



**BRIDGEND FARMHOUSE:  
SUSTAINABLE HUT PROJECT**

**PLANNING DESIGN STATEMENT  
JULY 2016**

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## 1.0 Introduction

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This community project of Bridgend Inspiring Growth (BIG) hopes to turn the currently derelict and overgrown outbuildings of the farmhouse into useable and inspiring work spaces for the community.

BIG, as a voluntary charitable organisation, has already taken the first step in renovating the Farmhouse to create a centre for Learning, Eating and Exercise, owned and run by the community. This will eventually be the new community hub that gives local people access to various services and to participate in activities.

While the Farmhouse is under renovation it is hoped that a “sustainable hut” can be created as an outdoor classroom /workshop /multipurpose room as temporary shelter for their weekly meetings and community activities.

The project is led by SEDABuild with seed funding from the Festival of Architecture, and further funding from other sources.

The location proposed for this “sustainable hut” is within the pigsty to the southwest of the site. An agreement has been reached to transfer ownership of the site from City of Edinburgh Council to community ownership through BIG, with the final throes of legal documentation close at hand.

The proposal aims to:

- reuse and sympathetically redevelop and enhance the experience of the original structures
- provide simple structure for immediate use as workshop/multipurpose room, to help continuation of the variety of activities hosted on the site.
- provide workshops to train volunteers with various skills (such as timber/joiner work, straw bale, green roof) to build the space itself
- demonstrate sustainable and environmentally friendly methods and principles in the community
- be completely self sustainable in energy use (off grid solar panels system)
- de-constructible, to enable elements to be reused/re-erected elsewhere, in future proofing for tram development.

## 2.0 Background Information

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## 2.1 Historical and Archaeological Context

The site is part of the green wedge of farmland that provides setting for Craigmillar Castle, of which the southern boundary runs along Old Dalkeith Road. The setting is still, tenuously rural, despite the housing developments and the new Royal Infirmary.

The view leading up to the picturesque rubble walls (which in sections date back to the time of Craigmillar Castle) of the late C18 Bridgend Farm is framed by the long row of single-storey Bridgend Cottages at the Braid Burn. The continuous estate wall (now with some unfortunate breaches) then follows the road up to the early C19 farm at Little France, onto the late C18 quadrant gateway of Edmonstone House (house itself demolished) and then turns north along The Wisp which marks the city boundary.

The Farmhouse would have been the focal point of the local area of Bridgend. Rubicon Heritage have been working with The Greater Liberton Heritage Project and City Archaeologist John Lawson, in uncovering the history of the site. Central to the historic photograph to the right, is what is suspected to be the Royal Chapel, or at least parts of a walls of a building of high status that warranted floor tiles. Research suggests that a chapel built by Sir Simon Preston of Craigmillar in 1518 stands somewhere in the vicinity.



*Historical image of the Farmhouse with Chapel (centre) and outbuildings still with roof*

A stone font was also found by the previous site owner. A well and other pottery pieces were also discovered on site, during archaeological excavation, that predates the chapel.

The current proposals hope to respect the site's historical past and tie it with the present use, and encourage connections with the community via the history of the buildings. BIG intends to further develop activities around this focal point and redevelop that relationship of a community hub with its surrounding neighbours. The archaeological value and sensitivity is appreciated by BIG and every effort is made to enhance the community's experience of it through the proposals.

## 2.2 Site Character and Buildings

The current Farmhouse dates back to 1870s, with sections of it built earlier in 1800s. The outbuildings, incorporates estate walls that date back to potentially 13th/14th century (of the time of Craigmillar Castle by the Preston family who acquired the barony in 1374) and 16th century chapel.



*Current view within pigsty with chapel structure to right just beyond wall*

The outbuildings surrounds and forms the courtyard of the Farmhouse. The pigsty forming the south westerly length of the site, with the cowsheds to the south south east and the chapel to the north north west.

The character of the site is very much determined by the last use as a farm, and the collection of buildings reflect that pastoral nature. The proposal would reflect agricultural and natural setting, together with the existing allotments will enhance the landscape surrounding the buildings.

## 2.3 Condition of Existing Outbuildings

All of the outbuildings have experienced neglect in the recent past, and the roof has been removed for safety reasons. Buddleia is growing rampant, from the ground and on the walls.

However, the walls of 460mm thick (where measured) traditional stone wall construction, remains structurally sound, although some pinnings and pointing is desirable and necessary in the near future, the walls are currently safe. It is advisable, for safe use of the site in the long term, that care should be taken to limit the growth of the buddleia and maintain the walls with lime pointing.

The pigsty has bays created out of cast concrete that are still sound towards the southern end. BIG intend to reuse these bays for workstations of various types.

The bays towards the northern end of the site is mostly broken and its removal would be less of a loss of fabric to make way for the proposed hut.

During initial survey of this site, despite the over growth, it was noted that a central water (or slops) channel runs north-south along the length of the building. The proposal will reuse this channel as a surface rain water drain. This drains via an outlet beside the northern door (pictured below)



*Pigsty divided into bays by concrete structures.*



*Door to north end of site: to be opened up and a timber gate put in its place.*



*Surface water outlet to north end of site, internal view*

The outlet itself still exists within the site (pictured above), although externally, the wall will require some careful repair to the surrounding stonework, with salvaged stones and lime mortar. It will also be necessary to install a spout to direct water away from the base of the wall and encourage water to run down the slope to the culvert and surface water drain by the car park.



*Steps up to the north door of the pigsty building*

All the blocked up openings on site, currently done by concrete block work, will be opened up and timber gates put in its place, to ensure site security and enable future flexibility in access.

The broken lintel to the north door (as pictured above) will be repaired and made good, to be structurally sound. The steps up to the door (pictured left) will be repaired, with an intermediate step added. All of these works will be done using salvaged stones, existing on site, and lime mortar.

The opening facing the farm house (pictured below) will remain open and will be welcoming of the members of the public and Bridgend/Craigmillar community under casual surveillance from the Farmhouse building.

The other outbuildings, cow sheds and chapel, were not surveyed in detail but are in a similar state to the pigsty.

Site clearing works are being done by volunteers at this present moment, and over the last few months have been slowly revealing the actual site itself. The opportunity to properly look after what remains of these buildings is here, with much positivity and will from the community.



*View towards Farmhouse*

### 3.0 Brief and Objectives

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The brief as developed jointly between BIG and SEDABuild aspire to:

- create a space to allow the community to use, as meeting place, during the redevelopment of the Farmhouse
- further develop the vision and aspirations of BIG through the project
- train volunteers and members of the community in practical construction skills
- opportunity for the community to explore or learn about sustainable and environmental issues, and incorporating those ideas into the hut design and construction, including use of natural and salvaged materials, non-toxic specification, green roof, rain water recycling, and energy self sufficient with solar power.
- sensitively develop the site as a base to do workshops to further enhance the land / landscape and look after the heritage of the site and its outbuildings

With these aims, the “sustainable hut” would serve the community as a multi-functional space, giving the outbuildings a place from which to care for the semi-outdoor and outdoor environment adjacent to it. It will serve as a space for the continuation of the community work and activities being carried out on site during the Farmhouse project construction phase. Once the main Farmhouse project is completed the “sustainable hut” will help broaden the variety of activities that can be hosted on the site by making the most of the southern end of the site.

As the area falls under the Tram Reservation Area it is envisaged that the “sustainable hut” will be demountable, with materials that either are recycled, reused or will otherwise naturally decompose. (see section 4.4). Until such times, the “sustainable hut” will fulfil its objectives.



### 4.0 Design Considerations and Proposals

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#### 4.1 Consultation

SEDABuild ran a workshop at the beginning of the year for BIG, the public and local community. There were work stations discussing various aspects of the project including materials to be used, drawings of the site. Models were built to visualise the site and how to occupy it. Ideas of use and function of the “sustainable hut” were teased out and tested.

The materials that are in the current proposal came very much from the community’s desires. The straw bale build, internal clay plastering, external lime render, green roof, timber doors and windows with salvaged glass.

The workshop also energised the local community about the project and informed them about it so that they can speak with confidence about what is intended for the site.



*January 2016 SEDABuild & BIG Workshop public consultation*

SEDABuild team was also consulted and involved in giving much practical input as to the build-ability in the community build context; what training workshops can be run, timescales in training people from scratch to constructing a certain complexity of building. This is informed by their experience of previous project of LoveMilton, and the great success it had been.

BIG monthly meetings were also important for consultation of the scheme development. Important items such as the small stove and solar panels were added and put forward as ideas, and consulted with the community at their AGM.

An important part of the site is its history and archeology. BIG hope to develop this sensitively to allow for as much of the fabric to be protected as possible. To that end, the scheme as developed is based on a “light touch” approach as discussed in section 4.2.

The City Archaeologist, John Lawson of the City of Edinburgh Council Archaeology Service, has been consulted and visited site with us to discuss the proposals. He was very supportive of the scheme and recommended that an archaeological investigation to the footprint of the building will be necessary, also an accompanying photographic record and plan survey would be good to record the site before the BIG development. This will form part of the plan towards developing the site and the recommendations will be put into action.



*Photograph and model views showing proposal as seen from Old Dalkeith Road, approaching from the north (above) and from the south (left)*

## 4.2 Design Approach

The scheme aims to develop the site sensitively, and sympathetically to the archaeological and historical fabric. The proposals focus on achieving the brief and objectives of the scheme as outlined above. The design approach is based on three key elements/drivers which will be further expanded below:

- “Light Touch”
- Sustainable and Environmentally Sound
- Community Build

*“Light Touch”*

Firstly, minimising ground works and disturbance of material that may be of historical and archaeological of interest, proposed planting will be in planters and respect the fabric of the existing walls and floor surface.

Secondly, to reuse any features that are there, such as the surface drain channel and existing openings in the stone wall as access points.

Thirdly, to put in as little infrastructure as possible, minimising connections such as water and electrical supplies and sewage connections. With sanitary facilities provided adjacent to the site and further facilities available in the Farmhouse once it is renovated, local rain water collection for water and off grid solar panel system, means that no pipes or conduits need to be made between the Farmhouse and the pigsty, or indeed between the pigsty and anywhere else.

Lastly, the deconstruct-ability, since the removal of the hut may one day be necessary due to the Tram Reservation Area (see section 4.4), this “light touch” approach will make dismantling and disconnection much easier. The materials chosen are mostly natural, reusable, and can either be taken elsewhere for rebuild, or recycled, or allowed to naturally decompose as biodegradable materials. The scheme is reversible in all, apart from its foundations/ excavation for it.



### *Sustainable and Environmentally Sound*

Another aim is to have a sustainable and environmentally sound design, which includes thinking about the health and wellbeing of users as part of the fundamental concept.

Firstly, the use of materials, considering its embodied energy and biodegradability. Considerations given to the use of salvaged materials, natural and non-toxic materials.

Secondly, use of daylight and sunlight was considered paramount. This is not only to provide solar energy for electrical appliances and lighting, but the use of it to grow plants and the use of the daylight within the building. Maximising solar gain for warmth, and a whole host of benefits related to sunlight and daylight. In exploring light and shade, the design also added a sense of playfulness in the window arrangement which makes use of the inside outside connection and of daylight.

Thirdly, two aspects, not normally considered together but in fact are almost inseparable, of ecology and learning of practical construction skills. The city and built environment is part of the “human ecology” and therefore practical skills related to how we build the very fabric of this built environment is inherently part of this ecosystem. With a special mention of the green roof, which is something that is driven by BIG aspirations and the community wishing to learn as a practical skill. The sustainable benefits and importance of reducing risk of flash floods (in the world of climate change), together with the ecosystem of plants and wildlife it can support, brings together many positive aspects which is in line with BIG’s vision in their environmental and ecological strands.

Fourthly, energy consumption, apart from the off grid solar system, a special mention should be made in connection with the use of straw bale (although slightly over lapping with the first and third points, being a well considered material as well as a practical skill desired). Straw bale walls provide very favourable insulating properties and will allow the space to be easily heated with a very small stove. The energy consumption is therefore kept to a minimum. Of course this goes hand in hand with the other well insulated elements and the green roof, and draught proofing of openings.



*View from the Farmhouse*

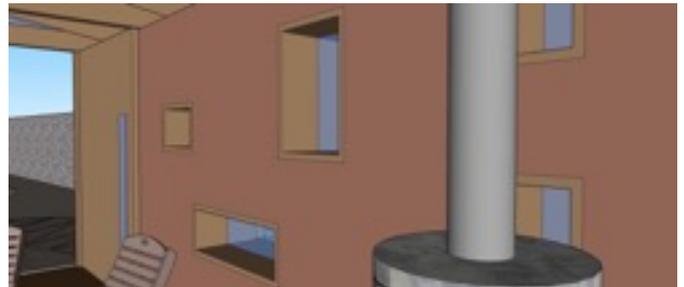
### Community Build

Finally, one of the key aims that has driven the design approach is that the design must take into account the training and skills involved, the timescale and the ease of build by the community.

The design and structural input is therefore done to ensure that all elements are possible for those having attended the workshop to help construct this community facility.

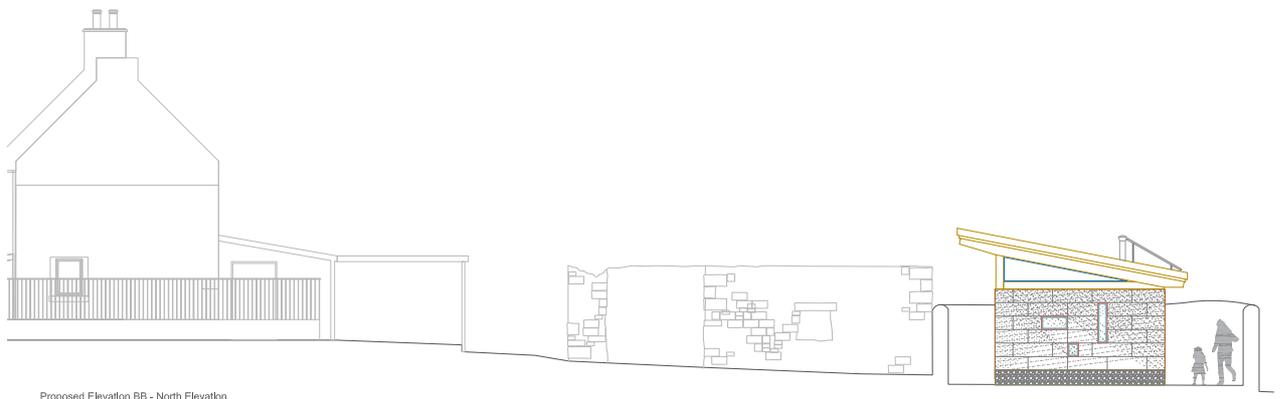
This is a very important part of the design, in making this community building “by the community for the community” not only feasible but also enhances the sense of ownership of the final product.

These detailed design considerations plus other aspects beyond what is mentioned above, leads to the proposal, which embodies all and demands of what appears to be a simple hut.



*Views from scheme proposal model looking into and out from the sustainable hut.*

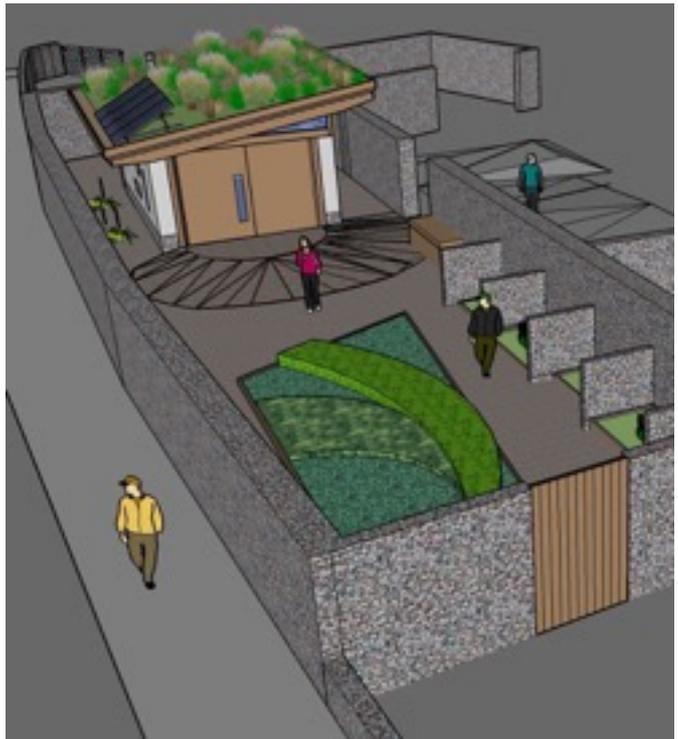
### 4.3 Proposals



Proposed Elevation BB - North Elevation

The proposals are in fact very straight forward, given the very detailed design considerations and approach. A hut, consisting the following:

- Green roof, timber structure.
- Straw bale walls, lime rendered and lime washed externally, clay plastered internally.
- Gabion foundation to lift the straw bale and lime render off the ground
- Timber crate and board flooring
- Salvaged glass and timber framed windows.
- Timber doors
- Rammed earth to make any ramps or change in level within the site above the existing surface.
- Planters for any plants and landscaping ideas as yet to be decided by the community. (illustrations here and on plan are indicative only.)
- Heating: small stove
- Electricity: off grid solar PV system

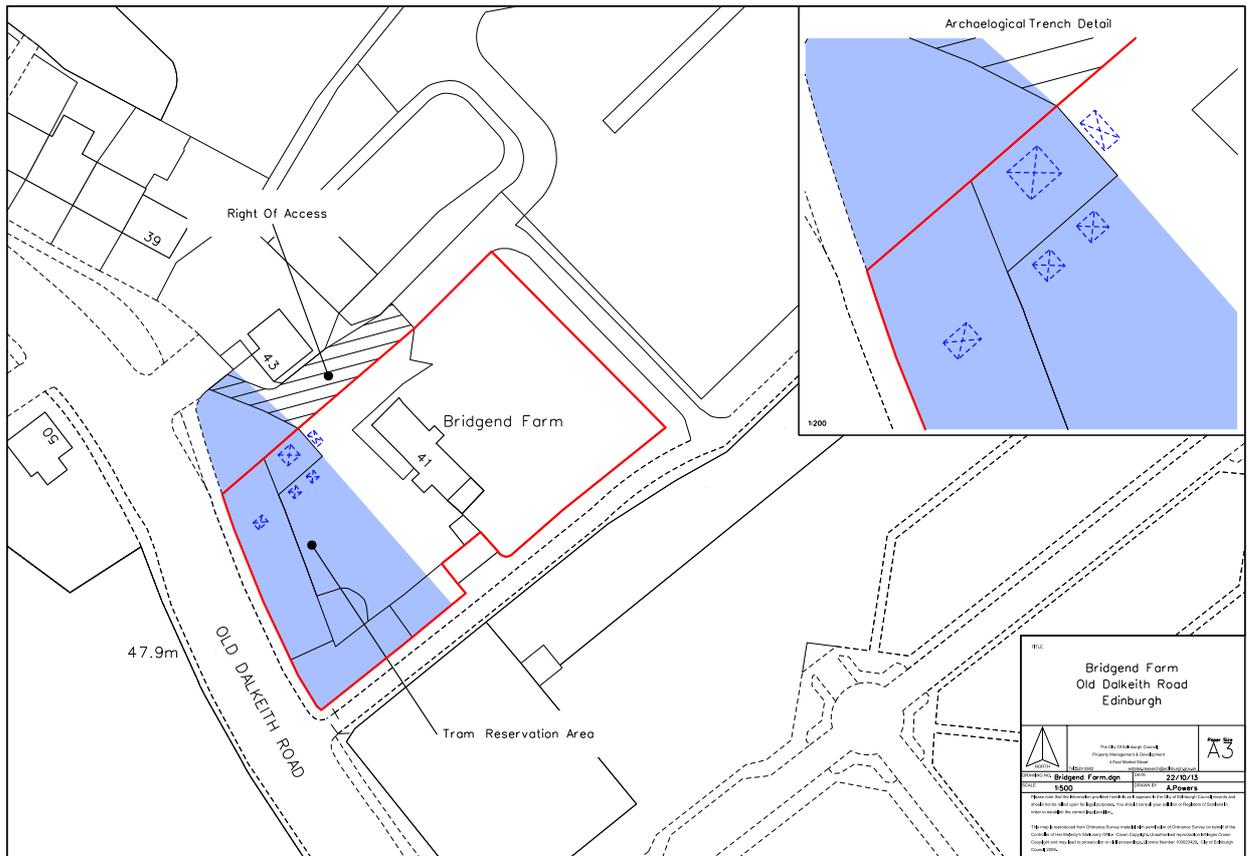


*Scheme model overview (birds-eye)*

#### 4.4 Anticipating the Future: Tram Reservation Area

In preparation of the design, it has been very clear to the design team and BIG that the proposed site falls within the Tram Reservation Area. This area is shown coloured blue on the attached plan. As a result of this, the council has required BIG to enter into an Option Agreement, allowing the Council to take ownership of the area shown on plan in the future, for the purposes of further development of the Edinburgh Tram Line.

It is understood that the structure as will be erected, is removable in nature. As alluded to above, everything from the material choice to construction methods will be considered for deconstruction (potential re-erection elsewhere), and can be recycled or is biodegradable.



Plan showing Tram Reservation Area