

Brief Summary of Comments Received & Responses
Midhurst Class EA (Phase 3 & 4) – Water, Wastewater & Transportation Infrastructure
Public Information Centre (PIC) - October 18, 2016

Mar 03, 2017

No.	Items of Concern and/or Comments	Proposed Responses
1	<p>Concept of turning circle in front of his house is not acceptable. How much of their land will need to be taken to accommodate this?</p> <p>Council & developers need to listen to the existing residents for their needs with regard to this development.</p>	<p>After reviewing the comments received the Recommended Alternative for the intersection of Russel Road and Doran Road is Signalization.</p> <p>In addition, we do not anticipate the need for any property acquisition on the east side of Russel Road in front of your property.</p>
2	<p>How do you propose to keep chemo, estrogen and other pharmaceuticals out of Willow Creek, Minesing Wet Lands, the Nottawasaga and the "Blue" beaches of Wasaga?</p>	<p>Please refer to the attached Fact Sheet # 3 associated with Pharmaceuticals and Personal Care Products (PPCP's).</p>
3	<p>Re: Craig Rd. Extension. Like Alternative 3. To follow Craig Rd. takes access away from our farm tractors, too close to farmland.</p>	<p>Your preference for Alternative No. 3 is noted. Please refer to the attached Fact Sheet # 6 associated with Craig Road Extension.</p>
4	<p>What happens in event of power or mechanical failure impacting on this proposed "stage of the art" facility (facilities)?</p> <p>Barrie has quite recently added "state of the art" wastewater facility - in the event of prolonged power outage, the untreated effluent has gone directly into Lake Simcoe. Same scenario for Willow Creek.</p> <p>Bell Communications has extensive records on the marked increase in lightning strikes and power failures in our area.</p>	<p>All of the proposed water and wastewater facilities will be equipped with standby power units (diesel or gas generator sets) which would be automatically activated in the event of a power outage. These generators will be sized and equipped to provide extended backup power, in the event of an extended power outage.</p> <p>In addition, the treatment process units at each of the Water and Wastewater facilities will have redundancy to allow for mechanical failure.</p>
5	<p>Concerned with water, wastewater and transportation plans. First off regarding water and wastewater plans that are not wanted. Individual is worried about the land that is being consumed to house the facilities that are required to operate such plans</p>	<p>The proposed lands that have been identified for the Water and Wastewater facilities are in line with industry standards for similar sized facilities throughout Ontario. In addition, while endeavouring to minimize the overall size of the properties, it is essential that sufficient space be included for landscaping and buffer zones, especially at the Water and Wastewater Treatment Plants.</p>
	<p>Wants her own independent septic system.</p> <p>While living in Barrie lived close to transit stops that were unmaintained, noisy and congested, poorly laid out, planned out and not something Midhurst should consider. Consult Barrie. Barrie's system is flawed and extremely inadequate. Midhurst has been a community that is elite and people have and continue to pay a premium to live there. These suggested plans will be a huge negative and transit will trash up our area allowing students to move in. Not what we want!</p>	<p>It is the current Council's position that the existing residents of Midhurst will not be required to connect to the proposed Wastewater Treatment Plant.</p> <p>The implementation of a transit system throughout the proposed Developments is not part of the Preferred transportation improvements outlined in this Class EA. However, the Class EA has reviewed and confirmed that should the Township wish to implement a Municipal Transit system at some point in the future, that the proposed road network could accommodate it.</p>
6	<p>Wants Craig Road - Alternative No. 3 to be chosen as the preferred location for the extension of Craig Road. New to the area and welcomes change but concerned about the safety of their young children, if Alternative 2B is chosen.</p>	<p>Your preference for Alternative No. 3 is noted. Please refer to the attached Fact Sheet # 6 associated with Craig Road Extension.</p>
7 & 37	<p>The extension of Anne Street (Carson Rd to Snow Valley Rd) will bisect the Minesing-Little Lake wildlife corridor. If extended, then wildlife culverts or bridges will need to be put in place.</p>	<p>This Class EA is not recommending the extension of Anne Street North, from Carson Rd to Snow Valley Rd.</p>
	<p>Proposed road infrastructure for Pooles Road is inadequate – need 4 lanes for the "thousands of new cars which will be using Pooles Rd. to St. Vincent." Sidewalk would be needed. St. Vincent needs 4 lanes and sidewalks as well.</p>	<p>The Traffic Study has confirmed that a reconstructed Pooles Road & St Vincent Street, with 1 lane in each direction and left and/or right turn lanes at key intersections, can accommodate the proposed traffic from the new developments. In conjunction with the reconstruction of these streets, sidewalks and bike lanes will be incorporated into the design.</p> <p>In addition, please refer to the attached Fact Sheet # 5 associated with Existing and Proposed Traffic in Midhurst.</p>
	<p>Who will pay for the expansion of St. Vincent from Midhurst to Barrie?</p>	<p>The costs associated with the reconstruction of all Municipal road projects identified within the Midhurst Class EA, including St. Vincent Street, will be borne by the Midhurst Developers Group. The only exception to this is Craig Road Extension which is included in the Township Development Charges Projects.</p>
	<p>How will you protect the annual migration of turtles across St. Vincent?</p>	<p>Signs will be included in the proposed upgrade, notifying drivers of the seasonal migration of turtles.</p>
	<p>Has Barrie been informed of the possible upgrades needed for Livingstone and Hamner Roads?</p>	<p>The City of Barrie is aware of the Class EA and although outside the scope of this project we do not anticipate that the Midhurst development will necessitate upgrades to, Livingstone and/or Hammer.</p>
	<p>How will residents on the streets between Pooles Rd. and Jodie's Lane get on to St. Vincent with the increased traffic? Left turns are difficult now. Will have to totally rework St. Vincent.</p>	<p>Our traffic model indicates satisfactory Levels of Service for the intersection of St. Vincent and Jodie's Lane with stop control on Jodie's Lane and design horizon traffic for the year 2014 as Level of Service B with average delay of 15 to 20 seconds. Delays to exit a driveway will be similar.</p>
<p>There needs to be a second sewage pipe (a backup) in case there is a leak and failure of primary pipe.</p>	<p>All pipes (Sewer and Water) will be designed and constructed in accordance with all Ministry of the Environment & Climate Change (MOECC) and Industry standards</p>	

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	Assumption that new residents will use Forbes Rd. to the 400 Hwy to go to Barrie is incorrect. New residents will use Pooles Rd. across St. Vincent to go to the Barrie malls. Will cause major congestion on Pooles and St. Vincent along with Hamner and Livingstone.	The traffic model includes that trips from the new development areas in Doran North and South to and from the shopping areas at the north end of Barrie, will travel by way of St. Vincent St and/or Bayfield St. The Traffic model assumes that trips with an origin or destination further south will use the Forbes / Hwy 400 route link as the shortest time route.
8	Craig Road - Do not want the extension of Craig Road, anywhere near her property.	Please refer to the attached Fact Sheet # 5 associated with Craig Road Extension. With regard to your specific comment about the location of Craig Road, we note that all alternatives being considered and in particular the Preferred Alternative (Alternative No. 3) is at least 500m away from your property.
	Want to remain on well, they have farm animals on a hobby farm.	It is the current Council's position that the existing residents of Midhurst will not be required to connect to the proposed Water and Wastewater Treatment Facilities.
	Do not want another house, on top of, next to or behind them.	The limits of the proposed development are set out in Official Plan Amendment (OPA) 38 of the Midhurst Secondary Plan. In addition, on November 28, 2012 the Ontario Ministry of Municipal Affairs and Housing withdrew part of its appeal of the Midhurst Secondary Plan. As a result of the Ministry's partial withdrawal, 300 hectares out of the total 756 hectares proposed to be re-designated 'urban' in Official Plan Amendment (OPA) 38 were cleared for development. The remaining 456 hectares and all related policies to OPA 38 remain under appeal at the OMB.
9	Huge issues all around. Go back to drawing board and come back with much scaled down plan.	On November 28, 2012 the Ontario Ministry of Municipal Affairs and Housing withdrew part of its appeal of the Midhurst Secondary Plan. As a result of the Ministry's partial withdrawal, 300 hectares out of the total 756 hectares proposed to be re-designated 'urban' in Official Plan Amendment (OPA) 38 were cleared for development. The remaining 456 hectares and all related policies to OPA 38 will remain under appeal at the OMB. This Class EA process is being completed to identify the Water, Wastewater and Transportation infrastructure that will be necessary to accommodate the aforementioned Midhurst Secondary Plan and in particular OPA 38.
10	If this development does realign Pooles/St. Vincent, Green Pine will the Township install traffic calming to deter traffic speed?	In 2016 the Township developed Traffic Calming policies and within this Class EA we will recommend that Traffic Calming measures be further investigated during the detailed engineering design stage.
	Current traffic surveys should be updated and included actual data on long weekends.	Please refer to the attached Fact Sheet # 5 associated with Existing and Proposed Traffic in Midhurst and # 6 associated with Craig Road Extension.
11 & 41	Forbes Road/Hwy.400 Interchange - Please advise what plans you have to handle summer weekend traffic currently looking for a detour off a backed-up 400 Hwy. around Barrie. This traffic currently forms a bumper to bumper line-up along Findlay Mill Road (i.e through the middle of Midhurst Village). "Slides 39 to 53 – Doubts traffic info? Craig Road cost to be borne by Twp? No new Village by-passes – totally inadequate? "How can it be appropriate to route 6 times the volume of traffic through existing streets....and then charge Springwater residents for a new road and road upgrades?" How is this in the public interest?"	Please refer to the attached Fact Sheet #5 associated with Existing and Proposed Traffic on Midhurst and #6 associated with Craig Road Extension.
	Slide 20 – Phase 2 TP concentration reduction is "hard to believe". Warrants a closer look.	The numbers presented are correct, however we have adjusted the presentation of the material to clarify that when Phase 2 of the Wastewater Treatment Plant (WWTP) is brought on line in the future, all of the discharge will have a Phosphorous concentration of 0.03mg/L, which is lower than the existing concentrations in Willow Creek.
	Agriculture – "Are these Springwater farmlands truly "a reasonable choice for the location of urban development"	This Class EA is solely related to identifying the Water, Wastewater & Transportation Infrastructure necessary to support the development of the Midhurst Secondary Plan. The referenced May, 2008 Agricultural Assessment Report (prepared by AgPlan Limited) was prepared in support of the Development Applications that were going through the Secondary Plan process at the time.
	Requests Council to seek impartial peer reviews of the Midhurst Secondary Plan EA Reports.	The Draft Environmental Study Report (ESR) will be submitted to the Ministry of Environment and Climate Change (MOECC) for a comprehensive Review prior to being finalized and made available for the 30-day Public Review Period.
12 & 13	Please consider options re: Craig Road. Trails in and around it are used year round for recreation. Choose option that has least effect on trails and access to them. Use of these trails enhances quality of life in	Please refer to the attached Fact Sheet # 6 associated with Craig Road Extension.
	Please consider noise pollution along existing & proposed routes. At what point will noise mitigation strategies be considered, specifically from Hwy. 27? Traffic noise/sound pollution affects the enjoyment of all outdoor spaces.	We reviewed and analyzed the Noise levels along all routes which have proposed improvements associated with the Midhurst Secondary Plan. However, we are not proposing any improvements along County Road 27 other than a new intersection with Craig Road Extension and therefore, there was no need to analyze noise levels along County Road 27.
	Will roundabouts produce less traffic noise than stop lights?	It is generally accepted that roundabouts generate less traffic noise than signalized intersections due to the reduced deceleration and acceleration requirements.
14	Alternative 3 or 1 Craig Road.	Please refer to the attached Fact Sheet # 6 associated with Craig Road Extension.
	Live at corner of Craig Road and Gill. You want to kick me out, go to #3 or #1.	
	There are 3 big ravines behind the house you will have to deal with. If you go #1 or #3 you will have a straight line and less problems.	

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15 & 16	<p>Do Not connect neighbourhood #3 using Pooles Rd. at all, instead build a road from their most southern end to St. Vincent and right to Bayfield or straight south to Barrie.</p> <p>Pooles Rd goes right through the middle of Old Midhurst.</p> <p>Please re-route traffic away from Pooles Rd. onto St. Vincent (i.e. Study traffic already in mornings with school buses).</p> <p>Protect Old Midhurst from urbanization.</p> <p>Prefer 2 water (assume wastewater?) treatment facilities, therefore do not transport wastewater thru Old Midhurst</p> <p>We do NOT want hook up to treatment facility.</p>	<p>We did investigate the feasibility of extending Carson Road between Hwy 26 and St Vincent St and extending Russel Rd southerly and westerly to connect with the dead end of Jodie's Lane to provide additional relief. However, neither of these alternatives provided much benefit to the traffic and had major constraints relating to topographic and/or environmental features along the proposed routes that offset any benefit. Therefore; these are not being recommended.</p> <p>The number of wastewater treatment plant options was assessed in detail during the Phase 1 & 2 Master Plan in 2008/09 and it was concluded that one wastewater treatment plant is the best solution.</p> <p>It is the current Council's position that the existing residents of Midhurst will not be required to connect to the proposed Wastewater Treatment Facility.</p>
17 & 18	<p>Can you provide a simple summary table illustrating the total existing and proposed P loading to Willow Creek? (sanitary and storm combined)</p>	<p>It would be tough to provide a simple summary table to show current and potential future phosphorus conditions in Willow Creek. Therefore, we provide the following information in point form:</p> <ol style="list-style-type: none"> 1. It is estimated that a loading of 46 kg of phosphorus per year is currently being added to Willow Creek originating from existing land uses (agriculture and forest). 2. Based on the Phase 1 wastewater effluent concentration for total phosphorus (TP = 0.05 mg/L), an estimated 118 kg/yr. of TP would be added to Willow Creek from the Wastewater Treatment Plant (WWTP). 3. Assuming 20 mm of infiltration along with LID techniques, Best Management Practices and stormwater management techniques, it is estimated that the phosphorus loading from stormwater will be reduced to 21 kg/yr from the estimated pre-development loading of 46 kg/yr. 4. It is considered that the development will actually reduce phosphorus loading from stormwater runoff by 25 kg/yr. This could result in a total additional loading of phosphorus of 139 kg/yr, (118 + 21 = 139) which is an increase of 93 kg/yr over the pre-development load of 46 kg/yr. 5. Assuming 25 mm of infiltration the phosphorus load from stormwater runoff is estimated to be 11 kg/yr. resulting in a total additional loading of phosphorus of 129 kg/yr (118 + 11 = 129) which is an increase of 83 kg/yr. over the pre-development load of 46kg/yr. 6. It is estimated that a loading of 134 kg/yr of phosphorus would be directed to Willow Creek in the future from current mixed land uses. 7. Based on the Ultimate (Full Buildout) wastewater effluent concentration for total phosphorus (TP = 0.03 mg/L), an estimated 134 kg/yr of TP would be added to Willow Creek from the 8. Assuming 20 mm of infiltration along with LID techniques, Best Management Practices and stormwater management techniques, it is estimated that the phosphorus loading will be reduced to 66 kg/yr. from the estimated pre-development loading of 134 kg/yr. 9. It is considered that the development will actually reduce phosphorus loading from stormwater runoff by 68 kg/yr. This results in a total additional loading of phosphorus of 200 kg/yr., (134 + 66 = 200) which is an increase of 66 kg/yr. over the pre-development load of 134 kg/yr. 10. Assuming 25 mm of infiltration the phosphorus load from stormwater runoff is estimated to be 33kg/yr. resulting in a total additional loading of phosphorus of 167 kg/yr. (134 + 33 = 167) which is an increase of 33 kg/yr. over the pre-development load of 134kg/yr. <p>Although there will be a reduction in phosphorus loading from the stormwater runoff component, the addition of the WWTP effluent into Willow Creek means that there will be an anticipated increase in phosphorus loading in the subwatershed of 93 kg/yr. for Phase 1 and 66 kg/yr. Ultimately (based on an infiltration rate of 20 mm) and 83 kg/yr. for Phase 1 and 33 kg/yr. for the Ultimate condition (based on an infiltration rate of 25 mm). However, all of these increases are considered to be minor in the overall discharge to the watershed and therefore it is concluded that there would be no effect on the Minesing wetlands.</p> <p>In addition, please see the attached Fact Sheet # 2 associated with Willow Creek & Minesing Wetland and Fact Sheet # 4 associated with LID's.</p>
	<p>Given the stated desire to minimize new traffic through the existing Midhurst Village, would it not make sense to force the Craig Road connection to be completed as part of Phase 1.</p> <p>Similarly, why expand St. Vincent and Pooles at all with a new and improved route from Hwy 400 to Hwy. 27. It would make some sense to leave these routes alone and less attractive options compared to Forbes/Craig.</p>	<p>Subsequent to the PIC we have adjusted the proposed staging of the Road improvements such that Craig Road will be constructed in conjunction with Phase 1 Stage 1. In addition please refer to the attached Fact Sheet # 6 associated with Craig Road Extension.</p> <p>Reconstruction of these routes is proposed for two main reasons:</p> <ol style="list-style-type: none"> 1) to address platform and/or alignment deficiencies with the existing roads; 2) to provide sidewalks and/or bike lanes. <p>However, further to comments received during and following the Public Information Centre (PIC) we are proposing that Traffic Calming measures, in accordance with the Township's Traffic Calming polices which were developed in 2016 be further investigated during the detailed engineering design stage for the key existing roads such as Pooles, Finlay Mill, St Vincent, etc.</p>
19	<p>A roundabout at Forbes & Russell Road is not a good idea. Canadians are not familiar with roundabouts and they seem to cause chaos at Park Place shopping area.</p> <p>We need to consider bike paths on St. Vincent on the section of road that connections Barrie to Midhurst. This road is going to become extremely busy and we need to think of the safety of our young people.</p>	<p>Your preference for a signalized intersection at Forbes Road and Russell Road is noted and it is proposed that both options (signalized intersection and roundabout) be carried forward and that the final decision be made at detailed engineering stage in the future.</p> <p>It is acknowledged that bike lanes are necessary on St Vincent Street between Midhurst and Barrie and as such they are being proposed. However, the specifics of how they will be incorporated into the design will be determined during the detailed engineering design stage in the future.</p>

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20	The Craig Rd. Extension should be put in before any construction starts. Cottage traffic has already made Friday and Sundays way too busy through the village. The gravel trucks already use the village as a cut through and will get a lot worse when construction starts. Craig Rd. installed before any construction!	Subsequent to the PIC we have adjusted the proposed staging of the Road improvements such that Craig Road will be constructed in conjunction with Phase 1 Stage 1. In addition please refer to the attached Fact Sheet # 6 associated with Craig Road Extension.
21	The use of roundabouts are not a good idea. I have never seen/experienced a roundabout in Canada that works well i.e. Park Place and even the ones on Hwy. 26. Planning for bike paths/lanes along St. Vincent to allow bikers to get safely into and out of Barrie.	Your preference for signalized intersections at all of the designated locations is noted. It is acknowledged that bike lanes are necessary on St Vincent Street between Midhurst and Barrie and as such they are being proposed. However, the specifics of how they will be incorporated into the design will be determined during the detailed engineering design stage in the future.
22	I don't think a turning circle or four lanes on Russell Road is appropriate. Our home is outside the settlement boundary we're impacted the most. Tractors, horses cyclists, walkers are on Russell Road daily.	After reviewing the comments received the Recommended Alternative for the intersection of Russel Road and Doran Road is Signalization. The widening of Russell Road to 4 lanes is not needed until after Phase 2 proceeds which is anticipated after 2031. Also, we do not anticipate any property takings along the east side of Russell Road.
23 & 38	Live at the corner of Russell and Doran and the driveway would be part of the revisions to this intersection. I am outside the settlement boundary and am impacted in every way with this development. As will be the existing rural residents who walk, drive farm equipment and ride horses along Russell Road. Stop this revision and re-route through the settlement. Our lot behind the turning circle noting it was super imposed on 2002 County of Simcoe Mapping. Scroll under imagery to 2016 and you will not see the barn and silo.	After reviewing the comments received the Recommended Alternative for the intersection of Russel Road and Doran Road is Signalization. The widening of Russell Road to 4 lanes is not needed until after Phase 2 proceeds which is anticipated after 2031. Also, we do not anticipate any property takings along the east side of Russell Road in front of your property. The mapping associated with the proposed Alternative has been updated with the 2016 aerial imagery.
24	Storm sewer holding pond planned for beside my property will it affect my drinking water and if does who is going to help me? Where will this pond discharge? You must be very careful in regard to the Minesing swamp. It needs protection and it's up to us to preserve it for future generations. It's so important. You are holding a jewel in your hands.	The proposed Stormwater Management Pond adjacent to your property would only be receiving storm run off from the Water and Wastewater property and we do not have any concerns with it being located adjacent to residential properties. However, given that we have other locations within the overall property, we will be looking at relocating it further north-east during the detailed design stage which would mean it would not be adjacent to your property. Further, with regard to your concern about your well, please note that prior to any construction activities proceeding in close proximity to existing residential homes, we would be conducting a private well monitoring program whereby the quantity and quality of private wells would be monitored, subject to getting the homeowners permission, on a number of occasions before and after construction to determine if there was any impact. If it is determined that there are impacts to a specific well, then the Developers, via the Township, would be responsible to implement a solution to the specific problem. Please refer to the attached Fact Sheet # 2 associated with Willow Creek and Minesing Wetlands.
25	I think this is great. The improvements will raise the value of my home. The added tax base - in the form of additional residents and the boost in assessment value - will help resolve the Township financial issue and improve service levels for all.	No response required.
26	Alternative 1 should be the route for extending Forbes Road to Hwy. 27. This option is the most direct route and will encourage traffic and discourage traffic from the current village.	Your preference for Alternative No. 1 is noted. Please refer to the attached Fact Sheet # 6 associated with Craig Road Extension. It should be noted that Alternative 1 and 3 are very similar, with Alternative 3 making more efficient use of the land west of Russell Road.
27	A roundabout at Wilson/Carson sounds great, but what about the cemetery? Carson Road development is being built on the 5 th generation Hickling farm. It would be lovely to honour them, including a township reeve by naming some streets after them. The "shoe tree" at Anne/Carson is an eye sore that collection garbage. Beware of trespassing ATVs and snowmobiles through Carson.	Your preference for a round-about at the intersection of Wilson Drive and Carson Road is noted. As part of our preliminary review we have noted that the alignment of Wilson Road will need to shift to the east and will require property acquisition on the east side of the road. The schematic drawing provided at the last PIC shows a shift in the centerline alignment of 11 metres to the east to avoid disturbance to the cemetery. Your suggestion is noted and will be considered by the Township to see if the naming of streets, to honor pioneer families, can be accommodated. The Shoe Tree on the north side of the road would only be taken down if, during detailed design, it was determined to be within the limit of disturbance of the proposed reconstruction of Carson Road.
28	Anne Street should be extended from Carson Road to Highway 26. Carson Road should be extended to St. Vincent Street.	The extension of Anne Street North from Carson Road to Highway 26 was not identified in the Phase 1 & 2 Master Plan completed in 2009, as being necessary to accommodate the proposed traffic. In addition, the extension would result in environmental impacts to a natural area including the crossing of the Minesing/Little Lake wildlife corridor. Therefore, the extension of Anne Street North from Carson Road to Highway 26 is not considered as part of this Class EA process. Similarly, an extension of Carson Road east to St. Vincent was not identified as being required to improve traffic movement and therefore was not considered as part of this Class EA process.

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	All roads need some form of bicycle lanes.	All roads being proposed for reconstruction will include bicycle lanes.
29	<p>What is going on with the maintenance of the outlet of the Willow, 1980 was the last time it was dredge, sand traps removed 2008 and no maintenance being done on the silt and sand coming down stream. Willow Creek filling up with sand and breaking out and flooding my fields. No mention or concern from Ainley & Associates</p>	<p>On November 28, 2012, the Ministry of Municipal Affairs and Housing (MMAH) withdrew part of its appeal of the Midhurst Secondary Plan. As a result of, the Ministry's partial withdrawal, 300 hectares out of the total 756 hectares proposed to be re-designated "Urban" in Official Plan Amendment (OPA) 38 had Draft Plan Conditions development and were cleared for development. The remaining 456 hectares and all related policies to OPA 38, will remain under appeal at the OMB.</p> <p>This Class EA process is being completed to identify the Water, Wastewater and Transportation infrastructure that will be necessary to accommodate the Midhurst Secondary Plan and in particular OPA 38. However, independent of this Class EA, a comprehensive Stormwater Drainage Study is being completed in conjunction with the Township and the NVCA for the Midhurst Secondary Plan.</p> <p>The issues related to the maintenance of Willow Creek at George Johnston Road or other locations are outside the scope of this Class EA process. We understand that the creek is a navigable waterway under the Department of Fisheries (DFO), Ministry of Natural Resources & Forestry (MNRF) and Nottawasaga Valley Conservation Authority (NVCA) and lands through which the creek flows are subject to NVCA authority.</p> <p>Although Ainley were not involved, the following is a brief history of the sand traps, according to the Township:</p> <p>There were two sand trap developments. One back in the early 1970's located on private lands whereby Willow Creek would break out regularly and one set in the early 2000's. After access was denied to the original lands the dredging at that location had to cease. In the case of the latter location, dredging of the Willow Sand traps was completed in accordance with the design prepared by R.J. Burnside & Associates on Harold Parkers land west of George Johnson Road. However, this was also halted as a direct result of NVCA concerns over excess fill material being piled along the bank on the property north of Willow Creek. NVCA wanted the fill removed due to sand eroding back into the creek. Before any further dredging could have been undertaken in the late 2000's an alternate plan would have had to be developed. As there was no fill of this nature required for municipal projects anymore and the expense to haul and dispose of the dredged material was considered excessive and not financially viable or sustainable (under Township budget) the program was stopped under direction of the previous Township Council, in agreement with Mr. Harold Parker and the adjacent landowner.</p>
	<p>Drainage Act is not being followed. You cannot put harm on lower land owners.</p> <p>My question about drainage was presented at the township EA in 2010. Still no answer is that not a requirement in the EA process.</p> <p>"Drainage outlet" or no more water.</p>	<p>Similar to above, this question is outside the scope of this Class EA, however, we note that the NVCA have accepted the proposed drainage outlets from the proposed Midhurst Developments following detailed site visits. In addition, the stormwater runoff from the proposed Midhurst Secondary Plan Developments must comply with the 2012 Ontario Municipal Board (OMB) Minutes of Settlement between the NVCA and the Developers Group. These Minutes of Settlement include, but are not limited to, the following requirements:</p> <ul style="list-style-type: none"> • The stormwater management systems are to hold back the first 25 mm of storm runoff for a period of 48 hours; • The stormwater management system to infiltrate back into the ground, close to the source, the first 20 mm of rainfall while also ensuring a healthy hydrologic cycle; • Reduction in the Post-Development phosphorous loading to below Pre-Development loading levels, such that when the additional phosphorous load from the new Wastewater Treatment Plant (WWTP) is included, there shall be no net increase. <p>These requirements, which greatly exceed the standard MOECC and/or NVCA requirements, have been set to ensure that the proposed developments will not have an impact on the Willow Creek or other downstream receivers.</p>
30	<p>Main concern is that cost will be passed onto existing Midhurst residents. Pass the cost onto the developers and in turn to the persons who wish to reside in Midhurst in a new build. We have already paid for the current infrastructure (i.e. Septic etc.) already.</p> <p>We do NOT want to hook into sewer!</p> <p>Please do not add sidewalks, we do not want them. They bring people closer to your house and things get damaged (we've seen this before). Also they rarely get maintained. In Midhurst we can hear the crickets, and see the stars! We want to keep it this way. Don't buy into BIG CITY ideas!</p> <p>We want a happy and healthy community for our children to grow up in.</p>	<p>All of the costs associated with the construction of Water, Wastewater & Transportation infrastructure/improvements to accommodate the Midhurst Secondary Plan will be borne by the Midhurst Developers. The only exception to this is the costs associated with Craig Road Extension of which 100% is included in the Township Development Charges Projects.</p> <p>It is the current Council's position that the existing residents of Midhurst will not be required to connect to the proposed Wastewater Treatment Plant.</p> <p>The need for inclusion of sidewalks and bike lanes has been identified by a large number of respondents throughout the Class EA process. Therefore, the reconstruction of the main routes will include sidewalks and bike lanes. However, the location and specifics of these on each road will be determined during the detailed engineering design in the future.</p>
	Against the Russel Road 4 lane expansion. Why is it needed if there are no driveways facing Russel Rd?	The proposed upgrade of Russell Road to 4 lanes is required to provide traffic from the future development areas south of Doran Road easy access to Hwy 400. However, the upgrading from 2 to 4 lanes is only required in conjunction with Phase 2, currently anticipated after 2031.
	Why can't all traffic be sent through the new Craig Rd. expansion?	Please refer to the attached Fact Sheets # 5 associated with Existing & Proposed Traffic in Midhurst and # 6 Craig Road Extension.
	Will Existing residence be forced to hook up to sewers? Will the existing council guarantee we will not have to hook up to sewer?	It is the current Council's position that the existing residents of Midhurst will not be required to connect to the proposed Wastewater Treatment Facility.

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31	How are the developers doing at meeting the 150 EA requirements before development can begin?	The "clearing" of the Draft Plan conditions associated with the development is not related to this Class EA and is being handled by the Township Planning Department. However, it is our understanding that very few of the Draft Plan Conditions have been cleared to date.
	How will you maintain existing water on top of new development?	The extensive Hydrogeological studies that have been completed have confirmed that the new proposed Water Systems in the east and west will have no impact on the existing Municipal Water Wells or Private Water Wells serving the existing Midhurst. In addition, please refer to the attached Fact Sheet # 1 associated with Water Supply.
	What will be the annual cost of maintaining the waste water for example replacement of filters? There is always an extensive cost of using the best technology.	The cost of maintaining the proposed new servicing works (water and wastewater) will borne by the benefitting users (new residents). Further it is anticipated that the user fees associated with the operation and future maintenance of the systems, will be in line with other Municipal Water and Wastewater user fees in the industry.
	Having Poole and Green Pine off set is a benefit to decrease traffic speeding problems. It should be left as is. The goal should be to reduce the traffic impact to existing Midhurst residents not increase traffic flow problems.	In 2016 the Township developed Traffic Calming polices and within this Class EA we will recommend that Traffic Calming measures be further investigated during the detailed engineering design stage.
32	I am in favor of Option #1 for Forbes Rd extension crossing Gill Rd. in a straight line, as it is the most direct route and keeps traffic away from residences.	Your preference for Alternative No. 1 is noted. Please refer to the attached Fact Sheet # 6 associated with Craig Road Extension. It should be noted that Alternative 1 and 3 are very similar, with Alternative 3 making more efficient use of the land west of Russell Road.
33 & 35	I have just witnessed a presentation that proposed traffic measures (turning lanes, traffic circles, road improvements (widening) that speed and encourage increased traffic flow. At the same time they proposed traffic calming measures to be introduced by the Township. To slow and discourage traffic chicanes and impediments have to be put in place. The sewer line is to be run down Finlay Mill. This is the time to construct a street that encourages cycling/pedestrians and traffic slowing. Also impediments must be put in place at the top of Doran Rd. to discourage through traffic. This should apply to Doran/Russell, Wattie, St. Vincent and Poole's and Gill Rd.	The completion of the Traffic Studies associated with 2016 the Township developed Traffic Calming polices and within this Class EA we will recommend that Traffic Calming measures be further investigated during the detailed engineering design stage.
	I am pleased to see that Craig Rd. will be extended to Hwy. 27. This should be done at the very start of construction. From the very beginning we were assured that the essential nature of Midhurst should be preserved. The above plan would be a start. Finlay Mill is already heavily used by cyclists from Forest Hill School and even cycling groups from Barrie and Toronto. These cycling routes should be marked by safety barriers, not painted lines. This can be achieved by narrowing Finlay Mill, which would have the added advantage of slowing traffic chicanes and other impediments can be added to discourage through traffic. This should be done when the sewage line goes through	Subsequent to the PIC, we have adjusted the proposed staging of the Road improvements such that Craig Road will be constructed in conjunction with Phase 1 Stage 1. In addition please refer to the attached Fact Sheets # 5 associated with Existing & Proposed Traffic in Midhurst and # 6 associated with Craig Road Extension.
	The proposed commercial strip development along Hwy. 27 and the start of Finlay Mills must be stopped! There is no room for a parallel access road. Bayfield St. is already a road disaster. Strip developments are ugly, dangerous and in this case an impediment on a through highway.	The approvals associated with the development and/or re-development of lands within the Midhurst Secondary Plan are outside the scope of this Class EA and is handled by the Township Planning Department.
34	Russell Rd. - Doran Rd. roundabout - unacceptable too much impact on existing residence at location.	After reviewing the comments received the Recommended Alternative for the intersection of Russel Road and Doran Road is Signalization.
	Intersection 26 and 27 must be signal lights - no roundabout.	Your preference for a signalized intersection at Highway 26 and County Road 27 is noted.
	No forced main on Doran (27 to 'Finley Mill Rd.).	A number of Alternative detailed routes for the forcemain between Doran Rd and Carson Rd Development were analyzed and Doran Road, Finlay Mills Road and Snow Valley Road route was selected as the most suitable.
	Tertiary sewage treatment does not remove drug residues (no safe level known), toxins such as Nano silver, copper and other continuously developed new "products". Once disposed of by residents they combine to form new toxins. (See U. of Waterloo, Groundwater Institute and Civil Engineering Department. I believe the Minesing Wetland (an International RAMSAR site) cannot tolerate both the quantity of discharge from the proposed plant or the toxins which pass through even this technology untouched). Species there are dependent on specific seasonal water levels (both up and down), fairly pristine water quality excepting phosphorus and specific temperature. Whereas phosphorus is a fertilizer, things like Nano silver, lawn pesticide, etc. are poisons. So the question how much poison do we want to feed to not only these species but all other children, seniors and others living downstream	Please refer to the attached Fact Sheet # 3 associated with Pharmaceuticals & Personal Care Products (PPCPs) and Endocrine Disrupting Compounds (EDCs). In addition, there are no current regulated parameters for the "products" that you have listed. However, controlling concentrations of indicator contaminants currently monitored in all wastewater treatment plants in the Province, also reduces the concentrations of other contaminants within the effluent.

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	<p>Very concerned about the impact of the MSP on the wetlands. Phosphorus levels are already on the high side and the effluent will continue to add to the level. Even though the TP concentrations are 0.05 mg/L Phase 1 and 0.03 mg/L at Phase 2. The effluent is still adding additional P that would not otherwise be in the creek. Concentrations might be the same level but we are still adding more and more flow to the creek.</p> <p>On one of the boards, there is a statement that says that the effluent "will not alter the nutrient status of the Willow". That comment is quite definitive. What if you are wrong down the road? There are also other chemicals that will be discharged. How will these PPCP affect the flora and fauna? What will be done to minimize the chemicals? Most WWTP discharge into larger bodies of water not a creek.</p>	<p>Please refer to the attached Fact Sheets # 2 associated with Willow Creek and Minesing Wetlands and # 3 associated with Pharmaceuticals & Personal Care Products (PPCPs) and Endocrine Disrupting Compounds (EDCs).</p>
	<p>Natural ecosystems cycle with seasons, the steady flow will alter the natural flow of the Willow. How will this affect the Minesing ecosystem?</p>	<p>Based upon 10 plus years of Willow Creek flow data that has been analyzed, the flows within Willow Creek vary between a 7Q20 flow rate 430L/s to high of 24,000± L/s. The data also shows great variations within each specific season, depending upon the amount of precipitation that falls in a particular season. Therefore, given the significant variations in the existing flows the additional 143L/s of flow from the Wastewater Treatment Plant, after the development of the entire Midhurst Secondary Plan, will not affect the Willow Creek.</p> <p>In addition, the discharge of effluent would result in an average increased water depth of 0.01 to 0.03m and average increased velocity of 0.01 m/sec, changes that would be virtually immeasurable in Willow Creek. The Flows within the Minesing Wetland are many multiples of the flows within the Willow therefore an additional 143L/s will not affect the Minesing Wetland from a fluvial geomorphological perspective</p>
36	<p>What will happen if there is an overflow or spillage problem? And who will pay and be responsible for the clean up if the plant is built and an accident happens?</p>	<p>The treatment process units within the Wastewater Treatment Plant will have redundancy to minimize the potential for overflow problems. In addition, the proposed Wastewater Treatment Plant will be equipped with standby power units (diesel or gas generator sets) which would be automatically activated in the event of a power outage. These generators will be sized and equipped to provide extended backup power, in the event of extended outage.</p>
	<p>Who verifies the accuracy of these findings of these studies (Water Supply)? How can they guarantee that it will not affect the wells of farmers and other land owners who share the aquifer?</p>	<p>Please refer to the attached Fact Sheet # 1 associated with Water Supply.</p>
	<p>What evidence do they have of another Wastewater plant to compare with that discharges into such a small creek and the short and long term effects on the ecosystem?</p>	<p>Very few Wastewater Treatment Plants are exactly alike, because most facilities have different effluent discharge criteria. However, there are many Wastewater Treatment Plants, that have been in operation of years with similar technology and criteria and we will provide details of those within the Environmental Study Report (ESR).</p> <p>In addition, most of the individual processes being proposed within the Wastewater Treatment Plant has been successfully operated at Wastewater Treatment Plants in Ontario and around the world. Further the Membrane filter technology that is being proposed has become more common for Wastewater Treatment in recent years in Ontario; however, it has been in use in the Water Treatment industry for decades in Ontario, helping to ensure that Municipal Water systems meet or exceed the Ontario Drinking Water Objectives. For example, in the late 1990's when the Town of Collingwood had an apparent Cryptosporidium (microscopic parasites) outbreak in their Municipal Water system they constructed a new Water Treatment Plant utilizing Membrane technology to filter out bacteria, pathogens and viruses including Cryptosporidium from the raw water being drawn out of Georgian Bay.</p>
	<p>Will we have to hook up? (wastewater collection system)</p>	<p>It is the current Council's position that the existing residents of Midhurst will not be required to connect to the proposed Wastewater Treatment Facility.</p>
	<p>Concerned about water supply – a finite resource</p>	<p>Please refer to the attached Fact Sheet # 2 associated with Water Supply.</p>
	<p>Also concerned about the volume of wastewater discharge into Willow Creek and in particular about toxins in the wastewater along with the increase in the temperature in Willow creek</p>	<p>Please refer to the attached Fact Sheet # 3 associated with Pharmaceuticals & Personal Care Products (PPCPs) and Endocrine Disrupting Compounds (EDCs).</p>

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39	<p>Also concerned about toxins in the wastewater and the increase in temperature in Willow creek</p> <p>Concerned about transportation – 2013 Study is not good enough – needs to be updated. New residents will not use Hwy 400 to get to Craig Road will cost more than stated</p>	<p>Effluent discharge will have a minimal effect on water temperatures in the creek. A mass balance model was built using predicted effluent temperatures (validated by comparison with effluent temperature data from existing WWTPs in southern Ontario) and monthly average and 75th percentile temperatures in Willow Creek near the proposed discharge point. At average water temperatures, the maximum temperature increase in Willow Creek was 1.05°C (at Full Build Out and minimum creek flows), which was predicted for January. Through the summer (June 1 to August 31), the maximum temperature increase was 0.85°C, equating to a final downstream temperature of 18.6°C. At 75th percentile Willow Creek water temperatures, Full Build out and minimum creek flows, the maximum fully mixed downstream temperature was 19.43°C (experienced in July), which was a 0.08°C increase over upstream Willow Creek upstream temperatures of 19.35°C. These are conservative downstream temperature estimates since the effluent will be cooled as it travels along the 4.5km buried forcemain from the WWTP on Snow Valley Road to the discharge point at Willow Creek and will exchange heat with the atmosphere after discharge.</p> <p>The PWQO for water temperature is, "The natural thermal regime of any body of water shall not be altered so as to impair the quality of the natural environment. In particular, the diversity, distribution and abundance of plant and animal life shall not be significantly changed." (MOE 1994). We reviewed the thermal tolerances of resident trout species as representative coldwater organisms. We have captured Brown Trout within Willow Creek and MNRF have indicated that others have collected them in Willow Creek as well. Although Brook Trout have a lower thermal tolerance than Brown Trout and were included in fish species lists of Willow Creek provided by NVCA and MNRF, we have not captured Brook Trout in field surveys within Willow Creek and Scientific Collection results provided by MNRF indicate Brook Trout only in tributaries to Willow Creek</p> <p>The PWQO for water temperature is, "The natural thermal regime of any body of water shall not be altered so as to impair the quality of the natural environment. In particular, the diversity, distribution and abundance of plant and animal life shall not be significantly changed." (MOE 1994). We reviewed the thermal tolerances of resident trout species as representative coldwater organisms. We have captured Brown Trout within Willow Creek and Ministry of Natural Resources and Forestry (MNRF) have indicated that others have collected them in Willow Creek as well. Although Brook Trout have a lower thermal tolerance than Brown Trout and were included in fish species lists of Willow Creek provided by NVCA and MNRF, we have not captured Brook Trout in field surveys within Willow Creek and Scientific Collection results provided by MNRF indicate Brook Trout only in tributaries to Willow Creek.</p> <p>Water temperature appears to be the most important factor separating trout streams from non-trout streams (Stoneman and Jones, 2000). The habitat requirements of brown trout are essentially the same as brook trout but it can remain active and thriving in slightly higher temperatures; the upper range of which has been reported as 24°C (Brynildson et al 1963) or 25°C (Hasnain et al. 2010). Elliot and Elliot (2010) produced a growth model to assess the impacts of climate change and resulting changes to water temperature on Brown Trout. They found that water temperatures would have to increase by 4°C in winter and spring or 3°C in summer and fall before they had a marked negative impact on growth.</p> <p>Given the conservative mass balance model predictions of a maximum downstream Willow Creek temperature increase from 19.35°C to 19.43°C, the temperature impacts from the WWTP would not be expected to push downstream temperatures above the upper tolerance for Brown Trout or effect growth rates.</p> <p>Please refer to the attached Fact Sheet # 5 associated with Existing and Proposed Traffic in Midhurst and # 6 associated with Craig Road Extension.</p> <p>The total estimated cost associated with Craig Road Extension (\$14.5Milion) is based upon Preliminary analysis and current construction estimates.</p>
40	<p>We would like to recommend that an opaque fence of significant height and sound-attenuating/deflecting ability be erected along the rear lot line of the industrial properties on Snow Valley Road, from about 1471 Snow Valley Road (Algonquin Bridge) to 1533 Snow Valley Road (Springwater Woodcraft).</p> <p>An additional green-space buffer with trees would be appropriate, the Mick's lots' depths may have already been established. So perhaps this oversight can and should be corrected, so conformance to the Official Plan can be achieved and a more harmonious community realized.</p> <p>Fear of noise complaints</p>	<p>The requests are noted and have been forwarded to the Township Planning Department for their consideration and inclusion in the Subdivision Agreement between the Developer and the Township, in the future.</p>
42 & 45	<p>Is our garbage cost going to skyrocket? Will we have to ship garbage plus building materials to other areas and at what cost?</p> <p>Wants two WWTP to avoid forcemain on Finlay Mill Rd. Wants all main service pipes and lines (water, wastewater, gas, and hydro) to be routed across new Craig Road extension.</p> <p>Concerned about increased traffic on Finlay Mill Rd.</p>	<p>The County of Simcoe is aware of the Midhurst Secondary Plan and as such the Solid Waste Management Strategy for the County would include the growth associated with the Midhurst Secondary Plan.</p> <p>The issue of two Wastewater Treatment Plants versus one, was reviewed in detail and it was determined that one facility was best.</p> <p>Subsequently, a number of Alternative routes for the forcemain between Doran Rd and Carson Rd Development were analyzed and Doran Road, Finlay Mills Road and Snow Valley Road route was selected as the most suitable.</p> <p>Please refer to the attached Fact Sheet # 5 associated with Existing and Proposed Traffic in Midhurst.</p>

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43	<p>A representative of AAL stated before the meeting that the proposed “state of the art” sewage treatment will not remove a large number of pharmaceuticals from the effluent that will be pumped into Willow Creek and flow into the Minesing Wetlands. Unfortunately, “state of the art” sewage treatment does not remove many potentially hazardous pharmaceuticals and household chemicals.</p> <p>Pharmaceuticals and household chemicals are not removed by current “state of the art” tertiary sewage treatment. Will those chemicals settle in the slow moving water in the Wetlands? Where will the chemicals settle? And with what effect, short-term and long term, upon the plants and indigenous and transient birds, first and other animals? Will there be a dramatic concentration effect near the mouth of Willow Creek - if so for what distance, in what direction and with what effect? Will there be an effect deeper into the Wetlands - if so, where, over what area and with what effect?</p> <p>Shouldn't the potential effect of pharmaceuticals and household chemicals be studied?</p> <p>There are no provincial or federal regulations. Isn't that a good reason to raise this issue directly with the governments in an effort to protect the Minesing wetlands?</p> <p>Has the Township considered whether it should seek to elevate the streamlined provincial Class assessment process into the more stringent provincial individual assessment process to ensure that greater attention is given to these significant environmental concerns? Has the Township considered seeking an assessment by the Canadian Environmental Assessment Agency for the same reason?</p> <p>Have consultations taken place with all aboriginal groups affected by the possible effects upon the Wetlands of pharmaceuticals and household chemicals in the effluent?</p>	<p>Please refer to the attached Fact Sheet # 3 associated with Pharmaceuticals & Personal Care Products (PPCPs) and Endocrine Disrupting Compounds (EDCs).</p> <p>The Class Environmental Assessment process is a Provincially regulated process and has an extensive proven track record of dealing with and resolving very complicated matters. Further, the Minister of the Environment & Climate Change (MOECC) at the end of the Class EA process could elevate this file to the individual assessment process.</p> <p>Notifications and consultations have taken place with the applicable aboriginal groups.</p>
44	<p>Lack of left turn lane into Mills Circle. Add left turn lane and bike lanes to Hwy 27 in conjunction with Craig Road extension</p>	<p>The Intersection of Mills Circle and County Road 27 is over 1 km away from the proposed intersection of Craig Road Extension and County Road 27. Therefore, we do not foresee the proposed Craig Road Extension having an impact on Mills Circle intersection.</p> <p>However, we understand the Township have spoken with Simcoe County (Operating authority for County Road 27) about the Mills Circle & County Rd 27 intersection to see if any modifications could be made to improve it.</p>
46	<p>Need a more thorough and updated transportation study. Weekends were not considered.</p> <p>How was it determined that nearly half of future southbound traffic from the proposed Doran Road developments would choose the Hwy 400 Option?</p> <p>Were there any destination studies done on existing traffic?</p> <p>How many trips are destined for Highway 400 south of Bayfield Street versus the northern Bayfield Street shopping area?</p> <p>Concerning the Craig Road extension, why would it not be placed within the existing approved development lands to the south of Alternative 3, instead of on farm land not yet approved for development? Alternative 3 would have the least effect on still farmable land and existing forest areas.</p>	<p>Please refer to the attached Fact Sheet # 5 associated with Existing and Proposed Traffic in Midhurst and # 6 associated with Craig Road Extension.</p> <p>Southbound traffic is considered to be traffic headed to downtown Barrie or along the commercial area along Bayfield Street as well as commuter traffic headed south on Highway 400. We conducted some rudimentary time trials for travel from Doran Road between Russell Road and St. Vincent Street to get to the intersection of Bayfield Street and Highway 400. The quickest route was found to be Russell Road to Forbes Road to Highway 400. Our traffic model acknowledges that commercial area along Bayfield Street and downtown Barrie are significant portion of the southbound trips but destinations accessed by Hwy 400, south of the Bayfield Street & Hwy 400 intersection are better served by getting on Hwy 400 at Forbes Road. We assigned approximately half of the southbound traffic based on the draw of those destinations. We may have overestimated the percentage drawn to St. Vincent and Bayfield Streets but this will present a conservative approach maximizing the estimated impact on those routes and not overstate the benefit of the improved link to Forbes Road and Highway 400.</p> <p>The traffic origin / destination split was taken from the Simcoe County Master Transportation Study which identifies 70% to the south, and 10% to each of the other three directions.</p> <p>Our traffic model assumes approximately two thirds of the southbound traffic from Doran North will use Highway 400. The rest is distributed to St. Vincent (10%) and Finlay Mill Rd to Hwy 26 (10%) and to Craig Road to County Road 27 (15 %). For Doran South the model assigns approximately two thirds of southbound traffic to Highway 400 and the rest to St. Vincent (20%) and Findlay Mill Road to Highway 26 (15%). In our opinion we have included a significant percentage of the trips to the shopping/business area of Bayfield Street.</p> <p>Please refer to the attached Fact Sheet # 5 associated with Craig Road Extension.</p>

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	<p>Have any identical wastewater treatment plants been built and, if so, what is their record of mishaps? If not, is the proposed plant an untested version?</p>	<p>Very few Wastewater Treatment Plants are exactly alike, because most facilities have different effluent discharge criteria. However, there are many Wastewater Treatment Plants, that have been in operation of years with similar technology and criteria and we will provide details of those within the Environmental Study Report (ESR). In addition, most of the individual processes being proposed within the Wastewater Treatment Plant has been successfully operated at Wastewater Treatment Plants in Ontario and around the world. Further the Membrane filter technology that is being proposed has become more common for Wastewater Treatment in recent years in Ontario; however, it has been in use in the Water Treatment industry for decades in Ontario, helping to ensure that Municipal Water systems meet or exceed the Ontario Drinking Water Objectives. For example, in the late 1990's when the Town of Collingwood had an apparent Cryptosporidium (microscopic parasites) outbreak in their Municipal Water system they constructed a new Water Treatment Plant utilizing Membrane technology to filter out bacteria, pathogens and viruses including Cryptosporidium from the raw water being drawn out of Georgian Bay.</p>
	<p>Were studies and modelling undertaken to evaluate the long term effects on local existing wells (considering the proposal for new wells to be drilled into a deep aquifer.)? If so, what are the results?</p>	<p>Yes, extensive modelling and analysis was completed on the various aquifers in the overall area and is documented in the Hydrogeological Study associated with the Class EA. Please refer to the attached Fact Sheet # 1 associated with Water Supply.</p>
47	<p>Suggests that comment sheets should be mailed to people in the village in conjunction with the notification.</p>	<p>Comment Sheets were available at the Public Information Centre (PIC) for attendees to fill out while at the meeting or take with them and mail/email them back to us later. However, we would accept comments from all interested parties in any form (letter, email hand written notes) and they did not specifically need to on the Comment Sheet available at the PIC, but we will consider your suggestion in future.</p>
	<p>Worried about increase in traffic/noise/air pollution.</p>	<p>Please refer to the attached Fact Sheet # 5 associated with Existing and Proposed Traffic in Midhurst and # 6 associated with Craig Road Extension.</p>
	<p>Concerned about runoff/drainage issues – effect on water sources including Willow Creek, Minesing Swamp, Little Lake.</p>	<p>Please refer to the attached Fact Sheet # 3 associated with Pharmaceuticals & Personal Care Products (PPCPs) and Endocrine Disrupting Compounds (EDCs) # 4 associated with Willow Creek and Minesing Wetland. Independent of this Class EA, a comprehensive Stormwater Drainage Study is being completed in conjunction with the NVCA for the Midhurst Secondary Plan.</p>
	<p>Impact on rural wells from the excavations.</p>	<p>Please refer to the attached Fact Sheet # 1 associated with Water Supply.</p>
	<p>Will Belmont Crescent be disturbed to install new water or sewer infrastructure?</p>	<p>There is no new Municipal Water or Sewer infrastructure planned along Belmont Crescent.</p>
	<p>Does not want to incur cost of connecting to Municipal sewer system.</p>	<p>It is the current Council's position that the existing residents of Midhurst will not be required to connect to the proposed Wastewater Treatment Facility.</p>
	<p>Information should be passed along by more than just word of mouth or meetings.</p>	<p>While it was unfortunate that you were not able to attend the PIC, all the documentation that was available at the PIC, was posted to the Township website for individuals such as yourself who were not able to attend.</p>
	<p>Can the Minesing Wetlands maintain or improve its' ecological features and functions with the current level of Phosphorus loading, or does this need to be reduced from the existing levels, rather than adding a new source of Phosphorus from the proposed Wastewater Treatment Plant (WTP)?</p>	<p>Please refer to the attached Fact Sheet # 3 associated with Pharmaceuticals & Personal Care Products (PPCPs) and Endocrine Disrupting Compounds (EDCs) # 4 associated with Willow Creek and Minesing Wetland.</p>
	<p>How are the impacts of Climate Change, including changes in annual rainfall amounts and in the frequency, severity and duration of storm events, properly assessed for the impacts of this project on the Minesing Wetlands?</p>	<p>This Class EA process is being completed to identify the Water, Wastewater and Transportation infrastructure that will be necessary to accommodate the Midhurst Secondary Plan and in particular OPA 38. Independent of this Class EA, a comprehensive Stormwater Drainage Study is being completed in conjunction with the NVCA for the Midhurst Secondary Plan. The impacts of climate change are being considered in that study.</p>
	<p>What are the impacts of an increase in total flow in the Willow Creek of about 1/3 on the physical nature of the creek channel, on erosion and on downstream siltation, which is a long time issue for the creek and the downstream wetlands?</p>	<p>Based upon 10 plus years of Willow Creek flow data that has been analyzed, the flows within Willow Creek vary between a 7Q20 flow rate 430L/s to high of 24,000± L/s. The data also shows great variations within each specific season, depending upon the amount of precipitation that falls in a particular season. Therefore, given the significant variations in the existing flows the additional 143L/s of flow from the Wastewater Treatment Plant, after the development of the entire Midhurst Secondary Plan, will not affect the Willow Creek. In addition, the discharge of effluent would result in an average increased water depth of 0.01 to 0.03m and average increased velocity of 0.01 m/sec, changes that would be virtually immeasurable in Willow Creek</p>
	<p>What are the impacts of the warmer temperature of the effluent from the WTP on the base flow of the Willow Creek and Minesing Wetlands and the creatures that live in this wetland complex?</p>	<p>Effluent discharge will have a minimal effect on water temperatures in the creek. A mass balance model was built using predicted effluent temperatures (validated by comparison with effluent temperature data from existing Wastewater Treatment Plants in southern Ontario) and monthly average and 75th percentile temperatures in Willow Creek near the proposed discharge point. At average water temperatures, the maximum temperature increase in Willow Creek was 1.05°C (at Full Build Out and minimum creek flows), which was predicted for January. Through the summer (June 1 to August 31), the maximum temperature increase was 0.85°C, equating to a final downstream temperature of 18.6°C. At 75th percentile Willow Creek water temperatures, Full Build out and minimum creek flows, the maximum fully mixed downstream temperature was 19.43°C (experienced in July), which was a 0.08°C increase over upstream Willow Creek upstream temperatures of 19.35°C. These are conservative downstream temperature estimates since the effluent will be cooled as it travels along the 4.5km buried forcemain from the WWTP on Snow Valley Road to the discharge point at Willow Creek and will exchange heat with the atmosphere after discharge.</p>

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	How can the project ensure that there will be no downstream impacts from contaminant discharges, including all exotic chemicals, pharmaceuticals, hormones, heavy metals, microbeads, other commercial or household chemicals, etc. either from sewage or storm runoff?	Please refer to the attached Fact Sheet # 3 associated with Pharmaceuticals & Personal Care Products (PPCPs) and Endocrine Disrupting Compounds (EDCs).
	How and where will the biosolids from the WTP be managed to ensure no downstream impacts from contaminants on the Willow Creek and Minesing Wetlands, and no impact on the health of flora or fauna who may come in contact with them when these biosolids are ultimately spread on the land or otherwise disposed of?	The biosolids will be contained within tanks that will be designed and constructed in accordance with industry standards and will have 240 days of storage capacity. The disposal of the biosolids will be handled by Provincially regulated haulers and spread on land that have also received Provincial approval.
	How can the engineering of this project demonstrate that there will be a reduction rather than an increase in the amount of wildlife mortality with the additional roads and increased traffic and widening of existing roads? What measures will be taken to achieve this? How will greatly increased traffic on St. Vincent St. impact the Little Lake/Willow Creek Provincially Significant Wetland and movement of wildlife through this corridor and what measures will be taken to reduce wildlife mortality?	During detailed design of external roads, such as St Vincent St, input will be sought from NVCA regarding wildlife mitigation measures and patterns. The details that could be incorporated into the design, include appropriate warning signs, special fencing and/or dry culverts specifically for small animals and/or reptiles to cross the street.
	What consideration has been given to the impact of traffic on the safety of cycling along St. Vincent St. into Barrie, as well as the impact of much heavier traffic along the St. Vincent St. corridor on the residents of Barrie? These questions should have regard to the other north/south corridors linking Midhurst to Barrie.	The proposed cross-section for St. Vincent Street results in a road platform width only marginally wider than the existing roadway. For the portion of St. Vincent Street between City of Barrie and Willow Creek it is anticipated that a 1.5m± metre wide paved shoulder on each side of the road would be proposed for use by pedestrians and bicycles. North of Willow Creek the proposed cross-section includes sidewalk and bicycle lanes in an urban cross-section.
	How have other alternatives been considered and evaluated, including less growth and alternative locations for growth which would have a lesser or no impact on the Minesing Wetlands and Willow Creek?	On November 28, 2012 the Ontario Ministry of Municipal Affairs and Housing withdrew part of its appeal of the Midhurst Secondary Plan. As a result of the Ministry's partial withdrawal, 300 hectares out of the total 756 hectares proposed to be re-designated "urban" in Official Plan Amendment (OPA) 38 were cleared for development. The remaining 456 hectares and all related policies to OPA 38 will remain under appeal at the OMB. As such this Class EA process is being completed to identify the Water, Wastewater and Transportation infrastructure that will be necessary to accommodate the Midhurst Secondary Plan and OPA 38.
49	Feels that the increased traffic volume will compromise the safety of the residents of Mills Circle (on County Rd 27). Cites danger of making a left turn into the subdivision and the lack of bike lanes. Wants left turn lane on County Rd 27.	The Intersection of Mills Circle and County Road 27 is over 1 km away from the proposed intersection of Craig Road Extension and County Road 27. Therefore we do not foresee the proposed Craig Road Extension having an impact on Mills Circle. However, we understand the Township have spoken with Simcoe County (Operating authority for County Road 27) about the Mills Circle & County Rd 27 intersection to see if any modifications could be made to improve it.
	Concerns with traffic flow through Midhurst.	The latest Traffic Studies have confirmed that the proposed traffic from the Midhurst Secondary Plan can be accommodated. In particular, the Traffic models confirm that the capacity of the "reconstructed" existing streets including Pooles Road, St Vincent Street, Finlay Mill Road, Carson Road, with 1 lane in each direction and improvements at key intersections, can accommodate the proposed traffic from the new developments. The resulting traffic is within the capacity of the roadways and where it is not proposed improvements along selected existing roads have been designed to accommodate those increases. The proposed extension of Craig Road as an extension of Forbes Road to County Road 27 provides an attractive route for existing and future development traffic to avoid the downtown area of Midhurst.

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	Improved intersection at Forbes Rd and Hwy 400 may attract more traffic through Midhurst. Need peer review of Traffic Study.	The extension of Craig Road from Russel Rd to County Rd 27 is now proposed in conjunction with Phase 1 - Stage 1. This new road, which will be constructed prior to any improvements at the Forbes Road and Hwy 400 Intersection, will create a main arterial road that provides a direct, controlled access, connection between Hwy 400, Hwy 26/Cty Rd 27 & Hwy 93. This new road also provide a main alternative to traffic that is currently taking the Forbes Road exit off Hwy 400 and meandering through the existing roads in Midhurst, when south bound traffic on the Hwy 400 is backed up approaching Barrie on holiday weekends.
	Models used for Traffic Study were based on existing urban centre buildout behaviour. Expansion in Midhurst is rural. Traffic will migrate to Bayfield and St. Vincent (not to Hwy 400) in order to access shopping in Barrie.	Our traffic model assumes approximately two thirds of the southbound traffic from Doran North will use Highway 400. The rest is distributed to St. Vincent (10%) and Finlay Mill Rd to Hwy 26 (10%) and to Craig Road to County Road 27 (15 %). For Doran South the model assigns approximately two thirds of southbound traffic to Highway 400 and the rest to St. Vincent (20%) and Findlay Mill Road to Highway 26 (15%). In our opinion we have included a significant percentage of the trips to the shopping/business area of Bayfield Street. Southbound traffic is considered to be traffic headed to downtown Barrie or along the commercial area along Bayfield Street as well as commuter traffic headed south on Highway 400. We conducted some rudimentary time trials for travel from Doran Road between Russell Road and St. Vincent Street to get to the intersection of Bayfield Street and Highway 400. The quickest route was found to be Russell Road to Forbes Road to Highway 400. Our traffic model acknowledges that commercial area along Bayfield Street and downtown Barrie are significant portion of the southbound trips but destinations accessed by Hwy 400, south of the Bayfield Street & Hwy 400 intersection are better served by getting on Hwy 400 at Forbes Road. We assigned approximately half of the southbound traffic based on the draw of those destinations. We may have overestimated the percentage drawn to St. Vincent and Bayfield Streets but this will present a conservative approach maximizing the estimated impact on those routes and not overstate the benefit of the improved link to Forbes Road and Highway 400.
50	Major recent shift in the north east end of Barrie will attract new Midhurst residents to use St. Vincent St. Need more proof that modelling which may be outdated is correct. May require new independent study.	The recent development in the north east end of Barrie (Duckworth St & Cundles Rd) is predominately commercial development (commercial stores and restaurants) and the traffic patterns associated with such development will be different and not coincide with the normal AM and PM Weekday Peaks that have been modelled coming out of and going into Midhurst.
	Concerned that effluent focus is on Phosphorus and Nitrate as the main criteria. Also that in a low flow situation, the effluent will represent 25% of the stream flow.	The reports have highlighted phosphorus and nitrate as these are two of the mains contaminants that are know concerns; however, the reports also identify several other discharge criteria that the Wastewater Treatment Plant will have to meet, in accordance with Provincial requirements. At Full Build Out, the flow from the WWTP would make up 25% of the total flow of Willow Creek at 7Q20 low flows (i.e., 430 L/s). The discharge of effluent would result in an average increased water depth of 0.01 to 0.03 m and average increased velocity of 0.01 m/sec, changes that would be virtually immeasurable in Willow Creek and would have no effects on erosion.
	Needs proof that adding 143 kg of phosphorus a year is acceptable.	With use of Low Impact Development (LID) measures throughout the Midhurst Secondary Plan, the phosphorus loading associated with the stormwater will be reduced from the Pre-Development levels which reduces the net load loading from the new Wastewater Treatment Plant from 143kg/day to 66kg/day which (conservatively) represents less than 0.5% of the current phosphorus load flowing through the Minesing Wetland on an annual basis. In addition, the Midhurst Developers Group is committed to working with the Nottawasaga Valley Conservation Authority (NVCA) to achieving a net-zero increase in phosphorus, if required by the MOECC through the implementation of a phosphorous offsetting program; whereby works would be undertaken by the NVCA, at key spots throughout the watershed, to reduce the amount of phosphorous entering the creek from other sources and therefore, offset the additional load from the new Wastewater Treatment Plant and ensure no negative impact on the watershed.
	Pharmaceuticals, nano silver and other micro organisms and such ingredients may exceed the current water system assimilative capacity.	Please refer to the attached Fact Sheet # 3 associated with Pharmaceuticals & Personal Care Products (PPCPs) and Endocrine Disrupting Compounds (EDCs).
	"What will be the impact of another 30,000 people have on the natural eco system of the of the Minesing Wetlands?" Needs more assurances.	Please refer to the attached Fact Sheet # 4 associated with Willow Creek and Minesing Wetland.
	"...EA, to be acceptable, must address all aspects of a protecting and improving a truly sustainable system which means responding and confirming that the Economic, Environmental and Social well being of all of us is protected."	The Class Environmental Assessment process is a Provincially regulated process and has an extensive proven track record of dealing with and resolving Economic, Environmental and Social impacts. However, when considering the Economic, Environmental and Social impacts these must be measured against Provincial and or Industry Standards to determine if there is an impact. For example, when considering the impact of increased traffic on an existing road, we review the proposed traffic volume against the "Industry Standard" capacity for that particular class of road and if the proposed traffic is within the value, then the Social and/or Economic impacts are noted as acceptable. When considering the additional Water demand and/or additional Wastewater load we must measure these against Provincial requirements and if they are within those then the Environmental and/or Social impacts are noted as acceptable.
	"...fully supports ... requesting independent studies from other agencies to ensure that we are not undertaking a venture that will have long term irreversible negative impact on the world renowned Minesing Wetlands."	When the Draft Environmental Study Report (ESR) is submitted to the Ministry of Environment and Climate Change (MOECC) prior to being finalized, they will conducted a comprehensive Review and provide comments back to the Township.

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51	As requested in initial comments (May13, 2013), The MOECC would like to review the draft ESR before it is made public.	As noted in Ainley's reply email sent to MOECC on September 26, 2016 the Draft ESR will be provided.
52 & 53	We would like to ask for the shapefiles of the study zone. Is that something you could provide?	Unfortunately, shapefiles are not available, however all information regarding the Class EA project can be found on the Township website http://www.springwater.ca/cms/One.aspx?portalId=312&pageId=4779649
54	The correspondence Hiawatha FN has received is not considered meaningful consultation but rather information sharing. Proposed project is deemed to have little, if any, impact on Hiawatha FN's traditional territory and/or rights. Hiawatha FN requests that they be contacted if archaeological artifacts are found as they require their trained archaeological liaisons be present at the archaeological sites during the assessments. Please forward any archaeological reports as they are completed. Any maps pertaining to the project should be sent to Hiawatha First Nation in a shape file.	Unfortunately, shapefiles are not available, however all information regarding the Class EA project can be found on the Township website (http://www.springwater.ca/cms/one.aspx?pageId=4779649). Hiawatha FN will be notified if any archaeological artifacts are found.
55	Letter has been reviewed and shared with Council and forwarded to Karry Sandy McKenzie, Williams Treaties First Nation Process Coordinator/ Negotiator. Ms. McKenzie to review and take necessary action if required. In future, contact Ms. McKenzie directly at k.a.sandy-mckenzie@rogers.com	Thanks for your comments and Karry Sandy McKenzie was also sent a copy of the Notice as part of the mass mailing on September 19, 2016.
	Gravely concerned regarding the potential impacts which the water, wastewater and transportation infrastructure this project proposes will have on our drinking water, air quality, farmland and the environment. "...measurable regulatory requirements are incapable of adequately protecting our drinking water, air quality, farmland and the environment."	On November 28, 2012, the Ministry of Municipal Affairs and Housing (MMAH) withdrew part of its appeal of the Midhurst Secondary Plan. As a result of, the Ministry's partial withdrawal, 300 hectares out of the total 756 hectares proposed to be re-designated "Urban" in Official Plan Amendment (OPA) 38 had Draft Plan Conditions development and were cleared for development. The remaining 456 hectares and all related policies to OPA 38, will remain under appeal at the OMB. Further to this, the stormwater runoff from the proposed Midhurst Secondary Plan Developments must comply with the 2012 Ontario Municipal Board (OMB) Minutes of Settlement between the NVCA and the Developers Group. These Minutes of Settlement include, but are not limited to, the following requirements: <ul style="list-style-type: none"> • The stormwater management systems are to hold back the first 25 mm of storm runoff for a period of 48 hours; • The stormwater management system to infiltrate back into the ground, close to the source, the first 20 mm of rainfall while also ensuring a healthy hydrologic cycle; • Reduction in the Post-Development phosphorous loading to below Pre-Development loading levels, such that when the additional phosphorous load from the new Wastewater Treatment Plant (WWTP) is included, there shall be no net increase. These requirements will be met with the implementation of extensive Low Impact Development (LID) measures which mimic a site's pre-development hydrology by using design techniques that infiltrate, filter, store, evaporate, and detain runoff close to its source. In addition, these requirements which greatly exceed the standard MOECC and/or NVCA requirements for stormwater, have been set to ensure that the proposed developments will not have an impact on the Willow Creek or other downstream receivers.

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56	<p>Demands that there be no negative impacts. Requests that all new development create a net improvement to all environmental systems such that the pre-settlement function of these natural systems be realized.</p>	<p>The phosphorus loading within the Minesing Wetland varies greatly each year and depends upon the amount and type of precipitation throughout the year. However, the current phosphorus loading within the Minesing Wetland has been estimated to be between 35,000 and 40,000 kg per year;</p> <p>As identified in "Pollutant Target Loads: Lake Simcoe and Nottawasaga River Basins" Report dated June 2006 and prepared by the Louis Berger Group and Greenland International, Inc. the combined phosphorus loading entering the Minesing Wetland from the Matheson Creek watershed and the Black Creek watershed is over 3,800kg per year. Note the Midhurst Secondary Plan is completely within the Matheson Creek and Black Creek watersheds.</p> <p>A detailed assessment of the cumulative loading of phosphorus from the Midhurst Secondary Plan (both Stormwater Management and the Wastewater Treatment Plant) discharging to Willow Creek and the Minesing Wetland has been completed.</p> <p>To facilitate this a phosphorus budget modelling tool was developed and adapted specifically for the Nottawasaga Valley Conservation Authority (NVCA), from the modelling tool that was developed for the Lake Simcoe Protection Plan (LSPP) by the Ministry of Environment and Climate Change (MOECC), along with the inclusion of new industry standards for Low Impact Development (LID) in Ontario.</p> <p>This phosphorus assessment concluded that with the extensive use of Low Impact Development (LID) measures throughout the Midhurst Secondary Plan, the traditional impact of stormwater from new development will be significantly reduced. In particular, the cumulative "net" phosphorus load after the buildout of the entire Midhurst Secondary Plan is approximately 66 kg/year, which (conservatively) represents less than 0.5% of the current phosphorus load flowing through the Minesing Wetland on an annual basis.</p> <p>The Midhurst Developers Group is also committed to working with the NVCA to achieving a net-zero increase in phosphorus, if required by the MOECC.</p>
	<p>Science does not yet know any measurable acceptable limits to changes in the Hines Emerald's dragonfly groundwater sources. "...taking of groundwater...and dumping of wastewater effluent and stormwater into the surface water systemsmust not be tolerated until the science is developed to measure and assess the impacts of those changes on the Springwater sources of the existing and potential Hine's Emerald habitats."</p> <p>"...demand that the post development quality and quantity of groundwater recharge and of stormwater and wastewater discharge from the area being developed will be proven to be restored to that of pre human development."</p>	<p>Hutchinson Environmental Sciences Ltd. has prepared detailed analyses of changes in water quality associated with the project and any implications to the natural environment that might impact the Hine's Emerald Dragonfly habitat. The only observed Hine's Emerald Dragonfly habitat is located in the upland fen areas of the Minesing wetland, >5 km from the WWTP discharge to Willow Creek and has no direct hydrological connection to the discharge area.</p> <p>Golder Associates developed a hydrologic/hydrogeologic model that indicates a maximum surface water level decrease of less than 1 mm in the Minesing Wetland, near the HED habitat, as a result of operating the water supply wells over a ten-year period at full development build out.</p> <p>Therefore, there is no potential for project effects on the HED.</p> <p>The Technical Memorandum prepared by Hutchinson Environmental Sciences Ltd concludes that the development of the Midhurst Secondary Plan area does not threaten the HED or its habitat, by noting that:</p> <ul style="list-style-type: none"> • No physical disturbances associated with the development of the Midhurst Secondary Plan will occur within 5 km of the regulated HED habitat and so there are no direct impacts; • A hydrologic/hydrogeologic model prepared by Golder Associates indicated a maximum surface water level decrease of less than 1 mm in the Minesing Wetland over a ten-year period at full development build out. Therefore, with respect to the regulated HED habitat, the HED's use of the wetlands for egg-laying and larval development would not be affected as a result of water level changes; • A series of Best Management Practices, similar to what has been developed to protect the largest known HED population in Wisconsin (i.e. the Ridges Sanctuary 2013), have been or will be implemented in the design of the Midhurst Secondary Plan area, as additional protective measures. <p>We have also attached several Fact Sheets that have been developed in response to questions received at or following the Public Information Centre (PIC), which provide additional information that may be helpful.</p> <p>In summary, the Water, Wastewater and Stormwater associated with the development of the Midhurst Secondary Plan will meet and/or exceed all Provincial regulations and requirements. In addition to meeting these Provincial regulations and requirements, the extensive reports that have been prepared in support of the Midhurst Class EA, confirm that the Willow Creek or Minesing Wetlands will not be detrimentally impacted.</p>
	<p>Will there be enough water for all, considering both today's needs and future groundwater extraction predicted to be six (6) times greater than current Midhurst usage?</p>	<p>Please refer to the attached Fact Sheet # 1 associated with Water Supply.</p>
	<p>Where in the reports is there a list of all existing water uses and the current amount of water being taken by our community?</p>	<p>A description of municipal water use in both Midhurst and Barrie is provided in Section 2 of Appendix M in Hydrogeological Study.</p>
	<p>How did the studies measure the amount?</p>	<p>The water taking amounts were measured and provided by municipal water staff at Township of Springwater and City of Barrie.</p>
	<p>How many private well users live within the area that might be affected by the proposed new wells?</p>	<p>Most private wells draw from shallow Aquifer A1 or A2. Both field testing and modelling indicate that pumping at the proposed new wells, located in underlying Aquifer A3 / A4, will result in only small drawdown within Aquifers A1 and A2 and will not affect private well uses.</p>
	<p>Does Barrie take its water from the same or related aquifers as does Midhurst?</p>	<p>Barrie draws water from regional Aquifer A3.</p>
	<p>Where do the new studies address the existing quantity of groundwater taken by Barrie?</p>	<p>Section 2 of Appendix M in the Hydrogeological Study</p>

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	Where do the new studies consider any current approval Barrie has to take more water in the future?	Section 2 of Appendix M in Hydrogeological Study, discusses future water use at City of Barrie. In 2011 the City of Barrie began taking water from Kempenfelt Bay and treats the water in the Surface Water Treatment Plant (SWTP) located on Royal Parkside Drive. The SWTP will service the southern pressure zone, which includes all of the new development areas in the south end of Barrie. Consequently, Barrie's water supply will increasingly draw from Lake Simcoe as opposed to groundwater sources. As a result, groundwater takings at Barrie will actually decrease relatively to current water takings and will be less than currently assumed in the modelling impact assessment. From this perspective, the modelling impact assessment is conservative relative to future cumulative groundwater takings.
	Where do the reports provide a current and future water "budget" - a description or illustration of how water flows through the watershed and in what quantities both today and in the future?	Key aspects of the groundwater budget, including recharge rates, pumping rates, stream baseflow, and groundwater flow patterns are described in Appendix M, Hydrogeological Study. A comprehensive current and future modelled water budget – wherein each boundary condition input / output is tallied – was completed internally as part of the study but only those items pertinent to the impact assessment (for eg. current versus future stream baseflow) were reported on.
	How can exploration of four (4) new groundwater wells be an accurate method for concluding there is sufficient water to pump maximum amounts from eleven (11) new wells?	The field investigation, documented in Hydrogeological Study, included (but was not limited to): the drilling and installation of 20 test wells and 21 observation wells (a total of 41 wells); five aquifer tests (two in A3 and three in A4); and the use of a highly sophisticated numerical model to assess the potential for future groundwater impacts. In our view the breadth and detail of this study has provided an adequate basis to evaluate the long-term sustainability of the water supply.
	Why in 2016 and beyond, should we all rely on a 2004 model prepared by the consultants (Golder)? How can this 2004 model be a "state of the art" model for today?	The model used in the hydrogeological study was: a) completed in 2015; b) employed the most recent code version available at the time (FEFLOW 6.2); c) incorporated recent data collected as part of the recent field investigation (Golder, 2015); and d) underwent a rigorous and unprecedented calibration process to both well water levels and monthly baseflow measurements at Willow Creek. This model marks a significant level of refinement over preceding models and in our professional opinion provides an appropriate tool to assess current and future groundwater conditions at Midhurst and the surrounding Willow Creek watershed.
	Has Golder run a worst case scenario showing all wells which draw on the aquifers - private, Barrie and other municipal wells - taking water at the maximum permitted rates of extraction?	The modelling, as described in Appendix M, Hydrogeological Study, examines a scenario where the Carson and Doran Neighbourhood wells are pumped at their maximum rates during a three month period over the summer every year of operation. During this scenario, the Barrie wells are pumped at the "Existing Plus Committed Plus Planned Demand" for the year 2031 as documented in the City of Barrie Tier Three Water Budget and Local Area Risk Assessment. Domestic wells are not considered in the modelling as their pumping volumes are practically insignificant relative to the municipal water supply systems – this is a common approach when modelling regional aquifer systems in Ontario.
	Will the proposed groundwater extractions take water from the same aquifers which supply the Minesing Wetland and related water courses?	The proposed groundwater extractions draw water from Aquifers A3 and A4. These deep units are confined and lie below the shallow aquifers (A1 and A2) that are the primary source of groundwater to Minesing Wetland and associated surface water features. Nonetheless, the deep and shallow aquifers do have a limited hydraulic connection whereby larger water takings in A3/A4 may, over the long-term, manifest as minor and localized water level and baseflow changes in A1/A2. The impact of the proposed groundwater extractions on the Minesing Wetland and other water courses is described in Appendix M, Hydrogeological Study. As noted in that report, estimated baseflow losses in Willow Creek directly upstream of the Minesing Wetland are small and range between 3% to 7% over the course of the year. Baseflow loss to Minesing Wetland itself would be even smaller as the Wetland draws from a larger groundwater catchment than considered in the model. Also note that this discussion pertains only to the groundwater component of flow – when surface water inputs are considered (for example, overland flow to the Wetland and the upstream inflows from the Nottawasaga River) pumping-induced changes to the flow regime at Minesing Wetland are negligible.
	How do the studies assess their existing groundwater needs?	Groundwater contributions to Willow Creek and Minesing Wetland are assessed by reviewing long-term flow records and further supplemented through the construction and calibration of a numerical flow model as described in Appendix M, Hydrogeological Study.
	Do the studies predict a loss of groundwater for these features? If so, how much?	Ecological needs for groundwater are addressed. The Hydrogeological Study predicts a 3-7% potential reduction in groundwater, which is well below the DFO "Environmental Flow Needs" threshold of a maximum flow reduction of 10%. Any reduction in flow from the groundwater will not impair ecological needs or assimilation potential in Willow Creek. In the predicted potential baseflow reductions of 3-7% is for Willow Creek at Hwy. 26, in the reach where the WWTP discharge is proposed. This minor loss equates to a maximum potential reductions of 1mm in the water table in the upland fen areas where the Hines Emerald Dragonfly has been reported and as such will have no impact on the HED habitat.

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	Has a fisheries analysis been undertaken to determine whether the proposed development will reduce the amount of cold groundwater available to supply these fisheries waters?	The proposed groundwater extractions take water from Aquifers A3 and A4. These deep units are confined and lie below the shallow aquifers (A1 and A2) that are the primary source of groundwater to Willow Creek. Nonetheless, the deep and shallow aquifers do have a limited hydraulic connection whereby larger water takings in A3/A4 may, over the long-term, manifest as minor and localized water level and baseflow changes in A1/A2. The impact of the proposed groundwater extractions on Willow Creek is described in Appendix M, Hydrogeological Study. As noted in that report, estimated baseflow losses to Willow Creek, where they occur, are minor (3% to 7%). These potential losses are within the DFO (2013) acceptable threshold of 10% reductions in flow and will have no significant impact on groundwater availability for fisheries.
	What seasonal variation has been considered since groundwater can be very significant during hot, dry summer months?	The modelling study considers monthly variations in both recharge (including reduced infiltration during summer) and water taking patterns (including increased pumping during summer) as described in Appendix M, Hydrogeological Study. The Assimilative Capacity Study shows that potential groundwater losses range from 4.7%-6.3% in winter, 3.3% to 4.8% in spring, 6.2-6.8% in summer and peak at 7.32% in October.
57	The new studies say that water used by Midhurst residents will be treated and discharged into Willow Creek. How will this new amount of treated water affect the water levels, quality and temperature of existing streams?	<p>The Willow Creek Assimilative Capacity Study was completed in May 2016. The discharge of treated effluent from the Midhurst WWTP will have no significant impact on Willow Creek outside of a small mixing zone that will occupy a portion of the creek immediately downstream of the discharge.</p> <ul style="list-style-type: none"> • Willow Creek currently exceeds the Provincial Water Quality Objective for Total Phosphorus of 0.03 mg/L. At Full Build Out of the Midhurst Secondary Plan, effluent will be treated to the PWQO of 0.03 mg/L and there will be no measurable increase in the creek as a result of the discharge. • Nitrogen forms will be treated to a very high standard in the WWTP. The effluent will be non-lethal to aquatic life as it leaves the plant, prior to any mixing with the creek. The effluent will mix with the creek after discharge and the resultant dilution and assimilation processes will quickly reduce ammonia concentrations so they will meet the water quality objective for un-ionized ammonia within 360m of the point of discharge. No significant impacts will occur within this 360m "mixing zone" which is allowed under MOECC Policy. Nitrate in the creek will be maintained below water quality objectives at all points. Water quality that is at or below an objective is suitable for indefinite exposure of the most sensitive life stages of the most sensitive aquatic life and is thus safe for aquatic life. • Dissolved oxygen concentrations will be maintained at 7.8 – 8.1 mg/L in Willow Creek, well above the requirements for aquatic life. • The effluent discharge will have a minimal effect on water temperatures in Willow Creek. At Full Build Out, and minimum creek flows, the maximum water temperature increases will be 1.05 °C in January and 0.85 °C in July. Therefore, temperatures will remain within current ranges with no impacts to aquatic life. In addition, these calculations did not take into account the cooling effect that will take place on the effluent as it passes through the 4.5km long sanitary forcemain from the WWTP on Snow Valley Rd to the discharge point at Willow Creek and Hwy 26 nor the exchange of heat with the atmosphere. • Based upon 10 plus years of Willow Creek flow data that has been analyzed, the flows within Willow Creek vary between a 7Q20 flow rate 430L/s to high of 24,000± L/s. The data also shows great variations within each specific season, depending upon the amount of precipitation that falls in a particular season. Therefore, given the significant variations in the existing flows the additional 143L/s of flow from the Wastewater Treatment Plant, after the development of the entire Midhurst Secondary Plan, will not affect the Willow Creek. <p>In addition, the discharge of effluent would result in an average increased water depth of 1 to 3cm and average increased velocity of 0.01 m/sec, changes that would be virtually immeasurable in Willow Creek.</p>

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	<p>Will there be any change in temperature to the water supporting coldwater fisheries?</p>	<p>Effluent discharge will have a minimal effect on water temperatures in the creek. A mass balance model was built using predicted effluent temperatures (validated by comparison with effluent temperature data from existing WWTPs in southern Ontario) and monthly average and 75th percentile temperatures in Willow Creek near the proposed discharge point. At average water temperatures, the maximum temperature increase in Willow Creek was 1.05°C (at Full Build Out and minimum creek flows), which was predicted for January. Through the summer (June 1 to August 31), the maximum temperature increase was 0.85°C, equating to a final downstream temperature of 18.6°C. At 75th percentile Willow Creek water temperatures, Full Build out and minimum creek flows, the maximum fully mixed downstream temperature was 19.43°C (experienced in July), which was a 0.08°C increase over upstream Willow Creek upstream temperatures of 19.35°C. These are conservative downstream temperature estimates since the effluent will be cooled as it travels along the 4.5km buried forcemain from the WWTP on Snow Valley Road to the discharge point at Willow Creek and will exchange heat with the atmosphere after discharge.</p> <p>The PWQO for water temperature is, "The natural thermal regime of any body of water shall not be altered so as to impair the quality of the natural environment. In particular, the diversity, distribution and abundance of plant and animal life shall not be significantly changed." (MOE 1994). We reviewed the thermal tolerances of resident trout species as representative coldwater organisms. We have captured Brown Trout within Willow Creek and Ministry of Natural Resources and Forestry (MNRF) have indicated that others have collected them in Willow Creek as well. Although Brook Trout have a lower thermal tolerance than Brown Trout and were included in fish species lists of Willow Creek provided by NVCA and MNRF, we have not captured Brook Trout in field surveys within Willow Creek and Scientific Collection results provided by MNRF indicate Brook Trout only in tributaries to Willow Creek.</p> <p>Water temperature appears to be the most important factor separating trout streams from non-trout streams (Stoneman and Jones, 2000). The habitat requirements of brown trout are essentially the same as brook trout but it can remain active and thriving in slightly higher temperatures; the upper range of which has been reported as 24°C (Brynildson et al 1963) or 25°C (Hasnain et al. 2010). Elliot and Elliot (2010) produced a growth model to assess the impacts of climate change and resulting changes to water temperature on Brown Trout. They found that water temperatures would have to increase by 4°C in winter and spring or 3°C in summer and fall before they had a marked negative impact on growth.</p> <p>Given the conservative mass balance model predictions of a maximum downstream Willow Creek temperature increase from 19.35°C to 19.43°C, the temperature impacts from the WWTP would not be expected to push downstream temperatures above the upper tolerance for Brown Trout or effect growth rates.</p>
	<p>The Ramsar-designated Minesing Wetlands provides habitat for many such flora and fauna which may well be very sensitive to any change in water levels, flow, quality or temperature, such as the endangered Hine's Emerald Dragonfly found only near the proposed sewage effluent discharge mouth.. How do the studies deal with these species?</p>	<p>Hutchinson Environmental Sciences Ltd. has prepared detailed analyses of changes in water quality associated with the project and any implications to the natural environment that might impact the Hine's Emerald Dragonfly habitat. The only observed Hine's Emerald Dragonfly habitat is located in the upland fen areas of the Minesing wetland, >5 km from the WWTP discharge to Willow Creek and has no direct hydrological connection to the discharge area. Golder Associates developed a hydrologic/hydrogeologic model that indicates a maximum surface water level decrease of less than 1 mm in the Minesing Wetland, near the HED habitat, as a result of operating the water supply wells over a ten-year period at full development build out. Therefore, there is no potential for project effects on the HED.</p> <p>The Technical Memorandum prepared by Hutchinson Environmental Sciences Ltd concludes that the development of the Midhurst secondary plan area does not threaten the HED or its habitat, by noting that:</p> <ul style="list-style-type: none"> • No physical disturbances associated with the development of the Midhurst secondary plan will occur within 5 km of the regulated HED habitat and so there are no direct impacts; • A hydrologic/hydrogeologic model prepared by Golder Associates indicated the maximum surface water level decrease of less than 1 mm in the Minesing Wetland over a ten-year period at full development build out. Therefore, with respect to the regulated HED habitat, the HED's use of the wetlands for egg-laying and larval development would not be affected as a result of water level changes; • A series of Best Management Practices, similar to what has been developed to protect the largest known HED population in Wisconsin (i.e. the Ridges Sanctuary 2013), have been or will be implemented in the design of the Midhurst Secondary Plan area, as additional protective measures.
	<p>Is the level of nitrate in the aquifers stable or is there a risk that it will increase over time?</p>	<p>Nitrate is going to be removed from the water through treatment, however in the recharge area for the wells there will be a removal of the farming source of nitrate, which is expected to result in decreasing nitrate over time.</p>

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	Does the presence of nitrate suggest that there may be other pollutants that have not yet been identified that will require additional treatment to make the water safe to drink?	Contaminant source inventories were completed for the capture zones of the wells and have not identified potential contaminant sources. In addition all water sampling has been analyzed relative to the Ontario Drinking Water Standards. In summary, the Water, Wastewater and Stormwater associated with the development of the Midhurst Secondary Plan will meet and/or exceed all Provincial regulations and requirements. In addition to meeting these Provincial regulations and requirements, the extensive reports that have been prepared in support of the Midhurst Class EA, confirm that the regional water aquifers, Willow Creek and Minesing Wetlands will not be detrimentally impacted. We have also attached several Fact Sheets that have been developed in response to questions received at or following the Public Information Centre (PIC), which provide additional information that may be helpful.
58	Water well at the corner of Russell Road and Storey Road in Midhurst that has not been capped or decommissioned. If you could email us with updates regarding this issue that would be great.	Thank you for your comments, the test well has been capped and locked.
59	The effects of diverted bypass traffic through the community of Midhurst due to Craig Road implementation were not taken into account in the traffic analysis. It is anticipated that that a reduction in traffic volumes on the existing road network would occur, which may affect recommendations made for road widening and intersection improvements.	In general the claim for diversion of traffic from Finlay Mill Road due to the Craig Road alternate route was in reference to the weekend traffic getting off Hwy 400 which is not a timeframe used for the analysis of the various intersections. Craig Road will provide an alternate route for Doran Road area development to reach CR 27/Hwy 26 other than Finlay Mill Road. The widening of Russell Road to 4 lanes is required to provide traffic from the new development areas easier and quicker access to Hwy 400 in lieu of using the Pooles Road, St. Vincent Street, etc. However, even with both in place (Craig Road & 4 Lanes on Russell) the developments still results in a significant increase in weekday traffic on Finlay Mill Road and other key existing streets in Midhurst.
	Several roadways were proposed for full urbanization and reconstruction throughout the horizon timeline. It is recommended that alternative cross sections with reduced impact to the existing community be considered. In particular, rural cross-sections can be implemented while achieving capacity and active transportation objectives.	The detailed analysis that was completed in advance of the Public Information Centre (PIC) related to the type of road reconstruction was based on the results from the Phase 1 & 2 Master Plan that all road reconstructions would be to a "full urban cross-section" with curbs, storm sewers. However, with more detailed review and consideration other keys items including promoting stormwater infiltration with the use of open ditches and keeping the existing character of the neighbourhoods, we are now undertaking evaluating the need for full urbanization versus rural cross-section on a street by street basis. In completing this more detailed analysis we also have to take in the consideration the need for sidewalk(s) and/or bicycle lanes on each specific street. We will endeavour to outline the proposed cross-sections for each street in the ESR.
	Active transportation objectives can be achieved without requiring full urbanization of roadways. In particular, distance-to-destination should be considered for implementation of pedestrian facilities and target cyclist demand. Widespread urbanization of roadways will also decrease the rural character of the Midhurst community, particularly if a rural alternative can be implemented while meeting comparable transportation engineering alternative. Accordingly, alternative cross sections should be considered for roadways such as Craig Road, Forbes Road, Russell Road, St. Vincent Street and segments of roadways outside of the built boundaries lacking destinations within reasonable travel distance for pedestrians and cyclists.	The active transportation objective was to interconnect existing and proposed trails, bike routes and general pedestrian accommodation. The proposed bike lanes on St. Vincent, Wilson, and Carson accommodate proposed extensions of bike routes northwards by the City of Barrie at some time in the future. Bike routes, sidewalks and or multi-use trails or paved shoulders along Snow Valley Road, Russell Road, Craig Road, Doran Road and Pooles Road provide connectivity between the development hubs with the rest of Midhurst and existing trail systems behind the County buildings on Highway 26, the Ganaraska Trail and the Anne Street corridor trail between Carson Road and Hwy 26.
	The benefits of the Craig Road Extension to existing users should be considered in its implementation. In addition, the benefit of active transportation infrastructure implementation on Finlay Mill Road should also be considered. These roadworks will provide greater benefits to existing users and residents as compared to those of the proposed development. Accordingly, this should be considered when evaluating shared costs and improvement to existing community.	With regard to Craig Road Extension see the response provide above. With regard to active transportation there is a commitment to having an interconnected Active Transportation Network for the overall community which includes sidewalks and/or bike lanes. However, we acknowledge challenges that this will create and as part of our more detailed review of each street we are including alternatives such as a 2 metre paved shoulders to accommodate bicycles and pedestrians in lieu of the traditional 1.5 metre concrete sidewalk.
	Multiple Comments within Attachment No. 1	Attachment No.1, is the same as the official letter received from the Midhurst Developers Group; therefore see Item #63 for response comments.

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	1) Is there enough water supply available for use without impacting local aquifers, watercourses, local wetlands and fisheries?	<p>The Hydrogeological Study (prepared by Golder & Associates) assessed potential impacts of the future water takings on groundwater receptors. The Study included (but was not limited to): the drilling and installation of 20 test wells and 21 observation wells (a total of 41 wells); five aquifer (pumping) tests; and the use of a regional-scale, transient numerical model to assess the potential for future groundwater impacts. The Study concluded that the future water supply pumping was sustainable and would not result in adverse impacts to the aquifer system and associated groundwater receptors such as Minesing Wetland and Willow Creek.</p> <p>In addition the Hydrogeological Study concluded that the proposed groundwater extractions for the Midhurst Development are from Aquifers A3 and A4, which are deep units with limited hydraulic connectivity to the shallow aquifers (A1 and A2), which provide the primary source of groundwater to the Minesing Wetland and associated surface water features. It was also concluded that baseflow losses would be <10% in Willow Creek over the course of the year and these would reduce stream flow by 3.3% (March) to 7.2%. Fisheries and Oceans Canada (2013) concludes that flow alterations below 10% have a low probability of detectable impacts to aquatic ecosystems. The predicted stream flow reductions of 3.3-7.2% are below the DFO threshold of 10% and so there will be no impact on fisheries resulting from the potential interaction of groundwater taking with surface waters.</p>
	2) Have pump tests and associated monitoring been conducted to determine the impacts of operating 3 simultaneous water supply wells, i.e. have the cumulative impacts of utilizing multiple wells been assessed on local wetlands and watercourses?	<p>The Hydrogeological Study focused on the hydrogeological investigations. In particular the water supply system design as it is currently envisioned will include seven supply wells at four locations. As part of the Hydrogeological Study, five pumping tests were conducted to evaluate water supply aquifer properties and also to assess the potential for impacts to surface water receivers by monitoring water levels in shallow aquifer A1. No water level response was observed in any of the shallow aquifer monitors during pumping. Thereafter, a regional-scale, transient numerical model was utilized to assess the potential long-term impacts of full build-out pumping to surface water receptors. It was found that baseflow changes were minor with less than 10% reduction at Willow Creek and less than 6% reduction at Minesing Wetland.</p>
	3) Is there enough water quality information available to understand the Willow Creek system?	<p>Yes, water quality information was summarized from the MOECC Provincial Water Quality Monitoring Network (PWQMN) station 03005703002 (Willow Creek at Hwy. 28, 13 years of data – 2002 to 2014) and field investigations at: 1) six sampling locations in Willow Creek in 2013, 2014 and 2016; 2) four sampling locations in Black Creek; 3) three sampling locations in Matheson Creek; and 4) three sampling locations in an unnamed tributary that empties into Little Lake over 6 sampling events in 2008, 7 sampling events in 2015 and 8 sampling events in 2016.</p> <p>Information on streamflow was summarized from Water Survey of Canada (WSC) Station 02ED032 (Willow Creek near Minesing; 10 years of data – 2006 – 2016). This data informed the preparation of an Assimilative Capacity Study for Willow Creek, and characterized baseline conditions for the Adaptive Management Plan. All water quality samples were analyzed for a full suite of chemical parameters and loads of individual parameters were calculated through assessment of recorded stream discharge data.</p>
	4) How will the sewage treatment plant conform with the Intergovernmental Action Plan (IGAP), particularly related to phosphorus and assimilative capacity?	<p>The Intergovernmental Action Plan (IGAP) for Simcoe, Barrie and Orillia was completed in 2006. The IGAP recommended fully-serviced settlement areas, and growth areas which “maintained watershed health by implementing initiatives and best practices”. The effluent limits for the proposed Midhurst wastewater treatment plant (WWTP) were developed through analysis of the assimilative capacity of Willow Creek (Willow Creek Assimilative Capacity Study, HESL, May 2016) and will maintain water quality at or below the PWQOs. The Midhurst Secondary Plan Area will thus be fully serviced and best practices for wastewater treatment will maintain watershed health.</p> <p>In the case of total phosphorus (in which 75th percentile Willow Creek concentrations are above the PWQO), state of the art treatment technologies are proposed to achieve effluent limits of 0.05 mg/L (Phase 1) and 0.03 mg/L (Full Build Out). These are currently some of the lowest TP limits in the Province of Ontario and the limit of 0.03 mg/L is below the current 75th percentile TP concentration of 0.031mg/L in Willow Creek.</p>
	5) Will the effluent result in elevated total phosphorus in Willow Creek and the Nottawasaga River?	<p>There will be no measurable increase in total phosphorus (TP) concentrations in Willow Creek or the Nottawasaga River at Full Build Out of the Midhurst Secondary Plan Area.</p> <p>Willow Creek is a Policy 2 receiver for TP since 75th percentile creek concentration of 0.031 mg/L is above the Provincial Water Quality Objective (PWQO) of 0.03 mg/L. At Phase 1 WWTP effluent flows and a TP effluent limit of 0.05 mg/L, Willow Creek downstream concentrations would increase slightly to between 0.032 and 0.034 mg/L. At Full Build Out and a TP effluent limit of 0.03 mg/L, Willow Creek downstream concentrations would slightly improve creek TP concentrations to just below the current concentration of 0.031 mg/L. These calculations were completed using the 75th percentile TP concentration in Willow Creek, as calculated from year-round water quality data. Total Phosphorus concentrations in Willow Creek vary seasonally in response to spring freshet and other periods of greater run-off and subsequent sedimentation. The impact of additional loading from the WWTP is minimal in months with existing TP concentrations near the PWQO. In March, the WWTP discharge improves water quality. In the months of January, February, May, August, September, October, and November, existing Willow Creek average TP concentrations were below the PWQO. In all cases, except May minimum flows for Phase 1, the input from the WWTP discharge (at both Phase 1 and Full Build Out levels) did not result in the downstream TP concentration increasing to beyond the PWQO of 0.03 mg/L.</p>

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	6) Will the sewage outfall aggravate flooding and erosion hazards in Willow Creek?	A fluvial geomorphic assessment of Willow Creek concluded that the addition of the proposed treated effluent discharge would increase water depth by 0.01 to 0.03 m and average velocity by 0.01 m/sec and that bed and bank erosion rates would be unaffected. The addition of effluent will not alter flows beyond their current natural range. The maximum effluent volume of 143 L/sec is <1% of the maximum recorded daily flows (HESL 2016).
	7) Will the water quality of Willow Creek, the Nottawasaga River, Georgian Bay and the Minesing Wetlands be protected?	The Willow Creek Assimilative Capacity Study was completed in May 2016. The discharge of treated effluent from the Midhurst WWTP will have no significant impact on Willow Creek outside of a small mixing zone that will occupy a portion of the creek immediately downstream of the discharge. By protecting water quality in Willow Creek, downstream waterbodies including the Nottawasaga River, Georgian Bay and the Minesing Wetland, will also be protected. <ul style="list-style-type: none"> Willow Creek currently exceeds the Provincial Water Quality Objective for Total Phosphorus of 0.03 mg/L. At Full Build Out of the Midhurst Secondary Plan, effluent will be treated to the PWQO of 0.03 mg/L and there will be no measurable increase in the creek as a result of the discharge. Nitrogen forms will be treated to a very high standard in the WWTP. The effluent will be non-lethal to aquatic life as it leaves the plant, prior to any mixing with the creek. The effluent will mix with the creek after discharge and the resultant dilution and assimilation processes will quickly reduce ammonia concentrations so they will meet the water quality objective for un-ionized ammonia within 360m of the point of discharge. No significant impacts will occur within this 360m "mixing zone" which is allowed under MOECC Policy. Nitrate in the creek will be maintained below water quality objectives at all points. Water quality that is at or below an objective is suitable for indefinite exposure of the most sensitive life stages of the most sensitive aquatic life and is thus safe for aquatic life. Dissolved oxygen concentrations will be maintained at 7.8 – 8.1 mg/L in Willow Creek, well above the requirements for aquatic life.
60	8) Have the cumulative impacts of multiple sewage systems outletting into the Matheson/Willow Creek system and the overall Nottawasaga River been considered?	Any impact of septic systems to Willow Creek or the Nottawasaga River are not within the scope of the Midhurst Secondary Plan Area Class EA but our assessment does account for any existing impacts. The Assimilative Capacity Study utilized current water quality information from Willow Creek to inform modelling and the determination of effluent objectives that meet PWQO. The water quality information integrates any impacts of sewage systems that currently outlet into the Matheson/Willow Creek system so effluent objectives have inherently included these and will protect the creek to current levels. The Nottawasaga River is protected through determination of effluent objectives which meet PWQO for Willow Creek.
	9) Will there be safeguards in the sewage treatment plant in case there are upsets/spills or failures of the treatment system?	The Wastewater Treatment Plant will include redundancy to addresses the risk of upsets/failures as follows: <ol style="list-style-type: none"> A Standby power will be provided so that the plant can operate during power failure situation. Redundant units will be provided – if one unit fails, it can be isolated and the other units will treat the flow (ATs, SCs, Membranes, Screens). Two stage – the biological treatment will enable the plant to meet the nitrogen limits. The secondary process will also discharge effluent that is close to the final limits. The second stage tertiary process will polish the secondary effluent to meet the final limits. Each stage has redundancy so if the secondary stage is stressed, the tertiary stage will compensate.
	10) Will there be thermal impacts to Willow Creek?	Effluent discharge will have a minimal effect on water temperatures in the creek. A mass balance model was built using predicted effluent temperatures (validated by comparison with effluent temperature data from existing WWTPs in southern Ontario) and monthly average and 75th percentile temperatures in Willow Creek near the proposed discharge point. At average water temperatures, the maximum temperature increase in Willow Creek was 1.05°C (at Full Build Out and minimum creek flows), which was predicted for January. Through the summer (June 1 to August 31), the maximum temperature increase was 0.85°C, equating to a final downstream temperature of 18.6°C. At 75th percentile Willow Creek water temperatures, Full Build out and minimum creek flows, the maximum fully mixed downstream temperature was 19.43°C (experienced in July), which was a 0.08°C increase over upstream Willow Creek upstream temperatures of 19.35°C. These are conservative downstream temperature estimates since the effluent will be cooled as it travels along the 4.5km buried forcemain from the WWTP on Snow Valley Road to the discharge point at Willow Creek and will exchange heat with the atmosphere after discharge. The PWQO for water temperature is, "The natural thermal regime of any body of water shall not be altered so as to impair the quality of the natural environment. In particular, the diversity, distribution and abundance of plant and animal life shall not be significantly changed." (MOE 1994). We reviewed the thermal tolerances of resident trout species as representative coldwater organisms. We have captured Brown Trout within Willow Creek and Ministry of Natural Resources and Forestry (MNR) have indicated that others have collected them in Willow Creek as well. Although Brook Trout have a lower thermal tolerance than Brown Trout and were included in fish species lists of Willow Creek provided by NVCA and MNR, we have not captured Brook Trout in field surveys within Willow Creek and Scientific Collection results provided by MNR indicate Brook Trout only in tributaries to Willow Creek.

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		<p>The PWQO for water temperature is, "The natural thermal regime of any body of water shall not be altered so as to impair the quality of the natural environment. In particular, the diversity, distribution and abundance of plant and animal life shall not be significantly changed." (MOE 1994). We reviewed the thermal tolerances of resident trout species as representative coldwater organisms. We have captured Brown Trout within Willow Creek and MNRF have indicated that others have collected them in Willow Creek as well. Although Brook Trout have a lower thermal tolerance than Brown Trout and were included in fish species lists of Willow Creek provided by NVCA and MNRF, we have not captured Brook Trout in field surveys within Willow Creek and Scientific Collection results provided by MNRF indicate Brook Trout only in tributaries to Willow Creek.</p> <p>Water temperature appears to be the most important factor separating trout streams from non-trout streams (Stoneman and Jones, 2000). The habitat requirements of brown trout are essentially the same as brook trout but it can remain active and thriving in slightly higher temperatures; the upper range of which has been reported as 24°C (Brynildson et al 1963) or 25°C (Hasnain et al. 2010). Elliot and Elliot (2010) produced a growth model to assess the impacts of climate change and resulting changes to water temperature on Brown Trout. They found that water temperatures would have to increase by 4°C in winter and spring or 3°C in summer and fall before they had a marked negative impact on growth.</p> <p>Given the conservative mass balance model predictions of a maximum downstream Willow Creek temperature increase from 19.35°C to 19.43°C, the temperature impacts from the WWTP would not be expected to push downstream temperatures above the upper tolerance for Brown Trout or effect growth rates.</p>
11)	Will the fishery be protected?	<p>Potential impacts to the fishery include inputs of stormwater and wastewater. The ACS and determination of effluent objectives will protect fish from deleterious inputs. A habitat assessment was also completed to determine an outfall location that would minimize impacts to fish habitat. Fish assemblages and habitat were characterized through background review and field investigations throughout Willow Creek in 2013, 2014 and 2016. Establishment of accurate baseline conditions is an important component of the Adaptive Management Plan as future monitoring will compare results to baseline conditions and develop mitigation and management plans if required.</p> <p>In addition, a Storm Water Management Plan will be implemented that is designed to infiltrate the first 20 mm of precipitation which will protect the flow regime and water quality in streams and reduce the temperature of stormwater. Baseline characterization of fish and aquatic habitat has been completed through background review and field efforts at all watercourses where stormwater will be discharged, including four sampling locations in Black Creek, three sampling locations in Matheson Creek, and three sampling locations in an unnamed tributary that empties into Little Lake over 6 sampling events in 2008, 7 sampling events in 2015 and 8 sampling events in 2016. These monitoring efforts have characterized baseline conditions and will be used to inform the Adaptive Management Plan.</p>
12)	Will Source Water Protection be addressed?	<p>Yes the key aspects of source water protection, including future wellhead protection areas, aquifer vulnerability, well interference, groundwater recharge and changes to groundwater baseflow are discussed in Appendix M of Hydrogeological Study. An Assessment Report and Source Water Protection Plan as per the Technical Rules will be prepared when the project is approved and the water supply system adopted by the Township of Springwater.</p>
13)	Has a comprehensive monitoring program been developed to examine baseline information and impacts to water quality, water quantity and natural heritage? NVCA recommends this program be developed and integrated into this study and the overall development process.	<p>A comprehensive monitoring program has been completed which characterizes baseline information in Willow Creek and its tributaries. Water quality information was summarized from the MOECC Provincial Water Quality Monitoring Network (PWQMN) station 03005703002 (Willow Creek at Hwy. 28; 13 years of data – 2002 to 2014) and field investigations by HESL staff at: 1) six sampling locations in Willow Creek in 2013, 2014 and 2016; 2) four sampling locations in Black Creek; 3) three sampling locations in Matheson Creek; and 4) three sampling locations in an unnamed tributary that empties into Little Lake over 6 sampling events in 2008, 7 sampling events in 2015 and 8 sampling events in 2016. Information on streamflow was summarized from Water Survey of Canada (WSC) Station 02ED032 (Willow Creek near Minesing 10 years of data – 2006 – 2016).</p> <p>This data informed the completion of an Assimilative Capacity Study for Willow Creek, and characterized baseline conditions for the Adaptive Management Plan. All water quality samples were analyzed for a full suite of chemical parameters and loads of individual parameters were calculated through assessment of recorded stream discharge data. We have also samples of benthic invertebrates, and fish community and documented fish habitat conditions in the watercourses within the Midhurst Secondary Plan Area. These will be fully documented in a baseline conditions report in the spring of 2017.</p> <p>The baseline data set will allow for comparison with measurements of water quality, water quantity and natural heritage in the future. HESL has completed monitoring associated with water quality, water quantity, fisheries, benthic invertebrates and aquatic habitat, while characterization of the baseline terrestrial environment has been completed by Beacon Environmental. An Adaptive Monitoring Plan has been developed and will be implemented to track future conditions in the study area.</p>

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61	Address change to Suite 300.	Master List updated. No response required.
	<p>It appears from your PIC paperwork, and other information available to me, that the Estate's lands are not being properly addressed in your EA work for Midhurst.</p> <p>This is especially the case as the Ministry of Municipal Affairs' appeal of the Midhurst Secondary Plan no longer applies to the Estate's lands due to the Ontario Municipal Board's recent decision to approve the Midhurst Secondary Plan in respect to the Estate's lands as well as its decision to provide urban land use designations for the Estate's lands.</p> <p>As the Frankcom Estate's lands are clearly in the development stream in an area of Midhurst where infrastructure is to be provided early on, and given that the Estate's lands ought to go forward early on in the development of Midhurst due to their location adjacent to Midhurst's built boundary (and in accordance with the County's built boundary phasing policy in force and effect since May 15, 2014) your EA work needs to properly address the Estate's land development status and location. Otherwise, it will be necessary to request a bump-up (i.e. a Part II Order) to deal with the matter.</p>	<p>All proposed development lands identified within Official Plan Amendment 38 (OPA 38 or the Midhurst Secondary Plan) are included within this Class Environmental Assessment. Further this Class EA is an extension/continuation of the Phase 1 and 2 Master Plan that was approved in 2009 which identified a total projected growth for the Midhurst Secondary Plan of 8,208 units comprised of 7,858 new residential units and 350 employment equivalent residential units. It is the Midhurst Secondary Plan that provides specific policy direction with respect to phasing of development, not the Class EA. It is for this reason that lands with draft plan approval are categorized as Phase 1 lands and are specifically accounted for within the EA process, since lands that are already draft approved are less likely to have significant changes. Lands that are current working their way through the development approval process (Pending Applications as per the Planning Act) and have not received draft approval are being considered, but not fully accounted for because those applications/draft plans remain subject to change. Therefore, this Class Environmental Assessment will accommodate new growth of 8,208 units (7,858 + 350) within the Midhurst Secondary Plan Area. This is sufficient to accommodate both the development lands within the 300 ha that were released for development back in 2012 and received Draft Plan approval by the OMB in 2014, as well as the development lands that were recently given population allocations by the County and whose OPA 38 designations were approved by the OMB in 2016 on that basis (including Frankcom).</p> <p>The statement that urban land use designations are now in place for the Frankcom property is accurate. However, planning applications (draft plan of subdivision, zoning) for actual development of the Frankcom property under the Planning Act have not been submitted. At this stage, it remains unclear how the 50% population allocations which were approved by the County as the basis for OMB approval of the designations are to be implemented, due to the following considerations:</p> <ul style="list-style-type: none"> • Is the approved 50% population allocation to be applied to the entire land holding (i.e., at one-half the density originally proposed) and if so, how is that proposed to be implemented? or • Is only 50% of the land holding to be utilized for development? If so, which 50% and how is it to be determined? <p>As previously noted, all lands intended for development as identified within the Midhurst Secondary Plan are included within this Class Environmental Assessment. Accordingly, the Frankcom lands are not excluded from the Class EA. However, allocation of population does not dictate phasing of development. Phasing is determined in accordance with the approved Secondary Plan policies. In particular, Section 9.2(b) of OPA 38 directs that the first phase of development is intended to accommodate "a total of 3,850 new dwelling units plus employment generating uses". In this regard, it is noted that the Draft Plan approvals to date for other development lands under OPA 38 already exceed the 3,850 new dwelling units intended for the first phase of development, by a substantial margin. Section 9.2 f) of OPA 38 in turn provides as follows:</p> <p>f) The timing of release of subsequent phases of new growth within the Secondary Plan Area beyond the first phase will be reviewed with each five-year review of the Township of Springwater Official Plan. The justification of subsequent phases will take into account the overall population and employment forecasts of the Township, satisfactory absorption of residential and employment lands in previous phases, and requiring confirmation of Council of the Township as to the need for additional land for urban residential growth across the Township in keeping with an up-to-date land budget for the municipality and consistent with Provincial, County and Township policies. No amendment is required to this Plan to release subsequent phases of growth provided all other policies of this Plan are met.</p> <p>The Minutes of Settlement dated October 6, 2016 between the County and various Landowners within OPA 38 (including Frankcom) expressly provide that the Landowners "will ensure that all future development applications to implement OPA 38 will conform with the Secondary Plan policies including Policy 9.2(f) and will also conform with applicable Provincial and County policies, plans and requirements."</p>

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		<p>The Frankcom lands are located within the development area of Midhurst and currently do not have approval status. As such, development of the Frankcom lands can only be considered as part of a subsequent phase of development beyond Phase I, in accordance with the above noted policy and the criteria specified therein, and in consultation with the County and other approval authorities. The County's position in that regard is quite clear from the letter dated October 24, 2016 which was provided by the County to the Township and filed as Exhibit 40 in the OMB proceedings respecting the OPA 38 appeals. Item #1 in the Attachment to that letter provides in part as follows:</p> <p>Section 9.2(f) of OPA 38 is in force following the Province's withdrawal of that part of its appeal. Given that the population allocation for the lands which are subject to the Minutes of Settlement is well in excess of the 3,850 units intended for the first phase of development under Section 9.2(b), it is staff's opinion that the lands could only proceed as part of subsequent phases of new growth within the Secondary Plan under Section 9.2(f).</p> <p>This applies to the Frankcom lands and is further underscored by the fact that development applications under the Planning Act (Draft Plan of Subdivision/Zoning By-law Amendment) have not been submitted yet for the Frankcom lands - in contrast with the pending development applications already submitted (and in some cases, already approved) for various other OPA 38 landowners. The following questions arise from this key distinction:</p> <ul style="list-style-type: none"> • What are the infrastructure needs required to service the Frankcom lands? • What basis is there for establishing these infrastructure needs? • What is the approved unit yield for the property (as distinct from population allocation)? • What is the basis for establishing the unit yield? • How can the EA.. specifically consider the Frankcom lands when key information that is normally tied to development applications/approvals is not yet available?
62	<p>2. During October's PIC I mentioned to several members of your company that Figure 5 was missing from your Draft Traffic Operational Analysis Report (copy attached) and I asked that the missing figure be provided to me. I still haven't received it. Accordingly, I would appreciate it if you would email it to me.</p>	<p>Figure 5 is the same as Figure 14 referenced and attached to your email.</p>
	<p>3. The lower right hand corner of Figure 14 of the draft traffic study (see enlarged and marked up excerpt of it attached) shows your proposed phasing related to lands approved for development in accordance with the 300 hectare rule as well as the "development phasing and staging" you say is "to be used to determine infrastructure phasing". Am I correct that all current EA 3 & 4 studies are based on this phasing?</p>	<p>The Table at the bottom right hand corner of Figure 14 (which is also identified on Slide 5 at the recent Public Information Centre (PIC) represents the proposed growth within the Midhurst Secondary Plan that is being utilized within this Class Environmental Assessment. The total number of 9,546 cumulative total units, shown within Figure 14 and Slide 5 table, was carried over from the Midhurst Phase 1 & 2 Master Plan that was completed and approved in 2009 and is broken down as follows:</p> <ul style="list-style-type: none"> • 7,858 new residential units • 350 employment equivalent residential units • 1,338 existing units (service and on serviced)
	<p>4. The residential housing units (and employment units) phased and circled in red on the enlarged and marked up excerpt of the lower right hand corner of Figure 14 are all residential housing units (or employment units) shown and phased on lands that are not part of those lands that were approved for development under the 300 hectare rule. Given that this is the case, please provide me with a diagram showing where these lands are located and who owns them.</p>	<p>The referenced employment units within Phase 1 are not specifically identified on our plans, however these would be located within the employment lands designated under the Midhurst Secondary Plan. The referenced units within Phase 2 are not specifically identified within the phasing or staging plans.</p> <p>All lands (residential, employment, commercial, institutional, open space) that were designated for urban uses prior to the approval of the MSP continue to possess urban land use designations that remain in-force and are not covered under the umbrella of the Ministry's appeal (per the Ministry's letter dated November 28, 2012). A site-specific appeal remains for one property with an employment designation, but this site is not subject to the Ministry's appeal. Reference materials which substantiate this point can be found on Attachment 1 to the Ministry's OMB Withdrawal letter as referenced, which clearly shows that existing residential and employment lands are not subject to the Ministry's appeal.</p> <p>That said, all lands identified within Phase 1 for residential uses are within the 300 hectares for which OPA 38 came into force as a result of the partial withdrawal of the Ministry's appeal in 2012.</p>
	<p>5. Where are the Estate's lands shown in the phasing and staging numbers (or are they) and if they aren't why aren't they, given that among other points a) the Estate's lands are in a prime development location adjacent to Midhurst's built boundary b) the Estate's concept diagram, engineering report and other such documentation showing and addressing the Estate's residential housing units, roads, storm water management pond and so forth have all been on file with the Township since August 29, 2014, and c) the Township has been aware of the Estate's land development project for many years now.</p>	<p>Ainley has not been provided any documentation relating to the Frankcom lands. Applications for the Frankcom lands under the Planning Act (draft plan of subdivision and zoning by-law) have not been approved or even submitted to date. The concept plan submitted for the Frankcom lands as a part of the County's approval of population allocation under the 20,000 Population Program does not provide status from an application standpoint. The merits of a draft plan of subdivision can only be tested through an application under the Planning Act, which includes the consideration of required infrastructure. Moreover, as noted above, significant questions remain to be answered in terms of the 50% population allocations approved by the County and how those allocations are to be implemented on the lands to which they apply, including Frankcom. As such, no specific lot fabric can be shown for the Frankcom lands.</p> <p>Until such time as the Frankcom lands can proceed to development in accordance with the approved OPA 38 phasing policies noted above and complete applications are submitted under the Planning Act, the status of the Frankcom lands will remain as potential lands for future development which will be continue to be considered through the EA process. However, all lands designated for development within OPA 38 approved, including the Frankcom lands, are included in our Phasing and Staging Plan.</p>

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	6. As well, Figure 14 of the draft traffic study (attached) shows purple cross-hatch markings on the Estate's lands in neighbourhood 2 (along with some of the Midhurst Development Doran Road Inc. ("MDDRI") lands in neighbourhood 3 to the south and east of the Estate's lands) however the legend for the diagram does not include what this means. Accordingly, please advise as to what the purple cross-hatch markings on the Estate's lands are intended to mean. By the way, my wife asked you personally about this matter during the PIC in October but you dismissed her query at that time in regard to this matter by advising her that "purple was used because we just ran out of other colours". Your response to her at the PIC was clearly evasive, and I would ask that you provide a clear and meaningful response to the query at the present time	Please see our response to item #5 above.
	7. Additionally, I note that roads are shown and phased (and perhaps residential housing units are phased as well) in your August 2016 study on some of the lands owned by MDDRI that are not part of what was approved for development under the 300 hectare rule. At the same time, no phased roads or housing units are being shown for the Estate's lands in spite of the fact that the Township has had the Estate's Concept Diagram for its land development project since at least August of 2014 and has known about the Estate's land development project for many years now. This is improper, and needs to be corrected at the present time (and certainly before your EA phase 3 & 4 work is completed)	The lot fabric associated with applications for Draft Plan of Subdivision under the Planning Act for the MDDRI future lands within Phase 2 (beyond 300 ha) was provided to Ainley and therefore inserted. As noted above, applications for Draft Plan of Subdivision have not been submitted to date for the Frankcom lands. Please also see our response to item #5 above.
	8. To the extent not already done, your EA work needs to be modified to provide infrastructure early on to the Estate's lands for reasons as detailed in my email to you of November 30, 2016 and for other good and sufficient reasons including economy of scale savings, integration, less disruption to the area in which the Estate's lands are located, County phasing policy related to development outward from a local municipality's built boundary (in this case Midhurst's built boundary) and so on.	The Phasing and Staging Plan being used for the Class EA and identified at the recent PIC is based upon the Draft Plans for lands within the 300 ha that were released for development as part of the Ministry's partial withdrawal of its OPA 38 appeal back in 2012 and that were subsequently approved by the OMB, with Draft Plan conditions, back in 2014. After allowing for the 350 employment equivalent units, this equates to a total of approximately 4,973 units (4,623 + 350). The remaining development units available for Phase 2 (beyond the 300 ha) represent the difference between the total within the Class EA and the Phase 1 numbers (8,208 - 4,973). This amount was then equally subdivided over four stages in Phase 2.
	9. The Estate's lands should never have been excluded from infrastructure development phasing and staging and it certainly shouldn't be now. When do you plan to address this matter? As you know the 30 day review period is coming up soon and the Estate's issues related to your EA work need to be addressed asap and should have been addressed a long time ago.	As previously noted, all lands intended for development within the Midhurst Secondary Plan area under OPA 38 are included within this Class Environmental Assessment. Therefore, the Frankcom Estates lands are not excluded from this Class EA.
	1. Reconsider the requirement of full urbanization of 100% of the Roads identified for improvement. Consider other road cross sections for road reconstruction projects. Proposes alternate road cross sections for identified streets.	The analysis that was completed in advance of the Public Information Centre (PIC) related to the type of road reconstruction was based on the results from the Phase 1 & 2 Master Plan that all roads reconstructions would be to a "full urban cross-section" with curbs, storm sewers., etc, etc. However, a more detailed review and consideration other keys items including promoting stormwater infiltration with the use of open ditches and keeping the existing character of the neighbourhoods has been completed on a street by street basis. This includes the evaluating the need for full urbanization versus rural cross-section and/or a hybrid of the two. In completing this more detailed analysis we also have to take in the consideration the need for sidewalk(s) and/or bicycle lanes on each specific street.
	2. Some flexibility in how active transportation lanes be accommodated should be made in the EA materials.	We acknowledge the concern and agree that issues and the need for compromise may arise during detailed design. From comments received from the PIC we have revisited many of the proposed cross-sections for improvement to existing roads and have proposed paved shoulders on a rural cross-section as a suitable active transportation feature and is generally more easily adapted within the existing ROW and grading constraints. As noted at the PIC we are committed to providing an interconnected Active Transportation Network. Some routes such as Finlay Mill Road it may not be physical possible to accommodate bike lanes. We will endeavour to outline the proposed cross-sections for each street in the ESR.
	3. Separate sidewalks should be provided in areas adjacent to development in order to accommodate walking through residential areas within neighbourhoods. However, on rural roads that are not adjacent to development and for beyond a typical walking route, sidewalks should not be required.	The commitment to having an interconnected Active Transportation Network for the community includes the sidewalks. However, we acknowledge challenges that this will create and as part of our more detailed review of each street we are including alternatives such as a 2 metre paved shoulders to accommodate bicycles and pedestrians in lieu of the traditional 1.5 metre concrete sidewalk.
	4. Where roads are outside of development areas....rural cross section should be considered with active transportation accommodated within a paved shoulder.	See the earlier responses.
	5. Where roads are within the development area....active transportation lanes could be accommodated within cycling lanes either within a paved shoulder, or within a lane in an urban cross section. In these areas, separate sidewalks should be provided to accommodate pedestrians.	Roads within the development areas will have the typical Township Standard cross-section with sidewalk on one or both sides. On through routes within the development areas bike lanes are to be provided but not on minor local streets within the development areas.
	6. Where roads pass through transitional areas where new development is located on only one side of the road, a combination of paved shoulders and urban cross section (or partial urbanized) should be considered in order to provide flexibility.	See the earlier responses.

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63	7. AECOM traffic volume forecasts along Forbes Road are 3 to 4.5 times higher than Ainley Group forecasts (for 2031 forecast). AECOM suggests lower traffic forecasts in 2041 as compared to Ainley forecast. Recommend that the 2031 and 2041 AECOM forecasts for the Forbes Road interchange be re-confirmed.	The AECOM traffic forecasts come from the Regional EMME model that was created initially for the "Simcoe Area Multi-Modal Transportation Strategy" and the "Highway 400 Widening (Hwy 89 to Hwy 11 split) Preliminary Design." The AECOM traffic study is a broader Regional traffic analysis that was carried out to see if replacing a previously considered new interchange with Highway 400 at Pooles Road with improvements at the existing Forbes Road interchange could provide the required benefits to traffic distribution. Their conclusion was that there was value in using the existing interchange at Forbes Road and improving it as may be necessary. The traffic analysis by Ainley Group is more focused on Midhurst Development and individual intersections and uses a different methodology in developing the traffic projections specific to background traffic and trip generation from proposed adjacent development.
	8. Re: Craig Road. Existing traffic will benefit from the Craig Rd extension. Analysis should be done to confirm the benefit of the Craig Road extension for existing and future motorists in the Midhurst area, separate from those that would result from proposed developments. May have impact on the conclusions/level of improvement on Russell Rd (4 lanes in 2031 could be reduced).	In general, the claim for diversion of traffic from Finlay Mill Road due to the Craig Road alternate route was in reference to the weekend evening traffic which is not a timeframe used for the analysis of the various intersections. Craig Road will provide an alternate route for Doran Road area development to reach CR 27/Hwy 26 other than Finlay Mill Road. The widening of Russell Road to 4 lanes is required to provide traffic from the new development areas easier and quicker access to Hwy 400 in lieu of using the Pooles Road, St. Vincent Street, etc. However, even with both in place (Craig Road & 4 Lanes on Russell) the developments still results in a significant increase in weekday traffic on Finlay Mill Road.
	9. Recommend Ainley forecasts be utilized to review traffic operations at the Forbes Road interchange and that the current planned improvements outlined in the EA, and the corresponding cost estimates, be revisited.	The Ainley Group traffic model was used to identify the required improvements at the intersection of Forbes Road and Hwy 400 and the timing of those improvements.
	10. Forbes Rd/Hwy 400 west ramps are proposed to be required during Phase 1 of development without signalization. May be more appropriately configured as part of the Forbes Rd widening and urbanization during Phase 2.	Our analysis provides for a left turn lane and right turn lane at the western ramp terminals on Forbes Road early in the development process. We note that by 2031 the LOS for is LOS E. We did not want to delay the improvements. One of the comments in the AECOM analysis identifying the Forbes Road interchange as an alternate strategy instead of a new interchange at Pooles Road was that we should make the Forbes Road link as convenient as possible to derive maximum benefit for diversion to this route. Further discussion will be held with MTO who have final say on the type and timing of improvement.
	11. Separate turn lanes (at St. Vincent/Pooles intersection) would not be required for either west westbound or eastbound approaches, assuming signalization.	We have revisited our analysis for this intersection and are currently recommending keeping the offset intersection with signalization of the intersection of the southern portion (Pooles and St. Vincent).
	12. Recommends that the widening of Russell Rd. to 4 lanes be deferred into Phase 2 of development.	We are proposing an interim rural 2 lane phase and possibly multi-use trail in Phase 1 Stage 2 followed by four-lane urban section between Doran Road and Forbes Road at the beginning of Phase 2.
	13. Recommends that the timing of any improvement to Snow Valley Rd. be tied into the development of the employment lands and not Stage 1 of the residential lands.	Carson North development area will have access to Snow Valley Road at Phase 1 Stage 1 and combined with sewer works required for servicing of Doran Developments the timing of the reconstruction of this road has been placed at the initial stage of development.
	14. Recommend that the entirety of the Craig Rd. extension be included in one stage, rather than westerly in Stage 2 and easterly in Stage 3.	A large number of Comments have been received following the PIC requesting that Craig Road Extension be constructed in conjunction with Phase 1 Stage 1, as such we have adjusted the schedule to show this.
	15. Recommends that widening of Wilson Dr. be shown as a separate, County of Simcoe project.	The Staging Plan that was developed for the purpose of identifying when (in conjunction with what stage of Development) a particular section of road will need to be upgraded and not who it will be upgraded by. It is acknowledged that Wilson Drive is a County Road and that detailed discussions will have to take place to coordinate who actually undertakes the work.
	16. Requesting that the Township consider approaching the County to initiate the process in evaluating the benefit of adding Craig Rd extension and Forbes Rd upgrade to the County's Capital Roads Program.	Representatives (Senior Staff and key Politicians) from both Township and Simcoe County had a meeting recently, whereby one of the items on the Agenda was the future ownership of Craig Road Extension. The discussions at this meeting were very "high level", however, these was an interest on both sides to continue them. It was concluded that the next steps in this process will involve Ainley's providing technical information relating to Craig Road Extension to the County Staff for review.
64	Wants additional information/clarification re: proposed future traffic generation and impact upon existing City transportation corridors.	
	1. Wants proposed timing of transportation improvements;	Timing of transportation improvements have been identified in the PIC presentation material and are related to each specific stage of development. Some aspects of the timing are being reviewed based on comments received at or following the PIC.
	2. Why is Anne St not being considered as a major transportation link?	Anne Street south of Carson Road to the City of Barrie limits is considered a significant transportation link for the Carson South development area and to a lesser extent for Carson North development.
	3. Why did the Draft Traffic Operational Analysis select only the Bayfield Street corridor to determine annual transportation growth rates? Forbes Road is indicated to be higher growth rate and is to be the primary traffic route for the Doran Road Development area.	That growth rate was selected as generally representative of growth within the area. Table 7.3.1-1 provided growth rates along 4 routes only one of them was significantly higher than 1% and that was for Forbes Road from CR 93 to Hwy 400. It is interesting to note that County Road 11 to the east of this segment had a growth of 0.15%. The County figures for Wilson Road south of Carson between 2012 and 2016 was zero and decreased in 2016. In our opinion the 1% growth rate applied is suitable as a general approximation.
	4. Confirm that development area will have a single local street access to the employment lands on Snow Valley Road and that there are no intentions of extending Anne St north to Snow Valley Road.	That is correct.
	5. Existing traffic assessment has not considered traffic growth on Anne St. – Section 4.3.2 of Transportation Study.	Traffic from and to Anne Street through our study area has to pass through the intersections of Carson Road with Hwy 26 and Wilson Road and those traffic volumes have been factored for background growth.

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	6. Draft Traffic Operational Analysis has not accounted for Saturday trips – minimal retail shopping trips. City of Barrie traffic corridors will be impacted. Please update Analysis to account for Saturday trips.	Traffic analysis is typically carried out for the weekday morning and weekday afternoon peak hours. Saturday peaks are typically included for commercial development areas and developments in a Central Business District. In addition, weekend traffic to or from the commercial areas in Barrie will be dispersed throughout the day and therefore, lower than the weekday AM and PM peaks. Also, the aim is to complete the analysis for the 30th highest traffic hour of the year.
	7. Clarify what is proposed for the upgrades on Anne St and St. Vincent St. Please clarify number of lanes, bike lanes, sidewalks etc.	Anne Street is proposed as a two lane urban cross-section with bicycle lanes and sidewalk(s)
	8. Please provide clarification as to the estimated start time of Phase 1 – Stage 3.	We have not predicated specific dates for each stage of development as it is very dependent upon the market. However, it is anticipated that Phase 1 - Stage 1 will start in 2019/20 with the development uptake being approximately 300 to 400 units per year. Also, note that this estimated development uptake is a combined total for both Carson Road and Doran Road development areas.
	9. Clarify how County Transportation Master Plan has been considered – expansion of municipal transit into the Community.	The County Transportation Master Plan was used as background information to estimate background traffic growth and general information on trip destination.
65	Concerned about Craig Road extension increasing traffic to County Rd 27. Consider safety of residents of Mills Circle – dangerous turn into development from County Rd 27.	The Intersection of Mills Circle and County Road 27 is over 1 km away from the proposed intersection of Craig Road Extension and County Road 27. Therefore we do not foresee the proposed Craig Road Extension having an impact on Mills Circle. However, we understand the Township have spoken with Simcoe County (Operating authority for County Road 27) about the Mills Circle & County Rd 27 intersection to see if any modifications could be made to improve it.
	Wants bike lanes on County Rd 27	The inclusion of bike lanes on a County Road is not proposed in this Class EA.
	1. Council has not ensured that the Residents of Midhurst understand exactly how much traffic will increase along their primary and secondary roads in the village and what the implications of this potential traffic increase might be. Once the following requested information and studies are complete, the full details should be mailed to each residence in Midhurst and then a referendum on the options outlined under Traffic Calming below should be held. The MSP EA 3 and 4 should not be voted on until that is complete.	The Township initiated a comprehensive communication plan, in excess of the Class EA requirements, to ensure that the existing residents are well informed about the Midhurst Class EA and provided for a number of extended comments periods associated with the overall Class EA. This included setting up a special Resident Liaison Group to disseminate information on a regular basis back out to the existing residents of Midhurst. In addition, the detailed background Technical Reports (for Water, Wastewater & Traffic) have been available on the Township website since the summer of 2016.
	2a. Requests a summary sheet showing estimates of how many vehicles will use each identified commuter Road for each stage of each development in each neighbourhood. Summary to include the 2008, 2013 estimates for each road so we might determine what future traffic numbers might look like even if the Doran Road Development is never built. Current chart for 2013, 2031 and 2041 is very confusing. Without these numbers, the developers will argue that infrastructure is based on the number of homes built, not how many new car trips are generated. Also need these estimates to confirm the 8 probable trips per household that is currently assumed. Chart should also include estimates of new levels of traffic passing through the village from residents and businesses living north and south of Midhurst (not generated by the MSP) for each stage of each Phase of each Development.	The requested tables are attached.
	2b. Unknown party conducted a 5-day traffic count during the 2016 Victoria Day weekend, at 7 locations along St. Vincent and then followed it up with a similar study along Finlay Mill Rd. Who undertook the study and why? Why were we not informed that these studies were taking place and why didn't our engineers or town staff recommend that we conduct these same real time studies?	The Township did not undertake any Traffic Counts during the Victoria Day weekend. In addition, the Township has contacted the Simcoe County and they confirmed that they did not undertake any Traffic Counts. Therefore, we are unaware who completed the referenced traffic counts.
	3a. Craig Road bypass will become an absolute necessity if concerns expressed above come to pass. Must have hard and firm costs associated with the construction of this bypass (peer reviewed). Recommend that construction bids be requested for its construction before any other construction associated with the MSP be allowed to commence.	Subsequent to the PIC we have adjusted the proposed staging of the Road improvements such that Craig Road will be constructed in conjunction with Phase 1 Stage 1. In addition please refer to the attached Fact Sheet # 6 associated with Craig Road Extension.
66	3b. If the Town proceeds with plans to build the bypass before any Doran Road homes are built, it is conceivable that a disruption to the economy could delay construction of homes, meaning tax revenue would have to be diverted to pay for the bypass. Will there be enough revenue coming in to avoid a massive increase in the tax rate or destroy our borrowing ability for any other infrastructure or repairs required by the Township?	The financial model associated with funding the construction of Craig Road Extension has not been finalized yet and when it is the Township will ensure that the appropriate safety measures are in place to protect the Township.
	4. Any estimate on construction of the Craig Road bypass should contain a secondary quote to pre-build bridges to 4 lanes. If we cannot afford to expand the bypass to 4 lanes, the traffic will find its way south and overwhelm the Village.	There are no bridges proposed along Craig Road. The two drainage crossings will require the installation of small to medium sized culverts, but not bridges.

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	<p>5a. Completion of traffic calming studies and referendum, along with firm costs associated with the 4 lane Craig Road bypass would allow negotiations with the developers during the cost sharing portion of this plan in a far stronger negotiating position.</p> <p>5b. Developers will not pay for improvement to secondary roads in Midhurst, Waite, Park Trail, Silverwood, Frid, Green Pine Road and Spence might all require upgrades and sidewalks installed to accommodate traffic bypassing clogged primary roads.</p> <p>6. 100% of the new traffic going through the Village will be generated by people who do not live here. They won't care about the safety of our residents and we will not have sufficient traffic enforcement to ensure compliance with traffic laws. Should ask for one more study. What are the traffic implications and associated costs and/or savings involved in implementing a full traffic calming plan, (either slowing traffic down through the village, as a disincentive to use these roads by NON Midhurst traffic) or a full traffic diversion plan, (prohibiting traffic going southbound out of, or northbound into the new Doran Road developments?)</p>	<p>In 2016 the Township developed Traffic Calming polices and within the Environmental Study Report (ESR) we will recommend that Traffic Calming measures be further investigated during the detailed engineering design stage for key existing streets. Preliminary construction cost estimates have been prepared for Craig Road which in our opinion are conservative and will be refined again after detailed design in the future. In addition please refer to the attached Fact Sheet #6 associated with Craig Road Extension.</p> <p>The detailed Traffic Model has confirmed that the identified road improvements can be accommodate the proposed traffic from the new developments. Any increase in traffic on the secondary roads will be relatively minor and well within the capacity of the existing municipal road. In particular, the model has identified the following:</p> <ul style="list-style-type: none"> • An increase in traffic along Spence Avenue from approximately 21 vehicles in the peak hour in 2013 to 107 by 2041 due to development. However, this is still considered light traffic for a two lane street and as such no improvements are proposed along Spence Avenue. • Park Trail will not be a route preferred over the proposed completion of the link between Gill Road and St. Vincent. • Silverwood Crescent and Frid Street will not be a preferred route over Pooles to St. Vincent unless significant delays are occurring at that intersection and that is why we propose signalization at Pooles and St. Vincent. • Wattie Road to Green Pine Road to St. Vincent does serve as an east/west route to Finlay Mill Road and the Hwy 26 corridor and we have assigned traffic to that route from Doran South development area. The traffic model shows an increase in traffic during the peak hour in 2013 from 175 to 302 as two-way peak hour traffic in 2041. This is well within the capacity of the existing two lane road and as such no improvements are proposed along Wattie Road. <p>As noted earlier in 2016 the Township developed Traffic Calming polices and within the Environmental Study Report (ESR) we will recommend that Traffic Calming measures be further investigated during the detailed engineering design stage for the key existing streets.</p>
67	Unable to attend PIC and looking for information	All information regarding the Class EA project can be found on the Township website (http://www.springwater.ca/cms/one.aspx?pagelId=4779649).
68	Will he have to pay for sewers (for himself or anyone else?)	It is the current Council's position that the existing residents of Midhurst will not be required to connect to the proposed Wastewater Treatment Facility.