

MEMORANDUM

CITY/BOROUGH OF JUNEAU
155 South Seward Street, Juneau, Alaska 99801

TO: Dale Pernula
Community Development Director

DATE: January 30, 2007

FROM: Roger Healy
Engineering Director

FILE: General

RE: Lemon Creek Dredging

ATTACHMENT 8

This memo has the same conclusion of Mr. Watt's memorandum of January 19th – the application for dredging Lemon Creek is lacking (or conflicting) in detail to confirm that reasonable assurances to adjacent properties or persons are assured. The Engineering Department's focus for concern is to safety of surrounding properties and to the general public.

Mr. Van Dort's application does not comply with provisions of Title 49 (attached) regarding Sand and Gravel extractions. Recognizing that the applicant's river dredging request does not easily comport with the code's prescription over a fixed gravel extraction site, CDD and CBJ staff have met with Mr. Van Dort over the last week to seek better definition of the intended operation and compromise on operating conditions that can meet public safety concerns, and meet the intent of the code.

If mined correctly, there is a benefit to surrounding properties by reducing flood potential. However, if operating mitigation measures are not employed by the applicant, there is potential to undermine existing slopes, and potentially create attractive nuisances. All agree that the stream section is a dynamic zone – any mitigation measures must adapt to changing conditions. To accommodate the dynamic conditions related to river hydrology, and the applicant's uncertainty regarding the annual extraction of material, the CBJ Engineering Department will require annual approval of a CBJ Grading Permit specific to the proposed new dredging area, but also encompassing hydraulic predictions of past excavated areas. The following are boundary measures that would serve as the minimum guidelines for the approval of an annual CBJ Grading Permit:

- ◆ Recalculation of gravel volume – rough calculations of mined area and depth indicate the material volume is incorrect by a factor of two.
- ◆ The applicant shall hire an Alaskan engineer to evaluate existing banks, excavations, river hydraulics, to recommend, design, and implement mitigation measures necessary to protect adjacent properties. Mitigation measures may include, but not be limited to, construction of new bank protection areas. This engineer shall sign and stamp drawings and specifications necessary for the annual grading permit application. Absent more compelling technical information and conclusions, the engineer must reference and follow the guidelines published in the Lemon Creek Geomorphic Assessment and Management Alternatives Analysis (Inter-Fluve, 2004).
- ◆ The applicant/operator shall confine all excavations to within existing rip-rap banks. Prior to proceeding with annual



excavations, the applicant must find and stake adjacent rip-rap banks.

- ◆ The applicant/operator shall protect the structural integrity of existing stream banks and rip-rap banks. Absent site specific engineering analysis by the applicant, a non-disturbance zone of at least 10 feet horizontal distance from adjacent rip-rap and banks is recommended.
- ◆ The applicant shall protect all vegetated slopes and maintain a similar non-disturbance zone identified above, unless a site specific engineering analysis indicates otherwise.
- ◆ All cut-slopes shall be less than 2 horizontal to 1 vertical unless a site specific engineering analysis proves a steeper slope protects adjacent properties.
- ◆ The applicant must address public safety of newly created deep ponds in the river bottom. While private, the river floodplain is well used by the walking public. The applicant must recommend provisions to ensure public safety. At a minimum, I'd recommend warning signs immediately adjacent to excavated areas. Other recommended measures would be grading excavated banks to a more gentle slope, i.e., 4 horizontal to 1 vertical.
- ◆ The application is lacking detail to determine stream sinuosity after mining is complete. Depending upon excavation methods and practices over several years, Lemon Creek will seek new routes that may bypass existing or newly constructed bank protection areas.
- ◆ The applicant's engineer must complete a engineering analysis and cost estimate necessary for determining the amount of performance bond required by code to restore the creek to a condition that does not jeopardize public safety or private property. The applicant must submit that performance bond prior to start of work.

In conclusion, the measures identified above are not as restrictive or prescriptive as the CBJ code requirement. However, in the interests of moving this project forward to promote better flood protection and in-stream habitat, the CBJ Engineering Department will consider the applicant's proposal with the above general provisions addressed, and specific site conditions and mitigation measures identified by the applicant in an annual Grading Permit application.

cc: Rod Swope

attachments