Nose Creek Watershed Partnership

STAKEHOLDER ENGAGEMENT SESSION III
"WHAT WE HEARD" SUMMARY DOCUMENT

IN SUPPORT OF THE REVIEW AND UPDATE OF THE NOSE CREEK WATERSHED WATER MANAGEMENT PLAN

Prepared by: Palliser Environmental Services Ltd.

Prepared for: Nose Creek Watershed Partnership

November 2018

ACKNOWLEDGEMENTS

Thank you to all of the participants who attended the engagement sessions and contributed their thoughtful comments and input to the Update of the Nose Creek Watershed Water Management Plan. The complete list of participants is found in Appendix A.

Thank you to the members of the Nose Creek Watershed Partnership for engaging staff in each of the sessions, and to the City of Airdrie, Fort Calgary and Rocky View County for hosting the venues. Members of the Technical Team are also recognized for their contributions to the engagement session discussions.

Nose Creek Watershed Partnership

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Nose Creek Watershed Partnership

Palliser Environmental Services Ltd.

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1.0 Introduction

The Nose Creek Watershed Partnership (NCWP or Partnership) has undertaken a review and update of the Nose Creek Watershed Water Management Plan (Plan) in 2016-17. The updated Plan will:

1. Reflect current policies and practices
2. Encourage advancement of policies and practices for continued effort to protect riparian areas and improve water quality
3. Recommend management targets and promote monitoring, and performance evaluation

To support the Plan update, the NCWP hosted a series of Stakeholder Engagement Sessions at key junctions in the planning process. The engagement sessions were held to create and maintain a constructive dialogue with watershed stakeholders to ensure the long-term viability of the Nose Creek Plan. Engagement Session I was hosted in May/June 2016 and focused on watershed condition, historic and new challenges in the watershed, and the implementation of the existing Plan. Engagement Session II focused on the discussion of early recommendations proposed for the update of the Plan, and on identifying solutions to some of the ongoing and new challenges. Engagement Session II, hosted November/December 2016, aimed to build on "What We Heard" during the first series of engagement (PESL 2016) and present early draft recommendations.

Since the last stakeholder engagement series, the NCWP considered stakeholder feedback, met with municipal staff and Alberta Environment and Parks, and discussed implementation priorities. The NCWP completed the final draft of the Updated Nose Creek Plan in February 2018. The draft Plan was circulated to stakeholders and presented at each of three engagement sessions held in the watershed. This report summarizes participation, provides highlights from the question/answer period, and compiles written feedback received during the engagement period.

2.0 Stakeholder Engagement

2.1 Stakeholder Engagement Sessions

The NCWP hosted three stakeholder engagement sessions across the Nose Creek watershed from May 11, 2018 to May 17, 2018. The purpose of stakeholder engagement was to:

1) Provide an overview of the key changes made to the Plan
2) Highlight implementation priorities and next steps
3) Provide stakeholders the opportunity to ask questions regarding the key changes to the Plan, implementation priorities, and next steps
4) Collect feedback on the final Plan

2.2 Session Format

Each engagement session was scheduled for 2.5 hours. The agenda for each session included opening remarks provided by N.Kuzmak, NCWP Chair and City of Calgary, and a presentation that summarized the key changes to the draft updated Nose Creek Plan provided by S. Riemersma, Palliser Environmental Services Ltd. In addition, L. Stevens provided a welcome from the City of Airdrie at the Airdrie session, and B. van Duin provided a welcome from the City of Calgary at the Calgary session. A question and answer period followed the formal presentation. The final half hour provided time for stakeholders to network, complete comment sheets, and view displays before the session was adjourned.

2.3 Participation

Table 1 summarizes the level of stakeholder participation in each session. Additional meetings were held with Alberta Environment and Parks (May 8, 2018), the National Association of Industrial and Office Parks (NAIOP) on June 12, 2018, and BILD (June 19, 2018).

Table 1. Summary of participants in the NCWP Stakeholder engagement sessions, 2018.

Stakeholder Group	May 11, 2018 City of Airdrie		May 14, 2018 Fort Calgary		May 17, 2018 Rocky View County		Total Stakeholders
	Stakeholders	NCWP	Stakeholders	NCWP	Stakeholders	NCWP	
Alberta Environment and Parks	0	-	2	-	0	-	2
City of Airdrie	9	4	-	2	0	2	9
City of Calgary	1	2	1	4	2	2	4
Rocky View County	0	1	0	0	0	0	0
Development Industry/Consultants	2	-	14	-	7	-	23
Non-Government Organization	2	1	0	1	5	1	7
Total Participants	**14**	**8**	**17**	**7**	**14**	**6**	**45**

Submission of written comments was encouraged from all participants at each session. In total, four comment sheets were received (Appendix B). Some participants indicated that more substantial comments would be submitted to the NCWP prior to the June 15, 2018 comment deadline. Written feedback was received from May 16 to June 16 from 6 development organizations/consultants, 7 environmental non-government organizations, and one provincial department (Appendix C).

3.0 Key Discussion Highlights

Theme	Question or Comment	Response
Water Quantity		
Runoff Volume Control Target	Are municipalities concerned about the implementation of the runoff volume target? Are all stakeholders on board with meeting the target, specifically municipalities?	• NCWP partners are aware of the challenges with the implementation of runoff volume targets and are in discussion with the province to identify and enable additional tools that can help to achieve the target; the need to evaluate options for providing relaxations to support implementation was also identified
	Where did the runoff volume target number originally come from? Is it the right number?	• The Runoff Volume Control Targets (2008) originated from the IFN Study completed in 2005. Discharge data from the Water Survey of Canada was used in the study, and targets were developed using best available science. See the NCWP for full reports. • The volume target considered agricultural landscape, stream channel morphology, water quality issues, and impacts to the fishery based on a wider stream channel. • The more recent work completed at Pine Creek resulted in a similar outcome (target) as Nose Creek.
	Have you consulted with other jurisdictions to see what they have done?	• Yes, other jurisdictions are using similar approaches, and other approaches might actually be stricter. This is not a unique concept. Watershed management and protecting receiving streams and wetlands is well-established across the continent
	Has there been an assessment of what it would cost to bioengineer the creek, or to use a different approach?	• The West Nose Creek Stream Corridor Assessment (2002) investigated bioengineering of erosion hotspots along the creek. The erosion problem was widespread and the bioengineering work was cost-prohibitive. • Runoff volume control targets are an accepted approach used across North America and elsewhere; a watershed-scale modelling tool is needed to identify and evaluate additional approaches.
	What is the redevelopment target?	• Currently there is no target for redevelopment areas.
	What is the timeline for outcomes, engagement and revisiting the 2013 target?	• The approximate timeline for revisiting the 2017 target is 2021, when a watershed-scale modelling tool and additional monitoring data may be available.
	Is it possible to change water volumes given changes to the fluvial morphology of the creek? What does that mean for potential enhanced treatment in the catchment? Can we improve the performance of stormwater facilities?	• The watershed-scale model is needed to evaluate how changes in water volume impact the hydrology, ecology, water quality and infrastructure performance at differing spatial and temporal scales.
	Industry is finding that targets in Nose Creek are	• Some developments have met the targets. Share information and experience

Theme	Question or Comment	Response
	unattainable. How can industry move forward until 2021 if targets stay the same? Industry still cannot meet irrigation recommendations. How does industry balance requirements outlined in the MDP (e.g., density targets)?	among industry colleagues • NCWP is interested to hear what industry thinks is attainable and why • The NCWP met with AEP and were encouraged by the discussion. There is a possibility that the draft Water Re-Use and Stormwater Use Policy will be available for review in the fall. The University of Alberta's School of Health is also contributing to a framework. This work will enable additional tools and approaches to stormwater management.
Runoff Volume Control Target	How does industry access other levels of funding to pilot and test new approaches?	• Industry can form partnerships and access grant funding to pilot and test new approaches.
	What is the determining factor for deferring implementation of the 2017 target until 2021? Is it because various infrastructures now could not comply with the 2017 target?	• NCWP recognizes the challenges associated with the implementation of the 2017 targets without the support of provincial water re-use and stormwater use policies, and also guidance on bacteria and performance criteria, and expectations. Deferring the 2017 target allows time for Provincial policies to advance. At the time of writing the Nose Creek Plan in 2008, it was expected that policy would progress at the same rate as the technology and tools needed to manage the targets.
	Two key changes to the plan involve deferring implementation of the target until data can show what we are accomplishing. What work can we all do together to accomplish this?	• NCWP will strive to engage more regularly with stakeholders. • The NCWP partners will explore under what premise relaxations should be provided. While relaxations were granted in the past, there needs to be clear understanding that 1) there are consequences associated with the relaxation (impacts to creek), and 2) someone (e.g., taxpayer) is ultimately responsible for the cost. • NCWP requested specific information from industry regarding costs and technical challenges to better inform discussion and work to achieve objectives
	Is Calgary's Water Balance Spreadsheet applicable in other jurisdictions in the watershed in lieu of continuous modelling to quantify numbers?	• Yes, the City of Airdrie is also using Calgary's Water Balance Spreadsheet.
	What implementation measures are proposed to address volume targets for infill development areas where land uses have already been planned or dedicated?	• Implementation measures will be explored as a next step. No new targets are recommended in the updated Nose Creek Plan at this time.

Theme	Question or Comment	Response
Data Trends	Is long-term water quantity information available? Is there a way to quantify water quantity to quality (calculate loadings)?	• Discharge data has been collected periodically by Water Survey of Canada at 4 sites in the watershed (i.e., Nose Creek above Airdrie from 2005 to 2015 (STN 05BH014), Nose Creek at Calgary from 1911 to 1986 (STN 05BH003), Nose Creek Near the Mouth from 1980 to 1989 (STN 05BH901) and West Nose Creek at Calgary from 2013 to 2014 (STN 05BH016). • AEP collected water quality data in the 1980s, from 2001 to 2003, and in 2007 and 2008. Sampling frequency varied. • The NCWP collected water quality data from 1999 to 2001. • From 2009 to 2013, the NCWP collected streamflow measurements from 6 locations across the watershed 10 times per year (April to October) from 2009 to 2013 that corresponded to water quality sampling events. • Currently, Calgary collects water quality data at four sites monthly (3 sites have been monitored since 2003). Airdrie collects water quality data at 6 sites monthly. • Although the monitoring programs are not standardized, some water quality trends have emerged.
	Can higher concentrations of TSS and phosphorus be permitted in areas where runoff targets (flow volume) are significantly reduced?	• Although total TSS loadings (concentration x volume) may be reduced due to decreased volume, high TSS concentrations may still impact aquatic life and infrastructure (e.g., cover fish spawning grounds, transport other contaminants, reduce lifespan of infrastructure).
Internal Drainage Areas	Are internal drainage areas still part of the Plan?	• Yes, the entire IDA Policy was included in the Plan update.
	Industry understands runoff volume targets are required to protect the creek from overloading and erosion. The delay in 2017 target implementation is also appreciated. It is good that the IDA policy allows for some discharge, as zero discharge is not viable in long-term	• These comments are appreciated and align with the NCWP.
Stormwater Capture	Is there a plan to capture rain in high rainfall periods and release during time of drought?	• In Airdrie, water storage upstream of the City is being lost, and flows are faster due to urbanization. Airdrie is working toward maintaining natural resiliency of the watershed by minimizing wetland loss. Tools are needed to evaluate water balance and optimize the natural and built system.
Watershed-scale Model	What are the objectives of the water model?	• Objectives include an evaluation for optimizing the hydraulic and water quality regime, and identifying opportunities to operate infrastructure differently than in past. The full suite of objectives are provided in the draft updated Plan.
	Will the model re-create existing conditions or will it look at future build-out scenarios?	• The model would investigate pre-existing conditions, and also predict potential future changes and stressors.

Theme	Question or Comment	Response
	How will individual sites with different volume control strategies and cumulative impacts of variations in volume control be incorporated in a model, what will the spatial resolution need to be? What information is known about volume target relaxations or grandfathering that municipalities have already granted?	• A Modelling Team and Subcommittee will be established to refine the scope of the modelling project and establish the overall approach. • Historic information regarding relaxations is understood within each jurisdiction. Relaxations are a tool used to increase flexibility in decision-making.
Low Impact Development	Are guidelines available (percentages) for LID use on public and/or private space?	• Certain aspects of LID have guidelines such as green/open space considered for recreation needs, while roadway sites are reviewed individually.
	The Calgary LID Modules and LID Toolkit are useful, but they have not quantified total runoff volume reduction values. Industry and the NCWP should quantify and agree on merits of LID initiatives that support runoff volume reductions. Sample projects underway by industry could provide actual input parameters as "typical" development practices. This would meet the requirement of City of Calgary Bylaw IP2007.	• The NCWP would be interested in generating a list of current industry initiatives that could support the evaluation of LID for runoff volume reduction.
	Has the NCWP considered developing standard practices known to achieve volume control targets?	• Some standard practices have been identified and are currently being implemented by industry (i.e., 300 mm minimum topsoil depth). • Each development is unique and the practices that can achieve runoff volume reductions may not all apply to all sites. A suite of practices is promoted.
	Consult with other municipalities, jurisdictions on lessons learned and develop a tool kit of best practices or proven methods.	• Partnering with other communities will make funding available to understand and develop tools to support best practices.
Runoff Volume Control Target Solutions	It is difficult to implement runoff volume controls on a site level without irrigation. Decreasing imperviousness or increasing pond size seems to be the only ways to obtain the target. What would be feasible? If irrigation is implemented on 10% of MR, and is centrally located around the pond, the pond would take up 20% of the catchment to meet targets, increasing density by 20-25% in residential lot areas. Multi-family and denser housing types may be constructed, but this is not what developers think the market wants. If ponds are larger, they need to be	• The NCWP supports the integration of storm ponds into communities, if water quality meets end use objectives, and public safety is maintained.

Theme	Question or Comment	Response
	marketed as amenities and integrated into communities.	
Runoff Volume Control Target Solutions	Regional solutions may be practical where little landscaping area is available and size of building options are limited in greenfield developments. Targets could be different between residential and industrial sites as they are very different in terms of LID implementation. A cash-in-lieu option may be provided where individual industrial sites contribute to a fund that sources a location and a design for reuse or infiltration in the Nose Creek valley, where gravels have an infiltration rate 100x higher than clay. For developments near the confluence, the volume control model should be spent on armouring the already channelized creek to prevent additional erosion. Those sites could install a significant water quality unit at a fraction of the cost to construct and maintain.	• The NCWP would consider these scenarios in combination with other approaches as modelling tool develops. Implications for a level playing field among industry and cost/benefits would need to be explored.
	When a 30 mm target is applied in Airdrie or Calgary, the most effective volume control strategy is irrigation of MR and PUL (especially around ponds), 300 mm topsoil and a catchment of no more than 55% imperviousness. Successful implementation of 16 mm with densities higher than 6-7 upa, tighter soils, and or restrictions on irrigation of treated stormwater requires a coordinated approach in land use planning that balances densities with open space preservation, irrigation, and wetland preservation.	• The NCWP agrees that stormwater management requires a coordinated approach.
	Consider relaxing targets for certain situations where reasonable and best efforts may be a better approach (i.e., redevelopment areas).	• The NCWP partners will explore under what premise relaxations may be provided; this has been recommended in the updated Nose Creek Plan.
Water Quality		
Monitoring	How is water quality being monitored?	• Water quality is currently monitored by the provincial monitoring group and individual municipalities (see Data Trends – Page 9). A recommendation was put forward to develop a comprehensive, standardized monitoring program to improve frequency and consistency across the watershed.

Theme	Question or Comment	Response
	Do you know if the Provincial monitoring group will be monitoring temperature at Nose Creek?	• The Provincial monitoring group is collecting water quality data at the site Nose Creek at the Mouth" monthly. Continuous temperature monitoring is not being done at this site.
Guidelines and Objectives	Do we have site-specific criteria for Nose Creek?	• BRBC has set site-specific water quality objectives established for Nose Creek • Provincial water quality guidelines are also used to evaluate water quality. • The objective is not to improve Nose Creek water quality to the same standards as Bow River water quality; will be looking to improved design on stormponds and LID
Data Trends	Some improvements in condition have been observed where changes have been invested. Is it fair to assume that we can maintain a level of current condition?	• New developments have only been implementing staged targets for 10 years, and not all developments have been fully built-out. It will take much longer to see improvements in the creek. The full results have not been realized, and our understanding of how effective they are is in its infancy. It is difficult to know if existing conditions can be maintained with the level of growth taking place currently and that growth which is planned for the future. • The proposed watershed-scale modelling tool will help to understand the impact of future growth on water resources.
	TSS downstream of Airdrie has remained relatively the same through time. If we are on track why are we trying to compensate. NCWP should focus on areas already impacted, rather than punish future development. Industry wants to make sure that future tax implications are understood by council.	• The NCWP believe they are on the right track. TSS has increased from development conditions when comparing upstream (headwaters) to downstream concentrations. The full impact of existing conditions is yet to be seen. • A balance is sought between watershed protection and development. The rate payer will ultimately pay for actions or inactions. The challenge is to determine the optimum combination of actions to reach objectives.
	Does the plan speak to agricultural impacts from a phosphorus perspective? How do we get them on board?	• The agricultural industry is regulated under the *Agricultural Operations Practices Act*. The industry has also established industry beneficial management practices, and can participate in environmental farm plan program. • Agricultural nutrient management planning and technology have advanced significantly in the past 20 years. Precision agricultural, including soil testing and rate control, allows farmers to place nutrients at the right place and position in a field to reduce wastage and loss of nutrients in runoff. • The contribution of runoff is relatively small from agricultural lands compared to urbanized areas. • Municipalities are actively engaging with rural landowners. • TSS and phosphorus are related. Generally, where TSS is present in higher concentration, higher phosphorus concentration is also observed.
	There is no data to say why the water quality is so	• Water quality data shows that water quality degrades as water flows from

Theme	Question or Comment	Response
	poor. Is it a result from development or agriculture practices?	upstream to downstream. The upstream area is mainly agricultural; impacts we see are from urbanized areas. When targets were developed there was a lot of work done to support them. All of this work is available on the website. Work relates to changes on the creek and impacts observed on the fishery and how that relates to runoff volume. Many people have forgotten the work that was done 10-15 years ago. The recommendations are a tool to direct us to the monitoring data to fine tune recommendations and determine the best way to do that. Any support that can be provided to the Partnership would be welcome. Cannot speculate on changing current conditions and guidelines without completing the work that needs to be done.
	Does the report speak to what the contributions of the various industries? How are the baseline water quality guidelines determined?	• Provincial and federal government determine guidelines. The Province is moving to site-specific objectives for some parameters.
Stormwater	It appears our stormponds are meeting targets for TSS and phosphorus. Is that correct?	Currently, there are targets set for some fractions of TSS, but no target exists for phosphorus, so evaluation is incomplete. In addition, there is currently no difference in how stormponds are being designed in terms of water quality. Water quality improvement is not a consistent management objective for storm pond design, other than requirements to reduce certain fractions of TSS. • A preliminary study compared stormwater quality from outfalls associated with stormponds with those having no stormpond or BMP upstream of the outfall. Grab sample data showed improved water quality (lower TSS and phosphorus concentrations) from outfalls having stormponds compared to those without. There is a need to continue with a comprehensive monitoring program to understand how much of an impact stormponds have on overall loadings, and how stormwater quality varies by catchment. • The Plan recommends the development of targets for phosphorus and other water quality indicators of concern.
Town of Crossfield	Is addressing the Crossfield treated effluent discharge viewed as a priority to improve the creek?	• The discharge is viewed as a regional issue that is being addressed through AEP.
Riparian Protection		
Preservation of wetlands/ watercourses	Industry is concerned about the difficulty in preserving wetlands and ephemeral watercourses. In one case, a new land use designation was required to save the wetland. Industry is concerned that Water Resources and Calgary Parks are not always on the same page.	• Airdrie's new wetland policy is nearly complete and AEP may provide guidance regarding stormwater release to wetlands this fall (2018). Currently, there are legal repercussions for impacting wetlands. • The NCWP and partners are working to improve tools and process. Partners, including AEP, are trying to identify wetlands and watercourses early in the

Theme	Question or Comment	Response
		process. • Examples of where ephemeral watercourses are being retained include Keystone Development, and back-of-lots that drain to corridors.
Setbacks	Why can't developers reduce (encroach on) the setback, and then restore the riparian area once it is developed?	• Riparian areas are complex systems where soils and plant community reflect local hydrology. Loss of riparian areas reduces water storage capacity, increases flow velocities and erosion, and increases flood potential. Restoration may not be fully achieved. • Is there scientific evidence that the intervention made on a setback is more beneficial than the approach proposed by the NCWP?
	Is it the Province or Municipality that determines what the setbacks are on naturally occurring watercourses?	• A minimum setback of 6 m is established for water quality protection in the *MGA*. Many jurisdictions recognize that 6 m is not adequate protection for water quality, flood mitigation, or biodiversity. Municipalities manage land use and can establish larger setbacks in bylaws that align with Provincial guidance and *Acts*. The NCWP goal is to align setbacks in the watershed so the same standards apply across jurisdictional boundaries.
Erosion	Has the NCWP looked at the bed erosion at specific locations? Is the NCWP trying to bring back some riparian-type structures? Is the intent to restore the channel?	• Down-cutting on channels for Nose and West Nose creeks is a concern because of the potential for increased streambank erosion if roots are not present to protect them. Fifteen years ago, a study investigated the use of rip-rap to stabilize streambanks. This approach did not progress as the problem was widespread and cost-inhibitive. This approach also reduced the floodplain available to the creek, creating potential consequences for development downstream. The Plan recommends avoiding the problem in the first place, or minimizing the potential for erosion at the least.
Ephemeral and Intermittent Watercourses	Every parcel of land has an ephemeral watercourse on it. A quarter section of land may have seven different watercourses flowing in different directions, and seven low areas across the land that would need protection. Is that realistic? Water should be directed to minimize the number of catchments required using common sense.	• Understanding where these watercourses are and how they will impact water volumes is a first step. In a development scenario, where will the water go? It is an important conversation for public safety (flood, infrastructure) and water quality at the beginning of the process and not the end. • Drainage Bylaws in each Municipality must be considered. • NCWP recommended that the Province has a greater level of involvement early in process so there is clarity in what these watercourses means to the land development. • Keystone development is a good example where watercourses were retained.
Ephemeral and Intermittent Watercourses	We appreciate the concern for intermittent streams and loss of wetlands and would like to see the recommendations fully adopted.	• The NCWP agrees the recommendations should be adopted.
Wetlands	How is Ducks Unlimited Canada (DUC) involved in the	• DUC weighed-in early and is typically more active in rural areas.

Theme	Question or Comment	Response
	process? Will there be opportunities to incorporate DUC-type projects into this?	• Currently, wetland policies are being developed in Airdrie and they have considered the role of DUC. Airdrie prefers to work with the development industry to find a solution for wetlands in the construction area. • The NCWP has had conversations with AEP about wetland retention and the need to distinguish between natural wetlands and stormwater (altered) wetlands. The wetland inventory and valuation needs to be updated and improved management strategies developed. Municipalities have to weigh and balance the loss of urban wetlands with potential to maintain them in rural areas. • Airdrie and Calgary are working to understand where the best location is for retaining wetlands, and/or compensating for loss of wetlands (creating wetlands) • Wetland compensation can often be achieved locally. Low impact development strategies may be applied to reproduce ecosystem services. There may be some compensation dollars to help address the problem more holistically. The ALIDP is hoping to develop this approach in next three years and any feedback is appreciated. • Conservation reserve is another tool available through the updated MGA that allows the use money to purchase important landscapes within a development.
Compensation Fund	Previously, there was some discussion of a cash fund, to help with smaller sites where maintenance has been ignored. Is this still an option being considered?	• There was some discussion about developing a fund, but no further details regarding who would manage the fund, or how it would be disbursed were developed. Each jurisdiction may explore compensation individually in the future.
Groundwater		
Urban Areas	Is groundwater protection something the Partnership is looking at in the urban context?	• There are implications for development that can change groundwater, particularly in proximity to springs. This is a greater concern in Rocky View County where rural residents still rely on groundwater for potable water supply. Groundwater supplies should be maintained in sufficient quantity and quality to meet needs.
Groundwater Inventory	Who is responsible for the groundwater inventory?	• Recently, the Province initiated a groundwater inventory but the work did not extend within Calgary's boundary. Historically, inventories were completed by either the Federal or Provincial government. M. Hayashi (University of Calgary) is a good groundwater resource, having local information. • Note that in the Nose Creek watershed, the amount of water that infiltrates into the ground vs what runs off is very small (only a few percent).
Biodiversity		

Theme	Question or Comment	Response
Invasive Species	Will more guidance be provided on how to get rid of invasive species?	• The Plan recommends actions to better understand the occurrence (type, density and distribution) of invasive species. Future strategies to manage invasive species may be informed by this data. The Plan also recommends partnering with other organizations already involved in management of invasive plants or aquatic organisms.
Other		
Process	Municipalities need to appreciate technical aspects, but also need to inform planners and council to support implementation. There is a gap between the technical and the vision for development. Policies need to reflect the ultimate desired outcome.	• The NCWP and partners agree, and are striving to better integrate development and stormwater management practices.
	The City needs to be one voice. Industry receives different messages from different departments. What is the greater good in each decision in each case?	• Partners are working to streamline internal processes to facilitate a unified perspective.
NCWP Priorities	Industry supports NCWP's five main priorities. Is there a desire to establish deadlines as 2021 is approaching? Industry does not want to implement the 2017 target if it isn't necessary.	• The NCWP has developed a staged work plan to guide the next three years of activity. The main priority is to develop the watershed-scale modelling tool to allow for greater assessment of current and future conditions under a range of management scenarios.
Education	How much cooperation are you getting from municipal planning departments concerning requiring developers to adhere to these standards? Know of two that were building in Nose Creek that were not required to adhere to standards. This is a problem.	• Provide all comments of this nature to the Partnership. The NCWP cannot comment on specific projects. It may be that certain avenues were closed by the Provincial Government for specific reasons.
	Has the NCWP been making an effort to provide educational outreach to municipal planning authorities?	• Each municipality is responsible for educating staff, which is an ongoing process. Stakeholder engagement has highlighted that there are opportunities to enhance education.
Confederation Creek	Has the Confederation Creek Regional Drainage Study been considered? There are 17 outfalls in Confederation Creek that drain into Nose Creek.	• The principles of the Plan would apply because Confederation Creek is part of the watershed, but the recommendations are not specific to Confederation Creek. The Plan is largely focused on greenfield-type development, however it was recognized that some guidance is also required for older, existing communities, specifically to those subject to densification.
Support for Plan	BILD members have been involved in the Partnership since 2004 and remain supportive of overall objectives. It appears more partners are realizing that continued reduction of runoff targets is problematic and unachievable without the appropriate technology	• The updated Nose Creek Plan was undertaken to help identify challenges and move initiatives forward that can address challenges (e.g., advance appropriate technology and tools needed to meet targets). Finalizing the updated Nose Creek Plan is not an impediment; it is a necessary part of the solution. The NCWP is asking Partner municipalities to advance initiatives to support

Theme	Question or Comment	Response
	and tools available to meet those targets. A deferral of the volume target is not a long-term solution. BILD does not support finalizing the Plan in advance of various policy pieces that are currently in development.	implementation, and is encouraging the Province to expedite the completion of water re-use and stormwater use policies to remove implementation barriers. • The NCWP does not view deferral of the runoff volume target as a long-term solution, but a necessary intermediate action to support implementation.
Liability	Members are encountering significant barriers to development and cannot find the tools, technology or supporting data to meet the increasingly challenging targets. Industry questions the longer term infrastructure liability for Partners without understanding the additional costs and benefits expected.	• There is also a liability of assuming responsibility for developments that do not adhere to targets. Inaction increases risk associated with flood (damage to infrastructure, public safety), and poor water quality. The site may be a future liability if controls are not put in place.

4.0 Summary

Overall, forty-five people participated in Stakeholder Engagement Session III, and 14 stakeholders provided additional written comments. Common questions were raised during each of the three sessions. The NCWP heard the following key messages from industry and environmental non-government organizations, and are working to incorporate the concerns and suggestions into the final updated Nose Creek Plan. Overall, NCWP priorities are generally supported and stakeholders look forward to reviewing progress as the updated Nose Creek Plan is implemented.

Industry

- Industry remains supportive of the overall Nose Creek Plan objectives
- Industry would like to participate in more regular discussions with the NCWP. Continued industry engagement with NCWP is suggested, including joint technical analysis for added clarity
- Industry would like to explore alternative approaches to achieving watershed objectives, other than runoff volume control targets
- Increased monitoring and reporting is needed to determine if watershed objectives are being met using the current tools, and to better communicate progress with stakeholders
- Communicating specific and quantifiable reasons for implementing runoff volume targets with stream health specific to Nose Creek would be of value to the development industry
- The provincial water re-use and stormwater use policy, guidelines and performance criteria should be finalized prior to the new runoff volume control target date of 2021. Having guidelines clarified is crucial to allow methods of achieving targets prior to implementing them

Environmental Non-Government Organizations

- Pleased with the update of the Nose Creek Plan and supportive of the Nose Creek goals
- Local residents remember past wetlands, tributaries, riparian areas and meandering creeks. There is a desire by the community to return to that condition, or a similar functioning system
- Additional consideration should be given to:
  - Human dog use impacts. In addition to education and access management, recommendations should include more dog parks, bioengineered ponds for dog parks, increased bylaw enforcement of leashes at parks other than designated dog parks
  - Invasive species from topsoil imports should be managed better
  - More detailed and specific guidelines to municipalities on the control and removal of invasive plants , including volunteer weed pulls in conjunction with reseeding/replanting native plants (no topsoil import), short-term irrigation to help native plants establish
  - More detail regarding the proper reclamation of naturalized areas
- The Confederation Creek Regional Drainage Study Draft Final Report (June 1, 2018) documents the large catchment from Nose Hill recharge through the Highland Valley. The findings of this report describe the complex hydrology in the region. The Confederation Creek catchment should be included in the hydraulic/hydrologic and water quality model project

Next Steps

The NCWP and partners continue to work diligently to enable additional tools and streamline processes that support the updated Nose Creek Plan recommendations. Particular effort is directed to refining the scope of the watershed-scale, hydrologic/hydraulic and water quality model, and to advancing stormwater use and water re-use policies and guidelines as another tool that can help achieve runoff volume control targets.