
MEMORANDUM

To: Mayor McConnell and Assembly Members
Mark Gorman, Municipal Administrator

From: Michael Harmon, P.E., Public Works Director *MH*
Dan Tadic, P.E., Municipal Engineer *DT*

Reviewed: Jay Sweeney, Chief Finance and Administrative Officer *(S)*

Date: February 4, 2015

Subject: Ordinance 2015-07 – Stormwater Drainage

Background

The Sitka Stormwater Management Plan was completed in June 2013. The plan includes: stormwater regulations; local hydrology to include precipitation and design storms; hydrologic modeling; drainage basin delineation; drainage inventory; drainage problem identification and assessments; low impact development and stormwater best management practices; and recommendations. The document can be found in its entirety on the City website under the Contractor Resources link on the Public Works page.

On December 10, 2013 the Assembly adopted the aforementioned plan and authorized Public Works to develop a Stormwater Ordinance utilizing proceeds from the Benchlands property sale. The goal of the endeavor was to provide design and development standards to protect and preserve public interest by regulating the planning, construction, and maintenance of public and private storm drainage systems within the City. The draft Stormwater Ordinance and associated Design Guidelines was completed in November 2014.

Analysis

The Public Works Maintenance Supervisor estimates that his crew spends over a thousand man-hours each year responding to drainage issues related to poor development standards. This is a significant burden for the General Fund. The cost impacts associated with drainage issues are not the City's alone. Public Works gets hundreds of phone calls and emails each year from the general public with drainage concerns, many of which are the result of improperly constructed or lack of drainage infrastructure. Private property owners are often forced to expend their hard earned dollars on drainage solutions to fix problems that could have been avoided in the first place. In some cases, the City could face legal action due to damage to private property as a result of improper stormwater management.

Fixing plugged culverts and improperly constructed ditches are not the only problems the City faces related to drainage. Lack of physical access to drainage infrastructure is quite common. Sufficient easement width does not do us any good if the infrastructure is at the bottom of a steep slope. Once developments are constructed in this way, it is extremely difficult and expensive to remedy. Hillside Subdivision is the most egregious example of this situation.

Prior to taking the Stormwater Ordinance to the Planning Commission, Public Works emailed the documents to contacts in the local Contractor and Engineering community in an effort to solicit comments from them early in the process. One local Contractor took the opportunity to discuss his likes and dislikes of the proposed standards a few weeks later. Several refinements were made to the guidelines based on that discussion. On January 20, 2015 the Planning Commission unanimously recommended approval of this ordinance to the Assembly.



The runoff generated from this storm flowed over the top of the ditch and eroded portions of the adjacent trail. Riprap ditch liner was too small and washed down the ditch. This situation is fairly common throughout Sitka (Benchlands 4-lot Subdivision, 2015).



CBS has inherited maintenance responsibility for numerous drainage structures to which we do not have physical access. This reality makes it difficult if not impossible to properly maintain. When culverts like this one gets plugged and can't be accessed for maintenance, and if private property is flooded as a result, there could be legal consequences (Hillside Subdivision, 2012).



The above photo depicts the results of a plugged culvert after a significant rain on snow storm event. This situation could have been avoided with a properly designed and constructed drainage system (Hillside Subdivision, 2012).

Fiscal Note

An important consideration for Public Works in this process was to minimize the additional cost of development by simplifying the design requirements for those situations that warrant it – primarily smaller developments with small tributary areas. With that in mind, simplified tables were included in the design guidelines for both culvert-sizing and ditch design which can be used in lieu of more rigorous analysis and calculations. Also, the ordinance provides a mechanism for the Public Works Director to allow deviations at their discretion when it is determined that there will not be adverse downstream effects and the system can be properly maintained.

The Stormwater Management Plan was funded by way of Alaska Clean Water Action (ACWA) Grant funds provided by the ADEC and required local match funds as follows:

• ACWA Grant #12-03	\$34,000
• ACWA Grant #13-03	\$43,388
• Local match (includes partial in-kind services)	<u>\$51,592</u>
	\$128,980

The Stormwater Ordinance and Design Standards were funded by \$10,000 from proceeds from the Benchlands sales.

Recommendation

Approve Ordinance 2015-07 amending Sitka General Code Title 15, Public Utilities, to add a new Chapter 15.07, Storm Drainage.