

5. Design Proposal

WIDER SITE STRATEGY PLAN

From the early stages the design team have viewed the scheme as a unitary whole, exploring the interaction between the new house, the existing barn, the site and the wider context.

The presence of streams, drainage channels and ponds in the surrounding context has been a key inspiration for the development of the house and the wider landscape strategy.

The construction of a new house allows the non-designated heritage asset of the existing barn to be preserved (rather than converted for domestic use as per the extant permission). The domestic aspect of the scheme is moved to the west corner of the site, away from Sutton Lane and provides impetus to revive the copse which once occupied this corner of the site. While the new paragraph 80 home will read as a 'house within a copse' the intention is for this building of architectural merit to be seen and become a congruous feature and point of interest in the locality.

The ecological enhancement is very significant and includes succession planting of oak trees along the lane, the introduction of parkland field oaks, new copse and woodland planting, areas of wet meadow, new ponds and water features to name a few. The result of this is a very significant biodiversity net gain of close to 50% increase.

For more information on landscape, including the research, analysis, concepts and details which undergird this, please refer to the landscape strategy document prepared by Studio 31.



Studio 31 - Site landscape strategy plan



HOUSE AND SURROUNDING LANDSCAPE DESIGN

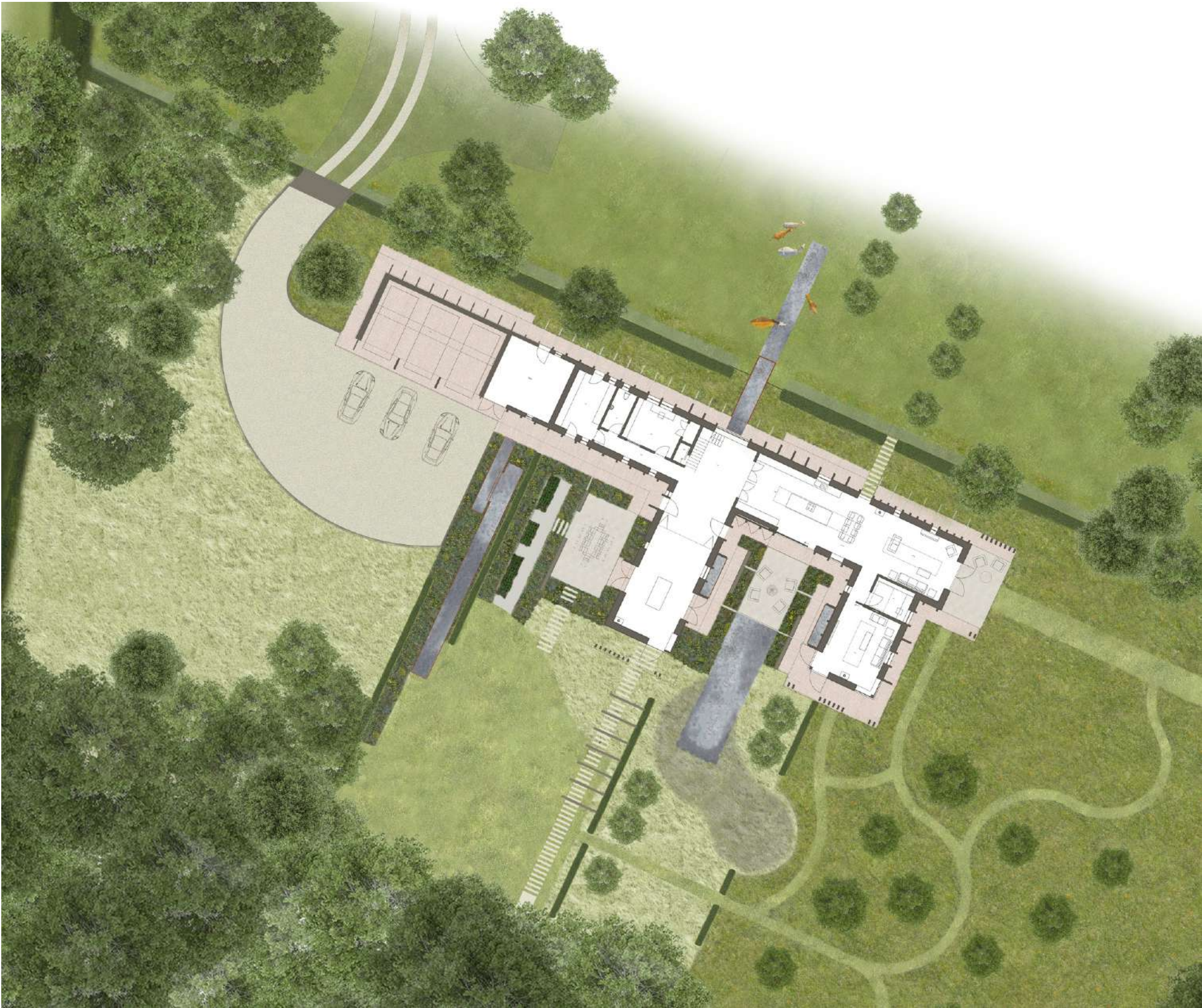
The siting and form of the house creates privacy for the garden areas to the south, while concealing these more domestic external spaces from public view. At the same time, the introduction of significant additional hedges and woodland planting helps to bed the building into the landscape and provide further buffering.

In the immediate landscaping around Breach House, water features form linking elements and thresholds between key areas, and are fed via excess water from the water tower, which in turn has been harvested from surrounding drainage channels with the help of ram pumps.

The cluster arrangement of the building takes cues from the existing barn and divides the immediate landscape into a series of semi-enclosed and sheltered external spaces and courtyards:

- An entrance area with vehicular parking and turning space, with a west-facing garden area to catch the afternoon sun
- Another more enclosed south-facing courtyard garden with central natural pool/pond,
- An east facing meadow area with views to the adjacent field and boundary line with Sutton Brook.

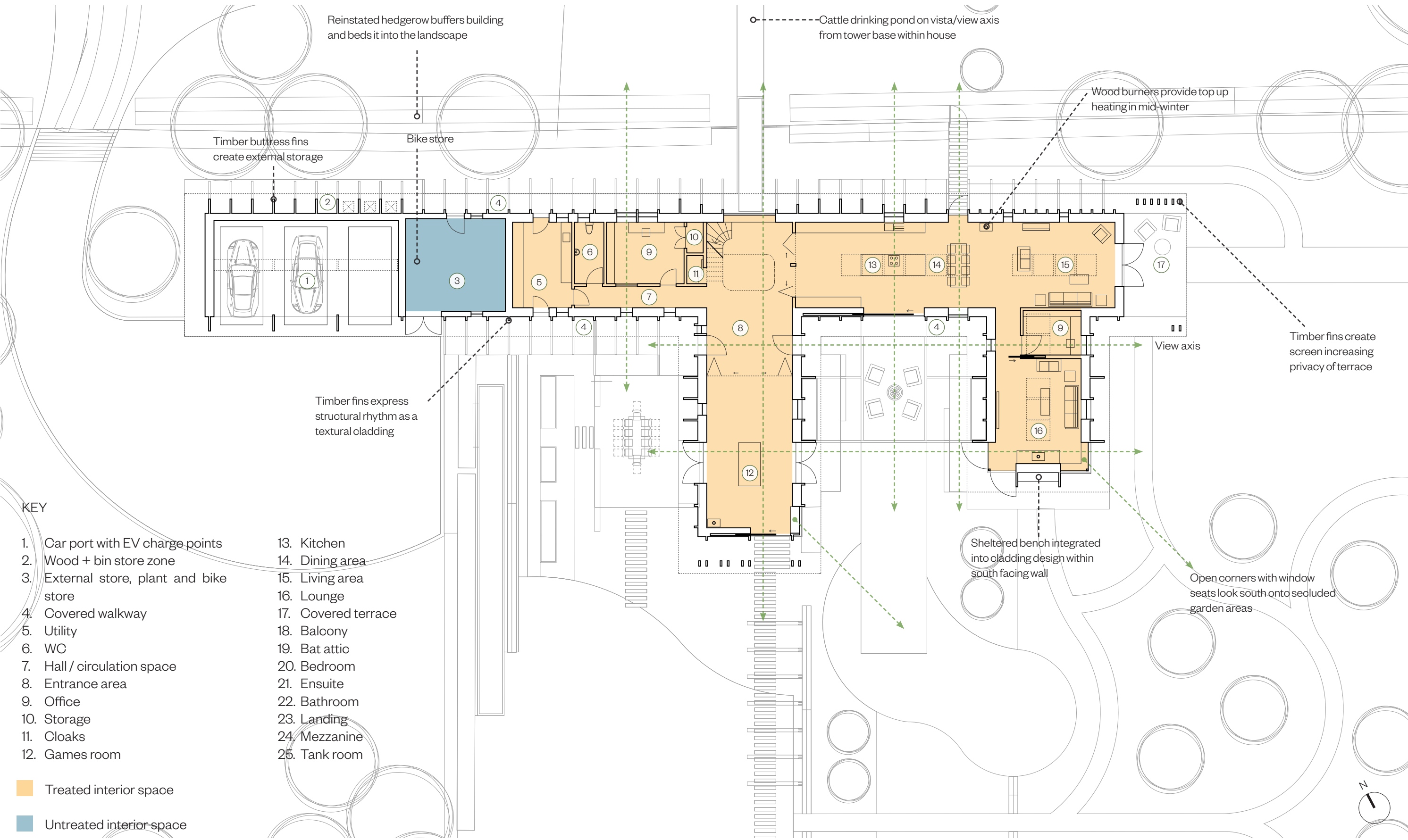
The layout clusters arrival/parking and service functions in the north west corner of the home. The entrance axis aligns through an external courtyard which is central to the plan, affording long ‘glimpse’ views through to the landscape beyond. This principle of linear alignments and views occurs in numerous places within the scheme and ties the building into the landscape.

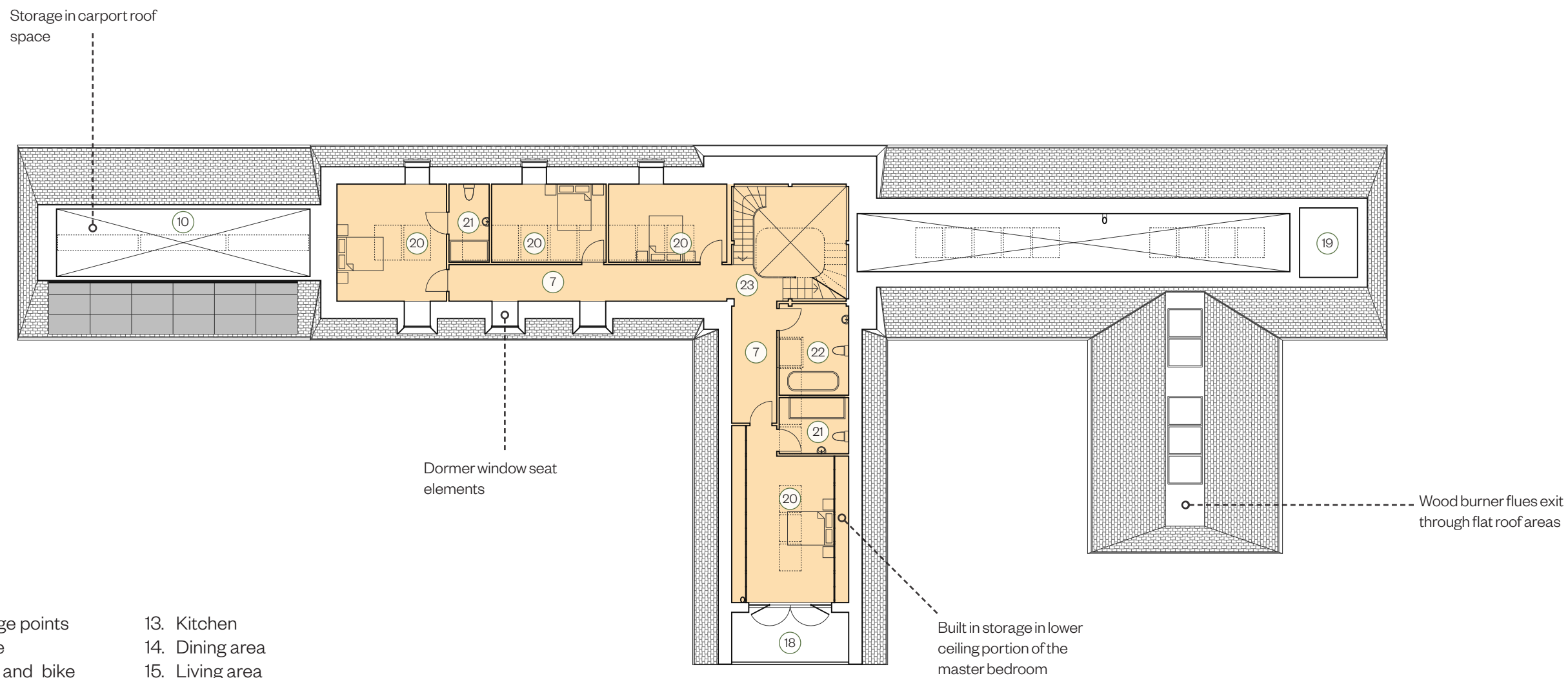


Studio 31 - rendered landscape plan









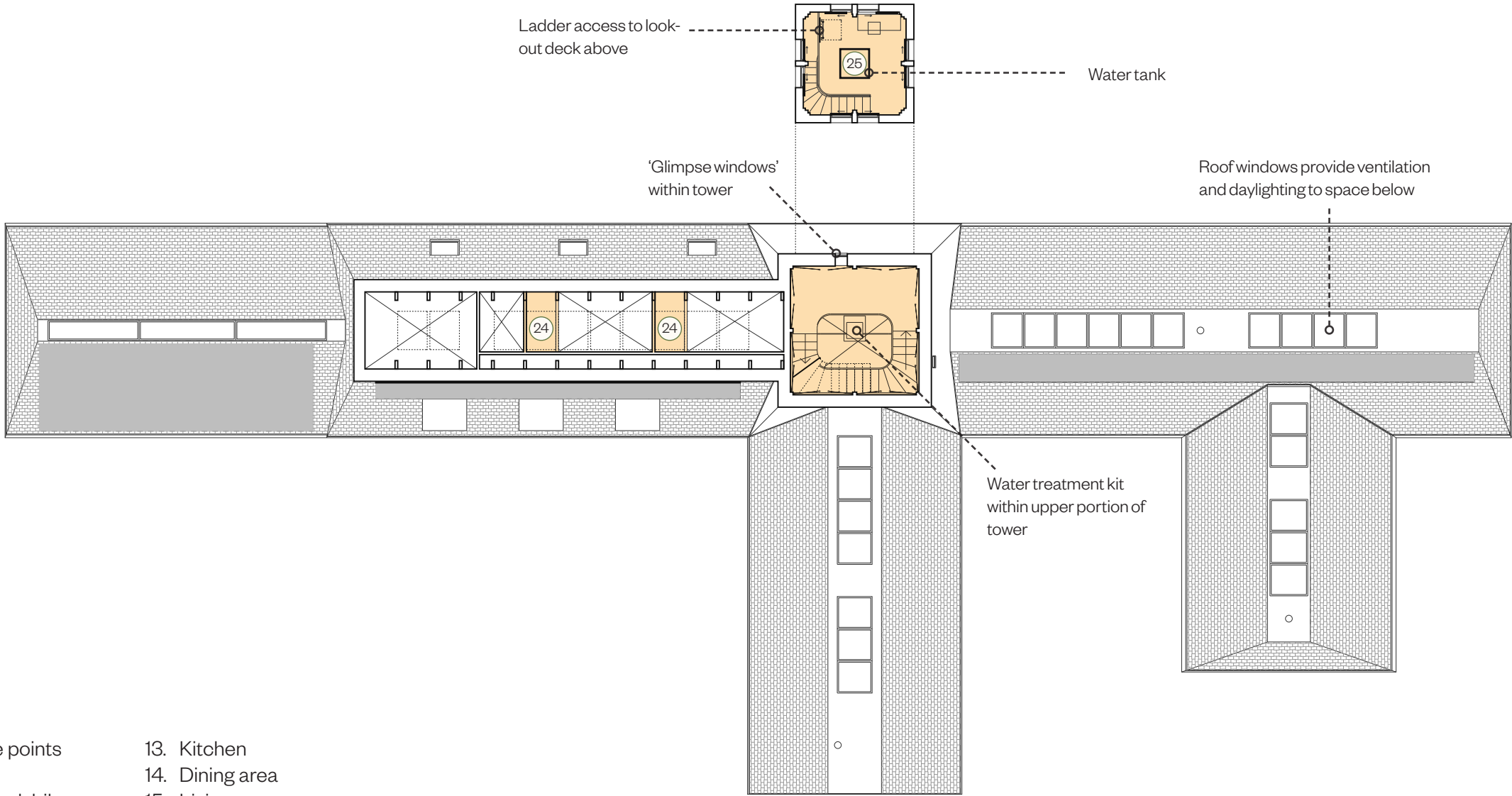
KEY

- | | |
|---|---------------------|
| 1. Car port with EV charge points | 13. Kitchen |
| 2. Wood + bin store zone | 14. Dining area |
| 3. External store, plant and bike store | 15. Living area |
| 4. Covered walkway | 16. Lounge |
| 5. Utility | 17. Covered terrace |
| 6. WC | 18. Balcony |
| 7. Hall / circulation space | 19. Bat attic |
| 8. Entrance area | 20. Bedroom |
| 9. Office | 21. Ensuite |
| 10. Storage | 22. Bathroom |
| 11. Cloaks | 23. Landing |
| 12. Games room | 24. Mezzanine |
| | 25. Tank room |

- Orange square: Treated interior space
- Blue square: Untreated interior space



Scale 1:200 @ A3



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Scale 1:200 @ A3



Reclaimed red brick



Douglas fir timber cladding



Reclaimed blue/heather
plain peg tiles

- 1. Soffit - timber cladding wraps up and across soffit following same pattern and spacing
- 2. Fins as reveals - for larger openings which span an entire structural 'bay' the expressed timber fin element doubles as a window reveal.
- 3. Smaller 'punch through' openings have their own defined header, reveal and sill which is a different language to the larger openings but unified by a common material (ie Douglas Fir).
- 4. Expressed gutter forms a datum between the ground floor zones and the pitched roof forms above. Following the pitch of each roof the gutter integrates into the form.
- 5. Deeper 'buttress' fins extend out to meet the line of the gutter above and provide a good opportunity to mount a simple downpipe. A minimal french drain will run around the perimeter of the building to collect rainwater and direct to ponds and swales in the landscaping.
- 6. Each timber fin has a metal 'foot' detail which is installed within a small gravel-filled recess within the brick paving around the perimeter of the building.



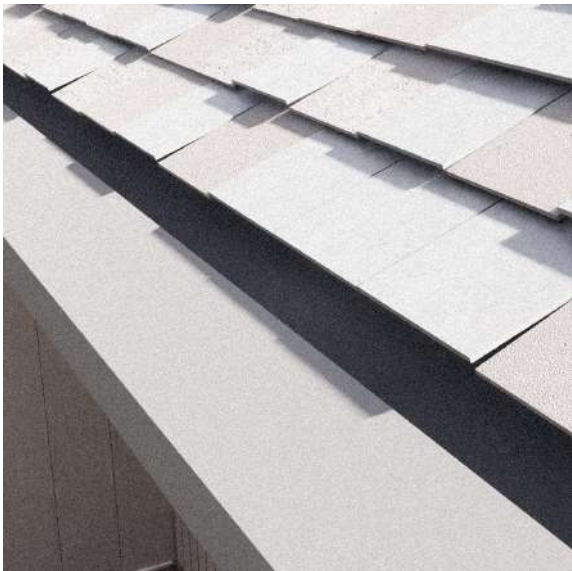
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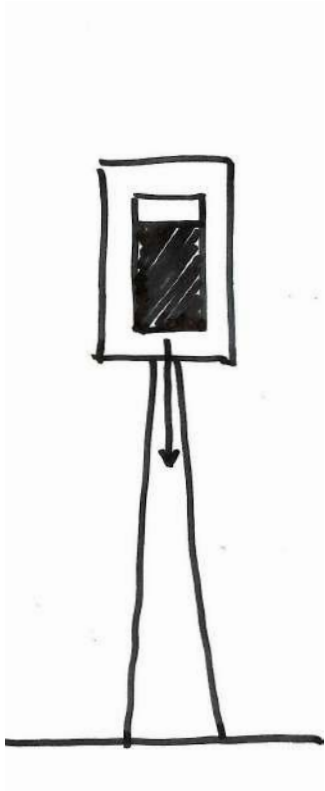


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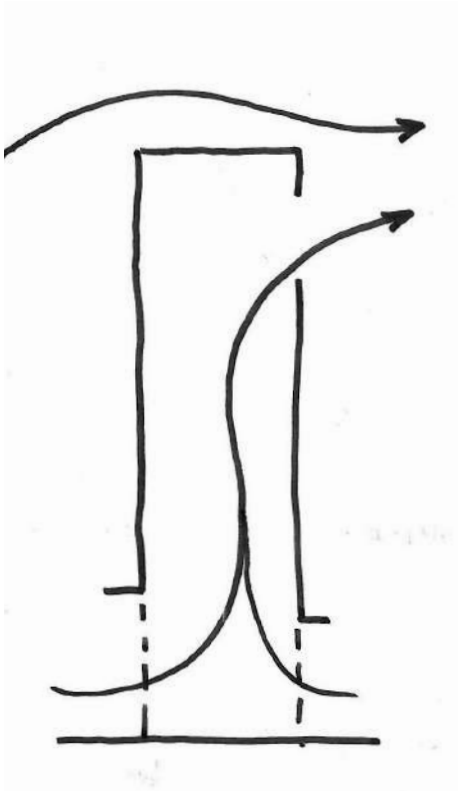




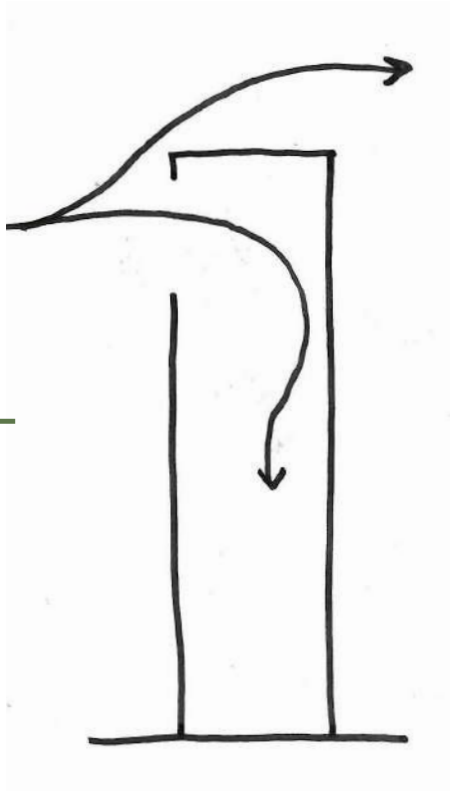




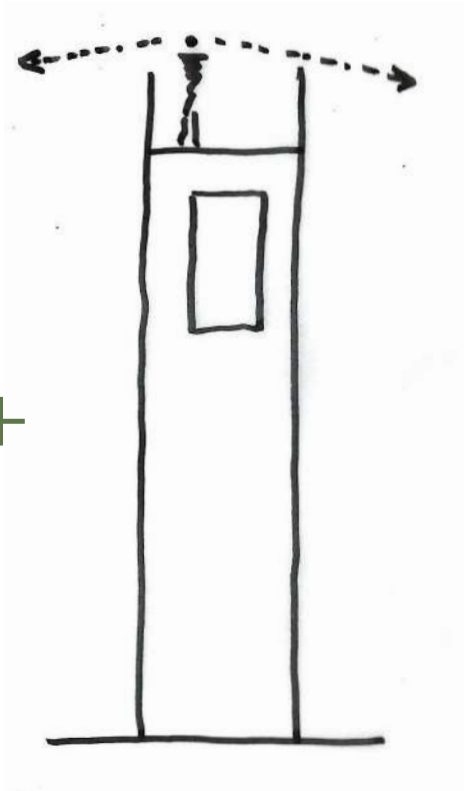
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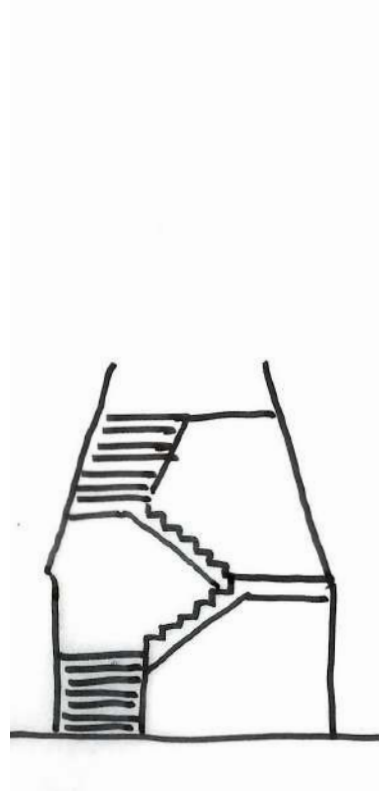
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WATER STORAGE

The originating function of the tower is storage of water at height which can then drive a gravity-fed filtration and supply system.

VENTILATION STACK

The height of the tower provides an opportunity for this to provide ventilation via the 'stack effect' - which is a kind of chimney effect based upon buoyancy differentials. This can be particularly useful on a hot still day when normal wind-driven ventilation is ineffective.

WIND-SCOOP + DOWNDRAUGHT

By orientating an opening towards the prevailing wind, it's possible for the tower to act as a 'wind catcher'. This could be combined with 'passive downdraught evaporative cooling' which may prove to be a useful adaptive strategy under changing climate scenarios, with more hot dry days on the cards.

LOOK-OUT

The elevated nature of the tower provides a good opportunity for a look-out point from which to take in the surrounding landscape and a means of observing and monitoring cattle across the fields. This has a historic resonance with the water tower at Bosworth Hall which has a look-out platform at the top.

CIRCULATION CORE

The verticality of the tower provides a natural opportunity for vertical circulation between floors of the house. This has the potential to be a dramatic space with a sense of volume, adding drama to the daily activity of circulating within the home.

RESULTING TOWER

The tower seeks to be a simple solution to the complex problem of integrating these five functions. The gently tapering form derives from the relatively wider needs of stairs at the base and narrower condition of the tank and look-out at the top. At the same time this gently tapering massing ties in with the pitched roof forms that are a defining feature of the architectural language in addition to helping to reduce wind loads.

FUNCTION AND MATERIALITY

The water tower is key to the narrative and design of Breach House. To bring prominence and hierarchy, it has a complementary material treatment to the other roofs, with horizontal timber cladding, referencing traditional cladding for windmills and such rural structures.

“The LPA consider that the tower provides visual interest and delight to the dwelling and has the potential to contribute positively to the character of the area and wider landscape setting.”

- Second pre-application response 21/10103/PREHMO dated 11th November 2022

The water tower serves a number of functions as part of the operation of the home, which are described and diagrammed on the previous page. At its core the water tower accommodates the passive collection and filtering of run-off surface water from the surrounding landscape. The engineering and systems involved in this process are expressed and celebrated within the internal arrangement of the tower. This element also provides for some interesting and unique spatial experiences such as a quiet place of retreat at the top of the house (the tank room), a dramatic void with circulation space and an exterior look-out atop the building.



Interior view looking up within circulation core of water tower



Water Tower: perspective section



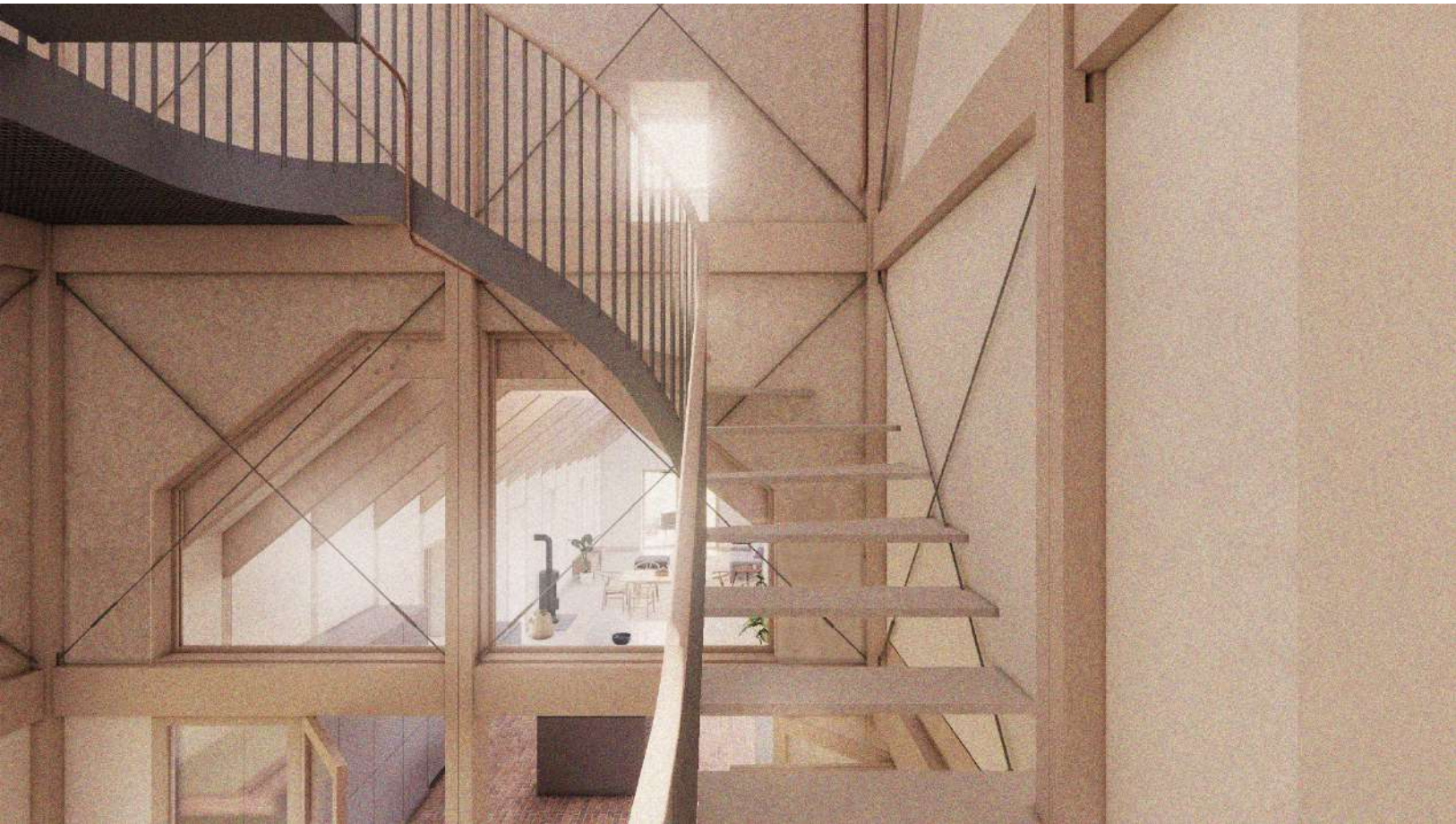
Water Tower: external

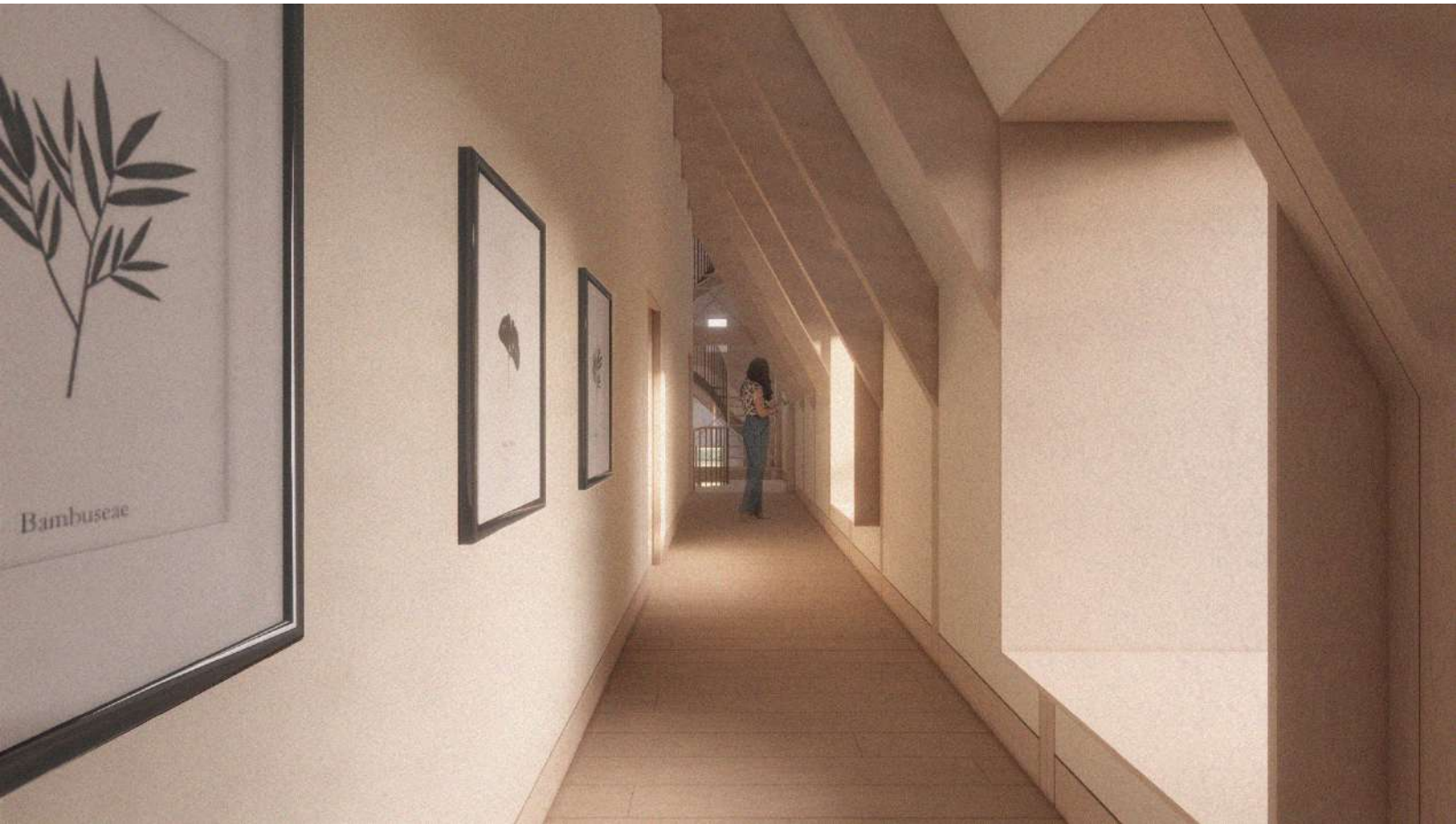
Water storage tank
fed by water rams

MEP / plant area -
exposed filtration
equipment









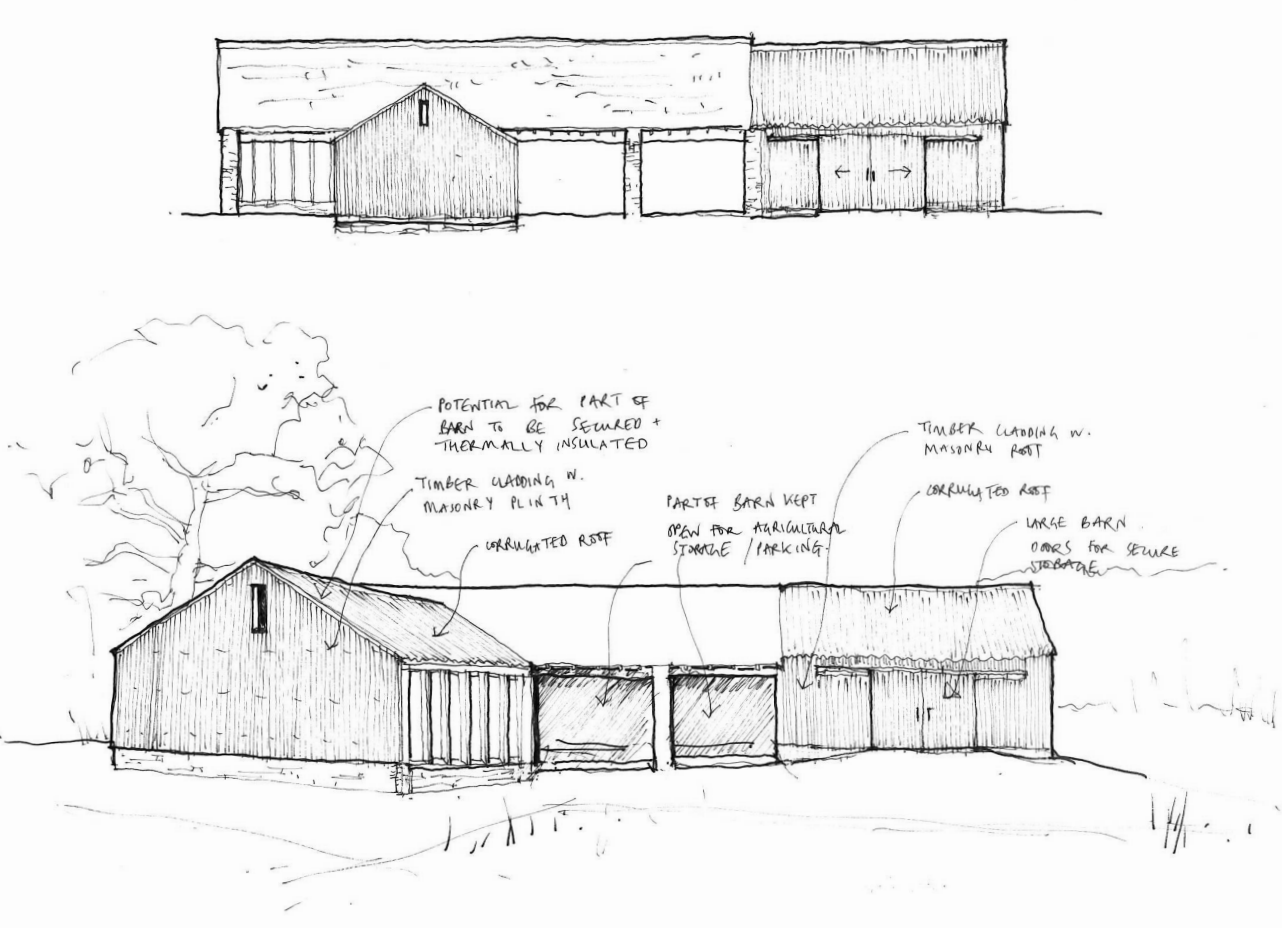
6. Existing Barn

THE BARN

The intention is to preserve and upgrade the barns as part of a holistic site strategy. The approach is light touch seeking to preserve the agricultural feel of the building while upgrading its material condition.

To ensure their long-term survival, works are required to make parts of the building watertight to prevent decay.

The drawings here explore some initial ideas, such as incorporating vertical timber cladding with a masonry plinth for cladding durability.



Indicative sketches showing design development ideas

PRECEDENTS



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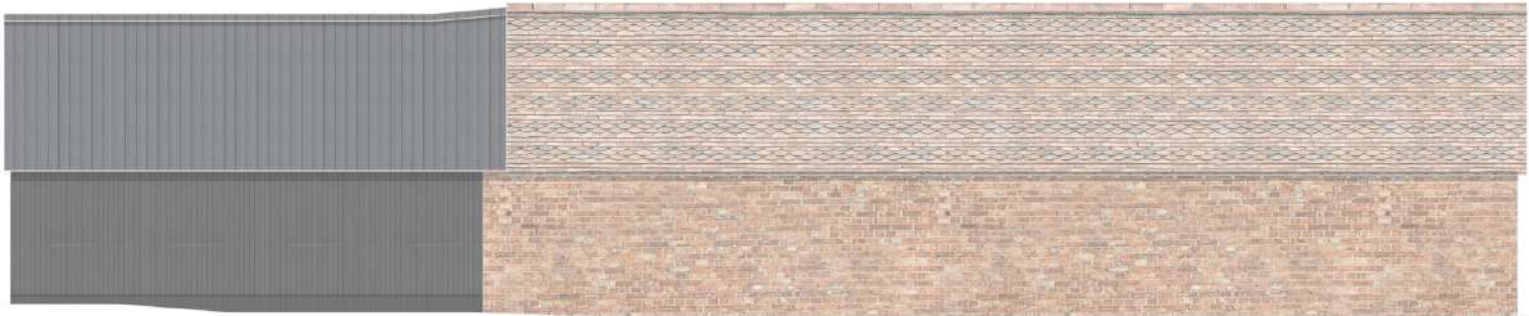
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- 1+2 - Studio Bark, Warren Lodge - simple agricultural barn with large sliding doors (hung top and bottom). The project used locally sourced natural materials to ensure the finished building sat comfortably in its surroundings
- 3 - Fearon Hay Architects, Forest House - Semi-open building with carefully detailed timber cladding to give a crisp, but agricultural, aesthetic
- 4 - Hiberink Bosch Architects, Sixteen Oak Barn - Agricultural building, glazed and insulated at one end and open for vehicular storage/ workshop at the other

BARN PROPOSAL

Working with the existing barn form and character, we propose that part of the South elevation remains open, whilst other parts can be secured for practical agricultural storage.

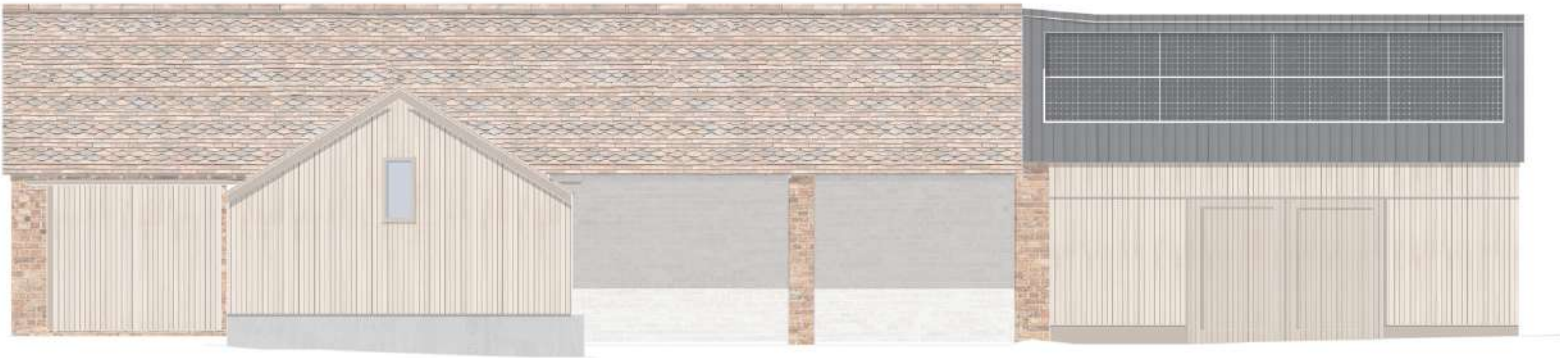
Please also see planning drawings for more information.



North-East Elevation



North-West Elevation



South-West Elevation



South-East Elevation

7. Conclusion

SUMMARY

Breach House is an integration of architecture and landscape, human needs and ecology, with water as a connecting thread flowing through the proposal. Multiple facets of water both human and non-human, from energy and hydrology, to hydration and ecology, find a point of confluence within this proposal.

The scheme comprises a holistic site strategy which has been informed by detailed analysis of setting and landscape. The architectural language takes its cues from rural typologies and a contextual material palette, while pursuing exemplary environmental performance and responding to the pressing need for decarbonisation. The result is a unique and striking contemporary architecture which is grounded in the defining characteristics of the surrounding area, while at the same time being very much ‘of its time’.

The design of Breach House has been developed in the context of paragraph 80 of the NPPF and as an alternative to the existing permission for conversion of an agricultural barn on the site (also a non-designated heritage asset). The design team believe that this offers an enhanced option for the site, with a myriad of benefits for the natural ecology of the area, for design standards in rural areas and for the applicants.

KEY BENEFITS

- Raising design standards in rural areas - Breach House is an exemplary contemporary rural house. The design meets the highest levels of environmental performance, being energy positive and carbon negative in tandem with landscaping strategy over the whole life of the scheme. Development of this scheme can illustrate exemplary practice, helping to raise standards generally.
- Heritage - through this scheme the existing barn (a non-designated heritage asset) will remain within agricultural use and undergo a sensitive light-touch refurbishment. This will better preserve the heritage value of this building and rural character of Sutton Lane.
- Local amenity - while any development in open countryside is likely to attract a significant amount of local concern, the applicant and design team have made genuine efforts to respond to concerns raised regarding the existing permission for conversion of the barn. The proposal moves the domestic use away from Sutton Lane, significantly buffering this with increased vegetation and distance. This proposal seeks to preserve the rural character of Sutton Lane for the enjoyment of residents and visitors into the future.
- Ecology + biodiversity - the overall landscape strategy and management plan will significantly enrich the ecological value of the site, creating new habitat and a massive 49% uplift in biodiversity net gain. From a nature standpoint, the proposal is hugely beneficial.
- Hydrology + water management - through engagement with the EA and specialists at Trent Rivers Trust, the scheme provides attenuation of surface run off through natural flood management. This is a wider community benefit which this scheme can offer to the surrounding area and especially those living downstream from the site.
- Decarbonisation + climate change mitigation - detailed carbon analysis has demonstrated that the on-site carbon drawdown strategy, based upon increased tree planting, will sequester around 3 times as much carbon as will be released by the impact and operation of the house. The scheme is better than net zero, and over its lifespan can be considered ‘carbon negative’. In its own small way, Breach House helps to address the climate crisis and to meet the ambitious targets set by HBBC.

JUSTIFICATION

The design team and applicant respectfully submit that the proposal meets the criteria of paragraph 80(e) of the NPPF and thereby meet the threshold for approval in policy terms.

