

Responsiveness Summary for Section 401 Water Quality Certification #2016-003

Re: For Martin's Foods of South Burlington, Inc.'s proposed Hannaford Supermarket and Pharmacy in the town of Hinesburg, Vermont

The Department of Environmental Conservation (DEC) placed the draft permit on public notice on December 18, 2017 and the public comment period remained open until January 16, 2018. In response to a public request, DEC held a public meeting at Champlain Valley Union High School located at 369 CVU Road in Hinesburg, Vermont on February 26, 2018 at 6pm. The public notice of the meeting ran from January 25, 2018 and remained open until March 1, 2018.

The following people attended the February 26, 2018 public meeting: Merrily Lovell, Terry Henning, Tom Sopchak, Julie Soquet, Maggie Gordon, Johanna White, Stephanie Spencer, Bob Hyams, Bob Thiefels, Catherine Goldsmith, Barbara Forauer, Jean Kiedaisch, Patti Wertz, Robert Forauer, Andrea Morgavile, Adam Crary, Bill Marks, Elizabeth Lee, Peter Erb, Renate B. Parke, Aldayne Schwab, Barbara Segal, Meg Handler, Jim Dumont, Kristy Mcleod, Carl Bohlen, Kate Schubart, Dennis Willmott, and Marian Willmott. DEC received written comments from the following people and entities: Meg Handler, Jean Kiedaisch, Tom Sopchak, Carl Bohlen, Peter Erb, Katherine Schubart, Johanna White, Carl Ruprecht, Geoffrey Gevalt, Julie Soquet, Mary Beth Bowman, Barbara Forauer, Jim Dumont on behalf of Brian Bock, Mary Beth Bowman, Dark Star Properties, LLC., Catherine Goldsmith, James Goldsmith, Deborah Goudreau, Lindsay Hay, Jean Kiedaisch, John Kiedaisch, Rolf Kielman, Natacha Liuzzi, William Marks, Chuck Reiss, Sally Reiss, Responsible Growth Hinesburg, Kate Schubart, William Schubart, Heidi Simkins, Michael Sorce and Stephen Spencer. The following is a summary of the public comments received on the Section 401 Water Quality Certification #2016-003 and DEC's responses to those comments.

Where appropriate, comments have been paraphrased, consolidated, and categorized for clarity.

A. Comments Regarding Wetlands

Comment A-1: The clean-up of Lake Champlain is going to cost the State of Vermont millions of dollars each year for the foreseeable future, and we are having a very hard time finding that money. To keep the cost from going even higher, we must do all we can to stop polluting the lake via its tributaries. The Lot 15 wetland sends clean, naturally filtered, groundwater to Patrick Brook, even in the middle of summer, and from Patrick Brook onto the LaPlatte River and then to Lake Champlain. If the Hannaford store were to be built, that wetland function would be lost. The Lot 15 wetland provides green infrastructure that the town needs and that Lake Champlain needs.

Response A-1: The wetland on lot 15 was found to provide some water quality benefit, but not at a significant level in accordance with section 5 of the Vermont Wetland Rules. This water quality function was evaluated as part of the wetland classification determination. The determination decision is recorded in determination file #2013-040, which is attached to this summary.

Comment A-2: As noted, the lot has very limited wetlands benefit. It is primarily a commercial lot in a planned (by the town) commercial park. There is a bank on the lot that abuts lot 15 which also had to be filled. Within 100 yards of this site there is the town post office, a bank, a veterinarian, a brewery, a hardware store, laundry mat, bakery, gas station and drug store. There are side walks through this entire area to facilitate pedestrians. The entrance to the lot is located on a side road with a red light to facilitate vehicle traffic.

Response A-2: The wetland on the lot has very limited function. When determining the classification of the wetland, the landscape context was considered. The determination decision is recorded in determination #2013-040. The Agency agrees with the commenter that the wetland has limited function.

Comment A-3: Wetlands, regardless of their classification, act in an important way to prevent flooding and to trap and flush out sediments and pollutants. Allowing fill to be used to remove 63,350 square feet of wetland does not seem wise when taking into account the major change in flood events such as Tropical Storm Irene that impacted Vermont.

Response A-3: The wetland was found to not be significant for the storage of floodwaters, therefore the loss of wetland area will not have a noticeable impact on flooding. See responses to comments 1 and 2 above.

Comment A-5: The town Conservation Commission would like to know about wetland assessments for the Vermont Gas Pipeline. Why wasn't every wetland reviewed before construction when the wetland in commerce park is?

Response A-5: The review of the Vermont Gas Phase I Pipeline wetland permit #2012-184 is outside of the scope of review for this project. The Program reviews every wetland proposed for impact in a permit application which often involves review in the field.

Comment A-6: There used to be ducks on the property.

Response A-6: The wetland was assessed for significant wildlife habitat during the wetland classification determination process, and was found to provide no wildlife habitat at a significant level. No evidence has been provided indicating that the wetland provided significant duck habitat. The decision of Class III determination is #2013-040.

Comment A-7: Why isn't the wetland restored for water quality benefits rather than lost to development?

Response A-7: Restoration potential is outside of the scope of the Water Quality Certificate and was not considered in the context of issuance of the Water Quality Certificate. While in some instances the Agency may provide grants for wetland restoration, the landowner did not propose restoration on this site.

Comment A-8: The claims are that this wetland is a tiny part of the LaPlatte River watershed "less than 0.1% (4.5 acres)"—and so they "do not provide significant functions or values" that would warrant the protection of a Class II or Class I designation. This does not do justice, in my opinion, to the realities. In fact, these wetlands in the center of Hinesburg have served multiple "functions" and represent multiple "values" for the town over time. They have been a central and essential and natural feature that helped with flood control, especially given the terrain—a low point below a steep rise of the land to the East—as well as a blessing for anyone wanting to walk in the Village and an amenity much needed in a town with no other 'green.' With heavily traveled Rt. 116 nearby, they are part of the environmental fabric that mitigates the air pollution from cars.

Response A-8: The wetland was reviewed for significance as part of the wetland determination #2013-040. That review included an evaluation of the presence of the functions and values which a wetland serves, as listed in 10 V.S.A. § 905b(18)(A). Flood control and aesthetic value were both assessed for significance, and the wetland was found to not provide these functions at a significant level. Mitigation for air pollution is not a wetland function protected under Vermont Statute, the Vermont Wetland Rules, or the water quality standards.

Comment A-9: There is a small isolated wetland area to the south of the parking area, between it and the canal. Because of the proposed level of the parking area its natural drainage outflow is now forced to enter the retention area under the parking lot. If this wetland area is not approved as a storm water retention area, how will it be insured that the water draining from the parking lot catch basins will not, as the retention area under the parking lot becomes filled, back up into this wetland, which is not approved as part of the retention system. If it has been approved, then it should not be labeled as wetland.

Response A-9: The stormwater detention system that is permitted under the operational stormwater discharge permit is not designed to rely upon the wetland for storage or detention. The stormwater detention system is also not designed to send stormwater runoff volume into the wetland if the system reaches full capacity during a large storm event. If the stormwater detention system is impacted by a storm event that exceeds the design capacity, stormwater runoff from the parking lot is designed to overflow to the stormwater conveyance within Commerce Park. The operational stormwater permit for the project is incorporated by reference into this 401 WQC.

Comment A-10: The grass banks on the eastern side of the parking lot are very steep and if maintained with riding lawn mowers will be almost impossible to maintain without those machines traveling beyond the toe of the bank to turn around in the area labeled “wetland to remain”. This intrusion should not be allowed and these banks should be required to be maintained by hand mowing. It should be noted that the toe of the bank appears to be on the property line of the Post Office property.

Response A-10: This comment is outside of the scope of review of the WQC. Mowing within a Class III wetland, if it were to occur, is not a regulated activity and would not impact the use of waters.

Comment A-11: Natural Resource Map, December 14, 2010 has an area labelled “Basin 3 Investigation Area” that includes substantial portion of our property [Jolley Associates]. How will this area be affected, and is the land outside this area to the south and west not considered wetlands?

Response A-11: Much of this area is an existing Stormwater swale which has wetland characteristics but is not considered protected wetland. The waters discharging from the Stormwater systems to basin 3 will be clean and low velocity. Basin 3 is part of the permitted stormwater system for Commerce Park. The basin is proposed for modification to meet previously approved design specifications. Treated stormwater runoff from the Hannaford project will be routed through the basin in addition to the stormwater runoff generated from the existing Commerce Park development as required by the issued stormwater discharge permit for the park. The basin modifications are expected to occur within the existing Commerce Park drainage easement.

B. Procedural Comments

Comment B-1: When I provided comments during the public comment period for the wetland determination, the Agency gave the comments to the applicant to respond to. This is not a fair process.

Response B-1: Questions about issuance of the wetland determination are outside the scope of this Certification. The wetland determination was appealed and upheld by the Environmental Division of the Vermont Superior Court. Comments that are submitted to the Agency during any public comment period are not privileged from disclosure. The responses to public comments provided upon the issuance of a permit are drafted by the Agency.

Comment B-2: Why couldn't we have a site visit along with the Agency to review the parcel?

Response B-2: A site visit is not a component of the notice and comment period. The Agency does not own the property on which the Project is proposed and does not have access to the property without permission of the landowner. Agency staff did not conduct a site visit during the notice and comment period.

Comment B-3: Applicant should have demonstrated that there was no proven alternative.

Response B-3: The 2014 Vermont Agency of Natural Resources' Section 401 Water Quality Certification Practice ("the Practice") lays out the process for reviewing 401 Water Quality Certification (401 WQC) applications for compliance with state and federal statute and regulation. The Practice explicitly identifies the required contents of a 401 WQC decision, including a required statement confirming that the Agency examined the Application materials submitted to the federal permitting agency, in this case the Army Corps of Engineers. As part of the review of Hannaford's 401 WQC application, the applicant provided and the Agency reviewed the applicant's Alternative Site Analysis, prepared for the Army Corps in support of the applicant's Individual 404 permit application; this review is affirmed in the 401 WQC. The Alternative Sites Analysis provided an evaluation of four alternative commercial sites for their feasibility as the location of the proposed project. The Analysis reviewed physical location factors, environmental factors, and town zoning regulation factors in reaching the conclusion that none of the alternate sites provided a better location for the proposed project.

Comment B-4: The Stormwater permit is not the end all be all of the Water Quality Certificate. What about Chlorides?

Response B-4: The 401 WQC certifies that the permitted activity, if conducted in compliance with all permitting requirements, will not result in a violation of the Vermont Water Quality Standards, and will be in compliance with Sections 301, 302, 303, 306, and 307 of the Clean Water Act. The 2011 Vermont Water Quality Standards do not contain a standard for chloride. Since a chloride standard was approved in October of 2014, neither Patrick Brook or the LaPlatte River have been listed as "impaired" for chloride on Vermont's 303(d) list of impaired waters, or "stressed" for chloride on Vermont's Stressed Waters List.

Comment B-5: The Agency should raise their bar of permitting transparency.

Response B-5: Pursuant to 33 U.S.C. § 1341(a)(1), the Agency has established a process for public notice of applications for 401 WQCs. The 401 Water Quality Certification Practice establishes that the Agency will provide notice of the proposed activity and any draft decision on the proposed activity, as well as at least 30 days following notice of the draft decision for interested persons to submit public comments. The Agency also provides the opportunity for a public meeting upon the request of any interested person, and a written response to all public comments submitted. Application and permitting documents are available upon request. With regard to Agency transparency generally, this comment is beyond the scope of this 401 WQC.

Comment B-6: Looking at the whole permitting procedure, it is apparent that the public is brought in quite late in the game compared to the commercial applicant and is hobbled by this in a number of ways. I urge the State to look at correcting this bias so that as time goes on the parties are on an even playing field.

Response B-6: A project applicant, whether a commercial or governmental entity or private landowner, is responsible for providing the Agency with an administratively and technically complete application, and timely supplementing that application as necessary. The applicant is necessarily involved at an earlier stage in the review process, since they are responsible for providing the complete application materials. Draft

Agency decisions, as well as all accompanying application materials, are posted online and can be reviewed by the public, in an effort to make the permitting process as inclusive and transparent as possible.

Comment B-7: Lot 15 is burdened by an easement to the Town. The easement protects, forever, the use of the lands along the Canal for public use as a “canal walk.” The canal walk is the product of years of work, and tens of thousands of dollars of investment, by town residents, town government, local nonprofit organizations, state government and the federal government. All have contributed time and money in acquiring, improving and maintaining the canal walk and its historic bridge, its benches, its trees and grass, and the walkway itself. This enormous effort is documented in a federal publication, “A Guide to Transportation Enhancements,” National Transportation Enhancements Clearinghouse (p.9). The benches along the canal walk face the wetland. They do so because the wetland provides the aesthetic context for the walk. The continuing existence and protection of the wetlands on Lot 15, adjoining the public easement, is critical to the value of the easement. The draft permit ignores the recreational/aesthetic value of the wetland.

Response B-7: The 401 WQC certifies that there is reasonable assurance that the proposed activity will not result in a violation of the Vermont Water Quality Standards. Wetland Determination #2013-040 found that the wetland on the proposed project site does not contribute significantly to the open space or aesthetic character of the landscape. The project will not otherwise interfere with the public investment in the canal walk.

C. Stormwater Comments

Comment C-1: The project is out of scale. It is too big for the area in question. Statistics and modeling can be manipulated to achieve a goal but the people who live in Hinesburg see how much water travels through this area. Paving the whole lot will have enormous consequences. That much water cannot be handled by ditches and swales. Those will prove inadequate. There is too much water in that area for such a large impervious surface.

Response C-1: The applicant submitted a complete stormwater permit application that the Department, upon review, has determined to meet the applicable requirements. The Stormwater Permit issued for the discharge of stormwater runoff from impervious surfaces is incorporated by reference into this 401 WQC.

Comment C-2: I have owned (or leased) the lot directly across the street from lot 15 for over 20 years. I have seen rains, storms, and spring flooding. I have not seen lot 15 flood nearly to the point I have seen other surrounding areas flood. Yes, in the spring there has been some standing water on lot 15 but it really hasn't been that bad. Within the first month, or at the most two the lot dries out and is just a dry field. For decades the NRG company (until it recently relocated) has used the lot to erect very large wind measuring towers on. These towers are 50' - 100' tall and required multiple guide wires to support them. These were erected in that field and they stayed there for months at a time. With exception of a small area (the wet lands) the field used to be brush hogged to facilitate that activity.

Response C-2: Please see Response C-1.

Comment C-3: The Draft notes that the La Platte River is on the 2016 Vermont Stressed Waters list as is Patrick Brook (p 4 of 13). Whether on the list or not, anyone following the news and discussions going on with the Governor and the Legislature know there are major water quality issues with Lake Champlain. DEC/ANR in my opinion must no longer issue permits related to water quality for projects that allow further degradation of our state's rivers, brooks and lakes. All throughout the Draft are references to the Applicant preventing or minimizing discharges into the waters. Minimizing the discharge is too vague and means

some discharges will enter the waters which will further degrade water quality. At this point in the debate to ensure clean water, it is imperative that the focus is on prevention and not simply minimizing. Please clarify what constitutes “minimizing” and what level of discharge is believed to be acceptable with the basis for allowing this “minimal” level of pollution.

Response C-3: The stormwater discharges from the project both during and following construction are subject to the Construction Stormwater Discharge Permit and the Operational Stormwater Discharge Permit, respectively. Each authorization to discharge requires the implementation of best management practices (BMPs) in conjunction with the approved Erosion Prevention and Sediment Control (EPSC) plan and post-construction stormwater management plan which not only minimize, but also prevent discharges of stormwater pollutants to receiving waters, to prevent impacts to the physical and chemical water quality of the receiving waters. The BMPs required under the Operational permit comply with the requirements of the Vermont Stormwater Management Manual (VSMM), and thus meet the regulatory requirements for the management of stormwater in effect at the time the project application was filed with the Agency. Waters appearing on the Stressed Waters List have stressors that may be preventing the waters from attaining a higher water quality, but a TMDL is not required to be developed for the water. As noted in the 401 Water Quality Certification for the Project, the construction BMPs and post-construction treatment and control practices provide the Agency with assurance that the Class B designated uses will be supported and maintained, and the requirements of the Vermont Water Quality Standards will be met.

Comment C-4: The project will add more impervious surface to the watershed, and while 2.69 acres of additional impervious surface may seem immaterial, every acre added to every other acre adds up. Stressing of the water bodies near this project will indeed have runoff, which as noted in the Draft and above in this memo, is one of the causes of aquatic habitat stress. Please provide your basis for believing the Applicant’s plan to avoid additional stress to the water bodies will work as effectively as the natural process in place currently on the parcel with an existing wetland to act as a filter and catch basin.

Response C-4: No information was provided in the comment to indicate that the existing undeveloped condition captures or provides any treatment for stormwater runoff from impervious surfaces, compared to the proposed system. Stormwater permit applications for proposed development must show compliance with the appropriate Stormwater management Criteria. These criteria address both small and large-scale storm events for a given project area. Based on these storm events, designers will develop a stormwater management system to meet the applicable stormwater treatment standards. The Hinesburg Hannaford’s project proposes a catch basin and pipe network to capture all stormwater runoff from the proposed project. The stormwater will be directed to two (2) separate underground stormwater detention areas which then will discharge to a grass channel for water quality treatment. Each of the storm chamber systems are designed to meet applicable “detention” standards in the Vermont Stormwater Management Manual (VSMM), through controlled release of captured stormwater runoff volume. Each chamber system includes a pre-treatment water quality unit designed to remove sediment, floatables, debris, and oils that may have the potential to clog outlet orifices. In addition, each of the two storm chamber systems are designed with “isolator rows” that also provide an opportunity for sediment to settle out in the first chamber without passing to the remaining system, thus maintaining the integrity of the remaining chamber system. The isolator row can be accessed for necessary inspection and maintenance. The Department considers the design to meet the applicable treatment standards in the VSMM. The overall stormwater management plan also includes the use of a Grass Channel, located in series with of the above mentioned detention system to meet the Water Quality treatment standard, which requires the system be designed to capture 90 percent of the annual storm events, remove 80 percent of average annual post-development total suspended solids, and 40 percent of the total phosphorous load; as well as the Groundwater Recharge treatment standard which requires the system be designed to maintain the average annual recharge rate for the prevailing hydrologic soil groups in order to preserve existing water table elevations.

Comment C-5: The Draft indicates that the Applicant did a downstream analysis up through a 100-year 24-hour and it appears that DEC/ANR has accepted the analysis. Please provide the basis for concluding no flooding conditions downstream will be exacerbated with this type of flood. And as noted above (bullet #5), Vermont must be protecting our waterways and infrastructure from even more severe flooding, such as 500-year floods. Why should the Applicant not be required to have the project include measures to prevent downstream impacts more in line with the new reality of storms which is more than just 100-year flood events?

Response C-5: The Department directed the applicant's designer to modify their design included with the initial application and required that the designer further consider stormwater runoff from the 100-year 24-hour storm event, both from the project area and areas contributing to the discharge location. The designer has addressed the applicable treatment standards set forth in the VSMM and has demonstrated that the 100-year 24-hour storm event can be conveyed to the receiving water without exacerbating existing conditions and has further highlighted improvements to the current condition through stormwater design and infrastructure modifications within the previously permitted Commerce Park development. The applicant has also provided information documenting that the increase in stormwater runoff volume from the project would result in minimal change to the peak flows in downstream receiving waters, consistent with the requirements of the Downstream Analysis as specified in Section 1.2 of the VSMM. The Department considers the analysis prepared by VHB to be valid, in consideration of the timing of peak flows in the Patrick Brook and the timing of peak flows at the discharge point from the Commerce Park, including the Hannaford project, which were determined to not be coincidental. The analysis prepared by VHB on behalf of the applicant concluded that structures, including the Route 116 box culvert, would not be impacted by the project and Commerce Park infrastructure improvements. The VSMM design standards for management of stormwater runoff from impervious surfaces do not include the management and control of the 500-year, 24-hour storm event. Therefore, the project is not required to design for this larger storm event as requested by the comment.

Comment C-6: The Draft notes that the permit is accepting a plan by the Applicant that captures 90% of the annual storm events, 80% of the suspended solids and 40% of the total phosphorous. Again, unless the project captures/prevents 100% of these negative impacts, the watershed rivers and Lake Champlain will be negatively impacted. The State does not have a plan to clean up the bodies of water already suffering from development and other impacts, and it is unwise to continue to approve new projects that chip away further at water quality. If this was a project such as affordable housing that can be shown as needed for Hinesburg, the risk would be important to take. But to add a second unneeded pharmacy for a town the size of Hinesburg and to bring this size grocery store that is not needed (I realize there are community member who want it) since the current grocery store meets the need is not something worth the risk of the negative impact to water quality. Why is DEC/ANR willing to accept 10% of the annual storm events, 20% of the suspended solids and 60% of the total phosphorous to degrade the waters impacted by this project?

Response C-6: As noted by the comment, the stormwater management plan authorized by the operational stormwater discharge permit, and as incorporated by reference in the 401 WQC, is designed to capture stormwater runoff from 90% of annual storm events for water quality treatment, removing at least 80% of total suspended solids and 40% of total phosphorus. The Project design complies with the requirements of the Stormwater Management Manual, pursuant to the Vermont Stormwater Management Rule, Chapter 18, § 18-306(a). This treatment will minimize and prevent the discharge of stormwater pollutants to receiving waters and provides the Agency with assurance that the Class B designated uses will be supported and maintained, and the requirements of the Vermont Water Quality Standards will be met. The comment incorrectly notes that the State does not have plans in place to restore listed impaired waterways, which is a consideration in authorization of stormwater discharges that could cause or contribute to an identified impairment. The State is required to develop a Total Maximum Daily Load (TMDL) for waters listed on Vermont's 303(d) List of Impaired Waters, and watersheds determined to be impaired primarily for

stormwater are subject to the requirements of the Vermont Stormwater Rule for Stormwater Impaired Waters (Vermont Environmental Protection Rules, Chapter 22). Finally, Questions about the type of development permitted on the proposed project site, such as commercial development versus housing, are addressed through municipal zoning regulations, and are outside the scope of this certification.

Comment C-7: While the limited amount of treatment swale appears to not even pass the laugh test for real treatment, if this “first flush” is released while the treatment area is transporting other, beyond the first flush flood waters, the retained first flush will simply be combined with these other flood waters, eliminating the possibility of thorough treatment in the grass swales. Has this been taken into account, insuring that the retained first flush is released only when the level of water in the grass treatment swales is within any approved “treatment” level. If it hasn’t it appears to me that in an event “over the first flush” occurs, which will happen quite frequently, none of the stormwater will be effectively treated at all.

Response C-7: Water quality treatment requirements of the VSMM are based on the 90% Rainfall Event (0.9 inches across Vermont), which is representative of 90% of the annual storm events. Furthermore, geometric design requirements of the treatent standards are based on a 24-hour storm event. The VSMM does not require that stormwater management designs manage coinciding events within the same 24-hour period. The operational stormwater discharge permit that is incorporated by reference in this 401 WQC meets the applicable design requirements.

Comment C-8 The updated computer modeling shows that, with the project built, the post-development discharge in the 10-year storm would exceed the pre-development discharge to Patrick Brook, causing more scour of its streambanks and releasing more phosphorus to the water. This is not allowed under ANR's rules. The applicant does not claim otherwise, but simply argues that ANR told them it was acceptable to eliminate existing treatment under older regulatory schemes. The applicant further claims that there will be new stormwater recharge via a 200-foot swale. But that swale is already saturated and part of the wetland.

Response C-8: The purpose of the Overbank Flood Protection Standard in the applicable Vermont Stormwater Management Manual (VSMM) is not to minimize channel scour or treat stormwater for water quality, but to ensure post-development peak discharges from the Project do not exceed pre-development rates during the 10-year, 24-hour storm event. Water quality within Patrick Brook, including consideration of stormwater runoff, is addressed through the Water Quality Treatment Standard and the Channel Protection Treatment Standard, respectively, which will ensure that the project as designed will not result in violations of the Vermont Water Quality Standards at the discharge point. The designer has further modeled the proposed stormwater treatment system to meet the Overbank Flood Protection Standard (10-year, 24-hour storm event) as identified in the stormwater discharge permit application, incorporated by reference into this 401 WQC. The design considered and addressed the existing flooding condition within the Commerce Park in the modeling included with that application. The stormwater design also includes changes to a culvert (increase in size) under Commerce Street that will alleviate existing flooding conditions, thus allowing stormwater runoff that currently pools within the park to pass through to the discharge point unimpeded, in consideration of the existing Commerce Park stormwater management system and applicable permit. The Downstream Analysis completed by the designer also considered the increase in peak discharge to Patrick Brook from Commerce Park as a result of the proposed improvements to alleviate existing flooding. The Department considers the design of the Project to meet the applicable treatment standards in the VSMM. The Department finds reasonable assurance that the project will not result in a lowering of water quality. Please see comment response C-23 related to stormwater recharge.

Comment C-9: The Applicant is planning a system that is intended to work effectively for a 1-year 24-hour storm event and a 10-year 24-hour event, but what happens in the event either or both of those standards are exceeded? What basis does DEC/ANR have to not require a higher standard storm event when

knowing that more powerful storms are hitting Vermont and other parts of the United States on a much more frequent basis?

Response C-9: See comment response C-5.

Comment C-10: We gave you modeling information from Andres Torizzo (Watershed Consulting Associates) showing that the applicant is wrong. The Agency does not have capacity to review Stormwater modeling.

Response C-10: The modeling information submitted by Anders Torizzo (Watershed Consulting Associates) as comment on the stormwater management system was reviewed and considered by the Department as part of the stormwater discharge permit decision. The stormwater discharge permit was authorized and is incorporated by reference in the 401 WQC. A response to comments, including a response addressing the modeling provided by Mr. Torizzo, accompanied the discharge permit authorization.

Comment C-11: How do the storage tanks work?

Response C-11: See comment response C-4.

Comment C-12: How is Stormwater structure cleaning and maintenance enforced? There has been no enforcement of maintaining structures in Commerce Park. Would you shut down Hannaford if the systems aren't working? Who will have the responsibility and authority to maintain this new treatment area so that the flow remains spread out throughout the swale, the vegetation remains the proper length, and the basic design is maintained. At this point, if it gets clogged Darkstar simply has it dredged out.

Response C-12: Giroux Brothers Subdivision (AKA Commerce Park) is covered under Operational Stormwater Permit 3034-9010.R and the proposed Hinesburg Hannaford's is covered under Operational Stormwater Permit #3034-9015.A. Each of these Operational stormwater discharge permit authorizations require the permittee to comply with the authorization and all the terms and conditions of the applicable General Permit, including properly operating the stormwater collection, treatment, and control system. Any permit non-compliance, including failing to maintain the permitted stormwater management system, constitutes a violation of 10 V.S.A. Chapter 47 and may be grounds for an enforcement action or revocation of the authorization to discharge. The Department has engaged in, and will continue to pursue, ongoing enforcement of permit noncompliance, including noncompliance issues in Commerce Park.

Comment C-13: Sheet 7 of 8 illustrates a 6,490 square foot "ditch" labelled as permanent impacts. This appears to be a major excavation that will grossly affect our property [Jolley Associates].

Response C-13: See comment response A-11.

Comment C-14: There is an easement 15 feet either side of the property line for stormwater channeling but it does not include ditching. In fact, it states that any disturbed land will be returned to its original condition. That's why I'm seeking a cross section to determine how deep it's supposed to be.

Response C-14: The terms and conditions of an existing property easement is beyond the scope of the 401 WQC. Infrastructure improvements within Commerce Park, including within existing drainage easements are proposed in order to address existing flooding conditions and to address identified non-compliance with the existing discharge permit that applies to the entire Commerce Park development.

Comment C-15: The attached report from hydrologist Andres Torizzo demonstrates that this project will cause significant harm to Patrick Brook during 10-year storms. This project now includes installation of a

larger culvert and associated changes to the land that will proximately cause increased erosion of Patrick Brook. The enlarged culvert and associated changes do not consist of new impervious area; they are being proposed as mitigation for new impervious area. It is only by arbitrarily narrowing the focus to the impacts of new impervious area, not the project as a whole (including the culvert), that computer modeling produces results which do not include increased 10-year runoff into and erosion of Patrick Brook. The applicant's own computer modeling agrees with Mr. Torizzo.

The narrowing of focus to model only the impacts of new impervious area, but not the culvert and associated changes which are being made to mitigate new impervious area, may be proper in a stormwater permit application (we disagree, and that matter awaits resolution by the Environmental Division). However, the arbitrary limiting of "points of interest" to new impervious area rather than the project as a whole has no place under Section 401. The culvert will cause real-life worsening of the erosion of the banks of Patrick Brook, causing harm to its water quality.

Response C-15: The stormwater discharge permit, incorporated by reference in this 401 WQC, relied upon hydrologic modeling that took into account both on and offsite drainage areas within Commerce Park. These drainage areas included existing development, proposed development, and changes to infrastructure within the existing Commerce Park to address known flooding in the existing condition. The changes proposed were made to ensure that the project would not exacerbate existing flooding conditions, and notably aims to improve existing conditions for the park within the project drainage area. Please also see Response C-8 regarding impacts during the 10-year, 24-hour storm.

Comment C-16: A project that involves clearcutting a forest and replacing it by a downhill ski area, next to a trout stream, under the Agency's "only new impervious area" approach, would model only the stormwater impacts of the ski lodge and the parking lot. The replacement of hundreds of acres of mountainside trees by hundreds of acres of steep ski slopes would not be modeled, although the runoff coefficients would change substantially, stormwater erosion and sedimentation would increase substantially, and the nearby stream would be choked with silt.

Even if the "only new impervious area" approach is acceptable in issuing a stormwater permit (which we dispute), it conflicts with the fundamental purpose of Section 401 review and with the April 12, 2012 Procedure. The April 12, 2012 Procedure requires that the draft permit be based upon "all potential water quality and aquatic resource impacts of the project, both direct and indirect, over the life of the project, including but not limited to: ... degree of physical, chemical and biological impacts on waters of the state... effect on circulation patterns, stream flow and water movement... the cumulative impacts of the proposed discharge and activity...[and] reasonably foreseeable similar activities of the applicant and others."

The Section 401 permit system and stormwater permit system have different histories and different purposes. It strikes us as both irresponsible and contrary to the explicit wording of the April 12, 2012 Procedure to issue a Section 401 certification based on modeling only of new impervious area, not the actual project.

Response C-16: Hydrologic modeling included with stormwater discharge permit applications, including the project stormwater discharge permit application, characterize both pre- and post-development conditions, including changes in land use alluded to in the comment. The stormwater discharge permit, incorporated by reference in this 401 WQC, relied upon hydrologic modeling that took into account both on and offsite drainage areas within Commerce Park, not only new impervious areas. These drainage areas included existing development, proposed development, and changes to infrastructure within the existing Commerce Park to address known flooding that occurs in the existing condition. The existing Commerce Park is also subject to a separate stormwater discharge permit for which treatment and control of stormwater

is a requirement. The project is not expected to result in a lowering of water quality in the receiving waters as a result of stormwater runoff discharges that are associated with the development of impervious surfaces and changes in landcover. The Agency did consider all potential project impacts to determine that there is reasonable assurance that the project will not violate applicable water quality standards, as required by the 2014 Section 401 Water Quality Certification Practice. The comment does not further identify other direct or indirect impacts aside from stormwater discharges that were omitted from consideration in the 401 WQC that would otherwise be expected to have an effect on circulation patterns, stream flow and water movement, as noted in the comment.

Comment C-17: The attached report from hydrologist Andres Torizzo also demonstrates that once the other development in Commerce Park is accounted for, the cumulative impact of this project causes major impacts on Patrick Brook and Route 116 during 100-year storms. The state highway is likely to be flooded. Public safety, the public's investment, and the health of Patrick Brook will be harmed.

The April 12, 2012 Procedure, unlike the Storm Water Manual, explicitly contemplates taking into account both this project's impacts *and* the impacts of neighboring projects, preexisting and future, regardless of ownership. While it may not be necessary to take into account cumulative impacts of neighboring lots under the stormwater rules in effect in 2013, that does not justify ignoring cumulative impacts under the April 12, 2012 Procedure. The April 12, 2012 Procedure explicitly requires consideration of cumulative impacts and the impacts of similar activities by others.

The 2013 application had no vested right to violate the April 12, 2012 Procedure. Inexplicably, the draft permit treats compliance with the stormwater rules as proof that the 2012 Procedure is satisfied. Again, the two permits have different purposes and different histories.

Response C-17: The stormwater discharge permit, incorporated by reference in this 401 WQC, relied upon hydrologic modeling that took into account both on- and off- site drainage areas within Commerce Park, not only new impervious areas. These drainage areas included existing development, proposed development, and changes to infrastructure within the existing Commerce Park to address known flooding in the existing condition. At the request of the Department, the application also included a Downstream Analysis during the 100-year, 24-hour storm event that indicated Patrick Brook and downstream structures, including the Route 116 culvert would not be impacted. The Department also considered impacts to wetland functions and values. The Department is not specifically aware of additional activities proposed that will impact the designated uses or water quality criteria of the receiving waters, directly or indirectly, over the life of the project. The State of Vermont requires other similar sized projects that involve the construction of new impervious surface to also obtain stormwater discharge permits when applicable as part of their statewide regulatory authority for treatment and control of stormwater runoff from impervious surfaces, as part of the overall statewide implementation of the Vermont Water Quality Standards. With regard to the 2012 Procedure, the Section 401 Water Quality Certification Practice went into effect on October 22, 2014, and superseded the 2012 Section 401 Water Quality Certification Procedure. When the 401 WQC at issue was remanded back to the Agency in November of 2015, the Agency applied the 2014 Practice, to ensure consistent review of WQC applications. The applicant did not violate the 2012 Procedure, which was no longer in effect when the 401 WQC was remanded to the Agency for review. Pursuant to the Section 401 Water Quality Certification Practice, the Agency determined that the Project will not result on the violation of the Vermont Water Quality Standards.

Comment C-18: The WQC states that the detention system was designed to control peak flows from the 10-year, 24-hour storm event at pre-development discharge rates in order to meet the Overbank Flood Protection Treatment Standard and prevent downstream flooding. The results of the applicant's modeling demonstrates that at the point of discharge to the receiving water, this is not the case, but rather the peak discharge is significantly increased over the pre-development rate. This increase can be attributed to the

fact that after the project is developed, the new impervious surface will generate more runoff than can be adequately controlled by the proposed stormwater system. In 2013, the applicant had accounted for additional flow detention behind the existing 15” culvert under Commerce Street to store the additional runoff generated by the new impervious surfaces. This resulted in predicted flooding on the Dark Star property. The design was subsequently modified to propose upgrading the 15” culvert to a proposed 18” culvert. The impact of this upgrade is that runoff previously stored on the Dark Star property would be flushed out to the discharge point- essentially the flooding would be shifted downstream to the receiving water.

Response C-18: The comment incorrectly attributes the increase in the peak discharge for the 10-year, 24-hour storm event from Commerce Park at Patrick Brook to the inadequate management and control of stormwater runoff from the new Hannaford project. The upsizing of the Commerce Street culvert and modifications to the existing Commerce Park stormwater management system are proposed to address the existing flooding conditions in Commerce Park, including the Dark Star property, issues that were identified during the stormwater permit application review. Modifications proposed within Commerce Park are also aimed to address permit non-compliance for Commerce Park. Prior to considering increasing the culvert size, the project had potential to exacerbate the existing flooding condition in the park, despite providing 10-year storm peak control on the project site. There was never any intention to utilize the Dark Star Property or other areas of the park outside of stormwater drainage conveyance for detention, such as would be managed by a control structure, swale or other conveyance feature. The VSMM, to which the stormwater permit application adheres, considers the peak associated with the 10-year, 24-hour storm (Qp10) in the context of known drainage or flooding conditions through the completed Downstream Analysis. The Downstream Analysis considered both Commerce Park and Patrick Brook.

Comment C-19: Increasing peak discharges for the 10-year storm will contribute to downstream flooding in the receiving water. Increased flooding contributes to erosion and releases of sediment bound nutrients including phosphorus, which in turn reduces water quality, smothers aquatic habitat, and destabilizes the stream corridor. Flooding also threatens developed infrastructure which can impact land resources and contribute to release of hazardous materials. For these reasons, increased peak discharge for the 10-year storm will contribute to impacts to stream resources, lake resources including Lake Champlain, the physical, chemical and biological condition of the receiving waters, and finally recreational and land uses.

Response C-19: See comment response C-8 and comment response C-18.

Comment C-20: The Points of Interest (POIs) as defined upstream of the actual project discharge point has been claimed as the locations to evaluate compliance the Overbank Flood Protection Treatment Standard. These POIs are labeled as ‘A’ and ‘B’. There are two critical issues with relying on POI A and B in this instance to gauge compliance with the Qp10 standard. First, a significant portion of the area proposed for development will not drain to the POIs in the proposed condition. In the many years I have been preparing stormwater analyses I have always understood that in order to test the hydrological impact of a project, the designer must include all developed portions of the project within the boundaries of the analysis. In this instance, a significant part of the development project does not flow to the POIs and therefore the hydrological impact of these proposed development areas is not considered. When land is developed, there often can be significant changes to runoff coefficient from the conversion of the land surface and changes in the time of concentration, due to changes in the overall shape and size of the drainage areas and changes to the existing routing and detention of stormwater -- not just addition of impervious area. My experience is that these potential changes always need to be considered in the modeling, and this approach is in fact required by the State Stormwater Rules. At the project discharge point, these impacts have been included in the model, and this is the reason why runoff is predicted to increase at the discharge point. The result of the modeling clearly shows that the project overall will significantly increase the 10-year flows where runoff meets receiving waters. Secondly, the POI analysis approach was not performed

correctly and is contrary to standard hydrological modeling practice and the VSMM procedures. The valid process for modeling is to delineate the land area draining to a point in both pre-development and post development conditions. In the pre-development condition, the land area draining to the areas designated at POI A and B are only small slivers of existing land area based on the existing topography. The application has chosen however to define the pre-development drainage areas as exactly the same as the post development land areas, using boundaries that are artificial and not based on existing topography as required. The result is that for POI B, the pre-development peak discharge is artificially inflated because the modeling is based on 104,732 sf of land area, rather than the actual amount of runoff that is draining to that point currently which is significantly less, on the order of 15,000 square feet or less. A valid analysis would show that pre-development peak discharge at POI B is much lower given that much less land area drains to that point. The result is that comparing the pre-development versus post development flows at the POIs, there would be a significant increase over the existing flows thus violating the Qp10 standard.

Response C-20: The stormwater permit application and permit referenced in this 401 WQC considered points of interest (POIs) in the evaluation of the VSMM Overbank Flood Protection Treatment Standard as noted in the comment. POIs A and B are located on the project site and contribute to discharge point S/N 001. POIs A and B encompass the project development areas inclusive of all impervious surfaces and other site disturbance to be routed to the proposed collection system on Lot 15. The post-development peak discharge rate for the sum of these two POIs (drainage areas) from the project was demonstrated to be less than the pre-development peak discharge. POIs C, D, E, and F, which include the remaining site disturbance on Lot 15, but outside of the project underground collection system, were also modeled, and *were not* excluded from the analysis. Many of these areas on the site are back slopes that would not drain to the collection system due specifically to the project development comprised of fill to raise the grade of the project. These additional areas, which include site disturbance, and the remaining areas in the existing Commerce Park that all contribute to the discharge point at Patrick Brook, were not considered in the Overbank Flood Protection Treatment Standard evaluation in terms of a pre-development and post-development comparison, but as part of the Downstream Analysis to ensure that all areas draining from Lot 15 and the remaining park to the discharge point were considered.

Per the Overbank Flood Protection Treatment Standard, all projects are recommended to complete a Downstream Analysis (VSMM, Section 1.1.4). But notably, this additional and more detailed analysis is a requirement for project sites that may result in an increase in flood threat downstream (VSMM, Section 1.2). The more detailed analysis of both pre-development and post-development conditions includes an evaluation of whether the increase in stormwater runoff will impact drainage infrastructure such as culverts, existing buildings or other structures, and the receiving water. These are the same evaluations made by the applicant and designer of this project. The additional modeling required under a Downstream Analysis thus sets a higher bar for the designer than completing a pre-development and post-development comparison set forth by the Overbank Flood Protection Treatment Standard. The Downstream Analysis completed for this project, including all contributing drainage areas to the discharge point, both on-site and off-site, to demonstrate that existing flooding conditions will not be exacerbated, but will be improved over existing conditions, and that the receiving water, Patrick Brook will not be impacted. The Department considers this Downstream Analysis, in conjunction with the Overbank Flood Protection Treatment Standard evaluation of POIs A and B, to satisfy the requirements of the VSMM, including Section 1.1.4 and Section 1.2.

The comment further suggested that the stormwater modeling incorrectly defines pre-development areas as larger areas so as to artificially inflate the pre-development peak discharge rate for POI B when compared to post-development. The Department acknowledges that the designer compared like-size areas in the model. Comparing like-size areas in pre-post modeling is acceptable in this case since the total combined drainage area to POIs A and B is the same in the pre- and post-development condition. The comment is further irrelevant because the overall Downstream Analysis as described above, considers the entirety of

the POIs to the discharge point in both the existing pre-development condition and the post-development condition.

Comment C-21: The 100-year peak discharge is reported to increase over 4 times above the pre-development peak discharge at project discharge point S/N 001. This will likely result in impacts to downstream structures, as the box culvert under Vermont Route 116 on Patrick Brook, just below discharge S/N001, is at risk of overflow from any increase 100-year storm flows. Similar to the 10-year analysis presented above, increasing peak discharges for the 100-year storm will contribute to downstream flooding in the receiving water. Increased flooding contributes to erosion and releases of sediment bound nutrients including phosphorus, which in turn reduces water quality, smothers aquatic habitat, and destabilizes the stream corridor. Flooding also threatens developed infrastructure which can impact land resources and contribute to release of hazardous materials. For these reasons, increased peak discharge for the 100-year storm will contribute to impacts to stream resources, lake resources including Lake Champlain, the physical, chemical and biological condition of the receiving waters, and finally recreational and land uses. As part of a culvert survey in 2012, Milone & MacBroom identified to the Town of Hinesburg the box culvert under Vermont Route 116 as being deficient for passing existing stormwater flows. In this memorandum, Milone & MacBroom state that the existing culvert is undersized presently to convey the 50-year storm event. They specifically recommend that upstream peak flows should not be increased to the culvert given it is undersized. In addition, they recommend that overall runoff volume not be increased to the culvert as well.

Since the 2013 application, a more recent FEMA flood study was performed for the LaPlatte River drainage in Hinesburg. This study, completed in 2014, predicts a 100-year flood elevation for Patrick Brook of 334 feet just above the Route 116 box culvert and the associated mapping shows the flood plain backing up with flood water above the culvert. This indicates to me that the existing box culvert cannot handle the 100-year flows. I then looked at Hannaford's plans for Route 116 improvements and noted that the lowest contour on the highway surface is also 334 feet, indicating that the predicted FEMA 100-year flood is at the verge of overtopping Route 116. As I explained above, the 100-year Post storm model predicts an increase in peak flows in Patrick Brook. This would run against the Milone & MacBroom recommendation for no increase in peak flows and, if the FEMA flood elevation is correct, virtually any increase in flows could result in Route 116 being overtopped by flood waters. If any sort of debris jam occurred in front of the culvert opening, the overtopping could occur during more frequent storm events. As an experienced hydrologist, I know that debris commonly is carried by large storm flows. In my opinion, it would not be reasonable or prudent to construct a project such as this, which is likely to increase large storm flows under Route 116. Without mitigation of discharge, the project would result in diminished flood resilience, and cause increased risk of public safety issues.

Response C-21: The stormwater permit application and permit referenced in this 401 WQC considered the 100-year, 24-hour storm event as part of the completed modeling associated with the Downstream Analysis. The Milone & MacBroom report referenced in the comment was available at the time the Downstream Analysis was prepared. The Downstream Analysis identified that the project and proposed Commerce Park stormwater infrastructure modifications would alleviate the existing flooding condition within the park and would not result in impacts to the Route 116 culvert.

Comment C-22: Section K.4.iii of the Section 401 Water Quality Certification Procedure (2012) references that proposed activities coupled other activities that may result in acceptable adverse cumulative impacts are a violation of the procedure. The above discussion focuses just on the impact of the proposed supermarket on the 100-year peak flows in Patrick Brook. There is also an issue related to the cumulative flooding impact of incremental development of 10.2 acres of impervious area within Commerce Park, in terms of impacts to stream resources, lake resources including Lake Champlain, the physical, chemical and biological condition of the receiving waters, and finally recreational and land uses. The existing Commerce

Park stormwater impacts should be considered cumulative impacts. I created a simple model for the existing Commerce Park subdivision and found that during the 100-year frequency storm, before Commerce Park was developed, peak flow from the site was 27.84 cfs. After Commerce Park was developed with 10.2 acres of impervious area, the peak discharge increased to 64.67 cfs. That represents an increase of 36.83 cfs in peak flows reaching Patrick Brook, which if concurrent with the stream's peak flow, would represent a 9.6% increase in the stream's peak flow. As I discussed earlier, the Route 116 culvert restricts flows during the 100-year frequency storm and the new FEMA flood map shows the flood elevation right at the road elevation, which puts the highway at risk if there is any debris jam at the culvert. I believe this Route 116 culvert construction predates the Commerce Park construction, and it is evident that the culvert is not sized to accommodate unregulated storm flows from a project with the impervious area of existing Commerce Park. The 4% increase in flows from the store alone will overtop the Route 116 box culvert. The 9.6% increase in flows from the earlier Commerce Park development, helped bring the flooding to the verge of overtopping the culvert. Therefore, the Commerce Park development and the proposed project comprise a cumulative impact on downstream flooding conditions.

Response C-22: See comment response C-21. In addition, the Downstream Analysis considered the incremental development (cumulative) that has occurred within the Commerce Park, now contributing to the discharge point in the existing condition.

Comment C-23: The proposed stormwater system design will not be adequate to provide groundwater recharge, thus reducing base flows to Patrick Brook, which feeds an impaired water, the LaPlatte River. The project will thereby impact water resources by reducing the inputs of clean, cool, baseflow water during the summer months, which helps to sustain the stream flow and the organisms that live in the stream. In addition, the project will increase stormwater volume in the stream which serves to destabilize the stream corridor, exacerbate erosion, and liberate sediment and sediment-bound phosphorus. For these reasons, a reduction in groundwater recharge will contribute to impacts to stream resources, lake resources including Lake Champlain, the physical, chemical and biological condition of the receiving waters, and finally recreational and land uses. The State stormwater permit application Schedule A claims that that proposed stormwater treatment facilities provide the required groundwater recharge through a Grass Channel (O-3). But I don't see how they will achieve that treatment either on paper or in reality. The acceptable groundwater recharge treatment methods are listed in Table 2.2 under VSMM Section 2.3 and include both structural methods and non-structural methods. One of the non-structural methods is the grass channel credit (VSMM Section 3.5). According to VSMM Section 3.5 the grass channel credit is available if the project is designed according to the design criteria including: 1) Land use is moderate to low density residential (maximum density of 4 du/ac), 2) The length of the grass channel shall be equal to the roadway length. The applicant's project is not residential in nature, nor is the treatment swale associated with a roadway. The grass channel credit is not available to this project. Therefore, the automatic recharge compliance that many designers use for grass swales along roads in residential subdivisions is not available in this situation. The structural options to meet the recharge standard include only dry swales, not grass channels (See Table 2.2 continuation at top of page 2-5). And according to the adjoining note in the Table 2.2, the dry swale must be "designed as an exfilter system". It is also clear from the design guidance that dry swales are primarily applicable for land uses where they receive limited volumes of stormwater and where infiltration into the ground can occur. To utilize a dry swale as a structural practice for recharge, conditions in the stormwater practice must be suitable for infiltration. At this site in the location proposed for the grass channel, groundwater is too high to provide exfiltration of stormwater to the subsurface utilizing a grass channel. Keep in mind that these grass channels are currently delineated wetlands, and nothing in the proposed plans suggests that the groundwater table in these grass swales will be lowered.

Response C-23: The stormwater discharge permit, incorporated by reference in this 401 WQC, was determined to meet the requirements of the Groundwater Recharge Treatment Standard in the VSMM. The purpose of the Groundwater Recharge Treatment Standard is to maintain the average annual recharge rate

for the prevailing hydrologic soils groups in order to preserve existing water table elevations. The applicable recharge volume is determined as a function of annual predevelopment recharge for a given soil group, average annual rainfall volume, and amount of impervious cover at a site. The Groundwater Recharge Treatment Standard is met for the project by routing stormwater runoff from impervious surfaces through a Grass Channel, which per the VSMM is a stormwater treatment practice that is acceptable for meeting the “recharge” requirement. Furthermore, the stormwater management system for the project is not designed to preclude groundwater flow from the area from reaching Patrick Brook.

Related to groundwater recharge, the public comment further highlights Table 2.2 of the VSMM, which provides a list of practices that are acceptable for meeting the “recharge requirement. The comment however incorrectly asserts that the project is using the Nonstructural credit known as the Grass Channel Credit, a credit that is summarized in Section 3.5 of the VSMM. This credit is not applied on this project, nor is the project eligible for use of this credit given that the project is by its very nature, non-residential. The project does utilize a Grass Channel for meeting both water quality and groundwater recharge requirements, but again, not through the use of the “design credits” which have limited specifications for design and consider other factors such as residential unit density, which is not applicable. Unlike the nonstructural grass channel credit, the Grass Channel *structural* stormwater treatment practice does have specified design requirements specific to geometry, slope, and the required residence time for stormwater flow during the water quality storm, which in turn allows for water to be filters and in part provide some level of recharge based on the pre-existing hydrologic soil groups of the project area. The comment incorrectly states that the structural Grass Channel is not a practice available for meeting the Groundwater Recharge Treatment Standard. Table 2.2 as referenced in the comment specifically calls out both the Grass Channel and Dry Swale as acceptable for meeting this requirement, both of which are distinct practices with differing design requirements. The Grass Channel for this project meets applicable design requirements of the VSMM and therefore will meet the Groundwater Recharge Treatment Standard and provide for the applicable level of “recharge” based on pre-existing soil conditions at the project site.

The comment also identifies that there will be an increase in volume from the project. The increase in stormwater runoff volume resulting from the proposed impervious surfaces will be collected and controlled in the underground stormwater detention system. The detention system is designed to meet the Channel Protection Treatment Standard, the purpose of which is to protect stream channels from degradation by providing extended detention storage for the 1-year, 24-hour storm, thus preventing to channel destabilization, preventing erosion and related effects as noted in the comment.

Comment C-24: The grass conveyance channel directly to the west of the Hannaford structure is proposed to be replaced by a culvert which will be installed under the proposed farmers market area, eliminating approximately one third of its existing length. The elimination of this distance will impact the speed of the water flow, proposed to be concentrated through a culvert and as well eliminate water treatment that occurred there. This increased in velocity at the culvert discharge, where it intersects the proposed grass lined treatment area to the west of Darkstar must be taken into consideration.

Response C-24: The hydrologic model included with the stormwater discharge permit application as referenced herein this 401 WQC, did not specifically model this short reach of new culvert under the proposed farmers market area of the project, but did consider all of the drainage area, including where it intersects with the proposed stormwater conveyance directly west of the Darkstar property. The proposed culvert does not eliminate stormwater treatment length for the existing park, as this area of the park was not providing treatment of stormwater runoff from Commerce Park. In consideration of the existing flooding condition within the Commerce Park, specifically stormwater backing up behind the undersized Commerce Street culvert down drainage of this location, the applicant modeled both the 10-year and 100-year, 24-hour storm events and completed a Downstream Analysis. The applicant has also proposed changes to existing infrastructure, including upsizing the Commerce Street culvert to ensure that the project will not exacerbate

the existing flooding condition and also improve conditions following implementation of these changes. The new culvert under the farmers market area of the project is unlikely to affect the project drainage in consideration of the other proposed changes in the Commerce Park.

Comment C-25: The lot to the west of this channel and a lot owned by Darkstar have not yet developed and portions of both drain into this existing conveyance channel. Has any future stormwater discharge for these adjoining properties been allocated for this conveyance channel and has the possibility of any future impact been taken into consideration for the area of the conveyance channel to the north which is proposed to become a treatment area.

Response C-25: Without specific lot information as it relates to the previously issued Commerce Park stormwater discharge permit, the Department cannot speak to allocations for development on undeveloped lots within or adjacent to Commerce Park. Any future development would need to consider the need to comply with existing stormwater discharge permits or the need to obtain a new stormwater discharge permit.

Comment C-26: Who will have the responsibility and authority to maintain this new treatment area so that the flow remains spread out through out the swale, the vegetation remains the proper length, and the basic design is maintained. At this point, if it gets clogged Darkstar simply has it dredged out.

Response C-26: The permittee will be responsible for ensuring the permitted stormwater management system for this project and within Commerce Park is inspected, maintained, and continues to operate in conformance with the approved project design. The Commerce Park is also subject to an existing stormwater discharge permit and therefore the Commerce Park Association, including all Commerce Park lot owners, shall inspect and maintain the permitted stormwater management system in conformance with the applicable authorization.

Comment C-27: The static water level in the retention area under the parking lot should be monitored to insure that the projected capacity actually exists. In the earlier plan, than I am familiar with, the base elevation appeared to be below the existing saturated grade, almost certainly insuring that it would remain filled with water to that elevation, eliminating that much of the capacity for storm water retention.

Response C-27: Groundwater level monitoring post-construction is not a requirement of the VSMM. The permittee is required to certify that the system has been constructed and is operating per the approved project design following project construction. The permittee will be further required to inspect and recertify the system periodically, as required by their authorization.

Comment C-28: A pre-development test of the quality of the water draining from this lot must be required so that the actual treatment resulting from the proposed design can be compared in real time, and not just based on an approved, but untested engineering design.

Response C-28: Monitoring the pre-development site runoff is not a requirement of the VSMM. This type of monitoring would not inform the effectiveness of the system for providing treatment and control of stormwater runoff in the post-development condition. The stormwater management system is not designed to treat post-construction stormwater runoff to pre-development water quality conditions. The stormwater management system is designed to meet the applicable treatment standards set forth in the VSMM, which include both water quality and water quantity controls that will ensure that the Vermont Water Quality Standards are met in the receiving waters.

Comment C-29: In most commercial parking areas and pedestrian walkways salt granules now appear to have become a substitute for sand for parking lots and sidewalks and unmelted granules remain visible long

after the snow has melted. Research is now verifying that salt is being detected in our water bodies, and is harmful. Limits on salt use should be included in any permit.

Response C-29: Patrick Brook, the receiving water for stormwater discharges from the project, is not listed as being impaired or stressed for chloride on Vermont's 303(d) List of Impaired Waters. This indicates that chloride is not a stressor present in the receiving waters, preventing the waters from attaining high water quality.

Comment C-30: The grass banks on the eastern side of the parking lot are very steep and if maintained with riding lawn mowers will be almost impossible to maintain without those machines traveling beyond the toe of the bank to turn around in the area labeled "wetland to remain". This intrusion should not be allowed and these banks should be required to be maintained by hand mowing. It should be noted that the toe of the bank appears to be on the property line of the Post Office property.

Response C-30: The stormwater discharge permit referenced herein this 401 WQC does not dictate what equipment is used to mow grass surfaces that are part of the stormwater management system, only that they shall be maintained and operated in conformance with the approved project design. The U.S. Post Office property is a lot that is part of the Commerce Park development, also subject to a stormwater discharge permit, and therefore also required to maintain and operate the stormwater management system in conformance with the applicable authorization.

D. General Water Quality Related Comments

Comment D-1: The Draft notes an endangered fish species Stonecat in the LaPlatte River. There is no information on what activities will impact this fish, but the Draft frequently cites the water bodies being stressed due to "turbidity, sedimentation and temperature change resulting from land development, agricultural and urban runoff, loss of riparian vegetation, channelization and streambank erosion". The current degradation and stressing of these water bodies has happened despite other projects having their permits approved so there appears to be a flaw in granting permits based on the belief that applicants have measures on paper that will work effectively and will take steps to prevent further negative impacts on the water bodies. The Hannaford's project is land development and will have runoff, so it too is likely to have a negative impact as other previous projects. What gives DEC/ANR the confidence that this Applicant will be any better at protecting water quality than others with similar approved practices? What basis does DEC/ANR have that this project will not further threaten the already endangered Stonecat fish species?

Response D-1: The project is not expected to result in a lowering of water quality in the receiving water, Patrick Brook, which flows into the LaPlatte River. The project also does not involve direct impacts to the LaPlatte River, the Stonecat habitat. The avoidance of direct impact to the LaPlatte will mitigate any affects the habitat of any threatened or endangered species. The Department of Fish and Wildlife reviewed the project application and confirmed that the steps being taken by the applicant to address stormwater would avoid impacts to the Stonecat population downstream

Comment D-2: My wife and I kayak the LaPlatte River from Shelburne Bay as far upstream as we can go before a fallen tree or some other obstacle is a barrier. This recreation is very different when the water looks like chocolate from storm runoff, and the Draft does not address this impact as a negative visual on recreation. I don't know the details on how the LaPlatte impacts Lake Champlain with this storm runoff, but I do see the impact several times a year on how the Otter Creek impacts the Lake with a "river of mud" that travels a mile south west of the mouth of Otter Creek towards Westport, New York. I am sure the impact of the LaPlatte is not much different. Please clarify why this negative impact on aesthetic value on recreation such as canoeing, and kayaking is not discussed in the Draft and how DEC staff are confident

that severe storm events such as a high impact thunderstorm would not impact the rivers in the project's watershed both while under construction and afterwards.

Response D-2: The Water Quality Standards require that water of a quality that consistently exhibits good aesthetic value be achieved and maintained in Class B waters. The project is not expected to result in a lowering of any of the water quality criteria in the receiving water, Patrick Brook, which flows into the LaPlatte River, including a lowering of aesthetic value. The stormwater permit issued for this project is designed to remove 80 percent of average annual post-development total suspended solids from stormwater discharge, minimizing discharge of sediment to Patrick Brook and the LaPlatte River. Additionally, the Construction permit issued for the Project requires that erosion prevention and sediment control best management practices be applied during construction, and that discharges from the construction site be monitored for turbidity, in order to prevent discharges of sediment into the receiving water.

Comment D-3: I don't believe there is sufficient evidence clearly showing that this project can meet the Water Quality Standards for "Designated Uses and Water Quality Criteria", "Anti-degradation Policy" (both on p 8 of 13). DEC/ANR should not approve a project that simply minimizes the discharge of pollutants etc. as the Applicant needs to prevent the discharge. Water quality is more important than adding another large grocery store with a pharmacy to the already existing grocery stores and pharmacies in Chittenden County.

If a permit is issued despite the fact this project will lead to further degradation of the Patrick Brook, LaPlatte River and ultimately Lake Champlain, I recommend that the Conditions in the Draft be amended as follows.

Condition F be amended to read: "The Applicant shall ensure that the discharge of petrochemicals, wet concrete, and debris into state waters be prevented".

Condition G be amended to add language allowing community members or their representatives to enter upon the Project site for purposes of inspecting the Project and determining compliance with this Certification. **Note:** this is not due to any distrust of Agency representatives but only a recognition that Agency staff have multiple competing responsibilities across the state and community members or their representatives would be more able to make this a higher priority.

Response D-3: The project is not expected to result in a lowering of water quality in the receiving water, Patrick Brook, which flows into the LaPlatte River, and then Lake Champlain. The stormwater discharge permit, as referenced herein this 401 WQC, authorizes the discharge of stormwater runoff from impervious surfaces, following treatment and control that will both minimize *and* prevent the discharge of stormwater pollutants to the receiving waters such that the Vermont Water Quality Standards in the receiving waters will be met. The permittee is furthermore not authorized under its current permits to discharge petrochemicals, wet concrete, and debris into waters; additional conditions in the 401 WQC are not necessary. The project is proposed by a private landowner on private property, and the Department cannot grant community members the authority to inspect for compliance with the conditions of this 401 WQC or the permits referenced. The Department schedules and conducts inspections to assess compliance with issued permits/certifications as it deems necessary, in addition to responding to complaints or other reports of non-compliance.

Comment D-4: Will there be water quality testing downstream to check to see if the Certification holds up?

Response D-4: The Department conducts water quality monitoring of waters statewide to assess the condition of a waters condition relative to the Vermont Water Quality Standards. The monitoring schedule

for waters is determined by the Department and is further informed by basin plans. The 401 WQC will not require separate water quality testing aside from the Departments statewide program.

Comment D-5: Biological data on Patrick Brook used by ANR is dated 2004. Why was there not a more recent biological data gathering to ensure the data for Patrick Brook has not also changed?

Response D-5: See comment response D-4.

Comment D-6: The draft permit [401 WQC] is silent about the public trust groundwater standard. The stormwater flow from this project will substantially degrade and/or reduce important clean groundwater flows into Patrick Brook. I attach the prefiled testimony of hydrogeologist Steven Revell, hydrologist Andres Torizzo, civil engineer Dean Grove and wetlands ecologist Dori Barton, filed with the Environmental Division. Your file already includes the affidavits of Anthony Stout and Dean Grover. Under the public trust doctrine, no justification for this degradation and depletion has been offered. The applications were and are incomplete. The record lacks substantial evidence to support a draft or final permit [401 WQC]. The fact that the State has reclassified the wetland and also has granted a Stormwater Discharge Permit does not dispose of this issue. The stormwater permit is on appeal. Neither decision disposes of the criteria under the April 12, 2012 Procedure. It is error to rely on the existing of a stormwater permit, or a wetlands reclassification, in the face of this evidence.

Response D-6: The stormwater management plan does not specify that all stormwater runoff will be injected into groundwater as suggested by the comment in regards to groundwater degradation. The amount of stormwater “recharge” that is designed for in the Grass Channel for meeting the Groundwater Recharge Treatment Standard of the VSMM is a fraction of the water quality volume. This “recharge” amount is based on pre-development hydrologic soil groups in order to preserve existing water table elevations. The remainder of the managed stormwater runoff from the project is conveyed via open vegetated swales to the receiving water. Furthermore, the DEC Interim Procedure for Implementation of Groundwater Public Trust Principles for Groundwater Quality classifies the discharge of regulated stormwater with coverage under a state stormwater permit to be a “Tier II” activity. Tier II activities are regulated through their authorizing permits, and are presumed to be consistent with the public trust and not significantly degrade groundwater quality.

E. Other Comments *(Such as construction detail questions and questions which are outside the scope of the Agency’s 401 WQC review)*

Comment E-1: The public meeting was full of a bunch of people who are very upset about the development of lot 15 in Commerce Park in Hinesburg. I really don't understand why everyone is so upset over this development. I know for a fact that the lot in question has been for sale for well over 20 years. The town of Hinesburg (or anyone else) could have purchased this lot for as little as \$100,000. There have been several businesses that have investigated development of this lot including a furniture factory which had proposed to build a large (at least as large as Hannafords) manufacturing and warehouse facility on that lot about 12 years ago. When this was announced to the public everyone in town was FOR the development of the lot. To be honest a manufacturing facility would NOT have been in character with the surrounding commercial environment (or the town plan).

Locating the one and only town supermarket to this area is completely smart. It is in keeping with the town plan that was established 20+ years ago and which is updated every 5 - 8 years. So long as the development is done in a manner that mitigates the storm water treatment and release this is a good plan and location.

Hinesburg is a growth town in Chittenden county. It has grown substantially over the past 20 years and I don't see that development slowing down. The towns development plan calls for continue development and additional homes very nearby to that location.

Response E-1: The Department acknowledges this comment in support of the proposed Project.

Comment E-2: NRG used to put their meteorological towers on the property in question.

Response E-2: This comment is outside the scope of review of this 401 WQC.

Comment E-3: The walking path will no longer be pleasant to walk once a store is on the property.

Response E-3: The walking path will continue to be accessible and usable by the public. Water-dependent recreational activities will not be impacted by the proposed project.

Comment E-4: The project has an issue of scale. Hannaford should adjust the size of the store so that it fits in better.

Response E-4: This comment is outside the scope of review of this 401 WQC.