

5701 Penny Circle
Anchorage AK 99516

October 13, 2015

Kenai Peninsula Assembly Members
Soldotna, Alaska

Dear Assembly Members,

The propose Keohane land-for-easement swap of Ordinance 2014-32 appears to be ill-considered.

We thrive in a world of networks. We have networks for electricity, telephone and cell phones, piped water and sewer, highways, cable and broadcast TV, internet, and satellite communications. These networks all have three things in common: 1) they are made of hard assets; 2) the assets are designed by engineers; and 3) by and large, they all work.

Owners of these networks manage their liabilities by hiring engineers and building engineered designs. Engineers manage their liability by a system of education, professional registration, and peer review. They also buy Errors and Omissions insurance. The system works pretty well.

In contrast, the residents of the K-Beach area, by and large, suffer from the absence of an engineered stormwater conveyance network. As a result, when it rains like it did in 2013, people experience tremendous flood damages and health risks from compromised septic systems.

The proposed land trade also suffers from a lack of engineering. The proposed ordinance states that the Keohane property "is ideally situated to manage drainage waters collected by the Karluk Avenue road ditch system". There is no engineering behind this statement and it does not look reliable. Under saturated-ground conditions, the 3 million gallon capacity of the parcel would be filled by 0.5 inches of rain falling on an area of less than 250 acres, which is much smaller than the Karluk basin.

Once filled, water would be manually drained through a siphon hose under K-Beach Road onto private property. I can't imagine engineers being in favor of such a scheme, with no environmental review or right-of-way assessment, especially when the site is 40 feet above sea level and a gravity-drain water conveyance structure may be feasible.

The proposed drainage easement at MP 12.1 is also un-engineered. While the Borough reports verbal communication with DOT&PF suggesting that the proposed 60-foot easement is adequate, I spoke with Jill Reese, a senior administrator at DOT last week, and she was perfectly clear that DOT&PF was not standing behind such an assessment. She said that DOT&PF did not know what would be required for a storm water conveyance structure because the engineering had not been done. For example, I am attaching a conceptual diagram showing a 15-foot-deep armored ditch between K-Beach Road and the Inlet that would require 70 feet or more for the structure alone.

Hydrologists agree that a flood of the magnitude of 2013 is highly likely to happen again. It is time to begin serious engineering-based planning for it.

Today, I can't think of a better way for the Borough to increase its liabilities than to sign up for a non-engineered drainage plan. Instead, the Borough should begin engineering a gravity drainage/non-siphon system to get water from the Karluk Avenue road ditch as well as the Buoy Avenue and Trawling Avenue ditches safely to Cook Inlet using the full MP 12.1 parcel, if needed.

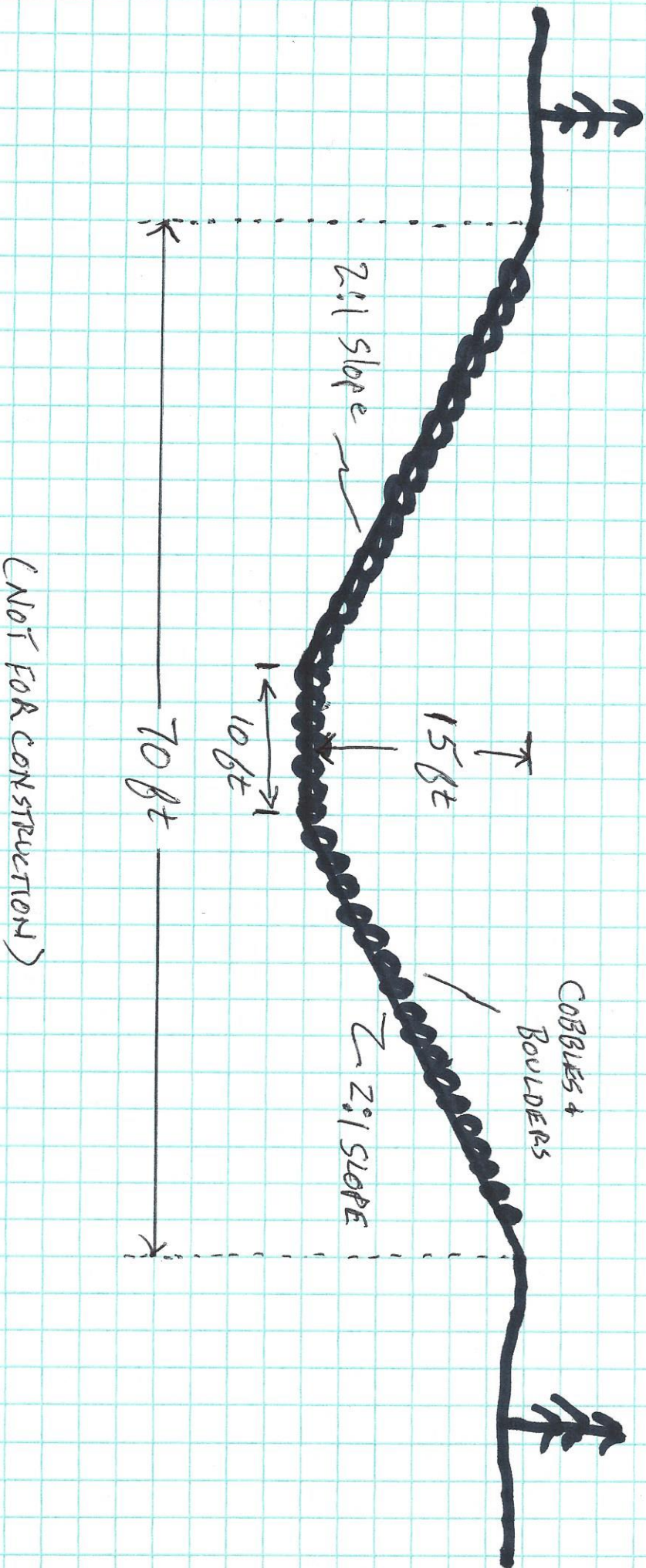
Sincerely,



Jim Munter, CPG

MP 12.1 CONCEPTUAL STORAGE WATER

CONVERGENCE STRUCTURE



10/3/15
gmc