

City of Cambridge 2023 Engineering Standards and Development Manual

Summary of Comments Received and City Responses

31-Jul-24

Section	Description	Page No.	Comments	Responses
C.3.2	Cast Iron Maintenance Holes Lids	9	Only in roadways? This should indicate that this does not apply for Landscaped areas	This section of the Manual is simply re-stating DGSSMS requirements. This item has been referred to the City's DGSSMS committee rep with regards to adding clarification language regarding landscape areas. While the DGSSMS is reviewed/updated, the City will interpret this as only being required within asphalt areas.
C.3.2	Cast Iron Maintenance Holes Lids	9	Does this apply to paved trails and pond access paths?	As per above, at this time, the City will interpret this as being required within asphalt areas.
D.3.3.1	Maintenance Hole Lid Adjustment Tolerance	10	What is the definition of ring adjustment?	Adjusting rings (or extension rings, as they are sometimes called) eliminate the necessity of raising or replacing existing manhole frames on resurfacing projects. The cover recess is the same depth and diameter as the existing manhole frame. Amount of raise coincides with thickness of resurfacing material, thereby bringing the manhole lid to a new position flush with refinished roadway surfaces. http://www.deeter.com/products/manhole-adjusting-rings/
D.3.3.1	Maintenance Hole Lid Adjustment Tolerance	10	Ring adjustments are necessary for standard framing. Are the standard framing allowed in the landscaping areas?	Moduloc is permitted. There are the adjustment rings to bring the frame/cover to grade. 'ring adjustment' is the process of only raising the cover by inserting a product into the MH frame.
2.5.1	Stormwater Conveyance System	12	This should only be a requirement if there are direct service connections	Agreed, this section will be revised to clarify "100-year HGL for storm sewers is to be shown on all plan and profile drawings where direct connections to the storm sewer system are planned."
2.5.3	Storm Sewer/Pond Outfalls	13	There should not be a specific value for the freeboard but rather it should be worked into the design where it is confirmed that there are no backwater effects on the outfall.	To be reviewed further
2.6.6.1	Dry Ponds	20	The MECP SWM Manual 2003 Table 4.8 recommends an average side slope of 4:1 for dry ponds which has been the industry standard and common practice.	This design criteria is included in the City of Cambridge Stormwater Management Policy and Guidelines, 2011.
2.6.6.8	Sediment Drying Area	24	We believe that this should be as per the MECP SWM Manual 2003 Table 4.6 which recommends that this should only be incorporated into the design when it imposes no additional land requirement. If required, it should be noted that the sediment drying area should be located above the maximum water quality water level as per the MECP SWM Manual 2003.	This requirement was developed to ensure sufficient space for long term maintenance. While the MECP Manual does make note of only imposing where no additional land is needed, that is guidance and not a strict requirement. This criteria is consistent with other municipalities, including Kitchener, and is not being revised at this time, however can be reviewed further through a future SWM Master Plan update.

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2.7.1	Stockpiles	27	The 4.6 m high stockpiles are not enough to optimize the development area.	<p>This is a new criteria developed as a result of resident complaints related to proximity and height of topsoil stockpiles to existing developments. While staff understand this may have an impact of staging of development, the adjacent property owners must also be considered.</p> <p>At this time, the criteria is not being changed.</p>
2.8.1	Grading Criteria	28	Is this requirement only for site plan developments? This would be impossible for single detached lots with reduced setbacks and it also would not work for walkout/walkup type lots. Please confirm.	No, this is intended for residential lots. Recent experience with lot grading plans prepared for lots with reduced setbacks and steep grading has resulted in houses with 3:1 slopes from building face to property line. In cases of reduced side yards, that 3:1 slope is clear stone. This creates issues with access to rear yards (i.e. pushing a lawn mower to the rear yard, sidewalks to side doors for ARUs). This requirement is meant to ensure that the detailed plot plan grading is considered at the subdivision level grading to avoid future grading concerns and complaints. If this can't be met, then perhaps reduced side yard setbacks should be reconsidered. It's unclear why this can't be achieved with walk-outs.
2.8.2	Rear Lot Catch Basins	30	In addition to OPSD 705.03 , OPSD 403.010 should be included	To be reviewed further
2.8.3	Foundation Drainage	30	This should only be a requirement if there is a direct connection to the storm sewer and not with discharge to grade.	This is a carryover from the 2013 Manual. Staff will review further.
2.10.2	Road Allowance and Cross Section	35	Why was this length of 60m reduced from 100m? This shorter length is unreasonable as typically the maximum length of a cul-de-sac is 150m or based on the number of units.	The City's maximum length for a cul-de-sac in the 2013 Manual was 100m. The 2023 Manual revises the maximum length to 90m. The 60m length reference is a typing error and should be 90m.
2.12.1	Sidewalks	39	No mention of expectations of white curing compound?	<p>As noted in Section 2.1, the City has adopted OPSS and OPSD. While Section 2.12.1 does not specifically note the applicable OPSS reference, it is expected that all concrete sidewalk is constructed as per OPSS 351. Within OPSS 351 there are guidelines for curing 351.05.05 which references OPSS 1315.</p> <p>A specific reference to OPSS 351 will be added to this section.</p>
2.13	Traffic Control and Pavement Markings	43	At what stage of new subdivision construction should speed cushions and raised intersections be installed? At surface asphalt?	<p>Traffic calming devices should be installed in conjunction with base asphalt and should be in place at the time of initial occupancies.</p> <p>Expectations for timing will be added to the relevant section in the Manual.</p>
2.13.1	Traffic Signage	44	What other signage, if any, shall be installed before commencement of maintenance? (Stop signage, no parking, pedestrian?)	All signs should be installed prior to the start of maintenance and/or occupancy.
2.13.1	Traffic Signage	44	Define "All other signage"	All signs should be installed prior to the start of maintenance and/or occupancy.

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2.13.1	Traffic Signage	44	In recent subdivisions, the City has allowed "No Parking" signs to be installed once 50% build-out is achieved. Is this still acceptable?	All signs should be installed prior to the start of maintenance and/or occupancy.
2.13.4	Pavement Markings	45	Should pavement markings on asphalt base course be completely reapplied annually or simply repair deteriorated areas annually?	All pavement markings on base asphalt shall be completely reapplied annually.
2.13.6	Pavement Markings Standards and Specifications	48	Should Durable pavement markings or other alternatives be considered/applied on base asphalt (specifically center lines and stop bars) – Non-durable pavement markings wear away relatively quick (much less than 1 year) during home construction.	Paint on base asphalt reapplied annually is acceptable.
4.8.2	Dust Control	84	Typo error: "including by" should be "including but"	Noted.
4.8.3	Hours of Construction	84	No Saturday work? Why would working within the noise regulation/by-law require approval from the Director of Engineering?	The working hours listed are consistent with work hours for City capital projects. The approvals required to work outside these hours are consistent with City capital projects and the Noise by-law. This criteria also recognizes the impact of construction noise on adjacent property owners.
4.9	Chlorine Residual Maintenance Plan	85	Will City licensed operators also will operate Site Plan Projects to flushing and residual confirmation?	This section is specific to subdivision development and chlorine residuals within the City's water distribution system. Site Plan projects are private ownership. The city will operate the municipal water system to ensure maintenance of chlorine residuals
4.11	Temporary Sanitary Flow Meters	86	Will the City communicate to Developer/Consultant when/where meter is to be installed?	As noted in the relevant section, the meter is to be installed in the closest manhole upstream of the connection to the existing municipal system and it is to be installed immediately upon connection to the existing system. It's unclear what further information would be required.
4.11	Temporary Sanitary Flow Meters	86	Once there is occupancy in the subdivision, does the City have to be notified by Developer/Consultant?	Yes.
5	Inspection and Testing	87	Full time inspection for all works? A further detailed list should be given for what shall be 'full time' until base asphalt. Can surface works have a partial inspection?	At this time, the City is not providing a detailed list of what constitutes full-time inspection. As per the requirements in Section 6.0 for Acceptance for Maintenance and Final Acceptance, letters of compliance and/or certifications from the applicable consultants are required for all works. It is the City's expectation that consultants are capable of following good engineering practice and determining the required level of inspection to ensure they can certify the applicable works.
5.6	Surface Works	89	What is the city's timeline and commitment to review and approve the granular materials and asphalt mix design.	At this time, we anticipate 10 working days is the timeline for review and approval, which is consistent with the timeline for capital projects.

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5.6	Surface Works	89	The timing for submitting all laboratory test results is different in Section 5.0 ("Inspection reports and test results may be part of the submission package for the start or end of the maintenance period") and in Section 5.6 ("Results of all tests shall be submitted to the City as available during construction"). Which one is applicable?	<p>The original intent was that test results could be submitted as available during the construction process, which could potentially mean fewer submittals as part of a request to start or end the maintenance period. However, upon further discussion, City staff believe a complete package of test and/or inspection reports as part of the submittal for start/end of maintenance is the preferred option.</p> <p>The wording of applicable sub-sections within Section 5 will be further reviewed to clarify</p>
6.1	Acceptance for Maintenance Certificate	92	<p>The iron bars are not located at grade when underground services just have been installed. If iron bars need to be installed for initial acceptance of underground services, this will impact the cost of the development, as many of the bars will need to be reinstalled for final acceptance of underground services due to hoses construction works.</p> <p>Can be this certification be submitted at the time for final acceptance of the underground services.</p>	<p>The requirement for certification of iron bars being installed and at grade will be removed from the requirements for Acceptance for Maintenance.</p> <p>The requirements related to OLS certification under Final Acceptance will be revised to include the requirement that all iron bars and monuments are located and at grade.</p>
6.1	Acceptance for Maintenance Certificate	92	The timing for submitting all laboratory test results is different in Section 5.0 ("Daily inspection reports, prepared by the developer's engineering consultant, should be available to the City inspector upon request.") and in Section 6.1 ("A neatly compiled set of all inspection reports and test results as required in Section 5.0"). Which one is applicable?	<p>The intent of Section 5 is to document the inspection reports and test results that the applicable consultant should be completing as construction proceeds.</p> <p>As per a response above, the manual will be revised to indicate the reports and test results do not need to be submitted as available, but are to form part of a complete submission for start/end of maintenance.</p> <p>Despite this, it is the expectation that an Inspector is preparing timely, daily inspection reports and that those could be available to a City inspector on-site if requested</p>
6.1.1.1	Water Distribution System	93	Is an Ant-tampering devices on hydrants required?	No, they are not. That reference will be removed.
6.1.1.4	Base Road Works	95	Same question as for Section 2.13.1, In recent subdivisions, the City has allowed "No Parking" signs to be installed once 50% build-out is achieved. Is this still acceptable?	All signs should be installed prior to the start of maintenance and/or occupancy.
6.1.2	Stormwater Management Works	96	Section 6.1.2 is part of the Maintenance, Acceptance and assumption requirements. When the SWM facility is constructed at the same time as the subdivision's underground services, will the City accept the SWM facility's infrastructure with the same timeline of the subdivision's underground services to start the maintenance period?	The City will approve for Acceptance for Maintenance when all requirements listed for stormwater management works are complete. The timeline is not tied to construction of underground works.

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6.1.2	Stormwater Management Works	96	When the SWM facility is constructed separately from the subdivision, what items could be placed into maintenance once the facility is completed and what items should wait for 90% of the built-out to start the maintenance period.	The City will approve for Acceptance for Maintenance when all requirements listed for stormwater management works are complete. The timeline is not tied to construction of underground works. Final Acceptance is tied to build-out of the contributing drainage area, not the Acceptance for Maintenance process.
6.1.2	Stormwater Management Works	96	Why is the perimeter fencing required at time of start of maintenance?	The fence is required to prevent construction encroachment into the SWM Facility as well as to protect landscape works and any existing environmental features.
6.1.2	Stormwater Management Works	96	The top asphalt should not be installed until 95% of the buildout is complete.	The maintenance period for stormwater management works extends until 90% build out of the contributing drainage area. The developer can complete surface asphalt at their discretion, however not completing the work until 95% build out would extend the overall maintenance period for the stormwater management works.
6.1.3.2	Boulevard Landscaping	97	What test reports and soil test are required? This section should include the description of the material to be placed as in Section 2.21.3 for topsoil in Parks and open spaces.	Boulevard Landscaping is to be completed as per Section 2.10.6, which references the topsoil specifications in Section 2.21.3. Inclusion of other boulevard features, i.e. silva cells, may result in the requirement for additional inspection and testing results to be submitted.
6.3	Maintenance Period	100	The maintenance period for SWM facility plantings should be included in this section.	SWM facility plantings as well as buffer enhancement/restoration landscaping are included in the general "Open Space Works" category.
			Ensuring clarity and consistency between standards that apply to public lands versus private lands	All efforts are made to ensure consistency between private and public works, however many aspects of private works are covered by OBC, which can result in different standards being applied.
			Further review for consistency between standards and by-laws that are referenced in the draft manual. For example, in Section 2.12.1, the City is requiring a minimum width of 1.8m for new sidewalks. The Accessibility for Ontarians with Disability Act (AODA) 2012 has a requirement of 1.5m(Section 80.23). As well in Section 4.8.3, the requirement that there be no work on Saturdays. This appears to contradict the City's Noise by-law (Section 2(b)).	While the City strives to meet all legislated requirements and bylaws, that does not preclude the design standards from going above and beyond the requirements. In the case of sidewalk widths, the City is requiring a wider sidewalk than AODA to support the overall accessibility goals of the City. With regards to work on Saturdays, while allowed under the Noise by-law, consideration is given to the impacts to neighbours due to construction, as well as staff availability for inspections.
			In Section 5.0, we suggest the City include further definition in terms of requirements for full-time inspection on public works versus private sites. Private site work is required to meet site plan and building code requirements. We are wondering if the City is now proposing that they will be specifying inspection requirements on private sites and not site plan process or OBC.	At this time, the intent of Section 5.0 is to reflect inspection requirements for municipal servicing constructed through subdivision agreements.

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			In time, continue to develop clarity around expectations in terms of project certifications. Results are easier to achieve if expectations are clearly defined.	Noted.
			The acceptance process for site plans (Section 1.3 of the 2013 version) has been removed; will it become part of a future update?	Inclusion of site plan specific material will be reviewed for future versions. At this time, site plan inspection and certification information is included on the City's website: https://www.cambridge.ca/en/build-invest-grow/Site-Plan-Approval-Process.aspx
			Active transportation is increasing in complexity; it would be beneficial to continue to include new standards and requirements in future updates.	Noted.
			The 2023 draft manual outlines new specifications and requirements but does not go into further details. For example, section 5.6 has new test result requirements but not specifically what the City would be looking for. Section 6.1.1.1 outlines new anti-tampering devices for fire hydrants, however no specifications are included for the required devices. This section also discusses fire flow tests, is the City doing the test as they are the ones who turn off the valves?	Section 5.6 notes testing could include compaction tests, granular and asphalt mixes, air, slump and compressive strength tests for concrete. It is unclear what further clarification is needed. As noted above, anti-tampering devices are not required, and the manual will be adjusted accordingly. The City does not perform fire flow testing.
			Exceptions to the DGSSMS: When the City makes decisions to go against the DGSSMS, what process is used. For example, in Section c.2.9.2, the City removes the use of service saddles for service connections 50 mm or longer. The committee is questioning why this would be.	The DGSSMS exemptions noted in the manual are simply being reproduced and summarized from the DGSSMS document. City staff are part of the DGSSMS committee that reviews the document on an annual basis. Contact information for the DGSSMS committee members can be provided, and they can be contacted with questions about specific exemptions.
			The draft manual makes changes to certain specifications that effect how our members would design their projects. However, there seems to be a lack of clarity around updated or new specifications and the City's decision to include these updates. For example, section 2.6.1 speaks to quality control requirements, our members would greatly appreciate further clarity on required particle size for designers in order to have complete submissions. Also, section 4.8.2 and new specifications around dust control.	Particle size requirements would be identified through governing documents including subwatershed studies and/or master drainage plan or in consultation with reviewing agencies. Further review of this item will occur through a future update of the City's SWM policy. Through pre-servicing and subdivision agreements, developers have always been responsible for dust control and Section 4.8.2 outlines best management practices and City expectations. If there are specific concerns with any aspect, those should be identified and staff will review further.
			With increasing use of multi-use trails, the City is encouraged to consider safety-related issues (ex. Ebikes travelling at high speeds). Will all MUT's be cleared of snow by the City?	Service levels for winter maintenance are determined by the classification of the MUT.
			Traffic signage and line painting is becoming a complicated issue. Recommend that future effort would provide further clarity. Do line-painting contractors have to be approved?	No, line painting contractors do not have to be approved by the City.
			Shortened cul-de-sac length can result in the need for secondary access routes, which lowers density	As noted above, the maximum cul-de-sac length, and the length before a secondary access is needed, has only been shortened by 10 metres. Minimal impacts to density are anticipated.

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			Considerable effort being required for CCTV of laterals and infiltration trenches. Would like to understand the reasoning better	Service laterals have been demonstrated as a source of inflow and infiltration before house construction begins, and an increased source during construction. The costs to collect, pump and/or treat that water is being funded by the general tax payer. The reduction of I&I is a focus on the City.
			The draft manual has added or changes timing requirements. In Section 5.6 the City Engineering staff is to review and approve granular materials, along with asphalt mix designs. The manual does not describe any turnaround time for the review and approval. Our concern is that this could delay construction. Another example of timeline changes is in Section 6.9. We feel that having to provide final grading lot certificates within six months of occupancy could be challenging due to time of year constraints.	At this time, we anticipate 10 working days is the timeline for review and approval, which is consistent with the timeline for capital projects. Timing for submission of grading certificates can be reviewed based on time of year/weather conditions. The implementation of the timeline is to ensure prompt completion of lot grading allowing homeowners to proceed with landscaping, decks and fencing.
			We suggest the City may want to look into developing a brochure to give new homeowners for things they should or should not do until their lot is certified	Noted.
2.19.3	Soil	57	There are no standards for testing listed in this section. Can you clarify standards to be applied to the street tree topsoil? Also please provide sample size guidance – will it be one sample for 20 trees or some similar ratio?	As referenced in section 2.10.6 Boulevard Landscaping , the topsoil specification and soil test requirements outlined in 2.21.3 apply to boulevards and tree planting. For boulevards/street trees post- placement soil sampling will vary depending on size/area. A post -placement soil sample location plan will be required for review. Additional random sampling may be requested. Additional wording will be added to the manual to clarify the above.
2.21.3	Topsoil	64	The first excerpt also requires testing to be submitted prior to placement. What is the sample size requirement from the stockpile? In the case that the stockpile results require no amendments, is post-placement sampling still required.	It is the Developer's responsibility to ensure that the topsoil source is tested and suitable for plant growth. If a topsoil stockpile is the source, soil tests must be representative of the topsoil that will be utilized used within the development. Generally multiple composite samples from various depths and areas of a stockpile are combined for representative sample(s). If stockpile results indicate that no soil amendments are necessary, post -placement sampling is still required to ensure that the topsoil in-situ is representative of the soil as tested, and that the soil is placed to the appropriate depths.

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2.21.3	Topsoil	63	It's been a requirement to do topsoil testing in Kitchener for quite a few years and boulevard tests consistently come back with low organic content and high pH (1.5-2% organic and 7.6 plus pH). Given this Kitchener have broadened their parameters for organic content and pH value. We are wondering if Cambridge might accept something in this range rather than the more restrictive composition currently required	<p>To be reviewed further, however, the topsoil requirements as outlined are consistent with the City's topsoil parameters for capital projects.</p> <p>Generally, the fertility content in most soils on development sites is minimal and does not improve over time in an urban setting. Where there is a discrepancy between the specified fertility and pH values and soil test results, and where the discrepancy is "typical" of soils in this area as identified in a laboratory report, the recommendations for soil improvements are likely to be generic. This will require the landscape consultant to provide a remediation strategy in the field to address deficiencies (typically for the addition of compost and fertilizer) in topsoiled areas.</p>
5.9	Topsoil and Seed/Sod	89	Can you confirm that an inspection with City staff is required prior to the placement of topsoil within the boulevard, and again following placement of topsoil but prior to placement of sod/seeding?	<p>Yes, inspection of the subgrade prior to placement of topsoil and inspection following placement but prior to sod/seeding is required.</p> <p>In addition, certification of landscape works is required, including verification that topsoil placement has been undertaken to the appropriate depths and according to the approved plans and specifications. The Consultant will provide documentation details related to the inspection(s) – locations, map, inspection notes, photos, other.</p>
			Appendix D from the 2013 Manual has been removed. What are the CCTV specifications.	The content from Appendix D will be added to a future version of the manual. In the meantime, continue using the content from the 2013 version.