



**Further Comments on the “Further Amendment to the Amended  
Planned Unit Development Plan” for the  
Garvies Point Development in Glen Cove, New York**

**Prepared for:**

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and Members of the Planning Board  
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**On Behalf of:**

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&

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On November 9, 2016, RXR Glen Isle Partners, LLC (“Applicant”) submitted a “Further Amendment to the Amended Planned Unit Development Plan” regarding the development of a large scale mixed-use community located along the shores of Hempstead Harbor in Glen Cove, New York.<sup>1</sup> In this plan’s cover letter to the Glen Cove City Planning Board (“Planning Board”), the Applicant sought approval of a Subdivision Map and set forth plans for “public amenity areas” for the proposed development.<sup>2</sup> The documents submitted in furtherance of the “public amenity area” planning detailed a significant new proposal to drastically alter hydrology and environmental conditions at the site by installing complex networks of storm water infrastructure, clearing of natural features, land grading and dewatering activities.<sup>3</sup> These amendments to the site plan were not previously disclosed or analyzed, and are empirically demonstrated to have adverse impacts to the environment.<sup>4</sup>

Unfortunately, as set forth below, the materials submitted by the Applicant regarding the public amenity areas rely on inexact and imprecise scientific assumptions, did not appropriately demonstrate compliance with stormwater Best Management Practices, and did not consider a myriad of factors critical to the maintenance and protection of human and environmental health and safety. Additionally, on-site issues with hazardous wastes (e.g., Appendix 1), coupled with the proposed changes to the structural engineering, underscore the importance of a supplemental environmental impact statement.<sup>5</sup>

Thus, we respectfully submit that, as the lead agency charged with the State Environmental Quality Review Process, it is incumbent on the Glen Cove City Planning Board to take a hard look<sup>6</sup> at the following comments and concerns:

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<sup>1</sup> Glen Cove City Planning Board, Amended PUD Subdivision Plan (2016).

<sup>2</sup> *Id.*

<sup>3</sup> Glen Cove City Planning Board, PUD Site Plan Phase II Submission (2016).

<sup>4</sup> *See generally* COALITION TO SAVE HEMPSTEAD HARBOR, 2015 WATER QUALITY REPORT FOR HEMPSTEAD HARBOR 3 (2015) (discussing continued environmental degradation of Hempstead Harbor); *see also* Justin H. Gregory et al., *Effect of urban soil compaction on infiltration rate*, 61 J. OF SOIL AND WATER CONSERVATION 117, 117 (2006) (demonstrating how “construction activity or compaction treatments reduced infiltration rates 70 to 99 percent”); Frank Piccininni & Kristin Perret, *SMPIL Comments on the Long Island Nitrogen Action Plan*, 36 NY ENVTL LAWYER 41, 41-43 (“the deleterious impacts of human land use on the natural system include increased runoff of nutrients and pollutants into fresh and salt water, reduced quality and quantity of groundwater, the destruction of critical wildlife habitat, a reduction in the flood-buffering capacity, and a substantial decrease of carbon sequestration”); Nianqing Zhou et al., *Numerical simulation of deep foundation pit dewatering and optimization of controlling land subsidence*, 114 ENGINEERING GEOLOGY 251 (2010) (discussing land subsidence and erosion resulting from dewatering activities).

<sup>5</sup> 6 NYCRR 617.9 (a)(7)(ii) (requiring a determination of the “importance and relevance of the information” and “the present state of information in the EIS”).

<sup>6</sup> *See Jackson v New York State Urban Dev. Corp.*, 67 NY2d 400, 417 (1986) (requiring the “lead agency [to] identi[fy] the relevant areas of environmental concern, t[ake] a hard look at them, and ma[k]e a reasoned elaboration of the basis for its determination”) (internal quotation marks omitted).



## 1. The Applicant did not adequately demonstrate strict adherence to the NYS Stormwater Management Design Manual:

According to the Final Environmental Impact Statement for Garvies Point, the Planning Board maintained that “the project will now be designed to store 2 inches of runoff generated by the project’s contributory watershed”.<sup>7</sup> The Applicant purports to rely on the New York State Stormwater Management Manual (“Manual”) to guide their stormwater system designs.<sup>8</sup> Assuming, arguendo, that capturing 2 inch runoff is adequate to protect the health of Hempstead Harbor, we submit that the Applicant did not adequately follow the Manual in an accurate or precise manner. Specifically, please note the following regarding the Applicant’s submission:

- a. Large tracts of lands, most of which are to be developed with impervious surfaces, were inexplicably omitted from the calculation of drainage area (i.e., the portion of the subdivision plan labeled “The Ferry Lot” and “Proposed Lot 6” which are 1.66 acres and .406 acres, respectively).<sup>9</sup> Thus, the “contributing area” appears to be underrepresented in the calculation;
- b. The Applicant excluded “water and wetland areas” from the calculation because “they could not be captured”.<sup>10</sup> However, the Applicant does not describe what constitutes “water and wetland areas”, the spatial extent of the excluded area, or why these areas “c[an] not be captured”. Furthermore, the Applicant does not supply any scientific justification for excluding such features; although wetlands are known to reduce runoff, there is no research suggesting that wetlands eliminate runoff entirely.<sup>11</sup> Thus, wetland area should be included in the “contributing area” calculations unless the Applicant can supply a detailed justification for why these areas should not be included;
- c. The methods used to calculate the runoff coefficients for this project must be set forth in detail, as the methodology and calculations for the summary spreadsheet are not provided. Without these details, one cannot verify calculations and empirical support of methods. The Applicant should include justification for the use of a runoff coefficient of 0.95, 0.30, and 0.50 for impervious, pervious, and pervious roof, respectively. Details regarding the calculation of the weighted coefficient, as well as how the County Storage Requirements are incorporated, must also be provided;

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<sup>7</sup> City of Glen Cove, Final Environmental Impact Statement for the RXR Glen Isle Mixed-Use Waterfront Development Project I-4 (2011).

<sup>8</sup> See NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, STORMWATER MANAGEMENT AND DESIGN MANUAL 2-22 (2015).

<sup>9</sup> Glen Cove City Planning Board, Amended PUD Subdivision Plan (2016).

<sup>10</sup> Glen Cove City Planning Board, PUD Site Plan Phase II Submission (2016).

<sup>11</sup> Cf. Yaoze Liu et al., *Evaluating the effectiveness of management practices on hydrology and water quality at watershed scale with a rainfall-runoff model*, 511 SCI. OF THE TOTAL ENV’T 298 (2015) (using modeling to evaluate the effectiveness of wetlands and other “green infrastructure” in reducing stormwater runoff, but not eliminating it entirely).



- d. According to the Applicant, stormwater runoff from tracts of land labeled P-DA-3a, P-DA-3b, and P-DA-4a will not be captured and treated (8.27 total acres).<sup>12</sup> Instead, the Applicant designed green infrastructure at other portions of the site to have a greater capacity. The Applicant does not articulate, however, any justification for why increasing the capacity for treatment at some portions of the site “make up for” those portions left untreated. Of further significance, P-DA-3a and P-DA-3b are directly adjacent to Glen Cove Creek and will, therefore, input untreated stormwater directly into waters.
- e. The Manual finds that planners “must” conduct “site planning to preserve natural features and reduce impervious cover”.<sup>13</sup> Here, within the spatial extent of the of the subdivision plan upland and wetland habitat natural features such as the existing freshwater and tidal wetlands, early seral forest, and portions of the upland forest will not be preserved, but rather destroyed during land clearing and grading activities.<sup>14</sup> Habitat features that are to remain will be degraded further by fragmentation and edge effects.<sup>15</sup> Moreover, although durable and effective in removing pollutants,<sup>16</sup> the Applicant does not intend to use permeable pavement or porous concrete to comply with the provisions of the manual;<sup>17</sup>
- f. Similarly, during the public hearing of December 6, 2016 regarding the application, the City’s consultant mentioned that “they’re not allowed to encourage infiltration on this job”. Such an approach is clearly inconsistent with the spirit and the letter of the Manual;<sup>18</sup>
- g. The Manual requires site planners to prepare a map that “shows drainage patterns and natural resources including wetlands, waterways, buffers (stream, wetland, forest, etc.), floodplains, forest vegetative cover, critical areas, topography (contour lines, existing flow paths, steep slopes, etc.), soil (hydrolic soil groups, highly erodible soils, etc), bedrock, significant geology features.”<sup>19</sup> No such map was provided in the Applicant’s Stormwater Management Plan, neither were drainage patterns nor the subwatershed boundary properly articulated; and
- h. The Manual sets forth criteria for the operation and maintenance of the stormwater infrastructure proposed. Planners are required to identify “the entity that will be responsible for long-term operation and maintenance of the

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<sup>12</sup> Glen Cove City Planning Board, PUD Site Plan Phase II Submission (2016).

<sup>13</sup> See NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, *supra* note 8, at 3-2 – 3-3.

<sup>14</sup> City of Glen Cove, *supra* note 7, at III. D-23-36.

<sup>15</sup> Diane M. Debinsky & Robert D. Holt, *A survey and overview of habitat fragmentation experiments*, 14 CONSERVATION BIOLOGY 342 (2000) (reviewing empirical research on the impact of habitat fragmentation on species and ecosystems).

<sup>16</sup> See Benjamin O. Brattebo & Derek B. Booth, *Long-term stormwater quantity and quality performance of permeable pavement systems*, 37 WATER RESEARCH 4369 (2003) (finding that “virtually all rainwater infiltrated through the permeable pavements, with almost no surface runoff. The infiltrated water had significantly lower levels of copper and zinc than the direct surface runoff from the asphalt area. Motor oil was detected in 89% of samples from the asphalt runoff but not in any water sample infiltrated through the permeable pavement”).

<sup>17</sup> Glen Cove City Planning Board, PUD Site Plan Phase II Submission (2016).

<sup>18</sup> See generally NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, *supra* note 8.

<sup>19</sup> *Id.* at 3-13.



stormwater management practices, identification of the mechanism(s) that will be used to ensure long-term operation and maintenance of the stormwater management practices” and “include a copy of such mechanism.”<sup>20</sup> Further, the maintenance requirements must be provided in detail.<sup>21</sup> In contrast, the Applicant provided vague references to a maintenance program funded by the “Homeowners Association”, but did not specify what party will conduct the maintenance, what maintenance activities are required, what is the cost of said activities, how often the infrastructure needs to be inspected, and what metrics will be used to monitor the effectiveness of the stormwater infrastructure.<sup>22</sup>

**2. Even if the NYS Stormwater Manual was followed in an accurate and precise manner, the Manual itself is not adequate to protect environmental health and safety, particularly in the context of the Garvies Point Development.**

- a. The Manual sets forth additional protective criteria to “prevent the increased risk of flood damage from large storm events...”<sup>23</sup> The Manual further states that the 100-year storm requirement can be waived if “the site discharges directly tidal waters [*sic*]...”<sup>24</sup> As articulated by the City’s consultants, during a 100-year storm, the runoff is a “drop in the bucket” and, therefore, does not need to be considered. Unfortunately, such an approach is misguided because the “bucket” referred to by the City’s consultant is Hempstead Harbor--portions of which are designated as Impaired Waters by the NYS Department of Environmental Conservation.<sup>25</sup> Of further note, studies demonstrate that extreme weather exacerbates existing human impacts on ecosystem structure and function and degrades water quality by causing significant nutrient, pathogen, and contaminant loading.<sup>26</sup> Thus, we submit that disregarding the 100-year storm requirement is

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<sup>20</sup> *Id.* at 3-12-3-13.

<sup>21</sup> *Id.*

<sup>22</sup> Glen Cove City Planning Board, PUD Site Plan Phase II Submission (2016).

<sup>23</sup> NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, *supra* note 8, at 4-12.

<sup>24</sup> *Id.*

<sup>25</sup> NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, 2016 SECTION 303(D) LIST OF IMPAIRED WATERS REQUIRING A TMDL/OTHER STRATEGY (2016) (listing the southern portion of Hempstead Harbor and its tributaries (e.g., Glen Cove Creek) as an impaired water in need of further restoration and protection).

<sup>26</sup> See P.G. Cardoso et al., *The impact of extreme weather events on the seagrass *Zostera noltii* and related *Hydrobia ulvae* population*, 56 Marine Pollution Bulletin 483, 491 (“we conclude that during the eutrophication period of the Mondego, extreme weather events contributed to the overall degradation of the estuary, while during the recovery phase those extreme weather episodes delayed the recovery process significantly”); see also Michael S. Wetz & David W. Yoskowitz, *An ‘extreme’ future for estuaries? Effects of extreme climatic events on estuarine water quality and ecology*, 69 MARINE PROTECTION BULLETIN 7 (2013) (reviewing a myriad of impacts of extreme rainfall events on water quality and ecology).



an arbitrary and capricious decision given the current and historical ecological status of the Harbor;

- b.** The output of the Manual is a static figure that does not consider evolving regulatory regimes. During the public hearing, the City’s consultants stated that if regulatory standards were to change, the stormwater infrastructure put in place by the Applicant would be “grandfathered in”. Although such an assertion is arguably true on a site-by-site basis, it is almost incontrovertible that the City itself will be required to comply with increasingly stringent regulatory standards. The following is one relevant example to illustrate this potential issue; pursuant to the Clean Water Act, Federal and New York State Government continuously promulgate updated water quality standards in the form of Total Maximum Daily Loads (“TMDLs”) for impaired waters. TMDL’s are addressed, in part, through the MS4 permitting processing. Thus, it is unlikely that remedial measures will be “grandfathered in” in the long-term as the City struggles to comply with increasingly stringent stormwater discharge permit requirements.<sup>27</sup>
- c.** Additionally, the static nature of the estimates provided by the Applicant pursuant to the Manual does not consider the reality of global climate change.<sup>28</sup> The 2-inch rainfall requirement is based on an estimate of stormwater infrastructure necessary to capture 90% of all rainfall events based upon historical data. The international scientific community has affirmed that climate change is a reality that portends increasingly frequent and severe storm events.<sup>29</sup>
- d.** The Manual makes inaccurate and imprecise assumptions. For example, the methods prescribed to develop stormwater infrastructure sizing requirements assume a discrete relationship, i.e., land is either “pervious” or “impervious”.<sup>30</sup> Such an assumption is unrealistic as it does not consider site-specific factors that operate in a continuous manner such as depth to groundwater, soil porosity, and biological feedback mechanisms (e.g., transpiration driven ion accumulation). Such an omission can have a confounding effect on the precision and accuracy of

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<sup>27</sup>See generally, Frank Piccininni, *The Evolving “Nature” of Environmental Risk: A Responsible Approach for Residential and Commercial Real Estate*, 26 ENVTL. CLAIMS J. 308, 313 (describing the continuous evolution of stringent environmental regulation in the face of global climate change); see also Robin Kundis Craig, “Stationarity is Dead”—*Long Live Transformation: Five Principles for Climate Change Adaptation Law*, 34 HARV. ENVTL. L. REV. 9, 11–44 (2010); VICKI ARROYO & TERRI CRUCE, *State And Local Adaptation*, in *THE LAW OF ADAPTATION TO CLIMATE CHANGE*, 569, 569 (Michael B Gerrard & Katrina F. Kuh, eds., 2012).

<sup>28</sup>Peter H. Gleick et al., *Letters: Climate Change and the Integrity of Science*, 328 *Science* 489, 489–490 (2010)(“Society has two choices: We can ignore the science and hide our heads in the sand and hope we are lucky, or we can act in the public interest to reduce the threat of global climate change quickly and substantively. The good news is that smart and effective options are possible. But delay must not be an option.”).

<sup>29</sup>Thomas H. Huntington, *Evidence for Intensification of the Global Water Cycle: Review and Synthesis*, 319 *J. of Hydrology* 83 (2006).

<sup>30</sup>See NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, *STORMWATER MANAGEMENT AND DESIGN MANUAL 2-22* (2015).



sizing calculations, thereby decreasing the validity of the calculations proffered by the Applicant.<sup>31</sup>

3. **The proposed site plan application may result in significant adverse environmental impacts not addressed in the previous environmental impact review and, therefore, requires a Supplement Environmental Impact Statement (“SEIS”).**

**a. Topography and Soils**

- i. The Draft Environmental Impact Statement found that “[t]he vast majority of the project area has already been substantially excavated, filled and altered over the years and the proposed reuse and redevelopment in accordance with the Proposed Project is not anticipated to result in significant adverse topographic impacts.”<sup>32</sup> Newly proposed dewatering activities were not, however, addressed in the environmental review process. Empirical research demonstrates that dewatering activities leads to soil layer compression and subsidence.<sup>33</sup> Thus, an SEIS is necessary to assess the impact of dewatering on soils and topography.
- ii. The Draft Environmental Impact Statement notes that the site is “subject to drought” and “will require the input of fertilizers and irrigation.”<sup>34</sup> Yet, the Applicant does not demonstrate the way in which fertilizer input and irrigation will impact the efficacy of the stormwater infrastructure. Thus, a SEIS is necessary to provide such information.

**b. Subsurface Environmental Conditions**

- i. The stormwater management plan proffered by the Applicant notes that despite the in-line check valves, “in the event of a concurrent high tide and large storm events, some water may back up into the upstream storm sewer systems and create localized ponding in the vicinity of the lowest points within the project site area.” The Applicant further notes that “this would be a short-term condition and would dissipate with the ebb of the tide.”<sup>35</sup> During such events, the tidal water, groundwater and surface waters mix freely through hyporheic exchange.<sup>36</sup> Accordingly, a SEIS is

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<sup>31</sup> See Derick B. Booth and C. Rhett Jackson, *Urbanization of aquatic systems: degradation thresholds, stormwater detections, and the limits of mitigation* 33 J. OF THE AMERICAN WATER RESOURCES ASS’N 1077 (1997) (“much of the remaining soil-covered area is trampled to a near impervious state. Compacted, stripped, or paved-over soil also has lower storage volumes, and so even if precipitation can infiltrate, the soil reaches surface saturation more rapidly and more frequently,” thereby creating an increased potential for runoff).

<sup>32</sup> City of Glen Cove, Draft Environmental Impact Statement for the RXR Glen Isle Mixed-Use Waterfront Development Project III.A-12 (2011).

<sup>33</sup> See Nianqing Zhou et al., *supra* note 4.

<sup>34</sup> City of Glen Cove, Draft Environmental Impact Statement for the RXR Glen Isle Mixed-Use Waterfront Development Project III.A-13 (2011).

<sup>35</sup> Glen Cove City Planning Board, PUD Site Plan Phase II Submission (2016).

<sup>36</sup> D. Dudley Williams, *The brackish water hyporheic zone: invertebrate community structure across a novel ecotone*, 510 *Hydrobiologia* 153(2003).



necessary to assess the impact of groundwater contamination (Appendix 1) on the newly proposed stormwater infrastructure and the two-foot cap of clean fill required by various administrative orders.

**c. Water Resources**

- i. The Applicant's submission now includes plans for a previously undisclosed "small vessel marina". The small vessel marina will necessitate the destruction of intertidal wetlands.<sup>37</sup> Furthermore, the marina will likely result in further impacts on Glen Cove Creek and Hempstead Harbor.<sup>38</sup> Thus, an SEIS must be prepared to ascertain the impact of the small vessel marina on water resources.
- ii. As described above, the Applicant's planned dewatering activities, coupled with the impact of land clearing and grading will lead to soil subsidence and erosion, limiting the capacity of soil to buffer stormwater and ultimately impacting the Harbor. Accordingly, a SEIS is necessary to plan for impact of dewatering activities on water resources.

**d. Ecology**

- i. Notably absent from the environmental impact review process was any consideration of the impact of the development on herpetofauna. In response to public comment, the Final Environmental Impact Statement maintained that amphibian use of the site was unlikely as the "shallow depressions have only recently developed after the extensive grading and excavation associated with the environmental remediation of the site. In addition, there are no adjacent freshwater wetlands from which common amphibians [such as spring peeper (*Hyla versicolor*) or green frog (*Rana clamitans*)] are likely to have migrated." Such a statement displays a fundamental mischaracterization of the life history of native amphibian species.<sup>39</sup> Many state listed amphibian species, such as spadefoot toads (*Scaphiopus holbrookii*) and marbled salamanders (*Ambystoma opacum*), utilize seasonal pools to breed, but live in the surrounding upland habitat for the vast majority of the year (i.e., Garvies Point Preserve).<sup>40</sup>

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<sup>37</sup> Glen Cove City Planning Board, PUD Site Plan Phase II Submission (2016).

<sup>38</sup> See e.g., David M. Burdick & Frederick T. Short, *The effects of boat docks on eelgrass beds in coastal waters of Massachusetts* 23 ENVTL. Management 231 (1999) (finding docks to have severe impacts on aquatic vegetation); Myriam D. Callier et al., Macrofaunal community responses to marina-related pollution on the south coast of England and west coast of France 89 J. of the Marine Biological Association of the United Kingdom 19 (2009) (using multivariate techniques to demonstrate the impact of marinas on the marine ecosystem).

<sup>39</sup> Cf. Lloyd R. Gamble et al., *Fidelity and Dispersal in the Pond-Breeding Amphibian, Ambystoma opacum: Implications for Spatio-Temporal Population Dynamics and Conservation*, 139 BIOLOGICAL CONSERVATION 247, 247 (2007) (tracking ambystomatid salamanders that moved over 1000 meters from their natal pool).

<sup>40</sup> Many reptiles and amphibians are fossorial (i.e., burrowers), are highly cryptic, and only appear aboveground during rainfall events corresponding with specific climatic requirements. See David A. Scott, *Ambystoma opacum* (Gravenhorst 1807), Amphibiaweb, available at <http://www.amphibiaweb.org> (last visited Dec. 17, 2016) (breeding activity takes place during rainy nights September-November). An attempt to rule out their presence at the site via casual daytime observation during the portion of the year



Furthermore, research has revealed clear evidence amphibian and reptile usage of the site (Appendix 2).<sup>41</sup> These species are highly sensitive to environmental perturbations associated with development, such as the newly proposed plans to alter hydrology, destroy potential breeding habitat, and degrade upland habitat. Thus, an SEIS is justified to assess impacts of the development on herpetofauna.

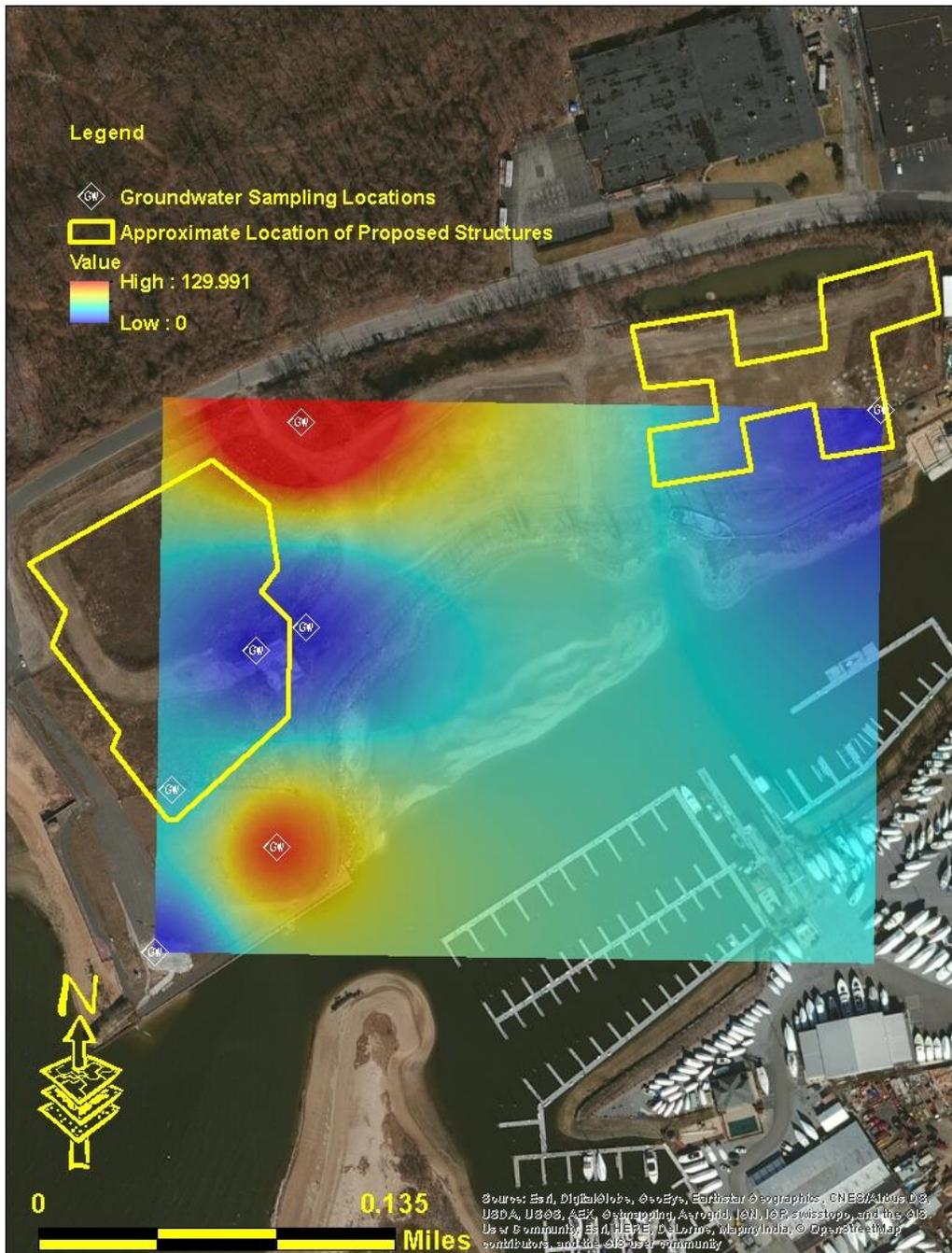
#### 4. Conclusion

Responsibility is clearly of the highest priority in any project. It is obvious that, throughout the planning for the Garvies Point development, parties (both pro- and against-development) have sought to consider environmental health and its impacts on both human and habitat health and safety. Unfortunately, there are considerable gaps in the current planning for Garvies Point, which the Planning Board has the greatest legal responsibility to address. If we are to maintain the health of our Harbor, our future, and our beautiful site location—we are called to work together and not turn a blind (albeit knowing) eye from the complications and nuances of developing at Garvies Point. It is our intention to have elucidated the empirical evidence and incontrovertible discrepancies within the amended subdivision plan to assist the Planning Board—limiting potential for abuse of discretion. These critical issues demand a sober and informed re-assessment to proceed with development in a most conscientious and law abiding manner.

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that the salamanders live belowground can be construed as willful blindness. Cf. Frank Piccininni, *The Habitat Selection of the Marbled Salamander (Ambystoma opacum): A Site Specific Approach* (May 7, 2008) (unpublished M.S. thesis, Marshall University) (on file with author) (detailing the methods necessary to assess the presence ambystomatid salamanders at a research site).

<sup>41</sup> COALITION TO SAVE HEMPSTEAD HARBOR, 2015 WATER QUALITY REPORT FOR HEMPSTEAD HARBOR 3 (2012) (detailing the use of the site by diamondback terrapins).



**Appendix 1: A spatial interpolation of a groundwater contaminant plume of exceedances of Chlorobenzene at a portion of the Garvies Point Redevelopment site.**



**Appendix 2: Desiccated amphibian remains of an apparent road mortality at the redevelopment site. The remains appear to be a species of the family Ranidae or Bufonidae.**