OTTER CREEK ENGINEERING

Town of Norwich, Vermont Public Safety Facility

Preliminary Site Assessment
for Bread Loaf Corporation

January 19, 2014

This site assessment is based upon schematic drawings prepared by Bread Loaf Corporation in December, 2013 and available site information.

1. 11 Fire House Lane (Existing Site)
   a. **Vehicular Circulation** - This relatively small and irregularly shaped village parcel has limited access off Main Street and Hazen Street. Ideally Public Safety facilities are designed with both adequate parking and internal drives that allow for circulation and emergency vehicle turning movements backing into service bays. The existing site and at least four of the alternative site layouts requires fire trucks to back in from Main Street. While this may be a function approach that the fire department is accustomed to, it is not ideal. One approach to improving upon this situation is to allow fire trucks to enter the site from Hazen Street then pull forward and back into the station. This may require upgrades to the access drive. Lastly, placement of on-site parking drives could provide opportunities for the fire trucks to utilize them as turn arounds so that they could then back into the station. Critical to this approach is that the drives be wide enough and have appropriate radii to allow for the wider turns of emergency vehicles. The access onto Main Street appears to have good sight distances in both directions and is relatively level.
   b. **Water Supply** – This site is served by Public Water. Site layout is not impacted by this utility.
   c. **Wastewater Disposal** – This site will require an On-Site wastewater disposal system which is in full compliance with the State of Vermont Wastewater Disposal rules. Review of general information from the USGS Soil Conservation Service (SCS) indicates that the soils are Loamy fine sands with a very deep restrictive layer and high transmissivity. This soil type is typically conducive to "in-ground" disposal fields. The disposal area must maintain the following setbacks;
      i. Property lines – 25 ft
      ii. Foundations – 10 ft
      iii. Foundation drains - 25 ft
      iv. Roads/drives/parking – 10 ft

      Design and permitting of an on-site wastewater disposal system will be subject to completion of soil test pits, percolation tests, and topographic surveys to

determine soil characteristics, depth to seasonal high ground water, soil permeability and slope.

d. **Stormwater** – Requirements for stormwater treatment and a permit from the State of Vermont is triggered by over one acre of impervious area. It appears that the proposed redevelopment alternatives will not exceed one acre. It will be important that this threshold not be exceeded as this site has very limited opportunities for at grade treatment systems.

e. **Alternates**

i. **Layout One**

(1) This site configuration may not provide adequate green space for on-site wastewater disposal.

(2) This layout requires fire trucks to back into the site from Main Street. By connecting the "public" parking to the "fire/police" parking, fire trucks could enter via Hazen Street which would facilitate backing into the station.

ii. **Layout Two**

(1) This site configuration may not provide adequate green space for on-site wastewater disposal.

(2) This layout requires fire trucks to back into the site from Main Street. With some modifications this drive configuration could allow fire trucks to enter via Hazen Street which would facilitate backing into the station.

iii. **Layout Three**

(1) This layout does not provide adequate area for on-site wastewater disposal.

(2) The drive configuration would allow fire trucks to enter via Hazen Street which would facilitate backing into the station.

iv. **Layout 4 A**

(1) This site configuration may not provide adequate area for wastewater disposal system.

(2) Does not improve upon existing Fire Truck Access.

v. **Layout 4B**

(1) Preferred over Alt 4A if 7 spaces on south end are shifted to the NE corner to preserve adequate area for wastewater disposal.

(2) Doesn't improve upon existing Fire Truck Access.

vi. **Layout 5**

(1) Best potential for WW Disposal

(2) Eliminate island west of apron – conflicts with truck turning movements.

vii. **Layout 6**
   (1) Unlikely to have adequate space for on-site wastewater disposal.
   (2) Extend apron closer to police to allow fire trucks to square with bays easier.
   (3) Design would likely require some modifications to radii for improved truck movements.

2. <u>198 Church Street (ABC Dairy)</u>

a. **Vehicular Circulation** – As a "change of use" this site will require a drive permit from the Vermont Agency of Transportation. The VAOT typically does not look favorably on emergency vehicles backing into drives from state highways, therefore, it will be important that Fire Trucks be able to drive onto the site, turn around and back into the bays. Fortunately both alternatives (with some modifications) could accommodate this. The access onto Route 5 appears to have good sight distances in both directions and is relatively level.

b. **Water Supply** – This site is served by Public Water. Site layout is not impacted by this utility.

Wastewater Disposal – The SCS characterizes the soils on this site as Silt Loams. Loams are typically more restrictive than the fine sands noted on the Firehouse Lane site, however, these loams are described as having a significant depth to seasonal high water table. They do have a high variability in permeability, however, subject to test pits it is likely that an in-ground disposal system could be designed and permitted for this site in the lawn area to the east of the existing structure where slopes are more gradual. There appears to be more than adequate space available to meet the required setback distances described above.

Design and permitting of an on-site wastewater disposal system will be subject to completion of soil test pits, percolation tests, and topographic surveys to determine soil characteristics, depth to seasonal high ground water, soil permeability and slope.

c. **Stormwater** As noted above, the threshold for stormwater permitting is one acre of impervious surface. Preliminary layouts for this site include in excess of this amount and the project will likely require both stormwater treatment and permitting. Subject to further evaluation and topographic surveys, the design will likely include shallow grass lined swales and bio-retention areas.

d. **Alternates**
   i. **Layout One and Two**
      (1) Curb-cut width will need to meet VTrans Standards.
      (2) Modifications to drive alignment could allow Fire Trucks to turn around and back into station on site.