To: Chorleywood Planning Committee and Chorleywood Parish Council

From: Maria Zelenskaya, home owner, 62 Clements rd., WD3 5JT

Dear Sir/Madam,

This letter is intended to address the concerns raised during the planning committee on 14 December 2023 with respect to planning proposal 23/1665/FUL which is now being resubmitted for approval with amendments to address the points raised.

At first, please, let me explain the motivation for submitting 23/1665/FUL instead of implementing 21/1510/PDT that has been granted.

Motivation for the application for planning permission to demolish the house vs implementing the approved proposal for adding a storey (21/1510/PDT**):**

Our aim is to build a highly airtight house with new environment friendly technologies available on the market: SIPs panels/offsite manufactured timber frame with Mechanical Ventilation with Heat Recovery (MVHR). We would like to build the house to the higher UV value standard than existing building regulations for the new build dwellings, which in their turn requires higher build standard vs extending the current house by adding a storey as the new building regulations will not apply.

After obtaining the planning permission for adding a storey (21/1510/PDT) we went to research the eco-friendlier building technologies. The panel manufacturers advised that to ensure airtightness it is much more efficient to build the whole house using this technology as it will be very difficult to eliminate the cold bridging of the existing structure (foundation and ground floor) and the one between the existing ground floor and the added first floor. In fact, most of panel manufacturers only work with new build projects and don't take on extension work for this reason.

This approach resonated with us as our bungalow is damp (leading to excessive mould), existing insulation is poor and we regularly have mice/rats/wasps infestations due to many holes in the structure. So, the new airtight building will ensure that there are no gaps/holes in the structure and the running of the house will be more energy efficient.

Hence, we applied for the demolition of the existing house.

Now let me address the concerns raised during the planning committee of 14 December 2023 with regards to the proposed development:

Note: the proposed development went through pre-planning consultations to develop the design that meets planning office's criteria.

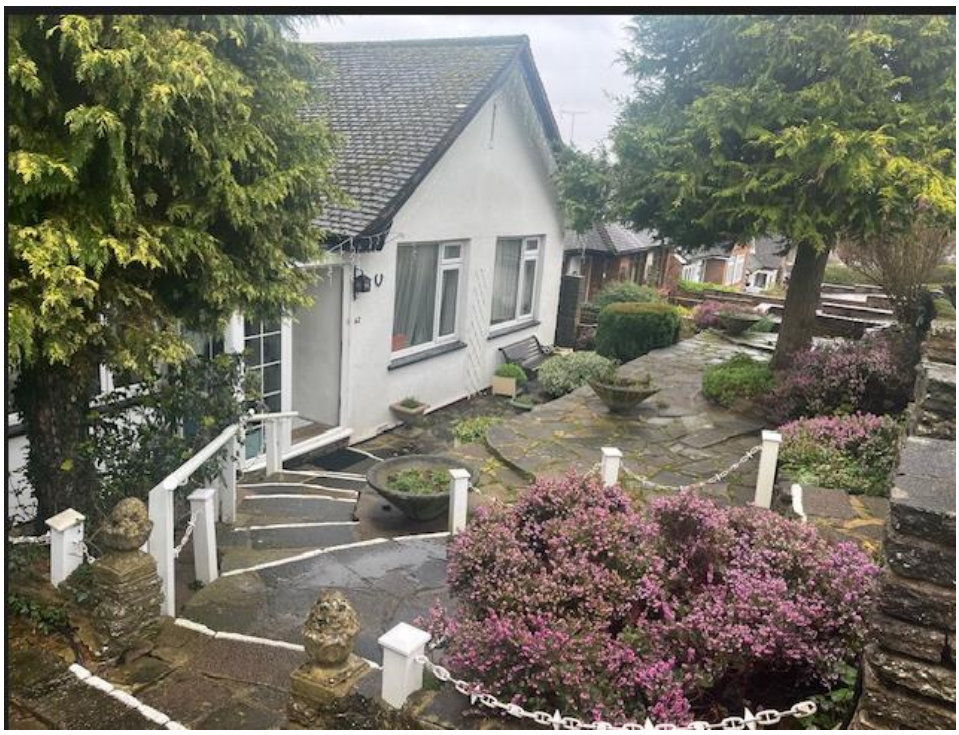
The concerns raised during PLANNING COMMITTEE (quotes from the meeting records):

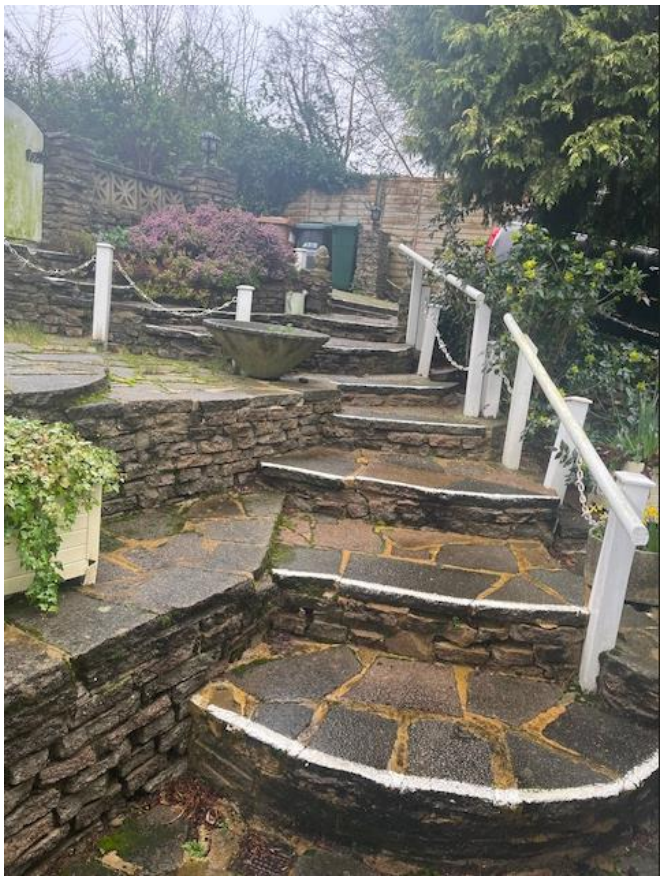
1. **"The loss of a bungalow and the neighbourhood plan: "the loss of the bungalow being replaced by a multi-floor property not suitable for downsizing of older residents of the area or for disabled residents".**
   Breach of Policy 4.1 of the Chorleywood Neighbourhood Development Plan (NDP) relating to the replacement of the bungalow with a two-storey dwelling not suitable for downsizing of older residents of the area or for disabled residents."

Our property is situated on the very top on the hill and is the last dwelling on the dead-end street.

We bought the property from two elderly ladies, who put it on the market as they started experiencing mobility issues and having difficulties in accessing home and became unable to maintain the garden across its multiple levels (see photos below).

The below pictures demonstrate the view onto the property from the street level and stairs from the street to the front door.





The below picture demonstrates that there are 4 levels in the rear garden where blue marker highlights each of them.

We personally know two families that we met through our kids' primary school, who viewed this property and didn't buy it because of accessibility concerns (for their visiting elderly parents and planning for their own future retirement). One of our neighbours tried to sell their bungalow before they decided to redevelop it and they said that elderly people didn't even go inside the bungalow to view it after they saw the steps from the street down to the bungalow.

Hopefully the above evidence demonstrates that this bungalow is not really suitable for people with mobility issues; however, the proposed design still includes ground floor bedroom and bathroom which technically makes it suitable for elderly and less able occupants. We guarantee that the ground floor bedroom and bathroom will be retained and this can be imposed as a condition by the planning committee.

I would also like to point out that most of the bungalows on our street were upgraded and developed and transformed into 4+ bedrooms dwellings, albeit in a different manner (through loft conversions), and they are now not suitable for downsizing either.

Conclusion: the proposed development will not result in a loss of dwelling suitable for downsizing of older residents of the area or for disabled residents, as this particular property is split across 5 levels (including the drop from the street level to the front door) combined with being set on the top of the hill. But should the elderly and less able people not be averse to moving in despite the hill and the multiple level garden and entrance, the proposed dwelling would remain accessible with the ground floor bedroom and bathroom that would be suitable for the elderly and less able people.

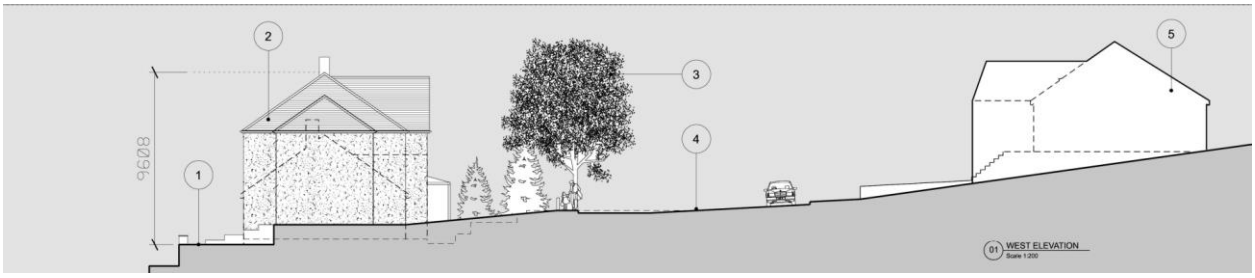
2. House design and impact on the character of the area:

- **"out of keeping with the character of the area; adverse impact on the character of the area and the street scene.**

- **The proposed replacement dwelling, by virtue of its height, scale, and mass in conjunction with the tall fenestration, which adds a greater vertical emphasis to the dwelling, would result in harm to the character and appearance of the street scene and area.**
- **more specifically, the ridge height, scale and mass, and the introduction of a significantly tall fenestration to the rear of the proposed dwelling it would cause on the character of the area and the street scene."**

The proposed development by virtue of its height, scale, and mass is exactly the same as the dwelling Ref. No: 21/1510/PDT where planning permission was granted.

Also, our bungalow sits below the bungalow opposite ours and the proposed 2 storey dwelling will still be situated below it. Please, see the cross-section drawing below:



With regards to fenestration the drawing below demonstrates the differences in the front windows design between approved and proposed design.

Fenestration:
Motivation for initial fenestration design (submitted as a part of Ref. No: 23/1665/FUL that was refused):

The front windows of the property are south facing with rear windows facing the north.

Given our house is below the street level with 3 trees in front of it (1 on the street level and 2 within our front garden) the house lacks natural light. The picture below is our south facing window on a very bright sunny day in February that demonstrates that even when the sun travels quite low during winter months the house inside is quite dark. Generally, this leads to more electricity usage.

So, the slightly taller ground floor windows and the feature window were designed with the purpose of capturing natural light and ensuring it travels through to the back of the house via 2 glass panels that divide entrance from the kitchen diner and study room from the living room (marked in yellow on the floor plan below). Such windows were also designed to for solar gain purpose.

Taking into consideration the committee's concern that such design adds to impression of the height and scale of the proposed development we replaced the feature window with the standard size window (exactly as per granted Ref. No: 21/1510/PDT).

If the committee is concerned about the front window over the garage, we can remove it and it could be the imposed as a condition for the planning permission.

We ask to be able to retain slightly taller windows on the ground floor to still be able to capture a little more natural light. Given our house is below the street level we believe this will be barely noticeable from the street. Please, see the picture below that also shows the trees in front of the house:

We believe that the rear fenestration on the ground floor that was raised as a concern floor cannot impact the street scene (as stated in the meeting minutes) and is not relevant. Also, our house is backing tall evergreen trees and the ground floor is not visible from outside of our property. The rear north-facing glass doors design was also developed with the aim to increase the amount of natural light and reduce electricity usage. The first-floor rear windows are of a standard height. The below picture proves

General house design and the concern it will be out of keeping with the character of the area:

We confirm we would like to ensure the dwelling blends in into the street scene. The proposed design follows the shape of the existing bungalow with exactly the same roof scape. To address the concerns about the tall fenestration we eliminated the feature window on the first floor (as per picture on page 4) to bring it in line with other windows that are of a standard size as are exactly the same as per application that was granted: 21/1510/PDT.

With regards to materials the proposed development will be rendered in a similar colour to the existing bungalow with roof tiles in a traditional colour (not dark grey) to blend in with exiting fence and character. The external design will be aiming for the below (to match existing fence as per photo), alternatively, traditional red tiles and light-coloured rendering:

3. **Climate impact.**
   A representative from the Parish Council spoke against the application outlining the climate impact that will result from demolishing the existing dwelling.
   Before I proceed to climate impact considerations, I would like to note that in Dec 2023 a similar planning application for a bungalow demolition and 2 storey house dwelling replacement was approved in Rickmansworth (23/1855/FUL), other similar examples are 23/1354/FUL, 23/1259/FUL. The sustainability aspect of demolishing the bungalows in all those cases would be exactly the same.

Also, as mentioned in the report: “The Planning Officer acknowledged the concerns around the sustainability aspect of demolishing the house and advised that the Council has no policy bases to refuse the application on grounds of climate impact that would result from the demolition of the house”.

In addition, if we consider adding a storey it must be in blockwork as SIPs / Closed timber frame would not be efficient build technology in this case, which is less environment friendly. Comparing adding a storey vs demolition and rebuild with SIPs/timber frame *the difference would be for demolishing 4 external walls* as the roof and all internal walls will be removed anyway when adding a storey.

Nevertheless, we take sustainability matters seriously hence our choice of the building technology.

Overall, the direct carbon emissions of a 4-bedroom house in the UK can range from 2 to 6 metric tons of CO2e per year, depending on factors such as heating system efficiency, insulation levels, energy consumption habits, and the carbon intensity of the energy sources used.

The estimated total carbon footprint from heating and electricity for a 180 square meter house, assuming gas heating and grid electricity, is approximately 3,692 kilograms of CO2 per year.

The estimated total carbon footprint from heating and electricity for a 180 square meter house built with SIPs or closed timber frame construction with MVHR, assuming gas heating and grid electricity, is approximately 2,772 kilograms of CO2 per year.

Hence, SIPs or closed timber frame construction with MVHR ensures savings the approx. saving is 920 kilograms of CO2 per year.

A rough estimate of the carbon footprint from demolishing a 120 square meter bungalow built with blockwork could range from approximately 10 to 30 metric tons of CO2 emissions.
Taking the midpoint of 20 metric tons of CO2 emissions from demolition, it would take approx. 21,7 years to fully off-set the demolition and significantly contribute to carbon emissions savings going further.

The life span of SIPs/closed timber frame houses starts from 50 years which will ensure at least further 28,3 years of saving 0,92 tonnes of CO2 per year and the minimum total saving of 26 tonnes of CO2. In addition, at the end of its life both in SIPs and closed timber frame can be recycled or repurposed, contributing to a circular economy and reducing waste sent to landfills.

The UK carbon budget has challenging targets to meet for 2050. The fifth carbon budget, covering the period 2028-2032, has now been approved by the UK Parliament. The budget will ensure the UK continues to reduce its emissions most cost-effectively, as we progress towards the 2050 target to reduce domestic emissions **by at least 80% on 1990 levels**.
Given the existing bungalow structure was built in approx. 1955 with building insulation standards of pre-1990, the gap to meet the budget for this particular house will be more than 80% savings. Adding a storey with masonry building technology will not contribute towards meeting the budget but the new build house will.

Please, see below the more detailed information and advantages of building with SIPs/closed timber frame:

SIPs (Structural Insulated Panels) and closed timber frame construction methods both offer sustainability qualities, albeit with some differences. Here are the sustainability qualities of each:

SIPs (Structural Insulated Panels):

1. **Energy Efficiency:** SIPs are known for their excellent thermal performance due to the insulation sandwiched between two panels. This high level of insulation can result in reduced energy consumption for heating and cooling, making buildings more energy-efficient and reducing their carbon footprint over time. **This will decrease carbon footprint going forward.**
2. **Material Efficiency:** SIPs use a minimal amount of raw materials compared to traditional framing methods. The rigid insulation core provides structural support, reducing the need for additional framing materials. This efficiency helps conserve resources and reduces waste. This will decrease carbon footprint going forward.
3. **Reduced Construction Time:** SIPs are prefabricated off-site according to precise specifications, which can significantly reduce construction time compared to traditional methods. This accelerated construction process can result in fewer onsite disturbances and *less energy consumption during the building phase*. This will decrease carbon footprint going forward.
4. **Durability:** SIPs are known for their durability and strength. Properly constructed SIPs buildings can have a longer lifespan than traditional structures, reducing the need for frequent renovations or replacements. This longevity contributes to overall sustainability by reducing the environmental impact associated with building maintenance and disposal.
5. **Air Quality:** SIPs construction typically involves the use of engineered wood products and adhesives that emit low levels of volatile organic compounds (VOCs). This can lead to better indoor air quality, creating healthier living and working environments for occupants.

Closed Timber Frame Construction:

1. **Renewable Material:** Timber is a renewable resource when sourced sustainably. Closed timber frame construction utilizes timber as the primary structural material, *contributing to the reduction of reliance on non-renewable resources* like steel or concrete.
2. **Carbon Sequestration:** Wood products store carbon absorbed by trees during their growth, effectively acting as a carbon sink. *Closed timber frame construction locks carbon away in the building structure, helping to mitigate climate change by reducing atmospheric carbon levels*.
3. **Energy Efficiency:** Timber possesses natural insulating properties, providing thermal efficiency in buildings. Closed timber frame construction can incorporate additional insulation materials to further enhance energy efficiency, r*educing heating and cooling demands and associated carbon emissions*. This will decrease carbon footprint going forward.
4. **Recyclability:** At the end of its life, timber can be recycled or repurposed, contributing to a circular economy and reducing waste sent to landfills. *Closed timber frame construction promotes the reuse of timber materials*, extending their lifecycle and minimizing environmental impact.

In summary, both SIPs panels and closed timber frame construction offer sustainability qualities such as energy efficiency, material efficiency, durability, and contributions to carbon sequestration.

Besides ongoing energy savings of running such house, using SIPs (Structural Insulated Panels) or closed timber frame construction methods can offset the climate impact from demolition in several other ways:

1. **Durability and Longevity:** Both SIPs and closed timber frame constructions are known for their durability and strength. Buildings constructed using these methods tend to have longer lifespans compared to traditional construction methods. As a result, there is a reduced need for frequent renovations or replacements, which minimizes the frequency of demolition and the associated environmental impact.
2. **Reusability of Materials:** SIPs and closed timber frame constructions often use modular components that can be disassembled and reused. In the event of demolition, these materials can be salvaged and repurposed in other construction projects, reducing the demand for new materials and minimizing waste sent to landfills.

3. **Recyclability:** The materials used in SIPs and closed timber frame constructions, such as wood and engineered wood products, are typically recyclable at the end of their lifecycle. By recycling these materials instead of sending them to landfills, the environmental impact of demolition is reduced, and valuable resources are conserved.
4. **Carbon Sequestration:** Both wood-based materials and SIPs typically use wood-derived products like oriented strand board (OSB) or plywood. Wood products act as carbon sinks, sequestering carbon dioxide absorbed by trees during their growth. When these materials are reused or recycled, the carbon remains stored, helping to offset the carbon emissions associated with the demolition process.
5. **Energy Efficiency:** SIPs and closed timber frame constructions often result in energy-efficient buildings due to their excellent thermal performance. By reducing energy consumption for heating and cooling over the building's lifespan, these construction methods help mitigate the overall carbon footprint associated with the operation of the building. While this doesn't directly offset the emissions from demolition, it contributes to the building's overall sustainability and reduces the need for future construction projects, thereby indirectly lowering the environmental impact of demolition activities.

In summary, both SIPs and closed timber frame construction methods can help offset the climate impact from demolition by promoting durability, reusability, recyclability of materials, carbon sequestration, and energy efficiency. These sustainability qualities contribute to a more environmentally friendly built environment and help mitigate the environmental consequences of building demolition.

Hope the provided information proves that we don’t intend to harm neither the street scene nor environment and I will be happy to address any questions that might arise based on the above.

Kind regards,
Maria Zelenskaya
The home owner