

WAREHAM PLANNING BOARD
MINUTES OF THE MEETING
Multi-Service Center
54 Marion Road, Wareham, MA 02571
Monday, September 25, 2023

WAREHAM TOWN CLERK
2023 DEC 7 PM3:58

The following record pertains to a meeting held by the Wareham Planning Board at 6:00PM local time. A video recording of this meeting is available for viewing. The record for the proceedings includes the videotape of the meeting, the resolutions passed, and any document presented during the course of the meeting.

I. CALL TO ORDER

Chair King opened the meeting and proceeded to call the roll.

PRESENT MEMBERS: Michael King, Chair
Carl Schulz
Jane Gleason
Mike Baptiste
Sherry Quirk, Associate Member
Sam Corbitt

ALSO PRESENT: Kenneth Buckland, Director of Planning and Community Development

ABSENT: -

II. PRELIMINARY BUSINESS

1. Approval of Meeting Minutes – 8/14/2023 & 8/28/2023

MOTION – Move to table the meeting minutes of August 14, 2023.

MEMBER	MOTION	SECOND	VOTE
M. King (Chair)			AYE
J. Gleason			AYE
C. Schulz			AYE
S. Corbitt	X		AYE
S. Quirk			AYE
M. Baptiste		X	AYE

Seconded and passed without dissent. 6-0-0

MOTION – Move to accept the meeting minutes of August 28, 2023.

MEMBER	MOTION	SECOND	VOTE
M. King (Chair)			AYE
J. Gleason			AYE
C. Schulz			AYE

S. Corbitt	X	AYE
S. Quirk	X	AYE
M. Baptiste		AYE

Seconded and passed without dissent. 6-0-0

2. #13-23 Nazih Elkallassi – ANR – Main Street / High Street

Brian Grady, G.A.F. Engineering

The Planning Board discussed a minor modification to a previously endorsed ANR plan, which involves adding approximately 14 square feet to the lot facing Main Street.¹ The modification does not affect the existing frontages on the property. Furthermore, it was noted that the existing dwelling on the property had been demolished.²

M. King pointed out a discrepancy between the revised Site Plan from the ZBA (Zoning Board of Appeals) and the application. While the ZBA's plan showed four structures facing Main Street, the application indicated only three structures. The explanation given was that at the time of the plan's preparation, none of these structures had been built.³

J. Gleason sought clarification regarding an easement that does not touch a public way and serves as an access and utility easement. B. Gibson clarified that the easement itself remains unchanged; it's the lot line that is being modified. This modification would also provide pedestrian access for the lot facing Main Street, and the utilities for the dwellings on Main Street are located within the easement. B. Grady further explained that behind the proposed structures, adjustments were made to accommodate roof drainage, and the water services had to be repositioned in the plan.

MOTION – Move to approve the ANR for 13-23 Nazih Elkallassi – ANR – Main Street / High Street

MEMBER	MOTION	SECOND	VOTE
M. King (Chair)			AYE
J. Gleason			AYE
C. Schulz	X		AYE
S. Corbitt		X	AYE
S. Quirk			AYE
M. Baptiste			AYE

Seconded and passed without dissent. 6-0-0

3. #14-23 Swebco, LLC – ANR – 13 Swifts Beach Road

Steve Webby, Swebco LLC., Landowner

The applicant was present before the Planning Board to propose a plan to combine 2 parcels to create a new lot. The first parcel would be 3229 square feet and taken from Lot 1000-A. The

¹ Previously endorsed on March 23, 2022.

² #13-23, Project Folder.

³ #13-23, ANR Plan of Land. (2023, July 20). #13-23, ANR Submission to the Planning Board. (2023, August 8).

second parcel would be taken from Lot 1001-A and be 43,249 square feet, resulting in the new 46,478 square foot Lot 1001-D.⁴

S. Webby clarified that Brown St was paved. J. Gleason questioned if Lot D would be separate from the Lot with the tower on it. S. Webby clarified that the plan was originally accepted but adjusted it to make a buildable lot. S. Webby further clarified that the easement on parcel A would continue throughout the lot. J. Gleason noted that the easement was incorrectly depicted, and M. King noted for the record that part of the easement line on Parcel A was missing.⁵

MOTION – Move to approve 14-23 Swebco, LLC – ANR – 13 Swifts Beach Road with the note that it will get an amended mylar.

MEMBER	MOTION	SECOND	VOTE
M. King (Chair)			AYE
J. Gleason			AYE
C. Schulz	X		AYE
S. Corbitt		X	AYE
S. Quirk			AYE
M. Baptiste			AYE

Seconded and passed without dissent. 6-0-0

4. **#16-23 Ross J. Sarmiento – ANR – 2230/2232 Cranberry Highway**

Craig Hartwell, Representative for Applicant

The purpose of the presented plan is to adjust the boundary lines to remove the encroachment of the dwelling on lot 1021 into lot 1022 without altering the total frontage for either lot.⁶ Both lots are subject to a variance decision by the Zoning Board of Appeals, which permitted the use of the dwelling on lot 1021 as a duplex residential dwelling, provided that lots 1021 and 1022 were combined into a single lot.⁷ Currently, both dwellings on lot 1021 and 1022 are used as single-family dwellings.

Both dwellings have existing septic systems in place, and the frontage will remain the same despite the shift in the lot line. Importantly, the pre-existing non-conforming frontage will not be reduced. Legal precedent supports the notion that approval cannot be withheld. M. King inquired about how this case differed from Parkway Beach, which resulted in one lot becoming non-conforming. J. Gleason felt that the non-conforming status would persist, but C. Hartwell noted that it would become more conforming. In the event of a sale, a common access agreement would be required.

K. Buckland confirmed that it was a preexisting non-conforming dwelling. M. Baptiste noted the presence of an illegal dwelling on the property. C. Hartwell stated that he believed the two dwellings had previously shared a septic system. C. Schulz acknowledged that the structure may be illegal, but the Approval Not Required could not be withheld on that basis. He emphasized that

⁴ #14-23, Project Folder.; and #14-23, Form A, ANR Application. (2023 August 28).

⁵ #14-23, ANR Plan of Land. (2023 June 26).

⁶ #16-23, Project Folder. #16-23, Form A, ANR Plan Application. (2023, August 29).

⁷ #16-23, Stamped ANR Plan of Land. (2023, August 26).

the ANR does not imply that the Planning Board believes the lot is conforming or buildable. M. King noted that the property was registered as a single property on Zillow. M. Baptiste reiterated that one dwelling had been converted into an illegal dwelling. M. King stated, for the record, that the Planning Board was not endorsing the idea that the second building on the property had been legally constructed.

S. Quirk clarified that approving the ANR would not render the dwelling legal. MB urged the Planning Board to seek legal counsel, and K. Buckland confirmed that the Building Commissioner was looking into the situation. A discussion followed regarding the approval of the ANR and its potential consequences. The application did not include any documentation that would enable the Planning Board to make further determinations. Based on guidance from the Planning Office and the fact that the ANR cannot be denied based on historical factors, it was documented on the record that the Planning Board questioned the legality of the structure on the property.

C. Schulz requested that the discussion be recorded in detail.

MOTION — ~~Move to approve.~~

MEMBER	MOTION	SECOND	VOTE
M. King (Chair)			AYE
J. Gleason			ABSTAIN
C. Schulz	X		AYE
S. Corbitt		X	AYE
S. Quirk			ABSTAIN
M. Baptiste			NO

The motion was withdrawn.

S. Quirk stated she preferred to receive advice from counsel before action was taken. C. Schulz questioned if the applicant had concerns if action was deferred in order for the Planning Board to do so. C. Hartwell responded he felt confident in the response from counsel. C. Schulz subsequently withdrew his motion.

MOTION – Move to defer discussion on 16-23 Ross J Sarmiento - ANR - 2230-2232 Cranberry Highway until October 16, 2023, where the Planning Board can get insight from town counsel.

MEMBER	MOTION	SECOND	VOTE
M. King (Chair)			AYE
J. Gleason			AYE
C. Schulz	X		AYE
S. Corbitt		X	AYE
S. Quirk			AYE
M. Baptiste			AYE

Seconded and passed without dissent. 6-0-0

S. Quirk summarized that there was concern with the ANR that there was an illegal dwelling on the lot, and concerns regarding taking or not taking action.

5. #17-23 C.J.E. & R. Co., Inc. – ANR – 3 Tow Road

Robert Perry, C.J.E. & R. Co., Inc.

The purpose of the proposed plan involved the creation of two lots, and R. Perry confirmed that all Zoning Bylaws were satisfied.⁸

MOTION – Move to endorse 17-23 C.J.E. & R. Co., Inc. – ANR – 3 Tow Road.

MEMBER	MOTION	SECOND	VOTE
M. King (Chair)			AYE
J. Gleason			AYE
C. Schulz			AYE
S. Corbitt		X	AYE
S. Quirk			AYE
M. Baptiste	X		AYE

Seconded and passed without dissent. 6-0-0

6. For Discussion and Possible Vote – The Preserve on the Weweantic - Preservation Lane Release of Performance Bond (\$118, 534.07)

Brian Grady, G.A.F. Engineering
Scott Blagden, Developer

B. Grady informed the board that SB had requested the release of a bond that had been previously approved in 2005.⁹ Following a site visit by Mr. Menard and discussions with K. Buckland, it was concluded that there were no issues with releasing the bond. Questions arose regarding the existence of a homeowners' association (HOA), which B. Grady confirmed. It was clarified that the road would remain private, and the necessary documents for this would soon be provided to the Planning Office.¹⁰

C. Schulz raised multiple concerns, primarily concerning the completion of a definitive subdivision. According to the regulations, the applicant is required to submit a written statement to the town board confirming the completion of construction. The Planning Board confirmed this step had not been taken. C. Schulz cited from the Rules and Regulations:

“Such bond, deposit, covenant or agreement shall be contingent on the completion of such ways, services and other provisions of Section V and VI of these Rules and Regulations within 24 months from the date of approval of the Definitive Plan.”¹¹

⁸ #17-23, ANR Plan of Land. (2023, August 28).; and #17-23, Form A, ANR Application. (2023, August 28).

⁹ The Preserve on The Weweantic, Road Construction History and Documents. (2023, October 10).; and The Preserve on The Weweantic, Final As-Built Plan. (2023, September 8).

¹⁰ The Preserve on The Weweantic, Project Folder.

¹¹ Wareham, MA, Rules and Regulations Governing the Subdivision of Land. § IV.C, “Performance Guarantees,” (2013, March)

C. Schulz inquired about any extensions that may have been requested or filed, to which S. Blagden responded that, while he had communicated with K. Buckland, no formal extension request had been submitted. He further referred to Section IV.C, "Performance Guarantee," of the Rules and Regulations, which outlined the mandatory completion of all infrastructure and municipal services within 24 months from the plan's approval date. Failure to meet this requirement would result in the automatic rescission of the plan's approval. C. Schulz cited:

*"The construction of all ways and the installation of all municipal services shall be completed in accordance with the applicable Rules and Regulations contained herein within 24 months from the date of approval of the plan. Failure to so complete shall automatically rescind approval of the plan."*¹²

C. Schulz considered the information that the municipal services were owned by the HOA, as indicated by the representatives. C. Schulz then cited Section IV.H, "Inspection," of the Rules and Regulations, which required a completed Form N to be submitted to the Planning Board upon final inspection. According to this regulation, no lots that hadn't been previously released in accordance with Section IV.C, "Performance Guarantee," could be released until Form N had been submitted and approved. C. Schulz cited:

*"Upon final inspection, a completed Form N shall be submitted to the Planning Board by the applicant. No lots, not previously released in accordance with Section IV.C, Performance Guarantee, shall be released until the Form N has been submitted and approved by the Planning Board."*¹³

There was some confusion about how the lots had been released. M. Baptiste expressed his concerns about the representatives potentially requesting that the town accept the road as a public way. He emphasized the importance of ensuring proper inspections and maintaining a clear project history. M. King suggested that the representatives should arrange meetings with the Road Commissioner, Building Inspector, Town Clerk, and other relevant parties to finalize the required forms.

S. Quirk expressed her view that it would be inappropriate to allow projects to disregard these town requirements, leading to a detailed discussion with the representatives.

MOTION – Move to defer action on The Preserve on the Weweantic - Preservation Lane Release of Performance Bond (\$118, 534.07) until such time that the applicant can provide documentation to support road construction.

MEMBER	MOTION	SECOND	VOTE
M. King (Chair)			AYE
J. Gleason			AYE
C. Schulz			AYE
S. Corbitt	X		AYE
S. Quirk			AYE
M. Baptiste		X	AYE

Seconded and passed without dissent. 6-0-0

¹² Wareham, MA, Rules and Regulations. § IV.C, "Performance Guarantees," (2013, March)

¹³ Wareham, MA, Rules and Regulations. § IV.H, "Inspection," (2013, March)

7. 7-20 Borrego Solar Systems, Inc. – 27 Charge Pond Road – New Leaf [Borrego] Extension of time SPR/Special Permit

M. King asked if there were concerns about hearing both #7-20 and #9-20 at the same time, to which there were none.

Dean Smith, Civil Engineering Lead, New Leaf Energy, Inc.
Jared Connel, VP of Development, New Leaf Energy, Inc.
Greg Sampson, Partner, Sullivan & Worcester LLP
Nick Petrakis, P.E., Senior Consultant, Energy Safety Response Group (ESRG)
Steven Weir, Weston & Sampson
Marie Rudiman, Senior Risk Assessor and Toxicologist, Weston & Sampson
Mike Conway, Solar Director of Business Development for Energy Storage

J. Connell commenced the meeting by providing an overview of the two projects, both of which had received Site Plan approval in the fall of 2020. Although the applications for interconnection had been submitted over a year prior to our Site Plan submissions, progress towards construction had been impeded due to delays in the interconnection process and the issuance of interconnection agreements from Eversource. This delay was the primary reason they sought an extension.¹⁴

Representatives attended the meeting to discuss other aspects of the project, particularly focusing on battery storage during this interim period. The representatives prepared a summary of the key points from the letter submitted by them the previous week and organized those into a presentation.¹⁵

S. Weir, from Weston and Sampson Engineers, emphasized their role as an engineering firm working for both the Town of Wareham and the property owner, AD Makepeace. They disclosed these relationships to address questions from the Planning Board and confirmed there was no conflict of interest. S. Weir summarized that he is a professional geologist, with a 33-year career in consulting environmental site assessment and cleanup.

M. Rudiman introduced herself as a toxicologist and environmental risk assessor, who had reviewed data related to risk assessments and laboratory information on lithium battery fires.

J. Connell shared his background, mentioning that he had previously worked in the New York City Fire Department Sustainability Unit, where he reviewed battery energy sources for installation and helped develop standards for these systems in New York City. He also mentioned that he is a sitting member of various committees related to energy storage system installations. He elaborated on his current role at the Energy Safety Response Group (ESRG), where he and his team focus not only on installation but also conduct full-scale fire testing and provide best practices and engineering guidance. J. Connell emphasized that their work is based on first-hand experience with these systems.

Regarding the summary of the overall analysis, he mentioned that he reviewed the available literature, specifically looking for risk assessments related to previous fires. He found only one

¹⁴ Eversource, Distribution Group Studies. (2023).; and Department of Public Utilities (n.d.). Provisional System Planning Program Guide. Mass.gov.

¹⁵ #7-20, Project Folder.; and #9-20, Project Folder.

such assessment, which pertained to a significant fire in Arizona. This fire did not result in significant risks to nearby residences, and no contamination migrated downgradient from the main fire area. J. Connell discussed laboratory tests conducted on lithium batteries. These tests involved raising the temperature of the batteries to make them burn, measuring air concentrations during these tests. J. Connell also mentioned a runaway test where the temperature was significantly increased. He analyzed the concentrations in the air and water used to extinguish the fire in these tests. This information was used to answer some of the questions during the meeting.

N. Petrakis discussed his expertise in firefighting best practices with respect to energy storage incidents, and his guidance emphasizes defensive firefighting tactics in the event of an energy storage system incident. Defensive tactics focus on incident commanders' guidance and using water only when necessary for adjacent cabinets or exposures.

N. Petrakis explained that allowing the energy storage system to consume itself is a controlled reaction. These systems undergo rigorous fire testing to ensure that a failure won't lead to a runaway event, and any failure remains isolated within the individual module or unit. This approach prevents the involvement of adjacent units. He emphasized that proper implementation of these firefighting best practices requires training and raising awareness among local fire departments about the presence of these systems in their jurisdiction. Training is essential to ensure that emergency response procedures are correctly executed.

N. Petrakis mentioned the McMillen incident and how allowing the system to self-consume reduces flammable off-gassing, minimizing the risk of deflagration or explosion. This approach has been incorporated into updated fire codes to enhance safety during energy storage incidents. The McMillen incident highlighted the benefits of an energy storage system consuming itself. This self-consumption process reduces flammable off-gassing and significantly decreases the likelihood of deflagration or explosion. The primary issue in the McMillen incident was the lack of explosion protection, which resulted in four firefighters being injured, with two of them critically injured. To address such concerns, updated fire codes have been implemented.

N. Petrakis stressed a worst-case scenario approach for fire battery system incidents, highlighting the importance of using water defensively to prevent excessive on-site usage. This approach limits water usage to critical situations, determined by the local incident commander and subject matter expert. Many requirements and separation distances are integrated into energy storage system designs, reducing water needs. Not using water has multiple benefits, like significant cost reduction. These practices rely on emergency response procedure familiarity and best practices.

S. Quirk asked about discussions with the local fire department regarding firefighting techniques and water usage reduction. J. Connell explained they had a brief conversation with Chief Kelly, mainly to inform him about their research and provide materials to the Planning Board. Chief Kelly's concerns remained consistent with the initial project approvals. He typically requests specific project information, such as plans, access details, and equipment location. While firefighting constraints weren't directly addressed, they focused on project-related information sharing. C. Schulz requested Chief Kelly's letter for reference.

J. Connell responded to C. Schulz's question about the recommendations and their relation to NPFA 855 and Massachusetts adjustments.¹⁶ He mentioned that in his discussion with the fire captains, they expressed their intention to follow NFPA 855 with the Massachusetts amendments.

¹⁶ NFPA 855, Standard for the Installation of Stationary Energy Storage Systems. (2023)

The goal was to broadly align with NFPA standards, particularly the 23rd edition, while considering the Massachusetts-specific requirements and modifications.

J. Connell emphasized that they considered NFPA 855 as the gold standard and mentioned that they are currently on the second revision of NFPA 855¹⁷. They believe that NFPA 55 aligns closely with industry best practices, along with the 2021 International Fire Code (IFC). J. Connell explained that there are no prescriptive requirements for emergency response procedures in NFPA standards; it only requires that an emergency response plan is developed and reviewed with the fire department. He stated that their practices are in alignment with NFPA 855, the International Fire Code, and Massachusetts fire codes.¹⁸

C. Schulz questioned if Chief Kelly was open to training, J. Connell responded that he was, and he supported the development of an emergency response plan. G. Sampson stated that the process included a walk through and meetings with the Fire Department, but the representatives would be happy to supplement with training.

M. King raised questions about Chief Kelly's comments and the emergency response plan. J. Connell clarified that he couldn't speak for Chief Kelly, and M. King noted that Chief Kelly's comments were from June 26, 2023. C. Schulz highlighted that the fire department supported the board but wanted to maintain control over their firefighting methods. M. King stressed the importance of including educational elements in the training, as suggested by J. Connell.

J. Gleason mentioned the discussion of a regional fire department that would cover multiple towns, if sophisticated training was needed consistently.

Discussion on the question: In the event that water is used to put out a fire, how much water would be needed to put out a fire (typical and worst case)?

N. Petrakis explained that the use of water is heavily influenced by the "informed fireground operations." This approach leverages information from the battery management system (BMS) to guide the incident commander. In essence, water would only be used if the information provided indicates the necessity of its use. The key is to avoid excessive water use when it's not required.

He stated this approach not only minimizes the use of water but also enhances the overall response and effectiveness of the emergency response procedures. N. Petrakis stressed that training with the fire department is a crucial component of this strategy, and regular training sessions are conducted to ensure that all personnel are familiar with and prepared to implement the procedures effectively. Yearly reviews would ensure that the training and equipment is satisfactory.

Discussion on the question: What are the potential air toxicity issues related to battery fires?

M. Rudiman explained that battery fires emit emissions similar to plastic fires, which include carbon dioxide, hydrochloric acid, hydrogen fluoride, hydrogen cyanide, and benzene. She likened the toxicity to the plastics found in couches or building materials. The air concentrations

¹⁷ International Fire Code. (2021).

¹⁸ To read the code, select NFPA 1 and "Free Access," then select "2021 Fire Code" and click "view."
Massachusetts Fire Code. (2022, December 9).

surrounding battery fires did not pose a significant health risk at two different locations in New York.¹⁹ M. King asked what the ranges of toxicity were, M. Rudiman did not know.

C. Schulz noted M. Rudiman's statement on equivalent mass and asked if the measures of air concentration were similar to mass of a Conex container as being proposed in this project, and what that mass would be. M. Rudiman did not know. M. Conway clarified that air quality monitoring that took place in response to the fires in Warwick and Lyme, New York was done on battery systems that were comparable. The batteries were larger in New York and the air measurements were not above the allowable standards. C. Schulz clarified that the assessment was that the impact was negligible, or within allowable standards. He further noted that the Warwick fire had more sensitive standards, given that site's proximity to a school.

C. Schulz questioned if evacuation would be necessary. M. Conway stated that first responders would be at least 100 feet from batteries. C. Schulz asked if citizens would be safe from emitted gas to which M. Conway confirmed. S. Quirk questioned if the readings M. Conway referenced is from the special report from the state to which M. Conway responded that the state has yet to release that. The reporting is from interviews with the personal owners at the sites, and reported by local news agencies, asking about the impact of air quality. S. Quirk noted this was following a shelter in place notice was given. S. Quirk noted there was another shelter-in-place notice for a fire in California.²⁰

S. Quirk questioned if, as far as M. Conway could tell, there would be no air quality issues as result of a fire. M. Conway responded that based on fires in New York on comparably sized systems, there was no evidence of public harm, or contaminants in the air quality at sites that they measured. S. Quirk emphasized the importance of the Planning Board to prioritize the health and safety of the residents of Wareham.

A five-minute break was taken.

Discussion on: If water is used during a fire event, what is its toxicity, and can it be contained before discharging to the ground and potentially to groundwater?

M. Rudiman then focused on the laboratory results related to contaminants in the water and the potential environmental impacts of the solar energy project. M. Rudiman began by highlighting that the laboratory results indicated similarities between the materials found in the batteries and those typically associated with internal combustion engines. M. Rudiman emphasized that these comparisons were specifically made in the context of lithium batteries.

The testing procedures discussed by M. Rudiman assumed that the effluent from the project would flow directly into surface water. While these tests were designed to assess the potential toxicity of the effluent, particularly its impact on organisms such as daphnia magna and various aquatic organisms, M. Rudiman noted that these tests assumed direct contact with aquatic organisms. It was acknowledged that real-life scenarios might differ from the assumptions made during testing.

¹⁹ Warwick and Lyme.

²⁰ Fischer, Anne. "Lithium-Ion Battery Fire in California Energy Storage Facility." pv magazine USA, September 20, 2023.; and Schmiedeberg, Renee. "Fire at Valley Center solar battery storage facility prompts brief evacuation," msn.com. September 19, 2023.

To address potential concerns, M. Rudiman highlighted the implementation of various containment measures intended to confine fire suppression water, with the goal of preventing its discharge into groundwater and surface water. Additionally, M. Rudiman noted that significant dilution would occur before the fire suppression water could be discharged. The pH of the water was discussed by M. Rudiman and was found to be within a neutral to somewhat basic range, with levels reaching approximately 9.2. This pH range was deemed unlikely to have a detrimental impact on aquatic life. M. Rudiman informed the board that stormwater features would be incorporated into the project's design to further contain and manage runoff, minimizing potential adverse effects on the environment.

S. Quirk conveyed her concern about the potential runoff of firewater into the town's water resources. She inquired whether M. Rudiman had assessed the quantities of water typically used in fighting a battery storage fire and the likelihood of this water contaminating water resources inhabited by marine species.

M. Rudiman responded by referencing laboratory tests that had analyzed the composition of extinguishing water. She highlighted a memo where she had compared the results to Mass DEP Method 1 standards, specifying that GW1 is designed to safeguard drinking water quality, while GW3 is focused on protecting aquatic organisms. M. Rudiman explained that only antimony levels exceeded drinking water standards, implying potential water consumption. She reassured the board by outlining various mitigation measures in place to prevent the used water from reaching groundwater and drinking water sources.

S. Quirk inquired about the potential water flows on the site due to the battery placement, seeking specific data for this location beyond the general laboratory results. She expressed a desire for more information on antimony levels and quantities, emphasizing the importance of comprehending their potential impacts. S. Quirk suggested hiring an additional expert to ensure the Planning Board's full understanding of this matter.

C. Schulz sought clarification, asking M. Rudiman for the meaning of VOC, which she explained as Volatile Organic Compound. C. Schulz mentioned prior comments on vehicle fires that require a lot of water. He asked why the recommendations advised against using excessive water. N. Petrakis explained that vehicle fires involved immediate life and safety concerns, such as rescuing people from burning cars, often in densely populated areas. He emphasized that car fires are different from solar array fires. Vehicle fires require immediate suppression due to life-saving priorities, whereas solar array fires, if deemed safe, might be allowed to burn. The decision depends on the incident commander's assessment of the specific circumstances.
Discussion on pollutants that potentially get into the groundwater and their remediation.

M. Rudiman addressed concerns about pollutants potentially reaching groundwater. She hoped that containment measures would limit extinguishing water from migrating into groundwater. If such migration occurred, an assessment would determine concentrations. If extinguishing water reached the soil, samples would be collected and analyzed, comparing results with Massachusetts DEP standards. If soil or groundwater were affected, additional tests and remediation would follow the Massachusetts contingency plan.

S. Quirk raised concerns about financial responsibility for contamination, and the representatives clarified that the project owner, as per the lease terms, would be responsible. However, she pointed out that the owner would be an LLC with limited capital. G. Sampson responded by explaining that projects are structured with multiple layers of financial capacity to ensure all parties have confidence in the project's ability to bear the costs. He likened the situation to an

industrial owner of a gas station, which would operate under a similar corporate structure and be insured. S. Weir, drawing on his experience in accident response, emphasized that in cases like this, initial remedial actions are typically surficial. He suggested that the associated costs would most likely be covered by project insurance.

S. Quirk expressed her concern based on her experience, noting that significant litigation often arises when parties seek insurance benefits. She emphasized the need for an additional layer of protection. G. Sampson responded by stating his lack of knowledge regarding any standard instrument beyond pollution liability insurance. He stated that those who pollute are responsible parties, and there is a chain of responsibility to identify those responsible. S. Quirk underlined that environmental liability does not cease at the LLC level, extending to include the landowner. She mentioned that all remediation work would be completed by that point, but long-term issues could occasionally arise. S. Quirk proposed that this situation required another expert's assessment to determine how potential battery storage fires compared to other accidents and how liability should be handled.

C. Schulz inquired whether the Massachusetts contingency plan had enforceable legal requirements for site cleanup. G. Sampson confirmed that it did and mentioned that the state would assist the town in the cleanup process. S. Quirk then raised concerns about the potential insolvency of the company responsible. G. Sampson explained that the Department of Environmental Protection (DEP) has the authority to place a lien on the property if necessary, with the backing of a state agency.

S. Quirk further questioned financial responsibility and noted that state and federal backing exists. G. Sampson emphasized that the landowner is obligated to perform the required steps, with state oversight and auditing in place. J. Weir added that the state has intervened in cases involving uncooperative landowners, performing assessments and monitoring contamination levels. Outstanding bills might remain unpaid until a future developer comes forward to address them.

C. Schulz summarized the two main issues at hand: determining the party responsible for covering costs and ensuring that environmental issues are properly remediated. He proposed the inclusion of a performance guarantee. S. Quirk suggested a guarantee from a creditworthy company within the corporate family, capable of covering foreseeable issues.

Discussion on the impact of a Battery Storage Accident on the Environment and Wildlife

M. Rudiman noted that the potential for materials to be washed into the ground is relatively low, primarily due to the limited scale of the affected area and the nature of the materials involved, which are typically metals that can be relatively easily remediated from soil. The cleanup of soil would entail excavation of impacted materials, but this action would only be undertaken if residual concentrations were found to exceed the Massachusetts Department of Environmental Protection (MA DEP) cleanup standards. A comprehensive soil analysis would precede any cleanup, with the determination of whether cleanup standards were surpassed guiding subsequent actions.

It was emphasized that fire events associated with Energy Storage Systems (ESS) do not pose a greater risk to the environment in comparison to incidents at industrial facilities, gas stations, or commercial and residential structures. Concerning the cleanup and remediation process following a fire event with potential water infiltration, the meeting participants discussed the materials that may be left behind. M. Rudiman detailed that samples would be systematically collected and subjected to analysis for contaminants. The available data indicated a prevalence of metals, and if

the levels were found to exceed the standards established by the DEP, the DEP would issue a release tracking number, commencing a designated timeframe for the cleanup process.

C. Schulz inquired if groundwater and wells became contaminated by the type of contaminants discussed, could they be readily remediated, and whether standard household filtration systems were effective in dealing with these contaminants. M. Rudiman affirmed that filtration systems can remove metals, although there might be associated costs, but it's generally within the realm of remediation.

C. Schulz then asked about recent technological advancements in battery energy storage. N. Petrakis explained that the industry has seen numerous proactive changes and technological advancements.

J. Connell mentioned that ESRG had prepared an Emergency Response Plan (ERP) for the project. The ERP will be finalized once the designs are completed at the construction level, and they are currently in contact with Chief Kelly regarding it.

C. Schulz asked the engineers if, as advisors to the board, there were any questions they wished the board had asked. S. Weir noted that the Planning Board's questions were in line with those from other boards. M. King brought up the importance of the ERP in the project's approval and mentioned that he would like to see at least a draft of it. J. Connell clarified that ERPs are often drafted before project approval and stated that they have a majority of the ERP drafted. The ERP covers aspects such as defensive firefighting and equipment location.

G. Sampson mentioned that the project representatives had made efforts to work with the town and were open to addressing any new conditions or concerns the town might develop.

S. Quirk then noted that G. Sampson was now a member of Sullivan & Worcester, where she was a partner and board member for several years. She felt it was essential to mention this for transparency, although she believed it had no bearing on the project. S. Quirk went on to discuss the slow approval process by the Department of Public Utilities (DPU) and inquired about the representatives' thoughts on the timing.²¹ J. Connell mentioned that there were a couple of DPU orders moving slowly and that the forecasting indicated approvals around the end of the year. S. Quirk followed up by asking about the timeline for construction and interconnection after the order is issued. J. Connell stated that, based on a previous study approved by the DPU, there is typically a 6-to-7-month gap before upgrade schedules are released, but he was unsure about the construction schedule afterward.

S. Quirk expressed her concern that the current project evaluation might be premature given potential changes in technology and information availability in a few years. She suggested hiring experts to further analyze the project and requested the possibility of granting an extension conditioned on additional information being provided later. She emphasized that technology related to battery storage and fire detection was rapidly evolving, and waiting a bit might provide better solutions and clarity on the project's impact.

D. Smith addressed some of S. Quirk's points, noting that certain fundamental aspects of the storage, like nameplate ratings and interconnection approvals, wouldn't change. The 5 MW AC battery technology was already fixed, and while there might be minor improvements in product technology, the nameplate and capabilities were unlikely to alter significantly. He also emphasized the stringent nature of codes, UL listings, and battery testing, which would offer a high level of reliability. He stated that any product within the nameplate had to meet codes during the building permit application process.

²¹ NSTAR Electric Company d/b/a Eversource Energy, D.P.U. 22-52. (2022, April 29).

S. Quirk inquired about the possibility of substituting technology that posed fewer safety concerns, to which D. Smith explained that they were confident in the current technology's safety.

D. Smith discussed alternative energy storage technologies and their potential and limitations. His company had received a state grant for a non-lithium project in New York. D. Smith explored these alternatives extensively over the past year. While he found some of these technologies promising, he noted their current lag behind lithium-ion, especially for 5 MW solar storage projects. He remained cautiously optimistic about alternative technologies for long-duration storage but believed that lithium-ion had a competitive edge for 5 MW solar storage. While hopeful for the future of alternative technologies, he saw them as second to lithium-ion for now.

D. Smith discussed material limitations, including the availability of raw materials like lithium and other metals used in batteries. He noted that while there might be concerns about material scarcity when scaling up applications like replacing all car batteries, the demand for lithium-ion batteries in everyday devices was continuously increasing. Thus, concerns about material scarcity had not become a significant issue yet.

S. Quirk elaborated on her concerns during the discussion. She emphasized the need for clarity regarding firefighting techniques employed by the fire department and whether they would commit to a less-water approach in emergencies. Her concern revolved around the town's ability to adopt such an approach effectively. S. Quirk sought a clear stance and commitment from the fire department in this regard. S. Quirk's second concern pertained to the potential environmental consequences of firefighting water runoff. She stressed the importance of thoroughly assessing the site to understand how such runoff could impact the surrounding environment. This assessment was essential for addressing environmental issues related to water contamination. S. Quirk was particularly interested in gaining expert opinions to evaluate these potential consequences. The third major concern raised by S. Quirk centered on the financial aspects of the project. She questioned the financial backing and responsibility for incidents or contamination. S. Quirk was keen to understand how the town of Wareham, which had limited financial resources, could effectively manage and mitigate environmental issues or accidents associated with the project. She highlighted the necessity of a comprehensive plan to ensure that someone would be responsible for addressing these concerns proactively.

S. Quirk suggested seeking expert opinions and initiating a public hearing to collect additional information from various stakeholders. She acknowledged that this approach might introduce some uncertainty and extend the timeline but emphasized the importance of a comprehensive examination of these issues for making informed decisions. S. Quirk encouraged input from others to further explore these points and address her concerns.

C. Schulz raised concerns about the potential need for multiple extensions and sought clarification regarding whether another extension request would be anticipated in two years based on the project's historical development process. J. Connell explained that the discussed timeline was related to Eversource's upgrades for project interconnection. The construction phase typically began about 18 to 24 months before Eversource completed its upgrades, and a two-year extension might align with the project's construction commencement, making it feasible to proceed without requiring another extension.

C. Schulz directed a question to Ken Buckland, inquiring about how changes in technology for batteries or solar panels might affect the project's permit. He sought clarity on whether a modification to the permit would be required due to technological advancements and to what extent such changes would trigger a modification.

Ken Buckland responded by suggesting that the conditions of approval could specify the standard for what constitutes a significant change in technology. He also recommended discussing this matter with the applicant in advance. Additionally, he mentioned the possibility of incorporating such considerations into evolving Rules and Regulations.

This discussion highlighted the need to establish clear criteria for assessing technological changes and their impact on project permits.

S. Quirk presented several topics of concern related to energy storage systems. She shared information on recent battery storage fires in California, raising the question of whether there are lessons to be learned from those incidents. She also mentioned alleged underreporting of solar farm fires in Europe, seeking input from the attendees.²² Additionally, S. Quirk inquired about antimony and its risk factors, particularly concerning spills like those involving benzene that have been associated with increased cancer risks in the region.²³ This discussion emphasized the importance of understanding and addressing potential safety and environmental risks associated with energy storage systems and related incidents. It also indicated the need for additional information and research in these areas.

M. King emphasized his desire for concrete details on mitigation, beyond general discussions and hypothetical scenarios. He specifically inquired about the process and responsible party for cleaning up potential contamination resulting from a battery fire incident.

Furthermore, M. King raised a hypothetical worst-case scenario where a battery fire incident occurred, and significant amounts of water were used for firefighting. He emphasized the importance of developing a well-defined process for addressing this situation, including locating and providing the required amount of water. He also inquired about how the water's toxicity would be determined and addressed, ensuring it did not adversely affect the local groundwater or drinking water supply. Lastly, King stressed the need to clarify who would be financially responsible for addressing such an extreme scenario.

These concerns raised by M. King centered on ensuring the safety and environmental integrity of the community, both in regular operation and worst-case situations. He underlined the significance of having detailed plans and financial backing in place to protect the town in all circumstances.

S. Corbitt voiced concerns about the project's impact on the aquifer, stressing the potential catastrophic consequences for seven communities relying on the same water source. MB and J. Gleason did not add further comments. M. King thanked the attendees for their input and emphasized the board's responsibility to protect the town's interests. He indicated the need to continue discussions but suggested coordinating with the Planning Office to set a future meeting date.

MOTION – Move to move discussion on #9-20 – 150 Tihonet Road and #7-20 – 27 Charge Pond Road to November 13, 2023.

MEMBER	MOTION	SECOND	VOTE
M. King (Chair)			AYE
J. Gleason		X	AYE
C. Schulz			AYE

²² Firetrace International, Hidden Danger: Why Solar Farm Fire Risk Could Be Greater Than You Think. (2022).

²³ Cooper, Ross G, and Adrian P Harrison. "The exposure to and health effects of antimony." *Indian journal of occupational and environmental medicine* vol. 13,1 (2009): 3-10. doi:10.4103/0019-5278.50716

S. Corbitt	X	AYE
S. Quirk		AYE
M. Baptiste		AYE

Seconded and passed without dissent. 6-0-0

III. AJOURNMENT

MOTION – Move to adjourn.

MEMBER	MOTION	SECOND	VOTE
M. King (Chair)			AYE
J. Gleason			AYE
C. Schulz			AYE
S. Corbitt	X		AYE
S. Quirk			AYE
M. Baptiste		X	AYE

Seconded and passed without dissent. 6-0-0

The meeting adjourned at approximately 8:51PM local time.

WAREHAM TOWN CLERK
2023 DEC 7 PM 3:58

[Signature] as Secretary
11/13/2023