boring completion, at depths varying between 2.9 and 3.5 feet below existing grade. The depth of the groundwater level encountered at each boring location is presented on the Subsurface Profiles.

The groundwater table will fluctuate depending on seasonal variations, adjacent construction, surface water runoff, etc. Based on the results of the soil borings, and review of available published literature, we estimate the seasonal high groundwater level, at the location of Boring A-1, at a depth of 2.5 feet below the existing ground surface. Should rainfall intensity exceed normal quantities, or should other variables that affect the seasonal high groundwater level be altered, the groundwater profile at the site could change significantly.

## 5.0 BUILDING AREA RECOMMENDATIONS

### 5.1 General

The following recommendations are made based upon a review of the attached soil test data, our understanding of the proposed construction, and experience with similar projects and subsurface conditions. If the structural loads, construction locations, or grading information change from those discussed previously, we request the opportunity to review and possibly amend our recommendations with respect to those changes.

Please report to us any conditions encountered during construction that were not observed during the performance of the borings. We will review, and provide additional evaluation as required.

### 5.2 Building Foundations

Based on the results of the subsurface exploration, we consider the subsurface conditions at the site favorable for support of the proposed structure when constructed on a properly designed shallow foundation system. Provided the soils are prepared in accordance with the Site Preparation Section of this report, the following parameters may be used for foundation design.

## 5.2.1 Bearing Pressure

The maximum allowable net soil bearing pressure for shallow foundations should not exceed 3,000 pounds per square foot (psf). Net bearing pressure is defined as the soil bearing pressure at the base of the foundation in excess of the natural overburden pressure. The foundations should be designed based upon the maximum load that could be imposed by all loading conditions.

## 5.2.2 Foundation Size

The minimum widths recommended for any isolated column footing and continuous wall footings are 24 inches and 18 inches, respectively. Even though the maximum allowable soil bearing pressure may not be achieved, these width recommendations should control the size of the foundations.

## 5.2.3 Bearing Depth

The foundations should bear at a depth of at least 12 inches below the final grades to provide confinement to the bearing level soils. We recommend stormwater and surface water be diverted away from the building exterior, both during and after construction, to reduce the possibility of erosion adjacent to the exterior footings.

## 5.2.4 Bearing Material

The foundations may bear on either the compacted suitable in-place natural soils or compacted structural fill. The bearing level soils, after compaction, should exhibit densities of at least 95 percent of the maximum dry density as determined by ASTM D 1557 (Modified Proctor), to the depth described subsequently in the Site Preparation section of the report. In addition to compaction, the bearing soils must exhibit stability and be free of “pumping” conditions.

## 5.2.5 Settlement Estimates

Post-construction settlement of the structure will be influenced by several interrelated factors, such as (1) subsurface stratification and strength/compressibility characteristics of the bearing soils; (2) footing size, bearing level, applied loads, and resulting bearing pressures beneath the foundations; (3) site preparation and earthwork construction techniques used by the contractor, and (4) external factors, including but not limited to vibration from offsite sources and groundwater fluctuations beyond those normally anticipated for the naturally-occurring site and soil conditions which are present.

Our settlement estimates for the structure are based upon the use of successful adherence to the site preparation recommendations presented later in this report. Any deviation from these recommendations could result in an increase in the estimated post-construction settlement of the structure.

Due to the sandy nature of the surficial soils, following the compaction operations, we expect a significant portion of settlement to be elastic in nature. This settlement is

expected to occur relatively quickly, upon application of the loads, during and immediately following construction. Using the recommended maximum bearing pressure, the assumed maximum structural loads presented in this report, and the field and laboratory test data which we have correlated to the strength and compressibility characteristics of the subsurface soils, we estimate the total settlements of the structure to be approximately a half inch or less.

Differential settlement results from differences in applied bearing pressures and the variations in the compressibility characteristics of the subsurface soils. Based on the subsurface conditions as determined by the borings, and the recommended earthwork preparation, it is anticipated that differential settlements will be within tolerable limits.

### 5.3 Site Preparation for Shallow Foundations

We recommend the following site preparation guidelines for the building area:

1. Prior to construction, the location of existing underground utility lines within the construction area should be established. Provisions should then be made to relocate interfering utilities to appropriate locations. It should be noted that if underground pipes are not properly removed or plugged, they may serve as conduits for subsurface erosion which may subsequently lead to excessive settlement of the overlying structure.
2. Implement temporary groundwater control measures, as required. The groundwater should be maintained at least two feet below the depth of excavation required and two feet below compacted surfaces. Temporary groundwater control measures should be the responsibility of the contractor.
3. Strip the proposed construction limits of all grass, roots, topsoil, and other deleterious materials from within, and extending at least 5 feet beyond, the perimeter of the proposed structure. Expect initial clearing and grubbing to average depths of approximately 6 to 12 inches.
4. Excavate, compact and test footing excavations for density to a depth of one foot below foundation bearing level. Compaction within the excavations should be performed with manual equipment, such as jumping jacks. The upper one foot of soil below the surface of the foundation excavations should be compacted to achieve at least 95 percent of the soil's modified Proctor maximum dry density (ASTM D 1557). We recommend that you test one out of every three footings for density compliance.

Should the soils experience pumping and soil strength loss during the compaction operations, compaction work should be immediately terminated and (1) the disturbed soils removed and backfilled with dry structural fill soils which are then compacted, or (2) the excess moisture content within the disturbed soils allowed to dissipate before recompacting.



5. Any required backfill should be placed in loose lifts not exceeding a thickness of 6 inches and compacted. Compaction should continue until densities of at least 95 percent of the Modified Proctor maximum dry density (ASTM D 1557) have been achieved within each 6-inch thick lift. Structural backfill is typically defined as non-plastic, inorganic, granular soil having less than 10 percent material passing the No. 200 mesh sieve and containing less than 4 percent organic material. Typically, the material should exhibit moisture contents within 2 percent of the Modified Proctor optimum moisture content (ASTM D 1557) during the compaction operations.
6. Subsequent to compaction and compliance testing, the foundations may be constructed.

## **6.0 PAVEMENT RECOMMENDATIONS**

### **6.1 General**

We understand the subject project will utilize flexible asphaltic concrete pavement. In the following sections, we have presented our recommendations to guide pavement design and site preparation.

Our recommendations below are intended to provide guidance during the design of the proposed pavement section. Final design of the pavement section should meet or exceed the design details of the municipality.

### **6.2 Pavement Section Recommendations**

Our recommendations for pavement sections are presented below. Detailed traffic loading conditions were not available; therefore, we have provided pavement sections which can accommodate loading conditions typical of the subject construction over a design life of 20 years. The light duty pavement sections are based on 500,000 Equivalent Single Axle Loads (ESALs) of 18 kips. The heavy duty pavement sections are based on 1,500,000 ESALs. Pavement sections supporting significant truck loads would require different component thicknesses than presented below. If provided with detailed traffic loading, Jackson Geotechnical Engineering can perform a detailed pavement design.

Pavement Section	Asphalt <sup>(1)</sup> Thickness (in)	Base Course <sup>(2)</sup> Thickness (in)	Stabilized <sup>(3)</sup> Subgrade (in)
Light Duty Asphalt	1.5	6.0	12
Heavy Duty Asphalt	2.0	8.0	12

- 1) Flexible pavement should consist of SP 9.5 or SP 12.5.
- 2) Base course should consist of limerock exhibiting an LBR of at least 100, or crushed concrete exhibiting an LBR of at least 130. Limerock and crushed concrete base course materials and gradations should conform to FDOT Standard Specifications for Road and Bridge Construction Sections 911 and 204, respectively.
- 3) Subgrade should exhibit an LBR of at least 40.

### 6.3 Site Preparation for Pavements

We recommend the following site preparation guidelines for pavement construction:

1. Strip the proposed construction limits of all grass, roots, topsoil and other deleterious materials from within, and extending at least 3 feet beyond, the proposed pavement limits. Expect initial clearing and grubbing to depths of approximately 6 to 12 inches.
2. Compact the exposed surface with a vibratory drum roller until densities of at least 95 percent of the modified Proctor maximum dry density (ASTM D 1557) are achieved within the upper one foot below the exposed surface with the exception that densities of at least 98 percent should be obtained in the upper 12 inches below base course. We recommend the compacted soils exhibit moisture contents within 2 percent of the optimum moisture content as determined by the Modified Proctor Test (ASTM D 1557).

Care should be exercised to avoid damaging any nearby structures while the compaction operation is underway. Prior to commencing compaction, the existing conditions of the structures could be documented with photographs and survey (if deemed necessary). Compaction should cease if deemed detrimental to adjacent structures and Jackson Geotechnical Engineering should be contacted immediately. It is recommended the vibratory roller remain a minimum of 75 feet from existing structures. Within this zone, use of a vibratory roller operating in the static mode (vibration turned off) is recommended.

Should the soils experience pumping and soil strength loss during the compaction operations, compaction work should be immediately terminated and (1) the disturbed soils removed and backfilled with dry structural fill soils which are then compacted, or (2) the excess moisture content within the disturbed soils allowed to dissipate before recompacting.

3. Test the compacted surface for density at a frequency of not less than two locations.
4. Place structural fill in loose lifts not exceeding 12 inches and compact until finished subgrade is achieved. Structural fill and backfill is typically defined as non-plastic, inorganic, granular soil having less than 10 percent material passing the No. 200 mesh sieve and containing less than 4 percent organic material. Typically, the material should exhibit moisture contents within 2 percent of the Modified Proctor optimum moisture content (ASTM D 1557) during the compaction operations. Compaction should continue until densities of at least 95 percent of the Modified Proctor maximum dry density (ASTM D 1557) have been achieved within each foot of the compacted structural fill, with the exception that densities of at least 98 percent should be obtained in the upper 12 inches below base course.
5. Perform density tests within each lift of fill at a frequency of not less two locations.
6. Place and compact base course until densities of at least 100 percent of the modified Proctor maximum dry density are achieved.
7. Perform density tests within the base course at a frequency of not less than two locations.

## **6.4 Additional Pavement Considerations**

### **6.4.1 Asphaltic Concrete Pavement**

Asphaltic concrete mixes should be a current FDOT approved design of the materials actually used. Samples of the materials delivered to the project should be tested to verify that the aggregate gradation and asphalt content satisfies the mix design requirements.

After placement and field compaction, core the wearing surface to evaluate material thickness and to perform laboratory densities. Obtain cores at frequencies of at least one core per 3,000 square feet of placed pavement, or a minimum of two cores per day of production.

### **6.4.2 Groundwater Separation**

Groundwater, if not maintained below the base course an adequate distance, can result in weakened subgrade and base course soils, and therefore a greatly reduced pavement life. It is recommended the seasonal high groundwater level be maintained at least 18 inches below base course. If the recommended vertical separation cannot be achieved with the proposed finished grades, underdrains can be considered to maintain the groundwater level at the recommended depths.



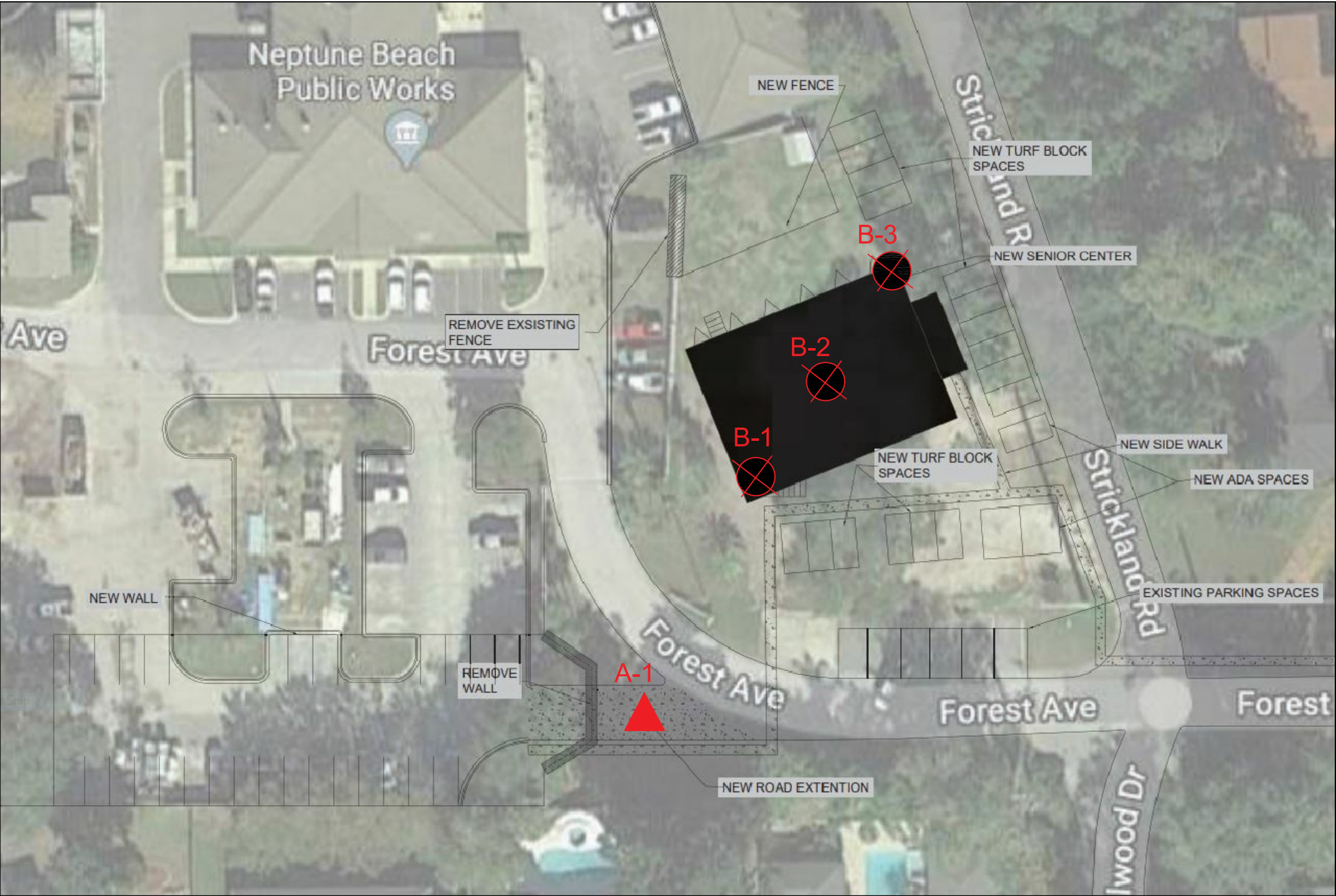
## **7.0 LIMITATIONS**



We have conducted the geotechnical engineering in accordance with principles and practices normally accepted in the geotechnical engineering profession. Our analysis and recommendations are dependent on the information provided to us. Jackson Geotechnical Engineering is not responsible for independent conclusions or interpretations based on the information presented in this report.

## **APPENDIX A**

### *BORING LOCATION PLAN*

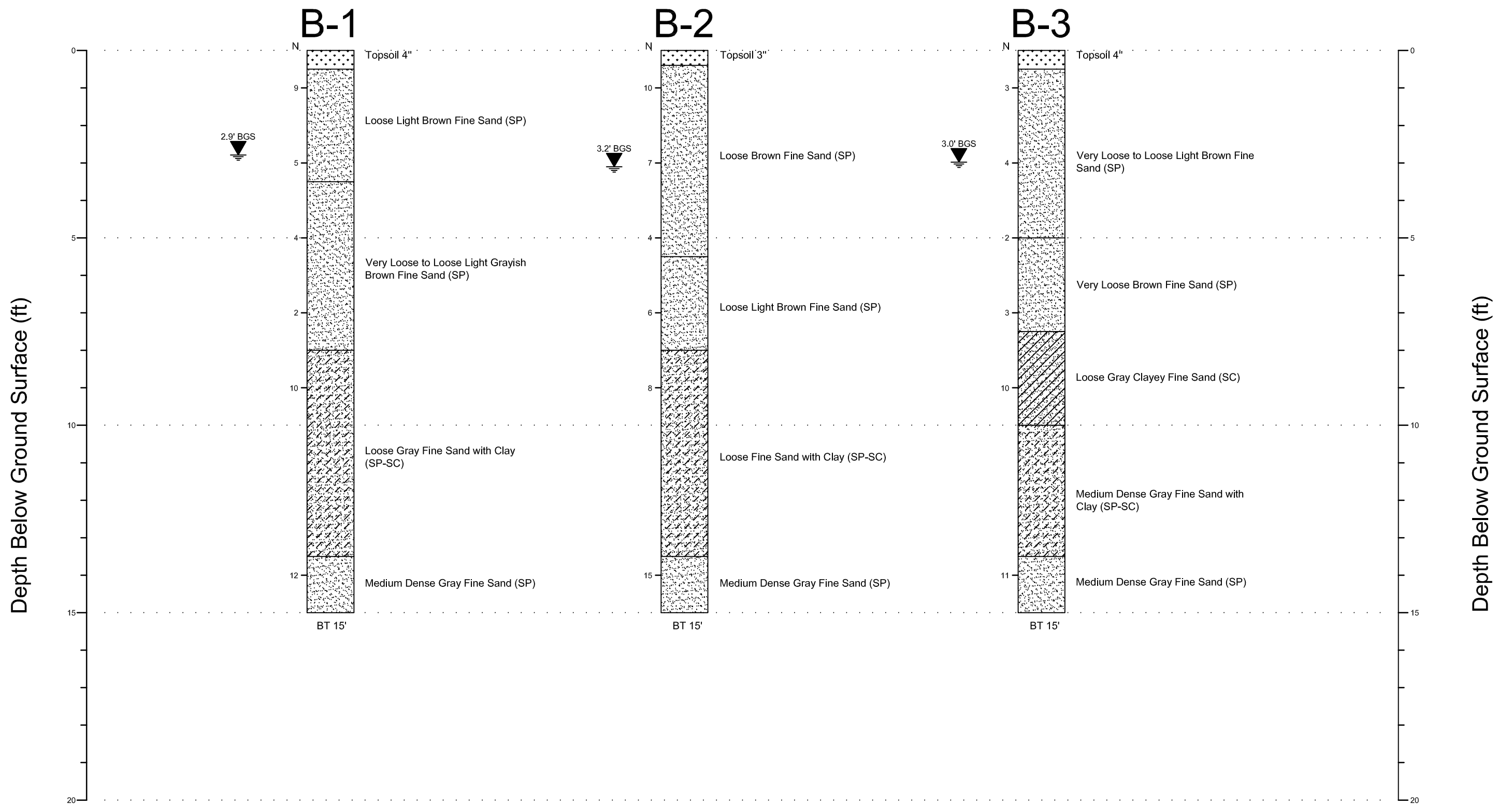
### *SUBSURFACE PROFILES*








-  SPT Boring Location
-  Auger Boring Location

Jackson Geotechnical Engineering, LLC	
Subsurface Profiles	
Neptune Beach Senior Center	
December 14, 2020	Drawn by: MJ
Project No. 20-081	Figure 1





-  Fine Sand (SP)
-  Topsoil (PT)
-  Fine Sand with Clay (SP-SC)
-  Clayey Fine Sand (SC)

- BGS    Below Ground Surface
- BT    Boring Terminated
-  Groundwater Table Measured Below Ground Surface
- N    SPT - N Blow Count

Jackson Geotechnical Engineering, LLC

Subsurface Profiles

Neptune Beach Senior Center

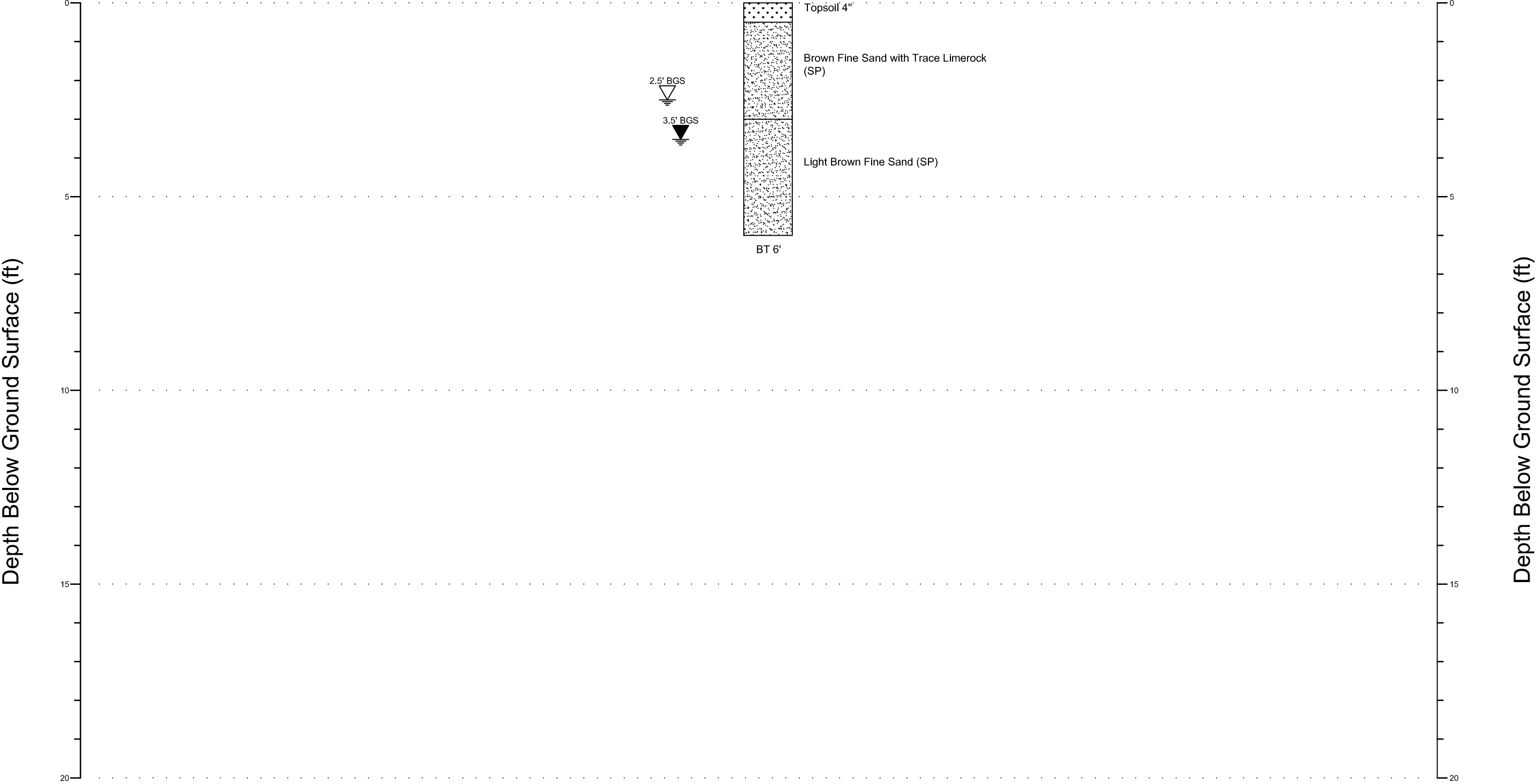
December 14, 2020


Drawn by: MJ


Project No. 20-081

Figure 2

A-1





 Fine Sand (SP)

 Topsoil (PT)

BGS    Below Ground Surface

BT    Boring Terminated

 Groundwater Table Measured Below Ground Surface

 Seasonal High Groundwater Table Estimated Below Ground Surface

Jackson Geotechnical Engineering, LLC	
Subsurface Profiles	
Neptune Beach Senior Center	
December 14, 2020	Drawn by: MJ
Project No. 20-081	Figure 3

## **APPENDIX B**

### *KEY TO SOIL CLASSIFICATION*

### *FIELD AND LABORATORY TEST PROCEDURES*



# JACKSON GEOTECHNICAL ENGINEERING, LLC

*Consulting Geotechnical Engineers*

## KEY TO SOIL CLASSIFICATION

### CORRELATION OF PENETRATION WITH RELATIVE DENSITY & CONSISTENCY

<i>SANDS AND GRAVEL</i>	
BLOW COUNT	RELATIVE DENSITY
0-3	VERY LOOSE
4-10	LOOSE
11-30	MEDIUM DENSE
31-50	DENSE
OVER 50	VERY DENSE

<i>SILTS AND CLAYS</i>	
BLOW COUNT	CONSISTENCY
0-2	VERY SOFT
3-4	SOFT
5-8	FIRM
16-30	VERY STIFF
31-50	HARD
OVER 50	VERY HARD

## PARTICLE SIZE IDENTIFICATION (UNIFIED CLASSIFICATION SYSTEM)

<i>CATEGORY</i>	<i>DIMENSIONS</i>
Boulders	Diameter exceeds 12 inches
Cobbles	3 to 12 inches
Gravel	Coarse – 0.75 to 3 inches in diameter Fine – 4.76 mm to 0.75 inch diameter
Sand	Coarse – 2.0 mm to 4.76 mm diameter Medium – 0.42 mm to 2.0 mm diameter Fine – 0.074 mm to 0.42 mm diameter
Silt and Clay	Less than 0.074 mm (invisible to the naked eye)

## MODIFIERS

These modifiers provide our estimate of the amount of minor constituent  
(sand, silt, or clay size particles) in the soil sample

<i>PERCENTAGE OF MINOR CONSTITUENT</i>	<i>MODIFIERS</i>
0% to 5%	No Modifier
5 % to 12 %	With Silt, With Clay
12% to 30%	Silty, Clayey, Sandy
30% to 50%	Very Silty, Very Clayey, Very Sandy

<i>APPROXIMATE CONTENT OF OTHER COMPONENTS (SHELL, GRAVEL, ETC.)</i>	<i>MODIFIERS</i>	<i>APPROXIMATE CONTENT OF ORGANIC COMPONENTS</i>
0% to 5%	TRACE	1 to 2%
5% to 12%	FEW	2% to 4%
12% to 30%	SOME	4% to 8%
30% to 50%	MANY	>8%

# **FIELD AND LABORATORY TEST PROCEDURES**

## **Penetration Borings**

The penetration borings were made in general accordance with ASTM D 1586-67, “Penetration Test and Split-Barrel Sampling of Soils”. Each boring was advanced to the water table by augering and, after encountering the groundwater table, further advanced with a rotary drilling technique that uses a circulating bentonite fluid for borehole flushing and stability. At two-foot intervals within the upper 10 feet and at five-foot intervals thereafter, the drilling tools were removed from the borehole and a split-barrel sampler inserted to the borehole bottom. The sampler was then driven 18 inches into the material using a 140-pound SPT hammer falling, on the average, 30 inches per hammer blow. The number of hammer blows for the final 12 inches of penetration is termed the “penetration resistance, blow count, or N-value”. This value is an index to several in-place geotechnical properties of the material tested, such as relative density and Young’s Modulus.

After driving the sampler 18 inches (or less, if in hard rock or rock-like material) at each test interval, the sampler was retrieved from the borehole and a representative sample of the material within the split-barrel was placed in a watertight container and sealed. After completing the drilling operations, the samples for each boring were transported to our laboratory where our Geotechnical Engineer examined them in order to verify the driller’s field classifications. The samples will be kept in our laboratory for a period of two months after submittal of formal written report, unless otherwise directed by the Client.

## **Auger Borings**

The auger borings were performed using a continuous flight auger attached to a rotary drill rig or manually using a post-hole auger; and thus in general accordance with ASTM D 1452-80, “Soil Investigation and Sampling by Auger Borings”. Representative samples of the soils brought to the ground surface by the augering process were placed in watertight containers and sealed. After completing the drilling operations, the samples for each boring were transported to the laboratory where the Geotechnical Engineer examined them in order to verify the driller’s field classifications. The samples will be kept in our laboratory for a period of two months after submittal of formal written report, unless otherwise directed by the Client.

## **Soil Classification**

Soil samples obtained from the performance of the borings were transported to our laboratory for observation and review. An engineer, registered in the State of Florida and familiar with local geological conditions, conducted the review and classified the soils in accordance with ASTM 2488. The results of the soil classification are presented on the boring records.

**Prepared for:**  
**The City of Neptune Beach**  
**Wastewater Treatment Facility**  
**2010 Forest Ave**  
**Neptune Beach, FL 32266**



**Prepared by:**  
Hydrosphere Research

**Test Location:**  
11842 Research Circle  
Alachua, FL 32615

**Contact Information:**  
Craig Watts, Lab Director  
(386) 462-7889  
[cwatts@hydrosphere.net](mailto:cwatts@hydrosphere.net)  
[www.hydrosphere.net](http://www.hydrosphere.net)

**Test Number:**  
NPT-WW 20291

**Permit Number:**  
FL0020427

**Initiated:**  
December 8, 2020

**Test Type:**  
7-day Chronic Definitive Bioassays



# Report of Routine Bioassays Performed for The City of Neptune Beach

## Abstract

To comply with the routine whole effluent biomonitoring requirements of the National Pollutant Discharge Elimination System (NPDES) permit FL0020427, grab samples were collected from the City of Neptune Beach Wastewater Treatment Facility (WWTF) in Duval County, Florida. Using the samples provided, Hydrosphere Research conducted a series of 7-day chronic definitive bioassay tests.

The results are summarized in the accompanying report. This report shall not be reproduced, except in full, without the written approval of the laboratory. All test results contained in this report comply with the requirements of the National Environmental Laboratory Accreditation Program (NELAP). The results discussed in this report relate only to the samples as identified on the Chain of Custody forms in Appendix A. The Laboratory Bench Sheets and Statistical Analyses are in Appendix B and the Standard Reference Toxicity Tests are in Appendix C.

## Introduction

To comply with the routine whole effluent biomonitoring requirements of NPDES permit FL0020427, grab samples were collected from outfall EFD-1 at the Neptune Beach WWTF in Duval County, Florida

Using these samples, Hydrosphere Research conducted a series of 7-day chronic definitive bioassay tests with the mysid shrimp (*Mysidopsis bahia*) and the inland silverside (*Menidia beryllina*).

## Materials and Methods

### Test Sample

Grab samples were collected from Outfall EFD-1 at the Neptune Beach WWTF in Duval County, Florida on December 7, 9, & 11, 2020. The samples were contained in ½ gallon high density polyethylene containers, which were intact upon arrival. Hydrosphere Research received these samples in good condition.

The Chain of Custody forms are in Appendix A. Each effluent sample tested was assigned a unique sample identification number.

Upon receipt, the effluent temperature of each sample met the sample acceptance criteria. The 36-hour hold time was met for all samples. The effluent water quality values fell into expected ranges for pH, dissolved oxygen, and temperature. All other chemical characterization data for the effluent samples upon arrival in the laboratory are provided on the Sample Data Bench Sheet in Appendix B.



### Test Methods

Test methods are presented in Table 1. The dilution series used was specified in the permit. The toxicity tests were performed according to the methods listed in the table below. All tests adhered to NELAP standards.

**Table 1. Test Methods**

Test Type	Species	Dilution Series (%)	Test Method
7-day chronic static renewal definitive	<i>M. bahia</i>	0, 6.25, 12.5, 25, 50, 100	EPA-821-R-02-014, Method 1007.0
7-day chronic static renewal definitive	<i>M. beryllina</i>	0, 6.25, 12.5, 25, 50, 100	EPA-821-R-02-014, Method 1006.0

### Test Organisms

*M. bahia* test organisms were cultured in-house and *M. beryllina* test organisms were commercially obtained. All organisms appeared to be in normal condition at test initiation.

### Toxicity Test Monitoring

Each test was monitored at the test initiation and daily thereafter for mortality, temperature, dissolved oxygen, pH, and salinity. The bioassay tests were initiated on December 8, 2020.

### Standard Reference Toxicity Tests

A reference toxicant test was conducted for each test species to evaluate the sensitivity of the test organisms for the chronic tests. The test conditions and dilution series were specific for each reference toxicant test conducted.

### Test Location

The bioassay tests were performed at Hydrosphere Research, 11842 Research Circle, Alachua, FL 32615; telephone number (386) 462-7889. The laboratory is NELAP certified by the State of Florida Department of Health and Rehabilitation Services (E82295).

### Statement of Quality Assurance

This report was reviewed by the Hydrosphere Research Laboratory Director to ensure the procedures outlined in the Hydrosphere Research Quality Manual were followed. Testing was conducted using generally accepted lab practices. Hydrosphere Research believes the results are true and accurate and meet all NELAP standards.

## Results & Discussion

### Toxicity Test Results

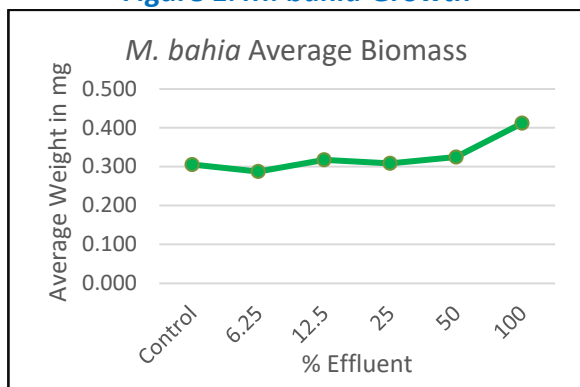
Water quality values remained within acceptable limits during the test periods. The bioassay tests were initiated within 36 hours of the first sample's collection time and were acceptable tests based on controls and test conditions. An organism from replicate A from the 25% dilution appears to have been inadvertently placed in replicate B in the 50% dilution. This was accounted for in the statistics and had no meaningful impact in the outcome of the test. Copies of the relevant laboratory raw data pertaining to the toxicity tests are provided in Appendix B.

The toxicity test results are summarized in Table 2. Chronic Test Results and the corresponding graphs below:

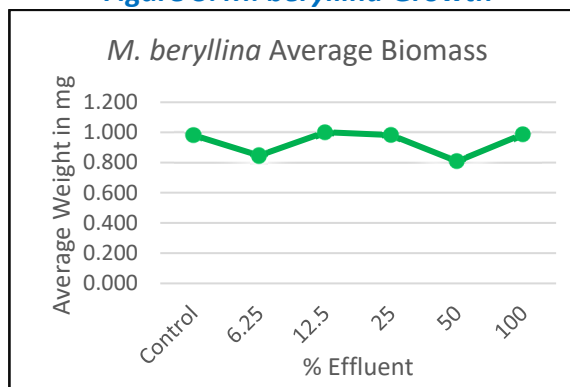
**Table 2. Chronic Test Results**

<i>M. bahia</i>			<i>M. beryllina</i>		
% Effluent	% Survival	Biomass (mg/Fish)	% Effluent	% Survival	Biomass (mg/Fish)
Control	100	0.305	Control	100	0.982
6.25	95	0.287	6.25	98	0.846
12.5	98	0.318	12.5	100	1.002
25	95	0.308	25	100	0.982
50	100	0.325	50	100	0.808
100	100	0.412	100	100	0.989
IC <sub>25</sub>	>100%		IC <sub>25</sub>	>100%	

**Figure 1. *M. bahia* Growth**



**Figure 3. *M. beryllina* Growth**



All statistical calculations were made using CETIS<sup>®</sup> (Tidepool Scientific Software, McKinleyville, CA). The statistical results are in Appendix B.

The samples provided did exhibit chronic toxicity to either test species which produced an IC<sub>25</sub> of >100% effluent.

During these tests, dissolved oxygen, temperature, and pH remained within the limits established in the test methods. The salinity was adjusted to 5ppt for the *M. beryllina* test and 20ppt for the *M. bahia* test. Total residual chlorine, alkalinity, and hardness were also within the limits established by the test methods.

Other than what was previously indicated, there were no unusual observations or deviations from standard test protocol noted. These test results only relate to the samples in this report and meet all requirements of NELAP.

### Standard Reference Toxicity Test Results

The results of the standard reference toxicant tests indicate that *M. bahia* were of normal sensitivity for this laboratory and the *M. beryllina* were of normal sensitivity for the vendor. The bench sheets, statistical analysis, and control charts for each standard reference toxicant test are in Appendix C.

## Conclusions

Hydrosphere Research initiated a series of 7-day chronic definitive bioassay tests using the mysid shrimp (*M. bahia*) and inland silverside (*M. beryllina*) on December 8, 2020. The tests were conducted to satisfy the requirements of NPDES permit FL0020427.

The samples provided did exhibit chronic toxicity to either test species which produced an IC<sub>25</sub> of >100% effluent.

## References

U.S. Environmental Protection Agency. *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms*. Third Edition. EPA-821-R-02-014. October 2002.

*Handbook of Analytical Quality Control in Water and Wastewater Laboratories*. EPA-600/4-79-019. March 1979.

Chemical and physical parameters reported herein were determined by methods described in *Methods for Chemical Analysis of Water and Waste*. EPA 600/4-79-020. March 1983.

## NPDES Forms

The following four pages present the NPDES forms which include Table 3. NPDES Whole Effluent Toxicity Testing Report Form, Table 4. Summary of Test Conditions, Table 5. Acute Test Results, and Table 6. Chronic Test Results.



**Table 3. NPDES Whole Effluent Toxicity Testing Report Form**

All blanks on this form are to be filled in.		
Blanks that are not used should be filled in with "N/A" or a line drawn through the blank. Please print.		
Attachments: Please attach the following items to this report form and indicate with an "x" in box.		
1.	All Chain-of-Custody Forms	X
2.	All Reference Toxicant Data for each Organism used in Test and Current Control Charts for each Organism	X
3.	All Raw Data (Bench Sheets) Pertaining to the Tests (i.e., all physical, chemical, and biological measurements)	X
4.	All Result Calculations	X
5.	Discharge Monitoring Reports (DMR) when Applicable	NA

Facility/industry/client name:	City of Neptune Beach WWTF		
Permit number:	FL0020427	County:	Duval

Consultant company name:	Hydrosphere Research	Telephone:	(386) 462-7889
Dates test(s) conducted--Begin:	12/08/20	End:	12/15/20
Persons conducting test(s) (print names):	R. Hewitt, P. Meyer, K. Strickland, J. Zeile		

Authorized Signature:		Date:	12/21/20
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Laboratory Report#/Project #:	NPT-WW 20291	Sampler (print name):	A. Kelly
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DMR monitoring period end date on which this test is reported (filled out by the Permittee--mm/dd/yy):					
Routine test:	X	Additional test:	NA	Failed routine test date:	NA

Samples:								
No.	Date & Time Collected	Lab Sample #	Grab	24-Hour Composite	Arrival Temperature (°C)	Initial Residual Chlorine	Lab Dechlorination:	
							Y/N	Chemical Used:
1.	12/07/20-0730	20291A	X	NA	0.5	0.11	NA	NA
2.	12/09/20-0730	20291B	X	NA	1.4	<0.04	NA	NA
3.	12/11/20-0730	20291C	X	NA	0.7	<0.04	NA	NA
4.	NA	NA	NA	NA	NA	NA	NA	NA
5.	NA	NA	NA	NA	NA	NA	NA	NA
6.	NA	NA	NA	NA	NA	NA	NA	NA
7.	NA	NA	NA	NA	NA	NA	NA	NA
8.	NA	NA	NA	NA	NA	NA	NA	NA
9.	NA	NA	NA	NA	NA	NA	NA	NA
10.	NA	NA	NA	NA	NA	NA	NA	NA

	Wet Ice	Blue Ice	Other (Describe)	Samples Aerated?	
				Yes (describe)	No
Refrigerant used for sample transportation:	X	NA	NA	X, Samples 1 & 2 for 10 minutes	NA

	Bus	Hand	Common Carrier	Samples Filtered	
				Yes (describe)	No
Samples delivered by:	NA	X	NA	NA	X





**Table 4. Summary of Test Conditions**

Type of Test <sup>a</sup>	Test Concentrations <sup>b</sup> (% Effluent)	Test Species Used <sup>c</sup>	Age of Test Organism	Amount & Type of Food	How Often Fed	Test Chamber Volume	Volume of Effluent Used	Type of Chamber	# of Organisms/ Chamber	# of Replicates	Temp. Range (°C)
F	0, 6.25, 12.5, 25, 50, 100	MS	7 Day	0.1 ml <i>Artemia</i>	2x/day	500 mL	200 mL	Plastic Cup	10	2	25.0 ± 1.0
F	0, 6.25, 12.5, 25, 50, 100	SS	11 Day	0.2 ml <i>Artemia</i>	1x/48hrs	1 L	200 mL	Plastic Cup	10	2	25.0 ± 1.0

G. "Other" type of test:	NA	Temperature Readings:	Single	Multiple	Continuous
			NA	X	NA

Description of control water:	Synthetic Saltwater	Photoperiod during test:	16-hours light / 8-hours dark
-------------------------------	---------------------	--------------------------	-------------------------------

Reference Toxicant Data <sup>d</sup>					
Name of Toxicant	Dates of Test		Species <sup>c</sup>	In-House or Commercially Obtained	LC <sub>50</sub> /IC <sub>25</sub>
	Begin	End			
Cu <sup>2+</sup>	12/01/20	12/08/20	MS	In-House	LC <sub>50</sub> = 146 µg/L
Cu <sup>2+</sup>	12/01/20	12/08/20	SS	Commercially Obtained	LC <sub>50</sub> = 273 µg/L

<sup>a</sup>Please fill the "Type of Test" box with the appropriate letter:

- A. 48-Hr/Non-Renewal/Single Concentration (Screen)
- B. 48-Hr/Non-Renewal/Multi-Concentration (Definitive)
- C. 96-Hr/Renewed Every 48 Hrs/Single Concentration (Screen)
- D. 96-Hr/Renewed Every 48 Hrs/Multi-Concentration (Definitive)
- E. 7-Day Chronic/Single Concentration (Screen)/Renewed Daily
- F. 7-Day Chronic/Multi-Concentration (Definitive)/Renewed Daily
- G. Other (described in the "G" box)

<sup>c</sup>Write appropriate letters for the following species in this column:

- CD - *Ceriodaphnia dubia*
- FM - *Pimephales promelas* (fathead minnow)
- SS - *Menidia beryllina* (inland silverside)
- MS - *Americamysis bahia* (formerly *Mysidopsis bahia*, mysid shrimp)
- CL - *Cyprinella leedsii* (bannerfin shiner)
- Other - Please Describe: \_\_\_\_\_

<sup>b</sup>List all concentrations of effluent used (i.e., 0%, 6.25%, 12.5%, 25%, 50%, 100%).

<sup>d</sup>Attach all reference toxicant raw data & control charts for each organism/reference toxicant used for the test.

**Table 5. Acute Test Results**

Test Species	Test Concentrations <sup>b</sup> (% Effluent)	Grab Sample <sup>c</sup>	Composite Sample <sup>c</sup>	% Mortality <sup>d</sup> (48 Hours)	% Mortality <sup>d</sup> (96 Hours)	LC <sub>50</sub> <sup>e</sup>
Control <sup>a</sup>	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA
Control <sup>a</sup>	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA

<sup>a</sup>List % Control Mortality in appropriate column (48 or 96 hr) for organisms (use abbreviations shown on footnote "c" of Table 4) that you list under the word "Control." Control mortality must not exceed 10% for a valid acute test.

<sup>b</sup>List all concentrations of effluent used (i.e., 0%, 6.25%, 12.5%, 25%, 50%, 100%).

<sup>c</sup>Record number that corresponds with the number of the sample in the "Date & Time Collected" column in sample section.

<sup>d</sup>List % Mortality for each organism and control if you are conducting a single concentration (Screen) test.

<sup>e</sup>If multi-concentration (Definitive) tests are conducted on grab or composite samples, record the calculated LC<sub>50</sub> in this column for each sample. Enter "N/A" in all % Mortality columns and LC<sub>50</sub> box at bottom of this table.

Species	LC <sub>50</sub> <sup>f</sup>
NA	NA
NA	NA

<sup>f</sup>If a single concentration (screen) test is conducted and >50% mortality occurs in any one of the four grab or composite samples, record <100% in this column. If <50% mortality occurs in all four grabs or composites, record >100% in this column. Draw a line through the LC<sub>50</sub> column in the above table.

**Table 6. Chronic Test Results**

Test Species <sup>a</sup>	Test Concentrations <sup>b</sup> (% Effluent)	IC <sub>25</sub>	
		Growth <sup>c</sup>	Reproduction <sup>c</sup>
MS	0, 6.25, 12.5, 25, 50, 100	>100%	NA
SS	0, 6.25, 12.5, 25, 50, 100	>100%	NA
NA	NA	NA	NA
NA	NA	NA	NA

<sup>a</sup>Use abbreviations shown on footnote "c" of Table 4. Summary of Test Conditions

<sup>b</sup>List all concentrations of effluent used (i.e., 0%, 6.25%, 12.5%, 25%, 50%, 100%).

<sup>c</sup>For single concentration tests (Screen), if there is a significant difference ( $P = 0.05$ ) between survival, growth, reproduction, or fecundity in 100% or IWC, and control, record <100% in proper column. If there is not a significant difference between survival, growth, reproduction, or fecundity in 100% or IWC, and control, record >100% in proper column.

CD Survival in Control ( $\geq 80\%$ )	NA
Average Number of Young per Female in CD Control (min 15 young/surviving female)	NA


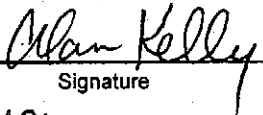
FM Survival in Control ( $\geq 80\%$ )	NA
Average FM Dry Weight in Control (min ADW 0.25 mg/FM in surviving controls)	NA



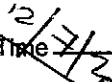
MS Survival in Control ( $\geq 80\%$ )	100%
Average MS Dry Weight in Control (min ADW 0.20 mg/MS in surviving controls)	0.305

SS Survival in Control ( $\geq 80\%$ )	100%
Average SS Dry Weight in Control (min immediate ADW 0.50 mg/SS in surviving controls)	0.982

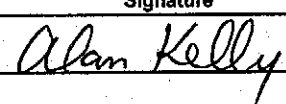
## Appendix A. Chain of Custody

# CHAIN OF CUSTODY

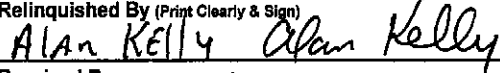
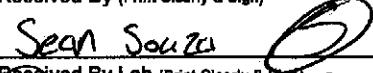

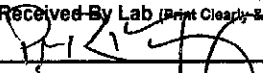
<b>Client Name</b> City of Neptune Beach	<b>Client Shipping Address</b> 2010 Forest Ave Neptune Beach, FL 32266	
<b>Sample Kit Information</b> Cooler 1 of 3 Container Type: 1/2 gal bottle Number of Containers: 8 Method of Shipment:	<b>Prepared and Shipped by</b>  <b>Date</b> 11-3-20	<b>Sample Kit Received By</b> ALAN  Print Name Signature Date 11-5-20 Time 12:00 Condition of Seal Upon Receipt (Check One) <input type="radio"/> Intact <input type="radio"/> Other (describe) _____

<b>Ship Samples Priority Overnight To:</b> Hydrosphere Research 11842 Research Circle Alachua, FL 32615 (386) 462-7889 <b>Be Sure to Mark for Saturday Delivery if Appropriate</b>	<b>Refrigerant Used For Shipping</b> <input checked="" type="radio"/> Wet Ice <input type="radio"/> Other (describe) _____ <i>Samples must arrive at the lab ≤ 6.0 °C (never frozen). Pack cooler completely with ice before shipping.</i>	<b>Composite Sample Information</b> Samples/Hour  Volume/Sample _____ Total Hours  Total Volume _____ Initiated Date _____ Time  Ended Date _____ Time _____ Chilled During Collection <input type="radio"/> Yes <input type="radio"/> No
<b>Sampling Location</b> NEPTUNE BCH WWTP <b>Permit Number</b> FL0020427 <b>County Samples Collected In</b> DUVAL	<b>Samples Shipped Via</b> <input type="radio"/> FedEx <input type="radio"/> Greyhound <input type="radio"/> Client <input type="radio"/> UPS <input checked="" type="radio"/> Other (describe) <u>WWTP EMPLOYEE</u>	

Do samples need to be composited in the lab? ☐ Yes ☐ No *If Yes, composited date/time/technician*  12/1/20


Outfall Number or Client Description	Date	Time (24 Hour Format)	Sample Type		# of Containers	Sampled By		For Lab Use	
			Comp.	Grab		Print Name	Signature	Temp (°C)	Lab Sample ID
EFD-1	12-7-20	0730		X	8	ALAN KELLY		0.5	20291A

Additional Comments (if needed)

Relinquished By (Print Clearly & Sign) 	Date 12-7-20	Time 0750	Shipped via CLIENT
Received By (Print Clearly & Sign) 	Date 12-7-20	Time 0750	Relinquished By (Print Clearly & Sign) 
Received By Lab (Print Clearly & Sign) 	Date 12/7/20	Time 1001	Shipper's Tracking Number NONE

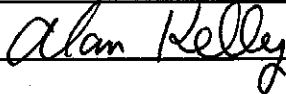


# CHAIN OF CUSTODY


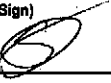
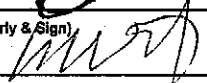
<b>Client Name</b> City of Neptune Beach	<b>Client Shipping Address</b> 2010 Forest Ave Neptune Beach, FL 32266	
<b>Sample Kit Information</b> Cooler 2 of 3  Container Type: 1/2 gal bottle  Number of Containers: 8  Method of Shipment:	<b>Prepared and Shipped by</b> 	<b>Sample Kit Received By</b> <u>Alan Kelly</u> <u>Alan Kelly</u> Print Name Signature
	<b>Date</b> 11-3-20	<b>Date</b> 11-5-2020 <b>Time</b> 12:00 Condition of Seal Upon Receipt (Check One) <input checked="" type="radio"/> Intact <input type="radio"/> Other (describe) _____

<b>Ship Samples Priority Overnight To:</b> Hydrosphere Research 11842 Research Circle Alachua, FL 32615 (386) 462-7889  <b>Be Sure to Mark for Saturday Delivery if Appropriate</b>	<b>Refrigerant Used For Shipping</b> <input checked="" type="radio"/> Wet Ice <input type="radio"/> Other (describe) _____ Samples must arrive at the lab $\leq 6.0^{\circ}\text{C}$ (never frozen). Pack cooler completely with ice before shipping.	<b>Composite Sample Information</b> Samples/Hour _____ Volume/Sample _____ Total Hours _____ Total Volume _____ Initiated Date <u>11-4-20</u> Time <u>12:19</u> Ended Date _____ Time _____ Chilled During Collection <input type="radio"/> Yes <input type="radio"/> No
<b>Sampling Location</b> Neptune Bch. WWTP <b>Permit Number</b> FL0020427 <b>County Samples Collected In</b> Duval	<b>Samples Shipped Via</b> <input type="radio"/> FedEx <input type="radio"/> Greyhound <input type="radio"/> Client <input type="radio"/> UPS <input checked="" type="radio"/> Other (describe) <u>WWTP Employee</u>	

Do samples need to be composited in the lab? ☐ Yes ☐ No If Yes, composited date/time/technician Star 12-16-20

Outfall Number or Client Description	Date	Time (24 Hour Format)	Sample Type		# of Containers	Sampled By		For Lab Use	
			Comp.	Grab		Print Name	Signature	Temp (°C)	Lab Sample ID
EFD-1	12-9-20	0730		X	8	ALAN KELLY		1.4	2e291B

Additional Comments (if needed)

<b>Relinquished By (Print Clearly &amp; Sign)</b> <u>Alan Kelly</u> <u>Alan Kelly</u>	<b>Date</b> 12-9-20	<b>Time</b> 0745	<b>Shipped via</b> Client
<b>Received By (Print Clearly &amp; Sign)</b> <u>Sean Souza</u> 	<b>Date</b> 12-9-20	<b>Time</b> 0741	<b>Relinquished By (Print Clearly &amp; Sign)</b> <u>Sean Souza</u> 
<b>Received By Lab (Print Clearly &amp; Sign)</b> <u>Raid Hewitt</u> 	<b>Date</b> 12/9	<b>Time</b> 10:10 AM	<b>Shipper's Tracking Number</b> <u>N/A</u>



# CHAIN OF CUSTODY

<b>Client Name</b> City of Neptune Beach	<b>Client Shipping Address</b> 2010 Forest Ave Neptune Beach, FL 32266	
<b>Sample Kit Information</b> Cooler 1 of 1  Container Type: 1/2 gal bottle Number of Containers: <u>8</u> 16 Method of Shipment: UPS	<b>Prepared and Shipped by</b> <div style="text-align: center;"><i>[Signature]</i></div>	<b>Sample Kit Received By</b> <div style="text-align: center;"><u>ALAN KELLY</u> <u>Alan Kelly</u></div>
	<b>Date</b> <div style="text-align: center;"><u>12-4</u></div>	<b>Print Name</b> <u>ALAN KELLY</u> <b>Signature</b> <u>Alan Kelly</u> <b>Date</b> <u>12-9-20</u> <b>Time</b> <u>12:00 pm</u> Condition of Seal Upon Receipt (Check One) <input checked="" type="radio"/> Intact <input type="radio"/> Other (describe) _____

<b>Ship Samples Priority Overnight To:</b> Hydrosphere Research 11842 Research Circle Alachua, FL 32615 (386) 462-7889  <b>Be Sure to Mark for Saturday Delivery if Appropriate</b>	<b>Refrigerant Used For Shipping</b> <input checked="" type="radio"/> Wet Ice <input type="radio"/> Other (describe) _____ Samples must arrive at the lab $\leq 6.0^{\circ}\text{C}$ (never frozen). Pack cooler completely with ice before shipping.	<b>Composite Sample Information</b> <div style="text-align: right;"><u>KS</u> <u>12/11</u></div> Samples/Hour _____ Volume/Sample _____ Total Hours _____ Total Volume _____ Initiated Date _____ Time _____ Ended Date _____ Time _____ Chilled During Collection <input type="radio"/> Yes <input type="radio"/> No
<b>Sampling Location</b> <u>NEPTUNE BCH. WWTP</u> <b>Permit Number</b> <u>FL 0020427</u> <b>County Samples Collected In</b> <u>DUVAL</u>	<b>Samples Shipped Via</b> <input type="radio"/> FedEx <input type="radio"/> Greyhound <input type="radio"/> Client <input checked="" type="radio"/> UPS <input checked="" type="radio"/> Other (describe) <u>WWTP Employee</u>	

Do samples need to be composited in the lab? ☐ Yes ☐ No If Yes, composited date/time/technician KS 12:16

Outfall Number or Client Description	Date	Time (24 Hour Format)	Sample Type		# of Containers	Sampled By		For Lab Use	
			Comp.	Grab		Print Name	Signature	Temp (°C)	Lab Sample ID
EFD-1	12-11-20	0730		X	16	ALAN KELLY	Alan Kelly	0.7	20291-C

**Additional Comments (if needed)**

Relinquished By (Print Clearly & Sign) <u>ALAN KELLY</u> <u>Alan Kelly</u>	Date <u>12-11-20</u>	Time <u>0745</u>	Shipped via <u>Client</u>
Received By (Print Clearly & Sign) <u>Sean Sociza</u> <u>(S)</u>	Date <u>12-11-20</u>	Time <u>0745</u>	Relinquished By (Print Clearly & Sign) <u>KS</u> <u>12/11</u> <u>1010</u>
Received By Lab (Print Clearly & Sign) <u>Karma Strickland</u>	Date <u>12/11</u>	Time <u>1010</u>	Shipper's Tracking Number <u>N/A</u>

## Appendix B. Raw Data Sheets & Statistical Results



Client:	City of Neptune Beach - Neptune Beach WWTF		
Code:	NPT-WW	Job #:	25291
Species:	Mysidopsis bahia	Code:	MS
ID #:	1157	Age:	7-days old

Test Vessel:	500-mL plastic
Test Volume:	200-mL per rep.

Initiation Date:	12/18/20	Termination Date:	12/15/20
Sample Description:			

Sample Description	%	R E P	Live Counts							
			0	1	2	3	4	5	6	7
Control Salinity Adjusted ①	0	A	5	5	5	5	5	5	5	5
		B	5	5	5	5	5	5	5	5
		C	5	5	5	5	5	5	5	5
		D	5	5	5	5	5	5	5	5
		E	5	5	5	5	5	5	5	5
		F	5	5	5	5	5	5	5	5
		G	5	5	5	5	5	5	5	5
		H	5	5	5	5	5	5	5	5

Initials:	DD	DD	HH	HH	JZ	JZ	JZ	DD
Time:	1450	1225	1015	1105	821	946	849	1025

Randomization Template #	Feeding Type:	Artemia (150-nauplii/shrimp/day) ②							
	Amount:	1-drop of a concentrated slurry / 2x / day							
	Morning:	740	830	631	550	630	650		
	Evening:	165	165	1530	1500	1600	1230	1550	
	Other:								

Biomass (original number, final dry weight basis. Valid Control is ≥0.20-mg/surviving shrimp)				
Pan #	Tare Weight (0.00001-gms)	Total Weight (0.00001-gms)	Net Weight (0.00001-gms)	Wt. /Shrimp (0.001-mgs)
1	0.01929	0.02088	0.00159	0.318
2	0.01971	0.02044	0.00173	0.346
3	0.01862	0.02006	0.00144	0.288
4	0.01764	0.01933	0.00165	0.330
5	0.01597	0.01762	0.00165	0.330
6	0.01471	0.01635	0.00164	0.328
7	0.01714	0.01876	0.00162	0.324
8	0.01721	0.01860	0.00139	0.278

Date Tare Dry Weights:	12/14	Initials:	HH
Date Final Dry Weights:	12/16	Initials:	HH

Fecundity		
Females		Males
Eggs	No Eggs	Immature
Optional Test Endpoint		

Notes & Comments	
① At the same time the effluent salinity is adjusted, a Salinity Control will be prepared by diluting an aliquot of control water to match the initial effluent salinity and then adjusting this control to the test salinity using direct addition of artificial sea salts to mimic the effluent salinity adjustment.	
② see Artemia SOP for feeding preparation.	
Photoperiod is 16-hours light and 8-hours dark, Illumination is ambient (50 to 100 fcd)	



Client:	City of Neptune Beach - Neptune Beach WWTF		
Code:	NPT-WW	Job #:	10291
Species:	Mysidopsis bahia	Code:	MS
ID #:	1157	Age:	7-days old

Test Vessel:	500-mL plastic
Test Volume:	200-mL per rep.

Initiation Date:	12/8/20	Termination Date:	12/11/20
Sample Description:			

Sample Description	% Effluent	R E P	Live Counts							
			0	1	2	3	4	5	6	7
Control	0	A	5	5	5	5	5	5	5	5
		B	5	5	5	5	5	5	5	5
		C	5	5	5	5	5	5	5	5
		D	5	5	5	5	5	5	5	5
		E	5	5	5	5	5	5	5	5
		F	5	5	5	5	5	5	5	5
		G	5	5	5	5	5	5	5	5
		H	5	5	5	5	5	5	5	5
Effluent	6.25	A	5	5	5	5	5	5	5	5
		B	5	5	5	5	5	5	5	5
		C	5	5	5	5	5	5	5	5
		D	5	5	5	5	5	5	5	5
		E	5	5	5	5	5	5	5	5
		F	5	5	5	5	5	5	5	5
		G	5	5	5	5	5	5	5	5
		H	5	5	5	5	5	5	5	5
	12.5	A	5	5	5	5	5	5	5	5
		B	5	5	5	5	5	5	5	5
		C	5	5	5	5	5	5	5	5
		D	5	5	5	5	5	5	5	5
		E	5	5	5	5	5	5	5	5
		F	5	5	5	5	5	5	5	5
		G	5	5	5	5	5	5	5	5
		H	5	5	5	5	5	5	5	5

Biomass (original number, final dry weight basis. Valid Control is $\geq 20$ mg/surviving shrimp)				
Pan #	Tare Weight (0.00001-gms)	Total Weight (0.00001-gms)	Net Weight (0.00001-gms)	Wt. /Shrimp (0.001-mgs)
9	0.01474	0.01625	0.00151	0.302
10	0.01743	0.01890	0.00147	0.294
11	0.01404	0.01574	0.00170	0.340
12	0.01466	0.01616	0.00150	0.300
13	0.01531	0.01460	0.00129	0.258
14	0.01549	0.01714	0.00165	0.330
15	0.01632	0.01791	0.00159	0.318
16	0.01447	0.01597	0.00150	0.300
17	0.01288	0.01450	0.00162	0.324
18	0.01327	0.01475	0.00146	0.292
19	0.01395	0.01543	0.00148	0.296
20	0.01475	0.02004	0.00129	0.258
21	0.01649	0.01771	0.00122	0.305
22	0.01544	0.01717	0.00173	0.288
23	0.01605	0.01748	0.00143	0.286
24	0.01504	0.01629	0.00125	0.250
25	0.01456	0.01588	0.00132	0.264
26	0.01892	0.02034	0.00142	0.284
27	0.01466	0.01635	0.00169	0.338
28	0.01591	0.01759	0.00168	0.336
29	0.01749	0.01929	0.00180	0.360
30	0.01917	0.02066	0.00149	0.298
31	0.01320	0.01488	0.00168	0.336
32	0.01805	0.01967	0.00162	0.324

Fecundity			
Females		Males	Immature
Eggs	No Eggs		
Optional Test Endpoint			

Initials:	ND ND NA AB JZ JZ JZ
Time:	1530 1230 1015 1115 924 954 446 1110
Randomization Template #	
Feeding Type:	Artemia (150-nauplii/shrimp/day)
Amount:	1-drop of a concentrated slurry / 2x / day
Morning:	745 748 830 631 550 630 640
Evening:	1615 1615 1530 1600 1600 1230 1550
Other:	

Date Tare Dry Weights:	12/14	Initials:	NA
Date Final Dry Weights:	12/16	Initials:	AB

Notes & Comments
(1) 12, NA 12/14 (2) animal transferred 12/15
Photoperiod is 16-hours light and 8-hours dark, Illumination is ambient (50 to 100 fcd)





Client:	City of Neptune Beach - Neptune Beach WWTF		
Code:	NPT-WW	Job #:	20291
Species:	<i>Mysidopsis bahia</i>	Code:	MS
ID #:	151	Age:	7-days old

Test Vessel:	500-mL plastic
Test Volume:	200-mL per rep.

Initiation Date:	12/8/20	Termination Date:	12/15/20
Sample Description:			

Sample Description	Effluent	R E P	Live Counts								Biomass (original number, final dry weight basis. Valid Control is $\geq 0.20$ -mg/surviving shrimp)					Fecundity			
											Pan #	Tare Weight (0.00001-gms)	Total Weight (0.00001-gms)	Net Weight (0.00001-gms)	Wt./Shrimp (0.001-gms)	Females		Males	Immature
																Eggs	No Eggs		
Effluent	25	A	5	5	5	5	5	5	5	5	342	33	0.01635	0.01752	0.00113	0.283	Optional Test Endpoint		
		B	5	5	5	5	5	5	5	5	34	0.01607	0.01779	0.00172	0.344				
		C	5	5	5	5	5	5	5	5	35	0.01591	0.01736	0.00145	0.290				
		D	5	5	5	5	5	5	5	5	36	0.01400	0.01561	0.00161	0.322				
		E	5	5	5	5	5	5	5	5	37	0.01406	0.01567	0.00161	0.322				
		F	5	5	5	5	5	5	5	5	38	0.01547	0.01668	0.00121	0.242				
		G	5	5	5	5	5	5	5	5	39	0.01560	0.01719	0.00159	0.318				
		H	5	5	5	5	5	5	5	5	40	0.01866	0.02039	0.00173	0.346				
	50	A	5	5	5	5	5	5	5	5	41	0.01416	0.01590	0.00174	0.348				
		B	5	5	5	5	5	5	5	5	42	0.01466	0.01609	0.00143	0.358				
		C	5	5	5	5	5	5	5	5	43	0.01422	0.01650	0.00178	0.356				
		D	5	5	5	5	5	5	5	5	44	0.01412	0.01573	0.00161	0.322				
		E	5	5	5	5	5	5	5	5	45	0.01755	0.01913	0.00158	0.316				
		F	5	5	5	5	5	5	5	5	46	0.01463	0.01614	0.00151	0.302				
		G	5	5	5	5	5	5	5	5	47	0.01280	0.01399	0.00119	0.238				
		H	5	5	5	5	5	5	5	5	48	0.01469	0.01648	0.00179	0.358				
	100	A	5	5	5	5	5	5	5	5	49	0.01607	0.01984	0.00177	0.354				
		B	5	5	5	5	5	5	5	5	50	0.01742	0.01950	0.00208	0.416				
		C	5	5	5	5	5	5	5	5	51	0.01500	0.01670	0.00170	0.425				
		D	5	5	5	5	5	5	5	5	52	0.01527	0.01748	0.00221	0.442				
		E	5	5	5	5	5	5	5	5	53	0.01502	0.01724	0.00222	0.444				
		F	5	5	5	5	5	5	5	5	54	0.01641	0.01830	0.00189	0.378				
		G	5	5	5	5	5	5	5	5	55	0.01506	0.01768	0.00202	0.404				
		H	5	5	5	5	5	5	5	5	56	0.01694	0.01909	0.00215	0.430				
Initials:			(S) (S) (H) (H) (T) (T) (T) (T)								Date Tare Dry Weights:		12/2/20		Initials:		(H)		
Time:			1530 1245 1025 1120 832 957 904 1110								Date Final Dry Weights:		12/16		Initials:		(H)		
Randomization Template #	Feeding Type:		Artemia (150-nauplii/shrimp/day)								Notes & Comments								
	Amount:		1-drop of a concentrated slurry / 2x / day								(1) lost in H <sub>2</sub> O A. (2) 12/9 (2) desiccated to cup. (3) 3 on 12/15								
	Morning:		/ 745 740 82 631 550 630 650																
	Evening:		165 1105 153 150 1600 1230 1550																
Other:										Photoperiod is 16-hours light and 8-hours dark, Illumination is ambient (50 to 100 ftd)									

## Mysidopsis 7-d Survival, Growth and Fecundity Test

## Hydrosphere Research

Analysis ID: 16-9971-6854      Endpoint: Mean Dry Biomass-mg      CETIS Version: CETISv1.9.7  
 Analyzed: 18 Dec-20 16:14      Analysis: Linear Interpolation (ICPIN)      Status Level: 1  
 Edit Date: 18 Dec-20 16:13      MD5 Hash: 49717D4AAACAC283BEBE945855605173      Editor ID: 002-360-881-3

## Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	95778	200	Yes	Two-Point Interpolation

## Test Acceptability Criteria

## TAC Limits

Attribute	Test Stat	Lower	Upper	Overlap	Decision
Control Resp	0.3052	0.2	>>	Yes	Passes Criteria

## Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
IC25	>100	---	---	<1	---	---

## Mean Dry Biomass-mg Summary

## Calculated Variate

## Isotonic Variate

Conc-%	Code	Count	Mean	Median	Min	Max	CV%	%Effect	Mean	%Effect
0	D	8	0.3052	0.301	0.258	0.34	8.22%	0.00%	0.3258	0.00%
6.25		8	0.2874	0.2902	0.25	0.324	8.33%	5.84%	0.3258	0.00%
12.5		8	0.3175	0.33	0.264	0.36	10.18%	-4.01%	0.3258	0.00%
25		8	0.3083	0.32	0.242	0.346	11.34%	-1.00%	0.3258	0.00%
50		8	0.3247	0.335	0.238	0.358	12.66%	-6.37%	0.3258	0.00%
100		8	0.4116	0.4205	0.354	0.444	7.69%	-34.85%	0.3258	0.00%

## Mean Dry Biomass-mg Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
0	D	0.302	0.294	0.34	0.3	0.258	0.33	0.318	0.3
6.25		0.324	0.292	0.296	0.258	0.305	0.2883	0.286	0.25
12.5		0.264	0.284	0.338	0.336	0.36	0.298	0.336	0.324
25		0.2825	0.344	0.29	0.322	0.322	0.242	0.318	0.346
50		0.348	0.3575	0.356	0.322	0.316	0.302	0.238	0.358
100		0.354	0.416	0.425	0.442	0.444	0.378	0.404	0.43



Client:	City of Neptune Beach - Neptune Beach WWTF	
Code:	NPT-WW	Job #: 20291
Species:	Mysidopsis bahia	
ID #:	1157	

Initiation Date:	12/8/20	Termination Date:	12/15/20
Sample Description:			

Sample Description	%	pH										
		(acceptable range for a valid test is 6 to 9)										
		new	old	new	old	new	old	new	old	new	old	new
Effluent		0	1	2	3	4	5	6	7			
Control Salinity Adjusted	0	8.0	7.7	7.8	7.3	8.2	7.5	8.0	8.0	8.2	7.9	7.9
Control	0	8.0	7.9	8.0	7.7	8.2	7.6	8.0	8.0	8.1	7.9	8.0
Effluent	6.25	8.0	7.9	8.0	7.8	1.8	7.7	8.0	8.0	7.9	8.0	8.0
	12.5	7.9	7.9	7.9	7.7	0.9	7.6	7.5	8.0	7.9	7.8	8.0
	25	7.9	7.9	7.9	7.7	0.3	7.6	7.5	7.9	7.9	7.7	8.0
	50	7.9	8.1	7.8	7.5	7.6	7.5	7.9	7.9	7.6	7.7	8.0
	100	7.8	8.1	7.7	6.0	7.6	7.5	7.8	7.9	7.6	7.6	8.1
Meter ID:		21	21	19	19	19	19	17	17	17	17	21
Day:		0	1	11/2	11/10	3	4	5	6	7		
Control & Dilution ID:		5187	5187	5187	5187	5192	5192	5192	5192	5192		
Effluent ID:		A	A	B	B	C	C	C	C	C		
Initials:		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Time:		1230	1230	140	1015	525	1105	950	609	719	145	1015

Dissolved Oxygen (mg/L)												
(acceptable minimum for a valid test is 4.0-mg/L)												
new	old	new	old	new	old	new	old	new	old	new	old	new
0	1	2	3	4	5	6	7					
6.3	6.3	7.0	5.7	6.9	6.2	7.0	7.0	6.9	7.1	7.0	6.2	6.4
6.9	6.3	7.3	6.4	7.0	6.4	7.4	7.1	7.1	7.2	7.1	6.3	6.5
7.5	6.4	7.2	6.6	7.3	6.3	7.4	7.0	7.2	7.1	7.1	6.4	6.5
7.5	6.4	7.2	6.4	7.2	6.3	7.4	7.2	7.3	7.1	7.2	6.3	6.5
7.5	6.4	7.1	6.3	7.2	6.3	7.3	7.1	7.3	7.1	7.3	6.3	6.4
7.3	6.4	7.1	6.3	7.6	6.4	7.2	7.1	7.4	7.1	7.1	6.4	6.4
7.0	6.2	6.7	6.3	6.9	6.4	7.0	7.1	7.4	7.1	7.0	6.3	6.3
15	15	16	16	16	16	17	17	17	17	17	17	15

Notes &amp; Comments



<b>Client:</b>	City of Neptune Beach - Neptune Beach WWTF		
<b>Code:</b>	NPT-WW	<b>Job #:</b>	20291
<b>Species:</b>	Mysidopsis bahia		
<b>ID #:</b>	1157		

<b>Initiation Date:</b>	12/8/20	<b>Termination Date:</b>	12/15/20
<b>Sample Description:</b>			

Sample Description	%	Salinity (‰)													
		new		old		new		old		new		old		new	
		0	1	2	3	4	5	6	7	0	1	2	3	4	5
Control Salinity Adjusted	0	20.3	22.7	22.1	22.1	19.5	22.1	19.6	21.8	20.4	21.0	20.2	22.2	20.1	22.4
Control	0	19.5	21.4	19.7	21.2	19.8	21.5	19.7	22.8	20.6	21.2	20.7	22.3	20.8	21.6
Effluent	6.25	19.7	21.4	19.7	21.7	19.4	22.1	20.7	22.8	20.8	21.3	20.7	22.2	20.8	21.9
	12.5	19.8	21.3	19.7	21.5	19.7	21.8	20.3	23.1	20.5	21.5	20.8	22.4	20.8	21.2
	25	19.9	21.5	19.8	21.2	19.7	22.4	22.1	22.9	20.8	21.7	20.8	22.9	20.7	22.4
	50	20.1	21.4	19.8	21.8	20.0	22.2	20.6	22.4	20.9	21.9	20.9	22.7	20.6	22.8
	100	20.5	21.4	19.9	21.5	20.0	22.0	20.6	22.8	20.9	22.1	20.9	22.8	20.3	22.4
Meter ID:		21	21	23	23	23	23	23	21	21	21	21	21	21	21
Day:		0	1	2	3	4	5	6	7						
Control & Diluent ID:		S187	S187	S187	S192	S192	S192	S192	S192						
Effluent ID:		A	A	B	B	C	C	C	C						
Initials:		DD	HH	HH	HH	JZ	JZ	JZ	JZ						
Time:		1230	1135	920	950	714	643	719	105						

Temperature (°C)							
(acceptable range for a valid test is 26±1°C)							
Measured at the end of each 24-h exposure period							
0	1	2	3	4	5	6	7
25.8	25.8	26.3	26.1	25.7	25.8	25.8	25.8
26.0	26.3	26.4	26.2	26.1	26.1	25.8	25.8
26.1	26.6	26.3	26.1	25.9	26.3	25.9	25.9
26.0	25.7	26.3	25.9	26.0	26.0	25.9	25.9
26.1	25.8	26.2	25.9	26.1	25.9	26.1	26.1
25.8	25.5	26.1	26.2	26.2	26.1	25.9	25.9
26.1	25.7	25.9	26.1	26.3	26.2	25.9	25.9
52	52	52	52	352	352	352	352

Notes &amp; Comments

① 352 - JE 12/14





Client:	City of Neptune Beach - Neptune Beach WWTF		
Code:	NPT-WW	Joh #:	20291
Species:	Menidia beryllina	Code:	SS
ID #:	1153	Age:	11d

Control Water:	SSW
ID #:	see "water quality"
Test Vessel:	1-L Plastic Cup
Test Volume:	500-mL / rep.

Initiation Date:	12/8/20	Termination Date:	12/15/23
Sample Description:			

Sample Description	Effluent	R E P	Live Counts							
			0	1	2	3	4	5	6	7
Control Salinity Adjusted ①	0	A	10	10	10	10	9	9	9	9
		B	10	10	10	10	10	10	10	10
		C	10	10	10	10	10	10	10	10
		D	10	10	10	10	10	10	10	10
Control	0	A	10	10	10	10	10	10	10	10
		B	10	10	10	10	10	10	10	10
		C	10	10	10	10	10	10	10	10
		D	10	10	10	10	10	10	10	10
Effluent	6.25	A	10	10	10	10	10	9	9	9
		B	10	10	10	10	10	10	10	10
		C	10	10	10	10	10	10	10	10
		D	10	10	10	10	10	10	10	10
	12.5	A	10	10	10	10	10	10	10	10
		B	10	10	10	10	10	10	10	10
		C	10	10	10	10	10	10	10	10
		D	10	10	10	10	10	10	10	10
	25	A	10	10	9	9	9	9	9	9
		B	10	10	10	10	10	10	10	10
		C	10	10	10	10	10	10	10	10
		D	10	10	10	10	10	10	10	10
	50	A	10	10	10	10	10	10	10	9
		B	10	10	10	10	10	10	10	10
		C	10	10	10	10	10	10	10	10
		D	10	10	10	10	10	10	10	10
	100	A	10	10	10	10	10	10	10	10
		B	10	10	10	10	10	10	10	10
		C	10	10	10	10	10	10	10	10
		D	10	10	10	10	10	10	10	10

Initials: 00 00 11 11 11 11 11 00

Time: 145 1300 1035 1130 1845 1014 925 1200

Randomization Template #  46	Feeding Type:	Artemia
	Amount:	1-mL <sup>②</sup> , twice daily
	Morning:	745 740 83 631 550 630
	Noon (if needed):	1300 1230 1230
	Evening:	1615 1105 183 180 1600 1230 1550

Biomass (original number, final dry weight basis. Valid Control is 20.5-mg/surviving fish)				
Pan #	Tare Weight (0.00001-gms)	Total Weight (0.00001-gms)	Net Weight (0.00001-gms)	Wt. / Fish (0.001-mgs)
1	1.08390	1.09193	0.00803	0.803
2	1.08593	1.09594	0.01001	1.001
3	1.06791	1.07766	0.00975	0.975
4	1.07657	1.08683	0.01026	1.026
5	1.07354	1.08420	0.01066	1.066
6	1.07494	1.08607	0.01113	1.113
7	1.07655	1.08540	0.00885	0.885
8	1.06980	1.07844	0.00864	0.864
9	1.07162	1.08066	0.00904	0.904
10	1.06836	1.07698	0.00862	0.862
11	1.06669	1.07479	0.00810	0.810
12	1.08659	1.09468	0.00809	0.809
13	1.09688	1.10771	0.01083	1.083
14	1.09606	1.10534	0.00928	0.928
15	1.08541	1.09611	0.01070	1.070
16	1.08147	1.09073	0.00926	0.926
17	1.07874	1.08944	0.01070	1.189
18	1.08782	1.09767	0.00985	0.985
19	1.08988	1.09805	0.00817	0.817
20	1.10852	1.11791	0.00939	0.939
21	1.10267	1.11162	0.00895	0.895
22	1.08292	1.09302	0.01017	0.925
23	1.09132	1.09939	0.00807	0.807
24	1.07531	1.08137	0.00606	0.606
25	1.08538	1.09601	0.01063	1.063
26	1.07081	1.08017	0.00936	0.936
27	1.08410	1.09316	0.00900	0.900
28	1.06484	1.07548	0.01056	1.056

Date Tare Dry Weights: 12/14 Initials: 11

Date Final Dry Weights: 12/16 Initials: 11

## Notes &amp; Comments

① At the same time the effluent salinity is adjusted, a Salinity Control will be prepared by diluting an aliquot of control water to match the initial effluent salinity and then adjusting this control to the test salinity using direct addition of artificial sea salts to mimic the effluent salinity adjustment.

② see Artemia SOP for feeding preparation, section 5.3.B.7.b

Photoperiod is 16-hours light and 8-hours dark, Illumination is ambient (50 to 100 fcd)

① fish may have moved  
12/8/20



# CETIS Analytical Report

Report Date: 18 Dec-20 16:54 (p 1 of 1)  
Test Code/ID: IPT-WW 20291SSC / 19-8637-6808

## Inland Silverside 7-d Larval Survival and Growth Test

Hydrosphere Research

Analysis ID: 12-3962-5462      Endpoint: Mean Dry Biomass-mg      CETIS Version: CETISv1.9.7  
Analyzed: 18 Dec-20 16:54      Analysis: Linear Interpolation (ICPIN)      Status Level: 1  
Edit Date: 18 Dec-20 16:14      MD5 Hash: 3466806CD5FA47E51CC0119521BDF662      Editor ID: 002-360-881-3

### Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	352648	200	Yes	Two-Point Interpolation

### Test Acceptability Criteria

#### TAC Limits

Attribute	Test Stat	Lower	Upper	Overlap	Decision
Control Resp	0.982	0.5	>>	Yes	Passes Criteria

### Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
IC25	>100	---	---	<1	---	---

### Mean Dry Biomass-mg Summary

			Calculated Variate						Isotonic Variate	
Conc-%	Code	Count	Mean	Median	Min	Max	CV%	%Effect	Mean	%Effect
0	D	4	0.982	0.9755	0.864	1.113	12.82%	0.00%	0.982	0.00%
6.25		4	0.8462	0.836	0.809	0.904	5.41%	13.82%	0.9435	3.92%
12.5		4	1.002	0.999	0.926	1.083	8.63%	-2.01%	0.9435	3.92%
25		4	0.9825	0.962	0.817	1.189	15.76%	-0.05%	0.9435	3.92%
50		4	0.8081	0.851	0.606	0.9246	17.78%	17.70%	0.8984	8.51%
100		4	0.9888	0.996	0.9	1.063	8.40%	-0.69%	0.8984	8.51%

### Mean Dry Biomass-mg Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	1.066	1.113	0.885	0.864
6.25		0.904	0.862	0.81	0.809
12.5		1.083	0.928	1.07	0.926
25		1.189	0.985	0.817	0.939
50		0.895	0.9246	0.807	0.606
100		1.063	0.936	0.9	1.056



Client:	City of Neptune Beach - Neptune Beach WWTF		
Code:	NPT-WW	Job #:	20291
Species:	Menidia beryllina		
ID #:	1153		

Initiation Date:	12/8/20	Termination Date:	12/15/20
Sample Description:			

Sample Description	%	pH (acceptable range for a valid test is 6 to 9)									
		new		old		new		old		new	
		0	1	2	3	4	5	6	7		
Control Salinity Adjusted	0	7.4	7.4	7.3	7.5	7.9	7.3	7.4	7.5	8.1	7.7
Control	0	7.4	7.4	7.9	7.6	8.1	7.4	7.7	7.5	8.0	7.6
Effluent	6.25	7.4	7.4	7.9	7.5	8.0	7.4	7.6	7.5	7.9	7.6
	12.5	7.5	7.4	7.8	7.5	7.9	7.4	7.6	7.5	7.8	7.6
	25	7.5	7.4	7.8	7.5	7.9	7.4	7.6	7.5	7.7	7.5
	50	7.6	7.5	7.7	7.5	7.8	7.4	7.6	7.5	7.5	7.3
	100	7.7	7.8	7.6	7.5	7.6	7.4	7.4	7.5	7.4	7.5
Meter ID:		21	21	19	17	19	19	19	17	17	17
Day:		0	1	2	3	4	5	6	7		
Control & Diluent ID:		5185	5185	5185	5185	5185	5185	5185	5185	5185	5185
Effluent ID:		A	A	B	B	C	C	C	C	C	C
Initials:		DD	DD	DD	DD	DD	DD	DD	DD	DD	DD
Time:		1220	1255	1130	1052	945	1130	945	935	726	1001

Dissolved Oxygen (mg/L) (acceptable minimum for a valid test is 4.0-mg/L)									
new		old		new		old		new	
0	1	2	3	4	5	6	7		
6.8	6.3	7.2	5.6	7.4	5.3	7.0	6.6	7.0	6.8
8.1	6.5	7.7	6.0	7.5	6.2	7.8	6.7	7.1	6.9
8.2	6.5	7.8	6.1	7.8	6.4	7.9	6.8	7.2	7.0
8.2	6.2	7.8	6.2	7.9	6.5	7.5	6.4	7.4	7.1
8.1	6.5	7.8	6.3	7.5	6.5	7.8	6.9	7.4	7.0
8.0	6.4	7.8	6.3	7.8	6.4	7.8	7.0	7.3	6.9
7.8	5.8	7.6	6.1	7.6	6.2	7.5	7.1	7.2	6.7
15	15	16	16	16	16	16	17	17	17

Notes &amp; Comments

05185, 11/12/10



Client:	City of Neptune Beach - Neptune Beach WWTF	
Code:	NPT-WW	Job #: 20291
Species:	Menidia beryllina	
ID #:	1153	

Initiation Date:	12/8/20	Termination Date:	12/15/20
Sample Description:			

Sample Description	%	Salinity (‰)													
		new		old		new		old		new		old		new	
		0	1	2	3	4	5	6	7	0	1	2	3	4	5
Control Salinity Adjusted	0	5.1	5.7	5.1	5.2	4.7	5.3	5.0	5.3	5.2	5.5	5.0	5.5	5.3	5.5
Control	0	5.4	5.7	5.4	5.4	5.2	5.3	5.4	5.5	5.3	5.5	4.9	4.4	4.9	5.4
Effluent	6.25	5.4	5.6	5.4	5.3	4.7	5.5	5.5	5.6	5.5	5.7	6.4	5.5	5.0	5.3
	12.5	5.4	5.6	5.3	5.4	4.5	5.6	5.3	5.5	5.3	5.3	4.4	4.3	4.4	5.4
	25	5.3	5.5	5.3	5.5	4.4	5.6	5.4	5.4	5.3	4.5	4.4	5.5	4.4	5.2
	50	5.2	5.4	5.3	5.2	4.5	5.5	5.2	5.3	5.2	4.5	4.4	5.5	4.4	5.3
	100	5.0	5.1	5.0	5.3	5.0	5.2	5.1	5.4	5.1	4.5	4.6	4.5	4.7	5.1
Meter ID:		21	21	23	23	23	23	23	23	21	21	21	21	21	21
Day:		0	1	2	3	4	5	6	7						
Control & Diluent ID:		S185	S185	S185	S185	S185	S185	S185	S185	S185	S185	S185	S185	S185	S185
Effluent ID:		A	A	B	B	C	C	C	C	C	C	C	C	C	C
Initials:		DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD	DD
Time:		1220	1225	1125	1025	1130	1135	1135	1135	1135	1135	1135	1135	1135	1135

Temperature (°C)							
(acceptable range for a valid test is 25±1°C)							
Measured at the end of each 24-h exposure period							
0	1	2	3	4	5	6	7
24.8	24.8	25.0	24.6	24.8	25.1	25.0	
25.3	24.3	25.1	25.0	24.9	25.3	25.2	
25.2	25.0	24.6	24.8	24.6	25.2	25.2	
25.0	24.6	25.0	24.9	24.7	24.9	25.0	
24.8	24.6	25.0	25.1	24.8	24.8	25.0	
25.0	24.6	25.1	25.0	24.6	25.0	25.0	
24.3	24.1	25.0	25.1	24.7	25.1	25.0	
57	57	57	352	352	352	352	

Notes &amp; Comments

① S185, 12/10

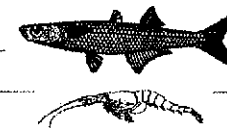
Client: 

Code: 

Job: 
**Task Title**  Preparation of Salinity Adjusted Control (SA-0)

**Task Page** \_\_\_\_ of \_\_\_\_

Note that if the client sample is  $\geq 5\%$  for SS or  $\geq 20\%$  for MS  
then NO salinity adjusted control is needed !!!



	1	2	3	4	5	6	7	8			
Species being tested	SS	MS									
Sample ID Letter	A	A									
<b>Event</b>	<b>amount</b>								<b>(units)</b>	<b>calc</b>	<b>action</b>
A volume of control water needed (dilution volume)	2000	1600							mL	NA	NA
Note: Chronic SS = 2000, Chronic MS = 1600, Acute SS = 400, Acute MS = 400											
B control water salinity	0.85	20							%	NA	NA
~~~ Mark a appropriate container with "client code" and "SA-0". ~~~											
C effluent salinity	0.5	0.5							%	NA	measure
D adjustment factor Used to calculate the amount of control water needed.	0.1	0.025							NA	C ÷ B	NA
E volume of control water	200	40							mLs	D x A	measure
F volume of RGW added to control water	1800	1560							mLs	A - E	add to F
~~~ Measured with graduated cylinders and added to "SA-0" bottle. Mix well with a 5-mL glass pipet. ~~~											
G total volume of diluted control water now at effluent salinity	2000	1600							mLs	E + F	= A
H confirm salinity (adjust if needed)									%	= C (±0.3)	measure
I determine what adjustment is needed to ↑ the % to that of the effluent	4.5	19.5							%	B - C	NA
J amount of Tropicmarin (TM) salt needed	9	31.2							gms	(GxI)÷1000	NA
K adjust amount of Tropicmarin needed by "salt correction factor".	10	36.2							gms	J x ①	measure
~~~ Measure out TM in a 5.5 oz solo cup on the artemia balance. ~~~											
~~~ Do NOT add all of it! Add most of the salt, mix well and check salinity. Add more if needed. ~~~											
L confirm salinity of the SA-0 (adjust further if needed)									%	= B	measure
Initials <input type="text"/> <input type="text"/>											
Date <input type="text"/> <input type="text"/>											

① for 5‰ = 1.11, 20‰ = 1.16, 30‰ = 1.18

Labor Hours to perform tasks on this page:

Client: City of Neptune Beach - Neptune Beach WWTF

Code: NPT-WW Job: 20291

Sample Data

Sample Info				Dissolved Oxygen (D.O.)					Total Residual Chlorine ②			Ammonia				Conductivity			Salinity				Alkalinity/Hardness				
#	Date		Letter Code	Description	D.O. (mg/L)	D.O. (%)	Aeration ① (min.)	Post Aeration D.O. (mg/L)	Meter #	Initials	TRC (mg/L)	Meter #	Initials	T-NH <sub>3</sub> (mg/L)	pH	Meter #	Initials	Conductivity (µmho/cm)	Meter #	Initials	Salinity (ppt)	Adjusted (ppt)	Meter #	Initials	Alkalinity (mgCaCO <sub>3</sub> /L)	Hardness (mgCaCO <sub>3</sub> /L)	Initials
	M/D/Y	Day																									
1	12/8/20	T	A	EFO-1	3.745	10	7.3	15	00	0.11	147	00	X	7.0	21	00	X	X	00	0.5	①	21	00	80	2425	00	
2	12/9/20	W	A	11	4.1	5.0	10	6.5	16	11	X	X	11	X	7.0	15	11	X	X	11	0.5	①	23	11	X	1	11
3	12/10/20	R	B	11	4.7	5.5	10	6.4	16	11	20.04	117	11	X	7.3	19	11	X	X	11	0.5	①	23	11	180	2425	11
4	12/11/20	F	B	11	3.7	4.7	10	6.1	16	11	X	X	11	X	6.8	19	11	X	X	11	0.5	①	23	11	X	1	11
5	12/12/20	S	C	11	6.0	10.1	7	7	17	52	X	X	52	X	6.6	17	52	X	X	52	0.5	①	21	52	X	X	52
6	12/13/20	S	C	11	6.3	7.2	7	7	17	52	20.04	147	52	X	6.7	17	52	X	X	52	0.5	①	21	52	2240	2425	52
7	12/14/20	M	C	11	5.9	6.7	7	7	17	52	X	X	52	X	6.7	17	52	X	X	52	0.5	①	21	52	X	X	52
8	/ /																										
9	/ /																										
10	/ /																										
11	/ /																										
12	/ /																										
13	/ /																										
14	/ /																										
15	/ /																										
16	/ /																										

## Notes &amp; Comments

① Sample adjusted to 5ppt for SS and 20ppt for mysids. 12/8/20

① Aeration rate is 500-mLs/min (EPA-821-R-02-012, Section 9.1.8, page 41).

② If sample is to be dechlorinated then use 1-mL Effluent Dechlorinator (8-g/L NaThio) per 1-L Effluent Sample per 1-ppm TRC (EPA-821-R-02-012, Section 9.1.6, pg 41)

## !!! Critical Notes !!!

None for this Job.

## Dilution Waters

Code	ID #	Alkalinity/Hardness		
		Alkalinity (mgCaCO <sub>3</sub> /L)	Hardness (mgCaCO <sub>3</sub> /L)	Initials
SSW	5185	26	—	12/8
SSW	5187	94	—	
SSW	5191	95	—	
SSW	5192	103	—	
SSW	5195	24	—	

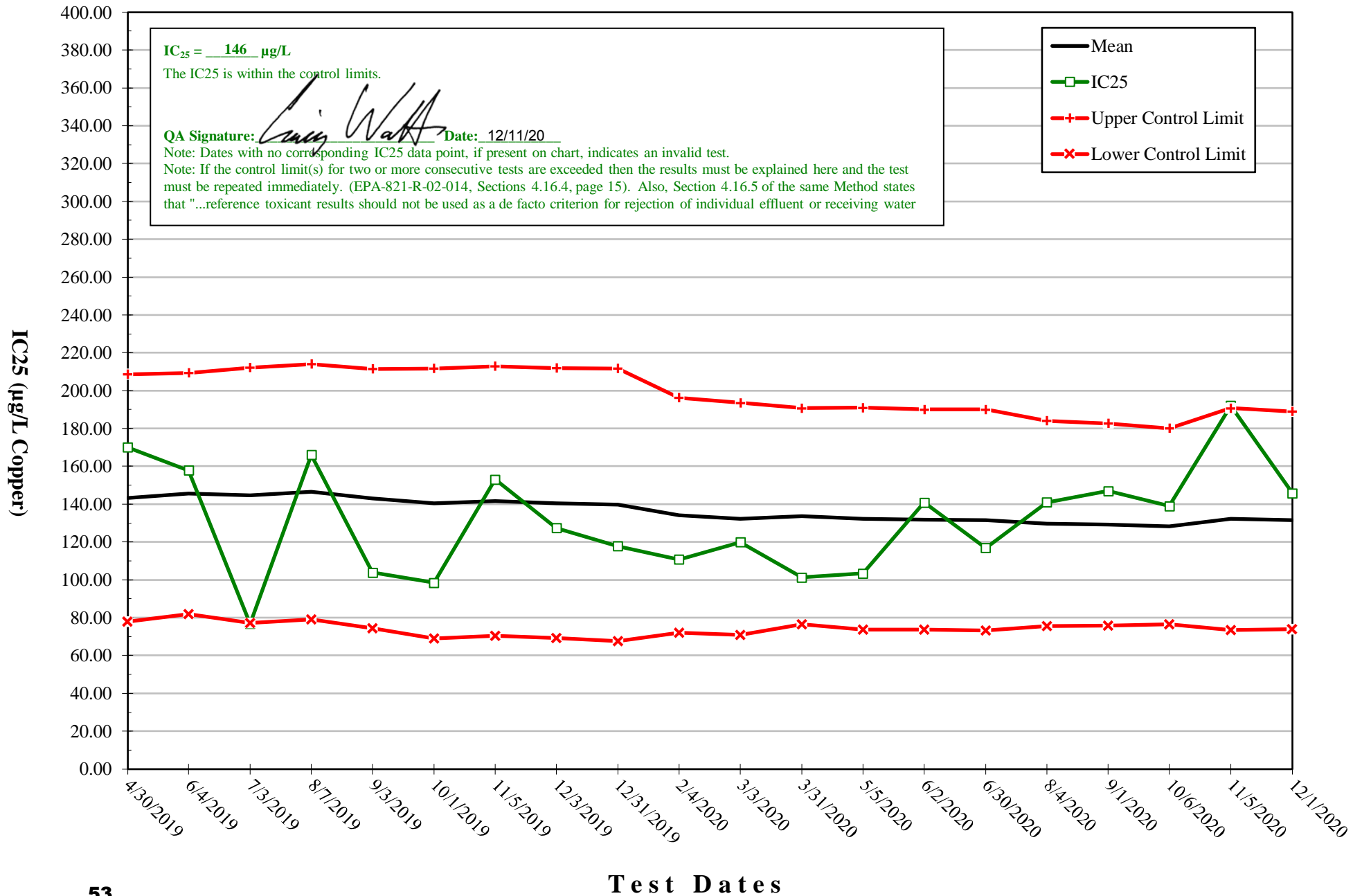


## Appendix C. Reference Toxicant Data



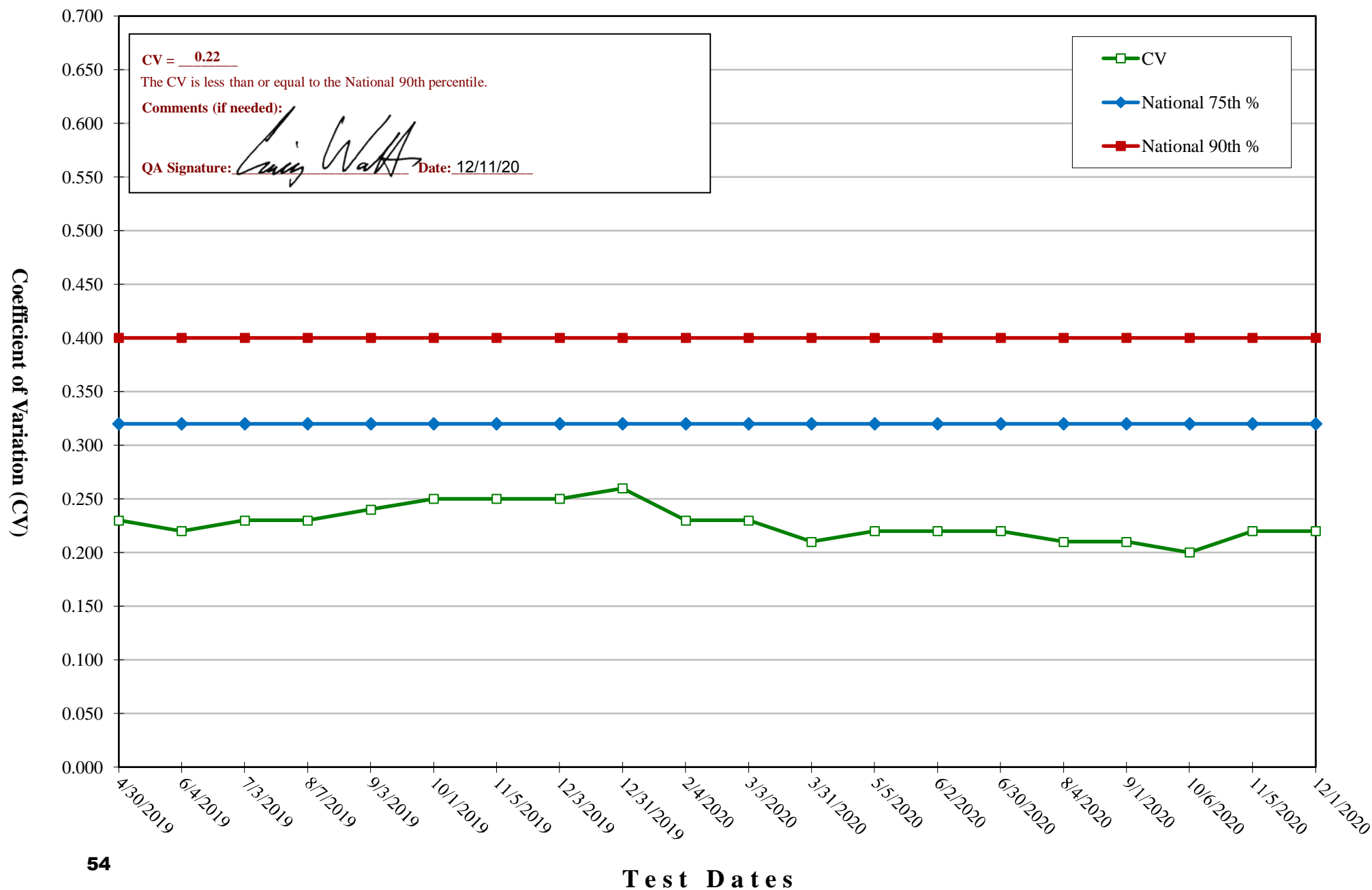
# Control Chart - I

Control Limits for Standard Reference Toxicant Tests  
CHRONIC ... *Mysidopsis bahia* (Hydrosphere Research)



## Control Chart - II

Coefficient of Variation for Standard Reference Toxicant Tests  
CHRONIC ... *Mysidopsis bahia* (Hydrosphere Research)



**REFERENCE TOXICANT LOG • Last 20**

**Test: 7-day Chronic**

**Species: *Mysidopsis bahia***

**Vendor: Hydrosphere Research**

**Toxicant: Copper Sulfate ( $\mu\text{g}$  Cu / liter)**



N	Date	IC25	Mean	S.D.	2 SD	- 2 SD	+ 2S.D.	CV	National 75th %	National 90th %	Lower Control Limit	Upper Control Limit
124	4/30/2019	170	143.31	32.68	65.37	77.94	208.68	0.23	0.32	0.40	77.94	208.68
125	6/4/2019	158	145.70	31.86	63.71	81.99	209.41	0.22	0.32	0.40	81.99	209.41
126	7/3/2019	77	144.71	33.72	67.43	77.27	212.14	0.23	0.32	0.40	77.27	212.14
127	8/7/2019	166	146.61	33.80	67.59	79.02	214.20	0.23	0.32	0.40	79.02	214.20
128	9/3/2019	104	142.95	34.29	68.57	74.38	211.52	0.24	0.32	0.40	74.38	211.52
129	10/1/2019	98	140.38	35.64	71.28	69.10	211.65	0.25	0.32	0.40	69.10	211.65
130	11/5/2019	153	141.68	35.60	71.20	70.48	212.87	0.25	0.32	0.40	70.48	212.87
131	12/3/2019	127	140.55	35.68	71.36	69.19	211.91	0.25	0.32	0.40	69.19	211.91
132	12/31/2019	118	139.71	36.02	72.05	67.66	211.75	0.26	0.32	0.40	67.66	211.75
133	2/4/2020	111	134.19	31.02	62.04	72.15	196.23	0.23	0.32	0.40	72.15	196.23
134	3/3/2020	120	132.29	30.65	61.29	70.99	193.58	0.23	0.32	0.40	70.99	193.58
135	3/31/2020	101	133.60	28.55	57.10	76.50	190.70	0.21	0.32	0.40	76.50	190.70
136	5/5/2020	103	132.28	29.34	58.67	73.61	190.95	0.22	0.32	0.40	73.61	190.95
137	6/2/2020	141	131.83	29.12	58.23	73.59	190.06	0.22	0.32	0.40	73.59	190.06
138	6/30/2020	117	131.65	29.20	58.40	73.25	190.05	0.22	0.32	0.40	73.25	190.05
139	8/4/2020	141	129.76	27.13	54.26	75.50	184.01	0.21	0.32	0.40	75.50	184.01
140	9/1/2020	147	129.25	26.68	53.37	75.88	182.62	0.21	0.32	0.40	75.88	182.62
141	10/6/2020	139	128.27	25.89	51.78	76.48	180.05	0.20	0.32	0.40	76.48	180.05
142	11/5/2020	192	132.17	29.30	58.59	73.57	190.76	0.22	0.32	0.40	73.57	190.76
143	12/1/2020	146	131.46	28.75	57.50	73.95	188.96	0.22	0.32	0.40	73.95	188.96



**SRT for the Month of (circle one):**  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov **Dec**

Species: Mysidopsis bahia Code: MS

ID #: 1148 Age: 70

Control Water: SSW

ID #: see "water quality"

Test Vessel: 500-mL plastic

Test Volume: 200-mL per rep.

Initiation Date: 12/1/20 Termination Date: 12/6/20

Toxicant (desiccated): Cu<sup>2+</sup>

Stock Solution (Concentration): 0.1-gm Cu<sup>2+</sup> / Li te

Test Concentration (Units): gm Cu<sup>2+</sup> / Liter

Sample ID	µg/L	REP	Live Counts						
			0	1	2	3	4	5	6
Control	0	A	5	5	5	5	5	5	5
		B	5	5	5	5	5	5	5
		C	5	5	5	5	5	5	5
		D	5	5	5	5	5	5	5
		E	5	5	5	5	5	5	5
		F	5	5	5	5	5	5	5
		G	5	5	5	5	5	5	5
		H	5	5	5	5	5	5	5
Cu <sup>2+</sup>	31.25	A	5	5	5	5	5	5	5
		B	5	5	5	5	5	5	5
		C	5	5	5	5	5	5	5
		D	5	5	5	5	5	5	5
		E	5	5	5	5	5	5	5
		F	5	5	5	5	5	5	5
		G	5	5	5	5	5	5	5
		H	5	5	5	5	5	5	5
Cu <sup>2+</sup>	62.5	A	5	5	5	5	5	5	5
		B	5	5	5	5	5	5	5
		C	5	5	5	5	5	5	5
		D	5	5	5	5	5	5	5
		E	5	5	5	5	5	5	5
		F	5	5	5	5	5	5	5
		G	5	5	5	5	5	5	5
		H	5	5	5	5	5	5	5

Initials: 1148 12 12 12 12 12 12 12

Time: 1330 1211 1214 933 1215 1135 1213 457

Randimization Template # 56

Feeding Type: Artemia (150-nauplii/shrimp/day)

Amount: 1-drop of a concentrated slurry / 2x / day

Morning: 700 655 600 700 1115 710 705

Evening: 1630 1545 1600 1600 700 2250 1600

Other: —

Pan #	Biomass (original number, final dry weight basis. Valid Control is ≥0.28-mg/individual shrimp)				
	Tare Weight (0.00001-gms)	Total Weight (0.00001-gms)	Net Weight (0.00001-gms)	Wt. /Shrimp (0.001-mg)	
153	0.01471	0.01641	0.00170	0.340	
154	0.01767	0.01938	0.00171	0.342	
155	0.01402	0.01534	0.00122	0.244	
156	0.01675	0.01830	0.00155	0.310	
157	0.01734	0.01879	0.00145	0.290	
158	0.01324	0.01490	0.00166	0.332	
159	0.01626	0.01806	0.00180	0.360	
160	0.01255	0.01391	0.00136	0.272	
161	0.01626	0.01803	0.00177	0.354	
162	0.01499	0.01657	0.00158	0.316	
163	0.01443	0.01598	0.00155	0.310	
164	0.01365	0.01530	0.00165	0.330	
165	0.01694	0.01883	0.00189	0.378	
166	0.01494	0.01619	0.00125	0.250	
167	0.01456	0.01597	0.00141	0.282	
168	0.01449	0.01592	0.00149	0.298	
169	0.01532	0.01691	0.00159	0.318	
170	0.01567	0.01735	0.00168	0.336	
171	0.01493	0.01595	0.00102	0.204	
172	0.01469	0.01684	0.00195	0.390	
173	0.01414	0.01569	0.00155	0.310	
174	0.01476	0.01630	0.00154	0.308	
175	0.01560	0.01692	0.00124	0.248	
176	0.01382	0.01543	0.00161	0.322	

Date Tare Dry Weights: 12/17 Initials: 1148

Date Final Dry Weights: 12/19 Initials: 1148

Notes & Comments: 105-32 12/2 1443 AM 12/7

0.34 12/10

Photoperiod is 16-hours light and 8-hours dark, Illumination is ambient (50 to 100 fcd)

Optional Test Endpoints



SRT for the Month of (circle one):

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Species: *Mysidopsis bahia*

Code: MS

ID #: 1146

Age: 7d

Control Water: SSW

ID #: see "water quality"

Test Vessel: 500-mL plastic

Test Volume: 200-mL per rep.

Initiation Date: 12/1/20

Termination Date: 12/4/20

Toxicant (desiccated): Cu<sup>2+</sup>

Stock Solution (Concentration): 0.1-gm Cu<sup>2+</sup> / Liter

Test Concentration (Units): gm Cu<sup>2+</sup> / Liter

Sample ID	µg/L	REP	Live Counts								Growth (final dry weight basis)					Fecundity			
			0	1	2	3	4	5	6	7	Pan #	Tare Weight (0.00001-gms)	Total Weight (0.00001-gms)	Net Weight (0.00001-gms)	Wt. /Shrimp (0.001-gms)	Eggs	No Eggs	Males	Immature
Cu <sup>2+</sup>	125	A	5	4	4	4	4	4	4	4	177	0.01577	0.01699	0.00122	0.244				
		B	5	5	5	5	5	5	5	5	178	0.01580	0.01731	0.00151	0.302				
		C	5	5	5	5	5	5	5	5	179	0.01498	0.01867	0.00369	0.738				
		D	5	5	5	5	5	5	5	5	180	0.01440	0.01590	0.00150	0.300				
		E	5	4	4	4	4	4	4	4	181	0.01611	0.01704	0.00093	0.186				
		F	5	3	3	3	3	3	3	3	182	0.01757	0.01868	0.00111	0.222				
		G	5	5	5	5	5	5	5	5	183	0.01650	0.01793	0.00143	0.286				
		H	5	5	5	5	5	5	5	5	184	0.01663	0.01819	0.00156	0.312				
Cu <sup>2+</sup>	250	A	5	4	3	3	3	3	3	3	185	0.01322	0.01404	0.00082	0.164				
		B	5	4	4	4	4	4	4	4	186	0.01427	0.01908	0.00081	0.162				
		C	5	4	2	2	2	1	1	1	187	0.01536	0.01572	0.00036	0.072				
		D	5	3	3	3	2	2	2	2	188	0.01577	0.01620	0.00043	0.086				
		E	5	3	3	3	3	3	3	3	189	0.01716	0.01800	0.00084	0.168				
		F	5	3	3	3	3	3	3	3	190	0.01666	0.01733	0.00067	0.134				
		G	5	1	1	1	1	1	1	1	191	0.01680	0.01721	0.00041	0.082				
		H	5	4	4	4	4	4	4	4	192	0.01650	0.01737	0.00087	0.174				
Cu <sup>2+</sup>	500	A	5	1	0	—	—	—	—	—	—	0.0	0.0	0.00000	0.000				
		B	5	0	—	—	—	—	—	—	—	0.0	0.0	0.00000	0.000				
		C	5	2	1	0	—	—	—	—	—	0.0	0.0	0.00000	0.000				
		D	5	3	3	2	1	1	1	0	—	0.0	0.0	0.00000	0.000				
		E	5	0	—	—	—	—	—	—	—	0.0	0.0	0.00000	0.000				
		F	5	4	4	1	0	—	—	—	—	0.0	0.0	0.00000	0.000				
		G	5	0	—	—	—	—	—	—	—	0.0	0.0	0.00000	0.000				
		H	5	3	0	—	—	—	—	—	—	0.0	0.0	0.00000	0.000				
Initials		JZ JZ JZ JZ JZ JZ JZ JZ								Date Tare Dry Weights: 12/17		Initials: AH							
Time		1330 1229 1224 1339 1215 1750 1219 1006								Date Final Dry Weights: 12/19		Initials: AH							
Randomization Template #	Feeding Type:	Artemia (150-nauplii/shrimp/day)								Notes & Comments									
	Amount:	1-drop of a concentrated slurry / 2x / day																	
	Morning:	700 699 600 700 715 710 705																	
	Evening:	1630 1545 1600 1600 1700 2200 1600																	
	Other:																		

Optional Test Endpoints

① 3-JZ 12/17

Photoperiod is 16-hours light and 8-hours dark, Illumination is ambient (50 to 100 fcd)



# CETIS Analytical Report

Report Date: 11 Dec-20 13:36 (p 1 of 1)  
Test Code/ID: DEC20 MSC / 18-1317-0851

## Mysidopsis 7-d Survival, Growth and Fecundity Test

Hydrosphere Research

Analysis ID: 16-3397-2092 Endpoint: Mean Dry Biomass-mg ✓  
Analyzed: 11 Dec-20 13:36 Analysis: Linear Interpolation (ICPIN) ✓  
Edit Date: 10 Dec-20 13:47 MD5 Hash: 8717CEAEADDE4B6442736E81990BF631  
CETIS Version: CETISv1.9.7  
Status Level: 1  
Editor ID: 002-360-881-3

Batch ID: 13-3799-5477 Test Type: Growth-Survival-Fec (7d) Analyst:  
Start Date: 01 Dec-20 00:03 Protocol: EPA/821/R-02-014 (2002) Diluent: Synthetic Saltwater  
Ending Date: 08 Dec-20 Species: Mysidopsis bahia Brine: Tropic Marin  
Test Length: 7d Taxon: Malacostraca Source: In-House Culture Age:

### Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Log(X+1)	Linear	632016	200	Yes	Two-Point Interpolation

### Point Estimates

Level	µg/L	95% LCL	95% UCL
IC25	145.8 ✓	107.1	161.1

### Mean Dry Biomass-mg Summary

			Calculated Variate							Isotonic Variate	
Conc-µg/L	Code	Count	Mean	Median	Min	Max	CV%	%Effect		Mean	%Effect
0	D	8	0.3112 ✓	0.321	0.244	0.36	12.79%	0.00%		0.313	0.00%
31.25		8	0.3147 ✓	0.313	0.25	0.378	12.79%	-1.12%		0.313	0.00%
62.5		8	0.3045 ✓	0.314	0.204	0.39	18.46%	2.17%		0.3045	2.72%
125		7	0.2646 ✓	0.286	0.186	0.312	18.11%	15.00%		0.2646	15.47%
250		8	0.1303 ✓	0.148	0.072	0.174	33.31%	58.15%		0.1303	58.39%
500		8	0 ✓	0	0	0	---	100.00%		0	100.00%

### Mean Dry Biomass-mg Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8
0	D	0.34	0.342	0.244	0.31	0.29	0.332	0.36	0.272
31.25		0.354	0.316	0.31	0.33	0.378	0.25	0.282	0.298
62.5		0.318	0.336	0.204	0.39	0.31	0.308	0.248	0.322
125		0.244	0.302	---	0.3	0.186	0.222	0.286	0.312
250		0.164	0.162	0.072	0.086	0.168	0.134	0.082	0.174
500		0	0	0	0	0	0	0	0

**SRT for the Month of (circle one):**

 Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov **Dec**
**Species:** *Mysidopsis bahia*
**ID #:** 1146

**Initiation Date:** 12/1/20

**Termination Date:** 12/8/20

**Toxicant (desiccated):** Cu<sup>2+</sup>
**Stock Solution (Concentration):** 0.1-gm Cu<sup>2+</sup> / Liter

**Test Concentration (Units):** gm Cu<sup>2+</sup> / Liter

mLs of Stock / 1.6-Liters	µg/L	pH													
		new		old		new		old		new		old		new	
		0	1	2	3	4	5	6	7	0	1	2	3	4	5
Control	0	7.9	7.9	8.0	7.9	7.9	7.9	8.0	7.9	7.9	7.8	7.9	7.8	8.0	7.8
0.5	31.25	7.9	7.9	8.0	7.9	7.9	7.9	8.0	7.9	7.9	7.9	7.8	8.0	7.9	7.9
1	62.5	7.9	7.9	8.0	7.9	7.9	7.9	8.0	7.9	8.0	7.8	8.0	7.9	7.9	7.9
2	125	7.9	8.0	8.0	7.9	7.9	7.9	8.0	7.9	8.0	7.9	8.0	7.9	7.9	7.9
4	250	8.0	8.0	8.0	7.9	7.9	7.9	8.0	7.9	8.0	8.0	7.9	8.0	8.0	8.0
8	500	8.0	8.0	8.0	7.9	7.9	7.9	8.0	8.0	8.0	8.0	7.9	8.0	8.0	8.0
Meter ID:		21	17	17	17	17	17	23	23	21	21	17	17	17	17
Day:		0	1	2	3	4	5	6	7						
Stock Solution ID (SLN):		20497	20497	20497	20497	20497	20497	20497	20497	—					
Dilution ID:		5177	5180	5180	5180	5186	5187	5187	5187	—					
Initials:		AD	JZ	JZ	JZ	JZ	JZ	KS	KS	DD	DD	SE	SE	SE	SE
Time:		1035	1201	1226	1210	1228	1227	1212	1215	1225	1230	1250	1207	1208	1245

Dissolved Oxygen (mg/L)													
new		old		new		old		new		old		new	
0	1	2	3	4	5	6	7	0	1	2	3	4	5
7.7	5.8	6.3	5.6	6.4	5.7	6.6	7.2	6.4	7.4	5.8	6.1	5.8	5.8
7.7	6.0	6.6	5.8	6.6	5.9	6.9	7.4	6.4	7.5	6.0	6.9	6.0	6.0
7.7	6.0	6.7	5.9	6.7	6.0	7.0	7.4	6.4	7.5	6.0	7.0	6.1	6.1
7.7	6.1	6.6	5.9	6.6	6.1	7.1	7.4	6.5	7.5	6.0	7.0	6.2	6.2
7.7	6.1	6.9	6.0	6.9	6.0	7.2	7.4	6.6	7.5	6.1	7.1	6.4	6.4
7.8	6.2	7.0	6.0	6.9	6.1	7.2	7.4	6.8	7.5	6.2	7.3	6.3	6.3
15	17	17	17	17	17	17	10	10	15	15	17	17	17

**Notes & Comments**

① DO 12/1 ② 6.7 DO 12/6



**SRT for the Month of (circle one):**  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

**Species:** Mysidopsis bahia

**ID #:** 1146

**Initiation Date:** 12/1/20 **Termination Date:** 12/8/20

**Toxicant (desiccated):** Cu<sup>2+</sup>

**Stock Solution (Concentration):** 0.1-gm Cu<sup>2+</sup> / Liter

**Test Concentration (Units):** gm Cu<sup>2+</sup> / Liter

mLs of Stock / 1.6-Liters	µg/L	Salinity (‰)													
		Measured in each new sample and control													
		0	1	2	3	4	5	6	7						
Control	0	20.2	21.6	19.3	21.5	19.2	21.1	19.2	21.5	19.8	22.9	20.1	21.7	19.6	21.2
0.5	31.25	20.3	21.6	19.3	21.2	19.3	20.6	19.3	20.6	20.0	22.6	19.7	21.1	19.7	21.4
1	62.5	20.4	22.4	19.3	21.4	19.3	20.6	19.3	21.0	20.1	22.5	19.7	21.0	19.7	21.3
2	125	20.4	22.3	19.3	21.8	19.3	20.5	19.3	20.4	20.1	22.8	19.7	21.3	19.7	20.9
4	250	20.4	22.3	19.2	22.1	19.2	21.4	19.2	20.4	20.1	22.5	19.6	20.8	19.7	21.5
8	500	20.4	21.8	19.2	21.8	19.2	20.7	19.2	19.6	20.1	22.7	19.7	21.1	19.6	21.4
Meter ID:		21	21	21	21	21	21	21	23	23	21	21	21	21	21
Day:		0	1	2	3	4	5	6	7						
Stock Solution ID (SLN):		20497	20497	20497	20497	20497	20497	20497	20497	20497	20497	20497	20497	20497	—
Dilution ID:		5117	5180	5180	5180	5180	5180	5180	5180	5180	5180	5180	5180	5180	—
Initials:		(N)	52	52	52	52	52	52	52	52	52	52	52	52	52
Time:		1035	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200

Temperature (°C)							
Measured at the end of each 24-h exposure period							
0	1	2	3	4	5	6	7
25.7	25.9	26.1	26.0	26.2	26.1	25.4	
25.4	25.7	25.8	26.0	26.4	26.2	25.6	
25.7	26.0	26.1	26.0	26.2	26.0	25.7	
25.9	25.9	25.9	25.9	26.2	26.1	25.4	
25.8	25.4	26.0	25.9	26.2	26.1	25.9	
25.9	25.9	26.0	25.8	26.1	26.0	25.5	
352	352	352	57	352	352	352	

**Notes & Comments**

① 25.8 - JZ 12/4

② 5186 - KS 12/5

③ 352 00 12/6



SRT for the Month of (circle one):

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov **Dec**

Species: Menidia beryllina Code: SS

ID #: 11470 Age: 10d

Control Water: SSW

ID #: see "water quality"

Test Vessel: Plastic Cup (DM32)

Test Volume: 500-mL / rep.

Initiation Date: 12/1/20

Termination Date: 12/8/20

Toxicant (desiccated): Cu<sup>2+</sup>

Stock Solution (Concentration): 0.1-gm Cu<sup>2+</sup> / Liter

Test Concentration (Units): gm Cu<sup>2+</sup> / Liter

Solution	µg/L	R E P	Live Counts							
			T	W	R	F	Sat	Sun	M	4
Control	0	A	10	10	10	10	10	10	10	10
		B	10	10	10	10	10	10	10	10
		C	10	10	10	10	10	10	10	10
		D	10	10	10	10	10	10	10	10
Cu <sup>2+</sup>	31.25	A	10	10	10	10	10	10	10	10
		B	10	10	9	9	9	9	9	9
		C	10	10	10	10	10	10	10	10
		D	10	10	10	10	10	10	10	10
Cu <sup>2+</sup>	62.5	A	10	10	10	10	10	10	10	10
		B	10	10	10	10	10	10	10	10
		C	10	10	10	10	10	10	10	10
		D	10	10	10	10	10	10	10	10
Cu <sup>2+</sup>	125	A	10	10	10	10	10	10	10	10
		B	10	10	10	10	10	10	10	10
		C	10	10	10	10	10	10	10	10
		D	10	9	9	9	9	9	9	9
Cu <sup>2+</sup>	250	A	10	8 <sup>2</sup>	8 <sup>2</sup>	8	8	8	8	8
		B	10	10	8 <sup>2</sup>	8	8	8	8	8
		C	10	8 <sup>2</sup>	7 <sup>1</sup>	7	7	7	6 <sup>1</sup>	6
		D	10	9 <sup>1</sup>	5 <sup>4</sup>	5	5	5	5	5
Cu <sup>2+</sup>	500	A	10	2 <sup>8</sup>	02	—	—	—	—	—
		B	10	5 <sup>5</sup>	3 <sup>2</sup>	1 <sup>2</sup>	1	1	1	1
		C	10	5 <sup>5</sup>	1 <sup>4</sup>	1	1	1	1	1
		D	10	4 <sup>6</sup>	0 <sup>4</sup>	—	—	—	—	—

Growth (original number, final dry weight basis)				
Pan #	Tare Weight (0.00001-gms)	Total Weight (0.00001-gms)	Net Weight (0.00001-gms)	Wt. / Fish (0.001-mgs)
143	1.09616	1.16198	0.00582	0.582
144	1.09555	1.10300	0.00745	0.745
145	1.09056	1.09656	0.00600	0.600
146	1.08028	1.08836	0.00808	0.808
149	1.09571	1.10371	0.00800	0.800
150	1.07923	1.08827	0.00904	0.904
151	1.07734	1.08523	0.00789	0.789
152	1.07842	1.08625	0.00783	0.783
153	1.08946	1.09662	0.00716	0.716
154	1.09169	1.10053	0.00884	0.884
155	1.08895	1.09513	0.00618	0.618
156	1.09007	1.09866	0.00859	0.859
157	1.08527	1.09302	0.00775	0.775
158	1.08944	1.09707	0.00763	0.763
159	1.10365	1.11088	0.00723	0.723
160	1.07878	1.08655	0.00777	0.777
161	1.07558	1.08302	0.00744	0.744
162	1.06812	1.07510	0.00692	0.692
163	1.08492	1.09158	0.00666	0.666
164	1.08056	1.08510	0.00454	0.454
—	—	—	0.00000	0.000
165	1.06603	1.06626	0.00023	0.023
166	1.09938	1.09964	0.00026	0.026
—	—	—	0.00000	0.000

Initials: KS JZ JZ SE KS AD JZ JZ

Time: 1540 1055 1100 923 1235 1710 1046 937

Randomization Template #	Artemia							
	Feeding Type:							
	Amount:							
	Mo ring:							
	Noon (if needed):							
	Evening:	1650	1545	1611	1600	1700	1755	1600

Date Tare Dry Weights:	<u>1217</u>	Initials:	<u>HH</u>
Date Final Dry Weights:	<u>1219</u>	Initials:	<u>HH</u>

## Notes &amp; Comments

1149 - KS 12/1/20

Photoperiod is 16-hours light and 8-hours dark, Illumination is ambient (50 to 100 fcd)

② see Artemia SOP for feeding preparation, section 5.3.B.7.b

# CETIS Analytical Report

Report Date: 10 Dec-20 13:47 (p 1 of 1)  
Test Code/ID: DEC20 SSC / 15-4657-4888

## Inland Silverside 7-d Larval Survival and Growth Test

Hydrosphere Research

Analysis ID: 09-2622-5357      Endpoint: Mean Dry Biomass-mg      CETIS Version: CETISv1.9.7  
Analyzed: 10 Dec-20 13:47      Analysis: Linear Interpolation (ICPIN)      Status Level: 1  
Edit Date: 10 Dec-20 13:46      MD5 Hash: 3AE608D237898D06A650025B1875BE31      Editor ID: 002-360-881-3

### Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	1240834	200	Yes	Two-Point Interpolation

### Test Acceptability Criteria

		TAC Limits		Overlap	Decision
Attribute	Test Stat	Lower	Upper		
Control Resp	0.6838	0.5	>>	Yes	Passes Criteria

### Point Estimates

Level	µg/L	95% LCL	95% UCL
IC25	273.3	186.5	319.2

### Mean Dry Biomass-mg Summary

			Calculated Variate						Isotonic Variate	
Conc-µg/L	Code	Count	Mean	Median	Min	Max	CV%	%Effect	Mean	%Effect
0	D	4	0.6838	0.6725	0.582	0.808	16.15%	0.00%	0.774	0.00%
31.25		4	0.819	0.7945	0.783	0.904	6.97%	-19.78%	0.774	0.00%
62.5		4	0.8193	0.8385	0.716	0.884	9.04%	-19.82%	0.774	0.00%
125		4	0.7595	0.769	0.723	0.777	3.30%	-11.08%	0.7595	1.87%
250		4	0.639	0.679	0.454	0.744	19.96%	6.54%	0.639	17.44%
500		4	0.01225	0.0115	0	0.026	115.90%	98.21%	0.01225	98.42%

### Mean Dry Biomass-mg Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	D	0.582	0.745	0.6	0.808
31.25		0.8	0.904	0.789	0.783
62.5		0.716	0.884	0.818	0.859
125		0.775	0.763	0.723	0.777
250		0.744	0.692	0.666	0.454
500		0	0.023	0.026	0


**SRT for the Month of (circle one):**

 Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov **Dec**
**Species:** *Menidia beryllina*
**ID #:** 1149

**Initiation Date:** 12/1/20

**Termination Date:** 12/8/20

**Toxicant (desiccated):** Cu<sup>2+</sup>
**Stock Solution (Concentration):** 0.1-gm Cu<sup>2+</sup> / Liter

**Test Concentration (Units):** gm Cu<sup>2+</sup> / Liter

mLs of Stock / 2-Liters	µg/L	pH													
		new		old		new		old		new		old		new	
		0	1	2	3	4	5	6	7	0	1	2	3	4	5
Control	0	7.9	7.8	8.0	7.7	7.9	7.6	8.0	7.6	7.9	7.7	7.9	7.6	8.0	7.6
0.625	31.25	7.9	7.8	8.0	7.8	7.9	7.7	8.0	7.7	7.9	7.8	7.9	7.7	8.0	7.7
1.25	62.5	7.9	7.9	8.0	7.8	7.9	7.8	8.0	7.7	8.0	7.8	8.0	7.7	8.0	7.8
2.5	125	7.9	7.9	8.0	7.9	7.9	7.8	8.0	7.7	8.0	7.8	8.0	7.8	8.0	7.8
5	250	8.0	7.9	8.0	7.9	7.9	7.8	8.0	7.8	8.0	7.9	8.0	7.8	8.0	7.8
10	500	8.0	7.9	8.0	7.9	7.9	7.8	8.0	7.8	8.0	7.9	8.0	7.8	8.0	7.9
<b>Meter ID:</b>		21	17	17	17	17	17	23	23	21	21	17	17	17	17
<b>Day:</b>		0	1	2	3	4	5	6	7						
<b>Stock Solution ID (SLN):</b>		20497	20497	20497	20497	20497	20497	20497	20497	—					
<b>Dilution ID:</b>		5177	5180	5180	5180	5186	5187	5187	5187	—					
<b>Initials:</b>		DD	JZ	JZ	JZ	JZ	JZ	KS	KS	DD	DD	JZ	JZ	JZ	JZ
<b>Time:</b>		1040	1033	926	1036	729	910	712	1035	825		1035	904	914	

Dissolved Oxygen (mg/L)													
new		old		new		old		new		old		new	
0	1	2	3	4	5	6	7	0	1	2	3	4	5
7.7	6.0	6.3	5.8	6.4	5.7	6.9	6.0	7.4	5.7	6.9	5.8	6.0	5.8
7.7	6.1	6.6	5.9	6.6	5.7	6.9	6.1	7.4	5.9	7.5	5.8	6.9	5.8
7.7	6.2	6.7	6.0	6.7	5.8	7.0	6.1	7.4	6.1	7.5	5.8	7.0	5.8
7.7	6.2	6.8	6.0	6.8	5.9	7.1	6.2	7.4	6.2	7.5	5.9	7.0	5.7
7.7	6.3	6.9	6.1	6.9	5.9	7.2	6.1	7.4	6.2	7.5	5.9	7.1	5.8
7.8	6.3	7.0	6.2	6.9	6.0	7.2	6.5	7.4	6.6	7.5	6.0	7.3	5.9
15	17	17	17	17	17	17	10	10	15	15	17	17	17

**Notes & Comments**

① 7.2 - KS 12/5





	<b>SRT for the Month of (circle one):</b> Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov <u>Dec</u>											
<b>Species:</b> <u>Menidia beryllina</u>												
<b>ID #:</b> <u>1149</u>												

<b>Initiation Date:</b> <u>12/1/20</u>	<b>Termination Date:</b> <u>12/8/20</u>
<b>Toxicant (desiccated):</b> <u>Cu<sup>2+</sup></u>	
<b>Stock Solution (Concentration):</b> <u>0.1-gm Cu<sup>2+</sup> / Liter</u>	
<b>Test Concentration (Units):</b> <u>gm Cu<sup>2+</sup> / Liter</u>	

mLs of Stock / 2-Liters	µg/L	Salinity (‰)													
		Measured in each new sample and control													
		0	1	2	3	4	5	6	7						
Control	0	20.2	21.3	19.3	20.2	19.2	19.7	19.2	19.7	19.8	21.2	20.1	20.6	19.6	20.2
0.625	31.25	20.3	21.1	19.3	20.3	19.3	19.9	19.3	19.7	20.0	20.2	19.7	20.1	19.7	19.9
1.25	62.5	20.4	21.1	19.3	19.5	19.3	19.9	19.3	19.8	20.1	21.1	19.7	20.1	19.7	20.1
2.5	125	20.4	21.1	19.3	20.6	19.3	20.0	19.3	20.3	20.1	21.1	19.7	20.1	19.7	20.1
5	250	20.4	21.1	19.2	20.3	19.2	19.9	19.2	19.6	20.1	21.0	19.6	20.1	19.7	20.3
10	500	20.4	21.1	19.2	20.0	19.2	19.9	19.2	19.6	20.1	21.1	19.7	20.0	19.6	20.3
Meter ID:		21	21	21	21	21	21	21	23	23	25	21	21	21	21
Day:		0	1	2	3	4	5	6	7						
Stock Solution ID (SLN):		20497	20497	20497	20497	20497	20497	20497	20497	20497	20497	20497	20497	20497	—
Dilution ID:		5177	5180	5180	5180	5180	5186	5187	5187	5187	5187	5187	5187	5187	—
Initials:		BO	JE	JE	JE	JE	KS	BO	JE	JE	JE	JE	JE	JE	JE
Time:		1035	825	827	711	825	1520	807	912						

Temperature (°C)							
Measured at the end of each 24-h exposure period							
0	1	2	3	4	5	6	7
24.9	25.3	24.9	24.6	24.8	24.9	24.5	
24.9	24.8	25.1	24.6	24.6	25.1	24.3	
24.9	25.2	25.0	24.7	24.6	25.0	24.7	
24.9	24.9	24.8	24.8	24.6	24.8	24.1	
24.5	24.8	24.7	24.7	24.7	24.7	24.1	
24.4	24.7	24.9	24.8	24.8	24.8	24.2	
35.2	35.2	35.2	35.2	35.2	35.2	35.2	35.2

**Notes & Comments**

# **FY 2021 WASTEWATER COLLECTION AND TREATMENT FACILITY PLAN**

**Permit No. FL0020247**

Prepared for  
**CITY OF NEPTUNE BEACH, FLORIDA**



Prepared By:

**J. Collins Engineering Associates, LLC**  
**(Wastewater Treatment Facilities)**



**JCEA**

**&**

**City of Neptune Beach, FL**

**Public Works**

**(Wastewater Collection)**

**December 2020**

Responsible for Wastewater Treatment Facilities

---

John E. Collins, Jr., P.E.

Date

Seal:

Responsible for Wastewater Collection System

---

David J. Bolam, P.E.

Date

Seal:

On behalf of City of Neptune Beach, FL

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## 2 SUMMARY OF FINDINGS AND RECOMMENDATIONS

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This Facility Plan was prepared by J. Collins Engineering Associates, LLC for the City of Neptune Beach in the area of Wastewater Treatment and by City of Neptune Beach in the area of Wastewater Collection to meet the requirements of the state of Florida “Clean Water State Revolving Fund” (SRF) program for wastewater systems. The area considered in preparing this plan includes the City of Neptune Beach. The planning period extends through the year 2040. This facilities plan addresses the need of the planning area in the year 2040.

The estimated population for Neptune Beach in 2019 was 7,259 per the U.S. Census Bureau. The City serves the area within the municipal boundaries with water treatment and distribution, wastewater collection and treatment as well as stormwater collection. The planning area for this Facilities Plan includes all the area within the municipal boundaries.

The City of Neptune Beach wastewater collection system and treatment facility serves the citizens and businesses within the city limits, approximately 2.5 square miles (land area). The treated effluent from the plant is disposed of through an effluent force main (shared by the cities of Jacksonville Beach and Atlantic Beach) to the Lower St. Johns River, near the mouth of the river at Shermans Point. The receiving stream is classified as Class III Marine Waters, WBID 2213A-within the National Preserve.

The recommendations included in this plan are consistent with the City’s Local Comprehensive Plan.

### 2.1 WASTEWATER TREATMENT IMPROVEMENTS

The existing treatment plant is not adequate to serve the planning year needs. The City is currently under FDEP Consent Order No. 20-0773 for failure to meet the Total Nitrogen (TN) limits for the Total Maximum Daily Load (TMDL) for the Lower St. Johns River. Improvements to the wastewater treatment facility (WWTF) are needed to consistently meet the TN limit. Also, the plant must be expanded to meet future expected flows.

The WWTF consists of two treatment plants, served by a common influent system and a common disinfection and effluent disposal system—an Integrated Fixed-Film Activated Sludge (IFAS) Plant (Plant #1) and a Package Plant (Plant #2). Two separate influent pump stations pump flow to the two plants:

- Plant #1 is a 0.8 MGD AADF design flow Integrated Fixed-Film Activated Sludge (IFAS) plant.
- Plant #2 is a Package Plant capable of being operated in three different modes:
  - ☐ 0.235 MGD Extended Aeration mode
  - ☐ 0.45 MGD Modified Ludzack-Ettinger (MLE) mode

□ 0.6 MGD Contact Stabilization (EMERGENCY OPERATION ONLY)

Per the FDEP Permit, due to nutrient removal capabilities of the two plants, only the Extended Aeration mode of Plant #2 is currently permitted, thus limiting the total facility flow to no more than 1.035 MGD AADF.

FDEP Permit - For the combined Beaches outfall, the permit allows the City to discharge up to 1.50 MGD annual average daily flow of final treated effluent to St. Johns River (Class III Marine Water, WBID 2213A- within the National Preserve) at Sherman Point. The permitted capacity of the facility will be limited to 1.035 MGD AADF (Plant #1: 0.8 MGD, IFAS + Plant #2: 0.235 MGD, Extended Aeration Process) or 1.250 MGD AADF (Plant #1: 0.8 MGD, IFAS + Plant #2, Modified Ludzick- Ettiger Process) due to the nutrient removal capacities of the combined treatment facilities.

Recommended improvements to the WWTF include the upgrade of the facility to increase the total treatment capacity to 1.5 MGD. The process options evaluated included IFAS, Membrane BioReactor (MBR), Membrane-Aerated BioReactor (MABR), and Biological Nutrient Removal (BNR). The evaluation included optimization and reuse of existing tankage where possible.

## **2.2 COLLECTION SYSTEM IMPROVEMENTS**

Excessive infiltration/inflow (I/I) in the collection system is intensifying the problems that led to the Consent Order conditions. During high rainfall periods the wastewater flow to the WWTF more than doubles, exceeding the permitted capacity of 1.035 MGD. These I/I incidents also create conditions that make the City vulnerable to sewer overflows. In addition, it is estimated that each high rainfall event costs the City an additional \$86,000 in collection and treatment costs.

In order to improve the system, reduce I/I and sewer overflows, and alleviate operational issues at the WWTF caused by excessive flows during high rainfall periods, 10 projects to improve the sewer collection system are proposed and detailed in the appropriate following section.

The projects include performing a Sewer System Evaluation and Survey (SSES), sewer system and lift station rehabilitation and replacement, new sewer mains, replacing septic tanks with sewer systems, and resolving conflicts with gravity sewer and storm mains.

## **2.3 PROJECT COSTS**

The projected cost of the proposed WWTF improvements is estimated at \$5,994,400. The annual cost (including operation and maintenance cost [O&M] and debt service for the SRF Loan of the capital cost at 3% interest rate\*) for the proposed facilities is \$1,905,492. The details of the WWTF Alternatives and Costs are contained in Section 5.1 of this report.

Costs for the 10 Collection System Projects is detailed in Section 5.2 of this report.

The City operates a combined Water and Sewer Utility Fund. The pledged revenues for debt payments are the water and sewer charges by the Utility. The SRF Loan will be repaid in 40 semi-annual installments.

## **3 INTRODUCTION**

---

### **3.1 BACKGROUND**

This Facilities Plan was prepared for the City of Neptune Beach to meet the requirements of the State Revolving Fund (SRF) loan funding for wastewater systems.

The City of Neptune Beach is primarily a residential beach community with most of the commercial development occurring along Atlantic Blvd. on the north city limit and in the northeast area near the beach. Population within the City is approximately 7,300. The City serves the entire area within the municipal boundaries with water treatment and distribution, wastewater collection and treatment, and stormwater collection. The planning area for this Facilities Plan includes all the area within the municipal boundaries, which includes Census Tract Nos. 140.01 and 140.02.

The City is nearly built out and fully serviced by the wastewater system except for two neighborhoods in the southern portion of the City which still have septic systems. Only one major development is currently planned in Neptune Beach, Saltwater Row, which will include a large retail center and two hotels.

The City of Neptune Beach wastewater collection system and treatment facility serves the citizens and businesses within the city limits, approximately 2.5 square miles. The wastewater collection system consists of approximately 100,000 linear feet of gravity sewer, 470 manholes, 13 pumping stations and associated force mains.

### **3.2 NEED FOR PROJECTS**

**SUMMARY** -The City is currently under a Consent Order for exceedances of the Total Nitrogen TMDL effluent limitation and has hired a consulting engineer to assist the City in preparing a Wastewater Facilities Plan to address the long-range wastewater system needs. In addition, the City has excessive I/I, resulting in more than doubling of plant flows during high rainfall periods.

Under Section 6.4.3, the total funds requested is \$1,929,000 which is the amount included in the Request for Inclusion (RFI) for funding the Planning and Design of necessary improvements in the City's Wastewater Treatment and Collection System.

#### **3.2.1 Wastewater Treatment Facility**

The Neptune Beach WWTF exceeded the permit limit for Total Nitrogen (TN) to meet the TMDL for the Lower St. Johns River multiple times from 2018 through 2020. The

WWTF is now under a **Consent Order, OGC No. 20-0773**. This Consent Order requires the City to take necessary steps to achieve compliance within two years of the effective date of the Order, or by August 11, 2022.

In addition, the **capacity of the plant needs to be expanded** to 1.5 MGD AADF in order to ensure proper treatment and future compliance with the permit limits through the planning period.

### 3.2.1.1 Existing WWTF

The Neptune Beach Wastewater Treatment Plant (WWTP) was first established in the 1950's and has been expanded and upgraded over the years to increase flow capacity and improve effluent quality. Exhibit A shows an aerial view of the facility.



Exhibit A

Incoming wastewater is screened by automatically-cleaned, 3-mm screens and passes through a grit removal process before biological treatment by two parallel treatment trains:

1. Plant #1: A 0.8 million gallon per day (MGD) Integrated Fixed-Film Activated Sludge (IFAS) plant, developed in 2011 in response to Total Maximum Discharge Limits (TMDL) regulations that limit the amount of Total Nitrogen (TN) and Total Phosphorus (TP) that can be discharged.
2. Plant 2: A 0.235 MGD extended aeration activated sludge "Package Plant" that provides limited TN removal.

Effluents from the biological treatment trains are combined, filtered and disinfected. Effluent that is not reused is pumped via a force main (shared with the City of Atlantic Beach and the City of Jacksonville Beach) and discharged to the St. Johns River.

### 3.2.1.2 Existing WWTF Performance

The Neptune Beach WWTP treated an average flow of 0.76 MGD between August 1, 2019 and July 31, 2020. The maximum allowed TN concentration at this flow rate is 5.8 mg/L.

The TMDL limit for TN is 13,559 pounds per any 12-month period. The TP limit is 4,015 lb./year. The TP limit has been achieved by the existing treatment facilities. However, TN mass exceedances occurred in March, April and May of 2018 and then from May 2019 through April 2020, as shown in Exhibit 2.



Exhibit 2

An analysis of plant operating data shows that the high TN load was due to poor nitrification performance, which in turn resulted from inadequate aeration. In April, 2020 the main IFAS tank was taken out-of-service and emptied. Plant staff discovered that many of the aeration diffusers were covered by sand. The tank was cleaned and returned to service. Aeration performance and nitrogen removal in the combined plants

has improved, but further improvements are needed to achieve reliable long-term performance.

### ***IFAS Media***

IFAS processes use inert, typically plastic, media to provide surface area onto which bacteria attach and grow, forming a “fixed film”. The media allows more biomass to be retained within the system and allows more flow to be treated in a given tank or bioreactor volume.

Examination of the existing media shows that the biomass has filled the media and forms balls, which reduces the amount of bacteria in contact with the wastewater nutrients and dissolved oxygen.

Equipment suppliers have recommended that the media be replaced. The media used at the Neptune Beach WWTP, US Filter’s BioSphere, is no longer available. However, other media having larger openings that allow movement of liquid and dissolved oxygen within the media are available. The City has postponed replacing the media pending final design of the plant improvements.

#### ***3.2.1.3 Flow Analysis***

The hydraulic design of a wastewater treatment plant is critical to ensure that future flows can pass through the facility without overtopping the structures and receive adequate treatment. Some treatment processes, like membrane bioreactors, have limited “turn up” ability to increase flow rates and may be a choke point in the system if insufficient membrane area is provided. Therefore, it is important to analyze historic flows and projected future development to determine the design capacity of the facility.

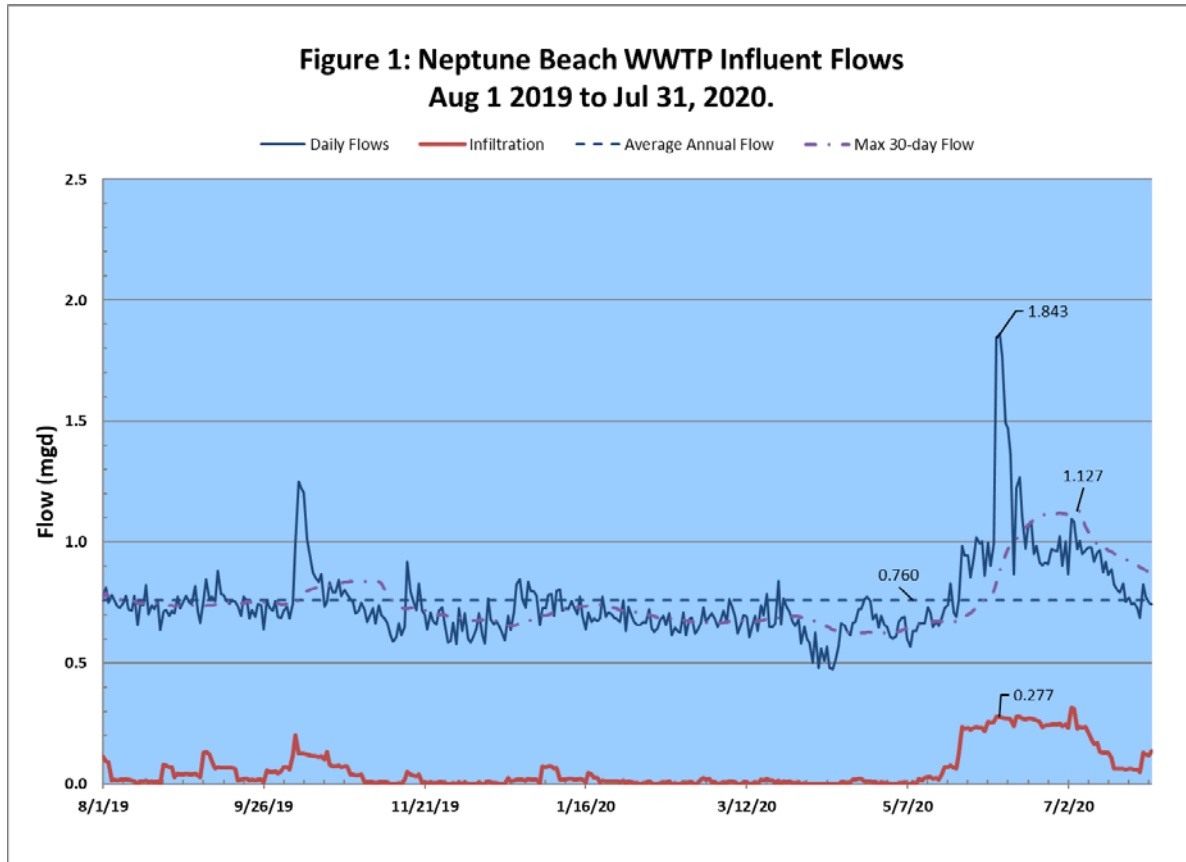
One year of hourly flow measurements, starting on August 1, 2019 and ending on July 31, 2020 were analyzed to determine the following:

1. Current average dry weather, average day, and maximum month flow rates,
2. Diurnal flow pattern for use in BioWin© software, the treatment simulator,
3. An estimate of the amount of infiltration/inflow entering the collection system, and,
4. Assess the impact of plant capacity versus the minimum amount of flow equalization required.

A series of Flow Charts are presented below (Figures 1-4). Figure 1 shows the effluent flow data for this 12-month period. Note this is effluent data, not influent flow data and potentially includes the flow dampening impact of the existing surge basin. It shows a 12-month average flow of 0.76 MGD. The running 30-day average flow is shown and peaks at 1.127 MG on July 2, 2020. The Maximum Day Flow is 1.84 MGD.



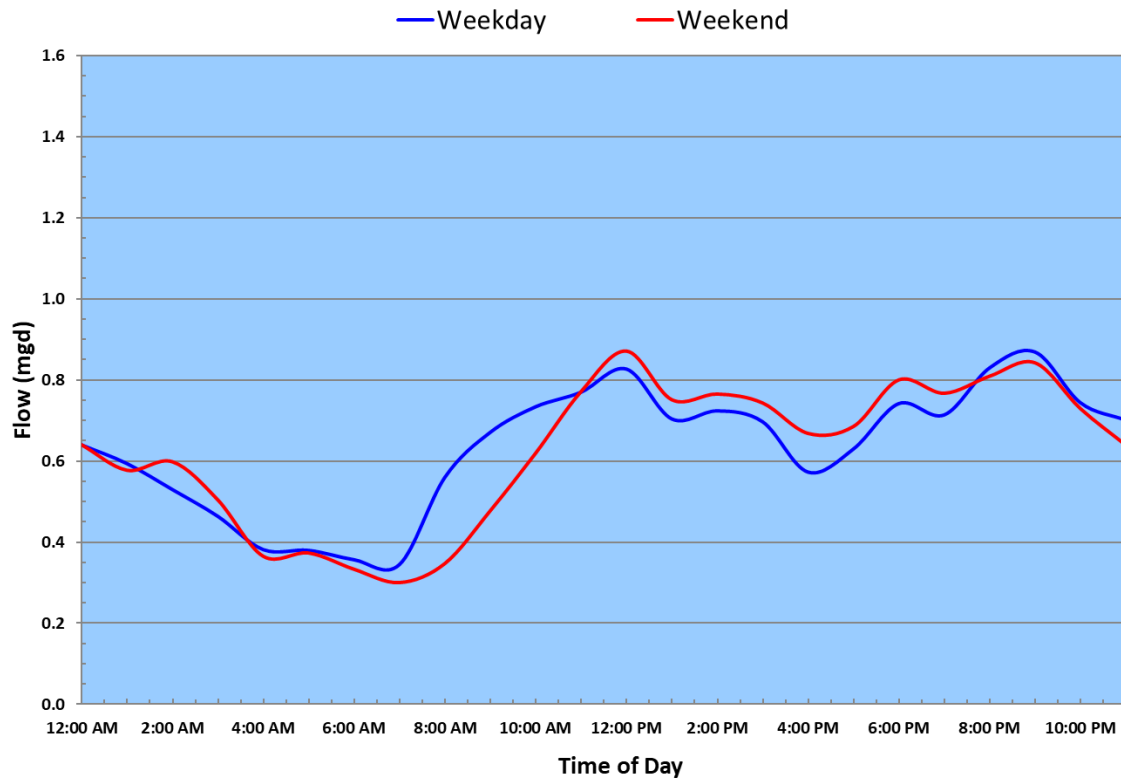
The flow analysis program determines the dry weather flows and then estimates the infiltration into the collection system and additional inflow due to storm events. Figure 1 also shows the estimated infiltration flows. These flows peaked at approximately 0.28 MGD during the high flows received in June and July, 2020.



Flow Chart Figure 2 shows the typical dry-weather diurnal flow patterns for weekdays and weekend days. Minimum flows occur around 6 AM, while the highest flows occur at midday and 8 pm. There is no significant difference between flow patterns on weekdays and weekend days.

Figure 1 shows that the highest sustained flow to the WWTP occurred in early June. Flow Chart Figure 3 shows the period from June 6 to 12, 2020. This figure shows that peak hour flows reached approximately 2.8 MGD. The 24-hour running average shows a maximum flow of 2.1 MGD. The red-dashed line shows the amount of equalization volume required assuming the WWTP can treat/pass a maximum flow of 1.75 MGD. In this case, the equalization volume required is 0.25 million gallons (MG).

**Figure 2: Average Diurnal Patterns (Dry Weather)**



Flow probabilities are shown in Flow Chart Figure 4.

This flow information will be used to determine minimum hydraulic capacity for the upgraded works.

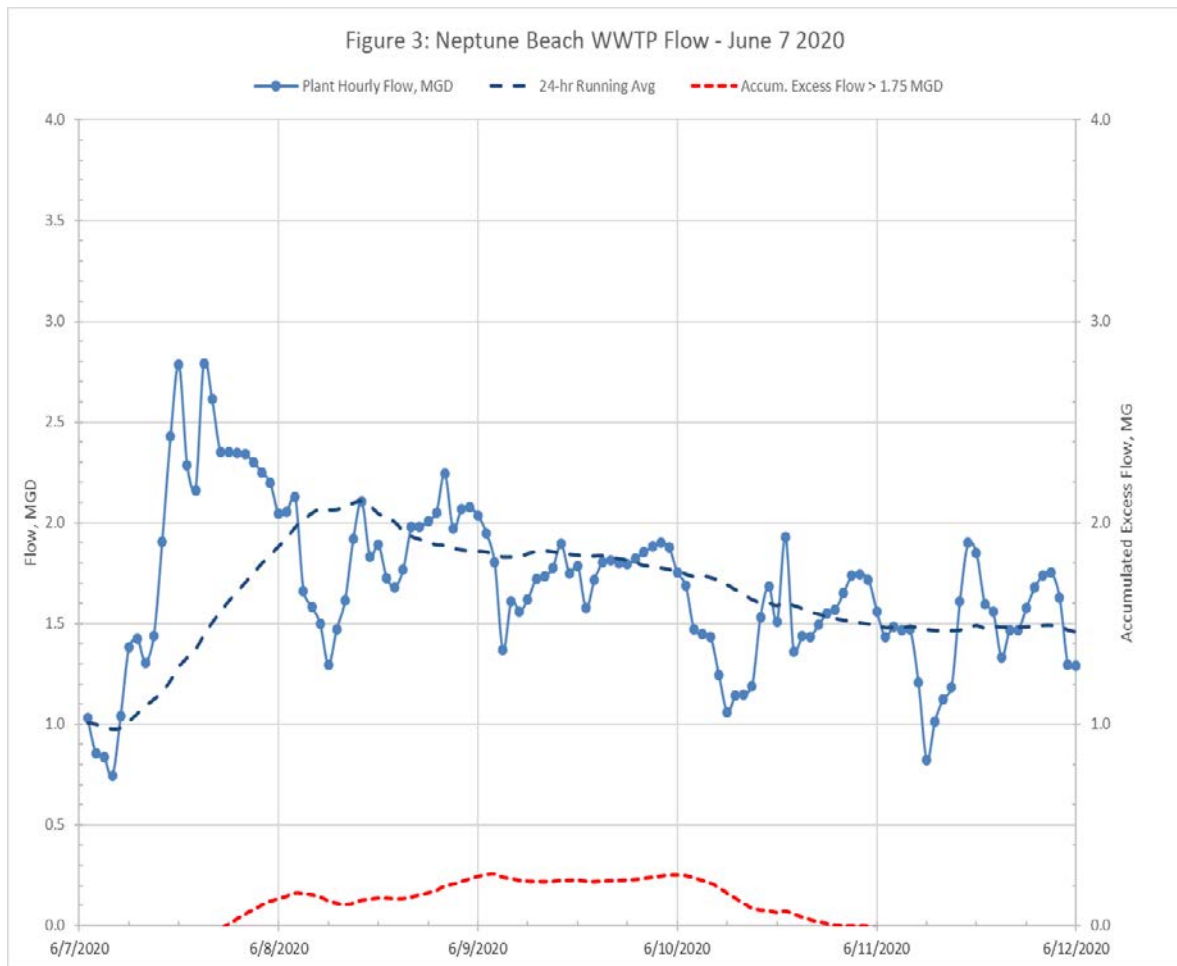
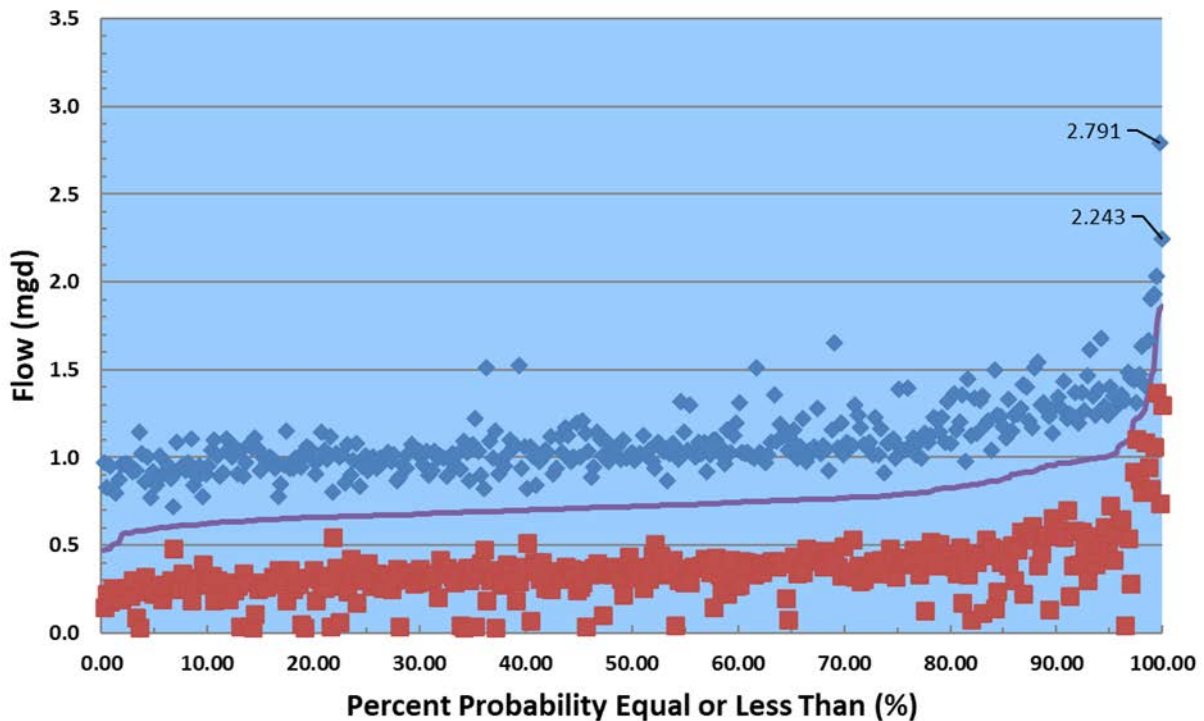


Figure 3 – Hourly Flows During June 7 – June 12 Storm Event.

A daily maximum 24-hr flow of 2.1 was discharged from the plant. The peak 1- hour flow was 1940 gallons per min (gpm) or 2.8 MGD. The ability to treat and pass high peak flows must be considered and incorporated into the selected upgrade project.

Figure 3 also shows that the estimated infiltration during the storm event contributed up to 0.3 MGD. The City of Neptune Beach has a program underway to identify and minimize problems in the collection system.

**Figure 4: Average Daily, Max and Min Flows**



#### **3.2.1.4 Plant Operations**

Plant staff have reported that the plant suffers from severe foaming when the mixed liquor suspended solids (MLSS) concentration, a measure of the amount of biomass in the system, exceeds 2500 mg/L. Consequently, the operators have a MLSS target range of 1800 to 2200 mg/L. Meeting this target range requires removal of a large amount of biosolids, in the form of waste activated sludge (WAS), from the process. Wasting this amount of biosolids overloads the existing aerobic digesters/sludge storage tanks. The low MLSS target also limits the amount of flow that can be treated while maintaining the effluent TN limit.

#### **3.2.1.5 Summary of Existing Plant Performance Issues**

The proposed upgrade work needs to address the following issues:

1. The existing plant exceeded nitrogen limits due to poor aeration and lack of nitrification/denitrification. Accumulating sand in the IFAS tank, which covered the aeration diffusers, was found to be a significant factor limiting nitrogen conversion and removal.
2. The upgrade should address improved grit removal.
  - a. Note that the IFAS tank follows the Pre-Anoxic Tank and accumulation of sand in that tank should be expected.

3. If the IFAS process is to be maintained, the existing media needs to be replaced. The new media should have larger openings to allow better contact and oxygen transfer.
4. The foaming that occurs when MLSS concentrations rise above 2500 mg/L indicate that the system is stressed. It is likely that a larger aerobic zone is needed to provide more stable treatment and the capability to treat higher flows.

Table 1 shows the volumes of each process zone in Plant #1 (IFAS Train).

Table 1: Plant 1 Process Volumes

Process	Volumes, gal	Comment
Pre-Anoxic Zones (2)	2 @ 54,050	Tank is divided into two halves.
IFAS Zone	96,150	These 3 zones are in one structure.
Post-Anoxic Zone	33,280	
Reaeration Zone	10,800	
Clarifiers		
Number	2	
Area/Clarifier, sq ft.	1452	
Total Clarifier Area, sq ft.	2904	
Digester #1	122,000	Assumes SWD of 17 ft.

Table 2 shows the volumes of each compartment in Plant #2 (Package Plant). It is currently configured in a conventional activated sludge mode.

Table 2: Plant 2 Process Volumes

Process	Volumes, gal	Comment
First-Stage Aeration	74,000	First & Second Stages operate as one tank.
Second-Stage Aeration	162,800	
<b>Clarifier</b>		
Number	1	
Clarifier Surface Area, sq ft	990	
Digester #2	118,000	Assumes SWD of 15 ft.

### **3.2.2 Collection System**

Excessive infiltration/inflow (I/I) in the collection system is intensifying the problems that led to the Consent Order conditions. During high rainfall periods the wastewater flow to the WWTF more than doubles, exceeding the permitted capacity of 1.035 MGD. These I/I incidents also create conditions that make the City vulnerable to sewer overflows.

#### **3.2.2.1 Infiltration and Inflow**

Sewers deteriorate with age or corrosion and can allow extraneous water to enter the sewer system in the forms of infiltration and inflow. Infiltration is groundwater that enters through cracks, off-set pipe joints, manhole walls, and other openings. Inflow is rainwater that enters through missing clean-out plugs, submerged manhole covers, and illicit stormwater connections.

##### *Extent of Infiltration and Inflow:*

The overall extent of I/I in the collection system was quantified in 3 ways:

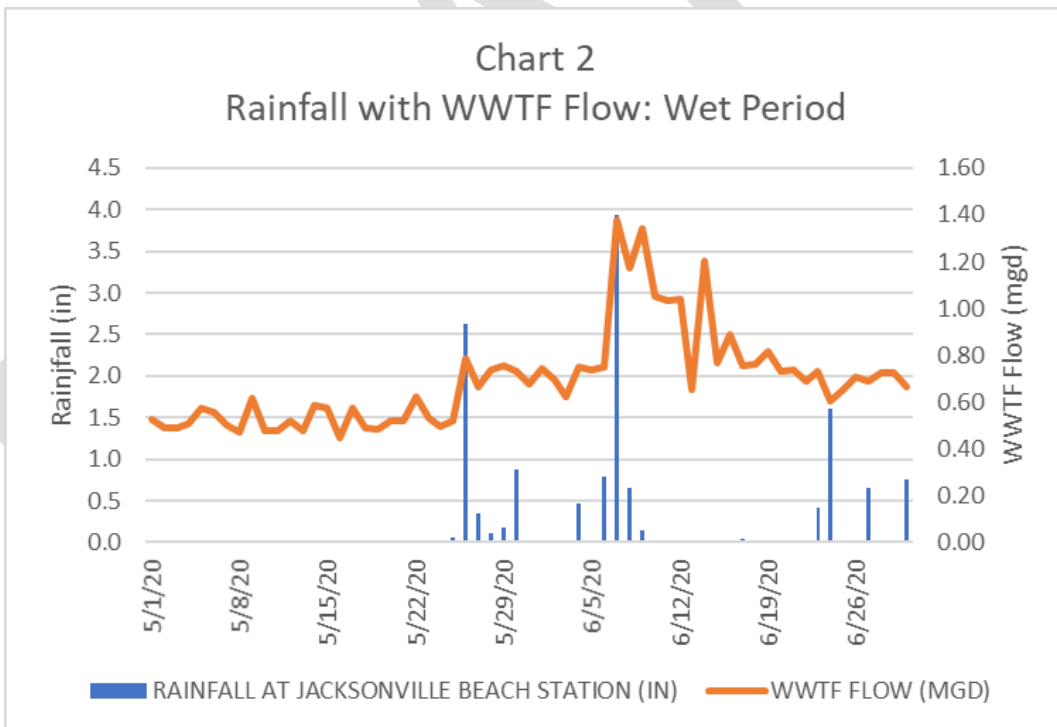
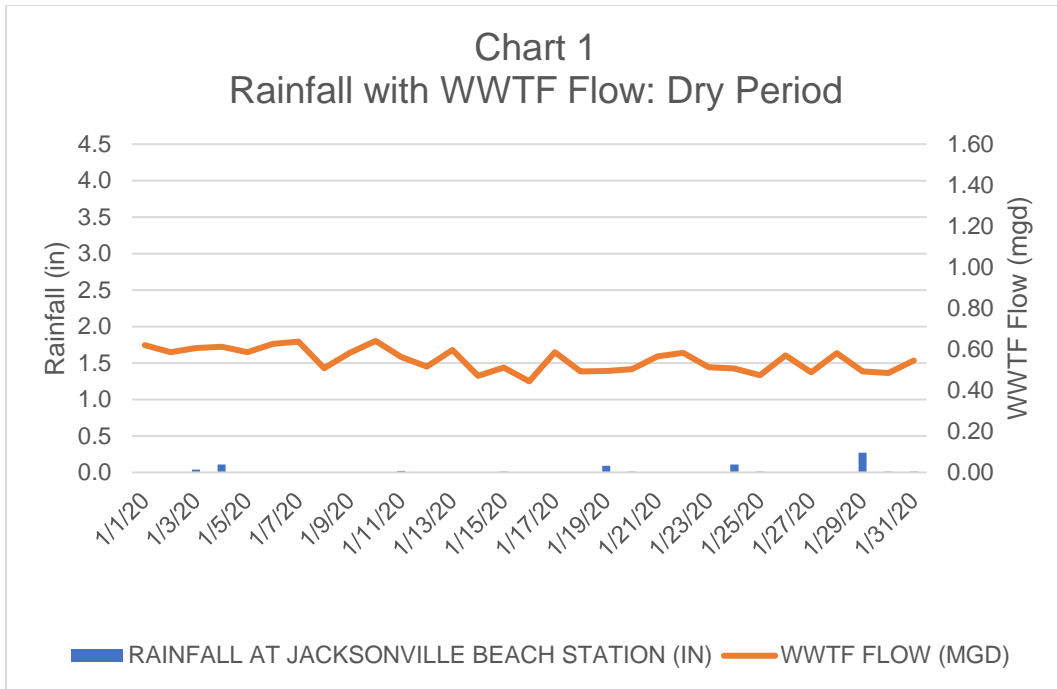
- 1) Wastewater treatment facility flow variations during dry weather month vs. wet weather month
- 2) Wastewater treatment facility inflow per equivalent residential connection (ERC)
- 3) Pump station pumping rate variations during dry weather month vs. wet weather month

As presented in the following sections, each method of evaluation demonstrated a significantly high measure of I/I in the wastewater collection system.

##### ☐ *Wastewater Treatment Facility Flow Variations*

Charts 1 and 2 show the Neptune Beach WWTF flows with rainfall during the dry period of January 2020 and the wet period of June 2020. As shown on these charts, the flow is relatively constant during periods of no rainfall or very low rainfall. When the rainfall increases, the plant flows more than double.





□ *Wastewater Treatment Facility Inflow per ERC*

Table 1 provides the current equivalent ERCs for the Neptune Beach wastewater customers. These equivalent ERCs represent active customers only, vacant customers were not included.

<b>Table 1</b> <b>EQUIVALENT RESIDENTIAL CONNECTIONS FOR SEWER FROM BILLING DEPARTMENT METER COUNTS</b>						
	3/4 inch	1 inch	1.5 inch	2 inch	4 inch	Total
EQUIVALENT ERCs FOR METER SIZE	1	2	5	8	25	
Residential Water	3271	114	17			<b>3402</b>
<b>Residential Sewer</b>	<b>3052</b>	<b>92</b>	<b>1</b>			<b>3145</b>
Commercial Water	168	62	24	30	5	<b>289</b>
Commercial Water no Sewer	2			1		<b>3</b>
<b>Commercial Sewer</b>	<b>166</b>	<b>62</b>	<b>24</b>	<b>29</b>	<b>5</b>	<b>286</b>
<b>Total Residential and Commercial Sewer</b>	<b>3218</b>	<b>154</b>	<b>25</b>	<b>29</b>	<b>5</b>	<b>3431</b>
<b>Equivalent ERCs</b>	<b>3218</b>	<b>308</b>	<b>125</b>	<b>232</b>	<b>125</b>	<b>4008</b>

At a WWTF Average Day Flow of 585,000 gpd for July 2019 through June 2020, the corresponding flow per equivalent ERC was  $585,000 \text{ gpd} / 4008 \text{ ERCs} = 146 \text{ gpd/ERC}$ . In contrast, the Maximum Month flow for the same period, which occurred during the high rainfall month of June 2020, was 827,000 gpd, resulting in a flow per equivalent ERC of 206 gpd/ERC. This represents a significant ERC flow increase during a high rainfall month.

□ *Lift Station Pumping Rate Variations During Wet Weather*

Pumping rate variations within individual lift stations between dry months and wet months provide an indication of I/I for specific areas of the City. Table 2 shows the various pumping rates from each lift station during January 2019, a dry month, and June 2020, a wet month. In addition, the Maximum Day Flow for each pump station is

shown. The Jacksonville Beach NOAA Weather Station recorded a 4-inch rainfall on June 7, 2020, which corresponds to the Maximum Day Flow on almost every lift station on June 8, 2020.

Table 2								
Dry Month and Wet Month Lift Station Pumping Rates								
Lift Station		Pumping Rate (gpd)				Max Day	Avg Flow % Increase	Max Flow % Increase
		Avg Jan 2020	Max Day Jan 2020	Avg June 2020	Max Day June 2020			
1	Fl Blvd	337,000	426,000	458,207	648,000	8-Jun	36.0%	52.1%
1a	1st St	9,380	13,200	13,117	19,200	14-Jun	39.8%	45.5%
2	Bay	13,240	18,000	33,393	75,600	8-Jun	152.2%	320.0%
3	Oceanwood	12,288	16,560	25,324	46,200	10-Jun	106.1%	179.0%
4	Lighty Lane	9,700	13,200	20,379	39,000	8-Jun	110.1%	195.5%
5	5th St	25,200	46,200	29,400	45,000	8-Jun	16.7%	-2.6%
6	Fletcher	11,980	15,000	13,634	27,600	8-Jun	13.8%	84.0%
7	Bal Harbour	4,876	6,463	13,177	51,702	8-Jun	170.2%	700.0%
8	Leeward Landing	15,060	18,901	23,548	46,948	8-Jun	56.4%	148.4%
9	Penman Terrace	12,240	17,400	18,579	27,600	8-Jun	51.8%	58.6%
10	Summer Sands	10,724	13,740	13,661	20,280	8-Jun	27.4%	47.6%
11	Emma	1,939	2,938	1,803	2,938	8-Jun	-7.0%	0.0%
12	Tara	2,845	4,878	3,175	4,878	17-Jun	11.6%	0.0%
	TOTAL	463,627		664,224			43.3%	

As shown on Table 2, almost all lift station pumping rates increased significantly for both Average Day Flow conditions and Maximum Day Flow conditions.

### **3.2.2.2 Cost of Infiltration and Inflow**

Cost for wastewater collection and treatment per thousand gallons for the City of Neptune Beach can be estimated by using the City's wastewater budget and quantity of wastewater collected and treated. The City of Neptune Beach budget for Sewer Services and Construction for Fiscal Year 2019 was \$2,380,099. The annual average day flow at the wastewater treatment plant reported on July 2020 was 0.590 mgd. The equivalent cost per thousand gallons for the City of Neptune Beach is \$11.05 (\$2,380,099 / (590 thousand gallons x 365 days)).

The cost to the City of additional flow caused by I/I can be estimated by comparing the flows on a high rainfall month versus a dry month. In the past year the highest rainfall month was June 2020, resulting in a plant monthly ADF of 0.827 mgd, a total flow of 24.81 million gallons for the month. The lowest rainfall month was January 2020, resulting in a plant monthly ADF of 0.548 mgd, a total flow of 16.99 million gallons for the month. At a cost of \$11.05 / thousand gallons, this additional flow during the high rainfall month results in additional treatment cost to the City for one month of \$86,400.

### **3.3 SCOPE OF PLAN**

The scope of the facilities plan is described below:

- ☐ Inventory existing wastewater facilities, service area characteristics, and environmental conditions.
- ☐ Establish design needs for the planning period.
- ☐ Identify and evaluate various wastewater system alternatives to satisfy the planning year needs.
- ☐ Recommend the most cost-effective, environmentally sound facilities to meet the planning needs.
- ☐ Describe, in detail, the recommended facilities and their cost.
- ☐ Present a schedule of implementation of the recommended facilities.
- ☐ Identify any adverse environmental impacts and propose mitigating measures.
- ☐ Identify a source of financing and estimate the cost per household.

## **4 ENVIRONMENTAL IMPACTS**

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### **4.1 DESCRIPTION OF PLANNING AREA**

#### **4.1.1 Planning/Service/Project Area**

The planning area, service area, and project area are the same. The planning area is contained within the boundaries of the City of Neptune Beach in Duval County, Florida. The City is bounded on the north the City of Atlantic Beach; on the south by the City of Jacksonville Beach, on the west by the Intracoastal Waterway and on the east by the Atlantic Ocean. The surface features include beachfront to the east, residential and commercial properties, some creeks, and wetlands on the western border of the City. The area encompasses Census Tract Nos. 140.01 and 140.02.

The WWTP facility is located at Latitude: 30° 18' 56.07" N Longitude: 81° 25' 12.25" W. The physical address is 2010 Forest Avenue, Jacksonville, Florida 32266 in Duval County.

#### **4.1.2 Climate**

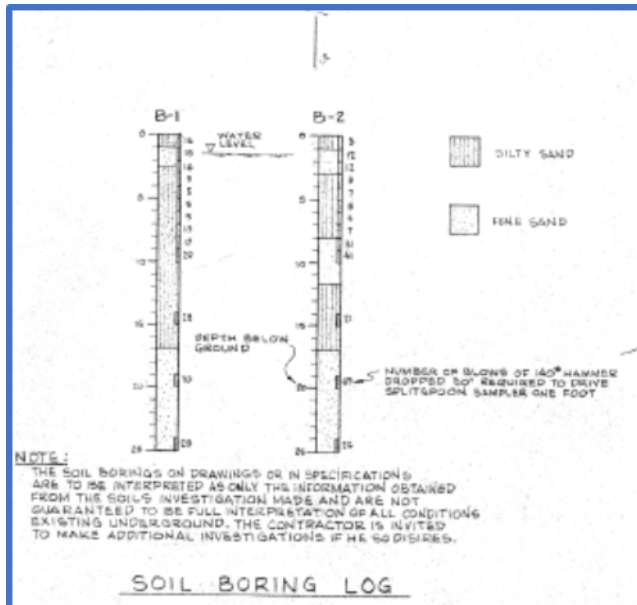
Due to the proximity to the Atlantic Ocean, the area is humid with warm temperatures and is characteristic of long summers and mild winters. According to NOAA National Centers for Environmental information, Climate at a Glance: County Time Series, the average temperature is 68 degrees F, with low temperatures in the 30's in winter and highs reaching the mid to upper 90's in the summer.

The average annual rainfall is approximately 54 inches but has been as high as 70 inches. Per the USDA Soil Survey of Duval County, rainfall is commonly highest in the summer, with 65 percent of the annual total falling from June through October. Rainfalls of more than eight inches may occur during tropical storm or hurricane events.

Prevailing winds are northeasterly in fall/winter and southwesterly in spring/summer. Tropical storms with winds over 74 miles per hour can affect the area any time between June 1 and November 30.

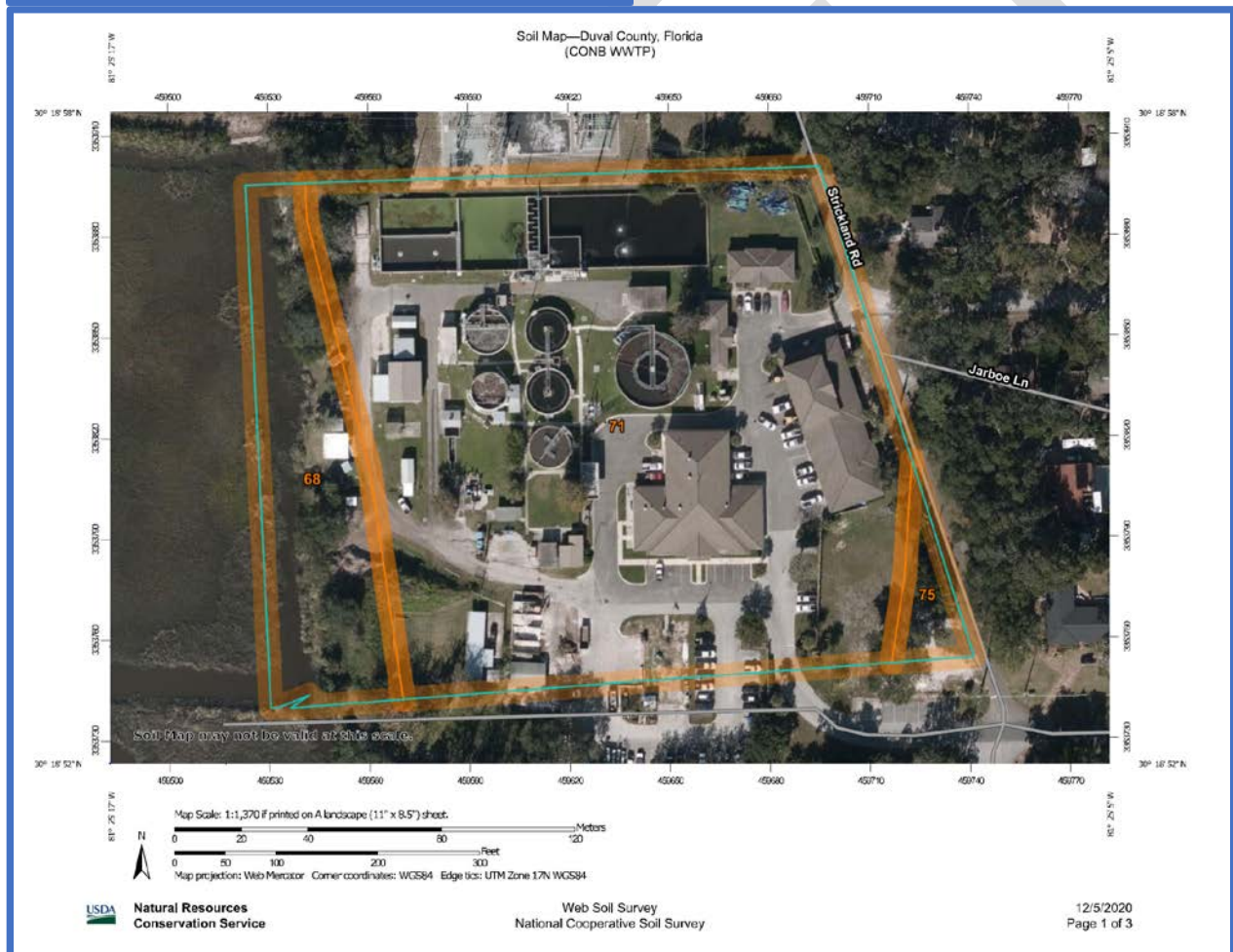
#### **4.1.3 Topography and Drainage**

The topography for the WWTP is relatively flat with about a two-foot drop from the east to the west on the site. Using historical as-built or construction records from when the original plant was constructed in 1970, finish grading across most of the site was 8' through the center of the plant to about 7.5' (note all elevations based on older NGVD29 datum). The east elevation of the WWTP was 9' and one portion of the northwest corner was 7'. The original elevation of the Influent Pump Station was set at Elevation 6.9' and most of the slabs of tanks or structures were set at 8.0'-8.5'.



Soils at the site consist of mainly fine and silty sand. The soil boring log is from historical 1970 construction plans.

USDA Soil Maps (attached below) show the WWTP site has a soil type that is characterized as Urban land – Leon - Boulogne complex with 0 to 2 percent slopes. This is the majority of the site. To the North along the waterway, a small portion of the site is characterized as Tisonia mucky peat, 0 to 1 percent slope and is very frequently flooded. No WWTP equipment is located in this area.





### Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
68	Tisonia mucky peat, 0 to 1 percent slopes, very frequently flooded	1.1	15.9%
71	Urban land-Leon-Boulogne complex, 0 to 2 percent slopes	5.9	81.7%
75	Urban land-Hurricane-Albany complex, 0 to 5 percent slopes	0.2	2.4%
Totals for Area of Interest		7.2	100.0%

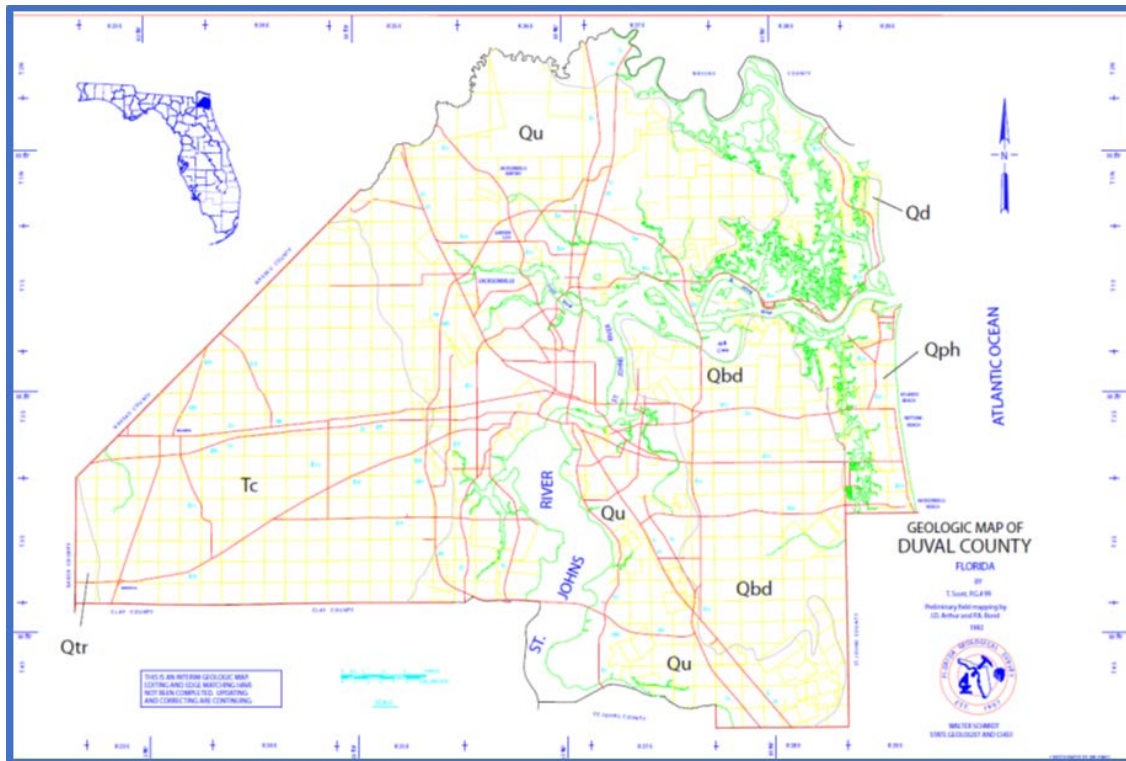
### Geology, Soils, and Physiography

Neptune Beach is one of several towns on San Pablo Island, which stretches through two counties (Duval and St. Johns) and extends from Naval Station Mayport at its northern tip to Vilano Beach in the south, across from St. Augustine.

Soils types have previously been defined in the preceding paragraphs.

Along the coast of Duval County, Neptune Beach's geology is associated with lagoons and coastal rivers and streams referred to as undifferentiated Pleistocene and Holocene coastal deposits (identified as Qph on the attached map). The sediments are composed of sands, silts and clays that sometimes contain varying percentages of organic matter. The sands may contain mica and heavy minerals. The sands are poorly to well sorted depending on the depositional environment. These include beach, marsh and lagoonal sediments which lie on the older undifferentiated Quaternary sediments or Nashua Formation.

The underlying limestone formation in the area is the Floridan Aquifer.



#### 4.1.4 Surface and Groundwater Hydrology

There are no Outstanding Florida Waters in the planning area. All surface waters are designated Class III waters, “suitable for recreation and for propagation of fish and wildlife”. The planning area is located within the Hopkins Creek drainage basin (WBID 2266). The water quality in Hopkins Creek is generally good with the exception of excessive fecal coliform. There are no wild or scenic rivers in the planning area. The public drinking water source is the Floridan Aquifer, with wells at depths ranging from 600 to 1,200 feet.

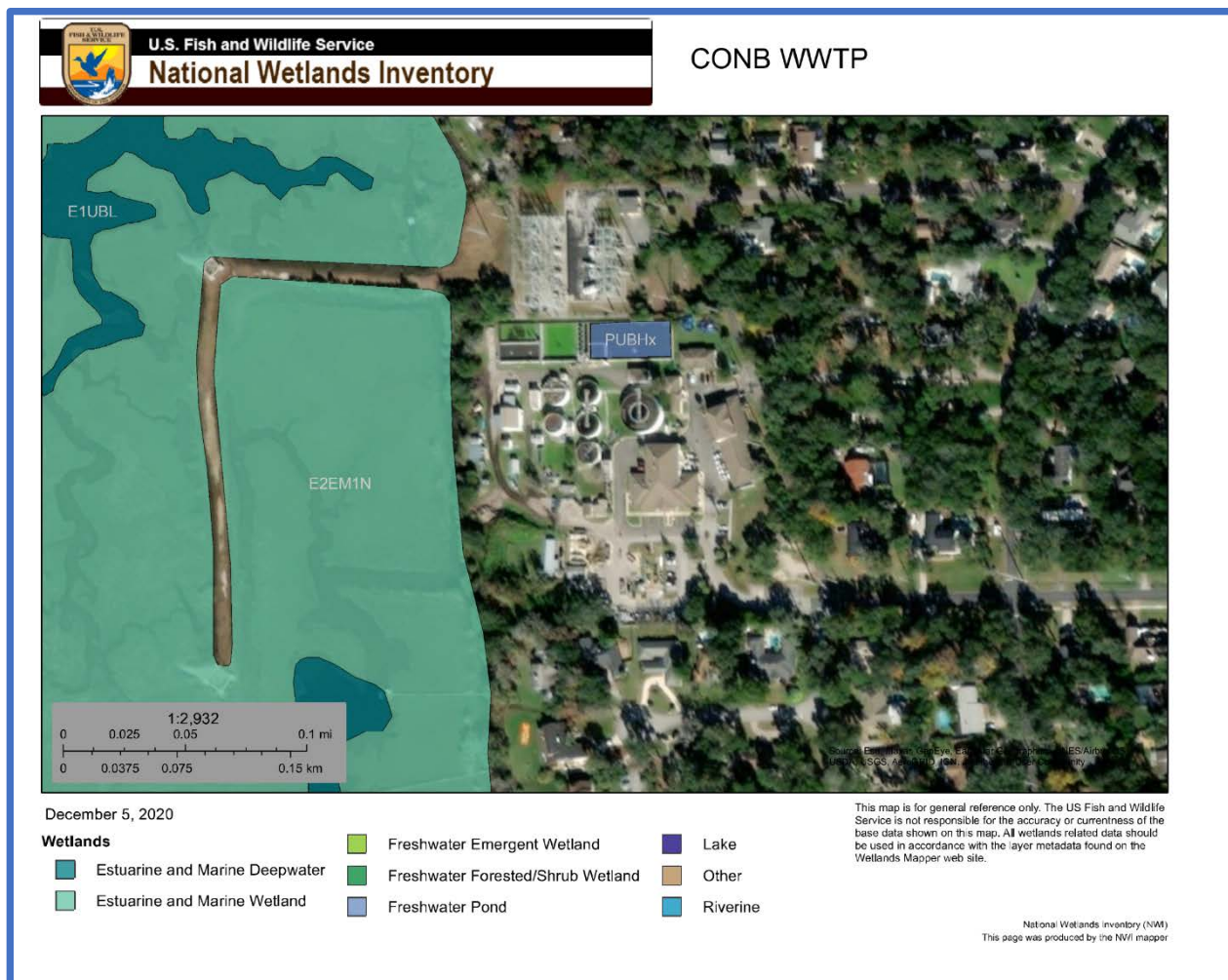
#### 4.1.5 Sourcewater Protection

The Floridan Aquifer is the source for drinking water in Neptune Beach. Water is withdrawn from four (4) wells at depths ranging from 615 to 1,212 feet. FDEP conducted a Source Water Assessment in 2019 as part of their Source Water Assessment and Protection Program. For this community system, a 5-year ground water travel time around each well was used to define the assessment area. The 5-year ground water travel time is defined by the area from which water will drain to a well pumping at the average daily permitted rate for a five-year period of time. The only potential contaminant source was from petroleum storage tanks at the City’s WWTF. These were rated as a Low Concern level.

#### 4.1.6 Environmentally Sensitive Areas or Features

##### 4.1.6.1 Wetlands

According to the U.S. Department of the Interior National Wetland Inventory Map attached below, the WWTP is adjacent to wetlands but none are on the site.



##### 4.1.6.2 Environmentally Sensitive Lands

According to the USDA Natural Resources Conservation Service, there are no prime or unique farmlands in the planning area.

##### 4.1.6.3 Plant and Animal Communities (Endangered Species)

Due to amount of space utilized to construct the wastewater plant and Public Works offices, there is very little dominant type of natural vegetation remaining on the site. Areas not covered with tanks and equipment, building or paving is planted with St Augustine or other local grasses.

Based on the 2008 "STATE OF THE RIVER REPORT FOR THE LOWER ST. JOHNS RIVER BASIN, FLORIDA", there are animals that are protected under the Endangered Species Act of 1973 (Congress 1973). This list is comprised of

three species - the West Indian Manatee, Bald Eagle, and Wood Stork. These animals are considered primary indicators of ecosystem health because of their direct use of the St. Johns River ecosystem. The data available for these species were relatively more robust than data on the also listed shortnose sturgeon, piping plover, Florida scrub-jay, and Eastern indigo snake (although included in past reports, the latter three have not been included in this report). In addition, other endangered or threatened species of interest to the area include the North Atlantic Right Whale and Loggerhead Sea Turtle. However, because these animals are associated with the coastal and offshore boundaries of the LSJRB they are not included in this report.

Due to the WWTP being adjacent to, but not within, the Intracoastal waterway, the manatee is not affected by the current plant operations, nor will they be affected by the new upgrades. While birds sometimes gather at WWTP facilities, they are generally not prevalent at the WWTP site.

Since the site is fully developed and animals/birds and native vegetation are not common to the site, the assessment is that the upgrades at Neptune Beach WWTP will not affect rare, endangered or threatened species of vegetation or animals.

#### **4.1.6.4 Archeological and Historical Sites**

There are no known Conservation Easements to protect historical or archaeological sites located at the Neptune Beach WWTP site. There are no state records (per the Division of Historical Resources of the Florida Department of State) regarding the potential of historical or archaeological sites within the project area. There are also no known national or natural landmarks in the WWTP area.

#### **4.1.7 Flood Plain**

FEMA Flood Map Plate number 12031C0408J shows that the WWTP site lies partially within Flood Zone "AE". The Base Flood Elevation (BFE) for zone AE is elevation 6.00. Approximately 50% of the WWTP site is within Zone AE.

#### **4.1.8 Air Quality**

The air quality in Duval County generally in the Good range according to information from the City of Jacksonville *Environmental Quality Division*. There are no major sources of air emissions permitted by FDEP that lie within the City of Neptune Beach.

### **4.2 SOCIO-ECONOMIC CONDITIONS**

#### **4.2.1 Population**

Population within the City of Neptune Beach was estimated at 7,259 in 2019 according to the U.S. Census Bureau. The planning area for this Facilities Plan includes all the area within the municipal boundaries, which includes Census Tract Nos. 140.01 and 140.02.

The City is nearly built out. Only one major development is currently planned in Neptune Beach, Saltwater Row, which will include a large retail center and two hotels.

#### **4.2.2 Land Use and Development**

Per the *Neptune Beach Vision Plan*, “Existing Conditions” chapter and the Neptune Beach Zoning Map, the Central Business District contains mixed-use properties. No other zones in the City can be identified as “mixed-use” in the truest sense; meaning they do not allow for a combination of commercial, office, and residential uses. The vast majority of Neptune Beach is zoned for low density (single-family) residential uses.

Per the Future Land Use map, over half of the City’s acreage is dedicated to residential development, with 80 percent low-density and 2 percent high-density use. Parks and conservation areas comprise 30 percent of the City’s land. Only 9 percent is meant for varying intensities of commercial development.

### **4.3 WASTEWATER TREATMENT AND COLLECTION SYSTEM**

#### **4.3.1 Description of Existing Wastewater System**

##### **4.3.1.1 Wastewater Treatment**

The City of Neptune Beach Wastewater Treatment Facility (WWTF) is a domestic wastewater treatment facility that serves the citizens and businesses within the city limits. The facility is located at:

2010 Forest Avenue  
Neptune Beach, Florida 32266

The WWTF provides advanced wastewater treatment and operates under Florida Department of Environmental Protection (FDEP) Permit Number FL0020427.

The original treatment plant was built in the 1950’s and, like many wastewater facilities, has been upgraded and modified a number of times. The most recent modifications occurred in 2017 with the implementation of equalization basins and modifications to the Package Plant.

The WWTF consists of two treatment plants, served by a common influent system and a common disinfection and effluent disposal system—an Integrated Fixed-Film Activated Sludge (IFAS) Plant and a Package Plant.

The influent system for the WWTF consists of mechanical screens for removal of debris, followed by a vortex grit removal system. Two separate influent pump stations then pump flow to the two plants:

- ☐ Plant #1 is a 0.8 MGD AADF design flow Integrated Fixed-Film Activated Sludge (IFAS) plant.
- ☐ Plant #2 is a 0.235 Package Plant running in Extended Aeration mode.

Flow equalization (surge tanks) help to alleviate normal diurnal flows and heavy flows caused by extreme rain events.

Effluent from the two plants is combined, and flows through a disk filter unit prior to disinfection with sodium hypochlorite. Dechlorination is accomplished with sodium bisulfite.

Treated wastewater is pumped through a combined effluent force main (shared by the cities of Jacksonville Beach and Atlantic Beach) to the St. Johns River, near the mouth of the river at Sherman Point. The receiving stream is classified as Class III Marine Waters. FDEP has established mixing zones for total recoverable copper and total cyanide for the discharge.

An on-site reuse system provides reclaimed water for washdown and plant processes. FDEP also permits up to a 0.099 MGD AADF slow-rate public access system to provide reclaimed water for a JEA electrical substation and residential/city properties within 0.75-mile radius of the WWTF.

Biosolids from the WWTF are aerobically stabilized, then dewatered with a belt filter press. Dewatered biosolids are transported to a Class 1 Landfill for disposal.

#### **4.3.1.2 Wastewater Collection System**

The wastewater collection system consists of approximately 100,000 linear feet of gravity sewer main, 470 manholes and 13 lift stations with associated force mains.

Much of the collection system is old, though approximately 24 percent of the gravity mains and manholes have been replaced. Despite this remedial work, the system is plagued with inflow and infiltration.

### **4.3.2 Present and Historical Flows**

Historical average daily flows for the two most recent years averaged approximately 0.6 MGD. However, problems with inflow/infiltration in the collection system create excessive flows during heavy rainfall conditions. As detailed in Section 2.2., flows more than double during heavy rainfall months, and peak day flows can exceed plant capacity and put the City at risk of sanitary sewer overflows.

#### **4.3.2.1 Performance of Existing Wastewater System**

##### **4.3.2.1.1 Wastewater Treatment Facility**

While the treatment plant has managed to meet most permit requirements, there have been multiple exceedances of the Total Nitrogen limits needed to meet the Total Maximum Daily Load for the Lower St. Johns River.



The City is under an FDEP Consent Order, OGC No. 20-0773. The Consent Order requires the City to modify and/or upgrade the treatment facility to meet the Total Nitrogen limit within a two-year period.

A more detailed review of the WWTF performance is included in Section 2.2 of this document.

#### 4.3.2.1.2 Wastewater Collection System

As detailed in Section 2.2, the City's wastewater collection system experiences excessive inflow and infiltration (I/I) during rainfall events. Much of the gravity sewer system is in need of rehabilitation or replacement due to the age of the system and resulting cracks, corrosion or collapse.

In an area east of 3<sup>rd</sup> Street and in the Oceanwood development, gravity sewers are located behind homes, with no easements. This makes maintenance or repair of these mains nearly impossible, and increases the risk of sewer main failures and overflows. These sewer mains need to be replaced in the City right-of-way.

The City's master lift station discharges to a gravity interceptor on Florida Blvd. This interceptor is at capacity, and experiences sanitary sewer overflows during heavy rainfall periods. The interceptor needs to be replaced with a force main directly into the WWTF.

A significant portion (approximately 70%) of the City's wastewater flow crosses 3<sup>rd</sup> Street (Highway A1A) through a single gravity sewer main. This main is nearing capacity, and in the event of a break or blockage, numerous sewer overflow would occur. An additional gravity line crossing 3<sup>rd</sup> Street is necessary to ensure continuous service for this area.

All of the City's 13 lift stations are in need of rehabilitation.

One of the lift stations (Bal Harbor) is located between two residential properties. Access to the station is limited, making maintenance and repair extremely difficult, and increases the threat of sewer overflows into back yards. This station is recommended for replacement in City right-of-way with proper access.

At the Leeward Landing lift station, the force main from the station discharges to a gravity interceptor that is at capacity. The force main needs to be relocated to another nearby gravity interceptor that is not near capacity.

There are two neighborhoods (42 residences) in Neptune Beach that are not served by City sewer, but are on septic tanks. These septic tanks are located in a drainage area to Hopkins Creek, which has had excessive fecal coliforms. A septic-to-sewer conversion project is needed for these locations.

### 4.3.3 Service Area Population and Wastewater Flow Projections

The City is nearly built out, with only two developments forecast for the planning period.

Current population is approximately 7,300

#### Treatment Plant Residuals

WWTF biosolids are wasted to a thickener tank and aerobically digested. Digested sludge is dewatered using a belt filter press and disposed of at the Trail Ridge Landfill.

### **4.4 MANAGERIAL CAPACITY**

The City of Neptune Beach has sole responsibility and authority to build, operate and maintain the wastewater system. The Public Works Department provides wastewater services. An experienced Public Works Director heads the Department, and a licensed Professional Engineer is employed part-time.

The WWTF is staffed with FDEP-licensed wastewater operators on two shifts. During times when the plant is unattended, an electronic monitoring system (SCADA system) monitors WWTF parameters and automatically calls for operators in the event of a problem. The Lead Operator is a **Class** \_\_\_\_ operator, who works on the shift with the highest flow. **Additional operators** include \_\_\_\_ operators who hold Class \_\_\_\_ licenses.

Some laboratory tests are run at the on-site laboratory and others are conducted at a certified private environmental laboratory.

#### **4.4.1 Operation and Maintenance**

Public works staff operates and maintains the wastewater system. Preventive maintenance, repair and rehabilitation of the WWTF, sewer mains and lift stations are performed by staff as required. For more complex maintenance issues, a utility contractor is utilized.

## **5 DEVELOPMENT OF ALTERNATIVES**

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### **5.1 WASTEWATER TREATMENT FACILITY ALTERNATIVES**

As noted previously, treatment plant capacity should be increased from the design capacity of the current average daily flow (ADF) of 1.035 MGD to 1.6 MGD ADF (as proposed in the original City scope). In addition, process improvements are necessary for the WWTF to comply with the previously cited Consent Order and meet the Total Nitrogen requirements of the TMDL.

A flow of 1.6 MGD will require an average effluent TN concentration of 2.8 mg/L to meet the TMDL mass discharge limitation. In practice this will be very difficult to achieve. The average Total Phosphorus (TP) effluent concentration needed to meet the TMDL TP mass limit will be 0.8 mg/L and will most likely require chemical precipitation. Therefore the goal for the design phase will be to achieve the capacity of 1.5 MGD.

For the WWTP, six (6) alternatives with multiple processes and WWTP hydraulic capacities were developed. Of the six alternatives, one was “no action” and another was

“construction of a new WWTP”. Therefore four (4) of the alternatives were WWTP Upgrades. The four alternatives would first be evaluated for construction costs. Since the energy costs are somewhat similar across all of the remaining four options, if the capital cost of any of the four alternatives exceeded 15%-20% of the lowest cost alternative, then those Alternatives would be eliminated from further consideration. For those remaining alternatives, a present worth analysis, or life cycle cost, was estimated and is included herein. The present worth analyses cover the 20-year planning period. The Present Worth analysis included only capital costs and annual operation and maintenance costs. Salvage values of equipment were deemed to be zero. An interest or discount rate of 3% is used in the analyses.

For Alternatives selected for Life Cycle Cost Evaluation, the present worth combinations for the viable alternatives incorporated the following considerations:

- ☐ Planning period of 20 years
- ☐ A discount rate of 3%
- ☐ Capital costs (land acquisition, construction, contingency, engineering, legal, fiscal, and administrative costs)
- ☐ Operation and maintenance costs
- ☐ End-of-Life Salvage values for equipment were deemed to be zero.

The six alternatives were examined to meet the same criteria, primarily hydraulic capacity. The following procedure was used to evaluate the treatment alternatives:

- ☐ The upgrades were listed separately for the original plant (Plant #1 - currently the IFAS process) and Plant #2 (the package plant). Within each alternative, the Plant #1 and Plant #2 capacities are combined to provide one permitted WWTF flow.
- ☐ Flow expansions for the various options considered an overall permitted wastewater plant flow ranging from 1.5 MGD to 2.1 MGD.
- ☐ Considerations were given to utilize as much as the existing equipment as possible to save capital expenditures.
- ☐ Considerations were given to the ease or difficulty of operating the new plant as well as energy usage.
- ☐ To compare just the cost of construction of each alternative, the construction cost was developed without contingency, engineering, legal, or operating labor and operating electricity costs. These costs will instead be added to the Life Cycle cost analysis for a total system cost.

#### **5.1.1 Alternative 1 - BNR (Plant #2) and IFAS (Plant #1) Upgrades (combines upgrades for both Plant #1 and #2)**

##### **5.1.1.1 Plant #*Plant 1***

- ☐ Install new media in the Existing IFAS Train.
- ☐ Add a second IFAS process. Provide Improved Grit Removal

- Existing IFAS Train – Upgrade to capacity of 0.9 MGD. Design MLSS is 3,000 mg/L.
  - o Add medium-bubble aeration diffusers and blowers to second Pre-Anoxic zone (Carbon Stage in Veolia proposal). (650 scfm @ 4.9 psig required).
  - o Replace existing diffusers and intrazone screens.
  - o Replace IFAS media (3,878 cu. ft.).
  - o New process blowers (790 scfm @ 6.0 psig required but will evaluate reusing of the existing blowers).
  - o Add medium-bubble diffusers to Wetwell (15 scfm).
  - o Reaeration Zone – Medium bubble, 160 scfm.
  - o Upgrade IMLR pump for 250%.
- Check RAS capacity 50 to 100%.
- Micro-C Glycerin dose, Max. 50 gal/day

**Plant 2** is converted to a 4-stage biological nutrient removal (BNR) system to treat up to 0.6 MGD. The outer ring of tanks (including the digester) to be converted into aeration and anoxic zones.

Design MLSS is 3,000 mg/L.

- Add three (3) compartment walls to create separate zones
- Add 4.2 HP mixer, including base and rails, to the Pre-Anoxic compartment
- Add fine-bubble EPDM tube diffusers to new aerobic zone.
- Add two (1+1) 800 scfm @ 6.4 psig PD blowers in sound-attenuating enclosures.
- Add IR pumps (back to Pre-Anoxic Zone) at 200%.
- Add 4.2 HP mixer, including base and rails, to the Post-Anoxic compartment.
- Add two 500 gpm dry-mounted submersible RAS pumps.
- Add two 1200 gpm IMLR (Nitrate Recycle) low-head pumps (x.x HP).
- Add Micro-Glycerin add point to Plant 2.
- Add flowmeters, pressure sensors and transmitters, thermal mass flowmeters, DO probes, level switches, submersible pressure transmitters, PLC Control cabinet.

Summary for Alternate 1: Combined WWTP capacity of 1.5 MGD with improvements to Plant 1 and Plant 2 detailed above.

#### **5.1.1.2 Construction Cost**

*Capital cost of Alternative 1 is \$4,532,660 based on a WWTP upgrade of 1.5 MGD. A capital cost was also developed for 1.8 MGD which was \$6,081,600.*

Due to the high cost involved in increasing the capacity above 1.5 MGD, all flows above 1.5 MGD were eliminated from further consideration.

#### **5.1.2 Alternative 2 – MBR (Plant 2) and IFAS (Plant 1) Upgrades (combines upgrades to both Plant 1 and 2)**

Install new media in the existing IFAS Train. Convert Outer Ring of Package Plant (Plant 2) to a membrane bioreactor (MBR) System. Treated MBR Effluent bypasses Effluent Filter.

##### **Plant 1**

Changes to IFAS as per Alternative 1.

**Plant 2** is converted to a membrane bioreactor (MBR) system to treat up to 0.6 MGD with option to go up to 1.0 MGD. The outer rings of tanks (including the digester) are converted into aeration and anoxic zones. The membranes are located inside the internal clarifier space.

Design MLSS is 8,500 mg/L.

- ☐ Add three (3) compartment walls to create separate zones
- ☐ Add 4.2 HP mixer, including base and rails, to the Pre-Anoxic compartment
- ☐ Add fine-bubble EPDM tube diffusers to new aerobic zone.
- ☐ Add two (1+1) 800 scfm @ 6.4 psig PD blowers in sound-attenuating enclosures.
- ☐ Add IR pumps (back to Pre-Anoxic Zone) at 200%.
- ☐ Add 4.2 HP mixer, including base and rails, to the Post-Anoxic compartment.
- ☐ Add internal walls to separate two (2) membrane trains, with two isolation gates.
- ☐ Add membrane units (four FPC500 cassettes, installed 168,000 sq. ft.).
- ☐ Add two (1+1) Membrane Air Scour Blowers (1200 scfm @ 6.0 psig ADF).
- ☐ Add two 805 gpm permeate rotary lobe pumps (20 HP)
- ☐ Add two 2800 gpm submersible RAS pumps to RAS wetwell (30 HP?).
- ☐ Add four (2 + 2) 1400 gpm IMLR (Nitrate Recycle) pumps (2.7 HP).
- ☐ Add Micro-Glycerin add point to Plant 2.
- ☐ Permeate Open/Close Control Valves

- ☐ Permeate Priming Control Valves.
- ☐ Membrane Chemical Cleaning System.
- ☐ Add flowmeters, pressure sensors and transmitters, thermal mass flowmeters, turbidimeter, DO probes, level switches, submersible pressure transmitters, PLC Control cabinet.
- ☐ New Secondary Clarifier required.

#### **5.1.2.1 Construction Cost**

Capital cost of Alternative 2 is \$5,990,700 based on a WWTP upgrade of 1.5 MGD. A capital cost was also developed for 1.8 MGD which was \$7,539,700. Due to the high cost involved in increasing the capacity above 1.5 MGD, all flows above 1.5 MGD were eliminated from further consideration.

#### **5.1.3 Alternative 3 - MABR (Plant 2) and IFAS (Plant 1) Upgrades (combines upgrades to both Plant 1 and 2)**

##### ***Plant 1***

Changes to IFAS as per Alternative 1.

##### ***Plant 2***

Convert the outer ring of Plant 2 to a membrane aerated biofilm reactor (MABR)/ZeeLung System, using the existing Clarifier and increase capacity to 0.6 MGD.

Design MLSS is 3,000 mg/L.

- ☐ Add one (1) compartment wall to create separate anoxic and aerobic zones
- ☐ Add 4.2 HP mixer, including base and rails, to the Anoxic compartment.  
[May need pulsed bubble or jet mixing system]
- ☐ Add ZeeLung membranes; 3 sets of 2 cassettes slung between inner and outer wall.
- ☐ Add ZeeLung blower and air piping.
- ☐ Add fine-bubble EPDM tube diffusers to new aerobic zone.
- ☐ Add two (1+1) 800 scfm @ 6.4 psig PD blowers in sound-attenuating enclosures.
- ☐ Add IR pumps (back to Pre-Anoxic Zone) at 100%.
- ☐ Add two 500 gpm dry-mounted submersible RAS pumps.
- ☐ Add two 630 gpm IMLR (Nitrate Recycle) low-head pumps (x.x HP).
- ☐ Add Micro-Glycerin add point to Plant 2.
- ☐ Add flowmeters, pressure sensors and transmitters, thermal mass flowmeters, DO probes, level switches, submersible pressure transmitters, PLC Control cabinet.



#### **5.1.3.1 Construction Cost**

Capital cost of Alternative 3 is \$5,401,700 based on a WWTP upgrade of 1.5 MGD. A capital cost was also developed for 1.8 MGD which was \$6,950,075. Due to the high cost involved in increasing the capacity above 1.5 MGD, all flows above 1.5 MGD were eliminated from further consideration.

#### **5.1.4 Alternative 4 – All IFAS (combines upgrades to both Plant 1 and 2)**

**Plant 1** -Changes to IFAS as per Alternative 1

##### ***Plant 2: Existing Package Plant converted to IFAS – Capacity 0.6 MGD.***

Design MLSS is 2,400 mg/L.

- ☐ Add six (6) compartment walls to create separate zones
- ☐ Add mixer to the Pre-Anoxic compartment
- ☐ Add medium-bubble aeration diffusers to new Carbon removal zone (300 scfm @ 6.4 psig required).
- ☐ Add medium-bubble diffusers to IFAS zone 1. (370 scfm @ 6.3 psi air required).
- ☐ Add medium-bubble diffusers to IFAS zone 2. (310 scfm @ 6.3 psi air required).
- ☐ Add IFAS media (2 @ 2,527 cu. ft.).
- ☐ New process blowers? (790 scfm @ 6.0 psig required).
- ☐ Add diffusers to Wetwell (50 scfm).
- ☐ Add medium bubble diffusers to new Reaeration Zone - 40 scfm @ 6.3 psi.
- ☐ Add IMLR pump for 150%.
- ☐ Add Micro-Glycerin add point.
- ☐ Add piping and RAS pumps to replace existing airlift system.

Check RAS capacity 50 to 100%.

Micro-C Glycerin dose, Max. 60 gal/day

#### **5.1.4.1 Construction Cost**

Capital cost of Alternative 4 is \$5,120,610 based on a WWTP upgrade of 1.5 MGD. A capital cost was also developed for 1.8 MGD which was \$6,689,600. Due to the high cost involved in increasing the capacity above 1.5 MGD, all flows above 1.5 MGD were eliminated from further consideration.

#### **5.1.5 Alternative 5 – New WWTF**

Build a completely new WWTF on the existing site. Challenges would include completing construction without taking the existing WWTF off line.

#### **5.1.5.1 Construction Cost**

The current cost to construct a new 1.5 MGD WWTP with steel tanks would be in the range of \$15,000,000. For concrete tankage, the cost would be in the range of \$20,000,000. These two costs are on a clear site that does not have to maintain an existing wastewater treatment plant in service during construction. The cost to construct a new wastewater treatment plant on the current site with an existing operating WWTP would be difficult and more costly due to phasing or possibly construction of temporary tankage to maintain service. This Alternative would be prohibitive in cost to pursue and is eliminated from consideration.

#### **5.1.6 Alternative 6**

No Action. If no action is taken, the WWTF will be unable to meet the required TN reduction necessary to meet the TMDL and comply with the Consent Order. This will cause harm to the environment and result in costly fines and penalties for the City. Costs for this option are undetermined, but failure to meet regulations would be unacceptable.

It should be noted that “no action” is, realistically, not a viable, long term alternative. Should the City fail to embark on some course of enhanced wastewater treatment, ultimately the state of Florida would impose some sort of mandatory solution.

#### **5.1.7 Additional Improvements Common to Alternatives 1 – 4**

##### **5.1.7.1 Sludge Thickening & Storage Improvements**

The following improvements are additional and common to all of the first four alternatives:

- ☐ New Digester/Sludge storage tank, divided into two compartments. (located at former Chlorine Contact Basin location next to existing digester).
- ☐ Rotary Drum Thickener mounted on tank top, with diverter gate to either compartment.
- ☐ Two (1 + 1) PD Blowers
- ☐ Air piping with Red Valve Diffusers
- ☐ Two (1+1) Boerger/Vogelsang rotary lobe thickened sludge transfer and/or BFP feed pumps

##### **5.1.7.2 Cost Evaluation of the Wastewater Treatment Plant Alternatives**

Life cycle costs are attached in the following page. Alternative 1 and 4 were analyzed for total life cycle costs (as well as Alternative 6). The cost for Alternatives 2 and 3 had high capital costs and were eliminated from further consideration. Alternative 1 is the recommended alternative to proceed with at the Neptune Beach WWTP.

	(Option 6) Do Nothing	(Option 4) Upgrade Plant 2 to IFAS Process	(Option 1) Upgrade Plant 2 to BNR Process		
<b>CAPITAL COST</b>					
Construction (Cost to Upgrade Plant 1 + Cost of Selected Option)	\$0	\$5,120,610	\$4,532,660		
<b>Subtotal Construction 1</b>	\$0	\$5,120,610	\$4,532,660		
Construction Contingency @ 15%		\$768,092	\$679,899		
<b>Subtotal Construction 2</b>	\$0	\$5,888,702	\$5,212,559		
Engineering, Legal, etc @ 15%	\$0	\$883,305	\$781,884		
<b>Total Capital Cost</b>	\$0	<b>\$6,772,007</b>	<b>\$5,994,443</b>		
<b>ANNUAL O&amp;M COST</b>					
Power Cost	\$0	\$520,170	\$595,226		
Consumables (Cl2, chemicals)		\$177,000	\$177,000		
Equipment Maintenance @ 10% of Subtotal 1	\$0	\$512,061	\$453,266		
Labor	\$0	\$680,000	\$680,000		
<b>Total O&amp;M Cost</b>	\$0	<b>\$1,889,231</b>	<b>\$1,905,492</b>		
<b>REMAINING USEFUL LIFE</b>					
Existing Equipment	\$0	\$0	\$0		
<b>TERMS</b>					
Useful Life	0	25	25		
Terms on Note (yr.)	20	20	20		
Remaining Life (yr.)	0	25	25		
Interest Rate	3.00%	3.00%	3.00%		
<i>Debt Service on Capital Costs</i>	\$0	(\$388,902)	(\$344,248)		
<i>Annual O&amp;M Cost</i>	\$0	(\$1,889,231)	(\$1,905,492)		
<i>Total Annual Cost</i>	\$0	(\$2,278,133)	(\$2,249,740)		
<b>Present Worth</b>	<b>Capital</b>	<b>PW-O&amp;M</b>	<b>PW-Salvage</b>	<b>Total PW</b>	
Option 1	0	0	0	0	
Option 2	(6,772,007)	(28,950,190)	0	(35,722,197)	
Option 3	(5,994,443)	(29,199,378)	0	(35,193,821)	
NOTE:					
Present worth has been used to compare the various alternatives developed in this facilities plan. Present worth combinations for the viable alternatives incorporated the following considerations:					
1. Planning period of 20 years.					
2. A discount rate of 3% was used in this analysis (the current discount rate is assumed and consistent across alternatives).					
3. Capital costs (land acquisition, construction, contingency, engineering, legal, fiscal, and administrative costs).					
4. Operation and maintenance costs.					
5. No Salvage Value is assigned. All equipment is assumed to have \$0 salvage value.					
6. Costs are obtained from recent bids and sales representatives/consultants in the area.					

## 5.2 COLLECTION SYSTEM ALTERNATIVES

The collection system improvements include **10 projects**. Project and alternatives are presented this section that will reduce excessive I/I and potential sewer overflows due to

current system constraints. The City of Neptune Beach's goal is to identify cost effective alternatives that provide long service life and low on-going operation and maintenance costs. As there are many new technologies being marketed every year, the City staff is interested in looking at these new products and methods but have indicated they would prefer to stay with proven techniques and equipment.

The proposed projects are described in the following sections. For each project, a present worth analysis of options is provided. The present worth analyses cover the 20-year planning period. Present worth includes capital costs, annual operation and maintenance costs, estimated repair costs and potential fines for overflows. An interest or discount rate of 3% is used in the analyses.

For each project the present worth combinations for the viable alternatives incorporated the following considerations:

- ☐ Planning period of 20 years
- ☐ A discount rate of 3%
- ☐ Capital costs (land acquisition, construction, contingency, engineering, legal, fiscal, and administrative costs)
- ☐ Operation and maintenance costs
- ☐ Salvage values based on appropriate useful lives of various project components (land-permanent, conveyance and treatment related structures, including piping, tanks, buildings and appurtenances, and equipment)

*(Note that the planning estimates for these projects were prepared by the City's Public Works Department).*

### **5.2.1 Project 1 – Gravity Sewer System I/I Mitigation and Rehabilitation**

The City of Neptune Beach is experiencing very high Infiltration and Inflow (I/I), which is responsible for sewer overflows and disrupting the WWTF operation and treatment. Some remedial work on areas of the collection system has been completed. This work included pipe bursting as well as pipe and manhole replacement on approximately 24% of the system. In addition, wastewater flows in the City have been re-routed to reduce pressure on overtaxed areas. Even with these extensive improvements, I/I is still a major impact.

Even with these extensive improvements, it is estimated that high rainfall months are still costing the City approximately \$86,000 in collection and treatment of I/I. Consequently, the alternatives for addressing this I/I throughout the collection system are as follows:

**Option 1** - Do nothing, allow for continued I/I and potential system overflows.

**Option 2** - Complete the Sewer System Evaluation Survey (SSES) already begun by smoke testing, cleaning and televising the entire collection system. Using the SSES results, do targeted rehabilitation for high I/I sources. For this option it is initially assumed that this will require lining 30% of the sewers that have not already been pipe burst or replaced and that 50% of the manholes that have not already been rehabilitated or replaced will require cementitious lining and 5% will require fiberglass lining. The results of the SSES will provide more detailed information on the percentage of the system in need of rehabilitation.

**Option 3** - Full sewer replacement of all areas that have not already been pipe burst or replaced, fiberglass line all manholes

### 5.2.1.1 Cost Evaluation

Project 1 Alternatives Analysis				
	Linear Feet of Pipe	(Option 1) Do Nothing	(Option 2) Targetted Rehabilitation for High I/I Sources	(Option 3) Full Sewer Replacement, Fiberglass Line Manholes and Repair all Lift Stations
<b>CAPITAL COST</b>				
Sewer System Evaluation Survey (Smoke Testing, Cleaning, and Televising), Midnight Investigation and Manhole Inspections (PHASE 1)	122,845	\$0	\$745,762	\$0
Inflow Defenders in all Manholes and LDL Plugs at Selected Service Connections (PHASE 1)		\$0	\$38,221	\$0
Gravity Sewer Rehabilitation (CIPP Lining) and Manhole Rehabilitation	27,606	\$0	\$1,795,775	\$0
Replace All Gravity Sewer Not Already Pipe Bursted or Replaced	92,318	\$0	\$0	\$21,984,401
Fiberglass Line All Manholes Not Already Replaced		\$0	\$0	\$3,022,800
<b>Subtotal Construction 1</b>		\$0	\$2,579,758	\$25,007,201
Construction Contingency @ 15%		\$0	\$386,964	\$3,751,080
<b>Subtotal Construction 2</b>		\$0	\$2,966,721	\$28,758,281
Engineering, Legal, etc. @8%		\$0	\$237,338	\$2,300,663
<b>Total Capital Cost</b>		\$0	\$3,204,059	\$31,058,944
<b>ANNUAL O&amp;M COST</b>				
Cleaning (5 yr Cycle)	24,561	\$98,244	\$49,122	\$49,122
TV (5yr Cycle)	24,561	\$24,561	\$12,281	\$12,281
Breaks	113,127	\$678,762	\$113,127	\$56,564
Collection and Treatment Costs for Additional I/I at \$11.05/thousand gallons		\$169,396	\$33,879	\$0
Potential Overflow Fines @ 15% of Repair Cost		\$101,814	\$0	\$0
<b>Total O&amp;M Cost</b>		\$1,072,777	\$208,409	\$117,966
<b>REMAINING USEFUL LIFE</b>				
MH and Pipe		\$0	\$1,281,624	\$18,635,366
<b>TERMS</b>				
Useful Life		0	30	50
Terms on Note (yr.)		20	20	20
Remaining Life (yr.)		0	10	30
Interest Rate		3.00%	3.00%	3.00%
<i>Debt Service on Capital Costs</i>		0	(\$163,469)	(\$1,207,121)
<i>Annual O&amp;M Cost</i>		(\$1,072,777)	(\$208,409)	(\$117,966)
<i>Total Annual Cost</i>		(\$1,072,777)	(\$371,877)	(\$1,325,087)
<b>Present Worth</b>	<b>Capital</b>	<b>PW-O&amp;M</b>	<b>PW-Salvage</b>	<b>Total PW</b>
Option 1	0	(16,439,024)	0	(16,439,024)
Option 2	(3,204,059)	(3,193,613)	709,604	(5,688,068)
Option 3	(31,058,944)	(1,807,687)	10,317,951	(22,548,681)
Total Linear Feet of Gravity Sewer : 6-inch through 10-inch			113,127	
Total Linear Feet of Gravity Sewer : 12-inch through 18-inch			9,678	
NOTE:				
Present worth has been used to compare the various alternatives developed in this facilities plan. Present worth combinations for the viable alternatives incorporated the following considerations:				
1. Planning period of 20 years.				
2. A discount rate of 3% was used in this analysis (the current discount rate is assumed and consistent across alternatives).				
3. Capital costs (land acquisition, construction, contingency, engineering, legal, fiscal, and administrative costs).				
4. Operation and maintenance costs.				
5. Salvage values based on appropriate useful lives of various project components (land - permanent, conveyance and treatment related structures, including piping, tanks, buildings and appurtenances - 50 years; and equipment - 20 years).				
6. Costs are obtained from recent bids and sales representatives/consultants in the area.				



### **5.2.2 Project 2 – Lift Station Rehabilitation or Replacement**

The City has 13 Lift Stations that need repair and/or rehabilitation. In addition, the buildings housing the lift stations need to be rehabilitated and are an eye-sore for the City. These lift stations could all be replaced with submersible stations that would require less maintenance as well as lessening noise and odor for the neighborhoods closely surrounding them.

The following options are evaluated for this project:

**Option 1** – Do nothing, allow for ongoing repairs and potential sewer system overflows

**Option 2** - Repair and Rehabilitate 12 Lift Stations, Major Repair and Rehabilitation for 1 (Lighty Lane Lift Station)

**Option 3** – Build New Lift Stations on Same Sites

### 5.2.2.1 Cost Evaluation

Project 2 Alternatives Analysis				
	(Option 1) Do Nothing	(Option 2) Repair and Rehabilitate 12 Lift Stations, Major Repair and Rehabilitation for 1 (Lighty Lane)	(Option 3) Build 13 New Lift Stations on Same Sites	
<b>CAPITAL COST</b>				
	\$0	\$2,050,000	\$4,550,000	
<b>Subtotal Construction 1</b>	\$0	\$2,050,000	\$4,550,000	
Construction Contingency @ 15%	\$0	\$307,500	\$682,500	
<b>Subtotal Construction 2</b>	\$0	\$2,357,500	\$5,232,500	
Engineering, Legal, etc. @8%	\$0	\$188,600	\$418,600	
<b>Total Capital Cost</b>	<b>\$0</b>	<b>\$2,546,100</b>	<b>\$5,651,100</b>	
<b>ANNUAL O&amp;M COST</b>				
Additional Service Calls and Maintenance	\$72,000			
Collection and Treatment Costs for Additional I/I at \$11.05/thousand gallons	\$169,396	\$33,879	\$0	
Potential Overflow Fines @ \$5,000 per incident (Section 403.121(3)(b) FAC)	\$20,000	\$0	\$0	
<b>Total O&amp;M Cost</b>	<b>\$261,396</b>	<b>\$33,879</b>	<b>\$0</b>	
<b>REMAINING USEFUL LIFE</b>				
Lift Stations	\$0	\$1,018,440	\$3,390,660	
<b>TERMS</b>				
Useful Life	0	25	25	
Terms on Note (yr.)	20	20	20	
Remaining Life (yr.)	0	10	25	
Interest Rate	3.00%	3.00%	3.00%	
<i>Debt Service on Capital Costs</i>	0	(\$146,217)	(\$324,531)	
<i>Annual O&amp;M Cost</i>	(\$261,396)	(\$33,879)	\$0	
<i>Total Annual Cost</i>	(\$261,396)	(\$180,096)	(\$324,531)	
<b>Present Worth</b>	<b>Capital</b>	<b>PW-O&amp;M</b>	<b>PW-Salvage</b>	<b>Total PW</b>
Option 1	0	(4,005,580)	0	(4,005,580)
Option 2	(2,546,100)	(519,158)	563,886	(2,501,373) Desired Option
Option 3	(5,651,100)	0	1,877,326	(3,773,774)
NOTE:				
Present worth has been used to compare the various alternatives developed in this facilities plan.				
Present worth combinations for the viable alternatives incorporated the following considerations:				
1. Planning period of 20 years.				
2. A discount rate of 3% was used in this analysis (the current discount rate is assumed and consistent across alternatives).				
3. Capital costs (land acquisition, construction, contingency, engineering, legal, fiscal, and administrative costs).				
4. Operation and maintenance costs.				
5. Salvage values based on appropriate useful lives of various project components (land - permanent, conveyance and treatment related structures, including piping, tanks, buildings and appurtenances - 50 years; and equipment - 20 years).				
6. Costs are obtained from recent bids and sales representatives/consultants in the area.				

### **5.2.3 Project 3 - Relocation of Gravity Sewer Lines to North Street & Florida Blvd.**

In the area of North Street and Florida Blvd., east of Third Street, there are 6-inch sewer lines behind homes without access for City Maintenance. There are no City easements for the lines leaving it almost impossible for the City to perform maintenance and repair to prevent potential sewer breaks and overflows.

The following options are evaluated for this project:

**Option 1** – Replace the existing sewer lines and manholes with new 8-inch gravity sewers and manholes in the roadway.

**Option 2** – Replace the existing sewer lines and manholes with a low-pressure sewer system.

**Option 3** – Do nothing. Allow continued deterioration of the sewer mains, allowing sewer breaks and overflows. This option is unacceptable, as it would result in environmental harm and result in regulatory fines and penalties.

Both options 1 and 2 would discharge the sewage from the homes into manholes on 3<sup>rd</sup> Avenue.

The low-pressure sewer system relies on individual pump station packages that collect the raw domestic sewage generated at each house and pumps the sewage into a low-pressure piping network which will discharge to a manhole. Low pressure sewer systems have two main components – the low-pressure piping network and the grinder pump stations at the homes.

The low-pressure piping network consists of pipes as small as 1 ½ inches in diameter. Pipe is able to be buried at minimum cover, reducing the need for restoration of roads, right-of-way, and existing utilities. Also, installation of the service connections from the mains to the grinder pump stations can be a relatively simple operation. Service laterals can be jetted across roadways to avoid disruption of existing roads and utilities.

The grinder pump station at the homes consists of a wet well that is typically 4-6 feet deep and made of fiberglass or plastic. The grinder pump stations typically come entirely pre-assembled. The grinder pump stations require regular maintenance as well as electric power to operate, this would not be required with a gravity sewer system.

### 5.2.3.1 Cost Evaluation

Project 3 Alternatives Analysis							
	Linear Feet of Pipe	(Option 1) New 8-inch Gravity Sewers and Manholes in Roadway	(Option 2) Low Pressure System				
<b>CAPITAL COST</b>							
New Gravity Sewers and Manholes on North Street and Florida Blvd.	1,920	\$523,531					
74 Grinder Pump Stations			\$1,406,000				
2-inch Forcemain to Manholes on 3rd Street	2,200		\$66,000				
Surveying		\$38,400	\$44,000				
<b>Subtotal Construction 1</b>		\$561,931	\$1,516,000				
Construction Contingency @ 15%		\$84,290	\$227,400				
<b>Subtotal Construction 2</b>		\$646,221	\$1,743,400				
Engineering, Legal, etc. @8%		\$51,698	\$139,472				
<b>Total Capital Cost</b>		<b>\$697,919</b>	<b>\$1,882,872</b>				
<b>ANNUAL O&amp;M COST</b>							
Cleaning (5 yr Cycle)	1,920	\$7,680					
TV (5yr Cycle)	1,920	\$1,920					
Service Calls and Maintenance			\$222,000				
Replace Grinder Stations (10 yr Cycle)			\$140,600				
<b>Total O&amp;M Cost</b>		<b>\$9,600</b>	<b>\$362,600</b>				
<b>REMAINING USEFUL LIFE</b>							
Pipe, Manholes and Grinder Pump Stations		<b>\$418,751</b>	<b>\$0</b>				
<b>TERMS</b>							
Useful Life		50	10				
Terms on Note (yr.)		20	20				
Remaining Life (yr.)		30	0				
Interest Rate		3.00%	3.00%				
<i>Debt Service on Capital Costs</i>		<i>(\$27,125)</i>	<i>(\$220,730)</i>				
<i>Annual O&amp;M Cost</i>		<i>(\$9,600)</i>	<i>(\$362,600)</i>				
<i>Total Annual Cost</i>		<i>(\$36,725)</i>	<i>(\$583,330)</i>				
<b>Capital</b>		<b>PW-O&amp;M</b>	<b>PW-Salvage</b>	<b>Total PW</b>			
Present Worth							
Option 1	<i>(697,919)</i>	<i>(147,108)</i>	231,852	<i>(613,175)</i>	Desired Option		
Option 2	<i>(1,882,872)</i>	<i>(5,556,410)</i>	0	<i>(7,439,282)</i>			
NOTE:							
Present worth has been used to compare the various alternatives developed in this facilities plan. Present worth combinations for the viable alternatives incorporated the following considerations:							
1. Planning period of 20 years.							
2. A discount rate of 3% was used in this analysis (the current discount rate is assumed and consistent across alternatives).							
3. Capital costs (land acquisition, construction, contingency, engineering, legal, fiscal, and administrative costs).							
4. Operation and maintenance costs.							
5. Salvage values based on appropriate useful lives of various project components (land - permanent, conveyance and treatment related structures, including piping, tanks, buildings and appurtenances - 50 years; and equipment - 20 years).							
6. Costs are obtained from recent bids and sales representatives/consultants in the area.							

#### **5.2.4 Project 4 - Relocation of Bal Harbour Lift Station**

The Bal Harbour Lift Station is currently located between residential properties with very limited access for City maintenance crews or repairs. This Lift Station is also experiencing high I/I, with the average day flow increasing from 4,880 gpd Average Day Flow in a dry month to 13,180 gpd in a high rainfall month, almost tripling.

Consequently, need for maintenance in this challenging location and opportunity for overflows at the pump station in resident's back yards is especially problematic. The following options are evaluated for this project:

**Option 1** – Do nothing, allow for increased maintenance challenges and costs

**Option 2** – Relocate lift station, provide connection between existing location and proposed location with open-cut gravity sewer line

**Option 3** - Relocate lift station, provide connection between existing location and proposed location with directional drill gravity sewer line

### 5.2.4.1 Cost Evaluation

Project 4 Alternatives Analysis				
	(Option 1) Do Nothing	(Option 2) Relocate Lift Station with Open-cut Gravity Sewer from Current Site to New Location	(Option 2) Relocate Lift Station with Directional Drill Gravity Sewer from Current Site to New Location	
<b>CAPITAL COST</b>				
	\$0	\$340,739	\$371,000	
Surveying		\$5,200	\$5,200	
<b>Subtotal Construction 1</b>	\$0	\$345,939	\$376,200	
Construction Contingency @ 15%	\$0	\$51,891	\$56,430	
<b>Subtotal Construction 2</b>	\$0	\$397,829	\$432,630	
Engineering, Legal, etc. @8%	\$0	\$31,826	\$34,610	
<b>Total Capital Cost</b>	<b>\$0</b>	<b>\$429,656</b>	<b>\$467,240</b>	
<b>ANNUAL O&amp;M COST</b>				
Additional Service Calls and Maintenance	\$12,000	\$0	\$0	
Potential Overflow Fines @ \$5,000 per incident (Section 403.121(3)(b) FAC)	\$10,000	\$0	\$0	
<b>Total O&amp;M Cost</b>	<b>\$22,000</b>	<b>\$0</b>	<b>\$0</b>	
<b>REMAINING USEFUL LIFE</b>				
Lift Station	\$0	\$171,862	\$186,896	
<b>TERMS</b>				
Useful Life	0	25	25	
Terms on Note (yr.)	20	20	20	
Remaining Life (yr.)	0	10	25	
Interest Rate	3.00%	3.00%	3.00%	
<i>Debt Service on Capital Costs</i>	0	(\$24,674)	(\$26,833)	
<i>Annual O&amp;M Cost</i>	(\$22,000)	\$0	\$0	
<i>Total Annual Cost</i>	(\$22,000)	(\$24,674)	(\$26,833)	
<b>Present Worth</b>	<b>Capital</b>	<b>PW-O&amp;M</b>	<b>PW-Salvage</b>	<b>Total PW</b>
Option 1	0	(337,124)	0	(337,124)
Option 2	(429,656)	0	95,156	(334,500) Desired Option
Option 3	(467,240)	0	103,480	(363,761)
NOTE:				
Present worth has been used to compare the various alternatives developed in this facilities plan. Present				
1. Planning period of 20 years.				
2. A discount rate of 3% was used in this analysis (the current discount rate is assumed and consistent across alternatives).				
3. Capital costs (land acquisition, construction, contingency, engineering, legal, fiscal, and administrative costs).				
4. Operation and maintenance costs.				
5. Salvage values based on appropriate useful lives of various project components (land - permanent, conveyance and treatment related structures, including piping, tanks, buildings and appurtenances - 50 years; and equipment - 20 years).				
6. Costs are obtained from recent bids and sales representatives/consultants in the area.				

### **5.2.5 Project 5 - Relocation of Gravity Sewer in Oceanwood Development**

The Oceanwood neighborhood is experiencing especially high I/I. The lift station serving that neighborhood almost triples its flow during high rainfall periods, from a Maximum Day Flow of 16,560 gpd in a dry month to 46,200 gpd in a high rainfall month. In addition, the sewer lines in this neighborhood are in back yards, between houses, restricting access for maintenance and repairs. The following options are evaluated for this project.

**Option 1** - Do nothing, allow for potential sewer system overflows and high I/I flows to be conveyed to the WWTF

**Option 2** – Replace the existing sewer lines and manholes with new 8-inch gravity sewers and manholes in the roadway.

**Option 3** – Replace the existing sewer lines and manholes with a low-pressure sewer system.



### 5.2.5.1 Cost Evaluation

Project 5 Alternatives Analysis				
	Linear Feet of Pipe	(Option 1) Do Nothing	(Option 2) New 8-inch Gravity Sewers and Manholes in Roadway	(Option 3) Low Pressure System
<b>CAPITAL COST</b>				
New Gravity Sewers and Manholes	4,750		\$1,319,648	
84 Grinder Pump Stations				\$1,406,000
2-inch Forcemain to Manholes on 3rd Street	6,350			\$66,000
Surveying			\$95,000	\$63,500
<b>Subtotal Construction 1</b>		\$0	\$1,414,648	\$1,535,500
Construction Contingency @ 15%		\$0	\$212,197	\$230,325
<b>Subtotal Construction 2</b>		\$0	\$1,626,845	\$1,765,825
Engineering, Legal, etc. @8%		\$0	\$130,148	\$141,266
<b>Total Capital Cost</b>		<b>\$0</b>	<b>\$1,756,992</b>	<b>\$1,907,091</b>
<b>ANNUAL O&amp;M COST</b>				
Collection and Treatment Costs for Additional I/I at \$11.05/thousand gallons		\$17,525		
Potential Overflow Fines @ \$5,000 per incident (Section 403.121(3)(b) FAC)		\$20,000		
Cleaning (5 yr Cycle)	4,750	\$19,000	\$19,000	
TV (5yr Cycle)	4,750	\$4,750	\$4,750	
Breaks	4,750	\$28,500	\$4,750	\$2,375
Service Calls and Maintenance		\$18,000		\$252,000
Replace Grinder Stations (10 yr Cycle)				\$140,600
<b>Total O&amp;M Cost</b>		<b>\$107,775</b>	<b>\$28,500</b>	<b>\$394,975</b>
<b>REMAINING USEFUL LIFE</b>				
Pipe, Manholes and Grinder Pump Stations		\$0	\$1,054,195	\$0
<b>TERMS</b>				
Useful Life		0	50	10
Terms on Note (yr.)		20	20	20
Remaining Life (yr.)		0	30	0
Interest Rate		3.00%	3.00%	3.00%
<i>Debt Service on Capital Costs</i>		\$0	(\$68,286)	(\$223,569)
<i>Annual O&amp;M Cost</i>		(\$107,775)	(\$28,500)	(\$394,975)
<i>Total Annual Cost</i>		(\$107,775)	(\$96,786)	(\$618,544)
<b>Capital</b>		<b>PW-O&amp;M</b>	<b>PW-Salvage</b>	<b>Total PW</b>
Present Worth				
Option 1	0	(1,651,522)	0	(1,651,522)
Option 2	(1,756,992)	(436,728)	583,682	(1,610,038) <b>Desired Option</b>
Option 3	(1,907,091)	(6,052,518)	0	(7,959,609)
NOTE:				
Present worth has been used to compare the various alternatives developed in this facilities plan. Present worth combinations for the viable alternatives incorporated the following considerations:				
1. Planning period of 20 years.				
2. A discount rate of 3% was used in this analysis (the current discount rate is assumed and consistent across alternatives).				
3. Capital costs (land acquisition, construction, contingency, engineering, legal, fiscal, and administrative costs).				
4. Operation and maintenance costs.				
5. Salvage values based on appropriate useful lives of various project components (land - permanent, conveyance and treatment related structures, including piping, tanks, buildings and appurtenances - 50 years; and equipment - 20 years).				
6. Costs are obtained from recent bids and sales representatives/consultants in the area.				

### **5.2.6 Project 6 - Construction of Central Forcemain on Florida Blvd. & Forest Avenue to WWTF**

The City's Master Lift Station (aka Florida Blvd) serves the beaches and downtown district and it discharges into a gravity interceptor main on Florida Blvd that flows to the WWTF. This gravity interceptor receives flow from most of the city residents and is at capacity. During severe storm events, the interceptor is surcharges and resulted in sewage overflows.

It is proposed to build a 12-inch forcemain along Florida Blvd and Forest Avenue to the WWTP and to manifold the three lift stations including Florida Blvd, Bal Harbor and Bay St. and to pump directly to the WWTF thereby by-passing the overloaded gravity interceptor. The following options are evaluated for this project:

**Option 1** – Do nothing, continue to allow flow constraints and potential overflows throughout the City

**Option 2** – Construct on open cut 12-inch force main on Florida Blvd. and Forest Ave.

**Option 3** – Directional drill a force main on Florida Blvd. and Forest Ave.

### 5.2.6.1 Cost Evaluation

Project 6 Alternatives Analysis				
	Linear Feet of Pipe	(Option 1) Do Nothing	(Option 2) Open Cut Forcemain	(Option 3) Directional Drill Forcemain
<b>CAPITAL COST</b>				
	4,660	\$0	\$699,000	\$932,000
Surveying		\$0	\$93,200	\$93,200
<b>Subtotal Construction 1</b>		\$0	\$792,200	\$1,025,200
Construction Contingency @ 15%		\$0	\$118,830	\$153,780
<b>Subtotal Construction 2</b>		\$0	\$911,030	\$1,178,980
Engineering, Legal, etc. @8%		\$0	\$72,882	\$94,318
<b>Total Capital Cost</b>		<b>\$0</b>	<b>\$983,912</b>	<b>\$1,273,298</b>
<b>ANNUAL O&amp;M COST</b>				
Cleaning (5 yr Cycle)	4,660	\$18,640	\$0	\$0
TV (5yr Cycle)	4,660	\$4,660	\$0	\$0
Breaks	4,660	\$27,960	\$0	\$0
Collection and Treatment Costs for Additional I/I at \$11.05/thousand gallons		\$256,300	\$0	\$0
Potential Overflow Fines @ 15% of Repair Cost		\$4,194	\$0	\$0
<b>Total O&amp;M Cost</b>		<b>\$311,754</b>	<b>\$0</b>	<b>\$0</b>
<b>REMAINING USEFUL LIFE</b>				
Forcemain		\$0	\$393,565	\$393,565
<b>TERMS</b>				
Useful Life		0	50	50
Terms on Note (yr.)		20	20	20
Remaining Life (yr.)		0	30	30
Interest Rate		3.00%	3.00%	3.00%
Debt Service on Capital Costs		0	(\$38,240)	(\$49,487)
Annual O&M Cost		(\$311,754)	\$0	\$0
Total Annual Cost		(\$311,754)	(\$38,240)	(\$49,487)
<b>Present Worth</b>	<b>Capital</b>	<b>PW-O&amp;M</b>	<b>PW-Salvage</b>	<b>Total PW</b>
Option 1	0	(\$4,777,256)	0	(\$4,777,256)
Option 2	(983,912)	0	217,907	(766,005) <b>Desired Option</b>
Option 3	(1,273,298)	0	217,907	(1,055,391)
NOTE:				
Present worth has been used to compare the various alternatives developed in this facilities plan. Present worth combinations for the viable alternatives incorporated the following considerations:				
1. Planning period of 20 years.				
2. A discount rate of 3% was used in this analysis (the current discount rate is assumed and consistent across alternatives).				
3. Capital costs (land acquisition, construction, contingency, engineering, legal, fiscal, and administrative costs).				
4. Operation and maintenance costs.				
5. Salvage values based on appropriate useful lives of various project components (land - permanent, conveyance and treatment related structures, including piping, tanks, buildings and appurtenances - 50 years; and equipment - 20 years).				
6. Costs are obtained from recent bids and sales representatives/consultants in the area.				

### **5.2.7 Project 7 - Forcemain Re-routing for Leeward Landing Lift Station**

This project would re-route the flow from the Leeward Landing Lift station away from the overloaded gravity interceptor on Forest Ave and to allow this sewage to flow to the City's other interceptor sewer that is not currently at capacity.

The following options are evaluated for this project:

- ☐ Option 1 – Do nothing, let the neighborhoods continue to discharge into the limited sewer interceptor
- ☐ Option 2 – Complete forcemain connector to alternate sewer interceptor

#### 5.2.7.1 Cost Evaluation

<b>Project 7 Alternatives Analysis</b>					
	<b>Linear Feet of Pipe</b>	<b>(Option 1) Do Nothing</b>	<b>(Option 2) Force Main Connector</b>		
<b>CAPITAL COST</b>					
	640	\$0	\$64,000		
Surveying		\$0	\$12,800		
<b>Subtotal Construction 1</b>		\$0	\$76,800		
Construction Contingency @ 15%		\$0	\$11,520		
<b>Subtotal Construction 2</b>		\$0	\$88,320		
Engineering, Legal, etc. @8%		\$0	\$7,066		
<b>Total Capital Cost</b>		<b>\$0</b>	<b>\$95,386</b>		
<b>ANNUAL O&amp;M COST</b>					
Potential Overflow Fines		\$10,000			
Maintenance Crew Costs for Lift Stations and Backups		\$18,000			
<b>Total O&amp;M Cost</b>		<b>\$28,000</b>	<b>\$0</b>		
<b>REMAINING USEFUL LIFE</b>					
Force Main		\$0	\$57,231		
<b>TERMS</b>					
Useful Life		0	30		
Terms on Note (yr.)		20	20		
Remaining Life (yr.)		0	50		
Interest Rate		3.00%	3.00%		
Debt Service on Capital Costs		\$0	(\$4,867)		
Annual O&M Cost		(\$28,000)	\$0		
Total Annual Cost		(\$28,000)	(\$4,867)		
	<b>Capital</b>	<b>PW-O&amp;M</b>	<b>PW-Salvage</b>	<b>Total PW</b>	
Present Worth					
Option 1	0	(\$29,066)	0	(\$29,066)	
Option 2	(\$95,386)	0	31,688	(\$63,698)	Desired Option
NOTE:					
Present worth has been used to compare the various alternatives developed in this facilities plan. Present worth combinations for the viable alternatives incorporated the following considerations:					
1. Planning period of 20 years.					
2. A discount rate of 3% was used in this analysis (the current discount rate is assumed and consistent across alternatives).					
3. Capital costs (land acquisition, construction, contingency, engineering, legal, fiscal, and administrative costs).					
4. Operation and maintenance costs.					
5. Salvage values based on appropriate useful lives of various project components (land - permanent, conveyance and treatment related structures, including piping, tanks, buildings and appurtenances - 50 years; and equipment - 20 years).					
6. Costs are obtained from recent bids and sales representatives/consultants in the area.					

### **5.2.8 Project 8 - Wastewater Collection and Treatment for 2 Neighborhoods on Septic Systems**

The City of Neptune Beach is essentially built out with utility service available to all the residents. There are two neighborhoods in the southern edge of the City that are still on septic systems. These are in the drainage area and close proximity to Hopkins Creek, which has had excessive fecal coliform problems. Providing sewer service to these neighborhoods would help alleviate a public health concern for Hopkins Creek and the Intracoastal Waterway in that area. The following options are evaluated for this project:

**Option 1** – Provide a gravity sewer system and convert septic tanks to City sewer

**Option 2** – Provide a low-pressure system and convert septic tanks to City sewer

**Option 3** – Do nothing and continue to allow fecal coliform contamination of Hopkins Creek.

### 5.2.8.1 Cost Evaluation

Project 8 Alternatives Analysis							
	Linear Feet of Pipe	(Option 1) New 8-inch Gravity Sewers, Manholes, Lift Stations and 4-inch Forcemain	(Option 2) Low Pressure System				
<b>CAPITAL COST</b>							
New Gravity Sewers, Manholes and 4-inch Forcemain	5,050	\$1,002,633					
2 New Lift Stations		\$500,000					
42 Grinder Pump Stations			\$798,000				
2-inch Forcemain	5,050		\$151,500				
Surveying		\$101,000	\$101,000				
<b>Subtotal Construction 1</b>		\$1,603,633	\$1,050,500				
Construction Contingency @ 15%		\$240,545	\$157,575				
<b>Subtotal Construction 2</b>		\$1,844,177	\$1,208,075				
Engineering, Legal, etc. @8%		\$147,534	\$96,646				
<b>Total Capital Cost</b>		<b>\$1,991,712</b>	<b>\$1,304,721</b>				
<b>ANNUAL O&amp;M COST</b>							
Cleaning (5 yr Cycle)	3,250	\$13,000					
TV (5yr Cycle)	3,250	\$3,250					
Service Calls and Maintenance			\$126,000				
Replace Grinder Stations (10 yr Cycle)			\$79,800				
<b>Total O&amp;M Cost</b>		<b>\$16,250</b>	<b>\$205,800</b>				
<b>REMAINING USEFUL LIFE</b>							
Pipe, Manholes, Lift Stations and Grinder Pump Stations		<b>\$1,195,027</b>	<b>\$0</b>				
<b>TERMS</b>							
Useful Life		50	10				
Terms on Note (yr.)		20	20				
Remaining Life (yr.)		30	0				
Interest Rate		3.00%	3.00%				
<i>Debt Service on Capital Costs</i>		<i>(\$77,409)</i>	<i>(\$152,953)</i>				
<i>Annual O&amp;M Cost</i>		<i>(\$16,250)</i>	<i>(\$205,800)</i>				
<i>Total Annual Cost</i>		<i>(\$93,659)</i>	<i>(\$358,753)</i>				
	<b>Capital</b>	<b>PW-O&amp;M</b>	<b>PW-Salvage</b>	<b>Total PW</b>			
Present Worth							
Option 1	(1,991,712)	(249,012)	0	(2,240,723)	Desired Option		
Option 2	(1,304,721)	(3,153,638)	0	(4,458,359)			
NOTE:							
Present worth has been used to compare the various alternatives developed in this facilities plan. Present worth combinations for the viable alternatives incorporated the following considerations:							
1. Planning period of 20 years.							
2. A discount rate of 3% was used in this analysis (the current discount rate is assumed and consistent across alternatives).							
3. Capital costs (land acquisition, construction, contingency, engineering, legal, fiscal, and administrative costs).							
4. Operation and maintenance costs.							
5. Salvage values based on appropriate useful lives of various project components (land - permanent, conveyance and treatment related structures, including piping, tanks, buildings and appurtenances - 50 years; and equipment - 20 years).							
6. Costs are obtained from recent bids and sales representatives/consultants in the area.							



### **5.2.9 Project 9 - Gravity Sewer Line Across Third Street**

A significant portion of the Service Area served by the Florida Blvd. Lift Station is from the area east of Third Street. The sewage flow from this station represented approximately 70% of the total flow from all the City's lift stations during both dry and wet months this past year. Third Street is a high traffic volume road, running north and south through the City. There is only one sewer line crossing under Third Street conveying the sewage from the eastern portion of the City to the Florida Blvd. Lift Station and this sewer is at over 80% capacity.

If there were any breaks or blockages in that gravity sewer line running under Third Street, sewage could not be conveyed away from a large portion of the City resulting in, potentially, numerous sewer overflows. Consequently, an additional gravity sewer crossing under Third Street is recommended to provide redundancy and alleviate the flow on the existing sewer line crossing at Third Street. The following options are evaluated for this project:

**Option 1** – Do nothing

**Option 2** – Provide a gravity sewer crossing under Third Street using jack and bore construction

**Option 3** – Provide a gravity sewer crossing under Third Street using open cut construction

### 5.2.9.1 Cost Evaluation

Project 9 Alternatives Analysis				
	Linear Feet of Pipe	(Option 1) Do Nothing	(Option 2) Jack and Bore Gravity Sewer	(Option 3) Open Cut Gravity Sewer
<b>CAPITAL COST</b>				
Gravity Sewer Crossing Under Third Street	85	\$0	\$159,425	\$154,603
Surveying		\$0	\$3,400	\$3,400
<b>Subtotal Construction 1</b>		\$0	\$162,825	\$158,003
Construction Contingency @ 15%		\$0	\$24,424	\$23,700
<b>Subtotal Construction 2</b>		\$0	\$187,249	\$181,704
Engineering, Legal, etc. @8%		\$0	\$14,980	\$14,536
<b>Total Capital Cost</b>		<b>\$0</b>	<b>\$202,229</b>	<b>\$196,240</b>
<b>ANNUAL O&amp;M COST</b>				
Breaks	85	\$510	\$0	\$0
Potential Overflow Fines		\$10,000	\$0	\$0
<b>Total O&amp;M Cost</b>		<b>\$10,510</b>	<b>\$0</b>	<b>\$0</b>
<b>REMAINING USEFUL LIFE</b>				
Gravity Sewer		\$0	\$80,891	\$80,891
<b>TERMS</b>				
Useful Life		0	50	50
Terms on Note (yr.)		20	20	20
Remaining Life (yr.)		0	30	30
Interest Rate		3.00%	3.00%	3.00%
Debt Service on Capital Costs		0	(\$7,860)	(\$7,627)
Annual O&M Cost		(\$10,510)	\$0	\$0
<b>Total Annual Cost</b>		<b>(\$10,510)</b>	<b>(\$7,860)</b>	<b>(\$7,627)</b>
Present Worth	<b>Capital</b>	<b>PW-O&amp;M</b>	<b>PW-Salvage</b>	<b>Total PW</b>
Option 1	0	(161,053)	0	(161,053)
Option 2	(202,229)	0	44,788	(157,441)
Option 3	(196,240)	0	44,788	(151,452) Desired Option
NOTE:				
Present worth has been used to compare the various alternatives developed in this facilities plan. Present worth combinations for the viable alternatives incorporated the following considerations:				
1. Planning period of 20 years.				
2. A discount rate of 3% was used in this analysis (the current discount rate is assumed and consistent across alternatives).				
3. Capital costs (land acquisition, construction, contingency, engineering, legal, fiscal, and administrative costs).				
4. Operation and maintenance costs.				
5. Salvage values based on appropriate useful lives of various project components (land - permanent, conveyance and treatment related structures, including piping, tanks, buildings and appurtenances - 50 years; and equipment - 20 years).				
6. Costs are obtained from recent bids and sales representatives/consultants in the area.				

#### **5.2.10 Project 10 - Remediate Gravity Sewer Conflict with Storm Sewer on Forest Ave.**

There is a conflict between a gravity sewer and stormwater drainage where Forest Ave. crosses Hopkins Creek. The gravity sewer conflict impedes the flow of water in Hopkins Creek which is the major drainage tributary for the City. The purpose of the project is to improve drainage through Hopkins Creek.

The following options are evaluated for this project:

**Option 1** – Replace stormwater culvert with concrete box culvert. This requires lowering the stormwater conveyance to avoid an elevation change for the gravity sewer.

**Option 2** – Reroute 18-inch gravity sewer line. Because this would require an elevation and length change for the gravity sewer, downstream gravity sewer lines would have to be replaced as well.

**Option 3** – Do nothing and continue to have the gravity sewer impede flow in Hopkins Creek, increasing the chance of flooding.

#### 5.2.10.1 Cost Evaluation

Project 10 Alternatives Analysis					
	Linear Feet of Pipe	(Option 1) Replace Stormwater Culvert	(Option 2) Reroute Gravity Sewer Including Downstream Sewers		
<b>CAPITAL COST</b>					
Concrete Box Culvert Replacement		\$1,201,844			
New Gravity Sewers and 12 New Manholes	3380		\$1,282,199		
<b>Subtotal Construction 1</b>		\$1,201,844	\$1,282,199		
Construction Contingency @ 15%		\$180,277	\$192,330		
<b>Subtotal Construction 2</b>		\$1,382,121	\$1,474,529		
Engineering, Legal, etc. @8%		\$110,570	\$117,962		
<b>Total Capital Cost</b>		<b>\$1,492,690</b>	<b>\$1,592,491</b>		
<b>ANNUAL O&amp;M COST</b>					
		\$0	\$0		
<b>Total O&amp;M Cost</b>		<b>\$0</b>	<b>\$0</b>		
<b>REMAINING USEFUL LIFE</b>					
		\$895,614	\$955,495		
<b>TERMS</b>					
Useful Life		50	50		
Terms on Note (yr.)		20	20		
Remaining Life (yr.)		30	30		
Interest Rate		3.00%	3.00%		
Debt Service on Capital Costs		(\$58,014)	(\$61,893)		
Annual O&M Cost		\$0	\$0		
Total Annual Cost		(\$58,014)	(\$61,893)		
	<b>Capital</b>	<b>PW-O&amp;M</b>	<b>PW-Salvage</b>	<b>Total PW</b>	
Present Worth					
Option 1	(1,492,690)	0	495,880	(996,810)	Desired Option
Option 2	(1,592,491)	0	529,034	(1,063,457)	
NOTE:					
Present worth has been used to compare the various alternatives developed in this facilities plan. Present worth combinations for the viable alternatives incorporated the following considerations:					
1. Planning period of 20 years.					
2. A discount rate of 3% was used in this analysis (the current discount rate is assumed and consistent across alternatives).					
3. Capital costs (land acquisition, construction, contingency, engineering, legal, fiscal, and administrative costs).					
4. Operation and maintenance costs.					
5. Salvage values based on appropriate useful lives of various project components (land - permanent, conveyance and treatment related structures, including piping, tanks, buildings and appurtenances - 50 years; and equipment - 20 years).					
6. Costs are obtained from recent bids and sales representatives/consultants in the area.					

## 6 THE SELECTED ALTERNATIVES

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### 6.1 SELECTED WASTEWATER TREATMENT FACILITY ALTERNATIVE

Because the TMDL is a “pounds” limit, increasing the goal of the design capacity to 1.6 MGD means a very low TN concentration will be needed to meet the pounds limitation of the TMDL. This will be difficult for WWTF to consistently achieve. The recommended alternative to ensure regulatory compliance is

#### **Alternative 5.1.3 Alternative 1 – 1.5 MGD BNR (Plant 2) and IFAS (Plant 1) Upgrades (combines upgrades to both Plant 1 and 2)**

The Alternative 3 -BNR (Plant 2) and IFAS (Plant 1) has the lowest capital cost and on a life cycle cost compares about the same for Alternative 4 – All IFAS. The BNR is a reliable proven process and was used successfully at Atlantic Beach’s TMDL upgrades a number of years ago. However, in the early stages of the Design Phase, we will validate the decision again when it is better confirmed on issues such as energy usage.

### 6.2 SELECTED COLLECTION SYSTEM ALTERNATIVES

#### 6.2.1 Project 1 - Gravity Sewer System I/I Mitigation and Rehabilitation

**Selected Alternative – Option 2:** A Sewer System Evaluation Survey (SSES), as proposed in Option 2, is important to accurately pinpoint the areas of excessive I/I so that City dollars can be prioritized for areas and rehabilitation/replacement activities can be scheduled for maximum benefit. Normally, a SSES includes completing the following tasks:

1. Assemble Survey Team
2. Collect and Review Available Data
3. Analyze Available Data and Define Data Needs
4. Establish System and Sub-System Boundaries
5. Prioritize Sub-System Problems and Eliminate Non-Problem Areas

For the City of Neptune Beach, available data has been collected and reviewed, a digital map of the collection system has been prepared, system and sub-system boundaries have been determined and Lift Station run times have been tabulated to assess pump flows and effects of wet weather. In addition, City maintenance staff have been interviewed for detailed information on specific area problems.

#### 6.2.2 Project 2 – Lift Station Rehabilitation or Replacement

**Selected Alternative – Option 2:** Repair and Rehabilitate 12 Lift Stations, Major Repair and Rehabilitation for 1 (Lighty Lane Lift Station). This alternative is the most cost-effective while also preventing sanitary sewer overflows.

### **6.2.3 Project 3 - Relocation of Gravity Sewer Lines to North St. & Florida Blvd.**

**Selected Alternative - Option 1:** Replacing the existing sewer lines and manholes with new 8-inch gravity sewers and manholes in the roadway is the desired option as it avoids the cost of the 74 grinder pump stations and the excessive cost for their maintenance and 10-year cycle of replacement.

### **6.2.4 Project 4 - Relocation of Bal Harbour Lift Station**

**Selected Alternative – Option 2:** Relocate lift station, provide connection between existing location and proposed location with open-cut gravity sewer line. The lifecycle cost analysis shows this to be the most cost-effective option.

### **6.2.5 Project 5 - Relocation of Gravity Sewer in Oceanwood Development**

**Selected Alternative – Option 2:** Replace the existing sewer lines and manholes with new 8-inch gravity sewers and manholes in the roadway. This is a lower life-cycle option due to lower capital and maintenance costs.

### **6.2.6 Project 6 - Construction of Central Forcemain on Florida Blvd. & Forest Avenue to WWTF**

**Selected Alternative - Option 2:** Construct on open cut 12-inch force main on Florida Blvd. and Forest Ave. This option had lower life-cycle cost due to the much lower construction costs.

### **6.2.7 Project 7 - Forcemain Re-routing for Leeward Landing Lift Station**

**Selected Alternative – Option 2:** Option 2 – Complete forcemain connector to alternate sewer interceptor. This option was chosen because Option 1 places the City at continued risk of sanitary sewer overflows and regulatory fines.

### **6.2.8 Project 8 - Wastewater Collection and Treatment for 2 Neighborhoods on Septic Systems**

**Selected Alternative - Option 1:** Provide a gravity sewer system and convert septic tanks to City sewer. This option provided the lowest life-cycle cost compared to the higher operation and maintenance costs of Option 2.

### **6.2.9 Project 9 - Gravity Sewer Line Across Third Street**

**Selected Alternative – Option 3:** Provide a gravity sewer crossing under Third Street using open cut construction. This option is most cost-effective due to lower construction costs.

### **6.2.10 Remediate Gravity Sewer Conflict with Storm Sewer on Forest Ave.**

**Selected Alternative - Option 1:** Replace stormwater culvert with concrete box culvert. This requires lowering the stormwater conveyance to avoid an elevation change for the gravity sewer. This option is most cost effective due to lower construction costs.

### **6.3 ENVIRONMENTAL IMPACTS OF SELECTED ALTERNATIVES**

The short-term impacts during construction include increased noise levels, increased airborne particulates and surface run-off during rainfall on the site. Control measures will be implemented to minimize these temporary effects. The long-term impacts of the project are beneficial. The City will have adequate wastewater treatment and reduced risk of sanitary sewer overflows.

The proposed project will not have significant adverse effects on wild and scenic rivers or on flora, fauna, threatened or endangered plant or animal species, prime agricultural lands, wetlands, undisturbed natural areas, or the socio-economic character of the area.

### **6.4 COST TO CONSTRUCT FACILITIES**

The details of construction and the O&M costs for the project are presented within this report. Total estimated construction costs are as follows

**6.4.1 WWTF** - The project cost of the proposed WWTF improvements is estimated at \$5,994,443 (\$5,212,559 Construction & \$781,884 Engineering & Planning). The annual cost (including operation and maintenance cost [O&M] and debt service for the SRF Loan of the capital cost at 3% interest rate\*) for the proposed facilities is \$1,905,492. The details of the WWTF Alternatives and Costs are presented in Section 5.1 of this report.

#### **6.4.2 Collection System**

See Section 5.2 for costs and below in Cost Summary.

#### **6.4.3 Total Wastewater Costs – Wastewater Treatment & Collection Facilities**

The Table below reflects the adjusted costs for Request for Inclusion (RFI) for funding of the Planning and Design of necessary improvements in the City's Wastewater Treatment and Collection System. The City is currently under a Consent Order for exceedances of the Total Nitrogen TMDL effluent limitation. This Facility Plan was prepared to address the long-range wastewater system needs. In addition, the City has excessive I/I, resulting in more than doubling of plant flows during high rainfall periods.

The Planning and Design work in the RFI is for (1) WWTF design, (2) Sewer System Evaluation Survey, (3) initial mitigation measures (find and fix program), and (4) surveying for proposed collection system projects.



Facilities Plan Project	Proposed Planning, Design and Construction Projects And Costs (Revised Table 3 From Original Request for Inclusion)	
	Cost Summary -Wastewater Treatment and Collection System Improvements	
	<b>Planning &amp; Design</b>	
	<b>Project Description</b>	<b>Budget Costs</b>
	Wastewater Treatment Facility: Surveys, Soils/Geotechnical Reports, Biddable Engineering Drawings; Technical Specifications; FDEP Permit, Site Certification	\$781,900
	Sewer System Evaluation Survey: Smoke Testing, Cleaning and Televising, Midnight Investigation and Manhole Inspections	\$745,762
	Find & Repair Work to be completed during smoke testing include Manhole inflow dishes and Cleanout Plugs Where Needed	\$38,200
	Surveying for Collection System Projects 4,5,6,7,8, & 10	\$363,200
	<b>Planning &amp; Design Total</b>	<b>\$1,929,062</b>
	<b>Construction</b>	
	Wastewater Treatment Facility Upgrades (Engineering Cost Above)	\$ 5,242,599
1	Project 1-Gravity Sewer System Infiltration and Inflow Mitigation and Rehabilitation	\$ 2,086,691
2	Project 2 -Lift Station Rehabilitation	\$ 2,546,100
3	Project 3 -Relocation of Gravity Sewer Lines to North Street and Florida Blvd	\$ 697,919
4	Project 4-Relocation of Bal Harbour Lift Station	\$ 423,197
5	Project 5- Relocation of Gravity Sewer in Oceanwood Development	\$ 1,745,234
6	Project 6- Construction of Central Force Main on Florida Blvd and Forest Blvd to WWTF	\$ 868,158
7	Project 7- Force Main Re-routing for Leeward Landing Lift Station	\$ 79,488
8	Project 8 -Wastewater Collection and Treatment for 2 Neighborhoods on Septic Tanks	\$ 1,179,279
9	Project 9 -Gravity Sewer Line Across Third Street	\$ 192,017
10	Project 10 - Remediate Gravity Sewer Conflict with Storm Sewer on Forest Ave.	\$ 1,492,690
	Note: Project 1-10 includes engineering cost since projects are phased over up to 20 years	
	<b>Construction Subtotal</b>	<b>\$16,553,372</b>
	10% Construction Contingencies (unknown/unforeseen events)	\$1,655,337
	Construction Bidding and Award	\$5,000
	Construction Technical Services during Construction for WWTF Construction	\$75,000
	<b>Grant/Loan Administration</b>	<b>\$165,534</b>
	<b>Construction Total</b>	<b>\$18,454,243</b>
	<b>TOTAL PLANNING AND CONSTRUCTION</b>	<b>\$20,383,305</b>

#### 6.4.4 Consistency with the Comprehensive Plan.

The recommendations resulting from this study are consistent with both the City's and the County's local comprehensive plans.

## 7 IMPLEMENTATION AND COMPLIANCE

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### 7.1 PUBLIC HEARING/DEDICATED REVENUE HEARING

A Public Hearing/Dedicated Revenue Hearing was held at the Neptune Beach City Hall on \_\_\_\_\_, after being advertised in the local newspaper. Interested parties were notified of the meeting. Citizens attended and offered comments. A summary of the hearing is included in Appendix \_\_\_\_\_.

### 7.2 REGULATORY AGENCY REVIEW

To qualify for a subsidized loan from the SRF, various governmental agencies must be satisfied with the way that Neptune Beach's wastewater system problems are to be solved. Copies of the facilities plan adopted by the City Commission are to be sent to the following government agencies for review and comments.

1. Florida Department of Environmental Protection
2. Florida Department of Health
3. St. Johns River Water Management District
4. U. S. Environmental Protection Agency
5. Northeast Florida Regional Planning Council
6. Department of Community Affairs, State Clearinghouse

### 7.3 FINANCIAL PLANNING

The Department of Environmental Protection's State Revolving Fund is expected to be the financing source for the project. A capital financing plan (CFP) has been prepared to explain to the public and to the State Agency what the financial impact on the users of the wastewater system will be. The CFP is shown in Appendix E. The CFP indicates that the Water and Sewer Utilities serve XXX residential customers who pay 90% of the annual cost. Industrial, commercial, municipal and institutional customers pay the balance 10%. A user system rate has been prepared to determine the charges to be paid by each user class. The user system rate with a draft ordinance to implement the same is shown in Appendix F. The average residential user rate is expected to increase by \$/xxx per month as a result of the project. The total monthly sewer bill is expected to average \$XXX for a residential user with normal water consumption.

### 7.4 IMPLEMENTATION

The City of Neptune Beach has the sole responsibility and authority to implement the recommended facilities. There are no inter-local agreements necessary for the City to provide wastewater services throughout the planning area.

## **7.5 IMPLEMENTATION SCHEDULE**

The Implementation Schedule for the Wastewater Treatment Plant is 6-7 months for permitting and design, 60-80 days for bidding and 13-14 months for construction. The schedule for collection system upgrades is a twenty-year implementation process.

## **7.6 COMPLIANCE**

- ☐ The treated wastewater from the selected alternative will be in compliance with the FDEP regulations.
- ☐ The selected alternatives will meet the reliability requirements as per chapter 62-600, F.A.C.
- ☐ The residual disposal will meet the requirements of Chapter 62-640, 62-701, F.A.C. and 40 CFR Part 503.
- ☐ The environmental aspects of the proposed facilities are satisfactory.
- ☐ The recommended facilities are consistent with Neptune Beach's comprehensive plan and with Duval County's comprehensive plan.

**City of  
Neptune Beach**  
**Public Services**

2010 Forest Ave • Neptune Beach, Florida 32266 (904) 270-2423 •  
FAX (904) 270-2418



September \_\_\_, 2020

Tim Banks  
Program Administrator  
Clean Water State Revolving Fund  
Florida Department of Environmental Regulation  
Division of Water Restoration Assistance  
3900 Commonwealth Boulevard – MS 3505  
Tallahassee, FL 32399-3600

**RE: Wastewater System Improvements, Planning and Design**  
**City of Neptune Beach, Duval County**  
**FL0020427**

Dear Mr. Banks:

The City of Neptune Beach is submitting the enclosed CWSRF Request for Inclusion (RFI) for Planning and Design of necessary improvements to the City's Wastewater Treatment and Collection system. The City is currently under a Consent Order for exceedances of the Total Nitrogen TMDL effluent limitation and has hired a consulting engineer to assist the City in preparing a Wastewater Facilities Plan to address the long range wastewater system needs. In addition, the City has excessive I/I, resulting in more than doubling of plant flows during high rainfall periods.

The Wastewater Facilities Plan will be completed in December 2020. The proposed Planning and Design items submitted for the CWSRF Request for Inclusion are based on the preliminary findings of the Wastewater Facilities Plan.

Project Information with a background and description of the wastewater system needs is provided as an attachment to this letter. The Planning and Design work submitted in this RFI is for (1) WWTF design, (2) Sewer System Evaluation Survey, (3) initial mitigation measures (find and fix program), and (4) surveying for proposed collection system projects.

Thank you for your consideration of this CWSRF Request for Inclusion. Please feel free to contact me if you have any questions.

Sincerely,

Stefen Wynn  
City Manager

SW/DB  
Enclosures



## Florida Department of Environmental Protection

# REQUEST FOR INCLUSION ON THE CWSRF PRIORITY LIST

Clean Water State Revolving Fund Loan Program  
3900 Commonwealth Blvd., MS 3505, Tallahassee, FL 32399-3000

Process to receive a State Revolving Fund (SRF) Loan. The Request for Inclusion (RFI) form, 62-503.900(1), lets us know that you are interested in obtaining a SRF loan. Each RFI will be assigned a project engineer to assist you throughout the SRF funding process. The information contained in the RFI is used to determine a priority score for your project; and the priority score is used to rank projects on the SRF priority list. Only projects ranked on the fundable portion of the priority list will receive consideration for a loan. Your project engineer will assist you in understanding all program requirements necessary before you are asked to submit a loan application, forms 62-503.900(2) or 62-503.900(3). Please note that project costs incurred before a SRF loan agreement is executed or an authorization to incur costs is provided are ineligible for reimbursement.

Project Number:

(Filled in by DEP)

Type of loan applying for:      Planning      Inflow/Infiltration Rehabilitation      Design      Construction

### 1. Applicant's Name and Address Project

Sponsor:

Contact Person:

(street address)

(city)

(county)

(state)

(zip code)

(telephone)

(ext.)

(FAX)

(email address)

Contact Person Address (if different):

(street address)

(city)

(state) (zip code)

### 2. Name and Address of Applicant's Consultant (if any).

Firm:

Contact Person:

(street address)

(city)

(state)

(zip code)

(telephone)

(ext.)

(FAX)

(email address)

3. Certification by Authorized Representative: I certify that this form and attachments have been completed by me or at my direction and that the information presented herein is, to the best of my knowledge, accurate.

(email address)

(date)

(name, typed)

(title)

\_\_\_\_\_  
(signature)

4. Eligible Projects.

- a. Stormwater management facilities, such as detention/retention facilities, treatment facilities, etc. sponsored by a local government (eligible under Section 212 of the amended Clean Water Act).
- b. Wastewater management facilities, such as sewers, pump stations, treatment plants, reuse facilities, sludge facilities, etc. sponsored by a local government (eligible under Section 212 of the amended Clean Water Act).
- c. Nonpoint source pollution control best management practices for agriculture, silvaculture, on-site treatment and disposal, wetlands, mining, marinas, brownfields or groundwater protection sponsored by any entity (eligible under Section 319 or 320 of the amended Clean Water Act).

5. Project Information (Please attach).

Describe the project, its location, the scope, why it's needed and the environmental benefit.

Attach maps showing system boundaries, existing and proposed service area, and project area.

6. Estimated Costs (Clean Water Act Section 212, 319, and 320).

- a. Planning and/or SSES \_\_\_\_\_
- b. Design \_\_\_\_\_
- c. Special Studies \_\_\_\_\_
- d. \*Eligible Land \_\_\_\_\_
- e. Construction, Equipment, Materials, Demolition and Related Procurement \_\_\_\_\_
- f. Construction Contingency (10% of Item e) \_\_\_\_\_
- g. Technical Services during Construction \_\_\_\_\_
- h. Sum of Items a. through g. \_\_\_\_\_

\*Funding shall be limited to the fair market value of the acreage of land necessary for and integral to the treatment process, including the zone of discharge. If additional land is purchased, the eligible amount shall be the acreage of land necessary for treatment divided by the total area purchased times the purchase price.

7. Project Schedule.

(Month and Year)

- Submit the planning or SSES documentation \_\_\_\_\_
- Submit the design documents, obtain permits, and acquire sites (as necessary) \_\_\_\_\_
- Start activity (such as construction or non-structural best management practice) \_\_\_\_\_
- Complete activity (such as construction or non-structural best management practice) \_\_\_\_\_

8. Population

- Population served by the system \_\_\_\_\_
- Population to be served by the project \_\_\_\_\_

9. Project Priority

- a. Baseline Priority Categorization.

Identify the category score(s) and construction costs(s) for which the project qualifies. The baseline priority score (BPS) shall be determined by prorating each component.

Project Component	Priority Points	Component Construction Cost
1. Eliminate a documented acute or chronic public health hazard. Examples: Elimination of failing septic tanks or failing package plants or elimination of sanitary sewer overflows.	500 points	_____
2. Implement a project included in, or to be implemented as a direct result of, an adopted Basin Management Action Plan or a Reasonable Assurance Plan approved pursuant to section 403.067, F.S.	450 points	_____
3. Protect surface or ground water by reducing a documented source of pollution, pollution reductions necessary to meet regulatory requirements, or repairs by local governments or on-site system management entities, under section 319 of the Act, that correct septic tank failures in springsheds of first-magnitude springs.	400 points	_____
4. Address a compliance problem documented in an enforcement action where the Department has issued a notice of violation or entered into a consent order with the project sponsor.	375 points	_____
5. Meet the criteria for Innovative/Alternative; correct excessive inflow/infiltration, scheduled rehabilitation, replacement; repair described in an approved asset management plan; or reuse that replaces an existing or proposed demand on a water supply.	350 points	_____
6. Planning and design loans and rehabilitation, replacement or repair not included in an approved asset management plan.	340 points	_____
7. Projects that construct other reclaimed water systems or residuals reuse that do not meet the criteria of component 5. above.	300 points	_____
8. Ensure compliance with other enforceable standards or requirements.	200 points	_____
9. Timely submitted projects that otherwise meet the requirements of the Act.	100 points	_____

b. Restoration and Protection of Special Water Bodies.

In order to qualify for a base score multiplier, identify which of the water bodies listed below that the project will assist in restoring or protecting and reference the location in existing documentation where substantiating information may be found or attach other such substantiating information. If none are selected, the multiplier equals 1.0. If one or more are selected, the multiplier is 1.2.

A priority water body identified in an adopted Surface Water Improvement and Management (SWIM) Plan.

☐

A water body classified as Outstanding Florida Waters.

☐

A water body classified as Wild and Scenic Rivers.

☐

A water body located in a priority watershed established under the Unified Watershed Assessment Program.

☐

c. Projects that document any of the following shall have bonus points added to the priority score after the adjustment under paragraph (a) above, as indicated.

- |  |           |                          |
|--|-----------|--------------------------|
| 1. Elimination of Ocean Outfalls   | 15 points | <input type="checkbox"/> |
| 2. Projects that demonstrate consistency with a Water Resource Management plan | 15 points | <input type="checkbox"/> |

Return the completed form to the State Revolving Fund Program, 3900 Commonwealth Blvd., MS 3505, Tallahassee, Florida, 32399-3000. The form may be scanned and emailed to [SRF\\_Reporting@dep.state.fl.us](mailto:SRF_Reporting@dep.state.fl.us) or may be sent by FAX to (850) 245-2857.



# Project Information

## City of Neptune Beach

The City of Neptune Beach wastewater collection system and treatment facility serves the citizens and businesses within the city limits, approximately 2.5 square miles. The treated effluent from the plant is disposed through an effluent force main (shared by the cities of Jacksonville Beach and Atlantic Beach) to the Lower St. Johns River, near the mouth of the river at Shermans Point. The receiving stream is classified as Class III Marine Waters, WBID 2213A-within the National Preserve.

The City has hired a consulting engineer through the RFP Process to assist with the long range planning of needed improvements for the wastewater system. The consultant is working with City staff to complete a Wastewater Facilities Plan that will meet the requirements of the State Revolving Fund (SRF) program guidelines. This plan along with the public participation process is expected to be complete by December 2020

### Background

Currently, the WWTF is under a FDEP Consent Order for exceedances of the Total Nitrogen TMDL effluent limitation. The WWTF experienced problems meeting the TMDL limitations because of high flows and sand and grit build-up in the IFAS treatment basin. Essentially, the WWTF is comprised of two treatment plants with one treatment plant (Treatment Plant #1) providing advanced treatment with nitrogen removal through an Integrated Fixed-Film Activated Sludge (IFAS) MLE process and the other treatment plant (Treatment Plant #2) providing secondary treatment in a package plant using extended aeration. The IFAS plant has a rated capacity of 0.8 MGD and the extended aeration plant has a rated capacity of 0.235 MGD for a combined permitted capacity of 1.035 MGD.

The City Took the IFAS plant off-line in March 2020 and removed the sand and grit that was impacting the aeration transfer. The City had to wait until the dry season, when there was less likelihood of I/I causing flow spikes to the plant, and rapidly take the IFAS tank out of service and remove the grit that was impairing treatment and causing the nitrogen limits to exceed the TMDL. Subsequent to the grit removal, the permitted nitrogen limits are being achieved. However, additional redundancy and backup capacity is recommended for the advanced treatment Plant #1.

In addition, the WWTF has aging and limited infrastructure in terms of the electrical power available. The entire plant electrical system needs to be upgraded .

### Infiltration and Inflow

Excessive I/I flow to the plant is intensifying the problems that led to the Consent Order conditions. During high rainfall periods the wastewater flow to the WWTF more than doubles, exceeding the permitted capacity of 1.035 MGD. These I/I incidents also create conditions that make the City vulnerable to sewer overflows.

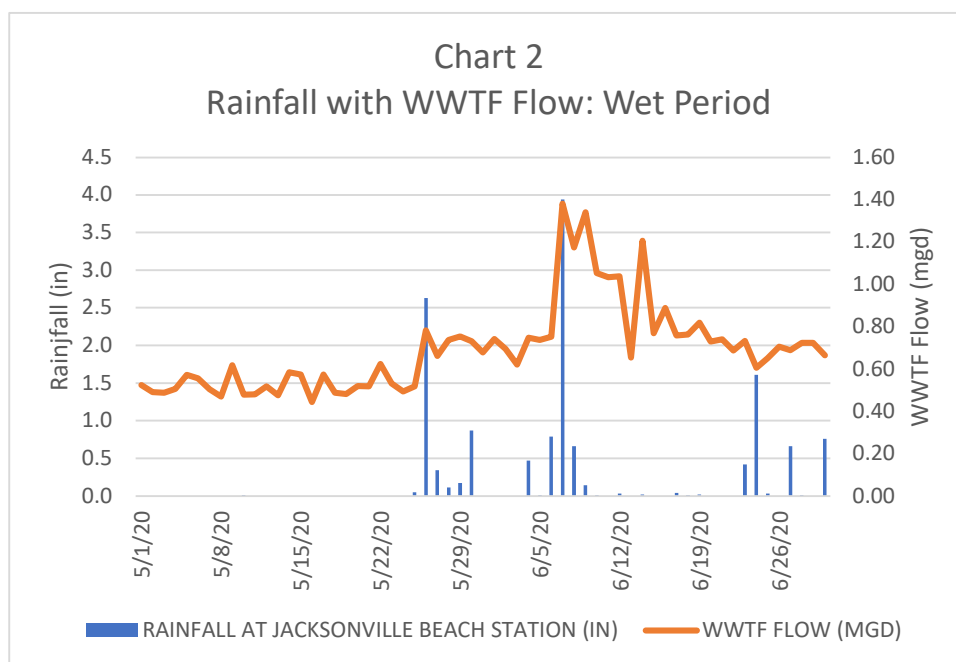
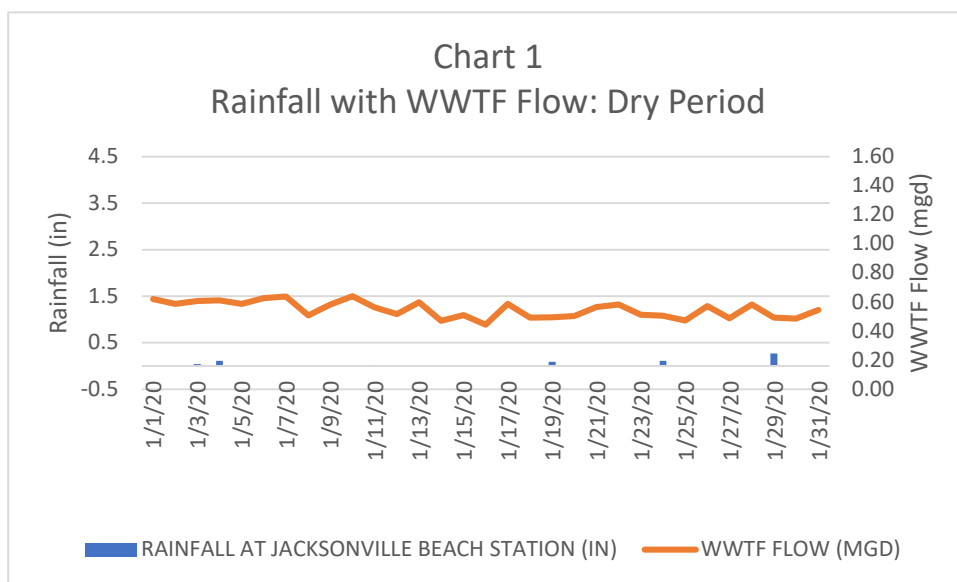
The overall extent of I/I was quantified in 3 ways:

- 1) Wastewater treatment facility flow variations during dry weather month vs. wet weather month
- 2) Wastewater treatment facility inflow per equivalent residential connection (ERC)
- 3) Pump station pumping rate variations during dry weather month vs. wet weather month

As shown in the following sections, each method of evaluation demonstrated a significantly high measure of I/I in the wastewater collection system.

### Wastewater Treatment Facility Flow Variations

Charts 1 and 2 show the Neptune Beach WWTF flows with rainfall during the dry period of January 2020 and the wet period of June 2020. As shown on these charts, the flow is relatively constant during periods of no rainfall or very low rainfall. When the rainfall increases, the plant flows more than double. This is disruptive to WWTF operation, especially considering that the WWTF has a surface water discharge.



### Wastewater Treatment Facility Inflow per ERC

Table 1 provides the current equivalent ERCs for the Neptune Beach wastewater customers. These equivalent ERCs represent active customers only, vacant customers were not included.

Table 1						
EQUIVALENT RESIDENTIAL CONNECTIONS FOR SEWER FROM BILLING DEPARTMENT METER COUNTS						
	3/4 inch	1 inch	1.5 inch	2 inch	4 inch	Total
EQUIVALENT ERCs FOR METER SIZE	1	2	5	8	25	
Residential Water	3271	114	17			3402
<b>Residential Sewer</b>	<b>3052</b>	<b>92</b>	<b>1</b>			<b>3145</b>
Commercial Water	168	62	24	30	5	289
Commercial Water no Sewer	2			1		3
<b>Commercial Sewer</b>	<b>166</b>	<b>62</b>	<b>24</b>	<b>29</b>	<b>5</b>	<b>286</b>
<b>Total Residential and Commercial Sewer</b>	<b>3218</b>	<b>154</b>	<b>25</b>	<b>29</b>	<b>5</b>	<b>3431</b>
<b>Equivalent ERCs</b>	<b>3218</b>	<b>308</b>	<b>125</b>	<b>232</b>	<b>125</b>	<b>4008</b>

At a WWTF Average Day Flow of 585,000 gpd for July 2019 through June 2020, the corresponding flow per equivalent ERC was 585,000 gpd / 4008 ERCs = 146 gpd/ERC. In contrast, the Maximum Month flow for the same period, which occurred during the high rainfall month of June 2020, was 827,000 gpd, resulting in a flow per equivalent ERC of 206 gpd/ERC. This represents a significant ERC flow occurring during a high rainfall month.

#### Lift Station Pumping Rate Variations During Wet Weather

Pumping rate variations to individual lift stations between dry months and wet months provide an indication of I/I for specific areas of the City. Table 2 shows the pumping rate to each lift station during January 2019, a dry month, and June 2020. In addition, the Maximum Day Flow for each pump station is shown. The Jacksonville Beach NOAA Weather Station recorded a 4-inch rainfall on June 7, 2020, which corresponds to the Maximum Day Flow on almost every lift station on June 8, 2020.

Table 2								
Dry Month and Wet Month Lift Station Pumping Rates								
Lift Station		Pumping Rate (gpd)				Max Day	Avg Flow % Increase	Max Flow % Increase
		Avg Jan 2020	Max Day Jan 2020	Avg June 2020	Max Day June 2020			
1	Fl Blvd	337,000	426,000	458,207	648,000	8-Jun	36.0%	52.1%
1a	1st St	9,380	13,200	13,117	19,200	14-Jun	39.8%	45.5%
2	Bay	13,240	18,000	33,393	75,600	8-Jun	152.2%	320.0%
3	Oceanwood	12,288	16,560	25,324	46,200	10-Jun	106.1%	179.0%
4	Lighty Lane	9,700	13,200	20,379	39,000	8-Jun	110.1%	195.5%
5	5th St	25,200	46,200	29,400	45,000	8-Jun	16.7%	-2.6%
6	Fletcher	11,980	15,000	13,634	27,600	8-Jun	13.8%	84.0%
7	Bal Harbour	4,876	6,463	13,177	51,702	8-Jun	170.2%	700.0%
8	Leeward Landing	15,060	18,901	23,548	46,948	8-Jun	56.4%	148.4%
9	Penman Terrace	12,240	17,400	18,579	27,600	8-Jun	51.8%	58.6%
10	Summer Sands	10,724	13,740	13,661	20,280	8-Jun	27.4%	47.6%
11	Emma	1,939	2,938	1,803	2,938	8-Jun	-7.0%	0.0%
12	Tara	2,845	4,878	3,175	4,878	17-Jun	11.6%	0.0%
<b>TOTAL</b>		<b>463,627</b>		<b>664,224</b>			<b>43.3%</b>	

As shown on Table 2, almost all lift station pumping rates increased significantly for both Average Day Flow conditions and Maximum Day Flow conditions.

### Cost of Infiltration and Inflow

Cost for wastewater collection and treatment per thousand gallons for the City of Neptune Beach can be estimated by using the City's wastewater budget and quantity of wastewater collected and treated. The City of Neptune Beach budget for Sewer Services and Construction for Fiscal Year 2019 was \$2,380,099. The annual average day flow at the Wastewater Treatment Facility reported on July 2020 was 0.590 mgd. The equivalent cost per thousand gallons for the City of Neptune Beach is \$11.05 ( $\$2,380,099 / (590 \text{ thousand gallons} \times 365 \text{ days})$ ).

The cost to the City of additional flow caused by I/I can be estimated by comparing the flows on a high rainfall month versus a dry month. In the past year the highest rainfall month was June 2020, resulting in a plant monthly ADF of 0.827 mgd, a total flow of 24.81 million gallons for the month. The lowest rainfall month was January 2020, resulting in a plant monthly ADF of 0.548 mgd, a total flow of 16.99 million gallons for the month. At a cost of \$11.05 / thousand gallons, this additional flow during the high rainfall month results in additional treatment cost to the City for one month of \$86,400.

### Wastewater Facilities Plan

The City is completing a Wastewater Facilities Plan to meet the Wastewater Utility Service needs for the 20-yr planning period. This Facilities Plan is being funded by the City and includes the WWTF improvements as well as the collection system improvements. The Wastewater Facilities Plan will be completed in December 2020. Preliminary planning, design and construction projects and costs in the Facilities Plan are shown on Table 3. These projects are shown on Exhibit 1 and described in the following section.

<b>Table 3</b> <b>Proposed Planning, Design and Construction Projects and Costs</b>		
<b>Facilities Plan Project</b>	<b>Wastewater Treatment and Collection System Improvements</b>	<b>Budget Costs</b>
<b><i>Planning and Design</i></b>		
	Wastewater Treatment Facility: Surveys, Soils/Geotechnical Reports, Biddable Engineering Drawings, Technical Specifications, FDEP Permit, Site Certification	\$416,000
	Sewer System Evaluation Survey: Smoke Testing, Cleaning and Televising, Midnight Investigation and Manhole Inspections	\$784,000
	Find and fix work to be completed during the smoke testing include Manhole inflow dishes and Cleanout Plugs Where Needed.	\$38,200
	Surveying for Collection System Projects 4,5,6,7,8,9,10 below	\$363,200
	<b>Planning and Design Total</b>	<b>\$1,601,400</b>
<b><i>Construction</i></b>		
1	Wastewater Treatment Facility Upgrades	\$5,460,400
2	Gravity Sewer System Infiltration and Inflow Mitigation and Rehabilitation	\$2,871,800
3	Lift Station Rehabilitation	\$2,357,500
4	Relocation of Gravity Sewer Lines to North Street and Florida Blvd	\$602,100
5	Relocation of Bal Harbour Lift Station	\$391,800
6	Relocation of Gravity Sewer in Oceanwood Development	\$1,517,600
7	Construction of Central Force Main on Florida Blvd. and Forest Avenue to WWTF	\$877,500
8	Force Main Re-routing for Leeward Landing Lift Station	\$73,600
9	Wastewater Collection and Treatment for 2 Neighborhoods on Septic Systems	\$421,400
10	Gravity Sewer Line Across Third Street	\$34,000
11	Remediate Gravity Sewer Conflict with Storm Sewer on Forest Ave.	\$1,382,100
	<b>Construction Subtotal</b>	<b>\$15,916,200</b>
	10% Construction Contingencies (unknown / unforeseen events)	\$1,591,600
	Construction Bidding and Award	\$5,000
	Construction Technical Services during Construction for WWTF Construction	\$75,000
	Grant / Loan Administration	\$159,200
	<b>Construction Total</b>	<b>\$17,747,000</b>
<b><i>TOTAL PLANNING AND CONSTRUCTION</i></b>		<b>\$19,348,400</b>



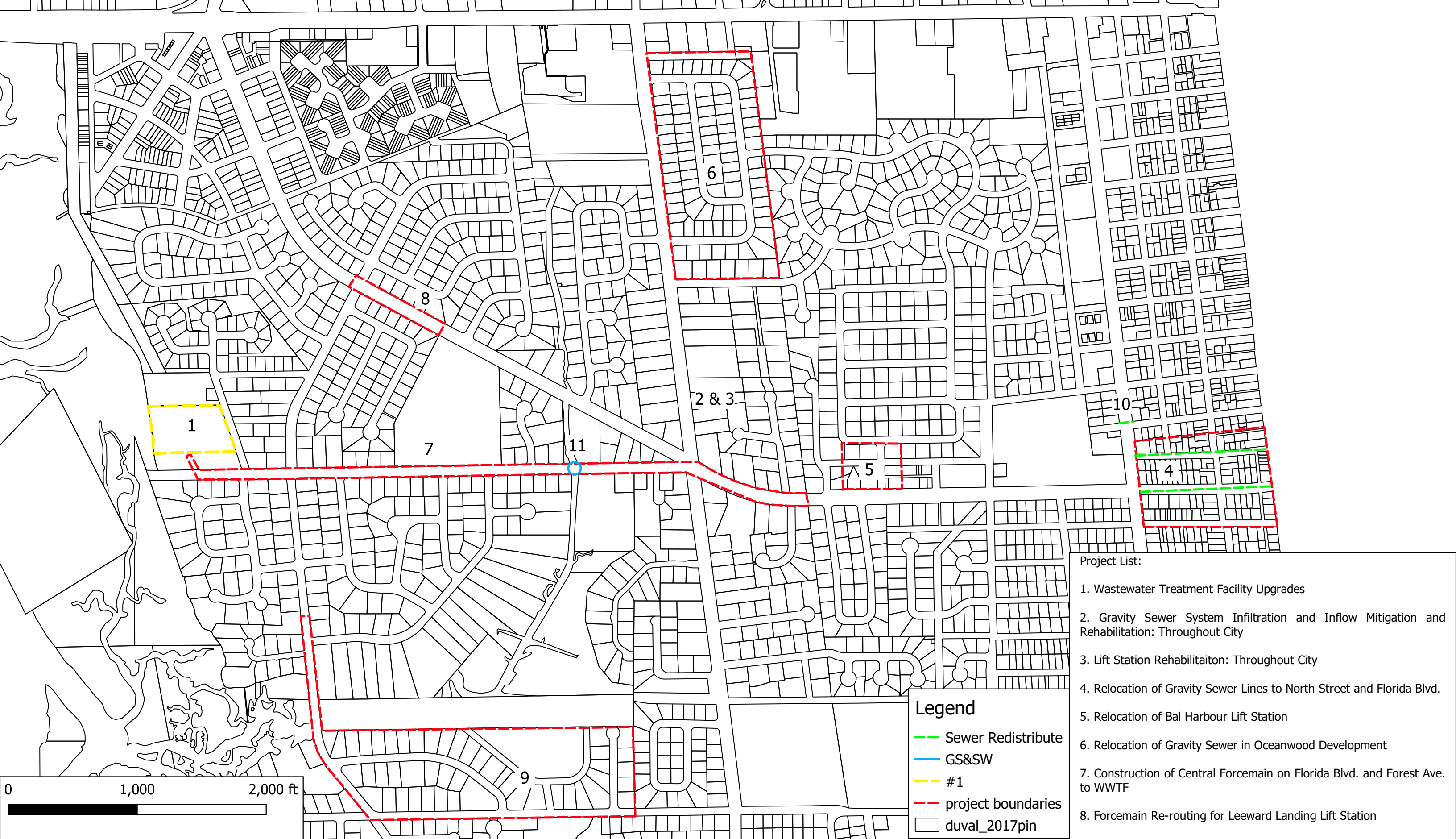


Exhibit 1  
City of Neptune Beach Wastewater Project Map

### **1) Wastewater Treatment Facility Upgrades**

Proposed WWTF improvements based on the work already completed for the Wastewater Facilities Plan include addition of a new IFAS Stabilization Tank and a new Clarifier, converting a tank to an Anoxic Tank, converting a Digester to a Contact Tank and converting another tank to a Digester with floating aerators. Design documents for these improvements now need to be completed including Surveys, Soils/Geotechnical Reports, Biddable Engineering Drawings, Technical Specifications, FDEP Permit, and Site Certification. Cost for preparation of these documents is being submitted as part of this RFI application.

### **2) Gravity Sewer System Infiltration and Inflow Mitigation and Rehabilitation**

The City of Neptune Beach is experiencing very high Infiltration and Inflow (I/I), which is responsible for sewer overflows and disrupting the WWTF operation and treatment. Some remedial work on areas of the collection system has been completed. This work included pipe bursting as well as pipe and manhole replacement on approximately 24% of the system. In addition, wastewater flows in the City have been re-routed to reduce pressure on overtaxed areas. Even with these extensive improvements, I/I is still a major impact.

For this project, the SSES results will be used to do targeted rehabilitation for high I/I sources. It is initially assumed that this will require lining 30% of the sewers that have not already been pipe burst or replaced and that 50% of the manholes that have not already been rehabilitated or replaced will require cementitious lining and 5% will require fiberglass lining. The results of the SSES will provide more detailed information on the percentage of the system in need of rehabilitation and the costs of this project will be adjusted accordingly.

### **3) Lift Station Rehabilitation**

The City has 13 Lift Stations that need repair and rehabilitation. In addition, the buildings housing the lift stations need to be rehabilitated and are an eye-sore for the City. These lift stations should be converted to submersible stations that would have less maintenance as well as less noise for the neighborhoods closely surrounding them. This project would provide for repair and rehabilitation of 12 Lift Stations and major repairs and rehabilitation of 1 Lift Station (Lighty Lane Lift Station).

### **4) Relocation of Gravity Sewer Lines to North Street and Florida Blvd**

In the area of North Street and Florida Blvd., east of Third Street, there are 6-inch sewer lines behind homes without access for City Maintenance. There are no City easements for the lines leaving it almost impossible for the City to perform maintenance and repair to prevent potential sewer breaks and overflows. This project would replace the existing sewer lines with new 8-inch gravity sewers in the roadway.

### **5) Relocation of Bal Harbour Lift Station**

The Bal Harbour Lift Station is currently located between residential properties with very limited access for City maintenance crews for repairs. This Lift Station is also experiencing very high I/I, with the average day flow increasing from 4,880 gpd Average Day Flow in a dry month to 13,180 gpd in a high rainfall month, almost tripling. Consequently, need for maintenance in this challenging location and opportunity for overflows at the pump station in resident's back yards is especially problematic. This project would relocate the Lift Station and provide a connection between the existing location and the proposed location by directionally drilling the new gravity sewer line.



## **6) Relocation of Gravity Sewer in Oceanwood Development**

The Oceanwood neighborhood is experiencing especially high I/I. The lift station serving that neighborhood almost triples its flow during high rainfall periods, from a Maximum Day Flow of 16,560 gpd in a dry month to 46,200 gpd in a high rainfall month. In addition, the sewer lines in this neighborhood are in back yards, between houses, restricting access for maintenance and repairs. This project would replace the existing sewer lines and manholes with new 8-inch gravity sewers and manholes in the roadways.

## **7) Construction of Central Force Main on Florida Blvd and Forest Avenue to WWTF**

The City's Master Lift Station (aka Florida Blvd) serves the beaches and downtown district and it discharges into a gravity interceptor main on Florida Blvd that flows to the WWTF. This gravity interceptor receives flow from most of the city residents and is at capacity. During severe storm events, the interceptor is surcharged and resulted in sewage overflows.

It is proposed to build a 12-inch forcemain along Florida Blvd and Forest Avenue to the WWTP and to manifold the three lift stations including Florida Blvd, Bal Harbor and Bay St. and to pump directly to the WWTF thereby by-passing the overloaded gravity interceptor.

## **8) Force Main Re-routing for Leeward Landing Lift Station**

This project will re-route the flow from the Leeward Landing Lift station away from the overloaded gravity interceptor on Forrest Ave and to allow this sewage to flow to the City's other interceptor sewer that is not current

## **9) Wastewater Collection and Treatment for 2 Neighborhoods on Septic Systems**

The City of Neptune Beach is essentially built out with utility service available to all the residents. There are two neighborhoods in the southern edge of the City that are still on septic systems. These are in the drainage area and close proximity to Hopkins Creek, which has had excessive fecal coliform problems. Providing sewer service to these neighborhoods would help alleviate a public health concern for Hopkins Creek and the Intracoastal Waterway in that area. This project would provide a gravity sewer system for these neighborhoods.

## **10) Gravity Sewer Line Across Third Street**

A significant portion of the Service Area served by the Florida Blvd. Lift Station is from the area east of Third Street. The sewage flow from this station represented approximately 70% of the total flow from all the City's lift stations during both dry and wet months this past year. Third Street is a high traffic volume road, running north and south through the City. There is only one sewer line crossing under Third Street conveying the sewage from the eastern portion of the City to the Florida Blvd. Lift Station and this sewer is at over 80% capacity.

If there were any breaks or blockages in that gravity sewer line running under Third Street, sewage could not be conveyed away from a large portion of the City resulting in potentially, numerous sewer overflows. Consequently, an additional gravity sewer crossing under Third Street is recommended to provide redundancy and alleviate the flow on the existing sewer line crossing at Third Street.

## **11) Remediate Gravity Sewer Conflict with Storm Sewer on Forest Ave.**

There is a conflict between a gravity sewer and stormwater drainage where Forest Ave. crosses Hopkins Creek. The gravity sewer conflict impedes the flow of water in Hopkins Creek with is the major drainage tributary for the City. The purpose of the project is to improve drainage through Hopkins Creek.

**COMMUNITY PLANNING TECHNICAL ASSISTANCE  
GRANT AGREEMENT  
STATE OF FLORIDA  
DEPARTMENT OF ECONOMIC OPPORTUNITY**

**THIS GRANT AGREEMENT** ("Agreement") is made and entered into by and between the State of Florida, Department of Economic Opportunity ("DEO"), and the City of Neptune Beach ("Grantee"). DEO and Grantee are sometimes referred to herein individually as a "Party" and collectively as "the Parties."

**WHEREAS**, DEO has the authority to enter into this Agreement and distribute State of Florida funds ("Award Funds") in the amount and manner set forth in this Agreement and in the following Attachments incorporated herein as an integral part of this Agreement:

- **Attachment 1: Scope of Work**
- **Attachment 1-A: Invoice: Grantee's Subcontractor(s) (Contractual Services)**
- **Attachment 1-B: Invoice: Grantee's Employee(s)**
- **Attachment 1-C: Invoice: Combination of Grantee's Subcontractor(s) and Grantee's Employee(s)**
- **Attachment 1-D: Grant Agreement Final Closeout Form**
- **Attachment 2 and Exhibit 1 to Attachment 2: Audit Requirements**
- **Attachment 3: Audit Compliance Certification**

**WHEREAS**, the Agreement and its aforementioned Attachments are hereinafter collectively referred to as the "Agreement", and if any inconsistencies or conflict between the language of this Agreement and its Attachments arise, then the language of the Attachments shall control, but only to the extent of the conflict or inconsistency;

**WHEREAS**, Grantee hereby represents and warrants that Grantee's signatory to this Agreement has authority to bind Grantee to this Agreement as of the Effective Date and that Grantee, through its undersigned duly-authorized representative in his or her official capacity, has the authority to request, accept, and expend Award Funds for Grantee's purposes in accordance with the terms and conditions of this Agreement;

**NOW THEREFORE**, for and in consideration of the covenants and obligations set forth herein and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties intending to be legally bound hereby agree to perform the duties described herein in this Agreement as follows:

**A. AGREEMENT PERIOD**

This Agreement is effective as of July 1, 2020 (the "Effective Date") and shall continue until the earlier to occur of (a) June 30, 2021 (the "Expiration Date") or (b) the date on which either Party terminates this Agreement (the "Termination Date"). The period of time between the Effective Date and the Expiration Date or Termination Date is the "Agreement Period."

**B. FUNDING**

This Agreement is a **cost reimbursement** Agreement. DEO shall pay Grantee up to ***Fifty thousand Five Hundred Seventy Dollars (\$50,570)*** in consideration for Grantee's performance under this

Agreement. DEO, in its sole and absolute discretion, may provide Grantee an advance of Award Funds under this Agreement. Travel expenses are authorized under this Agreement. Grantee shall submit bills for such travel expenses and shall be reimbursed only in accordance with Section (s.) 112.061, Florida Statutes (F.S.), and the Invoice Submittal Procedures delineated in Attachment 1, Scope of Work. DEO shall not pay Grantee's costs related to this Agreement incurred outside of the Agreement Period. In conformity with s. 287.0582, F.S., the State of Florida and DEO's performance and obligation to pay any Award Funds under this Agreement is contingent upon an annual appropriation by the Legislature. DEO shall have final unchallengeable authority as to both the availability of funds and what constitutes an "annual appropriation" of funds. Grantee shall not expend Award Funds for the purpose of lobbying the Legislature, the judicial branch, or a state agency. Grantee shall not expend Award Funds to pay any costs incurred in connection with any defense against any claim or appeal of the State of Florida or any agency or instrumentality thereof (including DEO); or to pay any costs incurred in connection with the prosecution of any claim or appeal against the State of Florida or any agency or instrumentality thereof (including DEO), which Grantee instituted or in which Grantee has joined as a claimant. Grantee shall either (i) maintain Award Funds in a separate bank account, or (ii) expressly designate in Grantee's business records and accounting system that the Award Funds originated from this Agreement. Grantee shall not commingle Award Funds with any other funds. DEO may refuse to reimburse Grantee for purchases made with commingled funds. Grantee's costs must be in compliance with all laws, rules, and regulations applicable to expenditures of State funds, including the Reference Guide for State Expenditures (<https://www.myfloridacfo.com/Division/AA/Manuals/documents/ReferenceGuideforStateExpenditures.pdf>).

#### **C. ELECTRONIC FUNDS TRANSFER**

Within 30 calendar days of the date the last Party has signed this Agreement, Grantee shall enroll in Electronic Funds Transfer (EFT) from the State's Chief Financial Officer. A copy of the Authorization form can be found on the vendor instruction page at: <https://www.myfloridacfo.com/Division/AA/Vendors/default.htm>. Any questions should be directed to the Direct Deposit Section of the Division of Accounting and Auditing at (850) 413-5517. Once enrolled, invoice payments shall be made by EFT.

#### **D. RENEGOTIATION OR MODIFICATION**

The Parties agree to renegotiate this Agreement if federal and/or state revisions of any applicable laws or regulations make changes to this Agreement necessary. In addition to changes necessitated by law, DEO may at any time, with written notice to Grantee, make changes within the general scope and purpose of this Agreement, at DEO's sole and absolute discretion. Such changes may include modifications of the requirements, changes to processing procedures, or other changes as decided by DEO. Grantee shall be responsible for any due diligence necessary to determine the impact of each aforementioned modification or change. Any modification of this Agreement Grantee requests must be in writing and duly signed and dated by all Parties in order to be valid and enforceable.

#### **E. AUDITS REQUIREMENTS AND COMPLIANCE**

1. Section 215.971, Florida Statutes ("F.S."). Grantee shall comply with all applicable provisions of s. 215.971, F.S., and Attachment 2 and Exhibit 1 to Attachment 2: Audit Requirements.



Grantee shall perform the deliverables and tasks set forth in Attachment 1, Scope of Work. Grantee may only expend Award Funds for allowable costs resulting from obligations incurred during the Agreement Period. Grantee shall refund to DEO any: (1) balance of unobligated Award Funds which have been advanced or paid to Grantee; or (2) Award Funds paid in excess of the amount to which Grantee is entitled under the terms and conditions of this Agreement and Attachments hereto, upon expiration or termination of this Agreement.

2. **Audit Compliance.** Grantee understands and shall comply with the requirements of s. 20.055(5), F.S. Grantee agrees to reimburse the State for the reasonable costs of investigation the Inspector General or other authorized State official incurs for investigations of Grantee's compliance with the terms of this or any other agreement between the Grantee and the State which results in the suspension or debarment of Grantee. Grantee shall not be responsible for any costs of investigations that do not result in Grantee's suspension or debarment.

#### F. RECORDS AND INFORMATION RELEASE

1. **Records Compliance.** DEO is subject to the provisions of chapter 119, F.S., relating to public records. Any document Grantee submits to DEO under this Agreement may constitute public records under the Florida Statutes. Grantee shall cooperate with DEO regarding DEO's efforts to comply with the requirements of chapter 119, F.S. Grantee shall respond to requests to inspect or copy such records in accordance with chapter 119, F.S. for records made or received by Grantee in connection with this Agreement. Grantee shall immediately notify DEO of the receipt and content of any request by sending an e-mail to [PRRequest@deo.myflorida.com](mailto:PRRequest@deo.myflorida.com) within one business day after receipt of such request. Grantee shall indemnify, defend, and hold DEO harmless from any violation of Florida's public records laws wherein DEO's disclosure or nondisclosure of any public record was predicated upon any act or omission of Grantee. As applicable, Grantee shall comply with s. 501.171, F.S. DEO may terminate this Agreement if Grantee fails to comply with Florida's public records laws. Grantee shall allow public access to all records made or received by Grantee in connection with this Agreement, unless the records are exempt from s. 24(a) of Article I of the State Constitution or s. 119.07(1), F.S.
2. **Identification of Records.** Grantee shall clearly and conspicuously mark all records submitted to DEO if such records are confidential and exempt from public disclosure. Grantee's failure to clearly mark each record and identify the legal basis for each exemption from the requirements of chapter 119, F.S., prior to delivery of the record to DEO serves as Grantee's waiver of a claim of exemption. Grantee shall ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for as long as those records are confidential and exempt pursuant to Florida law. If DEO's claim of exemption asserted in response to Grantee's assertion of confidentiality is challenged in any court of law, Grantee shall defend, assume, and be responsible for all fees, costs, and expenses in connection with such challenge.
3. **Keeping and Providing Records.** DEO and the State have an absolute right to view, inspect, or make or request copies of any records arising out of or related to this Agreement. The Grantee has an absolute duty to keep and maintain all records arising out of or related to this Agreement. DEO may request copies of any records made or received in connection with this Agreement, or arising out of Grantees use of Award Funds, and Grantee shall provide DEO with copies of any records within 10 business days after DEO's request at no cost to DEO.

Grantee shall maintain all books, records, and documents in accordance with generally accepted accounting procedures and practices which sufficiently and properly reflect all expenditures of Award Funds. For avoidance of doubt, Grantee's duties to keep and provide records to DEO includes all records generated in connection with or as a result of this Agreement. Upon expiration or termination of this Agreement, the Grantee shall transfer, at no cost, to DEO all public records in possession of Grantee or keep and maintain public records required by DEO to perform the service. If the Grantee keeps and maintains public records upon completion of this Agreement, the Grantee shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to DEO, upon request from DEO's custodian of records, in a format that is compatible with the information technology systems of DEO.

4. **Audit Rights.** Representatives of the State of Florida, DEO, the State Chief Financial Officer, the State Auditor General, the Florida Office of Program Policy Analysis and Government Accountability or representatives of the federal government and their duly authorized representatives shall have access to any of Grantee's books, documents, papers, and records, including electronic storage media, as they may relate to this Agreement, for the purposes of conducting audits or examinations or making excerpts or transcriptions.
5. **Single Audit Compliance Certification.** Annually within 60 calendar days of the close of Grantee's fiscal year, Grantee shall electronically submit a completed Audit Compliance Certification (a version of this certification is attached hereto as Attachment 3) to [Audit@deo.myflorida.com](mailto:Audit@deo.myflorida.com). Grantee's timely submittal of one completed Audit Compliance Certification for each applicable fiscal year will fulfill this requirement for all agreements between DEO and Grantee.
6. **Ensure Compliance.** Grantee shall ensure that any entity which is paid from, or for which Grantee's expenditures will be reimbursed by, Award Funds, is aware of and will comply with the aforementioned audit and record keeping requirements.
7. **Contact Custodian of Public Records for Questions. IF THE GRANTEE HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE GRANTEE'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS AGREEMENT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS by telephone at (850) 245-7140, via e-mail at [PRRequest@deo.myflorida.com](mailto:PRRequest@deo.myflorida.com), or by mail at Department of Economic Opportunity, Public Records Coordinator, 107 East Madison Street, Caldwell Building, Tallahassee, Florida 32399-4128.**

#### **G. TERMINATION AND FORCE MAJEURE**

1. **Termination due to Lack of Funds:** In the event funds to finance this Agreement become unavailable or if federal or state funds upon which this Agreement is dependent are withdrawn or redirected, DEO may terminate this Agreement upon no less than twenty-four (24) hour written notice to Grantee. DEO shall be the final authority as to the availability of funds and will not reallocate funds earmarked for this Agreement to another program thus causing "lack of funds." In the event of termination of this Agreement under this provision,

Grantee will be paid for any work satisfactorily completed prior to notification of termination. The lack of funds shall not constitute DEO's default under this Agreement.

2. **Termination for Cause:** DEO may terminate the Agreement if Grantee fails to: (1) deliver the services within the time specified in the Agreement or any extension; (2) maintain adequate progress, thus endangering performance of the Agreement; (3) honor any term of the Agreement; or (4) abide by any statutory, regulatory, or licensing requirement. The rights and remedies of DEO in this clause are in addition to any other rights and remedies provided by law or under the Agreement. Grantee shall not be entitled to recover any cancellation charges or lost profits.
3. **Termination for Convenience:** DEO, by written notice to Grantee, may terminate this Agreement in whole or in part when DEO determines in DEO's sole and absolute discretion that it is in DEO's interest to do so. Grantee shall not provide any deliverable pursuant to Attachment 1: Scope of Work after it receives the notice of termination, except as DEO otherwise specifically instructs Grantee in writing. Grantee shall not be entitled to recover any cancellation charges or lost profits.
4. **Grantee's Responsibilities Upon Termination:** If DEO issues a Notice of Termination to Grantee, except as DEO otherwise specifies in that Notice, Grantee shall: (1) Stop work under this Agreement on the date and to the extent specified in the notice; (2) complete performance of such part of the work DEO does not terminate; (3) take such action as may be necessary, or as DEO may specify, to protect and preserve any property which is in the possession of Grantee and in which DEO has or may acquire an interest; and (4) upon the effective date of termination, Grantee shall transfer, assign, and make available to DEO all property and materials belonging to DEO pursuant to the terms of this Agreement and all Attachments hereto. Grantee shall not receive additional compensation for Grantee's services in connection with such transfers or assignments.
5. **Force Majeure and Notice of Delay from Force Majeure.** Neither Party shall be liable to the other for any delay or failure to perform under this Agreement if such delay or failure is neither the fault nor the negligence of the Party or its employees or agents and the delay is due directly to acts of God, wars, acts of public enemies, strikes, fires, floods, or other similar cause wholly beyond the Party's control, or for any of the foregoing that affects subcontractors or suppliers if no alternate source of supply is available. However, in the event of delay from the foregoing causes, the Party shall take all reasonable measures to mitigate any and all resulting delay or disruption in the Party's performance obligation under this Agreement. If the delay is excusable under this FORCE MAJEURE AND NOTICE OF DELAY FROM FORCE MAJEURE section, the delay will not result in any additional charge or cost under the Agreement to either Party. In the case of any delay Grantee believes is excusable under this FORCE MAJEURE AND NOTICE OF DELAY FROM FORCE MAJEURE section, Grantee shall notify DEO in writing of the delay or potential delay and describe the cause of the delay either: (1) within 10 calendar days after the cause that creates or will create the delay first arose, if Grantee could reasonably foresee that a delay could occur as a result; or (2) within five calendar days after the date Grantee first had reason to believe that a delay could result, if the delay is not reasonably foreseeable. THE FOREGOING SHALL CONSTITUTE GRANTEE'S SOLE REMEDY OR EXCUSE WITH RESPECT TO DELAY. Providing notice in strict accordance with this FORCE MAJEURE AND NOTICE OF DELAY FROM FORCE MAJEURE section is a condition precedent to such remedy. DEO, in its sole discretion, will determine if the delay is



excusable under this FORCE MAJEURE AND NOTICE OF DELAY FROM FORCE MAJEURE section and will notify Grantee of its decision in writing. No claim for damages, other than for an extension of time, shall be asserted against DEO. Grantee shall not be entitled to an increase in the Agreement price or payment of any kind from DEO for direct, indirect, consequential, impact, or other costs, expenses or damages, including but not limited to costs of acceleration or inefficiency arising because of delay, disruption, interference, or hindrance from any cause whatsoever. If performance is suspended or delayed, in whole or in part, due to any of the causes described in this FORCE MAJEURE AND NOTICE OF DELAY FROM FORCE MAJEURE section, after the causes have ceased to exist, Grantee shall perform at no increased cost, unless DEO determines, in its sole discretion, that the delay will significantly impair the value of the Agreement to DEO or the State, in which case, DEO may terminate the Agreement in whole or in part.

#### **H. BUSINESS WITH PUBLIC ENTITIES**

Grantee is aware of and understands the provisions of s. 287.133(2)(a), F.S., and s. 287.134(2)(a), F.S. As required by s. 287.135(5), F.S., Grantee certifies that it is not: (1) listed on the Scrutinized Companies that Boycott Israel List, created pursuant to s. 215.4725, F.S.; (2) engaged in a boycott of Israel; (3) listed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, created pursuant to s. 215.473, F.S.; or (4) engaged in business operations in Cuba or Syria. DEO may immediately terminate this Agreement if Grantee submits a false certification as to the above, or if Grantee is placed on the Scrutinized Companies that Boycott Israel List, engages in a boycott of Israel, is placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or has engaged in business operations in Cuba or Syria.

#### **I. CONTINUING DISCLOSURE OF LEGAL PROCEEDINGS. *(Not applicable)***

#### **J. ADVERTISING AND SPONSORSHIP DISCLOSURE**

- 1. Limitations on Advertising of Agreement.** DEO does not endorse any Grantee, commodity, or service. Unless authorized under the scope of work, subject to chapter 119, F.S., Grantee shall not publicly disseminate any information concerning this Agreement without prior written approval from DEO, including, but not limited to mentioning this Agreement in a press release or other promotional material, identifying DEO or the State as a reference, or otherwise linking Grantee's name and either a description of the Agreement or the name of DEO or the State in any material published, either in print or electronically, to any entity that is not a Party to this Agreement, except potential or actual employees, agents, representatives, or subcontractors with the professional skills necessary to perform the work services required by the Agreement.
- 2. Disclosure of Sponsorship.** As required by s. 286.25, F.S., if Grantee is a nongovernmental organization which sponsors a program financed wholly or in part by state funds, including any funds obtained through this Agreement, it shall, in publicizing, advertising, or describing the sponsorship of the program, state: "Sponsored by (Grantee's name) and the State of Florida, Department of Economic Opportunity." If the sponsorship reference is in written material, the words "State of Florida, Department of Economic Opportunity" shall appear in the same size letters or type as the name of the organization.



**K. INVOICES AND PAYMENTS**

1. Grantee will provide DEO's Agreement Manager invoices in accordance with the requirements of the State of Florida Reference Guide for State Expenditures (<https://www.myfloridacfo.com/Division/AA/Manuals/documents/ReferenceGuideforStateExpenditures.pdf>), with detail sufficient for a proper pre-audit and post-audit thereof. Grantee shall comply with the Invoice Submittal and Payment provisions of Section 10 of Attachment 1, Scope of Work, and with the following requirements:
  - a. Invoices must be legible and must clearly reflect the goods/services that were provided in accordance with the terms of the Agreement for the invoice period. Payment does not become due under the Agreement until the invoiced deliverable(s) and any required report(s) are approved and accepted by DEO.
  - b. Invoices must contain the Grantee's name, address, federal employer identification number or other applicable Grantee identification number, the Agreement number, the Grantee's invoice number, an invoice date, the dates of service, the deliverable number, a description of the deliverable, a statement that the deliverable has been completed, and the amount being requested. DEO or the State may require any additional information from Grantee that DEO or the State deems necessary to process an invoice.
  - c. Invoices must be submitted in accordance with the time requirements specified in the Scope of Work.
2. At DEO's or the State's option, Grantee may be required to invoice electronically pursuant to guidelines of the Department of Management Services.
3. Payment shall be made in accordance with s. 215.422, F.S., Rule 69I-24, F.A.C., and s. 287.0585, F.S., which govern time limits for payment of invoices. Section 215.422, F.S., provides that agencies have five (5) working days to inspect and approve goods and services unless the Scope of Work specifies otherwise. DEO has twenty (20) days to deliver a request for payment (voucher) to the Department of Financial Services. The twenty (20) days are measured from the latter of the date the invoice is received or the goods or services are received, inspected and approved. The Scope of Work may specify conditions for retainage. Invoices returned to a Grantee due to preparation errors will result in a delay of payment. Invoice payment requirements do not start until a properly completed invoice is provided to DEO. DEO is responsible for all payments under the Agreement.
4. Section 55.03(1), F.S., identifies the process applicable to the determination of the rate of interest payable on judgments and decrees, and pursuant to s. 215.422(3)(b), F.S., this same process applies to the determination of the rate of interest applicable to late payments to vendors for goods and services purchased by the State and for contracts which do not specify a rate of interest. The applicable rate of interest is published at:  
  
<https://www.myfloridacfo.com/Division/AA/LocalGovernments/Current.htm>
5. Grantee shall submit the final invoice for payment to DEO no later than **60** days after the Agreement ends or is terminated. If Grantee fails to do so, DEO, in its sole discretion, may refuse to honor any requests submitted after this time period and may consider Grantee to have forfeited any and all rights to payment under this Agreement.

**L. RETURN OR RECOUPMENT OF FUNDS**

1. **Recoupment.** Notwithstanding anything in this Agreement to the contrary, DEO has an absolute right to recoup Award Funds. DEO may refuse to reimburse Grantee for any cost if DEO determines that such cost was not incurred in compliance with the terms of this Agreement. DEO may demand a return of Award Funds if DEO terminates this Agreement. The application of financial consequences as set forth in the Scope of Work is cumulative to any of DEO's rights to recoup Award Funds. Notwithstanding anything in this Agreement to the contrary, in no event shall the application of any financial consequences or recoupment of Award Funds exceed the amount of Award Funds, plus interest.
2. **Overpayments.** If Grantee's (a) noncompliance with this Agreement or any applicable federal, state, or local law, rule, regulation or ordinance, or (b) Grantee's performance or nonperformance of any term or condition of this Agreement results in (i) an unlawful use of Award Funds; (ii) a use of Award Funds that doesn't comply with the terms of this Agreement; or (iii) a use which constitutes a receipt of Award Funds to which Grantee is not entitled (each such event an "Overpayment"), then Grantee shall return such Overpayment of Award Funds to DEO.
3. **Discovery of Overpayments.** Grantee shall refund any Overpayment of Award Funds to DEO within 30 days of Grantee's discovery of an Overpayment, or receipt of notification from DEO that an Overpayment has occurred. DEO is the final authority as to what may constitute an Overpayment of Award Funds. Refunds should be sent to DEO's Agreement Manager and made payable to the "Department of Economic Opportunity". Should repayment not be made in a timely manner, DEO may charge interest at the lawful rate of interest on the outstanding balance beginning 30 days after the date of notification or discovery.
4. **Right of Set-Off.** DEO and the State shall have all of its common law, equitable and statutory rights of set-off, including, without limitation, the State's option to withhold for the purposes of set-off any moneys due to Grantee under this Agreement up to any amounts due and owing to DEO with respect to this Agreement, any other contract with any State department or agency, including any contract for a term commencing prior to the term of this Agreement, plus any amounts due and owing to the State for any other reason. The State shall exercise its set-off rights in accordance with normal State practices including, in cases of set-off pursuant to an audit, the finalization of such audits by the State or its representatives.

**M. INSURANCE**

Unless Grantee is a state agency or subdivision as defined in s. 768.28(2), F.S., Grantee shall provide and maintain at all times during this Agreement adequate commercial general liability insurance coverage. A self-insurance program established and operating under the laws of the State of Florida may provide such coverage.

Grantee, at all times during the Agreement, at Grantee's sole expense, shall provide commercial insurance of such a type and with such terms and limits as may be reasonably associated with this Agreement, which, as a minimum, shall be: workers' compensation and employer's liability insurance in accordance with chapter 440, F.S., with minimum employer's liability limits of

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\$100,000 per accident, \$100,000 per person, and \$500,000 policy aggregate. Such policy shall cover all employees engaged in any Agreement work.

Grantee shall maintain insurance coverage of such types and with such terms and limits as may be reasonably associated with this Agreement, as required by law, and as otherwise necessary and prudent for the Grantee's performance of its operations in the regular course of business. The limits of coverage under each policy maintained by Grantee shall not be interpreted as limiting Grantee's liability and obligations under this Agreement. All insurance policies shall be through insurers licensed and authorized to write policies in Florida, and such policies shall cover all employees engaged in any Agreement work. Grantee shall maintain any other insurance required in the Scope of Work. Upon request, Grantee shall produce evidence of insurance to DEO.

DEO shall not pay for any costs of any insurance or policy deductible, and payment of any insurance costs shall be Grantee's sole responsibility. Providing and maintaining adequate insurance coverage is a material obligation of Grantee, and failure to maintain such coverage may void the Agreement, at DEO's sole and absolute discretion, after DEO's review of Grantee's insurance coverage when Grantee is unable to comply with DEO's requests concerning additional appropriate and necessary insurance coverage. Upon execution of this Agreement, Grantee shall provide DEO written verification of the existence and amount for each type of applicable insurance coverage. Within 30 calendar days of the effective date of the Agreement, Grantee shall furnish DEO proof of applicable insurance coverage by standard ACORD form certificates of insurance. In the event that an insurer cancels any applicable coverage for any reason, Grantee shall immediately notify DEO of such cancellation and shall obtain adequate replacement coverage conforming to the requirements herein and provide proof of such replacement coverage within 15 business days after the cancellation of coverage. Copies of new insurance certificates must be provided to DEO's Agreement Manager with each insurance renewal.

**N. CONFIDENTIALITY AND SAFEGUARDING INFORMATION**

Each Party may have access to confidential information made available by the other. The provisions of the Florida Public Records Act, Chapter 119, F.S., and other applicable state and federal laws will govern disclosure of any confidential information received by the State of Florida.

Grantee must implement procedures to ensure the appropriate protection and confidentiality of all data, files, and records involved with this Agreement.

Except as necessary to fulfill the terms of this Agreement and with the permission of DEO, Grantee shall not divulge to third parties any confidential information obtained by Grantee or its agents, distributors, resellers, subcontractors, officers, or employees in the course of performing Agreement work, including, but not limited to, security procedures, business operations information, or commercial proprietary information in the possession of the State or DEO.

Grantee shall not use or disclose any information concerning a recipient of services under this Agreement for any purpose in conformity with state and federal law or regulations except upon written consent of the recipient, or Recipients' responsible parent or guardian when authorized by law, if applicable.

When Grantee has access to DEO's network and/or applications, in order to fulfill Grantee's obligations under this Agreement, Grantee shall abide by all applicable DEO Information Technology Security procedures and policies. Grantee (including its employees, subcontractors, agents, or any other individuals to whom Grantee exposes confidential information obtained under this Agreement), shall not store, or allow to be stored, any confidential information on any portable storage media (e.g., laptops, thumb drives, hard drives, etc.) or peripheral device with the capacity to hold information. Failure to strictly comply with this provision shall constitute a breach of Agreement.

Grantee shall immediately notify DEO in writing when Grantee, its employees, agents, or representatives become aware of an inadvertent disclosure of DEO's unsecured confidential information in violation of the terms of this Agreement. Grantee shall report to DEO any Security Incidents of which it becomes aware, including incidents sub-contractors or agents reported to Grantee. For purposes of this Agreement, "Security Incident" means the attempted or successful unauthorized access, use, disclosure, modification, or destruction of DEO information in Grantee's possession or electronic interference with DEO operations; provided, however, that random attempts at access shall not be considered a security incident. Grantee shall make a report to DEO not more than seven business days after Grantee learns of such use or disclosure. Grantee's report shall identify, to the extent known: (i) the nature of the unauthorized use or disclosure, (ii) the confidential information used or disclosed, (iii) who made the unauthorized use or received the unauthorized disclosure, (iv) what Grantee has done or shall do to mitigate any detrimental effect of the unauthorized use or disclosure, and (v) what corrective action Grantee has taken or shall take to prevent future similar unauthorized use or disclosure. Grantee shall provide such other information, including a written report, as DEO's Information Security Manager requests.

In the event of a breach of security concerning confidential personal information involved with this Agreement, Grantee shall comply with s. 501.171, F.S., as applicable. When notification to affected persons is required under this section of the statute, Grantee shall provide that notification, but only after receipt of DEO's written approval of the contents of the notice. Defined statutorily, and for purposes of this Agreement, "breach of security" or "breach" means the unauthorized access of data in electronic form containing personal data. Good faith acquisition of personal information by an employee or agent of the Grantee is not a breach, provided the information is not used for a purpose unrelated to the Grantee's obligations under this Agreement or is not subject to further unauthorized use.

#### **O. PATENTS, COPYRIGHTS, AND ROYALTIES**

1. All legal title and every right, interest, claim or demand of any kind, in and to any patent, trademark or copyright, or application for the same, or any other intellectual property right to, the work developed or produced under or in connection with this Agreement, is the exclusive property of DEO to be granted to and vested in the Florida Department of State for the use and benefit of the state; and no person, firm or corporation shall be entitled to use the same without the written consent of the Florida Department of State. Any contribution by the Grantee or its employees, agents or contractors to the creation of such works shall be considered works made for hire by the Grantee for DEO and, upon creation, shall be owned exclusively by DEO. To the extent that any such works may not be considered works made for hire for DEO under applicable law, Grantee agrees, upon creation of such works, to automatically assign to DEO ownership, including copyright interests and any other

intellectual property rights therein, without the necessity of any further consideration.

2. If any discovery or invention arises or is developed in the course or as a result of work or services performed with funds from this Agreement, Grantee shall refer the discovery or invention to DEO who will refer it to the Department of State to determine whether patent protection will be sought in the name of the State of Florida.
3. Where activities supported by this Agreement produce original writings, sound recordings, pictorial reproductions, drawings or other graphic representations and works of any similar nature, DEO has the right to use, duplicate, and disclose such materials in whole or in part, in any manner, for any purpose whatsoever and to allow others acting on behalf of DEO to do so. Grantee shall give DEO written notice when any books, manuals, films, websites, web elements, electronic information, or other copyrightable materials are produced.
4. Notwithstanding any other provisions herein, in accordance with s. 1004.23, F.S., a State University is authorized in its own name to perform all things necessary to secure letters of patent, copyrights, and trademarks on any works it produces. Within 30 calendar days of same, the president of a State University shall report to the Department of State any such university's action taken to secure or exploit such trademarks, copyrights, or patents in accordance with s. 1004.23(6), F.S.

#### **P. INFORMATION TECHNOLOGY RESOURCE**

Grantee shall obtain prior written approval from the appropriate DEO authority before purchasing any Information Technology Resource (ITR) or conducting any activity that will impact DEO's electronic information technology equipment or software in any way. ITR includes computer hardware, software, networks, devices, connections, applications, and data. Grantee shall contact the DEO Agreement Manager listed herein in writing for the contact information of the appropriate DEO authority for any such ITR purchase approval.

#### **Q. NONEXPENDABLE PROPERTY**

1. For the requirements of this Nonexpendable Property section of the Agreement, "nonexpendable property" is the same as "property" as defined in s. 273.02, F.S., (equipment, fixtures, and other tangible personal property of a non-consumable and nonexpendable nature.)
2. All nonexpendable property, purchased under this Agreement, shall be listed on the property records of Grantee. Grantee shall inventory annually and maintain accounting records for all nonexpendable property purchased and submit an inventory report to DEO with the final expenditure report. The records shall include, at a minimum, the following information: property tag identification number, description of the item(s), physical location, name, make or manufacturer, year, and/or model, manufacturer's serial number(s), date of acquisition, and the current condition of the item.
3. At no time shall Grantee dispose of nonexpendable property purchased under this Agreement without the written permission of and in accordance with instructions from DEO.

4. Immediately upon discovery, Grantee shall notify DEO, in writing, of any property loss with the date and reason(s) for the loss.
5. Grantee shall be responsible for the correct use of all nonexpendable property Grantee purchases or DEO furnishes under this Agreement.
6. A formal Agreement amendment is required prior to the purchase of any item of nonexpendable property not specifically listed in Attachment 1, Scope of Work.
7. Upon the Expiration Date of this Agreement Grantee is authorized to retain ownership of any nonexpendable property purchased under this Agreement; however, Grantee hereby grants to DEO a right of first refusal in all such property prior to disposition of any such property during its depreciable life, in accordance with the depreciation schedule in use by Grantee, Grantee shall provide written notice of any such planned disposition and await DEO's response prior to disposing of the property. "Disposition" as used herein, shall include, but is not limited to, Grantee no longer using the nonexpendable property for the uses authorized herein; the sale, exchange, transfer, trade-in, or disposal of any such nonexpendable property. DEO, in its sole discretion, may require Grantee to refund to DEO the fair market value of the nonexpendable property at the time of disposition rather than taking possession of the nonexpendable property.

**R. REQUIREMENTS APPLICABLE TO THE PURCHASE OF OR IMPROVEMENTS TO REAL PROPERTY**  
*(Not applicable)*

**S. CONSTRUCTION AND INTERPRETATION**

The title of and the section and paragraph headings in this Agreement are for convenience of reference only and shall not govern or affect the interpretation of any of the terms or provisions of this Agreement. The term "this Agreement" means this Agreement together with all attachments and exhibits hereto, as the same may from time to time be amended, modified, supplemented, or restated in accordance with the terms hereof. The use in this Agreement of the term "including" and other words of similar import mean "including, without limitation" and where specific language is used to clarify by example a general statement contained herein, such specific language shall not be deemed to modify, limit, or restrict in any manner the construction of the general statement to which it relates. The word "or" is not exclusive and the words "herein," "hereof," "hereunder," and other words of similar import refer to this Agreement, including any Exhibits and Attachments, and not to any particular section, subsection, paragraph, subparagraph, or clause contained in this Agreement. As appropriate, the use herein of terms importing the singular shall also include the plural, and vice versa. The reference to an agreement, instrument, or other document means such agreement, instrument, or other document as amended, supplemented, and modified from time to time to the extent permitted by the provisions thereof and the reference to a statute means such statute as amended from time to time and includes any successor legislation thereto and any regulations promulgated thereunder. All references to "\$" shall mean United States dollars. The term "Grantee" includes any person or entity which has been duly authorized to and has the actual authority to act or perform on Grantee's behalf. The term "DEO" includes the State of Florida and any successor office, department, or agency of DEO, and any person or entity which has been duly authorized to and has the actual authority to act or perform on DEO's behalf. The recitals of this Agreement are incorporated herein by reference and shall apply to the terms and provisions of this Agreement



and the Parties. Time is of the essence with respect to the performance of all obligations under this Agreement. The Parties have participated jointly in the negotiation and drafting of this Agreement, and each Party has read and understands this Agreement. In the event an ambiguity or question of intent or interpretation arises, this Agreement shall be construed as if drafted jointly by the Parties, and no presumption or burden of proof shall arise favoring or disfavoring any Party by virtue of the authorship of any of the provisions of this Agreement.

#### **T. CONFLICT OF INTEREST**

This Agreement is subject to chapter 112, F.S. Grantee shall disclose the name of any officer, director, employee, or other agent who is also an employee of the State. Grantee shall also disclose the name of any State employee who owns, directly or indirectly, more than a 5% interest in Grantee or its affiliates.

#### **U. GRANTEE AS INDEPENDENT CONTRACTOR**

Grantee is at all times acting and performing as an independent contractor. DEO has no ability to exercise any control or direction over the methods by which Grantee may perform its work and functions, except as provided herein. Nothing in this Agreement may be understood to constitute a partnership or joint venture between the Parties.

#### **V. EMPLOYMENT ELIGIBILITY VERIFICATION – E-VERIFY**

The Governor of Florida's Executive Order 11-116 requires state agency contracts in excess of a nominal value to expressly require Grantee to: (1) Utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees Grantee hired during the Agreement term; and (2) Include in all subcontracts under this Agreement the requirement that subcontractors performing work or providing services pursuant to this Agreement utilize the E-Verify system to verify the employment eligibility of all new employees subcontractor hired during the term of the Subcontract. The Department of Homeland Security's E-Verify system can be found at:

<https://www.e-verify.gov>

If the Grantee does not have an E-Verify MOU in effect, the Grantee must enroll in the E-Verify system prior to hiring any new employee after the effective date of this Agreement.

#### **W. NOTIFICATIONS OF INSTANCES OF FRAUD**

Upon discovery, Grantee shall report all known or suspected instances of Grantee, or Grantee's agents, contractors or employees, operational fraud or criminal activities to DEO's Agreement Manager in writing within 24 chronological hours.

#### **X. NON-DISCRIMINATION**

Grantee shall not discriminate unlawfully against any individual employed in the performance of this Agreement because of race, religion, color, sex, physical handicap unrelated to such person's ability to engage in this work, national origin, ancestry, or age. Grantee shall provide a harassment-free workplace, with any allegation of harassment to be given priority attention and action.



**Y. ASSIGNMENTS AND SUBCONTRACTS**

1. Grantee shall not assign, subcontract, or otherwise transfer its rights, duties, or obligations under this Agreement, by operation of law or otherwise, without the prior written consent of DEO, which consent may be withheld in DEO's sole and absolute discretion. DEO is at all times entitled to assign or transfer its rights, duties, or obligations under this Agreement to another governmental entity in the State of Florida. Any attempted assignment of this Agreement or any of the rights hereunder by Grantee in violation of this provision shall be void *ab initio*.
2. Grantee agrees to be responsible for all work performed and all expenses incurred in fulfilling the obligations of this Agreement. If in the scope of work or in a separate writing DEO permits Grantee to subcontract all or part of the work contemplated under this Agreement, including entering into subcontracts with vendors for services, it is understood by Grantee that all such subcontract arrangements shall be evidenced by a written document containing all provisions necessary to ensure subcontractor's compliance with applicable state and federal law, and that Grantee remains fully responsible for all work performed and all expenses incurred in fulfilling the obligations of this Agreement. Grantee further agrees that DEO shall not be liable to the subcontractor for any expenses or liabilities incurred under the subcontract and Grantee shall be solely liable to the subcontractor for all expenses and liabilities incurred under the subcontract. Grantee, at its expense, will defend DEO against such claims.
3. Grantee agrees that all Grantee employees, subcontractors, or agents performing work under the Agreement shall be properly trained technicians who meet or exceed any specified training qualifications. Upon request, Grantee shall furnish a copy of technical certification or other proof of qualification. All Grantee employees, subcontractors, or agents performing work under the Agreement must comply with all DEO security and administrative requirements identified herein. DEO may conduct, and Grantee shall cooperate in, a security background check or otherwise assess any employee, subcontractor, or agent furnished by Grantee. DEO may refuse access to, or require replacement of, any of Grantee's employees, subcontractors, or agents for cause, including, but not limited to, technical or training qualifications, quality of work, change in security status, or non-compliance with DEO's security or administrative requirements identified herein. Such refusal shall not relieve Grantee of its obligation to perform all work in compliance with the Agreement. DEO may reject and bar from any facility for cause any of Grantee's employees, subcontractors, or agents.
4. Grantee agrees that the State of Florida shall at all times be entitled to assign or transfer its rights, duties, or obligations under this Agreement to another governmental agency in the State of Florida, upon giving prior written notice to Grantee. In the event the State of Florida approves transfer of Grantee's obligations, Grantee remains responsible for all work performed and all expenses incurred in connection with the Agreement. In addition, this Agreement shall bind the successors, assigns, and legal representatives of Grantee and of any legal entity that succeeds to the obligations of the State of Florida.
5. Grantee agrees to make payments to the subcontractor within seven (7) working days after receipt of full or partial payments from DEO in accordance with s. 287.0585, F.S., unless otherwise stated in the Agreement between Grantee and subcontractor. Grantee's failure to pay its subcontractors within seven (7) working days will result in a penalty charged against Grantee and paid to the subcontractor in the amount of one-half of one percent of the

amount due per day from the expiration of the period allowed herein for payment. Such penalty shall be in addition to actual payments owed and shall not exceed fifteen (15) percent of the outstanding balance due.

6. Grantee shall provide a monthly Minority and Service-Disabled Veteran Business Enterprise Report for each invoice period summarizing the participation of certified and non-certified minority and service-disabled veteran subcontractors/material suppliers for that period, and project to date. The report shall include the names, addresses and dollar amount of each certified and non-certified Minority Business Enterprise and Service-Disabled Veteran Enterprise participant and a copy must be forwarded to DEO's Agreement Manager. The Office of Supplier Diversity at (850) 487-0915 will assist in furnishing names of qualified minorities. DEO's Minority Coordinator at (850) 245-7471 will assist with questions and answers.
7. DEO shall retain the right to reject any of Grantee's or subcontractor's employees whose qualifications or performance, in DEO's judgment, are insufficient.

#### **Z. ENTIRE AGREEMENT; SEVERABILITY; CONFLICTS; COUNTERPARTS.**

This Agreement, and the attachments and exhibits hereto, embody the entire agreement of the Parties with respect to the subject matter hereof. There are no provisions, terms, conditions, or obligations other than those contained in this Agreement; and this Agreement supersedes all previous communications, representations, or agreements, either verbal or written, between the Parties. If a court of competent jurisdiction voids or holds unenforceable any provision of this Agreement, then that provision shall be enforced only to the extent that it is not in violation of law or is not otherwise unenforceable, and all other provisions shall remain in full force and effect. If any inconsistencies or conflict between the language of this Agreement and its Attachments arise, then the language of the attachments shall control, but only to the extent of the conflict or inconsistency. This Agreement may be executed in counterparts, each of which shall be an original and all of which shall constitute but one and the same instruments.

#### **AA. WAIVER; GOVERNING LAW; ATTORNEYS' FEES, DISPUTE RESOLUTION**

1. **Waiver.** No waiver by DEO of any of provision herein shall be effective unless explicitly set forth in writing and signed by DEO. No waiver by DEO may be construed as a waiver of any failure, breach, or default not expressly identified by such written waiver, whether of a similar or different character, and whether occurring before or after that waiver. No failure by DEO to exercise, or delay in exercising, any right, remedy, power or privilege under this Agreement may be construed as a waiver thereof; nor shall any single or partial exercise of any right, remedy, power or privilege hereunder preclude any other or further exercise thereof or the exercise of any other right, remedy, power or privilege. The rights and remedies set forth herein are cumulative and not exclusive.
2. **Governing Law.** The laws of the State of Florida shall govern the construction, enforcement, and interpretation of this Agreement, regardless of and without reference to whether any applicable conflicts of laws principles may point to the application of the laws of another jurisdiction. The Parties expressly consent to exclusive jurisdiction and venue in any state court located in Leon County, Florida, and waive any defense of forum non conveniens, lack of personal jurisdiction, or like defense. IN ANY LEGAL OR EQUITABLE ACTION BETWEEN THE

PARTIES, THE PARTIES HEREBY EXPRESSLY WAIVE TRIAL BY JURY TO THE FULLEST EXTENT PERMITTED BY LAW.

3. **Attorneys' Fees, Expenses.** Except as set forth otherwise herein, each of the Parties shall pay its own attorneys' fees and costs in connection with the execution and delivery of this Agreement and the transactions contemplated hereby.
4. DEO shall decide disputes concerning the performance of the Agreement, and DEO shall serve written notice of same to Grantee. DEO's decision shall be final and conclusive unless within 21 calendar days from the date of receipt, Grantee files with DEO a petition for administrative hearing. DEO's final order on the petition shall be final, subject to any right of Grantee to judicial review pursuant to s. 120.68, F.S. Exhaustion of administrative remedies is an absolute condition precedent to Grantee's ability to pursue any other form of dispute resolution; provided however, that the Parties may employ the alternative dispute resolution procedures outlined in chapter 120, F.S.

#### BB. INDEMNIFICATION

1. If Grantee is a state agency or subdivision, as defined in s. 768.28(2), F.S., pursuant to s. 768.28(19), F.S., neither Party indemnifies nor insures or assumes any liability for the other Party for the other Party's negligence.
2. Grantee shall be fully liable for the actions of its agents, employees, partners, or subcontractors and shall fully indemnify, defend, and hold harmless the State and DEO, and their officers, agents, and employees, from suits, actions, damages, and costs of every name and description, including attorneys' fees, arising from or relating to personal injury and damage to real or personal tangible property alleged to be caused in whole or in part by Grantee, its agents, employees, partners, or subcontractors; provided, however, that Grantee shall not indemnify, defend, and hold harmless the State and DEO, and their officers, agents, and employees for that portion of any loss or damages the negligent act or omission of DEO or the State proximately caused.
3. Further, Grantee shall fully indemnify, defend, and hold harmless the State and DEO from any suits, actions, damages, and costs of every name and description, including attorneys' fees, arising from or relating to violation or infringement of a trademark, copyright, patent, trade secret or intellectual property right; provided, however, that the foregoing obligation shall not apply to DEO's misuse or modification of Grantee's products or DEO's operation or use of Grantee's products in a manner not contemplated by this Agreement. If any product is the subject of an infringement suit, or in Grantee's opinion is likely to become the subject of such a suit, Grantee may, at Grantee's sole expense, procure for DEO the right to continue using the product or to modify it to become non-infringing. If Grantee is not reasonably able to modify or otherwise secure for DEO the right to continue using the product, Grantee shall remove the product and refund DEO the amounts paid in excess of a reasonable fee, as determined by DEO in its sole and absolute discretion, for past use. DEO shall not be liable for any royalties.
4. Grantee's obligations under the two immediately preceding paragraphs above, with respect to any legal action are contingent upon the State or DEO giving Grantee (1) written notice of any action or threatened action, (2) the opportunity to take over and settle or defend any such action at Grantee's sole expense, and (3) assistance in defending the action at Grantee's sole expense. Grantee shall not be liable for any cost, expense, or compromise incurred or

made by the State or DEO in any legal action without Grantee's prior written consent, which shall not be unreasonably withheld.

5. The State and DEO may, in addition to other remedies available to them at law or equity and upon notice to Grantee, retain such monies from amounts due Grantee as may be necessary to satisfy any claim for damages, penalties, costs and the like asserted by or against them. The State may set off any liability or other obligation of Grantee or its affiliates to the State against any payments due Grantee under any Agreement with the State.

#### CC. CONTACT INFORMATION FOR GRANTEE AND DEO

##### Grantee's Agreement Manager:

Colin Moore  
 Grant and Resiliency Coordinator  
 City of Neptune Beach  
 116 First Street  
 Neptune Beach, FL 32266-6140  
 Telephone: (904) 270-2400 ext. 44  
 Email: [colinmoore@nbfl.us](mailto:colinmoore@nbfl.us)

##### DEO's Agreement Manager:

Amanda Iscrupe  
 Department of Economic Opportunity  
 107 East Madison Street, MSC 160  
 Tallahassee, FL 32399-4120  
 Telephone: (850) 717-8496  
 Facsimile: (850) 717-8522  
 Email: [amanda.iscrupe@deo.myflorida.com](mailto:amanda.iscrupe@deo.myflorida.com)

#### DD. NOTICES

The Parties' respective contact information is set forth in the immediately preceding paragraph and may be subject to change at the Parties' discretion. If the contact information changes, the Party making such change will notify the other Party in writing. Where the term "written notice" is used to specify a notice requirement herein, said notice shall be deemed to have been given (i) when personally delivered; (ii) when transmitted via email with proof of delivery; (iii) the next business day following the day on which the same has been delivered prepaid to a recognized overnight delivery service; or (iv) the day on which the same is sent by certified or registered mail, postage prepaid, with return receipt.

*[Rest of page left intentionally blank; Attachments to follow after signature page]*

Agreement # P0403

IN WITNESS THEREOF, and in consideration of the mutual covenants set forth above and in the attachments hereto, the Parties, through their duly-authorized representatives, sign this Agreement and represent and warrant that they understand the Agreement and Attachments' terms and conditions as of the Effective Date.

## DEPARTMENT OF ECONOMIC OPPORTUNITY

By \_\_\_\_\_  
Signature  
Mario Rubio

Title Director of Community Development

Date \_\_\_\_\_

## CITY OF NEPTUNE BEACH

By   
Signature  
Elaine Brown

Title Mayor

Date 12/17/20

Approved as to form and legal sufficiency, subject  
only to full and proper execution by the Parties.

OFFICE OF GENERAL COUNSEL  
DEPARTMENT OF ECONOMIC OPPORTUNITY

By: \_\_\_\_\_

Approved Date: \_\_\_\_\_

## Attachment 1 SCOPE OF WORK

1. **GRANT AUTHORITY.** This Community Planning Technical Assistance grant is provided pursuant to [Section \(s.\) 163.3168, Florida Statutes \(F.S.\)](#), and Specific Appropriation 2276, Chapter 2020-111, Laws of Florida, to provide direct and/or indirect technical assistance to help Florida communities find creative solutions to fostering vibrant, healthy communities, while protecting the functions of important State resources and facilities.
  
2. **PROJECT DESCRIPTION:** Grantee shall update its Comprehensive Plan, through the Evaluation and Appraisal Review (EAR) to better identify new infrastructure and growth demands. The Project includes transmittal and adoption of the updated Comprehensive Plan. The update of the Comprehensive Plan shall reflect the outcome of a six-month citywide visioning (Community Vision Plan 2040) process which created a shared vision for the community's short-term and long-term growth and development. The project shall consist of the following stages:
  - a. Needs assessment and the Comprehensive Plan framework
  - b. Preparation of the draft Comprehensive Plan update and presentation at the Local Planning Agency and City Council
  - c. Preparation of the final update to the Comprehensive Plan and City Council transmittal Public Hearing
  - d. Revision of the proposed updated Comprehensive Plan to respond to reviewing agency comments and City Council adoption Public Hearing.
  
3. **GRANTEE'S RESPONSIBILITIES:** Grantee shall timely perform the Deliverables and Tasks described in this section and in Section 5 below, and in doing so, Grantee shall comply with all the terms and conditions of this Agreement. **All deliverables and tasks under this Agreement must be completed on or before the end of the agreement period in Section A. of this Agreement unless extended by an amendment to this Agreement signed by both parties.**
  - A. **Deliverable 1.** Needs Assessment and Comprehensive Plan Framework
 

Grantee shall:

    1. Grantee shall undertake a thorough assessment of the existing Comprehensive Plan to determine what additional meetings and information are needed to make the necessary updates to the Comprehensive Plan and establish the draft Comprehensive Plan framework. The task shall involve the following:
      - a. Hold a kick-off meeting via a WebEx video conference to review available information, including GIS files, maps, and demographic data, determine if there are additional base information needs, identify any necessary additional stakeholder meetings with local and regional agencies, such as the Duval County School Board or St. Johns Water Management District, and develop a detailed schedule for updating the Comprehensive Plan.

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- b. Update the project communication website, as necessary, posting upcoming events, new relevant and educational information and ensuring that deliverables have been uploaded for the public to access.
  - c. Prepare a Comprehensive Plan annotated outline to include a list and description of the comprehensive plan elements to be included, as well as a list of key ideas from the 2040 Vision Plan that shall inform the goals, objectives and policies in each of the elements, and a list of maps and figures to be included.
2. If the Grantee enters into a subcontract or an amendment to an existing subcontract for work to be performed under this Agreement, provide a copy of the subcontract or amendment to DEO or notify DEO in writing by email or other document that Grantee has not entered into such a subcontract or amendment as of the Deliverable Due Date for this Deliverable 1.

**B. Deliverable 2.** A Draft Update of the Comprehensive Plan and Review Comments; Subcontract or Notice.

Grantee shall:

1. Prepare the First Draft of the elements of the Comprehensive Plan. In addition to addressing all statutory changes required in Chapter 163, Part II, Florida Statutes (F.S.) since the last Comprehensive Plan was adopted in 2012, the update to the Comprehensive Plan shall also reflect community priorities, key ideas, and overall future vision developed in the Neptune Beach Community Vision Plan document, as related to land use, economic development, natural hazards, housing, transportation, urban design and critical infrastructure. The updated Comprehensive Plan shall include the following statutory required elements and, if desired, the following optional elements:
  - a. Future Land Use Element
  - b. Transportation Element
  - c. Housing Element
  - d. Infrastructure Element
  - e. Coastal Management & Conservation Element
  - f. Recreation & Open Space Element
  - g. Intergovernmental Coordination Element
  - h. Capital Improvements Element
  - i. Optional Elements:
    - Community Design (can be folded into Future Land Use Element)
    - Arts, Culture and Historic Preservation
    - Climate Resilience and Adaptation (can be folded into the Coastal Management & Conservation Element)
    - Economic Development
    - Public Schools Facilities Element (can be addressed also in the Intergovernmental Coordination Element)



3. Hold a 2-Day Workshop to review and discuss the First Draft of the Comprehensive Plan update. Participants shall include the City staff, stakeholders, and community leaders. The first day of the workshop shall focus on the Future Land Use and Transportation Elements, whereas the second day shall focus on the remaining Elements.
4. Revise the draft update of the Comprehensive Plan to reflect comments and input from the 2-Day Workshop.
5. Send the updated First Draft of the Comprehensive Plan to applicable reviewing State Agencies for comments-on April 15, 2021.
6. If the Grantee enters into any subcontract or an amendment to an existing subcontract for work to be performed under this Agreement that has not previously been provided to DEO, provide a copy of the subcontract or amendment to DEO notify DEO in writing by email or other document that Grantee has not entered into such a subcontract or amendment as of the Deliverable Due Date for this Deliverable 2.

**C. Deliverable 3.** Transmittal of Proposed Comprehensive Plan Amendment; Subcontract or Notice.

Grantee shall:

1. Prepare the Final Draft of the Comprehensive Plan update, incorporating input from the DEO and other State Agency's initial review and public comments.
2. Attend a virtual meeting with the Local Planning Agency to discuss the proposed changes in the Final Draft of the Comprehensive Plan update.
3. Present the Final Draft of the Comprehensive Plan update for the City Council transmittal Public Hearing (Public Hearing #1).
4. Transmit the proposed changes to the Comprehensive Plan to DEO and the other reviewing State Agencies for comments.

**DEO REVIEW AND COMMENT ON PROPOSED COMPREHENSIVE PLAN AMENDMENT.**

No later than 10 business days before the deliverable due date, Grantee shall provide a draft deliverable to DEO for review and comment. The draft shall be submitted to DEO's Agreement Manager. DEO shall provide comments, if any, no later than 4 business days before the deliverable due date. Grantee shall address any comments provided by DEO in the deliverable submitted to DEO for payment.

4. **DEO RESPONSIBILITIES:** DEO shall receive and review the Deliverables and, upon DEO's acceptance of the Deliverables and receipt of Grantee's pertinent invoices in compliance with the invoice procedures of Section K of this Agreement and of Section 10 of this Scope of Work, DEO shall process payment to Grantee in accordance with the terms and conditions of this Agreement.

5. **DELIVERABLES:** The specific deliverables, tasks, minimum levels of service, due dates, and payment amounts are set forth in the following table:

Deliverables and Tasks	Minimum Level of Service	Payment Amount Not to Exceed	Financial Consequences
------------------------	--------------------------	---------------------------------	---------------------------

<p><b>Deliverable 1.</b> Needs Assessment and Comprehensive Plan Framework; Subcontract or Notice</p> <p>Grantee shall undertake an assessment of the existing Comprehensive Plan to determine what additional meetings and information are needed to make the necessary updates to the Comprehensive Plan and establish the draft Comprehensive Plan framework and provide a copy a subcontract, amendment to a subcontract, or notice to DEO in accordance with Section 3.A. of this Scope of Work.</p> <p>Deliverable due date: <b>December 31, 2020</b></p>	<p>Completion of Deliverable 1 as evidenced by submission of all of the following:</p> <ol style="list-style-type: none"> <li>1. Copies of agenda and notice for the Kick-off Meeting</li> <li>2. Summary of the Kick-off Meeting</li> <li>3. Existing Comprehensive Plan Assessment Memo</li> <li>4. Comprehensive Plan Update Annotated Outline/ Framework</li> <li>5. Copy of a subcontract or amendment to a subcontract entered into by the Grantee, if any, or an email or other document notifying DEO that no such subcontract or amendment was entered into as of the Deliverable Due Date for this Deliverable 1.</li> </ol> <p>Grantee shall submit copies of all required documentation identified above on paper or electronically in MS Word or PDF format. If maps are required, they shall be provided on a compact disc in PDF format with ArcGIS compatible shapefiles if they are available.</p>	\$11,695.00	As provided in Section 12 of this Scope of Work, below.
<p><b>Deliverable 2.</b> A First Draft of the Comprehensive Plan update, 2-Day Internal Workshop, and public presentation of the First Draft; Subcontract or Notice</p> <p>Grantee shall prepare the First Draft update of the Comprehensive Plan and provide a copy of a subcontract, amendment to a subcontract, or notice in accordance with Section 3.B. of this Scope of Work.</p>	<p>Completion of Deliverable 2 as evidenced by submission of all of the following:</p> <ol style="list-style-type: none"> <li>1. Copy of First Draft Comprehensive Plan Update</li> <li>2. Copies of Agendas and Notices of Workshops &amp; Public Meetings</li> <li>3. Summary of Workshops</li> <li>4. Copy of emails sent to applicable State Agencies for comment/feedback.</li> <li>5. Copy of a subcontract or amendment to an existing subcontract entered into by the Grantee, if any, or an email or</li> </ol>	\$33,190.00	As provided in Section 12 of this Scope of Work, below.

<p>Deliverable due date: <b>April 15, 2021</b></p>	<p>other document notifying DEO that no such subcontract or amendment was entered into as of the Deliverable Due Date for this Deliverable 2.</p> <p>Grantee shall submit copies of all required documentation identified above on paper or electronically in MS Word or PDF format. If maps are required, they shall be provided on a compact disc in PDF format with ArcGIS compatible shapefiles if they are available.</p>		
<p><b>Deliverable 3.</b> Completion of the Final Draft of the Comprehensive Plan update based on State Agency's initial review and public comments; Transmittal of Proposed Comprehensive Plan Amendments; Subcontract or Notice</p> <p>Grantee shall prepare the Final Comprehensive Plan Update, conduct a transmittal public hearing, and provide a copy of a subcontract an amendment to a subcontract or a notice in accordance with Section 3.C. of this Scope of Work.</p> <p>Deliverable due date: <b>May 30, 2021</b></p>	<p>Completion of Deliverable 3 as evidenced by submission of all of the following:</p> <ol style="list-style-type: none"> <li>1. Copy of Transmitted Comprehensive Plan Amendments</li> <li>2. Copies of Public Hearing Agenda and Notices</li> <li>3. Minutes or Written Summary of Public Hearing</li> <li>4. Copies of a subcontract or amendment to an existing subcontract entered into by the Grantee not previously provided to DEO, if any, or an email or other document advising DEO that no such subcontract or amendment was entered into before the Deliverable Due Date for this Deliverable 3.</li> </ol> <p>Grantee shall submit copies of all required documentation identified above on paper or electronically in MS Word or PDF format. If maps are required, they shall be provided on a compact disc in PDF format with ArcGIS compatible shapefiles if they are available.</p>	\$5,685.00	As provided in Section 12 of this Scope of Work, below.
<b>Total Amount Not to Exceed \$50,570.00</b>			

**\*\* Note regarding comprehensive plan amendments:** Providing DEO a copy of a comprehensive plan amendment as a deliverable under this Agreement DOES NOT satisfy the transmittal requirement in s.

*163.3184, F.S. To satisfy both the terms of this Agreement and the statutory transmittal requirement, Grantee must provide a copy of the plan amendment to DEO's Agreement Manager **and** send a copy of the proposed or adopted comprehensive plan transmittal package to DEO at the following address: D. Ray Eubanks, Plan Review and Processing Administrator, Florida Department of Economic Opportunity, Bureau of Community Planning and Growth, 107 East Madison Street, MSC 160, Tallahassee, Florida 32399-4120.*

6. **SUBCONTRACTS.** In accordance with **Section Y., Assignments and Subcontracts**, of this Agreement and subject to the terms and conditions in sections Y.1. through 7 of this Agreement, this paragraph constitutes DEO's written approval for Grantee to subcontract for any of the deliverables and/or tasks identified in the Scope of Work for this Agreement. A copy of any executed subcontract(s) or amendment to any subcontract(s) shall be provided to DEO's Agreement Manager as provided in Sections 3.A. and 5. above. Grantee shall be solely liable for all work performed and all expenses incurred as a result of any such subcontract. Any subcontracts between the Grantee and a subcontractor for work performed under this Agreement shall identify the hourly rate of pay to be charged by the subcontractor and shall require all invoices from the subcontractor to the Grantee to identify the hourly rate of pay, actual hours worked on the grant project, and any expenses incurred by the subcontractor in performing such work.
7. **DELIVERABLE DUE DATE.** The "deliverable due date" is the date the deliverable must be received by DEO by 11:59 p.m. on that date. For extensions of deliverable due dates, see Section 15 of this Scope of Work.
8. **BUSINESS DAY; COMPUTATION OF TIME.** For the purpose of this Agreement, a "business day" is any day that is not a Saturday, Sunday, or a state or federal legal holiday. In computing any time period provided in this Agreement, the date from which the time period runs is not counted. The last day of the time period ends at 11:59 p.m. on that day.
9. **COST SHIFTING.** The deliverable amounts specified within the Deliverables section above are established based on the Parties' estimation of sufficient delivery of services fulfilling grant purposes under the Agreement in order to designate payment points during the Agreement Period; however, this is not intended to restrict DEO's ability to approve and reimburse allowable costs, incurred by Grantee in providing the deliverables herein. Prior written approval from DEO's Agreement Manager is required for changes to the above Deliverable amounts that do not exceed **ten (10) percent** of each deliverable total funding amount. Changes that exceed **ten (10) percent** of each deliverable total funding amount will require a formal written amendment, as described in **Section D., Renegotiation or Modification**, of this Agreement. Regardless, in no event shall DEO reimburse costs of more than the total amount of this Agreement.
10. **INVOICE SUBMITTAL AND PAYMENT.**
  - A. DEO agrees to reimburse the Grantee for costs under this Agreement in accordance with **Section K, Invoices and Payments**, of this Agreement in the amount(s) identified per deliverable in Section 5 of this Scope of Work, above. The deliverable amount specified does not establish the value of the deliverable. Pursuant to [s. 215.971\(1\), F.S.](#), Grantee will be reimbursed for allowable costs incurred during the Agreement Period by Grantee in carrying out the Project.

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- B.** Subject to the terms and conditions of this Agreement, an itemized invoice for each deliverable shall be submitted to DEO's Agreement Manager by U. S. Mail or by electronic mail with the deliverable for which the invoice is submitted. Invoices are not required to be submitted through the Ariba Supplier Network described in Section K.2. of this Agreement. **Invoices shall be submitted in the format shown on Attachments 1-A, 1-B, and 1-C hereto, electronic copies of which shall be provided by DEO to the Grantee. Grantee shall use Attachment 1-A if work for the deliverable is completed entirely by a subcontractor, Attachment 1-B if work for the deliverable is completed entirely by Grantee's employee(s), and Attachment 1-C if work for the deliverable is completed both by a subcontractor and by Grantee's employee(s).**
- C.** Grantee shall provide one (1) itemized invoice for each deliverable submitted during the applicable period of time. The invoice shall include, at a minimum, the following:
1. Grantee's name and address;
  2. Grantee's federal employer identification number;
  3. the Agreement number;
  4. the Grantee's invoice number;
  5. an invoice date;
  6. the dates of service;
  7. the deliverable number;
  8. a description of the deliverable;
  9. a statement that the deliverable has been completed; and
  10. the amount being requested.
- D.** Grantee shall submit a **final invoice** no later than **60** days after this Agreement ends or is terminated as provided in Section K.5. of this Agreement.
- E. Documentation that must accompany each itemized invoice:** The following documents shall be submitted with the itemized invoice:
- 1. For Work Performed by a Subcontractor:**
    - a. A cover letter signed by the Grantee's Agreement Manager certifying that the payments claimed for the deliverables were specifically for the project, as described in this Scope of Work;
    - b. Copies of paid invoices submitted to Grantee by the Subcontractor that show the hourly rate of pay charged for the work performed, the actual hours expended on the work performed, and any expenses incurred by the subcontractor in performing said work; and
    - c. Proof of payment of invoices submitted to Grantee by the Subcontractor for work performed pursuant to this Agreement (e.g., cancelled checks, bank statement showing deduction).
  - 2. For Work Performed by Grantee's Employees:**

**Agreement # P0403**

- a. A cover letter signed by the Grantee's Agreement Manager certifying that the payments claimed for the deliverables were specifically for the project, as described in this Scope of Work.
  - b. Identification of Grantee's employees who performed work under this Agreement and, for each such employee:
    - i. The percentage of the employee's time devoted to work under this Agreement or the number of total hours each employee devoted to work under this Agreement.
    - ii. Payroll register or similar documentation that shows the employee's gross salary, fringe benefits, other deductions, and net pay. If the employee is paid hourly, a document reflecting the hours worked times the rate of pay is acceptable.
  - c. Invoices or receipts for other direct costs.
  - d. Usage log for in-house charges (e.g., postage, copies, etc.) that shows the number of units times the rate charged. The rate must be reasonable.
- F. Payment shall be provided to Grantee in accordance with **Section K., Invoices and Payments**, of this Agreement.

**11. SUBMITTAL, REVIEW AND ACCEPTANCE OF DELIVERABLES; NOTICE; OPPORTUNITY TO CURE.**

Grantee shall submit all deliverables to DEO's Agreement Manager. DEO will review all work submitted for payment under the deliverables and will determine in DEO's sole and absolute discretion whether the deliverables are sufficient to satisfy the requirements in this Scope of Work. Within 15 business days after receipt of a deliverable, DEO shall provide written notice to Grantee by electronic mail of DEO's determination that the deliverable is sufficient and is accepted or that the deliverable is not sufficient to satisfy the requirements in the Scope of Work and how the Grantee can address the insufficiency. If DEO determines that a deliverable is not sufficient under this Agreement, Grantee shall have 10 business days from the date of receipt of notice from DEO to correct the insufficiency, and during this 10 business day period, the financial consequences specified in Section 12 of this Scope of Work will not be assessed. DEO may extend this timeframe in writing (which may be by electronic mail) if Grantee is actively working with DEO to resolve the insufficiency; provided, however, that any extension of time under this section will not extend the Agreement Period in Section A. of this Agreement and provided further that, notwithstanding the timeframes in this section, all deliverables and tasks must be completed on or before the end of the Agreement Period in Section A of this Agreement. An extension of time under this section does not require an amendment to this Agreement. Payment for a deliverable shall not be due until DEO notifies the Grantee's Agreement Manager in writing that the deliverable or corrected deliverable is sufficient under the Scope of Work and is accepted by DEO.

**12. FINANCIAL CONSEQUENCES.**

- A. Financial consequences of \$50 a business day up to a maximum amount of \$500 shall be imposed in each of the following circumstances:



1. Grantee submits a deliverable to DEO more than ten (10) business days after the deliverable due date. Financial consequences begin to accrue on the eleventh business day following the deliverable due date and continue until the deliverable is received by DEO or the maximum amount of financial consequence accrues, whichever occurs first.
  2. Grantee is given a notice of insufficiency and fails to submit to DEO a corrected deliverable within the timeframe provided in Section 11 of this Scope of Work. Financial consequences begin to accrue on the business day following the deadline under Section 11 of this Scope of Work and continue until the corrected deliverable is received by DEO or the maximum financial consequence accrues, whichever occurs first.
- B. Imposition of the above described financial consequences shall in no manner affect DEO's right to impose or implement other provisions in this Agreement including the right to terminate this Agreement.

**13. PRELIMINARY DRAFT DELIVERABLES; DEO REVIEW AND COMMENT.** Preliminary draft deliverables of proposed or adopted comprehensive plan amendments are required to be provided to DEO for comment prior to the deliverable due date as provided in Section 3. of this Scope of Work. Unless other preliminary draft deliverables are required to be submitted to DEO under Section 3 of this Scope of Work, above, Grantee is encouraged, but not required, to submit preliminary drafts of all substantive written deliverables (e.g., master plans, studies, reports) to DEO for review and comment no later than ten (10) business days before the deliverable due date. If DEO provides comments, Grantee is urged to address them in the deliverable submitted to DEO for payment. If submission of a preliminary draft deliverable for DEO review and comment is required under Section 3 or Section 5 of this Scope of Work, above, DEO shall provide comments to the Grantee no later than four business days before the deliverable due date and the deliverable must address DEO's comments.

**14. LIMITED COMPLIANCE REVIEW; NO DUPLICATION OF WRITTEN MATERIAL.** Proposed comprehensive plan amendments that are deliverables under the Scope of Work must be "in compliance" as defined in [s. 163.3184\(1\)\(b\), F.S.](#), and will be evaluated for compliance as part of DEO's review and determination of whether the deliverable is sufficient to satisfy the requirements in the Scope of Work. DEO's compliance determination will be a limited determination without input from the reviewing agencies identified in s. 163.3184(1)(c), F.S. A limited compliance determination for the purpose of this Agreement is not binding on DEO in a subsequent review under section 163.3184, F.S. Further, a limited compliance determination under this Agreement does not preclude review and comment by reviewing agencies and does not preclude a challenge to the adopted plan amendment by DEO based on comments by DEO or other reviewing agencies. Documents submitted to DEO for payment under this Agreement may not copy or duplicate reports or other written material prepared prior to the Agreement Period in **Section A., Agreement Period**, of this Agreement or prepared by or on behalf of someone other than the Grantee for a purpose other than the specific grant project identified in this Scope of Work. At the option of the Grantee, copies of such relevant documents may be appended to documents submitted to DEO for payment.



**15. EXTENSIONS OF TIME OF DELIVERABLE DUE DATES.** Notwithstanding **Section D., Renegotiation or Modification**, of this Agreement, DEO's Agreement Manager, in DEO's sole discretion, may authorize extensions of deliverable due dates without a written modification of this Agreement. Extensions shall be requested by Grantee's Agreement Manager (not Grantee's consultant or subcontractor) in accordance with the following:

- A.** Requests for extension of one or more deliverable due dates shall be submitted by Grantee's Agreement Manager in writing (which may be by electronic mail) to DEO's Agreement Manager **no later than one (1) business day before the deliverable due date** (or the earliest of multiple due dates for which the extension is requested);
- B.** A request for an extension of time received by DEO's Agreement Manager on or after the deliverable due date to which the extension applies will not be granted;
- C.** If requested by DEO's Agreement Manager, Grantee's Agreement Manager must explain the reason for the requested extension; and
- D.** DEO's Agreement Manager shall approve or deny a request for extension of a deliverable due date by electronic mail to Grantee's Agreement Manager within two (2) business days after receipt of the request. Only written approvals of extensions shall be effective.

This authority and procedure do not apply to an extension of the Agreement Period defined in **Section A., Agreement Period**, of this Agreement.

**16. ADVERTISING AND INFORMATION RELEASE.** Notwithstanding **Section J., Advertising and Sponsorship Disclosure**, and **Section F., Records and Information Release**, of this Agreement, Grantee is authorized to disclose to the public on its website or by other means that it has been awarded a Community Planning Technical Assistance Grant from DEO for the work described in this Scope of Work.

**17. NOTIFICATION OF INSTANCES OF FRAUD.** Instances of Grantee's operational fraud or criminal activities shall be reported to DEO's Agreement Manager in writing within twenty-four (24) chronological hours.

**18. GRANTEE'S RESPONSIBILITIES UPON TERMINATION.** If DEO issues a Notice of Termination to Grantee, except as otherwise specified by DEO in that notice, the Grantee shall:

- A.** Stop work under this Agreement on the date and to the extent specified in the notice;
- B.** Complete performance of such part of the work as shall not have been terminated by DEO;
- C.** Take such action as may be necessary, or as DEO may specify, to protect and preserve any property which is in the possession of Grantee and in which DEO has or may acquire an interest; and
- D.** Upon the effective date of termination of this Agreement, Grantee shall transfer, assign, and make available to the DEO all property and materials belonging to DEO. No extra compensation will be paid to Grantee for its services in connection with such transfer or assignment.

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**19. CONFLICTS BETWEEN SCOPE OF WORK AND REMAINDER OF AGREEMENT.** In the event of a conflict between the provisions of this Scope of Work and other provisions of this Agreement, the provisions of this Scope of Work shall govern.

*- Remainder of Page Intentionally Left Blank -*

Agreement # P0403

**Attachment 1-A – Invoice: Grantee's Subcontractor(s) (Contractual Services)****INVOICE****GRANTEE'S NAME:** \_\_\_\_\_**INVOICE NO.:** \_\_\_\_\_**FEIN:** \_\_\_\_\_**INVOICE DATE:** \_\_\_\_\_**Agreement No.:** \_\_\_\_\_**TO:**

Florida Department of Economic Opportunity  
 Division of Community Development  
 Attn.: Amanda Iscrupe  
 107 East Madison Street  
 Caldwell Building, MSC 160  
 Tallahassee, FL 32399

**FOR:**

[Grantee name]  
 [Grantee address]  
 [Grantee phone number]

DESCRIPTION	AMOUNT
<b>Dates of Service:</b> _____  <b>Deliverable _____ Completed:</b> [copy description of the deliverable from Scope of Work, Section 3]   <u>Category expenditures:</u>  Contractual Services	          \$____
<b>TOTAL</b>	<b>\$____</b>

# INVOICE

**INVOICE NO.:** \_\_\_\_\_**INVOICE DATE:** \_\_\_\_\_

**TO:**

**FOR:**

[Grantee name]  
[Grantee address]  
[Grantee phone number]

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**Attachment 1-C – Invoice: Combination of Grantee's Subcontractor(s) and Grantee's Employee(s)****INVOICE****GRANTEE'S NAME:** \_\_\_\_\_**INVOICE NO.:** \_\_\_\_\_**FEIN:** \_\_\_\_\_**INVOICE DATE:** \_\_\_\_\_**Agreement No.:** \_\_\_\_\_**TO:**

Florida Department of Economic Opportunity  
 Division of Community Development  
 Attn.: Amanda Iscrupe  
 107 East Madison Street  
 Caldwell Building, MSC 160  
 Tallahassee, FL 32399

**FOR:**

[Grantee name]  
 [Grantee address]  
 [Grantee phone number]

DESCRIPTION	AMOUNT
<b>Dates of Service:</b> _____  <b>Deliverable _____ Completed:</b> [copy description of the deliverable from Scope of Work, Section 3]  <u>Category expenditures:</u>  Contractual Services \$ __ Salaries \$ __ Fringe Benefits \$ __ Travel \$ __ Postage \$ __ [other direct costs: identify them] \$ __	
<b>TOTAL</b>	<b>\$ __</b>

**Ron DeSantis**  
GOVERNOR



**Dane Eagle**  
EXECUTIVE DIRECTOR

### GRANT AGREEMENT FINAL CLOSEOUT FORM

FLAIR Contract ID:	_____		
Recipient Name:	_____	Contract Amount	_____
Vendor ID:	_____	Deobligated Funds	_____
Contract End Date:	_____	Final Contract Amount	_____

#### Section A: Financial Reconciliation

1. Total Recipient Funds Received from DEO	_____
2. Total Recipient Expenditures	_____
3. Balance of Unexpended Program Income (from Section B)	_____
4. If negative, this amount must be refunded to the Department. If positive, this amount is to be remitted to the Recipient.	_____

#### Section B: Statement of Recipient Income

<input type="radio"/> There was no recipient income earned under this contract. <input type="radio"/> The following recipient income was earned under this contract.			
Description of Recipient Income			
Source	Amount	Expended	Balance
Total Program Income	\$0.00	\$0.00	\$0.00

#### Section C: Property Inventory Certification

<input type="radio"/> No tangible property was purchased in the contract period. <input type="radio"/> All non-expendable and non-consumable tangible property having a useful life of more than one year and acquired at a cost of \$1,000 or more per unit with grant funds are listed below. I do hereby certify that the property inventory described below is complete and correct. Notification will be sent immediately to the Department of Economic Opportunity if any changes occur to this inventory. I will not destroy, sell, or otherwise dispose of this property without written permission of the Department.					
Description of Property Inventory					
Description and Serial Number	Quantity	Acquisitions		Condition	Location
		Cost	Date		

#### Section D: Recipient Certification

By signing below, I certify, that the above representations for Financial Reconciliation, Recipient Income, and Property Inventory are true and accurate.	
Name: _____	Signature: _____
Title: _____	Date Signed: _____

#### Section E: DEO Internal Review and Approval

By signing below, I certify, that the above representations for Financial Reconciliation, Recipient Income, and Property Inventory are true and accurate.	
Name: _____	Signature: _____

## Attachment 2 AUDIT REQUIREMENTS

The administration of resources awarded by DEO to the recipient (herein otherwise referred to as "Grantee") may be subject to audits and/or monitoring by DEO as described in this Attachment 2.

**MONITORING.** In addition to reviews of audits conducted in accordance with 2 CFR 200, Subpart F - Audit Requirements, and section 215.97, Florida Statutes (F.S.), as revised (see AUDITS below), monitoring procedures may include, but not be limited to, on-site visits by DEO staff, limited scope audits as defined by 2 CFR §200.425, or other procedures. By entering into this agreement, the recipient agrees to comply and cooperate with any monitoring procedures or processes deemed appropriate by DEO. In the event the DEO determines that a limited scope audit of the recipient is appropriate, the recipient agrees to comply with any additional instructions provided by DEO staff to the recipient regarding such audit. The recipient further agrees to comply and cooperate with any inspections, reviews, investigations, or audits deemed necessary by the Chief Financial Officer (CFO) or Auditor General.

### **AUDITS.**

**PART I: FEDERALLY FUNDED.** This part is applicable if the recipient is a state or local government or a nonprofit organization as defined in 2 CFR §200.90, §200.64, and §200.70.

1. A recipient that expends \$750,000 or more in federal awards in its fiscal year must have a single or program-specific audit conducted in accordance with the provisions of 2 CFR 200, Subpart F - Audit Requirements. EXHIBIT 1 to this form lists the federal resources awarded through DEO by this agreement. In determining the federal awards expended in its fiscal year, the recipient shall consider all sources of federal awards, including federal resources received from DEO. The determination of amounts of federal awards expended should be in accordance with the guidelines established in 2 CFR §§200.502-503. An audit of the recipient conducted by the Auditor General in accordance with the provisions of 2 CFR §200.514 will meet the requirements of this Part.
2. For the audit requirements addressed in Part I, paragraph 1, the recipient shall fulfill the requirements relative to auditee responsibilities as provided in 2 CFR §§200.508-512.
3. A recipient that expends less than \$750,000 in federal awards in its fiscal year is not required to have an audit conducted in accordance with the provisions of 2 CFR 200, Subpart F - Audit Requirements. If the recipient expends less than \$750,000 in federal awards in its fiscal year and elects to have an audit conducted in accordance with the provisions of 2 CFR 200, Subpart F - Audit Requirements, the cost of the audit must be paid from non-federal resources (i.e., the cost of such an audit must be paid from recipient resources obtained from other than federal entities).

**PART II: STATE FUNDED.** This part is applicable if the recipient is a nonstate entity as defined by Section 215.97(2), Florida Statutes.

1. In the event that the recipient expends a total amount of state financial assistance equal to or in excess of \$750,000 in any fiscal year of such recipient (for fiscal years ending June 30, 2017, and thereafter), the recipient must have a state single or project-specific audit for such fiscal year in accordance with s. 215.97, F.S.; Rule Chapter 69I-5, F.A.C., State Financial Assistance; and Chapters 10.550 (local governmental entities) and 10.650 (nonprofit and for-profit organizations), Rules of the Auditor General. EXHIBIT 1 to this form lists the state financial assistance awarded through DEO by this agreement. In determining the state financial assistance expended in its fiscal year, the recipient shall consider all sources of state financial assistance, including state financial



**Agreement # P0403**

assistance received from DEO, other state agencies, and other nonstate entities. State financial assistance does not include federal direct or pass-through awards and resources received by a nonstate entity for federal program matching requirements.

2. For the audit requirements addressed in Part II, paragraph 1, the recipient shall ensure that the audit complies with the requirements of section 215.97(8), F.S. This includes submission of a financial reporting package as defined by section 215.97(2), F.S., and Chapters 10.550 (local governmental entities) and 10.650 (nonprofit and for-profit organizations), Rules of the Auditor General.
3. If the recipient expends less than \$750,000 in state financial assistance in its fiscal year (for fiscal years ending June 30, 2017, and thereafter), an audit conducted in accordance with the provisions of s. 215.97, F.S., is not required. If the recipient expends less than \$750,000 in state financial assistance in its fiscal year and elects to have an audit conducted in accordance with the provisions of s. 215.97, F.S., the cost of the audit must be paid from the nonstate entity's resources (i.e., the cost of such an audit must be paid from the recipient's resources obtained from other than state entities).

**PART III: OTHER AUDIT REQUIREMENTS.**

*(NOTE: This part would be used to specify any additional audit requirements imposed by the State awarding entity that are solely a matter of that State awarding entity's policy (i.e., the audit is not required by Federal or State laws and is not in conflict with other Federal or State audit requirements). Pursuant to Section 215.97(8), Florida Statutes, State agencies may conduct or arrange for audits of state financial assistance that are in addition to audits conducted in accordance with Section 215.97, Florida Statutes. In such an event, the State awarding agency must arrange for funding the full cost of such additional audits.)*

N/A

**PART IV: REPORT SUBMISSION.**

1. Copies of reporting packages for audits conducted in accordance with 2 CFR 200, Subpart F - Audit Requirements, and required by Part I of this form shall be submitted, when required by 2 CFR §200.512, by or on behalf of the recipient directly to the Federal Audit Clearinghouse (FAC) as provided in 2 CFR §200.36 and §200.512.

The FAC's website provides a data entry system and required forms for submitting the single audit reporting package. Updates to the location of the FAC and data entry system may be found at the OMB website.

2. Copies of financial reporting packages required by Part II of this form shall be submitted by or on behalf of the recipient directly to each of the following:

- a. DEO at each of the following addresses:

Electronic copies (preferred):  
[Audit@deo.myflorida.com](mailto:Audit@deo.myflorida.com)

or

Paper (hard copy):  
 Department Economic Opportunity  
 MSC # 130, Caldwell Building  
 107 East Madison Street  
 Tallahassee, FL 32399-4126

- b. The Auditor General's Office at the following address: Auditor General

Local Government Audits/342 Claude Pepper Building, Room 401 111 West Madison Street  
Tallahassee, Florida 32399-1450

The Auditor General's website (<https://flauditor.gov/>) provides instructions for filing an electronic copy of a financial reporting package.

3. Copies of reports or the management letter required by Part III of this form shall be submitted by or on behalf of the recipient directly to:

Electronic copies (preferred):  
[Audit@deo.myflorida.com](mailto:Audit@deo.myflorida.com)

or

Paper (hard copy):  
Department Economic Opportunity  
MSC # 130, Caldwell Building  
107 East Madison Street  
Tallahassee, FL 32399-4126

4. Any reports, management letters, or other information required to be submitted DEO pursuant to this agreement shall be submitted timely in accordance with 2 CFR §200.512, section 215.97, F.S., and Chapters 10.550 (local governmental entities) and 10.650 (nonprofit and for-profit organizations), Rules of the Auditor General, as applicable.
5. Recipients, when submitting financial reporting packages to DEO for audits done in accordance with 2 CFR 200, Subpart F - Audit Requirements, or Chapters 10.550 (local governmental entities) and 10.650 (nonprofit and for-profit organizations), Rules of the Auditor General, should indicate the date that the reporting package was delivered to the recipient in correspondence accompanying the reporting package.

**PART V: RECORD RETENTION.** The recipient shall retain sufficient records demonstrating its compliance with the terms of this Agreement for a period of five (5) years from the date the audit report is issued, or five (5) state fiscal years after all reporting requirements are satisfied and final payments have been received, whichever period is longer, and shall allow DEO, or its designee, CFO, or Auditor General access to such records upon request. The recipient shall ensure that audit working papers are made available to DEO, or its designee, CFO, or Auditor General upon request for a period of five (5) years from the date the audit report is issued, unless extended in writing by DEO. In addition, if any litigation, claim, negotiation, audit, or other action involving the records has been started prior to the expiration of the controlling period as identified above, the records shall be retained until completion of the action and resolution of all issues which arise from it, or until the end of the controlling period as identified above, whichever is longer.

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**EXHIBIT 1 to Attachment 2**

**FEDERAL RESOURCES AWARDED TO THE RECIPIENT PURSUANT TO THIS AGREEMENT CONSIST OF THE FOLLOWING:**

N/A

**COMPLIANCE REQUIREMENTS APPLICABLE TO THE FEDERAL RESOURCES AWARDED PURSUANT TO THIS AGREEMENT ARE AS FOLLOWS:**

N/A

**STATE RESOURCES AWARDED TO THE RECIPIENT PURSUANT TO THIS AGREEMENT CONSIST OF THE FOLLOWING:**

**MATCHING RESOURCES FOR FEDERAL PROGRAMS:**

N/A

**SUBJECT TO SECTION 215.97, FLORIDA STATUTES:**

State Project: **DEPARTMENT OF ECONOMIC OPPORTUNITY – CSFA 40.024 – GROWTH MANAGEMENT IMPLEMENTATION - \$50,570**

**COMPLIANCE REQUIREMENTS APPLICABLE TO STATE RESOURCES AWARDED PURSUANT TO THIS AGREEMENT ARE AS FOLLOWS:**

- **ACTIVITIES ARE LIMITED TO THOSE IN THE SCOPE OF WORK.**

NOTE: Title 2 C.F.R. § 200.331, as revised, and Section 215.97(5), Florida Statutes, require that the information about Federal Programs and State Projects included in Exhibit 1 be provided to the recipient.

***- Remainder of Page Intentionally Left Blank -***

**ATTACHMENT 3**  
**Audit Compliance Certification**

Grantee Name: \_\_\_\_\_

FEIN: \_\_\_\_\_ Grantee's Fiscal Year: \_\_\_\_\_

Contact Person Name and Phone Number: \_\_\_\_\_

Contact Person Email Address: \_\_\_\_\_

1. Did Grantee expend state financial assistance, during its fiscal year, that it received under any agreement (e.g., agreement, grant, memorandum of agreement, memorandum of understanding, economic incentive award agreement, etc.) between Grantee and the Department of Economic Opportunity (DEO)?  
 \_\_\_\_ Yes \_\_\_\_ No

If the above answer is yes, also answer the following before proceeding to item 2:

Did Grantee expend \$750,000 or more of state financial assistance (from DEO and all other sources of state financial assistance combined) during its fiscal year? \_\_\_\_ Yes \_\_\_\_ No

**If yes, Grantee certifies that it will timely comply with all applicable state single or project-specific audit requirements of section 215.97, Florida Statutes, and the applicable rules of the Department of Financial Services and the Auditor General.**

2. Did Grantee expend federal awards, during its fiscal year that it received under any agreement (e.g., agreement, grant, memorandum of agreement, memorandum of understanding, economic incentive award agreement, etc.) between Grantee and DEO? \_\_\_\_ Yes \_\_\_\_ No

If the above answer is yes, also answer the following before proceeding to execution of this certification:

Did Grantee expend \$750,000 or more in federal awards (from DEO and all other sources of federal awards combined) during its fiscal year? \_\_\_\_ Yes \_\_\_\_ No

**If yes, Grantee certifies that it will timely comply with all applicable single or program-specific audit requirements of 2 C.F.R. part 200, subpart F, as revised.**

**By signing below, I certify, on behalf of Grantee, that the above representations for items 1 and 2 are true and correct.**

\_\_\_\_\_  
 Signature of Authorized Representative

\_\_\_\_\_  
 Date

\_\_\_\_\_  
 Printed Name of Authorized Representative

\_\_\_\_\_  
 Title of Authorized Representative

December 30, 2020

To: City of Neptune Beach, Strategic Planning Committee

Through: Kristina Wright, Community Development Director

From: Dover, Kohl & Partners

#### Existing Comprehensive Plan Assessment & Outline

##### BACKGROUND

The current Neptune Beach Comprehensive Plan, Ordinance No. 90-6-9, was adopted in 2012 and covers the planning period of 2012 through 2022. In 2019 the City submitted a Request for Qualifications (RFQ) for assistance updating the Comprehensive Plan and Land Development Regulations. Dover, Kohl & Partners was selected to lead this effort and to complete a Community Vision Plan process first to provide direction on regulatory changes. In addition to revising the Comprehensive Plan to implement the community's desired future vision of the City, the plan will be updated to reflect changes to state requirements and to reduce inconsistencies with the Land Development Regulations, which will also be revised in parallel. A summary of the existing Comprehensive Plan assessment is provided below. The full assessment of the existing plan is provided in Appendix A.

##### ASSESSMENT SUMMARY – GLOBAL COMMENTS & GENERAL HOUSEKEEPING

The existing Neptune Beach Comprehensive Plan (2012-2022) is fairly basic and lacks detail and specificity. The update to the Comprehensive Plan should incorporate additional data and analysis that was produced as a part of the Community Vision Plan, wherever possible to support plan objectives. In general, the plan update should also eliminate ambiguities in the policy language, especially in the Future Land Use and Transportation Elements. There are additional maps that should be added to the plan (see the section below for a full list) and all maps should be produced digitally with colors and line weights that are easy to read. A Glossary of Terms should also be created and appended to the Comprehensive Plan to define all key terms throughout the document.

In terms of general housekeeping items, all references to specific sections and chapters of the Florida Statutes (F.S.) and specific chapters or rules in the Florida Administrative Code (F.A.C.) should be reviewed and updated as necessary to ensure that the reference is still valid and accurate. References to planning studies, like for example the Duval County Public Schools Five-Year Capital Facilities Plan and the Neptune Beach's 2002 Bicycle & Pedestrian Pathway Study, should also be updated to reflect more recent planning studies. All references to the current planning horizon (2012 – 2022) must also be updated. The minimum statutory requirement is a 10 year timeframe, which works well for most plan elements, though it could be useful to follow the North Florida TPO's recent LRTP timeframe of 2045 for the Transportation Element. The document also includes some odd numbering conventions (e.g. the use of both a period and parentheses after numbered items), inconsistent street name conventions (e.g. Street vs St. vs St), and inconsistent application of the oxford comma that should be addressed throughout the plan.

##### ASSESSMENT SUMMARY – BY PLAN ELEMENT

This section summarizes the assessment by plan element and highlights key recommended revisions including plan organization and the addition/elimination/revision of specific plan sections, maps, goals, objectives, and policies.

##### FUTURE LAND USE ELEMENT

The most important revisions to the Future Land Use Element are updating the FLUM and adding more detail to the FLU category descriptions (description of character and intention, permitted uses, and maximum residential

density). The biggest challenge to updating this section will be re-calibrating densities to reduce nonconformities and preserve character, as well as revising the FLU commercial categories. There are many vocal members of the community who oppose any residential development in commercial areas. Eliminating the possibility for residential in these categories, which currently allow them by PUD or special exception, contradicts other policies and objectives in the Comprehensive Plan, as well as mandates in the Florida Statutes that call for walkable, economically viable, and vibrant mixed-use districts. The pros and cons of this change should be carefully considered and discussed among City staff, elected officials, the City Attorney, and the public. It's also worth studying and discussing the possibility of including maximum net densities, in addition to gross.

- **New Sections**
  - Add an 'Inventory & Analysis' section prior to the Goals, Objectives, and Policies that includes population estimates and projections (optional), as well a description, map, and inventory (in acres) of existing land uses (use Duval County Property Appraiser and Parcel GIS Data)
- **Key Goals, Objectives, and Policies Revisions (see Appendix A for a comprehensive list)**
  - **Goal A.1 and Objective A.1.1:** Revise the language to better reflect the goals and recommendations from the Community Vision Plan
  - **Policy A.1.1.1:** Re-calibrate densities to reflect new FLU categories, reduce nonconformities, and preserve community character. Consider including maximum net density in addition to gross, or provide a method to convert between the two.
  - **Policy A.1.1.4:** Revise to mention the City's intention to include form-based standards and architectural guidelines in the forthcoming LDR updates (add more specificity once the exact scope of the FBC has been defined in January 2021)
  - **Policy A.1.3.1:** Specify which FLU Categories are intended to allow PUDs and mixed use development.
  - **Objective A.1.3:** Consider the addition of the following recommendations from the Vision Plan:
    - The City shall maintain zoning and land development regulations that facilitate compact and walkable redevelopment of commercial and traditional residential areas to reduce the number of overall car trips and improve quality of life
    - Revise and enforce parking standards to ensure that missing middle housing types do not lead to overcrowded parking areas in residential neighborhoods.
  - **Policy A.1.4.2:** Update the FLUM categories and include the total acreage (not needed for the adopted Comp Plan, but good to have for reference), description of character/intention, permitted uses, and maximum density for each category. Consider the following revisions:
    - Split residential into suburban residential and traditional residential categories
    - Consider removing the possibility of residential by PUD or special exception in the Commercial Medium and Commercial High categories and rename these to Commercial I and Commercial II, respectively
    - Revise the Central Business District to 'Town Center' and characterize it as mixed use
    - Add a new mixed use category, 'Neighborhood Center,' for the commercial area around BrewHound
    - Consider revising Commercial Low to 'Walkable Commercial Corridor' depending on the extents/scope of the new FBC
  - **Policy A.1.5.1:** Replace with a policy for the City to conduct a historic resources survey
  - **Objective A.1.6:** Consider the addition of the following recommendations from the Vision Plan:
    - Review and update, as necessary, the City's requirements for permeable surface areas in new projects or renovations to reduce heat island effect and stormwater runoff.



- Revise residential site design standards and improve enforcement to ensure that new construction properly manages stormwater in site and reduces runoff into neighboring properties.
    - Protect the City's existing tree canopy and implement a street tree program that encourages homeowners and businesses to plant more shade trees by committing to maintaining the trees once planted.
    - Work with local nonprofit groups to implement a number of sustainability initiative, including composting programs, water testing, rain barrel programs, single-use plastic bans for City buildings, and beach cleanups, to name a few.
  - **Policies A.1.7.4 & A.1.7.5:** The statutory requirements for these have changed
- **Maps**
  - **A-1 – FLUM:** Revise (separating residential categories into suburban and traditional residential and adding a Town Center, Neighborhood Center, and Walkable Commercial category)
    - Confirm that the conservation/wetland areas mapped in the FLUM are accurate and reflect all of the environmentally-sensitive areas in Neptune Beach (see the Regional Ecosystems Map, Chapter 4.5 from Vision Plan)
  - **E-1 – CHHA Map:** Revise this map from the Coastal & Conservation Element and add it here too
  - **D-1 – Potable Water Wells Map:** Check whether it needs to be updated and add it here too
  - **NEW – Generalized Existing Land Uses as of 2020 Map**
  - **NEW – Floodplain:** reference the FEMA Flood Hazard Map, Figure 2.4, from the Vision Plan
  - **NEW – Mineral & Soils Map:** use data from the latest Duval County Soils Survey

#### TRANSPORTATION ELEMENT

The existing Transportation Element puts a lot of weight on LOS capacity measures. This assessment recommends reducing the emphasis on LOS wherever possible and balancing it with the addition new information, policies, and maps about FDOT's Context Classification system and design standards, as well as bicycle and pedestrian LOS targets. The other overall theme for updating this element is to ensure that the needs and safety of pedestrians and bicyclists are adequately addressed. Supporting language and maps for walkability and bikeability can be taken from Chapters 2 and 4 of the Vision Plan. Objective B.1.6 was moved to B.1.3 to capture all of street conditions and network recommendations. A new B.1.6 is proposed to address parking and curbside management.

- **New Sections**
  - **Level of Service (LOS) Standards:** Consider revising to discuss VMT vs. LOS for measuring transportation capacity and setting traffic goals. Discuss the shortcoming of LOS for considering and tracking pedestrian and bicycle travel and demand.
  - **Existing Operating Conditions:**
    - Add a new section describing FDOT's Context Classification system and new design standards (see Chapter 4.1 of the Vision Plan for language)
    - Add new language describing safety concerns and traffic collisions at the intersection of Atlantic Boulevard and A1A.
  - **Mass Transit:** Update using the Vision Plan Chapter 2: 'Transportation Snapshot' section.
  - **Bicycle and Pedestrian Facilities:** Update this section to reflect newer mobility studies
  - **Needs Assessment and Future Traffic Projections:**
    - Add language about the value of extending the city's street network to accommodate increased traffic volume and reduce congestion



- Include information about existing and future bicycle and pedestrian demand and LOS, provided by FDOT's Bike/Ped Gap Study from 2018
  - Clarify what measure is shown in Table B-1, confirm the validity of these projections, and if updated and reliable projections are available, include them
- **Key Goals, Objectives, and Policies Revisions (see Appendix A for a comprehensive list)**
  - **Policy B.1.1.3:** Reference the 2020 FDOT Design Guidelines and 2020 Context Classification Manual, as well as the proposed Future Context Classification Map.
  - **Objective B.1.1:** Consider the addition of the recommendations from the Vision Plan either as new policies or revision to the existing policies under
    - Prioritize capital improvements along school routes and work with the JTA and FDOT to implement a Safe Routes to School program.
    - Implement intersection safety improvement, including high visibility crosswalks, signage, and pedestrian activated signals.
    - Create and add a new map that illustrates future safety improvements (intersection & crossing), based on the information in Figure 4.10 of the Vision Plan.
  - **Objective B.1.2:** Include trails
  - **Policy B.1.2.2:** Add sidewalks and trails
  - **Policy B.1.2.4:** Check for any additional work site safety provisions within the FDOT 2020 Context Classification and 2020 Design Manual.
  - **Objective B.1.3:** "The City shall maintain and extend, where feasible, its existing street grid, which provides a network of connected neighborhoods for walking, biking, and traveling throughout the City and adjacent cities with minimum vehicular travel miles and minimal traffic congestion."
  - Add the following recommendations from the Vision Plan as new policies or revisions to the existing policies under Objective B.1.3:
    - Work with FDOT to adopt a new Context Classification Map for state roads and create a local classification of street types to guide improvements on city roads, prioritizing safety for all users and context over level of service (LOS).
    - Include a new maps from the Vision Plan Chapter 4.1: Future FDOT & Local Context Classification Map
    - Include requirements for redevelopments of a certain size to provide a grid of blocks and streets that connects with the City's existing street network. (Consider mentioning the extension of Lemon Street here also).
    - Also add policies B.1.6.1 and B.1.6.2 to this objective.
  - **Policy B.1.3.1:** Update to the Highway Capacity Manual Sixth Edition: A Guide for Multimodal Mobility Analysis (2016), which is the current standard for engineers.
  - **Policies B.1.3.2 & Table B-2:** Revise that de-emphasize LOS (see Appendix A for detail)
  - Consider adding a **NEW** Policy B.1.3.5 and Table B-3 regarding minimum Level of Service (LOS) for bicycles and pedestrians
  - **Objective B.1.4:** Change title to "Provision of Bikeways and *Multimodal* Facilities". Revise this objective to be about providing and supporting a variety of safe transportation choices, including walking, biking, skateboarding, and shared mobility services.
  - Consider the addition of the recommendations from the Vision Plan either as new policies or revision to the existing policies under Objective B.1.4:

- Construct a low-stress network of trails, shared streets, mobility lanes, and multi-use paths as shown in Figure 4.8, in order to connect residents in all parts of town to parks, the beach, the intracoastal, schools, and the Beaches Town Center.
- Work with the City of Jacksonville to transform Penman Road into a complete street with dedicated path for pedestrians and bicyclists and more frequent crossing areas.
- Adopt resolutions and regulations for autonomous vehicles and new mobility technologies, with emphasis on safety for pedestrians and bicyclists.
- Promote and provide infrastructure upgrades for microtransit and shared mobility services (e.g. Beach Buggy).
- Determine steps to fund and attract an autonomous or driver-operated shuttle service including initiating conversations with the Jacksonville Transportation Authority (JTA) for automated shuttle feasibility studies.
- **Policy B.1.5.1:** This policy does not seem to match the objective. Recommend moving this policy to Objective B.1.3 and adding a new policy here about facilitating intergovernmental and interagency coordination regarding transportation and street improvements.
- **Objective B.1.6:** We recommend moving this language to Objective B.1.3 instead.
- **Policy B.1.6.1 & B.1.6.2:** Move to Objective B.1.3
- Add **NEW** objective B.1.6 about parking and curbside management. Consider the following recommendations from the Community Vision Plan to include as policies:
  - Adopt transportation demand management (TDM) and curbside management policies.
  - Continue the paid parking pilot program, implement a residential parking program, and develop a shared parking program. (Note: these recommendations should be discussed more with the community and elected officials given public comments about parking)
  - Conduct a curbside management study to address ride hailing and pick-up and drop-off facilities, particularly as it applies to beach access.
  - Explore the feasibility of an adaptable public parking garage and centralized mobility hub, taking into consideration several partnership scenarios.
- **Maps**
  - **Map B-1:** Rename 'Existing Roadway Network'
  - **NEW (OPTIONAL) – Existing Context Classification Map:** Reference Vision Plan Maps, Chapters 2
  - **NEW (OPTIONAL) – Existing Bicycle and Pedestrian Facilities Map:** Reference Vision Plan
  - **NEW – Future Context Classification Map:** Reference the Vision Plan Maps in Chapters 4.1
  - **NEW – Future Bicycle and Pedestrian Facilities Map:** Based on Figure 4.10 from the Vision Plan

#### HOUSING ELEMENT

The Housing Element changes largely address information and recommendation from the new *Housing Affordability and the Beaches Report* (August 2020) from the Florida Housing Coalition, especially as it applies to supporting a variety of building types and affordability programs. Implementing some of these affordability programs will require new oversight committees. Neighborhood character and preservation will be key when updating the Land Development Regulations and the forthcoming Form-Based Code (the full scope of which should be solidified by January 2021) will enforce and guide revitalization and new development to accomplish some of the existing preservation policies.

- **New Sections**
  - **OPTIONAL:** Prior to the GOPs consider adding a new section 'Existing Inventory & Needs' with data about renter & housing cost burden from the *Housing Affordability and the Beaches Report*

- **Key Goals, Objectives, and Policies Revisions (see Appendix A for a comprehensive list)**
  - **Objective C.1.1:** Include missing middle housing. The *Housing Affordability and the Beaches Report* (August 2020) from the Florida Housing Coalition has recommendations on the types of buildings like ADUs, Modern Modular, and Tiny homes to allow and encourage.
  - **Policy C.1.1.1:** Add Florida Housing Coalition
  - **Policy C.1.1.2:** These techniques should be elaborated in the policy. Consider mentioning the following:
    - Sufficient density to allow for missing middle housing types and smaller units which tend to be more affordable.
    - Accessory dwelling units in designated residential zoning districts.
  - **Policy C.1.1.4:** Reference the same two conditions for entering an Interlocal Agreement that are cited in Policy G.1.5.1
  - Consider adding the following recommendations as policies:
    - Encourages nonprofits or nonprofit programs that will guide and oversee the existing housing stock or search for funding for preservation of affordable housing.
    - Explore community land trusts as a solution to provide more affordable housing.
  - **Objective C.1.2:** Consider including senior housing here and rename it to be inclusive of group homes, foster care facilities, and senior housing.
  - **Policy C.2.1.1:** See recommendations in the FLU Element for the City to include a policy to conduct a historic resources survey.
  - **Policy C.2.1.2 & C.2.2.3:** Consider mentioning the City's intention to pursue Form-Based Code elements and architectural standards in the forthcoming LDR updates.
  - **Policy C.2.1.3:** This runs contrary to the existing density maximums in the historic parts of Neptune Beach, where many historic homes are nonconforming. Recommend revising density, as described in the FLU Element, to bring these historic homes and types into conformity.
  - **Policy C.2.2.5:** Does such a program exist? The existence of nonconforming homes disincentivizes the upkeep and investment in these properties.
  - **Objective C.2.3:** Incorporate some of the low impact design principles from the infrastructure element. Encourage a wholistic approach with the entire lot and building to increase permeability and reduce stormwater runoff.

#### INFRASTRUCTURE ELEMENT

Within the Infrastructure Element, Levels of Service (LOS) is mentioned multiple times. It is important to specify what type of LOS standards are being referenced throughout this element. Also, the goals, objectives, and policies should reflect the goals and recommendations of Chapter 4: 'A Sustainable & Resilient City' of the Vision Plan, including the low impact design and resiliency toolkits.

- **New Sections - None**
- **Key Goals, Objectives, and Policies Revisions (see Appendix A for a comprehensive list)**
  - **Policy 2.1.2.1:** This is pretty obsolete now, since cities are already required to adopt water supply plans created by water management districts.
  - **Objective D.2.1:** Consider adding the following recommendations from the Vision Plan as new policies or revisions to the existing policies:
    - Adopt low impact design principles for the design and construction of streets, parks, and infrastructure improvements, including provisions for the use of native plants that help

- filter stormwater and for the prioritization of natural edge stormwater canals over conventionally engineered, hard edge channels.
    - Review and update as necessary the City's current requirement for permeable surface areas in new projects and renovations reduce heat island effect and stormwater runoff.
  - **Policy D.2.1.1:** Include using native plant species in natural drainage features to reduce erosion and other sustainable methods to improve and maintain existing features.
  - **Policy D.2.1.4:** Review this and make sure it's still relevant or propose its own water supply plan with at least 10 year planning period per the FL state statues.
  - **Policy D.2.2.2:** Re: Master Stormwater Plan - Is there a newer one? Update if necessary
  - **Policy D.2.2.3:** Update the Stormwater Management Program to include low impact design principles pgs. 196-201.
  - **Policy D.3.1.3:** When was the Reuse Feasibility Study completed? If there is a newer one, reference that instead.
- **Maps**
    - **NEW – Planned Stormwater Improvements Map:** See page 192-193 from Vision Plan
    - **Map D-1 Potable Water Wells:** Check whether it needs to be updated.

#### COASTAL & CONSERVATION ELEMENT

This element may be split into two: Coastal Management Element and Conservation Element, though this is not required per Florida Statutes. An assessment of this element, as well as updates and revisions, are being undertaken by Murphy Planning.

- **Maps:**
  - **E-1 – CHHA Map:** Revise based on the updated SRES (Statewide Regional Evacuation Study) Storm Tide Atlas published by the Northeast Florida Regional Council in 2013.
  - **NEW (OPTIONAL) – Storm Tide Atlas Map:** Referenced above
  - **NEW (OPTIONAL) – Sea Level Rise Map:** See Vision Plan Chapter 4.5

#### RECREATION & OPEN SPACE ELEMENT

For the Recreation & Open Space Element, adding recommendations from the Vision Plan will help ensure that public spaces are safer with implementation and more sustainable (e.g. adopting CPTED and low impact design standards and requirements). In addition, new policies that describe the community's desire for more water-related recreation and more public gathering spaces in the Town Center will help support the findings and recommendations from the Vision Plan.

- **New Sections**
  - **OPTIONAL:** Before the Recreation and Open Space Element, consider adding an 'Inventory & Planning Projects' section to describe the City's existing parks and open spaces, as well as recent planning efforts and capital improvement project underway (e.g. planned improvements and community design process for Jarboe Park).
- **Key Goals, Objectives, and Policies Revisions (see Appendix A for a comprehensive list)**
  - **Objective F.1.1:** Consider adding the following recommendations from the Vision Plan:
    - Construct beach access improvements, including the addition of bicycle parking, ADA ramps, and ADA accessible parking spaces wherever possible.
  - **Objective F.1.3:** Add the following recommendations from the Vision Plan either as new policies or revisions to the existing policies:

- Adopt Crime Prevention through Environmental Design (CPTED) standards for the design of streets, parks, and public spaces.
    - Adopt low impact design principles for the design and construction of streets, parks, and infrastructure improvements, including provisions for the use of native plants that help filter stormwater and for the prioritization of natural edge stormwater canals over conventionally engineered, hard edge channels.
    - Invest in recreational amenities along the Intracoastal, including kayak launches, marsh walks, and a pedestrian and bicycle bridge across Hopkins Creek that connects the two segments of Seagate Avenue.
    - Add new map based on Figure 4.30 of the Vision Plan that shows potential future Park, Open Space and Recreational Facility Improvements.
  - **Policy F.1.3.3:** Check to what extent the City's existing parks and recreational facilities meet these LOS standards and revise accordingly.
  - **Objective F.1.4:** Add a policy about accommodating new public open spaces in the Beaches Town center. Recommendation from the Vision Plan to reference include:
    - Transform the final segment of Atlantic Boulevard from 1st Street to the beach into a car-free public plaza and encourage infill development along the edges of the existing surface parking lot on that corner.
    - Transform 1st Street from Atlantic Boulevard to Orange Street into a shared plaza street that can be easily closed down and used for public events.
  - **Objective F.1.5:** Add the following recommendation from the Vision Plan either as new policies or revisions to the existing policies under Objective F.1.5:
    - Support the Senior Center's community programs and services.
  - **Objective F.1.6:** Reference the recommended new Future Bicycle & Pedestrian Facilities Map from the Transportation Element as a guide for future trails and bikeways.
  - **Policy F.1.6.1:** Replace with "The City shall refer to the Neptune Beach Community Vision Plan (2020), the North Florida TPO's 2019 Regional Multi-Use Trail Plan, and the City of Jacksonville's Pedestrian and Bicycle Master Plan (2017) to ensure..."
  - **Policy F.1.7.1:** Consider revising to specify that the City's land development regulations should require a specific amount of parks/open space and recreational amenities for non-residential and mixed use redevelopment projects of a certain size.
- **Maps**
    - **NEW OPTIONAL – Existing Parks, Open Spaces, and Recreational Facilities Map**
    - **NEW – Future Parks, Open Spaces, and Recreational Facilities Map** (see Figure 4.30 in Chapter 4.2 of the Vision Plan)

#### INTERGOVERNMENTAL COORDINATION ELEMENT

- **New Sections**
  - Add the Goals, Objectives, and Policies from the Public Schools Element as specified in the Public School Element summary section
- **Key Goals, Objectives, and Policies Revisions (see Appendix A for a comprehensive list)**
  - Add a **NEW** objective regarding coordination of resilience efforts and sea level rise hazard mitigation. Consider policies about:
    - Coordinating with the City of Jacksonville's, including special groups like the Storm Resiliency & Infrastructure Development Review Committee (SRAIDR), the Special

Committee on Resilience, and the Resilience and Climate Change Coalition. (Confirm which of these special working groups and committees are still active).

- Coordination efforts with Atlantic Beach and Jacksonville Beach, including incorporating findings from Atlantic Beach’s Sea Level Rise Projection Review and Coastal Vulnerability Assessment (2019) into City policies.

#### CAPITAL IMPROVEMENTS ELEMENT

In the Capital Improvements Element, a lot of the comments refer to checking and updating references to the Florida Statutes and Florida Administrative Code. Likewise, some policies should be updated to refer to more recent planning studies or master plans, such as the DCPS planning documents referenced below.

- **New Sections** - None
- **Key Goals, Objectives, and Policies Revisions (see Appendix A for a comprehensive list)**
  - **Table H-5:** Where is this table? Update the table based on the City’s 2020 CIP and cross-referencing that with the Community Vision Plan’s Appendix A: Project List
  - **Policy H.1.2.1:** Including maintaining safe public beach access for people of all ages and abilities.
  - **Policies H.1.3.7 – H.1.3.8:** Update LOS standards based on the most current information available. Reference updated DCPS updating planning documents:
    - 2019-20 Five Year Capital Plan
    - Master Facilities Plan (2020)
  - **Policy H.1.3.9:** Update to reflect Duval County’s Public School 2019-20 Five Year Capital Plan and the Master Facilities Plan (2020)
  - **Table H-4:** Table H-4 should be a repeat of Table B-2 in the Transportation element; all changes there should be mirrored here (and vice versa).

#### PUBLIC SCHOOLS FACILITIES ELEMENT

This element is no longer required. The City can choose to eliminate it and fold the Goals, Objectives, and Policies into the Intergovernmental Coordination Element as specified below, or they can leave the Public Schools Element as is and simply add a new policy in the Intergovernmental Coordination Element that references it. The other key updates are to ensure also that all the Florida Statute and Florida Administrative Code references are accurate, as and confirm that all references to DCPS plans and procedures are up-to-date.

- **New Sections**
  - Option 1: Eliminate this element and fold the Goals, Objectives, and Policies into the Intergovernmental Coordination Element (unless specified otherwise below)
  - Option 2: Keep as is and add a policy to Intergovernmental Coordination referencing this element
- **Key Goals, Objectives, and Policies Revisions (see Appendix A for a comprehensive list)**
  - **Goal I.1:** Delete this goal from the Comp Plan
  - **Objective I.1.1:** Move this objective and all of its policies (unless otherwise noted) to right after Objective G.1.4 in the Intergovernmental Coordination Element, Goal G.1. Rename this objective to ‘Coordination Review Procedures for Public Schools.’
  - **Policy I.1.1:** Delete this policy from the Comp Plan
  - **Goal I.2 & I.3:** Move these goals and all of their underlying objectives and policies to go after Goal G.1 in the Intergovernmental Coordination Element.

## COMPREHENSIVE PLAN DRAFT OUTLINE

### City of Neptune Beach, Florida Comprehensive Plan (2020 – TBD)

#### I. TABLE OF CONTENTS

#### II. INTRODUCTION

#### III. COMPREHENSIVE PLAN ELEMENTS

##### a. Future Land Use Element

##### i. Inventory & Analysis

- OPTIONAL: Optional Population Projections Table
- NEW Existing Generalized Land Use Categories

##### ii. Goals, Objective, and Policies

- Goal A.1: Revise
  - Objective A.1.1 – Maintaining Residential Character: Revise
    - A.1.1.1: Revise Table A-1
    - A.1.1.2 - A.1.1.3: No change
    - A.1.1.4: Revise
    - A.1.1.5 - A.1.1.6: No change
  - Objective A.1.2 – Public Services and Utilities: Revise
    - A.1.2.1: No change
    - A.1.2.2: Revise
    - A.1.2.3: No change
  - Objective A.1.3 – Redevelopment and Infill Development: No change
    - A.1.3.1: Revise
    - A.1.3.2 - A.1.3.4: No change
    - A.1.3.5: Revise
    - NEW Policies based on the following Vision Plan recommendations:
      - The City shall maintain zoning and land development regulations that facilitate compact and walkable redevelopment of commercial and traditional residential areas to reduce the number of overall car trips and improve quality of life.
      - Revise and enforce parking standards to ensure that missing middle housing types do not lead to overcrowded parking areas in residential neighborhoods.
  - Objective A.1.4 – Appropriate Land Use and Development Patterns: No change
    - A.1.4.1: No change
    - A.1.4.2: Revise
      - Add NEW Table A-2
    - A.1.4.3: Revise
    - A.1.4.4: Revise
    - A.1.4.6: No change
  - Objective A.1.5 – Historic & Archaeological Resources: Revise
    - A.1.5.1: Revise
    - A.1.5.2: No change



- Objective A.1.6 – Environmental Resources: Revise
  - A.1.6.1 – A.1.6.2: No change
  - A.1.6.3: Revise
  - A.1.6.4 – A.1.6.9: No change
  - NEW Policies based on the following Vision Plan recommendations:
    - Review and update, as necessary, the City’s requirements for permeable surface areas in new projects or renovations in order to reduce heat island effect and stormwater runoff.
    - Revise residential site design standards and improve enforcement to ensure that new construction properly manages stormwater in site and reduces runoff into neighboring properties.
    - Protect the City’s existing tree canopy and implement a street tree program that encourages homeowners and businesses to plant more shade trees by committing to maintaining the trees once planted.
    - Work with local nonprofit groups to implement a number of sustainability initiative, including composting programs, water testing, rain barrel programs, single-use plastic bans for City buildings, and beach cleanups, to name a few.
- Objective A.1.7 – Post Disaster Redevelopment: No change
  - A.1.7.1: Revise
  - A.1.7.2: No change
  - A.1.7.3: Revise
  - A.1.7.4: Revise/eliminate
  - A.1.7.5: Revise/eliminate
- Objective A.1.8 – Public Schools and School Planning: No change
  - A.1.8.1: No Change
- Objective A.1.9 – Energy Efficiency and Energy Conservation: No change
  - A.1.9.1 – A.1.9.5: No change
- Objective A.1.10 – Coordination with Other Agencies and Adjacent Cities: No change
  - A.1.10.1 – A.1.10.2: No change
- iii. Maps:
  - NEW Map – Existing Generalized Land Uses
  - NEW Map – Mineral & Soils
  - NEW Map – Floodplain (FEMA Flood Hazard)
  - Map A-1 – FLUM: Revise
  - Map A-2 – CHHA Map: Revise
  - Map A-3 – Potable Water Wells Map: Check for updates

**b. Transportation Element**

- i. Inventory & Analysis
  - Background: Revise

- Level of Service (LOS) Standards: Revise
- Existing Operating Conditions: Revise
- Mass Transit: Revise
- Bicycle and Pedestrian Facilities: Revise
- Needs Assessment and Future Traffic Projections: Revise
- ii. Goals, Objectives, and Policies
  - Goal B.1: Revise
    - Objective B.1.1 – Safe Roadway Conditions: Revise
      - B.1.1.1 – B.1.1.2: No change
      - B.1.1.3: Revise
      - B.1.1.4 – B.1.1.5: No change
      - NEW policies based on the following Vision Plan recommendations:
        - Prioritize capital improvements along school routes and work with the JTA and FDOT to implement a Safe Routes to School program.
        - Implement intersection safety improvement, including high visibility crosswalks, signage, and pedestrian activated signals.
        - Create and add a new map that illustrates future safety improvements (intersection & crossing), based on the information in Figure 4.10 of the Vision Plan.
    - Objective B.1.2 – Construction and Maintenance Standards: Revise
      - B.1.2.1: Revise
      - B.1.2.2: Revise
      - B.1.2.3: No change
      - B.1.2.4: Revise
      - B.1.2.5: No change
    - Objective B.1.3 – Operating Conditions: Revise
      - B.1.3.1: Revise
      - B.1.3.2: Revise
        - Table B-2: Revise
      - B.1.3.3: Revise
      - B.1.3.4: No change
      - NEW B.1.3.5: Move from previous B.1.5.1
      - NEW B.1.3.6: Move from B.1.6.1 and revise
      - NEW B.1.3.7: Move from B.1.6.2 and revise/eliminate
      - NEW: Policy about Bicycle and Pedestrian LOS based on FDOT District 2 Bike Ped Gap Study (2018)
    - Objective B.1.4 – Provisions of Bikeways and Multimodal Facilities: Revise
      - B.1.4.1 – B.1.4.3: No change
      - NEW policies based on the following Vision Plan recommendations:
        - Construct a low-stress network of trails, shared streets, mobility lanes, and multi-use paths as shown in Figure 4.8, in order to

connect residents in all parts of town to parks, the beach, the intracoastal, schools, and the Beaches Town Center.

- Work with the City of Jacksonville to transform Penman Road into a complete street with dedicated path for pedestrians and bicyclists and more frequent crossing areas.
- Adopt resolutions and regulations for autonomous vehicles and new mobility technologies, with emphasis on safety for pedestrians and bicyclists.
- Promote and provide infrastructure upgrades for microtransit and shared mobility services (e.g. Beach Buggy).
- Determine steps to fund and attract an autonomous or driver-operated shuttle service including initiating conversations with the Jacksonville Transportation Authority (JTA) for automated shuttle feasibility studies.
- NEW Objective B.1.5 – Parking and Curbside Management
  - NEW policies based on the following Vision Plan recommendations:
    - Adopt transportation demand management (TDM) and curbside management policies.
    - Continue the paid parking pilot program, implement a residential parking program, and develop a shared parking program. (Note: these recommendations should be discussed more with the community and elected officials given public comments about parking)
    - Conduct a curbside management study to address ride hailing and pick-up and drop-off facilities, particularly as it applies to beach access.
    - Explore the feasibility of an adaptable public parking garage and centralized mobility hub, taking into consideration several partnership scenarios.

iii. Maps

- Map B-1 – Existing Roadway Network: Revise
- NEW Map – Existing Context Classifications (OPTIONAL)
- NEW Map – Future Context Classifications
- NEW Map – Existing Bicycle and Pedestrian Facilities (OPTIONAL)
- NEW Map – Future Bicycle and Pedestrian Facilities

c. Housing Element

i. Inventory & Analysis

- OPTIONAL: Renter and Housing Cost Data from *Housing Affordability and the Beaches* 2020 report

ii. Goals, Objectives, and Policies

- Goal C.1: No change
  - Objective C.1.1 – Adequate and Affordable Housing: Revise
    - C.1.1.1: Revise

- C.1.1.2: Revise
    - C.1.1.3: Revise
    - C.1.1.4: Revise
    - NEW policies based on the Housing Coalition study recommendations:
      - Encourages nonprofits or nonprofit programs that will guide and oversee the existing housing stock or search for funding for preservation of affordable housing
      - Explore community land trusts as a solution to provide more affordable housing
    - Objective C.1.2 – Group Homes and Foster Care Facilities: Revise
      - C.1.2.1: No change
      - C.1.2.2: No change
    - Objective C.1.3 – Displacement: No change
      - C.1.3.1: No change
      - C.1.3.2: No change
  - Goal C.2: No change
    - Objective C.2.1 – Historically Significant Housing: No change
      - C.2.1.1: Revise
      - C.2.1.2: Revise
      - C.2.1.3: Revise
    - Objective C.2.2 – Neighborhood Stabilization: Revise
      - C.2.2.1 – C.2.2.2: No change
      - C.2.2.3: Revise
      - C.2.2.4: No change
      - C.2.2.5: Revise
    - Objective C.2.3 – Energy Efficient Housing: No change
      - C.2.3.1 – C.2.3.2: No change
- d. Infrastructure Element**
- i. Goals, Objectives, and Policies
    - Goal D.1: No change
      - Objective D.1.1 – Adequate Public Facilities and Infrastructure: No change
        - D.1.1.1: Revise
        - D.1.1.2: Revise
        - D.1.1.3 – D.1.1.4: No change
      - Objective D.1.2 – Public Facilities Planning: No change
        - D.1.2.1: Revise/eliminate
        - D.1.2.2: Check reference
      - Objective D.1.3 – Elimination of Septic Tanks: No change
        - D.1.3.1 – D.1.3.5: No change
      - Objective A.1.4 – Capital Improvements and Infrastructure Facilities: Revise
        - D.1.4.1 – D.1.4.3: No change
        - D.1.4.4: Revise
        - D.1.4.5: No change

- D.1.4.6: Revise
  - Goal D.2: No change
    - Objective D.2.1 – Protection of Natural Drainage Features: No change
      - D.2.1.1: Revise
      - D.2.1.2: Revise
      - D.2.1.3: No change
      - D.2.1.4: Revise
      - D.2.1.5: No change
    - Objective D.2.2 – Stormwater Management and Drainage Facilities: No change
      - D.2.2.1: No change
      - D.2.2.2: Revise
      - D.2.2.3: Revise
  - Goal D.3: No change
    - Objective D.3.1 – Protection of Aquifer Recharge Areas: No change
      - D.3.1.1: No change
      - D.3.1.2: No change
      - D.3.1.3: Revise
- ii. Maps
  - Map D-1 – Potable Well Fields: Check for updates
  - NEW Map – Planned Stormwater Improvements (refer to pg. 192-193 from Vision Plan)
- e. **Coastal and Conservation Element (*Option to split into two elements*)**
  - i. Inventory & Analysis
    - OPTIONAL: Assessed by Murphy Planning (not included here)
  - ii. Goals, Objective, and Policies
    - Assessed by Murphy Planning (not included here)
  - iii. Maps
    - Map E-1 – CHHA: Revise
    - NEW Map: Sea Level Rise (see Vision Plan Chapter 4.5)
    - NEW Map: Storm Tide Atlas Map
- f. **Recreation and Open Space Element**
  - i. Inventory & Planning Projects
    - OPTIONAL: Description of existing parks and open spaces, as well as recent planning efforts and park improvement projects (e.g. Jarboe Park)
  - ii. Goals, Objective, and Policies
    - Goal F.1
      - Objective F.1.1 – Public Access: No change
        - F.1.1.1: No change
        - NEW policies based on the following Vision Plan recommendations:
          - Construct beach access improvements, including the addition of bicycle parking, ADA ramps, and ADA accessible parking spaces wherever possible
      - Objective F.1.2 – Coordination: No change
        - F.1.2.1 – F.1.2.2: No change

- F.1.2.3: Revise
    - F.1.2.4 – F.1.2.6: No change
  - Objective F.1.3 – Adequate Parks and Recreation Facilities: Revise
    - F.1.3.1 – F.1.3.2: No change
    - F.1.3.3: Revise
    - NEW policies based on the following Vision Plan recommendations:
      - Adopt Crime Prevention through Environmental Design (CPTED) standards for the design of streets, parks, and public spaces.
      - Adopt low impact design principles for the design and construction of streets, parks, and infrastructure improvements, including provisions for the use of native plants that help filter stormwater and for the prioritization of natural edge stormwater canals over conventionally engineered, hard edge channels.
      - Invest in recreational amenities along the Intracoastal, including kayak launches, marsh walks, and a pedestrian and bicycle bridge across Hopkins Creek that connects the two segments of Seagate Avenue
  - Objective F.1.4 – Open Space: No change
    - F.1.4.1 – F.1.4.2: No change
    - NEW F.1.4.3: Policy about accommodating new public open spaces in the Beaches Town center. Consider referencing from the Vision Plan:
      - Transform the final segment of Atlantic Boulevard from 1st Street to the beach into a car-free public plaza and encourage infill development along the edges of the existing surface parking lot on that corner.
      - Transform 1st Street from Atlantic Boulevard to Orange Street into a shared plaza street that can be easily closed down and used for public events.
    - Adopt low impact design principles for the design and
  - Objective F.1.5 – Recreational Needs for the Elderly and Handicapped: No change
    - F.1.5.1 – F.1.5.2: No change
    - NEW policies based on the following Vision Plan recommendations:
      - Support the Senior Center’s community programs and services
  - Objective F.1.6: Revise
    - F.1.6.1: Revise
    - F.1.6.2: Revise
    - F.1.6.3: Revise
  - Objective F.1.7 – Requirement for Redevelopment Projects: No change
    - F.1.7.1: Revise
- iii. Maps
  - NEW Map – Existing Parks and Open Spaces (OPTIONAL)

- NEW Map – Future Parks, Open Spaces, and Recreational Facilities (refer to Figure 4.30 of the Vision Plan)

**g. Intergovernmental Coordination Element**

**i. Goals, Objectives, and Policies**

- Goal G.1
  - Objective G.1.1 – Maintaining Consistency with Comprehensive Plans and Interlocal Agreements: No change
    - G.1.1.1: Check reference
    - G.1.1.2 – G.1.1.7: No change
  - Objective G.1.2 – Coordination of the Management and Protection of Natural Resources: No change
    - G.1.2.1 – G.1.2.3: No change
  - Objective G.1.3 – Coordination of Levels of Service for Public Facilities: No change
    - G.1.3.1 – G.1.3.2: No change
    - G.1.3.3: Revise
  - Objective G.1.4 – Coordination with the Duval County School Board: Revise
    - G1.4.1 – G.1.4.3: No change
  - NEW Objective G.1.5 – Coordination Review Procedure for Public Schools: Move from I.1.1 and revise
    - NEW G.1.5.1: Move from I.1.1.2
    - NEW G.1.5.2: Move from I.1.1.3 and revise
    - NEW G.1.5.3 – G.1.5.6: Move from I.1.1.4 – I.1.1.7
  - Objective G.1.6 – Affordable Housing: No change
    - G.1.7.6: No change
  - NEW Objective G.1.7 – Coordinating Resilience Planning and Hazard Mitigation
    - NEW policies regarding resilience planning coordination, consider referencing the following efforts mentioned in the Vision Plan:
      - Coordinating with the City of Jacksonville’s, including special groups like the Storm Resiliency & Infrastructure Development Review Committee (SRAIDR), the Special Committee on Resilience, and the Resilience and Climate Change Coalition. (Confirm which of these special working groups and committees are still active).
      - Coordination efforts with Atlantic Beach and Jacksonville Beach, including incorporating findings from Atlantic Beach’s Sea Level Rise Projection Review and Coastal Vulnerability Assessment (2019) into City policies.
- New Goal G.2 – Public School Facility Siting and Development Coordination: No change
  - NEW Objective G.2.1 – Public School Facility and Availability: Move from I.2.1 and revise
    - NEW G.2.1.1 – G.2.1.12: Move from I.2.1.1 – I.2.1.12
  - NEW objective G.2.2 – Enhance Community/School Design – Move from I.2.2



- NEW G.2.2.1 – G.2.2.7: Move from I.2.2.1 – I.2.2.7
  - NEW Objective G.2.3 – Coordinate Land Use with School Capacity – Move from I.2.3
    - NEW G.2.3.1 – G.2.3.2: Move from I.2.3.1 – I.2.3.2
    - NEW G.2.3.3: Move from I.2.3.3 and check reference
- New Goal G.3 – Implement Public School Concurrency: Move from I.3
  - NEW Objective G.3.1 – Adopted Level of Service (LOS) Standards for Public Schools: Move from I.3.1 and revise
    - NEW G.3.1.1 – G.3.1.3: Move from I.3.1.1 – I.3.1.3
  - NEW Objective G.3.2 – School Concurrency Service Areas (CSAs): Move from I.3.2
    - NEW G.3.2.1 – G.3.2.3: Move from I.3.2.1 – I.3.2.3
  - NEW Objective G.3.3 – Process for School Concurrency Implementation: Move from I.3.3
    - NEW G.3.3.1 – G.3.3.3: Move from I.3.3.1 – I.3.3.3
    - NEW G.3.3.4: Move from I.3.3.4 and revise
    - NEW G.3.3.5 – G.3.3.9: Move from I.3.3.5 – I.3.3.9
  - NEW Objective G.3.4 – Proportionate Share Mitigation: No change
    - NEW G.3.4.1 – G.3.4.3: Move from I.3.4.1 – I.3.4.3
    - NEW G.3.4.4: Move from I.3.4.4 and check reference
    - NEW G.3.4.5 – G.3.4.6: Move from I-3.4.5 – I.3.4.6
  - NEW Objective G.3.5 – School Capital Facilities Planning: No change
    - NEW G.3.5.1: Move from I.3.5.1
    - NEW G.3.5.2: Move from I.3.5.2 and check reference

#### **h. Capital Improvements Element**

##### **i. Goals, Objectives, and Policies**

- Goal H.1: No change
  - Objective H.1.1 – Capital Improvements Planning: No change
    - H.1.1.1 – H.1.1.6: No change
  - Objective H.1.2 – Public Expenditures within Coastal High Hazard Area (CHHA): No change
    - H.1.2.1: Revise
  - Objective H.1.3 – Concurrency and Level of Service Standards: No change
    - H.1.3.1 – H.1.3.7: No change
    - H.1.3.8: Revise
    - H.1.3.9: Revise
    - H.1.3.10: Revise
    - H.1.3.11 – H.1.3.13: No change
    - H.1.3.14: Check reference
    - H.1.3.15: No change
      - Table H-1: No change
    - H.1.3.16: No change
      - Table H-2: No change

- H.1.3.17: No change
  - Table H-3: Revise
- H.1.3.18: No change
  - Table H-4: Revise
- H.1.3.19: No change
- H.1.3.20: Revise
- H.1.3.21 – H.1.3.22: No change
- H.1.3.23: Revise
- Objective H.1.4 – Funding for Capital Improvements: No change
  - H.1.4.1 – H.1.4.4: No change

IV. Appendix

- a. Glossary of Terms
- b. Map Series

APPENDIX A – EXISTING COMPREHENSIVER PLAN ASSESSMENT

# City of Neptune Beach, Florida



## 2012-2022 Comprehensive Plan

April 2012

**Commented [LL1]:** Update the planning horizon. City should consider what the best planning horizon is. The statutory requirement is a timeframe of at least 10 years, but it could be longer. Keep in mind that the plan can have more than one timeframe.

For reference, the North Florida TPO recently adopted their updated LRTP through 2045, which might make sense to mirror in the Transportation Element. For the rest of the plan (excluding the 5-year timeframe for Capital Improvement), a shorter timeframe might be better. It is difficult to accurately project growth over 25 years, especially for a small town likely NB that is largely built out. As such, it would be difficult to properly accommodate population growth in our FLUM (as mandated by F.S.) for such a long horizon, especially given the existing community's reluctance to allow mixed use redevelopment. In the next 5-10 years, however, this sentiment could change.

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**Commented [LL2]:** Option to split this into two separate elements, though not required.

**Commented [LL3]:** Option 1: Eliminate this element and fold the goals, objectives, and policies into the Intergovernmental Coordination Element as described in more detail in that chapter.

Option 2: Keep this Element in the Comp Plan and add a policy in the Intergovernmental Coordination Element that references it (e.g. 'More detailed coordination procedures for the design, construction, and management of public schools is included as a separate Comprehensive Plan Element.')

## Introduction

The City of Neptune Beach encompasses an area of about 2.5 square miles and is a coastal community. The City is bounded by the Atlantic Ocean to the east and the Intracoastal Waterway to the west, with approximately 1.2 miles of beach front and 275± acres of salt marsh in Pablo Creek. The City of Neptune Beach is almost fully developed with little remaining land left for development; it was primarily built out prior to the implantation of Growth Management. The City does not anticipate significant revisions to the Future Land Use Map.

It is the stated Goal in the Comprehensive Plan to maintain and enhance the residential character of Neptune Beach. The residential development is predominately low density, single family dwelling units. The area east of Third Street is characterized by a mixture of single family, duplexes and medium density multi-family dwellings. The area west of Third Street is characterized by mostly single family dwellings.

Two commercial corridors exist in the City. The largest is located along the south side of Atlantic Boulevard (SR 10) extending from the western city limits to the eastern city limits (including Town Center). The second commercial corridor extends south from Atlantic Blvd on Third Street on both sides until Orange Street and then continues on the west side of Third Street to Jarboe Park just north of Florida Blvd.) Atlantic Boulevard.

The major transportation routes in Neptune Beach include Atlantic Boulevard (SR 10), Third Street (A1A), Penman Road, Florida Boulevard and Seagate Avenue. Atlantic Blvd. is a major east-west access route for those coming into Neptune Beach. Third Street is a major north-south route with heavy use from Atlantic Beach and Jacksonville Beach. Florida Blvd is another major east-west route that runs through the center of the City.

Jarboe Park is the largest of the four parks owned by the City and is centrally located within Neptune Beach. It is an active park with approximately 12 acres and is located at the northwest corner of Florida Boulevard and Third Street. The remaining parks in Neptune Beach are small community parks and service the needs of the surrounding communities. The City also provides over 20 beach accesses.

**Commented [LL4]: Global Comment:** Define a convention for street names that applies throughout the document (e.g. Street vs. St vs. St.)

## A. Future Land Use Element





## A. Future Land Use Element Goals, Objectives and Policies

Future land use, new development, and redevelopment within the City of Neptune Beach shall be in accordance with the following Goals, Objectives, and Policies and as further controlled by the Land Development Regulations, as may be amended to implement the Goals, Objectives and Policies of this Comprehensive Plan. Development areas shall be defined by the land use categories described within the Future Land Use Element and as depicted on the Future Land Use Map, included in the Plan amendment as map A-1 on the Future Land Use Map Series.

Pursuant to Chapter 163.3194(1), Florida Statutes, as may be amended, all Development undertaken, all actions taken in regard to Development shall be consistent with this Comprehensive Plan. Further, all Land Development Regulations enacted or amended shall be consistent with the adopted Comprehensive Plan, and in the event of inconsistency between the requirements of any zoning or Land Development Regulations, the provisions of this Comprehensive Plan shall prevail.

### Goal A.1

Preserve the pleasant character of the City and ensure that the scarce developable land remaining will 1.) develop sensitive to and compatible with the existing development; 2.) improve future redevelopment and enhance the quality of life; 3.) minimize the threat to health, safety and welfare posed by high density, traffic congestion, commercial and industrial intrusion and environmental degradation; 4.) maintain the pleasant residential character of the community; 5.) avoid blighting influences; 6.) preserve and enhance environmental, coastal, natural historic and cultural resources; 7.) provide coastal locations with reasonable public safety and security from hazardous conditions; and 8.) encourage the use of renewable resources and energy efficiency.

### Objective A.1.1 Maintaining Residential Character

Future development and redevelopment shall preserve the residential character of the City by 1.) retaining the primarily residential character of the City of Neptune Beach, 2.) reducing density to match the Future Land Use Map (FLUM), and 3.) protecting and preserving the dense tree canopy and coastal waterway accesses.

**Commented [LL5]:** To fulfill State Statute 163.3177 include a new section before the Goals, Objectives & Policies with a new map and inventory of existing land uses (acreage and percentage. Population projections can also be included in this section. While these projections are not required as part of the adopted plan, they are important as a reference for the City if asked to demonstrate how the FLUM accommodates growth.

Can Duval County share property assessment and parcel GIS Data with us?

Use BEBR data for population projections. Neptune Beach's population increased by only 2.2% between 2010-2020 according to BEBR, compared to 9.5% in Jacksonville Beach, 9.2% in Atlantic Beach, and 13.9% in the City of Jacksonville. BEBR has population projections for 2035 and 2040 for Duval County only. We should discuss what growth rate to apply for Neptune Beach, since it will not grow at the same rate of the County. It may be best to apply the same rate measure over the last 10-years, 0.44% growth every 5 years,  
<https://www.bebtr.ufl.edu/population>  
[https://www.bebtr.ufl.edu/sites/default/files/Research%20Reports/projections\\_2020.pdf](https://www.bebtr.ufl.edu/sites/default/files/Research%20Reports/projections_2020.pdf)

**Commented [LL6]:** Consider the following revisions:  
2) accommodate walkable redevelopment patterns that enhance quality of life and support desired street improvements  
3) minimize the threat to health, safety, and welfare posed by traffic congestion, commercial and industrial intrusions, and environmental degradation (see comment below)  
4) delete 'natural'  
7) provide safe and secure access to natural and recreational amenities  
NEW) respond to risks and threats posed by sea level rise and storm events  
NEW) provide adequate parking supply that considers changing transportation habits and technology

**Commented [LL7]: Global comment:** No need to include a period and parentheses when numbering. Throughout the document revise 1.) to either 1) or 1.

**Commented [LL8]:** Suggest revising this to remove 'high density.' Properly managed and regulated high density does nothing to threaten health, safety, and welfare.

**Commented [LL9]: Global comment:** Recommend using oxford commas throughout to reduce this type of confusion. These plans have a number of listed items. Revise to 'traffic congestion, commercial and industrial intrusion, and environmental degradation'.

**Commented [LL10]:** Consider the following revisions:  
2) coordinating densities on the FLUM and zoning map with desirable existing conditions

## Policies

- A.1.1.1** Residential Land development as of the adoption date of this Plan Amendment or following the adoption of any Future Land Use Map Amendment shall be consistent with the following standards as indicated below:

**Table A-1**

Residential Land Use Classification	Maximum Density Per Gross Acre
Low Density Residential	Up to 5 units
Medium Density Residential	5.1 to 10 units
High Density Residential	10.1 to 17 units

**Commented [LL11]:** Consider including a maximum net density as well or establishing a conversion factor from gross to net, to clarify what is permitted on individual and small parcels. Calibrate densities to match the existing/historic buildings in the city.

Worth discussing these recommendations in more detail with staff, leadership, and the City Attorney.

- A.1.1.2** All residential land development regulations enacted or amended must be consistent with the Comprehensive Plan.
- A.1.1.3** The City shall continue to enforce its tree protection, landscaping, and buffering regulations as well as the protection of the right-of-way.
- A.1.1.4** The City shall maintain within its Land Development Regulations provisions intended to retain the unique community identity, the architectural character, and the residential scale of the City.
- A.1.1.5** The City shall continue to manage, preserve, and construct facilities that provide diverse opportunities to all residents for both passive and active recreation, including parks, nature preserves, trails and bikeways, dune crossovers, waterway accesses, and associated amenities.
- A.1.1.6** The City shall expand opportunities for public access to the beach, the Intracoastal Waterway, and associated creeks and marshes for passive and natural resource based recreational activities.

**Commented [LL12]:** Revise to mention the city's intention to include form-based standards and architectural guidelines in its forthcoming LDR updates.

## **Objective A.1.2** **Public Services and Utilities**

The City shall ensure that future development and redevelopment will be served by adequate public services and facilities as to avoid deficient levels of service as established with this Plan.

**Commented [PD13]:** Ensure these policies consider Florida Statutes 163.3177 (6)(c)3..

## Policies

**A.1.2.1** The City shall only issue development permits on the availability of facilities and services necessary to serve the proposed development or redevelopment. The facilities and services shall meet the established levels of service in this Plan and shall be concurrent with the impacts of development, or an alternative means of meeting concurrency requirements shall be provided in accordance with standards set forth within Chapter 9J-5, Florida Administrative Code.

**A.1.2.2** New public utilities and electric substations shall be permitted use in all land use categories within a utility's service territory except those designated as conservation on the future land use map or by duly adopted ordinance. The standards as set forth in Section 163.3208, Florida Statutes shall apply.

**Commented [LL14]:** Revise to "uses"

**Commented [LL15]:** Confirm that this reference to Florida Statutes is still accurate.

**A.1.2.3** Public facilities and utilities shall be located and designed to provide the most cost-effective service and to minimize public inconvenience.

## Objective A.1.3

### Redevelopment and Infill Development

Encourage redevelopment and development of blighted areas without 1.) increasing density beyond the land use densities indicated on the FLUM, 2.) expanding non-conforming uses, 3.) increasing traffic congestion beyond the Level of Service outlined in the Land Development Regulations.

**Commented [PD16]:** Include recommendations and concepts from the Vision Plan Chapter 4 and Chapter 5 - Implementation top priority number 6

## Policies

**A.1.3.1** Planned Unit Developments or mixed use should be considered in the areas designated on the FLUM.;

**A.1.3.2** All redevelopment activities shall be based on sound planning principles that will conserve the natural environment and achieve the desired community characteristics without increasing traffic congestion.

**Commented [LL17]:** This policy should specify which Future Land Use Categories are intended to allow PUDs and mixed use development. Right now it reads as though these should be considered in all of the areas mapped on the FLUM, which we know is not the intention nor what the community wants.

**A.1.3.3** The City shall not permit expansion or replacement of land uses in a manner that is inconsistent with this Comprehensive Plan.

**A.1.3.4** The City shall enforce City codes that identify and eliminate blighted areas.

**Commented [WMS18R17]:** Agree – as written, it implies a lot but really means nothing in particular; it's mainly fodder for litigation...

- A.1.3.5** Utilize flexible regulatory methods to provide incentives for achieving environmental enhancement, economical land development, and energy efficient patterns of land use that provide for an appropriate mix of uses within the City.

### Objective A.1.4

#### Appropriate Land Use and Development Patterns

Future development and redevelopment shall be in an efficient manner that supports the use designation as set forth on the Future Land Use Map in this Plan. The development, redevelopment and land use patterns shall 1.) enforce the residential densities and limitations upon the type and intensity of uses; 2.) respect the predominantly residential character and small-town scale of the City; 3.) eliminate non-conforming uses; 4.) protect coastal and environmental resources; 5.) encourage healthy and aesthetically pleasing living conditions.

#### Policies

- A.1.4.1** The City shall review all applications for development permits to determine compliance with the Land Development Regulations, particularly regarding provisions of required parking, open space, impervious surface area limits, onsite traffic flow, appropriate signage, landscaping and tree protection as to avoid traffic congestions, hazardous public safety conditions, and inefficient land use that may also result in harmful environmental or aesthetic effects.

- A.1.4.2** The land use categories depicted in the 2012-2022 Future Land Use Map (FLUM), Map A-1, shall permit the following uses and activities:

(A) **Conservation:** Conservation lands shall include those lands so designated on the FLUM. These areas are generally composed of open land, water, marsh, wetlands, and environmentally sensitive areas. They may be either publicly or privately owned. The intent is for the natural and open character of these areas to be retained so that adverse impacts shall be prohibited or minimized.

- Permitted uses within the Conservation category shall be limited to the uses allowed by the Land Development Regulations.

(B) **Residential:** Residential uses shall be permitted in those areas so designated in accordance with the applicable permitted density

**Commented [LL19]:** "Flexible regulatory methods" can be construed as negotiable LDRs and/or loose code enforcement, which the city wants to avoid.

**Commented [WMS20R19]:** I agree that the current wording ("flexible regulatory methods" and "appropriate mix of uses") is very poor.

Since existing Policy A.1.3.1 will already be clarified regarding PUDs, there's no reason to keep Policy A.1.3.5 at all, since it's apparently addressing the same subject. Unless the intention behind this policy is something else entirely.

**Commented [LL21]:** Missing a comma after enhancement.

**Commented [LL22]:** Consider the addition of the following recommendations from the Vision Plan under Objective A.1.3:

The City shall maintain zoning and land development regulations that facilitate compact and walkable redevelopment of commercial and traditional residential areas to reduce the number of overall car trips and improve quality of life. (Similar to policy A.1.9.2, but it is also appropriate/important for this Objective).

Revise and enforce parking standards to ensure that missing middle housing types do not lead to overcrowded parking areas in residential neighborhoods.

**Commented [LL23]:** Add a table that quantifies the acreage and percentage of land in each of the FLU categories

**Commented [PD24]:** Update the planning horizon

**Commented [LL25]:** See policy A.1.4.4 or Map A-1 for a list of all the recommender revisions.

**Commented [LL26]:** Consider revising the residential categories on the FLUM into suburban residential and traditional residential categories, as is recommended in the Vision Plan's Figure 3.7: Future Character Areas Map. This will help distinguish and preserve the unique character of older and newer neighborhoods. (See more detailed recommendations on the FLUM page).

Add descriptions for each residential category to match what has been done for the Commercial categories below. Specify the maximum permitted density (net and/or gross) for each type.

and as further controlled by the Land Development Regulations and the Florida Building Code.

(C) **Commercial:** The Commercial land use category is intended to provide appropriate locations for neighborhood and community businesses that provide services and retail sales for the City and the closely surrounding communities. Government, civic, religious, cultural, and institutional uses may also be located within this category. Permitted uses with the Commercial category, along with uses that may be allowed by special exception, shall be limited to the following and as more specifically described within the Land Development Regulations and when located within the respective Zoning District classifications, which are intended to provide a decreasing level of service intensity due to proximity to residential uses.

(1) **Commercial Low:** These areas shall include offices and professional services which service the routine and daily needs of residents and that are compatible with and have no measureable or noticeable adverse impacts upon surrounding residential uses.

(2) **Commercial Medium:** These areas shall include retail sales and services for one or more neighborhoods. Residential uses in conjunction with commercial development and redevelopment shall be permitted through special exception via Planned Unit Development/mixed use development provided the residential portion does not exceed the residential medium density category and is not located within the Coastal High Hazard Area.

(3) **Commercial High:** These areas shall include retail sales and service that serve the overall community. Residential uses in conjunction with commercial development and redevelopment shall be permitted through special exception in Planned Unit Development/mixed use development provided the residential portion does not exceed the residential high density category and is not located within the Coastal High Hazard Area.

(4) **Central Business District:** This area contains a well-established pattern and character of development with a mix of commercial uses and compatible residential uses that

**Commented [LL27]:** Revise to 'Commercial & Mixed Use', that way the Central Business Districts fits better under this heading.

**Important:** Changes to these categories and the implications of those changes should be discussed in more detail with staff and elected officials before any decision is made. If we change these descriptions to remove the possibility of residential by PUD or special exception along Atlantic Blvd., as desired by many in the community, we risk falling into the category of "not discouraging urban sprawl." This Comp Plan change may check the boxes of the following indicators, which we should be avoiding per Florida Statute:

a. (I) Promotes, allows, or designates for development substantial areas of the jurisdiction to develop as low-intensity, low-density, or single-use development or uses.

a. (X) Discourages or inhibits infill development or the redevelopment of existing neighborhoods and communities.

a. (XI) Fails to encourage a functional mix of uses.

b. (III) Fails to promote walkable and connected communities and fails to provide for compact development and a mix of uses at densities and intensities that will support a range of housing choices and a multimodal transportation system, including ...

**Commented [WMS28]:** Reword more like: "...are described generally here and will be regulated..."

**Commented [WMS29]:** Reword more like "...which will restrict intensities when in..."

**Commented [LL30]:** Recommend revising description to also include retail sales. Depending on the scope and extents of the Form-Based Code, we may want to rename this category as '**Walkable Commercial Corridor**', per the Future Character Areas Map in the Vision Plan, and include language about this area encouraging walkable redevelopment.

**Commented [LL31]:** Misspelled; revise to "measurable".

**Commented [LL32]:** Revise to allow offices, professional services, and light industrial/artisan uses. Consider renaming category '**Commercial I**'.

This category permits residential up to 10 du/acre gross by PUD/special exception. Based on community input, consider eliminating the possibility of residential ...

**Commented [LL33]:** Revise to include office and professional service uses. Consider renaming to '**Commercial II**'.

This category permits residential of up to 15 du/acre gross by PUD/special exception. Based on community input, consider revising this to prohibit any residential ...

**Commented [LL34]:** Specify the maximum density allowed for residential and mixed-use with residential in the CBD and consider renaming to '**Town Center**.' This category needs to be included in the FLUM.



encourage an urban-intensive, pedestrian oriented neighborhood ambiance.

(D) **Public:** These areas shall include uses such as accredited public schools, government uses, buildings, structures, utilities and public services and infrastructure, including police, fire, and emergency services.

(E) **Recreation and Open Space:** These areas shall include public and private parks, open space, passive and active recreation areas. Some park and open space land may be designated as Conservation. All beach areas that are seaward of private property lines shall be considered Recreation. Permitted uses shall include public passive and active recreation activities. Government and public safety uses include lifeguard, fire, and police services maybe located in Recreation areas.

#### A.1.4.3

Additional commercial development shall be permitted only on those lands that are zoned to permit such development as of the adoption date of this Plan or following the adoption of an amendment to the Future Land Use Map (FLUM). In considering any FLUM amendment, the City shall find that each of the following conditions are demonstrated by the applicant:

(a) There are adequate public facilities available to serve the proposed development.

(b) The proposed commercial development shall not have adverse impacts on surrounding neighborhoods, other properties, the natural environment, the aesthetic qualities of the City and shall not impair or degrade scenic natural views.

(c) There is a demonstrated deficiency of commercial lands within the City to serve the needs of residents of the City of Neptune Beach.

#### A.1.4.4

The Future Land Use Map and all Maps included within the 2012-2022 Comprehensive Plan Map Series are adopted herewith as part of this Plan amendment. In the event of any conflict between any Maps and the text of the Plan, the text of the Plan shall control.

#### A.1.4.5

The City's Zoning, Subdivision and Land Development Regulations, zoning or other maps, and any regulations within the City's Code of Ordinances related to the use and development of land shall be

**Commented [LL35]:** Add a new policy or bullet point that specifies in which FLU categories public schools are an allowable use. This is required per Florida Statutes.

**Commented [LL36]:** Consider the addition of a similar policy but for additional residential development. This could help support future amendments to allow residential and mixed-use with residential in areas that are currently shown as commercial.

**Commented [WMS37R36]:** Before we expand this policy to include residential development – is it clear to everyone else what this policy is supposed to mean? It sounds like litigation fodder, as currently worded.

The wording could have been meant a few different ways:

-- Maybe simply as new criteria for future FLUM changes that would allow commercial? (But if so, was this policy supposed to just add a few new criteria, or to have these new criteria replace all others?)  
-- Maybe limited to a few parcels that had/have commercial zoning but where the current FLUM now forbids commercial uses, but where the FLUM might be changed back to allow commercial?

If this policy is retained, it really should be clarified. If it's not really essential, the comp plan would be better off without it.

Your idea for a similar policy for additional residential development could replace it, but I'd suggest not trying to match the odd format and wording of the existing policy.

**Commented [LL38]:** Consider the following revisions to the FLUM based per the Community Vision Plan:

- **Suburban Residential I:** All Residential-Low areas excluding the R-3 zoning district east of 5<sup>th</sup> Street
- **Suburban Residential II:** Ocean Oaks Apartments (Residential-High) and Summer Sands (Residential-Medium)
- **Traditional Residential I:** Area currently zoned as R-3 east of 5<sup>th</sup> Street
- **Traditional Residential II:** All remaining Residential-Medium areas
- **Town Center:** Area currently zoned as CBD, consider including the Bank of America Property (Commercial-Low), consider excluding some of the historic residential properties east of 1<sup>st</sup> Street between Lemon and Orange
- **Neighborhood Center:** Consider creating a new category for the commercial area around BrewHound, allow small-scale mixed-use including live/work and encourage pedestrian friendly redevelopment
- **Commercial I:** All Commercial-Medium areas excluding the area around BrewHound
- **Commercial II:** All Commercial-High areas excluding the Town Center
- **Walkable Commercial Corridor:** Depending on the extent/scope of the FBC it could be worth

**Commented [PD39]:** Update the planning horizon

subordinate to the Comprehensive Plan and the Future Land Use Map, which is part thereof.

**Commented [LL40]:** Clarify to avoid any implication that the LDRs cannot or should not contain detailed regulations that are more specific or restrictive than those contained in the comp plan.

- A.1.4.6** Where interpretation is required to determine exact boundaries as depicted upon the Future Land Use Map, boundaries shall be determined by the nearest property line, the right-of-way line of streets, municipal boundaries, section, township and range lines, or environmental or geographic features which serve as natural boundaries, as may be appropriate.

### **Objective A.1.5**

#### **Historic & Archaeological Resources**

The City shall protect from damage or destruction sites, structures, and neighborhoods which have been identified as having historic, architectural, archaeological, civic, or cultural importance. Preservation of such valuable resources shall be encouraged by the City.

**Commented [PD41]:** Reference Historic Preservation and Community Priorities sections from the Vision Plan Chapter 2

#### **Policies**

- A.1.5.1** Provisions shall be included in the Land Development Regulations that provide for the protection and conservation of historic resources and the protection of historically significant properties.

**Commented [WMS42]:** Some problems here:  
-- The first sentence says "shall protect" and the second says "shall be encouraged", but they're two different things; "shall protect" means actual rules, while "encourage" means anything from nothing, to a pat-on-the-back, to formal recognition, to actual financial assistance, etc.  
-- I'm not sure an objective is the right place for a regulatory mandate. The new policy wording below spells out the path to regulations in much clearer language (and need to be in sync with any historic wording in other elements).

- A.1.5.2** Site and structures which are determined to have historic or archeological significance, and which are found to be worthy of preservation in accordance with standards established by the Florida Division of Historical Resources, shall be protected to the greatest extent possible.

Consider revising this objective to be a more general summary of the policies below: identify sites/buildings of historic value, then take steps to protect them

### **Objective A.1.6**

#### **Environmental Resources**

The City shall protect, conserve, and enhance natural environment features and any other natural resources including wetlands, wildlife habitats, estuarine systems, and surface groundwater resources.

**Commented [LL43]:** The City cannot enforce these policies without first completing a survey of historically significant properties, as recommender in the Vision Plan Chapter 2. Recommend revising this policy to:

#### **Policies**

- A.1.6.1** Land development within the City shall be permitted only where such development is compatible with environmental limitations of the site and only when submitted plans demonstrate appropriate recognition of the site characteristics.

'The City shall conduct a historic resources survey to consider the possibility of designating local historic landmarks and establishing a local register of historic properties and/or local historic districts.'

**Commented [LL44]:** Delete environment

**Commented [LL45]:** Replace with environmental



- A.1.6.2** The City shall maintain an inventory of lands which possess significant environmental features, habitats, and areas of unique interest or beauty. The potential for development proposals to adversely impact such areas shall be considered prior to the issuance of development permits.
- A.1.6.3** The City shall protect potable water well fields and surface waters from the adverse impacts of development and shall prohibit the establishment of incompatible land uses adjacent to potable water wells.
- A.1.6.4** The City shall protect natural environment features by maintaining the buffers implemented through the Land Development Regulations.
- A.1.6.5** The City shall not issue development permits that would significantly alter wetland communities and functions.
- A.1.6.6** New development and redevelopment shall be subject to the stormwater regulations set forth within the Land Development Regulations, and post development conditions shall not discharge any increased level of stormwater run-off in the City's stormwater system.
- A.1.6.7** The City shall not permit public access ways to the beach, the Intracoastal Waterway, or other waterways which are open to the public as of the adoption of this Plan to be closed, vacated, or restricted from public use in any manner.
- A.1.6.8** The City shall require that, as a condition of development approval, new construction projects provide effective stormwater management in order to avoid the contamination of Environmentally Sensitive Areas, wetlands, marsh and estuarine environments in accordance with applicable water quality standards of the St. Johns River Water Management District, the City's National Pollutant Discharge Elimination Systems (NPDES) permit and Stormwater Management Plan and the Land Development Regulations, as may be amended.
- A.1.6.9** The City shall expand opportunities for public access to the beach, the Intracoastal Waterway, and associated creeks and marshes for passive and natural resource based recreational activities.

**Commented [PD46]:** Check the areas currently mapped as 'Conservation/Wetlands' in the FLUM against the Regional Ecosystems Map from Vision Plan Chapter 4.5 to ensure that the proper environmentally sensitive areas have been accounted for.

**Commented [LL47]:** Reference the map D-1 in the Infrastructure Element and include that map in FLU map series too.

**Commented [LL48]:** Consider the addition of the following recommendations from the Vision Plan under Objective A.1.6 as new policies or revisions to existing policies:

Review and update, as necessary, the City's requirements for permeable surface areas in new projects or renovations in order to reduce heat island effect and stormwater runoff.

Revise residential site design standards and improve enforcement to ensure that new construction properly manages stormwater in site and reduces runoff into neighboring properties.

Protect the City's existing tree canopy and implement a street tree program that encourages homeowners and businesses to plant more shade trees by committing to maintaining the trees once planted.

Work with local nonprofit groups to implement a number of sustainability initiative, including composting programs, water testing, rain barrel programs, single-use plastic bans for City buildings, and beach cleanups, to name a few.

## **Objective A.1.7**

### **Post Disaster Redevelopment**

In the event of post disaster redevelopment, the City shall encourage innovative concepts for land development that will conserve natural resources, protect environmental sensitive areas, reduce the dependence upon automobile travel, prevent property damage, and threaten human safety and security.

#### **Policies**

- A.1.7.1** Opportunities for encouraging the use of innovative land development practices shall be provided within the Land Development Code.
- A.1.7.2** The City shall continue to participate in the Duval County Local Mitigation Strategy (LMS) and shall continue to implement the goals and objectives of the LMS.
- A.1.7.3** The City shall identify the Coastal High Hazard Area as the area below the Category 1 storm surge line as established by the Sea, Lake and Overland Surges from Hurricane (SLOSH) computerized storm surge model as mapped in the Storm Tide Atlas prepared by the Northeast Florida Regional Council as part of the latest Regional Hurricane Evacuation Study pursuant to Chapter 163, Florida Statutes.
- A.1.7.4** The City shall not approve Plan or Map amendment that will increase residential densities within the Coastal High Hazard Area, as depicted by the Coastal High Hazard Area map, adopted as Map A-2 of the Future Land Use Map Series and made part of this Plan.
- A.1.7.5** The City shall not approve changes to the Zoning District classifications or amendments to the Future Land Use Map that would have the effect of increasing populations with special hurricane evacuation needs as described within Chapter 252.355, Florida Statutes.

## **Objective A.1.8**

### **Public Schools and School Planning**

Any new public schools within the City shall be located in accordance with the Comprehensive Plan and with the Interlocal Agreement for Public School Facility Planning, adopted pursuant to Section 163.3177, Florida Statutes, between the Duval County School Board, the City of Neptune Beach, the City of Jacksonville,

**Commented [PD49]:** Include recommendations for Infrastructure, Landscaping and Climate Vulnerability from the Vision Plan Chapter 4.5

**Commented [LL50]:** Specify example of these innovative land development practices.

**Commented [PD51]:** Include the Sea Level Rise Map from Chapter 4.5 of the Vision Plan.

**Commented [LL52R51]:** City can include the SLR map in the Coastal Management Element and reference it here, but it's not a replacement for the SLOSH map, which is required by statute.

**Commented [LL53]:** This map is not included in the existing FLU Element. It does appear as map E-1 in the Coastal & Conservation Element. This map is also required as a part of the FLU map series.

Revise the Coastal High Hazard Map based on the updated SRES (Statewide Regional Evacuation Study) Storm Tide Atlas published by the Northeast Florida Regional Council in 2013. The map has changed since the current Comp Plan was adopted. The area East of 3rd Street is no longer considered a Category 1 Storm Surge Area. See the document at the link below:

<https://drive.google.com/file/d/19ECtdMjJ9W9pVzfhPRmj9YNhOWQCemhq/view?usp=sharing>

page 62 (Map Plate 67)

**Commented [LL54]:** The statutory requirement has changed. This policy is no longer required in the FLU Element per Chapter 163.3177, section (6).

There are, however, provisions in the Coastal Management Statute regarding hurricane evacuation. Any population density changed must be not hinder safe evacuation. This should be included as a policy in the Coastal Management Element.

Chapter 163.3178, Section (8)(a): A proposed comprehensive plan amendment shall be found in compliance with state coastal high-hazard provisions if:

1. The adopted level of service for out-of-county hurricane evacuation is maintained for a category 5 storm event as measured on the Saffir-Simpson scale; or
2. A 12-hour evacuation time to shelter is maintained for a category 5 storm event as measured on the Saffir-Simpson scale and shelter space

**Commented [LL55]:** The statutory requirement has changed. This policy is no longer required in the FLU Element per Chapter 163.3177, section (6).

The reference to Chapter 252: Emergency Management is also outdated. The only mention of zoning in this chapter is in 252.44:

**Commented [LL56]:** This objective and policy is no longer required in the FLU per F.S., move them into the Intergovernmental Coordination Element

the City of Atlantic Beach, the City of Jacksonville Beach, and the Town of Baldwin and in accordance with Public School Facilities Element of this Plan.

- A.1.8.1** The City shall maintain its shared use agreements with elementary school (Neptune Beach Elementary) and high school (Fletcher High School) and shall continue to encourage the shared use of these public facilities.

#### **Objective A.1.9**

##### **Energy Efficiency and Energy Conservation**

In order to conserve and protect buildings, land, resources and to promote a healthier environment for the City's residents, the City shall encourage the development and use of renewable energy resources.

- A.1.9.1** The City shall encourage the use of transit and alternative methods of transportation through efficient land use patterns so that there is a decrease for the reliance on the automobile.
- A.1.9.2** The City will encourage walk-ability and bike-ability as a means to reduce greenhouse gas emissions, promote a healthy community, and provide access to public, and natural resources.
- A.1.9.3** The City shall develop and implement an energy management plan to minimize fuel, electric and water resources in City buildings, fleet vehicles, and public properties.
- A.1.9.4** Public buildings and facilities shall be constructed and adapted where reasonably feasible to incorporate energy efficient designs and appropriate "green" building standards. The green building standards are set forth by the Florida Green Building Coalition, Inc.
- A.1.9.5** The City shall continue to promote and enforce energy efficient design and construction standards as these become adopted as part of the State Building Codes.

#### **Objective A.1.10**

##### **Coordination with Other Agencies and Adjacent Cities**

The City shall coordinate its planning and development activities with the resources management Plans of the St. Johns River Water Management District, the Department of Environmental Protection, the City of Jacksonville, the City of

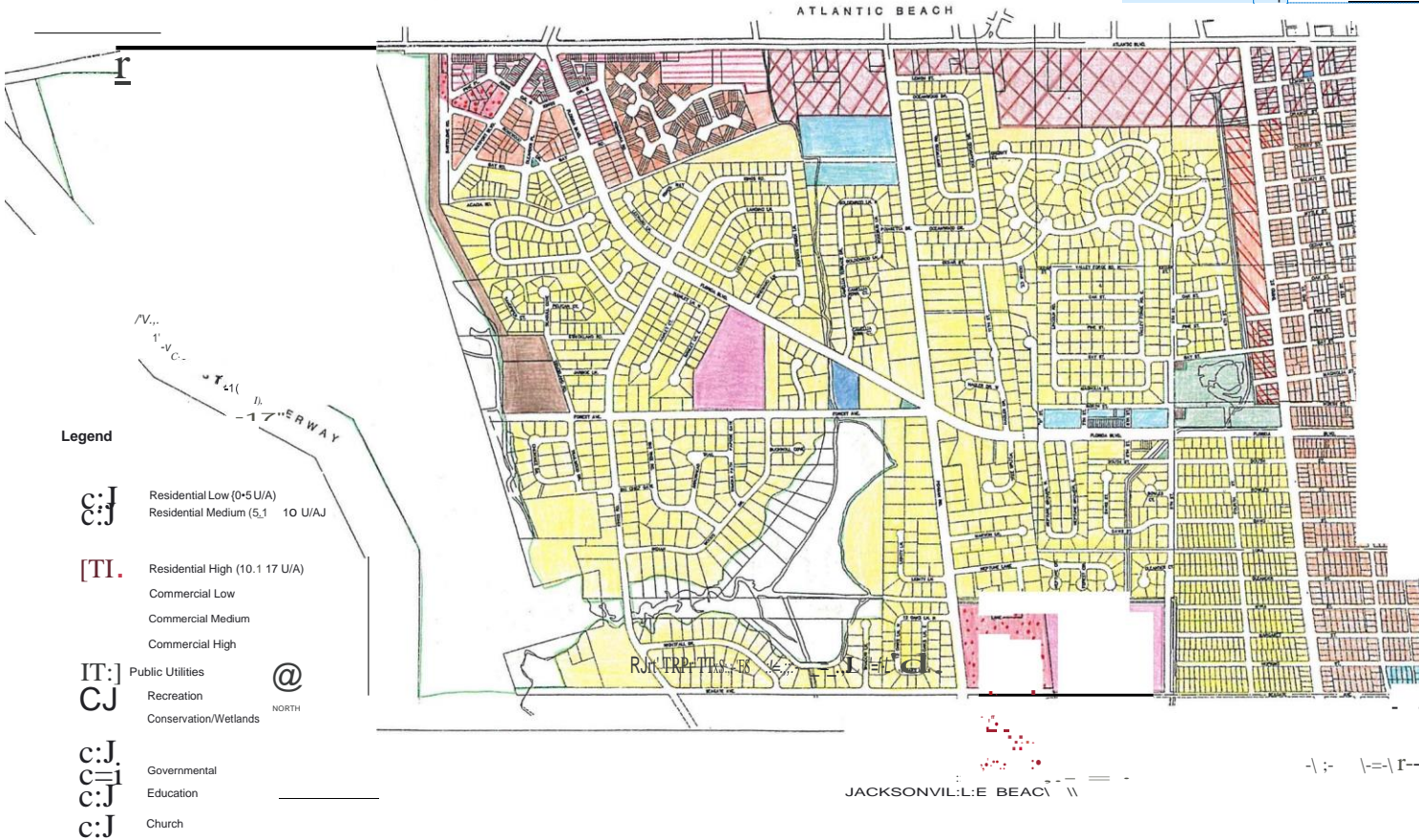
Atlantic Beach, the City of Jacksonville Beach as well as other private entities and public agencies, as may be appropriate.

**A.1.10.1** The City shall develop and adopt regulations and policies which are consistent with resource management plans of other government agencies and any special districts within which the City is located.

**A.1.10.2** The City shall not issue local development permits prior to the issuance of any other required permit from County, State or Federal agencies having jurisdiction and permitting authority over the proposed development. Issuance of a required permit from County, State or Federal agencies shall not be presumed to be an entitlement to a local Development Permit.

## City of Neptune Beach

Map A-1  
Future Land Use Map



**Commented [LL57]:** Consider the following revisions to the FLUM based per the Community Vision Plan:

- **Suburban Residential I:** All Residential-Low areas excluding the R-3 zoning district east of 5<sup>th</sup> Street
- **Suburban Residential II:** Ocean Oaks Apartments (Residential-High) and Summer Sands (Residential-Medium)
- **Traditional Residential I:** Area currently zoned as R-3 east of 5<sup>th</sup> Street
- **Traditional Residential II:** All remaining Residential-Medium areas
- **Town Center:** Area currently zoned as CBD, consider including the Bank of America Property (Commercial-Low), consider excluding some of the historic residential properties east of 1<sup>st</sup> Street between Lemon and Orange
- **Neighborhood Center:** Consider creating a new category for the commercial area around BrewHound, allow small-scale mixed-use including live/work and encourage pedestrian friendly redevelopment
- **Commercial I:** All Commercial-Medium areas excluding the area around BrewHound
- **Commercial II:** All Commercial-High areas excluding the Town Center
- **Walkable Commercial Corridor:** Depending on the extent/scope of the FBC it could be worth creating a new category for the areas that are currently Commercial-Low

*The current distinctions of low, medium, and high density can be misleading (what some consider to be high or low is subjective); Revising it as suggested could be useful moving forward.*

**Commented [LL58]:** Add new map to the FLU Map Series:

1. New – Existing Generalized Land Uses
2. CHHA Map (currently in E-1)
3. Potable Water Wells (currently in D-1)
4. New – Floodplain
5. New – Mineral & Soils



## B. Transportation Element



## B. Transportation Element

The 2010 Comprehensive Plan prepared in 1990 contained the Traffic Circulation Element; however, Chapter 163 of the Florida Statutes (Section 163.3177(6)0)) requires a more comprehensive approach to traffic and transportation now known as the Transportation Element. The Transportation Element addresses traffic circulation; alternative modes of travel; parking; hurricane evacuation capacity; and land use densities to support public transportation. Existing and planned Transportation Facilities are identified within map B-1 of the map series.

This Transportation Element provides an analysis of transportation and mobility issues within the City of Neptune Beach. A planning time frame of fifteen years (with the horizon year of 2022) is incorporated in the analysis of future conditions. Traffic data from the Florida Department of Transportation (FDOT), North Florida Transportation Planning Organization, Jacksonville Transportation Authority (JTA), and the City's Department of Public Works has been compiled into this element.

### Level of Service (LOS) Standards

The Level of Service (LOS) is a measure to determine the quality of service of the transportation infrastructure. Its approach takes into account several factors including a measure of traffic density (or congestion), speed and travel time, maneuverability, driving comfort, convenience, and operating cost. The LOS is used because it is difficult to compare average speeds for different road classifications. The LOS comparison is used to show a measure of efficiency along the roadway. The LOS standards represent a range of operational conditions not a precise number in volume. The transportation LOS system uses letters A through F, with A being the best and F being the worst. The lower limit (lowest speed, highest volume) of this LOS has been used in the design of highways. The following are general descriptions of the six Levels of Services as established by the Transportation Research Board, 1997:

**LOS A** = A condition of free flow, accompanied by low volumes and high speeds. Traffic density is low with uninterrupted flow speeds controlled by driver desire, speed limits, and physical roadway conditions. Little or no restriction in maneuverability due to presence of other vehicles enables drivers to maintain their desired speeds and arrive at their destinations with little or no delay.

**LOS B** = A condition of stable flow with operating speeds somewhat restricted by traffic conditions. Drivers still have reasonable freedom to select their speed and land operation. Reductions in speed are not unreasonable with a low restriction of traffic flow.

**Commented [LL59]:** Add a statement in the opening language that explains that this material before the Goals, Objectives and Policies is not being formally adopted into the comp plan, but is provided here as a summary of the plan's data and analysis to help readers understand some of the principles upon which this element is based. Any element that has background information or data upfront should include this disclaimer.

**Commented [LL60]:** Consider deleting this text. No longer need to reference changes to the 2010 Comp Plan.

**Commented [BD61]:** Update the planning horizon

**Commented [LL62R61]:** Consider 2045 as the timeframe for the Transportation Element, this way it matches the North Florida TPO's LRTP

**Commented [LL63]:** Delete comma

**Commented [WMS64]:** More accurate to say: "...has been considered when preparing this element."

**Commented [LL65]:** Recommend revising this section to discuss VMT vs LOS for measuring transportation capacity and setting traffic goals. Discuss the shortcoming of LOS for considering and tracking pedestrian and bicycle travel and demand.

**Commented [LL66]:** Check these definitions against the most up to date TRB resources.



**LOS C** = Still a stable flow, but speeds and maneuverability are more closely controlled by the higher volumes. Most drivers are restricted in their freedom to select their own speed, change lanes, or pass. A relatively satisfactory operating speed is still obtained with service volumes suitable for urban design.

**LOS D** = Approaches unstable flow, with tolerable operating speeds being maintained, although considerably affected by changes in operating conditions. Fluctuations in volume and temporary restrictions to flow may cause substantial drops in operating speeds. Drivers have little freedom to maneuver, and comfort and convenience are low. These conditions can be tolerated, however, for short periods of time.

**LOS E** = Cannot be described by speed alone but represents operations at low operating speeds, typically, but not always, in the neighborhood of 30 miles per hour, with volumes at or near the capacity of the highway. Flow is unstable, and there may be stoppages of momentary duration. This LOS is associated with operation of roadway at capacity flow.

**LOS F** = A forced-low operation at low speeds, where volumes are well above capacity. In the extreme, traffic comes to a standstill. These conditions usually are the result of vehicles backing up from a restriction. The section under study will be serving as a storage area during parts or all of the peak hour. Speeds are reduced substantially, and standstills may occur for short or long periods of time because of downstream congestions.

The most recent FDOT Quality/Level of Service Handbook was used to estimate the standard for determining acceptable and unacceptable operating conditions from roadways within the City of Neptune Beach. The FDOT Handbook incorporates standardized service volumes and quality for each of the LOS designations listed above. The Handbook is a tool to provide for general overview of the operating conditions of the roadway segments. More refined methods can be used during concurrency review for those segments where a more detailed traffic engineering analysis is critical for determining whether there exists adequate roadway capacity.

The FDOT Handbook determines service volumes based on a number of standardized factors including 1) area type; 2) roadway functional classification; 3) number of lanes; 4) median type; and 5) number of signals per mile.

The handbook sets minimum LOS standards for roadways on State Highway System. The LOS for urbanized areas of over 500,000 apply to roadways within Neptune Beach in that the City is part of the Jacksonville Urbanized Area. The FDOT standard for all roadways in such urbanized area is LOS D. However, pursuant to S. 163.3180(10), Florida Statutes, a local government may adopt

alternative LOS standards for any State roadway that is not on the Florida Intrastate Highway System (FIHS). None of the roadways within the City are on the FIHS; therefore LOS standards lower than those adopted by FDOT may be adopted.

### **Existing Operating Conditions**

An inventory of the existing transportation network within the City of Neptune Beach was undertaken to determine the type of transportation system available, functional classification of roadways, number of through roads, corresponding capacities, and daily volumes.

Atlantic Boulevard (State Road 10) is one of two major roadway corridors to the Beaches. It is also the most heavily traveled of the three corridors, primarily because it is the most direct route from the communities of Jacksonville to the Mayport Naval Station. It is a six-lane roadway with commercial establishments located on both sides of the roadway. East of the **Interacoastal**, the City of Neptune Beach is located on the south side of the Atlantic Boulevard, and the City of Atlantic Beach is on the north side of Atlantic Boulevard both are populated with commercial establishments.

Construction of the Mayport Flyover has alleviated a traffic problem identified in the 1990 Traffic Circulation Element. The intersection of Atlantic Boulevard and Mayport Road were identified as operating at LOS F prior to the completion of the Flyover and is now in compliance with this Plan.

Third Street (State Road A1A) is the major north-south corridor of the city. The major function of this road is to provide north-south access through the beach communities and linkages to the east-west arterials and collector roadways. Half of Third Street provides access to abutting commercial properties and the other half to local streets.

Penman Road and Florida Boulevard are two-lane collectors that are controlled and maintained by the City of Jacksonville. Seagate Avenue is also a two-lane collector, and the north half of the right-of-way is City of Neptune **Beach**.

### **Mass Transit**

Transit service servicing the beach communities is provided by the Jacksonville Transportation Authority (JTA). **Route R-1** operates along Atlantic Boulevard,

**Commented [LL67]:** Add a new section under this heading describing FDOT's Context Classification system and new design standards (see Chapter 4.1 of the Vision Plan for language).

Include the Existing FDOT Context Classification Map, shown also in the Vision Plan Chapter 4.1.

**Commented [LL68]:** Revise to "Intracoastal"

**Commented [LL69]:** Add new language to this section describing safety concerns and traffic collisions at the intersection of Atlantic Boulevard and A1A. Reference that FDOT has identified this intersection for priority safety improvements.

**Commented [LL70]:** Update this section with information provided in the Vision Plan Chapter 2: Existing Conditions, 'Transportation Snapshot' section.

**Commented [LL71]:** Routes have changed names, see the Vision Plan Chapter 2: Existing Conditions, 'Transportation Snapshot' section for more up-to-date information.

connecting the South Beach area of the City of Jacksonville Beach to downtown Jacksonville.

There is no express transit service providing a direct connection from the City to downtown Jacksonville. This service is available through the Beaches Express, (Route **X-2**), which connects the City of Jacksonville Beach to downtown Jacksonville via Beach Boulevard. The transit routes, which serve the City of Neptune Beach and the beach communities, are part of a larger system of transit routes operated by JTA. Downtown is the major hub and provides connections to other parts of Jacksonville. In addition, downtown provides an Amtrak and Greyhound station.

Route R-4 consists of a loop that connects Atlantic Village (shopping area on Atlantic Blvd. just west of Penman Road) with the South Beach area of the City of Jacksonville Beach along State Road A1A (Third Street).

JTA initiated the Beaches Trolley system in 2007 to serve the three Beach cities. The Trolley has been very successful and is very popular with the Beaches' residents and visitors. Funding comes from various sources including public and private donations.

## Bicycle and Pedestrian Facilities

In 2002, the City conducted a bicycle and pedestrian pathway planning and public participation study in collaboration with the City of Atlantic Beach and the City of Jacksonville Beach. The purpose of this process was to develop a general and conceptual plan for a system of bike and pedestrian routes to connect the entire three beach Cities and also to provide a better system of east- west bikeway connections within each City to their existing or planned facilities. The study process identified a priority of desired routes, and a bikeway path was built along Florida Boulevard from Atlantic Boulevard to Camellia Terrace. Bike and pedestrian facilities continue to be a high priority for this community in order to alleviate peak parking demands, and reliance on vehicular transportation, and to provide for a high level of recreational activity, and energy efficiency and conservations.

## Needs Assessment and Future Traffic Projections

There have been a number of traffic improvements within and around the City of Neptune Beach that have addressed capacity issues on major roadways. The Mayport Flyover addressed the capacity problems experienced at the intersection of Mayport Road and Atlantic Boulevard. The widening of Atlantic

**Commented [LL72]:** Trolley system has been discontinued, see the Vision Plan Chapter 2: Existing Conditions, 'Transportation Snapshot' section for more up-to-date information.

**Commented [LL73]:** Update this section with new information describing the North Florida TPO's 2019 Regional Multi-Use Trail Plan, the City of Jacksonville's Pedestrian and Bicycle Master Plan (2017), FDOT's Bike/Ped Gap Study (2018), and the East Coast Greenway that runs through Neptune Beach, including the work that had been completed along the ECG along Florida Boulevard.

See the Vision Plan Chapter 2: Existing Conditions, 'Transportation Snapshot' and Chapter 4.10 – The Vision: Beautiful Streets & Trails for more up-to-date information and maps.

**Commented [LL74]:** Outdated, see comment above.

**Commented [BD75]:** Add language to this section about right-sizing facilities for safer more walkable streets

**Commented [LL76R75]:** Add language about the value of street network and how extending new streets (like Lemon) could accommodate increased volume and potentially allow for future lane eliminations on Atlantic Boulevard and A1A. Tie this into the information about Context Classification.

Boulevard to six-lanes over the Intracoastal Waterway significantly increased capacity for the improved segments of Atlantic Boulevard.

**Commented [LL77]:** Revise to "Intracoastal"

Projections for the future traffic volumes within the City of Neptune Beach were obtained from the FDOT level of service report for Duval County. FDOT applies a 1.0% growth rate to yearly counts to estimate future volumes.

**Commented [LL78]:** Confirm with FDOT if this growth rate is still valid.

**Commented [LL79]:** Update with projections for 2020, 2025, and 2030, and potentially 2035, 2040, and 2045 depending on the final Comp Plan planning horizon.

**Table 8-1  
Future Traffic Projections**

Street	2012	2017	2022
Atlantic Boulevard City limits to Third St	71,606	75,186	78,945
Third Street (SR A1A) from Atlantic Blvd to Seagate	71,090	74,644	78,376

**Commented [WMS80R79]:** It may be difficult to find such projections. And if we can, they're not likely to have any value. The current projections in Table 8-1 are highly dubious on their face. For a quick test – find actual 2017 traffic counts and compare them to the 2017 projections in Table 8-1. If traffic really rose by 1% each year since 2012, I'll stand corrected! If not, I'd suggest deleting Table 8-1 -- unless you somehow find responsible projections for future years.

## **Goals, Objectives and Policies**

All transportation related activities within the City of Neptune Beach shall be in accordance with the following Goals, Objectives and Policies:

### **Goal B.1**

The City shall provide a safe, convenient and efficient motorized and non-motorized transportation system for all residents and visitors to the city.

### **Objective B.1.1**

#### **Safe Roadway Conditions**

The City shall develop and maintain a roadway system that aims to provide the safest possible environment for motorist, bicyclists, and pedestrians.

#### **Policies**

- B.1.1.1** The City shall maintain a program to promote the safety of all activities occurring on streets and within rights-of-ways under the City's jurisdiction.
- B.1.1.2** The City's Department of Public Works shall be responsible for the planning, review, supervision, and coordination of all activities that

**Commented [LL81R79]:** Unclear what these numbers even mean, since it's not specified. FDOT D2 has a useful mapping tool that shows LOS for all state road segments, including future projections. The map reports Average Annual Daily Traffic (AADT), Peak Volume, Peak Max. Service Volume, and LOS. For reference the AADT for Atlantic Blvd. from Florida Blvd. to 3<sup>rd</sup> St. in 2018 was 30,587 (LOS: D). This is way off from the numbers reported in this table.

Projections shown for that same segment: suggests the FDOT is still using an annual growth rate of 1% for these projections.

<http://fdot-d2-los.hdrgateway.com/>

[http://fdot-d2-los.hdrgateway.com/images/temp/LOS\\_Report\\_202012291752\\_1.pdf](http://fdot-d2-los.hdrgateway.com/images/temp/LOS_Report_202012291752_1.pdf)

Looking for historical traffic volume counts to compare to this growth rate.

**Commented [LL82]:** FDOT D2 completed a Bike Ped Gap Study in 2018 that talks about existing and future bicycle and pedestrian demand and LOS. Worth referencing any Neptune Beach-related findings here.

[https://www.fdot.gov/docs/default-source/planning/systems/programs/sm/los/districts/district2/bike\\_ped/D2\\_Bike\\_Ped\\_Gaps\\_Study\\_2018\\_Report.pdf](https://www.fdot.gov/docs/default-source/planning/systems/programs/sm/los/districts/district2/bike_ped/D2_Bike_Ped_Gaps_Study_2018_Report.pdf)

**Commented [BD83]:** Consider replacing with a Goal in accordance with page 70 of Vision Plan. Specifically one that addresses walkability and non motorized transportation needs first.

**Commented [BD84]:** Reorder: pedestrians, bicyclists, and motorists.

impact the safety aspects of the roadway system. Public Works will also work with the Florida Department of Transportation (FDOT) and the City of Jacksonville for roads not owned by the City.

**8.1.1.3** The City shall develop and maintain its roadway system in accordance with the minimum criteria as set forth within the FDOT Manual of Uniform Minimum Standards for Design, Construction, and Maintenance for Streets and Highways.

**8.1.1.4** The City shall require warrants for installation of new traffic control devices and coordinate efforts with FDOT.

**8.1.1.5** The City shall coordinate traffic signal systems with FDOT and the City of Jacksonville.

## Objective B.1.2

### Construction and Maintenance Standards

The City shall maintain procedures for maintenance of local roads, reconstruction, construction and for utility and emergency service function, which aim to provide for safe roadway operating conditions during these activities.

#### Policies

**B.1.2.1** The City shall develop and maintain pavement schedule shall be to provide for all paved roads to be maintained in a safe condition.

**B.1.2.2** Proposed roadway improvement projects shall be evaluated and ranked according to the following guidelines:

1. The project is needed to protect public health and safety or to preserve or achieve full use of existing facilities.
2. The project is needed to increase the efficient use of existing facilities or to prevent or reduce future improvement costs.

**B.1.2.3** The City shall address any existing roadway deficiencies prior to construction of new roadways.

**B.1.2.4** The City shall continue to implement the Manual of Traffic Controls and Safe Practices for Streets and Highway Construction, Maintenance and Utility Operations prepared by the FDOT for minimum requirements of work site safety.

**Commented [BD85]:** Add chart with street classifications.

**Commented [BD86]:** Reference the FDOT 2020 Design Guidelines and 2020 Context Classification Manual, as well as the proposed Future Context Classification Map.

[https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/roadway/completestreets/files/fdot-context-classification.pdf?sfvrsn=12be90da\\_2](https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/roadway/completestreets/files/fdot-context-classification.pdf?sfvrsn=12be90da_2)

<https://www.fdot.gov/roadway/fdm/2020-fdot-design-manual>

**Commented [BD87]:** Consider the addition of the recommendations from the Vision Plan either as new policies or revision to the existing policies under Objective B.1.1:

Prioritize capital improvements along school routes and work with the JTA and FDOT to implement a Safe Routes to School program.

Implement intersection safety improvement, including high visibility crosswalks, signage, and pedestrian activated signals.

Create and add a new map that illustrates future safety improvements (intersection & crossing), based on the information in Figure 4.10 of the Vision Plan.

**Commented [BD88]:** Include trails

**Commented [LL89]:** Awkward wording, revise to:

"The City shall develop and maintain a pavement schedule to ensure that roads remain in safe working conditions. This schedule shall be incorporated as a component of the City's 5-year Capital Improvement Plan (CIP)."

**Commented [LL90]:** Add sidewalks and trails

**Commented [BD91]:** Review with 2020 Context Classification and 2020 Design Manual from FDOT for work site safety.

- B.1.2.5** The City shall coordinate construction scheduling within the public rights-of-ways and shall minimize, whenever possible, any adverse impacts to normal traffic flow resulting from such construction.

### **Objective B.1.3** **Operating Conditions**

The City shall provide streets with operating characteristics that conform to established and accepted standards in order to promote safe conditions for vehicles, motorists, cyclists, and pedestrians.

#### **Policies**

- B.1.3.1** The City shall accept the 2000 Highway Capacity Manual definitions for Levels of Service (LOS) which utilize qualitative measures for establishing the operational characteristics of the various roadways.

- B.1.3.2** The minimum LOS standards, as established by FDOT, and as shown by the following table, shall be applicable to all local street and State highway system facilities within the City of Neptune Beach.

**Table B-2**  
**Minimum Level of Service**

Freeways	Level of Service D
Principal Arterials	Level of Service D
Minor Arterials	Level of Service E
Collector Streets	Level of Service E
Local Streets	Level of Service E

- B.1.3.3** The City shall make LOS determinations on an as-needed basis by utilizing Average Daily Traffic (ADT) and peak hour data with the method established in the 2000 FDOT Highway Capacity Manual.

- B.1.3.4** The City shall maintain provisions for landscaping and other buffering methods within the Land Development Regulations to prevent inappropriate land use relationships; to prevent noise transmission; to provide screening of unattractive view; and to enhance the aesthetic qualities of streets, neighborhoods, and public areas of the City.

**Commented [LL92]:** Revise with the language from Objective B.1.6:

"The City shall maintain and extend, where feasible, its existing street grid, which provides a network of connected neighborhoods for walking, biking, and traveling throughout the City and adjacent cities with minimum vehicular travel miles and minimal traffic congestion."

This objective should be more about context classifications than LOS.

**Commented [LL93]:** Add the following recommendations from the Vision Plan as new policies or revisions to the existing policies under Objective B.1.3:

The City shall ask that FDOT replace their existing Context Classification Map with Map X, adopted as part of this Comp Plan, and utilize the context classification of city streets to guide maintenance, street improvements/design, and posted speed limits, prioritizing the safety of all users and neighborhood character over level of service (LOS).

Include a new map from the Vision Plan Chapter 4.1: Future State & Local Context Classification Map

**Commented [LL94]:** Update to the Highway Capacity Manual Sixth Edition: A Guide for Multimodal Mobility Analysis (2016), which is the current standard for engineers.

**Commented [LL95]:** Check if there is a more updated Highway Capacity Manual to reference.

**Commented [LL96]:** Consider eliminating these two policies in an effort to de-emphasize LOS as the main operating standards for streets. LOS only focuses on the needs of motorists without considering impacts on pedestrians or bicyclists who also demand safe facilities within the public right-of-way.

**Commented [WMS97R96]:** Although the statutes no longer require cities to adopt LOS standards and to enforce them through concurrency rules, we should expect that FDOT may react strongly against repealing LOS and road concurrency entirely.

Consider the following strategy for Policy B.1.3.2:

**Commented [LL98]:** Consider adding a new policy and Minimum Level of Service Table for Bicycles and Pedestrians. FDOT D2 completed a Bike/Ped Gap Study that measured the LOS for bicycles and pedestrian on state roads, and estimated current and future demand (though I am more dubious about these estimates). Atlantic Blvd. and 3<sup>rd</sup> Street in Neptune

**Commented [BD99]:** Ensure the LDRs have appropriate landscape standards that address street trees, sidewalk, parking screening, and trail landscaping



## Objective B.1.4

### Provision of Bikeways and Multi-use Facilities

The City shall require that future developments provide motorized and non-motorized vehicle parking and shall provide for bicycle and pedestrian ways throughout the City.

#### Policies

- B.1.4.1** The City shall encourage new and redevelopment to promote provisions for pedestrian and bicycle routes in the City. (Shown on the FLUM)
- B.1.4.2** The Land Development Regulations shall include provisions for bicycle storage areas in multi-family developments, commercial developments, and recreational areas.
- B.1.4.3** All new streets, including unimproved existing rights-of-ways, shall be constructed to provide for safe use by bicycles and, where sufficient right-of-way exists, separated bicycle paths shall be provided.

**Commented [LL100]:** Replace Multi-Use to Multimodal

**Commented [LL101]:** Revise this objective to be about providing and supporting a variety of safe transportation choices, including walking, biking, skateboarding, and shared mobility services.

**Commented [LL102]:** Consider the addition of the recommendations from the Vision Plan either as new policies or revision to the existing policies under Objective B.1.4:

Construct a low-stress network of trails, shared streets, mobility lanes, and multi-use paths as shown in Figure 4.8, in order to connect residents in all parts of town to parks, the beach, the intracoastal, schools, and the Beaches Town Center.

Work with the City of Jacksonville to transform Penman Road into a complete street with dedicated path for pedestrians and bicyclists and more frequent crossing areas.

Adopt resolutions and regulations for autonomous vehicles and new mobility technologies, with emphasis on safety for pedestrians and bicyclists.

Promote and provide infrastructure upgrades for microtransit and shared mobility services (e.g. Beach Buggy).

Determine steps to fund and attract an autonomous or driver-operated shuttle service including initiating conversations with the Jacksonville Transportation Authority (JTA) for automated shuttle feasibility studies.

Add two new maps based on Figure 4.10 from the Vision Plan:

1. Existing Bicycle and Pedestrian Facilities
2. Future Bicycle and Pedestrian Facilities

**Commented [LL103]:** This policy does not seem to match the objective. Recommend moving this policy to Objective 1.8.3 and adding a new policy here about facilitating intergovernmental and interagency coordination regarding transportation and street improvements.

**Commented [LL104]:** Delete this objective. We recommend moving this language to Objective B.1.3 instead

## Objective B.1.5

### Coordination with Transportation Agencies

The City shall coordinate its transportation related activities with the plans and programs of all transportation facility providers including the North Florida Transportation Planning Organization, the Jacksonville Transportation Authority, and the Florida Department of Transportation.

#### Policies

- B.1.5.1** Considering motorized and non-motorized traffic movements and parking requirements, the City shall continue to enforce land use and subdivision regulations to provide for the safe and convenient on-site traffic flow.

## Objective B.1.6

### Energy Efficient Strategies

The City shall maintain its existing street patterns, which have been developed to provide a network of connected neighborhoods for walking, biking and traveling throughout the City and adjacent cities with minimum vehicular travel miles and minimal traffic congestion.



## Policies

**8.1.6.1** New retail and commercial development and redevelopment shall be designed to provide maximum accessibility to transit for pedestrians and bicycles and, where possible, shall connect to adjacent commercial uses.

**Commented [LL105]:** Delete "to transit"

**8.1.6.2** Strategies to promote mixed-use development and redevelopment in appropriate locations, which currently have Commercial Medium and Commercial High land use designations and which are adjacent to other commercial development or adjoin a commercial corridor, shall be used to provide opportunities for living in proximity to the workplace as an alternative housing and transportation choice.

**Commented [LL106]:** Add a new objective about parking and curbside management. Consider the following recommendations from the Community Vision Plan to include as policies:

Adopt transportation demand management (TDM) and curbside management policies.

Continue the paid parking pilot program, implement a residential parking program, and develop a shared parking program. *(Note: these recommendations should be discussed more with the community and elected officials given public comments about parking)*

Conduct a curbside management study to address ride hailing and pick-up and drop-off facilities, particularly as it applies to beach access.

Explore the feasibility of an adaptable public parking garage and centralized mobility hub, taking into consideration several partnership scenarios.

**Commented [LL107]:** This conflicts with the community's desire to eliminate mixed-use zoning and the possibility of residential in commercial areas. Revise this policy accordingly as these land use issues are discussed with the community and elected officials.

**Commented [WMS108R107]:** If the City is giving up entirely on the idea of allowing MU in commercial areas, this policy might have to go.

I'd hate to give up entirely, despite the apparent need for some immediate compromise. For instance, if the new plan would allow MU in certain new commercial FLUM categories, this policy really isn't needed anyway.

What about keeping it in place, at least partly, as part of the strategy to NOT change the comp plan for 500 Atlantic right now? This policy could be revised to apply ONLY to Commercial-High, or to whatever current FLUM category we retain until we can find consensus for that site.

**Commented [LL109]:** Move these two policies to Objective B.1.3

## Map B-1 Transportation



**Commented [LL110]:** Add new maps:  
 1. Optional: Existing Context Classification  
 2. Optional: Existing Bicycle & Pedestrian Facilities  
 3. NEW: Future Context Classification  
 4. NEW: Future Bicycle & Pedestrian Facilities

**Commented [LL111]:** Rename to 'Existing Roadway Network'

## C. Housing Element



## C. **Housing Element** **Goals, Objectives and Policies**

The City of Neptune Beach shall encourage and support the provision of housing for all residents of the City in accordance with the following Goals, Objectives and Policies.

### **Goal C.1**

Provide decent, safe, and sanitary housing in suitable neighborhoods at affordable costs to meet the needs of the present and future residents of the City as well as ensure the stability and integrity of sound residential neighborhoods.

#### **Objective C.1.1** **Adequate and Affordable Housing**

The City will provide opportunities for dwelling units of various types, sizes, and costs (including but not limited to housing for very low, low, and moderate-income families) to meet the housing needs of all existing and anticipated populations of the city, including housing for residents with special housing needs.

#### **Policies**

- C.1.1.1** The City shall support the efforts of the City of Jacksonville Housing Commission, assist with efforts to determine needs, and develop site and programs on a region-wide basis for housing very low, low and moderate-income persons.
- C.1.1.2** The City shall promote the use of alternative zoning techniques and mechanisms to provide a mix of housing types within residential neighborhoods.
- C.1.1.3** The City shall provide fast-track processing and other incentives for proposed housing developments intended for persons with special housing needs including the elderly, the handicapped, low income residents, and large families.
- C.1.1.4** In order to provide affordable housing to serve the City, may enter into an interlocal agreement with the City of Jacksonville (Duval County) pursuant to 9J-5.010(3)(c)10, FAC, affordable housing for very low, low, and moderate income residents and special needs households in order to prevent the need to increase residential densities within the Coastal High Hazard

**Commented [LL112]:** Prior to the Goals, Objectives, and Policies, add a new section 'Existing Inventory & Needs'. Include data about renter and housing cost burden in the area from Housing Affordability and Beaches Report.

**Commented [BD113]:** Include also missing middle housing. 'Housing Affordability and the Beaches Report' (August 2020) from the Florida Housing Coalition has recommendations of types of buildings like ADUs, Modern Modular, and Tiny homes

**Commented [LL114]:** and the Florida Housing Coalition

**Commented [LL115]:** Revise to "assisting"

**Commented [LL116]:** Revise to "sites"

**Commented [LL117]:** These techniques should be elaborated in the policy. Consider mentioning the following:

-Sufficient density to allow for missing middle housing types and smaller units which tend to be more affordable

-Accessory dwelling units in designated residential zoning districts.

**Commented [BD118]:** Define elderly as 60 years of age or older.

Area (CHHA).

### Objective C.1.2

#### Group Homes and Foster Care Facilities

The City shall encourage suitable locations for group homes and foster care facilities.

#### Policies

**C.1.2.1** The City may allow the location of group homes and foster care facilities in multi-family residential zoning districts in a manner which is consistent with the Residential High designation of the FLUM and the City's Land Development Regulations.

**C.1.2.2** The City may allow the placement of group homes in Planned Unit/mixed use developments where allowed in the Land Development Regulations.

### Objective C.1.3

#### Displacement

The City shall ensure that persons or businesses displaced by state and local government actions shall be treated in a fair and equitable manner and comparable relocation housing shall be provided as required with such laws that in order to meet demonstrated needs.

#### Policies

**C.1.3.1** The City shall discourage redevelopment and demolition practices that significantly reduce existing housing stock in older neighborhoods and that result in displacement of very low, low, and moderate-income residents or special needs households.

#### Policies

**C.1.3.2** The City shall monitor all redevelopment and demolition activity to ensure that comparable relocation housing is available in accordance with federal regulations, regardless of whether federal monies are involved in the activity.

### Goal C.2

Preserve and protect housing of historic significance as well as other components of the existing housing inventory.

**Commented [LL119]:** Consider adding the following recommendations as policies:

- Encourages nonprofits or nonprofit programs that will guide and oversee the existing housing stock or search for funding for preservation of affordable housing
- Explore community land trusts as a solution to provide more affordable housing.

**Commented [BD120]:** Phrasing of this policy is confusing. What exactly is required of the City as a part of this interlocal agreement?

Also, the CHHA is very small in Neptune Beach based on the updated Tide Atlas Map, so this policy may never actually be ineffective.

**Commented [LL121R120]:** Policy G.1.5.1 in the Intergovernmental Coordination Element specifies two conditions to enter into this kind of interlocal agreement:

(a) Market driven limitations where meeting the needs for very low, low and moderate income affordable housing is not economically feasible due to exceptionally high property values related to the City's coastal location

(b) Where meeting affordable housing needs for very low, low and moderate income residents is not feasible due to limitations of residential density within the Coastal High Hazard Area.

**Commented [BD122]:** Consider including senior housing here and rename it to be inclusive of group homes, foster care facilities, and senior housing.

**Commented [BD123]:** Ensure that the LDRs are updated with zoning that allows these types of housing in walkable areas that won't require driving and extensive driving.

**Commented [BD124]:** Ensure that LDRs are updated to increase a variety of housing types that will create comparable relocation housing.

**Objective C.2.1**  
**Historically Significant Housing**

The City shall preserve and protect structures which have been identified within The Historic, Architectural Resources Survey of the Beaches Area as historically significant for residential use.

**Policies**

**C.2.1.1** The City shall coordinate with the Department of State's Division of Historical Resources to further the identification and preservation of historically significant housing and sites, and, if appropriate, nominate such sites or structures to the Natural Register of Historic Places.

**C.2.1.2** The City shall discourage development actions that have the potential to destroy or irretrievably damage the City's identified historic and architectural resources.

**C.2.1.3** The City shall encourage the rehabilitation and adaptive reuse of historically significant housing.

**Commented [LL125]:** National

**Commented [LL126]:** Has any identification of historically significant properties ever been conducted for Neptune Beach? We've recommended the City include a policy to conduct a historic resources survey as a part of the FLU Element.

**Commented [LL127]:** Consider mentioning the City's intention to pursue Form-Based elements and architectural standards in the forthcoming LDR updates.

**Commented [LL128]:** This runs contrary to the current density maximums in the historic parts of Neptune Beach, where many historic homes are nonconforming. Recommend revising density, as described in the FLU element comments, to bring these historic homes and types into conformity.

**Commented [WMS129R128]:** At a very minimum we can say in the FLU element that the density caps will not create nonconformities out of dwellings that existed before the caps were imposed.

However, that method doesn't help us allow the same housing if newly constructed, which is not ideal. Probably better to propose somewhat higher densities in 'Traditional Neighborhood', and propose density caps for commercial areas where residential might be allowed by the new FBC (if anywhere).

**Commented [LL130]:** Delete "there exist"

**Commented [LL131]:** Add "exists."

**Objective C.2.2**  
**Neighborhood Stabilization**

The City shall preserve, protect, and stabilize the character and viability of residential neighborhoods but shall also require demolition when rehabilitation is not possible or not economically feasible, particularly within areas of the City where there exist a significant concentration of substandard housing that contributes to negative neighborhood or environment conditions.

**Policies**

**C.2.2.1** Commercial uses that are adjacent to residential districts will not be allowed to expand if the expansion will have an adverse impact on the character or viability of the surrounding neighborhood or if the expansion will substantially increase non-residential traffic in the surrounding neighborhood.

**C.2.2.2** The City shall enforce State Building Codes, the International Property Maintenance Code, and other local ordinances and State laws to ensure adequate maintenance of residential properties and neighborhood environments.

**C.2.2.3** The City shall encourage individual homeowners and private

**Commented [BD132]:** Consider mentioning the City's intention to pursue Form-Based elements and architectural standards in the forthcoming LDR updates in order to ensure that redevelopment preserves and enhances the existing community and neighborhood character.



developers to increase private reinvestment which upgrades and enhances the structural quality and aesthetic conditions of existing housing and existing neighborhoods design and implement a program that is designed to reduce.

**C.2.2.4** The City shall support efforts of community based organizations and neighborhood improvement initiatives which contribute to the stabilization, conservation, enhancement, and improvement of existing housing, structures, and other physical facilities within neighborhoods.

**C.2.2.5** The City shall design and implement a program that is designed to reduce substandard housing in the City and specifically target areas within the City that have a large percentage of substandard housing for rehabilitation and demolition if appropriate.

**Commented [LL133]:** Does such a program exist? The existence of nonconforming homes disincentivizes the upkeep and investment in these properties.

### **Objective C.2.3** **Energy Efficient Housing**

The City shall encourage building and construction strategies, methods, and practices that promote energy efficiency, the use of renewable energy resources in the construction of new homes, and the rehabilitation of existing housing structures.

**C.2.3.1** The City shall encourage individual homeowners and private developers to use currently acceptable green housing specifications as made available from the U.S. Green Building Council for rehabilitation of existing housing structures and for construction of new homes

**C.2.3.2** The City shall continue to promote and enforce efficient design and construction standards as these become adopted as part of the State Building Codes. The City shall also promote commercial and residential standards that are promulgated from time to time by the Florida Green Building Coalition, Inc.

**Commented [BD134]:** Incorporate some of the low impact design principles from the infrastructure element. Encourage a wholistic approach with the entire lot and building to increase permeability and reduce stormwater runoff.



## D. Infrastructure Element



## D. Infrastructure Element Goals, Objectives, and Policies

### Goals, Objectives and Policies

The provision of public facilities and public infrastructure within the City of Neptune Beach shall be in accordance with the following Goals, Objectives and Policies

**Commented [LL135]:** Add a period

#### Goal D.1

Provide needed public facilities in a manner which protects investments in existing facilities and promotes efficient and appropriate use by existing and future development.

#### Objective D.1.1

##### Adequate Public Facilities and Infrastructure

The City shall ensure that at the time a development permit is issued adequate facility capacity is available or will be available when needed to serve the development.

#### Policies

- D.1.1.1** In order to ensure that Level of Service standards are maintained, methodologies for determining available capacity and demand shall incorporate appropriate peak demand coefficients for each facility and for the type of development proposed.
- D.1.1.2** All improvements for replacement, expansion, or increase in capacity of facilities shall be compatible with the adopted level of service standards for the facilities.
- D.1.1.3** The City, prior to issuance of a building permit, will ensure that adequate water supplies and water infrastructure facilities will be in place and available to serve no later than issuance of a certificate of occupancy or its functional equivalent.
- D.1.1.4** The City shall provide certification verifying that adequate water supplies to serve new development will be available no later than the anticipated date of a certificate of occupancy or its functional equivalent.

**Commented [LL136]:** Specify that this refers to LOS standards for Sanitary Sewer, Solid Waste, Potable Water, and Drainage (not transportation)

## Objective D.1.2

### Public Facilities Planning

The City of Neptune Beach shall incorporate capital improvement needs for public facilities within the 10-year Capital Improvement Schedule to be updated annually in accordance with the review process for the Capital Improvement Element of this plan.

#### Policies

**D.1.2.1** The City shall incorporate the proposed capital improvement projects, as identified with the Water and Sewer Master plans, to create the ten-year Capital Improvement Plan and a ten-year financial plan for water and sewer improvement. Both plans shall be prioritized.

**D.1.2.2** The City shall coordinate with the St. Johns River Water Management District's (SJRWMD) regional water supply plan and shall provide or maintain its identified water supply facilities, pursuant to Section 163.31777(6) (c), Florida Statutes.

**Commented [WMS137]:** I think this is pretty obsolete by now. Cities are required to adopt water supply plans created by water management districts. If NB hasn't already done so, you can bet that this will be an issue in the review process, perhaps THE issue raised by the WMD:

<https://floridajobs.org/community-planning-and-development/programs/community-planning-table-of-contents/water-supply-planning>

**Commented [LL138]:** Confirm that this reference to Florida Statutes is still accurate. Revise to "Statutes"

## Objective D.1.3

### Elimination of Septic Tanks

The City shall protect natural resources and provide safe sanitary sewer service. It is the intent of the City to eliminate all septic tanks within the City. On-site wastewater treatment systems shall be limited to the two areas currently using septic tanks, and the City shall install central sewer service in accordance with the Capital Improvements budgeting and planning in order to reduce the number of septic tanks.

#### Policies

**D.1.3.1** Use of on-site wastewater treatment systems shall be limited to the following conditions: existing septic tanks may remain in service until such time as centralized service is made available, requested by the residents, or septic tank failures become known and identified.

**D.1.3.2** All new subdivision and new development shall be required to provide central sewer service as set forth within the Land Development Regulations.

**D.1.3.3** Neptune Beach will work with the City of Jacksonville Health,

Welfare and Environmental Services Department to promote inspection and to protect operation and maintenance of septic tanks.

- D.1.3.4** Issuance of building permits will be conditioned upon compliance with applicable federal, state, and local permit requirements for on-site wastewater treatment systems.
- D.1.3.5** Neptune Beach will coordinate with appropriate local, federal, and state agencies to require that issuance of permits for replacement or expansion of existing on-site wastewater treatments systems is conditioned upon compliance with current regulatory requirements and water quality standards.

#### **Objective D.1.4**

##### **Capital Improvements and Infrastructure Facilities**

The City of Neptune Beach shall provide sanitary sewer, solid waste, drainage and potable water facilities, and services to meet the existing and projected demands as identified within this Plan amendment.

**Commented [BD139]:** Include and reference "Planned Stormwater Improvements" map page 192-193 from Vision Plan

##### **Policies**

- D.1.4.1** The construction and expansion of capital improvements shall be scheduled so as to minimize disruption of services and duplication of labor and to maintain acceptable service levels for all facilities.
- D.1.4.2** Projects shall be undertaken in accordance with the schedule provided in the Capital Improvements Element of this plan.
- D.1.4.3** Projects needed to correct existing deficiencies shall be given priority in the formulation and implementation of the annual work programs of the city department responsible for the project.
- D.1.4.4** Unless such development can meet the current LOS outlined in this Plan or appropriate alternatives are made to increase LOS, no permits shall be issued for new development which would result in an increase in demand on deficient facilities prior to completion of improvements needed to bring the facility up to standard.
- D.1.4.5** The Capital Improvements shall be the annual work programs scheduled to minimize disruption of services and duplication of labor and to maintain service levels for all facilities

**Commented [LL140]:** Specify that this refers to LOS standards for Sanitary Sewer, Solid Waste, Potable Water, and Drainage (not transportation)

**D.1.4.7** All required federal and state permits shall be obtained before Neptune Beach undertakes or authorizes contractors to undertake construction and/or operation of facilities.

**Commented [LL141]:** What happened to policy D.1.4.6? Revise numbering.

## Goal D.2

Adequate stormwater management and provisions for drainage shall be provided to afford reasonable protection from flooding and to prevent degradation in the quality of receiving surface water and ground water.

### Objective D.2.1

#### Protection of Natural Drainage Features

The City shall maintain provisions, in accordance with the Stormwater Management Program and within the Land Development Regulations that establish a basis for drainage facilities. New development and significant redevelopment will utilize drainage facilities consistent with the City's level of Service standards, Stormwater Management Program, and care for natural drainage features.

#### **Policies**

**D.2.1.1** The City shall maintain provisions within the Land Development regulations which require development to minimize stormwater runoff and to eliminate erosion of areas adjacent to natural drainage features.

**Commented [LL142]:** Consider adding the following recommendations from the Vision Plan as new policies or revisions to the existing policies under Objective D.2.1:

Adopt low impact design principles for the design and construction of streets, parks, and infrastructure improvements, including provisions for the use of native plants that help filter stormwater and for the prioritization of natural edge stormwater canals over conventionally engineered, hard edge channels.

Review and update as necessary the City's current requirement for permeable surface areas in new projects and renovations in order to reduce heat island effect and stormwater runoff.

**D.2.1.2** The City shall maintain Land Development Regulations that require land development projects to submit plans which demonstrate that drainage design and stormwater management will be in compliance with the City's **LOS** standards and that additional stormwater generated shall be retained on-site and will not adversely impact existing drainage and stormwater systems.

**Commented [BD143]:** Include using native plant species in natural drainage features to reduce erosion and other sustainable methods to improve and maintain existing features

**D.2.1.3** Planning and development activities will reduce pollutants, flows and volumes in stormwater discharges from areas of new development and significant redevelopment, and guide new development away from environmentally sensitive areas.

**Commented [LL144]:** Specify that this refers to LOS drainage standards

**D.2.1.4** Planning and development activities will reduce the discharge of pollutants in stormwater from areas of new development and redeveloped areas, consistent with the requirements set forth in the Environmental Resource Permitting rules of the St. Johns River Water Management District.

**Commented [BD145]:** Review this and make sure it's still relevant or propose its own water supply plan with at least 10 year planning period per the FL state statues

- D.2.1.5** Planning and development activities discharging pollutants in stormwater that either connects or directly discharges to impaired waters will reduce the discharge of pollutants in stormwater consistent with the requirements set forth in the Impaired Basin Criteria of the St. Johns River Water Management District.

### **Objective D.2.2**

#### **Stormwater Management and Drainage Facilities**

The City shall continue to identify existing stormwater and drainage facility deficiencies and correct these through the provision and maintenance of an efficient drainage system which shall protect life, property, water quality, and the natural environment.

#### **Policies**

- D.2.2.1** The City shall work with Florida Department of Transportation (FDOT) to coordinate maintenance and improvement to the drainage and stormwater facilities owned by the FDOT.

- D.2.2.2** The City shall continue to implement the updated Master Stormwater Plan, completed in February 2004, to address the identified drainage and stormwater problems areas.

- D.2.2.3** Subject to the availability of funding the City of Neptune Beach shall update the capital improvement schedule to include improvements to the drainage systems identified in the Stormwater Management Program in accordance with the priorities as recommended within the Plan.

**Commented [BD146]:** Is there a newer one? Update if necessary

**Commented [LL147]:** Revise to "management"

**Commented [BD148]:** Update the Stormwater Management Program to include low impact design principles pgs. 196-201

### **Goal D.3**

The functions of natural groundwater aquifer recharge areas within the City will be protected and maintained.

### **Objective D.3.1**

#### **Protection of Aquifer Recharge Areas**

Where feasible, the City shall conserve its potable water resources through regulations, policies, and coordination activities which shall reduce consumption and provide encouragement for water reuse.

#### **Policies**

**D.3.1.1** Neptune Beach will work with the City of Jacksonville in the identification of recharge areas in Neptune Beach. The City agrees to comply with the water conservation rules and Consumptive Use Permit conditions issued by the St. Johns River Water Management District (SJRWMD). The city shall also promote the SJRWMD irrigation restrictions and implement other conservations measures to reduce potable water use by citizens.

**D.3.1.2** The Department of Public Works shall continue to monitor all facility meters and quantify water loss within the potable water infrastructure (map D-1). Any deficiencies shall be remedied through the City's ongoing maintenance and repair program

**D.3.1.3** The City shall continue to consider, where appropriate, reuse water for non-potable water needs in accordance with the Reuse Feasibility Study completed as part of the Florida Department of Environmental Protection (FDEP) Permit renewal and the City's Consumptive Use Permit renewal.

**Commented [LL149]:** Check whether this map needs to be updated.

**Commented [BD150]:** When was this Reuse Feasibility Study completed? If there is a newer one, reference that. Consider also incorporating some Adaptation & Resilient Infrastructure Toolkit items pages 206-207 of the Vision Plan.



Map 0-1  
Potable Water Wells

**Commented [LL151]:** Check whether this map needs to be updated.



## E. Coastal and Conservation Element



## **E. Coastal and Conservation Element Goals, Objectives and Policies**

**Commented [LL152]:** This element may be divided into two: Coastal Management Element and Conservation Element, though this is not required. These section of the existing Comp Plan is being assessed by Murphy Planning.

All conservation related activities and the management of coastal resources within the City of Neptune Beach shall be in accordance with the following Goals, Objective and Policies:

### **Goal E.1**

The coast of Neptune Beach has, for the most part, been developed for urban use. The City shall restrict any further new development or redevelopment that would destroy or otherwise damage coastal resources. The City shall protect, enhance, and preserve beach and wetlands dune systems, as well as other coastal resources of environmental value, through proper maintenance and management practices and the avoidance of inappropriate use and development, including public-financed improvements within the Coastal High Hazard Area (map E-1). The city shall conserve, utilize, and protect its natural resources to insure that adequate resources are available for future generations.

### **Objective E.1.1**

#### **Protection and Conservation of Environmental Resources**

The City shall continue to protect, conserve, and enhance areas of native vegetation, existing wildlife habitat, and wetlands within the City. (9J-5.012(3)(b)(1))

#### **Policies**

**E.1.1.1** The City of Neptune Beach shall protect from development undeveloped wetlands as delineated by the Florida Department of Environmental Regulation and the St. Johns River Water Management District.

### **Objective E.1.2**

#### **Storm and Flood Hazards**

The City shall continue best management practices that are intended to reduce damage to and erosion of dune systems and dune vegetation and estuarine environments that result from pedestrian traffic.

#### **Policies**

**E.1.2.1** The City shall enforce its floodplain management regulations to conform with or exceed the requirements of the Federal

Emergency Management Agency.

- E.1.2.2** The City shall continue to partner in the Duval County Local Mitigation Strategy and participate in the Duval County emergency preparedness operations. The City shall review new Land Development Regulations for consistency with the Local Mitigation Strategy prior to adoption.

### **Objective E.1.3**

#### **Beach and Dune Protection and Enhancement**

The City shall continue to cooperate with federal, state and regional efforts to enhance the beach and shall prevent damage and destruction of dunes and dune vegetation.

#### **Policies**

- E.1.3.1** The City shall enforce the Coastal Construction Code, and the Florida Building Code as these regulate construction within Coastal Areas.
- E.1.3.2** The City shall continue best management practices that are intended to reduce damage and erosion of dune systems and dune vegetation which may result from construction activities and inappropriate pedestrian traffic.
- E.1.3.3** Rigid coastal armoring is prohibited except as otherwise authorized and permitted according to Section 161.085(9), Florida Statutes and Chapter 62B-56, Florida Administrative Code.

### **Objective E.1.4**

#### **Coastal High Hazard Area**

Within the coastal high-hazard areas, Neptune Beach shall discourage further urban development and shall limit public expenditures that subsidize development except for the restoration or enhancement of natural resources and the provision for appropriate public access to and use of natural resources.

#### **Policies**

- E.1.4.1** The city will limit public expenditures in high-hazard areas to

improvements that do not increase density; to that which customarily supports recreation and open-space use of the beach and waterway related resources; and which achieves dune stabilization and prevention of erosion through environmentally sound practices.

**E.1.4.2** The city will assist in the enforcement of coastal construction setback lines as established by other regulatory agencies.

**E.1.4.3** Development orders shall not be issued in known or predicted high-hazard areas.

#### **Objective E.1.5** **Environmental Conditions**

The City shall limit new development of shoreline sites in order to conform to the reduction of environmental degradation as well as to encourage visual and physical accessibility, open space conservation, wildlife preservation, and compatibility between adjacent uses.

#### **Policies**

**E.1.5.1** In accordance with Section 163.3202, Florida Statutes, the City shall maintain within its Land Development Regulations to establish the following:

(a) A percentage of native vegetation to be protected, preserved, or replaced within Environmentally Sensitive Areas during and following site development or construction activities.

(b) A buffer zone of natural vegetation around wetland and deep-water habitats.

(c) Stormwater retention and detention standards which maintain rates and amounts equal to conditions existing prior to development

#### **Objective E.1.6** **Redevelopment within the Coastal High Hazard Area**

The City shall prepare a post-disaster redevelopment plan (9J-5.012(3)(b)(8)). Redevelopment activities within the coastal high hazard area shall serve the purpose of reducing the vulnerability of people, property, and natural resources to damages from coastal storms.

**Policies**

- E.1.6.1** The City shall coordinate with Duval County in reviewing and revising the City's Hurricane plan and pertinent portions or regulatory codes as necessary to achieve the following policies:
- E.1.6.2** Implement a temporary moratorium on construction immediately following a hurricane occurrence until damage assessments and redevelopment policies have been determined.
- E.1.6.3** Prior to re-entry of the population into evacuated areas, complete all critical cleanup and repair activities required to assure public health and safety.
- E.1.6.4** The City shall complete an assessment of alternative redevelopment strategies in the event of a severe storm occurrence and formally adopt a redevelopment plan which balances the need for protection of life and property with the rights and responsibilities of property owners.
- E.1.6.5** The City shall incorporate within its redevelopment plan, described in Objective E.1.6.2 standards for determining the appropriateness and form of redevelopment, means of eliminating unsafe conditions and methods of achieving compatible land use patterns.
- E.1.6.6** The City establishes, for regulatory purposes, the Coastal High Hazard Area as the area defined as the Category 1 Hurricane Evacuation Zone in the current Regional Evacuation Study.

**Objective E.1.7**

**Public Beach and Waterway Access**

The City shall ensure adequate and convenient public access to beach and other public waterways through maintenance of all public waterway and beach access-ways at the twenty-two street-end locations existing as of the adoption of the Plan amendment.

**Policies**

- E.1.7.1** The City will not allow closure of the current beach access at street ends to benefit development.
- E.1.7.2** The City shall maintain all existing beach parking as of the date of this Plan, and reduction in the number of public parking spaces available at beach accesses shall not be permitted

unless such eliminated spaces are replaced in equal numbers and within similar proximity to the beach.

- E.1.7.3 The City shall not permit, either through public or private action, public access ways to the beach, the Intracoastal Waterway, or other waterways which are open to the public as of the date of adoption of this Plan to be closed, vacated, or restricted from public use in any manner.
- E.1.7.4 As preferred alternative to the construction of parking facilities at beach access-ways the City shall maintain all existing accesses including barrier-free ramps and shall join with others in seeking means of accommodating beach visitors.
- E.1.7.5 The City has determined that there are no appropriate locations for marinas within the City of Neptune Beach.

## **Goal E.2**

The City shall maximize, to the extent feasible, provisions and opportunities for the protection of life and property from the effects of hurricanes and other natural disasters.

### **Objective E.2.1 Hurricane Evacuation**

The City shall maintain a comprehensive hurricane evacuation management plan and shall incorporate into that plan measures deemed necessary to maintain or reduce the City's evacuation clearance times.

#### **Policies**

- E.2.1.1 The City shall corporate with and assist other communities in identifying adequate public upland shelter spaces and shall not approve new development that creates undue burdens on the number of spaces available for threatened populations.
- E.2.1.2 The City hereby adopts and shall maintain a Level of Service standard of a 12-hours evacuation time for a Category 5 storm for out-of-county hurricane evacuation.
- E.2.1.3 The City shall not approve Plan amendments that increase residential density within Coastal High Hazard Areas in that such increases to existing densities have the effect of concentrating



populations in hazard prone areas and may result in an increase of hurricane evacuation times for the City and the County.

- E.2.1.4 The City shall coordinate hurricane preparedness activities with other local government and affected agencies within the region; review its emergency preparedness plan each year; maintain a broad program of activities to increase public awareness; meet the evacuation needs of special populations; and through coordination with other local governments, strive to achieve an evacuation time within the "quick" response time frame for each storm category.
- E.2.1.5 The City's evacuation plan shall be consistent with the *Duval County Hurricane Evacuation Traffic Management Plan* as amended and shall maximize efficiencies in traffic movement so as to reduce or maintain evacuation clearance times within the City of Neptune Beach.

### **Objective E.2.2**

#### **Redevelopment within the Coastal High Hazard Area (CHHA)**

Redevelopment activities within the CHHA shall be guided by the redevelopment provisions as set forth within the Land Development Regulations which shall serve the purpose of reducing the vulnerability of people, property, and natural resources to damage from coastal storms.

#### **Policies**

- E.2.2.1 The City, shall coordinate with Duval County the review and revision of the City's Hurricane Plan and pertinent portions or regulatory codes as necessary to achieve the following policies.
- E.2.2.2 Implement a temporary moratorium on construction immediately following a hurricane occurrence until damage assessments and redevelopment policies have been determined.
- E.2.2.3 Prior to re-entry of the population into evacuated areas, complete all critical cleanup and repair activities required to assure public health and safety.
- E.2.2.4 The City established, for regulatory purposes, the Coastal High Hazard Area as the area below the Category 1 storm surge line as established by the Sea, Lake and Overland Surges from Hurricane (SLOSH) computerized storm model as mapped in the Storm Tide Atlas prepared by the Northeast Florida Regional Council as part of

the current Regional Hurricane Evacuation Study pursuant to Chapter 163, Florida Statutes.

**Commented [WMS153]:** This map should be in the comp plan. Also, there are state statutes on how this map must be implemented in comp plans.

**Commented [LL154R153]:** See F.S. Chapter 163.3178, Section (2)(h)

Revise the Coastal High Hazard Map based on the updated SRES (Statewide Regional Evacuation Study) Storm Tide Atlas published by the Northeast Florida Regional Council in 2013. The map has changed since the current Comp Plan was adopted. The area East of 3rd Street is no longer considered a Category 1 Storm Surge Area. See the document at the link below:

<https://drive.google.com/file/d/19ECtdMjJ9W9pVzfhPRmj9YNhOWQCemhq/view?usp=sharing>

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### **Objective E.2.3** **Hazard Mitigation**

The City shall seek appropriate means of reducing the potential for loss of life and property through provisions within the Land Development Regulations, including implementation of hazard mitigation policies from the Local Mitigation Strategy.

#### **Policies**

- E.2.3.1** The City shall maintain provisions within its Land Development Regulations which require that all new residential development within the CHHA access impacts to hurricane evacuation times and shelter provision.
- E.2.3.2** The City shall not approve Plan amendments which increase residential density within the CHHA or where demands upon existing shelter space shall be increased.

### **Goal E.3**

The City shall protect, preserve, and maintain natural environmental resources so as to maintain or enhance air quality, water quality, vegetative communities, wildlife habitats, and the natural functions of soils, fisheries, wetlands, and estuarine marshes.

### **Objective E.3.1** **Air Quality**

The City shall cooperate with adjacent communities in regional air quality management programs so as to provide a high standard of air quality.

#### **Policy**

- E.3.1.1** The City shall implement policies of the Local Mitigation Strategy appropriate to protect air quality and shall require mitigation prior to permitting of projects that may adversely affect air quality.

### **Objective E.3.2** **Conservation and Protection of Natural Coastal Resources**

The City shall maintain or adopt provisions within its Land Development Regulations for private and public development which conserve and enhance soils, native vegetation, living marine and water resources, and wildlife habitats to the maximum extent possible.

#### **Policies**

- E.3.2.1** The City shall require applicants for development permits to submit appropriate environmental surveys and reports prior to the issuance of development permits. All applications for development permits and other zoning related applications shall be required to identify environmental features, including any Wetlands, CCCL, natural water bodies, open space, buffers and vegetation preservation areas, and to sufficiently address any adverse impacts to Environmentally Sensitive Areas.
- E.3.2.2** The City shall cooperate with the SJRWMD in implementation of water conservation measures as set forth within the management plans and rules of the SJRWMD and the City's Consumptive Use Permit issued by the SJRWMD.
- E.3.2.3** In order to prohibit incompatible land uses the City shall protect potable water well cones of influence and shall maintain maps of such cones of influence and shall continue to implement the well-field protection regulations, as set forth within the Land Development Regulations. Such incompatible uses shall include all industrial uses but shall also include uses which have the potential to contaminate or degrade potable water supply wells, wetland functions, or natural systems associated with Environmentally Sensitive Areas.
- E.3.2.4** The City shall appropriately restrict land use activities which may threaten water sources from stormwater runoff into recharge areas by maintaining the Stormwater, Drainage, Storage and Treatment Requirements as set forth within the Land Development Regulations. Development permits shall be issued only in accordance with the City's National Pollutant Discharge Elimination Systems (NPDES) permit in addition to the requirements of the Water Management District and the Florida Department of Environmental Protection. NPDES requirements shall include use of Best Management Practices (BMPs) prior to discharge into natural or artificial drainage systems. All construction projects of one acre or more shall require a NPDES permit.

- E.3.2.5 In accordance with Chapter 163.3202, Florida Statutes, the City shall establish and maintain within its Land Development Regulations all necessary requirements and restrictions to ensure that land development, land disturbing activities, and land uses are managed in a manner which protects and conserves the natural functions of soils, fisheries, wildlife habitats, rivers, flood plains, wetlands (including estuarine marshes), and marine habitats including hatchling turtles.
- E.3.2.6 The City shall cooperate with adjacent local governments and regulatory agencies to conserve and protect, as may be appropriate, unique vegetative communities located within the City and within adjacent jurisdictions.
- E.3.2.7 The City shall designate Environmentally Sensitive Areas requiring protection as a means of implementing the Comprehensive Plan and shall include in its Land Development Regulations, prepared in accordance with S. 163.3202, F.S., means of ensuring protection of such lands from degradation.
- E.3.2.8 Environmentally Sensitive Areas shall include lands, waters, or areas within the City of Neptune Beach which meet any of the following criteria:  
**(a)** All Wetlands, including those determined to be jurisdictional which are regulated by the Florida Department of Environmental Protection (FDEP) and the St. Johns River Water Management District (SJRWMD);  
**(b)** Estuaries, or estuarine systems;  
**(c)** Outstanding Florida Waters and Natural Water Bodies;  
**(d)** Areas designated pursuant to the Federal Coastal Barrier Resource Act (PL97-348) and those beach and dune areas seaward of the Coastal Construction Control Line;  
**(e)** Areas designated as Conservation by the Future Land Use Map;  
**(f)** Essential Habitat to Listed Species as determined by approved methodologies of the Florida Fish and Wildlife Conservation Commission, the Department of Agriculture and Consumer Services, and the U.S. Fish & Wildlife Service.
- E.3.2.9 The City shall ensure environmentally sound management of hazardous wastes and reduction of potential problems resulting there from through a multi-faceted program incorporating public information, enforcement of regulations, and monitoring of waste

handling activities. The following components shall be included within the City's program:

**(a)** Support the enforcement of current State and Federal regulations aimed at prohibiting discharge of wastewater containing hazardous and industrial waste into septic tanks or through stormwater runoff into aquifer recharge areas or surface water bodies.

**(b)** Public education programs encouraging residents and business owners to avoid the dumping of used petroleum products, paint, hazardous materials, and pesticides onto the ground or water bodies.

**(c)** City coordination and monitoring of hazardous wastes by collection and transportation entities to ensure safe and responsible handling practices.

### **Objective E.3.3** **Regulatory Authority**

The City shall continue to cooperate with other permitting and regulatory agencies to improve estuarine environmental quality to achieve the estuarine water quality standards established by FDEP.

#### **Policies**

**E.3.3.1** The City shall maintain and amend as necessary provisions within its Land Development Regulations to achieve consistency with the rules and regulatory authority of the SJRWMD.

**E.3.3.2** The City shall coordinate with other governmental agencies during the review, permitting, and development of sites which, if improperly developed, could have adverse impacts upon estuarine water quality and related resources; through such coordination, the City shall ensure adequate sites within the drainage basin for water-dependent uses; prevent estuarine pollution which could adversely affect another governmental jurisdiction; ensure public access; and reduce exposure to flood hazards.

**E.3.3.3** In a timely manner in order to ensure that such projects and activities can be reviewed and comments returned to the City prior to permitting the City shall coordinate its permitting activities with existing resource protection plans by notifying the administrators of such plans of any pending development activity or public improvement

**Objective E.3.4**  
**Shoreline Development**

The City shall give consideration to shoreline land uses and site development improvements which meet the following criteria:

- (a) Prevent adverse environmental effects
- (b) Maintain or exceed the standards within this Plan for public access
- (c) Avoid shoreline hardening structures
- (d) Enhance estuarine water quality

**Objective E.3.5**  
**Natural Resource Based Recreation and Public Access**

The City shall provide opportunities for appropriate recreational uses and access to public waterways, the beach, and natural areas and shall restrict activities that harm or diminish the public's right to use such publicly owned natural resources.

**Policies**

- E.3.5.1** The City shall prohibit the closure or abandonment of public right-of ways or public lands that would restrict access to any public waterbodies.
- E.3.5.2** The City shall enforce the requirements for public access to beach areas as set forth in the Coastal Protection Act of 1985 in all permitting activities and through the course of coastal redevelopment programs.
- E.3.5.3** The City shall prohibit the closure of existing beach and waterway accesses and any unopened easements except in the case of risk to public safety as determined by the City's public safety officials or in the case of adverse environmental impact.
- E.3.5.4** To the extent that the City has regulatory control over such resources the City shall adopt within its Land Development Regulations provisions to provide for the appropriate recreational use of surface waters within the City that are under public control or City ownership including dock construction, mooring and anchoring and resource protection regulations.

**Goal E.4**

The City shall promote and encourage energy conservation and efficiency in an effort to reduce greenhouse gas emissions and protect the environment.

#### **Objective E.4.1**

##### **Energy Efficiency and Energy Conservation**

In order to conserve and protect the value of land, buildings, and resources the City shall encourage the development and use of renewable energy resources, and shall promote the good health of the City's residents.

##### **Policies**

- E.4.1.1** The City shall maintain an energy efficient land use pattern and shall continue to promote the use of transit and alternative methods of transportation that decrease reliance on the automobile.
- E.4.1.2** The City shall continue to encourage and develop the "walk-ability and bike-ability" of the City as a means to promote the health of the City's residents, their access to recreational and natural resources, and as a means to reduce greenhouse gas emissions.
- E.4.1.3** The City shall continue to promote and enforce energy efficient design and construction standards as these are adopted as part of the State Building Codes. The City shall also promote commercial and residential standards that are promulgated from time to time by the Florida Green Building Coalition, Inc.

#### **Objective E.4.2**

##### **City Buildings and Equipment**

The City shall improve energy conservation and efficiency in City buildings, facilities, and equipment.

##### **Policies**

- E.4.2.1** The City shall develop and implement an energy management plan to minimize electric, fuel, and water resources in City buildings, in fleet vehicles, and on public properties.



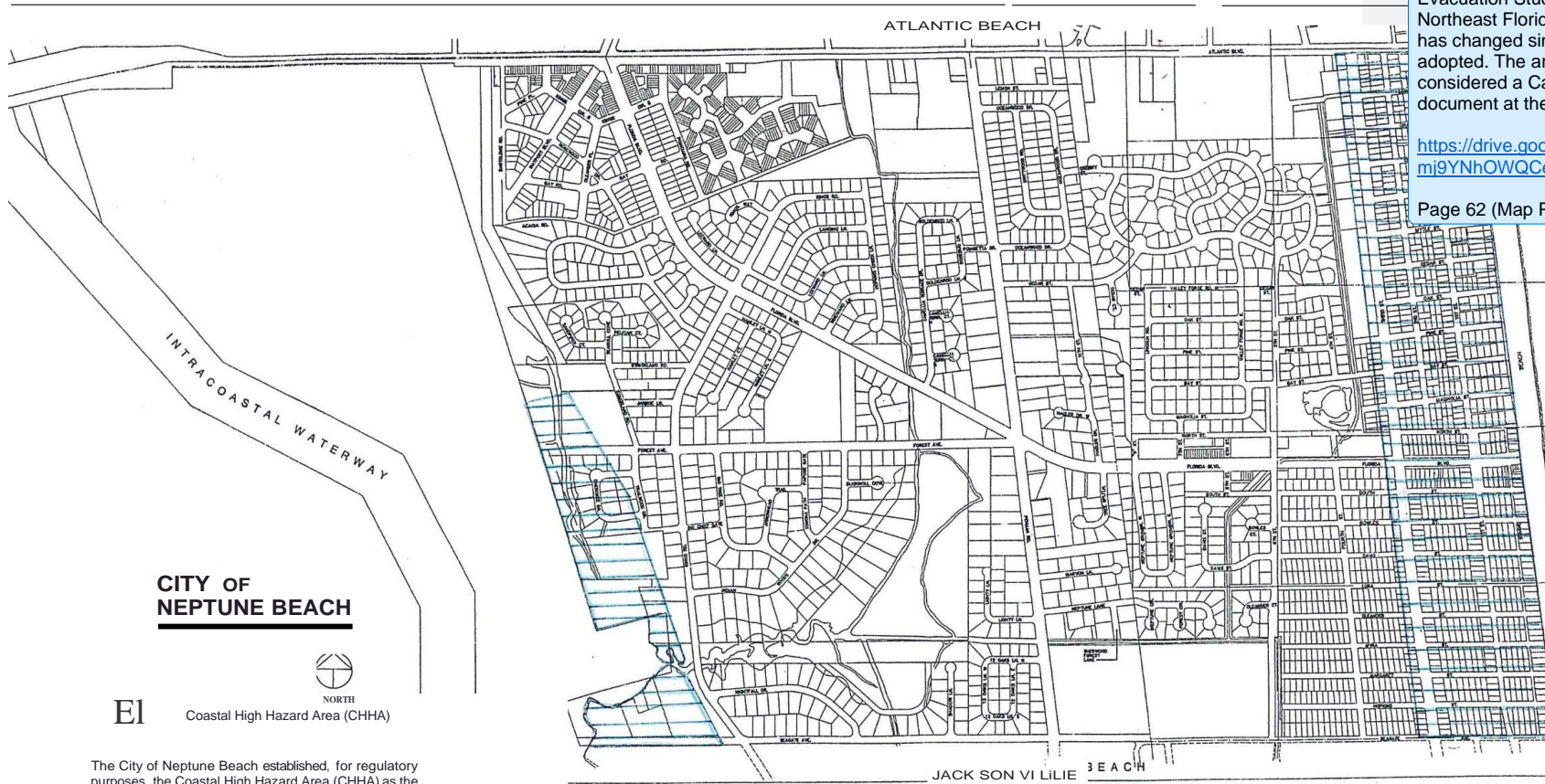
- E.4.2.2 The City shall conduct periodic energy audits of public buildings and facilities to identify methods to reduce energy consumption and improve energy efficiency.
- E.4.2.3 Public buildings and facilities shall be constructed and adapted where reasonably feasible to incorporate energy efficient designs and appropriate "green" building standards. Green Building standards that should be observed are contained in the Green Commercial Buildings Designation Standard, Version 1.0, published by the Florida Green Building Coalition, Inc.
- E.4.2.3 Whenever cost and reliability are similar to traditional vehicles the City shall continue to replace light-duty vehicles in need of replacement with hybrids, alternative fuel vehicles, or the most fuel efficient and least-polluting vehicles available for specific functions.

**Map E-1**  
**Coastal High Hazard**

**Commented [LL155]:** Revise the Coastal High Hazard Map based on the updated SRES (Statewide Regional Evacuation Study) Storm Tide Atlas published by the Northeast Florida Regional Council in 2013. The map has changed since the current Comp Plan was adopted. The area East of 3rd Street is no longer considered a Category 1 Storm Surge Area. See the document at the link below:

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**EI** **CITY OF NEPTUNE BEACH**  
Coastal High Hazard Area (CHHA)

The City of Neptune Beach established, for regulatory purposes, the Coastal High Hazard Area (CHHA) as the area defined as the Category 1 Hurricane Evacuation Zone, within the Northeast Florida Hurricane Evacuation Study as updated.

## F. Recreation and Open Space Element



## F. Recreation and Open Space Element Goals, Objectives and Policies

All recreation and open space within the City of Neptune Beach shall be in accordance with the following Goals, Objectives, and Policies:

### Goal F.1

The City shall ensure retention, maintenance, and improvement of existing open space and recreation, passive recreation, jogging trails, and bicycle paths to satisfy the health, safety, and welfare needs of citizens and visitors, including special groups such as the elderly. It shall also provide for recreation and open space.

#### Objective F.1.1 Public Access

The City shall continue to provide access to the beach and all other recreational amenities.

#### Policies

**F.1.1.1** Existing public beach access shall not be closed to the public.

#### Objective F.1.2 Coordination

To provide citizens with a wide variety of leisure time activities with an acceptable level of service standards the City of Neptune Beach shall continue to coordinate the provision of parks and facilities with other government agencies.

#### Policies

**F.1.2.1** The City shall continue to support efforts of other government agencies and shall cooperate to achieve level-of-service standards for regional recreation and open space facilities.

**F.1.2.2** The City shall cooperate with the School Board in the provision of recreational facilities within Neptune Beach.

**F.1.2.3** The City shall maintain all existing beach access ways as described within the Conservation and Coastal Management Element and shall continue to make improvements to prevent erosion caused by pedestrian traffic.

**Commented [LL156]:** Before the Recreation and Open Space Element, consider adding an optional 'Inventory & Planning Projects' section to describe the City's existing parks and open spaces, as well as recent planning efforts and capital improvement project underway (e.g. planned improvements and community design process for Jarboe Park).

Consider adding a map that shows existing Parks, Open Spaces, and Recreational Facilities (see Figure 4.30 in the Vision Plan)

**Commented [WMS157R156]:** This is entirely optional. In the NB comp plan, only the Transportation Element includes this kind of data and analysis. If this material is already prepared for the Vision Plan, that would be great, but if not, better to focus staff's efforts on required updates.

**Commented [LL158]:** Consider adding the following recommendations from the Vision Plan under Objective F.1.1:

Construct beach access improvements, including the addition of bicycle parking, ADA ramps, and ADA accessible parking spaces wherever possible.

**Commented [LL159]:** Revise to "Elements"

- F.1.2.4** The City shall maintain all existing accessible beach accesses and shall seek opportunities, where feasible, to provide additional access to all natural and constructed recreation and park facilities. New facilities shall be developed and constructed in compliance with applicable provisions of the Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG).
- F.1.2.5** The City shall continue to allow parking along public rights-of-way for the purpose of providing parking for beach access, provided such parking does not interfere with pedestrian or vehicular safety and does not excessively result in damage to public or private property.
- F.1.2.6** The City shall not permit parks and designated open space to be diverted to any other use unless mitigated by equal replacement in size and quality of the resource.

### Objective F.1.3

#### Adequate Parks and Recreation Facilities

In order to provide safe, convenient access for all residents to beaches, parks, and other recreation facilities in accordance with Level of Service standards set forth within this Plan amendment the City shall continue to maintain its existing recreational facilities and shall provide for the recreational needs of the City's residents. The City shall inventory at least once every five years, public and private recreation resource to identify service inadequacies and opportunities for sharing of facilities and programs so.

**Commented [LL160]:** Add the Intracoastal Waterway and add reference to new map of Future Parks, Open Spaces and Recreational Facilities Map, based on Figure 4.30 of the Vision Plan

#### Policies

- F.1.3.1** Existing recreational land shall not be replaced with non-recreational development.
- F.1.3.2** The City shall continue to operate and maintain existing recreational facilities in a safe and aesthetic manner.
- F.1.3.3** The City shall use the following LOS standards for the provision of neighborhood parks:

**Commented [LL161]:** Add the following recommendations from the Vision Plan either as new policies or revisions to the existing policies under Objective F.1.3:

Adopt Crime Prevention through Environmental Design (CPTED) standards for the design of streets, parks, and public spaces.

Adopt low impact design principles for the design and construction of streets, parks, and infrastructure improvements, including provisions for the use of native plants that help filter stormwater and for the prioritization of natural edge stormwater canals over conventionally engineered, hard edge channels.

Invest in recreational amenities along the Intracoastal, including kayak launches, marsh walks, and a pedestrian and bicycle bridge across Hopkins Creek that connects the two segments of Seagate Avenue.

**Commented [LL162]:** Check to what extent the City's existing parks and recreational facilities meet these LOS, and revise accordingly.

Neighborhood Parks	2 acres/1,000 Population
Playground (with equipment)	1 playground per 2,500 population
Baseball or softball field	1 field per 2,500 population
Volleyball Court	1 court per 5,000 population
Tennis Court	1 court per 5,000 population

Beach access	1 access per 1,000 population
Jogging/Exercise Trail	1 trail per 7,000 population

#### **Objective F.1.4**

##### **Open Space**

The City shall continue to provide public open space for the enjoyment of all residents and visitors to the City and shall require that residential developments and redevelopment projects include open space.

##### **Policies**

- F.1.4.1** Development shall not be allowed in wetlands or environmentally sensitive areas. All development adjacent to wetlands or environmentally sensitive areas shall conform to the performance standards as set forth in the Land Development Regulations.
- F.1.4.2** The City shall develop appropriate definitions and standards of open space for inclusion in land development regulations.

**Commented [LL163]:** Add a policy about accommodating new public open spaces in the Beaches Town center, as recommended in the Vision Plan:

Transform the final segment of Atlantic Boulevard from 1<sup>st</sup> Street to the beach into a car-free public plaza and encourage infill development along the edges of the existing surface parking lot on that corner.

Transform 1<sup>st</sup> Street from Atlantic Boulevard to Orange Street into a shared plaza street that can be easily closed down and used for public events.

#### **Objective F.1.5**

##### **Recreational Needs for the Elderly and Handicapped**

Passive recreation shall be provided which is accessible to and meets the needs of the elderly and handicapped in accordance with Level of Service standards set forth within this Plan amendment.

##### **Policies**

- F.1.5.1** The City shall provide handicapped parking and barrier-free access to all public recreation facilities.
- F.1.5.2** Public recreation facilities shall provide passive type recreation for the elderly and handicapped.

**Commented [LL164]:** Add the following recommendation from the Vision Plan either as new policies or revisions to the existing policies under Objective F.1.5:

Support the Senior Center's community programs and services.

#### **Objective F.1.6**

##### **Bike and Jogging/Walking Trails**

In accordance with Level of Service standards set forth within this Plan amendment non-vehicular travel shall be encouraged where appropriate.

##### **Policies**

- F.1.6.1** The City shall use the 2002 bicycle and pedestrian pathway study to ensure provisions for pedestrian and bicycle routes in the City and connecting adjacent municipalities.

**Commented [LL165]:** Reference the recommended new Future Bicycle & Pedestrian Facilities Map from the Transportation Element as a guide for future trails and bikeways.

**Commented [LL166]:** Replace with "The City shall refer to the Neptune Beach Community Vision Plan (2020), the North Florida TPO's 2019 Regional Multi-Use Trail Plan, and the City of Jacksonville's Pedestrian and Bicycle Master Plan (2017) to ensure..."

**F.1.6.1** In order to alleviate peak parking demands, reliance on vehicular transportation, provide for a high level of recreational activity, and energy efficiency the City shall ensure that bike and pedestrian facilities continue to be a high priority to this community conservations.

**F.1.6.2** For safety purposes bike paths and jogging trails shall be well lit and removed from heavy traffic or protected by physical barriers.

**Commented [LL167]:** Correct numbering of these two policies

### **Objective F.1.7**

#### **Requirements for Redevelopment Projects**

Redevelopment projects shall provide the provision of recreation and open space in accordance with Level of Service standards set forth within this Plan amendment.

#### **Policies**

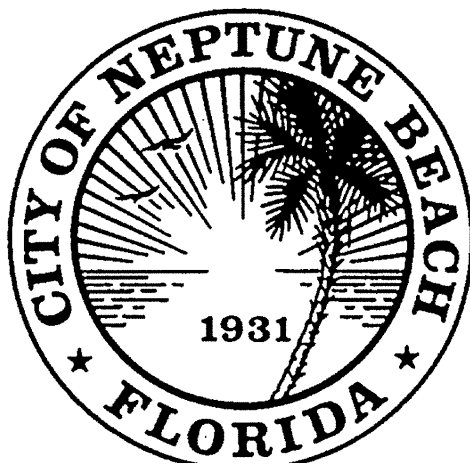
**F.1.7.1** In areas to be redeveloped for other than low density or single- family development, recreation facilities must be provided to fulfill the requirements of the new development.

**Commented [LL168]:** Revise to "anything other"

**Commented [LL169]:** Consider revising to specify that the City's land development regulations must require a specific amount of parks/open space and recreational amenities for non-residential and mixed-use redevelopment projects of a certain size.



## **G. Intergovernmental Coordination Element**



## **G. Intergovernmental Coordination Goals, Objectives and Policies**

All Intergovernmental Coordination within the City of Neptune Beach shall be in accordance with the following Goals, Objectives, and Policies.

### **Goal G.1**

The City shall coordinate and cooperate with the various governmental agencies to achieve coordination of the following:

- 1) equitable and reasonable sharing of authority, responsibility, and resources in the provision of services, education, and housing;
- 2) provision for effective development review and permitting;
- 3) effective representation on behalf of the City in decisions related to future growth management, planning, and funding resources.

### **Objective G.1.1**

#### **Maintaining Consistency with Comprehensive Plans and Interlocal Agreements**

As means of achieving effective intergovernmental coordination and consistency in planning for the future of the City and the surrounding region, copies of proposed amendments to the adopted Comprehensive plan shall be provided to adjacent local governments and government agencies which provide services within the City, but which may not have regulatory authority within the City.

### **Policies**

**G.1.1.1** In order to ensure the impacts of development as proposed in the Plan amendment are coordinated with development throughout the region and the State, and for comments prior to legislative adoption, the City shall forward copies of proposed Comprehensive Plan amendments to all surrounding local governments, the Duval County School Board, the Northeast Florida Regional Council, the St. Johns River Water Management District, the Florida Department of Environmental Protection, the Florida Department of Transportation, the Florida Department of Community Affairs, and any special service districts, as required in [Section 163.3187, Florida Statutes](#).

**Commented [LL170]:** Revise to refer to Section 163.3184

- G.1.1.2** The City shall continue to participate in the inter-community Beaches utility group related to the coordination and implementation of the Cooperative Beaches Utility Plan as well as any utility and infrastructure related issues.
- G.1.1.3** The City shall continue to coordinate with the City of Atlantic Beach and the City of Jacksonville Beach to develop coordinated land use planning, unified development policies and special projects.
- G.1.1.4** The City shall maintain Interlocal Agreements identified within this Comprehensive Plan amendment as necessary to provide efficient and effective services.
- G.1.1.5** The City shall continue coordination with the following entities and agencies for the purposes as indicated:
- (a) Other local governments and agencies adjacent to our Coastal High Hazard Area, including the Emergency Preparedness Division of the Duval County Fire and Rescue Division and the Florida Department of Transportation for the purpose of improving hurricane evacuation routes and reducing evacuation time.
  - (b) The State of Florida, Duval County and other local governments for the purpose of post-disaster redevelopment planning, land use and transportation planning, resource conservation (including potable water), provision of shared recreation facilities, and coastal and beach access facility development.
  - (c) The North Florida Transportation Planning Organization related to transportation improvements needed to maintain or exceed adopted Level of Service standards
  - (d) The St. Johns River Water Management District and the Florida Department of Environmental Protection related to coordination of land use and water supply planning, development review, and permitting responsibilities and procedures.
  - (e) The Duval County Health Department related to the coordination of proper education and procedures to improve and maintain a healthy environment within the City

(f) The law enforcement agencies of surrounding local governments, as well as State and Federal law enforcement agencies, in order to achieve compatibility of communication equipment and coordination of services.

(g) The Jacksonville Transportation Authority to support the development of transportation routes that serve the beach communities.

(h) The Duval County Environmental Resource Management Department to ensure provision for timely planning and development of solid waste disposal facilities to effectively serve needs of all communities within the service area.

(i) The Duval County School Board related to the coordination of school facility planning and comprehensive land use planning in accordance with the Interlocal Agreement for Joint Facility Planning between the City of Neptune Beach, the Consolidated City of Jacksonville, the Town of Baldwin, the City of Jacksonville Beach, the City of Atlantic Beach, and the Duval County School Board.

**G.1.1.6** The City shall continue its involvement in the North Florida Transportation Planning Organization and will maintain representation on the Technical Coordinating Committee as appropriate.

**G.1.1.7** The City shall encourage the utilization of the Northeast Florida Regional Planning Council as the appropriate entity for informal mediation process in resolving conflicts with other local units of government.

#### **Objective G.1.2**

#### **Coordination of the Management and Protection of Natural Resources**

The City shall continue to coordinate with all adjacent local governments and relevant agencies in implementing protection of the beach, shoreline, and wetlands and in protecting the potable water supply from saltwater intrusion.

#### **Policies**

**G.1.2.1** The City shall coordinate with all jurisdictional agencies and adjacent local governments in developing and implementing

programs aimed at the effective management of the beaches, shorelines, and wetlands as well as other cross-jurisdictional water bodies.

**G.1.2.2** The City shall coordinate with Duval County and the Army Corps of Engineers (ACOE) for beach rehabilitation.

**G.1.2.3** The City shall coordinate with the St. Johns River Water Management District to identify potential areas where saltwater intrusion may degrade potable water resources.

### **Objective G.1.3**

#### **Coordination of Levels of Service for Public Facilities**

The City shall coordinate planning and land development activities with adjacent local governments to ensure that the impacts of new development shall not preclude the attainment of adopted Level of Service standards; impair sound environmental management practices; create land use conflicts, or contribute to inconsistent and incompatible urban development patterns.

#### **Policies**

**G.1.3.1** The City shall advise local governments of proposed development and re-development activities which might reasonably be foreseen to reduce facility service standards and shall review such projects for of conformity with the Comprehensive Plan of adjacent local governments, particularly those near jurisdictional boundary lines.

**G.1.3.2** The City shall coordinate with affected jurisdictions and agencies, including FDOT, regarding mitigation to impacted transportation facilities not under the jurisdiction of the City. Interlocal Agreements with other jurisdictions may be utilized for this purpose.

**G.01.03.03** In order to reflect the shared responsibilities for managing development and concurrency, and to address cross-jurisdictional impacts of development on regional transportation facilities, the City may enter into agreement with one or more adjacent local governments.

**Commented [LL171]:** Revise policy number format

### **Objective G.1.4**

#### **Coordination with the Duval County School Board**

In accordance with the Interlocal Agreement for Joint Facility Planning, adopted pursuant to Chapter 163.31777, Florida Statutes, the City shall consult with the

**Commented [LL172]:** Revise to 163.3177

Duval County School Board and Duval County Public Schools prior to implementing projects or plans that might impact the use of school facilities related to shared facilities, access, surrounding environment, housing patterns, alteration of public services and general development policies of the City.

#### **Policies**

- G.1.4.1** The City shall notify the Duval County Public Schools of projects or plans under consideration which might affect the operation of school facilities at least thirty (30) days prior to taking formal action thereon.
- G.1.4.2** The City shall request that the Duval County Public Schools advise the City of proposed alteration, construction, or other plans under consideration so that the City may be advised and provided an opportunity to discuss the potential effects of such action upon the City.
- G.1.4.3** The City shall maintain, a non-voting representative to be appointed by the Duval County School Board, a seat on its Local Planning Agency (LPA), who shall be noticed, provided an agenda, and invited to attend LPA meeting and to provide comments related to land use amendments and rezoning proposals that may effect student enrollment projections or school facilities.

### **Objective G.1.5** **Affordable Housing**

The City shall enter into Interlocal Agreements with adjacent municipalities in order to facilitate coordination of affordable housing needs.

#### **Policy**

- G.1.5.1** The City shall enter into Interlocal Agreements with adjacent governments, as determined to be necessary and appropriate, so as to address the City's very low, low, and moderate-income affordable housing needs in response to:
- (a) Market driven limitations where meeting the needs for very low, low and moderate income affordable housing is not economically feasible due to exceptionally high property values related to the City's coastal location
  - (b) Where meeting affordable housing needs for very low, low and moderate income residents is not feasible due to limitations of residential density within the Coastal High Hazard Area.

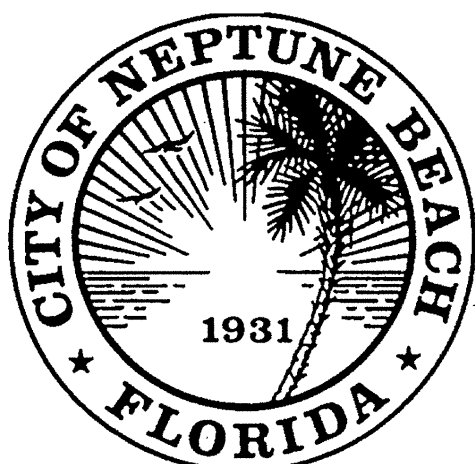
**Commented [LL173]:** This condition was not specified in the housing element where it mentioned interlocal agreements. This should be added to Policy C.1.1.4

**Commented [LL174]:** Add a new objective regarding coordination of resilience efforts and sea level rise hazard mitigation. Consider policies about:

Coordinating with the City of Jacksonville's, including special groups like the Storm Resiliency & Infrastructure Development Review Committee (SRAIDR), the Special Committee on Resilience, and the Resilience and Climate Change Coalition. *(Confirm which of these special working groups and committees are still active).*

Coordination efforts with Atlantic Beach and Jacksonville Beach, including incorporating findings from Atlantic Beach's Sea Level Rise Projection Review and Coastal Vulnerability Assessment (2019) into City policies.

## H. Capital Improvements Element





## H. Capital Improvements Goals, Objectives, and Policies

Terms used within this element shall be as set forth within Section 163.3164, Florida Statutes and Rule 9J-5.003 of the Florida Administrative Code or as defined by applicable City of Neptune Beach ordinances.

**Commented [LL175]:** Revise to refer to Section 163.3177

**Commented [LL176]:** This rule has been repealed as of 2011. Eliminate reference to it.

### Goal H.1

The City shall provide public facilities, which are sufficient to enable the City to: 1) accommodate the needs of present and future populations in a timely and cost-effective manner; 2) maximize the use of existing facilities; and 3) maintain or enhance the City's services, physical environment, and fiscal integrity.

### Objective H.1.1

#### Capital Improvements Planning

Capital projects needed to support development shall be evaluated annually, and when financially feasible, shall become part of the five (5) year Schedule of Capital Improvements of the Capital Improvement Program (CIP) as set forth within Table H-5 and consistent with the annual adopted budget for the City. Such updates to the CIP shall be included in the City's adopted Comprehensive Plan as part of the annual review and amendment to this Capital Improvements Element.

**Commented [LL177]:** Where is this table? It is not currently in the Comp Plan. Update the table based on the City's 2020 CIP and cross-referencing that with the Community Vision Plan's Appendix A: Project List.

### Policies

**H.1.1.1** Capital improvements, which are determined to be necessary to implement the Goals, Objectives and Policies of this Comprehensive Plan shall be given priority by the City. All capital improvements having a cost of \$25,000 or more shall be included in the City's annual capital improvements budget along with an identified funding source.

**H.1.1.2** The City shall be guided by the following criteria in identifying and prioritizing capital improvements both in the provision of new facilities and replacement or renewal of existing facilities:

- (a) improvements needed for the protection of public health and safety;
- (b) improvements that increase the utilization of existing City facilities, multiple use of facilities or improved efficiency of facility operation;

- (c) improvements that address existing Level of Service deficiencies;
- (d) improvements necessary to meet the requirements of future development; and
- (e) improvements that enhance and improve the City's built environment and aesthetic character, economic stability, or environmental quality.

- H.1.1.3** The City supports coordination of capital improvement planning by all levels of government as a means of providing services in an orderly, economical, and efficient manner.
- H.1.1.4** The City Manager, or designee, shall have the responsibility of preparing a capital improvement budget and Capital Improvement Element update (when required) after evaluating the population growth within the City, the condition of the City facilities, and the provisions of this Comprehensive Plan.
- H.1.1.5** The City shall ensure the financial feasibility of all capital improvements included within the adopted Capital Improvements Element.
- H.1.1.6** This Capital Improvements Element shall be reviewed annually and updated as necessary to reflect revisions to the Capital Improvements Program in accordance with the annual adopted budget, including any proportionate fair-share contributions.

### **Objective H.1.2**

#### **Public Expenditures within the Coastal High Hazard Area (CHHA)**

The City shall not make public expenditures that subsidize land development within the Coastal High Hazard Area other than improvements as required to implement the Objectives and Policies identified within the Coastal/Conservation Element, the Capital Improvements Element, and those expenditures necessary for the health and safety of the residents of these areas.

#### **Policies**

- H.1.2.1** The City shall coordinate with the appropriate agencies to ensure improvements as appropriate and necessary to protect and re-nourish dunes and beach areas and to maintain or replace public facilities and provide improved recreational opportunities.

**Commented [LL178]:** Including maintaining safe public beach access for people of all ages and abilities.

### Objective H.1.3

#### **Concurrency and Level of Service Standards**

The City shall coordinate land use decisions and the issuance of development permits with the implementation of the Capital Improvement Program so as to ensure that the Level of Service (LOS) standards, as set forth within this Plan element, are fully met in accordance with Florida Statutes, and other applicable rules and regulations. A Concurrency Management System (CMS) shall be maintained that is consistent with and supports the Capital Improvements Program, and which is financially feasible to provide necessary facilities to maintain adopted Level of Service standards and to serve new development during the five-year Capital Improvement Program planning period. The Concurrency Management System shall ensure that public facilities and services are available concurrent with the impacts of new development.

#### **Policies**

**H.1.3.1** The City through its Concurrency Management System shall ensure that Level of Service (LOS) Standards for sanitary sewer, solid waste, drainage, potable water, parks and recreation, schools, and transportation facilities, including mass transit where applicable, are maintained.

**Commented [LL179]:** See the transportation element for our recommendations regarding conventional LOS for transportation as a good measure for street capacity, projections, and overall mobility targets.

**H.1.3.2** Development permits, including permits issued for single-family and two family residential development upon existing Lots of Record, and those issued solely for alteration, remodeling, reconstruction, or restoration of residential units provided that such permits do not authorize an increase in the number of dwelling units; and for non-residential uses, those permits that do not authorize an increase in the square feet of the development shall be deemed no impact projects and shall not require a Concurrency Certificate. It shall be the Applicant's responsibility to demonstrate and certify this provision in accordance with concurrency review procedures.

**Commented [BD180]:** Ensure that this matches with future LDRs requirements for permits.

**H.1.3.3** Applications for development permits for projects which are deemed to have no impact upon public facilities and services, as defined by preceding Policy H.1.3.2, or to have a *de minimus* impact as defined by State law, or which have acquired statutory or common law vested rights, shall not require a Concurrency Certificate. It shall be the Applicant's responsibility to demonstrate and certify this provision in accordance with concurrency review procedures.

- H.1.3.4** Development permits issued by the City, other than those as addressed by Policies H.1.3.2 and H.1.3.3, shall be accompanied by an approved Concurrency Certificate for that specific project, certifying that the proposed project has passed mandated concurrency tests. Capacity for all local development permits holding approved Concurrency Certificates shall be reserved in the effected public facilities for the life of the approved development permit but shall be released upon expiration of such development permit.
- H.1.3.5** The City shall implement a concurrency tracking and monitoring system, which shall.
- (a) Analyze the impacts of a proposed development in relation to the available capacity and Level of Service requirements contained within this Capital Improvements Element; and
  - (b) Create an annual report that summarizes the available capacity of public facilities and forecasts the future available capacity based upon best available data.

**Note:** Terms and abbreviations used within following policies H.1.3.6 through H.1.3.11 shall have the same meaning as defined within the Public Schools Facilities Element of this Plan.

**Commented [LL181]:** Update policy numbers if these end up changing. Note also that the Public Schools Facilities Element will be folded into the Intergovernmental Coordination Element

- H.1.3.6** The City shall ensure that future needs are addressed consistent with the adopted level of service standards for public schools to ensure that the capacity of schools is sufficient to support residential development order approvals at the adopted level of service (LOS) standards.
- H.1.3.7** The LOS standards shall be applied consistently by the City and by DCPS district-wide to all schools of the same type.
- H.1.3.8** The uniform LOS standards for all public schools including magnets and all instructional facility types, shall be 105% of the permanent Florida Inventory of School House (FISH) capacity, plus portables, based on the utilization rate as established by the State Requirements for Educational Facilities (SREF).
- (a) The designated middle schools within CSA 5 shall be identified as backlogged facilities and an interim level of standard within CSA 5 shall be 115% until January 1, 2018, after which the uniform LOS standard shall apply.

- (b) The implementation of long-term concurrency management shall be monitored to evaluate the effectiveness of the implemented improvements and strategies toward improving the level of service standards for middle schools in CSA 5 over the 10-year period.
- (c) The City shall adopt the DCPS Long Range Capital Improvements Plan as the 10-year long-term schedule of improvements for the purpose of correcting existing deficiencies and setting priorities for addressing backlogged facilities within CSA 5. The long-term schedule includes capital improvements and revenues sufficient to meet the anticipated demands for backlogged facilities within the 10-year period. The long-term schedule improves interim level of service standards for backlogged facilities and ensures uniform LOS, as established in the preceding policies are achieved by 2018. The long-term schedule will be updated by December 1st of each year, in conjunction with the annual update to the DCPS Five-Year Capital Facilities Plan and the City's Capital Improvements Element.
- (d) The City's strategy in coordination with DCPS for correcting existing deficiencies and addressing future needs includes the following:
  - a. implementation of a financially feasible Five-Year Capital Facilities Plan to ensure level of service standards are achieved and maintained;
  - b. implementation of interim level of service standards within designated concurrency service areas with identified backlogged facilities in conjunction with a long-term (10-year) schedule of improvements to correct deficiencies and improve level of service standards to the district-wide standards;
  - c. identification of adequate sites for funded and planned schools; and
  - d. the expansion of revenues for school construction.

#### H.1.3.9

The City hereby adopts by reference as part of this Element the 2008-2009 Five Year District Facilities Work Program, and the Long-Range Capital Improvements Plan as the 10-year long-term schedule of improvements program as adopted by the Duval County School District, which sets forth a financially feasible public school capital facilities program that demonstrates the adopted level-of-service standards will be achieved and maintained by the end of the 5-year and the 10-year planning periods.

**Commented [LL182]:** Update LOS standards based on the most current information available. Reference updated DCPS updating planning documents:

2019-20 Five Year Capital Plan  
<https://dcps.duvalschools.org/cms/lib/FL01903657/Centricity/Domain/4415/Board%20Approved%20Final%20-%202019-20%20Five%20Year%20Capital%20Plan%2009-09-2019.pdf>

Master Facilities Plan (2020)  
<https://www.ourduvalschools.org/see-the-plans>

**Commented [LL183]:** Update to reflect Duval County's Public School 2019-20 Five Year Capital Plan and the Master Facilities Plan (2020):

<https://dcps.duvalschools.org/cms/lib/FL01903657/Centricity/Domain/4415/Board%20Approved%20Final%20-%202019-20%20Five%20Year%20Capital%20Plan%2009-09-2019.pdf>

<https://www.ourduvalschools.org/see-the-plans>

**H.1.3.10** By December of each year, the City, shall adopt the updated DCPS Five Year District Facilities Work Program and the Long-Range Capital Improvements Plan as the 10-year long-term schedule of improvements program to the extent that it relates to school capacity to ensure maintenance of a financially feasible capital improvements program and to ensure level of service standards will continue to be achieved and maintained pursuant to Policy H.1.3.9 of this Element.

**Commented [LL184]:** Now called the 5 Year Capital Plan

**Commented [LL185]:** Now called the Master Facilities Plan (check on the planning horizon for this plan)

**H.1.3.11** If there is a consensus to amend the LOS, it shall be accomplished by the execution of an amendment to this Interlocal Agreement by all Cities and DCPS and the adoption of amendments to each local government's Comprehensive Plan, following an advisory review by the ILA Team and the Joint Planning Committee. The amended LOS shall not be effective until all plan amendments are effective and the amended Interlocal Agreement is fully executed. No level of service shall be amended without showing that the LOS is financially feasible.

**H.1.3.12** In addition to the LOS for school concurrency established by the Duval County School Board, the following Level of Service standards are adopted as the basis for the City's issuance of development permits.

**H.1.3.13** The City shall not issue a development permit unless provision to maintain or exceed the above standards for Park, Recreation and Open Space Levels of Service is met or committed as set forth in following Policy H.1.3.8.

**H.1.3.14** If determined to be appropriate by the City, a development permit may be issued subject to the condition that, at the time of issuance of a Certificate of Occupancy or its functional equivalent, the acreage for the necessary park, recreation, or open space facilities are dedicated or acquired by the local government, or funds in the amount of the Developer's fair share are committed in accordance with the following and:

- (a) The park, recreation, or open space facilities are in place at the time of a Certificate of Occupancy or its functional equivalent as provided in the adopted local government 5-year Schedule of Capital Improvements; or
- (b) At the time the development permit is issued, the necessary park, recreation, or open space facilities are mandated through a binding executed agreement which requires the necessary facilities to be in place at the time of the issuance of a Certificate of Occupancy or its functional equivalent; or
- (c) At the time the development permit is issued, the necessary park, recreation or open space facilities are guaranteed in an enforceable development agreement, pursuant to

Section 163.3220, F.S., or an agreement or development permit issued pursuant to Chapter 380, F.S., to be in place or under actual construction at the time of the issuance of a Certificate of Occupancy or its functional equivalent. [Section 163.3180(2)(b), F.S.]

**Commented [LL186]:** Check these state Statute reference to see if they are still correct

**Table H-1  
Level of Service Standards for Sanitary Sewer**

<b><u>TYPE OF SERVICE</u></b>	<b><u>LEVEL OF SERVICE</u></b>
Sanitary Sewer Facilities Residential	Average Sewage Generation Rate 100 gallons per capita per day
Commercial	Minimum service shall be consistent with table 1 for system design estimated sewage flows in Chapter 64E-6 F.A.C.

**H.1.3.15** At the time of issuance of a development permit, there shall be in place an enforceable development agreement that ensures, prior to the issuance of a Certificate of Occupancy or its functional equivalent, the necessary facilities and services for sanitary sewer will be available.

**Table H-2  
Level of Service Standards for Solid Waste and Potable Water**

<b><u>TYPE OF SERVICE</u></b>	<b><u>LEVEL OF SERVICE</u></b>
Solid Waste Facilities	Average Solid Waste Generation Rate; 7.1 pounds per capita per day
Potable Water Facilities Residential	Average Water Consumption Rate 100 gallons per capita per day.
Commercial	Minimum service shall be consistent with Chapter, 64E-6 F.A.C.



- H.1.3.16** At the time of issuance of a development permit, there shall be in place an enforceable development agreement that ensures, prior to issuance of a Certificate of Occupancy or its functional equivalent, the necessary facilities and services for solid waste and potable water will be available.

**Table H-3**  
**Level of Service Standards for Drainage**

**Surface Water Quality:** Applicable local and State regulations shall pertain to maintaining water quality, natural hydroperiods and flows. Ambient water quality standards will be met in the planning and development activities. Minimum criteria for surface water quality shall meet the standards of F.A.C. 62-302 and the St. Johns River Water Management District Environmental Resource Permitting (ERP) rules.

**Wetland Stormwater Discharge:** Permits for Wetland stormwater discharge shall meet F.A.C., St. Johns River Water Management District Environmental Resource Permitting (ERP) rules, and/or US Army Corps of Engineers.

**Stormwater Discharge Facilities:** Permits for construction of new stormwater discharge facilities shall meet St. Johns River Water Management District Environmental Resource Permitting (ERP) rules.

**Minor Conveyances:** 5-year frequency, 24-hour duration storm.

**Major Outfalls and Conveyances:** 10-year frequency, 24 hour duration; LOS goal for existing or historical and, IDF curve Zone 5, and 25-year frequency 24 hour storm duration for new development.

**Level of Service:** Shall at a minimum meet the St. Johns River Water Management District Environmental Resource Permitting (ERP) rules and all new development and significant redevelopment, excluding residential lots less than 0.25 acres, shall provide treatment and attenuation for both flow and volume.

Commented [LL187]: Delete "t"

- H.1.3.17** At the time of issuance of a development permit, there shall be in place an enforceable development agreement that ensures, prior to issuance of a Certificate of Occupancy or its functional equivalent, that the necessary facilities and services for drainage and stormwater treatment, the protection of natural hydrologic functions, particularly tidal marsh systems, will be in place.

**Table H-4  
Level of Service Standards for Transportation**

Facility/Service Area Traffic	Level of Service Standard	
	Freeways	Level of Service D
<b>Constrained Facilities (if applicable)</b>	Principal Arterials	Level of Service D
	Minor Arterials	Level of Service D
	Collector Streets	Level of Service D
	Local Streets	Level of Service D
	Freeways	Maintain existing LOS and travel speed
	Principal Arterials	Maintain existing LOS and travel speed
	Minor Arterials	Maintain existing LOS and travel speed
	Collector Streets	Maintain existing LOS and travel speed
	Local Streets	Maintain existing LOS and travel speed
	<b>Backlogged Facilities (if applicable)</b>	
	Freeways	Maintain & improve existing LOS and travel speed
	Principal Arterials	Maintain & improve existing LOS and travel speed
	Minor Arterials	Maintain & improve existing LOS and travel speed
	Collector Streets	Maintain & improve existing LOS and travel speed
	Local Streets	Maintain & improve existing LOS and travel speed

**Commented [LL188]:** Table H-4 should be a repeat of Table B-2 in the Transportation element; all changes there should be mirrored here (and vice versa).

Oddly, Table H-4 has two more sections than Table B-2: one for "Constrained Facilities" and one for "Backlogged Facilities." Those terms certainly should be defined somewhere in the comp plan, but I haven't run across them yet.

**Commented [LL189R188]:** A Glossary of Terms/Definitions should be added as an appendix to the Comp Plan.

**H.1.3.18** A development permit may be issued if determined to be appropriate by the City, subject to the condition that the necessary transportation facilities are scheduled to be in place or under actual construction not more than three (3) years after issuance of a Certificate of Occupancy or its functional equivalent as provided in the adopted local government five year Schedule of Capital Improvements. The Schedule of Capital Improvements may recognize and include transportation projects included in the first three years of the applicable, adopted Florida Department of Transportation five-year work program.

**H.1.3.19** An estimated date of commencement of actual construction and the estimated date of project completion for transportation improvements necessary to satisfy concurrency shall be included in the Capital Improvements Program for the City.

**H.1.3.20**

A Comprehensive Plan amendment is required to eliminate, defer, or delay construction of transportation improvements which are needed to maintain the adopted Transportation Level of Service standard, and which are listed in the five (5) year Schedule of Capital Improvements [Section 163.3177.3.(b)1, F.S.] , unless:

**Commented [LL190]:** Revise to "Section 163.3177.3.(a).5"

(a) At the time a development permit is issued, the necessary transportation facilities are contained within a binding executed agreement that mandates the necessary transportation facilities will be in place or under actual construction within three (3) years after the issuance of a Certificate of Occupancy or its functional equivalent; or

(b) At the time a development permit is issued, the necessary transportation facilities are guaranteed in an enforceable development agreement, pursuant to Section 163.3220, F.S., or an agreement or development permit issued pursuant to Chapter 380, F.S., to be in place or under actual construction within three (3) years after issuance of a certificate of occupancy or its functional equivalent. [Section 163.3180(2)(c), F.S.]

**Commented [LL191]:** This section no longer mentions enforceable development permits subject to guaranteed transportation facilities

**Commented [LL192]:** This section no longer exists.

**Commented [LL193]:** This section of the Florida Statutes has changed. Review and update accordingly.

**H.1.3.21**

The City shall incorporate into its Land Development Regulations a Proportionate Fair-Share Program for transportation concurrency.

**H.1.3.22**

The City shall maintain records on *de minimis* impacts for transportation concurrency to ensure that traffic volume remains under the 110% criteria pursuant to requirements of the Department of Community Affairs, and this documentation shall be provided to DCA annually.

**H.1.3.23**

The City shall establish and implement a process for assessing, receiving, and applying a fair-share of the cost of providing transportation facilities necessary to serve a proposed new development. Transportation facilities or improvements necessary to maintain adopted LOS standards shall be included in a financially feasible five (5) year Schedule of Capital Improvements that shall be adopted pursuant to Rule 9J-5.016, F.A.C. Any fair-share assessment shall have a reasonable relationship to the transportation impact that is projected to be generated by the proposed new development.

**Commented [LL194]:** This Rule was repealed in 2011

#### **Objective H.1.4**

##### **Funding for Capital Improvements**

The City shall manage its fiscal resources and establish through revisions to its Land Development Regulations, as required by section 163.3202, F.S. equitable facility cost allocation and concurrency requirements in a manner that ensures the City's capability to meet future capital improvement needs which are associated with continued development and redevelopment of the City.

##### **Policies**

- H.1.4.1** The City's annual adopted budget, which identifies General Fund and other revenue sources and all fund expenditures, and all governmental debt obligations, (as set forth within the Debt Service Fund) is hereby identified as supporting data and analysis for this Capital Improvements Element. The annual budget shall continue to contain a Capital Improvement Program with a Schedule of Capital Improvements, adequate to, at a minimum, maintain the adopted Levels of Service as set forth within this Plan element.
- H.1.4.2** The City's annual budgeting process shall reflect immediate as well as long-term implications of capital project expenditures in terms of trends and projections in the City's fiscal condition, expressed public attitudes, Comprehensive Plan provisions, and consistency with the plans of regional service agencies, the St. Johns River Water Management District, and other entities with whom coordination of facility planning is appropriate. Criteria for evaluating capital project expenditures shall include:
- (a)** the urgency of need based upon health, safety, and welfare considerations of the general public;
  - (b)** the orderly scheduling to maximize funding availability; and
  - (c)** opportunities for coordinating expenditures so as to improve efficiency and effectiveness of public services.
- H.1.4.3** The annual budget process shall include a review of two years of actual history, an estimate for the current year and the proposed year, and, then the final approved budget for the following fiscal year. The adopted capital expenditures budget shall be segregated both by program area and by revenue fund type and shall identify existing and projected revenue sources and funding mechanisms.
- H.1.4.4** The annual adopted budget shall continue to include a yearly Schedule of Capital Outlay and also a Long-Term Financial Plan, which shall be evaluated, reviewed and adjusted during the

budgeting process, as may be necessary, to correct existing deficiencies, or to address emergency needs.

## **I. Public Schools Facilities Element**

All public schools coordination within the City of Neptune Beach shall be in accordance with the following Goals, Objectives, and Policies.

### **Goal I.1**

#### **COORDINATE AND MAINTAIN HIGH QUALITY EDUCATION**

The City shall collaborate and coordinate with the Duval County Public Schools (DCPS), the City of Jacksonville and the other Duval County municipalities to ensure that the public school system offers a high quality educational environment, provides accessibility for all its students, and ensures adequate school capacity to accommodate existing and future population.

### **Objective I.1.1**

#### **Coordination and Consistency**

The City shall establish coordination review procedures to ensure consistency of its Comprehensive Plan with the plans of the DCPS, the City of Jacksonville and the other municipalities.

#### **Policies**

- I.1.1.1** It is the intent of this element that the policies included herein shall be applied to the City, unless specifically noted or where clearly not applicable to the City of Neptune Beach.
- I.1.1.2** Staff shall meet in joint workshop sessions with staff from DCPS, the City of Jacksonville and the other municipalities on an as needed basis, but at a minimum of twice per year, to provide opportunities to discuss issues of mutual concern.
- I.1.1.3** Jacksonville and the other municipalities on an annual basis in a joint workshop or meeting session to discuss issues regarding coordination of land use and school facilities planning, including population and student growth, development trends, school sitings, school needs, school concurrency, co-location and joint use opportunities, and ancillary infrastructure improvements needed to support and ensure safe student access
- I.1.1.4** The City shall coordinate and base its plans upon consistent projections of the amount, type, and distribution of population growth and student enrollment which are consistent with those of the DCPS, the City of Jacksonville and the other municipalities. The Interlocal Agreement shall

**Commented [LL195]:** Two Options:

1. Eliminate this element, as it's no longer required per F.S. The Intergovernmental Coordination Element is, however, required to address coordination with Public Schools. Move these goals, objectives, and policies into that element unless otherwise specified throughout this chapter.

2. Leaving this element as is and adding a policy in the Intergovernmental Coordination Element that references it (e.g. 'Additional detail on the coordination of design, construction, and maintenance of public school can be found in a separate Comprehensive Plan Element.'

This is one of the longest and most comprehensive elements. Updating all of these policies to ensure the match up with more recent DCPS plans will be time-consuming for staff. We should schedule a meeting with DCPS to see if they can guide us on the most important or substantive changes to their plans and procedures since 2012. If there haven't been any substantive changes we recommend just moving these policies as is into the appropriate sections as indicated in the comments below.

The Statutory Requirement for Public Schools in the Intergovernmental Coordination Element is included here for reference:

Chapter 163.3177, Section (6)(h)

2. The intergovernmental coordination element shall also state principles and guidelines to be used in coordinating the adopted comprehensive plan with the plans of school boards and other units of local government providing facilities and services but not having regulatory authority over the use of land. In addition, the intergovernmental coordination element must describe joint processes for collaborative planning and decision making on population projections and public school siting, the location and extension of public facilities subject to concurrency, and siting facilities with countywide significance, including locally unwanted land uses whose nature and identity are established in an agreement.

3. Within 1 year after adopting their intergovernmental coordination elements, each county, all the municipalities within that county, the district school board, and any unit of local

**Commented [LL196]:** Delete this goal altogether in the Comp Plan.

**Commented [LL197]:** Rename this 'Coordination Review Procedure for Public Schools'

**Commented [LL198]:** Delete this policy altogether from the Comp Plan

**Commented [LL199]:** Add "shall meet on an annual..."

establish the methodology to be used to determine school enrollment projections to be used in preparing the DCPS Five-Year Capital Plan, and the methodology to be used to determine school enrollment and capacity to be used in concurrency testing. At a minimum, the methodology shall include consideration of both students anticipated from projected new housing stock and enrollment projected to occur from existing housing stock, and that each of these components of projected student enrollment be set out for each Concurrency Service Area by type of school, or a functional equivalent. To ensure that the City's Capital Improvement Plan and the Concurrency Management System are financially feasible, the City of Jacksonville shall confirm that the student enrollment projections from new housing stock in each Concurrency Service Area are consistent with the population projections for that Concurrency Service Area. The City will annually revise its Five-year population projections and update information and provide those revised projections and information to the DCPS, the City of Jacksonville and the other municipalities in order that DCPS annually update its school enrollment projections.

- 1.1.1.5 At the time of adoption of the Public School Facilities Element (PSFE), the City shall coordinate and share data with DCPS including an inventory of reserved capacity that existed prior to the effective date of the City's School Concurrency Ordinance, approval and a projection of the number of these residential units that are anticipated to receive certification of occupancy approval in the next five years, and the identification of any development orders issued which contained a requirement for the provision of a school site as a condition of the development approval.
- 1.1.1.6 On an ongoing basis, the City will provide the DCPS with data, including information regarding the type, number, and location of residential units which have received zoning approval, site plan approval, a building permit, or a Certificate of Occupancy and a draft Capital Improvements Plan (GIP) with the final version of the GIP to be submitted by the City to the DCPS after official adoption. Information regarding the conversion or redevelopment of housing or other structures into residential units that are likely to generate new students shall be provided.
- 1.1.1.7 By December of each year, the City shall consider for adoption the DCPS Five- Year Capital Facilities Plan to the extent that it relates to school capacity to ensure maintenance of a financially feasible capital improvements program and to ensure level of service standards will be



achieved and maintained by the end of the 5-year planning period. If the City determines that the DCPS Five Year Capital Facilities Plan is not financially feasible, then the City shall notify the DCPS that the Five Year Capital Facilities Plan is not financially feasible, and request that DCPS modify the Five Year Capital Facilities Plan to make it financially feasible.

**Commented [LL200]:** Move this objective and all of its policies (unless otherwise noted below) to right after Objective G.1.4 in the Intergovernmental Coordination Element.

## **Goal I.2**

### **PUBLIC SCHOOL FACILITY SITING AND DEVELOPMENT COORDINATION**

It is the goal of the City to maintain and enhance joint planning processes and procedures for coordination with the DCPS, the City of Jacksonville and the other municipalities of public education facilities for planning and decision-making regarding population projections, public school siting, and the development of public education facilities concurrent with the residential development and other services.

#### **Objective I.2.1**

##### **Public School Facility and Availability**

The City shall coordinate with DCPS, the City of Jacksonville and the other municipalities to establish a process of coordination and collaboration between the Cities and the DCPS in the planning, siting and construction of educational facilities, so that timing is proper and the site location is compatible with the surrounding area, concurrent with necessary service and infrastructure, and consistent with the City's Comprehensive Plan.

**Commented [LL201]:** Delete this phrase; "The City shall coordinate with DCPS, the City of Jacksonville, and the other municipalities in the planning..."

#### **Policies**

**I.2.1.1** The City will coordinate with the DCPS to assure that proposed public school facility sites are consistent with the applicable land use categories and policies of the applicable Comprehensive Plan. Pursuant to Florida Statutes, each City will consider each site, within its boundaries, as it relates to environmental, health, safety, and welfare concerns, as well as the effects on adjacent property.

**I.2.1.2** The City will coordinate with the DCPS for the selection of future school sites as to aspects related to:

- (a) Acquisition of school sites which (i) allow for future expansions to accommodate future enrollment, in accordance with the adopted level of service (LOS) standards and other facility needs; (ii) coordinate with the City's development and redevelopment objectives; and (iii) are deemed beneficial for joint uses, as

- identified by the DCPS and the City, to the extent feasible; and
- (b) Coordination of the location, phasing, and development of future school sites to ensure that site development occurs in conjunction with the provision of required infrastructure to serve the school facility.

- 1.2.1.3 The City shall coordinate with the DCPS in the school site selection process to encourage the location of new schools within areas designated for development on the Future Land Use Map.
- 1.2.1.4 At the request of the DCPS, the City will assist the DCPS and the JPC in reviewing and recommending potential sites for new schools, proposed school closures, and significant school expansion projects, and making recommendations to the Superintendent.
- 1.2.1.5 The City shall coordinate with the DCPS to establish a procedure for timely review of development for new public school facilities.
- 1.2.1.6 Public schools shall be located so as to provide direct access to collector or arterial roadway system, where feasible.
- 1.2.1.7 The City shall coordinate with the DCPS to evaluate and seek to locate potential sites where the co-location of public facilities, such as parks, libraries, and community centers, with schools can be accomplished.
- 1.2.1.8 Schools are an allowable land use in all future land use categories, except for conservation, subject to the following criteria:
  - (a) In the planning, land acquisition, and development, new school sites, or significant renovations, expansions and potential closures of existing schools, the City will evaluate the following factors:
    - 1) Whether the area contains or will contain a student population density sufficient to support the school;
    - 2) Whether a school in that location would be consistent with sound facility planning, including consideration of overall costs and design;
    - 3) Whether the school site is of sufficient size to accommodate the required parking and circulation of vehicles;

4) Whether anticipated unacceptable impacts to the environment and significant environmental constraints would preclude a school on the site;

5) Whether development of the school would result in unacceptable impacts on archeological or historic sites listed in the National Register of Historic Places or designated by the City as locally significant;

6) Whether the location of site is located within the area of velocity flood zone or floodway, as delineated on pertinent maps identified or referenced in the City's Comprehensive Plan or Land Development Regulations;

7) Whether or not the proposed location lies within an area regulated by Section 333.03(3), F.S., regarding the construction of public facilities in the vicinity of an airport;

**Commented [LL202]:** Check in the Florida Statute reference is still accurate and relevant. Revise accordingly.

8) As to elementary school sites, whether the site is proximate to and within walking distance of the residential neighborhoods it is intended to serve, thereby encouraging the use of elementary schools as focal points for neighborhoods.

9) As to middle and high school sites, whether the site is conveniently located to the residential neighborhoods it is intended to serve, and has access to major roads;

10) Whether the new schools site, significant renovation, expansion or potential closure will support community redevelopment and revitalization;

11) Whether the new school site, significant renovation, expansion or potential closure will increase or diminish the current and projected level of service within the concurrency service area, and contiguous concurrency service areas.

(b) The facility shall be of a design, intensity, and scale to serve the surrounding neighborhood and be compatible with the surrounding land uses and zoning.

**1.2.1.9** The City shall protect schools from the intrusion of incompatible land uses as determined by the City's Land Development Regulations, by providing

the DCPS the opportunity to participate in the review process for all proposed developments adjacent to schools.

1.2.1.10 The City shall coordinate with the DCPS to ensure that the future school facilities are located outside areas susceptible to hurricane and/or storm damage, and/or areas prone to flooding, or as consistent with Chapter 1013 F.S. regarding flood plain and school building requirements.

1.2.1.11 The emergency management officials of the City shall coordinate with the DCPS facilities staff to identify schools, both existing and proposed, which can serve as emergency shelter sites, as well as identify and make available to the DCPS any grants or other monies for use in preparing a structure as an emergency shelter site.

1.2.1.12 The DCPS and the Cities will jointly determine the need, responsibility for providing, and timing of any on or off-site infrastructure improvements necessary to support a new school located in the City. To the extent that the proposed renovation or expansion of an existing school located in the City effects on or offsite infrastructure improvements, the same determination shall be made for the proposed renovation or expansion.

### Objective 1.2.2

#### Enhance Community/School Design

The City shall coordinate with DCPS to enhance community and neighborhood design through establishing effective school facility design and siting standards thereby *encouraging the siting of school facilities to serve as community focal points and to be compatible with surrounding land uses.*

#### Policies

1.2.2.1 The City shall coordinate with the DCPS in order to provide consistency with the City's Comprehensive Plan and public school facilities program, and to provide for the following desirable outcomes:

(a) Greater efficiency by the placement of schools to take advantage of the existing and planned roads, water, sewer, parks, and drainage systems;

(b) Improved student access and safety by coordinating the construction of new and expanded schools with roads and sidewalk construction programs;

**Commented [LL203]:** Check in the Florida Statute reference is still accurate and relevant. Revise accordingly.

**Commented [LL204]:** Consider including a similar/related policy in the FLU Element.

(c) The location and design of schools with parks, ball fields, libraries, and other community facilities to take advantage of shared use opportunities; and

(d) The expansion and rehabilitation of existing schools to support neighborhoods and redevelopment.

(e) The City shall coordinate any updates to its future land use map with the DCPS and the DCPS shall coordinate any updates to the long range public school facilities map with the City.

**1.2.2.2** The City shall coordinate with DCPS to seek to provide for the shared-use and co-location of school sites and local government facilities with similar facility needs, such as libraries, parks, and recreation facilities, and health care facilities. The City will look for opportunities to co-locate and share local government facilities when preparing updates to the Comprehensive Plan's schedule of capital improvements and when planning and designing new or renovating existing, community facilities.

**1.2.2.3** Where continued use of an existing school which is considered a locally significant building is not feasible, the City shall seek to coordinate with DCPS to provide for the adaptive reuse of that locally significant building.

**1.2.2.4** New residential developments adjacent to schools which do not prohibit school aged residents shall be required to provide a direct access that is safe for pedestrian travel to existing and planned school sites, and shall connect to the neighborhood's existing pedestrian network.

**1.2.2.5** The City shall coordinate with the DCPS to find opportunities to collaborate on public transit and public school bus routes to better serve citizens and students.

**1.2.2.6** Public schools shall be located so as to provide direct access to collector or arterial roadway system, where feasible.

**1.2.2.7** The City shall encourage the DCPS to use sustainable design and performance standards, such as using energy efficient and recycled materials, to reduce lifetime costs, where feasible.

### **Objective 1.2.3**

### **Coordinate Land Use with School Capacity**

The City will coordinate proposed changes to future land use, rezoning, and developments of regional impact for residential development with adequate school capacity. This objective will be accomplished recognizing the DCPS statutory and constitutional responsibility to provide a uniform system of free and adequate schools.

#### **Policies**

- 1.2.3.1** The City will provide a copy, or otherwise make available electronically, to the DCPS, copies of all land use applications and development and redevelopment proposals pending before them that may affect student enrollment, enrollment projections, or school facilities, as provided in the amended Inter local Agreement.
- 1.2.3.2** The City will coordinate with DCPS to establish plan review procedures to manage the timing of Future Land Use Map amendments and other land use decisions so that these decisions coordinate with adequate school capacity.
- 1.2.3.3** City will take into consideration the DCPS comments and findings on the availability of adequate school capacity in the evaluation of comprehensive plan amendments, and other land use decisions as provided in Section 163.3177(6)(a), F.S. and development of regional impacts as provided in 1380.06, F.S.

**Commented [LL205]:** Check in the Florida Statute reference is still accurate and relevant. Revise accordingly.

### **GOAL 1.3**

#### **IMPLEMENT PUBLIC SCHOOL CONCURRENCY**

The City shall ensure the future availability of public school facilities to serve development consistent with the adopted level of service standards. This goal will be accomplished recognizing the DCPS statutory and constitutional responsibility to provide uniform system of free and adequate public schools, and the Cities' authority for land use control and management, and their joint responsibility to maintain the adopted level of service standards.

#### **Objective 1.3.1**

##### **Adopted Level of Service (LOS) Standards**

Through the implementation of its concurrency management systems and in coordination with the DCPS, the City shall ensure that the capacity of schools is sufficient to support new residential developments at the adopted level of service (LOS) standards within the period covered in the five-year schedule of capital improvements

**Commented [LL206]:** Rename to 'Adopted Level of Service (LOS) Standards for Public Schools'

and the long range planning period. These standards shall be consistent with the Interlocal Agreement agreed upon by the DCPS, the City of Jacksonville and the other municipalities. Minor deviations to the LOS standards may occur, so long as they are limited, temporary and with scheduled capacity improvements, school capacity is maximized to the greatest extent feasible.

## **Policies**

**1.3.1.1** The LOS standards set forth herein shall be applied consistently for the purpose of implementing school concurrency, including determining whether sufficient school capacity exists to accommodate a particular development application, and determining the financial feasibility of DCPS Five-Year Capital Facilities Plan and the City's Capital Improvement Plan.

**1.3.1.2** The uniform LOS standards for all public schools including magnets and instructional facility types, shall be 105% of the permanent Florida Inventory of School House (FISH) capacity, plus portables, based on the utilization rate as established by the State Requirements for Educational Facilities (SREF).

- (a) The designated middle schools in CSA 5 shall be identified as backlogged facilities and an interim level of standard within CSA 5 shall be 115% until January 1, 2018, after which the uniform LOS standard shall apply.
- (b) The implementation of long term concurrency management shall be monitored to evaluate the effectiveness of the implemented improvements and strategies toward improving the level of service standards for middle schools in CSA 5 over the 10-year period.
- (c) The City shall adopt DCPS Long Range Capital Improvements Plan as the 10-year long-term schedule of improvements for the purpose of correcting existing deficiencies and setting priorities for addressing backlogged facilities within CSA 5. The long-term schedule includes capital improvements and revenues sufficient to meet the anticipated demands for back logged facilities within the 10-year period. The long-term schedule improves interim level of service standards for backlogged facilities and ensures uniform LOS, as established in policy above, is achieved by 2018. The long-term schedule will be updated by December 1st of each year, in conjunction with the annual update to the DCPS Five- Year Capital Facilities Plan and the Cities' Capital Improvements Elements.



(d) The City's strategy, in coordination with DCPS, for correcting existing deficiencies and addressing future needs includes:

1. Implementation of a financially feasible Five Year Capital Facilities Plan to ensure level of service standards are achieved and maintained;
2. Implementation of interim level of service standards within designated concurrency service areas with identified backlogged facilities in conjunction with a long-term (10-year) schedule of improvements to correct deficiencies and improve level of service standards to the district- wide standards;
3. Identification of adequate sites for funded and planned schools; and
4. The expansion of revenues for school construction.

**1.3.1.3** The uniform LOS standards may only be amended by agreement of the City of Jacksonville, the DCPS and all other municipalities. Such agreement must be reflected in amendment of the Interlocal Agreement relating to schools. The revised LOS standard shall not become final until the Interlocal Agreement has been amended. No level of service shall be amended without a showing that the proposed LOS is financially feasible. The LOS will be achieved and maintained by the end of the five-year planning period.

### **Objective 1.3.2**

#### **School Concurrency Service Areas (CSAs)**

The City' shall coordinate with DCPS to establish Concurrency Service Areas (CSAs), as the areas within which an evaluation is made of whether adequate school capacity is available based on the adopted level of service standards.

#### **Policies**

**1.3.2.1** The City shall enter into an Interlocal Agreement with the DCPS, the City of Jacksonville and other municipalities in Duval County to establish CSAs to be used as the basis of school concurrency determinations. The CSAs shall be delineated so as to maximize available school capacity and make efficient use of new and existing public school facilities in accordance with the adopted LOS standards, taking into consideration the following criteria:

- (a) Maximization of school facilities
- (b) Minimize transportation costs
- (c) Limiting student travel time
- (d) Requirements of court-approved desegregation plans
- (e) Achieving socioeconomic, racial, and cultural diversity objectives
- (f) Recognizing capacity commitments resulting from local governments' development approvals for the CSA and contiguous CSAs.

**1.3.2.2** The CSA designations may only be amended by agreement of the City of Jacksonville, the DCPS and all other municipalities, after receiving comments from the Joint Planning Committee and the ILA Team. Such agreement must be reflected in an amendment to the Interlocal Agreement relating to schools. The revised CSA designations shall not become final until the Interlocal Agreement has been amended.

**1.3.2.3** There shall be Concurrency Service Areas established for Duval County for elementary and high schools, and Concurrency Service Areas for middle schools as depicted on the CSA maps attached to the adopted Interlocal Agreement.

### **Objective 1.3.3**

#### **Process for School Concurrency Implementation**

In coordination with the DCPS, the City will establish a process for implementation of school concurrency which includes applicability and capacity determination and availability standards, and school capacity methods. The City shall manage the timing of new residential development approvals to ensure adequate school capacity is available consistent with adopted level of service standards for public school concurrency.

Except as provided in policies below, school concurrency applies only to residential uses that generate demands for public school facilities and are proposed or established after the effective date of the School Concurrency Ordinances.

#### **Policies**

- 1.3.3.1 The City of Neptune Beach in consultation with DCPS and the other municipalities shall establish a uniform methodology for determining capacity. Capacity will be defined as: a) the number of student stations as established in the permanent FISH, plus portables; and b) Proposed changes to permanent FISH capacity as a result of construction, rehabilitation, or other changes in school capacity which will commence in the first three (3) years of the Five-Year Capital Facilities Plan.
- 1.3.3.2 The DCPS will be responsible for "concurrency testing" of any new residential development projects. This process will involve applying the adopted student generation rate to the development project to determine the number of students in each school type and then evaluating whether or not the schools in the appropriate Concurrency Service Area (CSA) or the adjacent concurrency areas have sufficient excess capacity to absorb the new students.
- 1.3.3.3 The following residential uses shall be considered exempt from the requirements of school concurrency due to the lack of impact on the school facilities or the accommodations made for schools.
- (a) Age restricted communities.
  - (b) Any development with a *de minimus* impact as defined as any residential development of 20 units or less, subject to land development regulation aggregation criteria.
- 1.3.3.4 In evaluating a proposed residential development for concurrency, any relevant improvements which are committed or planned in the Five-Year Capital Facilities Plan and the Capital Improvement Plan, shall be considered available capacity <sup>q</sup> for the project and factored into the level of service analysis. Any relevant improvements which will commence construction after the 3rd year of the Five- Year Capital Facilities Plan shall not be considered available capacity for the project unless either: (i) funding and a schedule to accelerate the improvement into the first three years is assured through DCPS; (ii) funding for the improvements which are scheduled to commence in years four or five is provided through proportionate share mitigation; (iii) the developer and the DCPS agrees to accelerate the construction and funding of the facility to be moved into first three years; or (iv) some other means. Also, any projected reduction in the number of students enrolled in the CSA or adjacent CSA will be

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considered as additional available capacity. The City shall not deny an application for site plan, final subdivision approval, or the functional equivalent for a development or phase of a development authorizing residential development for exceeding the adopted level of service, where adequate school facilities will be in place or under construction within three years after the issuance of final subdivision or site plan approval, or the functional equivalent. If the adopted LOS standard cannot be met in the particular CSA as applied to an application for a development permit, and if the needed capacity for the particular service area is available in one or more contiguous CSAs, as adopted by the City, then the City may not deny an application for site plan or final subdivision approval, or the functional equivalent for a development or phase of a development on the basis of school concurrency, and, if issued, development impacts shall be shifted to contiguous CSAs with schools having available capacity.

**1.3.3.5** The City will approve final development orders for residential projects, only after the applicant has complied with the terms of the School Concurrency Ordinance.

**1.3.3.6** In any instance where the DCPS, in consultation with the City, has determined that a proposed development will cause level of service standards for schools to be exceeded within the testing period in both the affected School Concurrency Service Area and the adjacent School Concurrency Service areas, then the City shall coordinate with the applicant for the proposed development and the DCPS to determine whether improvements will be in place or under actual construction within three years after issuance of final subdivision or site plan approval, or the functional equivalent, sufficient to provide adequate capacity to meet the adopted level of service. If adequate capacity does not exist, then the City will coordinate with the applicant for the development and the DCPS to determine whether improvements are planned in the Capital Improvement Plan with adequate capacity after the 3rd year of the Capital Facilities Plan. The City will also request that the DCPS determine whether it has the capacity to further maximize school usage in the system to accommodate the anticipated impact without requiring the construction of new school facilities.

After all alternatives to providing sufficient capacity to provide for the adopted level of service are considered and determined not to be feasible, the City, the applicant and the DCPS may: (i) enter into a mitigation

agreement whereby the applicant will pay for his proportionate share of the impacts; or (ii) some other form of acceptable mitigation will be provided, and upon payment of the proportionate share mitigation, the developer will be allowed to proceed with development. If no mitigation agreement can be reached that is acceptable to all parties, and proportionate share mitigation is not feasible, then the school capacity deficiency shall be a basis for denial of the application.

- 1.3.3.7** The City will issue a School Concurrency Determination only upon:
- (c) Determination that adequate school capacity to serve the development (or anticipated phase of the development which will be constructed in the first three years) will be in place or under actual construction within 3 years after the issuance of the final subdivision or site plan approval, or the functional equivalent; or
  - (d) The execution of a legally binding mitigation agreement between the applicant, the DCPS and the City.
- 1.3.3.8** Where a proportionate share agreement is required, capacity shall be reserved as specifically defined by an approved mitigation agreement between DCPS, the developer and the City that includes a performance schedule and phased payments.
- 1.3.3.9** The school concurrency system shall provide that concurrency application may be applied for and a concurrency determination made at any time prior to the issuance of a development order.

#### **Objective 1.3.4**

##### **Proportionate Share Mitigation**

The City shall establish a procedure for coordinating with the DCPS and applicants to provide for proportionate share mitigation in appropriate circumstances.

##### **Policies**

- 1.3.4.1** The City shall establish standards, procedures, and methodologies for the application of proportionate share mitigation.
- 1.3.4.2** The City shall establish a procedure and methodology to assure that in the event that there is not sufficient capacity in the affected or adjacent CSA to address the impacts of a proposed residential development and

acceptable mitigation is agreed to, the mitigation found acceptable shall be incorporated into the final development order.

**1.3.4.3** The City and DCPS shall develop a procedure and methodology to determine the proportionate share within the CSAs.

**1.3.4.4** Mitigation shall be allowed where feasible, for those developments that cannot meet the adopted level of service standards set forth in Policy 3.1.2. The applicant shall initiate in writing a mitigation negotiation period with the DCPS in order to establish an acceptable form of mitigation, pursuant to Section 163.3180(13)(e), F.S., the Cities' School Concurrency Ordinances, and this agreement. Mitigation shall be negotiated and agreed to by the DCPS and shall be sufficient to offset the demand for public school facilities projected to be required by the development. Acceptable forms of mitigation shall include but not be limited to:

(a) The donation, construction, or funding of school facilities sufficient to offset the demand for public schools created by the proposed development such as: a developer signs a development agreement and builds a new or improves an existing school or schools to specifications and under a business arrangement satisfactory to the DCPS and the city. Improvements to existing schools will only be acceptable if they add permanent student station and associated core space capacity, if needed.

(b) Land acquisition or contribution such as: a developer signs a development agreement or is subject to a conditional zoning requiring donation of land satisfactory to the DCPS and the city. Land must be demonstrated to contain the minimum number of buildable acres determined by the DCPS and the city as required for a particular school type, as Evidenced by a report by a licensed environmental consultant acceptable to the DCPS.

(c) Expansion of existing permanent school facilities subject to the expansion being consistent with DCPS standards for a school of the same category;

(d) Establishment of a Charter School with facilities constructed in accordance with the State Requirements for Educational Facilities (SREF);

**Commented [LL208]:** Check in the Florida Statute reference is still accurate and relevant. Revise accordingly.

(e) Mitigation banking within designated areas based on the construction of a public school facility in exchange for the right to sell capacity credits. Capacity credits shall be sold to developments within the same CSA or adjacent CSA;

(f) Proportionate Share mitigation as set forth in section 163.3180(13) (e), Florida Statutes.

**Commented [LL209]:** Check in the Florida Statute reference is still accurate and relevant. Revise accordingly.

**1.3.4.5** By December 1st of each year, the City in coordination with DCPS, shall update its Capital Improvement Plan to incorporate those changes made by the DCPS in its Capital Facilities Plan and committed improvements required by development orders or other approved mitigation plans. DCPS may accelerate the provision of one or more schools that serve the development's capacity needs. The DCPS will update the Five-year Capital Facilities Plan by October of each year in advance of the annual December update.

**1.3.4.6** Proposed mitigation must be directed toward permanent school capacity improvement identified in or amended into the DCPS financially feasible Five- Year Capital Facilities Plan, which satisfies the demands created by the proposed development. Relocatable classrooms will not be accepted as or used as mitigation.

### **Objective 1.3.5**

#### **School Capital Facilities Planning**

The City shall cooperate with the DCPS to ensure existing deficiencies and future needs are addressed with the adopted level of service standards for public schools.

#### **Policies**

**1.3.5.1** The City shall implement its school concurrency management system established pursuant to Policies contained in Objective 1.3.2 through 1.3.4.

**1.3.5.2** Consistent with Section 163.3177 (12) (h), Florida Statutes, the PSFE shall include future condition maps showing existing and anticipated schools over the five-year or long term planning period. The maps of necessity may be general over the long-term planning period and do not prescribe a land use on a particular parcel of land.

**Commented [LL210]:** Check in the Florida Statute reference is still accurate and relevant. Revise accordingly.

**Commented [LL211]:** Move goal I.2 and I.3 and all of their underlying objectives and policies to go after Goal G.1 in the Intergovernmental Coordination Element.



## DEFINITIONS

**Ancillary Plant** - A building or facility necessary to provide district wide support services, such as energy plant, bus garage, warehouse, maintenance building, or administrative building.

**Auxiliary Facility** - The spaces located at educational plants which are not designated for student occupant stations.

**Available Capacity** - A factor to be used to determine school concurrency that is determined by current permanent FISH capacity plus portables plus planned additional permanent seats plus portables over the applicable testing period according to the CIE less current student enrollment (for testing in the current year) or projected enrollment (for testing in year 3) based on State COFTE, adjusted to remove students generated by projected new housing stock (see Policy 1.1.4 in the PSFE).

**Capacity** - The number of students that may be housed in a facility for the testing period based upon the permanent FISH capacity calculations plus portables.

**Capital Improvements** - Physical assets constructed or purchased to provide, improve or replace a public facility and which are large scale and high in cost. The cost of capital improvement is generally nonrecurring and may require multi-year financing.

**Class Size Reduction** - A provision to ensure that by July 1, 2010, there are sufficient number of classrooms in a public school so that:

1. The maximum number of students who are assigned to each teacher in the public classrooms for pre-kindergarten through 3rd grade does not exceed 18 students;
2. The maximum number of students who are assigned to each teacher in the public classrooms for 4th grade through 8th grade does not exceed 22 students; and
3. The maximum number of students who assigned to each teacher in the public classrooms for 9th grade through 12th grade does not exceed 25 students.

**Core Facility** - The cafeteria, media center, gymnasium, toilet facilities and circulation space of an educational facility.

**Concurrency** - With regard to the provision of facilities and services, the assurance that the necessary public facilities and services to maintain the City's adopted level of service standards are available when the impacts of development occur.

**Concurrency Management System** - The procedures and/or process the City will use to assure that development orders and permits when issued will not result in a reduction of the adopted level of service standards at the time the impact of the development occurs. Applied to schools, such a process is called a school concurrency management system. Applied to streets and highways, such a system is called a transportation concurrency

**Commented [LL212]:** These definitions seem to apply only to the Public Schools Element. The Comp Plan needs an appendix with a comprehensive list of definitions (Glossary of Terms) for all elements with the Plan.

**Commented [LL213]:** Check to see if this has been updated since 2010.

management system.

**Concurrency Service Areas (CSAs)** - The designation of an area within which the level of service will be measured when an application for a residential development order is reviewed.

**Concurrency Requirement** - A growth management tool for ensuring the availability of adequate public facilities and services to maintain adopted levels of service necessary to accommodate the impacts of development.

**Cost per Student Station** - Cost per Student Station includes all costs of providing instructional and core capacity facilities as published in the Educational Specifications, State Requirements for Educational Facilities (SREF), Florida Building Code and designed using the standards listed in the Facilities Services Design Guidelines developed by the School District, including school facility construction cost, hurricane hardening of structures, required on and off-site infrastructure costs, including land, professional fees for architects, engineers, construction managers, design, DCPS athletic costs, buildings, equipment, furniture, and site improvements.

**Developer** - Any person, including governmental agency undertaking any development.

**Development Order** - Means an order granting, or granting with conditions an application for a building permit.

**Development Permit** - Means any building permit, zoning permit, subdivision approval, rezoning, certification, special exception, variance, or any other official action of local government having the effect of permitting the development of land.

**Duval County Public Schools (DCPS)** - The Duval County Public Schools District

**Educational Facilities** - The public buildings and equipment, structures, and special educational use areas that are built, installed or established to serve educational purposes only.

**Educational Facilities Work Plan** - The listing of capital outlay projects for a five-year period that is adopted by the DCPS as part of the educational facilities plan. The work plan must include a schedule of major repair and renovation projects necessary to maintain the educational and ancillary facilities and a schedule of capital outlay projects necessary to ensure the availability of satisfactory student stations for the projected student enrollment in K-12 programs.

**Education Plant Survey** - A systematic study of educational and ancillary facilities conducted every five years, to evaluate existing facilities, and to plan for future facilities to meet proposed program needs.

**Financial Feasibility** - An assurance that sufficient revenues are currently available or will be available from committed or planned funding sources for the 5-year capital improvements schedule.

**Five-Year Capital Facilities Plan** - The adopted DCPS Five-Year Work Plan and Capital Improvements Budget as authorized by Section 1013.35, Florida Statutes.

**Commented [LL214]:** No longer the name, most recent plan is called the 5-Year Capital Plan

**Florida Inventory of School Houses (FISH) Capacity** - The report of the permanent capacity of existing public school facilities. The FISH capacity is the number of students that may be housed in a facility (school) at any given time based on a percentage of the total number of existing student stations and a designated size for each school type, based on the Department of Education (DOE) formulas.

**Commented [LL215]:** Check in the Florida Statute reference is still accurate and relevant. Revise accordingly.

**Grade Level** - Pre-Kindergarten - 5th grade, 6th - 8th grade, and 9th - 12th grade.

**Infrastructure** - Those man-made structures which serve the common needs of the population, such as: sewage disposal systems; potable water systems; potable water well serving a system; solid waste disposal sites or retention areas; Stormwater systems; utilities; piers; docks; wharves; breakwaters; bulkheads' seawalls; bulwarks; revetments; causeways; marinas; navigation channels; bridges and roadways.

**Interlocal Agreement** - an Agreement among the DCPS, the City, the City of Jacksonville and the other municipalities containing the specific details of the school concurrency management system for all of Duval County including the establishment of a process and uniform methodology for determining proportionate share mitigation. A school concurrency management system cannot be created by a single local government body acting alone.

**ILA Team** - A committee of members representing the DCPS, the City, the Office of General Counsel, and the Cities of Atlantic, Neptune and Jacksonville Beaches and the Town of Baldwin.

**Joint Planning Committee** - A committee of elected and citizen members which provides advice to the DCPS, the Jacksonville City Council, and the other municipalities.

**Level of Service (LOS) Standards** - A standard established to measure utilization or capacity of a facility, expressed as the percentage or ratio of student enrollment to the capacity of the school.

**Maximized Utilization** - the use of student capacity at each school to the greatest extent possible, based on the adopted LOS and the total number of permanent student stations according to FISH inventory, taking into considerations such as, core capacity,

special programs, transportation costs, geographic impediments, court ordered desegregation, and class size reduction requirements to prevent disparate enrollment levels between schools of the same type and provide equitable distribution of student enrollment district-wide.

**Mitigation Banking** - The means by which a residential developer or a group of developers may front the cost of contributing land or constructing school facilities and be reimbursed by future residential development.

**Other Municipalities** - The City of Atlantic Beach, City of Jacksonville Beach, City of Neptune Beach, and the Town of Baldwin.

**Permanent FISH Capacity**- Permanent FISH capacity, plus portables, for each school type, based on the utilization rate as established by the State Requirements for Educational Facilities (SREF).

**Permanent Student Station** - An area within a school that provides instructional space for a student, as specified by the FISH inventory.

**Proportionate Share Mitigation** - A developer funded improvement or contribution identified in a binding and enforceable agreement between the developer, DCPS, and the City to provide compensation for the additional demand on deficient public school facilities created through residential development.

**Public Facilities** - Major capital improvements including but not limited to, transportation, sanitary sewer, solid waste, drainage, potable water, education, parks and recreation, health systems and facilities, and spoil disposal sites for maintenance dredging located in the intracoastal waterways, except for spoil disposal sites owned or used by ports listed in [Section 403.021 \(9\)\(b\)](#).

**Public School Facilities Element (PSFE)** - The specific details contained in the interlocal agreement must become part of each local government's comprehensive plan. This element must be based on data and analysis and contain goals, objectives and policies as set forth in [Section 163.3177 \(c\)-\(h\), Florida Statutes and Rule 9J-5.025 FAC](#). Among other things, The Element must establish the options for proportionate share mitigation of impacts on school facilities.

**Residential Development** - Any development that is comprised of dwelling units, in whole or in part, for permanent human habitation.

**Commented [LL216]:** Confirm these State Statute references are still accurate

**Commented [LL217]:** Confirm these State Statute references are still accurate

**Commented [WMS218R217]:** This definition would be deleted if this element is repealed; OR, it could be re-defined to refer to the portion of whatever other element will now contain the public schools material.

**School Concurrency Determination** - DCPS identifying if school capacity is available to serve a residential development project.

**School Concurrency Ordinance** - The legislation adopted by the City implementing its concurrency management system.

**School Type**- Elementary, Middle, and High School

**State Requirements for Educational Facilities (SREF)** - The Florida Department of Education's standards regulating the construction of educational facilities.

**Student Generation Rate** - Student Generation Rate shall be calculated for each school type by dividing the total number public school students actually enrolled in that school type in Duval County by the number of total housing units for the same year.