

**Table 2 Recommended interim Design Flood Elevations (DFEs) for Town facilities.**

<b>End-of-Service Time Horizon</b>	<b>Design Flood Elevation</b>	<b>Typical Project/Asset Type</b>
<b>2021-2040</b>	FEMA BFE + 1 ft	Maintenance; Electrical Panel
<b>2041-2060</b>	FEMA BFE + 2 ft	Rehabilitation; Emergency Generator, HVAC System, Pump, Deployable Flood Barriers
<b>2061-2070</b>	FEMA BFE + 3 ft	New Construction/Substantial Improvement; Building, Seawall

**Table 3 Risk-based prioritization of assets in the 5-year capital plan.<sup>7</sup>**

Asset	Probability (Present)	Probability (Future)	Asset Value	Risk Score (Present)	Planned Improvement Year
G-7 WPS*	10%	>20%	60	6.0	2021
D-12 SPS (Building)	5%	>20%	70	3.5	2022
D-6 SPS (Building)	5%	>20%	67	3.4	2025
A-42 WPS*	5%	>20%	60	3.0	2023
E-6 WPS	3%	20%	70	2.1	2022

Asset	Probability (Present)	Probability (Future)	Asset Value	Risk Score (Present)	Planned Improvement Year
E-5 WPS*	3%	20%	63	1.9	2022
A-43 WPS*	3%	>20%	60	1.8	2023
Town Hall*	2%	20%	73	1.5	2025
D-12 SPS (Wet Well)	2%	10%	70	1.4	2021
A-39 WPS*	2%	>20%	70	1.4	2023
D-17 SPS	2%	10%	57	1.1	2023-2024
Police*	1%	10%	80	0.8	2023/4
A-6 WPS	1%	10%	73	0.7	2021
Central Fire*	1%	10%	73	0.7	2022
D-8 SPS	1%	10%	63	0.6	2022
South Fire*	1%	10%	53	0.5	2022
S-2 WPS	0.5%	5%	90	0.5	2021-2025
North Fire*	0.5%	5%	70	0.4	2024-2025
A-5 WPS	1%	5%	60	0.3	2024

<sup>7</sup> WPS stands for Wastewater Pump Station, and SPS stands for Stormwater Pump Station. Probability and risk score data for assets marked with an asterisk should be further verified, as engineering plans for planned capital improvements were not available for review at the time of this report.

**Table 4 Recommended near-term adaptations and interim DFEs for Town facilities.<sup>8</sup>**

<b>Asset</b>	<b>Recommended Adaptation Measures</b>	<b>Interim DFE</b>
<b>G-7 WPS*</b>	Raise electrical/controls equipment to be replaced	FEMA BFE + 2 ft
<b>D-12 SPS (Building)</b>	Dry floodproof with deployable barriers, conduit sealant; evaluate/reinforce wall strength if needed; raise radiators and associated wall openings	FEMA BFE + 2.5 ft
<b>D-6 SPS (Building)</b>	Raise proposed main disconnect and existing 30KVA transformer	FEMA BFE + 2 ft
<b>A-42 WPS*</b>	Raise electrical/controls equipment to be replaced	FEMA BFE + 2 ft
<b>E-6 WPS</b>	Raise electrical/controls equipment to be replaced, raise or dry floodproof odor control enclosure	FEMA BFE + 2 ft
<b>E-5 WPS*</b>	Raise electrical/controls equipment to be replaced, new radiators and associated wall openings	FEMA BFE + 2 ft
<b>A-43 WPS*</b>	Raise electrical/controls equipment to be replaced	FEMA BFE + 2 ft
<b>Town Hall*</b>	Dry or wet floodproof	FEMA BFE + 2.5 ft
<b>D-12 SPS (Wet Well)</b>	Extend pump electrical gear wall, raise electrical panels, provide higher access if needed	FEMA BFE + 2.5 ft
<b>A-39 WPS*</b>	Raise electrical/controls equipment to be replaced	FEMA BFE + 2 ft
<b>D-17 SPS</b>	Raise electrical/controls equipment to be replaced	FEMA BFE + 2.5 ft
<b>Police*</b>	Dry or wet floodproof	FEMA BFE + 2.5 ft
<b>A-6 WPS</b>	Raise proposed equipment	FEMA BFE + 2.5 ft
<b>Central Fire*</b>	Dry or wet floodproof	FEMA BFE + 2.5 ft
<b>D-8 SPS</b>	Raise proposed air-cooled radiators, pump control panel	FEMA BFE + 2.5 ft
<b>South Fire*</b>	Dry or wet floodproof, or perimeter barrier	FEMA BFE + 2.5 ft
<b>S-2 WPS</b>	Dry or wet floodproof	FEMA BFE + 2.5 ft
<b>North Fire*</b>	Elevate building	FEMA BFE + 4 ft

<sup>8</sup> WPS stands for Wastewater Pump Station, and SPS stands for Stormwater Pump Station.

Recommended measures and suggested interim DFEs for assets marked with an asterisk should be further verified, as engineering plans for planned capital improvements were not available for review at the time of this report.

**Table 5** Relative sea level rise projections for Palm Beach required by Florida Statutes.<sup>10</sup>

<b>Sea Level Rise Scenario</b>	<b>Intermediate-Low</b>	<b>Intermediate-High</b>
<b>2040</b>	0.7 ft	1.4 ft
<b>2070</b>	1.3 ft	3.3 ft

Table 6 Other Town assets at present risk of flooding based on PB-FRM.<sup>11</sup>

Stormwater	Wastewater			Recreation
D-18*	E-15*	E-17*	G-1	Rec Center*
D-6*	E-50*	E-18*	A-7*	Par 3 Maintenance*
D-7*	E-9*	E-20*	E-1	Phipps North Restrooms*
D-14*	E-10*	E-22*	E-2	Chilean Ave Restrooms*
D-2*	E-12*	E-23*	E-13	Phipps South Restrooms*
D-4*	E-14*	A-41*	S-2	Par 3 ProShop*
D-9*	E-16*	E-19*	A-5*	Memorial Fountain*
D-16*	E-4*	E-3	E-24*	
D-17 (Generator)	E-7*	E-21*	E-25*	
D-10*	E-8*	E-38*	E-44*	
	E-11*	E-40*		

Table 7 Town assets at future risk of flooding based on PB-FRM.<sup>12</sup>

Wastewater			
G-9*	A-4 (Building)*	E-27*	A-4 (Wet Well)*

<sup>11</sup> Probability and risk score data for assets marked with an asterisk should be further verified, as engineering plans for planned capital improvements were not available for review at the time of this report.

<sup>12</sup> Probability and risk score data for assets marked with an asterisk should be further verified, as engineering plans for planned capital improvements were not available for review at the time of this report.

Table 8 Higher standards for bulkhead construction on Lake Worth - modifications.

Existing	Recommended
<p>(d) <i>Elevation of top.</i> The top of bulkheads or cutoff walls shall be governed by sound engineering recommendations, and the same shall be approved by the town engineer.</p> <p>...</p> <p>(k) <i>Profiles with application.</i> If in the construction of any structure covered in this section is made, such application must be accompanied by a profile taken along the line of the proposed structure, such profile to show the character of materials encountered to elevations of required penetrations.</p> <p>(l) <i>Plans.</i> All plans accompanying applications for structures covered in this section must be prepared by, or in collaboration with, a civil engineer licensed to practice in the state.</p> <p>...</p>	<p>(d) <i>Elevation of top.</i> The top of bulkheads or cutoff walls shall be at an elevation not lower than the base flood elevation plus two feet.<sup>13</sup> Foundations shall be designed with sufficient structural capacity to enable the top elevation to be raised an additional two feet without requiring full reconstruction.</p> <p>(k) <i>Permit applications.</i><sup>14</sup> [consolidating and expanding upon (k) and (l)] All permit applications shall include the following information:</p> <ol style="list-style-type: none"> <li>1) Engineering plans signed and sealed by a Professional Engineer licensed in the State of Florida.</li> <li>2) A Standard Penetration Test (SPT) soil boring report containing the required soil design parameters for the location of the proposed wall prepared by a geotechnical engineer licensed in the State of Florida. The location and required depth of the boring shall be determined by the geotechnical engineer. The depth of the boring shall be a minimum of five (5) feet lower than the deepest component of the proposed bulkhead wall.</li> <li>3) A soil boring profile signed and sealed by the geotechnical engineer.</li> <li>4) A plan view of the proposed bulkhead wall clearly indicating the location of the soil boring.</li> <li>5) A cross section of wall indicating the channel bottom elevation, the cap elevation and identifying the type, size, and location of wall components.</li> </ol>

<sup>13</sup> Alternatively, a lower top elevation could be set. North Palm Beach sets the minimum cap elevation for bulkheads in Lake Worth at 5 ft NAVD88 and the maximum cap elevation at the FEMA BFE, subject to approval by key staff. Fort Lauderdale sets the minimum seawall elevation for properties with a FEMA BFE of 4 ft NAVD88 at 3.9 ft NAVD88 and the maximum seawall elevation at 5 ft NAVD88 (FEMA BFE + 1 ft), and it strongly encourages "property owners choosing to construct seawalls at less than 5 ft NAVD88... to have foundations designed to accommodate a future seawall height extension up to a minimum elevation of 5 ft NAVD88." Miami Beach sets a minimum elevation for seawalls at 5.7 ft NAVD88 (well below FEMA BFE in most parts of the City), with allowances for certain circumstances in which a minimum elevation of 4 ft NAVD88 is acceptable provided the structure is designed and constructed to accommodate a future extension to 5.7 ft NAVD88.

<sup>14</sup> Modified from North Palm Beach, FL Code of Ordinances

Existing	Recommended
<p>(n) <i>Inspection.</i> The town or authorized agent has the right at all times to inspect work being done under this section.</p> <p>...</p>	<ul style="list-style-type: none"> <li>6) Fundamental soil data from the soil boring used in the design including saturated and submerged unit soil weight, coefficient of active pressure, coefficient of passive pressure, friction angle (for cohesionless soils), and cohesion (for cohesive soils).</li> <li>7) Documentation demonstrating that concrete satisfies the requirements of ACI 318 Exposure Class C2.</li> <li>8) Plans demonstrating that exposed steel tie back anchor rods and other anchors shall be coated with a heavy-duty protective coating to prohibit corrosion.</li> <li>9) A copy of the pollution control plan required by the Florida Department of Environmental Protection (FDEP) permit depicting the location and types of pollution control mitigation measures. During the course of construction, the permittee shall be required to submit to the Town all reports required by the National Pollutant Discharge Elimination System (NPDES) permit prior to the Town's issuance of a certificate of occupancy.</li> </ul> <p>(n) Inspection. The town or authorized agent has the right at all times to inspect work being done under this section. The permittee shall notify the town at least forty-eight (48) hours prior to the following events to allow for inspection:</p> <ul style="list-style-type: none"> <li>1) the first installation of any structural support;</li> <li>2) the backfilling of structural supports, including any anchors or tie rods;</li> <li>3) the pouring of any cast-in-place construction; and</li> <li>4) the final cap pouring.</li> </ul>

Table 9 Higher standards for bulkhead construction on Lake Worth - additions.

Recommended Additions

(p) *Flood design requirements.*<sup>15</sup> The design of bulkhead walls shall conform to recognized engineering standards and calculation methods for coastal flood mitigation, erosion control, and land retention structures and shall account for the following:

- 1) A design flood equivalent to the base flood plus two feet;
- 2) Load and resistance factors applicable for the engineering analysis and design of the wall;
- 3) Differential hydrostatic pressure due to tides and stormwater runoff;
- 4) Surcharge loads on the bulkhead wall;
- 5) Potential erosion at the toe of the wall; and
- 6) Backflow prevention for drainage outfalls, where applicable.

(q) *Caps.*<sup>16</sup> All bulkheads shall be capped with a continuous reinforced concrete cap. Caps placed at an elevation greater than the adjacent property shall provide a wall return of the same material and type as the bulkhead cap. All areas visible from adjacent property shall have a finished appearance equivalent to or better than painted concrete stucco.

(r) *Adjoining bulkheads.*<sup>17</sup> To the extent practicable, bulkheads shall be designed and constructed to adjoin immediately proximate bulkheads to close gaps and prevent trespass of tidal surface water.

(s) *Elevation of adjacent grade.* For the purposes of this section, adjacent grade shall mean the area of land within a 15-foot<sup>18</sup> setback from the east face of the bulkhead wall, or, where the Lake Trail is present, between the east face of the bulkhead wall and the eastward limit of the

<sup>15</sup> Modified from North Palm Beach, FL Code of Ordinances

<sup>16</sup> Modified from North Palm Beach, FL Code of Ordinances

<sup>17</sup> Modified from Miami Beach, FL Code of Ordinances

<sup>18</sup> Alternatively, a larger setback could be specified.



#### Recommended Additions

Lake Trail right-of-way<sup>19</sup>. Except as provided in (u), adjacent grade shall be backfilled and graded to an elevation no lower than 30 inches below the proposed top of bulkhead elevation. Fill placed on the lot to comply with the requirements of this section shall be excluded from limitations and calculations of allowable fill imposed by other sections of this code.

(t) *Accessibility of adjacent grade.* The portions of adjacent grade within the Lake Trail right-of-way shall be graded as an accessible path of travel, as defined in the Florida Building Code.

(u) *Adjacent grade between adjoining properties.* The Town may grant a temporary waiver of the elevation of adjacent grade requirements in (s), following the process and conditions described in section (v) only for the minimum adjacent grade area required to:

- 1) maintain an accessible path of travel along the Lake Trail where transitioning to existing grade at adjoining side property lines or public ways; or
- 2) meet the existing grade of adjoining side property lines where the Lake Trail is not present and accessibility is not required.

(v) *Process and conditions for a temporary waiver of adjacent grade elevation requirements.* A coordination meeting will be held by the Town Engineer with the bulkhead or seawall owner and adjoining property owners prior to the issuance of any waivers to determine whether there are mutually agreeable alternatives to the granting of a waiver<sup>20</sup>. If no alternative is agreed, the Town Engineer may grant a separate temporary waiver with conditions to the bulkhead or seawall owner for each portion of adjacent grade that does not meet the requirements of (s). Each waiver shall expire 30 days<sup>21</sup> after the bulkhead or seawall on the adjoining property to which the subject adjacent grade is connected is reconstructed to meet the standards of this section. As a condition of granting a temporary waiver under this section, the Town shall require the bulkhead or seawall owner to provide the Town with a separate temporary easement over each portion of adjacent grade covered by a waiver. The term of each easement shall be set to expire no later than 30 days<sup>22</sup> after the issuance of a certificate of occupancy for the adjoining property's bulkhead to be replaced in the future. The temporary easement shall grant the Town the right to backfill, grade, pave, and landscape the subject adjacent grade to

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<sup>19</sup> Alternatively, the limits could be set at the westward and eastward limits of the Lake Trail right-of-way.

<sup>20</sup> For example, an adjoining property owner may agree to extend the construction limits onto their property to enable a more desirable grading and vista outcome for both property owners.

<sup>21</sup> Alternatively, a longer or shorter period could be specified. The general idea is to put a time limit on the waiver so that either the Town or the bulkhead or seawall owner will be incentivized to coordinate a smoothing of grades and vistas once the adjoining project is under construction. If the waiver expires before the adjacent grade condition is corrected to comply with the vista requirement, penalties could start to accrue daily.

<sup>22</sup> Alternatively, a longer or shorter period could be specified. The term of the easement should coincide with the term of the waiver.

### Recommended Additions

bring it to an elevation no lower than 30 inches below the top of bulkhead elevation<sup>23</sup>. The Town Engineer<sup>24</sup> is authorized by this section to procure construction services and levy an assessment against the bulkhead or seawall owner for the backfilling, paving, and landscaping of adjacent grade over which such a temporary easement is held<sup>25</sup>. The terms of waivers and temporary easements granted under this section may be extended if agreed out of mutual convenience by the Town Engineer and property owner. The Town Engineer is hereby authorized to extend the terms of such waivers and easements on behalf of the Town for a period no longer than 90 days<sup>26</sup> beyond the initial terms. In no case shall the Town Engineer grant a temporary waiver to a bulkhead or seawall owner for the portion of adjacent grade where transitioning to an adjoining property where a bulkhead or seawall has already been constructed to the specifications of this section<sup>27</sup>.

Table 10 Higher standards for bulkhead maintenance on Lake Worth.

Existing	Recommended <sup>29</sup>
<p>All bulkheads and seawalls within the town shall be maintained in good condition to provide for the protection of upland and foreshore properties, limit wave overtopping, and be impervious without cracks or holes that would allow for the passage of sand. Failure to maintain a bulkhead or seawall in good condition shall be a violation of this section and subject to action before the town's code enforcement board. When cited by the town's code enforcement board a condition survey of any seawall or bulkhead prepared by a professional engineer licensed to practice in the state along with plans required to implement the engineer's recommendation to bring the structure into compliance shall be submitted to the town. Upon project completion, certification by a professional engineer licensed to practice in the state must be submitted to the town. Recertification of the seawall by a professional engineer licensed to practice in the state shall be required every 15 years from the date of the original certification.</p> <p>A condition survey of any seawall or bulkhead prepared by a professional engineer licensed to practice in the state along with plans required to implement the engineer's recommendation for repair or replacement shall be submitted to the town when a new building is proposed or when renovations exceeding 50 percent of the value of the primary structure are proposed. Upon project completion certification by a professional engineer licensed to practice in the state must be submitted to the town. Recertification of the seawall by a professional engineer</p>	<p>(a) All property owners must maintain their bulkheads and seawalls in good repair to provide for the protection of upland and foreshore properties. A bulkhead or seawall is presumed to be in disrepair if:</p> <ol style="list-style-type: none"> <li>1) it has cracks, holes, or other structural deficiencies that would allow for upland erosion through the bulkhead or seawall;</li> <li>2) allows unsafe, dangerous, or damaging wave overtopping; or</li> <li>3) allows tidal waters to flow through or over the bulkhead or seawall to adjacent properties or public right-of-way at levels below the minimum top elevation specified in Sec. 62-75.</li> </ol> <p>(b) Property owners failing to maintain their bulkheads or seawalls in good repair or failing to (re)certify them in accordance with the schedule set forth in (c) shall be in violation of this section and subject to action before the town's code enforcement board.</p> <ol style="list-style-type: none"> <li>1) Within sixty (60) days of receiving a citation from the town's code enforcement board, the owner of the property on which the bulkhead or seawall is constructed shall submit to town a condition survey of the structure prepared by a professional engineer licensed to practice in the state along with plans required to implement the engineer's recommendation to correct the disrepair shall be submitted to the town.</li> <li>2) The property owner shall complete the repair within seven hundred thirty (730) days<sup>30</sup> of receipt of citation.</li> <li>3) If the required repair meets the substantial repair threshold in (d), the</li> </ol>

<sup>29</sup> Modified from Fort Lauderdale, FL Code of Ordinances and Miami Beach, FL Code of Ordinances.

<sup>30</sup> Miami Beach allows 730 days to comply from the date of citation.

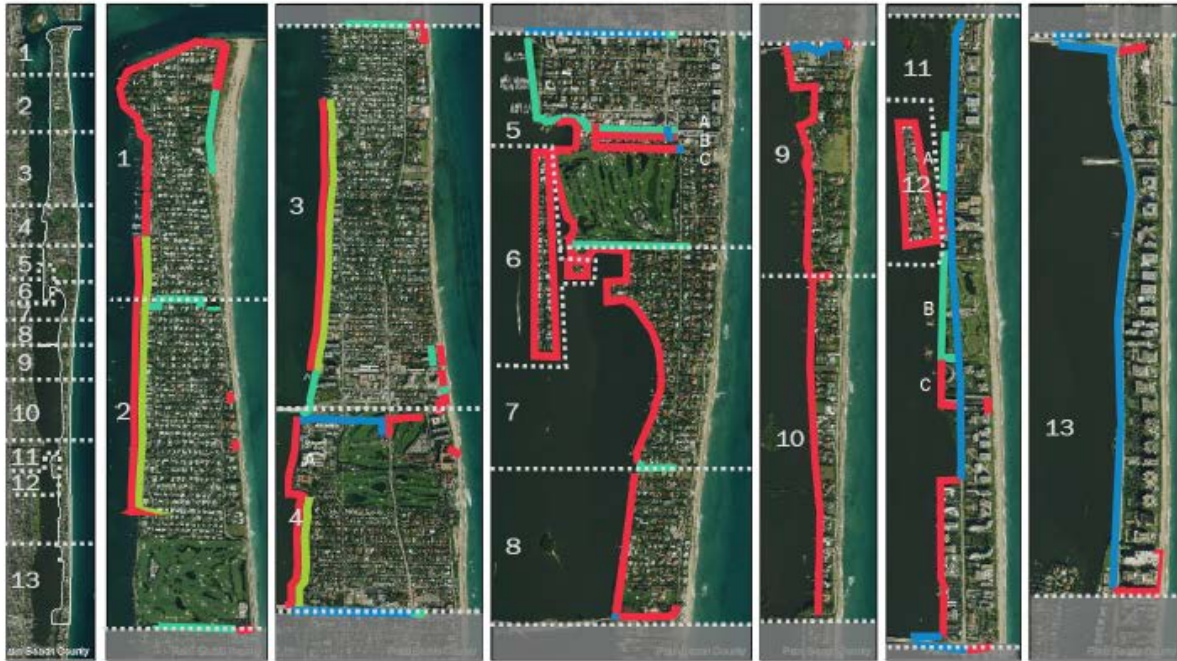
Existing	Recommended <sup>29</sup>
<p>licensed to practice in the state shall be required every 15 years from the date of the original certification.</p>	<p>property owner shall repair or replace the bulkhead or seawall to meet the minimum construction specifications in Sec. 62-75.</p> <p>4) Upon project completion, certification by a professional engineer licensed to practice in the state must be submitted to the town.</p> <p>c) Recertification of bulkheads and seawalls by a professional engineer licensed to practice in the state indicating that the structure is in a state of good repair shall be required every 10 years from the date of the original certification, or [date this ordinance is updated], whichever is later.</p> <p>(d) Bulkhead or seawall improvements constituting substantial repair at the time of permit application shall meet the construction specifications in Sec. 62-75 for the continuous bulkhead or seawall for the length of the property. For the purposes of this section, the substantial repair threshold shall mean:</p> <ol style="list-style-type: none"> <li>1) Any improvement to the bulkhead of more than twenty-five percent (25%)<sup>31</sup> of the length of the structure, including both the bulkhead and cap; or</li> <li>2) Any improvement to the bulkhead which results in an elevation change along more than twenty-five percent (25%)<sup>32</sup> of the length of the structure.</li> </ol> <p>(e) A condition survey of any seawall or bulkhead prepared by a professional engineer licensed to practice in the state, indicating that the structure is in compliance with the minimum construction specifications in Sec. 62-75 for the continuous bulkhead or seawall for the length of the property or with plans</p>

<sup>31</sup> Alternatively, a higher percent value could be specified.

<sup>32</sup> Alternatively, a higher percent value could be specified.

Existing	Recommended <sup>33</sup>
	<p>required to implement the engineer's recommendation for repair or replacement to bring the structure into compliance, shall be submitted to the town when new construction or substantial improvement, as defined in Sec. 18-232, to the primary structure are proposed.</p> <p>1) Upon project completion, certification by a professional engineer licensed to practice in the state must be submitted to the town.</p> <p>(d) Property owners with permeable erosion barriers such as rip rap, or a land/water interface of another nature on the Lake Worth shoreline shall maintain their land/water interface so as not to allow tidal waters to cross through or over their land/water interface to adjacent properties or public right-of-way at levels below the minimum top elevation specified in Sec. 62-75. Property owners failing to meet this maintenance standard shall be a violation of this section and subject to action before the town's code enforcement board.</p> <p>1) Within sixty (60) days of receiving a citation from the town's code enforcement board, the owner of the property on which the violation occurred shall submit to town a condition survey of the land/water interface prepared by a professional engineer licensed to practice in the state along with plans required to implement the engineer's recommendation to bring the property into compliance.<sup>33</sup></p> <p>2) The property owner shall complete the repair within seven hundred thirty (730) days of receipt of citation.</p>

<sup>33</sup> The Town could state an explicit preference for soft, natural, or nature-based coastal flood mitigation infrastructure on shorelines where no bulkheads or seawalls are present.



**Ownership**

- Town
- ROW Easement
- Private
- State

**Figure 8** Potential neighborhood-scale flood control units and system alignments. These “flood control units” are not intended to align with the traditional Coastal Program shoreline “Reaches.”

**Table 11 Higher standards for substantial improvement and substantial damage.**

Existing	Recommended
<p><i>Substantial improvement.</i> Any combination of repair, reconstruction, rehabilitation, addition, or other improvement of a building or structure taking place during a one-year period, the cumulative cost of which equals or exceeds 50 percent of the market value of the building or structure before the improvement or repair is started. For each building or structure, the one-year period begins on the date of the first permit issued for improvement or repair of that building or structure subsequent to (see Note). If the structure has incurred "substantial damage," any repairs are considered substantial improvement regardless of the actual repair work performed...</p>	<p><i>Substantial improvement.</i> [For the purposes of determining compliance with the flood provisions of this code,] Any combination of repair, reconstruction, rehabilitation, addition, or other improvement of a building or structure taking place during a 10-year period<sup>50</sup>, the cumulative cost of which equals or exceeds 25 percent<sup>51</sup> of the market value of the building or structure before the improvement or repair is started. For each building or structure, the one-year period begins on the date of the first permit issued for improvement or repair of that building or structure subsequent to (see Note). If the structure has incurred "substantial damage," any repairs are considered substantial improvement regardless of the actual repair work performed...</p>
<p>(FBC 7<sup>th</sup> Ed.) <i>Substantial damage.</i> Damage of any origin sustained by a structure whereby the cost of restoring the structure to its before-damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.</p>	<p><i>Substantial damage.</i> [For the purposes of determining compliance with the flood provisions of this code,] Damage of any origin sustained by a structure whereby the cost of restoring the structure to its before-damaged condition would equal or exceed 25 percent of the market value of the structure before the damage occurred.</p>

<sup>50</sup> Alternatively, the Town could adopt a 5-year period and earn half as many additional CRS credit points.

<sup>51</sup> The Town could adopt any percentage lower than 50% and earn the same number of CRS credit points. Alternatively, the Town could base substantial improvement determinations based on a threshold of more than 25% of the building's lowest floor square footage, for less CRS credit points.

<sup>52</sup> Town of Palm Beach Comprehensive Plan 2017.

**Table 12 Higher standards for Buildings elevation requirements.**

Existing	Recommended
<p>(FBC 7<sup>th</sup> Ed.)</p> <p>1612.4 Design and construction.</p> <p>The design and construction of buildings and structures located in flood hazard areas, including coastal high hazard areas and Coastal A Zones, shall be in accordance with Chapter 5 of ASCE 7 and with ASCE 24.</p> <p>1612.4.1 Modification of ASCE 24.</p> <p>...</p> <p>1612.4.2 Modification of ASCE 24 9.6 Pools.</p> <p>...</p>	<p>The following sections of the Florida Building Code – Buildings are hereby amended as follows:</p> <p>1612.4.3 Modifications of ASCE 24 – Elevation Requirements.</p> <p>Table 2-1, Table 4-1, Table 5-1, Table 6-1, and Table 7-1 shall be modified as follows:</p> <ol style="list-style-type: none"> <li>1. The minimum elevation requirements for Flood Design Class 2, Flood Design Class 3, and Flood Design Class 4 buildings and structures shall be to or above the base flood elevation plus three (3) feet.<sup>54, 55</sup></li> </ol>



Table 13 Higher standards for Residential elevation requirements.

Section and Parameter	Palm Beach Code of Ordinances	7 <sup>th</sup> Edition FBC	Recommended Future Technical Amendment <sup>56</sup>
<b>R322.2.1 Elevation requirements</b>			
Lowest floor - in flood hazard areas not designated as Coastal A Zones	BFE + 6 inches	BFE + 1 foot	BFE + 3 feet
Lowest floor - in Coastal A Zones	BFE + 1 foot	BFE + 1 foot	BFE + 3 feet
Lowest floor (including basement) – in areas of shallow flooding (AO Zones)	At least as high above the highest adjacent grade as the depth number specified in feet on the FIRM + 6 inches, or at least 2.5 feet if a depth number is not specified	Height above highest adjacent grade of not less than the depth number specified in feet on the FIRM + 1 foot, or not less than 3 feet if a depth number is not specified	<i>Recommend deleting as there are presently no AO Zones in Palm Beach</i>
Basement floors that are below grade on all sides	To or above the BFE + 6 inches	To or above BFE + 1 foot	To or above BFE + 3 feet
<b>R322.3.2 Elevation requirements</b>			
Lowest horizontal structural members supporting the lowest floor (with certain exceptions) - in coastal high-hazard areas and Coastal A Zones	BFE + 6 inches	BFE + 1 foot	BFE + 3 feet

<sup>56</sup> Alternatively, the Town could set lower elevation requirements to BFE + 2 ft, or not less than 4 ft if depth number is not specified.

**Table 14 Higher standards for establishing flood hazard areas.**

Existing	Recommended
<p>To establish flood hazard areas and base flood elevations, pursuant to division 5 of this article the floodplain administrator may require submission of additional data. Where field surveyed topography prepared by a Florida licensed professional surveyor or digital topography accepted by the community indicates that ground elevations:</p> <p>(2) Are below the closest applicable base flood elevation, even in areas not delineated as a special flood hazard area on a FIRM, the area shall be considered as flood hazard area and subject to the requirements of this chapter and, as applicable, the requirements of the Florida Building Code.</p> <p>(3) Are above the closest applicable base flood elevation, the area shall be regulated as special flood hazard area unless the applicant obtains a Letter of Map Change that removes the area from the special flood hazard area.</p>	<p>To establish flood hazard areas and <b>minimum</b> flood elevations, pursuant to division 5 of this article the floodplain administrator may require submission of additional data. Where field surveyed topography prepared by a Florida licensed professional surveyor or digital topography accepted by the community indicates that ground elevations:</p> <p>(2) Are below the closest applicable base flood elevation <b>plus three (3) feet<sup>57</sup></b>, even in areas not delineated as a special flood hazard area on a FIRM, the area shall be considered as flood hazard area and subject to the requirements of this chapter and, as applicable, the requirements of <b>Chapter 18</b>.</p> <p>(3) Are above the closest applicable base flood elevation, the area shall be regulated as special flood hazard area unless the applicant obtains a Letter of Map Change that removes the area from the special flood hazard area.</p>

<sup>57</sup> The freeboard height referenced should be the same as is adopted in Sec. 18-244 elevation requirements. As alternatives to the recommended 3 feet freeboard height, this section could reference varying freeboard heights by Flood Design Class in ASCE 24 or reference a lower freeboard height (e.g., + 2 ft).

Table 15 Recommended changes to Future Land Use Element Objectives and Policies.<sup>58</sup>

<b>Future Land Use Element</b>	The purpose of the Future Land Use Element is to designate future land use patterns as reflected in the goals, objectives, and policies of the other Comprehensive Plan Elements.
<b>Goal 1</b>	To maintain the Town's unique identity and its high quality of life through the efficient distribution of compatible land uses.
<b>Objective 2</b>	Maintain the character of the Town as a predominantly residential community having only the type and amount of businesses and other support services necessary to meet the needs of Town residents.
<b>Policy 2.1.1</b>	Where essential services are indicated as an appropriate use, essential services shall include public utility facilities related to water supply, telephone (excluding wireless telecommunication facilities), cable television, gas, electrical distribution systems and town-owned services such as sanitary sewer, stormwater drainage, <i>coastal flood control</i> , and solid waste collection and disposal systems, including any necessary appurtenant structures serving the Town.
<b>Objective 3</b>	Development order or permits for <i>new construction or substantial improvement</i> shall be issued for construction in the <i>flood hazard area (as defined in the Town of Palm Beach Code of Ordinances Ch. 50), coastal high hazard area, or Lake Worth shoreline only if they meet the flood-resistant construction requirements of the Florida Building Code, as amended by the Town of Palm Beach Code of Ordinances (Ch. 18); comply with the Town's Floodplain Management Ordinance; and, as applicable to parcels abutting Lake Worth, meet the bulkhead and seawall construction, maintenance, and certification requirements in the Town of Palm Beach Code of Ordinances (Ch. 62).</i>
<b>Policy 3.1</b>	Prior to the issuance of a development order or permit, the Town shall make and record the following determinations: <ul style="list-style-type: none"> <li>a. The proposed <i>new construction or substantial improvement</i> meets or exceeds <i>the flood-resistant construction requirements of the Florida Building Code, as amended by the Town of Palm Beach Code of Ordinances (Ch. 18)</i></li> <li>b. <i>The proposed new construction or substantial improvement complies with the Town's Floodplain Management Ordinance (Palm Beach Code of Ordinances Ch. 50).</i></li> <li>c. <i>(If applicable) All bulkheads or seawalls of the parcel abutting Lake Worth on which the proposed new construction or substantial improvement is located comply with the construction, maintenance, and certification requirements in the Town of Palm Beach Code of Ordinances (Ch. 62).</i></li> </ul>

<sup>58</sup> Text of recommended changes or additions is italicized and bright green.

<b>Objective 5</b>	Development orders and permits for new development or redevelopment, or building permits for developments that have been issued development orders prior to the adoption of the Comprehensive Plan, shall be issued only if public facilities and services necessary to meet the Town's adopted level of service standards are available concurrent with the impacts of the development.
<b>Policy 5.2</b>	<p>In order to ensure the availability of public facilities and services necessary to support development concurrent with its impacts, prior to the issuance of a development order or permit, the Town shall make and record the following determinations:</p> <ul style="list-style-type: none"> <li>a. Flooding will not occur during a one-year storm for systems served by pumping stations or during a three-year storm for systems with gravity outfalls, and the minor flooding associated with a five-year storm shall be carried off within sixty minutes. <i>(Consider referencing a specific data source, storm duration, and precipitation depth: "during a 2-year, 1-hour storm based on NOAA Atlas 14 Upper 90% Confidence Interval precipitation depth")</i></li> <li>b. Negative impacts of stormwater discharge upon water quality in Lake Worth are ameliorated by the retention of the first two inches of rainfall prior to discharge into the Town system; or, the post-development runoff does not exceed predevelopment runoff for a three-year one-hour storm, whichever is greater; <i>(Consider referencing a specific data source and precipitation depth: "for a 3-year, 1-hour storm based on NOAA Atlas 14 Upper 90% Confidence Interval precipitation depth")</i></li> <li>...</li> <li>k. <i>Coastal flood waters will not substantially damage critical Town-owned facilities during a 100-year flood accounting for projected Intermediate-High sea level rise over the service life of the assets.</i></li> <li>l. <i>Coastal flood waters will not pass through or over coastal flood control structures, constructed or permitted by the Town, during a 100-year flood accounting for projected Intermediate-High sea level rise over the service life of the structures.</i><sup>59</sup></li> </ul>
<b>Objective 8</b>	The Town shall protect its natural resources. The measurement of this objective is the extent to which natural resources are preserved and the degree to which the following policies are implemented.
<b>Policy 8.4</b>	The Town shall require that all new development and redevelopment on the Atlantic shore restore dunes, where restoration potential exists and is necessary, as determined by the Town and FDEP. <i>Primary dune restoration to a higher crest elevation and sediment volume is a high priority along Reach 1 for coastal flood control.</i>

<sup>59</sup> This Level of Service standard should only be applied to improvements made after the adoption of seawall/bulkhead standards recommended in *Level-Up Lake Worth Shoreline*.

<b>Policy 8.6</b>	No development or redevelopment shall occur on or over submerged land other than docks, essential services or parks owned and operated by the Town. <i>Coastal flood control is considered an essential service.</i>
<b>Objective 13</b>	Public access shall be maintained to all recreational facilities, including recreational and commercial working waterfronts as defined in F.S. 342.07, under the jurisdiction of the Town of Palm Beach.
<b>Policy 13.4</b>	In evaluating applications for marinas or marina siting all of the following shall be addressed: land use compatibility; availability of upland support services; existing protective status or ownership; <i>adequacy of coastal flood control infrastructure</i> ; hurricane contingency planning; protection of water quality; water depth; environmental disruptions and mitigation actions; availability for public use; and, economic need and feasibility. The criteria shall be reviewed by the Planning Department on an annual basis and updated as necessary.
<b>Objective 14</b>	The Town shall adopt and implement policies that increase community resiliency and protect property, infrastructure, and cultural and natural resources from the impacts of climate change, including sea level rise, changes in rainfall patterns, and extreme weather events.
<b>Objective 14.1</b>	<i>The Town shall adopt one or more ordinances designating and mapping Adaptation Action Areas within Town that experience coastal flooding due to extreme high tides and storm surge, and that are vulnerable to the related impacts of rising sea levels for the purpose of prioritizing funding for infrastructure and adaptation planning<sup>60</sup>. A map of Adaptation Action Areas shall be included in the Comprehensive Plan. Adaptation Action Area 1 shall be designated as encompassing all lands within the municipal boundaries of the Town of Palm Beach designated as evacuation zones for storm surge.<sup>61</sup></i>

Table 16 Recommended changes to Transportation Element Objectives and Policies.<sup>62</sup>

<b>Transportation Element</b>	The purpose of the Town's Transportation Element is to provide the framework for establishing its desired transportation system; and, in particular, to plan for its future motorized and non-motorized traffic circulation needs.
<b>Goal</b>	Maximize the existing street transportation system to foster a safe, efficient and convenient transportation system, coordinated with the other governmental agencies, for all existing and future land uses.
<b>Objective 1</b>	The Town shall continue to correct traffic operational deficiencies and undertake other needed measures, identified in this Element, that are necessary to the provision of a safe, convenient, and energy efficient, multimodal transportation system, including providing for protection of existing and future rights-of-way from building encroachment. Design of the multimodal transportation system will be done to ensure the safety of not only motorists, but also the safety of cyclists and pedestrians, particularly where they interact with motorists.
<b>Policy 1.4</b>	<i>The Town will evaluate future needs for space within the Town and State transportation rights-of-way for siting of coastal flood control system infrastructure.</i>
<b>Objective 3</b>	Coordinate the Town's transportation planning efforts with the plans and programs of the Metropolitan Planning Organization and the Florida Department of Transportation's Adopted 5-Year Work Program, and take into consideration public transportation, bicycle and pedestrian ways, <i>and coastal flood control infrastructure</i> , in future transportation planning.
<b>Policy 3.7</b>	<i>The Town will coordinate with the MPO, FDOT, Palm Beach County, the City of West Palm Beach, and the Town of South Palm Beach on plans and funding to mitigate future coastal flood risks to regionally significant roadways.</i>

<sup>62</sup> Text of recommended changes or additions is italicized and bright green.

Table 17 Recommended changes to Infrastructure Element Goals, Objectives, and Policies.<sup>63</sup>

<b>Infrastructure Element</b>	The purpose of the Infrastructure Element is to provide for necessary public facilities and services related to future land use projections. It includes plans for sanitary sewer, solid waste, potable water, <i>coastal flood control</i> , and drainage facilities.
<b>Goal 1</b>	Maintain adequate levels of utility services for existing and future populations, and maximize utilization of existing investment and facilities.
<b>Objective 1</b>	The Town shall assure that all existing and future residents, and businesses in the Town, will have access to sanitary sewer facilities; maximize the use of existing collection and treatment facilities; and, meet future needs through continuation of its Sanitary Sewer Rehabilitation Program. The measurement of this objective is whether or not sanitary sewer facilities are available to all users, and the extent to which the following policies are implemented.
<b>Policy 1.3</b>	<i>The Town shall incorporate the funding of improvements in its Capital Improvements Element to mitigate identified vulnerabilities from future coastal flooding in the design, repair, and rehabilitation of sanitary sewer pump stations.</i>
<b>Objective 7</b>	The Town shall maximize its existing drainage facilities by correcting drainage problems in Town and explore methods of improving the quality of stormwater discharge. The measurement of this objective is the extent to which identified drainage problems are corrected, and the degree to which the following policies are implemented.
<b>Policy 7.6</b>	<i>The Town shall incorporate funding in its Capital Improvements Element to mitigate identified vulnerabilities from future coastal flooding in the design, repair, and rehabilitation of drainage pump stations.</i>
<b>Policy 7.7</b>	<i>The Town will evaluate the need for updated stormwater system modeling, level of service performance expectations, and development standards incorporating climate change projections for future precipitation and tidal boundary conditions.</i>
<b>Objective 8</b>	Development orders and permits for new development or redevelopment shall be issued only if the proposed project meets the Town's adopted level of service standards, or if needed expansion of facilities is coordinated with future development.

<sup>63</sup> Text of recommended changes or additions is italicized and bright green, except that red is used where background colors are bright green or teal.

<b>Policy 8.1</b>	<p>The Town shall establish the following level of service standards:</p> <ol style="list-style-type: none"> <li>1. Flooding will not occur during a one-year storm for systems served by pumping stations, or during a three-year storm for systems with gravity outfalls; and, the minor flooding associated with a five-year storm shall be carried off within sixty minutes. <i>(Consider referencing a specific data source, storm duration, and precipitation depth: “during a 2-year, 1-hour storm based on NOAA Atlas 14 Upper 90% Confidence Interval precipitation depth”)</i></li> <li>2. Negative impacts of stormwater discharge upon water quality in Lake Worth are ameliorated by the retention of the first two inches of rainfall prior to discharge into the Town system, or the post-development runoff does not exceed predevelopment runoff for a three-year one-hour storm, whichever is greater. <i>(Consider referencing a specific data source and precipitation depth: “for a 3-year, 1-hour storm based on NOAA Atlas 14 Upper 90% Confidence Interval precipitation depth”)</i></li> </ol>
<b>Objective 12<sup>64</sup></b>	<p><i>The Town shall initiate planning, enact policies, coordinate with partners, develop projects, and identify funding to mitigate neighborhood and Town-wide exposure to future coastal flooding. The measurement of this objective is the degree to which the following policies are implemented</i></p>
<b>Policy 12.1</b>	<p><i>The Town shall establish the following level of service standards:</i></p> <ol style="list-style-type: none"> <li><i>m. Coastal flood waters will not substantially damage critical Town-owned facilities during a 100-year flood accounting for projected Intermediate-High sea level rise over the lifetime of the assets.</i></li> <li><i>n. Coastal flood waters will not pass through or over coastal flood control structures, constructed or permitted by the Town, during a 100-year flood accounting for projected Intermediate-High sea level rise over the lifetime of the structures.<sup>65</sup></i></li> </ol>

<sup>64</sup> A subsection on Aquifer Recharge currently follows Objective 11. The Aquifer Recharge subsection contains a separate unnumbered Goal, Objective 12, and related Policies. These should be renumbered following the recommended addition of a new Objective 12 related to Coastal Flood Control.

<sup>65</sup> This Level of Service standard should only be applied to improvements made after the adoption of seawall/bulkhead standards recommended in *Level-Up Lake Worth Shoreline*.

<b>Policy 12.2</b>	<ol style="list-style-type: none"> <li><i>1. The Town shall survey shoreline infrastructure top elevations, adjacent grades, and conditions along Lake Worth.</i></li> <li><i>2. The Town shall revise and strengthen bulkhead construction specifications in the Code of Ordinances.</i></li> <li><i>3. Revise and strengthen bulkhead maintenance and certification standards in the Code of Ordinances.</i></li> <li><i>4. The Town shall create an online seawall/bulkhead permit application system.</i></li> <li><i>5. The Town shall create and maintain a geospatial database and document management system for tracking bulkhead/seawall permit application materials, top elevations, adjacent grades, lengths, substantial improvements, certifications, waivers, and easements.</i></li> <li><i>6. The Town shall carry out technical, planning, coordination, advocacy, and grant-seeking activities to study the feasibility, environmental impacts, and cost-effectiveness of a storm surge barrier at the Lake Worth Inlet and other alternatives for Town-wide and neighborhood-scale coastal storm risk management.</i></li> </ol>
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**Table 18 Recommended changes to Coastal Management/Conservation Element Objectives and Policies.<sup>67</sup>**

<b>Coastal Management/Conservation Element</b>	The purposes of this Element are to plan for and, where appropriate, restrict development activities where such activities would damage or destroy coastal resources; to protect human life; to limit public expenditures in areas subject to destruction by natural disaster; and to promote the conservation, use, and protection of natural resources.
<b>Goal</b>	Preserve, protect and enhance the natural and historic resources of the town, and limit public expenditures in areas subject to destruction by natural disasters, while ensuring maximum enjoyment and minimum exposure of human life in the coastal zone.
<b>Objective 4</b>	Protect and restore wetland habitat and estuarine water quality in the Town, thereby protecting fisheries and marine habitat. The measurement of this objective is the extent to which wetland habitat and estuarine quality are protected, and the degree to which the following policies are implemented.
<b>Policy 4.3</b>	<i>Mitigate the negative impacts of coastal flooding runoff upon water quality in Lake Worth by establishing that coastal flood waters will not pass through or over coastal flood control structures, constructed or permitted by the Town, during a 100-year flood accounting for projected Intermediate-High sea level rise over the lifetime of the structures.<sup>68</sup></i>
<b>Policy 4.4<sup>69</sup></b>	<i>The Town shall continue to prohibit the use of septic tanks.</i>
<b>Objective 5</b>	The Town shall protect and restore its beaches and dunes. The measurement of this objective is the extent to which beaches and shores are protected and restored, and the degree to which the following policies are implemented.

<sup>66</sup> F.S. 163.3177(6)(g)(10) specifically calls out storm surge evacuation zones as an example criteria for AAA designation.

<sup>67</sup> Text of recommended changes or additions is italicized and bright green.

<sup>68</sup> This Level of Service standard should only be applied to improvements made after the adoption of seawall/bulkhead standards recommended in *Level-Up Lake Worth Shoreline*.

<sup>69</sup> Moved from existing Objective 15, Policy 15.4

<b>Policy 5.3</b>	The Town shall require that all new development and redevelopment on the Atlantic shore restore dunes, where restoration potential exists and is necessary, as determined by the Town and FDEP. <i>Primary dune restoration to a higher crest elevation and sediment volume along Reach 1 is a high priority for coastal flood control.</i>
<b>Objective 8</b>	The Town will provide and maintain existing public access to beach areas which have been nourished at public expense, publicly-owned beachfront parks, and the Municipal Docks on Lake Worth. The measurability of this objective is the extent to which public access is provided and maintained, and the degree to which the following policies are implemented
<b>Policy 8.6</b>	The Town will adapt public access facilities to also function as coastal flood control structures.
<b>Objective 15<sup>70</sup></b>	<i>The Town shall adopt and implement policies that limit development and public expenditure within the Coastal High Hazard Area (CHHA).</i>
<b>Policy 15.1</b>	Publicly funded facilities that subsidize development will not be built in the Coastal High Hazard Area. However, this limitation does not apply to such facilities necessary to serve projects approved under prior development orders but not yet built, or to such facilities necessary to maintain adequate levels of public facilities and services to existing residents. Nor does it apply to publicly funded projects associated with providing beach restoration, public access, recreation, resource restoration, or the rehabilitation, maintenance or construction of shore protection structures such as groins, revetments or seawalls.
<b>Policy 15.2</b>	The Town shall not expand utility systems or public services that would be necessitated by increased development within the Coastal High Hazard Area.
<b>Policy 15.3</b>	The Town will coordinate with, and will rely on, the Florida Department of Environmental Protection to enforce building limitations seaward of the Coastal Construction Control Line.
<b>Policy 15.4<sup>71</sup></b>	<i>The Town will mitigate hazards within the Coastal High Hazard Area through enforcement of building code requirements and other restrictions.</i>
<b>Policy 15.5<sup>72</sup></b>	The Town will limit residential development within the Coastal High Hazard Area.
<b>Policy 15.6<sup>73</sup></b>	The Town will limit public building and infrastructure in the CHHA.
<b>Policy 15.7<sup>74</sup></b>	Town-funded public facilities shall not be built in the coastal high hazard area, except for purposes of public safety and/or access, enhancement of water-related activities or significant resource protection.

<sup>70</sup> Objective 15 should be modified to disaggregate CHHA-related Policies from those dealing with climate change impacts.

<sup>71</sup> Changed number from existing Policy 15.5 and modified to disaggregate CHHA-related provisions.

<sup>72</sup> Changed numbering from existing Policy 15.6.

<sup>73</sup> Changed numbering from existing Policy 15.7.

<sup>74</sup> Changed numbering from existing Policy 15.8.

<i>Policy 15.8<sup>75</sup></i>	The Town will not permit density increases in the CHHA for redevelopment and new development unless such requests are consistent with this Comprehensive Plan.
<i>Objective 16<sup>76</sup></i>	The Town shall adopt and implement policies that increase community resiliency and protect property, infrastructure, and cultural and natural resources from the impacts of climate change, including sea level rise, changes in rainfall patterns, and extreme weather events.
<i>Policy 16.1<sup>77</sup></i>	The Town will continue to participate in the National Flood Insurance Program Community Rating System (CRS) and strive to maintain or improve its current CRS rating.
<i>Policy 16.2<sup>78</sup></i>	The Town will continue to enforce its building code and drainage requirements.
<i>Policy 16.3<sup>79</sup></i>	The Town will mitigate hazards through building practices and implementation of FEMA requirements, stormwater retention requirements, and other restrictions.
<i>Policy 16.3</i>	<i>The Town will update its existing Coastal Flood Vulnerability Assessment and underlying coastal flood risk model and stormwater flood model, to the extent practicable, to comply with State vulnerability assessment requirements in Section 380.093 of the Florida Statutes to meet eligibility requirements for Resilient Florida Grant Program implementation funding.</i>
<i>Policy 16.4</i>	<i>The Town shall create a Lake Worth water level monitoring program.</i>
<i>Policy 16.5</i>	<i>The Town shall adopt one or more ordinances designating and mapping Adaptation Action Areas within Town that experience coastal flooding due to extreme high tides and storm surge, and that are vulnerable to the related impacts of rising sea levels for the purpose of prioritizing funding for infrastructure and adaptation planning<sup>80</sup>. Adaptation Action Areas shall be included in the Future Land Use Map of the Town. Adaptation Action Area 1 shall be designated as encompassing all lands within the municipal boundaries of the Town of Palm Beach that are designated as evacuation zones for storm surge.<sup>81</sup></i>

<sup>75</sup> Changed numbering from existing Policy 15.9.

<sup>76</sup> Changed numbering from existing Objective 15 to disaggregate CHHA-related Policies from those dealing with climate change impacts on flooding.

<sup>77</sup> Changed numbering from existing Policy 15.1.

<sup>78</sup> Changed numbering from existing Policy 15.3 and modified to disaggregate CHHA-related provisions.

<sup>79</sup> Changed numbering from existing Policy 15.5 and modified to disaggregate CHHA-related provisions.

<sup>80</sup> This language aligns with the Adaptation Action Area definition in F.S. 163.3164.

<sup>81</sup> Adaptation Action Area 1 could alternatively be designated based on updated PB-FRM results meeting State standards, or areas within flood hazard areas as recommended herein to be redefined in the Code of Ordinances. Other embedded Adaptation Action Areas could be designated in the future, for example areas requiring improvements to implement a storm surge barrier at the Lake Worth Inlet, specific neighborhood-scale flood control system service areas, or as identified through future technical or public planning process.

**Policy 16.6**

*For the purposes of improving resilience to coastal flooding resulting from high-tide events, storm surge, flash floods, stormwater runoff, and related impacts of sea level rise<sup>82</sup> in Adaptation Action Area 1, the Town will:*

- 7. Survey critical elevations of Town facilities for use in adaptation prioritization.*
- 8. Survey shoreline infrastructure top elevations and conditions along Lake Worth for use in flood risk modeling, adaptation prioritization, and code enforcement.*
- 9. Revise and strengthen bulkhead construction specifications in the Code of Ordinances.*
- 10. Revise and strengthen bulkhead maintenance and certification standards in the Code of Ordinances.*
- 11. Create an online seawall/bulkhead permit application system.*
- 12. Create and maintain a geospatial database and document management system for tracking bulkhead/seawall permit application materials, top elevations, adjacent grades, lengths, substantial improvements, certifications, waivers, and easements.*
- 13. Amend the charter of the Municipal Services entity to include coastal flood control services.*
- 14. Establish level of service standards for coastal flood control infrastructure and mitigation of Town asset coastal flood vulnerabilities.*
- 15. Carry out technical, planning, coordination, advocacy, and grant-seeking activities to study the feasibility, environmental impacts, and cost-effectiveness of a storm surge barrier at the Lake Worth Inlet and other alternatives for Town-wide and neighborhood-scale coastal flood control.*
- 16. Adopt amendments to the Florida Building Code through the Code of Ordinances, establishing higher standards for substantial improvement and substantial damage definitions and minimum elevation requirements for residential and non-residential structures.*
- 17. Revise and expand the definition in the Code of Ordinances of flood hazard areas within which floodplain management and flood-resistant construction standards apply.*
- 18. Report on implementation progress and key metrics every other year, with a comprehensive report every ten years.*

Table 19 Recommended changes to Intergovernmental Coordination Element Goals, Objectives, and Policies.<sup>83</sup>

<i>Intergovernmental Coordination Element</i>	The purpose of this Element is to identify and resolve incompatible aspects of proposed comprehensive plans of local governments, and to determine and respond to the needs for coordination processes and procedures with adjacent local governments and regional and state agencies.
<i>Goal 1</i>	An effective government which utilizes intergovernmental coordination to maximize efficiency in providing services and facilities; to reduce duplication of effort; and, to solve common problems.
<i>Objective 1.2</i>	In order to ensure coordination mechanisms to address impacts of developments proposed in and adjacent to the Town that may affect adjacent local governments, the Town will continue to participate on various intergovernmental advisory committees, boards, commissions or groups serving the Town.
<i>Policy 1.2.7</i>	Issues of regional and state significance shall be coordinated with the Treasure Coast Regional Planning Council, the South Florida Water Management District, and/or State agencies having jurisdictional authority. Issues to be pursued include but are not limited to the following:  ... <i>k. Strategies and funding to mitigate coastal flood risks from sea level rise and coastal storms along the Lake Worth and Atlantic Ocean shorelines.</i>
<i>Goal 3</i>	It is the goal of the Town of Palm Beach to work with Federal, State, County, and adjacent municipalities or agencies to protect and restore the existing coastal dune system and beaches along the City's beachfront, establish standards to minimize impacts resulting from beach erosion, and mitigate future coastal flood risks along the Lake Worth shoreline.
<i>Objective 3.2</i>	The Town will coordinate with appropriate agencies to address future coastal flood risks along the Lake Worth shoreline caused by sea level rise and extreme weather events, resulting in significant exposure of highly developed and populated areas and critical infrastructure.
<i>Policy 3.2.1</i>	<i>Seek State and Federal support for a U.S. Army Corps of Engineers Coastal Storm Risk Management Feasibility Study for Lake Worth, including an evaluation of a storm surge barrier at the Lake Worth Inlet.</i> <i>a. Conduct outreach to USACE, FDEP, FDOT, Palm Beach County, neighboring municipalities, Port of Palm Beach, and SFWMD.</i> <i>b. Conduct outreach to Federal and State elected officials.</i> <i>c. Support the Project Sponsor (which may be the Town) in submitting a feasibility study proposal to USACE and to Federal elected officials</i> <i>d. Engage elected officials to advocate for Federal authorization and appropriations and State grant support for non-Federal cost-sharing.</i>
<i>Policy 3.2.2</i>	<i>Coordinate with the MPO, FDOT, Palm Beach County, the City of West Palm Beach, and the Town of South Palm Beach on plans and funding to mitigate future coastal flood risks to regionally significant roadways, including the potential siting of neighborhood-scale or Town-wide coastal flood control infrastructure within transportation rights-of-way.</i>

<sup>83</sup> Text of recommended changes or additions is italicized and bright green, except that red is used where background colors are bright green or teal.

Table 20 Recommended changes to Capital Improvements Element Objectives and Policies.<sup>84</sup>

<i>Capital Improvements Element</i>	The purpose of this Element is to evaluate the need for public facilities, as identified in the other Plan Elements; to estimate the cost of improvements for which the Town of Palm Beach has fiscal responsibility; to analyze the Town's fiscal capability to finance and construct such improvements; and to adopt financial policies to guide funding and construction of capital improvements when required, based on needs identified in the other Plan Elements.
<i>Goal</i>	The Town shall, using sound fiscal policies, provide adequate services and facilities in a timely and efficient manner.
<i>Objective 3</i>	The Town shall coordinate its land use decisions and fiscal resources with its schedule of capital improvements identified as necessary to maintain the Town's adopted Level of Service (LOS) standards and meet existing and future facility needs. These capital improvements and facility improvements shall have first priority for allocation of the Town's fiscal resources available for capital expenditures.
<i>Policy 3.1</i>	<p>The Town shall utilize the following Level of Service standards, found in other elements of the Town's Comprehensive Plan, for public facilities in the Town.</p> <p>3.1a Stormwater Discharge or Runoff --</p> <p>1) Flooding will not occur during a one-year storm for systems served by pumping stations or during a three-year storm for systems with gravity outfalls, and, the minor flooding associated with a five-year storm would be carried off within sixty minutes. <i>(Consider referencing a specific data source, storm duration, and precipitation depth: "during a 2-year, 1-hour storm based on NOAA Atlas 14 Upper 90% Confidence Interval precipitation depth")</i></p> <p>2) Negative impacts of stormwater discharge upon water quality in Lake Worth are ameliorated by the retention of the first two inches of rainfall prior to discharge into the Town system; or the post-development runoff does not exceed predevelopment runoff for a three-year one-hour storm, whichever is greater. <i>(Consider referencing a specific data source and precipitation depth: "for a 3-year, 1-hour storm based on NOAA Atlas 14 Upper 90% Confidence Interval precipitation depth")</i></p> <p>...</p> <p>3.1g Coastal Flood Control --</p> <p>1) <i>Coastal flood waters will not substantially damage critical Town-owned facilities during a 100-year flood accounting for projected Intermediate-High sea level rise over the service life of the assets.</i></p>

<sup>84</sup> Text of recommended changes or additions is italicized and bright green, except that red is used where background colors are bright green or teal.

<i>Objective</i>	<p><i>2) Coastal flood waters will pass through or over coastal flood control structures, constructed or permitted by the Town, during a 100-year flood accounting for projected Intermediate-High sea level rise over the service life of the structures.</i></p> <p>The Town shall include in its Schedule of Capital Improvements (SCI) all capital improvements needed within the five-year period covered by its CIP, including replacement of sanitary sewer infrastructure recognized as obsolete or worn-out and improvements needed to eliminate recognized deficiencies in its drainage system <i>and coastal flood control infrastructure</i>, as identified in the Comprehensive Plan.</p>
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