



Consulting Engineers, P.C.

Structural Engineering  
Geotechnical Engineering  
Historic Preservation  
Construction Support

May 6, 2014

Mr. Ken Mahler  
72 Bushnell Road  
Lisbon, CT 06351  
[kennethmahler@sbcglobal.net](mailto:kennethmahler@sbcglobal.net)

Re: Burnham Tavern, Lisbon, CT  
Front Condition Review

Dear Ken:

Principals

Kenneth Gibble, P.E.  
James F. Norden, P.E.  
Charles C. Brown, P.E.

Geotechnical Associate  
David L. Freed, P.E.

Structural Associate  
Richard A. Centola, P.E.

Thank you for your guided tour of the Burnham Tavern. It is quite unique and worthy of your preservation efforts. This letter represents a summary of my observations at the building site, primarily as they relate to the current front wall degradation. For reference we will assume the front faces primarily south towards the main road.

**Observations**

The overall building structure is in generally sound condition above the 1<sup>st</sup> level with some powder post beetle damage being noted. The 1<sup>st</sup> level framing however is suffering from a combination of powder post beetle damage and wood rotting from long term water entry and high moisture levels in the basement. The present area of concern is at the front/south wall where long term water entry has accumulated at the wall base/timber sill. Along with severe deterioration at the southeast corner the west portion is undergoing deterioration where the concrete base surround is leading to trapping water here as well. The timber post bases are rotting as well as some of the wall plank. Please refer to the attached photos and notations for documentation and representative conditions at the front/base area. The included Sketch S.1 will define some of the common terms used for timber framed houses of this era.

It is common for the base of the timber framed walls to move outward away from the floor when the level of sill deterioration is severe. This is occurring at the east side at this point with the west side to follow. It is prudent that you have shoring to the roof plate and 2<sup>nd</sup> floor front girt to protect against any further movements or potential collapse.

### **Recommendations**

The following outline represents a series of steps to be undertaken to determine the degree of present damage and the procedures for restoring these areas to a stable condition.

1. Remove and save for possible reuse the base trim (water table board) and several clapboards including post trim to provide for complete inspection. The front and partial sides should be done until sound, unaffected wood is encountered.
2. Remove the west side concrete “skirt” piece to expose the original stone along with clapboard and trim removal as noted in number 1 above.
3. Provide additional shoring at deteriorated areas using the 2<sup>nd</sup> floor girts, end bearers at sides and roof plate if necessary. Provide post brackets at sound wood areas with stub post and jacks to relieve these concentrated loads onto the sills. If possible, apply jacking forces to remove any downward post movements which may have occurred.
4. Provide interior shoring as needed for all decking and floor joists framing in to the sills which are to be removed.
5. Remove deteriorated sills, rotted post lower portions and lower portions of deteriorated wall plank.
6. Provide new timber sills, white oak, with a duplication of original pockets and joinery for floor framing.
7. Provide new post base and plank base with proper half-lapped splices and connections to new sills. Provide re-support of joists and planks to newly installed sills.
8. Reinstall removed trim and clapboards if reusable otherwise provide replication members properly primed before installation.
9. Remove shoring and jacking systems. Make necessary repairs to interior elements which were affected by the sill repair process.

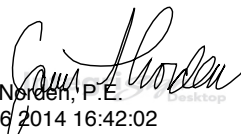


10. It may be prudent to have a competent stone mason on call when the sills are removed to make necessary repairs or improvements to the stone walls at these affected sill areas.

While the above describes the current state and condition of the Tavern front along with recommendations, there is still a substantial amount of necessary work to be reviewed, documented and designed to bring the structure to a stable, safe condition. This front work should be considered current emergency repairs necessary to be undertaken on as soon as practical basis.

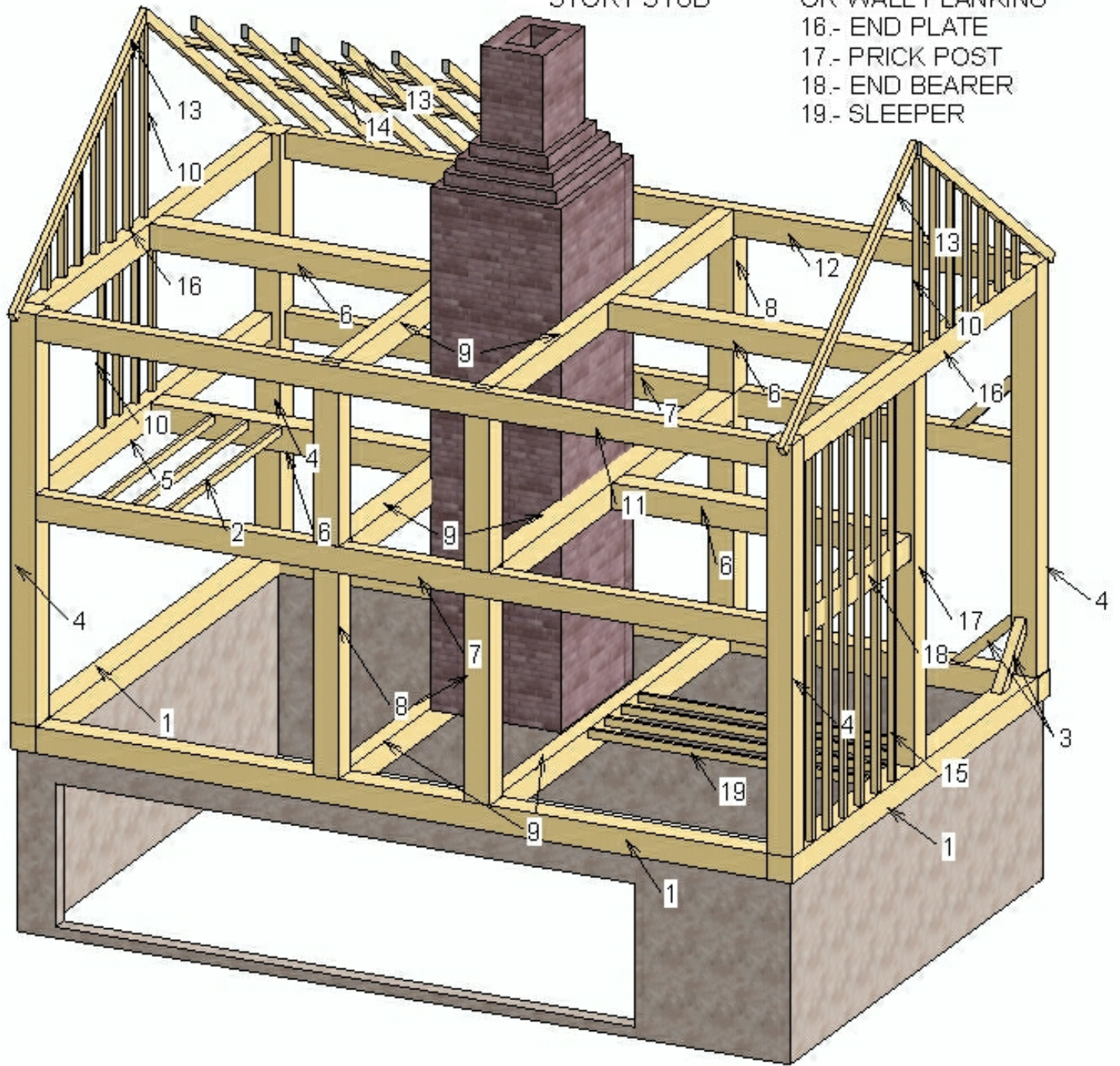
GNCB would like to assist the Lisbon Historical Society and the Town of Lisbon in these efforts. Please feel free to contact me with any questions or if we can be of further service.

Very truly yours,

  
James F. Norden, P.E.  
Tue May 6 2014 16:42:02

James F. Norden, P.E.

- |                |                           |   |
|----------------|---------------------------|---|
| 1.- SILL       | 6.- SUMMER                | 11.-FRONT PLATE                         |
| 2.- JOIST      | 7.- FRONT/REAR GIRT       | 12.- REAR PLATE                         |
| 3.- BRACE      | 8.- CHIMNEY POST          | 13.- RAFTER                             |
| 4.-CORNER POST | 9.- CHIMNEY GIRT          | 14.- PURLIN                             |
| 5.- END GIRT   | 10.- SINGLE<br>STORY STUD | 15.- TWO STORY STUD<br>OR WALL PLANKING |
|                |                           | 16.- END PLATE                          |
|                |                           | 17.- PRICK POST                         |
|                |                           | 18.- END BEARER                         |
|                |                           | 19.- SLEEPER                            |





**Photo P01 – Timber sill with mortar seal trapping moisture in wood.**



**Photo P02 – Front timber sill with dry rot and powder post beetle damage.**



**Photo P03 – Timber joists and beams with powder post beetle damage. Note temporary shoring.**



**Photo P04 – Stone foundation wall with soil wash out accumulation.**



**Photo P05 – Front parlor (at south east corner) with sill/wall planking base damage and movements**



**Photo P06 – Close up of damage at front parlor southeast corner. Note lateral movement at floor and light entry at post.**



**Photo P07 – Moisture/damage at sill line in southwest parlor front wall.**



**Photo P08 – Shoring of 2<sup>nd</sup> floor joists at south/front wall.**





**Photo P09 – South/front wall elevation with some shoring.**



**Photo P10 – Front sill/post damage and outward movement of wall base at southeast corner.**



**Photo P11 – Close up of southeast corner sill and post water damage.**



**Photo P12 – Front wall at west side with modern concrete encapsulation base trapping moisture.**