

Our ref: Let 01

30.01.2021

Dear Patrick Allmark (Project Manager)

Russell WBHO

**Re: Review of NCH - Timber Sprung Floor - Uncovered Tension System**

Further to our site meeting there is a requirement to amend the existing 'Francis Morton (Sprung Floor) Firstly we found it important to understand the construction of the floor and its operations. Details of this can be found in the introduction section, following this we understand how we can amend the system maintaining its function should it be required in the future.

**Introduction**

The hall has an adjustable sprung wooden floor, contemporary with its construction ....the 'Valtor' system was designed as an adjustable sprung load floor and was patented and installed by Francis Morton, Junior & Co. This floor system came to prominence from the 1920's, presumably in response to society's increased requirement for dance halls and was installed at over 400 venues.

This system comprised rows of light steel girders laid under the floor, each divided into short lengths, coupled together by special spring fitments. The entire floor thus rested on steel springs, with no 'dead point' anywhere. The existing Kapur boards are generally  $\frac{3}{4}$ " thick and  $2\frac{1}{2}$ " wide. Originally, the floor system could be adjusted to provide varying degrees of springiness, and 'locked' to prevent movement when not required for dancing.

In conclusion the 'Valtor' system is probably original but the floor boards are possibly not original, originally the floorboards are constructed in Oak, Beech or Maple.

**Proposal**

Please refer to NCH Sprung Floor Overlay for details of the proposed floor alterations. There is a requirement to amend the existing sprung floor to accommodate new floor openings and revised floor plans.

See image to the right to get an idea of the current system and the progress been made to date. The flooring has been taken up and the steel girders have been uncovered. The wedge system seems to be in tact with the parallel bars maintaining their slack.

See across the following photos how we propose to strip the wedges, release the anchor point, cut back the material that is no longer required and relocate the anchor points to allow function of the floor system.



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Within the image we can see the existing wedge system and the slack parallel bars



Within the image we can see the anchor point and how this keeps the end of the system rigid



### Sequence

1. Where possible all bolts will be untightened using hand tools, remove the wedges from under the girders to release the parallel bars from tension & release the spring
2. Release the anchor point to allow as much flexibility into the system for ease of removal
3. Remove the steel girders that are no longer required by unbolting or cutting the spring node points
4. Once the excess system has been dismantled and removed, reintroduce the anchor at the node point

### Conclusion

We are confident that with due care and attention we can modify the system whilst maintaining its current function & heritage. We will ensure we use minimum power tools which should minimise any disruption to the system that will be left in place. Further details can be provided if required.

Yours, For  
SHAWTON ENGINEERING LTD

**Jamie Shaw**

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Note :

(Theoretical Location Of 69" Sprung Floor Grid )

Indication of Flooring to Remain (Yellow Shaded Area)

Indication of Further Flooring to be Cut Out (Blue Shaded Area)

Key :

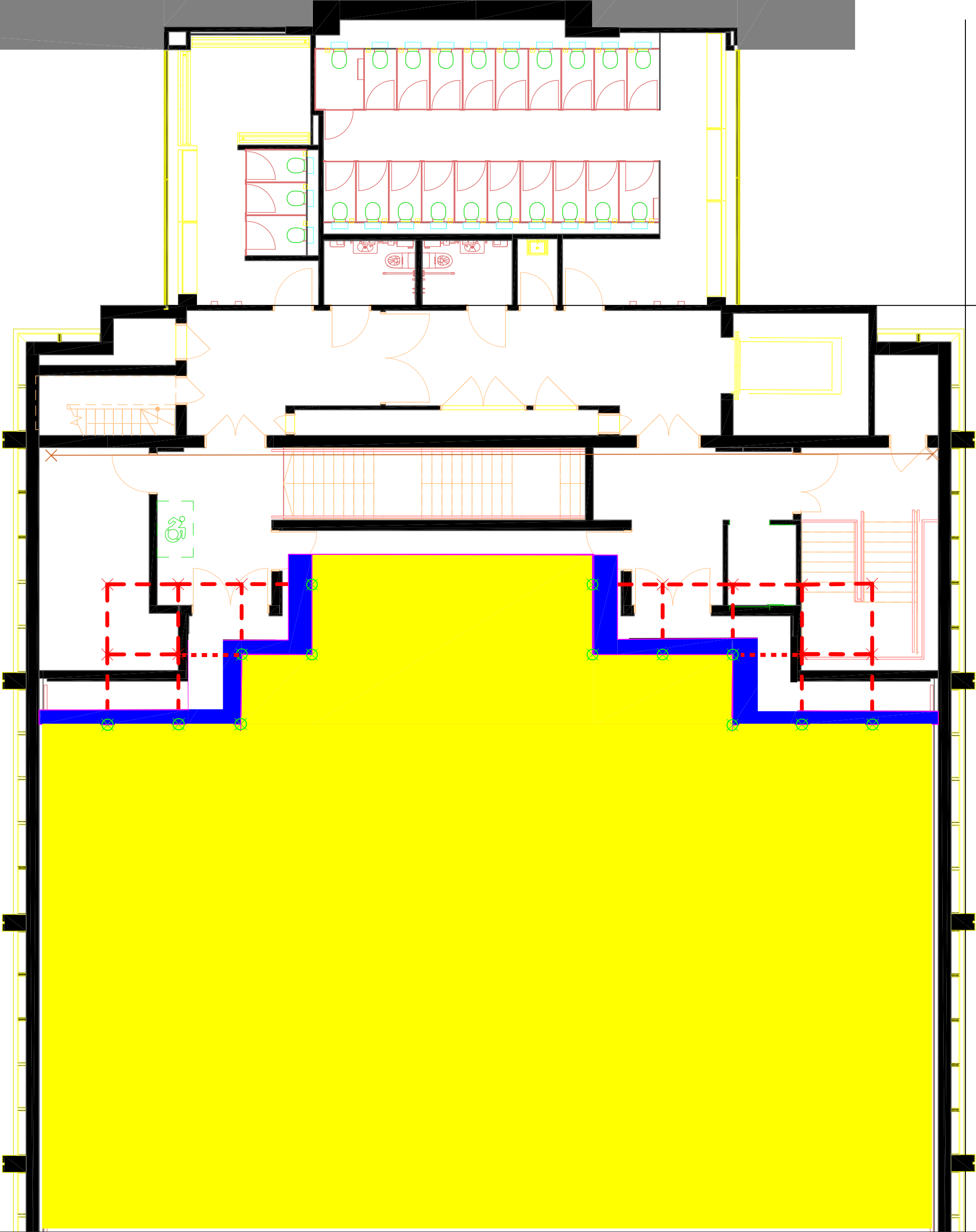
Indication of Further Flooring to be Cut Out

Indication of Flooring to Remain

Uncovered Nodes and Sprung Floor System (X)

Timber Wall Cladding Location

Proposed New Line Of Final Node Positions (X)



DRAWN JO

Drawing Title:  
NCH Sprung Floor System  
Overlay  
Revision: Rev 2  
Revision Date: 05/02/2021  
Scale: NTS