



**STATE OF DELAWARE
EXECUTIVE DEPARTMENT
OFFICE OF STATE PLANNING COORDINATION**

September 25, 2014

Mr. Frank Kea
Solutions, IPEM
PO Box 416
Georgetown, DE 19947

RE: PLUS review 2014-08-02, Love Creek Bridge Marina

Dear Mr. Kea:

Thank you for meeting with State agency planners on August 27, 2014 to discuss the proposed plans for the Love Creek Bridge Marina. According to the information received, you are seeking a site plan review for the development of 75 town homes and single family homes in Sussex County.

Please note that changes to the plan, other than those suggested in this letter, could result in additional comments from the State. Additionally, these comments reflect only issues that are the responsibility of the agencies represented at the meeting. **The developers will also need to comply with any Federal, State and local regulations regarding this property. We also note that as Sussex County is the governing authority over this land, the developers will need to comply with any and all regulations/restrictions set forth by the County.**

Strategies for State Policies and Spending

- This project is located in Investment Level 3 according to the *State Strategies for Policies and Spending*. Investment Level 3 reflects areas where growth is anticipated by local, county, and state plans in the longer term future, or areas that may have environmental or other constraints to development. State investments may support future growth in these areas, but please be advised that the State has other priorities for the near future. We encourage you to design the site with respect for the environmental features which are present.

Code Requirements/Agency Permitting Requirements

State Historic Preservation Office – Contact Terrence Burns 736-7404

- There are no known archaeological sites or National Register-listed properties on this parcel. However, if there will be any development or construction project on this parcel, the developer should still be aware of Delaware's Unmarked Human Burials and Human Skeletal Remains Law, which is outlined in Chapter 54 of Title 7 of the Delaware Code.

Abandoned or unmarked family cemeteries are very common in the State of Delaware. They are usually in rural or open space areas, and sometimes near or within the boundary of an historic farm site. Even a marked cemetery can frequently have unmarked graves or burials outside of the known boundary line or limit. Disturbing unmarked graves or burials triggers the Delaware's Unmarked Human Burials and Human Skeletal Remains Law (Delaware Code Title 7, Chapter 54), and such remains or discoveries can result in substantial delays while the procedures required under this law are carried out. If there is a discovery of any unmarked graves, burials or a cemetery, it is very costly to have them archaeologically excavated and the burials moved. The Division of Historical & Cultural Affairs recommends that owners and/or developers have a qualified archaeological consultant investigate their project area, to the full extent, to see if there is any unmarked cemetery, graves, or burial sites. In the event of such a discovery, the Division of Historical & Cultural Affairs also recommends that the plans be re-drawn to leave the full extent of the cemeteries or any burials on its own parcel or in the open space area of the development, with the responsibility for its maintenance lying with the landowner association or development. If you would like to know more information pertaining to unmarked human remains or cemeteries, please check the following websites for additional information:

www.history.delaware.gov/preservation/umhr.shtml and
www.history.delaware.gov/preservation/cemeteries.shtml.

Prior to any demolition or ground-disturbing activities, the developer may want to hire an archaeological consultant to examine the parcel for any potential archaeological site (historic or pre-historic), historic cemetery or unmarked human remains.

- If there is any federal involvement with the project, in the form of licenses, permits, or funds, the federal agency, often through its client, is responsible for complying with Section 106 of the National Historic Preservation Act (36 CFR 800) and must consider their project's effects on any known or potential cultural or historic resources. Owners and developers who may plan to apply for an Army Corps of Engineers permit or for federal funding, such as HUD or USDA grants, should be aware of the National Historic Preservation Act of 1966 (as amended). Regulations promulgated for Section 106 of this Act stipulate that no ground-disturbing or demolition activities should take place before the Corps or other involved federal agency determines the area of potential effect of the project undertaking. These stipulations are in place to allow for comment from the public, the Delaware State Historic Preservation Office, and the Advisory Council for Historic Preservation about the project's

effects on historic properties. Any preconstruction activities without adherence to these stipulations may jeopardize the issuance of any permit or funds. If you need further information or additional details pertaining to the Section 106 process and the Advisory Council's role, please review the Advisory Council's website at www.achp.gov.

Department of Transportation – Contact Bill Brockenbrough 760-2109

- DelDOT estimates that the proposed development would generate 501 vehicle trips per day on a typical weekday and 47 trips during the weekday evening peak hour. Therefore, in accordance with the traffic volume warrants found in Section 2.3.1 of our Standards and Regulations for Subdivision Streets and State Highway Access, the proposed development warrants a Traffic Impact Study (TIS).

This project is unusual in that the developer has already completed a TIS for a different land development plan, one that would generate much more traffic. DelDOT has largely completed review of that TIS and shared a draft of the review letter with the developer's traffic engineer on August 5, 2014.

That draft letter identified a need for the developer to contribute to four different DelDOT projects, all of which would be beyond the scope a TIS done for the currently proposed use. DelDOT recommends that the developer's site engineer schedule a pre-submittal meeting (See the first comment under Suggestions.) to discuss the site plan when they are ready to do so, at which time DelDOT can discuss any concerns identified in the TIS review, but most of them would not be applicable to the plan now proposed.

- The site entrance must be designed in accordance with DelDOT's Standards and Regulations for Subdivision Streets and State Highway Access. A copy of the Standards and Regulations is available at http://www.deldot.gov/information/pubs_forms/manuals/subdivisions/pdf/Subdivision_Manual_Revision_1_proposed_060110.pdf.
- Please be advised that DelDOT has advertised for comment a comprehensive revision of the Standards and Regulations. The comment period ran through June 30 and DelDOT could adopt this revision as soon as November 2014. Implementation guidance has not been developed but DelDOT recommends that the developer's engineer become familiar with the proposed changes and assess whether any of them could be relevant to this project. Information on the proposed revision is available in the Register of Regulations and at http://www.deldot.gov/information/pubs_forms/revisions_to_ASR/index.shtml.
- Referring to Section 1.4 of the Standards and Regulations for Subdivision Streets and State Highway Access, the Initial Stage review fee shall be assessed to this project.
- Referring to Section 1.4 of the Standards and Regulations for Subdivision Streets and State Highway Access, the Construction Stage review fee shall be assessed to this project.

- In accordance with Section 3.4 of the Standards and Regulations for Subdivision Streets and State Highway Access, any off-site improvements and when those improvements are warranted need to be noted on the record plan.
- In accordance with Section 3.4 of the Standards and Regulations for Subdivision Streets and State Highway Access, a site plan shall be prepared prior to issuing “Letter of No Objection”. The following information will be required for the “Letter of No Objection” review:
 - Copy of the Initial Stage Fee Calculation Form
 - Copy of the Initial Stage Review Fee
 - Gate-Keeping Checklist – Site Plan
 - Design Checklist – Record Plan*
 - Owners and Engineer’s name and e-mail address
 - Three (3) paper sets of the Record Plan
 - Conceptual Entrance Plan
 - CD with a pdf of the Site Plan
 - Submission of the Area-Wide Study Fee (if applicable)

*For the design checklist for the site plan, please refer to the Standards and Regulations for Subdivision Streets and State Highway Access, Appendix D, Plan Review Checklist, pages D-2 and D-3.
- As specified in Section 3.4.1.1 of the Standards and Regulations for Subdivision Streets and State Highway Access, a traffic generation diagram is required on the record plan.
- As specified in Section 3.4.1.2 of the Standards and Regulations for Subdivision Streets and State Highway Access, the record plan should show all existing entrances (residential/commercial) within 400 feet of the proposed entrance.
- The developer’s engineer should evaluate the criteria in Section 3.5.5.5 of the Standards and Regulations for Subdivision Streets and State Highway Access to determine whether a bus stop is required at the site entrance and the design of it if one is needed.
- In accordance with the minimum standards provided in Section 3.6.5 and Figure 3-3 of the Standards and Regulations for Subdivision Streets and State Highway Access, DelDOT will require dedication of right-of-way along the site’s frontage on Delaware Route 24.
- In accordance with Section 3.6.5 of the Standards and Regulations for Subdivision Streets and State Highway Access, DelDOT will require the establishment of a 15-foot wide permanent easement across the property frontage on Delaware Route 24. The location of the easement shall be outside the limits of the ultimate right-of-way. The easement area can be used as part of the open space calculation for the site. The following note is required, “**A 15-foot wide permanent easement is hereby established to the State of Delaware, as per this plat.**”

- Referring to Section 4.4 of the Standards and Regulations for Subdivision Streets and State Highway Access, an entrance plan shall be prepared prior to issuing entrance approval. The following information will be required for Entrance Plan review;
 - Copy of the Construction Stage Fee Calculation Form
 - Copy of the Construction Review Fee
 - Gate-Keeping Checklist – Entrance Plan
 - Design Checklist – Entrance Plan**
 - Three (3) paper sets of the Entrance Plan
 - Auxiliary Lane Worksheet
 - Sight Distance Worksheet
 - SWM Report and Calculations (if applicable)
 - CD with a pdf of the Entrance Plan

**For the design checklist for the entrance plan, please refer to the Standards and Regulations for Subdivision Streets and State Highway Access, Appendix D, Plan Review Checklist, pages D-9 and D-13.
- In accordance with Section 4.8 of the Standards and Regulations for Subdivision Streets and State Highway Access, stormwater facilities, excluding bioswales, shall be located a minimum of 20 feet from the ultimate right-of-way line of Delaware Route 24. See Section 3.6.5 and Figure 3-3 regarding the location of that line.
- In accordance with Section 5.4 of the Standards and Regulations for Subdivision Streets and State Highway Access, DelDOT will require the establishment of a sight distance triangle at the entrance in accordance with AASHTO standards. A worksheet has been developed to assist with this task and can be found at <http://www.deldot.gov/information/business/subdivisions/Intersection-Sight-Distance.xls>.
- Metes and bounds and total areas need to be shown for any drainage easements. Section 5.7.2.5 of DelDOT's Standards and Regulations for Subdivision Streets and State Highway Access requires, in part, a minimum 20-foot wide drainage easement for storm drainage systems, open or closed, that fall outside the existing right-of-way or the drainage/utility easement. These easements must be shown and noted on the record plan.

Department of Natural Resources and Environmental Control – Contact Kevin Coyle 739-9071

Wetlands

- State regulated wetlands ARE located on this property based on a review of the State wetland maps. State regulated wetlands are those wetlands identified on the State's official State Regulated Wetland Maps. Additional information about State regulated wetlands is available by contacting the Wetlands and Subaqueous Lands Section at (302) 739-9943 or on line at <http://www.dnrec.delaware.gov/wr/Services/Pages/WetlandsAndSubaqueousLands.aspx>. Be sure to follow county requirements for buffers along the wetlands.
- State regulated subaqueous lands ARE located adjacent to this property based on a review of aerial photographs, SWMP maps, Soil Surveys and/or USGS topographic maps but do not

look to be impacted by the planned construction. State subaqueous lands include all tidal waters (up to the mean high water line), most non-tidal rivers, streams, lakes, ponds, bays and inlets (up to the ordinary high water line), most perennial streams and ditches and many intermittent streams and ditches. Additional information about State regulated subaqueous lands is available by contacting the Wetlands and Subaqueous Lands Section at (302) 739-9943 or on line at

<http://www.dnrec.delaware.gov/wr/Services/Pages/WetlandsAndSubaqueousLands.aspx>.

Any construction in or discharge impacts to Love Creek will need a permit. Be sure to follow county requirements for buffers along Love Creek.

- Waters of the U.S. regulated by the U.S. Army Corps of Engineers ARE located on this property based on a review of aerial photographs, SWMP maps, Soil Surveys and/or USGS topographic maps. Waters of the United States include the following: navigable waters of the United States; wetlands; tributaries to navigable waters of the United States, including adjacent wetlands and lakes and ponds; interstate waters and their tributaries, including adjacent wetlands; and all other waters of the United States not identified above, such as isolated wetlands, intermittent streams, and other waters that are not part of a tributary system to interstate waters or to navigable waters of the United States, where the use, degradation or destruction of these waters could affect interstate or foreign commerce. The extent of Federal jurisdiction over Waters of the United States is determined by the U.S. Army Corps of Engineers and is based on site specific conditions. Therefore, an on-site inspection by an environmental consultant is recommended to determine if Waters of the U.S. are located on the property and the limits of Federal jurisdictional. The U.S. Army Corps of Engineers can be contacted at (215) 656-6728 or online at <http://www.nap.usace.army.mil/cenap-op/regulatory/regulatory.htm>.

County: Sussex
PLUS 2014-08-02
Love Creek Bridge Marina



0 50 100 200 300 400 Feet



Map created by: Kitty Bronson
DNREC Wetlands and Subaqueous Lands

-  Army Corps Wetlands
-  State Regulated Wetland Lines
- Waterbody**
-  Bay/Inlet
-  Canal/Ditch
-  Flume
-  Sea/Ocean
-  Stream/River

TMDLs

- The project is located in the low nutrient reduction zone of the greater Inland Bays watershed. In this watershed, Total Maximum Daily Load (TMDL) pollutant reduction targets have been developed by the State of Delaware (under the auspices of Section 303(d) of the 1972 Federal Clean Water Act) for nutrients (e.g., nitrogen, phosphorus), and bacteria. A TMDL is the maximum level of pollution allowed for a given pollutant below which a “water quality limited waterbody” can assimilate and still meet State water quality standards (e.g., dissolved oxygen, nutrients, and bacteria; *State of Delaware Surface Water Quality Standards, as amended July 11, 2004*) to the extent necessary to support use goals such as, swimming, fishing, drinking water and shell fish harvesting. The TMDL for the low reduction zone of the Inland Bays watershed calls for 40 percent reduction in nitrogen and phosphorus from baseline conditions. The TMDL also calls for a 40 percent reduction (17 percent for marine waters) in bacteria from baseline conditions.
- A nutrient management plan is required under the *Delaware Nutrient Management Law (3 Del. Chapter 22)* for all persons or entities who apply nutrients to lands or areas of open space in excess of 10 acres. Please contact the Delaware Nutrient Management Program at 739-4811 for further information concerning compliance requirements or view the following web link for additional information: <http://dda.delaware.gov/nutrients/index.shtml>

Flood Management

- This entire property is in the 1% annual chance floodplain. FEMA has conducted a coastal study and updated the floodplain designation for this area. The preliminary map shows a third of this parcel in Zone VE (susceptible to waves greater than 3 feet) and the rest of the parcel in Zone AE. FEMA has also indicated a Limit of Moderate Wave Action (LiMWA) line on this parcel that designates the area susceptible to 1.5 to 3 feet of wave action. This area covers about another third of the property. The final third of the parcel is designated as Zone AE with less than 1.5 feet of wave action. This information can be viewed at maps.riskmap3.com/DE/Sussex/.
- Any structures built in the Zone VE would require different building standards than those in Zone AE. These standards are regulated by Sussex County’s Floodplain Ordinance. DNREC suggests utilizing Zone VE construction standards seaward of the LiMWA line as these homes would be susceptible to wave action during a 1% annual chance event.

Water Supply

- The information provided indicates that water will be provided to the proposed project by Tidewater Utilities via a public water system. DNREC records indicate that the project is located within the public water service area granted to Tidewater Utilities under Certificate of Public Convenience and Necessity 85-W-15.
- Should dewatering points be needed during any phase of construction, a dewatering well construction permit must be obtained from the Water Supply Section prior to construction of

the well points. In addition, a water allocation permit will be needed if the pumping rate will exceed 50,000 gallons per day at any time during operation.

- All well permit applications must be prepared and signed by licensed water well contractors, and only licensed well drillers may construct the wells. Please factor in the necessary time for processing the well permit applications into the construction schedule. Dewatering well permit applications typically take approximately four weeks to process, which allows the necessary time for technical review and advertising.

Source Water Protection Areas

- The DNREC Water Supply Section, Ground-Water Protection Branch (GPB) has determined that a wellhead protection area falls within the project. The location of the wellhead protection area as shown in Delaware Environmental Navigator (DEN) is incorrect. The correct location is shown on the map below. The applicant states that a public utility will provide water to the site.
- Wellhead protection areas are surface and subsurface areas surrounding a public water supply well where land use activities or impervious cover may adversely affect the quantity and quality of ground water moving toward such wells. Impervious cover prevents precipitation from infiltrating through the soil to the water table aquifer. Impervious cover refers to structures including but not limited to roads, sidewalks, parking lots, and buildings. Any impervious cover within this wellhead protection area has the potential to have a negative affect the quality and quantity of drinking water available to consumers.
- In addition, because the project is located within a wellhead protection area and the wellhead is a source of public drinking water, the storage of hazardous substances or wastes should not be allowed within the area unless specific approval is obtained from the relevant state, federal, or local program.
- Per your application, water will be supplied by Tidewater. There is currently a well on site. If you intend to use public water, GPB recommends a Delaware Licensed Well Driller abandon the well and file an abandonment report with DNREC Well Permitting Branch.



Sediment and Stormwater Program

- A detailed sediment and stormwater plan will be required prior to any land disturbing activity taking place on the site. Contact the reviewing agency to schedule a project application meeting to discuss the sediment and erosion control and stormwater management components of the plan as soon as practicable. The site topography, soils mapping, pre- and post- development runoff, and proposed method(s) and location(s) of stormwater management should be brought to the meeting for discussion. The plan review and approval as well as construction inspection will be coordinated through the Sussex Conservation District. Contact Jessica Watson at the Sussex Conservation District at (302) 856-2105 for details regarding submittal requirements and fees (Title 7, Delaware Code, Chapter 40 and Delaware Regulations, Title 7, Administrative Code, 5101).

Hazardous Waste Sites

- If it is determined by the Department that there was a release of a hazardous substance on the property in question and the Department requires remediation pursuant to the Hazardous Substance Cleanup Act, the provisions of 7 Del.C. Chapter 91, Delaware Hazardous Substance Cleanup Act and the Delaware Regulations Governing Hazardous Substance Cleanup shall be followed.”
- There are no SIRS sites or salvage yards found within a ½-mile radius of the proposed project.

Tank Management Section

Please be aware:

- If a release of a Regulated Substance occurs at the proposed project site, compliance of 7 Del.C. Chapter 60, 7 Del.C., Chapter 74 and DE Admin. Code 1351, State of Delaware *Regulations Governing Underground Storage Tank Systems* (the UST Regulations) is required.
- The following confirmed underground storage tank (UST) facility is located directly on the proposed project parcel:
 - Boat Hole Marina, Facility: 5-000817, 2000-gallon heating fuel UST removed in 1990. No release associated.
- The following confirmed leaking underground storage tank (LUST) projects are located within a quarter mile from the proposed project area:
 - Love Creek Marina, Facility: 5-000400, Project: S0804033 (Inactive), S0806056 (Inactive), S0806057 (Inactive), S0806058 (Inactive)
 - Parcel 7L Magee Property, Facility: 5-000781, Project: S9103044 (Inactive)
 - Shore Stop #254 Lewes, Facility: 5-000709, Project: S0409109, S0409110, S9110230 (Inactive)

No environmental impacts anticipated; however, per the UST Regulations: Part E, § 1. Reporting Requirements:

- Any indication of a Release of a Regulated Substance that is discovered by any Person, including but not limited to environmental consultants, contractors, utility companies, financial institutions, real estate transfer companies, UST Owners or Operators, or Responsible Parties shall be reported within 24 hours to:
 - The Department’s 24-hour Release Hot Line by calling 800-662-8802; and
 - The DNREC Tank Management Section by calling 302-395-2500.

Air Quality

- The applicant shall comply with all applicable Delaware air quality regulations. Please note that the following regulations in Table 1 – Potential Regulatory Requirements may apply:

Table 1: Potential Regulatory Requirements	
Regulation	Requirements
7 DE Admin. Code 1106 - Particulate Emissions from Construction and Materials Handling	Use dust suppressants and measures to prevent transport of dust off-site from material stockpile, material movement and use of unpaved roads. Use covers on trucks that transport material to and from site to prevent visible emissions.
7 DE Admin. Code 1113 – Open Burning	Prohibit open burns statewide during the Ozone Season from May 1-Sept. 30 each year. Prohibit the burning of land clearing debris. Prohibit the burning of trash or building materials/debris.
7 DE Admin. Code 1135 – Conformity of General Federal Actions to the State Implementation Plan	Require, for any “federal action,” a conformity determination for each pollutant where the total of direct and indirect emissions would equal or exceed any of the de minimus levels (See Section 3.2.1)
7 DE Admin. Code 1141 – Limiting Emissions of Volatile Organic Compounds from Consumer and Commercial Products	Use structural/ paint coatings that are low in Volatile Organic Compounds. Use covers on paint containers when paint containers are not in use.
7 DE Admin. Code 1144 – Control of Stationary Generator Emissions	Ensure that emissions of nitrogen oxides (NO _x), non-methane hydrocarbons (NMHC), particulate matter (PM), sulfur dioxide (SO ₂), carbon monoxide (CO), and carbon dioxide (CO ₂) from emergency generators meet the emissions limits established. (See section 3.2). Maintain recordkeeping and reporting requirements.

7 DE Admin. Code 1145 – Excessive Idling of Heavy Duty Vehicles	Restrict idling time for trucks and buses having a gross vehicle weight of over 8,500 pounds to no more than three minutes.
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For a complete listing of all Delaware applicable regulations, please look at the website: <http://www.awm.delaware.gov/AQM/Pages/AirRegulations.aspx>.

Delaware State Fire Marshall's Office – Contact Duane Fox 739-4394

At the time of formal submittal, the applicant shall provide; completed application, fee, and three sets of plans depicting the following in accordance with the Delaware State Fire Prevention Regulation:

Fire Protection Water Requirements

- Water distribution system capable of delivering at least 1000 gpm for 1-hour duration, at 20-psi residual pressure is required. Fire hydrants with 800 feet spacing on centers.
- Where a water distribution system is proposed for townhouse type dwelling sites, the infrastructure for fire protection water shall be provided, including the size of water mains.

Fire Protection Features

- For townhouse buildings, provide a section view detail and the UL design number of the 2-hour fire rated separation wall on the Site plan

Accessibility

- All premises, which the fire department may be called upon to protect in case of fire, and which are not readily accessible from public roads, shall be provided with suitable gates and access roads, and fire lanes so that all buildings on the premises are accessible to fire apparatus. This means that the access road to the subdivision from the main thoroughfare must be constructed so fire department apparatus may negotiate it. .
- Fire department access shall be provided in such a manner so that fire apparatus will be able to locate within 100 ft. of the front door.
- Any dead end road more than 300 feet in length shall be provided with a turn-around or cul-de-sac arranged such that fire apparatus will be able to turn around by making not more than one backing maneuver. The minimum paved radius of the cul-de-sac shall be 38 feet. The dimensions of the cul-de-sac or turn-around shall be shown on the final plans. Also, please be advised that parking is prohibited in the cul-de-sac or turn around.
- The use of speed bumps or other methods of traffic speed reduction must be in accordance with Department of Transportation requirements.
- The local Fire Chief, prior to any submission to our Agency, shall approve in writing the use of gates that limit fire department access into and out of the development or property.

Gas Piping and System Information

- Provide type of fuel proposed, and show locations of bulk containers on plan.

Required Notes

- Provide a note on the final plans submitted for review to read “ All fire lanes, fire hydrants, and fire department connections shall be marked in accordance with the Delaware State Fire Prevention Regulations”
- Proposed Use
- Square footage of each structure (Total of all Floors)
- National Fire Protection Association (NFPA) Construction Type
- Maximum Height of Buildings (including number of stories)
- Name of Water Provider
- Letter from Water Provider approving the system layout
- Townhouse 2-hr separation wall details shall be shown on site plans
- Provide Road Names, even for County Roads.

Recommendations/Additional Information

This section includes a list of site specific suggestions that are intended to enhance the project. These suggestions have been generated by the State Agencies based on their expertise and subject area knowledge. **These suggestions do not represent State code requirements.** They are offered here in order to provide proactive ideas to help the applicant enhance the site design, and it is hoped (**but in no way required**) that the applicant will open a dialogue with the relevant agencies to discuss how these suggestions can benefit the project.

Department of Transportation – Contact Bill Brockenbrough 760-2109

- Because the proposed development would generate more than 200 vehicle trips per day, a Pre-Submittal Meeting is required before plans are submitted for review. Guidance on what will be covered at this meeting and how to prepare for it is located at http://www.deldot.gov/information/business/subdivisions/Pre-Submittal_Meeting_Requirements.doc. The form needed to request this meeting is available at http://www.deldot.gov/information/business/subdivisions/Meeting_Request_Form.doc.
- As shown on the Investment Level map associated with the *Strategies for State Policies and Spending*, the subject development is located in a Level 3 area. DelDOT’s Shared-Use Path and/or Sidewalk Process policy (available at http://www.deldot.gov/information/business/subdivisions/SUP_Sidewalk_Process.pdf) provides that in a Level 3 or 4 area a path or sidewalk must be installed along the State-maintained road frontage of any development if the project abuts an existing facility. If the development does not abut an existing facility, the requirement is at the Subdivision Engineer’s discretion.
- Expect a requirement for a separate turning template plan that verifies vehicles can enter and exit safely. The entrance shall be designed for the largest vehicle using the entrance.

- Be advised that the standard general notes have been updated and posted to the DelDOT website. Please begin using the new versions and look for the revision date of May 21, 2014 for the Record/Site Plan and Construction Plan general notes and the Temporary Traffic Control general notes. The notes can be found at http://www.deldot.gov/information/business/subdivisions/DelDOT_Development_Coordination_Plan_Sheet_Notes.doc
- Please check to determine whether any utilities will need to be relocated as part of this project.
- Please use the Auxiliary Lane Worksheet to determine whether auxiliary lanes are warranted at the site entrance. The worksheet can be found at http://www.deldot.gov/information/business/subdivisions/auxiliary_lane_worksheet.xls.
- Please be advised DelDOT's check handling procedures changed in 2012. For specific information, see the letter available at <http://www.deldot.gov/information/business/subdivisions/PaymentProcedure.pdf>.

Department of Natural Resources and Environmental Control – Contact Bahareh Van Boekhold 735-3495

Sea Level Rise

- A significant portion of the planned development area lies within an area that will be subject to direct and permanent inundation from sea level rise (<http://de.gov/slrmmap>). Sea levels in Delaware have risen by about a foot over the past century (NOAA, 2014). This rate of sea level rise is likely to accelerate in the coming decades as a result of global climate change and local subsidence. Accelerated sea level rise will result in permanent flooding of low-lying coastal areas and increased risk of flood damage during storms (DNREC, 2012).
- DNREC Preliminary Land Use Service maps depicting future inundation risk from sea level rise indicate that approximately 15.39 acres of this site out of 15.8 acres or 97 percent could be inundated by sea level rise by 2100. In the short-term, sea level rise on this parcel, combined with periodic coastal flooding events, may result in repetitive flood damage to homes within this neighborhood and significant difficulties maintaining stormwater, drainage and other infrastructure. In the long-term, this increased flood and inundation risk could result in costly public and private flood abatement and drainage projects and an eventual abandonment of homes.

Recommendations:

- Lots within flood prone areas should be eliminated.
- Any structures that are built within an area mapped as both floodplain and sea level rise zone should be constructed with 18" of freeboard plus additional freeboard to accommodate future sea levels.
- Filling lots to elevate them to above base flood elevation is discouraged.

- Access roads should be designed to be flood resilient for the entirety of its design life span. This includes ensuring that the roadway functions for the 1% chance flood plus anticipated future sea level rise.

References:

NOAA (National Oceanic and Atmospheric Administration). (2014). Mean Sea Level Trend, Lewes, DE. Retrieved from http://tidesandcurrents.noaa.gov/sltrends/sltrends_station.shtml?stmid=8557380.

DNREC Delaware Coastal Programs. (2012). Preparing for Tomorrow's High Tide: Sea Level Rise Vulnerability Assessment for the State of Delaware. Dover, DE: Department of Natural Resources and Environmental Control. Retrieved from <http://de.gov/slrva>.

Soils Assessment

- Based on soils survey mapping update, Downer (DnB, Hammonton (HnA), and Brockatonorton –Urban land complex (BuA) soil mapping units were mapped on subject parcel (figure 1). Downer and Hammonton are well-drained to moderately well-drained soil mapping units that have few limitations for development. The Brockatonorton-Urban land complex (BuA) soil mapping unit - in contrast - is a mapping unit that has been extensively modified by filling (native/nonnative soil and/or trash/building debris), grading or removal practices; consequently, soils in this soil mapping unit are likely to have a variable (with a high probability that these soils are filled hydric soils) depth to a seasonally-high water table.
- The Statewide Wetland Mapping Project (SWMP) often uses the soil survey as the basis for mapping and delineating wetlands. The presence of a hydric soil is one of three key parameters that must be met in order to meet jurisdictional wetland requirements (as specified by the USACE). The other parameters are hydrophytic vegetation and hydrology. Hence the presence of hydric soils is a correlate with wetland presence. Although the removal of hydrophytic vegetation and the filling of native hydric soils may change the jurisdictional status (i.e., from a regulated to a non-regulated wetland) of a given area of wetlands; filled hydric soils (e.g., Brockatonorton Urban land complex soil mapping unit) often still retain much of their functional significance (i.e., water storage and/or retention of nutrients and other pollutants...etc.) that is attributed to undisturbed wetland ecosystems. In other words, potential wetland conditions still remain – ultimately increasing the probability for future cumulative on-site and off-site flooding events while increasing pollutant runoff in the greater Inland Bays watershed. Therefore, DNREC strongly recommends a certified and licensed (ARCPACS & Class D) soil scientist be contacted to make a site specific assessment of the actual depth to a seasonal high water table in the BuA soil mapping unit. A list of licensed soil scientists can be obtained from the Ground Water Discharges Branch; the Branch can be reached by phone at 739-9947.

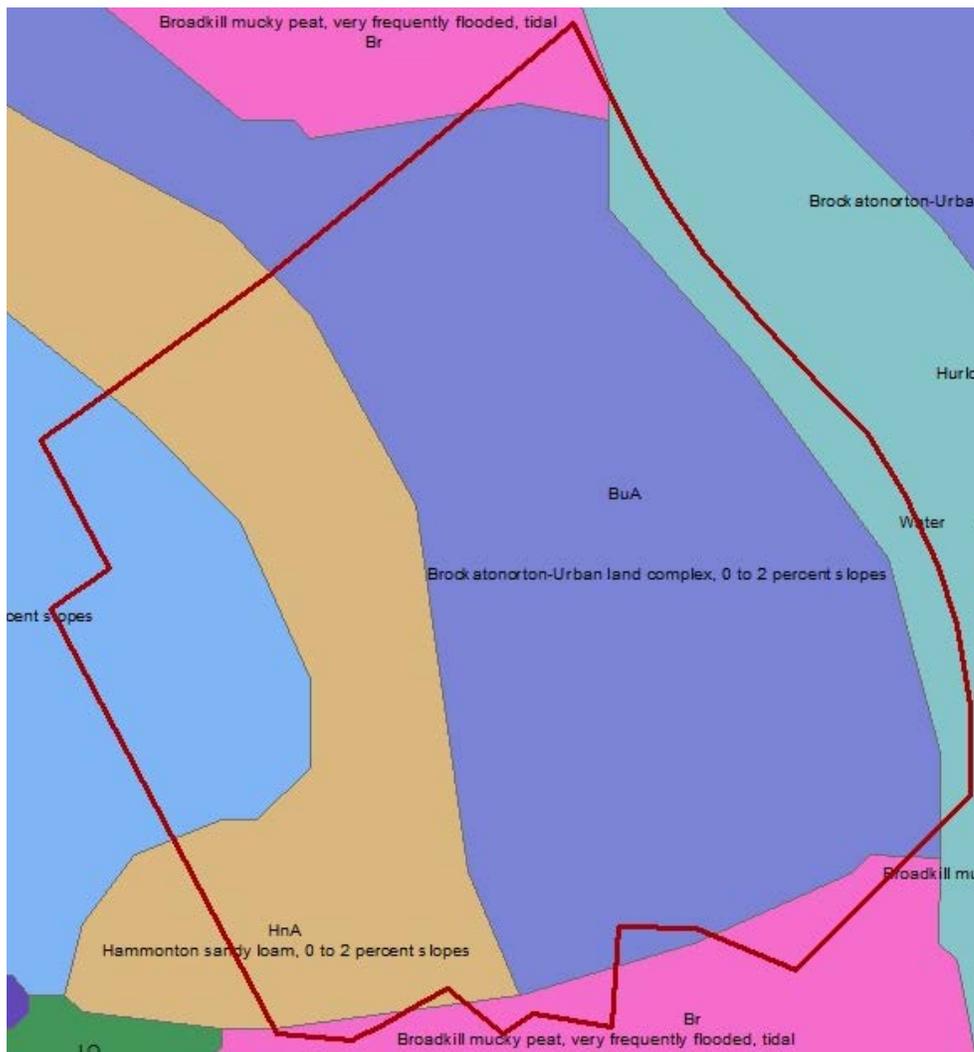


Figure 1: NRCS soil survey update mapping in the immediate vicinity of the proposed project

Buffers and Habitat Protection

- The wetlands on the parcel are considered Key Wildlife habitat according to the Delaware Wildlife Action Plan because they are part of a large complex that can support an array of plant and animal species. To protect the function and integrity of wetlands, a minimum 100-foot buffer should be left intact around the perimeter. This recommendation is based on peer reviewed scientific literature that shows an adequately-sized buffer that effectively protects wetlands and streams in most circumstances is about 100 feet in width. Upland buffers also serve as habitat for many terrestrial species that are dependent on aquatic and wetlands habitats for a portion of their annual life cycle. Lot lines, roadways, and infrastructure should not be placed within this buffer zone. Buffers are an integral component of aquatic and wetland habitats, reducing the amount of sediments, pollutants, and other non-point source material that may affect the function and integrity of habitat and the condition and survivability of aquatic organisms. Habitat is listed as an intended use for open space. To function in the true spirit of habitat, it would be appropriate to reconfigure the site plan to

retain the forested area on the parcel, as well as include the wetland buffers recommended above.

- The following recommendations are for any in-water work that may be associated with this project. A population of the state-rare fish, *Apeltes quadracus* (fourspine stickleback), was observed just downstream from this site during surveys conducted in 1970. Subsequent surveys have not been conducted, therefore, it is unknown if it still persists at this location. If habitat conditions have remained relatively stable the population likely still persists. Because this species is dependent on calm, shallow, heavily vegetated waters for spawning, efforts should be made to avoid direct impacts to submerged aquatic vegetation (if present) and to decrease sedimentation during project activities. If aquatic vegetation is prevalent in the project area, then a spawning window of April 1st to May 30th should be considered. Our Division's fisheries staff have sampled Love Creek and found that it supports a large number of juvenile migratory fish. Several species of particular commercial and recreational importance utilize the creek and could be affected by this project. As such, there may also be recommended time of year restrictions recommended to protect important recreational and commercial fisheries species if in water work is necessary.

Additional information on TMDLs and water quality

- Compliance with the specified TMDL nutrient and bacterial reduction requirements specified for the Inland Bays watershed can be facilitated by the strategies and requirements described in the Inland Bays PCS, and the implementation/adherence to the following recommended BMPs:
- A United States Army Corps of Engineers (USACE) approved field wetlands delineation is strongly recommended before commencing any development activities on this parcel(s). The USACE can be reached by phone at 736-9763. According to the PLUS application, wetlands delineation was conducted and approved by the USACE. It should be noted that compliance with Federal wetland regulatory requirements does not preclude compliance with State wetland-regulatory requirements.
- Based on a review of existing buffer research by Castelle et al. (Castelle, A. J., A. W. Johnson and C. Conolly. 1994. *Wetland and Stream Buffer Requirements – A Review*. J. Environ. Qual. 23: 878-882.), an adequately-sized buffer that effectively protects wetlands and streams, in most circumstances, is about 100 feet in width. In recognition of this research and the need to protect water quality, the Watershed Assessment Section recommends that the applicant maintain/establish a minimum 100-foot upland buffer (planted in native vegetation) from all waterbodies and delineated wetlands (i.e., USACE approved delineation of all nontidal wetlands and all subaqueous lands section approved delineation of all tidally-influenced estuarine waters and estuarine wetlands bordering the northern, southern, and eastern portions of this parcel, respectively). The applicant's proposed buffer width (estimated <25 feet) appears considerably less than the aforementioned recommended minimum 100-foot buffer width, therefore, the applicant's proposed buffer is of insufficient width to protect water quality.

- Calculate post-construction surface imperviousness with all forms of created (or constructed) surface imperviousness (e.g., rooftops, driveways, parking lots, sidewalks, open-water storm water management structures, and roads) included in the calculation.
- Use of rain gardens, and green-technology storm water management structures (in lieu of open-water management structures) as BMPs to mitigate or reduce nutrient and bacterial pollutant impacts via runoff/discharges from impervious surfaces. Please contact Lara Allison at 739-9939 for further information about the possibility for installing a raingarden(s) on this parcel.
- Use of pervious paving materials (instead of conventional asphalt and concrete) as a BMP(s) to reduce the impacts from all forms of created surface imperviousness.
- Assess nutrient and bacterial pollutant loading at the preliminary project design phase. To this end, the Watershed Assessment Section has developed a methodology known as the “Nutrient Load Assessment protocol.” The protocol is a tool used to assess changes in nutrient loading (e.g., nitrogen and phosphorus) resulting from the conversion of individual or combined land parcels to a changed land use(s); thus providing applicants and governmental entities with quantitative information about the project’s impact(s) on baseline water quality. DNREC strongly encourages the applicant/developer use this protocol to help them design and implement the most effective BMPs. Please contact Jen Walls or John Martin at (Division of Watershed Stewardship) at 302-739-9939 for more information on the protocol.

Additional information on tank management

- When contamination is encountered, PVC pipe materials should be replaced with ductile steel and nitrile rubber gaskets in the contaminated areas.
- If any aboveground storage tanks (ASTs) less than 12,500 gallons are installed, they must be registered with the TMS. If any ASTs greater than 12,500 gallons are installed, they are also subject to installation approval by the TMS.

Additional information on hazardous waste sites

- DNREC strongly recommends that the land owner perform environmental due diligence of the property by performing a Phase I Environmental Site Assessment (including a title search to identify environmental covenants) in accordance to Section 9105(c) (2) of the Delaware Hazardous Substance Cleanup Act (HSCA). While this is not a requirement under HSCA, it is good business practice and failure to do so will prevent a person from being able to qualify for a potential affirmative defense under Section 9105(c) (2) of HSCA.
- Additional remediation may be required if the project property or site is re-zoned by the county.

- Should a release or imminent threat of a release of hazardous substances be discovered during the course of development (e.g., contaminated water or soil), construction activities should be discontinued immediately and DNREC should be notified at the 24-hour emergency number (800-662-8802). SIRB should also be contacted as soon as possible at 302-395-2600 for further instructions.

Additional information on air quality

- New homes and businesses may emit, or cause to be emitted, air contaminants into Delaware's air, which will negatively impact public health, safety and welfare. These negative impacts are attributable to:
 - Emissions that form ozone and fine particulate matter; two pollutants relative to which Delaware currently violates federal health-based air quality standards,
 - The emission of greenhouse gases which are associated with climate change, and
 - The emission of air toxics.
- Air emissions generated from new homes and businesses include emissions from the following activities:
 - Area sources such as painting, maintenance equipment and the use of consumer products like roof coatings and roof primers.
 - The generation of electricity needed to support your home or business, and
 - All transportation activity.
- Based on the information provided, the three air emissions components (i.e., area, electric power generation, and mobile sources) were quantified. Table 2 – Projected Air Quality Emissions represents the actual impact the Love Creek Bridge Marina may have on air quality.

Emissions Attributable to Love Creek Bridge Marina (Tons per Year)	Volatile Organic Compounds (VOC)	Nitrogen Oxides (NOx)	Sulfur Dioxide (SO ₂)	Fine Particulate Matter (PM _{2.5})	Carbon Dioxide (CO ₂)
Area source emissions	2.3	0.3	0.2	0.3	9.4
Power emissions	*	0.9	3.2	*	472.1
Mobile emissions	3.4	3.6	0.1	*	2216.6
Total emissions	5.7	4.8	3.5	0.3	2698.1

(*) Indicates data is not available.

- Note that emissions associated with the actual construction of the road, including automobile and truck traffic from working in, or delivering products to the site, as well as site preparation, earth moving activities, road paving and other miscellaneous air emissions, are not reflected in the table above.
- DNREC encourages sustainable growth practices that:
 - Control sprawl;
 - Preserve rural and forested areas;
 - Identify conflicting land use priorities;
 - Encourage growth on previously developed sites and denser communities;
 - Coordinate transportation, housing, environment, and climate protection plans with land use plans; and
 - Demonstrate that communities can achieve the qualities of privacy, community, and contact with nature without degrading the natural environment or generating unacceptable environmental costs in terms of congestion, use of natural resources, or pollution.
- Additional measures may be taken to substantially reduce the air emissions which include:
 - Constructing with only energy efficient products. Energy Star qualified products are up to 30% more energy efficient. Savings come from building envelope upgrades, high performance windows, controlled air infiltration, upgraded heating and air conditioning systems, tight duct systems and upgraded water-heating equipment. Every percentage of energy efficiency translates into a percent reduction in pollution.

- The Energy Star Program is excellent way to save on energy costs and reduce air pollution.
- Offering geothermal and/or photo voltaic energy options. These systems can significantly reduce emissions from electrical generation, and from the use of oil or gas heating equipment.
 - Providing tie-ins to the nearest bike paths and links to any nearby mass transport system. These measures can significantly reduce mobile source emissions. For every vehicle trip that is replaced by the use of a sidewalk, a bike path or mass transit, 7 pounds of VOC and 11.5 pounds of NOx are reduced each year.
 - Using retrofitted diesel engines during construction. This includes equipment that are on-site as well as equipment used to transport materials to and from site.
 - Using pre-painted/pre-coated flooring, cabinets, fencing, etc. These measures can significantly reduce the emission of VOCs from typical architectural coating operations.
 - Planting trees in vegetative buffer areas. Trees reduce energy emissions by cooling during the summer and by providing wind breaks in the winter, whereby reducing air conditioning needs by up to 30 percent and saving 20 to 50 percent on fuel costs.
- This is a partial list, and there are additional things that can be done to reduce the impact of the project. The applicant should submit a plan to the DNREC DAQ which address the above listed measures, and that details all of the specific emission mitigation measures that will be incorporated into the Love Creek Bridge Marina project.

Delaware State Fire Marshall's Office – Contact Duane Fox 739-4394

- Preliminary meetings with fire protection specialists are encouraged prior to formal submittal. Please call for appointment. Applications and brochures can be downloaded from the website: www.statefiremarshal.delaware.gov, technical services link, plan review, applications or brochures.

Division of Public Health – Contact: Laura Saperstein 744-1011

The Delaware Division of Public Health (DPH) is pleased to be able to participate in the PLUS application process. In keeping with its mission to protect and promote the health of all people in Delaware, DPH looks for opportunities to encourage and enhance our population's health behaviors that will result in healthy people and healthy communities.

Community design can impact the health of a population. Studies show that persons in lower-income communities, the elderly, and children often suffer more from consequences of inadequate land-use and transportation. Additionally, physical activity has a direct correlation to many chronic diseases, including hypertension, diabetes and obesity. In 2012, 39.1% of Delawareans reported a BMI of "overweight," and 26.9% reported a BMI as "obese." To that end, DPH looks to make recommendations for land-use that can empower Delawareans to make good health behaviors a part of their daily lives.

- DPH is pleased to see the proposed sidewalks within the Love Creek Bridge Marina community. Walking along with the intended use of swimming and passive recreation aligns with the SCORP regional priorities. Residents can look forward to many opportunities of active recreation.
- DPH feels the Love Creek Bridge Marina has the opportunity to increase positive health behaviors for its residents by incorporating the following recommendations into its land development proposal:
 - Consider sidewalk(s) or multi-use pathways for internal connection with adjacent developments to further active transportation (walking/biking) among residents.
 - Consider safety and lighting for condominium development by including streetlights, lit open spaces and/or low-level lighting for all sidewalks and paths, or open spaces that encourage their use and enhance opportunities for physical activity.
 - Consider a right-hand turn lane for bicycles at the frontage of property allowing residents to use non-motorized options as safe methods of active transportation and/or incorporating physical activity into their daily routines as a means of interconnectivity to commercial or mixed use areas as well as schools – both of which fall within a mile of the proposed development.

Following receipt of this letter and upon filing of an application with the local jurisdiction, the applicant shall provide to the local jurisdiction and the Office of State Planning Coordination a written response to comments received as a result of the pre-application process, noting whether comments were incorporated into the project design or not and the reason therefore.

Thank you for the opportunity to review this project. If you have any questions, please contact me at 302-739-3090.

Sincerely,

A handwritten signature in cursive script that reads "Constance C. Holland".

Constance C. Holland, AICP
Director, Office of State Planning Coordination

CC: Sussex County