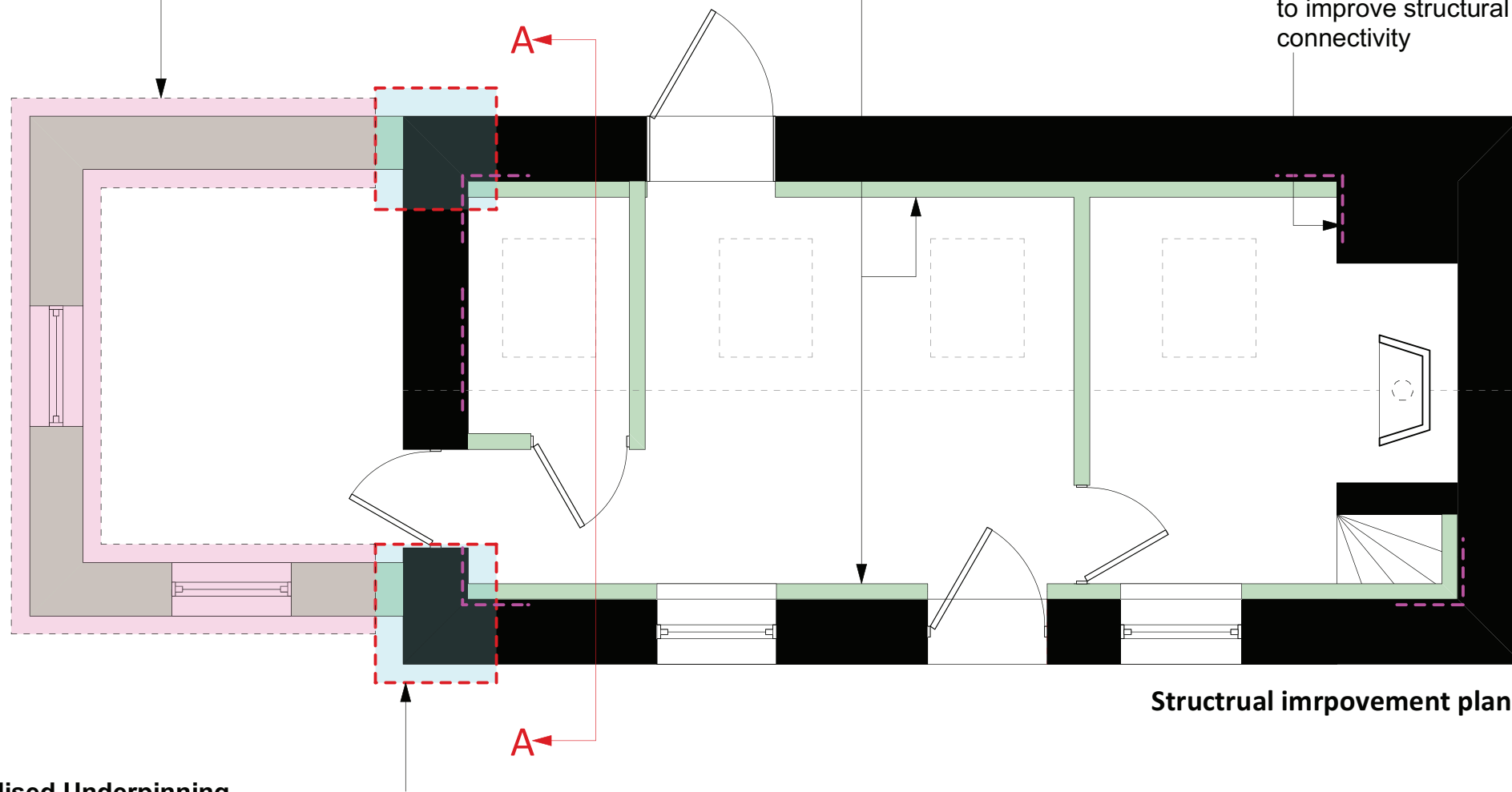


Standard strip foundation to be used beneath the new wall for adequate load-bearing support and structural stability.

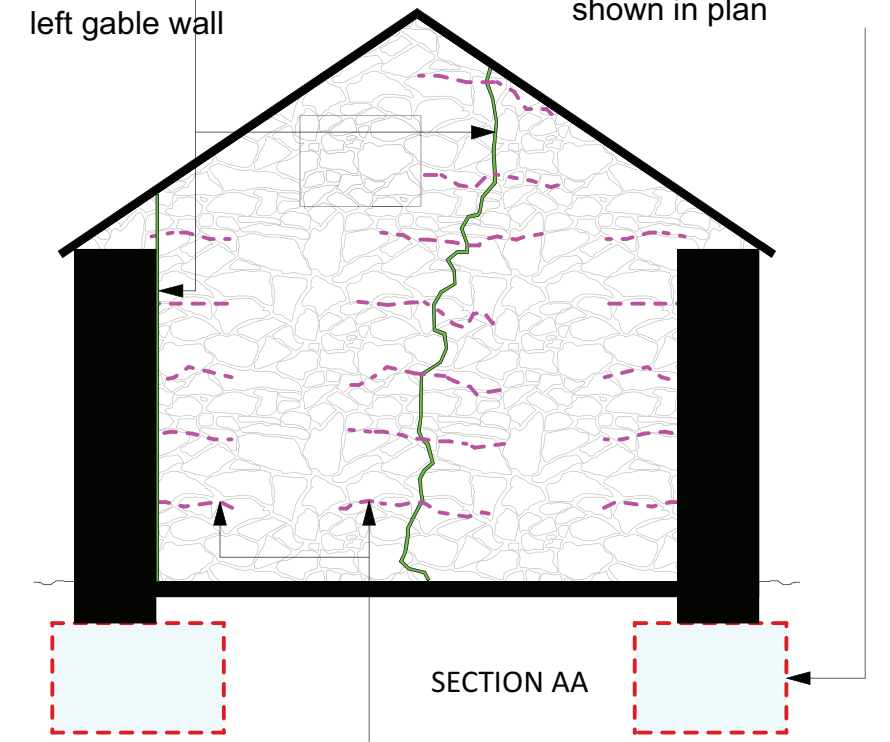
Non-structural drylining of existing walls with lightweight insulation to enhance thermal efficiency and prevent moisture ingress. **This wall is not structural, it is not supporting the roof, and does not require a foundation.**

Helifix bars cut into mortar to improve structural connectivity

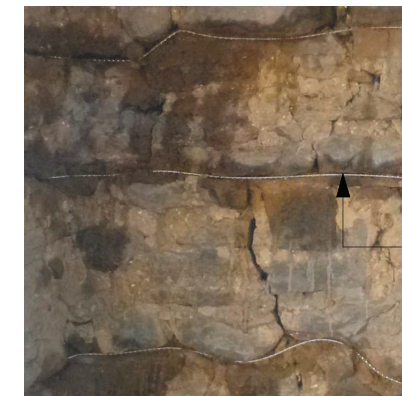


Structural improvement plan

Indicative cracks in left gable wall
Localised underpinning shown in plan



SECTION AA



Example of HeliBar in stone wall prior to pointing

Structural Connectivity and lateral restraint.

6mm HeliBar to be inserted 35mm into the grout joints (between stones) and secured in place with HeliBond. The bar will extend 500mm on either side of the crack at 450mm vertical spacings, and will be covered with lime mortar to conceal the repair, ensuring a discreet and durable non invasive repair.

Example of existing lime mortar pointing between stones.

Example where repointing is required: original lime mortar has weathered away, exposing gaps between stones.



Roof Construction:

The existing roof structure, made of profiled metal sheeting, is neither original nor integral to the character of the building, making its replacement an improvement in terms of both structural integrity and aesthetics. The new timber wall plates will be non-invasively fixed to the top of the existing stone walls using resin-bonded anchors, which ensures that the historic stonework is preserved with minimal disruption.

The new rafters will then be attached to the wall plates, forming a structurally sound base for the slate roof and combined with the HeliBar stitching will address the structural concerns of lack of lateral restraints. This method allows the introduction of a high-quality, traditional slate roof in keeping with the building's rural character, all while ensuring the existing stone walls remain largely untouched. By integrating the new roof framework with minimal intervention, the building will meet modern standards without compromising its historic aesthetic or structural integrity.

Localised Underpinning

Strip foundation to be extended beneath existing walls at the points where the new structure meets the original, providing localised underpinning for stability. These are the only two areas where underpinning is required and will prevent further movement of the existing walls.

Repointing

The repointing required for this old stone wall is a very minor, routine task that involves carefully removing the damaged or loose mortar between the stones and replacing it with a traditional lime-based mortar to match the existing structure. Lime mortar is not only appropriate but necessary to maintain the historical character and allow the building to breathe, preventing moisture issues.

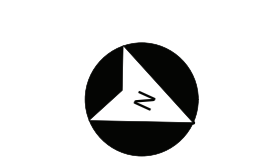
This type of repointing is standard for maintaining old stonework and involves using hand tools to preserve the integrity of the stones while replacing the worn mortar. It's a non-invasive process and doesn't involve any significant disturbance to the overall structure. The repointing will significantly improve the longevity of the wall, ensuring it remains structurally sound and weatherproof.

Site: Land North of Rock Cottage

Drawing No. TG2203-32

Project No. TG2203

Drawn. SG



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Title: Structural enhancement strategy

Scale at A3 1:50

Date Oct 2024

Revision. -