

**RYE PLANNING BOARD  
TECHNICAL REVIEW COMMITTEE  
Wednesday, January 27, 2021 – 1:00 p.m.  
Via Zoom**

*Members Present: Chair JM Lord, Patricia Losik, Jim Finn and William Macleod*

*Others Present: Planning/Zoning Administrator Kim Reed, Attorney Michael Donovan, Steve Harding from Sebago Technics, Corey Colwell and Hannah Giovannucci from TF Moran, Jay & Karen Nadeau, Attorney Tim Phoenix, and Danna Truslow from Truslow Resource Consulting*

**I. Call to Order**

Chair Lord called the meeting to order at 1:00 p.m.

**II. Compliant Right to Know Statement**

*Planning/Zoning Administrator on behalf of JM Lord, Chair of the Technical Review Committee, we find that due the State of Emergency declared by the Governor as a result of the COVID-19 pandemic and in accordance with the Governor's Emergency Order #12 pursuant to Executive Order 2020-04, this public body is authorized to meet electronically.*

*Please note that there is no physical location to observe and listen contemporaneously to this meeting, which was authorized pursuant to the Governor's Emergency Order. However, in accordance with the Emergency Order, I am confirming that we are:*

*Utilizing Zoom for this electronic meeting. All members of the Commission have the ability to communicate contemporaneously during this meeting through this platform, and the public has access to contemporaneously listen and, if necessary, participate in this or by clicking on the following website address: [www.zoom.com](http://www.zoom.com)  
Meeting ID: 837 0674 7365 Password: 123456*

*We previously gave notice to the public of the necessary information for accessing the meeting, including how to access the meeting using Zoom or telephonically. Instructions have also been provided on the website of the Commission at [town.rye.nh.us](http://town.rye.nh.us) on the Conservation Commission page and click on agenda for this meeting.*

*In the event the public is unable to access the meeting, the meeting will be adjourned and rescheduled.*

*Please note that all votes that are taken during this meeting shall be done by roll call vote.*

**Attendance by Roll Call:**

- Jim Finn
- Patricia Losik
- Bill Macleod
- JM Lord

**III. Discuss with Danna Truslow summarizing the fertilizer info**

Chair Lord asked Patricia Losik to lead the conversation.

Speaking to Danna Truslow, Member Losik asked if she was able to obtain the information on the soils testing for Stoneleigh Subdivision from Christian Smith.

Ms. Truslow replied no. Christian Smith has not received the results but will let her know when he gets them from U.N.H.

Member Losik noted there are fertilizer limits on 561 and 421 South Road, The Housing Partnership, Tuck Realty on Ocean Blvd, 44 Washington, 1215 Ocean Blvd, and 795 Washington. There may also be standards in both Marjorie Way and White Horse. There are several subdivisions where fertilizers are prohibited. Ms. Truslow has sent the committee a great deal of information about fertilizers that are low nitrogen, but not no nitrogen. Member Losik included in a spreadsheet of the zoning and the factors associated with the locations.

Member Losik stated the first question is in regards to “no nitrogen”. The board has said “nitrogen fertilizers are prohibited”. Ms. Truslow has said there is a relationship between nitrogen and impact to brackish and saltwater. She asked Ms. Truslow if it is an attainable standard, given what is on the market.

Ms. Truslow explained that she did not find any fertilizers that are commercially available, without being specially blended, that have no nitrogen in them; unless it’s just phosphorus, potash or some other pure ingredient. It does not appear that anything is readily available, except for composted manure which is still going to have nitrogen because that is one of the nutrients as part of a mulch product. She continued the other consideration is the health consideration with respect to the drinking water standard of 10mg per liter of nitrogen, which was the original driving factor for a lot of the requirements. Being able to protect surface water is a big important factor. That was brought to light and added to the Aquifer Protection several years ago.

Member Losik pointed out the point was made in Ms. Truslow’s letter that the aquifer is sizable. Most of the projects that are being talked about exist on the aquifer, so that is a major concern. She asked if it is more realistic to say that low levels, slow release and a good process by which

the best standards can be obtained through limits on time period during the year and when they are applied, is a better route for the board to be considering.

Ms. Truslow stated there are two ways to look at it. One way to look at it is that lawns are an important part of people's landscape. It is important to point out that in certain areas those could be minimized so there is less impact and more plants that require less fertilizer. Realistically, a ban on nitrogen might be very difficult because there are certain requirements for those nutrients to establish plants. She noted that many areas have really decreased the phosphorous content. It is possible to ban these things; however, she thinks there will probably be continued usage, whether it is intentional or not. Perhaps, a better approach might be to make it clear as to what is better about reduced nitrogen, what it means and how to do it. What became clear to her in going back through all this information is that there are benefits to using the nitrogen, which helps establish the plants that keep erosion down, helps the water and overall natural systems.

Member Losik pointed out there are some that have very low levels and slow release.

Ms. Truslow stated she spoke with someone at U.N.H. Cooperative Extension who is involved in making recommendations on fertilizer use based on soil test results. His concern about using low-nitrogen fertilizer that it has other things in it; such as, phosphorus and potash. If more nitrogen is used because more is needed, there will be more of the other things that are in there which may not be needed at all. His recommendation, as someone who works with it every day, is to really know the soil and make a judgement based on that. She thinks this is a good take home message from this whole evaluation. It could really be part of the process that could be promoted if there was to be a change in policy.

Member Losik asked Ms. Truslow to clarify the relationship between nitrogen and the brackish and saltwater, given the watershed in the coastal areas; also, the concern about phosphate and freshwater.

Ms. Truslow explained there is concept of limiting nutrients for different waters. There's algae and other plants that grow in the water systems. With coastal water there is algae, eel grass and other plant materials that thrive and require nutrients as part of their life cycle. Freshwater, wetlands, ponds and lakes, also have aquatic species which need nutrients in order to grow. Most of the time, there is a lack of phosphorous in freshwater and nitrogen in brackish water. An excess of those compounds will spur out of control algae growth. For brackish and saltwater, it creates a cloudiness to the water and a lot of the habitat is compromised because of that excess algae growth. That is the reason nitrogen is a problem for brackish waters and saltwater and phosphorous is a problem with the freshwaters.

Member Losik commented this information should go to the full Planning Board. The board can discuss where the Town is in terms of the current requirements and limitations associated therewith and perhaps come up with a concept of where they want to be in the future. More urgent is the matter with Webster. As a condition of approval, it was determined that TRC should work with Danna Truslow and Webster's consultant, Robbi Woodburn, to develop a

standard condition for fertilizer which should be applied to the site. She commented that Robbi Woodburn has provided some detail as to what Webster is using. She asked Ms. Truslow if she has any comments about their current practices.

Ms. Truslow stated that she feels the applications for the plantings, such as the shrubs and bushes, seem appropriate. For the lawns, after doing this background research and getting a better understanding of turf management, it seems like it is just too much of a standard application without any real understanding of whether or not its really needed. Mature lawns probably do not need that much nitrogen. They may be overdoing the nitrogen side of things; however, without some soil test to validate that claim, there is not really any way to know. She continued that the guidance for better water quality management is to take those requirements and halve or third the amount of nitrogen application. She suggested they test the soils this spring to find out the conditions of the soil and make modifications based on that to cut back on the nitrogen that is being used. She suspects they really don't need the amount of nitrogen that is being used there.

Member Losik commented they should probably hold back on committing to any standards, until Webster comes back with their soil testing in the spring. It is probably premature to think about any set standards at this time.

Ms. Truslow agreed. She suggested that Webster take the soil test as soon as it is feasible, in order to have the information as soon as possible.

Planning Administrator Reed agreed to communicate that information to Webster.

Member Finn commented that if they were to go with a different standard, it looks like slow release or organic-only might just limit overall output of fertilizer. That might be an overall encompassing way of giving that might be reasonable.

Member Macleod stated the soil testing is probably the way to go without trying to apply some particular standard that is going to differ depending upon site conditions. Any condition or restriction should be based on soil testing.

Chair Lord agreed. He commented that every site is different. It should start with soil testing and go from there. If they go down the road of slow release, will they be going back to all the subdivisions to notify them of the changes? Will the ones that have already been approved stay the same?

It was agreed this question would be a good discussion with the full board.

Member Losik stated that the idea of a campaign to educate residents, both within and outside the aquifer and wellhead protection district, is important. She would applaud efforts for RCC to be involved. She commented that fertilizers aren't well understood. This is important in

considering the size of the aquifer and how many people are dependent upon the minimally treated resource that comes from Rye Water District.

Ms. Truslow stated that great steps have been taken to reduce the point loading from septic systems. Fertilizer is more of a dispersed source. The big threat is the misuse close to the receptors that are most sensitive. She thinks the guidance is saying that slow release is the way to go and it is actually better for the soil. If there are good soils, there will be good growing results.

**IV. Discuss the Drainage issues and other technical matters of the following Subdivision before the full Board and continued to February 9, 2021: Minor 3-lot subdivision by Jak Nadeau Revocable Trust for property owned and located at 711 Long John Road, Tax Map 16, Lot 136 to subdivide the existing lot into three single family residential lots with access via a 50'-wide right of way. Property is in the Single Residence District. Case #07-2020.**

Chair Lord asked Corey Colwell to go through the changes to the plan.

**Corey Colwell, TF Moran**, stated there have been two planning board meetings, the last one being in December. Since that meeting, five changes have been made to the plan. First, the road was changed from public to private with the width of the pavement being reduced to 20'. Second, the home's location on Lot B has been moved southerly, approximately 100'. This sites the home closer to the private road, which reduces the driveway length, reduces the amount of tree clearing and reduces the fill needed for this lot. One of Attorney Donovan's prior comments was that there seems to be a lot of fill on the lot because the house was pushed back so far. This really eliminates the amount of fill, as there was 6' of fill in some areas. This change also allowed the bioretention area (rain garden #3) to be moved 100' to the south, which allows even more natural woodlands to be preserved. He noted that bioretention areas are a rain garden. The only difference in terms is "rain garden" is typically used in a residential setting because they are often smaller. The term "bioretention" is often used in a commercial setting. Essentially, they are the same; a depression in the ground filled with landscape plants that capture and treat stormwater.

Mr. Colwell continued the third change was that the property line between Lots B and C has been adjusted to make the lots more regular in shape. Since rain garden #2 treats roadway runoff, it was included within the right-of-way. Before, the property line sort of hugged the hammerhead. That has been adjusted to go out around the rain garden, such that there is a square at the end. The thinking was that the rain garden exclusively serves road runoff and could be made part of the right-of-way to eliminate the need for drainage easements across the lots. This in turn makes Lot B more regular in shape and eliminates the need for an additional drainage easement. Mr. Colwell explained that by making the roadway private, the driveways for Lots B and C were able to be relocated to the end of the hammerhead. This reduces the length of the driveways, which in turn reduces impervious area. It also eliminates sharp curves that were in

the previous driveways. This allows for the size of rain garden #4 to be reduced, which allowed it to be pulled another 30' closer to Fire Trail Lane. This allows for a more woodland natural buffer to be preserved between the existing home and the Derderian property. By moving the driveway to the end of the hammerhead, it will significantly reduce impervious area on Lot C, which allows for rain garden #4 to be slightly smaller. The rain garden is now 56' from the Derderian property.

Mr. Colwell stated that Lot C was previously served by an onsite well that exists. The well will be eliminated and water service will be added, once the road is constructed. Previously, these three home sites proposed approximately 25,000sf of impervious area. With these most recent revisions, the impervious area was able to be reduced to between 20,000sf to 21,000sf. This is a 17% reduction in impervious area. Undisturbed woodland has been increased by about 12,400sf. This represents a 12% increase in undisturbed woodland. Mr. Cowell pointed out the intersection of Fire Trail Lane and Long John Road has also been revised. Previously, a concern was raised about the drainage in this area. To address this issue, four new leaching catch basins have been added to capture and convey stormwater from the northerly side of Fire Trail Lane to the southerly side. These basins will capture, treat and allow infiltration of some of the stormwater collected at the intersection. The natural path of stormwater on Fire Trail is from north to south. These basins and the pipes that connect them will maintain this flow direction. They are designed to first capture the runoff on the northerly side of the road and get it into the leaching basin. In some storm events there is some puddling in the area near Long John Road. This is caused by the runoff from Long John Road and also from a sump pump discharge on adjacent property. The catch basin in that area should alleviate that as well. In a storm event, if the catch basin was to fill up, an outlet has been provided to a leaching basin on the other side of Long John Road. Additionally, two other leaching basins have been created going into Fire Trail Lane. One of the basins will accept all the flow on the northerly side of Fire Trail Lane. It will infiltrate into the ground or be carried over to rain garden #5. Additionally, there is some ledge in the area where the two rain gardens are located near the intersection. Some of the ledge is proposed to be removed, which will allow free movement of stormwater in the road base.

Mr. Colwell stated there is one other matter he would like to bring to the Committee's attention. He pointed out that Lot A is a corner lot. According to Section 190-2.2.F, a corner lot requires that frontage, depth and front yard requirements be met for both streets. The property as a whole today, only has 168' of frontage on Long John Road where 200' is required. Lot A complies with depth and front yard requirements for both streets, but only has about 91' of frontage on Long John Road. To alleviate this nonconformity, they are proposing to add the property along Long John Road to the private right-of-way. This will eliminate the noncompliance with 190-2.2.F, corner lot requirements, to have frontage on both roads. It makes most of rain garden #1 and all of rain garden #5 within the right-of-way, which is the same as rain garden #4 at the end of the right-of-way. It also makes Lot A less irregular. He commented this change will be made to the final plans submitted to the Board. At this point, he would like to discuss the changes and any other comments from the Committee.

Chair Lord commented that this has come a long way.

Member Macleod stated they have made substantial improvements and have addressed the concerns of the abutters. He commented that the DPW Director was opposed to having the driveways coming off the stub ends of the turnaround; however, having the road a private way takes the onus off the Town and puts it on the homeowners. He thinks having the driveways come off the end is a better design. There is an issue for the Town with plowing. Having this a private way, the snowplowing will probably be taken care of by one contractor. There is substantial reduction in the impervious cover. There is an increase in the undisturbed woodland area on the site. He thinks the drainage design may take care of the concerns about the drainage at the intersection. There have been a lot of revisions from the applicant and their design team. The net result is a substantial improvement of the overall plan.

Member Finn agreed. He thinks this is a big improvement compared to what they saw before. There are still quite a few rain gardens, which raises a bit of a concern about the developability of the lot. He thinks a lot of what has been proposed is a way to address that. There were concerns about the irregularity of Lot C. He thinks they just need to think through that. Generally speaking, switching to the private road and not having the hammerhead is a big improvement.

Member Losik thinks this is moving in the right direction. She has a couple of questions. She would like to hear a little more from the engineers about the road/drive at the intersection with Long John Road. She would like to make sure everyone is comfortable with the current proposal. Speaking to Mr. Colwell, she stated that it was said ledge would be removed in the area of bioretention ponds #1 and #5. She believes it was also mentioned on Fire Trail Lane.

Mr. Colwell confirmed.

Member Losik asked where the ledge will be removed on Fire Trail Lane.

Mr. Colwell explained the worst part of the ledge is at the front of the lot near Long John Road. There will be some ledge removal in that area. Towards the cul-de-sac, the ledge gets deeper. He believes there will be some ledge removal near the proposed house location on Lot A. He pointed out that at the end of the cul-de-sac, near Lot C, there is some ledge, so there is definitely some removal in that area; however, not the entire road. He would say about two-thirds of the road is going to require some ledge removal.

Member Losik asked how this changes the estimate of ledge removal.

Mr. Colwell replied that is going to stay the same.

Member Losik stated she looks at the test pits and the areas that are shallow to ledge; area near Long John Road, the area on Lot A and the area to the right of the drive. In looking at the 1990 subdivision plan, she still struggles with the question of whether they really know how much ledge might have to be attended. There are a fair number of ledge outcrops noted on the 1990

plan. Of course, land changes over time. There can be silt and soil, which encourages growth, so there can be some changes on the top. When she looks at those areas in comparison with the data that they have with test pits and probes, it seems to make sense. She wonders if everything has been accounted for with respect to the shallow to ledge outcroppings.

Mr. Colwell explained that in the early 1990's, when they went out to determine ledge, it was done with ledger probes. The plan that was done at that time was done the same. A ledge probe is a metal rod that is pounded into the ground with a hammer. If the rod does not move any further, the depth is recorded and it is said to have hit ledge. It is not very accurate. He noted that forty test pits have been done on this property to determine depth to ledge. Holes were actually excavated. He believes this is a more accurate representation of what exists on the lot as ledge. He commented that he feels comfortable. In addition to himself, test pits have been done by a licensed septic designer. Certified Soil Scientist Marc Jacobs witnessed the pits. Dennis Plante also witnessed the pits, in terms of being suitable for septic systems. Mike Cuomo was out looking for the presence of ledge. Mr. Cuomo's last letter concurs with the analysis about the ledge of the lot. Over time, it has been done more accurately and this is a better representation than what was available in the 90's.

Referring to the rain gardens, Member Losik stated that on C-19 is shows that the basins are basically going to be a typical lawn mix.

Mr. Colwell confirmed.

Member Losik commented they are going to be reviewed twice a year. She asked if they will be mowed on an annual basis.

Mr. Colwell confirmed they will be mowed when necessary.

Member Losik commented the fertilizer is limestone and a 10/20/20 fertilizer. She asked if this is where they want to be.

Mr. Colwell replied this is what the landscape architect had suggested. He pointed out there are no wetlands on the property. There is shallow to ledge. When it comes to fertilizer and what is best for plant growth, he relies on the landscape architect. Should the Town think that should be changed, they would certainly be willing and do something that might be better for the environment as a whole.

Referring to rain garden #3, Member Losik commented that it goes into the new constructed swale.

Mr. Colwell pointed out that is currently in a cleared area.



Speaking to Steve Harding, Member Losik pointed out that his recent letter noted that perhaps there could be a change to building the bioretention for Lots B and C. She asked Mr. Harding his thoughts.

Mr. Harding stated that Hannah and Corey have gone through several iterations of this project. They have done a good job of trying to make this work with the new ordinance. The previous ordinance really dealt with just quantity of runoff from the site; whereas, the new ordinance talks about water quality. In the case of Lot C, where it looks like impervious area may have gone down on that particular lot, they still have a rain garden in place for just water quality treatment. In meeting the technical need of the ordinance, he believes rain gardens certainly do that. As a matter of preference, he is not a big fan of having a rain garden just for one particular house lot. However, he understands what Corey and Hannah have been up against. They are trying to meet both the quality and quantity standards. Mr. Harding stated that he was trying to promote using the Lot B area as a buffer. He thought they were cutting down trees. However, as Corey mentioned, it is already an open space. Mr. Harding pointed out that retention basins tend to take up a lot of space. He really likes wooded buffers.

Mr. Harding continued that he has suggested a couple of things. Drip edges are used often in town subdivisions. He understands why TF Moran may not want to use those. It puts an onus on the homeowner that they have to use drip edges. There may be some concerns about the discharge from them. He can certainly understand why they would not want to do it. He continued that he spoke with Ridgely Mauck of NH DES, who has reviewed alteration of terrain permits for over 30 years. Mr. Mauck said that if it is a multi-family home, like the homes being built on the corner of Washington Road and Route 1, they really hold the water quality standards tight and really restrict what can be done. However, on a subdivision, they look at dispersing the flow, not concentrating the flow, and using wooded areas where possible. Mr. Harding stated he is acknowledging it probably does not meet the technical letter of their standards, but it is a less environmentally intrusive solution and there is still benefit. The difficulty of that approach from Hannah and Corey's side is that it is difficult to quantify that. With a wooded buffer, it is really difficult to say that the quality is being knocked down. This is going to be a struggle as they go through the ordinance and it evolves in its interpretation. He commented that any of the runoff coming from the road should be aggressively treated, in his opinion. Lot A for instance, the stormwater is wrapped around the backside of the house and towards retention basin #1, versus letting it sheetflow off to the south, which is primarily being done for water quality and quantity control. Perhaps there should be some leeway given in some of those situations.

Referring to the 1990 subdivision plan, Chair Lord stated that he took that plan and overlaid it on this plan. Speaking to Mr. Colwell, he suggested dotting in where those probes were done for the Planning Board meeting. It might help to explain the extra ledge that has to be taken out on Lot A. However, he does not think it impacts any other areas that have been talked about. He thinks it might put the question to bed about why there is a difference and would help answer some questions. He continued that he likes what was done at the intersection of Long John Road. He questioned LCB-3 shown on the plan (near the intersection of Long John Road).

**Hannah Giovannucci, TF Moran**, explained that LCB-3 is catching everything that is coming off the roadway and also from the abutting properties, including a sump pump from an abutting property. LCB-3 treats everything entirely from the roadway and nothing from the proposed development.

Chair Lord asked if the new LCB-4 exists.

Ms. Giovannucci explained there is an outlet from LCB-3 that goes to LCB-4, which is also a drywell area. If it doesn't infiltrate, it can overflow and continue down the edge of pavement, as it does in the existing condition.

Mr. Colwell noted there is no outlet to LCB-4. It is a leaching basin, so there are holes in the sides of the basin. As it fills up, it infiltrates into the ground.

Ms. Giovannucci pointed out or it overflows through the rim.

Chair Lord stated that it looks like most of this area is solid ledge, so infiltrating is going to be difficult. He asked how much of a ledge cut is being taken out below the basins.

Mr. Colwell replied it is probably around 3'. He noted that Sheet C-17 is the catch basin detail.

Ms. Giovannucci noted that in addition, a considerable amount of ledge will be removed from the edge of pavement, roadway and bioretention areas #1 and #5. This will blend into the existing subbase of Long John Road and the ledge removal that has happened there.

Chair Lord commented it looks like its going to go down about 10' to 11' right beside Long John Road. He asked who maintains the catch basins.

Mr. Colwell stated that those particular two leaching basins, being in the town right-of-way, would probably fall on maintenance of the Town. As such, an operation and maintenance manual will be provided that specifies what maintenance is required. Its basically semi-annual inspections and the removal of any trash. There is little maintenance associated with these leaching basins (LCB-3 and LCB-4).

Chair Lord asked if there have been discussions with the Public Works Director.

Mr. Cowell replied no. He continued that if the Public Works Director does not want to take on that maintenance, it can become part of the maintenance associated with Fire Trail Lane. That would just require the permission of the Town to do so.

Chair Lord suggested that they reach out to DPW. He does not think the Planning Board wants to start making decisions for infrastructure in the public right-of-way. He thinks the Public Works Director would have to sign off.

Ms. Giovannucci stated an alternative is to leave it as is. The path of water could just continue along the edge of pavement, if the Town did not want to take on the maintenance.

Chair Lord stated it seems to him that from Long John Road into the project, the road slopes inward and downward. He asked if the water coming from the north would just make that turn and flow into LCB-1. If LCB-3 and LCB-4 were taken out, it would seem that water coming down the edge of the property would then run down the new access road because it is all heading downhill anyway. He commented this might be another option.

**Jay Nadeau, applicant**, stated that he and his wife have lived at the property for twenty-five years. There has never been an issue with water running down Long John Road past the driveway. The only issue is during a major storm event because there is a hose coming out of the ground to the right of the driveway, which goes across the road to a pump in the neighbor's basement. That is the only time there is ever any water there. He has no problem moving their stormwater into catch basin area LCB-1 to go into bioretention area #2. He does not think there is a need to have it go down Long John Road.

Chair Lord agreed. He commented the minimal amount of water in that area would easily find its way down LCB-1. There may be a need to have a little bigger pipe to get it across to LCB-2.

Mr. Harding stated that this hits on a lot of the concerns he has with LCB-3 and LCB-4. The concern he has with draining surface water from Long John Road into LCB-1 is that system is already picking up a lot of the new roadway drainage. He would not want to add more to the smaller retention basin #5. He has concerns about the constructability of leaching basins #3 and #4 right next to Long John Road. He would think the Public Works Director would not want those basins in there. Mr. Harding noted it would be better to let the runoff go past the drive and continue on its way along Long John Road. If the leaching basins are being carved out of ledge, there is going to be limited space available for the infiltration to happen. He would not want to encourage more water getting into that system. In his mind, he is trying to balance whether this is going to be carved out of really solid ledge or if it is chunks of ledge, which would give more opportunity for infiltration. He reiterated that he would like the water to go down Long John Road.

Mr. Nadeau pointed out that is what happens right now and there has never been a significant amount of water.

Mr. Colwell commented that they agree with Mr. Harding's analysis. Leaching basin #1 was not sized to handle any additional flow from Long John Road. It was sized to handle flow from the subdivision. He continued that Mr. Nadeau is right, most of the water comes from the sump pump on the adjacent property. However, there is other water coming down Long John Road in a storm event that leads to that area. Water on that side of Long John Road does collect during a storm. There are two ways to handle it; as designed or eliminate leaching basins 3 and 4 and letting it flow over the intersection. The only negative about letting it flow over the intersection is in the winter it tends to ice. With all said, he thinks flowing over Fire Trail Lane is adequate,

as it does that now. He asked Mr. Nadeau if there has ever been any problem with stormwater building up and icing.

Mr. Nadeau replied no.

Mr. Colwell commented if that is the case, that would be the better of the two alternatives.

Chair Lord stated that today the driveway comes down onto Long John Road. That is the very edge of the driveway. It is where the very edge of the water would run down. In the new design, it slopes away from Long John Road. Whether it follows the swale around to LCB-1 or it runs across the roadway, it is never going to end up where LCB-3 is now. Whether it goes to LCB-1 or comes across the road, it is always going to end up in those two bioretention areas. As long as the design accounts for that, he has no problem. To be on the safe side, he would increase the size of the pipe LCB-1 and LCB-2. He would let nature take its course and get rid of LCB-3 and LCB-4.

Chair Lord continued that in this subdivision, if they want to look at a 60' cut line, he does not think the impact is too big on Lot A. However, in looking at Lot B that 60' area goes over to conservation land. Some sort of recognition of what might occur here and how it will be managed with the Conservation Commission, is something they should think about. He thinks it needs to be addressed right up front. He noted that they are spending a lot of time on overcut areas in subdivisions.

Mr. Colwell stated two things come to mind. One, he thinks Attorney Donovan made the suggestion that when these homes are ready for construction that a residential site plan be prepared. He thinks that is the best route to go. What is shown on these plans is for "pretend" homes. It is not what's going to be built. He thinks the cut line should be established on the home that is intended to be built on this lot. That will have a significant effect on the amount of woods to be removed.

Ms. Giovannucci noted that each lot has to abide by the undisturbed wetland areas. They can't cut more than what is specified.

Chair Lord agreed. He explained that on every subdivision they ask Mr. Harding to check the development plans versus approved plans. On all of this, he does not see a real issue. The only place he sees a real issue is with the conservation land. He thinks they will be encroaching onto the conservation land with blow downs and trees falling. It is something they just need to think about right up front.

Referring to the intersection, Attorney Donovan asked Chair Lord if his concerns about the first 150' of new road and drainage issues have been resolved.

Chair Lord replied there is a lot of ledge that needs to be taken out. Perhaps they should see a proposed depth removal area. With the drainage coming down below the road, if there is enough

ledge taken out so it can get out through the sides of the detention basins, it really gives it an outlet to move out of there laterally. It depends on how much ledge is removed.

Attorney Donovan agreed there needs to be a more detailed drawing of how this is going to be constructed; in terms of the depth of ledge, excavation and return of base material. It would be good to have a cross-sectional drawing of the street and bioretention areas.

Chair Lord noted they are making progress in regards to his concerns.

Attorney Donovan asked to see the property line on Lot A in relation to the bioretention pond. He asked why they could not get the whole bioretention facility into the expanded right-of-way.

Mr. Colwell explained they are going to try to do so.

Attorney Donovan noted that the bioretention area is going to be partially within the road right-of-way and partially on Lot A.

Mr. Colwell further explained they are going to take a look to see if the rain garden can be elongated such that it fits within that area. If it can't, there may be a small portion that goes over the property line. With that said, bioretention #1 in its entirety would be a drainage easement. The drainage easement would be significantly reduced if a small portion goes over the property line.

Attorney Donovan commented that he does not interpret the Land Development Regulations as requiring a subdivision to deal with groundwater recharge, which was described as water quality issues. He thinks the regulations are clear that recharge has to be dealt with on a site plan review, which is consistent with what Ridley Mauck had said. If the view was taken that the Land Development Regulations don't require a subdivision application to deal with water quality issues, would retention basins 3 and 4 be needed?

Ms. Giovannucci replied yes. They would be needed not just for water quality, but for stormwater runoff rate and stormwater volume. That is referred to both the LDR and zoning.

Attorney Donovan pointed out that bioretention area #3 on Lot B is 100' from the property line. He asked if the runoff from the single-family house and the lawn area is going to be greater than predevelopment across the property line.

Ms. Giovannucci confirmed. This is primary because a significant number of trees are being cleared. Removing grass and woodland would cause an increase in runoff rate and volume.

Mr. Colwell stated that without the rain gardens, in his opinion, they would not be complying with Section 195-7 of the zoning ordinance. He does not feel they would be complying with the LDR as well, as it relates to runoff and volume.

Attorney Donovan asked about putting in drip edges.

Mr. Colwell commented that drip edges work really well and he specifies them in Rye all the time. He does not think they work well for a ledge lot. Blasting has to occur for the house on Lot A. There is ledge as shallow as a foot in one location and two feet in the other. That home is going to have an 8' foundation wall. Imagine blasting a hole for that home and filling the sides of the hole up with stone for a drip edge. Where is that water going to go? It is going to be entrapped in that blasted hole. In this design, the runoff is kept on the ground and flows over the ground to the rain gardens, in order to not create a moat around these houses and this blasted bedrock. The other thing that happens with the drip edges is it puts the onus on the homeowners to maintain them. If they are not maintained, the whole lot doesn't work. In this design with surface water going to rain gardens, regardless of what the homeowners do around their house, the drainage is still going to work and comply with zoning and LDR's. For those reasons, he feels the rain gardens are a much better alternative than drip edges for this application.

Member Losik asked if he is saying that due the ledge characteristics on the site and the building, particularly on Lot A, they need a place for the water to go.

Mr. Colwell confirmed. He explained they don't want to put it into the ground on that lot because of the ledge characteristics.

Attorney Donovan asked about Lots B and C.

Mr. Colwell stated that on Lot B drip edges may work; however, it would require a foundation drain to get the water out of the stone trench and it would have to daylight. It could easily go out the back. Again, it puts the onus on the homeowner to maintain the drip edges; whereas, the rain garden is on the homeowner's association to be maintained.

Attorney Donovan commented that the original proposal was that the homeowner was going to maintain the rain garden.

Ms. Giovannucci stated there is a requirement for a minimum 4' of infiltration trench. At the bottom, there needs to be 3' distance to ledge. Test pits would need to be done again for that. It would need to be designed to store the volume and also reduce runoff rate and runoff volume. If there is a foundation drain around the house to help move water, it is taking water down that is trying to infiltrate and directing it out. Although it daylights, it does not really get infiltrated and treated.

Attorney Donovan commented they would have to go back to look at the test pits again to find out how much of ledge problem there really is on Lot B.

Mr. Colwell commented he does not think there is much of a problem on Lot B.

Attorney Donovan continued if this is the way the rates are going to be interpreted and applied, the Planning Board really has to think about where this is going. This is talking about everyone being required to build a rain garden, clear unnecessary wooded areas and alter the natural terrain, just over this type of an issue. In this case, there is conservation land on one side of Lot B and 100' to a very large lot in the back and water can't just be run off there. If that is the case, he thinks there are some precedential things to think about. He pointed out that Lot C is an existing house. He asked what drives the need for the rain garden on Lot C.

Mr. Colwell explained there is an increase in impervious area by the new driveway. It's a long driveway with a turnaround and an area to park in front of the house. The increase necessitates the need for that rain garden. Without it, stormwater would increase onto the Derderian property. He pointed out that there is no stone infiltration trench around that home. There is landscaping and lawn right up to the home.

Attorney Donovan asked if there is a way to get that runoff down to bioretention 2.

Mr. Colwell explained that is quite a bit uphill. It is kind of a high point. All that land going to the home slopes down. The contours go from 61, near bioretention 2, to the home at elevation 53. There is about an 8' drop in elevation.

Chair Lord stated that if there is going to be bioretention on every single house lot now, it seems to go against what is trying to be accomplished and they should take a look at that. In listening to what Mr. Colwell said, when they blast out for a foundation and they backfill, it seems like every one of these homes is going to need a sump pump. He asked if there is an area where this will be discharged to.

Referring to Lot A, Mr. Colwell stated that if a sump pump is necessary, it would come out to the swale on the southerly side of the home. That swale would convey it down to bioretention area 1.

Mr. Nadeau noted there is no buyer and no builder. He asked what would happen if they want to do a slab foundation and they don't want to blast. Is that going to change anything? He asked if they would have to do bioretention areas if he and his wife just wanted to clear cut their property. He noted they are doing the best they can to be as environmentally cautious as possible.

Chair Lord explained that the Planning Board has to approve this as if someone is going to put in a basement. The Board has to know how that is going to be handled and how it will work right up front. He pointed out they are just trying to talk about the details now.

Attorney Donovan stated the Planning Board started to require lot development plans. Then they started to require that the buildout comply with the lot development plans. There is an extensive procedure now where Steve Harding is involved in reviewing everything before a building permit is issued. A subdivision is simply dividing up land into lots. Ten years ago, lot development plans were not required. If all that is being done is the creation of lots, it is not going to get into bioretention areas. What Ridgley Mauck was telling Steve Harding is that there should be interest

in the drainage in the road that is being constructed as part of the subdivision and handling the drainage. Most towns are not requiring development plans like this. If there was not a lot development plan, the Board would not even get into bioretention areas because it would just be lots.

Member Losik stated that because the stormwater regulations are what they are, it is almost like they have to go the next step and look at bioretention. She commented that she is not a fan of bioretention. These are not going to have esthetic appeal. In her view, they are going to somewhat negatively impact this beautiful property.

Member Macleod stated he can see the quandary the design team is in. There was a set of regulations that was written and are now actually part of the zoning that regulates quantity and quality of runoff. They have no alternative but to use bioretention areas. He commented that he has built over 100 houses. He would not put a drip edge on any one of them unless the house was on a slab. It is a terrible method and should not be used in a New England home that has a basement. If the house happens to have a walkout basement, which might occur on the second lot, a drip edge for containing runoff won't work because it slopes back. It won't hold the water. He thinks they have had discussions about having strict compliance with stormwater on smaller projects and this is the result. If the Town is going to have these stormwater regulations, it will end up with these facilities. Does he think they are esthetic? No, but that is what they are stuck with because there is a regulation that requires them to meet a certain standard. He thinks the question should be asked if the design of this plan complies with the stormwater regulations that are in place. If it does, there should not be this circular discussion with everyone's opinions about what is the best thing on the lots. The applicant has hired a professional engineering firm. They have designed something that complies with the regulations. If the Board does not like it, then change the regulations. He reiterated they should be looking at this project as to whether it complies with the regulations or not.

Chair Lord stated he can agree with what was said. They've chosen this engineer and that is how they interpret it. If it complies, he is not sure what else they can really do. The Board can always suggest ways to perhaps alleviate that a little. However, it does bode a bigger question for the Board. For subdivisions that have been approved but have never been built, how will that work today if they want to do a home development plan? Do they have to come back if they want to do this or are they grandfathered? He continued that he has drip edges all the way around his home. He has never had a problem with any drainage in his basement.

Member Macleod pointed out that a system all the way around the house with a discharge point is not doing anything to attenuate the rate and volume. It's a path to allow the water to go a certain route and discharge.

Referring to Lot 2, Chair Lord commented there is a couple of hundred feet where probably all of this would go away and it would never be noticed.



Member Macleod stated it is not whether it would be noticed or not. It is whether the drainage calculations are done in accordance with accepted engineering practices. He commented that if the rain gardens were taken out, no one would notice anything. However, it would not comply with the regulations that are forced upon them.

Attorney Donovan stated that he does not think the regulations require this. This is where he disagrees with the engineers. The only thing the zoning ordinance requires has to do with the increase in volume across property lines. The zoning ordinance doesn't get into groundwater recharge and water quality issues. He thinks the Land Development Regulations of the Planning Board only get into those for site developments, not subdivisions, except as it applies to the street infrastructure. He thinks the applicants' engineer is interpreting the regs as having to deal with groundwater recharge.

Chair Lord pointed out that every other engineer in other developments have never looked at it that way.

Attorney Donovan pointed out that it's the new regs that is creating this dilemma. This is the first one under the new regs.

Planning Administrator Reed noted that the reason this went in is for the Public Works Director to meet the EPA standards for MS-4.

Member Losik pointed out this was also to align with the NH DES Management Practices; the N.H. Stormwater Manual. That is the foundation of Section 202-9.2.

Mr. Harding stated that Hannah reached out to Sebago Technics for an interpretation of the regs. Sebago Technics thought that it applied to all the property lines, and water quality and water quantity had to be addressed. From a practical sense, single-family homes on these size lots is going to have a very minimal impact. Strict adherence to the new Land Development Regulations, which is based on DES standards, makes it very difficult to meet. They will end up with rain gardens. In the past, drip edges have been entertained. Before the new Land Development Regulations came along, if a subdivision came in like Stoneleigh Preserve, he wouldn't have any means to push an applicant towards water quality. He would wait for the AOT Permit. Through that process, the water quality standards were met. It is up to the DES staff to make their determination. They typically wouldn't require a rain garden for an individual lot. They have kind of acknowledged that in order to meet these standards, those features are needed. However, if best management practices are followed and they try to introduce some LID features, then the intent of the regulations is being met, even though there is not technically strict adherence.

The Committee reviewed the regulations.

Attorney Donovan stated that his interpretation is that these very elaborate drainage recommendations only apply to the drainage that is going into the roadway drainage system,

which is what the Board has always done in looking at subdivisions. That is because the Board does not normally have a lot layout plan. He thinks it is pretty clear that they should only be looking at the drainage going to the roadway system. He commented that is why he is questioning the size of some of these.

Mr. Colwell stated they based the need for rain gardens on two sections; LDR Section 202-9.2(A)(8). After reading that section, he explained that without these rain gardens, there would be an increase in runoff over the property lines. That was taken together with 190-5.7(B) of the Zoning Ordinance. He reiterated that without the rain gardens, they would not be able to comply with those two sections. He noted the most contributing factor increasing the runoff onto adjacent property is the removal of vegetation. Not simply by building these homes, but by simply cutting down trees. With that practice alone, there would be an increase in runoff to adjacent properties.

Attorney Donovan stated he believes all of Section 202-9.2 is predicated on sections he referred to in 9.1, applicability. Those only apply to what Section 9.1 says they should apply to.

Attorney Tim Phoenix pointed out that if the bioretention ponds are not needed for Lots B and C, the trees could remain. He asked if that would help to capture and infiltrate stormwater as it approaches the property line.

Mr. Colwell explained that as soon as the trees are cleared for Lot A, for the home and driveway, and Lot B, for the home and driveway, that alone creates an increase in runoff onto adjacent property without any stormwater practices.

Member Losik pointed out the Anderson well is very close to the property line. She asked if there is any concern about the blasting on Lot A and in the area of bioretention 1.

Chair Lord stated with this amount of blasting so close to that well, he might suggest they do a well test ahead of time and do one afterwards to make sure there are no impacts.

Referring to bioretention 1, Chair Lord stated that right now, that has been pulled back a bit and there is room for some landscaping in the front. He heard Mr. Colwell say that he is going to try to squeeze this into that little area. He asked if would be better if the bioretention area was away from Long John Road, maybe add some landscaping on those buffer areas and have them apply for a waiver for frontage. The waiver for frontage on that lot would certainly outweigh the visual impacts on Long John Road.

Planning Administrator Reed pointed out that this would be a waiver from the Zoning Board.

Member Losik pointed out there is no landscaping. The side slopes are the typical lawn mix. She pointed out there are some shrubs. She asked if the slope toward Long John Road is going to be visible. She asked if the slope is just grass.

Mr. Colwell explained that where trees are not shown, it is just grass.

Chair Lord commented that is something they may want to consider.

Member Losik agreed.

Referring to bioretention area, Attorney Donovan stated that what he thought Chair Lord was talking about on December 8<sup>th</sup> was pulling that back further from Long John Road, so landscaping could be put in front.

Chair Lord confirmed.

Speaking to Mr. Colwell, Attorney Donovan asked if this is something that would be feasible.

Chair Lord commented they need to be cautious that driving by on Long John Road, there is not just a big grass area, where everything else is treed.

Mr. Nadeau pointed out that across the street from his house is wide open with no trees. The majority of the homes on Long John Road are wide open. He and his wife are all for keeping more trees. He thinks in keeping with the area around his house and across the street, it is pretty wide open as it exists now. Speaking to Attorney Donovan, he asked if there has been a situation where the Board has approved subdivision plans with a condition that if it is found there is a runoff issue, the homeowners' association would be responsible to put in bioretention areas. He agrees with trying to limit bioretention areas.

Attorney Donovan pointed out this is the first application under the new regulations. In the past, some of these issues just never came up. He commented that would be an interesting concept.

Mr. Nadeau stated that he and Karen would not mind a condition of that sort, if it came to that.

It was agreed this would be worth thinking about.

After discussion, Mr. Colwell noted that he will get plans submitted to the Planning Board by February 3<sup>rd</sup> with plans overnighted to Attorney Donovan. Plans will also be delivered to Steve Harding.

No further questions were heard from the Committee.

### **Adjournment**

**Motion by Jim Finn to adjourn at 3:15 p.m. Seconded by Patricia Losik.  
All in favor.**

Respectfully Submitted, Dyana F. Ledger