



AGENDA MEMORANDUM

Planning Department

Land Development Code Subcommittee Meeting Date: August 13, 2024

To: Land Development Code Subcommittee

From: Kim Ruiz, Principal Planner

Date: August 5, 2024

CITY COUNCIL INITIATED PROPOSED CONSIDERATION

At their April 5, 2022, meeting, City Council directed the Planning Commission and staff to review and provide recommendations for the definition of ***open body of water***. The intent of the review is to ensure definitions are clear and the references to these definitions in the Code are also understandable.

REVIEW TIMELINE

- June 14, 2022 – Planning Commission Meeting – The Planning Department presented a proposed revision to the ***open body of water*** definition and introduced definitions for ***mean high water, mean high-water line, mean low water, and wetlands*** based upon definitions adopted in the Florida Statutes, Chapters 117 and 373. The discussion provided in the memorandum explained how Planning staff determined the proposed revisions and additions to the Land Development Code (LDC aka *Sanibel Code*) for clarification.
 - After a lengthy discussion, the Planning Commission instructed Planning staff to also evaluate using the Ecological Zone Maps in determining the presence of ***open body of water*** and to consider a de minimis standard for areas to be excluded from being considered an open body of water. The definitions for ***mean high water, mean high-water line, mean low water, and wetlands*** were accepted as pertinent additions to the *Sanibel Code*. Other amendments to the *Sanibel Code* in relation to open body of water were included in the meeting material but were not discussed because a consensus on delineating an open body of water was not yet achieved. Staff was directed to bring revisions to the LDC Subcommittee in August.
- August 23, 2022 – Land Development Code Subcommittee Meeting – Planning staff recommended a minor revision to the ***open body of water*** definition and the addition of a new section **Determination and Delineation of Open Body of Water**.
 - A discussion on determination and delineation of open body of water was provided with the proposed standards for delineating open bodies of water along with a de minimis exception. The subcommittee members determined another LDC Subcommittee meeting should be held for further consideration of the proposed amendments.

Sanibel is and shall remain a barrier island sanctuary

- March 12, 2024 – Planning Commission Meeting – Planning staff provided updated amendments to the Sanibel Code based upon the LDC Subcommittee meeting on August 23, 2022.
 - The Planning Commission continued discussion of the proposed amendments and had further questions regarding the USGS monitoring well data from the 1970s. Staff was directed to further evaluate available data.
- June 11, 2024 – LDC Subcommittee Meeting – Planning staff presented additional information and analysis on the USGS groundwater monitoring wells. Data from 2005-2017 from one monitoring well with daily recording of water level was used to determine a mean high-water level (MHWL) for the groundwater to be 1.26-feet NAVD and confirm that at this MHWL there would be inundation at a depth of 6-inches for 3.7 months. A new online tool for evaluating ground elevations through USGS/NRCS LiDAR (data from 2018) was introduced to the Planning Commissioners and examples shown to explain how this tool may be used for preliminary site evaluations. Planning staff also noted there have been questions raised by the public concerning whether human-made bodies of water should be evaluated or treated differently from natural open bodies of water.
 - The LDC Subcommittee agreed with Planning staff's recommendations to conduct additional review of the USGS/NRCS LiDAR and to further evaluate if human-made open bodies of water may be filled.
- August 13, 2024 – LDC Subcommittee Meeting – Planning staff will present the proposed amendments. The amendments have been updated based upon the data evaluation, questions from the LDC Subcommittee, and public input. The updates include clarifying the use of 1.3-foot NAVD elevation as an indicator of the presence of an open body of water; specifications for administrative waivers from the open body of water setback; clarifying that open bodies of water that are 100-square feet or less may be filled; adding the requirement for on-site wildlife habitat enhancement when an open body of water is filled; including standards for reconfiguring ditches that cross property lines; and adding the definition of control tide station.

BACKGROUND

The definition of open body of water was included in the original 1985 adopted *Sanibel Code*. The current definition is the same as the original:

Open body of water means any natural or artificial area that is inundated with water at least three months of an average calendar year. Such bodies include, but are not limited to, lakes, ponds rivers, creeks, marshes, sloughs, ditches, canals, bays, inlets, lagoons, swamps, bayous, cuts, gulfs, and retention ponds.

Defining “open body of water” is an important aspect of land development on Sanibel because the presence and size of an open body of water within a parcel may affect the development intensity (i.e., number of allowed dwelling units) and site design (i.e., setbacks and developed area).

- *Sanibel Code* Section 86-91(1) subtracts the area of an open body of water from the parcel size for lots within modern platted subdivisions before calculating whether a dwelling unit may be assigned to a lot based upon the development intensity allocated in the *Sanibel Plan*.
- The location and size of open bodies of water are important factors in the site design process to ensure the general conditions standards are met based upon the Ecological Zone and the 20-foot setback for structures from any open body of water.
- General conditions standards include maximum impervious cover, and maximum vegetation removal and developed area, as a percentage of the lot area. Lot area is defined as “the total area included within the lot lines, excluding roads, rights-of-way, and open bodies of water” (*Sanibel Code* Section 78-1).

Therefore, how an open body of water is determined affects whether a lot is developable and to what extent. Amending the definition to clarify how to identify the limits of an open body of water will provide a consistent, quantitative application of the *Sanibel Code*.

RESEARCH

Planning staff researched the current and historic Sanibel Plans and Sanibel Codes for existing language and resources that would aid in clarifying the open body of water definition. Planning staff was specifically looking for information that would clarify how groundwater elevations were measured to utilize wet season groundwater elevations as a quantitative standard for identifying the boundary of an open body of water that is located within the interior of the island. The coastal water (e.g., Gulf of Mexico, Pine Island Sound, Tarpon Bay, Dinkins Bayou) boundary is determined by the mean high water line (MHWL) established by the State of Florida. Staff research is summarized below:

- A groundwater elevation study was conducted by the US Geological Survey (USGS) between 1971 and 1977 across the island at specific monitoring well locations; and
- The USGS groundwater elevation information is depicted on a map title “**Maximum Water Table Configuration for Sanibel Island, Lee County, 1977,**” by Richard K. Krulikas, 1988, showing the location of the monitoring wells and groundwater elevation contours (**Attachment A**); and
- The USGS groundwater elevation data is used in designing stormwater management to meet the *Sanibel Code* required on-site retention from the rainfall of a five-year, one-hour duration storm (Section 118-828); and
- The USGS groundwater elevation data has been used in designing on-site septic tanks for wastewater treatment; and

- The average of the mean high groundwater level (i.e., average wet season groundwater level) from each USGS monitoring states equates to 1.3 feet NAVD (**Attachment B**) which has been used as a means for identifying the boundary of an open boundary of water; and
- *Sanibel Code* Chapter 118 – Utilities, Section 118-59 – Definitions, includes a definition for **groundwater level** (or **water table elevation**) as “the elevation recorded by U.S. Geological Survey and depicted on the map title “Maximum Water Table Configuration for Sanibel Island, Lee County, 1977,” by Richard K. Krulikas, 1988, available at City Hall in the office of the city manager. The water table elevation for any location of interest not on a contour line or at a well shown on the map shall be determined by the city manager by extrapolation.”
- *Sanibel Code* Chapter 82 – Administration, Article IV – Development Permits, Section 82-382(7)(m) provides specification for delineating an open body of water on the existing conditions survey required when filing for a development permit: “If the parcel contains open bodies of water, roads or rights-of-way or easements, the area (in square feet) of each, indicated separately. **The surface area of an open body of water shall be calculated to the contour of the average elevation of the groundwater of the water table aquifer. The edge of an open body of water shall be represented by the mean high water line.**”

Planning staff also referred to Florida Statutes as a source of definitions, agreed upon and used statewide, that could be useful in identifying the boundaries of an open body of water. The following terms are included in the state statutes to provide consistent application throughout the state, and are often adopted by local jurisdictions into their land development codes:

- *Mean high water*
- *Mean high-water line*
- *Mean low water*
- *Wetlands*

See **Attachment C** for the definitions.

SENATE BILL 250

Senate Bill 250 was adopted into the Laws of Florida, Chapter 2023-304. In Section 14, municipalities are prohibited from proposing or adopting more restrictive or burdensome amendments to its comprehensive plan or land development regulations; or propose or adopt more restrictive or burdensome procedures concerning review, approval of issuance of a site plan, development permit, or development order before October 1, 2024.

The proposed amendments to the City of Sanibel’s land development code contained within this report are not more restrictive than the development regulations existing prior to Hurricane Ian. The proposed amendments are intended to clarify the methods of identifying and delineating an open body of water based upon existing standards in the *Sanibel Code* and simplifying the review process. The review process will be simplified through the following:

- Addition of definitions for terms used in the *Sanibel Code* based upon Florida Statutes (mean high water, mean-high water line, mean low water and wetlands) and stormwater management technical definitions (ditch and swale);
- Addition of Sec. 86-45 – Determination and Delineation of Open Body of Water, clarifying the process based upon whether the property is along coastal waterways or an inland area, and providing a *De minimis* Impacts standard;
- Revising Sec. 82-363 – Environmental Assessment Report, to allow the city manager or the manager’s designee to determine whether an environmental assessment report is necessary to properly evaluate a proposed development site plan, instead of the current requirement that staff submit a request to the Planning Commission in order to have an environmental assessment report for a proposed development. This revision would allow the requirement for an environmental assessment report to be identified during a preapplication meeting when a site design is in a preliminary state, instead of after receiving a permit application with detailed engineered plans, saving the applicant time and money;
- Converting the “Maximum Water Table Configuration for Sanibel Island, Lee County, 1977” map into a GIS based map with elevations in NAVD;
- Adding an administrative waiver from open body of water setback for projects meeting specified criteria, eliminating the need for a property owner to submit for a variance request when meeting the standards for an administrative waiver;
- Clarifying the application of open body of water setback for accessory structures; and
- Replacing various references to groundwater and water table aquifer to consistently refer to groundwater level which is defined in Chapter 118.

DISCUSSION

The open body of water definition encompasses both natural and human-made features mainly influenced either by the tidal cycle of the gulf or the groundwater elevation for interior areas of the island. Lakes, ponds, rivers, creeks, bayous, bays, gulfs, inlets, and canals are commonly referred to as a body of water. Marshes, sloughs, and swamps are familiar to the public as wetland areas. These types of wetlands also typically hold standing water above the ground for three or more months in southwest Florida, and therefore, provide valuable environmental benefits including flood attenuation, water table aquifer recharge, water quality treatment, and wildlife habitat. This is a lot of information to condense into a two-sentence definition and may have resulted in a misunderstanding of how to identify and delineate an open body of water.

In an effort to clarify the boundary of an open body of water for interior areas of the island, City staff had decided to use the average high groundwater elevation of 1.3 feet NAVD-88 as a benchmark for

field verifying whether an open body of water was present. The USGS groundwater level data is a valuable tool to utilize in determining the boundary of an open body of water. The use of 1.3 feet NAVD as the defining elevation for the limits of an open body of water was derived from averaging the 7-years of data at each monitoring well, and then calculating an average of all the averages (**Attachment B**). Evaluation of the data from January 2005 through December 2017 from the one USGS monitoring well (L-1403) for this 12-year period confirmed a mean high-water level for the groundwater at 1.26-feet NAVD. Staff confirmed that a ground elevation of 1.26-feet NAVD would be inundated to a depth of 6-inches for an average of 3.7 months using the 2005-2017 data. This is the most recently available groundwater level data. The analysis of the 2005-2017 data further supports using 1.3-feet NAVD as an indicator of a potential open body of water. The proposed Section 86-45 has been updated to reflect the use of 1.3-feet NAVD in relation to identifying the boundary of an open body of water.

Adding definitions to the *Sanibel Code* from the Florida Statutes pertaining to wetlands and tidal elevations would further ensure consistency in identifying an open body of water during both project design and site plan review. A statewide definition of wetlands was established in the Florida Statutes in 1994, in order to have a consistent definition applied throughout the state with methodology for delineating wetlands. Many local jurisdictions added the definition of wetlands from the Florida Statutes into their development codes. The terms *mean high water*, *mean high-water line*, and *mean low water* are also defined in the Florida Statutes to provide consistency of application statewide. **Attachment C** includes the definitions for *wetlands*, *mean high water*, *mean high-water line*, and *mean low water* as listed in the Florida Statutes.

RECOMMENDATION

The Planning Department is recommending amendments to the *Sanibel Code* for a consistent and quantitative means of identifying and delineating the location of an open body of water. The following summarizes the recommended amendments:

Section 78-1. Definitions (page 8)

- Revisions to the existing open body of water definition.
- Adding definitions for ditch, mean high water, mean high-water line, mean low water, swale, and wetlands.

Chapter 86. – Development Standards, Article II. – Site Preparation (pages 9-10)

- Add a new section specifying the determination and delineation of open body of water (Sec. 86-45). Proposed language updated based upon the evaluation of 2005-2017 groundwater level data.

Chapter 82 – Administration, Article IV. – Development Permits, Division 1. – Generally, Section 82-363. – Environmental assessment report (pages 10-13)

- Revisions to *Sanibel Code* Section 82-363. - Environmental assessment report, including establishing an administrative process for the review and approval of the report. If city staff and the applicant do not come to an agreement on a site plan and any mitigation plan, then a long form development permit will be brought to the Planning Commission.

Chapter 82 – Administration, Article IV. – Development Permits, Division 2. – Procedure, Subdivision I. – Generally, Sec. 82-382. Filing procedure (page 13)

- Revises standard 7(m) to refer to new Section 86-45 for delineation of open body of water.

Chapter 118 – Utilities, Article II. – Water, Section 118-59. – Definitions (page 13)

- Revise the definition of *Groundwater level (or water table elevation)* to reference the groundwater table map prepared by the Planning Department (**Attachment D**) based upon the 1977 map currently referenced in the *Sanibel Code*. This will provide a more legible map and allow for an online GIS map.

Chapter 126 – Zoning, Article VI. – Districts Generally, Section 126-250. – Administrative waiver from open body of water setback (page 14)

- Proposed new section establishing standards for an administrative waiver from the 20-foot setback from an open body of water.

Chapter 126 – Zoning, Article XIV. – Supplementary District Regulations, Division 2. – Accessory Structures, Sec. 126-852. – Requirements (page 14-15)

- Addition of open body of water setback standards to verify which accessory structures are exempt from the 20-foot open body of water setback.

Chapter 126 – Zoning, Article XIV. – Supplementary District Regulations, Division 3. – Building and Area Requirements, Subdivision III. – Lots, Sec. 126-977. - Lots with open bodies of water. (page 15)

- Revisions to reference amended and new standards and definitions.

PROPOSED AMENDMENTS TO THE LAND DEVELOPMENT CODE

Chapter 78. – General Provisions

Sec. 78-1. – Rules of construction and definitions

PROPOSED AMENDMENT TO EXISTING DEFINITION:

Open body of water means any natural or artificial area that is inundated with water at least three months of an average calendar year. Such bodies include, ~~but are not limited to,~~ lakes, ponds, rivers, creeks, marshes, sloughs, ditches, canals, bays, inlets, lagoons, swamps, bayous, passes, ~~cuts,~~ gulfs, and retention ponds.

NEW DEFINITIONS PROPOSED:

Control tide station means a place so designated by the Florida Department of Environmental Protection or the National Ocean Service which continuous tidal observations have been taken or are to be taken over a minimum of 19 years to obtain basic tidal data for the locality.

Ditch means a linear human-made land feature that has been excavated to a depth below the groundwater table for the purpose of storing and conveying stormwater.

Mean high water means the average height of the high waters over a 19-year period. For shorter periods of observation, “mean high water” means the average height of the high waters after corrections are applied to eliminate known variations and to reduce the result to the equivalent of a mean 19-year value.

Mean high-water line means the intersection of the tidal plane of mean high water with the shore.

Mean low water means the average height of the low waters over a 19-year period. For shorter periods of observation, “mean low water” means the average height of low waters after corrections are applied to eliminate known variations and to reduce the result to the equivalent of mean 19-year value.

Swale means a linear human-made land feature that has been excavated to a depth below existing grade but above the groundwater table for the main purpose of conveying stormwater and may also serve to temporarily store stormwater following a rainfall event or during the wet season.

Wetlands means those areas that are inundated or saturated by surface water or groundwater at a frequency and a duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soils.

Chapter 86. – Development Standards, Article II. – Site Preparation

Sec. 86-45. – Determination and Delineation of Open Body of Water

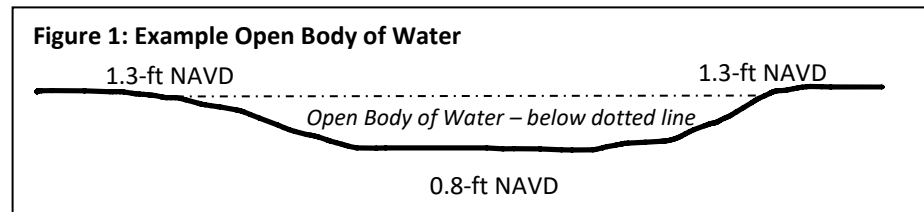
The following rules shall apply in determining whether an open body of water is present and how to delineate the boundary of an open body water:

(1) Coastal Waterways

- a. Coastal waterways are those open bodies of water where the water level is primarily determined by tides including:
 - i. Gulf of Mexico, Pine Island Sound, Tarpon Bay, San Carlos Bay, Blind Pass, Dinkins Bayou, and Clam Bayou; and
 - ii. Mangrove forest; and
 - iii. Human-made canals connected to Dinkins Bayou, San Carlos Bay, and Pine Island Sound.
- b. The boundary of a coastal body of water is the mean high water line. In determining mean high water for a property, the tide station closest to the property that is designated as the control tide station by the Florida Department of Environmental Protection or the National Ocean Service shall be used and may be verified through the Florida Department of Environmental Protection.

(2) Inland Water Bodies

- a. Inland water bodies are those open bodies of water where the water level is primarily determined by the groundwater level including:
 - i. Human-made canals that do not have direct access to coastal waterways.
 - ii. Lakes and ponds, both natural and human-made.
 - iii. Ditches.
 - iv. Deep wetlands including marshes, sloughs, and swamps which have one or more of the following characteristics:
 1. Concave land area with an edge elevation of 1.3-feet NAVD and a center elevation of 0.8-feet NAVD or lower (Refer to Fig. 1);



2. Land area with an elevation of 1.3-feet NAVD, or lower, and one or more of the following:
 - a. Presence of adventitious rooting on buttonwood trees (*Conocarpus erectus*);
 - b. Presence of high water line or elevated lichen line on trees;
 - c. Presence of pond apple (*Annona glabra*) or red mangrove (*Rhizophora mangle*).
- b. The top of bank may be used as the boundary of a human-made pond or lake.

(3) De minimis Impacts

- a. An open body of water area delineated entirely within a subject property which is 100 square feet or less in total surface area is considered *de minimis*, therefore, no setback from the open body of water is required for principal or accessory structures, and it may be filled through a short-form development permit.

Chapter 82 – Administration, Article IV. – Development Permits, Division 1. – Generally
Sec. 82-363. - Environmental assessment report.

When a proposed development involves areas of land which may contain rare, threatened, or endangered species of wildlife and their habitats; or on which there are rare, threatened, or endangered species of plants; or on which there are significant or exceptional examples of native vegetation; or which are exceptionally low or wet with potential open bodies of water (typically D1 or D2 wetland zones), the ~~planning commission~~ city manager or the manager's designee may, in ~~its~~ their discretion, require the filing by the applicant of an environmental assessment report to ensure any adverse impacts are minimized through revisions to site design, on-site mitigation, or off-site mitigation (if available within city limits). This report shall contain the information identified by the city manager or the manager's designee from the following ~~information subsections~~, or such other or additional information as may be required, ~~in order to address particular environmental problems, or potential problems on the site:~~ to evaluate the site-specific environmental conditions in relation to the development design as identified during a pre-

application meeting (e.g., wildlife information may not be pertinent to a site where additional information is needed to verify open bodies of water):

(1) An analysis of the present environmental conditions:

a. Physical conditions of the site:

1. Topography, with reference to an applicable portion of the city's topographical map.
2. Drainage of the site, with reference to the drainage plan.
3. Identification of the soils located on-site.

b. Vegetation on the site:

1. Identification of the plant community, with reference to the vegetation plan.
2. Identification of rare, threatened and endangered species present.
3. Identification of any critical areas.

c. Wildlife habitat on the site and its immediate environs:

1. Identification of wildlife.
2. Identification of rare, threatened or endangered species.
3. Identification of critical areas.

d. Wetlands and open bodies of water on the site:

1. Identification of wetlands by boundary and square footage.
2. Identification of the boundary and square footage of open bodies of water.

(2) A proposed plan to mitigate or compensate for impacts to wetlands or open bodies of water must, at a minimum, meet the following:

- a. Any proposed impact to wetlands must meet the mitigation standards as required by the Plan for Wetland Protection, Sanibel Plan Section 3.2.2.

- b. Ditches that cross property boundaries must be maintained or reconfigured to provide the same amount of water storage and water conveyance as the existing ditch. Reconfigured ditches must be designed to incorporate environmental enhancements to the shoreline and wildlife habitat when the following standards are met:
 - a. A side slope that is no steeper than 3:1;
 - b. Maximum depth not to exceed the bottom elevation of the existing ditch;
 - c. Side slope planted with native herbaceous species (minimum 1-gallon container installed 3-foot on center); and
 - d. Varying depths within the ditch to create planting shelves for native herbaceous wetland species (plugs or 2-inch liners may be used planted 1-foot on center).
- c. Any proposed filling of an open body of water shall not decrease the water storage capacity of the subject property, as verified through a stormwater management plan prepared by a State of Florida licensed professional engineer.
- d. Any proposed filling of an open body of water must include onsite enhancements to wildlife habitat that either replaces habitat lost due to the filling the open body of water or provides an overall wildlife habitat improvement based upon the entire development site design.

~~(2)~~ (3) A discussion of the changes to the conditions that the proposed project will cause on the site, in terms of subsections (1)a, b, ~~and~~ c, and d of this section, including the following:

- a. A discussion of what actions have been taken in the design and layout of the proposed project in order to eliminate, or mitigate, adverse effects that will result from the development.
- b. A discussion of what other alternate developments were considered for the site and an indication of whether their adverse impacts were greater or lesser than the present plan for development.
- c. For projects that are proposed to impact an open body of water, a discussion of how the project meets Section 126-250.
- ~~e~~ d. An analysis of why the project proposed is the best choice for utilization of the parcel, when considering the information set forth in this report.

~~(3)~~ (4) This environmental assessment report is not intended to be a document which merely catalogs conditions, plant life and animal life, and then concludes that the project will not adversely affect it. It is intended to be an analysis of specific conditions prior to development and a detailed statement of various environmental factors after development to identify a site plan that minimizes adverse impacts and provides for mitigation of those impacts. The report should be

brief, concise and to the point. ~~It should not exceed 15 pages in length, plus maps, tables, and other documents necessary to illustrate the report and to support its conclusions.~~ Where possible, reference should be made to other documents required by this article.

~~(4)~~ (5) In reviewing this report, the ~~planning commission~~ city manager or manager's designee shall consider the conclusions reached therein and determine whether other mitigation techniques are available and could reasonably be employed to further lessen any adverse impacts that have been identified.

(6) In cases where an agreement between staff and applicant on a site plan and mitigation plan cannot be made, the proposed site plan and mitigation plan will be brought forward to the Planning Commission as a long-form development permit.

**Chapter 82 – Administration, Article IV. – Development Permits, Division 2. – Procedure,
Subdivision I. – Generally
Sec. 82-382. Filing procedure**

...

(7) An up-to-date (meaning accurately reflecting present conditions) certified survey of the subject property bearing the signature and raised seal of a state registered land surveyor or professional engineer, If the borders or contains an open body of water, the survey must be dated within six months prior to the date the application is filed. The survey must indicate or comply with the following:

...

m. If the parcel contains open bodies of water, roads or road rights-of-way or easements, the area (in square feet) of each, indicated separately. The ~~surface area~~ boundary of an open body of water shall be delineated following the standards established in Sec. 86-45. ~~calculated to the contour of the average of the groundwater of the water table aquifer. The edge of an open body of water shall be represented by the mean high water line.~~

...

**Chapter 118 – Utilities, Article II. – Water
Section 118-59. – Definitions**

Groundwater level (or water table elevation) means the elevation of the mean high water level as shown on the "Water Table Elevations Map" prepared by the Planning Department (30 July 2024) available from the City. ~~recorded by U.S. Geological Survey and depicted on the map titled "Maximum Water Table Configuration for Sanibel Island, Lee County, 1977," by Richard K. Krulik, 1988, available at City Hall in the office of the city manager.~~ The water table elevation for any location of interest not ~~on a contour line or~~ at a well shown on the map shall be determined by the city manager by extrapolation.

Chapter 126 – Zoning, Article VI. – Districts Generally

Section 126-250. – Administrative waiver from open body of water setback

The city manager or the manager’s designee is authorized to approve a waiver from the open body of water setback requirements to facilitate the issuance of a development permit for parcels containing an open body of water and parcels abutting an off-site open body of water. Such waiver may be issued only upon a finding by the city manager, or the manager’s designee, that the following criteria have been met:

- (1) An environmental assessment report following the standards of Section 82-363 is provided;
- (2) No reduction in the open body of water setback to the Sanibel River is proposed;
- (3) There are no wading bird nests or rookeries within or adjacent to the open body of water; and
- (4) The project design provides protection to the open body of water through means such as incorporating an enhanced native plant buffer around the open body of water, a retaining wall, or combination of physical barrier and native planting.
- (5) The reduction in the open body of water setback is not detrimental to the public safety.

Chapter 126 – Zoning, Article XIV. – Supplementary District Regulations, Division 2. – Accessory Structures

Sec. 126-852. - Requirements

(4) *Open body of water setback.* Accessory buildings and structures shall comply with the open body of water setback requirements for a principal structure, except as follows:

- a. Open body of water setback requirements shall not apply to docks, boat davits or boat lifts, and access walkways or paths to docks.
- b. Open body of water setback requirements shall not apply to accessory revetments, seawalls, or alternative shoreline stabilization projects.
- c. Open body of water setback requirements shall not apply to driveways proposed to cross an open body of water where the crossing is the minimum necessary to provide access to the principal use of the lot and the hydrological connection will not be disrupted.
- d. Open body of water setback requirements shall not apply if the open body of water qualifies as *de minimis* per Section 86-45(5).

e. The open body of water qualifies for an administrative waiver from the open body of water setback per Section 126-250.

Chapter 126 – Zoning, Article XIV. – Supplementary District Regulations, Division 3. – Building and Area Requirements, Subdivision III. – Lots

Sec. 126-977. - Lots with open bodies of water.

For lots or parcels containing, or being developed with, an open body of water, the following regulations shall apply in determining the maximum permitted coverage with impermeable surfaces, developed area, and vegetation removal:

(1) If a parcel is being developed with an open body of water which is to be excavated to or below the average ~~elevation of the groundwater of the water table aquifer~~ groundwater level, the surface area of that open body of water which is represented by the contour of the average ~~elevation of the groundwater of the water table aquifer~~ groundwater level shall be considered as being cleared of vegetation and as part of the developed area.

(2) If a parcel is being developed that contains an open body of water which has been excavated to or below the average ~~elevation of the groundwater of the water table aquifer~~ groundwater level, the surface area of that open body of water which is represented by the contour of the average ~~elevation of the groundwater of the water table aquifer~~ groundwater level shall be excluded from the land area against which is applied the percentage limitations on coverage with impermeable surfaces, vegetation removal and developed areas.

RECOMMENDATION

Planning staff recommends that the proposed amendments be forwarded to the Planning Commission for approval.

ATTACHMENTS:

A – Groundwater Level Study

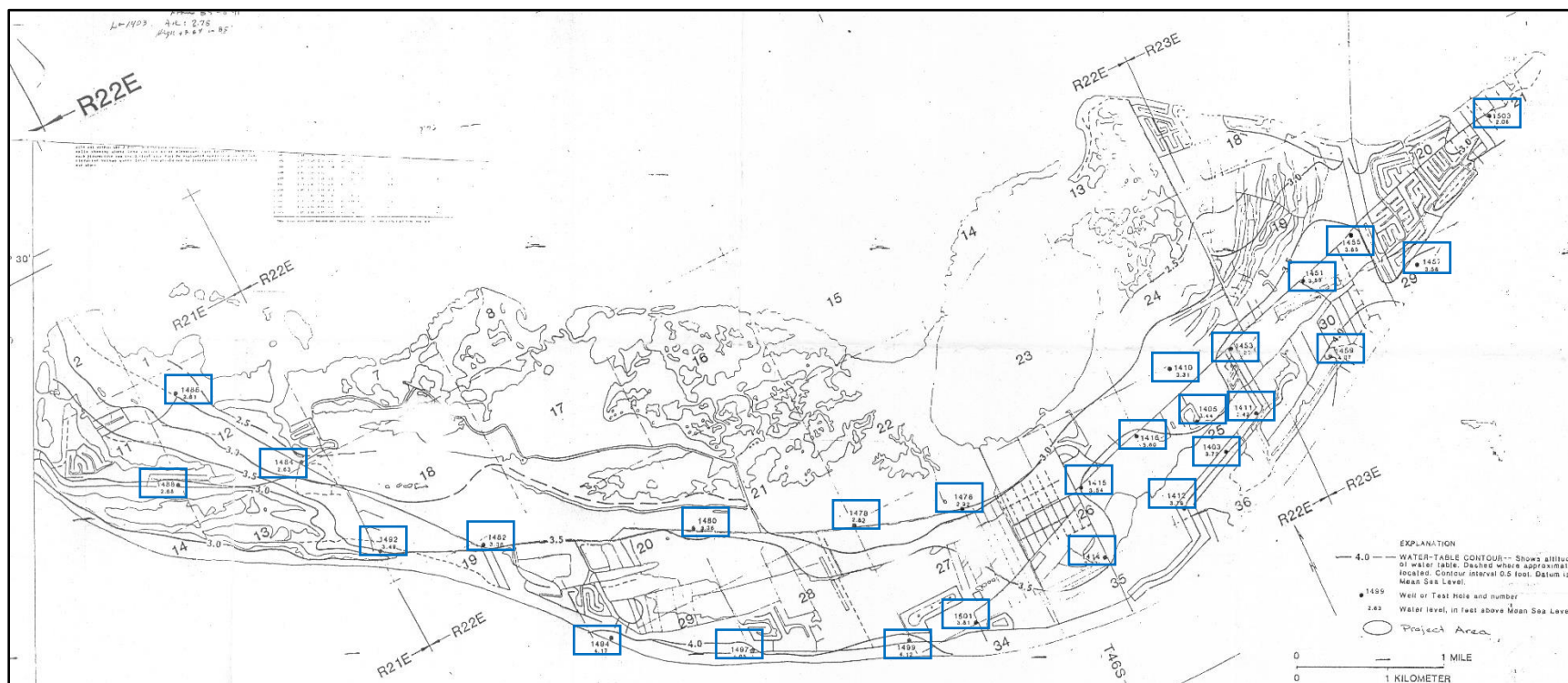
B – Groundwater Level Monitoring Well Data

C – Definitions from Florida Statutes

D – “Groundwater Monitoring Wells” map prepared by Planning Department and reviewed by Public Works Department

E – Planning Department memorandum from June 11, 2024, LDC Subcommittee meeting

ATTACHMENT A – Groundwater Level Study



Maximum Water Table Configuration for Sanibel Island, Lee County, 1977

Groundwater Elevation Monitoring Well Location

Note: Elevations are in NGVD-29. Conversion to NAVD-88 = NGVD – 1.18

ATTACHMENT B – Groundwater Level Monitoring Well Data

USGS Monitoring Sites for Groundwater Elevations in NAVD									
	1971	1972	1973	1974	1975	1976	1977	AVG 1971-1977	Land Surface at Well Site
L-1403	2.17	2.51	1.50	2.44	2.04	1.81	2.54	2.14	4.90
L-1405	1.76	2.36	1.27	1.33	0.08	0.71	2.26	1.40	4.17
L-1410	1.12	0.01	0.30	1.39	-0.17	-0.03	2.13	0.68	3.30
L-1411	1.66	2.11	1.38	1.27	0.88	0.82	2.24	1.48	4.44
L-1412	2.28	2.61	1.94	1.99	1.23	1.49	2.61	2.02	3.78
L-1414	1.98	2.08	1.30	1.86	0.42	0.80	2.15	1.51	2.87
L-1415	1.88	2.03	1.57	1.65	0.59	0.65	2.36	1.53	0.95
L-1416	1.88	2.77	0.77	1.46	0.11	0.43	2.42	1.41	2.36
L-1451	1.49	2.41	1.17	1.40	0.77	0.82	2.65	1.53	3.69
L-1453	1.65	2.63	1.34	1.21	0.69	0.61	2.71	1.55	3.99
L-1455	1.06	1.67	1.43	1.43	0.65	0.79	2.37	1.34	4.48
L-1457	0.97	2.28	1.89	1.16	0.97	1.16	2.40	1.55	4.12
L-1459	2.21	2.86	2.05	2.27	1.52	1.71	2.89	2.22	4.59
L-1476	0.99	0.92	0.49	0.83	0.43	0.28	1.74	0.81	4.07
L-1478	1.36	0.87	0.86	0.62	0.42	0.34	1.64	0.87	2.31
L-1480	1.07	0.68	0.57	0.77	0.31	0.46	2.18	0.86	3.97
L-1482	1.67	1.09	1.17	1.33	0.06	0.95	2.20	1.21	3.83
L-1484	1.12	0.72	0.62	0.78	0.49	0.12	1.45	0.76	5.02
L-1486	1.63	0.73	1.13	0.92	0.91	0.70	1.63	1.09	3.38
L-1488	1.38	0.33	0.88	0.05	0.18	0.05	1.70	0.65	2.31
L-1492	1.91	0.79	1.41	1.12	0.51	0.97	2.31	1.29	1.98
L-1494	1.68	0.92	1.18	1.11	0.41	0.67	2.99	1.28	4.28
L-1497	1.25	0.45	0.75	0.79	0.53	0.65	2.87	1.04	5.90
L-1499	1.58	0.87	1.08	1.27	0.28	0.50	2.94	1.22	4.77
L-1501	1.96	1.11	1.46	1.89	0.49	0.93	2.63	1.50	3.39
L-1503	0.67	-0.03	0.17	0.27	0.25	-0.12	0.90	0.30	2.57
Average of Monitoring Well Averages								1.28	

ATTACHMENT C – Definitions from Florida Statutes

Florida Statute, Chapter 117 – Land Boundaries, Section 117.27 – Definitions:

“Mean high water” means the average height of the high waters over a 19-year period. For shorter periods of observation, “mean high water” means the average height of the high waters after corrections are applied to eliminate known variations and to reduce the result to the equivalent of a mean 19-year value.

“Mean high-water line” means the intersection of the tidal plane of mean high water with the shore.

“Mean low water” means the average height of the low waters over a 19-year period. For shorter periods of observation, “mean low water” means the average height of low waters after corrections are applied to eliminate known variations and to reduce the result to the equivalent of mean 19-year value.

Florida Statute, Chapter 373 – Water Resources, Section 373.019 – Definitions:

For the sole purpose of serving as the basis for the unified statewide methodology adopted pursuant to s. [373.421](#)(1), as amended, **“wetlands”** means those areas that are inundated or saturated by surface water or groundwater at a frequency and a duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soils. Soils present in wetlands generally are classified as hydric or alluvial, or possess characteristics that are associated with reducing soil conditions. The prevalent vegetation in wetlands generally consists of facultative or obligate hydrophytic macrophytes that are typically adapted to areas having soil conditions described above. These species, due to morphological, physiological, or reproductive adaptations, have the ability to grow, reproduce, or persist in aquatic environments or anaerobic soil conditions. Florida wetlands generally include swamps, marshes, bayheads, bogs, cypress domes and strands, sloughs, wet prairies, riverine swamps and marshes, hydric seepage slopes, tidal marshes, mangrove swamps and other similar areas. Florida wetlands generally do not include longleaf or slash pine flatwoods with an understory dominated by saw palmetto. Upon legislative ratification of the methodology adopted pursuant to s. [373.421](#)(1), as amended, the limitation contained herein regarding the purpose of this definition shall cease to be effective.


ATTACHMENT D

Water Table Elevations Map

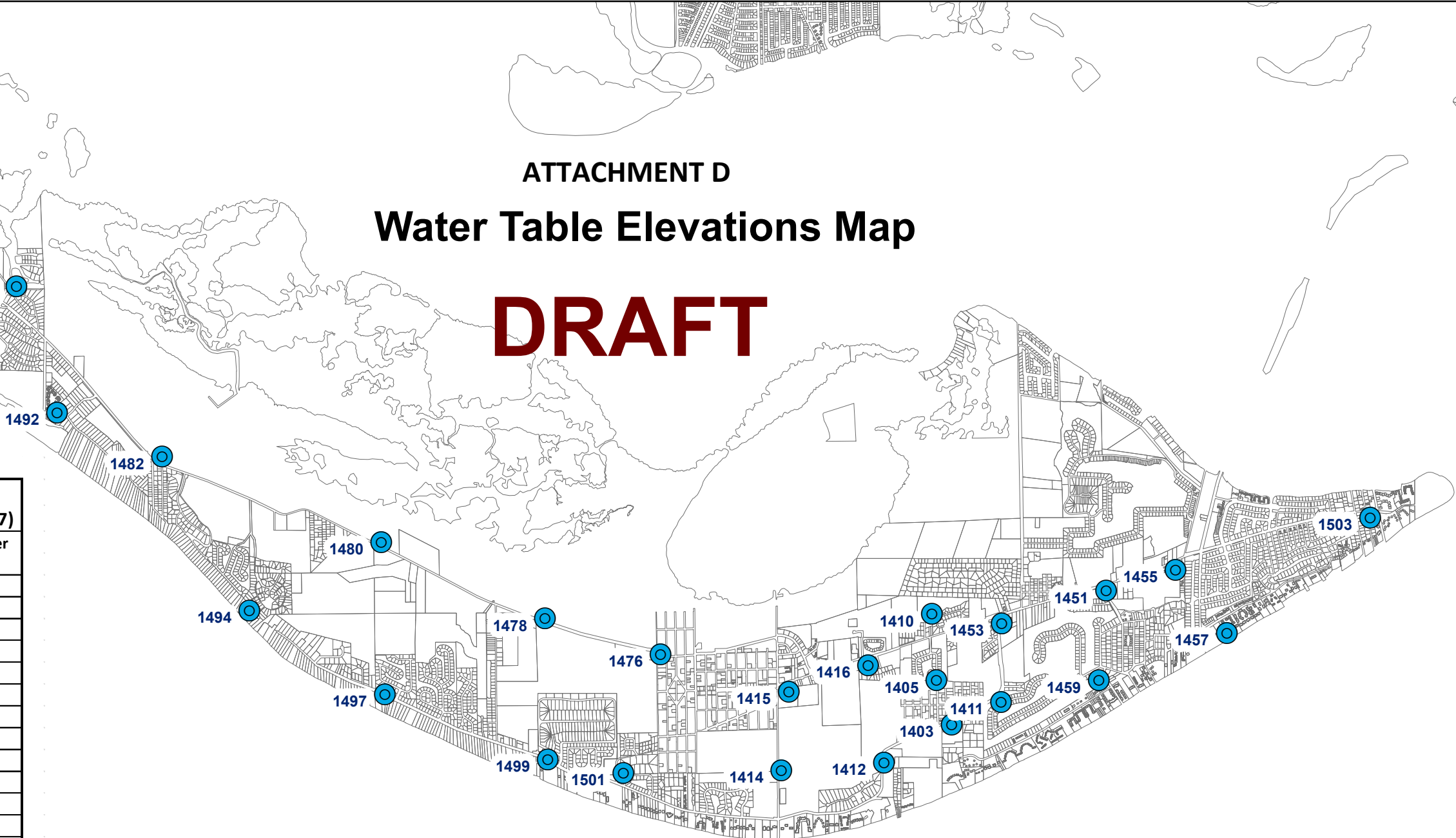
DRAFT

Water Table Elevation based on USGS Monitoring Well Data (1971-1977)	
Monitoring Well Number	7 Year Average High Water Feet NAVD
L-1403	2.14
L-1405	1.40
L-1410	0.68
L-1411	1.48
L-1412	2.02
L-1414	1.51
L-1415	1.53
L-1416	1.41
L-1451	1.53
L-1453	1.55
L-1455	1.34
L-1457	1.55
L-1459	2.22
L-1476	0.81
L-1478	0.87
L-1480	0.86
L-1482	1.21
L-1484	0.76
L-1486	1.09
L-1488	0.65
L-1492	1.29
L-1494	1.28
L-1497	1.04
L-1499	1.22
L-1501	1.50
L-1503	0.30

Legend

 USGS Groundwater Level Monitoring Well

Data Sources:
USGS Groundwater Study 1971-1977;
"Maximum Water Table Configuration for Sanibel Island, Lee County, 1977" by Richard K. Krulikas, 1988;
Lee County GIS - Parcel Boundaries



- Notes for Use of Groundwater Monitoring Wells Map:
- Groundwater monitoring wells were installed and monitored by USGS.
 - Monitoring well locations based upon "Maximum Water Table Configuration for Sanibel Island, Lee County, 1977" by Richard K. Krulikas, 1988.
 - Original USGS data is feet relative to MSL.
 - Data conversion based upon equating MSL to NGVD and then converting NGVD to NAVD by subtracting 1.18-feet. This is an accepted engineering practice confirmed by the City engineer.
 - The groundwater elevation at each well is based upon the 7 year average (i.e., 1971-1977).



AGENDA MEMORANDUM

Planning Department

LDC Subcommittee Meeting Date: June 11, 2024

To: LDC Subcommittee

From: Kim Ruiz, Principal Planner

Date: June 4, 2024

CITY COUNCIL INITIATED PROPOSED CONSIDERATION

At their April 5, 2022, meeting, City Council directed the Planning Commission and staff to review and provide recommendations for the definition of ***open body of water***. The intent of the review is to ensure definitions are clear and the references to these definitions in the Code are also understandable.

REVIEW TIMELINE

- June 14, 2022 – Planning Commission Meeting – The Planning Department presented a proposed revision to the ***open body of water*** definition and introduced definitions for ***mean high water***, ***mean high-water line***, ***mean low water***, and ***wetlands*** based upon definitions adopted in the Florida Statutes, Chapters 117 and 373. The discussion provided in the memorandum explained how Planning staff determined the proposed revisions and additions to the Land Development Code (LDC aka *Sanibel Code*) for clarification.
 - After a lengthy discussion, the Planning Commission instructed Planning staff to also evaluate using the Ecological Zone Maps in determining the presence of open body of water and to consider a de minimis standard for areas to be excluded from being considered an open body of water. The definitions for mean high water, mean high-water line, mean low water, and wetlands were accepted as pertinent additions to the Sanibel Code. Other amendments to the Sanibel Code in relation to open body of water were included in the meeting material but were not discussed because a consensus on delineating an open body of water was not yet achieved. Staff was directed to bring revisions to the LDC Subcommittee in August.
- August 23, 2022 – Land Development Code Subcommittee Meeting – Planning staff recommended a minor revision to the ***open body of water*** definition and the addition of a new section **Determination and Delineation of Open Body of Water**.
 - A discussion on determination and delineation of open body of water was provided with the proposed standards for delineating open bodies of water along with a de minimis exception. The subcommittee members determined another LDC Subcommittee meeting should be held for further consideration of the proposed amendments.

Sanibel is and shall remain a barrier island sanctuary

- March 12, 2024 – Planning Commission Meeting – Planning staff provided updated amendments to the Sanibel Code based upon the LDC Subcommittee meeting on August 23, 2022.
 - The Planning Commission continued discussion of the proposed amendments and had further questions regarding the USGS monitoring well data from the 1970s. Staff was directed to further evaluate available data.

SUMMARY OF DATA RESEARCH (New discussion for June 11 meeting)

- The data from the 26 groundwater monitoring wells in the 1970s consists of monthly recording of the high-water level.
 - This data was recorded in feet above mean sea level (MSL).
 - Staff located an online conversion tool produced by NOAA to convert MSL to NAVD. However, upon discussions with Oisin Dolley, PE, it was found that common practice by engineers working with groundwater elevations is to use the MSL elevation as if it were an elevation in NGVD.
- Planning staff verified that data from one USGS groundwater monitoring well (L-1403) is available after the 1970s.
 - The well is located within the D-2 Upland Wetlands Zone.
 - There are daily recordings of the high-water level from January 2005 through December 2017.
 - Data was recorded in NGVD which converts to NAVD by subtracting 1.18-feet.
 - The data prior to 2005 has gaps.
 - The data after 2017 consists of monthly readings.
- The data from 2005-2017 was analyzed to determine a mean high-water level (MHWL) for the groundwater during this 12-year period to be 1.26-feet NAVD.
- The 2005-2017 data was then analyzed to confirm the average length of time the water level was 6-inches above the mean high-water level to determine whether the groundwater level would reach an elevation with inundation for a minimum of 3 months (i.e., a defining part of delineating an open body of water).
 - The length of time the groundwater level was at or above 1.76-feet NAVD was 112 days or 3.7 months.
 - Additional analysis of this data may further the understanding of the elevation above MHWL that is typically inundated for a minimum of 3 months.
- USGS/NRCS LiDAR data from 2018 are now available through an online tool.
 - A new tool for evaluating properties.
 - Elevation cross-sections are generated.

- Staff will present an example of how the LiDAR tool works.
- Additional evaluation of this new tool is needed for staff to determine how this information may be used to identify potential open bodies of water.

NATURAL VS. HUMAN-MADE OPEN BODIES OF WATER

Questions have been raised by the public concerning whether human-made open bodies of water are evaluated differently from natural open bodies of water. These issues were brought forward during the Planning Commission public hearing on May 28 for a unified residential development or cluster development subdivision.

During the public hearing Planning staff confirmed that the *Sanibel Code* does not contain standards for filling or dredging an open body of water, whether natural or human-made. The *Sanibel Plan* includes language indicating that *Sanibel Code*, State and Federal regulations will need to be followed for dredging or filling.

It would be appropriate to compile dredging and filling standards for wetlands and open bodies of water with the proposed amendments to the Sanibel Code currently under discussion.

RECOMMENDATIONS

1. Additional review of USGS/NRCS LiDAR.
2. Revise amendments based upon the additional analysis of groundwater elevations and comparison of natural vs. human-made open bodies of water in relation to dredging and filling.
3. Present revised amendments to the LDC Subcommittee in August for discussion.