



HULL CONSERVATION COMMISSION

253 Atlantic Avenue, 2nd floor
Hull, MA 02045

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APPROVED – February 14, 2017

Meeting held in the Louis C Costa Meeting Room, Town Hall

Members Present: Sheila Connor, Chair, Sean Bannen, Paul Epstein, Elizabeth Fish, Lou Sorgi

Members Absent: Paul Paquin

Staff Present: Sarah Clarren, Conservation Assistant

Staff Absent: Chris Krahforst, Conservation Administrator

Minutes: Upon a **motion** by P. Epstein **2nd** by S. Bannen and a **vote** of 4-0;
It was **voted** to: Approve the Minutes of November 22, 2016 as amended

7:30 Call to order

7:35 238 Nantasket Rd., Map 32/Lot 006 (SE35-1353) Opening of a Public Hearing on the **Notice of Intent** filed by **Mark and Doreen McDonnell** for work described as **construct driveway and walkway on right side of home.**

Representatives: Mark and Doreen McDonnell (owners)

Abutters/Others: none present

Documents: "Site Plan (C1) [annotated]" – Designs by Marshall, LLC – 01/10/2017
"Basement Plan (A1) [annotated]" – Designs by Marshall, LLC – 01/19/2017

M. McDonnell presented the proposed project which involves installing a second driveway in order to remove cars off of the street. The work will also involve installing a walkway which would connect the driveway to a side egress. The Commission asked if any additional work will be done, to which M. McDonnell stated that an addition will be proposed at a later time. The Commission reminded M. McDonnell that his yard is subject to the Wetlands Protection Act and any additional work must be permitted, to which M. McDonnell agreed.

- Upon a **motion** by P. Epstein, **2nd** by S. Bannen and a **vote** of 5-0;

It was **voted** to:

Close the Public Hearing and **approve** the Order of Conditions. The Order of Conditions was **signed**.

7:42 333 Beach Ave., Map 13/Lot 002 (SE35-xxxx) Opening of a Public Hearing on the **Notice of Intent** filed by **Chris Clancy** for work described as **construct 36 x 8 deck and stairs in the rear of the home.**

Representatives: Chris Clancy (applicant)

Abutters/Others: none present

Documents: "Existing and Proposed Conditions Plan" – David G. Ray – 02/09/2017
"Renovation (Sheets A101, A102, A201, A202) [annotated]" – Hoadley Martinez Architech – 01/2017

S. Clarren stated that no filing number has been issued. The Commission stated that during the site visit, the plan had been confusing. C. Clancy stated that in the past, he had obtained a permit, but the work had not been completed. He stated that the proposed project would extend the porch further than previously permitted and it would be converted into a living space. A deck would then be added. The Commission asked if the existing concrete walk would be altered, to which C. Clancy said it would not. The Commission then asked if the previous filing had been closed, to which S. Clarren said it had not been. The Commission stated that at the next hearing, if a file number has been issued, an Order of Conditions should be granted and that a Certificate of Compliance be issued.

- Upon a **motion** by P. Epstein, **2nd** by S. Bannen and a **vote** of 5-0;

It was **voted** to:

Continue the Public Hearing to 02/28/2017 at a time to be determined.

7:45 23 Beach Ave., Map 27/Lot 009 (SE35-xxxx) Opening of a Public Hearing on the **Notice of Intent** filed by **Gary Stilphen** for work described as **construct new landing and stairs at the rear of the home.**

Representatives: Bettina Hein (owner); Anne Barrett (architect); Gary Stilphen (contractor)

Abutters/Others: Fulvia Quilici (21 Beach Ave)

Documents: "23 Beach Ave" – n.d.

"Site Plan for 23 Beach Ave (annotated) – Paul Mirabito – 3/24/2016

S. Connor, Chair began by stating that no DEP file number has been assigned, so the Commission will be unable to vote on the project.

G. Stilphen then presented the proposed project which involves constructing a new 12'x3' landing and 3' x 3' stairway at the rear of the home. The project would not increase the impervious surface on the property, as the landing and stairs will be located over existing concrete pad. He stated that there would be 2.6' between the stairs and the dune. G. Stilphen stated the dune will not be altered by the work. The Commission asked how much further the home would extend towards the dune than it does already, to which G. Stilphen stated that it extends 6'. He stated that vertical 1' x 4' plastic boards would be placed underneath the deck and would be spaced ¼" apart. The Commission stated that anything placed underneath the landing would need to allow water to flow through.

F. Quilici of 21 Beach Ave. expressed concern on the limited space between the landing and the dune. She stated that the dune is the only barrier between the home and the ocean. She added that because of the limited space, it is likely that people will end up walking on the dune. F. Quilici stated that she and other neighbors had thought that the homes in the area should not be altered on the beach side. She then stated that if the project is permitted, other homes will soon request permits for similar work. The Commission then asked how much space between the edge of the proposed stairs and the dune, to which G. Stilphen said 2.6'. The Commission stated that the dune will likely migrate inland and the 2.6' will become less. L. Sorgi asked if the stairs can be moved to either side of the deck/landing so that they would be horizontal to the beach. A. Barrett said that the doors stack and open out, so the stairs must be located perpendicular to the beach. She said that the original design was to use the existing stairs, but because the hurricane proof doors stack out, they would block the stairway. A. Barrett said that they were told that the doors stacked in, but they do not. The Commission stated that the owners should pursue the company to get correct doors which open inward. A. Barrett stated that they tried that, but was told that it was the distributor and not the company and that nothing can be done. B. Hein stated that she would be open to installing a barrier to protect the dune and ensure that no one walks over it.

The Commission reviewed a picture that had been taken without snow on the ground. The Commission stated that the picture looks like there is no space between the edge of the stairs and dune. A. Barrett stated that the deck had been installed and it has since been cut back, per the request of the Conservation Administrator. The Commission asked to conduct a second site-visit and B. Hein agreed.

- Upon a **motion** by P. Epstein, **2nd** by S. Bannen and a **vote** of 5-0;

It was **voted** to:

Continue the Public Hearing to 02/28/2017 at a time to be determined.

8:20 54, 56, 60, & 62 Holbrook Ave. and 0 Beacon Rd., Map 10/Lots 099, 100, 101, 102, 104 (SE35-1325)
Continuation of a Public Hearing on the Notice of Intent filed by Jonathan Berit-Parkes for work described as install a 175' revetment above the high tide line and place 35 cy of annual nourishment.

The applicant requested a continuance to February 28th at a time TBD.

- Upon a **motion** by P. Epstein, **2nd** by S. Bannen and a **vote** of 5-0;

It was **voted** to:

Continue the Public Hearing to 02/28/2017 at a time to be determined.

8:23 Nantasket Ave./Hull Shore Dr., Map 37/Lot 010 (SE35-1348) Continuation of a Public Hearing on the **Notice of Intent** filed by **Mass. DCR** for work described as **toe protection and improved stability to a 2,200' section of seawall along the middle reach of Nantasket Beach. Improvements include cut stone steps within the revetment slope at existing access points and 3 ADA accessible ramps.**

Representatives: Bernward Hay (Consultant); Michael Riccio (US Army Corp of Engineers (ACOE))

Abutters/Others: Kevin P. Mooney; Fulvia Quilici (21 Beach Ave.)

Documents: "Nantasket Beach Coastal Storm Damage Reduction Project (PowerPoint)" – ACOE/DCR – 02/14/2017

S. Connor, Chair began by stating that on 2/2/2017, some members of the Commission conducted a site visit with DCR and ACOE. While on-site, the length of the proposed revetment was walked. S. Connor said that this

was done to better ascertain and understand what the drawings were representing. She stated that additional materials were provided to the Commission at that time and asked if the information would be included in the presentation today, to which M. Riccio stated that although he did not bring the handouts that were provided at the site visit, all information provided at the site visit would be discussed at this hearing, as requested. B. Hay then stated some questions were asked at the site visit and at the prior hearing and that there are slides that have been prepared to touch specifically on those questions. P. Epstein asked if the alternatives analysis could not be discussed as part of the presentation, as it is not part of the project which is before the Commission. M. Riccio stated that the presentation will touch on the economic analysis because it was briefly mentioned on 2/2/17 and had been discussed at great length at the last public hearing.

M. Riccio began by showing p. 3 of the PowerPoint. The slide states multiple questions that have been asked throughout the hearing process. The first question raised, is 'is the wall at risk.' M. Riccio stated that ACOE did a stability analysis based on the safety standards for sliding, overturning, and bearing capacity. Multiple storm events were tested using a starting beach profile based on 2005 beach profile surveys. The ACOE then compared the stability of the resulting beach profile to their Engineering Manual design criteria. Based on these storm scenarios, the seawall along the middle section of Nantasket Beach is in danger of failing. M. Riccio stated that the wall failed to meet safety criteria for sliding and overturning under some storm conditions, but failed to meet safety criteria under all storm conditions for bearing capacity. He then stated that the wall may have been great, from a safety standpoint, when it was constructed, but due to the amount of erosion, it is currently at risk of failing. M. Riccio then showed a slide of a graph demonstrating that the beach elevation at the toe of the seawall shows a consistent trend downward; even with the seasonal variability, data shows that the situation is getting worse over time. M. Riccio stated that Nantasket Beach may be considered a stable beach, especially for New England, but over time, it is losing sand, not gaining sand. He concluded by stating that the wall failed to meet ACOE's safety standards for all the storm conditions evaluated and although the analysis does not mean that the wall will certainly fail following a two-year storm, but the wall does not meet current design standards and that the wall is vulnerable to instability and failure in the foreseeable future.

B. Hay stated that Kirk Bosma of the Woods Hole Group is a coastal processes engineer who has been working on the project since 2006 and has been collecting transects (data on beach elevation) every three months. The data that has been collected suggests that the beach elevation is lowering. The Commission asked if DCR, by installing two emergency revetments on the north and south sections of the Reservation could have contributed to the elevation loss, to which B. Hay stated that if one looks at the shoreline and how it functions as a whole, no. He stated that if there were larger waves in the center of the Reservation, it may be possible, but that is not the case; with the geometry of the shoreline, the waves are not focused more on any one point. He then stated that there are some cases of edge effects (where the revetments meet the midsection) where there's localized activity. The Commission asked if the project is permitted, will the revetment cause erosion. P. Epstein said that the areas with existing revetments have more beach, which means less erosion. In response, M. Riccio stated that the amount of beach material is not driving the rate of erosion; the erosion is caused by the wave energy reflecting off the wall. M. Riccio said that having a revetment would reduce the amount of erosion in a storm event as well, to which P. Epstein disagreed. P. Epstein stated that he attended a presentation by Coastal Zone Management (CZM) where it was stated that during a moderate storm event, water would be above the revetment, and therefore, in a sense, it would be like there was no revetment present. He stated that per CZM, the revetment would only help in a regular tide, but not a storm event. M. Riccio said that even if that was true, the revetment has been designed to hold up and stabilize the seawall; at the end of the day, if a storm hits, with the revetment, the wall is much less likely to fail. B. Hay stated that the beach does not act as individual sections, but rather one unified beach. With a revetment, it will be a uniformed coastline.

M. Riccio then discussed the economic analysis that was done on the project. He stated that the numbers that P. Epstein had discussed at the last hearing were from a report that was done between the Louis Beger and Woods Hole Group. He stated that the ACOE conducted a separate analysis based on its requirements for feasibility studies, which looked at the National Economic Development plan (looks at the storm damages to structures behind the wall and not damages to the wall itself). He stated that when doing this, the ACOE assumes the wall will fail and the flood damages to properties behind the wall were calculated. These damages were compared to calculations of damages expected to occur without protection. The ACOE economic analysis did not consider the cost savings to the DCR of not having to rebuild the wall (\$10.5 million), nor the damages to structures resulting from additional erosion behind the wall, nor public safety as a benefit. He

stated that there are numerous benefits to installing a revetment, but by looking at just predicted flood damages, the ACOE could justify their involvement in the project. The economic analysis conducted by the Louis Berger and Woods Hole Group assumed the wall was in place. M. Riccio stated that the Louis Berger and Woods Hole Group economic analysis was not why the ACOE has devoted time and energy into this project; it was the ACOE analysis. M. Riccio stated that based on the existing wall conditions and the high probability of failure, estimated annual damages of \$1,408,000 would be incurred from flood waters flowing over the collapsed wall and reaching the backshore properties. Most, but not all of those damages would be prevented if the seawall remains standing from installation of a revetment in front of the wall. M. Riccio then stated that there would be an overall annual net benefit to installing the revetment of \$812,000. Alternatives were examined and based on calculations, it was determined that the cost of installing a beach for storm damage protection would be too expensive and would require annual maintenance, which would be costly. M. Riccio stated that by providing beach nourishment, overtopping would be reduced, but it still would be too costly to construct and maintain. P. Epstein stated that per the NOI, the cost of upland damage, with or without the revetment, is the same. M. Riccio again stated that those numbers were taken from a report that the ACOE did not use to evaluate the need of the revetment; the ACOE conducted their own economic analysis. P. Epstein asked what the recreational benefits of installing a revetment would be, to which M. Riccio said you recreational value would be gained. He added that because the high tide already comes up to the wall, no high tide beach would be lost by constructing a revetment. P. Epstein stated that beachgoers would lose an additional 1.5 hours of beach time if the revetment is constructed. M. Riccio stated that through the analysis, the ACOE did not feel that there were enough negative benefits to outweigh the benefit of keeping the wall in place; it is better to keep the wall up than to do nothing and potentially let the wall fail. M. Riccio stated that the benefit of having beach for an additional 1.5 hours does not outweigh the need to protect the wall. M. Riccio stated that the DCR is proposing this revetment and would be able to construct the revetment with the ACOE's help. He stated that constructing a revetment is the most cost effective alternative. S. Connor asked how the ACOE's analysis for annual loss/maintenance was calculated. M. Riccio stated that he did not conduct the analysis, but it is his understanding that the ACOE calculated the damages based on the flood elevations of the storm and that is stretched out over a 50-year period. He added that if infrastructure and/or a building is damaged by flooding and it is fixed, it is still susceptible to flooding.

B. Hay stated that in 2006, the Louis Berger Group conducted a variety of scenarios to fix the instability of the wall. B. Hay then went through the charts which can be found on p. 33 and p. 34 of the PowerPoint [included as part of the record]. He stated that the Louis Berger Group came up with was eight different scenarios (alternatives) and based on a cost-benefit analysis, it was determined that constructing a revetment would be the best alternative. The revetment would shore up the wall and with Phase II, beach nourishment would provide the recreational beach. P. Epstein stated that per the data provided by the Louis Berger Group, the upland damage costs would be close to the same, if not the same, as doing nothing. B. Hay stated that the no action assumes that the wall is in place. B. Hay stated that if the wall falls, it will cause significant damage. B. Hay then went on to say that the DCR is committed to a Phase II of this project, which would involve beach nourishment. B. Hay stated that the DCR is not in favor of only doing beach nourishment. B. Hay stated that obtaining viable material is not always possible; the sand from the Piscataqua River is not guaranteed and it is a rare event. He then went on to say that there is no dependable sediment source, so by only doing beach nourishment, it is extremely likely that in a few years, any nourishment placed on the beach would be gone and the wall would be at risk. B. Hay stated that if there is toe protection in front of the seawall, one is not dependent on making any beach nourishment a structural feature, but rather a recreational feature. In other words, less sand would be needed and it would be easier to maintain.

B. Hay then went on to discuss the size of the stone in the proposed location vs. the size of the stone in other revetment sections. He presented a table showing the design parameters, which can be viewed on p. 36 of the PowerPoint. The table essentially shows that the proposed revetment would be more like the revetment that is currently in the south. He stated that the above sand footprint is smaller than that of both existing revetments. He stated that the slope is slightly steeper than the southern section, and therefore, the stones must be slightly larger. He added that the northern section has much larger rocks and gaps—what is proposed for the middle section will be much safer. He then stated that the revetment is designed to withstand a 10-year storm. In greater storm events, some stones may be displaced, which can be replaced. The middle section as designed would be easy to maintain. P. Epstein asked if the revetment would reduce overtopping, to which B. Hay said that it would not. B. Hay then added that if the wall would fall, there would be a disastrous affect. P. Epstein stated that the DCR will do something and the revetment is not the best project, per the data that has been

provided in the NOI. M. Riccio then stated that the DCR does not want to do nothing; they are trying to figure out the most cost-effective way to stabilize the wall. B. Hay then reminded the Commission that there is no reliable sand source in Massachusetts. B. Hay stated that the proposed project will be the most effective; if beach nourishment is done and when the sand washes away, the wall will become destabilized again. P. Epstein stated that the wall is too far seaward and the closer a wave gets to shore, the less wave energy it has. He then stated that with sea level rise, there will be more wave energy on that wall and that currently, behind the wall, there is hardscape, which increases the velocity of any overtopping. P. Epstein then stated that he has great concern for the businesses and beach goers and that if the revetment is not stopping overtopping, the overtopping will continue to affect the businesses and infrastructure in Nantasket Avenue. P. Epstein stated that this would be extremely detrimental to the Town of Hull in regards to economics and property values. He stated that he is trying to protect that and the proposed project does not provide the storm damage protection the businesses and property owners need. M. Riccio stated that with that thinking, building a beach would be or moving the wall back would be the best option, to which P. Epstein agreed. M. Riccio stated that the ACOE ruled that out as being a feasible plan as it is too costly. M. Riccio stated that he agrees that it could be cost-effective to build a beach but the material needed is not available and it is an extremely costly project. M. Riccio then stated that the DCR and ACOE are proposing a revetment because it is practical, cost-effective, and would stabilize the wall which is sorely needed. P. Epstein stated that the NOI does not explain the necessity of stabilizing the wall, to which M. Riccio stated that the ACOE stability analysis and economic feasibility analysis have been provided and have been discussed at length. P. Epstein suggested waiting until the project can have beach nourishment incorporated to construct a revetment. M. Riccio stated that the ACOE has designed a project that is feasible, which the DCR can afford, and that the ACOE can participate in. M. Riccio stated that they cannot stop sea-level rise, but they can do something to stop the wall from failing. P. Epstein again stated that the project will not help the businesses. S. Connor, Chair then stated that some discussion that has taken place falls outside of the Commission's jurisdiction.

B. Hay then went on to describe any failure points if the revetment is constructed. He stated that part of the reason a site visit was requested and done was to look at and to visualize the transition points throughout the south, middle, and northern sections of Nantasket Beach. He stated that coastal processes would not be negatively impacted by installation of a revetment. M. Riccio stated then touched on the existing ramp in the middle section. He stated that the project as designed, the revetment would not run along the side of the ramp. It would be on either side of the ramp. B. Hay stated that access points for the stairs and ADA accessible ramps would be constructed and a section of them would be buried, so as the beach elevation fluctuates, the height of the stairs/ramp would vary. S. Connor asked what the existing access ramp was doing to erosion. B. Hay stated that with the rocks in place for the revetment, it would shore up the seawall. He said that it is likely that sand may still build up on one side of the ramp more so than the other, but it is a very localized effect.

B. Hay stated that on the site-visit, drainage questions were raised. He stated that drainage really isn't involved in this project. He stated that the pipes that stick out through the wall are from two individual catch basins. One of the catch basins is from the parking lot of the Red Parrot and the other is from the nearby neighborhood and both drain very small drainage areas. He stated that all the other drainage goes to the bay. B. Hay then went on to say that as the Master Plan is implemented and the promenade is built, drainage will be rebuilt. S. Connor asked if the discharge into the bay is filtered first, to which B. Hay said it is not.

B. Hay then raised a question that was raised at the previous hearing regarding the 2014 Bourne Report which evaluated the condition of the walls. B. Hay stated that the Bourne report represented "...an initial or preliminary assessment of the condition for each structure [which] was performed by the field teams and does not represent of full condition survey of the coastal structure. This initial assessment is by visual observation only with no detailed investigation or analysis performed." B. Hay stated that the ACOE did a much more thorough investigation into the stability of the wall.

P. Epstein asked if the Commission was still entertaining conducting a peer review. M. Riccio stated that it was mentioned at the last hearing and inquired on its status. S. Connor stated that one engineering firm is interested, but others must be solicited. S. Clarren stated that three price proposal requests will be made and the proposals would be presented to the Commission and the DCR/their representatives. S. Clarren stated that it is the responsibility of the applicant to pay for the peer review. She stated she was uncertain if the DCR would be responsible for paying for a peer review because it is a state agency and has reached out to the Massachusetts Association for Conservation Commissions (MACC) on the matter. She stated that their preliminary thoughts are that the DCR should pay, especially considering that a filing fee was provided with the

application. M. Riccio asked if a peer review could be completed prior to March, to which the Commission agreed to move the peer review forward in a timely manner.

M. Riccio stated that there is a bit of a time constraint for funding on the project. He stated that the ACOE needs to have all the permits in place by the end of April to have it constructed in the next construction year (winter 2017/2018). He stated that the ACOE funding does not have an end date, but this is a Sandy funded project. Currently, this project is in the front of the line for funding. This means that if the permits are in place, we know the funding is there. If the permits are not in place and the construction would be delayed, other projects may get the Sandy money funding; this project could be pushed back into waiting for 103 monies which could take years. M. Riccio then stated that to be considered for the Piscataqua River dredging material, permits will need to be in place. He stated that funding for the dredging will be in place for the project to take place in 2018/2019. He stated that the delay with this project could lower the probability of obtaining the dredge materials. M. Riccio stated that there can be no guarantee, but it is an added consideration in timing. The Commission stated that the Conservation Administrator and the DCR/its representatives can choose a peer reviewer in between meetings and that the price proposal should include an expedited review. B. Hay asked if it was possible for the review to be completed and the Commission to come to a decision within a month, to which the Commission agreed. S. Clarren stated that in the past, the Commission votes to conduct a peer review and that was not done at the last hearing. S. Clarren then asked for clarification on what the peer review should review, to which the Commission stated that the NOI and all subsequent materials that have been provided should be reviewed.

M. Riccio again went on record by stating that there is uncertainty regarding the potential to obtaining the dredged material, but to even have that discussion, permitting must be timely. The Commission stated that they would like to have that discussion. Then M. Riccio stated that it will be on DCR and their capabilities/funding opportunities in pursuing that material, but that discussion has begun.

F. Quilici of 21 Beach Ave. asked if there would be any impacts to her section of the beach. B. Hay stated that there will be a reduction of wave energy, but the wave direction will not be changed. He stated that the project is only for the middle section of the DCR Reservation.

- Upon a **motion** by P. Epstein, **2nd** by S. Bannen and a **vote** of 5-0;
It was **voted** to:

Conduct a peer review on the proposed project.

- Upon a **motion** by P. Epstein, **2nd** by S. Bannen and a **vote** of 5-0;
It was **voted** to:

Continue the Public Hearing to 02/28/2017 at a time to be determined.

10:03 180 Main St., Map 01/Lot 001 (SE35-1350) Continuation of a Public Hearing on the **Notice of Intent** filed by the **Hull Department of Public Works** for work described as **connect blind stormwater basin to existing drainage system near the end of Channel St.**

S. Clarren stated that the DPW has requested that the project be withdrawn.

Certificate of Compliance Requests

128 Cadish Ave (SE35-1008): – P. Epstein **Motion**, S. Bannen **2nd**, vote 5-0; CoC **issued**.

98 Salisbury St (SE35-1184): – P. Epstein **Motion**, S. Bannen **2nd**, vote 5-0; CoC **issued**.

New Business

Plan for 89 Atlantic Ave (change location of stairs): S. Clarren explained that the homeowner would like to change the location of the stairs. The Commission stated that a site visit should be done.

Annual Report – Epstein, Bannen 4-0 voted to approve.

MACC Annual conference: S. Connor reminded the Commission that if anyone is interested in attending the conference, they should let S. Clarren know.

Conservation Commission FAQ: The Commission decided to postpone discussion until the next hearing.

10:21 Upon a **motion** by P. Epstein and **2nd** by S. Bannen and a **vote** of 4-0;
It was **voted** to: Adjourn